

TEST REPORT



Dt&C Co., Ltd.

42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2412-0134

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 : RC-TGU / RC-TGU (300611-02665)

FCC ID : 2AXDMTGU5GWIFI6

5. FCC Regulation(s): Part 22, 24, 27, 90

Test Method Used : KDB971168 D01v03r01, ANSI/TIA-603-E-2016, ANSI C63.26-2015

6. Date of Test : 2024.10.10 ~ 2024.11.26

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	Technical Manager
	Name : SeungMin Gil 	Name : JaeJin Lee 

2024 . 12 . 11 .

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
DRTFCC2412-0134	Dec. 11, 2024	Initial issue	SeungMin Gil	JaeJin Lee

Table of Contents

1. GENERAL INFORMATION	5
2. INTRODUCTION	14
2.1. EUT DESCRIPTION	14
2.2. TESTING ENVIRONMENT	14
2.3. MEASURING INSTRUMENT CALIBRATION.....	14
2.4. MEASUREMENT UNCERTAINTY	14
2.5. TEST FACILITY.....	14
3. DESCRIPTION OF TESTS.....	15
3.1. MAXIMUM OUTPUT POWER	15
3.2. UNDESIRABLE EMISSIONS	17
4. LIST OF TEST EQUIPMENT	18
5. SUMMARY OF TEST RESULTS	19
6. SAMPLE CALCULATION	20
7. TEST DATA.....	21
7.1. ERP & EIRP	21
7.1.1. LTE Band 71.....	21
7.1.2. LTE Band 12.....	23
7.1.3. LTE Band 17.....	25
7.1.4. LTE Band 13.....	25
7.1.5. LTE Band 14.....	26
7.1.6. LTE Band 26.....	27
7.1.7. LTE Band 5.....	30
7.1.8. LTE Band 4.....	32
7.1.9. LTE Band 66.....	34
7.1.10. LTE Band 2.....	36
7.1.11. LTE Band 25.....	38
7.1.12. LTE Band 30.....	40
7.1.13. LTE Band 41.....	41
7.1.14. LTE Band 7.....	43
7.1.15. LTE Band 38.....	45
7.1.16. LTE Band 42.....	47
7.1.17. LTE Band 43.....	49
7.2. UNDESIRABLE EMISSIONS (Radiated)	51
7.2.1. LTE Band 71.....	51
7.2.2. LTE Band 12.....	52
7.2.3. LTE Band 17.....	53
7.2.4. LTE Band 13.....	54
7.2.5. LTE Band 14.....	55
7.2.6. LTE Band 26.....	56
7.2.7. LTE Band 5.....	58
7.2.8. LTE Band 4.....	59
7.2.9. LTE Band 66.....	60

7.2.10. LTE Band 2.....	61
7.2.11. LTE Band 25.....	62
7.2.12. LTE Band 30.....	63
7.2.13. LTE Band 41.....	64
7.2.14. LTE Band 7.....	65
7.2.15. LTE Band 38.....	66
7.2.16. LTE Band 42.....	68
7.2.17. LTE Band 43.....	69

1. GENERAL INFORMATION

Equipment Class	PCS Licensed Transmitter(PCB)
FCC ID	2AXDMTGU5GWIFI6
Product Name	RC-TGU
Model Name	RC-TGU (300611-02665)
Add Model Name	-
FVIN(Firmware Version Identification Number)	V0.10
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	23.29	0.213	23.04	0.201
LTE Band 71	673 ~ 688	20	16QAM	22.72	0.187	22.47	0.177
LTE Band 71	673 ~ 688	20	64QAM	21.67	0.147	21.42	0.139
LTE Band 71	673 ~ 688	20	256QAM	18.50	0.071	18.25	0.067
LTE Band 71	670.5 ~ 690.5	15	QPSK	23.35	0.216	23.10	0.204
LTE Band 71	670.5 ~ 690.5	15	16QAM	22.69	0.186	22.44	0.175
LTE Band 71	670.5 ~ 690.5	15	64QAM	21.56	0.143	21.31	0.135
LTE Band 71	670.5 ~ 690.5	15	256QAM	18.49	0.071	18.24	0.067
LTE Band 71	668 ~ 693	10	QPSK	23.45	0.221	23.20	0.209
LTE Band 71	668 ~ 693	10	16QAM	22.82	0.191	22.57	0.181
LTE Band 71	668 ~ 693	10	64QAM	21.74	0.149	21.49	0.141
LTE Band 71	668 ~ 693	10	256QAM	18.50	0.071	18.25	0.067
LTE Band 71	665.5 ~ 695.5	5	QPSK	23.47	0.222	23.22	0.210
LTE Band 71	665.5 ~ 695.5	5	16QAM	22.90	0.195	22.65	0.184
LTE Band 71	665.5 ~ 695.5	5	64QAM	21.67	0.147	21.42	0.139
LTE Band 71	665.5 ~ 695.5	5	256QAM	18.49	0.071	18.24	0.067
LTE Band 12	704 ~ 711	10	QPSK	23.69	0.234	23.34	0.216
LTE Band 12	704 ~ 711	10	16QAM	23.12	0.205	22.77	0.189
LTE Band 12	704 ~ 711	10	64QAM	21.87	0.154	21.52	0.142
LTE Band 12	704 ~ 711	10	256QAM	19.68	0.093	19.33	0.086
LTE Band 12	701.5 ~ 713.5	5	QPSK	23.69	0.234	23.34	0.216
LTE Band 12	701.5 ~ 713.5	5	16QAM	23.17	0.207	22.82	0.191
LTE Band 12	701.5 ~ 713.5	5	64QAM	22.01	0.159	21.66	0.147
LTE Band 12	701.5 ~ 713.5	5	256QAM	19.68	0.093	19.33	0.086
LTE Band 12	700.5 ~ 714.5	3	QPSK	23.70	0.234	23.35	0.216
LTE Band 12	700.5 ~ 714.5	3	16QAM	23.13	0.206	22.78	0.190
LTE Band 12	700.5 ~ 714.5	3	64QAM	22.13	0.163	21.78	0.151
LTE Band 12	700.5 ~ 714.5	3	256QAM	19.70	0.093	19.35	0.086
LTE Band 12	699.7 ~ 715.3	1.4	QPSK	23.79	0.239	23.44	0.221
LTE Band 12	699.7 ~ 715.3	1.4	16QAM	23.22	0.210	22.87	0.194
LTE Band 12	699.7 ~ 715.3	1.4	64QAM	21.95	0.157	21.60	0.145
LTE Band 12	699.7 ~ 715.3	1.4	256QAM	19.68	0.093	19.33	0.086
LTE Band 17	709 ~ 711	10	QPSK	23.61	0.230	23.26	0.212
LTE Band 17	709 ~ 711	10	16QAM	22.93	0.196	22.58	0.181
LTE Band 17	709 ~ 711	10	64QAM	21.82	0.152	21.47	0.140
LTE Band 17	709 ~ 711	10	256QAM	18.78	0.076	18.43	0.070
LTE Band 17	706.5 ~ 713.5	5	QPSK	23.61	0.230	23.26	0.212
LTE Band 17	706.5 ~ 713.5	5	16QAM	23.04	0.201	22.69	0.186
LTE Band 17	706.5 ~ 713.5	5	64QAM	21.78	0.151	21.43	0.139
LTE Band 17	706.5 ~ 713.5	5	256QAM	18.77	0.075	18.42	0.070
LTE Band 13	782	10	QPSK	23.77	0.238	21.72	0.149
LTE Band 13	782	10	16QAM	23.13	0.206	21.08	0.128
LTE Band 13	782	10	64QAM	21.95	0.157	19.90	0.098
LTE Band 13	782	10	256QAM	19.25	0.084	17.20	0.052
LTE Band 13	779.5 ~ 784.5	5	QPSK	23.79	0.239	21.74	0.149
LTE Band 13	779.5 ~ 784.5	5	16QAM	23.28	0.213	21.23	0.133
LTE Band 13	779.5 ~ 784.5	5	64QAM	22.07	0.161	20.02	0.100
LTE Band 13	779.5 ~ 784.5	5	256QAM	19.30	0.085	17.25	0.053

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	24.07	0.255	21.92	0.156
LTE Band 14	793	10	16QAM	23.46	0.222	21.31	0.135
LTE Band 14	793	10	64QAM	22.28	0.169	20.13	0.103
LTE Band 14	793	10	256QAM	19.36	0.086	17.21	0.053
LTE Band 14	790.5 ~ 795.5	5	QPSK	24.08	0.256	21.93	0.156
LTE Band 14	790.5 ~ 795.5	5	16QAM	23.43	0.220	21.28	0.134
LTE Band 14	790.5 ~ 795.5	5	64QAM	22.29	0.169	20.14	0.103
LTE Band 14	790.5 ~ 795.5	5	256QAM	19.26	0.084	17.11	0.051
LTE Band 26(P90)	819	10	QPSK	23.71	0.235	22.26	0.168
LTE Band 26(P90)	819	10	16QAM	23.14	0.206	21.69	0.148
LTE Band 26(P90)	819	10	64QAM	21.85	0.153	20.40	0.110
LTE Band 26(P90)	819	10	256QAM	18.70	0.074	17.25	0.053
LTE Band 26(P90)	816.5 ~ 821.5	5	QPSK	23.79	0.239	22.34	0.171
LTE Band 26(P90)	816.5 ~ 821.5	5	16QAM	23.30	0.214	21.85	0.153
LTE Band 26(P90)	816.5 ~ 821.5	5	64QAM	22.80	0.191	21.35	0.136
LTE Band 26(P90)	816.5 ~ 821.5	5	256QAM	18.67	0.074	17.22	0.053
LTE Band 26(P90)	815.5 ~ 822.5	3	QPSK	23.69	0.234	22.24	0.167
LTE Band 26(P90)	815.5 ~ 822.5	3	16QAM	23.14	0.206	21.69	0.148
LTE Band 26(P90)	815.5 ~ 822.5	3	64QAM	21.87	0.154	20.42	0.110
LTE Band 26(P90)	815.5 ~ 822.5	3	256QAM	18.67	0.074	17.22	0.053
LTE Band 26(P90)	814.7 ~ 823.3	1.4	QPSK	23.71	0.235	22.26	0.168
LTE Band 26(P90)	814.7 ~ 823.3	1.4	16QAM	23.13	0.206	21.68	0.147
LTE Band 26(P90)	814.7 ~ 823.3	1.4	64QAM	21.95	0.157	20.50	0.112
LTE Band 26(P90)	814.7 ~ 823.3	1.4	256QAM	18.69	0.074	17.24	0.053
LTE Band 26(P22)	831.5 ~ 841.5	15	QPSK	23.78	0.239	22.33	0.171
LTE Band 26(P22)	831.5 ~ 841.5	15	16QAM	23.00	0.200	21.55	0.143
LTE Band 26(P22)	831.5 ~ 841.5	15	64QAM	22.08	0.161	20.63	0.116
LTE Band 26(P22)	831.5 ~ 841.5	15	256QAM	18.67	0.074	17.22	0.053
LTE Band 26(P22)	829 ~ 844	10	QPSK	23.89	0.245	22.44	0.175
LTE Band 26(P22)	829 ~ 844	10	16QAM	23.32	0.215	21.87	0.154
LTE Band 26(P22)	829 ~ 844	10	64QAM	22.07	0.161	20.62	0.115
LTE Band 26(P22)	829 ~ 844	10	256QAM	18.70	0.074	17.25	0.053
LTE Band 26(P22)	826.5 ~ 846.5	5	QPSK	23.87	0.244	22.42	0.175
LTE Band 26(P22)	826.5 ~ 846.5	5	16QAM	23.32	0.215	21.87	0.154
LTE Band 26(P22)	826.5 ~ 846.5	5	64QAM	22.10	0.162	20.65	0.116
LTE Band 26(P22)	826.5 ~ 846.5	5	256QAM	18.66	0.073	17.21	0.053
LTE Band 26(P22)	825.5 ~ 847.5	3	QPSK	23.83	0.242	22.38	0.173
LTE Band 26(P22)	825.5 ~ 847.5	3	16QAM	23.28	0.213	21.83	0.152
LTE Band 26(P22)	825.5 ~ 847.5	3	64QAM	22.07	0.161	20.62	0.115
LTE Band 26(P22)	825.5 ~ 847.5	3	256QAM	18.70	0.074	17.25	0.053
LTE Band 26(P22)	824.7 ~ 848.3	1.4	QPSK	23.83	0.242	22.38	0.173
LTE Band 26(P22)	824.7 ~ 848.3	1.4	16QAM	23.15	0.207	21.70	0.148
LTE Band 26(P22)	824.7 ~ 848.3	1.4	64QAM	22.00	0.158	20.55	0.114
LTE Band 26(P22)	824.7 ~ 848.3	1.4	256QAM	18.70	0.074	17.25	0.053

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	23.44	0.221	21.99	0.158
LTE Band 5	829 ~ 844	10	16QAM	22.94	0.197	21.49	0.141
LTE Band 5	829 ~ 844	10	64QAM	21.69	0.148	20.24	0.106
LTE Band 5	829 ~ 844	10	256QAM	18.43	0.070	16.98	0.050
LTE Band 5	826.5 ~ 846.5	5	QPSK	23.40	0.219	21.95	0.157
LTE Band 5	826.5 ~ 846.5	5	16QAM	22.86	0.193	21.41	0.138
LTE Band 5	826.5 ~ 846.5	5	64QAM	21.76	0.150	20.31	0.107
LTE Band 5	826.5 ~ 846.5	5	256QAM	18.45	0.070	17.00	0.050
LTE Band 5	825.5 ~ 847.5	3	QPSK	23.38	0.218	21.93	0.156
LTE Band 5	825.5 ~ 847.5	3	16QAM	22.89	0.195	21.44	0.139
LTE Band 5	825.5 ~ 847.5	3	64QAM	21.73	0.149	20.28	0.107
LTE Band 5	825.5 ~ 847.5	3	256QAM	18.41	0.069	16.96	0.050
LTE Band 5	824.7 ~ 848.3	1.4	QPSK	23.41	0.219	21.96	0.157
LTE Band 5	824.7 ~ 848.3	1.4	16QAM	22.86	0.193	21.41	0.138
LTE Band 5	824.7 ~ 848.3	1.4	64QAM	21.77	0.150	20.32	0.108
LTE Band 5	824.7 ~ 848.3	1.4	256QAM	18.43	0.070	16.98	0.050
LTE Band 5B	829 ~ 844	10+10	QPSK	24.65	0.292	23.20	0.209
LTE Band 5B	829 ~ 844	10+10	16QAM	23.55	0.226	22.10	0.162
LTE Band 5B	825.5 ~ 847.5	3+5	QPSK	24.36	0.273	22.91	0.195
LTE Band 5B	825.5 ~ 847.5	3+5	16QAM	23.95	0.248	22.50	0.178

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	23.83	0.242	26.43	0.440
LTE Band 4	1 720 ~ 1 745	20	16QAM	23.13	0.206	25.73	0.374
LTE Band 4	1 720 ~ 1 745	20	64QAM	22.03	0.160	24.63	0.290
LTE Band 4	1 720 ~ 1 745	20	256QAM	18.69	0.074	21.29	0.135
LTE Band 4	1 717.5 ~ 1 747.5	15	QPSK	23.76	0.238	26.36	0.433
LTE Band 4	1 717.5 ~ 1 747.5	15	16QAM	23.10	0.204	25.70	0.372
LTE Band 4	1 717.5 ~ 1 747.5	15	64QAM	22.08	0.161	24.68	0.294
LTE Band 4	1 717.5 ~ 1 747.5	15	256QAM	18.70	0.074	21.30	0.135
LTE Band 4	1 715 ~ 1 750	10	QPSK	23.86	0.243	26.46	0.443
LTE Band 4	1 715 ~ 1 750	10	16QAM	23.33	0.215	25.93	0.392
LTE Band 4	1 715 ~ 1 750	10	64QAM	22.11	0.163	24.71	0.296
LTE Band 4	1 715 ~ 1 750	10	256QAM	18.65	0.073	21.25	0.133
LTE Band 4	1 712.5 ~ 1 752.5	5	QPSK	23.91	0.246	26.51	0.448
LTE Band 4	1 712.5 ~ 1 752.5	5	16QAM	23.30	0.214	25.90	0.389
LTE Band 4	1 712.5 ~ 1 752.5	5	64QAM	22.14	0.164	24.74	0.298
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	23.95	0.248	26.55	0.452
LTE Band 4	1 711.5 ~ 1 753.5	3	16QAM	23.31	0.214	25.91	0.390
LTE Band 4	1 711.5 ~ 1 753.5	3	64QAM	22.14	0.164	24.74	0.298
LTE Band 4	1 711.5 ~ 1 753.5	3	256QAM	18.67	0.074	21.27	0.134
LTE Band 4	1 710.7 ~ 1 754.3	1.4	QPSK	23.88	0.244	26.48	0.445
LTE Band 4	1 710.7 ~ 1 754.3	1.4	16QAM	23.27	0.212	25.87	0.386
LTE Band 4	1 710.7 ~ 1 754.3	1.4	64QAM	22.14	0.164	24.74	0.298
LTE Band 4	1 710.7 ~ 1 754.3	1.4	256QAM	18.69	0.074	21.29	0.135
LTE Band 66	1 720 ~ 1 770	20	QPSK	23.13	0.206	25.73	0.374
LTE Band 66	1 720 ~ 1 770	20	16QAM	22.42	0.175	25.02	0.318
LTE Band 66	1 720 ~ 1 770	20	64QAM	21.44	0.139	24.04	0.254
LTE Band 66	1 720 ~ 1 770	20	256QAM	18.49	0.071	21.09	0.129
LTE Band 66	1 717.5 ~ 1 772.5	15	QPSK	23.14	0.206	25.74	0.375
LTE Band 66	1 717.5 ~ 1 772.5	15	16QAM	22.38	0.173	24.98	0.315
LTE Band 66	1 717.5 ~ 1 772.5	15	64QAM	21.32	0.136	23.92	0.247
LTE Band 66	1 717.5 ~ 1 772.5	15	256QAM	18.48	0.070	21.08	0.128
LTE Band 66	1 715 ~ 1 775	10	QPSK	23.22	0.210	25.82	0.382
LTE Band 66	1 715 ~ 1 775	10	16QAM	22.57	0.181	25.17	0.329
LTE Band 66	1 715 ~ 1 775	10	64QAM	21.59	0.144	24.19	0.262
LTE Band 66	1 715 ~ 1 775	10	256QAM	18.50	0.071	21.10	0.129
LTE Band 66	1 712.5 ~ 1 777.5	5	QPSK	23.25	0.211	25.85	0.385
LTE Band 66	1 712.5 ~ 1 777.5	5	16QAM	22.60	0.182	25.20	0.331
LTE Band 66	1 712.5 ~ 1 777.5	5	64QAM	21.62	0.145	24.22	0.264
LTE Band 66	1 712.5 ~ 1 777.5	5	256QAM	18.50	0.071	21.10	0.129
LTE Band 66	1 711.5 ~ 1 778.5	3	QPSK	23.24	0.211	25.84	0.384
LTE Band 66	1 711.5 ~ 1 778.5	3	16QAM	22.68	0.185	25.28	0.337
LTE Band 66	1 711.5 ~ 1 778.5	3	64QAM	21.71	0.148	24.31	0.270
LTE Band 66	1 711.5 ~ 1 778.5	3	256QAM	18.47	0.070	21.07	0.128
LTE Band 66	1 710.7 ~ 1 779.3	1.4	QPSK	23.22	0.210	25.82	0.382
LTE Band 66	1 710.7 ~ 1 779.3	1.4	16QAM	22.62	0.183	25.22	0.333
LTE Band 66	1 710.7 ~ 1 779.3	1.4	64QAM	21.52	0.142	24.12	0.258
LTE Band 66	1 710.7 ~ 1 779.3	1.4	256QAM	18.47	0.070	21.07	0.128
LTE Band 66C	1 717.5 ~ 1 772.5	15+20	QPSK	23.83	0.242	26.43	0.440
LTE Band 66C	1 720 ~ 1 770	20+20	16QAM	23.33	0.215	25.93	0.392
LTE Band 66B	1 712.5 ~ 1 777.5	5+10	QPSK	25.11	0.324	27.71	0.590
LTE Band 66B	1 712.5 ~ 1 777.5	5+15	16QAM	25.45	0.351	28.05	0.638

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	23.43	0.220	27.83	0.607
LTE Band 2	1 860 ~ 1 900	20	16QAM	22.93	0.196	27.33	0.541
LTE Band 2	1 860 ~ 1 900	20	64QAM	21.89	0.155	26.29	0.426
LTE Band 2	1 860 ~ 1 900	20	256QAM	18.47	0.070	22.87	0.194
LTE Band 2	1 857.5 ~ 1 902.5	15	QPSK	23.45	0.221	27.85	0.610
LTE Band 2	1 857.5 ~ 1 902.5	15	16QAM	22.72	0.187	27.12	0.515
LTE Band 2	1 857.5 ~ 1 902.5	15	64QAM	21.67	0.147	26.07	0.405
LTE Band 2	1 857.5 ~ 1 902.5	15	256QAM	18.67	0.074	23.07	0.203
LTE Band 2	1 855 ~ 1 905	10	QPSK	23.60	0.229	28.00	0.631
LTE Band 2	1 855 ~ 1 905	10	16QAM	22.94	0.197	27.34	0.542
LTE Band 2	1 855 ~ 1 905	10	64QAM	21.93	0.156	26.33	0.430
LTE Band 2	1 855 ~ 1 905	10	256QAM	18.44	0.070	22.84	0.192
LTE Band 2	1 852.5 ~ 1 907.5	5	QPSK	23.59	0.229	27.99	0.630
LTE Band 2	1 852.5 ~ 1 907.5	5	16QAM	22.94	0.197	27.34	0.542
LTE Band 2	1 852.5 ~ 1 907.5	5	64QAM	21.92	0.156	26.32	0.429
LTE Band 2	1 852.5 ~ 1 907.5	5	256QAM	18.47	0.070	22.87	0.194
LTE Band 2	1 851.5 ~ 1 908.5	3	QPSK	23.54	0.226	27.94	0.622
LTE Band 2	1 851.5 ~ 1 908.5	3	16QAM	22.97	0.198	27.37	0.546
LTE Band 2	1 851.5 ~ 1 908.5	3	64QAM	21.93	0.156	26.33	0.430
LTE Band 2	1 851.5 ~ 1 908.5	3	256QAM	18.62	0.073	23.02	0.200
LTE Band 2	1 850.7 ~ 1 909.3	1.4	QPSK	23.51	0.224	27.91	0.618
LTE Band 2	1 850.7 ~ 1 909.3	1.4	16QAM	22.96	0.198	27.36	0.545
LTE Band 2	1 850.7 ~ 1 909.3	1.4	64QAM	21.96	0.157	26.36	0.433
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	23.71	0.235	28.11	0.647
LTE Band 2C	1 860 ~ 1 900	20+20	16QAM	23.28	0.213	27.68	0.586
LTE Band 2C	1 857.5 ~ 1 902.5	15+20	QPSK	23.38	0.218	27.78	0.600
LTE Band 2C	1 857.5 ~ 1 902.5	15+20	16QAM	22.86	0.193	27.26	0.532
LTE Band 25	1 860 ~ 1 905	20	QPSK	23.63	0.231	28.03	0.635
LTE Band 25	1 860 ~ 1 905	20	16QAM	22.88	0.194	27.28	0.535
LTE Band 25	1 860 ~ 1 905	20	64QAM	21.96	0.157	26.36	0.433
LTE Band 25	1 860 ~ 1 905	20	256QAM	18.90	0.078	23.30	0.214
LTE Band 25	1 857.5 ~ 1 907.5	15	QPSK	23.66	0.232	28.06	0.640
LTE Band 25	1 857.5 ~ 1 907.5	15	16QAM	22.96	0.198	27.36	0.545
LTE Band 25	1 857.5 ~ 1 907.5	15	64QAM	21.83	0.152	26.23	0.420
LTE Band 25	1 857.5 ~ 1 907.5	15	256QAM	18.88	0.077	23.28	0.213
LTE Band 25	1 855 ~ 1 910	10	QPSK	23.72	0.236	28.12	0.649
LTE Band 25	1 855 ~ 1 910	10	16QAM	23.09	0.204	27.49	0.561
LTE Band 25	1 855 ~ 1 910	10	64QAM	21.98	0.158	26.38	0.435
LTE Band 25	1 855 ~ 1 910	10	256QAM	18.86	0.077	23.26	0.212
LTE Band 25	1 852.5 ~ 1 912.5	5	QPSK	23.73	0.236	28.13	0.650
LTE Band 25	1 852.5 ~ 1 912.5	5	16QAM	23.13	0.206	27.53	0.566
LTE Band 25	1 852.5 ~ 1 912.5	5	64QAM	21.98	0.158	26.38	0.435
LTE Band 25	1 852.5 ~ 1 912.5	5	256QAM	18.90	0.078	23.30	0.214
LTE Band 25	1 851.5 ~ 1 913.5	3	QPSK	23.72	0.236	28.12	0.649
LTE Band 25	1 851.5 ~ 1 913.5	3	16QAM	23.10	0.204	27.50	0.562
LTE Band 25	1 851.5 ~ 1 913.5	3	64QAM	21.96	0.157	26.36	0.433
LTE Band 25	1 851.5 ~ 1 913.5	3	256QAM	18.90	0.078	23.30	0.214
LTE Band 25	1 850.7 ~ 1 914.3	1.4	QPSK	23.72	0.236	28.12	0.649
LTE Band 25	1 850.7 ~ 1 914.3	1.4	16QAM	23.15	0.207	27.55	0.569
LTE Band 25	1 850.7 ~ 1 914.3	1.4	64QAM	21.94	0.156	26.34	0.431
LTE Band 25	1 850.7 ~ 1 914.3	1.4	256QAM	18.86	0.077	23.26	0.212

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	17.29	0.054	19.69	0.093
LTE Band 30	2 310	10	16QAM	16.27	0.042	18.67	0.074
LTE Band 30	2 310	10	64QAM	15.24	0.033	17.64	0.058
LTE Band 30	2 310	10	256QAM	12.27	0.017	14.67	0.029
LTE Band 30	2 307.5 ~ 2 312.5	5	QPSK	17.22	0.053	19.62	0.092
LTE Band 30	2 307.5 ~ 2 312.5	5	16QAM	16.53	0.045	18.93	0.078
LTE Band 30	2 307.5 ~ 2 312.5	5	64QAM	15.27	0.034	17.67	0.058
LTE Band 30	2 307.5 ~ 2 312.5	5	256QAM	12.45	0.018	14.85	0.031
LTE Band 41	2 506 ~ 2 680	20	QPSK	24.80	0.302	28.50	0.708
LTE Band 41	2 506 ~ 2 680	20	16QAM	24.22	0.264	27.92	0.619
LTE Band 41	2 506 ~ 2 680	20	64QAM	23.24	0.211	26.94	0.494
LTE Band 41	2 506 ~ 2 680	20	256QAM	19.75	0.094	23.45	0.221
LTE Band 41	2 503.5 ~ 2 682.5	15	QPSK	24.77	0.300	28.47	0.703
LTE Band 41	2 503.5 ~ 2 682.5	15	16QAM	24.12	0.258	27.82	0.605
LTE Band 41	2 503.5 ~ 2 682.5	15	64QAM	23.08	0.203	26.78	0.476
LTE Band 41	2 503.5 ~ 2 682.5	15	256QAM	19.74	0.094	23.44	0.221
LTE Band 41	2 501 ~ 2 685	10	QPSK	24.92	0.310	28.62	0.728
LTE Band 41	2 501 ~ 2 685	10	16QAM	24.31	0.270	28.01	0.632
LTE Band 41	2 501 ~ 2 685	10	64QAM	23.26	0.212	26.96	0.497
LTE Band 41	2 501 ~ 2 685	10	256QAM	19.76	0.095	23.46	0.222
LTE Band 41	2 498.5 ~ 2 687.5	5	QPSK	24.94	0.312	28.64	0.731
LTE Band 41	2 498.5 ~ 2 687.5	5	16QAM	24.33	0.271	28.03	0.635
LTE Band 41	2 498.5 ~ 2 687.5	5	64QAM	23.22	0.210	26.92	0.492
LTE Band 41	2 498.5 ~ 2 687.5	5	256QAM	19.80	0.095	23.50	0.224
LTE Band 41C	2 506 ~ 2 680	20+20	QPSK	23.01	0.200	26.71	0.469
LTE Band 41C	2 506 ~ 2 680	20+20	16QAM	22.64	0.184	26.34	0.431
LTE Band 41C	2 498.5 ~ 2 687.5	5+20	QPSK	22.53	0.179	26.23	0.420
LTE Band 41C	2 501 ~ 2 685	10+20	16QAM	23.86	0.243	27.56	0.570
LTE Band 38	2 580 ~ 2 610	20	QPSK	24.74	0.298	27.84	0.608
LTE Band 38	2 580 ~ 2 610	20	16QAM	24.09	0.256	27.19	0.524
LTE Band 38	2 580 ~ 2 610	20	64QAM	23.00	0.200	26.10	0.407
LTE Band 38	2 580 ~ 2 610	20	256QAM	20.20	0.105	23.30	0.214
LTE Band 38	2 577.5 ~ 2 612.5	15	QPSK	24.73	0.297	27.83	0.607
LTE Band 38	2 577.5 ~ 2 612.5	15	16QAM	24.09	0.256	27.19	0.524
LTE Band 38	2 577.5 ~ 2 612.5	15	64QAM	23.14	0.206	26.24	0.421
LTE Band 38	2 577.5 ~ 2 612.5	15	256QAM	20.18	0.104	23.28	0.213
LTE Band 38	2 575 ~ 2 615	10	QPSK	24.97	0.314	28.07	0.641
LTE Band 38	2 575 ~ 2 615	10	16QAM	24.40	0.275	27.50	0.562
LTE Band 38	2 575 ~ 2 615	10	64QAM	23.30	0.214	26.40	0.437
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	24.96	0.313	28.06	0.640
LTE Band 38	2 572.5 ~ 2 617.5	5	16QAM	24.43	0.277	27.53	0.566
LTE Band 38	2 572.5 ~ 2 617.5	5	64QAM	23.31	0.214	26.41	0.438
LTE Band 38	2 572.5 ~ 2 617.5	5	256QAM	20.20	0.105	23.30	0.214
LTE Band 38C	2 580 ~ 2 610	20+20	QPSK	23.66	0.232	26.76	0.474
LTE Band 38C	2 580 ~ 2 610	20+20	16QAM	22.84	0.192	25.94	0.393

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	23.21	0.209	26.91	0.491
LTE Band 7	2 510 ~ 2 560	20	16QAM	22.42	0.175	26.12	0.409
LTE Band 7	2 510 ~ 2 560	20	64QAM	21.40	0.138	25.10	0.324
LTE Band 7	2 510 ~ 2 560	20	256QAM	18.17	0.066	21.87	0.154
LTE Band 7	2 507.5 ~ 2 565.5	15	QPSK	23.13	0.206	26.83	0.482
LTE Band 7	2 507.5 ~ 2 565.5	15	16QAM	22.32	0.171	26.02	0.400
LTE Band 7	2 507.5 ~ 2 565.5	15	64QAM	21.29	0.135	24.99	0.316
LTE Band 7	2 507.5 ~ 2 565.5	15	256QAM	18.20	0.066	21.90	0.155
LTE Band 7	2 505 ~ 2 565	10	QPSK	23.26	0.212	26.96	0.497
LTE Band 7	2 505 ~ 2 565	10	16QAM	22.58	0.181	26.28	0.425
LTE Band 7	2 505 ~ 2 565	10	64QAM	21.52	0.142	25.22	0.333
LTE Band 7	2 505 ~ 2 565	10	256QAM	18.20	0.066	21.90	0.155
LTE Band 7	2 502.5 ~ 2 567.5	5	QPSK	23.28	0.213	26.98	0.499
LTE Band 7	2 502.5 ~ 2 567.5	5	16QAM	22.63	0.183	26.33	0.430
LTE Band 7	2 502.5 ~ 2 567.5	5	64QAM	21.55	0.143	25.25	0.335
LTE Band 7	2 502.5 ~ 2 567.5	5	256QAM	18.18	0.066	21.88	0.154
LTE Band 7C	2 510 ~ 2 560	20+20	QPSK	23.39	0.218	27.09	0.512
LTE Band 7C	2 510 ~ 2 560	20+20	16QAM	22.74	0.188	26.44	0.441
LTE Band 7C	2 505 ~ 2 565	10+20	QPSK	24.64	0.291	28.34	0.682
LTE Band 7C	2 505 ~ 2 565	10+20	16QAM	22.82	0.191	26.52	0.449
LTE Band 42	3 460 ~ 3 540	20	QPSK	24.38	0.274	27.58	0.573
LTE Band 42	3 460 ~ 3 540	20	16QAM	23.72	0.236	26.92	0.492
LTE Band 42	3 460 ~ 3 540	20	64QAM	22.54	0.179	25.74	0.375
LTE Band 42	3 460 ~ 3 540	20	256QAM	19.76	0.095	22.96	0.198
LTE Band 42	3 457.5 ~ 3 542.5	15	QPSK	24.32	0.270	27.52	0.565
LTE Band 42	3 457.5 ~ 3 542.5	15	16QAM	23.75	0.237	26.95	0.495
LTE Band 42	3 457.5 ~ 3 542.5	15	64QAM	22.53	0.179	25.73	0.374
LTE Band 42	3 457.5 ~ 3 542.5	15	256QAM	19.80	0.095	23.00	0.200
LTE Band 42	3 455 ~ 3 545	10	QPSK	24.50	0.282	27.70	0.589
LTE Band 42	3 455 ~ 3 545	10	16QAM	23.76	0.238	26.96	0.497
LTE Band 42	3 455 ~ 3 545	10	64QAM	22.79	0.190	25.99	0.397
LTE Band 42	3 455 ~ 3 545	10	256QAM	19.79	0.095	22.99	0.199
LTE Band 42	3 452.5 ~ 3 547.5	5	QPSK	24.50	0.282	27.70	0.589
LTE Band 42	3 452.5 ~ 3 547.5	5	16QAM	23.86	0.243	27.06	0.508
LTE Band 42	3 452.5 ~ 3 547.5	5	64QAM	22.66	0.185	25.86	0.385
LTE Band 42	3 452.5 ~ 3 547.5	5	256QAM	19.78	0.095	22.98	0.199
LTE Band 42C	3 460 ~ 3 540	20+20	QPSK	23.48	0.223	26.68	0.466
LTE Band 42C	3 460 ~ 3 540	20+20	16QAM	22.69	0.186	25.89	0.388
LTE Band 42C	3 455 ~ 3 545	20+10	16QAM	22.88	0.194	26.08	0.406

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	24.94	0.312	28.84	0.766
LTE Band 43	3 710 ~ 3 790	20	16QAM	24.35	0.272	28.25	0.668
LTE Band 43	3 710 ~ 3 790	20	64QAM	23.10	0.204	27.00	0.501
LTE Band 43	3 710 ~ 3 790	20	256QAM	20.20	0.105	24.10	0.257
LTE Band 43	3 707.5 ~ 3 792.5	15	QPSK	24.92	0.310	28.82	0.762
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	23.13	0.206	27.03	0.505
LTE Band 43	3 707.5 ~ 3 792.5	15	256QAM	20.20	0.105	24.10	0.257
LTE Band 43	3 705 ~ 3 795	10	QPSK	25.09	0.323	28.99	0.793
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	23.21	0.209	27.11	0.514
LTE Band 43	3 705 ~ 3 795	10	256QAM	20.19	0.104	24.09	0.256
LTE Band 43	3 702.5 ~ 3 797.5	5	QPSK	25.08	0.322	28.98	0.791
LTE Band 43	3 702.5 ~ 3 797.5	5	16QAM	24.49	0.281	28.39	0.690
LTE Band 43	3 702.5 ~ 3 797.5	5	64QAM	23.16	0.207	27.06	0.508
LTE Band 43	3 702.5 ~ 3 797.5	5	256QAM	20.17	0.104	24.07	0.255
LTE Band 43C	3 710 ~ 3 790	20+20	QPSK	23.68	0.233	27.58	0.573
LTE Band 43C	3 710 ~ 3 790	20+20	16QAM	23.04	0.201	26.94	0.494
LTE Band 43C	3 705 ~ 3 795	10+20	QPSK	25.22	0.333	29.12	0.817
LTE Band 43C	3 702.5 ~ 3 797.5	5+20	16QAM	25.46	0.352	29.36	0.863

2. INTRODUCTION

2.1. EUT DESCRIPTION

This device supports the following capabilities:

Bluetooth LE, 2.4/5GHz WLAN, 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	+22 °C ~ +24 °C
▪ Relative Humidity	44 % ~ 50 %

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
Antenna-port conducted emission	1.0 dB (The confidence level is about 95 %, $k = 2$)
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

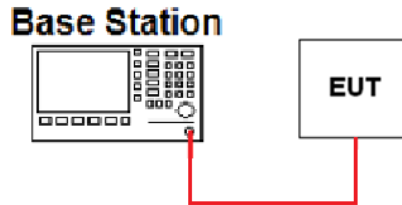
Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042.		
The test site complies with the requirements of Part 2.948 according to ANSI C63.4-2014.		
- FCC & IC 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

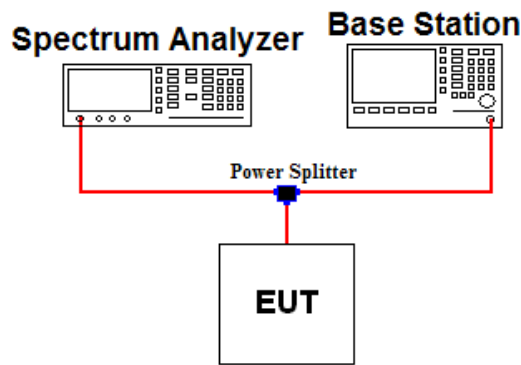
- KDB971168 D01v03r01 - Section 5.2
- ANSI C63.26-2015 – Section 5.2.4.2

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 $\pm 2\%$) by performing the measurement over the on/off burst cycles and then correcting (increasing) the measured level by a factor equal to $[10 \log (1/\text{duty cycle})]$.

Test Set-up(Case 2)



Note: The following procedure was used for Band 30.

Test Procedure

- KDB971168 D01v03r01 - 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 $\geq 3 \times$ RBW.
4. Set number of points in sweep $\geq 2 \times$ span / RBW.
5. Sweep time:
 - 1) Set = auto-couple, or
 - 2) Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ 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 D01v03r01 - Section 5.6
- ANSI C63.26-2015 – Section 5.2.5.5

Determining ERP and EIRP from conducted RF output power measurement results

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

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);

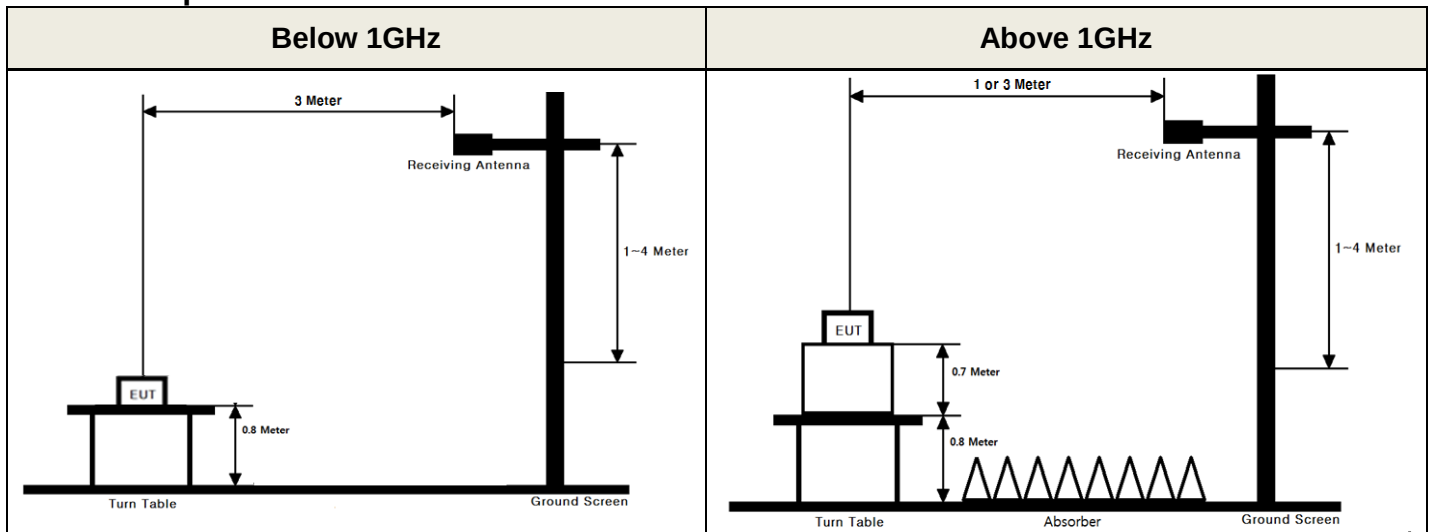
P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

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



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 D01v03r01 - 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 $\geq 3 \times$ RBW
2. Detector = RMS & Trace mode = power averaging (rms)
3. Sweep time = Auto couple
4. Number of sweep point $\geq 2 \times$ span / RBW
5. The trace was allowed to stabilize

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

Band(s)	$T_{\text{on}}(\text{ms})$	$T_{\text{on+off}}(\text{ms})$	Duty cycle = $T_{\text{on}} / (T_{\text{on+off}})$	$10 \log (1/\text{duty cycle})$
38, 41, 42, 43	1.998	4.998	0.399 7	3.98 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	MY48010133
Spectrum Analyzer	KEYSIGHT	N9030B	23/12/15	24/12/15	MY55480168
DC power supply	DIGITAL	DPR-303D	24/06/05	25/06/05	0120044
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	24/06/05	25/06/05	MY60192461
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	120612-1
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	090205-4
Resistive Divider	Clear Microwave	D240	24/06/10	25/06/10	2
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	24/11/08	26/11/08	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	24/06/11	25/06/11	155
PreAmplifier	H.P	8447D	23/12/15	24/12/15	2944A07774
PreAmplifier	Agilent	8449B	23/12/15	24/12/15	3008A02108
PreAmplifier	A.H.Systems Inc.	PAM-1840VH	24/06/05	25/06/05	163
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	24/06/24	25/06/24	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	Radiall	TESTPRO3	24/01/03	25/01/03	RFC-44
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 ~ 849 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, 5, 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 $10 \log(1/\text{duty cycle})$ 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 + $10 \log(1/\text{duty cycle})$].
- 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;

Result: EIRP(dBm) = LEVLE@ANTENNA TERMINAL + TX Antenna Gain (dBi)

Result: 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	23.29	1.9	25.19	23.04
		16QAM	1/99	22.72	1.9	24.62	22.47
		64QAM	1/50	21.67	1.9	23.57	21.42
		256QAM	1/50	18.50	1.9	20.40	18.25
	688	QPSK	1/50	23.23	1.9	25.13	22.98
		16QAM	1/50	22.61	1.9	24.51	22.36
		64QAM	1/50	21.45	1.9	23.35	21.20
		256QAM	1/99	18.47	1.9	20.37	18.22
15	670.5	QPSK	1/36	23.35	1.9	25.25	23.10
		16QAM	1/0	22.63	1.9	24.53	22.38
		64QAM	1/36	21.56	1.9	23.46	21.31
		256QAM	1/0	18.43	1.9	20.33	18.18
	680.5	QPSK	1/36	23.29	1.9	25.19	23.04
		16QAM	1/0	22.69	1.9	24.59	22.44
		64QAM	1/36	21.45	1.9	23.35	21.20
		256QAM	1/74	18.48	1.9	20.38	18.23
	690.5	QPSK	1/36	23.22	1.9	25.12	22.97
		16QAM	1/36	22.61	1.9	24.51	22.36
		64QAM	1/36	21.44	1.9	23.34	21.19
		256QAM	1/0	18.49	1.9	20.39	18.24
10	668	QPSK	1/49	23.41	1.9	25.31	23.16
		16QAM	1/49	22.79	1.9	24.69	22.54
		64QAM	1/0	21.56	1.9	23.46	21.31
		256QAM	1/0	18.49	1.9	20.39	18.24
	680.5	QPSK	1/25	23.45	1.9	25.35	23.20
		16QAM	1/0	22.82	1.9	24.72	22.57
		64QAM	1/49	21.74	1.9	23.64	21.49
		256QAM	1/25	18.48	1.9	20.38	18.23
	693	QPSK	1/25	23.38	1.9	25.28	23.13
		16QAM	1/25	22.81	1.9	24.71	22.56
		64QAM	1/25	21.58	1.9	23.48	21.33
		256QAM	1/0	18.50	1.9	20.40	18.25

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	23.37	1.9	25.27	23.12
		16QAM	1/12	22.77	1.9	24.67	22.52
		64QAM	1/12	21.62	1.9	23.52	21.37
		256QAM	1/12	18.49	1.9	20.39	18.24
	680.5	QPSK	1/12	23.47	1.9	25.37	23.22
		16QAM	1/12	22.90	1.9	24.80	22.65
		64QAM	1/12	21.67	1.9	23.57	21.42
		256QAM	1/24	18.48	1.9	20.38	18.23
	695.5	QPSK	1/12	23.35	1.9	25.25	23.10
		16QAM	1/0	22.74	1.9	24.64	22.49
		64QAM	1/12	21.64	1.9	23.54	21.39
		256QAM	1/0	18.46	1.9	20.36	18.21

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	1/25	23.69	1.8	25.49	23.34
		16QAM	1/25	23.12	1.8	24.92	22.77
		64QAM	1/49	21.87	1.8	23.67	21.52
		256QAM	1/49	19.68	1.8	21.48	19.33
	711	QPSK	1/25	23.69	1.8	25.49	23.34
		16QAM	1/25	23.07	1.8	24.87	22.72
		64QAM	1/25	21.86	1.8	23.66	21.51
		256QAM	1/25	19.62	1.8	21.42	19.27
5	701.5	QPSK	1/12	23.69	1.8	25.49	23.34
		16QAM	1/12	23.17	1.8	24.97	22.82
		64QAM	1/12	22.01	1.8	23.81	21.66
		256QAM	1/24	19.68	1.8	21.48	19.33
	707.5	QPSK	1/12	23.66	1.8	25.46	23.31
		16QAM	1/12	23.16	1.8	24.96	22.81
		64QAM	1/12	22.01	1.8	23.81	21.66
		256QAM	1/12	19.68	1.8	21.48	19.33
	713.5	QPSK	1/12	23.67	1.8	25.47	23.32
		16QAM	1/12	23.14	1.8	24.94	22.79
		64QAM	1/12	21.90	1.8	23.70	21.55
		256QAM	1/12	19.67	1.8	21.47	19.32
3	700.5	QPSK	1/7	23.70	1.8	25.50	23.35
		16QAM	1/7	23.13	1.8	24.93	22.78
		64QAM	1/7	22.13	1.8	23.93	21.78
		256QAM	1/14	19.68	1.8	21.48	19.33
	707.5	QPSK	1/7	23.70	1.8	25.50	23.35
		16QAM	1/7	23.03	1.8	24.83	22.68
		64QAM	1/7	21.94	1.8	23.74	21.59
		256QAM	1/7	19.70	1.8	21.50	19.35
	714.5	QPSK	1/7	23.63	1.8	25.43	23.28
		16QAM	1/7	23.09	1.8	24.89	22.74
		64QAM	1/7	21.91	1.8	23.71	21.56
		256QAM	1/0	19.61	1.8	21.41	19.26

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	23.74	1.8	25.54	23.39
		16QAM	1/5	23.22	1.8	25.02	22.87
		64QAM	1/2	21.95	1.8	23.75	21.60
		256QAM	1/5	19.68	1.8	21.48	19.33
	707.5	QPSK	1/5	23.79	1.8	25.59	23.44
		16QAM	1/2	23.15	1.8	24.95	22.80
		64QAM	1/2	21.95	1.8	23.75	21.60
		256QAM	1/5	19.68	1.8	21.48	19.33
	715.3	QPSK	1/0	23.72	1.8	25.52	23.37
		16QAM	1/2	23.07	1.8	24.87	22.72
		64QAM	1/0	21.82	1.8	23.62	21.47
		256QAM	1/5	19.68	1.8	21.48	19.33

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	23.61	1.8	25.41	23.26
		16QAM	1/49	22.93	1.8	24.73	22.58
		64QAM	1/0	21.75	1.8	23.55	21.40
		256QAM	1/49	18.72	1.8	20.52	18.37
	711	QPSK	1/25	23.56	1.8	25.36	23.21
		16QAM	1/25	22.91	1.8	24.71	22.56
		64QAM	1/25	21.82	1.8	23.62	21.47
		256QAM	1/0	18.78	1.8	20.58	18.43
5	706.5	QPSK	1/12	23.58	1.8	25.38	23.23
		16QAM	1/12	22.99	1.8	24.79	22.64
		64QAM	1/12	21.76	1.8	23.56	21.41
		256QAM	1/12	18.77	1.8	20.57	18.42
	710	QPSK	1/12	23.61	1.8	25.41	23.26
		16QAM	1/12	23.04	1.8	24.84	22.69
		64QAM	1/12	21.78	1.8	23.58	21.43
		256QAM	1/12	18.70	1.8	20.50	18.35
	713.5	QPSK	1/12	23.61	1.8	25.41	23.26
		16QAM	1/12	23.03	1.8	24.83	22.68
		64QAM	1/12	21.78	1.8	23.58	21.43
		256QAM	1/24	18.77	1.8	20.57	18.42

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	23.77	0.1	23.87	21.72
		16QAM	1/25	23.13	0.1	23.23	21.08
		64QAM	1/25	21.95	0.1	22.05	19.90
		256QAM	1/49	19.25	0.1	19.35	17.20
5	779.5	QPSK	1/12	23.79	0.1	23.89	21.74
		16QAM	1/12	23.28	0.1	23.38	21.23
		64QAM	1/12	22.07	0.1	22.17	20.02
		256QAM	1/0	19.30	0.1	19.40	17.25
	784.5	QPSK	1/12	23.74	0.1	23.84	21.69
		16QAM	1/12	23.16	0.1	23.26	21.11
		64QAM	1/0	21.98	0.1	22.08	19.93
		256QAM	1/12	19.29	0.1	19.39	17.24

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	24.07	0.0	24.07	21.92
		16QAM	1/0	23.46	0.0	23.46	21.31
		64QAM	1/0	22.28	0.0	22.28	20.13
		256QAM	1/0	19.36	0.0	19.36	17.21
5	790.5	QPSK	1/12	23.97	0.0	23.97	21.82
		16QAM	1/12	23.34	0.0	23.34	21.19
		64QAM	1/12	22.24	0.0	22.24	20.09
		256QAM	1/0	19.21	0.0	19.21	17.06
	795.5	QPSK	1/12	24.08	0.0	24.08	21.93
		16QAM	1/12	23.43	0.0	23.43	21.28
		64QAM	1/12	22.29	0.0	22.29	20.14
		256QAM	1/24	19.26	0.0	19.26	17.11

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	1/25	23.71	0.7	24.41	22.26
		16QAM	1/49	23.14	0.7	23.84	21.69
		64QAM	1/49	21.85	0.7	22.55	20.40
		256QAM	1/25	18.70	0.7	19.40	17.25
5	816.5	QPSK	1/12	23.62	0.7	24.32	22.17
		16QAM	1/12	22.97	0.7	23.67	21.52
		64QAM	1/12	22.80	0.7	23.50	21.35
		256QAM	1/24	18.67	0.7	19.37	17.22
	821.5	QPSK	1/12	23.79	0.7	24.49	22.34
		16QAM	1/12	23.30	0.7	24.00	21.85
		64QAM	1/12	21.85	0.7	22.55	20.40
		256QAM	1/12	18.63	0.7	19.33	17.18
3	815.5	QPSK	1/7	20.57	0.7	21.27	19.12
		16QAM	1/7	22.98	0.7	23.68	21.53
		64QAM	1/14	21.71	0.7	22.41	20.26
		256QAM	1/7	18.66	0.7	19.36	17.21
	819	QPSK	1/7	20.66	0.7	21.36	19.21
		16QAM	1/7	23.06	0.7	23.76	21.61
		64QAM	1/7	21.81	0.7	22.51	20.36
		256QAM	1/14	18.63	0.7	19.33	17.18
	822.5	QPSK	1/7	23.69	0.7	24.39	22.24
		16QAM	1/7	23.14	0.7	23.84	21.69
		64QAM	1/7	21.87	0.7	22.57	20.42
		256QAM	1/0	18.67	0.7	19.37	17.22
1.4	814.7	QPSK	1/2	20.51	0.7	21.21	19.06
		16QAM	1/2	22.95	0.7	23.65	21.50
		64QAM	1/2	20.66	0.7	21.36	19.21
		256QAM	1/0	18.68	0.7	19.38	17.23
	819	QPSK	1/2	20.66	0.7	21.36	19.21
		16QAM	1/5	23.01	0.7	23.71	21.56
		64QAM	1/2	21.82	0.7	22.52	20.37
		256QAM	1/0	18.64	0.7	19.34	17.19
	823.3	QPSK	1/2	23.71	0.7	24.41	22.26
		16QAM	1/2	23.13	0.7	23.83	21.68
		64QAM	1/2	21.95	0.7	22.65	20.50
		256QAM	1/0	18.69	0.7	19.39	17.24

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	23.75	0.7	24.45	22.30
		16QAM	1/74	23.00	0.7	23.70	21.55
		64QAM	1/74	21.86	0.7	22.56	20.41
		256QAM	1/74	18.58	0.7	19.28	17.13
	841.5	QPSK	1/36	23.78	0.7	24.48	22.33
		16QAM	1/36	23.00	0.7	23.70	21.55
		64QAM	1/36	22.08	0.7	22.78	20.63
		256QAM	1/0	18.67	0.7	19.37	17.22
10	829	QPSK	1/0	23.80	0.7	24.50	22.35
		16QAM	1/0	23.17	0.7	23.87	21.72
		64QAM	1/25	22.00	0.7	22.70	20.55
		256QAM	1/0	18.68	0.7	19.38	17.23
	836.5	QPSK	1/49	23.85	0.7	24.55	22.40
		16QAM	1/49	23.32	0.7	24.02	21.87
		64QAM	1/49	22.07	0.7	22.77	20.62
		256QAM	1/25	18.70	0.7	19.40	17.25
	844	QPSK	1/0	23.89	0.7	24.59	22.44
		16QAM	1/0	23.29	0.7	23.99	21.84
		64QAM	1/25	22.05	0.7	22.75	20.60
		256QAM	1/49	18.64	0.7	19.34	17.19
5	826.5	QPSK	1/12	23.82	0.7	24.52	22.37
		16QAM	1/0	23.24	0.7	23.94	21.79
		64QAM	1/0	22.04	0.7	22.74	20.59
		256QAM	1/0	18.61	0.7	19.31	17.16
	836.5	QPSK	1/12	23.87	0.7	24.57	22.42
		16QAM	1/12	23.32	0.7	24.02	21.87
		64QAM	1/24	22.10	0.7	22.80	20.65
		256QAM	1/24	18.64	0.7	19.34	17.19
	846.5	QPSK	1/12	23.80	0.7	24.50	22.35
		16QAM	1/0	23.23	0.7	23.93	21.78
		64QAM	1/24	22.03	0.7	22.73	20.58
		256QAM	1/24	18.66	0.7	19.36	17.21
3	825.5	QPSK	1/7	23.79	0.7	24.49	22.34
		16QAM	1/7	23.20	0.7	23.90	21.75
		64QAM	1/7	22.07	0.7	22.77	20.62
		256QAM	1/7	18.70	0.7	19.40	17.25
	836.5	QPSK	1/7	23.83	0.7	24.53	22.38
		16QAM	1/7	23.28	0.7	23.98	21.83
		64QAM	1/7	22.03	0.7	22.73	20.58
		256QAM	1/0	18.69	0.7	19.39	17.24
	847.5	QPSK	1/7	23.74	0.7	24.44	22.29
		16QAM	1/7	23.20	0.7	23.90	21.75
		64QAM	1/7	22.05	0.7	22.75	20.60
		256QAM	1/14	18.66	0.7	19.36	17.21

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	23.79	0.7	24.49	22.34
		16QAM	1/5	23.15	0.7	23.85	21.70
		64QAM	1/2	22.00	0.7	22.70	20.55
		256QAM	1/5	18.70	0.7	19.40	17.25
	836.5	QPSK	1/2	23.83	0.7	24.53	22.38
		16QAM	1/2	23.12	0.7	23.82	21.67
		64QAM	1/5	21.99	0.7	22.69	20.54
		256QAM	1/5	18.66	0.7	19.36	17.21
	848.3	QPSK	1/2	23.79	0.7	24.49	22.34
		16QAM	1/2	23.08	0.7	23.78	21.63
		64QAM	1/5	21.98	0.7	22.68	20.53
		256QAM	1/2	18.66	0.7	19.36	17.21

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	23.33	0.7	24.03	21.88
		16QAM	1/0	22.90	0.7	23.60	21.45
		64QAM	1/0	21.56	0.7	22.26	20.11
		256QAM	1/0	18.43	0.7	19.13	16.98
	836.5	QPSK	1/25	23.38	0.7	24.08	21.93
		16QAM	1/25	22.83	0.7	23.53	21.38
		64QAM	1/49	21.69	0.7	22.39	20.24
		256QAM	1/0	18.39	0.7	19.09	16.94
	844	QPSK	1/0	23.44	0.7	24.14	21.99
		16QAM	1/0	22.94	0.7	23.64	21.49
		64QAM	1/25	21.67	0.7	22.37	20.22
		256QAM	1/0	18.43	0.7	19.13	16.98
5	826.5	QPSK	1/12	23.35	0.7	24.05	21.90
		16QAM	1/0	22.82	0.7	23.52	21.37
		64QAM	1/0	21.69	0.7	22.39	20.24
		256QAM	1/0	18.45	0.7	19.15	17.00
	836.5	QPSK	1/12	23.40	0.7	24.10	21.95
		16QAM	1/12	22.84	0.7	23.54	21.39
		64QAM	1/12	21.76	0.7	22.46	20.31
		256QAM	1/0	18.33	0.7	19.03	16.88
	846.5	QPSK	1/12	23.36	0.7	24.06	21.91
		16QAM	1/12	22.86	0.7	23.56	21.41
		64QAM	1/12	21.72	0.7	22.42	20.27
		256QAM	1/12	18.40	0.7	19.10	16.95
3	825.5	QPSK	1/7	23.35	0.7	24.05	21.90
		16QAM	1/7	22.83	0.7	23.53	21.38
		64QAM	1/7	21.69	0.7	22.39	20.24
		256QAM	1/7	18.41	0.7	19.11	16.96
	836.5	QPSK	1/7	23.38	0.7	24.08	21.93
		16QAM	1/7	22.89	0.7	23.59	21.44
		64QAM	1/7	21.73	0.7	22.43	20.28
		256QAM	1/14	18.28	0.7	18.98	16.83
	847.5	QPSK	1/7	23.35	0.7	24.05	21.90
		16QAM	1/7	22.87	0.7	23.57	21.42
		64QAM	1/7	21.69	0.7	22.39	20.24
		256QAM	1/14	18.40	0.7	19.10	16.95
1.4	824.7	QPSK	1/2	23.39	0.7	24.09	21.94
		16QAM	1/5	22.82	0.7	23.52	21.37
		64QAM	1/2	21.74	0.7	22.44	20.29
		256QAM	1/5	18.43	0.7	19.13	16.98
	836.5	QPSK	1/5	23.40	0.7	24.10	21.95
		16QAM	1/2	22.86	0.7	23.56	21.41
		64QAM	1/2	21.77	0.7	22.47	20.32
		256QAM	1/2	18.25	0.7	18.95	16.80
	848.3	QPSK	1/2	23.41	0.7	24.11	21.96
		16QAM	1/0	22.85	0.7	23.55	21.40
		64QAM	1/2	21.66	0.7	22.36	20.21
		256QAM	1/2	18.40	0.7	19.10	16.95

LTE ULCA(5B)

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	24.65	0.7	25.35	23.20
SCC	10	838.9	QPSK	1/0				
PCC	10	834.1	16QAM	1/49	23.55	0.7	24.25	22.10
SCC	10	844	16QAM	1/0				
PCC	3	825.6	QPSK	15/0	24.36	0.7	25.06	22.91
SCC	5	829.5	QPSK	25/0				
PCC	3	825.6	16QAM	1/14	23.95	0.7	24.65	22.50
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	1/99	23.72	2.6	26.32
		16QAM	1/0	22.99	2.6	25.59
		64QAM	1/50	21.91	2.6	24.51
		256QAM	1/99	18.69	2.6	21.29
	1 732.5	QPSK	1/99	23.73	2.6	26.33
		16QAM	1/0	23.09	2.6	25.69
		64QAM	1/99	21.98	2.6	24.58
		256QAM	1/0	18.56	2.6	21.16
	1 745	QPSK	1/0	23.83	2.6	26.43
		16QAM	1/0	23.13	2.6	25.73
		64QAM	1/50	22.03	2.6	24.63
		256QAM	1/0	18.59	2.6	21.19
15	1 717.5	QPSK	1/74	23.71	2.6	26.31
		16QAM	1/74	22.88	2.6	25.48
		64QAM	1/36	21.91	2.6	24.51
		256QAM	1/36	18.63	2.6	21.23
	1 732.5	QPSK	1/74	23.76	2.6	26.36
		16QAM	1/36	23.10	2.6	25.70
		64QAM	1/74	22.01	2.6	24.61
		256QAM	1/0	18.64	2.6	21.24
	1 747.5	QPSK	1/36	23.75	2.6	26.35
		16QAM	1/0	23.10	2.6	25.70
		64QAM	1/74	22.08	2.6	24.68
		256QAM	1/74	18.70	2.6	21.30
10	1 715	QPSK	1/25	23.72	2.6	26.32
		16QAM	1/25	23.18	2.6	25.78
		64QAM	1/25	22.02	2.6	24.62
		256QAM	1/0	18.65	2.6	21.25
	1 732.5	QPSK	1/25	23.81	2.6	26.41
		16QAM	1/49	23.26	2.6	25.86
		64QAM	1/25	22.11	2.6	24.71
		256QAM	1/49	18.64	2.6	21.24
	1 750	QPSK	1/25	23.86	2.6	26.46
		16QAM	1/25	23.33	2.6	25.93
		64QAM	1/25	22.07	2.6	24.67
		256QAM	1/49	18.59	2.6	21.19
5	1 712.5	QPSK	1/12	23.75	2.6	26.35
		16QAM	1/12	23.16	2.6	25.76
		64QAM	1/24	22.05	2.6	24.65
		256QAM	1/0	18.68	2.6	21.28
	1 732.5	QPSK	1/12	23.82	2.6	26.42
		16QAM	1/12	23.29	2.6	25.89
		64QAM	1/0	22.09	2.6	24.69
		256QAM	1/12	18.69	2.6	21.29
	1 752.5	QPSK	1/12	23.91	2.6	26.51
		16QAM	1/12	23.30	2.6	25.90
		64QAM	1/12	22.14	2.6	24.74
		256QAM	1/0	18.54	2.6	21.14

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	23.74	2.6	26.34
		16QAM	1/7	23.18	2.6	25.78
		64QAM	1/7	21.95	2.6	24.55
		256QAM	1/14	18.67	2.6	21.27
	1 732.5	QPSK	1/7	23.82	2.6	26.42
		16QAM	1/7	23.23	2.6	25.83
		64QAM	1/7	22.14	2.6	24.74
		256QAM	1/7	18.64	2.6	21.24
	1 753.5	QPSK	1/7	23.95	2.6	26.55
		16QAM	1/7	23.31	2.6	25.91
		64QAM	1/7	22.12	2.6	24.72
		256QAM	1/14	18.64	2.6	21.24
1.4	1 710.7	QPSK	1/2	23.72	2.6	26.32
		16QAM	1/2	23.09	2.6	25.69
		64QAM	1/5	21.93	2.6	24.53
		256QAM	1/2	18.68	2.6	21.28
	1 732.5	QPSK	1/2	23.81	2.6	26.41
		16QAM	1/2	23.27	2.6	25.87
		64QAM	1/2	22.06	2.6	24.66
		256QAM	1/0	18.69	2.6	21.29
	1 754.3	QPSK	1/0	23.88	2.6	26.48
		16QAM	1/2	23.23	2.6	25.83
		64QAM	1/2	22.14	2.6	24.74
		256QAM	1/5	18.68	2.6	21.28

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	1/99	23.12	2.6	25.72
		16QAM	1/99	22.37	2.6	24.97
		64QAM	1/99	21.29	2.6	23.89
		256QAM	1/99	18.47	2.6	21.07
	1 745	QPSK	1/0	23.08	2.6	25.68
		16QAM	1/50	22.42	2.6	25.02
		64QAM	1/50	21.37	2.6	23.97
		256QAM	1/50	18.49	2.6	21.09
	1 770	QPSK	1/50	23.13	2.6	25.73
		16QAM	1/99	22.32	2.6	24.92
		64QAM	1/50	21.44	2.6	24.04
		256QAM	1/0	18.49	2.6	21.09
15	1 717.5	QPSK	1/74	23.14	2.6	25.74
		16QAM	1/74	22.36	2.6	24.96
		64QAM	1/74	21.27	2.6	23.87
		256QAM	1/36	18.48	2.6	21.08
	1 745	QPSK	1/74	23.13	2.6	25.73
		16QAM	1/74	22.38	2.6	24.98
		64QAM	1/0	21.32	2.6	23.92
		256QAM	1/0	18.48	2.6	21.08
	1 772.5	QPSK	1/36	23.08	2.6	25.68
		16QAM	1/74	22.33	2.6	24.93
		64QAM	1/36	21.30	2.6	23.90
		256QAM	1/0	18.46	2.6	21.06
10	1 715	QPSK	1/25	23.10	2.6	25.70
		16QAM	1/25	22.51	2.6	25.11
		64QAM	1/25	21.49	2.6	24.09
		256QAM	1/25	18.50	2.6	21.10
	1 745	QPSK	1/25	23.22	2.6	25.82
		16QAM	1/0	22.57	2.6	25.17
		64QAM	1/25	21.59	2.6	24.19
		256QAM	1/49	18.46	2.6	21.06
	1 775	QPSK	1/25	23.18	2.6	25.78
		16QAM	1/25	22.57	2.6	25.17
		64QAM	1/25	21.57	2.6	24.17
		256QAM	1/49	18.48	2.6	21.08
5	1 712.5	QPSK	1/12	23.10	2.6	25.70
		16QAM	1/24	22.54	2.6	25.14
		64QAM	1/24	21.49	2.6	24.09
		256QAM	1/12	18.41	2.6	21.01
	1 745	QPSK	1/12	23.25	2.6	25.85
		16QAM	1/12	22.55	2.6	25.15
		64QAM	1/12	21.62	2.6	24.22
		256QAM	1/12	18.50	2.6	21.10
	1 777.5	QPSK	1/12	23.24	2.6	25.84
		16QAM	1/12	22.60	2.6	25.20
		64QAM	1/12	21.61	2.6	24.21
		256QAM	1/0	18.42	2.6	21.02

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	23.10	2.6	25.70
		16QAM	1/7	22.51	2.6	25.11
		64QAM	1/7	21.43	2.6	24.03
		256QAM	1/14	18.47	2.6	21.07
	1 745	QPSK	1/7	23.16	2.6	25.76
		16QAM	1/7	22.68	2.6	25.28
		64QAM	1/7	21.50	2.6	24.10
		256QAM	1/7	18.44	2.6	21.04
	1 778.5	QPSK	1/7	23.24	2.6	25.84
		16QAM	1/7	22.66	2.6	25.26
		64QAM	1/7	21.71	2.6	24.31
		256QAM	1/7	18.47	2.6	21.07
1.4	1 710.7	QPSK	1/2	23.12	2.6	25.72
		16QAM	1/2	22.51	2.6	25.11
		64QAM	1/0	21.43	2.6	24.03
		256QAM	1/5	18.47	2.6	21.07
	1 745	QPSK	1/0	23.18	2.6	25.78
		16QAM	1/2	22.58	2.6	25.18
		64QAM	1/5	21.52	2.6	24.12
		256QAM	1/2	18.46	2.6	21.06
	1 779.3	QPSK	1/2	23.22	2.6	25.82
		16QAM	1/0	22.62	2.6	25.22
		64QAM	1/5	21.51	2.6	24.11
		256QAM	1/5	18.47	2.6	21.07

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	23.45	2.6	26.05
SCC	10	1 724.9	QPSK	1/0			
PCC	10	1 750.1	16QAM	1/49	22.45	2.6	25.05
SCC	10	1 760	16QAM	1/0			
PCC	5	1 750.3	QPSK	1/24	25.11	2.6	27.71
SCC	10	1 757.5	QPSK	1/0			
PCC	5	1 748.1	16QAM	1/24	25.45	2.6	28.05
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	23.81	2.6	26.41
SCC	20	1 764.9	QPSK	1/0			
PCC	20	1 745.1	16QAM	1/99	23.33	2.6	25.93
SCC	20	1 764.9	16QAM	1/0			
PCC	15	1 745.3	QPSK	1/74	23.83	2.6	26.43
SCC	20	1 762.4	QPSK	1/0			
PCC	15	1 745.3	16QAM	1/74	23.23	2.6	25.83
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	1/0	23.41	4.4	27.81
		16QAM	1/0	22.78	4.4	27.18
		64QAM	1/50	21.59	4.4	25.99
		256QAM	1/99	18.46	4.4	22.86
	1 880	QPSK	1/0	23.43	4.4	27.83
		16QAM	1/50	22.93	4.4	27.33
		64QAM	1/50	21.89	4.4	26.29
		256QAM	1/50	18.41	4.4	22.81
	1 900	QPSK	1/0	23.33	4.4	27.73
		16QAM	1/0	22.68	4.4	27.08
		64QAM	1/50	21.58	4.4	25.98
		256QAM	1/0	18.47	4.4	22.87
15	1 857.5	QPSK	1/74	23.40	4.4	27.80
		16QAM	1/74	22.72	4.4	27.12
		64QAM	1/74	21.62	4.4	26.02
		256QAM	1/74	18.67	4.4	23.07
	1 880	QPSK	1/36	23.45	4.4	27.85
		16QAM	1/0	22.72	4.4	27.12
		64QAM	1/74	21.67	4.4	26.07
		256QAM	1/74	18.40	4.4	22.80
	1 902.5	QPSK	1/0	23.31	4.4	27.71
		16QAM	1/0	22.69	4.4	27.09
		64QAM	1/0	21.53	4.4	25.93
		256QAM	1/74	18.43	4.4	22.83
10	1 855	QPSK	1/25	23.59	4.4	27.99
		16QAM	1/25	22.94	4.4	27.34
		64QAM	1/25	21.93	4.4	26.33
		256QAM	1/0	18.44	4.4	22.84
	1 880	QPSK	1/25	23.60	4.4	28.00
		16QAM	1/0	22.89	4.4	27.29
		64QAM	1/0	21.88	4.4	26.28
		256QAM	1/25	18.43	4.4	22.83
	1 905	QPSK	1/25	23.47	4.4	27.87
		16QAM	1/25	22.76	4.4	27.16
		64QAM	1/0	21.83	4.4	26.23
		256QAM	1/25	18.37	4.4	22.77
5	1 852.5	QPSK	1/12	23.58	4.4	27.98
		16QAM	1/12	22.93	4.4	27.33
		64QAM	1/24	21.78	4.4	26.18
		256QAM	1/12	18.47	4.4	22.87
	1 880	QPSK	1/12	23.59	4.4	27.99
		16QAM	1/12	22.94	4.4	27.34
		64QAM	1/12	21.92	4.4	26.32
		256QAM	1/24	18.36	4.4	22.76
	1 907.5	QPSK	1/12	23.45	4.4	27.85
		16QAM	1/12	22.83	4.4	27.23
		64QAM	1/12	21.80	4.4	26.20
		256QAM	1/24	18.46	4.4	22.86

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	1/7	23.54	4.4	27.94
		16QAM	1/7	22.84	4.4	27.24
		64QAM	1/7	21.92	4.4	26.32
		256QAM	1/7	18.62	4.4	23.02
	1 880	QPSK	1/7	23.52	4.4	27.92
		16QAM	1/7	22.97	4.4	27.37
		64QAM	1/7	21.93	4.4	26.33
		256QAM	1/0	18.58	4.4	22.98
	1 908.5	QPSK	1/7	23.46	4.4	27.86
		16QAM	1/7	22.75	4.4	27.15
		64QAM	1/7	21.78	4.4	26.18
		256QAM	1/0	18.46	4.4	22.86
1.4	1 850.7	QPSK	1/0	23.47	4.4	27.87
		16QAM	1/5	22.81	4.4	27.21
		64QAM	1/0	21.83	4.4	26.23
		256QAM	1/0	18.45	4.4	22.85
	1 880	QPSK	1/0	23.51	4.4	27.91
		16QAM	1/5	22.96	4.4	27.36
		64QAM	1/5	21.96	4.4	26.36
		256QAM	1/5	18.28	4.4	22.68
	1 909.3	QPSK	1/5	23.41	4.4	27.81
		16QAM	1/0	22.85	4.4	27.25
		64QAM	1/2	21.75	4.4	26.15
		256QAM	1/5	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	23.71	4.4	28.11
SCC	20	1 879.8	QPSK	1/0			
PCC	20	1 880.2	16QAM	1/99	23.28	4.4	27.68
SCC	20	1 900	16QAM	1/0			
PCC	15	1 882.9	QPSK	1/74	23.38	4.4	27.78
SCC	20	1 900	QPSK	1/0			
PCC	15	1 882.9	16QAM	1/74	22.86	4.4	27.26
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	1 860	QPSK	1/0	23.63	4.4	28.03
		16QAM	1/0	22.88	4.4	27.28
		64QAM	1/0	21.79	4.4	26.19
		256QAM	1/99	18.90	4.4	23.30
	1 882.5	QPSK	1/50	23.62	4.4	28.02
		16QAM	1/0	22.88	4.4	27.28
		64QAM	1/50	21.96	4.4	26.36
		256QAM	1/50	18.87	4.4	23.27
	1 905	QPSK	1/50	23.54	4.4	27.94
		16QAM	1/0	22.85	4.4	27.25
		64QAM	1/0	21.76	4.4	26.16
		256QAM	1/99	18.86	4.4	23.26
15	1 857.5	QPSK	1/74	23.66	4.4	28.06
		16QAM	1/0	22.96	4.4	27.36
		64QAM	1/74	21.83	4.4	26.23
		256QAM	1/74	18.87	4.4	23.27
	1 882.5	QPSK	1/74	23.60	4.4	28.00
		16QAM	1/36	22.89	4.4	27.29
		64QAM	1/0	21.83	4.4	26.23
		256QAM	1/74	18.88	4.4	23.28
	1 907.5	QPSK	1/36	23.50	4.4	27.90
		16QAM	1/36	22.84	4.4	27.24
		64QAM	1/36	21.63	4.4	26.03
		256QAM	1/36	18.88	4.4	23.28
10	1 855	QPSK	1/25	23.72	4.4	28.12
		16QAM	1/0	23.09	4.4	27.49
		64QAM	1/25	21.95	4.4	26.35
		256QAM	1/25	18.85	4.4	23.25
	1 882.5	QPSK	1/25	23.71	4.4	28.11
		16QAM	1/49	23.08	4.4	27.48
		64QAM	1/25	21.98	4.4	26.38
		256QAM	1/25	18.84	4.4	23.24
	1 910	QPSK	1/25	23.61	4.4	28.01
		16QAM	1/49	23.08	4.4	27.48
		64QAM	1/25	21.85	4.4	26.25
		256QAM	1/25	18.86	4.4	23.26
5	1 852.5	QPSK	1/12	23.73	4.4	28.13
		16QAM	1/12	23.13	4.4	27.53
		64QAM	1/12	21.98	4.4	26.38
		256QAM	1/12	18.86	4.4	23.26
	1 882.5	QPSK	1/12	23.72	4.4	28.12
		16QAM	1/12	23.08	4.4	27.48
		64QAM	1/12	21.92	4.4	26.32
		256QAM	1/12	18.86	4.4	23.26
	1 912.5	QPSK	1/12	23.60	4.4	28.00
		16QAM	1/12	23.10	4.4	27.50
		64QAM	1/12	21.93	4.4	26.33
		256QAM	1/12	18.90	4.4	23.30

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	1/7	23.72	4.4	28.12
		16QAM	1/0	23.05	4.4	27.45
		64QAM	1/7	21.85	4.4	26.25
		256QAM	1/7	18.88	4.4	23.28
	1 882.5	QPSK	1/7	23.71	4.4	28.11
		16QAM	1/7	23.10	4.4	27.50
		64QAM	1/7	21.96	4.4	26.36
		256QAM	1/0	18.90	4.4	23.30
	1 913.5	QPSK	1/7	23.59	4.4	27.99
		16QAM	1/7	23.08	4.4	27.48
		64QAM	1/7	21.88	4.4	26.28
		256QAM	1/14	18.88	4.4	23.28
1.4	1 850.7	QPSK	1/2	23.68	4.4	28.08
		16QAM	1/2	23.11	4.4	27.51
		64QAM	1/2	21.94	4.4	26.34
		256QAM	1/2	18.81	4.4	23.21
	1 882.5	QPSK	1/2	23.72	4.4	28.12
		16QAM	1/0	23.15	4.4	27.55
		64QAM	1/2	21.88	4.4	26.28
		256QAM	1/5	18.86	4.4	23.26
	1 914.3	QPSK	1/0	23.55	4.4	27.95
		16QAM	1/5	22.97	4.4	27.37
		64QAM	1/5	21.82	4.4	26.22
		256QAM	1/0	18.82	4.4	23.22

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	1/0	17.29	2.4	19.69
		16QAM	1/25	16.27	2.4	18.67
		64QAM	1/0	15.24	2.4	17.64
		256QAM	1/49	12.27	2.4	14.67
5	2 307.5	QPSK	1/24	16.98	2.4	19.38
		16QAM	1/12	16.53	2.4	18.93
		64QAM	1/12	15.24	2.4	17.64
		256QAM	1/12	12.45	2.4	14.85
	2 310	QPSK	1/0	17.22	2.4	19.62
		16QAM	1/0	16.24	2.4	18.64
		64QAM	1/0	15.27	2.4	17.67
		256QAM	1/0	12.30	2.4	14.70
	2 312.5	QPSK	1/24	16.93	2.4	19.33
		16QAM	1/12	16.31	2.4	18.71
		64QAM	1/0	15.22	2.4	17.62
		256QAM	1/0	12.37	2.4	14.77

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	1/99	24.14	3.7	27.84
		16QAM	1/50	23.57	3.7	27.27
		64QAM	1/50	22.46	3.7	26.16
		256QAM	1/50	19.75	3.7	23.45
	2 593	QPSK	1/99	24.80	3.7	28.50
		16QAM	1/0	24.22	3.7	27.92
		64QAM	1/99	23.24	3.7	26.94
		256QAM	1/50	19.73	3.7	23.43
	2 680	QPSK	1/0	24.60	3.7	28.30
		16QAM	1/99	24.22	3.7	27.92
		64QAM	1/99	22.97	3.7	26.67
		256QAM	1/50	19.75	3.7	23.45
15	2 503.5	QPSK	1/0	24.07	3.7	27.77
		16QAM	1/74	23.55	3.7	27.25
		64QAM	1/0	22.38	3.7	26.08
		256QAM	1/36	19.71	3.7	23.41
	2 593	QPSK	1/74	24.77	3.7	28.47
		16QAM	1/74	24.12	3.7	27.82
		64QAM	1/74	23.08	3.7	26.78
		256QAM	1/36	19.74	3.7	23.44
	2 682.5	QPSK	1/74	24.62	3.7	28.32
		16QAM	1/0	23.92	3.7	27.62
		64QAM	1/74	22.92	3.7	26.62
		256QAM	1/0	19.70	3.7	23.40
10	2 501	QPSK	1/25	24.34	3.7	28.04
		16QAM	1/49	23.80	3.7	27.50
		64QAM	1/25	22.66	3.7	26.36
		256QAM	1/0	19.68	3.7	23.38
	2 593	QPSK	1/25	24.92	3.7	28.62
		16QAM	1/25	24.31	3.7	28.01
		64QAM	1/49	23.26	3.7	26.96
		256QAM	1/25	19.73	3.7	23.43
	2 685	QPSK	1/25	24.81	3.7	28.51
		16QAM	1/49	24.20	3.7	27.90
		64QAM	1/25	23.18	3.7	26.88
		256QAM	1/49	19.76	3.7	23.46
5	2 498.5	QPSK	1/12	24.36	3.7	28.06
		16QAM	1/12	23.88	3.7	27.58
		64QAM	1/12	22.64	3.7	26.34
		256QAM	1/0	19.74	3.7	23.44
	2 593	QPSK	1/12	24.94	3.7	28.64
		16QAM	1/12	24.33	3.7	28.03
		64QAM	1/12	23.22	3.7	26.92
		256QAM	1/12	19.80	3.7	23.50
	2 687.5	QPSK	1/12	24.75	3.7	28.45
		16QAM	1/12	24.30	3.7	28.00
		64QAM	1/12	23.11	3.7	26.81
		256QAM	1/12	19.76	3.7	23.46

LTE ULCA(41C)

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	23.01	3.7	26.71
SCC	20	2 525.8	QPSK	1/0			
PCC	20	2 583.1	16QAM	1/99	22.64	3.7	26.34
SCC	20	2 602.9	16QAM	1/0			
PCC	20	2 506	QPSK	1/99	22.53	3.7	26.23
SCC	5	2 517.7	QPSK	1/0			
PCC	10	2 501.5	16QAM	1/49	23.86	3.7	27.56
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	1/99	22.99	3.7	26.69
		16QAM	1/50	22.28	3.7	25.98
		64QAM	1/50	21.15	3.7	24.85
		256QAM	1/0	18.12	3.7	21.82
	2 535	QPSK	1/99	23.12	3.7	26.82
		16QAM	1/50	22.33	3.7	26.03
		64QAM	1/99	21.15	3.7	24.85
		256QAM	1/0	18.12	3.7	21.82
	2 560	QPSK	1/99	23.21	3.7	26.91
		16QAM	1/99	22.42	3.7	26.12
		64QAM	1/50	21.40	3.7	25.10
		256QAM	1/0	18.17	3.7	21.87
15	2 507.5	QPSK	1/36	22.95	3.7	26.65
		16QAM	1/36	22.14	3.7	25.84
		64QAM	1/36	21.10	3.7	24.80
		256QAM	1/0	18.12	3.7	21.82
	2 535	QPSK	1/36	23.06	3.7	26.76
		16QAM	1/74	22.30	3.7	26.00
		64QAM	1/74	21.27	3.7	24.97
		256QAM	1/0	18.12	3.7	21.82
	2 565.5	QPSK	1/74	23.13	3.7	26.83
		16QAM	1/0	22.32	3.7	26.02
		64QAM	1/0	21.29	3.7	24.99
		256QAM	1/74	18.20	3.7	21.90
10	2 505	QPSK	1/25	23.05	3.7	26.75
		16QAM	1/49	22.42	3.7	26.12
		64QAM	1/25	21.28	3.7	24.98
		256QAM	1/49	18.19	3.7	21.89
	2 535	QPSK	1/49	23.10	3.7	26.80
		16QAM	1/49	22.51	3.7	26.21
		64QAM	1/25	21.38	3.7	25.08
		256QAM	1/0	18.12	3.7	21.82
	2 565	QPSK	1/25	23.26	3.7	26.96
		16QAM	1/49	22.58	3.7	26.28
		64QAM	1/25	21.52	3.7	25.22
		256QAM	1/0	18.20	3.7	21.90
5	2 502.5	QPSK	1/12	23.00	3.7	26.70
		16QAM	1/24	22.42	3.7	26.12
		64QAM	1/0	21.28	3.7	24.98
		256QAM	1/24	18.18	3.7	21.88
	2 535	QPSK	1/12	23.10	3.7	26.80
		16QAM	1/12	22.47	3.7	26.17
		64QAM	1/12	21.30	3.7	25.00
		256QAM	1/12	18.17	3.7	21.87
	2 567.5	QPSK	1/12	23.28	3.7	26.98
		16QAM	1/12	22.63	3.7	26.33
		64QAM	1/12	21.55	3.7	25.25
		256QAM	1/0	18.18	3.7	21.88

LTE ULCA(7C)

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	23.39	3.7	27.09
SCC	20	2 560	QPSK	1/0			
PCC	20	2 540.2	16QAM	1/99	22.74	3.7	26.44
SCC	20	2 560	16QAM	1/0			
PCC	10	2 525.6	QPSK	1/49	24.64	3.7	28.34
SCC	20	2 540	QPSK	1/0			
PCC	15	2 542.9	16QAM	1/74	22.82	3.7	26.52
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)	EUT Antenna Gain(dBi)	EIRP (dBm)
20	2 580	QPSK	1/99	24.54	3.1	27.64
		16QAM	1/50	23.91	3.1	27.01
		64QAM	1/99	22.95	3.1	26.05
		256QAM	1/99	20.20	3.1	23.30
	2 595	QPSK	1/99	24.63	3.1	27.73
		16QAM	1/50	24.06	3.1	27.16
		64QAM	1/50	23.00	3.1	26.10
		256QAM	1/0	20.17	3.1	23.27
	2 610	QPSK	1/50	24.74	3.1	27.84
		16QAM	1/50	24.09	3.1	27.19
		64QAM	1/50	22.96	3.1	26.06
		256QAM	1/0	20.20	3.1	23.30
15	2 577.5	QPSK	1/36	24.52	3.1	27.62
		16QAM	1/36	23.91	3.1	27.01
		64QAM	1/74	22.85	3.1	25.95
		256QAM	1/74	20.11	3.1	23.21
	2 595	QPSK	1/74	24.65	3.1	27.75
		16QAM	1/36	24.06	3.1	27.16
		64QAM	1/74	23.04	3.1	26.14
		256QAM	1/0	20.18	3.1	23.28
	2 612.5	QPSK	1/74	24.73	3.1	27.83
		16QAM	1/36	24.09	3.1	27.19
		64QAM	1/36	23.14	3.1	26.24
		256QAM	1/0	20.07	3.1	23.17
10	2 575	QPSK	1/25	24.70	3.1	27.80
		16QAM	1/49	24.09	3.1	27.19
		64QAM	1/25	22.97	3.1	26.07
		256QAM	1/0	20.08	3.1	23.18
	2 595	QPSK	1/25	24.83	3.1	27.93
		16QAM	1/25	24.30	3.1	27.40
		64QAM	1/25	23.21	3.1	26.31
		256QAM	1/49	20.15	3.1	23.25
	2 615	QPSK	1/25	24.97	3.1	28.07
		16QAM	1/0	24.40	3.1	27.50
		64QAM	1/25	23.30	3.1	26.40
		256QAM	1/49	20.13	3.1	23.23
5	2 572.5	QPSK	1/12	24.68	3.1	27.78
		16QAM	1/12	24.15	3.1	27.25
		64QAM	1/12	22.97	3.1	26.07
		256QAM	1/12	20.20	3.1	23.30
	2 595	QPSK	1/12	24.88	3.1	27.98
		16QAM	1/12	24.33	3.1	27.43
		64QAM	1/12	23.22	3.1	26.32
		256QAM	1/12	20.17	3.1	23.27
	2 617.5	QPSK	1/12	24.96	3.1	28.06
		16QAM	1/12	24.43	3.1	27.53
		64QAM	1/24	23.31	3.1	26.41
		256QAM	1/0	20.13	3.1	23.23

LTE ULCA(38C)

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	23.66	3.1	26.76
SCC	20	2 610	QPSK	1/0			
PCC	20	2 585.1	16QAM	1/99	22.84	3.1	25.94
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	24.38	3.2	27.58
		16QAM	1/0	23.72	3.2	26.92
		64QAM	1/0	22.54	3.2	25.74
		256QAM	1/50	19.76	3.2	22.96
	3 500	QPSK	1/0	24.21	3.2	27.41
		16QAM	1/0	23.55	3.2	26.75
		64QAM	1/0	22.29	3.2	25.49
		256QAM	1/50	19.73	3.2	22.93
	3 540	QPSK	1/0	24.27	3.2	27.47
		16QAM	1/50	23.65	3.2	26.85
		64QAM	1/50	22.47	3.2	25.67
		256QAM	1/99	19.75	3.2	22.95
15	3 457.5	QPSK	1/0	24.32	3.2	27.52
		16QAM	1/0	23.75	3.2	26.95
		64QAM	1/36	22.53	3.2	25.73
		256QAM	1/0	19.80	3.2	23.00
	3 500	QPSK	1/0	24.15	3.2	27.35
		16QAM	1/36	23.53	3.2	26.73
		64QAM	1/0	22.35	3.2	25.55
		256QAM	1/74	19.73	3.2	22.93
	3 542.5	QPSK	1/0	24.24	3.2	27.44
		16QAM	1/36	23.57	3.2	26.77
		64QAM	1/0	22.45	3.2	25.65
		256QAM	1/36	19.77	3.2	22.97
10	3 455	QPSK	1/0	24.50	3.2	27.70
		16QAM	1/0	23.76	3.2	26.96
		64QAM	1/0	22.79	3.2	25.99
		256QAM	1/0	19.70	3.2	22.90
	3 500	QPSK	1/0	24.34	3.2	27.54
		16QAM	1/0	23.70	3.2	26.90
		64QAM	1/0	22.55	3.2	25.75
		256QAM	1/49	19.77	3.2	22.97
	3 545	QPSK	1/0	24.39	3.2	27.59
		16QAM	1/0	23.71	3.2	26.91
		64QAM	1/0	22.51	3.2	25.71
		256QAM	1/25	19.79	3.2	22.99
5	3 452.5	QPSK	1/0	24.50	3.2	27.70
		16QAM	1/0	23.86	3.2	27.06
		64QAM	1/12	22.66	3.2	25.86
		256QAM	1/0	19.75	3.2	22.95
	3 500	QPSK	1/0	24.32	3.2	27.52
		16QAM	1/0	23.65	3.2	26.85
		64QAM	1/0	22.54	3.2	25.74
		256QAM	1/0	19.78	3.2	22.98
	3 547.5	QPSK	1/12	24.40	3.2	27.60
		16QAM	1/0	23.74	3.2	26.94
		64QAM	1/12	22.57	3.2	25.77
		256QAM	1/24	19.75	3.2	22.95

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	23.48	3.2	26.68
SCC	20	3 479.8	QPSK	1/0			
PCC	20	3 460	16QAM	1/99	22.69	3.2	25.89
SCC	20	3 479.8	16QAM	1/0			
PCC	20	3 460	16QAM	1/99	22.88	3.2	26.08
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	24.59	3.9	28.49
		16QAM	1/0	23.96	3.9	27.86
		64QAM	1/0	22.80	3.9	26.70
		256QAM	1/0	20.19	3.9	24.09
	3 750	QPSK	1/0	24.83	3.9	28.73
		16QAM	1/50	24.26	3.9	28.16
		64QAM	1/0	23.02	3.9	26.92
		256QAM	1/50	20.13	3.9	24.03
	3 790	QPSK	1/0	24.94	3.9	28.84
		16QAM	1/0	24.35	3.9	28.25
		64QAM	1/0	23.10	3.9	27.00
		256QAM	1/99	20.20	3.9	24.10
15	3 707.5	QPSK	1/0	24.57	3.9	28.47
		16QAM	1/36	23.85	3.9	27.75
		64QAM	1/36	22.64	3.9	26.54
		256QAM	1/36	20.13	3.9	24.03
	3 750	QPSK	1/0	24.82	3.9	28.72
		16QAM	1/0	24.05	3.9	27.95
		64QAM	1/36	22.96	3.9	26.86
		256QAM	1/74	20.20	3.9	24.10
	3 792.5	QPSK	1/0	24.92	3.9	28.82
		16QAM	1/0	24.18	3.9	28.08
		64QAM	1/0	23.13	3.9	27.03
		256QAM	1/36	20.17	3.9	24.07
10	3 705	QPSK	1/25	24.74	3.9	28.64
		16QAM	1/0	24.00	3.9	27.90
		64QAM	1/25	22.86	3.9	26.76
		256QAM	1/0	20.11	3.9	24.01
	3 750	QPSK	1/25	25.00	3.9	28.90
		16QAM	1/0	24.38	3.9	28.28
		64QAM	1/25	23.21	3.9	27.11
		256QAM	1/25	20.19	3.9	24.09
	3 795	QPSK	1/0	25.09	3.9	28.99
		16QAM	1/0	24.36	3.9	28.26
		64QAM	1/25	23.17	3.9	27.07
		256QAM	1/49	20.16	3.9	24.06
5	3 702.5	QPSK	1/12	24.70	3.9	28.60
		16QAM	1/12	23.95	3.9	27.85
		64QAM	1/0	22.84	3.9	26.74
		256QAM	1/0	20.08	3.9	23.98
	3 750	QPSK	1/12	24.96	3.9	28.86
		16QAM	1/12	24.28	3.9	28.18
		64QAM	1/12	23.16	3.9	27.06
		256QAM	1/12	20.17	3.9	24.07
	3 797.5	QPSK	1/12	25.08	3.9	28.98
		16QAM	1/12	24.49	3.9	28.39
		64QAM	1/0	23.12	3.9	27.02
		256QAM	1/24	20.16	3.9	24.06

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	23.68	3.9	27.58
SCC	20	3 729.8	QPSK	1/0			
PCC	20	3 740.1	16QAM	1/99	23.04	3.9	26.94
SCC	20	3 759.9	16QAM	1/0			
PCC	10	3 705.5	QPSK	1/49	25.22	3.9	29.12
SCC	20	3 719.9	QPSK	1/0			
PCC	5	3 703.3	16QAM	1/24	25.46	3.9	29.36
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:
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBd)}$
For Band above 1GHz:
 $\text{Result(dBm)} = \text{Level at Substitute antenna terminal(dBm)} + \text{Substitute Antenna Gain (dBi)}$
- 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	1 346.27	H	-57.78	2.18	-55.60	-13.00	42.60
				2 019.20	V	-58.96	2.30	-56.66	-13.00	43.66
				2 692.74	V	-66.52	4.01	-62.51	-13.00	49.51
				3 365.63	H	-68.04	5.79	-62.25	-13.00	49.25
	680.5	1/99		1 378.82	H	-59.62	2.46	-57.16	-13.00	44.16
				2 068.22	V	-58.13	2.59	-55.54	-13.00	42.54
				2 759.75	V	-67.31	4.37	-62.94	-13.00	49.94
				3 447.73	H	-67.79	6.07	-61.72	-13.00	48.72
	688	1/50		1 376.10	H	-59.33	2.44	-56.89	-13.00	43.89
				2 064.23	V	-58.80	2.55	-56.25	-13.00	43.25
				2 751.36	V	-67.27	4.31	-62.96	-13.00	49.96
				3 440.29	H	-67.53	6.05	-61.48	-13.00	48.48

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	-65.71	2.17	-63.54	-13.00	50.54
				2 019.37	V	-61.53	2.30	-59.23	-13.00	46.23
				2 692.70	V	-66.75	4.01	-62.74	-13.00	49.74
				3 365.52	H	-68.03	5.78	-62.25	-13.00	49.25

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	1 399.10	H	-51.11	2.60	-48.51	-13.00	35.51
				2 098.89	V	-63.66	2.88	-60.78	-13.00	47.78
				2 798.46	V	-66.25	4.65	-61.60	-13.00	48.60
				3 498.07	H	-67.80	6.16	-61.64	-13.00	48.64
	711	1/49		1 430.81	H	-56.22	2.97	-53.25	-13.00	40.25
				2 146.21	V	-65.02	3.23	-61.79	-13.00	48.79
				2 861.06	V	-67.09	4.87	-62.22	-13.00	49.22
				3 577.03	H	-67.71	6.23	-61.48	-13.00	48.48
5	701.5	1/24		1 407.28	H	-55.47	2.70	-52.77	-13.00	39.77
				2 111.02	V	-64.08	2.97	-61.11	-13.00	48.11
				2 814.53	V	-66.57	4.72	-61.85	-13.00	48.85
				3 518.93	H	-67.51	6.18	-61.33	-13.00	48.33
	707.5	1/24		1 419.30	H	-61.11	2.84	-58.27	-13.00	45.27
				2 128.95	V	-62.29	3.10	-59.19	-13.00	46.19
				2 839.53	V	-66.99	4.81	-62.18	-13.00	49.18
				3 548.79	H	-67.55	6.22	-61.33	-13.00	48.33
	713.5	1/0	1 422.73	H	-60.65	2.88	-57.77	-13.00	44.77	
			2 134.16	V	-61.99	3.14	-58.85	-13.00	45.85	
			2 844.76	V	-67.24	4.83	-62.41	-13.00	49.41	
			3 556.82	H	-67.87	6.22	-61.65	-13.00	48.65	

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	1 399.35	H	-56.81	2.61	-54.20	-13.00	41.20
				2 098.78	V	-64.67	2.88	-61.79	-13.00	48.79
				2 798.43	V	-66.41	4.65	-61.76	-13.00	48.76
				3 497.43	H	-68.01	6.16	-61.85	-13.00	48.85

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	1 409.14	V	-58.57	2.72	-55.85	-13.00	42.85
				2 113.58	V	-62.80	2.99	-59.81	-13.00	46.81
				2 818.04	V	-66.75	4.73	-62.02	-13.00	49.02
				3 523.33	H	-67.48	6.19	-61.29	-13.00	48.29
	710	1/49		1 428.83	V	-53.82	2.95	-50.87	-13.00	37.87
				2 143.22	V	-62.03	3.21	-58.82	-13.00	45.82
				2 856.93	V	-67.22	4.86	-62.36	-13.00	49.36
				3 571.63	H	-67.62	6.23	-61.39	-13.00	48.39
	711	1/25		1 422.06	H	-52.75	2.87	-49.88	-13.00	36.88
				2 133.24	V	-63.51	3.14	-60.37	-13.00	47.37
				2 844.10	V	-67.09	4.83	-62.26	-13.00	49.26
				3 554.23	H	-67.56	6.22	-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	711	1/25	QPSK	1 422.14	H	-54.73	2.87	-51.86	-13.00	38.86
				2 133.21	V	-63.09	3.14	-59.95	-13.00	46.95
				2 843.61	V	-67.36	4.83	-62.53	-13.00	49.53
				3 555.60	H	-67.54	6.22	-61.32	-13.00	48.32

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	2 346.40	H	-63.15	4.01	-59.14	-13.00	46.14
				3 127.94	H	-68.55	5.07	-63.48	-13.00	50.48
				3 909.60	H	-67.93	6.51	-61.42	-13.00	48.42
5	779.5	1/0		2 332.01	H	-62.92	3.99	-58.93	-13.00	45.93
				3 108.44	H	-68.33	5.06	-63.27	-13.00	50.27
				3 886.85	H	-67.73	6.42	-61.31	-13.00	48.31
	784.5	1/12		2 353.38	H	-63.79	4.00	-59.79	-13.00	46.79
				3 138.77	H	-68.49	5.08	-63.41	-13.00	50.41
				3 922.02	H	-67.95	6.58	-61.37	-13.00	48.37

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	1 564.20	V	-55.02	5.76	-49.26	-40.00	9.26
5	779.5	1/12		1 558.97	V	-54.95	5.75	-49.20	-40.00	9.20
	784.5	1/12		1 569.08	V	-56.41	5.76	-50.65	-40.00	10.65

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	2 332.05	V	-63.90	3.99	-59.91	-13.00	46.91
				3 108.28	V	-66.95	5.06	-61.89	-13.00	48.89
				3 885.86	V	-67.70	6.41	-61.29	-13.00	48.29

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	1 558.97	V	-61.32	5.75	-55.57	-40.00	15.57

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	2 379.22	H	-63.16	3.96	-59.20	-13.00	46.20
				3 172.35	H	-68.17	5.12	-63.05	-13.00	50.05
				3 965.36	H	-68.50	6.78	-61.72	-13.00	48.72
5	790.5	1/0		2 365.11	H	-63.74	3.99	-59.75	-13.00	46.75
				3 153.86	H	-68.15	5.10	-63.05	-13.00	50.05
				3 940.49	H	-68.87	6.68	-62.19	-13.00	49.19
	793	1/12		2 378.91	H	-63.03	3.96	-59.07	-13.00	46.07
				3 171.88	H	-68.01	5.12	-62.89	-13.00	49.89
				3 965.19	H	-68.42	6.78	-61.64	-13.00	48.64
	795.5	1/12		2 386.44	H	-63.24	3.95	-59.29	-13.00	46.29
				3 181.47	H	-67.78	5.13	-62.65	-13.00	49.65
				3 977.38	H	-67.91	6.81	-61.10	-13.00	48.10

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	1 586.04	V	-55.59	5.76	-49.83	-40.00	9.83
5	790.5	1/0		1 576.79	V	-55.94	5.76	-50.18	-40.00	10.18
	793	1/12		1 586.03	V	-55.86	5.76	-50.10	-40.00	10.10
	795.5	1/12		1 591.00	V	-55.67	5.77	-49.90	-40.00	9.90

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	2 379.35	H	-63.47	3.96	-59.51	-13.00	46.51
				3 171.69	H	-68.19	5.12	-63.07	-13.00	50.07
				3 965.48	H	-68.54	6.78	-61.76	-13.00	48.76

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	1 586.11	V	-61.50	5.76	-55.74	-40.00	15.74

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	1 629.25	V	-55.18	3.56	-51.62	-13.00	38.62
				2 443.79	V	-62.53	3.84	-58.69	-13.00	45.69
				3 258.80	V	-67.45	5.36	-62.09	-13.00	49.09
				4 072.01	H	-68.81	7.03	-61.78	-13.00	48.78
5	816.5	1/0		1 628.74	V	-60.20	3.56	-56.64	-13.00	43.64
				2 442.93	V	-62.67	3.84	-58.83	-13.00	45.83
				3 257.70	V	-67.63	5.36	-62.27	-13.00	49.27
				4 071.55	H	-68.93	7.03	-61.90	-13.00	48.90
	821.5	1/12		1 642.96	V	-59.67	3.53	-56.14	-13.00	43.14
				2 464.39	V	-63.76	3.80	-59.96	-13.00	46.96
				3 286.40	V	-67.44	5.46	-61.98	-13.00	48.98
				4 107.93	H	-69.15	7.05	-62.10	-13.00	49.10

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	1 629.25	V	-63.02	3.56	-59.46	-13.00	46.46
				2 443.81	V	-61.12	3.84	-57.28	-13.00	44.28
				3 258.40	V	-67.55	5.36	-62.19	-13.00	49.19
				4 071.83	H	-68.92	7.03	-61.89	-13.00	48.89

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	1676.26	V	-56.16	3.60	-52.56	-13.00	39.56
				2514.49	V	-63.96	3.75	-60.21	-13.00	47.21
				3352.95	V	-67.66	5.72	-61.94	-13.00	48.94
				4190.09	H	-69.17	7.01	-62.16	-13.00	49.16
	841.5	1/38		1683.31	V	-56.71	3.62	-53.09	-13.00	40.09
				2525.04	V	-63.43	3.76	-59.67	-13.00	46.67
				3365.82	V	-67.81	5.79	-62.02	-13.00	49.02
				4206.72	H	-69.12	7.01	-62.11	-13.00	49.11
10	829	1/0		1649.24	V	-58.72	3.52	-55.20	-13.00	42.20
				2473.44	V	-65.22	3.79	-61.43	-13.00	48.43
				3298.42	V	-67.14	5.50	-61.64	-13.00	48.64
				4121.90	H	-69.22	7.04	-62.18	-13.00	49.18
	836.5	1/49		1681.77	V	-57.85	3.62	-54.23	-13.00	41.23
				2522.69	V	-63.54	3.75	-59.79	-13.00	46.79
				3363.33	V	-67.92	5.77	-62.15	-13.00	49.15
				4203.92	H	-69.10	7.01	-62.09	-13.00	49.09
	844	1/25	1688.19	V	-57.66	3.63	-54.03	-13.00	41.03	
			2532.27	V	-62.90	3.76	-59.14	-13.00	46.14	
			3376.82	V	-67.70	5.84	-61.86	-13.00	48.86	
			4219.38	H	-69.14	7.02	-62.12	-13.00	49.12	

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	1676.37	V	-59.46	3.60	-55.86	-13.00	42.86
				2514.47	V	-62.95	3.75	-59.20	-13.00	46.20
				3352.66	V	-67.57	5.72	-61.85	-13.00	48.85
				4190.60	H	-69.03	7.01	-62.02	-13.00	49.02

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	1 666.77	V	-55.34	3.57	-51.77	-13.00	38.77
				2 500.10	V	-66.41	3.74	-62.67	-13.00	49.67
				3 334.01	V	-67.22	5.65	-61.57	-13.00	48.57
				4 166.68	H	-68.72	7.02	-61.70	-13.00	48.70
	836.5	1/49		1 681.85	V	-53.72	3.62	-50.10	-13.00	37.10
				2 522.62	V	-63.43	3.75	-59.68	-13.00	46.68
				3 364.06	V	-67.78	5.78	-62.00	-13.00	49.00
				4 204.13	H	-68.99	7.01	-61.98	-13.00	48.98
	844	1/25		1 688.19	V	-55.10	3.63	-51.47	-13.00	38.47
				2 532.28	V	-63.66	3.76	-59.90	-13.00	46.90
				3 376.43	V	-67.56	5.84	-61.72	-13.00	48.72
				4 220.87	H	-68.71	7.02	-61.69	-13.00	48.69

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	1 681.82	V	-58.46	3.62	-54.84	-13.00	41.84
				2 522.88	V	-62.75	3.75	-59.00	-13.00	46.00
				3 363.51	V	-67.77	5.77	-62.00	-13.00	49.00
				4 204.87	H	-69.05	7.01	-62.04	-13.00	49.04

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	3 422.28	V	-62.08	8.16	-53.92	-13.00	40.92
				5 133.36	H	-64.06	10.06	-54.00	-13.00	41.00
				6 843.79	H	-66.45	11.19	-55.26	-13.00	42.26
				8 554.93	V	-67.39	13.14	-54.25	-13.00	41.25
	1 732.5	1/99		3 482.76	V	-64.04	8.28	-55.76	-13.00	42.76
				5 224.29	H	-65.01	10.12	-54.89	-13.00	41.89
				6 965.67	H	-67.42	11.20	-56.22	-13.00	43.22
				8 707.35	V	-66.84	13.17	-53.67	-13.00	40.67
	1 745	1/99		3 507.79	V	-61.45	8.32	-53.13	-13.00	40.13
				5 261.69	H	-63.28	10.16	-53.12	-13.00	40.12
				7 016.41	H	-67.54	11.26	-56.28	-13.00	43.28
				8 769.44	V	-66.82	13.14	-53.68	-13.00	40.68

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	3 507.89	V	-61.85	8.32	-53.53	-13.00	40.53
				5 261.75	H	-64.62	10.16	-54.46	-13.00	41.46
				7 015.35	H	-67.32	11.26	-56.06	-13.00	43.06
				8 769.74	V	-66.71	13.14	-53.57	-13.00	40.57

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	3 422.09	V	-63.33	8.16	-55.17	-13.00	42.17
				5 133.17	H	-64.84	10.06	-54.78	-13.00	41.78
				6 843.53	H	-66.07	11.18	-54.89	-13.00	41.89
				8 555.55	V	-66.61	13.14	-53.47	-13.00	40.47
	1 745	1/99		3 507.91	V	-63.97	8.32	-55.65	-13.00	42.65
				5 261.71	H	-64.96	10.16	-54.80	-13.00	41.80
				7 015.15	H	-67.31	11.26	-56.05	-13.00	43.05
				8 769.26	V	-66.68	13.14	-53.54	-13.00	40.54
	1 770	1/99		3 557.65	V	-64.27	8.37	-55.90	-13.00	42.90
				5 336.57	H	-65.26	10.21	-55.05	-13.00	42.05
				7 115.88	H	-67.67	11.40	-56.27	-13.00	43.27
				8 894.65	V	-66.74	13.07	-53.67	-13.00	40.67

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	3 422.22	V	-63.11	8.16	-54.95	-13.00	41.95
				5 133.22	H	-65.22	10.06	-55.16	-13.00	42.16
				6 844.49	H	-66.30	11.19	-55.11	-13.00	42.11
				8 556.22	V	-66.97	13.14	-53.83	-13.00	40.83

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	3 737.89	V	-64.66	8.28	-56.38	-13.00	43.38
				5 606.03	H	-66.55	10.64	-55.91	-13.00	42.91
				7 475.57	H	-66.80	12.09	-54.71	-13.00	41.71
				9 343.48	V	-63.32	13.26	-50.06	-13.00	37.06
	1 880	1/50		3 760.19	V	-64.14	8.28	-55.86	-13.00	42.86
				5 639.33	H	-66.72	10.72	-56.00	-13.00	43.00
				7 519.97	H	-67.47	12.10	-55.37	-13.00	42.37
				9 400.12	V	-62.90	13.21	-49.69	-13.00	36.69
	1 900	1/50		3 800.25	V	-60.61	8.33	-52.28	-13.00	39.28
				5 699.86	H	-66.19	10.73	-55.46	-13.00	42.46
				7 599.70	H	-68.09	12.11	-55.98	-13.00	42.98
				9 500.70	V	-62.26	13.15	-49.11	-13.00	36.11

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	3 800.15	V	-64.43	8.33	-56.10	-13.00	43.10
				5 699.87	V	-68.00	10.73	-57.27	-13.00	44.27
				7 600.00	H	-67.85	12.11	-55.74	-13.00	42.74
				9 499.99	V	-62.07	13.15	-48.92	-13.00	35.92

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	3 737.83	V	-60.26	8.28	-51.98	-13.00	38.98
				5 606.36	H	-66.90	10.64	-56.26	-13.00	43.26
				7 475.28	H	-67.24	12.09	-55.15	-13.00	42.15
				9 343.59	V	-63.56	13.26	-50.30	-13.00	37.30
	1 882.5	1/50		3 765.14	V	-58.16	8.29	-49.87	-13.00	36.87
				5 647.84	H	-66.57	10.74	-55.83	-13.00	42.83
				7 530.26	H	-67.50	12.10	-55.40	-13.00	42.40
				9 411.57	V	-62.33	13.21	-49.12	-13.00	36.12
	1 905	1/0		3 792.19	V	-57.82	8.32	-49.50	-13.00	36.50
				5 688.20	H	-66.26	10.73	-55.53	-13.00	42.53
				7 584.15	H	-67.93	12.11	-55.82	-13.00	42.82
				9 480.86	V	-62.44	13.17	-49.27	-13.00	36.27

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	3 792.13	V	-56.98	8.32	-48.66	-13.00	35.66
				5 688.70	V	-68.22	10.73	-57.49	-13.00	44.49
				7 583.96	H	-67.79	12.11	-55.68	-13.00	42.68
				9 480.18	V	-62.53	13.17	-49.36	-13.00	36.36

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	4 628.87	H	-65.78	9.44	-56.34	-40.00	16.34
				6 943.29	V	-67.91	11.18	-56.73	-40.00	16.73
				9 256.92	V	-63.86	13.26	-50.60	-40.00	10.60
				11 572.29	H	-64.11	13.19	-50.92	-40.00	10.92
5	2 307.5	1/12		4 614.91	H	-65.34	9.44	-55.90	-40.00	15.90
				6 921.95	V	-67.95	11.19	-56.76	-40.00	16.76
				9 229.76	V	-64.46	13.26	-51.20	-40.00	11.20
				11 536.86	H	-64.09	13.21	-50.88	-40.00	10.88
	2 310	1/24		4 624.20	H	-66.88	9.44	-57.44	-40.00	17.44
				6 936.66	V	-67.73	11.18	-56.55	-40.00	16.55
				9 248.53	V	-64.02	13.25	-50.77	-40.00	10.77
				11 561.28	H	-64.23	13.20	-51.03	-40.00	11.03
	2 312.5	1/12		4 624.86	H	-66.06	9.44	-56.62	-40.00	16.62
				6 937.44	V	-67.69	11.18	-56.51	-40.00	16.51
				9 249.23	V	-64.13	13.25	-50.88	-40.00	10.88
				11 562.58	H	-64.33	13.19	-51.14	-40.00	11.14

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	4 614.78	H	-66.78	9.44	-57.34	-40.00	17.34
				6 922.25	H	-66.94	11.19	-55.75	-40.00	15.75
				9 229.38	V	-64.53	13.26	-51.27	-40.00	11.27
				11 537.22	H	-64.15	13.21	-50.94	-40.00	10.94

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	5 029.81	V	-61.43	9.95	-51.48	-25.00	26.48
				7 544.34	H	-63.68	12.10	-51.58	-25.00	26.58
				10 059.41	H	-62.20	13.11	-49.09	-25.00	24.09
				12 574.66	H	-58.20	13.12	-45.08	-25.00	20.08
	2 593	1/49		5 185.88	V	-61.26	10.09	-51.17	-25.00	26.17
				7 778.63	H	-63.46	12.09	-51.37	-25.00	26.37
				10 371.51	H	-59.97	13.10	-46.87	-25.00	21.87
				12 964.82	H	-57.23	12.91	-44.32	-25.00	19.32
	2 680	1/0		5 342.13	V	-57.94	10.21	-47.73	-25.00	22.73
				8 012.90	H	-63.21	12.51	-50.70	-25.00	25.70
				10 684.53	H	-59.23	13.10	-46.13	-25.00	21.13
				13 355.87	H	-57.19	13.46	-43.73	-25.00	18.73

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	5 342.22	H	-60.20	10.21	-49.99	-25.00	24.99
				8 014.22	H	-62.89	12.51	-50.38	-25.00	25.38
				10 684.33	H	-59.05	13.10	-45.95	-25.00	20.95
				13 354.57	H	-57.43	13.46	-43.97	-25.00	18.97

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	5 020.08	H	-65.04	9.95	-55.09	-25.00	30.09
				7 530.19	H	-67.83	12.10	-55.73	-25.00	30.73
				10 039.39	V	-60.94	13.13	-47.81	-25.00	22.81
				12 549.97	H	-62.26	13.12	-49.14	-25.00	24.14
	2 535	1/50		5 070.15	H	-65.31	9.99	-55.32	-25.00	30.32
				7 604.97	H	-67.94	12.10	-55.84	-25.00	30.84
				10 140.39	V	-61.66	13.04	-48.62	-25.00	23.62
				12 674.85	H	-61.82	13.13	-48.69	-25.00	23.69
	2 560	1/99		5 137.93	H	-64.43	10.07	-54.36	-25.00	29.36
				7 706.34	H	-67.53	12.06	-55.47	-25.00	30.47
				10 275.00	V	-62.77	13.07	-49.70	-25.00	24.70
				12 845.24	H	-61.12	12.95	-48.17	-25.00	23.17

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	2 560	1/99	QPSK	5 137.89	H	-65.74	10.07	-55.67	-25.00	30.67
				7 706.64	H	-67.54	12.06	-55.48	-25.00	30.48
				10 275.52	V	-62.80	13.07	-49.73	-25.00	24.73
				12 843.67	H	-61.19	12.95	-48.24	-25.00	23.24

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	5 177.71	V	-59.84	10.09	-49.75	-25.00	24.75
				7 765.90	H	-63.71	12.08	-51.63	-25.00	26.63
				10 356.11	H	-59.56	13.10	-46.46	-25.00	21.46
				12 943.62	H	-57.31	12.90	-44.41	-25.00	19.41
	2 595	1/99		5 207.73	V	-59.91	10.10	-49.81	-25.00	24.81
				7 811.28	H	-63.00	12.14	-50.86	-25.00	25.86
				10 415.56	H	-59.31	13.11	-46.20	-25.00	21.20
				13 020.29	H	-57.53	12.99	-44.54	-25.00	19.54
	2 610	1/99		5 237.84	V	-59.18	10.14	-49.04	-25.00	24.04
				7 856.33	H	-63.18	12.22	-50.96	-25.00	25.96
				10 475.34	H	-58.61	13.10	-45.51	-25.00	20.51
				13 093.24	H	-57.51	13.11	-44.40	-25.00	19.40

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	5 237.84	H	-61.53	10.14	-51.39	-25.00	26.39
				7 856.04	H	-63.00	12.22	-50.78	-25.00	25.78
				10 475.18	H	-58.84	13.10	-45.74	-25.00	20.74
				13 093.74	H	-57.60	13.11	-44.49	-25.00	19.49

LTE ULCA(38C)

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)
5 162.65	V	-61.75	10.09	-51.66	-25.00	26.66
5 202.37	V	-61.19	10.09	-51.10	-25.00	26.10
7 743.22	H	-60.38	12.06	-48.32	-25.00	23.32
7 803.31	H	-60.55	12.13	-48.42	-25.00	23.42
10 324.63	H	-56.50	13.09	-43.41	-25.00	18.41
10 404.33	H	-57.10	13.10	-44.00	-25.00	19.00
12 906.83	H	-55.17	12.91	-42.26	-25.00	17.26
13 005.85	H	-54.86	12.96	-41.90	-25.00	16.90

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)
5 162.90	H	-61.48	10.09	-51.39	-25.00	26.39
5 202.12	H	-61.49	10.09	-51.40	-25.00	26.40
7 743.37	H	-60.46	12.06	-48.40	-25.00	23.40
7 803.69	H	-60.42	12.13	-48.29	-25.00	23.29
10 324.61	H	-56.70	13.09	-43.61	-25.00	18.61
10 404.32	H	-57.03	13.10	-43.93	-25.00	18.93
12 905.94	H	-55.10	12.91	-42.19	-25.00	17.19
13 005.75	H	-54.91	12.96	-41.95	-25.00	16.95

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	6 920.05	H	-57.62	11.19	-46.43	-13.00	33.43
				10 380.82	H	-59.77	13.10	-46.67	-13.00	33.67
				13 839.25	H	-56.72	14.36	-42.36	-13.00	29.36
				17 300.23	H	-61.52	13.75	-47.77	-13.00	34.77
	3 500	1/0		6 982.29	H	-57.42	11.22	-46.20	-13.00	33.20
				10 474.04	H	-58.55	13.11	-45.44	-13.00	32.44
				13 963.63	H	-56.57	14.37	-42.20	-13.00	29.20
				17 455.64	H	-66.60	13.68	-52.92	-13.00	39.92
	3 540	1/0		7 062.31	H	-58.33	11.31	-47.02	-13.00	34.02
				10 593.76	H	-58.30	13.06	-45.24	-13.00	32.24
				14 124.06	H	-57.25	14.24	-43.01	-13.00	30.01
				17 654.66	H	-62.64	13.56	-49.08	-13.00	36.08

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	6 982.22	H	-60.25	11.22	-49.03	-13.00	36.03
				10 473.13	H	-58.73	13.11	-45.62	-13.00	32.62
				13 963.96	H	-56.70	14.37	-42.33	-13.00	29.33
				17 455.49	H	-62.54	13.68	-48.86	-13.00	35.86

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	7 437.90	H	-59.29	12.06	-47.23	-13.00	34.23
				11 157.65	H	-59.32	13.22	-46.10	-13.00	33.10
				14 874.92	H	-62.65	13.78	-48.87	-13.00	35.87
	3 750	1/0		7 482.32	H	-59.73	12.09	-47.64	-13.00	34.64
				11 223.08	H	-59.32	13.25	-46.07	-13.00	33.07
				14 963.59	H	-63.52	13.78	-49.74	-13.00	36.74
	3 790	1/0		7 562.10	H	-59.23	12.10	-47.13	-13.00	34.13
				11 343.56	H	-59.88	13.28	-46.60	-13.00	33.60
				15 124.32	H	-63.53	13.81	-49.72	-13.00	36.72

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	7 562.29	H	-60.95	12.10	-48.85	-13.00	35.85
				11 343.61	H	-59.87	13.28	-46.59	-13.00	33.59
				15 124.83	H	-63.43	13.81	-49.62	-13.00	36.62