Qualcomm Technologies, Inc.

QTI Tools Serial Interface Control Document for NR5G

Document

80-PC674-2 Rev. FL

February 10, 2025

Revision history

Revision	Date	Description
AA	February 2018	Initial release
AB	July 2018	Updated log codes: 0xB822, 0xB860, 0xB870, 0xB881, 0xB884, 0xB885, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB88F, 0xB950, 0xB951, 0xB952, 0xB96D, 0xB96E, 0xB974, 0xB975 New log codes: 0xB841, 0xB842, 0xB84B, 0xB84C, 0xB84D, 0xB857, 0xB858, 0xB861, 0xB868, 0xB869, 0xB872
AC	September 2018	Updated log codes: 0xB822, 0xB860, 0xB870, 0xB881, 0xB884, 0xB885, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB88F, 0xB950, 0xB951, 0xB952, 0xB96D, 0xB96E, 0xB974, 0xB975 New log codes: 0xB841, 0xB842, 0xB84B, 0xB84C, 0xB84D, 0xB857, 0xB858, 0xB861, 0xB868, 0xB869, 0xB872
AD	December 2018	Updated log codes: 0xB841, 0xB860, 0xB872, 0xB884, 0xB885, 0xB887, 0xB888, 0xB891, 0xB950, 0xB951, 0xB952, 0xB96D, 0xB96E, 0xB975 New log codes: 0xB8A0, 0xB97F
AE	January 2019	Updated log codes: 0xB885, 0xB886, 0xB887, 0xB888, 0xB88A, 0xB88F, 0xB891, 0xB950, 0xB951, 0xB952, 0xB96D
AF	February 2019	Updated log codes: 0xB84D, 0xB860, 0xB869, 0xB871, 0xB886, 0xB889, 0xB88A
AG	March 2019	Updated log codes: 0xB822, 0xB860, 0xB872, 0xB881, 0xB884, 0xB886, 0xB887, 0xB88F New log codes: 0xB98B
AH	April 2019	Updated log codes: 0xB84B, 0xB857, 0xB884, 0xB890, 0xB89B, 0xB975
AJ	May 2019	Updated log codes: 0xB842, 0xB84B, 0xB84D, 0xB857, 0xB881, 0xB884, 0xB886, 0xB891, 0xB975, 0xB97F
AK	June 2019	Updated log codes: 0xB885, 0xB8A0, 0xB950, 0xB951, 0xB952
AL	July 2019	Updated log codes: 0xB841, 0xB881, 0xB883, 0xB885, 0xB887, 0xB889, 0xB950, 0xB951, 0xB952, 0xB96D, 0xB975, 0xB97F
AM	August 2019	Updated log codes: 0xB857, 0xB881, 0xB883, 0xB885, 0xB886, 0xB887, 0xB888, 0xB88A, 0xB8A7, 0xB981
AN	September 2019	Updated log codes: 0xB868, 0xB870, 0xB883, 0xB887, 0xB88A, 0xB89B, 0xB950, 0xB951, 0xB952 New log codes: 0xB9BE, 0xB9BF
AP	October 2019	Updated log codes: 0xB810, 0xB872, 0xB883, 0xB886, 0xB888, 0xB88A, 0xB89B, 0xB8C9, 0xB8D1, 0xB8D2, 0xB97F New log codes: 0xB9A4, 0xB9A5

Revision	Date	Description
AR	December 2019	Updated log codes: 0xB842, 0xB860, 0xB871, 0xB881, 0xB88A, 0xB8C9, 0xB8D1, 0xB8D2, 0xB96E, 0xB975, 0xB97F, 0xB981, 0xB9BF
AT	January 2020	Updated log codes: 0xB860, 0xB883, 0xB887, 0xB8C9, 0xB96F, 0xB975, 0xB97F, 0xB981
AU	January 2020	Updated log codes: 0xB825, 0xB860, 0xB883, 0xB887, 0xB975, 0xB97F, 0xB981
AV	March 2020	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB840, 0xB860, 0xB881, 0xB883, 0xB887, 0xB950, 0xB951, 0xB952, 0xB96D, 0xB975, 0xB97F, 0xB981 New log codes: 0xB815, 0xB82B, 0xB9A7
AW	March 2020	Updated log codes: 0xB823, 0xB826, 0xB842, 0xB88A, 0xB890, 0xB89C, 0xB8E2, 0xB959, 0xB970, 0xB97F, 0xB981, 0xB9BF
AY	April 2020	Updated log codes: 0xB825, 0xB860, 0xB869, 0xB883, 0xB88A, 0xB8C9, 0xB8D1, 0xB8D2, 0xB959, 0xB96D, 0xB981, 0xB9A5, 0xB9A7 New log codes: 0xB82C
BA	May 2020	Updated log codes: 0xB860, 0xB8D1
BB	June 2020	Updated log codes: 0xB826, 0xB827, 0xB828, 0xB82B, 0xB840, 0xB860, 0xB868, 0xB872, 0xB873, 0xB883, 0xB886, 0xB88A, 0xB8C9, 0xB8D1, 0xB959, 0xB96E, 0xB96F, 0xB97F, 0xB981
BC	August 2020	Updated log codes: 0xB823, 0xB825, 0xB842, 0xB890, 0xB8C9, 0xB8D1, 0xB8D2, 0xB981
BD	August 2020	Updated log codes: 0xB825, 0xB884, 0xB885, 0xB8C9, 0xB8D1, 0xB8D2, 0xB8E2, 0xB981, 0xB98F, 0xB992
BE	October 2020	Updated log codes: 0xB825, 0xB826, 0xB860, 0xB870, 0xB881, 0xB883, 0xB884, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB896, 0xB89B, 0xB89C, 0xB8A7, 0xB8D2
BF	November 2020	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB827, 0xB828, 0xB840, 0xB842, 0xB860, 0xB868, 0xB869, 0xB870, 0xB872, 0xB873, 0xB881, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB896, 0xB89B, 0xB89C, 0xB8A7, 0xB8C9, 0xB8D1, 0xB8D2, 0xB8DD, 0xB8E2, 0xB950, 0xB951, 0xB952, 0xB959, 0xB96D, 0xB96E, 0xB96F, 0xB970, 0xB975, 0xB97F, 0xB981, 0xB98F, 0xB992, 0xB9A5, 0xB9BF
BG	December 2020	Updated log codes: 0xB822, 0xB823, 0xB825, 0xB826, 0xB827, 0xB828, 0xB840, 0xB842, 0xB860, 0xB868, 0xB869, 0xB870, 0xB872, 0xB873, 0xB881, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB896, 0xB89B, 0xB89C, 0xB8A7, 0xB8C9, 0xB8D1, 0xB8D2, 0xB8DD, 0xB8E2, 0xB950, 0xB951, 0xB952, 0xB959, 0xB96D, 0xB96E, 0xB96F, 0xB970, 0xB975, 0xB97F, 0xB981, 0xB98F, 0xB992, 0xB9A4, 0xB9A5, 0xB9BF New log codes: 0xB815, 0xB82B, 0xB82C, 0xB9A7
BH	January 2021	Updated log codes: 0xB873, 0xB883, 0xB88A, 0xB8C9, 0xB8D1, 0xB8D2, 0xB950, 0xB951, 0xB952, 0xB959, 0xB981, 0xB9A5
BJ	March 2021	Updated log codes: 0xB825, 0xB826, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB883, 0xB88A, 0xB8C9, 0xB8D1, 0xB8D2, 0xB8E2, 0xB950, 0xB951, 0xB952, 0xB959, 0xB96F, 0xB970, 0xB97F, 0xB981, 0xB9A5, 0xB9BE, 0xB9BF
BK	March 2021	Updated log codes: 0xB82C, 0xB860, 0xB871, 0xB872, 0xB883, 0xB88A, 0xB8A7, 0xB8E2, 0xB96E, 0xB970, 0xB981, 0xB9A7
BL	March 2021	Updated log codes: 0xB840, 0xB844, 0xB84B, 0xB8E2, 0xB96D

Revision	Date	Description
BM	April 2021	Updated log codes: 0xB884, 0xB887
BN	April 2021	Updated log codes: 0xB840, 0xB870, 0xB872, 0xB883, 0xB884, 0xB885, 0xB890, 0xB8A7, 0xB8C9, 0xB959, 0xB96E
BP	May 2021	Updated log codes: 0xB82C, 0xB883, 0xB889, 0xB8A1, 0xB8AF, 0xB8D1
BR	May 2021	Updated log codes: 0xB82C, 0xB840, 0xB84B, 0xB857, 0xB871, 0xB883, 0xB884, 0xB885, 0xB889, 0xB890, 0xB8A1, 0xB8AF, 0xB8C9, 0xB8D1
BT	May 2021	Updated log codes: 0xB827, 0xB828, 0xB889, 0xB8AE, 0xB8AF, 0xB8D1, 0xB981
BU	June 2021	Updated log codes: 0xB844, 0xB84B, 0xB885, 0xB981
BV	June 2021	Updated log codes: 0xB889, 0xB8A7
BW	July 2021	Updated log codes: 0xB8C9, 0xB8D1
BY	July 2021	Updated log codes: 0xB887, 0xB959
CA	July 2021	Updated log codes: 0xB815, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB890, 0xB8A7, 0xB8C9, 0xB981
CB	August 2021	Updated log codes: 0xB825, 0xB883, 0xB88A, 0xB890, 0xB981
CC	August 2021	Updated log codes: 0x1C0D, 0xB823, 0xB825, 0xB84E, 0xB883, 0xB885, 0xB88A, 0xB890, 0xB8D1, 0xB981
CD	September 2021	Updated log codes: 0xB886, 0xB98F
CE	September 2021	Updated log codes: 0xB886, 0xB98F
CF	September 2021	Updated log codes: 0xB84E
CG	October 2021	Updated log codes: 0xB825, 0xB84B
CH	October 2021	
CJ	October 2021	Updated log codes: 0xB883
CK	November 2021	Updated log codes: 0xB825, 0xB828, 0xB872, 0xB88A
CL	November 2021	Updated log codes: 0xB825, 0xB828, 0xB872, 0xB88A
CM	November 2021	Updated log codes: 0xB88A, 0xB8A7
CP	November 2021	Updated log codes: 0xB828, 0xB860, 0xB872, 0xB873, 0xB885, 0xB8AE, 0xB8D1
CR	December 2021	Updated log codes: 0xB857, 0xB88A, 0xB890, 0xB8AE
CT	December 2021	Updated log codes: 0xB815, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8D1
CV	December 2021	Updated log codes: 0x1C07, 0xB872, 0xB883, 0xB887
CW	January 2022	Updated log codes: 0xB825
CY	January 2022	
DA	January 2022	Updated log codes: 0xB870
DB	January 2022	Updated log codes: 0xB969
DC	February 2022	Updated log codes: 0xB8C9, 0xB98F
DD	February 2022	Updated log codes: 0xB969
DE	February 2022	Updated log codes: 0xB885, 0xB8C9, 0xB969, 0xB98F
DF	February 2022	Updated log codes: 0xB860, 0xB868, 0xB870, 0xB885, 0xB886, 0xB8C9, 0xB969, 0xB98F

Revision	Date	Description
DG	March 2022	Updated log codes: 0xB860, 0xB868, 0xB870, 0xB872, 0xB885, 0xB886, 0xB889, 0xB88A, 0xB8C9, 0xB969, 0xB98F
DH	March 2022	Updated log codes: 0xB826, 0xB84D, 0xB860, 0xB868, 0xB870, 0xB872, 0xB885, 0xB886, 0xB889, 0xB88A, 0xB8C9, 0xB969, 0xB98F
DJ	March 2022	Updated log codes: 0xB871, 0xB872, 0xB873
DK	March 2022	Updated log codes: 0xB889
DL	April 2022	Updated log codes: 0xB889, 0xB981
DM	April 2022	Updated log codes: 0xB826, 0xB883, 0xB885, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F
DN	April 2022	Updated log codes: 0xB826, 0xB883, 0xB885, 0xB886, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F
DP	April 2022	Updated log codes: 0xB826, 0xB883, 0xB885, 0xB886, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F
DR	May 2022	Updated log codes: 0xB826, 0xB883, 0xB885, 0xB886, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F, 0xB9A7
DT	May 2022	Updated log codes: 0xB826, 0xB860, 0xB868, 0xB870, 0xB883, 0xB885, 0xB886, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F, 0xB9A7
DU	May 2022	Updated log codes: 0xB826, 0xB860, 0xB868, 0xB870, 0xB883, 0xB885, 0xB886, 0xB887, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB98F, 0xB9A7
DV	May 2022	
DY	June 2022	Updated log codes: 0xB885
EA	June 2022	Updated log codes: 0xB885, 0xB887, 0xB8AE
EE	July 2022	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB857, 0xB860, 0xB868, 0xB872, 0xB886, 0xB887, 0xB890, 0xB8D1, 0xB96D
EF	July 2022	
EG	July 2022	
EH	August 2022	
EJ	August 2022	
EK	August 2022	
EL	September 2022	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB857, 0xB860, 0xB868, 0xB870, 0xB872, 0xB883, 0xB885, 0xB886, 0xB887, 0xB890, 0xB8AE, 0xB8C9, 0xB8D1, 0xB96D
EM	September 2022	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB857, 0xB860, 0xB868, 0xB870, 0xB872, 0xB883, 0xB885, 0xB886, 0xB887, 0xB890, 0xB8AE, 0xB8C9, 0xB8D1, 0xB96D
EN	September 2022	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB857, 0xB860, 0xB868, 0xB870, 0xB872, 0xB883, 0xB885, 0xB886, 0xB887, 0xB890, 0xB8AE, 0xB8C9, 0xB8D1, 0xB96D
EP	November 2022	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB84B, 0xB857, 0xB860, 0xB868, 0xB870, 0xB872, 0xB883, 0xB885, 0xB886, 0xB887, 0xB88A, 0xB890, 0xB8AE, 0xB8C9, 0xB8D1, 0xB8DA, 0xB96D
ER	December 2022	Updated log codes: 0xB826, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB8D1, 0xB959, 0xB97F, 0xB981, 0xB9A7

Revision	Date	Description
ET	December 2022	Updated log codes: 0xB826, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB8D1, 0xB959, 0xB97F, 0xB981, 0xB9A7
EU	January 2023	Updated log codes: 0xB826, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB8D1, 0xB959, 0xB97F, 0xB981, 0xB9A7
EV	January 2023	Updated log codes: 0xB826, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C6, 0xB8C7, 0xB8C8, 0xB8C9, 0xB8D1, 0xB959, 0xB97F, 0xB981, 0xB9A7
EW	February 2023	Updated log codes: 0xB826, 0xB860, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C9, 0xB8D1, 0xB959, 0xB96D, 0xB97F, 0xB981, 0xB9A7
EY	March 2023	Updated log codes: 0xB826, 0xB860, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C9, 0xB8D1, 0xB959, 0xB96D, 0xB97F, 0xB981, 0xB9A7
FA	March 2023	Updated log codes: 0xB826, 0xB860, 0xB872, 0xB873, 0xB883, 0xB885, 0xB886, 0xB887, 0xB889, 0xB88A, 0xB890, 0xB8C9, 0xB8D1, 0xB959, 0xB96D, 0xB97F, 0xB981, 0xB9A7
FB	May 2023	Updated log codes: 0xB823, 0xB825, 0xB826, 0xB840, 0xB84B, 0xB84D, 0xB857, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB883, 0xB885, 0xB887, 0xB888, 0xB88A, 0xB890, 0xB89C, 0xB8AE, 0xB8C9, 0xB8D2, 0xB950, 0xB959, 0xB981, 0xB98B, 0xB9BE
FC	July 2023	Updated log codes: 0xB84D, 0xB883, 0xB884, 0xB887, 0xB889, 0xB8C9
FD	July 2023	Updated log codes: 0xB84D, 0xB883, 0xB884, 0xB887, 0xB889, 0xB8C9, 0xB982
FE	October 2023	Updated log codes: 0x1C07, 0xB80C, 0xB80D, 0xB84D, 0xB860, 0xB868, 0xB871, 0xB873, 0xB881, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB896, 0xB89B, 0xB89C, 0xB8A7, 0xB8AE, 0xB8D1, 0xB90A, 0xB98F, 0xB9A7
FF	January 2024	Updated log codes: 0x1C07
FG	March 2024	Updated log codes: 0x1C07, 0x1C0D
FH	May 2024	New log codes: 0xB800, 0xB801, 0xB808, 0xB809, 0xB80A, 0xB80B, 0xB80C, 0xB80D, 0xB80E, 0xB80F, 0xB810, 0xB811, 0xB812, 0xB813, 0xB814, 0xB815, 0xB821, 0xB822, 0xB823, 0xB825, 0xB826, 0xB827, 0xB828, 0xB82B, 0xB82C, 0xB840, 0xB841, 0xB842, 0xB844, 0xB84B, 0xB84C, 0xB84D, 0xB84E, 0xB857, 0xB858, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB880, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB891, 0xB896, 0xB89B, 0xB89C, 0xB8A0, 0xB8A1, 0xB8A7, 0xB8AE, 0xB8C9, 0xB8D1, 0xB8D2, 0xB90A, 0xB950, 0xB959, 0xB96D, 0xB96F, 0xB970, 0xB975, 0xB97F, 0xB981, 0xB98B, 0xB98F, 0xB9A4, 0xB9A5, 0xB9A7, 0xB9BE
FJ	July 2024	Updated log codes: 0x1C0D New log codes: 0xB800, 0xB801, 0xB808, 0xB809, 0xB80A, 0xB80B, 0xB80C, 0xB80D, 0xB80E, 0xB80F, 0xB810, 0xB811, 0xB812, 0xB813, 0xB814, 0xB815, 0xB821, 0xB822, 0xB823, 0xB825, 0xB826, 0xB827, 0xB828, 0xB82B, 0xB82C, 0xB840, 0xB841, 0xB842, 0xB844, 0xB84B, 0xB84C, 0xB84D, 0xB84E, 0xB857, 0xB858, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB880, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB891, 0xB896, 0xB89B, 0xB89C, 0xB8A0, 0xB8A1, 0xB8A7, 0xB8AE, 0xB8C9, 0xB8D1, 0xB8D2, 0xB90A, 0xB950, 0xB959, 0xB96D, 0xB96F, 0xB970, 0xB975, 0xB97F, 0xB981, 0xB98B, 0xB98F, 0xB9A4, 0xB9A5, 0xB9A7

Revision	Date	Description
FK	December 2024	Updated log codes: 0x1C07, 0x1C0D
FL	February 2025	Updated log codes: 0x1C07, 0x1C0D New log codes: 0xB800, 0xB801, 0xB808, 0xB809, 0xB80A, 0xB80B, 0xB80C, 0xB80D, 0xB80E, 0xB80F, 0xB810, 0xB811, 0xB812, 0xB813, 0xB814, 0xB815, 0xB821, 0xB822, 0xB823, 0xB825, 0xB826, 0xB827, 0xB828, 0xB82B, 0xB82C, 0xB840, 0xB841, 0xB842, 0xB844, 0xB84B, 0xB84C, 0xB84D, 0xB84E, 0xB857, 0xB858, 0xB860, 0xB861, 0xB868, 0xB869, 0xB870, 0xB871, 0xB872, 0xB873, 0xB880, 0xB883, 0xB884, 0xB885, 0xB886, 0xB887, 0xB888, 0xB889, 0xB88A, 0xB890, 0xB891, 0xB896, 0xB89B, 0xB89C, 0xB8A0, 0xB8A1, 0xB8A7, 0xB8AE, 0xB8C9, 0xB8D1, 0xB8D2, 0xB90A, 0xB950, 0xB959, 0xB96D, 0xB96F, 0xB970, 0xB975, 0xB97F, 0xB981, 0xB98B, 0xB98F, 0xB9A4, 0xB9A5, 0xB9A7

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[1] Note: There is no Rev. I, O, Q, S, X, or Z per Mil. standards.

Contents

Revision history 2

1 Introduction 14

1.1 Purpose 14

1.2 Conventions 14

1.3 Technical assistance 14

2 Packet Definition 15

2.1 Streaming diagnostic communications enhancements 15

2.2 Error handling 15

2.3 General version number response (cmd_code 0) 16

3 Log Record Structure 17

4 Log Items 18

4.1 NR5G Sub6 TxAGC (0x1C07) 18

4.2 NR5G MMW TxAGC (0x1C08) 26

4.3 NR5G MMW RxAGC (0x1C09) 31

4.4 NR5G Sub6 RxAGC (0x1C0C) 34

4.5 NR5G SDRIU Info (0x1C0D) 38

4.6 NR5G MMW AFC (0x1C0F) 48

4.7 NR5G PDET Status (0x1C13) 48

4.8 NR5G RF Third Party PA (0x1C18) 50

4.9 NR5G SUB6 TDD BYPASS (0x1C1A) 52

4.10 RF RFFE READ (0x1C2C) 61

5 DL 64

5.1 NR5G PDCP DL Data Pdu (0xB840) 64

5.2 NR5G PDCP DL Control Pdu (0xB841) 80

5.3 NR5G PDCP DL Rbs Stats (0xB842) 84

5.4 NR5G PDCP DL SRB PDU (0xB844) 91

5.5 NR5G PDCP DL ROHC RB Stats (0xB847) 97

5.6 NR5G PDCP DL Debug PDU LOG (0xB848) 98

5.7 NR5G L2 DL Config (0xB84B) 104

5.8 NR5G RLC DL Stats (0xB84D) . . . 183
5.9 NR5G RLC DL Status PDU (0xB84E) . . . 206
5.10 NR5G RLCDL Drop PDU (0xB84F) . . . 212
5.11 NR5G L2 DL DATA PDU (0xB857) . . . 214
6 FW . . . 315
6.1 NR5G LL1 FW RX Control AGC (0xB8C9) . . . 315
6.2 NR5G LL1 FW TX IU RF (0xB8D1) . . . 398
6.3 NR5G LL1 FW MAC TX IU Power (0xB8D2) . . . 489
6.4 NR5G LL1 LOG SERVING SNR (0xB8D8) . . . 543
6.5 LP NR5G LL1 LOG NLIC CONFIG REPORT PKT (0xB8F6) . . . 546
6.6 NR5G LL1 LOG NLIC STATE REPORT PKT (0xB8F8) . . . 553
6.7 NR5G LL1 FW RX Control AGC Lite (0xB90A) . . . 563
6.8 NR5G LL1 FW CSF Full Whitened Channel Matrix (0xB90F) . . . 637
7 MAC . . . 639
7.1 NR5G MAC UL Physical Channel Schedule Report (0xB883) . . . 639
7.2 NR5G MAC UL Physical Channel Power Control (0xB884) . . . 1034
7.3 NR5G MAC DCI Info (0xB885) . . . 1083
7.4 NR5G MAC DL TB Report (0xB886) . . . 1570
7.5 NR5G MAC PDSCH Status (0xB887) . . . 1733
7.6 NR5G MAC PDSCH Stats (0xB888) . . . 1912
7.7 NR5G MAC RACH Trigger (0xB889) . . . 1928
7.8 NR5G MAC RACH Attempt (0xB88A) . . . 1972
7.9 NR5G MAC CDRX Events Info (0xB890) . . . 2136
7.10 NR5G MAC UCI Payload Information (0xB896) . . . 2189
7.11 NR5G MAC UCI Information (0xB89B) . . . 2195
7.12 NR5G MAC Flow Control (0xB89C) . . . 2225
7.13 NR5G MAC Symbol Arbitration (0xB8A1) . . . 2244
7.14 NR5G MAC CSF Report (0xB8A7) . . . 2254
7.15 NR5G MAC Skip UL TX (0xB8AE) . . . 2320
7.16 NR5G MAC TX IQ Capture (0xB8B0) . . . 2353
7.17 NR5G MAC Tx Pwr Dist Stats LOG (0xB8B5) . . . 2355
8 ML1 . . . 2364
8.1 NR5G ML1 SERVICES CBM MD MOTION INFO LOG (0x3367) . . . 2364
8.2 NR5G ML1 DL Common Config (0xB950) . . . 2367
8.3 NR5G ML1 RLM Stats (0xB959) . . . 2936
8.4 NR5G ML1 Searcher ACQ Config And Response (0xB96D) . . . 2959
8.5 NR5G ML1 Searcher Conn Eval (0xB96F) . . . 3061

8.6 NR5G ML1 Searcher Idle S Criteria (0xB970) . . . 3064
8.7 NR5G ML1 Searcher Measurement Database Update Ext (0xB97F) . . . 3084
8.8 NR5G ML1 FC Information (0xB981) . . . 3170
8.9 NR5G ML1 QMI Handler (0xB98B) . . . 3317
8.10 NR5G ML1 Antenna Switch Diversity (0xB98F) . . . 3318
8.11 NR5G ML1 ASDIV EVAL DATA LOG (0xB99D) . . . 3341
8.12 NR5G ML1 BFR Ind (0xB9A4) . . . 3360
8.13 NR5G ML1 RLM BFD IND (0xB9A5) . . . 3363
8.14 NR5G ML1 DLM2 CA Metrics Request (0xB9A7) . . . 3366
8.15 NR5G ML1 SNS MITIGATION INFO (0xB9C3) . . . 3400
9 NAS . . . 3426
9.1 NR5G NAS SM5G Plain OTA Incoming Msg (0xB800) . . . 3426
9.2 NR5G NAS SM5G Plain OTA Outgoing Msg (0xB801) . . . 3427
9.3 NR5G NAS SNPN CONFIG LIST INFO (0xB803) . . . 3428
9.4 MM5G RRC PAGE IND (0xB804) . . . 3429
9.5 MM5G Serv Req Status Info (0xB805) . . . 3430
9.6 MM5G RRC Service Ind Info (0xB806) . . . 3431
9.7 MM5G Proc Info (0xB807) . . . 3439
9.8 NR5G NAS MM5G Security Protected OTA Incoming Msg (0xB808) . . . 3446
9.9 NR5G NAS MM5G Security Protected OTA Outgoing Msg (0xB809) . . . 3447
9.10 NR5G NAS MM5G Plain OTA Incoming Msg (0xB80A) . . . 3448
9.11 NR5G NAS MM5G Plain OTA Outgoing Msg (0xB80B) . . . 3449
9.12 NR5G NAS MM5G State (0xB80C) . . . 3450
9.13 NR5G NAS MM5G Service Request (0xB80D) . . . 3454
9.14 NR5G NAS MM5G Current Security Context (0xB80E) . . . 3461
9.15 NR5G NAS MM5G Security Context Keys (0xB80F) . . . 3463
9.16 NR5G NAS MM5G Native Security Context (0xB810) . . . 3465
9.17 NR5G NAS MM5G Authentication Keys (0xB811) . . . 3467
9.18 NR5G NAS MM5G Forbidden TAI List (0xB812) . . . 3468
9.19 NR5G NAS MM5G Service Area List (0xB813) . . . 3470
9.20 NR5G NAS Plain Message Container (0xB814) . . . 3472
9.21 NR5G NAS MM5G NSSAI Info (0xB815) . . . 3473
10 OBSOLETE . . . 3477
10.1 NR5G RLC DL Control PDU (0xB84C) . . . 3477
10.2 NR5G L2 DL MCE (0xB858) . . . 3480
10.3 NR5G MAC UL TB (0xB880) . . . 3483
10.4 NR5G MAC LL1 CSF Indication (0xB891) . . . 3485

10.5 NR5G MAC LL1 PUSCH Tx (0xB8A0) . . . 3503
10.6 NR5G ML1 Serving Cell Beam Management (0xB975) . . . 3512
11 RRC . . . 3523
11.1 NR5G RRC OTA Packet (0xB821) . . . 3523
11.2 NR5G RRC MIB Info (0xB822) . . . 3562
11.3 NR5G RRC Serving Cell Info (0xB823) . . . 3566
11.4 NR5G RRC Configuration Info (0xB825) . . . 3571
11.5 NR5G RRC Supported CA Combos (0xB826) . . . 3758
11.6 NR5G RRC PLMN Search Request (0xB827) . . . 3978
11.7 NR5G RRC PLMN Search Response (0xB828) . . . 3992
11.8 NR5G RRC Detected Cell Info (0xB82B) . . . 4007
11.9 NR5G RRC Blacklist Update (0xB82C) . . . 4010
11.10 NR5G RRC Misc Blacklist Update (0xB832) . . . 4019
11.11 NR5G RRC Channel Info (0xB83D) . . . 4022
12 Services . . . 4024
12.1 NR5G ML1 OA UAI INFO S (0xB999) . . . 4024
13 UDC . . . 4026
13.1 NR5G L2UL DEFLATE COMP STATS (0xB878) . . . 4026
13.2 NR5G L2UL DEFLATE COMP METRIC (0xB879) . . . 4032
14 UL . . . 4041
14.1 NR5G PDCP UL Stats (0xB860) . . . 4041
14.2 NR5G PDCP UL Control Pdu (0xB861) . . . 4268
14.3 NR5G PDCP UL ROHC Stats (0xB863) . . . 4285
14.4 NR5G RLC UL Stats (0xB868) . . . 4294
14.5 NR5G RLC UL Status PDU (0xB869) . . . 4382
14.6 NR5G L2 UL Data Pdu (0xB870) . . . 4403
14.7 NR5G L2 UL Config (0xB871) . . . 4740
14.8 NR5G L2 UL TB (0xB872) . . . 4929
14.9 NR5G L2 UL BSR (0xB873) . . . 5148
15 L2DL . . . 5187
15.1 EVENT_NR_DL_DATA_INTERRUPTION (0xD7D) . . . 5187
16 L2UL . . . 5188
16.1 EVENT_NR_UL_DATA_INTERRUPTION (0xD47) . . . 5188
16.2 EVENT_SNS_NR_RLF_ENHANCEMENT (0xD69) . . . 5188
16.3 EVENT_NR_RLF_OPTIMIZATION (0xD77) . . . 5188

17 ML1 5189
17.1 EVENT_NR5G_ML1_CC_ACT_DEACT_VRLF_INFO (0xD3B) 5189
17.2 EVENT_NR5G_ML1_CC_ACT_DEACT_VRLF_INFO (0xD78) 5190
17.3 EVENT_NR5G_ML1_CC_ACT_DEACT_VRLF_INFO (0xD86) 5190
18 NAS 5192
18.1 EVENT_NAS_MM5G_TIMER_START (0xC8D) 5192
18.2 EVENT_NAS_MM5G_TIMER_STOP (0xC8E) 5192
18.3 EVENT_NAS_MM5G_TIMER_EXPIRY (0xC8F) 5192
19 RRC 5193
19.1 EVENT_NR5G_RRC_NEW_CELL_IND_V2 (0xC70) 5193
19.2 EVENT_NR5G_RRC_HO_STARTED_V2 (0xC74) 5193
19.3 EVENT_NR5G_RRC_HO_FAILURE_V2 (0xC75) 5193
19.4 EVENT_NR5G_RRC_HO_SUCCESS (0xC76) 5194
19.5 EVENT_NR5G_RRC_UL_MSG_V2 (0xCA9) 5194
19.6 EVENT_NR5G_RRC_SCG_FAILURE (0xCAB) 5195
19.7 EVENT_NR5G_RRC_IRAT_RESEL_FROM_NR_START (0xCC5) 5195
19.8 EVENT_NR5G_RRC_IRAT_HO_FROM_NR_START (0xCC6) 5196
19.9 EVENT_NR5G_RRC_IRAT_REDIR_FROM_NR_START (0xCC7) 5196
19.10 EVENT_NR5G_RRC_IRAT_REDIR_FROM_NR_END (0xCC8) 5196
19.11 EVENT_NR5G_RRC_IRAT_RESEL_FROM_NR_END (0xCC9) 5196
19.12 EVENT_NR5G_RRC_IRAT_HO_FROM_NR_FAILURE (0xCCA) 5197
19.13 EVENT_NR5G_RRC_IRAT_HO_FROM_NR_END (0xCCB) 5197
19.14 EVENT_NR5G_RRC_MCG_FAILURE (0xCCF) 5198
19.15 EVENT_NR5G_RRC_HO_FAILURE_V3 (0xCD1) 5198
19.16 EVENT_NR5G_RRC_HO_FAILURE_V4 (0xCE1) 5199
19.17 EVENT_NR5G_RRC_UL_MSG_MEAS_REPORT_V4 (0xCE3) 5199
19.18 EVENT_NR5G_RRC_CELL_RESEL_SUCCESS (0xCEC) 5200
19.19 EVENT_NR5G_RRC_CELL_RESEL_SUCCESS_V2 (0xCF3) 5200
19.20 EVENT_NR5G_RRC_MCG_FAILURE_V2 (0xCFC) 5200
19.21 EVENT_NR5G_RRC_HO_FAILURE_V5 (0xCFD) 5201
19.22 EVENT_NR5G_RRC_SCG_FAILURE_V2 (0xCFE) 5201
19.23 EVENT_NR5G_RRC_UL_MSG_MEAS_REPORT_V5 (0xD24) 5202
19.24 EVENT_NR5G_RRC_N2N_REDIR_START (0xD29) 5202
19.25 EVENT_NR5G_RRC_N2N_REDIR_END (0xD2A) 5202
19.26 EVENT_NR5G_RRC_3GPP_VER_CHANGE (0xD31) 5203
19.27 EVENT_NR5G_RRC_SCG_FAILURE_V3 (0xD32) 5203
19.28 EVENT_NR5G_RRC_MCG_FAILURE_V3 (0xD33) 5204

19.29 EVENT_NR5G_RRC_IRAT_RESEL_FROM_NR_END_V3 (0xD3D) 5204
19.30 EVENT_NR5G_RRC_CAP_ENQUIRY_TRIM (0xD42) 5205
19.31 EVENT_NR5G_RRC_IRAT_RESEL_FROM_NR_END_V4 (0xD68) 5205
19.32 EVENT_NR_Cell_Selection_Enhancement (0xD79) 5206
19.33 EVENT_NR_Band_Scan_Enhancement (0xD7A) 5206
19.34 EVENT_NR5G_RRC_SIB_READ_FAILURE_V2 (0xD84) 5206
A NR5G references 5208
A.1 Related documents for NR5G 5208

1 Introduction

1.1 Purpose

This is a corporate document which describes the serial data interfaces used to communicate with Qualcomm Technologies, Inc. (QTI) devices.

This document provides information about how to create tools that can generate diagnostic packets, which may contain data that is regulated by privacy and/or data protection laws, rules, or regulations.

1.2 Conventions

Function declarations, function names, type declarations, attributes, and code samples appear in a different font, for example, `#include`.

1.3 Technical assistance

For assistance or clarification on information in this document, submit a case to Qualcomm Technologies, Inc. (QTI) at https://createpoint.qti.qualcomm.com/.

If you do not have access to the CDMATech Support website, register for access or send email to support.cdmatech@qti.qualcomm.com.

2 Packet Definition

2.1 Streaming diagnostic communications enhancements

The diagnostics system allows the DMSS to send unsolicited diagnostic packets (referred to as “streaming” diagnostics), violating the existing master/slave relationship between the DMSS and the Diagnostic Monitor (DM).

After configuration, the DMSS will send existing diagnostic packets when the data is available, rather than storing the data in a queue until it is requested by the DM. The following describes the data that may be streamed and how to configure it:

- Streamed Message response – To configure the Streamed Message response, the DM sends a Message request with the desired MSG_LEVEL. The response to this packet will be a Message response with the QUANTITY field set to 0, and the DROP_CNT set to its current value. All other data is arbitrary for this response since it is merely an acknowledgment (ACK).
  As messages are generated in the DMSS, given available bandwidth, a Message Response message will be streamed. The DM will handle this packet in the same manner that it handles a Message Response message in a nonstreaming phone. Except for the QUANTITY field, is the data the same. The QUANTITY field in a streaming phone is set to a nonzero value for tools compatibility.
  To configure Streamed Message response to Off (no unsolicited messages), the DM sends a Message Request message with the MSG_LEVEL field set to MSG_LVL_NONE.
- Streamed log response – To configure the Streamed Log response, the DM sends a Logging mask request with the desired logging mask.
  As log data becomes available and sufficient bandwidth exists, the DMSS will check the logging mask and send a Log response. The DM will handle this packet in the same manner that it handles a Log Response message in a nonstreaming phone. The data is the same.
  To configure Streamed Message response to Off (no unsolicited Log Response messages), the DM sends a Logging Mask Request message or an Extended Logging Mask Request message with the logging mask set to 0.
- Streamed Event report – Streamed Event Report is a feature that is incorporated into the DMSS Streaming Diagnostic Communications Enhancements feature. If the latter feature is disabled in the DMSS software, Event Report messages will not be delivered.
  To configure the Streamed Event report, the DM sends an Event Report Control Request message.

2.2 Error handling

Error packets are given a packet ID that is keyed to the type of error being indicated, but the contents of the error packet are the first 16 bytes of the packet sent by the DM. This measure is taken for the convenience of the debuggers of DM. If the DMSS detects a bad CRC on an incoming message, no response will be given.

2.3 General version number response (cmd_code 0)

This is a backward-compatible definition of the version number response message.

Field	Length (bytes)	Description
CMD_CODE (0)	1	
COMP_DATE	11	These fields are identical to the original Version Number Response message
COMP_TIME	8	
REL_DATE	11	
REL_TIME	8	
VER_DIR	8	
SCM – null	1	
MOB_CAI_REV – Null	1	
MOB_MODEL return on request	1	Model number of this mobile station – Model # 90 (SURF5200-SingleMode-WCDMA-FDD)
MOB_FIRM_REV – Null	2	
SLOT_CYCLE_INDEX – Null	1	
HW_MAJ_VER	1	
HW_MIN_VER	1	

3 Log Record Structure

The following is the general format of the log records.

Field	Type Name	Count	Offset	Length	Description
VERSION	Uint32	1	0	32	Version of the log packet
LENGTH	Uint32	1	32	32	Length of log record (the entire record including DATA, LOG_CODE, and TIMESTAMP)
LOG_CODE	Uint32	1	64	32	Which log item
TIMESTAMP	Uint32	1	96	32	Timestamp format • 48 bits – 1.25 ms counter • 6 bits – 1.25 ms/40 counter (32 kHz clock) • 2 bits – Unused • 8 bits – CFN
DATA	Enumeration	1	128	VAR	Data specific to that log type

In a number of log records in this document, we have defined a bit mask. The bit masks are to be read from the most significant bit (MSB) to the least significant bit (LSB). Therefore, in the sequence of bits 0 0 0 0 0 0 0 0, if it says that the FIRST THREE BITS indicate the alignment, then X Y Z 0 0 0 0 0 will indicate alignment of type X Y Z.

The detailed descriptions of each type of data that can be included in the DATA section of each log packet is described in this document.

4 Log Items

4.1 NR5G Sub6 TxAGC (0x1C07)

Type: Nr5g_Sub6TxAgc

Maximum Packet Size: 4000

Table 4-1 Nr5g_Sub6TxAgc

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Versions	Table 4-2	1	0	VAR	

Table 4-2 Nr5g_Sub6TxAgc_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-3	1	0	VAR	Default	
Reserved			0	0		
Version 2	Table 4-4		0	VAR	2	
Version 3	Table 4-6		0	VAR	3	
Reserved			0	0		
Version 5	Table 4-8		0	VAR	5	
Version 6	Table 4-10	1	0	VAR	6	
Version 7	Table 4-14		0	VAR	7	
Version 8	Table 4-18		0	VAR	8	

Table 4-3 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-4 Nr5g_Sub6TxAgc_V2

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Systime	Table 4-5	1	32	32	systime

Table 4-4 Nr5g_Sub6TxAgc_V2 (cont.)

Name	Type Name	Cnt	Off	Len	Description
Sym Index	Uint32	1	64	4	Symbol number having Tx activity
Channel Type	Enumeration	1	68	4	validation: 15 != ."Channel Type" Values: · 0 – PUCCH · 1 – PUSCH · 2 – SRS_0 · 3 – SRS_1 · 4 – SRS_2 · 5 – PRACH
Reserved		1	72	1	
Tx Chain Mask	Uint32	1	73	2	Tx chain mask
Reserved		1	75	1	
Req Tx Power Raw	Int16	1	76	16	Request Tx power
Req Tx Power	Float32	1			
Reserved		1	92	20	
MTPL Raw	Uint32	1	112	16	Final MTPL for power limiting
MTPL	Float32	1			MTPL
PA State	Uint32	1	128	3	PA state index
Reserved		1	131	12	
XPT	Enumeration	1	143	2	APT=0; EPT=1; ET=2; 3 is not used Values: · 0 – APT · 1 – EPT · 2 – ET · 3 – NA
Reserved		1	145	111	
BW	Uint32	1	256	8	channel bandwidth
Wave form	Enumeration	1	264	2	CP-OFDM = 0; DFT-OFDM = 1 Values: · 0 – CP · 1 – DFT
Mod Scheme	Enumeration	1	266	3	QPSK/BPSK = 0; 16QAM = 1;64QAM = 2; 256QAM = 3 Values: · 0 – BPSK · 1 – QPSK · 2 – 16QAM · 3 – 64QAM · 4 – 256QAM
RB Start	Uint32	1	269	9	Start RB index

Table 4-4 Nr5g_Sub6TxAgc_V2 (cont.)

Name	Type Name	Cnt	Off	Len	Description
RB Num	Uint32	1	278	10	< refer to ul_tx_on_type_e
MPR Raw	Uint32	1	288	8	MPR
Reserved		1		0	
AMPR Raw	Uint32	1	296	8	AMPR
Reserved		1		0	
AMPR ENDC Raw	Uint32	1	304	8	AMPR in ENDC mode
Tot Back off Raw	Uint32	1	312	8	Total MPR&AMPR backoff
Reserved		1		0	
Therm Limit Raw	Uint32	1	320	16	Thermal limit
Reserved		1		0	
SAR Limit Raw	Uint32	1	336	16	SAR limit
Reserved		1		0	
PE Max Raw	Uint32	1	352	16	Network signalled PeMax
Reserved		1		80	

Table 4-5 Nr5g_SystemTime

Name	Type Name	Cnt	Off	Len	Description
Sys FN	Uint16	1	0	10	Sysframe Number, range [0 to 1023]
Sub FN	Uint16	1	10	6	Subframe Number, range [0 to 9]
Slot	Uint16	1	16	8	Slot Number, range varies depends on the subcarrier spacing: range [0] - NR5G_SCS_15KHZ / NR5G_SCS_DEFAULT range [0-1] - NR5G_SCS_30KHZ range [0-3] - NR5G_SCS_60KHZ range [0-7] - NR5G_SCS_120KHZ
SCS	Enumeration	1	24	8	Numerology or SCS Values: • 0 – 15 • 1 – 30 • 2 – 60 • 3 – 120

Table 4-6 Nr5g_Sub6TxAgc_V3

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Systime	Table 4-7	1	32	32	systime
Sym Index	Uint32	1	64	4	Symbol number having Tx activity
Channel Type	Enumeration	1	68	4	Values: • 0 – PUCCH • 1 – PUSCH • 2 – SRS_0

Table 4-6 Nr5g_Sub6TxAgc_V3 (cont.)

Name	Type Name	Cnt	Off	Len	Description
					• 3 – SRS_1 • 4 – SRS_2 • 5 – PRACH • 15 – DTx
Reserved		1	72	1	
Tx Chain Mask	Uint32	1	73	2	Tx chain mask
Reserved		1	75	1	
Req Tx Power Raw	Int16	1	76	16	Request Tx power
Req Tx Power	Float32	1			
Reserved		1	92	20	
MTPL Raw	Uint32	1	112	16	Final MTPL for power limiting
MTPL	Float32	1			MTPL
PA State	Uint32	1	128	3	PA state index
Reserved		1	131	12	
XPT	Enumeration	1	143	2	APT=0; EPT=1; ET=2; 3 is not used Values: • 0 – APT • 1 – EPT • 2 – ET • 3 – NA
Reserved		1	145	111	
BW	Uint32	1	256	8	channel bandwidth
Wave form	Enumeration	1	264	2	CP-OFDM = 0; DFT-OFDM = 1 Values: • 0 – CP • 1 – DFT
Mod Scheme	Enumeration	1	266	3	QPSK/BPSK = 0; 16QAM = 1;64QAM = 2; 256QAM = 3 Values: • 0 – BPSK • 1 – QPSK • 2 – 16QAM • 3 – 64QAM • 4 – 256QAM
RB Start	Uint32	1	269	9	Start RB index
RB Num	Uint32	1	278	10	< refer to ul_tx_on_type_e
MPR Raw	Uint32	1	288	8	MPR
Reserved		1		0	
AMPR Raw	Uint32	1	296	8	AMPR
Reserved		1		0	

Table 4-6 Nr5g_Sub6TxAgc_V3 (cont.)

Name	Type Name	Cnt	Off	Len	Description
AMPR ENDC Raw	Uint32	1	304	8	AMPR in ENDC mode
Tot Back off Raw	Uint32	1	312	8	Total MPR&AMPR backoff
Reserved		1		0	
Therm Limit Raw	Uint32	1	320	16	Thermal limit
Reserved		1		0	
SAR Limit Raw	Uint32	1	336	16	SAR limit
Reserved		1		0	
PE Max Raw	Uint32	1	352	16	Network signalled PeMax
Reserved		1		0	
Ant Swt En	Uint32	1	368	1	Ant_Switch enable
Ant Swt Idx	Uint32	1	369	3	Ant_Switch index
Reserved		1	372	4	
TA Timing Fix Up	Uint32	1	376	1	Timing fixup due to TA change
Reserved		1	377	7	
Total TA	Int16	1	384	16	Total TA value
Reserved		1	400	48	

Table 4-7 Nr5g_SystemTime

Name	Type Name	Cnt	Off	Len	Description
Sys FN	Uint16	1	0	10	Sysframe Number, range [0 to 1023]
Sub FN	Uint16	1	10	6	Subframe Number, range [0 to 9]
Slot	Uint16	1	16	8	Slot Number, range varies depends on the subcarrier spacing: range [0] - NR5G_SCS_15KHZ / NR5G_SCS_DEFAULT range [0-1] - NR5G_SCS_30KHZ range [0-3] - NR5G_SCS_60KHZ range [0-7] - NR5G_SCS_120KHZ
SCS	Enumeration	1	24	8	Numerology or SCS Values: • 0 – 15 • 1 – 30 • 2 – 60 • 3 – 120

Table 4-8 Nr5g_Sub6TxAgc_V5

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
log_ustmr_value	Uint32	1	32	32	Log USTMR value
Reserved		1	64	48	
freq_error_in_hz	Int16	1	112	16	Frequency error(Hz)

Table 4-8 Nr5g_Sub6TxAgc_V5 (cont.)

Name	Type Name	Cnt	Off	Len	Description
freq_error_ppm	Int32	1	128	32	Frequency error(ppm)
qet_alarm_register_value	Uint16	1	160	16	QET alarm register value
therm_device_type	Uint8	1	176	8	Therm object type
therm_value_in_degC	Int16	1	184	16	Therm object type
therm_scaled_value	Uint16	1	200	16	Therm scaled value
therm_bin_value	Uint8	1	216	8	Therm bin value
Num Chains	Uint8	1	224	8	
ChainInfo	Table 4-9	2	232	18144	
Reserved		1	18376	2848	

Table 4-9 ChainInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	32	
channel_number	Uint32	1	32	32	Channel number(khz)
Reserved		1	64	8	
p_powerclass_nr_db10	Int16	1	72	16	Power class limit - NR
Reserved		1	88	16	
ns_value	Uint8	1	104	8	NS value
Reserved		4	112	8960	

Table 4-10 Nr5g_Sub6TxAgc_V6

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32		0	32	
Ref Time	Uint32		32	32	Reference Time
num_cc	Uint8		64	8	num_cc
CA_combo_PC	Uint8		72	8	CA_combo_PC
variant_id	Uint8		80	8	Variant_id
cc_info	Table 4-11	2	88	VAR	CC_info

Table 4-11 per_cc_info

Name	Type Name	Cnt	Off	Len	Description
cc_id	Uint8		0	8	
num_chains	Uint8		8	8	
ChainInfo	Table 4-12	2	16	VAR	

Table 4-12 per_chain_info

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	40	
NR PC limit	Int16		40	16	NR PC limit
Reserved			56	64	
Channel number	Uint32		120	32	Channel number(khz)
freq_error_hz	Int16		152	16	Frequency Error in hz
freq_error_ppm	Int32		168	32	Frequency Error in ppm
is qet alarm reg read success	Bool		200	8	QET Alarm Register Pass or Fail
Therm Value	Int16		208	16	Therm Value in degC
Therm Scaled Value	Uint16		224	16	Therm Scaled Value
Therm Bin Value	Uint8		240	8	Therm Bin Value
NS Value	Uint8		248	8	NS value
sub6_semi_static_fields	Table 4-13	†	256	VAR	† Count: 0 + 1

Table 4-13 sub6_semi_static_fields

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	256	

Table 4-14 Nr5g_Sub6TxAgc_V7

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32		0	32	
Ref Time	Uint32		32	32	Reference Time
num_cc	Uint8		64	8	num_cc
CA_combo_PC	Uint8		72	8	CA_combo_PC
variant_id	Uint8		80	8	Variant_id
cc_info	Table 4-15	2	88	VAR	CC_info

Table 4-15 per_cc_info

Name	Type Name	Cnt	Off	Len	Description
cc_id	Uint8		0	8	
num_chains	Uint8		8	8	
ChainInfo	Table 4-16	2	16	VAR	

Table 4-16 per_chain_info

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	40	
NR PC limit	Int16		40	16	NR PC limit

Table 4-16 per_chain_info (cont.)

Name	Type Name	Cnt	Off	Len	Description
Reserved			56	96	
Channel number	Uint32		152	32	Channel number(khz)
freq_error_hz	Int16		184	16	Frequency Error in hz
freq_error_ppm	Int32		200	32	Frequency Error in ppm
is qet alarm reg read success	Bool		232	8	QET Alarm Register Pass or Fail
Therm Value	Int16		240	16	Therm Value in degC
Therm Scaled Value	Uint16		256	16	Therm Scaled Value
Therm Bin Value	Uint8		272	8	Therm Bin Value
Tx Ant Sw Path	Uint32		280	32	Tx Ant Sw Path
Alt Ant Sw Paths	Uint32	3	312	96	Alt Ant Sw Paths
NS Value	Uint8		408	8	NS value
sub6_semi_static_fields	Table 4-17	†	416	VAR	† Count: 0 + 1

Table 4-17 sub6_semi_static_fields

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	288	

Table 4-18 Nr5g_Sub6TxAgc_V8

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32		0	32	
Ref Time	Uint32		32	32	Reference Time
num_entries	Uint8		64	8	num_entries
CA_combo_PC	Uint8		72	8	CA_combo_PC
variant_id	Uint8		80	8	Variant_id
cc_info	Table 4-19	†	88	VAR	CC_info † Count: num_entries

Table 4-19 per_cc_info

Name	Type Name	Cnt	Off	Len	Description
cc_id	Uint8		0	8	
chain_id	Uint8		8	8	
ChainInfo	Table 4-20		16	VAR	

Table 4-20 per_chain_info

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	40	
NR PC limit	Int16		40	16	NR PC limit
Reserved			56	96	
Channel number	Uint32		152	32	Channel number(khz)
freq_error_hz	Int16		184	16	Frequency Error in hz
freq_error_ppm	Int32		200	32	Frequency Error in ppm
is qet alarm reg read success	Bool		232	8	QET Alarm Register Pass or Fail
Therm Value	Int16		240	16	Therm Value in degC
Therm Scaled Value	Uint16		256	16	Therm Scaled Value
Therm Bin Value	Uint8		272	8	Therm Bin Value
Tx Ant Sw Path	Uint32		280	32	Tx Ant Sw Path
Alt Ant Sw Paths	Uint32	3	312	96	Alt Ant Sw Paths
NS Value	Uint8		408	8	NS value
sub6_semi_static_fields	Table 4-21	†	416	VAR	† Count: 0 + 1

Table 4-21 sub6_semi_static_fields

Name	Type Name	Cnt	Off	Len	Description
Reserved			0	288	

4.2 NR5G MMW TxAGC (0x1C08)

Type: Nr5g_MmwTxAgc

Maximum Packet Size: 4000

Table 4-22 Nr5g_MmwTxAgc

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Versions	Table 4-23	1	0	VAR	

Table 4-23 Nr5g_MmwTxAgc_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-24	1	0	VAR	Default	
Version 1	Table 4-25		0	VAR	1	
Version 2	Table 4-29		0	VAR	2	
Version 3	Table 4-34		0	VAR	3	

Table 4-24 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-25 Nr5g_MmwTxAgc_V1

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sym Info	Table 4-26	7	32	4704	
Tx Chain Mask	Uint32	1	4736	2	Tx chain mask
Tx Carrier Mask	Uint32	1	4738	8	The carrier mask
Num Symbol	Uint32	1	4746	4	Symbol number for intelligent apex parsing
Reserved		1	4750	18	
Sysframe	Uint32	1	4768	10	
Subframe	Uint32	1	4778	6	
Slot	Uint32	1	4784	8	
SCS	Uint32	1	4792	8	

Table 4-26 Nr5g_MmwTxAgc_V1_SymInfo

Name	Type Name	Cnt	Off	Len	Description
Output Power TxAGC	Int32	1	0	11	Output Power TxAGC in db10
MTPL	Int32	1	11	11	MTPL
Reserved		1	22	10	
Beam Id	Uint32	2	32	64	Beam id for the 2 tx chains
Post Comb Gain	Int32	2	96	64	Post comb gain (backoff)
Pre Comb Gain	Int32	8	160	256	Pre comb gain
PhasorInfo2D	Table 4-27	2	416	256	

Table 4-27 Nr5g_MmwTxAgc_V1_SymInfo_PhasorInfo2D

Name	Type Name	Cnt	Off	Len	Description
Phasor Info	Table 4-28	4	0	128	

Table 4-28 Nr5g_MmwTxAgc_V1_SymInfo_PhasorInfo

Name	Type Name	Cnt	Off	Len	Description
Rgi TxAGC	Uint32	1	0	6	RF gain setting for TxAGC
Lookup Power	Int32	1	6	11	Lookup power from the linearizer for logging
EIRP Comb Gain	Int32	1	17	11	EIRP comb gain
Reserved		1	28	4	

Table 4-29 Nr5g_MmwTxAgc_V2

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Describes the log version number
Systime	Table 4-30	1	32	32	systime
Num Sym	Uint32	1	64	4	Symbol number having Tx activity
Tx Chain Mask	Uint32	1	68	2	Tx chain mask
Tx Carr Mask	Uint32	1	70	8	The carrier mask
Reserved3	Uint32	1	78	18	reserved
TxPower	Table 4-31	2	96	64	
Reserved		8	160	320	
PhasorInfo	Table 4-32	2	480	192	
Reserved		2	672	64	
Waveform	Enumeration	1	736	4	Waveform type Values: • 0 – CP-OFDM • 1 – DFT-OFDM
Mod Scheme	Enumeration	1	740	4	Modulation type Values: • 0 – BPSK • 1 – QPSK • 2 – 16QAM • 3 – 64QAM • 4 – 256QAM
Reserved		1	744	16	
Reserved5	Uint32	1	760	8	reserved
ThermRead	Table 4-33	2	768	64	
Reserved		1	832	20	
Reserved7	Uint32	1	852	12	reserved
Reserved		2	864	80	
Reserved9	Uint32	1	944	16	reserved
Reserved		1	960	64	

Table 4-30 Systime

Name	Type Name	Cnt	Off	Len	Description
Sys FN	Uint32	1	0	10	
Sub FN	Uint32	1	10	6	
Slot	Uint32	1	16	8	
SCS	Uint32	1	24	8	

Table 4-31 TxPower

Name	Type Name	Cnt	Off	Len	Description
Req Power TxAGC Raw	Int32	1	0	11	Requested Power TxAGC in db10
Req Power TxAGC	Float64	1			
Reserved		1	11	11	
MTPL Raw	Int32	1	22	10	MTPL per element in Db10
MTPL	Float64	1			

Table 4-32 PhasorInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	8	
RGI	Uint32	1	8	6	RF gain setting for TxAGC
Reserved		1	14	11	
Reserved4	Uint32	1	25	7	Reserved
Reserved		1	32	32	
Radiated PDET Power Raw	Int32	1	64	16	Radiated PDET power in dB10
Rad PDET Power	Float32	1			
Reserved		1	80	16	

Table 4-33 ThermRead

Name	Type Name	Cnt	Off	Len	Description
Therm Avg	Int32	1	0	16	Therm value averaged over 4 quads per phasor
Reserved6	Uint32	1	16	16	reserved

Table 4-34 Nr5g_MmwTxAgc_V3

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Describes the log version number
Sys FN	Uint32	1	32	10	
Slot	Uint32	1	42	8	
SCS	Enumeration	1	50	4	Values: • 0 – 15KHZ • 1 – 30KHZ • 2 – 60KHZ • 3 – 120KHZ • 4 – 240KHZ • 5 – DEFAULT
Num Sym	Uint32	1	54	4	Symbol number having Tx activity
Waveform	Enumeration	1	58	3	Waveform type

Table 4-34 Nr5g_MmwTxAgc_V3 (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – CP-OFDM • 1 – DFT-OFDM
Mod Scheme	Enumeration	1	61	3	Modulation type Values: • 0 – BPSK • 1 – QPSK • 2 – 16QAM • 3 – 64QAM • 4 – 256QAM
Tx Chain Mask	Uint32	1	64	2	Tx chain mask
Tx Carr Mask	Uint32	1	66	4	Tx carrier mask
Reserved		1	70	2	
Tx Band	Enumeration	1	72	4	Tx Band Values: • 0 – N41 • 1 – N77 • 2 – N78 • 3 – N79 • 4 – N257 • 5 – N258 • 6 – N260 • 7 – N261
Reserved		1	76	84	
Path Info	Table 4-35	2	160	320	
Reserved		1	480	32	

Table 4-35 Nr5g_MmwTxAgc_V3_PathInfo

Name	Type Name	Cnt	Off	Len	Description
Req Power TxAGC Raw	Int32	1	0	10	
Req Power TxAGC	Float64	1			
Reserved		1	10	10	
MTPL Raw	Int32	1	20	12	
MTPL	Float64	1			
RGI	Uint32	1	32	6	Radio Gain Index
Reserved		1	38	46	
PDET Power Raw	Int32	1	84	12	Measured PDET power
PDET Power	Float64	1			
Reserved		1	96	8	

Table 4-35 Nr5g_MmwTxAgc_V3_PathInfo (cont.)

Name	Type Name	Cnt	Off	Len	Description
Therm Avg	Int32	1	104	10	Therm Average
Reserved		1	114	46	

4.3 NR5G MMW RxAGC (0x1C09)

Type: Nr5g_MmwRxAgc

Maximum Packet Size: 4000

Table 4-36 Nr5g_MmwRxAgc

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Versions	Table 4-37	1	0	VAR	

Table 4-37 Nr5g_MmwRxAgc_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-38	1	0	VAR	Default	
Reserved			0	0		
Version 2	Table 4-39		0	VAR	2	
Version 3	Table 4-43		0	VAR	3	
Version 4	Table 4-47		0	VAR	4	

Table 4-38 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-39 Nr5g_MmwRxAgc_V2

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Target Slot	Uint32	1	32	8	Slot number
Target SCS	Uint32	1	40	4	Sub-carrier Spacing
Sysframe	Uint32	1	44	10	Radio frame number
Reserved		1	54	138	
ComputeLnaAgcInfo	Table 4-40	2	192	192	
Reserved		6	384	1152	
SetLnaAgcInfo	Table 4-41	2	1536	128	Set LNA agc Info

Table 4-39 Nr5g_MmwRxAgc_V2 (cont.)

Name	Type Name	Cnt	Off	Len	Description
Reserved		6	1664	768	
AFC Info	Table 4-42	1	2432	96	AFC Info

Table 4-40 ComputeLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	32	
RSSI	Int32	1	32	32	Filtered RSSI
Reserved		1	64	32	

Table 4-41 SetLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Gain State	Uint32	1	0	8	Gain State (to set)
Reserved		1	8	56	

Table 4-42 AfcInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	32	
Freq Error	Int32	1	32	32	FreqErr correction in Hz, relative to init PLL, not the delta with current PLL setting (for debug purpose)
Reserved		1	64	32	

Table 4-43 Nr5g_MmwRxAgc_V3

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sysframe	Uint32	1	32	10	Radio frame number
Target Slot	Uint32	1	42	8	Slot number
Target SCS	Uint32	1	50	4	Sub-carrier Spacing
Reserved		1	54	106	
SetLnaAgcInfo	Table 4-44	2	160	192	Set LNA agc Info
Reserved		6	352	1152	
ComputeLnaAgcInfo	Table 4-45	2	1504	256	
Reserved		6	1760	1888	
AFC Info	Table 4-46	1	3648	128	AFC Info

Table 4-44 SetLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Set LNA Valid	Uint32	1	0	32	Indicates if the Set_LNA params are valid or not
Gain State	Uint32	1	32	8	Gain State (to set)
Reserved		1	40	56	

Table 4-45 ComputeLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Comp LNA Valid	Uint32	1	0	32	Indicates if the Comp LNA params are valid or not
Reserved		1	32	32	
RSSI	Int32	1	64	32	Filtered RSSI
Reserved		1	96	32	

Table 4-46 AfcInfo

Name	Type Name	Cnt	Off	Len	Description
AFC Valid	Uint32	1	0	32	Indicates if the AFC info are valid or not
Reserved		1	32	32	
Freq Error	Int32	1	64	32	FreqErr correction in Hz, relative to init PLL, not the delta with current PLL setting (for debug purpose)
Reserved		1	96	32	

Table 4-47 Nr5g_MmwRxAgc_V4

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sysframe	Uint32	1	32	10	Radio frame number
Target Slot	Uint32	1	42	8	Slot number
Target SCS	Uint32	1	50	4	Sub-carrier Spacing
Reserved		1	54	74	
SetLnaAgcInfo	Table 4-48	2	128	128	Set LNA agc Info
Reserved		3	256	384	
ComputeLnaAgcInfo	Table 4-49	2	640	128	
Reserved		3	768	384	

Table 4-48 SetLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	1	
Gain State	Uint32	1	1	4	Gain State (to set)
Reserved		1	5	59	

Table 4-49 ComputeLnaAgcInfo

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	32	
RSSI	Int32	1	32	32	Filtered RSSI

4.4 NR5G Sub6 RxAGC (0x1C0C)

Type: Nr5g_Sub6RxAgc

Maximum Packet Size: 4000

Table 4-50 Nr5g_Sub6RxAgc

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Shown only when '."Version" >= 3'
Versions	Table 4-51	1	0	VAR	

Table 4-51 Nr5g_Sub6RxAgc_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-52	1	0	VAR	Default	
Reserved			0	0		
Version 2	Table 4-53		0	VAR	2	
Version 3	Table 4-55		0	VAR	3	
Version 4	Table 4-59		0	VAR	4	
Version 5	Table 4-63		0	VAR	5	

Table 4-52 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-53 Nr5g_Sub6RxAgc_V2

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
AGC Target Slot	Uint32	1	32	8	agc target slot
AGC Target SCS	Uint32	1	40	4	agc target scs
Reserved		1	44	4	
AGC Target System Frame	Uint32	1	48	10	agc target system frame
Reserved		1	58	6	
Slot	Uint32	1	64	8	rx on/off target slot
SCS	Uint32	1	72	4	rx on/off scs

Table 4-53 Nr5g_Sub6RxAgc_V2 (cont.)

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	76	4	
System Frame	Uint32	1	80	10	rx on/off system frame
Reserved		1	90	6	
AFC Target Slot	Uint32	1	96	8	afc target slot
AFC Target SCS	Uint32	1	104	4	afc scs
Reserved		1	108	4	
AFC Target System Frame	Uint32	1	112	10	
Reserved		1	122	38	
Slot Info	Table 4-54	4	160	640	
Freq Error	Int32	1	800	32	freq error
Reserved		1	832	64	

Table 4-54 Nr5g_Sub6RxAgc_V2_SlotInfo

Name	Type Name	Cnt	Off	Len	Description
Gain State	Uint32	1	0	8	Gain state
Reserved		1	8	24	
RSSI	Int32	1	32	32	RSSI
Reserved		1	64	96	

Table 4-55 Nr5g_Sub6RxAgc_V3

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sys Frame	Uint32	1	32	10	rx on/off system frame
Slot	Uint32	1	42	8	rx on/off target slot
Num Rx Chains	Uint32	1	50	2	num of rx chains coonfiguresd
Reserved		1	52	12	
Chain Info	Table 4-56	4	64	128	
Reserved		1	192	896	
Compute LNA	Table 4-57	4	1088	512	
Reserved		1	1600	448	
AFC	Table 4-58	4	2048	384	

Table 4-56 Nr5g_Sub6RxAgc_V3_ChainInfo

Name	Type Name	Cnt	Off	Len	Description
Chain Id	Uint32	1	0	8	chain Idx
Reserved		1	8	24	

Table 4-57 Nr5g_Sub6RxAgc_V3_ComputeLna

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	8	
Gain State	Uint32	1	8	8	next gain state
Reserved		1	16	16	
Total RSSI	Int32	1	32	32	filt total rssi
Reserved		1	64	64	

Table 4-58 Nr5g_Sub6RxAgc_V3_Afc

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	64	
Freq Error	Int32	1	64	32	filt freq error

Table 4-59 Nr5g_Sub6RxAgc_V4

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sys Frame	Uint32	1	32	10	rx on/off system frame
Slot	Uint32	1	42	8	rx on/off target slot
Num Rx Chains	Uint32	1	50	4	num of rx chains coonfiguresd
Reserved		1	54	10	
Chain Info	Table 4-60	4	64	128	
Reserved		1	192	896	
Compute LNA	Table 4-61	4	1088	512	
Reserved		1	1600	448	
AFC	Table 4-62	4	2048	384	

Table 4-60 Nr5g_Sub6RxAgc_V3_ChainInfo

Name	Type Name	Cnt	Off	Len	Description
Chain Id	Uint32	1	0	8	chain Idx
Reserved		1	8	24	

Table 4-61 Nr5g_Sub6RxAgc_V3_ComputeLna

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	8	
Gain State	Uint32	1	8	8	next gain state
Reserved		1	16	16	
Total RSSI	Int32	1	32	32	filt total rssi
Reserved		1	64	64	

Table 4-62 Nr5g_Sub6RxAgc_V3_Afc

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	64	
Freq Error	Int32	1	64	32	filt freq error

Table 4-63 Nr5g_Sub6RxAgc_V5

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sys Frame	Uint32	1	32	10	rx on/off system frame
Slot	Uint32	1	42	8	rx on/off target slot
Num Rx Chains	Uint32	1	50	4	num of rx chains coonfiguresd
Reserved		1	54	10	
Chain Info	Table 4-64	4	64	128	
Reserved		1	192	896	
Compute LNA	Table 4-65	4	1088	640	
Reserved		1	1728	448	
AFC	Table 4-66	4	2176	384	

Table 4-64 Nr5g_Sub6RxAgc_V3_ChainInfo

Name	Type Name	Cnt	Off	Len	Description
Chain Id	Uint32	1	0	8	chain Idx
Reserved		1	8	24	

Table 4-65 Nr5g_Sub6RxAgc_V3_ComputeLna

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	8	
Gain State	Uint32	1	8	8	next gain state
Reserved		1	16	48	
Total RSSI	Int32	1	64	32	filt total rssi
Reserved		1	96	64	

Table 4-66 Nr5g_Sub6RxAgc_V3_Afc

Name	Type Name	Cnt	Off	Len	Description
Reserved		1	0	64	
Freq Error	Int32	1	64	32	filt freq error

4.5 NR5G SDRIU Info (0x1C0D)

Type: Nr5g_SdriuInfo

Maximum Packet Size: 0

Table 4-67 Nr5g_SdriuInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
Versions	Table 4-68	1	8	VAR	

Table 4-68 Nr5g_SdriuInfo_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-69	1	0	VAR	Default	
Reserved		1	0	0		
Version 4	Table 4-70	1	0	VAR	4	
Version 5	Table 4-78	1	0	VAR	5	
Version 6	Table 4-86		0	VAR	6	
Version 7	Table 4-93		0	VAR	7	
Version 8	Table 4-100		0	VAR	8	
Version 9	Table 4-107		0	VAR	9	

Table 4-69 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-70 Nr5g_SdriuInfo_V4

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8	1	0	8	
Reserved		1	8	16	
Sub Packets	Table 4-71	†	24	VAR	† Count: Num SubPackets

Table 4-71 Nr5g_SdriuInfo_V4_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket ID	Uint8	1	0	8	
SubPacket	Table 4-72	1	8	VAR	

Table 4-72 Nr5g_SdriuInfo_V4_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-73	1	0	VAR	Default	
SDRIU Info	Table 4-74	1	0	VAR	10	

Table 4-73 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
HexDump	Uint8		24	VAR	

Table 4-74 Nr5g_SdriuInfo_V4_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
Versions	Table 4-75	1	24	VAR	

Table 4-75 Nr5g_SdriuInfo_V4_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-76	1	0	VAR	Default	
Version 1	Table 4-77	1	0	352	1	

Table 4-76 Unknown Versions

Name	Type Name	Cnt	Off	Len	Description
Unknown Versions	Uint8		0	VAR	

Table 4-77 Nr5g_SdriuInfo_V4_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32	1	0	10	
Symbol Idx	Uint32	1	10	6	Subframe
Slot	Uint32	1	16	8	
SCS	Enumeration	1	24	8	Values: • 0 – 120Khz • 1 – 60KHz • 2 – 30KHz • 3 – 15KHz
Action Time	Uint32	1	32	32	Action ustmr time
Reserved		1	64	48	

Table 4-77 Nr5g_SdriuInfo_V4_SdiruInfo_V1 (cont.)

Name	Type Name	Cnt	Off	Len	Description
Standby Sleep Flag	Uint32	1	112	6	standby_sleep_flag
TxLin Lookup	Int16	1	118	10	Tx Linearizer look up
SMPS Bias	Uint32	1	128	16	PA Bias
PA ICQ	Uint32	1	144	16	PA Current
Reserved		1	160	32	
IQ Backoff	Uint32	1	192	10	IQ Back off
Reserved		1	202	118	
ET Vmax	Uint32	1	320	16	ET_Vmax
Reserved		1	336	16	

Table 4-78 Nr5g_SdriuInfo_V5

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8	1	0	8	
Reserved		1	8	16	
Sub Packets	Table 4-79	†	24	VAR	† Count: Num SubPackets

Table 4-79 Nr5g_SdriuInfo_V4_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket ID	Uint8	1	0	8	
SubPacket	Table 4-80	1	8	VAR	

Table 4-80 Nr5g_SdriuInfo_V4_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-81	1	0	VAR	Default	
SDRIU Info	Table 4-82	1	0	VAR	10	

Table 4-81 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
HexDump	Uint8		24	VAR	

Table 4-82 Nr5g_SdriuInfo_V4_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
Versions	Table 4-83	1	24	VAR	

Table 4-83 Nr5g_SdriuInfo_V4_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-84	1	0	VAR	Default	
Version 1	Table 4-85	1	0	288	1	

Table 4-84 Unknown Versions

Name	Type Name	Cnt	Off	Len	Description
Unknown Versions	Uint8		0	VAR	

Table 4-85 Nr5g_SdriuInfo_V4_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32	1	0	10	
Symbol Idx	Uint32	1	10	6	Subframe
Slot	Uint32	1	16	8	
SCS	Enumeration	1	24	8	Values: · 0 – 120Khz · 1 – 60KHz · 2 – 30KHz · 3 – 15KHz
Action Time	Uint32	1	32	32	Action ustmr time
Reserved		1	64	48	
Standby Sleep Flag	Uint32	1	112	6	standby_sleep_flag
TxLin Lookup	Int16	1	118	10	Tx Linearizer look up
SMPS Bias	Uint32	1	128	16	PA Bias
ET Vmax	Uint32	1	144	16	ET_Vmax
PA ICQ	Uint32	1	160	32	PA Current
Reserved		1	192	32	
IQ Backoff	Uint32	1	224	16	IQ Back off
Reserved		1	240	48	

Table 4-86 Nr5g_SdriuInfo_V6

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8		0	8	
Reserved			8	16	
Sub Packets	Table 4-87	†	24	VAR	† Count: Num SubPackets

Table 4-87 Nr5g_SdriuInfo_V6_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket_ID	Uint8		0	8	
SubPacket	Table 4-88		8	376	

Table 4-88 Nr5g_SdriuInfo_V6_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-89		0	32	Default	
SDRIU Info	Table 4-90		0	376	10	

Table 4-89 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
HexDump	Uint8	1	24	8	

Table 4-90 Nr5g_SdriuInfo_V6_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
Versions	Table 4-91		24	352	

Table 4-91 Nr5g_SdriuInfo_V6_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 1	Table 4-92		0	352	1	

Table 4-92 Nr5g_SdriuInfo_V6_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32		0	10	
Symbol Idx	Uint32		10	6	Subframe
Slot	Uint32		16	8	

Table 4-92 Nr5g_SdriuInfo_V6_SdiruInfo_V1 (cont.)

Name	Type Name	Cnt	Off	Len	Description
SCS	Enumeration		24	8	Values: • 0 – 120Khz. • 1 – 60KHz. • 2 – 30KHz. • 3 – 15KHz.
Action Time	Uint32		32	32	Action ustmr time
Reserved			64	46	
TxLin Lookup	Int16		110	10	Tx Linearizer look up
Reserved			120	10	
Standby Sleep Flag	Uint32		130	6	standby_sleep_flag
SMPS Bias	Uint32		136	16	PA Bias
Reserved			152	8	
PA ICQ	Uint32		160	32	PA Current
Reserved			192	64	
IQ Backoff	Uint32		256	16	IQ Back off
ET Vmax	Uint32		272	16	ET_Vmax
Reserved			288	64	

Table 4-93 Nr5g_SdriuInfo_V7

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8		0	8	
Reserved			8	16	
Sub Packets	Table 4-94	†	24	VAR	† Count: Num SubPackets

Table 4-94 Nr5g_SdriuInfo_V7_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket_ID	Uint8		0	8	
SubPacket	Table 4-95		8	472	

Table 4-95 Nr5g_SdriuInfo_V7_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-96		0	32	Default	
SDRIU Info	Table 4-97		0	472	10	

Table 4-96 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
HexDump	Uint8	1	24	8	

Table 4-97 Nr5g_SdriuInfo_V7_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
Versions	Table 4-98		24	448	

Table 4-98 Nr5g_SdriuInfo_V7_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 1	Table 4-99		0	448	1	

Table 4-99 Nr5g_SdriuInfo_V7_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32		0	10	
Symbol Idx	Uint32		10	6	Subframe
Slot	Uint32		16	8	
SCS	Enumeration		24	8	Values: • 0 – 120Khz. • 1 – 60KHz. • 2 – 30KHz. • 3 – 15KHz.
Action Time	Uint32		32	32	Action ustmr time
Reserved			64	46	
TxLin Lookup	Int16		110	10	Tx Linearizer look up
Reserved			120	10	
Standby Sleep Flag	Uint32		130	6	standby_sleep_flag
SMPS Bias	Uint32		136	16	PA Bias
Reserved			152	8	
PA ICQ	Uint32		160	32	PA Current
Reserved			192	64	
IQ Backoff	Uint32		256	16	IQ Back off
ET Vmax	Uint32		272	16	ET_Vmax
Reserved			288	160	

Table 4-100 Nr5g_SdriuInfo_V8

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8		0	8	
Reserved			8	16	
Sub Packets	Table 4-101	†	24	VAR	† Count: Num SubPackets

Table 4-101 Nr5g_SdriuInfo_V8_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket_ID	Uint8		0	8	
SubPacket	Table 4-102		8	544	

Table 4-102 Nr5g_SdriuInfo_V8_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-103		0	32	Default	
SDRIU Info	Table 4-104		0	544	10	

Table 4-103 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
HexDump	Uint8	1	24	8	

Table 4-104 Nr5g_SdriuInfo_V8_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
Versions	Table 4-105		24	520	

Table 4-105 Nr5g_SdriuInfo_V8_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 1	Table 4-106		0	520	1	

Table 4-106 Nr5g_SdriuInfo_V8_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32		0	10	
Symbol Idx	Uint32		10	6	Subframe
Slot	Uint32		16	8	

Table 4-106 Nr5g_SdriuInfo_V8_SdiruInfo_V1 (cont.)

Name	Type Name	Cnt	Off	Len	Description
SCS	Enumeration		24	8	Values: • 0 – 120Khz. • 1 – 60KHz. • 2 – 30KHz. • 3 – 15KHz.
Action Time	Uint32		32	32	Action ustmr time
Reserved			64	46	
TxLin Lookup	Int16		110	10	Tx Linearizer look up
Reserved			120	10	
Standby Sleep Flag	Enumeration		130	6	standby_sleep_flag Values: • 1 – SLEEP • 2 – WAKEUP • 3 – INVALID
SMPS Bias	Uint32		136	16	PA Bias
Reserved			152	8	
PA ICQ	Uint32		160	32	PA Current
Reserved			192	152	
IQ Backoff	Uint32		344	16	IQ Back off
ET Vmax	Uint32		360	16	ET_Vmax
Reserved			376	144	

Table 4-107 Nr5g_SdriuInfo_V9

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8		0	8	
Reserved			8	16	
Sub Packets	Table 4-108	†	24	VAR	† Count: Num SubPackets

Table 4-108 Nr5g_SdriuInfo_V9_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket_ID	Uint8		0	8	
SubPacket	Table 4-109		8	544	

Table 4-109 Nr5g_SdriuInfo_V9_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-110		0	32	Default	
SDRIU Info	Table 4-111		0	544	10	

Table 4-110 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
HexDump	Uint8	1	24	8	

Table 4-111 Nr5g_SdriuInfo_V9_SubPacket_SdiruInfo

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
SubPacket Size	Uint16		8	16	
Versions	Table 4-112		24	520	

Table 4-112 Nr5g_SdriuInfo_V9_SubPacket_SdiruInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 1	Table 4-113		0	520	1	

Table 4-113 Nr5g_SdriuInfo_V9_SdiruInfo_V1

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32		0	10	
Symbol Idx	Uint32		10	6	Subframe
Slot	Uint32		16	8	
SCS	Enumeration		24	8	Values: • 0 – 120Khz. • 1 – 60KHz. • 2 – 30KHz. • 3 – 15KHz.
Action Time	Uint32		32	32	Action ustmr time
Reserved			64	66	
Standby Sleep Flag	Enumeration		130	6	standby_sleep_flag Values: • 1 – SLEEP • 2 – WAKEUP • 3 – INVALID
SMPS Bias	Uint32		136	16	PA Bias
Reserved			152	8	
PA ICQ	Uint32		160	32	PA Current
Reserved			192	328	

4.6 NR5G MMW AFC (0x1C0F)

Type: Nr5g_MmwAfc

Maximum Packet Size: 4000

Table 4-114 Nr5g_MmwAfc

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Versions	Table 4-115	1	0	VAR	

Table 4-115 Nr5g_MmwAfc_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-116	1	0	VAR	Default	
Version 1	Table 4-117		0	VAR	1	

Table 4-116 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-117 Nr5g_MmwRxAgc_V1

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Sysframe	Uint32	1	32	10	Radio frame number
Target Slot	Uint32	1	42	8	Slot number
Target SCS	Uint32	1	50	4	Sub-carrier Spacing
Reserved		1	54	10	
AFC Info	Table 4-118	1	64	128	AFC Info

Table 4-118 AfcInfo

Name	Type Name	Cnt	Off	Len	Description
AFC Valid	Uint32	1	0	32	Indicates if the AFC info are valid or not
Reserved		1	32	32	
Freq Error	Int32	1	64	32	One for each slot
Reserved		1	96	32	

4.7 NR5G PDET Status (0x1C13)

Type: Nr5g_PdetStatus

Maximum Packet Size: 4000

Table 4-119 Nr5g_PdetStatus

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
Versions	Table 4-120	1	0	VAR	

Table 4-120 Nr5g_PdetStatus_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-121	1	0	VAR	Default	
Version 1	Table 4-122	1	0	VAR	1	
Version 2	Table 4-124	1	0	VAR	2	

Table 4-121 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-122 Nr5g_PdetStatus_V1

Name	Type Name	Cnt	Off	Len	Description
Packets	Table 4-123		0	VAR	

Table 4-123 Nr5g_PdetStatus_V1_Packets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
SFN	Uint16	1	32	16	system Frame num
Sub FN	Uint16	1	48	16	system Sub frame
Slot Num	Uint16	1	64	16	Slot number
PDET State	Enumeration	1	80	16	PDET state Values: • 0 – GOOD • 1 – BAD • 2 – NUM_STATES

Table 4-124 Nr5g_PdetStatus_V2

Name	Type Name	Cnt	Off	Len	Description
Packets	Table 4-125		0	VAR	

Table 4-125 Nr5g_PdetStatus_V2_Packets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	
SFN	Uint16	1	32	16	system Frame num
Sub FN	Uint16	1	48	16	system Sub frame
Slot Num	Uint16	1	64	16	Slot number
PDET State	Enumeration	1	80	8	PDET state Values: • 0 – GOOD • 1 – BAD • 2 – NUM_STATES
PDET Run	Uint8	1	88	8	PDET run

4.8 NR5G RF Third Party PA (0x1C18)

Type: Nr5g_RfThirdPartyPa

Maximum Packet Size: 1654

Table 4-126 Nr5g_RfThirdPartyPa

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
Versions	Table 4-127	1	8	VAR	

Table 4-127 Nr5g_RfThirdPartyPa_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-128	1	0	VAR	Default	
Version 1	Table 4-129	1	0	VAR	1	

Table 4-128 UnknownVersions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 4-129 Nr5g_RfThirdPartyPa_V1

Name	Type Name	Cnt	Off	Len	Description
Num SubPackets	Uint8	1	0	8	
Reserved		1	8	16	
Sub Packets	Table 4-130	†	24	VAR	† Count: Num SubPackets

Table 4-130 Nr5g_RfThirdPartyPa_V1_SubPackets

Name	Type Name	Cnt	Off	Len	Description
SubPacket ID	Uint8	1	0	8	
SubPacket	Table 4-131	1	8	VAR	

Table 4-131 Nr5g_RfThirdPartyPa_V1_SubPackets_Union

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown SubPackets	Table 4-132	1	0	VAR	Default	
Third Party PA Info	Table 4-133	1	0	VAR	27	

Table 4-132 UnknownSubPackets

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
HexDump	Uint8		24	VAR	

Table 4-133 Nr5g_RfThirdPartyPa_V1_SubPacket_ThirdPartyPa

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8	1	0	8	
SubPacket Size	Uint16	1	8	16	
Versions	Table 4-134	1	24	VAR	

Table 4-134 Nr5g_RfThirdPartyPa_V2_SubPacket_ThirdPartyPaInfo_SubVersions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 4-135	1	0	VAR	Default	
Version 1	Table 4-136	1	0	200	1	

Table 4-135 Unknown Versions

Name	Type Name	Cnt	Off	Len	Description
Unknown Versions	Uint8		0	VAR	

Table 4-136 Nr5g_RfThirdPartyPa_V1_ThirdPartyPa_V1

Name	Type Name	Cnt	Off	Len	Description
TX Chain Mask	Uint8	1	0	8	Tx chain mask
PA Info	Table 4-137	2	8	192	

Table 4-137 Nr5g_RfThirdPartyPa_V1_PaInfo

Name	Type Name	Cnt	Off	Len	Description
Chain Index	Uint32	1	0	1	Tx chain index
Target Power	Int32	1	1	16	Target Tx power in dBm10
PA State	Uint32	1	17	3	PA state index
XPT Mode	Enumeration	1	20	2	APT=0;EPT=1;ET=2; 3 is not used Values: • 0 – APT • 1 – EPT • 2 – ET • 3 – INVALID
Reserved		1	22	10	
SMPS Bias	Uint32	1	32	16	SMPS bias
PA ICQ	Uint32	1	48	16	PA current
Reserved		1	64	32	

4.9 NR5G SUB6 TDD BYPASS (0x1C1A)

COMMON RF NR5G SUB6 TDD BYPASS NOTCH log packet definition This log packet is committed on following events: Update triggered by AFC Update

Type: LP_NR5G_SUB6_TDD_BYPASS

Maximum Packet Size: 0

Table 4-138 LP_NR5G_SUB6_TDD_BYPASS

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32		0	32	
Versions	Table 4-139		32	1152	

Table 4-139 nr5g_q6_sub6_tdd_bypass_log_packet_versions_u

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 0x1	Table 4-140		0	1152	1	
Version 0x2	Table 4-144		0	1280	2	
Version 0x3	Table 4-148		0	1280	3	
Version 0x4	Table 4-152		0	1280	4	
Version 0x5	Table 4-155		0	1280	5	
Version 0x6	Table 4-158		0	1280	6	
Version 0x7	Table 4-161		0	1281	7	

Table 4-140 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x1

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-141		0	1152	

Table 4-141 rfe_nr5g_sub6_tdd_bypass_log_packet_v1_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Sub Frame	Uint32		42	6	subframe
Slot	Uint32		48	4	slot
SCS	Uint32		52	4	scs
Force Saw	Uint32		56	2	force to saw for retune/IRAT scenario
Switch Event	Enumeration		58	2	switch event Values: • 0 – XX • 1 – SAWLESS TO SAW • 2 – SAW TO SAWLESS • 3 – INVALID
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-142	4	64	256	sawless info per chain
Saw floor	Int32		320	32	thermal saw floor dbm100/Hz
Doppler High	Uint32		352	2	doppler high flag
PDCCH Decoded	Uint32		354	2	has PDCCH decoded
PDSCH BLER	Uint32		356	12	PDSCH BLER %
Noise Update	Uint32		368	4	noise update flag
RS Type	Enumeration		372	4	RS type Values: • 0 – TRS • 1 – SSB • 2 – INVALID
Skip Filter	Uint32		376	2	skip filtering flag
Filt Coeff Recip	Uint32		378	6	reciprocal for filter coeff
Noise Info	Table 4-143	4	384	768	noise info per chain

Table 4-142 chain_info

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	RX chain Idx
Has Sawless Path	Uint32		4	4	whether this chain has sawless path
Curr State	Enumeration		8	4	current state (saw/sawless)

Table 4-142 chain_info (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Next State	Enumeration		12	4	next state (saw/sawless) Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Gain State	Uint32		16	4	gain state
JDET High	Uint32		20	4	JDET HIGH flag
rserved1	Uint32		24	8	
State Count	Uint32		32	32	state counter for current state

Table 4-143 noise_info

Name	Type Name	Cnt	Off	Len	Description
Dynam Bias	Uint32		0	16	dynamic bias for inst noise_lin
Final Bias	Uint32		16	16	final bias for filt_noise_lin
Inst Noise Lin	Uint32		32	32	instant noise linear
Filt Noise Lin	Uint32		64	32	filter noise linear
Filt Noise	Int32		96	32	filter noise dB100
Ne Saw	Int32		128	32	saw noise est dBm100/Hz
Ne Sawless	Int32		160	32	sawless noise est dBm100/Hz

Table 4-144 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x2

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-145		0	1280	

Table 4-145 rfe_nr5g_sub6_tdd_bypass_log_packet_v2_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Sub Frame	Uint32		42	6	subframe
Slot	Uint32		48	4	slot
SCS	Uint32		52	4	scs
Force Saw	Uint32		56	2	force to saw
Switch Event	Enumeration		58	2	switch event

Table 4-145 rfe_nr5g_sub6_tdd_bypass_log_packet_v2_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – XX • 1 – SAWLESS TO SAW • 2 – SAW TO SAWLESS • 3 – INVALID
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-146	4	64	384	sawless info per chain
Thermal Floor	Int32		448	32	thermal saw floor
Doppler High	Uint32		480	2	doppler high flag
PDCCH Decoded	Uint32		482	2	has PDCCH decoded
PDSCH BLER	Uint32		484	12	PDSCH BLER %
Noise Update	Enumeration		496	4	noise update flag Values: • 0 – 0 • 1 – TRUE
RS Type	Enumeration		500	4	RS type Values: • 0 – TRS • 1 – SSB • 2 – INVALID
Skip Filter	Uint32		504	2	skip filtering flag
Filt Coeff Recip	Uint32		506	6	reciprocal for filter coeff
Noise Info	Table 4-147	4	512	768	noise info per chain

Table 4-146 chain_info_v2

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	4	has sawless path flag
Curr State	Enumeration		8	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Next State	Enumeration		12	4	next state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Trans Reason	Enumeration		16	4	trans reason

Table 4-146 chain_info_v2 (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – NO_TRS • 1 – JDET • 2 – GAIN_STATE • 3 – DOPPLER • 4 – NOISE • 5 – DL_DECODING • 6 – RETUNE • 7 – WAKEUP • 8 – WIFI_ON
Gain State	Uint32		20	4	gain state
Gain Delta	Uint32		24	4	gain delta
JDET High	Uint32		28	4	JDET HIGH flag
Penalty Count	Uint32		32	4	Penalty Count
rserved1	Uint32		36	28	
State Count	Uint32		64	32	state counter

Table 4-147 noise_info

Name	Type Name	Cnt	Off	Len	Description
Dynam Bias	Uint32		0	16	dynamic bias for inst noise_lin
Final Bias	Uint32		16	16	final bias for filt_noise_lin
Inst Noise Lin	Uint32		32	32	instant noise linear
Filt Noise Lin	Uint32		64	32	filter noise linear
Filt Noise	Uint32		96	32	filter noise dB
Ne Saw	Int32		128	32	saw noise est dBm
Ne Sawless	Int32		160	32	sawless noise est dBm

Table 4-148 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x3

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-149		0	1280	

Table 4-149 rfe_nr5g_sub6_tdd_bypass_log_packet_v3_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Sub Frame	Uint32		42	6	subframe
Slot	Uint32		48	4	slot

Table 4-149 rfe_nr5g_sub6_tdd_bypass_log_packet_v3_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
SCS	Uint32		52	4	scs
Force Saw	Uint32		56	2	force to saw
Switch Event	Enumeration		58	2	switch event Values: • 0 – XX • 1 – SAWLESS TO SAW • 2 – SAW TO SAWLESS • 3 – INVALID
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-150	4	64	384	sawless info per chain
Thermal Floor	Int32		448	32	thermal saw floor
Doppler High	Uint32		480	2	doppler high flag
PDCCH Decoded	Uint32		482	2	has PDCCH decoded
PDSCH BLER	Uint32		484	12	PDSCH BLER %
Noise Update	Enumeration		496	4	noise update flag Values: • 0 – 0 • 1 – TRUE
RS Type	Enumeration		500	4	RS type Values: • 0 – TRS • 1 – SSB • 2 – INVALID
Skip Filter	Uint32		504	2	skip filtering flag
Filt Coeff Recip	Uint32		506	6	reciprocal for filter coeff
Noise Info	Table 4-151	4	512	768	noise info per chain

Table 4-150 chain_info_v3

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	4	has sawless path flag
Curr State	Enumeration		8	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Next State	Enumeration		12	4	next state

Table 4-150 chain_info_v3 (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Trans Reason	Enumeration		16	4	trans reason Values: • 0 – NO_TRANSITION • 1 – JDET • 2 – GAIN_STATE • 3 – DOPPLER • 4 – NOISE • 5 – DL_DECODING • 6 – RETUNE • 7 – WAKEUP • 8 – WIFI_ON
Gain State	Uint32		20	4	gain state
Gain Delta	Uint32		24	8	gain delta
JDET High	Uint32		32	4	JDET HIGH flag
Penalty Count	Uint32		36	4	Penalty Count
rserved1	Uint32		40	24	
State Count	Uint32		64	32	state counter

Table 4-151 noise_info

Name	Type Name	Cnt	Off	Len	Description
Dynam Bias	Uint32		0	16	dynamic bias for inst noise_lin
Final Bias	Uint32		16	16	final bias for filt_noise_lin
Inst Noise Lin	Uint32		32	32	instant noise linear
Filt Noise Lin	Uint32		64	32	filter noise linear
Filt Noise	Uint32		96	32	filter noise dB
Ne Saw	Int32		128	32	saw noise est dBm
Ne Sawless	Int32		160	32	sawless noise est dBm

Table 4-152 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x4

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-153		0	1280	

Table 4-153 rfe_nr5g_sub6_tdd_bypass_log_packet_v4_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Sub Frame	Uint32		42	6	subframe
Slot	Uint32		48	4	slot
Reserved			52	8	
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-154	4	64	384	sawless info per chain
Reserved			448	832	

Table 4-154 chain_info_v4

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	4	has sawless path flag
Curr State	Enumeration		8	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Reserved			12	84	

Table 4-155 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x5

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-156		0	1280	

Table 4-156 rfe_nr5g_sub6_tdd_bypass_log_packet_v5_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Slot	Uint32		42	5	slot
Reserved			47	13	
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-157	4	64	384	sawless info per chain
Reserved			448	832	

Table 4-157 chain_info_v5

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	1	has sawless path flag
Curr State	Enumeration		5	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Reserved			9	87	

Table 4-158 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x6

Name	Type Name	Cnt	Off	Len	Description
Records	Table 4-159		0	1280	

Table 4-159 rfe_nr5g_sub6_tdd_bypass_log_packet_v6_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Sys Frame	Uint32		32	10	system frame
Slot	Uint32		42	5	slot
Reserved			47	13	
Num Chains	Uint32		60	4	num of rx chains coonfigured
Chain Info	Table 4-160	4	64	384	sawless info per chain
Reserved			448	32	
SUB Id	Uint32		480	1	sub id
CC Id	Uint32		481	3	cc id
Reserved			484	796	

Table 4-160 chain_info_v5

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	1	has sawless path flag
Curr State	Enumeration		5	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Reserved			9	87	

Table 4-161 rfe_nr5g_sub6_tdd_bypass_log_packet_version_0x7

Name	Type Name	Cnt	Off	Len	Description
Version Temp	Uint32		0	1	
Records	Table 4-162		1	1280	

Table 4-162 rfe_nr5g_sub6_tdd_bypass_log_packet_v7_s

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	†	0	32	† Count: 0 != .@index
Temp	Uint32	†	32	1	† Count: 0 != .@index
Sys Frame	Uint32		33	10	system frame
Slot	Uint32		43	5	slot
Reserved			48	13	
Num Chains	Uint32		61	3	num of rx chains coonfigured
Chain Info	Table 4-163	4	64	384	sawless info per chain
Reserved			448	32	
SUB Id	Uint32		480	1	sub id
CC Id	Uint32		481	3	cc id
Reserved			484	796	

Table 4-163 chain_info_v5

Name	Type Name	Cnt	Off	Len	Description
Chain ID	Uint32		0	4	chain Idx
Has Sawless Path	Uint32		4	1	has sawless path flag
Curr State	Enumeration		5	4	current state Values: • 0 – SAW • 1 – SAWLESS • 2 – INVALID
Reserved			9	87	

4.10 RF RFFE READ (0x1C2C)

COMMON RF RFFE read log packet definition This log packet is committed on following events: Update triggered by sawless Update

Type: LP_RF_RFFE_READ

Maximum Packet Size: 0

Table 4-164 LP_RF_RFFE_READ

Name	Type Name	Cnt	Off	Len	Description
Version	Uint8		0	8	
Versions	Table 4-165		8	VAR	

Table 4-165 rflm_rffe_read_log_packet_versions_u

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 0x0	Table 4-166		0	VAR	0	

Table 4-166 rflm_rffe_read_log_packet_version_0x0

Name	Type Name	Cnt	Off	Len	Description
num_sub_packets	Uint8		0	8	
reserved	Uint16		8	16	
packets	Table 4-167	†	24	VAR	† Count: num_sub_packets

Table 4-167 rflm_rffe_read_log_packet_v0

Name	Type Name	Cnt	Off	Len	Description
slot_bdy	Uint32		0	32	block boundary
start_t	Uint32		32	32	read start time
end_t	Uint32		64	32	read end time
tx_stop_t	Uint32		96	32	Tx stop time
tech	Enumeration		128	3	technology Values: • 0 – NR5G • 1 – LTE
sig_p	Uint16		131	13	signal path
ant_p	Uint16		144	10	antenna switch path
tx_h	Uint16		154	6	Tx handle
bus	Uint8		160	8	rffe bus id
sid	Uint8		168	8	slave id
addr	Uint16		176	16	address
exp_data	Uint8		192	8	expected data
mask	Uint8		200	8	data mask
read_data	Uint8		208	8	readback data
type	Enumeration		216	6	device type, for 32bit align Values: • 0 – RFDEVICE_TRANSCEIVER • 1 – ASM • 2 – PAPM_HUB

Table 4-167 rflm_rffe_read_log_packet_v0 (cont.)

Name	Type Name	Cnt	Off	Len	Description
					• 3 – PAPM • 4 – PA • 5 – RFDEVICE_TUNER • 6 – RFDEVICE_TUNER_MANAGER • 7 – RFDEVICE_THERM • 8 – RFDEVICE_THERM_MITIGATION • 9 – RFDEVICE_HDET • 10 – RFDEVICE_ASD_TUNER_MANAGER • 11 – RFDEVICE_COUPLER • 12 – XSW • 13 – LNA • 14 – RFDEVICE_TRANSCEIVER_IF • 15 – RFDEVICE_EXTRACTOR • 16 – RFDEVICE_TYPE_MAX_NUM • 0xFF – RFDEVICE_TYPE_INVALID
mismatch	Enumeration		222	2	Mismatch or not Values: • 0 – . • 1 – X • 2 – X_ • 3 – XX

5 DL

5.1 NR5G PDCP DL Data Pdu (0xB840)

Type: Nr5g_PdcpdlDataPdu

Maximum Packet Size: 8200

Table 5-1 Nr5g_PdcpdlDataPdu

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Shown only when '65536 > ."Version"'
MajorMinorVersion	Table 5-2	1	0	32	Shown only when '65536 <= ."Version"'
Versions	Table 5-3	1	32	VAR	

Table 5-2 MajorMinorVersion

Name	Type Name	Cnt	Off	Len	Description
Minor	Uint16	1	0	16	Minor version number for logging field tweak
Major	Uint16	1	16	16	Major version number for new chipset or significant feature
Major.Minor Version	Uint16	1			
	Uint16	1			

Table 5-3 Nr5g_PdcpdlDataPdu_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 5-4	1	0	VAR	Default	
Reserved		1	0	85808		
Version 4	Table 5-5	1	0	VAR	4	
Version 5	Table 5-9	1	0	VAR	5	
Version 6	Table 5-13	1	0	VAR	6	
nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x20000	Table 5-17	1	0	VAR	131072	
nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x20001	Table 5-21	1	0	VAR	131073	
nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x30000	Table 5-25	1	0	VAR	196608	
nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x40000	Table 5-29		0	VAR	262144	

Table 5-3 Nr5g_PdcpdlDataPdu_Versions (cont.)

Name	Type Name	Cnt	Off	Len	Cond	Description
Version 0x30001	Table 5-33		0	VAR	196609	
Version 0x30002	Table 5-37		0	VAR	196610	

Table 5-4 Unknown Versions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 5-5 Nr5g_PdcpdlDataPdu_V4

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	Number of meta logged
Number Of RB	Uint16	1	16	16	Number of RB logged
reserved	Uint16	1	32	16	
PDCP State	Table 5-6	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-7	†	VAR	VAR	† Count: Number Of Meta

Table 5-6 Nr5G_PdcpdlLogExt_V4_StateVar

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	32	rb cfg index
RX Deliv	Uint32	1	32	32	first packet not delivered
Rx Next	Uint32	1	64	32	Next expected packet
Next Count	Uint32	1	96	32	Next ipa

Table 5-7 Nr5G_PdcpdlLogExt_V4_Meta

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-8	1	0	32	Unique system time for the given TTI.
Reserved		1	32	16	
Key Index	Uint8	1	48	8	rb index/eps_id
RLC Path	Enumeration	1	56	8	rlc_path Values: • 0 – NR • 1 – LTE
Route Status	Enumeration	1	64	8	Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC

Table 5-7 Nr5G_PdcpdlLogExt_V4_Meta (cont.)

Name	Type Name	Cnt	Off	Len	Description
					• 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC
IP Packet Header[0]	Uint8	1	72	8	First two packet headers
IP Packet Header[1]	Uint8	1	80	8	
Start Count	Uint32	1	88	32	Start count
End Count	Uint32	1	120	32	End count
RLC end SN	Uint32	1	152	32	RLC end SN
Number IP Pkts	Uint32	1	184	32	number of IP pkts
Number IP bytes	Uint32	1	216	32	Number of IP bytes
reserved	Uint32	1	248	32	

Table 5-8 SysTime

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot number, 8-bits 0 - 9 for 15 Khz sub carrier spacing - Not POR 0 - 19 for 30 Khz sub carrier spacing - POR 0 - 39 for 60 Khz sub carrier spacing - Not POR 0 - 79 for 120 Khz sub carrier spacing - POR 0 - 159 for 240 Khz sub carrier spacing - Not POR
Reserved0	Uint32	1	8	8	
Frame	Uint32	1	16	10	Radio frame number, 10-bits, value from 0 to 1023
Reserved		1	26	6	

Table 5-9 Nr5g_PdcpdlDataPdu_V5

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	Number of meta logged
Number Of RB	Uint16	1	16	16	Number of RB logged
reserved	Uint16	1	32	16	
PDCP State	Table 5-10	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-11	†	VAR	VAR	† Count: Number Of Meta

Table 5-10 Nr5G_PdcpdlLogExt_V5_StateVar

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	32	rb cfg index
RX Deliv	Uint32	1	32	32	first packet not delivered
Rx Next	Uint32	1	64	32	Next expected packet
Next Count	Uint32	1	96	32	Next ipa

Table 5-11 Nr5G_PdcpdlLogExt_V5_Meta

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-12	1	0	32	Unique system time for the given TTI.
RX Timetick Raw	Uint64	1	32	64	Time the meta was received by PDCP
RX Timetick	Float64	1			
Reserved		1	96	16	
Key Index	Uint8	1	112	8	rb index/eps_id
RLC Path	Enumeration	1	120	8	rlc_path Values: • 0 – NR • 1 – LTE
Route Status	Enumeration	1	128	8	Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved
IP Packet Header[0]	Uint8	1	136	8	First two packet headers
IP Packet Header[1]	Uint8	1	144	8	
Start Count	Uint32	1	152	32	Start count
End Count	Uint32	1	184	32	End count
RLC end SN	Uint32	1	216	32	RLC end SN
Number IP Pkts	Uint32	1	248	32	number of IP pkts
Number IP bytes	Uint32	1	280	32	Number of IP bytes

Table 5-12 SysTime

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot number, 8-bits 0 - 9 for 15 Khz sub carrier spacing - Not POR 0 - 19 for 30 Khz sub carrier spacing - POR 0 - 39 for 60 Khz sub carrier spacing - Not POR 0 - 79 for 120 Khz sub carrier spacing - POR 0 - 159 for 240 Khz sub carrier spacing - Not POR
Reserved0	Uint32	1	8	8	
Frame	Uint32	1	16	10	Radio frame number, 10-bits, value from 0 to 1023
Reserved		1	26	6	

Table 5-13 Nr5g_PdcpdlDataPdu_V6

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	Number of meta logged
Number Of RB	Uint16	1	16	16	Number of RB logged
Log Count	Uint16	1	32	16	number of times log submitted from PDCP
PDCP State	Table 5-14	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-15	†	VAR	VAR	† Count: Number Of Meta

Table 5-14 Nr5G_PdcpdlLogExt_V5_StateVar

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	32	rb cfg index
RX Deliv	Uint32	1	32	32	first packet not delivered
Rx Next	Uint32	1	64	32	Next expected packet
Next Count	Uint32	1	96	32	Next ipa

Table 5-15 Nr5G_PdcpdlLogExt_V5_Meta

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-16	1	0	32	Unique system time for the given TTI.
RX Timetick Raw	Uint64	1	32	64	Time the meta was received by PDCP
RX Timetick	Float64	1			
Reserved		1	96	16	
Key Index	Uint8	1	112	8	rb index/eps_id
RLC Path	Enumeration	1	120	8	rlc_path Values: • 0 – NR • 1 – LTE

Table 5-15 Nr5G_PdcpdlLogExt_V5_Meta (cont.)

Name	Type Name	Cnt	Off	Len	Description
Route Status	Enumeration	1	128	8	Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved
IP Packet Header[0]	Uint8	1	136	8	First two packet headers
IP Packet Header[1]	Uint8	1	144	8	
Start Count	Uint32	1	152	32	Start count
End Count	Uint32	1	184	32	End count
RLC end SN	Uint32	1	216	32	RLC end SN
Number IP Pkts	Uint32	1	248	32	number of IP pkts (NLOB)
Number IP bytes	Uint32	1	280	32	Number of IP bytes

Table 5-16 SysTime

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot number, 8-bits 0 - 9 for 15 Khz sub carrier spacing - Not POR 0 - 19 for 30 Khz sub carrier spacing - POR 0 - 39 for 60 Khz sub carrier spacing - Not POR 0 - 79 for 120 Khz sub carrier spacing - POR 0 - 159 for 240 Khz sub carrier spacing - Not POR
Reserved0	Uint32	1	8	8	
Frame	Uint32	1	16	10	Radio frame number, 10-bits, value from 0 to 1023
Reserved		1	26	6	

Table 5-17 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x20000

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	number of meta logged
Number Of RB	Uint16	1	16	16	number of rb logged
Number Of Log Count	Uint16	1	32	16	number of times log submitted from PDCP

Table 5-17 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x20000 (cont.)

Name	Type Name	Cnt	Off	Len	Description
PDCP State	Table 5-18	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-19	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-18 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	24	RB cfg index for this RB
PDCP SN Length	Uint32	1	24	8	PDCP SN length for this RB
RX_DELIV	Uint32	1	32	32	Start RX_DELIV COUNT
RX_NEXT	Uint32	1	64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32	1	96	32	Start Next COUNT to IPA

Table 5-19 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-20	1	0	32	Unique system time for the given TTI
RX Timetick	Float64	1			
rx_timetick	Uint64	1	32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/(19.2^6) six digit precision for the decimals. i.e sss.000000
Num NLO	Uint8	1	96	8	number of PDU
RB Cfg Index	Uint8	1	104	8	rb index/eps_id
Key Index	Uint8	1	112	8	rb index/eps_id
RLC Path	Enumeration	1	120	8	RLC path - LTE or NR Values: • 0 – NR • 1 – LTE
route_status	Enumeration	1	128	8	PDU batch route status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC

Table 5-19 enl2_pdcpdl_log_ext_meta_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
					• 11 – Reserved • 12 – DROPPED_INVALID_PKT • 13 – DROPPED_DECOMP_FAIL
IP Packet Header[0]	Uint32	1	136	8	first two packet headers
IP Packet Header[1]	Uint32	1	144	8	first two packet headers
Start Count	Uint32	1	152	32	start count
End Count	Uint32	1	184	32	end count
RLC end SN	Uint32	1	216	32	rlc end SN
Numbers IP Pkts	Uint32	1	248	32	number of ip packet
Numbers IP bytes	Uint32	1	280	32	number of ip bytes

Table 5-20 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32	1	8	8	Reserved for alignment
Frame	Uint32	1	16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32	1	26	6	Reserved for alignment

Table 5-21 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x20001

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	number of meta logged
Number Of RB	Uint16	1	16	16	number of rb logged
Number Of Log Count	Uint16	1	32	16	number of times log submitted from PDCP
PDCP State	Table 5-22	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-23	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-22 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	24	RB cfg index for this RB
PDCP SN Length	Uint32	1	24	8	PDCP SN length for this RB
RX_DELIV	Uint32	1	32	32	Start RX_DELIV COUNT

Table 5-22 enl2_pdcpdl_log_ext_state_var_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
RX_NEXT	Uint32	1	64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32	1	96	32	Start Next COUNT to IPA

Table 5-23 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-24	1	0	32	Unique system time for the given TTI
RX Timetick	Float64	1			
rx_timetick	Uint64	1	32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/(19.2^6) six digit precision for the decimals. i.e sss.000000
Num NLO	Uint8	1	96	8	number of PDU
RB Cfg Index	Uint8	1	104	8	rb index/eps_id
Key Index	Uint8	1	112	8	rb index/eps_id
RLC Path	Enumeration	1	120	8	RLC path - LTE or NR Values: • 0 – NR • 1 – LTE
Route Status	Enumeration	1	128	8	PDU batch Route Status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved • 12 – Reserved • 13 – DROPPED_DECOMP_FAIL
IP Packet Header[0]	Uint32	1	136	8	first two packet headers
IP Packet Header[1]	Uint32	1	144	8	first two packet headers
Start Count	Uint32	1	152	32	start count
End Count	Uint32	1	184	32	end count
RLC end SN	Uint32	1	216	32	rlc end SN
Number IP Pkts	Uint32	1	248	32	number of ip packet
Number IP bytes	Uint32	1	280	32	number of ip bytes

Table 5-24 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32	1	8	8	Reserved for alignment
Frame	Uint32	1	16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32	1	26	6	Reserved for alignment

Table 5-25 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x30000

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16	1	0	16	number of meta logged
Number Of RB	Uint16	1	16	16	number of rb logged
Number Of Log Count	Uint16	1	32	16	number of times log submitted from PDCP
PDCP State	Table 5-26	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-27	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-26 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32	1	0	24	RB cfg index for this RB
PDCP SN Length	Uint32	1	24	8	PDCP SN length for this RB
RX_DELIV	Uint32	1	32	32	Start RX_DELIV COUNT
RX_NEXT	Uint32	1	64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32	1	96	32	Start Next COUNT to IPA

Table 5-27 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-28	1	0	32	Unique system time for the given TTI
RX Timetick	Float64	1			
rx_timetick	Uint64	1	32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/(19.2^6) six digit precision for the decimals. i.e sss.000000
Num NLO	Uint8	1	96	8	number of PDU
RB Cfg Index	Uint8	1	104	8	rb index/eps_id
Key Index	Uint8	1	112	8	rb index/eps_id
RLC Path	Enumeration	1	120	8	RLC path - MCG or SCG

Table 5-27 enl2_pdcpdl_log_ext_meta_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
					Values: • 0 – MCG • 1 – SCG
Route Status	Enumeration	1	128	8	PDU batch Route Status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved • 12 – Reserved • 13 – DROPPED_DECOMP_FAIL
IP Packet Header[0]	Uint32	1	136	8	first two packet headers
IP Packet Header[1]	Uint32	1	144	8	first two packet headers
Start Count	Uint32	1	152	32	start count
End Count	Uint32	1	184	32	end count
RLC end SN	Uint32	1	216	32	rlc end SN
Number IP Pkts	Uint32	1	248	32	number of ip packet
Number IP bytes	Uint32	1	280	32	number of ip bytes

Table 5-28 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32	1	0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32	1	8	8	Reserved for alignment
Frame	Uint32	1	16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32	1	26	6	Reserved for alignment

Table 5-29 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x40000

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16		0	16	number of meta logged
Number Of RB	Uint16		16	16	number of rb logged
Number Of Log Count	Uint16		32	16	number of times log submitted from PDCP
PDCP State	Table 5-30	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-31	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-30 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32		0	24	RB cfg index for this RB
PDCP SN Length	Uint32		24	8	PDCP SN length for this RB
RX_DELIV	Uint32		32	32	Start RX_DELIV COUNT
RX_NEXT	Uint32		64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32		96	32	Start Next COUNT to IPA

Table 5-31 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-32		0	32	Unique system time for the given TTI
RX Timetick	Float64				
rx_timetick	Uint64		32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/(19.2^6) six digit precision for the decimals. i.e sss.000000
Reserved			96	8	
RB Cfg Index	Uint8		104	8	rb index/eps_id
Key Index	Uint8		112	8	rb index/eps_id
Route Status	Enumeration		120	8	NLO batch Route Status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC

Table 5-31 enl2_pdcpdl_log_ext_meta_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
					• 11 – Reserved • 12 – Reserved • 13 – DROPPED_DECOMP_FAIL
IP Packet Header[0]	Uint32		128	8	first two packet headers
IP Packet Header[1]	Uint32		136	8	first two packet headers
Start Count	Uint32		144	32	start count
End Count	Uint32		176	32	end count
RLC end SN	Uint32		208	32	rlc end SN
Number IP Pkts	Uint32		240	32	number of ip packet
Number IP bytes	Uint32		272	32	number of ip bytes

Table 5-32 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32		0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32		8	8	Reserved for alignment
Frame	Uint32		16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32		26	6	Reserved for alignment

Table 5-33 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x30001

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16		0	16	number of meta logged
Number Of RB	Uint16		16	16	number of rb logged
Number Of Log Count	Uint16		32	16	number of times log submitted from PDCP
PDCP State	Table 5-34	†	48	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-35	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-34 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32		0	24	RB cfg index for this RB
PDCP SN Length	Uint32		24	8	PDCP SN length for this RB
RX_DELIV	Uint32		32	32	Start RX_DELIV COUNT

Table 5-34 enl2_pdcpdl_log_ext_state_var_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
RX_NEXT	Uint32		64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32		96	32	Start Next COUNT to IPA

Table 5-35 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-36		0	32	Unique system time for the given TTI
RX Timetick	Float64				
rx_timetick	Uint64		32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/(19.2^6) six digit precision for the decimals. i.e sss.000000
Num PDU	Uint8		96	8	number of PDU
RB Cfg Index	Uint8		104	8	rb index/eps_id
Key Index	Uint8		112	8	rb index/eps_id
RLC Path	Enumeration		120	8	RLC path - MCG or SCG Values: • 0 – MCG • 1 – SCG
Route Status	Enumeration		128	8	PDU batch Route Status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved • 12 – Reserved • 13 – DROPPED_DECOMP_FAIL
IP Packet Header[0]	Uint32		136	8	first two packet headers
IP Packet Header[1]	Uint32		144	8	first two packet headers
Start Count	Uint32		152	32	start count
End Count	Uint32		184	32	end count
Reserved			216	32	
RLC end SN	Uint32		248	32	rlc end SN

Table 5-35 enl2_pdcpdl_log_ext_meta_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
Number IP Pkts	Uint32		280	32	number of ip packet
Number IP bytes	Uint32		312	32	number of ip bytes

Table 5-36 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32		0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32		8	8	Reserved for alignment
Frame	Uint32		16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32		26	6	Reserved for alignment

Table 5-37 nr5g_pdcpdl_log_ext_pdcp_data_pdu_s_V0x30002

Name	Type Name	Cnt	Off	Len	Description
Number Of Meta	Uint16		0	16	number of meta logged
Number Of RB	Uint16		16	16	number of rb logged
Number Of Log Count	Uint16		32	16	number of times log submitted from PDCP
Log buff idx	Uint16		48	16	log buff idx
PDCP State	Table 5-38	†	64	VAR	PDCP state per RB † Count: Number Of RB
Meta Log Buffer	Table 5-39	†	VAR	VAR	PDCP meta logging † Count: Number Of Meta

Table 5-38 enl2_pdcpdl_log_ext_state_var_s

Name	Type Name	Cnt	Off	Len	Description
RB Cfg Index	Uint32		0	24	RB cfg index for this RB
PDCP SN Length	Uint32		24	8	PDCP SN length for this RB
RX_DELIV	Uint32		32	32	Start RX_DELIV COUNT
RX_NEXT	Uint32		64	32	Start RX_NEXT COUNT
NEXT COUNT	Uint32		96	32	Start Next COUNT to IPA

Table 5-39 enl2_pdcpdl_log_ext_meta_s

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-40		0	32	Unique system time for the given TTI
RX Timetick	Float64				

Table 5-39 enl2_pdcpdl_log_ext_meta_s (cont.)

Name	Type Name	Cnt	Off	Len	Description
rx_timetick	Uint64		32	64	Time the meta was received by PDCP. Logged as (rx_timetick)/ (19.2^6) six digit precision for the decimals. i.e sss.000000
Num PDU	Uint32		96	8	number of PDU
RB Cfg Index	Uint32		104	8	rb index/eps_id
Key Index	Uint32		112	8	rb index/eps_id
RLC Path	Enumeration		120	8	RLC path - MCG or SCG Values: • 0 – MCG • 1 – SCG
Route Status	Enumeration		128	8	PDU batch Route Status Values: • 0 – INVALID • 1 – DELIV_DIRECT • 2 – DELIV_REORD_EXP • 3 – DELIV_IPA_FC • 4 – DELIV_MEM_FC • 5 – DELIV_RB_REEST • 6 – DELIV_RB_RELEASE • 7 – DELIV_RB_SUSPEND • 8 – DELIV_RB_RECFG • 9 – DROPPED_OOW • 10 – DROPPED_IPA_FC • 11 – Reserved • 12 – Reserved • 13 – DROPPED_DECOMP_FAIL
reserved	Uint32		136	24	Reserved for alignment
Start Count	Uint32		160	32	start count
End Count	Uint32		192	32	end count
RLC end SN	Uint32		224	32	rlc end SN
Reserved			256	8	
ip_payload_len	Uint32		264	8	Number of IP bytes to log
Number IP Pkts	Uint32		272	16	number of ip packet
Number IP bytes	Uint32		288	32	number of ip bytes
Reserved		†	320	0	

Table 5-40 nr5g_l2_log_ext_sys_time_s

Name	Type Name	Cnt	Off	Len	Description
Slot	Uint32		0	8	Slot Number, 8 bits 0-9 for 15 kHz sub carrier spacing - Not POR 0-19 for 30 kHz sub carrier spacing - POR 0-39 for 60 kHz sub carrier spacing - Not POR 0-79 for 120 kHz sub carrier spacing - POR 0-159 for 240 kHz sub carrier spacing - Not POR
reserved0	Uint32		8	8	Reserved for alignment
Frame	Uint32		16	10	Radio Frame number, 10-bits, value from 0 to 1023
reserved1	Uint32		26	6	Reserved for alignment

5.2 NR5G PDCP DL Control Pdu (0xB841)

Type: Nr5g_PdcpDlCtrlPdu

Maximum Packet Size: 8192

Table 5-41 Nr5g_PdcpDlCtrlPdu

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Shown only when '65536 > ."Version"'
MajorMinorVersion	Table 5-42	1	0	32	Shown only when '65536 <= ."Version"'
Versions	Table 5-43	1	32	VAR	

Table 5-42 MajorMinorVersion

Name	Type Name	Cnt	Off	Len	Description
Minor	Uint16	1	0	16	Minor version number for logging field tweak
Major	Uint16	1	16	16	Major version number for new chipset or significant feature
Major.Minor Version	Uint16	1			
	Uint16	1			

Table 5-43 Nr5g_PdcpDlCtrlPdu_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Version	Table 5-44	1	0	VAR	Default	
Version 1	Table 5-45	1	0	VAR	1	
Reserved		1	0	0		
Version 3	Table 5-49	†	0	VAR	3	† Count: 1
Version 4	Table 5-54	1	0	VAR	4	

Table 5-44 Unknown Version

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	Unsupported Version

Table 5-45 Nr5g_PdcpDlLogExtPdcpCtrlPdu_V1

Name	Type Name	Cnt	Off	Len	Description
Sub Frame	Uint16	1	0	16	Sub Frame
Reserved		1	16	8	
Control PDU Size	Uint16	1	24	16	Number of bytes in ctrl pdu
Control PDU Type	Enumeration	1	40	8	Type of control PDU status report PDU: 0 ROHC feedback PDU: 1 Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK
reserved	Uint16	1	48	16	Pad for byte alignment
R	Uint8	1	64	4	Reserved
DC Bit	Enumeration	1			Values: • 0 – 0 • 1 – 1
PDCP Type	Enumeration	1	68	3	Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK • 2 – Reserved
DC Bit Value	Uint8	1	71	1	
Control PDU Payload	Table 5-46	†	72	VAR	† Count: ."DC Bit" == 0 ? 1 : 0

Table 5-46 Nr5g_PdcpControlPduPayload

Name	Type Name	Cnt	Off	Len	Cond	Description
PDCP Status Report	Table 5-47	1	0	VAR	0	
Interspersed ROHC Feedback	Table 5-48	1	0	VAR	1	One interspersed ROHC Feedback

Table 5-47 Nr5g_PdcpControlPduPdcpStatusReport

Name	Type Name	Cnt	Off	Len	Description
FMC	Uint32	1	0	32	First Missing Count
Bitmap	Uint8	†	32	VAR	Bitmap to indicate which SDU are missing and which are receive Bit value 0 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is missing Bit value 1 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is correctly received † Count: .^.^."Control PDU Size" - 5

Table 5-48 Nr5g_PdcpControlPduRohcFeedback

Name	Type Name	Cnt	Off	Len	Description
Rohc Data	Uint8	†	0	VAR	† Count: .^.^."Control PDU Size" - 1

Table 5-49 Nr5g_PdcpDlLogExtPdcpCtrlPdu_V3

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-50	1	0	32	Unique system time for the given TTI
Reserved		1	32	8	
Control PDU Size	Uint16	1	40	16	Number of bytes in ctrl pdu
Control PDU Type	Enumeration	1	56	8	Type of control PDU status report PDU: 0 ROHC feedback PDU: 1 Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK
reserved	Uint16	1	64	16	Pad for byte alignment
R	Uint8	1	80	4	Reserved
DC Bit	Enumeration	1			Values: • 0 – 0 • 1 – 1
PDCP Type	Enumeration	1	84	3	Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK • 2 – Reserved
DC Bit Value	Uint8	1	87	1	
Control PDU Payload	Table 5-51	†	88	VAR	† Count: ."DC Bit" == 0 ? 1 : 0

Table 5-50 SysTime

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32	1			
Slot	Uint32	1	0	8	Slot number, 8-bits 0 - 9 for 15 Khz sub carrier spacing - Not POR 0 - 19 for 30 Khz sub carrier spacing - POR 0 - 39 for 60 Khz sub carrier spacing - Not POR 0 - 79 for 120 Khz sub carrier spacing - POR 0 - 159 for 240 Khz sub carrier spacing - Not POR
Reserved0	Uint32	1	8	8	
Frame Raw	Uint32	1	16	10	Radio frame number, 10-bits, value from 0 to 1023
Reserved		1	26	6	

Table 5-51 Nr5g_PdcpControlPduPayload

Name	Type Name	Cnt	Off	Len	Cond	Description
PDCP Status Report	Table 5-52	1	0	VAR	0	
Interspersed ROHC Feedback	Table 5-53	1	0	VAR	1	One interspersed ROHC Feedback

Table 5-52 Nr5g_PdcpControlPduPdcpStatusReport

Name	Type Name	Cnt	Off	Len	Description
FMC	Uint32	1	0	32	First Missing Count
Bitmap	Uint8	†	32	VAR	Bitmap to indicate which SDU are missing and which are receive Bit value 0 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is missing Bit value 1 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is correctly received † Count: .^.^."Control PDU Size" - 5

Table 5-53 Nr5g_PdcpControlPduRohcFeedback

Name	Type Name	Cnt	Off	Len	Description
Rohc Data	Uint8	†	0	VAR	† Count: .^.^."Control PDU Size" - 1

Table 5-54 Nr5g_PdcpDlLogExtPdcpCtrlPdu_V4

Name	Type Name	Cnt	Off	Len	Description
System Time	Table 5-55	1	0	32	Unique system time for the given TTI
Reserved		1	32	8	
Control PDU Size	Uint16	1	40	16	Number of bytes in ctrl pdu
Control PDU Type	Enumeration	1	56	8	Type of control PDU status report PDU: 0 ROHC feedback PDU: 1 Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK
R	Uint8	1	64	4	Reserved
DC Bit	Enumeration	1			Values: • 0 – 0 • 1 – 1
PDCP Type	Enumeration	1	68	3	Values: • 0 – STATUS_REPORT • 1 – ROHC_FEEDBACK • 2 – Reserved
DC Bit Value	Uint8	1	71	1	
Control PDU Payload	Table 5-56	†	72	VAR	† Count: ."DC Bit" == 0 ? 1 : 0

Table 5-55 SysTime

Name	Type Name	Cnt	Off	Len	Description
Frame	Uint32	1			
Slot	Uint32	1	0	8	Slot number, 8-bits 0 - 9 for 15 Khz sub carrier spacing - Not POR 0 - 19 for 30 Khz sub carrier spacing - POR 0 - 39 for 60 Khz sub carrier spacing - Not POR 0 - 79 for 120 Khz sub carrier spacing - POR 0 - 159 for 240 Khz sub carrier spacing - Not POR
Reserved0	Uint32	1	8	8	
Frame Raw	Uint32	1	16	10	Radio frame number, 10-bits, value from 0 to 1023
Reserved		1	26	6	

Table 5-56 Nr5g_PdcpControlPduPayload

Name	Type Name	Cnt	Off	Len	Cond	Description
PDCP Status Report	Table 5-57	1	0	VAR	0	
Interspersed ROHC Feedback	Table 5-58	1	0	VAR	1	One interspersed ROHC Feedback

Table 5-57 Nr5g_PdcpControlPduPdcpStatusReport

Name	Type Name	Cnt	Off	Len	Description
FMC	Uint32	1	0	32	First Missing Count
Bitmap	Uint8	†	32	VAR	Bitmap to indicate which SDU are missing and which are receive Bit value 0 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is missing Bit value 1 : PDCP SDU with count (FMC + Bit Position) mod 2^32 is correctly received † Count: .^.^."Control PDU Size" - 5

Table 5-58 Nr5g_PdcpControlPduRohcFeedback

Name	Type Name	Cnt	Off	Len	Description
Rohc Data	Uint8	†	0	VAR	† Count: .^.^."Control PDU Size" - 1

5.3 NR5G PDCP DL Rbs Stats (0xB842)

Type: Nr5g_PdcpDlRbsStats

Maximum Packet Size: 1614

Table 5-59 Nr5g_PdcpDlRbsStats

Name	Type Name	Cnt	Off	Len	Description
Version	Uint32	1	0	32	Shown only when '65536 > ."Version"'
MajorMinorVersion	Table 5-60	1	0	32	Shown only when '65536 <= ."Version"'
Versions	Table 5-61	1	32	VAR	

Table 5-60 MajorMinorVersion

Name	Type Name	Cnt	Off	Len	Description
Minor	Uint16	1	0	16	Minor version number for logging field tweak
Major	Uint16	1	16	16	Major version number for new chipset or significant feature
Major.Minor Version	Uint16	1			
	Uint16	1			

Table 5-61 Nr5g_PdcpDlRbsStats_Versions

Name	Type Name	Cnt	Off	Len	Cond	Description
Unknown Versions	Table 5-62	1	0	VAR	Default	
Version 1	Table 5-63	1	0	10448	1	
Version 2	Table 5-65	1	0	12880	2	
Version 3	Table 5-67	1	0	VAR	3	
Version 4	Table 5-69	1	0	VAR	4	
Version 5	Table 5-71	1	0	VAR	5	
Version 6	Table 5-73	1	0	VAR	6	

Table 5-62 Unknown Versions

Name	Type Name	Cnt	Off	Len	Description
Unsupported Version	Uint8		0	VAR	

Table 5-63 Nr5g_PdcpDlLogExtRbsStats_V1

Name	Type Name	Cnt	Off	Len	Description
Num RB	Uint8	1	0	8	Number of RBs
Reserved		1	8	104	
RB Stats	Table 5-64	19	112	10336	Statistics logging per RB

Table 5-64 Nr5g_PdcpDlLogExtRBStats_V1_RbStats

Name	Type Name	Cnt	Off	Len	Description
RB Config Index	Uint8	1	0	8	RB index
RB Mode	Uint8	1	8	8	RB Mode
Num Reestablish	Uint32	1	16	32	Number of restablishement
T Reordering	Uint16	1	48	16	T-reordering value
Pdcp Hdr length	Uint32	1	64	8	PDCP header lenght
reserved1	Uint32	1	72	24	
Num Flow Ctrl Trigger	Uint32	1	96	32	Number of timer flow control trigger
Num Data PDU Received	Uint32	1	128	32	Number of PDCP data pdu received
Data PDU Bytes Received	Uint32	1	160	32	PDCP data PDU in bytes received