TEST REPORT

Dt&C Co., Ltd.
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Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2403-0023
2. Customer
   - Name (FCC) : DASAN Networks, Inc.
   - Address (FCC) : DASAN Tower, 49, Daewangpangyo-ro644Beon-gil, Bundang-gu, Seongnam-si, South Korea 13493
3. Use of Report : FCC Certification
4. Product Name / Model Name : Telematics Gateway Unit / TGU (300611-02707)
   FCC ID : 2AXDMTGU5GGLOBAL
5. FCC Regulation(s): Part 22, 24, 27, 90
   Test Method Used : KDB971168 D01v03, ANSI/TIA-603-E-2016, ANSI C63.26-2015
6. Date of Test : 2023.10.04 ~ 2024.02.16
7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
8. Testing Environment : See appended test report.
9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by Name : SeungMin Gil (Signature)	Technical Manager Name : JaeJin Lee (Signature)

2024 . 03 . 08 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2403-0023	Mar. 08, 2024	Initial issue	SeungMin Gil	JaeJin Lee

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1. GENERAL INFORMATION

Equipment Class	PCS Licensed Transmitter(PCB)
Product Name	Telematics Gateway Unit
Model Name	TGU (300611-02707)
Add Model Name	-
FVIN(Firmware Version Identification Number)	V0.03
EUT Serial Number	No Specified
Power Supply	DC 12, 24V

Antenna Information (LTE)

Band	Internal Chip Antenna 1 (dBi)	External Antenna 1 (dBi)	Internal Chip Antenna 2 (dBi)	External Antenna 2 (dBi)
71	**1.9**	1.7	NA	NA
12	0.8	**1.8**	NA	NA
17	-0.3	**1.8**	NA	NA
13	-0.1	**0.1**	NA	NA
14	-0.4	**0.0**	NA	NA
26(814 ~ 824 MHz)	-0.4	**0.7**	NA	NA
26(824 ~ 849 MHz)	0.6	**0.7**	NA	NA
5	0.6	**0.7**	NA	NA
4	**2.6**	0.6	NA	NA
66	**2.6**	0.6	NA	NA
2	**4.4**	0.6	NA	NA
25	**4.4**	0.6	NA	NA
30	**2.4**	1.3	NA	NA
7	**3.7**	0.3	NA	NA
38	**3.1**	1.8	NA	NA
41	**3.7**	1.8	NA	NA
42	NA	NA	0.6	**3.2**
43	NA	NA	2.2	**3.9**

Note: The antenna gain was corrected for path loss from the conducted feed point to the antenna terminal.

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		ERP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 71	673 ~ 688	20	QPSK	23.00	0.200	22.75	0.188
LTE Band 71	673 ~ 688	20	16QAM	22.39	0.173	22.14	0.164
LTE Band 71	673 ~ 688	20	64QAM	21.22	0.132	20.97	0.125
LTE Band 71	673 ~ 688	20	256QAM	17.58	0.057	17.33	0.054
LTE Band 71	670.5 ~ 690.5	15	QPSK	22.96	0.198	22.71	0.187
LTE Band 71	670.5 ~ 690.5	15	16QAM	22.38	0.173	22.13	0.163
LTE Band 71	670.5 ~ 690.5	15	64QAM	21.20	0.132	20.95	0.124
LTE Band 71	670.5 ~ 690.5	15	256QAM	17.60	0.058	17.35	0.054
LTE Band 71	668 ~ 693	10	QPSK	23.11	0.205	22.86	0.193
LTE Band 71	668 ~ 693	10	16QAM	22.48	0.177	22.23	0.167
LTE Band 71	668 ~ 693	10	64QAM	21.42	0.139	21.17	0.131
LTE Band 71	668 ~ 693	10	256QAM	17.58	0.057	17.33	0.054
LTE Band 71	665.5 ~ 695.5	5	QPSK	23.11	0.205	22.86	0.193
LTE Band 71	665.5 ~ 695.5	5	16QAM	22.49	0.177	22.24	0.167
LTE Band 71	665.5 ~ 695.5	5	64QAM	21.35	0.136	21.10	0.129
LTE Band 71	665.5 ~ 695.5	5	256QAM	17.57	0.057	17.32	0.054
LTE Band 12	704 ~ 711	10	QPSK	23.02	0.200	22.67	0.185
LTE Band 12	704 ~ 711	10	16QAM	22.41	0.174	22.06	0.161
LTE Band 12	704 ~ 711	10	64QAM	21.27	0.134	20.92	0.124
LTE Band 12	704 ~ 711	10	256QAM	18.30	0.068	17.95	0.062
LTE Band 12	701.5 ~ 713.5	5	QPSK	23.09	0.204	22.74	0.188
LTE Band 12	701.5 ~ 713.5	5	16QAM	22.49	0.177	22.14	0.164
LTE Band 12	701.5 ~ 713.5	5	64QAM	21.34	0.136	20.99	0.126
LTE Band 12	701.5 ~ 713.5	5	256QAM	18.26	0.067	17.91	0.062
LTE Band 12	700.5 ~ 714.5	3	QPSK	23.04	0.201	22.69	0.186
LTE Band 12	700.5 ~ 714.5	3	16QAM	22.40	0.174	22.05	0.160
LTE Band 12	700.5 ~ 714.5	3	64QAM	21.37	0.137	21.02	0.126
LTE Band 12	700.5 ~ 714.5	3	256QAM	18.28	0.067	17.93	0.062
LTE Band 12	699.7 ~ 715.3	1.4	QPSK	23.03	0.201	22.68	0.185
LTE Band 12	699.7 ~ 715.3	1.4	16QAM	22.49	0.177	22.14	0.164
LTE Band 12	699.7 ~ 715.3	1.4	64QAM	21.31	0.135	20.96	0.125
LTE Band 12	699.7 ~ 715.3	1.4	256QAM	18.30	0.068	17.95	0.062
LTE Band 17	709 ~ 711	10	QPSK	23.00	0.200	22.65	0.184
LTE Band 17	709 ~ 711	10	16QAM	22.41	0.174	22.06	0.161
LTE Band 17	709 ~ 711	10	64QAM	21.23	0.133	20.88	0.122
LTE Band 17	709 ~ 711	10	256QAM	18.25	0.067	17.90	0.062
LTE Band 17	706.5 ~ 713.5	5	QPSK	23.10	0.204	22.75	0.188
LTE Band 17	706.5 ~ 713.5	5	16QAM	22.42	0.175	22.07	0.161
LTE Band 17	706.5 ~ 713.5	5	64QAM	21.36	0.137	21.01	0.126
LTE Band 17	706.5 ~ 713.5	5	256QAM	18.25	0.067	17.90	0.062
LTE Band 13	782	10	QPSK	23.13	0.206	21.08	0.128
LTE Band 13	782	10	16QAM	22.48	0.177	20.43	0.110
LTE Band 13	782	10	64QAM	21.36	0.137	19.31	0.085
LTE Band 13	782	10	256QAM	18.38	0.069	16.33	0.043
LTE Band 13	779.5 ~ 784.5	5	QPSK	23.17	0.207	21.12	0.129
LTE Band 13	779.5 ~ 784.5	5	16QAM	22.49	0.177	20.44	0.111
LTE Band 13	779.5 ~ 784.5	5	64QAM	21.43	0.139	19.38	0.087
LTE Band 13	779.5 ~ 784.5	5	256QAM	18.50	0.071	16.45	0.044

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		ERP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 14	793	10	QPSK	23.31	0.214	21.16	0.131
LTE Band 14	793	10	16QAM	22.86	0.193	20.71	0.118
LTE Band 14	793	10	64QAM	21.66	0.147	19.51	0.089
LTE Band 14	793	10	256QAM	18.65	0.073	16.50	0.045
LTE Band 14	790.5 ~ 795.5	5	QPSK	23.31	0.214	21.16	0.131
LTE Band 14	790.5 ~ 795.5	5	16QAM	22.76	0.189	20.61	0.115
LTE Band 14	790.5 ~ 795.5	5	64QAM	21.64	0.146	19.49	0.089
LTE Band 14	790.5 ~ 795.5	5	256QAM	18.61	0.073	16.46	0.044
LTE Band 26(P90)	819	10	QPSK	23.07	0.203	21.62	0.145
LTE Band 26(P90)	819	10	16QAM	22.49	0.177	21.04	0.127
LTE Band 26(P90)	819	10	64QAM	21.46	0.140	20.01	0.100
LTE Band 26(P90)	819	10	256QAM	18.55	0.072	17.10	0.051
LTE Band 26(P90)	816.5 ~ 821.5	5	QPSK	23.09	0.204	21.64	0.146
LTE Band 26(P90)	816.5 ~ 821.5	5	16QAM	22.49	0.177	21.04	0.127
LTE Band 26(P90)	816.5 ~ 821.5	5	64QAM	21.43	0.139	19.98	0.100
LTE Band 26(P90)	816.5 ~ 821.5	5	256QAM	18.54	0.071	17.09	0.051
LTE Band 26(P90)	815.5 ~ 822.5	3	QPSK	23.10	0.204	21.65	0.146
LTE Band 26(P90)	815.5 ~ 822.5	3	16QAM	22.46	0.176	21.01	0.126
LTE Band 26(P90)	815.5 ~ 822.5	3	64QAM	21.40	0.138	19.95	0.099
LTE Band 26(P90)	815.5 ~ 822.5	3	256QAM	18.60	0.072	17.15	0.052
LTE Band 26(P90)	814.7 ~ 823.3	1.4	QPSK	23.09	0.204	21.64	0.146
LTE Band 26(P90)	814.7 ~ 823.3	1.4	16QAM	22.44	0.175	20.99	0.126
LTE Band 26(P90)	814.7 ~ 823.3	1.4	64QAM	21.39	0.138	19.94	0.099
LTE Band 26(P90)	814.7 ~ 823.3	1.4	256QAM	18.60	0.072	17.15	0.052
LTE Band 26(P22)	831.5 ~ 841.5	15	QPSK	23.12	0.205	21.67	0.147
LTE Band 26(P22)	831.5 ~ 841.5	15	16QAM	22.46	0.176	21.01	0.126
LTE Band 26(P22)	831.5 ~ 841.5	15	64QAM	21.33	0.136	19.88	0.097
LTE Band 26(P22)	831.5 ~ 841.5	15	256QAM	18.53	0.071	17.08	0.051
LTE Band 26(P22)	829 ~ 844	10	QPSK	23.15	0.207	21.70	0.148
LTE Band 26(P22)	829 ~ 844	10	16QAM	22.49	0.177	21.04	0.127
LTE Band 26(P22)	829 ~ 844	10	64QAM	21.38	0.137	19.93	0.098
LTE Band 26(P22)	829 ~ 844	10	256QAM	18.52	0.071	17.07	0.051
LTE Band 26(P22)	826.5 ~ 846.5	5	QPSK	23.18	0.208	21.73	0.149
LTE Band 26(P22)	826.5 ~ 846.5	5	16QAM	22.49	0.177	21.04	0.127
LTE Band 26(P22)	826.5 ~ 846.5	5	64QAM	21.33	0.136	19.88	0.097
LTE Band 26(P22)	826.5 ~ 846.5	5	256QAM	18.55	0.072	17.10	0.051
LTE Band 26(P22)	825.5 ~ 847.5	3	QPSK	23.11	0.205	21.66	0.147
LTE Band 26(P22)	825.5 ~ 847.5	3	16QAM	22.44	0.175	20.99	0.126
LTE Band 26(P22)	825.5 ~ 847.5	3	64QAM	21.29	0.135	19.84	0.096
LTE Band 26(P22)	825.5 ~ 847.5	3	256QAM	18.53	0.071	17.08	0.051
LTE Band 26(P22)	824.7 ~ 848.3	1.4	QPSK	23.02	0.200	21.57	0.144
LTE Band 26(P22)	824.7 ~ 848.3	1.4	16QAM	22.44	0.175	20.99	0.126
LTE Band 26(P22)	824.7 ~ 848.3	1.4	64QAM	21.23	0.133	19.78	0.095
LTE Band 26(P22)	824.7 ~ 848.3	1.4	256QAM	18.55	0.072	17.10	0.051

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		ERP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 5	829 ~ 844	10	QPSK	22.92	0.196	21.47	0.140
LTE Band 5	829 ~ 844	10	16QAM	22.34	0.171	20.89	0.123
LTE Band 5	829 ~ 844	10	64QAM	21.26	0.134	19.81	0.096
LTE Band 5	829 ~ 844	10	256QAM	18.29	0.067	16.84	0.048
LTE Band 5	826.5 ~ 846.5	5	QPSK	22.95	0.197	21.50	0.141
LTE Band 5	826.5 ~ 846.5	5	16QAM	22.43	0.175	20.98	0.125
LTE Band 5	826.5 ~ 846.5	5	64QAM	21.40	0.138	19.95	0.099
LTE Band 5	826.5 ~ 846.5	5	256QAM	18.21	0.066	16.76	0.047
LTE Band 5	825.5 ~ 847.5	3	QPSK	22.89	0.195	21.44	0.139
LTE Band 5	825.5 ~ 847.5	3	16QAM	22.37	0.173	20.92	0.124
LTE Band 5	825.5 ~ 847.5	3	64QAM	21.30	0.135	19.85	0.097
LTE Band 5	825.5 ~ 847.5	3	256QAM	18.27	0.067	16.82	0.048
LTE Band 5	824.7 ~ 848.3	1.4	QPSK	22.87	0.194	21.42	0.139
LTE Band 5	824.7 ~ 848.3	1.4	16QAM	22.42	0.175	20.97	0.125
LTE Band 5	824.7 ~ 848.3	1.4	64QAM	21.28	0.134	19.83	0.096
LTE Band 5	824.7 ~ 848.3	1.4	256QAM	18.29	0.067	16.84	0.048
LTE Band 5B	829 ~ 844	10+10	QPSK	24.30	0.269	22.85	0.193
LTE Band 5B	829 ~ 844	10+10	16QAM	23.57	0.228	22.12	0.163
LTE Band 5B	825.5 ~ 847.5	3+5	QPSK	24.40	0.275	22.95	0.197
LTE Band 5B	825.5 ~ 847.5	3+5	16QAM	23.88	0.244	22.43	0.175

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 4	1 720 ~ 1 745	20	QPSK	22.86	0.193	25.46	0.352
LTE Band 4	1 720 ~ 1 745	20	16QAM	22.21	0.166	24.81	0.303
LTE Band 4	1 720 ~ 1 745	20	64QAM	21.15	0.130	23.75	0.237
LTE Band 4	1 720 ~ 1 745	20	256QAM	18.70	0.074	21.30	0.135
LTE Band 4	1 717.5 ~ 1 747.5	15	QPSK	22.85	0.193	25.45	0.351
LTE Band 4	1 717.5 ~ 1 747.5	15	16QAM	22.24	0.167	24.84	0.305
LTE Band 4	1 717.5 ~ 1 747.5	15	64QAM	21.09	0.129	23.69	0.234
LTE Band 4	1 717.5 ~ 1 747.5	15	256QAM	18.69	0.074	21.29	0.135
LTE Band 4	1 715 ~ 1 750	10	QPSK	22.94	0.197	25.54	0.358
LTE Band 4	1 715 ~ 1 750	10	16QAM	22.25	0.168	24.85	0.305
LTE Band 4	1 715 ~ 1 750	10	64QAM	21.19	0.132	23.79	0.239
LTE Band 4	1 715 ~ 1 750	10	256QAM	18.68	0.074	21.28	0.134
LTE Band 4	1 712.5 ~ 1 752.5	5	QPSK	22.91	0.195	25.51	0.356
LTE Band 4	1 712.5 ~ 1 752.5	5	16QAM	22.34	0.171	24.94	0.312
LTE Band 4	1 712.5 ~ 1 752.5	5	64QAM	21.32	0.136	23.92	0.247
LTE Band 4	1 712.5 ~ 1 752.5	5	256QAM	18.69	0.074	21.29	0.135
LTE Band 4	1 711.5 ~ 1 753.5	3	QPSK	22.91	0.195	25.51	0.356
LTE Band 4	1 711.5 ~ 1 753.5	3	16QAM	22.30	0.170	24.90	0.309
LTE Band 4	1 711.5 ~ 1 753.5	3	64QAM	21.17	0.131	23.77	0.238
LTE Band 4	1 711.5 ~ 1 753.5	3	256QAM	18.68	0.074	21.28	0.134
LTE Band 4	1 710.7 ~ 1 754.3	1.4	QPSK	22.87	0.194	25.47	0.352
LTE Band 4	1 710.7 ~ 1 754.3	1.4	16QAM	22.36	0.172	24.96	0.313
LTE Band 4	1 710.7 ~ 1 754.3	1.4	64QAM	21.15	0.130	23.75	0.237
LTE Band 4	1 710.7 ~ 1 754.3	1.4	256QAM	18.66	0.073	21.26	0.134
LTE Band 66	1 720 ~ 1 770	20	QPSK	22.87	0.194	25.47	0.352
LTE Band 66	1 720 ~ 1 770	20	16QAM	22.38	0.173	24.98	0.315
LTE Band 66	1 720 ~ 1 770	20	64QAM	21.14	0.130	23.74	0.237
LTE Band 66	1 720 ~ 1 770	20	256QAM	18.20	0.066	20.80	0.120
LTE Band 66	1 717.5 ~ 1 772.5	15	QPSK	22.76	0.189	25.36	0.344
LTE Band 66	1 717.5 ~ 1 772.5	15	16QAM	22.22	0.167	24.82	0.303
LTE Band 66	1 717.5 ~ 1 772.5	15	64QAM	21.15	0.130	23.75	0.237
LTE Band 66	1 717.5 ~ 1 772.5	15	256QAM	18.18	0.066	20.78	0.120
LTE Band 66	1 715 ~ 1 775	10	QPSK	22.94	0.197	25.54	0.358
LTE Band 66	1 715 ~ 1 775	10	16QAM	22.41	0.174	25.01	0.317
LTE Band 66	1 715 ~ 1 775	10	64QAM	21.33	0.136	23.93	0.247
LTE Band 66	1 715 ~ 1 775	10	256QAM	18.20	0.066	20.80	0.120
LTE Band 66	1 712.5 ~ 1 777.5	5	QPSK	22.92	0.196	25.52	0.356
LTE Band 66	1 712.5 ~ 1 777.5	5	16QAM	22.47	0.177	25.07	0.321
LTE Band 66	1 712.5 ~ 1 777.5	5	64QAM	21.44	0.139	24.04	0.254
LTE Band 66	1 712.5 ~ 1 777.5	5	256QAM	18.20	0.066	20.80	0.120
LTE Band 66	1 711.5 ~ 1 778.5	3	QPSK	22.89	0.195	25.49	0.354
LTE Band 66	1 711.5 ~ 1 778.5	3	16QAM	22.44	0.175	25.04	0.319
LTE Band 66	1 711.5 ~ 1 778.5	3	64QAM	21.35	0.136	23.95	0.248
LTE Band 66	1 711.5 ~ 1 778.5	3	256QAM	18.20	0.066	20.80	0.120
LTE Band 66	1 710.7 ~ 1 779.3	1.4	QPSK	22.88	0.194	25.48	0.353
LTE Band 66	1 710.7 ~ 1 779.3	1.4	16QAM	22.35	0.172	24.95	0.313
LTE Band 66	1 710.7 ~ 1 779.3	1.4	64QAM	21.25	0.133	23.85	0.243
LTE Band 66	1 710.7 ~ 1 779.3	1.4	256QAM	18.20	0.066	20.80	0.120
LTE Band 66C	1 720 ~ 1 770	20+20	QPSK	22.95	0.197	25.55	0.359
LTE Band 66C	1 720 ~ 1 770	20+20	16QAM	22.30	0.170	24.90	0.309
LTE Band 66B	1 712.5 ~ 1 777.5	5+10	QPSK	24.04	0.254	26.64	0.461
LTE Band 66B	1 712.5 ~ 1 777.5	5+10	16QAM	24.71	0.296	27.31	0.538

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 2	1 860 ~ 1 900	20	QPSK	22.93	0.196	27.33	0.541
LTE Band 2	1 860 ~ 1 900	20	16QAM	22.40	0.174	26.80	0.479
LTE Band 2	1 860 ~ 1 900	20	64QAM	21.10	0.129	25.50	0.355
LTE Band 2	1 860 ~ 1 900	20	256QAM	18.61	0.073	23.01	0.200
LTE Band 2	1 857.5 ~ 1 902.5	15	QPSK	22.90	0.195	27.30	0.537
LTE Band 2	1 857.5 ~ 1 902.5	15	16QAM	22.26	0.168	26.66	0.463
LTE Band 2	1 857.5 ~ 1 902.5	15	64QAM	21.04	0.127	25.44	0.350
LTE Band 2	1 857.5 ~ 1 902.5	15	256QAM	18.63	0.073	23.03	0.201
LTE Band 2	1 855 ~ 1 905	10	QPSK	23.01	0.200	27.41	0.551
LTE Band 2	1 855 ~ 1 905	10	16QAM	22.37	0.173	26.77	0.475
LTE Band 2	1 855 ~ 1 905	10	64QAM	21.15	0.130	25.55	0.359
LTE Band 2	1 855 ~ 1 905	10	256QAM	18.59	0.072	22.99	0.199
LTE Band 2	1 852.5 ~ 1 907.5	5	QPSK	22.94	0.197	27.34	0.542
LTE Band 2	1 852.5 ~ 1 907.5	5	16QAM	22.39	0.173	26.79	0.478
LTE Band 2	1 852.5 ~ 1 907.5	5	64QAM	21.07	0.128	25.47	0.352
LTE Band 2	1 852.5 ~ 1 907.5	5	256QAM	18.58	0.072	22.98	0.199
LTE Band 2	1 851.5 ~ 1 908.5	3	QPSK	22.92	0.196	27.32	0.540
LTE Band 2	1 851.5 ~ 1 908.5	3	16QAM	22.35	0.172	26.75	0.473
LTE Band 2	1 851.5 ~ 1 908.5	3	64QAM	21.02	0.126	25.42	0.348
LTE Band 2	1 851.5 ~ 1 908.5	3	256QAM	18.59	0.072	22.99	0.199
LTE Band 2	1 850.7 ~ 1 909.3	1.4	QPSK	22.91	0.195	27.31	0.538
LTE Band 2	1 850.7 ~ 1 909.3	1.4	16QAM	22.32	0.171	26.72	0.470
LTE Band 2	1 850.7 ~ 1 909.3	1.4	64QAM	21.07	0.128	25.47	0.352
LTE Band 2	1 850.7 ~ 1 909.3	1.4	256QAM	18.57	0.072	22.97	0.198
LTE Band 2C	1 860 ~ 1 900	20+20	QPSK	23.64	0.231	28.04	0.637
LTE Band 2C	1 860 ~ 1 900	20+20	16QAM	23.14	0.206	27.54	0.568
LTE Band 2C	1 857.5 ~ 1 902.5	15+20	QPSK	23.79	0.239	28.19	0.659
LTE Band 2C	1 857.5 ~ 1 902.5	15+20	16QAM	22.88	0.194	27.28	0.535
LTE Band 25	1 860 ~ 1 905	20	QPSK	22.83	0.192	27.23	0.528
LTE Band 25	1 860 ~ 1 905	20	16QAM	22.14	0.164	26.54	0.451
LTE Band 25	1 860 ~ 1 905	20	64QAM	21.01	0.126	25.41	0.348
LTE Band 25	1 860 ~ 1 905	20	256QAM	18.68	0.074	23.08	0.203
LTE Band 25	1 857.5 ~ 1 907.5	15	QPSK	22.80	0.191	27.20	0.525
LTE Band 25	1 857.5 ~ 1 907.5	15	16QAM	22.12	0.163	26.52	0.449
LTE Band 25	1 857.5 ~ 1 907.5	15	64QAM	21.11	0.129	25.51	0.356
LTE Band 25	1 857.5 ~ 1 907.5	15	256QAM	18.70	0.074	23.10	0.204
LTE Band 25	1 855 ~ 1 910	10	QPSK	22.87	0.194	27.27	0.533
LTE Band 25	1 855 ~ 1 910	10	16QAM	22.24	0.167	26.64	0.461
LTE Band 25	1 855 ~ 1 910	10	64QAM	21.13	0.130	25.53	0.357
LTE Band 25	1 855 ~ 1 910	10	256QAM	18.66	0.073	23.06	0.202
LTE Band 25	1 852.5 ~ 1 912.5	5	QPSK	22.87	0.194	27.27	0.533
LTE Band 25	1 852.5 ~ 1 912.5	5	16QAM	22.33	0.171	26.73	0.471
LTE Band 25	1 852.5 ~ 1 912.5	5	64QAM	21.15	0.130	25.55	0.359
LTE Band 25	1 852.5 ~ 1 912.5	5	256QAM	18.70	0.074	23.10	0.204
LTE Band 25	1 851.5 ~ 1 913.5	3	QPSK	22.84	0.192	27.24	0.530
LTE Band 25	1 851.5 ~ 1 913.5	3	16QAM	22.20	0.166	26.60	0.457
LTE Band 25	1 851.5 ~ 1 913.5	3	64QAM	21.19	0.132	25.59	0.362
LTE Band 25	1 851.5 ~ 1 913.5	3	256QAM	18.70	0.074	23.10	0.204
LTE Band 25	1 850.7 ~ 1 914.3	1.4	QPSK	22.84	0.192	27.24	0.530
LTE Band 25	1 850.7 ~ 1 914.3	1.4	16QAM	22.23	0.167	26.63	0.460
LTE Band 25	1 850.7 ~ 1 914.3	1.4	64QAM	21.10	0.129	25.50	0.355
LTE Band 25	1 850.7 ~ 1 914.3	1.4	256QAM	18.62	0.073	23.02	0.200

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 30	2 310	10	QPSK	15.42	0.035	17.82	0.061
LTE Band 30	2 310	10	16QAM	15.14	0.033	17.54	0.057
LTE Band 30	2 310	10	64QAM	13.97	0.025	16.37	0.043
LTE Band 30	2 310	10	256QAM	10.98	0.013	13.38	0.022
LTE Band 30	2 307.5 ~ 2 312.5	5	QPSK	15.41	0.035	17.81	0.060
LTE Band 30	2 307.5 ~ 2 312.5	5	16QAM	15.07	0.032	17.47	0.056
LTE Band 30	2 307.5 ~ 2 312.5	5	64QAM	13.98	0.025	16.38	0.043
LTE Band 30	2 307.5 ~ 2 312.5	5	256QAM	10.97	0.013	13.37	0.022
LTE Band 41	2 506 ~ 2 680	20	QPSK	24.55	0.285	28.25	0.668
LTE Band 41	2 506 ~ 2 680	20	16QAM	23.95	0.248	27.65	0.582
LTE Band 41	2 506 ~ 2 680	20	64QAM	22.80	0.191	26.50	0.447
LTE Band 41	2 506 ~ 2 680	20	256QAM	20.01	0.100	23.71	0.235
LTE Band 41	2 503.5 ~ 2 682.5	15	QPSK	24.50	0.282	28.20	0.661
LTE Band 41	2 503.5 ~ 2 682.5	15	16QAM	23.81	0.240	27.51	0.564
LTE Band 41	2 503.5 ~ 2 682.5	15	64QAM	22.82	0.191	26.52	0.449
LTE Band 41	2 503.5 ~ 2 682.5	15	256QAM	20.05	0.101	23.75	0.237
LTE Band 41	2 501 ~ 2 685	10	QPSK	24.68	0.294	28.38	0.689
LTE Band 41	2 501 ~ 2 685	10	16QAM	24.09	0.256	27.79	0.601
LTE Band 41	2 501 ~ 2 685	10	64QAM	22.93	0.196	26.63	0.460
LTE Band 41	2 501 ~ 2 685	10	256QAM	20.06	0.101	23.76	0.238
LTE Band 41	2 498.5 ~ 2 687.5	5	QPSK	24.69	0.294	28.39	0.690
LTE Band 41	2 498.5 ~ 2 687.5	5	16QAM	24.10	0.257	27.80	0.603
LTE Band 41	2 498.5 ~ 2 687.5	5	64QAM	22.92	0.196	26.62	0.459
LTE Band 41	2 498.5 ~ 2 687.5	5	256QAM	20.06	0.101	23.76	0.238
LTE Band 41C	2 506 ~ 2 680	20+20	QPSK	23.40	0.219	27.10	0.513
LTE Band 41C	2 506 ~ 2 680	20+20	16QAM	22.71	0.187	26.41	0.438
LTE Band 41C	2 501 ~ 2 685	10+20	16QAM	24.13	0.259	27.83	0.607
LTE Band 38	2 580 ~ 2 610	20	QPSK	24.45	0.279	27.55	0.569
LTE Band 38	2 580 ~ 2 610	20	16QAM	23.88	0.244	26.98	0.499
LTE Band 38	2 580 ~ 2 610	20	64QAM	22.79	0.190	25.89	0.388
LTE Band 38	2 580 ~ 2 610	20	256QAM	20.15	0.104	23.25	0.211
LTE Band 38	2 577.5 ~ 2 612.5	15	QPSK	24.49	0.281	27.59	0.574
LTE Band 38	2 577.5 ~ 2 612.5	15	16QAM	23.81	0.240	26.91	0.491
LTE Band 38	2 577.5 ~ 2 612.5	15	64QAM	22.84	0.192	25.94	0.393
LTE Band 38	2 577.5 ~ 2 612.5	15	256QAM	20.14	0.103	23.24	0.211
LTE Band 38	2 575 ~ 2 615	10	QPSK	24.70	0.295	27.80	0.603
LTE Band 38	2 575 ~ 2 615	10	16QAM	24.11	0.258	27.21	0.526
LTE Band 38	2 575 ~ 2 615	10	64QAM	23.04	0.201	26.14	0.411
LTE Band 38	2 575 ~ 2 615	10	256QAM	20.15	0.104	23.25	0.211
LTE Band 38	2 572.5 ~ 2 617.5	5	QPSK	24.72	0.296	27.82	0.605
LTE Band 38	2 572.5 ~ 2 617.5	5	16QAM	24.22	0.264	27.32	0.540
LTE Band 38	2 572.5 ~ 2 617.5	5	64QAM	23.06	0.202	26.16	0.413
LTE Band 38	2 572.5 ~ 2 617.5	5	256QAM	20.15	0.104	23.25	0.211
LTE Band 38C	2 580 ~ 2 610	20+20	QPSK	23.58	0.228	26.68	0.466
LTE Band 38C	2 580 ~ 2 610	20+20	16QAM	22.72	0.187	25.82	0.382

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 7	2 510 ~ 2 560	20	QPSK	22.32	0.171	26.02	0.400
LTE Band 7	2 510 ~ 2 560	20	16QAM	21.75	0.150	25.45	0.351
LTE Band 7	2 510 ~ 2 560	20	64QAM	20.46	0.111	24.16	0.261
LTE Band 7	2 510 ~ 2 560	20	256QAM	17.58	0.057	21.28	0.134
LTE Band 7	2 507.5 ~ 2 565.5	15	QPSK	22.27	0.169	25.97	0.395
LTE Band 7	2 507.5 ~ 2 565.5	15	16QAM	21.57	0.144	25.27	0.337
LTE Band 7	2 507.5 ~ 2 565.5	15	64QAM	20.49	0.112	24.19	0.262
LTE Band 7	2 507.5 ~ 2 565.5	15	256QAM	17.59	0.057	21.29	0.135
LTE Band 7	2 505 ~ 2 565	10	QPSK	22.39	0.173	26.09	0.406
LTE Band 7	2 505 ~ 2 565	10	16QAM	21.86	0.153	25.56	0.360
LTE Band 7	2 505 ~ 2 565	10	64QAM	20.69	0.117	24.39	0.275
LTE Band 7	2 505 ~ 2 565	10	256QAM	17.59	0.057	21.29	0.135
LTE Band 7	2 502.5 ~ 2 567.5	5	QPSK	22.39	0.173	26.09	0.406
LTE Band 7	2 502.5 ~ 2 567.5	5	16QAM	21.85	0.153	25.55	0.359
LTE Band 7	2 502.5 ~ 2 567.5	5	64QAM	20.86	0.122	24.56	0.286
LTE Band 7	2 502.5 ~ 2 567.5	5	256QAM	17.58	0.057	21.28	0.134
LTE Band 7C	2 510 ~ 2 560	20+20	QPSK	22.95	0.197	26.65	0.462
LTE Band 7C	2 510 ~ 2 560	20+20	16QAM	22.95	0.197	26.65	0.462
LTE Band 7C	2 505 ~ 2 565	10+20	QPSK	24.93	0.311	28.63	0.729
LTE Band 7C	2 505 ~ 2 565	10+20	16QAM	22.60	0.182	26.30	0.427
LTE Band 42	3 460 ~ 3 540	20	QPSK	24.71	0.296	27.91	0.618
LTE Band 42	3 460 ~ 3 540	20	16QAM	23.97	0.249	27.17	0.521
LTE Band 42	3 460 ~ 3 540	20	64QAM	22.91	0.195	26.11	0.408
LTE Band 42	3 460 ~ 3 540	20	256QAM	20.15	0.104	23.35	0.216
LTE Band 42	3 457.5 ~ 3 542.5	15	QPSK	24.58	0.287	27.78	0.600
LTE Band 42	3 457.5 ~ 3 542.5	15	16QAM	23.95	0.248	27.15	0.519
LTE Band 42	3 457.5 ~ 3 542.5	15	64QAM	22.96	0.198	26.16	0.413
LTE Band 42	3 457.5 ~ 3 542.5	15	256QAM	20.14	0.103	23.34	0.216
LTE Band 42	3 455 ~ 3 545	10	QPSK	24.88	0.308	28.08	0.643
LTE Band 42	3 455 ~ 3 545	10	16QAM	24.18	0.262	27.38	0.547
LTE Band 42	3 455 ~ 3 545	10	64QAM	23.09	0.204	26.29	0.426
LTE Band 42	3 455 ~ 3 545	10	256QAM	20.14	0.103	23.34	0.216
LTE Band 42	3 452.5 ~ 3 547.5	5	QPSK	24.86	0.306	28.06	0.640
LTE Band 42	3 452.5 ~ 3 547.5	5	16QAM	24.20	0.263	27.40	0.550
LTE Band 42	3 452.5 ~ 3 547.5	5	64QAM	23.06	0.202	26.26	0.423
LTE Band 42	3 452.5 ~ 3 547.5	5	256QAM	20.05	0.101	23.25	0.211
LTE Band 42C	3 460 ~ 3 540	20+20	QPSK	23.71	0.235	26.91	0.491
LTE Band 42C	3 460 ~ 3 540	20+20	16QAM	22.66	0.185	25.86	0.385
LTE Band 42C	3 455 ~ 3 545	20+10	16QAM	22.96	0.198	26.16	0.413

Mode	TX Frequency (MHz)	Channel Bandwidth	Modulation	Conducted Output Power		EIRP	
				Max power (dBm)	Max power (W)	Max power (dBm)	Max power (W)
LTE Band 43	3 710 ~ 3 790	20	QPSK	24.89	0.308	28.79	0.757
LTE Band 43	3 710 ~ 3 790	20	16QAM	24.32	0.270	28.22	0.664
LTE Band 43	3 710 ~ 3 790	20	64QAM	23.20	0.209	27.10	0.513
LTE Band 43	3 710 ~ 3 790	20	256QAM	20.44	0.111	24.34	0.272
LTE Band 43	3 707.5 ~ 3 792.5	15	QPSK	24.83	0.304	28.73	0.746
LTE Band 43	3 707.5 ~ 3 792.5	15	16QAM	24.18	0.262	28.08	0.643
LTE Band 43	3 707.5 ~ 3 792.5	15	64QAM	23.12	0.205	27.02	0.504
LTE Band 43	3 707.5 ~ 3 792.5	15	256QAM	20.48	0.112	24.38	0.274
LTE Band 43	3 705 ~ 3 795	10	QPSK	25.08	0.322	28.98	0.791
LTE Band 43	3 705 ~ 3 795	10	16QAM	24.38	0.274	28.28	0.673
LTE Band 43	3 705 ~ 3 795	10	64QAM	23.31	0.214	27.21	0.526
LTE Band 43	3 705 ~ 3 795	10	256QAM	20.48	0.112	24.38	0.274
LTE Band 43	3 702.5 ~ 3 797.5	5	QPSK	25.15	0.327	29.05	0.804
LTE Band 43	3 702.5 ~ 3 797.5	5	16QAM	24.46	0.279	28.36	0.685
LTE Band 43	3 702.5 ~ 3 797.5	5	64QAM	23.25	0.211	27.15	0.519
LTE Band 43	3 702.5 ~ 3 797.5	5	256QAM	20.50	0.112	24.40	0.275
LTE Band 43C	3 710 ~ 3 790	20+20	QPSK	23.58	0.228	27.48	0.560
LTE Band 43C	3 710 ~ 3 790	20+20	16QAM	23.01	0.200	26.91	0.491
LTE Band 43C	3 705 ~ 3 795	10+20	QPSK	25.24	0.334	29.14	0.820
LTE Band 43C	3 702.5 ~ 3 797.5	5+20	16QAM	25.35	0.343	29.25	0.841

2. INTRODUCTION

2.1. EUT DESCRIPTION

This device supports the following capabilities:
Bluetooth LE, WCDMA, LTE/LTE up-link carrier aggregation, 5G NR(FR1)/5G NR up-link carrier aggregation and ENDC
5G NR supports SCS 15 kHz for FDD Band and SCS 30 kHz for TDD Band.

2.2. TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+21 ℃ ~ +22 ℃
▪ Relative Humidity	38 % ~ 40 %

2.3. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.4. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C 63.4-2014. All measurement uncertainty values are shown with a coverage factor of *k* = 2 to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Radiated Disturbance (Below 1 GHz)	5.0 dB (The confidence level is about 95 %, k = 2)
Radiated Disturbance (1 GHz ~ 18 GHz)	4.8 dB (The confidence level is about 95 %, k = 2)
Radiated Disturbance (Above 18 GHz)	5.0 dB (The confidence level is about 95 %, k = 2)

2.5. TEST FACILITY

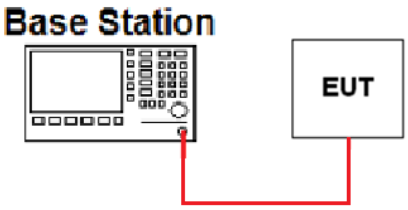
Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014. **- FCC & IC MRA Designation No. : KR0034** **- ISED#: 5740A**		
www.dtnc.net		
Telephone	:	+ 82-31-321-2664
FAX	:	+ 82-31-321-1664

3. DESCRIPTION OF TESTS

3.1. MAXIMUM OUTPUT POWER

- Conducted Output Power

Test Set-up(Case 1)



Test Procedure

- **KDB971168 D01v03 - Section 5.2**
- **ANSI C63.26-2015 – Section 5.2.4.2**

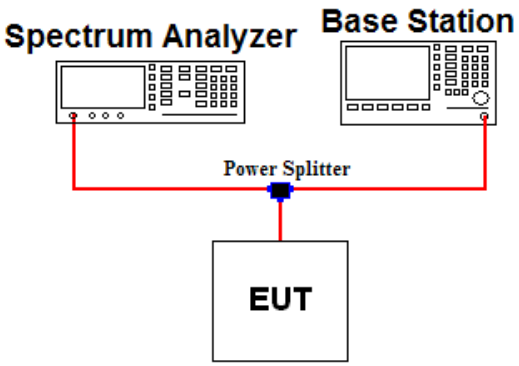
When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies. Thus, an average power meter can always be used to perform the measurement when the EUT can be configured to transmit continuously.

If the EUT cannot be configured to transmit continuously (i.e., burst duty cycle < 98%), then the following options can be implemented to facilitate measurement of the average power with an average power meter:

a) A gated average power meter can be used to perform the measurement if the gating parameters can be adjusted such that the power is measured only during active transmission bursts at maximum output power levels.

b) A conventional average power meter with no signal gating capability can also be used if the measured burst duty cycle is constant (i.e., duty cycle variations are less than or equal to ±2%) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to [10 log (1/duty cycle)].

Test Set-up(Case 2)



Note: The following procedure was used for Band 30.

Test Procedure

- **KDB971168 D01v03 - Section 5.4**
- **ANSI C63.26-2015 – Section 5.2.4.5, 5.2.4.4.1**

Test setting

1. Set span to 2 x to 3 x the OBW.
2. **Set RBW = 5 MHz**
3. Set VBW ≥ 3 x RBW.
4. Set number of points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   1) Set = auto-couple, or
   2) Set ≥ [10 × (number of points in sweep) × (transmission period)] for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.
6. Detector = power averaging (rms).
7. Set sweep trigger to “free run”
8. If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full-power transmissions).
9. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over multiple symbols, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.
10. By using the marker function to identify the maximum PSD instead of summing the power across the OBW.

- ERP & EIRP (Effective Radiated Power & Equivalent Isotropic Radiated Power)

Test Procedure

- **KDB971168 D01v03 - Section 5.6**
- **ANSI C63.26-2015 – Section 5.2.5.5**

Determining ERP and EIRP from conducted RF output power measurement results

ERP or EIRP = $P_{Meas} + G_T - L_C$

where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, typically dBW or dBm);

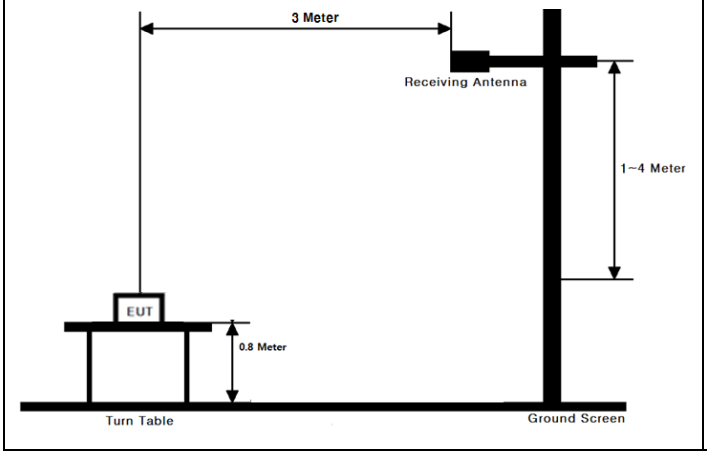
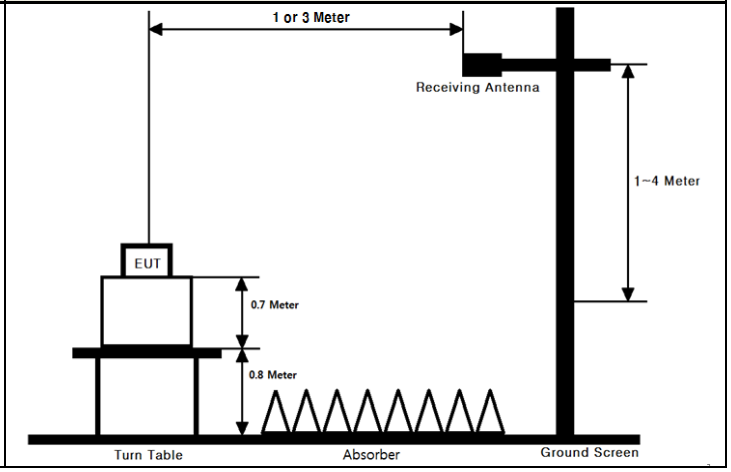
P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

3.2. UNDESIRABLE EMISSIONS

Test Set-up

Below 1GHz	Above 1GHz
	

These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 0.8 or 1.5 meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- **ANSI/TIA-603-E-2016 - Section 2.2.12**
- **KDB971168 D01v03 - Section 5.8**
- **ANSI C63.26-2015 – Section 5.5**

Test setting

1. RBW = 100 kHz for below 1 GHz and 1 MHz for above 1 GHz / VBW ≥ 3 X RBW
2. Detector = RMS & Trace mode = power averaging (rms)
3. Sweep time = Auto couple
4. Number of sweep point ≥ 2 X span / RBW
5. The trace was allowed to stabilize

Note: If duty cycle < 98%, add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

Band(s)	T_{on}(ms)	T_{on+off} (ms)	Duty cycle = T_{on} / (T_{on+off})	10 log (1/duty cycle)
38, 41, 42, 43	1.0	5.0	0.2	7.0 dB

The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer.
For radiated power measurements below 1 GHz, a half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading.
For radiated power measurements above 1 GHz, a Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. The difference between the gain of the horn and an isotropic antenna are taken into consideration.
This measurement was performed with the EUT oriented in 3 orthogonal axis.

4. LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal. Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	23/12/15	24/12/15	MY50110097
Spectrum Analyzer	KEYSIGHT	N9020A	23/12/15	24/12/15	MY52440526
Spectrum Analyzer	Agilent Technologies	N9030A	23/12/15	24/12/15	MY53310140
DC power supply	H.P	6633A	23/12/15	24/12/15	3524A06634
Multimeter	FLUKE	17B+	23/12/15	24/12/15	36390701WS
Radio Communication Analyzer	Anritsu	MT8820C	23/12/15	24/12/15	6201274516
Radio Communication Analyzer	KEYSIGHT	E7515B	23/06/23	24/06/23	MY60192461
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	120612-1
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	090205-4
Power Splitter	Anritsu	K241B	23/06/23	24/06/23	020611
Signal Generator	Rohde Schwarz	SMBV100A	23/12/15	24/12/15	255571
Signal Generator	ANRITSU	MG3695C	23/12/15	24/12/15	173501
Loop Antenna	ETS-Lindgren	6502	23/11/09	24/11/09	00060496
Bilog Antenna	Schwarzbeck	VULB 9160	23/12/15	24/12/15	3362
HORN ANT	ETS	3117	23/12/15	24/12/15	00140394
HORN ANT	A.H.Systems	SAS-574	23/06/23	24/06/23	155
PreAmplifier	H.P	8447D	23/12/15	24/12/15	2944A07774
PreAmplifier	Agilent	8449B	23/12/15	24/12/15	3008A02108
PreAmplifier	tsj	MLA-1840-J02-45	23/06/23	24/06/23	16966-10728
High-pass filter	Wainwright	WHKX12-935-1000-15000-40SS	23/12/15	24/12/15	7
High-pass filter	Wainwright	WHKX10-2838-3300-18000-60SS	23/12/15	24/12/15	2
High-pass filter	Wainwright	WHKX6-6320-8000-26500-40CC	23/12/15	24/12/15	2
High-pass filter	Wainwright	WHNX5.0/26.5G-6SS	23/06/23	24/06/23	8
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-2
Cable	JUNKOSHA	MWX241/B	24/01/03	25/01/03	M-3
Cable	JUNKOSHA	MWX221	24/01/03	25/01/03	M-4
Cable	JUNKOSHA	MWX221	24/01/03	25/01/03	M-5
Cable	JUNFLON	J12J101757-00	24/01/03	25/01/03	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	24/01/03	25/01/03	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	24/01/03	25/01/03	M-9
Cable	JUNKOSHA	MWX315	24/01/03	25/01/03	M-10
Cable	JUNKOSHA	MWX241	24/01/03	25/01/03	mmW-1
Cable	JUNKOSHA	MWX241	24/01/03	25/01/03	mmW-4

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.
Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

5. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Test Description	Test Limit	Status Note 1
2.1046	Conducted Output Power	N/A	C
2.1046 90.635(b)	Conducted Output Power (B26: 814 ~ 824 MHz)	< 100 Watts	C
27.50(b)(9) 27.50(c)(9) 90.542(a)(6)	Effective Radiated Power (B12, 13, 14, 17, 71)	< 30 Watts max. ERP (mobile station)	C
22.913(a.5)	Effective Radiated Power (B26, 5: 824 ~ 824 MHz)	< 7 Watts max. ERP	C
27.50(d)(4) 27.50(k)(3) 27.50(j)(3)	Equivalent Isotropic Radiated Power (B66, 4, 42, 43, 66)	< 1 Watts max. EIRP	C
24.232(c) 27.50(h.2)	Equivalent Isotropic Radiated Power (B25, 2, 7, 41, 38)	< 2 Watts max. EIRP	C
27.50(a)(3)	Equivalent Isotropic Radiated Power (B30)	< 250mW/5MHz max. EIRP	C
2.1053 22.917(a) 24.238(a) 27.53(h)(1) 27.53(g) 90.543(c) 27.53(n)(2) 27.53(l)(2)	Undesirable Emissions (B26, B5, 2, 25, 66, 4, 12, 17, 13, 14, 42, 43, 71)	> 43 + 10log$_{10}$ (P) dB for all out-of-band emissions	C
27.53(f) 90.543(f)	Undesirable Emissions in 1559 ~ 1610 MHz (B13, 14)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions of less than 700 Hz bandwidth)	C
27.53(m)(4)	Undesirable Emissions (B7, 41, 38)	> 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge where X is the greater of 6 megahertz or the actual emission bandwidth	C
27.53(a.4)	Undesirable Emissions (B30)	> 70 + 10 log (P) dB below 2288 MHz and Above 2365 MHz	C

Note 1: **C**=Comply **NC**=Not Comply **NT**=Not Tested **NA**=Not Applicable
Note 2: This device uses the certified module and the power configuration for band 30 was reduced by software.
The output power and radiated test items were measured and spot-check testing were performed on other FCC requirements.(OBW, Conducted band edge, Conducted spurious emission) Spot-check test results do not exceed the module results.
Please refer to the module test report for conducted signal test items. (FCC ID: XMR2022RM520NGL)
Note 3: Radiated test items were performed in three orthogonal EUT positions and the worst case data was reported.
Note 4: All antenna configuration were investigated and worst case data were reported.

6. SAMPLE CALCULATION

A. For substitution method

Unwanted emissions

1) The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1 GHz respectively above ground.
2) The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3) Vary the measurement antenna height through 1 m to 4 m and the rotate EUT through 360° in order to determine the maximum emission level.
4) Record the measured emission level and frequency using the available test method.
If required by the test method, add 10 log(1/duty cycle) to measured emission level.
5) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
6) Vary the measurement antenna height between 1 m to 4 m to maximize the received (measured) signal amplitude. And adjust the signal generator output power level until the amplitude detected by the measurement instrument equals the previously emission level[Measured level + 10 log(1/duty cycle)].
7) The conducted power at the terminal of the substitute antenna is measured.
8) Record the level at substituted antenna terminal.
9) The result is calculated as below;

EIRP(dBm) = LEVLE@ANTENNA TERMINAL + TX Antenna Gain (dBi)
ERP(dBm) = LEVLE@ANTENNA TERMINAL + TX Antenna Gain (dBd)
Where, TX Antenna Gain (dBd) = TX Antenna Gain (dBi) - 2.15 dB

7. TEST DATA

7.1. ERP & EIRP

- Test Notes

1) EIRP(dBm) = Conducted Output power(dBm) + Antenna Gain(dBi)

ERP = EIRP – 2.15(dB)

2) LTE Intra band ULCA power was measured based on worst-case configuration(Channel Bandwidth, Channel and modulation) of certified module.

7.1.1. LTE Band 71

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
20	673	QPSK	1/50	22.99	1.9	24.89	22.74
		16QAM	1/0	22.29	1.9	24.19	22.04
		64QAM	1/50	21.19	1.9	23.09	20.94
		256QAM	1/50	17.58	1.9	19.48	17.33
	688	QPSK	1/50	23.00	1.9	24.90	22.75
		16QAM	1/50	22.39	1.9	24.29	22.14
		64QAM	1/50	21.22	1.9	23.12	20.97
		256QAM	1/0	17.53	1.9	19.43	17.28
15	670.5	QPSK	1/74	22.96	1.9	24.86	22.71
		16QAM	1/74	22.27	1.9	24.17	22.02
		64QAM	1/36	21.19	1.9	23.09	20.94
		256QAM	1/0	17.56	1.9	19.46	17.31
	680.5	QPSK	1/0	22.96	1.9	24.86	22.71
		16QAM	1/0	22.38	1.9	24.28	22.13
		64QAM	1/36	21.11	1.9	23.01	20.86
		256QAM	1/0	17.57	1.9	19.47	17.32
	690.5	QPSK	1/36	22.95	1.9	24.85	22.70
		16QAM	1/36	22.25	1.9	24.15	22.00
		64QAM	1/36	21.20	1.9	23.10	20.95
		256QAM	1/0	17.60	1.9	19.50	17.35
10	668	QPSK	1/49	23.03	1.9	24.93	22.78
		16QAM	1/49	22.40	1.9	24.30	22.15
		64QAM	1/49	21.25	1.9	23.15	21.00
		256QAM	1/49	17.57	1.9	19.47	17.32
	680.5	QPSK	1/25	23.11	1.9	25.01	22.86
		16QAM	1/25	22.44	1.9	24.34	22.19
		64QAM	1/25	21.34	1.9	23.24	21.09
		256QAM	1/49	17.58	1.9	19.48	17.33
	693	QPSK	1/0	23.10	1.9	25.00	22.85
		16QAM	1/0	22.48	1.9	24.38	22.23
		64QAM	1/25	21.42	1.9	23.32	21.17
		256QAM	1/25	17.52	1.9	19.42	17.27

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
5	665.5	QPSK	1/12	23.06	1.9	24.96	22.81
		16QAM	1/12	22.39	1.9	24.29	22.14
		64QAM	1/0	21.35	1.9	23.25	21.10
		256QAM	1/12	17.57	1.9	19.47	17.32
	680.5	QPSK	1/12	23.11	1.9	25.01	22.86
		16QAM	1/12	22.49	1.9	24.39	22.24
		64QAM	1/12	21.34	1.9	23.24	21.09
		256QAM	1/0	17.56	1.9	19.46	17.31
	695.5	QPSK	1/12	23.01	1.9	24.91	22.76
		16QAM	1/12	22.39	1.9	24.29	22.14
		64QAM	1/12	21.25	1.9	23.15	21.00
		256QAM	1/24	17.54	1.9	19.44	17.29

7.1.2. LTE Band 12

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	704	QPSK	1/49	22.99	1.8	24.79	22.64
		16QAM	1/25	22.36	1.8	24.16	22.01
		64QAM	1/49	21.27	1.8	23.07	20.92
		256QAM	1/49	18.26	1.8	20.06	17.91
	711	QPSK	1/25	23.02	1.8	24.82	22.67
		16QAM	1/49	22.41	1.8	24.21	22.06
		64QAM	1/25	21.26	1.8	23.06	20.91
		256QAM	1/25	18.30	1.8	20.10	17.95
5	701.5	QPSK	1/12	23.00	1.8	24.80	22.65
		16QAM	1/12	22.49	1.8	24.29	22.14
		64QAM	1/24	21.29	1.8	23.09	20.94
		256QAM	1/24	18.25	1.8	20.05	17.90
	707.5	QPSK	1/12	23.09	1.8	24.89	22.74
		16QAM	1/12	22.41	1.8	24.21	22.06
		64QAM	1/24	21.34	1.8	23.14	20.99
		256QAM	1/0	18.26	1.8	20.06	17.91
	713.5	QPSK	1/12	23.04	1.8	24.84	22.69
		16QAM	1/12	22.49	1.8	24.29	22.14
		64QAM	1/12	21.30	1.8	23.10	20.95
		256QAM	1/0	18.17	1.8	19.97	17.82
3	700.5	QPSK	1/7	23.01	1.8	24.81	22.66
		16QAM	1/14	22.40	1.8	24.20	22.05
		64QAM	1/7	21.37	1.8	23.17	21.02
		256QAM	1/0	18.28	1.8	20.08	17.93
	707.5	QPSK	1/7	23.04	1.8	24.84	22.69
		16QAM	1/14	22.40	1.8	24.20	22.05
		64QAM	1/7	21.24	1.8	23.04	20.89
		256QAM	1/0	18.24	1.8	20.04	17.89
	714.5	QPSK	1/7	22.98	1.8	24.78	22.63
		16QAM	1/7	22.32	1.8	24.12	21.97
		64QAM	1/7	21.30	1.8	23.10	20.95
		256QAM	1/7	18.25	1.8	20.05	17.90

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
1.4	699.7	QPSK	1/2	23.03	1.8	24.83	22.68
		16QAM	1/2	22.49	1.8	24.29	22.14
		64QAM	1/0	21.31	1.8	23.11	20.96
		256QAM	1/0	18.27	1.8	20.07	17.92
	707.5	QPSK	1/2	23.00	1.8	24.80	22.65
		16QAM	1/2	22.47	1.8	24.27	22.12
		64QAM	1/5	21.25	1.8	23.05	20.90
		256QAM	1/0	18.30	1.8	20.10	17.95
	715.3	QPSK	1/2	22.96	1.8	24.76	22.61
		16QAM	1/2	22.38	1.8	24.18	22.03
		64QAM	1/0	21.19	1.8	22.99	20.84
		256QAM	1/0	18.18	1.8	19.98	17.83

7.1.3. LTE Band 17

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	709	QPSK	1/25	23.00	1.8	24.80	22.65
		16QAM	1/25	22.41	1.8	24.21	22.06
		64QAM	1/0	21.23	1.8	23.03	20.88
		256QAM	1/25	18.15	1.8	19.95	17.80
	711	QPSK	1/25	22.95	1.8	24.75	22.60
		16QAM	1/25	22.35	1.8	24.15	22.00
		64QAM	1/25	21.22	1.8	23.02	20.87
		256QAM	1/25	18.25	1.8	20.05	17.90
5	706.5	QPSK	1/0	23.05	1.8	24.85	22.70
		16QAM	1/0	22.42	1.8	24.22	22.07
		64QAM	1/12	21.26	1.8	23.06	20.91
		256QAM	1/0	18.16	1.8	19.96	17.81
	710	QPSK	1/12	23.01	1.8	24.81	22.66
		16QAM	1/12	22.33	1.8	24.13	21.98
		64QAM	1/12	21.28	1.8	23.08	20.93
		256QAM	1/0	18.24	1.8	20.04	17.89
	713.5	QPSK	1/0	23.10	1.8	24.90	22.75
		16QAM	1/0	22.41	1.8	24.21	22.06
		64QAM	1/12	21.36	1.8	23.16	21.01
		256QAM	1/12	18.25	1.8	20.05	17.90

7.1.4. LTE Band 13

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	782	QPSK	1/25	23.13	0.1	23.23	21.08
		16QAM	1/49	22.48	0.1	22.58	20.43
		64QAM	1/25	21.36	0.1	21.46	19.31
		256QAM	1/49	18.38	0.1	18.48	16.33
5	779.5	QPSK	1/12	23.17	0.1	23.27	21.12
		16QAM	1/12	22.48	0.1	22.58	20.43
		64QAM	1/12	21.43	0.1	21.53	19.38
		256QAM	1/0	18.50	0.1	18.60	16.45
	784.5	QPSK	1/12	23.07	0.1	23.17	21.02
		16QAM	1/12	22.49	0.1	22.59	20.44
		64QAM	1/12	21.33	0.1	21.43	19.28
		256QAM	1/12	18.35	0.1	18.45	16.30

7.1.5. LTE Band 14

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	793	QPSK	1/0	23.31	0.0	23.31	21.16
		16QAM	1/0	22.86	0.0	22.86	20.71
		64QAM	1/0	21.66	0.0	21.66	19.51
		256QAM	1/0	18.65	0.0	18.65	16.50
5	790.5	QPSK	1/12	23.28	0.0	23.28	21.13
		16QAM	1/12	22.76	0.0	22.76	20.61
		64QAM	1/0	21.64	0.0	21.64	19.49
		256QAM	1/0	18.61	0.0	18.61	16.46
	795.5	QPSK	1/0	23.31	0.0	23.31	21.16
		16QAM	1/12	22.71	0.0	22.71	20.56
		64QAM	1/0	21.58	0.0	21.58	19.43
		256QAM	1/24	18.55	0.0	18.55	16.40

7.1.6. LTE Band 26

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	819	QPSK	1/99	23.07	0.7	23.77	21.62
		16QAM	1/99	22.49	0.7	23.19	21.04
		64QAM	1/99	21.46	0.7	22.16	20.01
		256QAM	1/0	18.55	0.7	19.25	17.10
5	816.5	QPSK	1/50	22.99	0.7	23.69	21.54
		16QAM	1/50	22.37	0.7	23.07	20.92
		64QAM	1/50	21.28	0.7	21.98	19.83
		256QAM	1/99	18.50	0.7	19.20	17.05
	821.5	QPSK	1/50	23.09	0.7	23.79	21.64
		16QAM	1/50	22.49	0.7	23.19	21.04
		64QAM	1/50	21.43	0.7	22.13	19.98
		256QAM	1/0	18.54	0.7	19.24	17.09
3	815.5	QPSK	1/50	22.93	0.7	23.63	21.48
		16QAM	1/50	22.35	0.7	23.05	20.90
		64QAM	1/50	21.24	0.7	21.94	19.79
		256QAM	1/99	18.57	0.7	19.27	17.12
	819	QPSK	1/50	23.03	0.7	23.73	21.58
		16QAM	1/50	22.42	0.7	23.12	20.97
		64QAM	1/50	21.35	0.7	22.05	19.90
		256QAM	1/50	18.53	0.7	19.23	17.08
	822.5	QPSK	1/50	23.10	0.7	23.80	21.65
		16QAM	1/50	22.46	0.7	23.16	21.01
		64QAM	1/50	21.40	0.7	22.10	19.95
		256QAM	1/50	18.60	0.7	19.30	17.15
1.4	814.7	QPSK	1/50	22.89	0.7	23.59	21.44
		16QAM	1/99	22.30	0.7	23.00	20.85
		64QAM	1/0	21.30	0.7	22.00	19.85
		256QAM	1/50	18.60	0.7	19.30	17.15
	819	QPSK	1/50	23.01	0.7	23.71	21.56
		16QAM	1/99	22.44	0.7	23.14	20.99
		64QAM	1/50	21.35	0.7	22.05	19.90
		256QAM	1/50	18.51	0.7	19.21	17.06
	823.3	QPSK	1/50	23.09	0.7	23.79	21.64
		16QAM	1/50	22.43	0.7	23.13	20.98
		64QAM	1/50	21.39	0.7	22.09	19.94
		256QAM	1/50	18.52	0.7	19.22	17.07

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
15	831.5	QPSK	1/74	23.12	0.7	23.82	21.67
		16QAM	1/0	22.36	0.7	23.06	20.91
		64QAM	1/0	21.18	0.7	21.88	19.73
		256QAM	1/36	18.47	0.7	19.17	17.02
	841.5	QPSK	1/36	23.06	0.7	23.76	21.61
		16QAM	1/36	22.46	0.7	23.16	21.01
		64QAM	1/36	21.33	0.7	22.03	19.88
		256QAM	1/0	18.53	0.7	19.23	17.08
10	829	QPSK	1/25	23.15	0.7	23.85	21.70
		16QAM	1/0	22.45	0.7	23.15	21.00
		64QAM	1/25	21.38	0.7	22.08	19.93
		256QAM	1/25	18.52	0.7	19.22	17.07
	836.5	QPSK	1/49	23.15	0.7	23.85	21.70
		16QAM	1/49	22.49	0.7	23.19	21.04
		64QAM	1/49	21.33	0.7	22.03	19.88
		256QAM	1/0	18.52	0.7	19.22	17.07
	844	QPSK	1/0	23.15	0.7	23.85	21.70
		16QAM	1/25	22.44	0.7	23.14	20.99
		64QAM	1/0	21.36	0.7	22.06	19.91
		256QAM	1/0	18.52	0.7	19.22	17.07
5	826.5	QPSK	1/12	23.18	0.7	23.88	21.73
		16QAM	1/24	22.47	0.7	23.17	21.02
		64QAM	1/12	21.33	0.7	22.03	19.88
		256QAM	1/24	18.53	0.7	19.23	17.08
	836.5	QPSK	1/12	23.13	0.7	23.83	21.68
		16QAM	1/12	22.49	0.7	23.19	21.04
		64QAM	1/12	21.27	0.7	21.97	19.82
		256QAM	1/0	18.54	0.7	19.24	17.09
	846.5	QPSK	1/12	23.07	0.7	23.77	21.62
		16QAM	1/12	22.49	0.7	23.19	21.04
		64QAM	1/12	21.28	0.7	21.98	19.83
		256QAM	1/12	18.55	0.7	19.25	17.10
3	825.5	QPSK	1/7	23.09	0.7	23.79	21.64
		16QAM	1/0	22.42	0.7	23.12	20.97
		64QAM	1/14	21.29	0.7	21.99	19.84
		256QAM	1/7	18.51	0.7	19.21	17.06
	836.5	QPSK	1/7	23.11	0.7	23.81	21.66
		16QAM	1/7	22.42	0.7	23.12	20.97
		64QAM	1/7	21.26	0.7	21.96	19.81
		256QAM	1/0	18.53	0.7	19.23	17.08
	847.5	QPSK	1/7	23.05	0.7	23.75	21.60
		16QAM	1/7	22.44	0.7	23.14	20.99
		64QAM	1/14	21.18	0.7	21.88	19.73
		256QAM	1/0	18.51	0.7	19.21	17.06

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
1.4	824.7	QPSK	1/2	23.02	0.7	23.72	21.57
		16QAM	1/2	22.44	0.7	23.14	20.99
		64QAM	1/0	21.23	0.7	21.93	19.78
		256QAM	1/2	18.55	0.7	19.25	17.10
	836.5	QPSK	1/5	23.01	0.7	23.71	21.56
		16QAM	1/2	22.39	0.7	23.09	20.94
		64QAM	1/2	21.17	0.7	21.87	19.72
		256QAM	1/2	18.50	0.7	19.20	17.05
	848.3	QPSK	1/2	22.94	0.7	23.64	21.49
		16QAM	1/5	22.39	0.7	23.09	20.94
		64QAM	1/0	21.15	0.7	21.85	19.70
		256QAM	1/0	18.54	0.7	19.24	17.09

7.1.7. LTE Band 5

External Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
10	829	QPSK	1/0	22.88	0.7	23.58	21.43
		16QAM	1/0	22.32	0.7	23.02	20.87
		64QAM	1/0	21.24	0.7	21.94	19.79
		256QAM	1/25	18.05	0.7	18.75	16.60
	836.5	QPSK	1/25	22.91	0.7	23.61	21.46
		16QAM	1/25	22.34	0.7	23.04	20.89
		64QAM	1/49	21.24	0.7	21.94	19.79
		256QAM	1/0	18.29	0.7	18.99	16.84
	844	QPSK	1/0	22.92	0.7	23.62	21.47
		16QAM	1/0	22.30	0.7	23.00	20.85
		64QAM	1/0	21.26	0.7	21.96	19.81
		256QAM	1/49	18.24	0.7	18.94	16.79
5	826.5	QPSK	1/0	22.93	0.7	23.63	21.48
		16QAM	1/0	22.35	0.7	23.05	20.90
		64QAM	1/0	21.30	0.7	22.00	19.85
		256QAM	1/12	18.19	0.7	18.89	16.74
	836.5	QPSK	1/24	22.95	0.7	23.65	21.50
		16QAM	1/24	22.43	0.7	23.13	20.98
		64QAM	1/24	21.40	0.7	22.10	19.95
		256QAM	1/0	18.10	0.7	18.80	16.65
	846.5	QPSK	1/12	22.91	0.7	23.61	21.46
		16QAM	1/12	22.35	0.7	23.05	20.90
		64QAM	1/12	21.24	0.7	21.94	19.79
		256QAM	1/12	18.21	0.7	18.91	16.76
3	825.5	QPSK	1/7	22.86	0.7	23.56	21.41
		16QAM	1/14	22.37	0.7	23.07	20.92
		64QAM	1/7	21.25	0.7	21.95	19.80
		256QAM	1/0	18.27	0.7	18.97	16.82
	836.5	QPSK	1/7	22.89	0.7	23.59	21.44
		16QAM	1/7	22.34	0.7	23.04	20.89
		64QAM	1/7	21.30	0.7	22.00	19.85
		256QAM	1/14	18.11	0.7	18.81	16.66
	847.5	QPSK	1/7	22.86	0.7	23.56	21.41
		16QAM	1/7	22.29	0.7	22.99	20.84
		64QAM	1/7	21.24	0.7	21.94	19.79
		256QAM	1/14	18.24	0.7	18.94	16.79
1.4	824.7	QPSK	1/0	22.87	0.7	23.57	21.42
		16QAM	1/0	22.42	0.7	23.12	20.97
		64QAM	1/0	21.28	0.7	21.98	19.83
		256QAM	1/0	18.29	0.7	18.99	16.84
	836.5	QPSK	1/2	22.84	0.7	23.54	21.39
		16QAM	1/2	22.35	0.7	23.05	20.90
		64QAM	1/5	21.25	0.7	21.95	19.80
		256QAM	1/2	18.28	0.7	18.98	16.83
	848.3	QPSK	1/2	22.86	0.7	23.56	21.41
		16QAM	1/2	22.37	0.7	23.07	20.92
		64QAM	1/2	21.24	0.7	21.94	19.79
		256QAM	1/2	18.16	0.7	18.86	16.71

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External Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power(dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)	ERP (dBm)
PCC	10	829	QPSK	1/49	24.30	0.7	25.00	22.85
SCC	10	8 38.9	QPSK	1/0				
PCC	10	834.1	16QAM	1/49	23.57	0.7	24.27	22.12
SCC	10	844	16QAM	1/0				
PCC	3	825.6	QPSK	15/0	24.40	0.7	25.10	22.95
SCC	5	829.5	QPSK	25/0				
PCC	3	825.6	16QAM	1/14	23.88	0.7	24.58	22.43
SCC	5	829.5	16QAM	1/0				

7.1.8. LTE Band 4

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power(dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	1 720	QPSK	1/50	22.85	2.6	25.45
		16QAM	1/50	22.15	2.6	24.75
		64QAM	1/50	21.14	2.6	23.74
		256QAM	1/50	18.65	2.6	21.25
	1 732.5	QPSK	1/50	22.85	2.6	25.45
		16QAM	1/50	22.20	2.6	24.80
		64QAM	1/0	21.15	2.6	23.75
		256QAM	1/50	18.60	2.6	21.20
	1 745	QPSK	1/50	22.86	2.6	25.46
		16QAM	1/50	22.21	2.6	24.81
		64QAM	1/50	21.07	2.6	23.67
		256QAM	1/0	18.70	2.6	21.30
15	1 717.5	QPSK	1/36	22.77	2.6	25.37
		16QAM	1/0	22.08	2.6	24.68
		64QAM	1/36	21.09	2.6	23.69
		256QAM	1/36	18.69	2.6	21.29
	1 732.5	QPSK	1/36	22.85	2.6	25.45
		16QAM	1/36	22.17	2.6	24.77
		64QAM	1/36	21.08	2.6	23.68
		256QAM	1/74	18.66	2.6	21.26
	1 747.5	QPSK	1/36	22.79	2.6	25.39
		16QAM	1/36	22.24	2.6	24.84
		64QAM	1/36	21.08	2.6	23.68
		256QAM	1/0	18.62	2.6	21.22
10	1 715	QPSK	1/25	22.86	2.6	25.46
		16QAM	1/0	22.20	2.6	24.80
		64QAM	1/25	21.17	2.6	23.77
		256QAM	1/25	18.65	2.6	21.25
	1 732.5	QPSK	1/25	22.94	2.6	25.54
		16QAM	1/0	22.25	2.6	24.85
		64QAM	1/25	21.19	2.6	23.79
		256QAM	1/49	18.65	2.6	21.25
	1 750	QPSK	1/0	22.87	2.6	25.47
		16QAM	1/25	22.25	2.6	24.85
		64QAM	1/25	21.15	2.6	23.75
		256QAM	1/49	18.68	2.6	21.28
5	1 712.5	QPSK	1/12	22.90	2.6	25.50
		16QAM	1/12	22.25	2.6	24.85
		64QAM	1/12	21.14	2.6	23.74
		256QAM	1/12	18.69	2.6	21.29
	1 732.5	QPSK	1/12	22.91	2.6	25.51
		16QAM	1/0	22.34	2.6	24.94
		64QAM	1/12	21.18	2.6	23.78
		256QAM	1/12	18.62	2.6	21.22
	1 752.5	QPSK	1/12	22.88	2.6	25.48
		16QAM	1/12	22.29	2.6	24.89
		64QAM	1/0	21.32	2.6	23.92
		256QAM	1/0	18.66	2.6	21.26

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
3	1 711.5	QPSK	1/7	22.80	2.6	25.40
		16QAM	1/7	22.20	2.6	24.80
		64QAM	1/7	21.08	2.6	23.68
		256QAM	1/7	18.60	2.6	21.20
	1 732.5	QPSK	1/7	22.91	2.6	25.51
		16QAM	1/7	22.30	2.6	24.90
		64QAM	1/0	21.15	2.6	23.75
		256QAM	1/7	18.68	2.6	21.28
	1 753.5	QPSK	1/7	22.88	2.6	25.48
		16QAM	1/7	22.28	2.6	24.88
		64QAM	1/7	21.17	2.6	23.77
		256QAM	1/14	18.68	2.6	21.28
1.4	1 710.7	QPSK	1/2	22.82	2.6	25.42
		16QAM	1/2	22.21	2.6	24.81
		64QAM	1/2	21.08	2.6	23.68
		256QAM	1/2	18.60	2.6	21.20
	1 732.5	QPSK	1/2	22.83	2.6	25.43
		16QAM	1/2	22.36	2.6	24.96
		64QAM	1/2	21.14	2.6	23.74
		256QAM	1/5	18.59	2.6	21.19
	1 754.3	QPSK	1/2	22.87	2.6	25.47
		16QAM	1/5	22.28	2.6	24.88
		64QAM	1/0	21.15	2.6	23.75
		256QAM	1/0	18.66	2.6	21.26

7.1.9. LTE Band 66

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	1 720	QPSK	1/0	22.87	2.6	25.47
		16QAM	1/0	22.23	2.6	24.83
		64QAM	1/99	21.14	2.6	23.74
		256QAM	1/99	18.18	2.6	20.78
	1 745	QPSK	1/0	22.81	2.6	25.41
		16QAM	1/50	22.38	2.6	24.98
		64QAM	1/50	21.07	2.6	23.67
		256QAM	1/0	18.20	2.6	20.80
	1 770	QPSK	1/50	22.77	2.6	25.37
		16QAM	1/50	22.37	2.6	24.97
		64QAM	1/50	21.14	2.6	23.74
		256QAM	1/0	18.06	2.6	20.66
15	1 717.5	QPSK	1/74	22.76	2.6	25.36
		16QAM	1/36	22.19	2.6	24.79
		64QAM	1/74	21.15	2.6	23.75
		256QAM	1/74	18.18	2.6	20.78
	1 745	QPSK	1/74	22.76	2.6	25.36
		16QAM	1/0	22.22	2.6	24.82
		64QAM	1/74	21.10	2.6	23.70
		256QAM	1/74	18.09	2.6	20.69
	1 772.5	QPSK	1/0	22.68	2.6	25.28
		16QAM	1/0	22.18	2.6	24.78
		64QAM	1/0	21.09	2.6	23.69
		256QAM	1/36	18.17	2.6	20.77
10	1 715	QPSK	1/25	22.94	2.6	25.54
		16QAM	1/25	22.41	2.6	25.01
		64QAM	1/25	21.32	2.6	23.92
		256QAM	1/0	18.17	2.6	20.77
	1 745	QPSK	1/25	22.89	2.6	25.49
		16QAM	1/25	22.35	2.6	24.95
		64QAM	1/25	21.27	2.6	23.87
		256QAM	1/0	18.20	2.6	20.80
	1 775	QPSK	1/25	22.84	2.6	25.44
		16QAM	1/49	22.31	2.6	24.91
		64QAM	1/25	21.33	2.6	23.93
		256QAM	1/25	18.15	2.6	20.75
5	1 712.5	QPSK	1/12	22.92	2.6	25.52
		16QAM	1/12	22.40	2.6	25.00
		64QAM	1/12	21.44	2.6	24.04
		256QAM	1/12	18.18	2.6	20.78
	1 745	QPSK	1/12	22.90	2.6	25.50
		16QAM	1/12	22.47	2.6	25.07
		64QAM	1/12	21.26	2.6	23.86
		256QAM	1/24	18.07	2.6	20.67
	1 777.5	QPSK	1/12	22.85	2.6	25.45
		16QAM	1/12	22.34	2.6	24.94
		64QAM	1/12	21.35	2.6	23.95
		256QAM	1/24	18.20	2.6	20.80

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
3	1 711.5	QPSK	1/7	22.89	2.6	25.49
		16QAM	1/7	22.44	2.6	25.04
		64QAM	1/7	21.35	2.6	23.95
		256QAM	1/0	18.16	2.6	20.76
	1 745	QPSK	1/7	22.87	2.6	25.47
		16QAM	1/7	22.40	2.6	25.00
		64QAM	1/7	21.26	2.6	23.86
		256QAM	1/14	18.07	2.6	20.67
	1 778.5	QPSK	1/7	22.81	2.6	25.41
		16QAM	1/7	22.34	2.6	24.94
		64QAM	1/7	21.18	2.6	23.78
		256QAM	1/7	18.20	2.6	20.80
1.4	1 710.7	QPSK	1/2	22.88	2.6	25.48
		16QAM	1/2	22.34	2.6	24.94
		64QAM	1/2	21.25	2.6	23.85
		256QAM	1/0	18.20	2.6	20.80
	1 745	QPSK	1/2	22.85	2.6	25.45
		16QAM	1/5	22.35	2.6	24.95
		64QAM	1/2	21.18	2.6	23.78
		256QAM	1/0	18.17	2.6	20.77
	1 779.3	QPSK	1/2	22.76	2.6	25.36
		16QAM	1/2	22.29	2.6	24.89
		64QAM	1/2	21.17	2.6	23.77
		256QAM	1/0	18.12	2.6	20.72

LTE ULCA(66B)

Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	10	1 715	QPSK	1/49	23.21	2.6	25.81
SCC	10	1 724.9	QPSK	1/0			
PCC	10	1 750.1	16QAM	1/49	22.30	2.6	24.90
SCC	10	1 760	16QAM	1/0			
PCC	5	1 750.3	QPSK	1/24	24.04	2.6	26.64
SCC	10	1 757.5	QPSK	1/0			
PCC	5	1 748.1	16QAM	1/24	24.71	2.6	27.31
SCC	15	1 757.4	16QAM	1/0			

LTE ULCA(66C)

Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	1 745.1	QPSK	1/99	22.95	2.6	25.55
SCC	20	1 764.9	QPSK	1/0			
PCC	20	1 745.1	16QAM	1/99	22.30	2.6	24.90
SCC	20	1 764.9	16QAM	1/0			
PCC	15	1 745.3	QPSK	1/74	22.94	2.6	25.54
SCC	20	1 762.4	QPSK	1/0			
PCC	15	1 745.3	16QAM	1/74	22.27	2.6	24.87
SCC	20	1 762.4	16QAM	1/0			

7.1.10. LTE Band 2

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	1 860	QPSK	1/50	22.86	4.4	27.26
		16QAM	1/50	22.40	4.4	26.80
		64QAM	1/50	21.05	4.4	25.45
		256QAM	1/99	18.58	4.4	22.98
	1 880	QPSK	1/50	22.93	4.4	27.33
		16QAM	1/50	22.27	4.4	26.67
		64QAM	1/0	21.10	4.4	25.50
		256QAM	1/0	18.61	4.4	23.01
	1 900	QPSK	1/50	22.87	4.4	27.27
		16QAM	1/0	22.21	4.4	26.61
		64QAM	1/50	20.95	4.4	25.35
		256QAM	1/50	18.44	4.4	22.84
15	1 857.5	QPSK	1/36	22.89	4.4	27.29
		16QAM	1/0	22.25	4.4	26.65
		64QAM	1/0	21.04	4.4	25.44
		256QAM	1/36	18.56	4.4	22.96
	1 880	QPSK	1/36	22.90	4.4	27.30
		16QAM	1/36	22.26	4.4	26.66
		64QAM	1/36	21.01	4.4	25.41
		256QAM	1/36	18.63	4.4	23.03
	1 902.5	QPSK	1/74	22.74	4.4	27.14
		16QAM	1/0	22.05	4.4	26.45
		64QAM	1/0	20.81	4.4	25.21
		256QAM	1/36	18.49	4.4	22.89
10	1 855	QPSK	1/25	23.01	4.4	27.41
		16QAM	1/0	22.37	4.4	26.77
		64QAM	1/25	21.08	4.4	25.48
		256QAM	1/25	18.59	4.4	22.99
	1 880	QPSK	1/25	22.96	4.4	27.36
		16QAM	1/25	22.31	4.4	26.71
		64QAM	1/0	21.15	4.4	25.55
		256QAM	1/25	18.55	4.4	22.95
	1 905	QPSK	1/0	22.83	4.4	27.23
		16QAM	1/49	22.18	4.4	26.58
		64QAM	1/25	20.96	4.4	25.36
		256QAM	1/25	18.59	4.4	22.99
5	1 852.5	QPSK	1/12	22.91	4.4	27.31
		16QAM	1/0	22.30	4.4	26.70
		64QAM	1/12	20.96	4.4	25.36
		256QAM	1/12	18.58	4.4	22.98
	1 880	QPSK	1/12	22.94	4.4	27.34
		16QAM	1/12	22.39	4.4	26.79
		64QAM	1/12	21.07	4.4	25.47
		256QAM	1/0	18.58	4.4	22.98
	1 907.5	QPSK	1/12	22.82	4.4	27.22
		16QAM	1/12	22.17	4.4	26.57
		64QAM	1/24	20.87	4.4	25.27
		256QAM	1/0	18.58	4.4	22.98

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
3	1 851.5	QPSK	1/0	22.91	4.4	27.31
		16QAM	1/0	22.30	4.4	26.70
		64QAM	1/7	20.93	4.4	25.33
		256QAM	1/14	18.58	4.4	22.98
	1 880	QPSK	1/7	22.92	4.4	27.32
		16QAM	1/7	22.35	4.4	26.75
		64QAM	1/0	21.02	4.4	25.42
		256QAM	1/0	18.56	4.4	22.96
	1 908.5	QPSK	1/0	22.74	4.4	27.14
		16QAM	1/7	22.12	4.4	26.52
		64QAM	1/0	20.86	4.4	25.26
		256QAM	1/14	18.59	4.4	22.99
1.4	1 850.7	QPSK	1/0	22.90	4.4	27.30
		16QAM	1/0	22.27	4.4	26.67
		64QAM	1/2	21.05	4.4	25.45
		256QAM	1/0	18.57	4.4	22.97
	1 880	QPSK	1/0	22.91	4.4	27.31
		16QAM	1/0	22.32	4.4	26.72
		64QAM	1/0	21.07	4.4	25.47
		256QAM	1/0	18.50	4.4	22.90
	1 909.3	QPSK	1/0	22.73	4.4	27.13
		16QAM	1/2	22.21	4.4	26.61
		64QAM	1/5	20.86	4.4	25.26
		256QAM	1/2	18.57	4.4	22.97

LTE ULCA(2C)

Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	1 860	QPSK	1/99	23.64	4.4	28.04
SCC	20	1 879.8	QPSK	1/0			
PCC	20	1 880.2	16QAM	1/99	23.14	4.4	27.54
SCC	20	1 900	16QAM	1/0			
PCC	15	1 882.9	QPSK	1/74	23.79	4.4	28.19
SCC	20	1 900	QPSK	1/0			
PCC	15	1 882.9	16QAM	1/74	22.88	4.4	27.28
SCC	20	1 900	16QAM	1/0			

7.1.11. LTE Band 25

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	1860	QPSK	1/50	22.79	4.4	27.19
		16QAM	1/0	22.14	4.4	26.54
		64QAM	1/0	20.98	4.4	25.38
		256QAM	1/99	18.67	4.4	23.07
	1882.5	QPSK	1/50	22.83	4.4	27.23
		16QAM	1/99	22.09	4.4	26.49
		64QAM	1/50	21.01	4.4	25.41
		256QAM	1/99	18.67	4.4	23.07
	1905	QPSK	1/99	22.70	4.4	27.10
		16QAM	1/0	22.03	4.4	26.43
		64QAM	1/50	20.87	4.4	25.27
		256QAM	1/50	18.68	4.4	23.08
15	1857.5	QPSK	1/36	22.79	4.4	27.19
		16QAM	1/0	22.12	4.4	26.52
		64QAM	1/0	21.06	4.4	25.46
		256QAM	1/36	18.70	4.4	23.10
	1882.5	QPSK	1/36	22.80	4.4	27.20
		16QAM	1/0	22.11	4.4	26.51
		64QAM	1/36	21.11	4.4	25.51
		256QAM	1/74	18.61	4.4	23.01
	1907.5	QPSK	1/36	22.65	4.4	27.05
		16QAM	1/0	21.98	4.4	26.38
		64QAM	1/36	20.92	4.4	25.32
		256QAM	1/74	18.62	4.4	23.02
10	1855	QPSK	1/0	22.81	4.4	27.21
		16QAM	1/0	22.21	4.4	26.61
		64QAM	1/25	21.09	4.4	25.49
		256QAM	1/0	18.66	4.4	23.06
	1882.5	QPSK	1/25	22.87	4.4	27.27
		16QAM	1/49	22.24	4.4	26.64
		64QAM	1/25	21.13	4.4	25.53
		256QAM	1/49	18.65	4.4	23.05
	1910	QPSK	1/25	22.73	4.4	27.13
		16QAM	1/0	22.12	4.4	26.52
		64QAM	1/49	20.96	4.4	25.36
		256QAM	1/0	18.64	4.4	23.04
5	1852.5	QPSK	1/0	22.87	4.4	27.27
		16QAM	1/12	22.31	4.4	26.71
		64QAM	1/0	21.09	4.4	25.49
		256QAM	1/12	18.70	4.4	23.10
	1882.5	QPSK	1/12	22.84	4.4	27.24
		16QAM	1/0	22.33	4.4	26.73
		64QAM	1/12	21.15	4.4	25.55
		256QAM	1/12	18.70	4.4	23.10
	1912.5	QPSK	1/12	22.67	4.4	27.07
		16QAM	1/0	22.10	4.4	26.50
		64QAM	1/12	20.97	4.4	25.37
		256QAM	1/12	18.70	4.4	23.10

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
3	1851.5	QPSK	1/7	22.78	4.4	27.18
		16QAM	1/7	22.18	4.4	26.58
		64QAM	1/7	21.10	4.4	25.50
		256QAM	1/7	18.64	4.4	23.04
	1882.5	QPSK	1/7	22.84	4.4	27.24
		16QAM	1/7	22.20	4.4	26.60
		64QAM	1/7	21.19	4.4	25.59
		256QAM	1/0	18.69	4.4	23.09
	1913.5	QPSK	1/7	22.64	4.4	27.04
		16QAM	1/7	22.08	4.4	26.48
		64QAM	1/14	21.00	4.4	25.40
		256QAM	1/0	18.70	4.4	23.10
1.4	1850.7	QPSK	1/2	22.77	4.4	27.17
		16QAM	1/2	22.19	4.4	26.59
		64QAM	1/5	21.09	4.4	25.49
		256QAM	1/0	18.61	4.4	23.01
	1882.5	QPSK	1/2	22.84	4.4	27.24
		16QAM	1/2	22.23	4.4	26.63
		64QAM	1/0	21.10	4.4	25.50
		256QAM	1/5	18.62	4.4	23.02
	1914.3	QPSK	1/2	22.64	4.4	27.04
		16QAM	1/0	22.08	4.4	26.48
		64QAM	1/0	20.96	4.4	25.36
		256QAM	1/2	18.62	4.4	23.02

7.1.12. LTE Band 30

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm/5MHz)	EUT Antenna Gain(dBi)	EIRP (dBm/5MHz)
10	2 310	QPSK	1/49	15.42	2.4	17.82
		16QAM	1/49	15.14	2.4	17.54
		64QAM	1/25	13.97	2.4	16.37
		256QAM	1/25	10.98	2.4	13.38
5	2 307.5	QPSK	1/24	15.33	2.4	17.73
		16QAM	1/0	14.97	2.4	17.37
		64QAM	1/0	13.94	2.4	16.34
		256QAM	1/0	10.96	2.4	13.36
	2 310	QPSK	1/0	15.41	2.4	17.81
		16QAM	1/12	15.07	2.4	17.47
		64QAM	1/12	13.98	2.4	16.38
		256QAM	1/0	10.93	2.4	13.33
	2 312.5	QPSK	1/24	15.40	2.4	17.80
		16QAM	1/0	14.97	2.4	17.37
		64QAM	1/0	13.88	2.4	16.28
		256QAM	1/12	10.97	2.4	13.37

7.1.13. LTE Band 41

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	2 506	QPSK	1/50	24.26	3.7	27.96
		16QAM	1/50	23.69	3.7	27.39
		64QAM	1/50	22.69	3.7	26.39
		256QAM	1/50	20.00	3.7	23.70
	2 593	QPSK	1/99	24.55	3.7	28.25
		16QAM	1/50	23.95	3.7	27.65
		64QAM	1/99	22.79	3.7	26.49
		256QAM	1/99	20.01	3.7	23.71
	2 680	QPSK	1/0	24.33	3.7	28.03
		16QAM	1/50	23.82	3.7	27.52
		64QAM	1/0	22.80	3.7	26.50
		256QAM	1/0	19.96	3.7	23.66
15	2 503.5	QPSK	1/36	24.25	3.7	27.95
		16QAM	1/36	23.76	3.7	27.46
		64QAM	1/74	22.63	3.7	26.33
		256QAM	1/36	19.93	3.7	23.63
	2 593	QPSK	1/74	24.50	3.7	28.20
		16QAM	1/74	23.81	3.7	27.51
		64QAM	1/74	22.82	3.7	26.52
		256QAM	1/74	20.05	3.7	23.75
	2 682.5	QPSK	1/74	24.34	3.7	28.04
		16QAM	1/74	23.78	3.7	27.48
		64QAM	1/74	22.75	3.7	26.45
		256QAM	1/74	20.00	3.7	23.70
10	2 501	QPSK	1/25	24.53	3.7	28.23
		16QAM	1/49	23.96	3.7	27.66
		64QAM	1/25	22.93	3.7	26.63
		256QAM	1/25	20.03	3.7	23.73
	2 593	QPSK	1/25	24.68	3.7	28.38
		16QAM	1/49	24.09	3.7	27.79
		64QAM	1/25	22.87	3.7	26.57
		256QAM	1/49	20.03	3.7	23.73
	2 685	QPSK	1/49	24.60	3.7	28.30
		16QAM	1/25	23.95	3.7	27.65
		64QAM	1/25	22.88	3.7	26.58
		256QAM	1/49	20.06	3.7	23.76
5	2 498.5	QPSK	1/12	24.62	3.7	28.32
		16QAM	1/12	24.01	3.7	27.71
		64QAM	1/12	22.89	3.7	26.59
		256QAM	1/24	20.06	3.7	23.76
	2 593	QPSK	1/12	24.69	3.7	28.39
		16QAM	1/12	24.10	3.7	27.80
		64QAM	1/12	22.92	3.7	26.62
		256QAM	1/0	20.05	3.7	23.75
	2 687.5	QPSK	1/12	24.69	3.7	28.39
		16QAM	1/12	24.03	3.7	27.73
		64QAM	1/12	22.87	3.7	26.57
		256QAM	1/12	20.00	3.7	23.70

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Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	2 506	QPSK	1/99	23.40	3.7	27.10
SCC	20	2 525.8	QPSK	1/0			
PCC	20	2 583.1	16QAM	1/99	22.71	3.7	26.41
SCC	20	2 602.9	16QAM	1/0			
PCC	20	2 506	QPSK	1/99	22.63	3.7	26.33
SCC	5	2 517.7	QPSK	1/0			
PCC	10	2 501.5	16QAM	1/49	24.13	3.7	27.83
SCC	20	2 515.9	16QAM	1/0			

7.1.14. LTE Band 7

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	2 510	QPSK	1/50	22.25	3.7	25.95
		16QAM	1/50	21.63	3.7	25.33
		64QAM	1/50	20.36	3.7	24.06
		256QAM	1/0	17.57	3.7	21.27
	2 535	QPSK	1/99	22.21	3.7	25.91
		16QAM	1/50	21.58	3.7	25.28
		64QAM	1/50	20.46	3.7	24.16
		256QAM	1/0	17.57	3.7	21.27
	2 560	QPSK	1/99	22.32	3.7	26.02
		16QAM	1/50	21.75	3.7	25.45
		64QAM	1/99	20.45	3.7	24.15
		256QAM	1/99	17.58	3.7	21.28
15	2 507.5	QPSK	1/74	22.25	3.7	25.95
		16QAM	1/36	21.48	3.7	25.18
		64QAM	1/74	20.47	3.7	24.17
		256QAM	1/74	17.59	3.7	21.29
	2 535	QPSK	1/36	22.27	3.7	25.97
		16QAM	1/74	21.50	3.7	25.20
		64QAM	1/36	20.46	3.7	24.16
		256QAM	1/74	17.59	3.7	21.29
	2 565.5	QPSK	1/36	22.26	3.7	25.96
		16QAM	1/36	21.57	3.7	25.27
		64QAM	1/36	20.49	3.7	24.19
		256QAM	1/0	17.59	3.7	21.29
10	2 505	QPSK	1/49	22.37	3.7	26.07
		16QAM	1/49	21.86	3.7	25.56
		64QAM	1/49	20.57	3.7	24.27
		256QAM	1/49	17.56	3.7	21.26
	2 535	QPSK	1/25	22.39	3.7	26.09
		16QAM	1/49	21.76	3.7	25.46
		64QAM	1/49	20.69	3.7	24.39
		256QAM	1/49	17.59	3.7	21.29
	2 565	QPSK	1/25	22.36	3.7	26.06
		16QAM	1/49	21.80	3.7	25.50
		64QAM	1/49	20.68	3.7	24.38
		256QAM	1/0	17.58	3.7	21.28
5	2 502.5	QPSK	1/12	22.27	3.7	25.97
		16QAM	1/12	21.72	3.7	25.42
		64QAM	1/12	20.60	3.7	24.30
		256QAM	1/24	17.58	3.7	21.28
	2 535	QPSK	1/12	22.35	3.7	26.05
		16QAM	1/12	21.84	3.7	25.54
		64QAM	1/12	20.70	3.7	24.40
		256QAM	1/12	17.57	3.7	21.27
	2 567.5	QPSK	1/12	22.39	3.7	26.09
		16QAM	1/12	21.85	3.7	25.55
		64QAM	1/12	20.86	3.7	24.56
		256QAM	1/24	17.55	3.7	21.25

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Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	2 540.2	QPSK	1/99	23.52	3.7	27.22
SCC	20	2 560	QPSK	1/0			
PCC	20	2 540.2	16QAM	1/99	22.95	3.7	26.65
SCC	20	2 560	16QAM	1/0			
PCC	10	2 525.6	QPSK	1/49	24.93	3.7	28.63
SCC	20	2 540	QPSK	1/0			
PCC	15	2 542.9	16QAM	1/74	22.60	3.7	26.30
SCC	20	2 560	16QAM	1/0			

7.1.15. LTE Band 38

Internal Chip Antenna 1

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	Worst Antenna Gain(dBi)	EIRP (dBm)
20	2 580	QPSK	1/50	24.33	3.1	27.43
		16QAM	1/50	23.86	3.1	26.96
		64QAM	1/50	22.62	3.1	25.72
		256QAM	1/50	20.15	3.1	23.25
	2 595	QPSK	1/99	24.39	3.1	27.49
		16QAM	1/50	23.88	3.1	26.98
		64QAM	1/99	22.67	3.1	25.77
		256QAM	1/99	20.04	3.1	23.14
	2 610	QPSK	1/99	24.45	3.1	27.55
		16QAM	1/50	23.84	3.1	26.94
		64QAM	1/50	22.79	3.1	25.89
		256QAM	1/99	20.13	3.1	23.23
15	2 577.5	QPSK	1/74	24.28	3.1	27.38
		16QAM	1/36	23.65	3.1	26.75
		64QAM	1/74	22.59	3.1	25.69
		256QAM	1/74	20.02	3.1	23.12
	2 595	QPSK	1/36	24.36	3.1	27.46
		16QAM	1/36	23.75	3.1	26.85
		64QAM	1/36	22.67	3.1	25.77
		256QAM	1/36	20.14	3.1	23.24
	2 612.5	QPSK	1/36	24.49	3.1	27.59
		16QAM	1/36	23.81	3.1	26.91
		64QAM	1/74	22.84	3.1	25.94
		256QAM	1/36	20.14	3.1	23.24
10	2 575	QPSK	1/25	24.48	3.1	27.58
		16QAM	1/25	23.96	3.1	27.06
		64QAM	1/25	22.75	3.1	25.85
		256QAM	1/25	20.15	3.1	23.25
	2 595	QPSK	1/25	24.57	3.1	27.67
		16QAM	1/49	24.01	3.1	27.11
		64QAM	1/25	22.88	3.1	25.98
		256QAM	1/0	20.04	3.1	23.14
	2 615	QPSK	1/25	24.70	3.1	27.80
		16QAM	1/49	24.11	3.1	27.21
		64QAM	1/49	23.04	3.1	26.14
		256QAM	1/0	20.15	3.1	23.25
5	2 572.5	QPSK	1/12	24.44	3.1	27.54
		16QAM	1/12	23.95	3.1	27.05
		64QAM	1/12	22.80	3.1	25.90
		256QAM	1/24	20.07	3.1	23.17
	2 595	QPSK	1/24	24.56	3.1	27.66
		16QAM	1/12	24.07	3.1	27.17
		64QAM	1/12	22.92	3.1	26.02
		256QAM	1/0	20.15	3.1	23.25
	2 617.5	QPSK	1/12	24.72	3.1	27.82
		16QAM	1/12	24.22	3.1	27.32
		64QAM	1/12	23.06	3.1	26.16
		256QAM	1/24	20.10	3.1	23.20

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Internal Chip Antenna 1

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	2 590.2	QPSK	1/99	23.58	3.1	26.68
SCC	20	2 610	QPSK	1/0			
PCC	20	2 585.1	16QAM	1/99	22.72	3.1	25.82
SCC	20	2 604.9	16QAM	1/0			

7.1.16. LTE Band 42

External Antenna 2

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	3 460	QPSK	1/0	24.71	3.2	27.91
		16QAM	1/0	23.97	3.2	27.17
		64QAM	1/0	22.91	3.2	26.11
		256QAM	1/0	20.15	3.2	23.35
	3 500	QPSK	1/0	24.26	3.2	27.46
		16QAM	1/0	23.53	3.2	26.73
		64QAM	1/0	22.52	3.2	25.72
		256QAM	1/99	20.12	3.2	23.32
	3 540	QPSK	1/0	24.46	3.2	27.66
		16QAM	1/0	23.74	3.2	26.94
		64QAM	1/50	22.66	3.2	25.86
		256QAM	1/99	20.10	3.2	23.30
15	3 457.5	QPSK	1/0	24.58	3.2	27.78
		16QAM	1/0	23.95	3.2	27.15
		64QAM	1/36	22.96	3.2	26.16
		256QAM	1/36	20.14	3.2	23.34
	3 500	QPSK	1/0	24.17	3.2	27.37
		16QAM	1/0	23.52	3.2	26.72
		64QAM	1/0	22.42	3.2	25.62
		256QAM	1/74	20.04	3.2	23.24
	3 542.5	QPSK	1/0	24.38	3.2	27.58
		16QAM	1/0	23.78	3.2	26.98
		64QAM	1/0	22.65	3.2	25.85
		256QAM	1/36	20.10	3.2	23.30
10	3 455	QPSK	1/0	24.88	3.2	28.08
		16QAM	1/25	24.18	3.2	27.38
		64QAM	1/25	23.09	3.2	26.29
		256QAM	1/25	20.09	3.2	23.29
	3 500	QPSK	1/0	24.41	3.2	27.61
		16QAM	1/0	23.67	3.2	26.87
		64QAM	1/49	22.59	3.2	25.79
		256QAM	1/25	20.13	3.2	23.33
	3 545	QPSK	1/0	24.58	3.2	27.78
		16QAM	1/0	23.94	3.2	27.14
		64QAM	1/25	22.83	3.2	26.03
		256QAM	1/0	20.14	3.2	23.34
5	3 452.5	QPSK	1/12	24.86	3.2	28.06
		16QAM	1/12	24.20	3.2	27.40
		64QAM	1/12	23.06	3.2	26.26
		256QAM	1/0	20.03	3.2	23.23
	3 500	QPSK	1/12	24.40	3.2	27.60
		16QAM	1/12	23.77	3.2	26.97
		64QAM	1/12	22.60	3.2	25.80
		256QAM	1/12	20.05	3.2	23.25
	3 547.5	QPSK	1/12	24.66	3.2	27.86
		16QAM	1/12	23.93	3.2	27.13
		64QAM	1/0	22.73	3.2	25.93
		256QAM	1/0	19.99	3.2	23.19

LTE ULCA(42C)

External Antenna 2

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	3 460	QPSK	1/99	23.71	3.2	26.91
SCC	20	3 479.8	QPSK	1/0			
PCC	20	3 460	16QAM	1/99	22.66	3.2	25.86
SCC	20	3 479.8	16QAM	1/0			
PCC	20	3 460	16QAM	1/99	22.96	3.2	26.16
SCC	10	3 474.4	16QAM	1/0			

7.1.17. LTE Band 43

External Antenna 2

Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power (dBm)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	3 710	QPSK	1/0	24.34	3.9	28.24
		16QAM	1/0	23.75	3.9	27.65
		64QAM	1/0	22.73	3.9	26.63
		256QAM	1/99	20.44	3.9	24.34
	3 750	QPSK	1/0	24.48	3.9	28.38
		16QAM	1/50	23.84	3.9	27.74
		64QAM	1/50	22.82	3.9	26.72
		256QAM	1/50	20.36	3.9	24.26
	3 790	QPSK	1/0	24.89	3.9	28.79
		16QAM	1/50	24.32	3.9	28.22
		64QAM	1/0	23.20	3.9	27.10
		256QAM	1/0	20.44	3.9	24.34
15	3 707.5	QPSK	1/0	24.28	3.9	28.18
		16QAM	1/0	23.63	3.9	27.53
		64QAM	1/0	22.58	3.9	26.48
		256QAM	1/36	20.48	3.9	24.38
	3 750	QPSK	1/0	24.47	3.9	28.37
		16QAM	1/0	23.93	3.9	27.83
		64QAM	1/36	22.76	3.9	26.66
		256QAM	1/0	20.37	3.9	24.27
	3 792.5	QPSK	1/0	24.83	3.9	28.73
		16QAM	1/36	24.18	3.9	28.08
		64QAM	1/0	23.12	3.9	27.02
		256QAM	1/0	20.47	3.9	24.37
10	3 705	QPSK	1/0	24.56	3.9	28.46
		16QAM	1/0	23.90	3.9	27.80
		64QAM	1/0	22.80	3.9	26.70
		256QAM	1/25	20.48	3.9	24.38
	3 750	QPSK	1/0	24.74	3.9	28.64
		16QAM	1/0	24.05	3.9	27.95
		64QAM	1/25	22.97	3.9	26.87
		256QAM	1/0	20.41	3.9	24.31
	3 795	QPSK	1/0	25.08	3.9	28.98
		16QAM	1/0	24.38	3.9	28.28
		64QAM	1/25	23.31	3.9	27.21
		256QAM	1/49	20.41	3.9	24.31
5	3 702.5	QPSK	1/12	24.65	3.9	28.55
		16QAM	1/12	23.87	3.9	27.77
		64QAM	1/0	22.77	3.9	26.67
		256QAM	1/0	20.48	3.9	24.38
	3 750	QPSK	1/12	24.76	3.9	28.66
		16QAM	1/12	24.18	3.9	28.08
		64QAM	1/12	22.90	3.9	26.80
		256QAM	1/24	20.49	3.9	24.39
	3 797.5	QPSK	1/12	25.15	3.9	29.05
		16QAM	1/12	24.46	3.9	28.36
		64QAM	1/12	23.25	3.9	27.15
		256QAM	1/12	20.50	3.9	24.40

LTE ULCA(43C)

External Antenna 2

PCC/ SCC	Channel Bandwidth (MHz)	Tx Freq. (MHz)	Test Mode	RB Size/ Offset	Conducted Output Power	EUT Antenna Gain(dBi)	EIRP (dBm)
PCC	20	3 710	QPSK	1/99	23.58	3.9	27.48
SCC	20	3 729.8	QPSK	1/0			
PCC	20	3 740.1	16QAM	1/99	23.01	3.9	26.91
SCC	20	3 759.9	16QAM	1/0			
PCC	10	3 705.5	QPSK	1/49	25.24	3.9	29.14
SCC	20	3 719.9	QPSK	1/0			
PCC	5	3 703.3	16QAM	1/24	25.35	3.9	29.25
SCC	20	3 715	16QAM	1/0			

7.2. UNDESIRABLE EMISSIONS (Radiated)

- Test Notes

1) The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions.

2) For Band below 1GHz:
Result(dBm) = Level at Substitute antenna terminal(dBm) + Substitute Antenna Gain (dBd)
For Band below 1GHz:
Result(dBm) = Level at Substitute antenna terminal(dBm) + Substitute Antenna Gain (dBi)

3) Limit
Bands 2/4/5/12/13/14/17/25/26/66/71/42/43 = -13dBm
Band 7/38/41 = -25dBm
Band 30 = -40dBm
Limit for 1 559 MHz ~ 1 610 MHz in Band 13/14 = −40dBm/MHz (equivalent isotropically radiated power for wideband signals)

7.2.1. LTE Band 71

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	673	1/50	QPSK	1 346.17	H	-57.26	2.34	-54.92	-13.00	41.92
				2 019.19	V	-58.72	2.96	-55.76	-13.00	42.76
				2 691.18	V	-66.20	4.20	-62.00	-13.00	49.00
				3 365.44	H	-67.55	5.86	-61.69	-13.00	48.69
	680.5	1/99		1 378.88	H	-63.37	2.78	-60.59	-13.00	47.59
				2 068.26	V	-56.65	3.16	-53.49	-13.00	40.49
				2 757.95	V	-66.90	4.38	-62.52	-13.00	49.52
				3 446.61	H	-67.27	6.11	-61.16	-13.00	48.16
	688	1/50		1 376.13	H	-63.84	2.74	-61.10	-13.00	48.10
				2 064.34	V	-57.11	3.15	-53.96	-13.00	40.96
				2 752.23	V	-66.68	4.36	-62.32	-13.00	49.32
				3 440.12	H	-67.02	6.08	-60.94	-13.00	47.94

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	673	1/50	QPSK	1 346.14	H	-66.61	2.34	-64.27	-13.00	51.27
				2 019.21	V	-60.59	2.96	-57.63	-13.00	44.63
				2 692.82	V	-66.16	4.21	-61.95	-13.00	48.95
				3 365.42	H	-67.61	5.86	-61.75	-13.00	48.75

7.2.2. LTE Band 12

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	704	1/0	QPSK	1 399.18	H	-50.95	3.05	-47.90	-13.00	34.90
				2 098.79	V	-57.62	3.25	-54.37	-13.00	41.37
				2 798.30	V	-60.25	4.52	-55.73	-13.00	42.73
				3 497.60	H	-67.51	6.32	-61.19	-13.00	48.19
	711	1/49		1 430.80	H	-56.99	3.29	-53.70	-13.00	40.70
				2 146.25	V	-59.54	3.15	-56.39	-13.00	43.39
				2 861.65	V	-61.38	4.77	-56.61	-13.00	43.61
				3 577.04	H	-63.27	6.25	-57.02	-13.00	44.02
5	701.5	1/24		1 407.45	H	-52.80	3.12	-49.68	-13.00	36.68
				2 111.14	V	-59.11	3.23	-55.88	-13.00	42.88
				2 814.67	V	-60.28	4.58	-55.70	-13.00	42.70
				3 495.86	H	-67.63	6.31	-61.32	-13.00	48.32
	707.5	1/24		1 419.38	H	-56.54	3.20	-53.34	-40.00	13.34
				2 129.00	V	-59.46	3.19	-56.27	-40.00	16.27
				2 838.67	V	-61.16	4.67	-56.49	-40.00	16.49
				3 526.34	H	-67.42	6.31	-61.11	-40.00	21.11
	713.5	1/0		1 422.66	H	-55.84	3.23	-52.61	-13.00	39.61
				2 133.99	V	-59.19	3.18	-56.01	-13.00	43.01
				2 845.39	V	-60.46	4.69	-55.77	-13.00	42.77
				3 556.82	H	-62.47	6.29	-56.18	-13.00	43.18

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	704	1/0	QPSK	1 399.11	H	-56.50	3.05	-53.45	-13.00	40.45
				2 098.60	V	-61.79	3.25	-58.54	-13.00	45.54
				2 798.55	V	-66.42	4.52	-61.90	-13.00	48.90
				3 497.30	H	-67.50	6.32	-61.18	-13.00	48.18

7.2.3. LTE Band 17

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	709	1/0	QPSK	1 409.19	H	-51.73	3.13	-48.60	-13.00	35.60
				2 113.80	V	-58.16	3.22	-54.94	-13.00	41.94
				2 817.66	V	-66.34	4.59	-61.75	-13.00	48.75
				3 522.72	H	-67.28	6.32	-60.96	-13.00	47.96
	710	1/49		1 428.86	H	-48.61	3.27	-45.34	-13.00	32.34
				2 143.24	V	-58.90	3.15	-55.75	-13.00	42.75
				2 858.17	V	-67.07	4.75	-62.32	-13.00	49.32
				3 571.97	H	-67.51	6.26	-61.25	-13.00	48.25
	711	1/25		1 422.16	H	-45.43	3.22	-42.21	-13.00	29.21
				2 133.26	V	-58.00	3.18	-54.82	-13.00	41.82
				2 843.75	V	-66.79	4.69	-62.10	-13.00	49.10
				3 554.82	H	-67.61	6.29	-61.32	-13.00	48.32

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
20	711	1/25	QPSK	1 422.16	H	-54.44	3.22	-51.22	-13.00	38.22
				2 133.40	V	-62.96	3.18	-59.78	-13.00	46.78
				2 844.31	V	-66.43	4.69	-61.74	-13.00	48.74
				3 554.25	H	-67.49	6.29	-61.20	-13.00	48.20

7.2.4. LTE Band 13

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	782	1/25	QPSK	2 346.39	H	-64.83	3.80	-61.03	-13.00	48.03
				3 128.69	H	-68.09	5.27	-62.82	-13.00	49.82
				3 909.90	H	-67.33	6.93	-60.40	-13.00	47.40
5	779.5	1/0		2 332.06	H	-62.20	3.76	-58.44	-13.00	45.44
				3 108.17	H	-67.78	5.21	-62.57	-13.00	49.57
				3 888.16	H	-67.07	6.84	-60.23	-13.00	47.23
	784.5	1/12		2 353.68	H	-64.14	3.81	-60.33	-13.00	47.33
				3 137.66	H	-67.94	5.30	-62.64	-13.00	49.64
				3 921.67	H	-67.15	6.92	-60.23	-13.00	47.23

UNDESIRABLE EMISSIONS IN 1 559 MHz ~ 1 610 MHz (LTE Band 13)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	782	1/25	QPSK	1 564.17	V	-51.21	5.95	-45.26	-40.00	5.26
5	779.5	1/12		1 559.02	V	-51.10	5.91	-45.19	-40.00	5.19
	784.5	1/12		1 568.89	V	-52.09	5.99	-46.10	-40.00	6.10

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
5	779.5	1/0	QPSK	2 332.03	V	-63.52	3.76	-59.76	-13.00	46.76
				3 108.03	V	-66.62	5.21	-61.41	-13.00	48.41
				3 885.68	V	-67.32	6.82	-60.50	-13.00	47.50

UNDESIRABLE EMISSIONS IN 1 559 MHz ~ 1 610 MHz (LTE Band 13)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
5	779.5	1/12	QPSK	1 559.12	V	-65.53	5.92	-59.61	-40.00	19.61

7.2.5. LTE Band 14

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	793	1/25	QPSK	2 379.40	H	-66.18	3.81	-62.37	-13.00	49.37
				3 172.71	H	-67.64	5.34	-62.30	-13.00	49.30
				3 964.91	H	-67.94	6.91	-61.03	-13.00	48.03
5	790.5	1/0		2 364.99	H	-64.95	3.81	-61.14	-13.00	48.14
				3 152.98	H	-67.81	5.34	-62.47	-13.00	49.47
				3 940.27	H	-68.03	6.91	-61.12	-13.00	48.12
	793	1/12		2 378.94	H	-65.28	3.81	-61.47	-13.00	48.47
				3 172.01	H	-67.21	5.34	-61.87	-13.00	48.87
				3 964.81	H	-67.78	6.91	-60.87	-13.00	47.87
	795.5	1/12		2 386.61	H	-64.81	3.81	-61.00	-13.00	48.00
				3 182.16	H	-67.58	5.35	-62.23	-13.00	49.23
				3 977.62	H	-67.77	6.90	-60.87	-13.00	47.87

UNDESIRABLE EMISSIONS IN 1 559 MHz ~ 1 610 MHz (LTE Band 14)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	793	1/25	QPSK	1 586.18	V	-52.55	6.11	-46.44	-40.00	6.44
5	790.5	1/0		1 576.68	V	-52.82	6.04	-46.78	-40.00	6.78
	793	1/12		1 585.99	V	-52.75	6.11	-46.64	-40.00	6.64
	795.5	1/12		1 590.99	V	-52.70	6.15	-46.55	-40.00	6.55

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	793	1/25	QPSK	2 379.39	V	-65.79	3.81	-61.98	-13.00	48.98
				3 171.77	V	-67.08	5.34	-61.74	-13.00	48.74
				3 964.99	V	-68.41	6.91	-61.50	-13.00	48.50

UNDESIRABLE EMISSIONS IN 1 559 MHz ~ 1 610 MHz (LTE Band 13)

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	793	1/25	QPSK	1 586.22	V	-63.09	6.11	-56.98	-40.00	16.98

7.2.6. LTE Band 26

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	819	1/0	QPSK	1 629.15	V	-53.48	4.08	-49.40	-13.00	36.40
				2 444.21	V	-66.11	3.88	-62.23	-13.00	49.23
				3 258.70	V	-67.28	5.45	-61.83	-13.00	48.83
				4 072.38	H	-68.30	7.03	-61.27	-13.00	48.27
5	816.5	1/0		1 628.69	V	-57.01	4.08	-52.93	-13.00	39.93
				2 443.07	V	-66.23	3.88	-62.35	-13.00	49.35
				3 257.98	V	-67.11	5.44	-61.67	-13.00	48.67
				4 071.25	H	-68.23	7.03	-61.20	-13.00	48.20
	821.5	1/12		1 642.97	V	-55.45	4.09	-51.36	-13.00	38.36
				2 464.05	V	-65.96	3.80	-62.16	-13.00	49.16
				3 285.99	V	-66.97	5.56	-61.41	-13.00	48.41
				4 107.18	H	-68.44	7.10	-61.34	-13.00	48.34

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	819	1/0	QPSK	1 629.02	V	-65.53	4.08	-61.45	-13.00	48.45
				2 443.69	V	-61.13	3.88	-57.25	-13.00	44.25
				3 258.24	V	-67.17	5.44	-61.73	-13.00	48.73
				4 072.08	H	-68.20	7.03	-61.17	-13.00	48.17

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	831.5	1/74	QPSK	1 676.32	V	-56.18	4.00	-52.18	-13.00	39.18
				2 514.59	V	-64.12	3.68	-60.44	-13.00	47.44
				3 352.25	V	-67.45	5.83	-61.62	-13.00	48.62
				4 190.38	H	-68.16	7.20	-60.96	-13.00	47.96
	841.5	1/38		1 683.47	V	-56.57	3.97	-52.60	-13.00	39.60
				2 525.08	V	-63.36	3.76	-59.60	-13.00	46.60
				3 366.51	V	-67.21	5.87	-61.34	-13.00	48.34
				4 208.37	H	-68.06	7.21	-60.85	-13.00	47.85
10	829	1/0		1 649.28	V	-60.73	4.09	-56.64	-13.00	43.64
				2 473.98	V	-65.61	3.73	-61.88	-13.00	48.88
				3 298.00	V	-66.61	5.61	-61.00	-13.00	48.00
				4 123.43	H	-68.23	7.12	-61.11	-13.00	48.11
	836.5	1/49		1 681.69	V	-58.47	3.98	-54.49	-13.00	41.49
				2 522.73	V	-63.79	3.74	-60.05	-13.00	47.05
				3 363.74	V	-67.38	5.86	-61.52	-13.00	48.52
				4 203.80	H	-68.10	7.21	-60.89	-13.00	47.89
	844	1/25		1 688.10	V	-59.65	3.95	-55.70	-13.00	42.70
				2 532.24	V	-62.70	3.82	-58.88	-13.00	45.88
				3 376.12	V	-67.49	5.89	-61.60	-13.00	48.60
				4 219.25	H	-68.24	7.21	-61.03	-13.00	48.03

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
15	831.5	1/74	QPSK	1 676.31	V	-59.76	4.00	-55.76	-13.00	42.76
				2 514.48	V	-63.22	3.68	-59.54	-13.00	46.54
				3 352.92	V	-67.11	5.84	-61.27	-13.00	48.27
				4 190.54	H	-68.01	7.20	-60.81	-13.00	47.81

7.2.7. LTE Band 5

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	829	1/49	QPSK	1 666.88	V	-56.08	4.03	-52.05	-13.00	39.05
				2 500.19	V	-66.31	3.56	-62.75	-13.00	49.75
				3 334.64	V	-67.87	5.77	-62.10	-13.00	49.10
				4 166.94	H	-69.26	7.17	-62.09	-13.00	49.09
	836.5	1/49		1 681.78	V	-52.16	3.98	-48.18	-13.00	35.18
				2 522.71	V	-63.92	3.74	-60.18	-13.00	47.18
				3 364.55	V	-68.40	5.86	-62.54	-13.00	49.54
				4 203.93	H	-69.33	7.21	-62.12	-13.00	49.12
	844	1/25		1 688.04	V	-52.74	3.95	-48.79	-13.00	35.79
				2 532.26	V	-63.84	3.82	-60.02	-13.00	47.02
				3 376.50	V	-68.14	5.89	-62.25	-13.00	49.25
				4 219.26	H	-69.37	7.21	-62.16	-13.00	49.16

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBd)	Result (dBm)	Limit (dBm)	Margin (dB)
10	836.5	1/49	QPSK	1 681.88	V	-59.34	3.98	-55.36	-13.00	42.36
				2 522.69	V	-62.35	3.74	-58.61	-13.00	45.61
				3 364.16	V	-68.31	5.86	-62.45	-13.00	49.45
				4 204.93	H	-69.29	7.21	-62.08	-13.00	49.08

7.2.8. LTE Band 4

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 720	1/0	QPSK	3 422.36	V	-66.87	8.17	-58.70	-13.00	45.70
				5 133.21	H	-64.59	10.11	-54.48	-13.00	41.48
				6 844.56	H	-65.88	11.33	-54.55	-13.00	41.55
				8 556.10	V	-66.69	12.93	-53.76	-13.00	40.76
	1 732.5	1/99		3 482.64	V	-67.24	8.41	-58.83	-13.00	45.83
				5 224.34	H	-64.76	10.21	-54.55	-13.00	41.55
				6 964.70	H	-66.44	11.55	-54.89	-13.00	41.89
				8 707.61	V	-66.37	12.97	-53.40	-13.00	40.40
	1 745	1/99		3 507.75	V	-66.59	8.48	-58.11	-13.00	45.11
				5 261.79	H	-64.24	10.22	-54.02	-13.00	41.02
				7 015.86	H	-66.89	11.59	-55.30	-13.00	42.30
				8 770.43	V	-66.13	12.99	-53.14	-13.00	40.14

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 745	1/99	QPSK	3 507.66	V	-66.44	8.48	-57.96	-13.00	44.96
				5 261.67	H	-65.52	10.22	-55.30	-13.00	42.30
				7 015.30	H	-66.68	11.59	-55.09	-13.00	42.09
				8 770.16	V	-66.23	12.99	-53.24	-13.00	40.24

7.2.9. LTE Band 66

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 720	1/0	QPSK	3 422.30	V	-66.59	8.17	-58.42	-13.00	45.42
				5 133.36	H	-65.66	10.11	-55.55	-13.00	42.55
				6 844.31	H	-65.73	11.33	-54.40	-13.00	41.40
				8 555.91	V	-66.70	12.93	-53.77	-13.00	40.77
	1 745	1/99		3 507.60	V	-67.17	8.48	-58.69	-13.00	45.69
				5 261.81	H	-64.99	10.22	-54.77	-13.00	41.77
				7 015.26	H	-66.85	11.59	-55.26	-13.00	42.26
				8 769.05	V	-66.03	12.99	-53.04	-13.00	40.04
	1 770	1/99		3 558.21	V	-67.42	8.43	-58.99	-13.00	45.99
				5 336.83	H	-64.86	10.27	-54.59	-13.00	41.59
				7 115.09	H	-67.25	11.71	-55.54	-13.00	42.54
				8 893.51	V	-66.29	13.03	-53.26	-13.00	40.26

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 720	1/0	QPSK	3 422.34	V	-66.19	8.17	-58.02	-13.00	45.02
				5 133.39	H	-66.78	10.11	-56.67	-13.00	43.67
				6 843.68	H	-65.79	11.33	-54.46	-13.00	41.46
				8 556.35	V	-66.75	12.93	-53.82	-13.00	40.82

7.2.10. LTE Band 2

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	1/99	QPSK	3 737.85	V	-66.06	8.29	-57.77	-13.00	44.77
				5 605.89	H	-66.41	10.40	-56.01	-13.00	43.01
				7 476.25	H	-66.80	12.13	-54.67	-13.00	41.67
				9 343.91	V	-63.55	12.98	-50.57	-13.00	37.57
	1 880	1/50		3 760.21	V	-65.50	8.32	-57.18	-13.00	44.18
				5 640.13	H	-66.26	10.44	-55.82	-13.00	42.82
				7 519.68	H	-67.26	12.18	-55.08	-13.00	42.08
				9 400.94	V	-62.85	13.01	-49.84	-13.00	36.84
	1 900	1/50		3 800.33	V	-64.52	8.48	-56.04	-13.00	43.04
				5 700.04	H	-65.27	10.53	-54.74	-13.00	41.74
				7 600.77	H	-67.15	12.17	-54.98	-13.00	41.98
				9 500.89	V	-62.06	12.93	-49.13	-13.00	36.13

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 900	1/50	QPSK	3 800.25	V	-66.89	8.48	-58.41	-13.00	45.41
				5 699.81	V	-67.49	10.53	-56.96	-13.00	43.96
				7 600.44	H	-67.05	12.17	-54.88	-13.00	41.88
				9 499.82	V	-61.78	12.93	-48.85	-13.00	35.85

7.2.11. LTE Band 25

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 860	1/99	QPSK	3 737.93	V	-66.79	8.29	-58.50	-13.00	45.50
				5 606.29	H	-66.39	10.40	-55.99	-13.00	42.99
				7 474.85	H	-66.90	12.12	-54.78	-13.00	41.78
				9 343.23	V	-63.05	12.98	-50.07	-13.00	37.07
	1 882.5	1/50		3 765.37	V	-67.12	8.34	-58.78	-13.00	45.78
				5 647.76	H	-65.98	10.45	-55.53	-13.00	42.53
				7 530.31	H	-67.03	12.18	-54.85	-13.00	41.85
				9 413.05	V	-62.43	13.00	-49.43	-13.00	36.43
	1 905	1/0		3 792.07	V	-66.81	8.45	-58.36	-13.00	45.36
				5 687.85	H	-65.72	10.51	-55.21	-13.00	42.21
				7 584.57	H	-67.37	12.18	-55.19	-13.00	42.19
				9 480.67	V	-62.40	12.95	-49.45	-13.00	36.45

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	1 905	1/0	QPSK	3 792.05	V	-66.38	8.45	-57.93	-13.00	44.93
				5 688.97	V	-67.36	10.51	-56.85	-13.00	43.85
				7 584.44	H	-67.29	12.18	-55.11	-13.00	42.11
				9 479.58	V	-62.27	12.95	-49.32	-13.00	36.32

7.2.12. LTE Band 30

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
10	2 310	1/49	QPSK	4 628.88	H	-54.66	9.54	-45.12	-40.00	5.12
				6 943.30	V	-67.33	11.54	-55.79	-40.00	15.79
				9 256.94	V	-63.75	13.00	-50.75	-40.00	10.75
				11 571.47	H	-63.75	13.29	-50.46	-40.00	10.46
5	2 307.5	1/12		4 615.05	H	-52.88	9.50	-43.38	-40.00	3.38
				6 922.81	V	-66.53	11.50	-55.03	-40.00	15.03
				9 229.90	V	-64.15	13.02	-51.13	-40.00	11.13
				11 537.54	H	-63.34	13.26	-50.08	-40.00	10.08
	2 310	1/24		4 624.30	H	-54.01	9.53	-44.48	-40.00	4.48
				6 936.53	V	-67.34	11.53	-55.81	-40.00	15.81
				9 248.33	V	-63.74	13.00	-50.74	-40.00	10.74
				11 561.41	H	-63.63	13.29	-50.34	-40.00	10.34
	2 312.5	1/12		4 625.00	H	-53.76	9.53	-44.23	-40.00	4.23
				6 937.65	V	-67.11	11.53	-55.58	-40.00	15.58
				9 249.17	V	-63.93	13.00	-50.93	-40.00	10.93
				11 561.93	H	-63.64	13.29	-50.35	-40.00	10.35

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
5	2 307.5	1/12	QPSK	4 615.15	H	-67.78	9.50	-58.28	-40.00	18.28
				6 921.73	H	-66.35	11.50	-54.85	-40.00	14.85
				9 229.45	V	-64.06	13.02	-51.04	-40.00	11.04
				11 536.87	H	-63.21	13.25	-49.96	-40.00	9.96

7.2.13. LTE Band 41

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 506	1/99	QPSK	5 029.66	V	-58.31	10.00	-48.31	-25.00	23.31
				7 545.20	H	-59.62	12.20	-47.42	-25.00	22.42
				10 058.97	H	-56.79	12.89	-43.90	-25.00	18.90
				12 574.07	H	-54.91	13.31	-41.60	-25.00	16.60
	2 593	1/49		5 185.88	V	-57.01	10.19	-46.82	-25.00	21.82
				7 778.59	H	-59.52	12.30	-47.22	-25.00	22.22
				10 372.76	H	-55.38	12.97	-42.41	-25.00	17.41
				12 965.34	H	-53.66	13.55	-40.11	-25.00	15.11
	2 680	1/0		5 342.16	V	-56.93	10.28	-46.65	-25.00	21.65
				8 013.04	H	-59.32	12.55	-46.77	-25.00	21.77
				10 683.91	H	-54.84	13.04	-41.80	-25.00	16.80
				13 355.60	H	-53.76	13.95	-39.81	-25.00	14.81

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 680	1/0	QPSK	5 342.17	H	-58.95	10.28	-48.67	-25.00	23.67
				8 014.19	H	-59.71	12.55	-47.16	-25.00	22.16
				10 683.82	H	-55.04	13.04	-42.00	-25.00	17.00
				13 355.52	H	-53.85	13.95	-39.90	-25.00	14.90

7.2.14. LTE Band 7

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 510	1/50	QPSK	5 020.12	H	-64.76	10.00	-54.76	-25.00	29.76
				7 529.79	H	-67.16	12.18	-54.98	-25.00	29.98
				10 040.22	V	-60.54	12.91	-47.63	-25.00	22.63
				12 549.79	H	-61.97	13.32	-48.65	-25.00	23.65
	2 535	1/50		5 070.21	H	-64.51	10.03	-54.48	-25.00	29.48
				7 604.72	H	-67.27	12.17	-55.10	-25.00	30.10
				10 140.48	V	-61.25	12.87	-48.38	-25.00	23.38
				12 675.60	H	-61.73	13.34	-48.39	-25.00	23.39
	2 560	1/99		5 137.80	H	-63.33	10.12	-53.21	-25.00	28.21
				7 706.72	H	-66.66	12.22	-54.44	-25.00	29.44
				10 276.36	V	-62.46	12.87	-49.59	-25.00	24.59
				12 844.78	H	-60.83	13.49	-47.34	-25.00	22.34

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 560	1/99	QPSK	5 137.91	H	-65.34	10.12	-55.22	-25.00	30.22
				7 705.94	H	-66.54	12.22	-54.32	-25.00	29.32
				10 275.98	V	-62.54	12.87	-49.67	-25.00	24.67
				12 844.77	H	-60.79	13.49	-47.30	-25.00	22.30

7.2.15. LTE Band 38

External antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 580	1/99	QPSK	5 177.78	V	-56.20	10.17	-46.03	-25.00	21.03
				7 766.43	H	-59.35	12.28	-47.07	-25.00	22.07
				10 355.75	H	-55.78	12.91	-42.87	-25.00	17.87
				12 944.39	H	-53.78	13.51	-40.27	-25.00	15.27
	2 595	1/99		5 207.79	V	-54.68	10.21	-44.47	-25.00	19.47
				7 811.28	H	-59.59	12.33	-47.26	-25.00	22.26
				10 415.99	H	-55.34	13.07	-42.27	-25.00	17.27
				13 019.32	H	-53.90	13.65	-40.25	-25.00	15.25
	2 610	1/99		5 237.89	V	-54.56	10.22	-44.34	-25.00	19.34
				7 856.38	H	-59.87	12.35	-47.52	-25.00	22.52
				10 475.39	H	-54.61	13.09	-41.52	-25.00	16.52
				13 093.79	H	-53.99	13.82	-40.17	-25.00	15.17

Internal chip antenna 1

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	2 610	1/99	QPSK	5 237.87	H	-58.92	10.22	-48.70	-25.00	23.70
				7 856.60	H	-59.81	12.35	-47.46	-25.00	22.46
				10 474.94	H	-54.34	13.09	-41.25	-25.00	16.25
				13 094.81	H	-53.75	13.82	-39.93	-25.00	14.93

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Intra Band

PCC/SCC	Band	Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode
PCC	38	20	2 590.2	1/0	QPSK
SCC	38	20	2 610	1/0	QPSK

External antenna 1

Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal (dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
5 162.53	V	-60.40	10.15	-50.25	-25.00	25.25
5 199.63	V	-60.64	10.21	-50.43	-25.00	25.43
7 743.28	H	-59.63	12.25	-47.38	-25.00	22.38
7 803.15	H	-59.58	12.33	-47.25	-25.00	22.25
10 325.01	H	-56.08	12.88	-43.20	-25.00	18.20
10 404.30	H	-56.49	13.06	-43.43	-25.00	18.43
12 906.74	H	-54.18	13.48	-40.70	-25.00	15.70
13 005.06	H	-54.55	13.64	-40.91	-25.00	15.91

Internal chip antenna 1

Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal (dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
5 162.78	H	-60.82	10.15	-50.67	-25.00	25.67
5 201.68	H	-60.86	10.21	-50.65	-25.00	25.65
7 743.70	H	-59.76	12.25	-47.51	-25.00	22.51
7 802.63	H	-60.06	12.33	-47.73	-25.00	22.73
10 325.54	H	-56.03	12.88	-43.15	-25.00	18.15
10 404.90	H	-56.51	13.06	-43.45	-25.00	18.45
12 906.15	H	-54.20	13.47	-40.73	-25.00	15.73
13 005.96	H	-54.46	13.64	-40.82	-25.00	15.82

7.2.16. LTE Band 42

Internal chip antenna 2

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	3 460	1/50	QPSK	6 919.76	H	-47.77	11.50	-36.27	-13.00	23.27
				10 380.51	H	-55.46	12.99	-42.47	-13.00	29.47
				13 840.48	H	-53.78	14.58	-39.20	-13.00	26.20
				17 299.71	H	-58.02	14.04	-43.98	-13.00	30.98
	3 500	1/0		6 982.17	H	-46.90	11.56	-35.34	-13.00	22.34
				10 473.11	H	-54.81	13.09	-41.72	-13.00	28.72
				13 964.51	H	-60.42	14.47	-45.95	-13.00	32.95
				17 455.18	H	-59.47	14.04	-45.43	-13.00	32.43
	3 540	1/0		7 062.02	H	-49.43	11.67	-37.76	-13.00	24.76
				10 593.07	H	-54.43	13.02	-41.41	-13.00	28.41
				14 124.81	H	-54.03	14.28	-39.75	-13.00	26.75
				17 655.56	H	-59.57	14.18	-45.39	-13.00	32.39

External antenna 2

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	3 500	1/0	QPSK	6 982.02	H	-59.26	11.56	-47.70	-13.00	34.70
				10 473.66	H	-54.89	13.09	-41.80	-13.00	28.80
				13 964.77	H	-53.53	14.47	-39.06	-13.00	26.06
				17 455.83	H	-59.39	14.04	-45.35	-13.00	32.35

7.2.17. LTE Band 43

Internal chip antenna 2

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	3 710	1/99	QPSK	7 437.73	H	-49.95	12.08	-37.87	-13.00	24.87
				11 156.23	H	-55.96	13.07	-42.89	-13.00	29.89
				14 875.15	H	-59.27	13.92	-45.35	-13.00	32.35
	3 750	1/0		7 482.15	H	-49.73	12.14	-37.59	-13.00	24.59
				11 223.10	H	-56.41	13.10	-43.31	-13.00	30.31
				14 965.06	H	-60.73	13.96	-46.77	-13.00	33.77
	3 790	1/0		7 562.35	H	-49.37	12.19	-37.18	-13.00	24.18
				11 344.00	H	-56.90	13.15	-43.75	-13.00	30.75
				15 124.57	H	-60.71	14.05	-46.66	-13.00	33.66

External antenna 2

Channel Bandwidth (MHz)	Test Freq. (MHz)	RB Size/ Offset	Test Mode	Freq.(MHz)	Ant Pol (H/V)	Level at Antenna Terminal(dBm)	Substitute Antenna Gain(dBi)	Result (dBm)	Limit (dBm)	Margin (dB)
20	3 790	1/0	QPSK	7 562.13	H	-52.73	12.19	-40.54	-13.00	27.54
				11 343.82	H	-56.56	13.15	-43.41	-13.00	30.41
				15 124.88	H	-60.39	14.05	-46.34	-13.00	33.34