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

[1]

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

Contents

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