

FCC CFR47 PART 22H, 24E, 27 CERTIFICATION TEST REPORT

FCC ID: ZSW-30-143

Product: Mobile Phone
Trade Mark: Bmobile
Model No.: ORBIT MAX
Family Model: N/A
Report No.: N25090501405E
Issue Date: Sept. 26, 2025

Prepared for

b mobile HK Limited
FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI,
HK, CHINA

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : b mobile HK Limited

Address..... : FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK, CHINA

Manufacturer's Name..... : b mobile HK Limited

Address..... : FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK, CHINA

Product name..... : Mobile Phone

Model and/or type reference .. : ORBIT MAX

Trade Mark..... : Bmobile

Family Model..... : N/A

Test Sample Number..... S2509050127-1#

Standards..... : FCC CFR 47 Part 22H, Part 24E, Part 27

Test procedure : ANSI C63.26:2015
ANSI/TIA-603-E-2016

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests..... Sept. 05, 2025 ~ Sept. 26, 2025

Date of Issue Sept. 26, 2025

Test Result..... **Pass**

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TABLE OF CONTENTS

1. GENERAL INFORMATION.....	5
1.1 PRODUCT DESCRIPTION	5
1.2 RELATED SUBMITTAL(S) / GRANT (S).....	6
1.3 TEST METHODOLOGY	6
1.4 TEST FACILITY	6
MEASUREMENT UNCERTAINTY	6
1.5 SPECIAL ACCESSORIES.....	6
1.6 WORST-CASE CONFIGURATION AND MODE.....	6
2. SYSTEM TEST CONFIGURATION	7
2.1 EUT CONFIGURATION.....	7
2.2 EUT EXERCISE	7
2.3 CONFIGURATION OF EUT SYSTEM.....	7
2.4 TEST SETUP	8
3.TEST AND MEASUREMENT EQUIPMENT	9
4. OUTPUT POWER.....	11
4.1 OUTPUT POWER MEASUREMENT	11
5. OCCUPIED BANDWIDTH	13
6. BANDEDGE AND EMISSION MASK.....	14
7. OUT OF BAND EMISSIONS	16
7.1 MEASUREMENT METHOD	16
8. RADIATED MEASUREMENT	17
8.1. RADIATED POWER (ERP & EIRP).....	17
8.2 LTE BAND 2.....	18
8.3 LTE BAND 4.....	22
8.4 LTE BAND 5.....	26
8.5 LTE BAND 7.....	28

8.6 LTE BAND 38	30
8.7 LTE BAND 41	32
8.8 LTE BAND 66	34
9. SPURIOUS RADIATION EMISSION	38
9.1 LTE BAND 2.....	40
9.2 LTE BAND 4.....	42
9.3 LTE BAND 5.....	44
9.4 LTE BAND 7.....	46
9.5 LTE BAND 38	48
9.6 LTE BAND 41	50
9.7 LTE BAND 66	52
10. FREQUENCY STABILITY	54
10.1 LTE BAND 2	55
10.2 LTE BAND 4	57
10.3 LTE BAND 5	59
10.4 LTE BAND 7	61
10.5 LTE BAND 38	63
10.6 LTE BAND 41	65
10.12 LTE BAND 66.....	67
11. PEAK-TO-AVERAGE RATIO.....	69
11.1 Description of the PAR Measurement.....	69
11.2 Measuring Instruments	69
11.3 Test Procedures.....	69
11.4 Test Setup.....	70

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Mobile Phone
Trade Mark	Bmobile
Model Name	ORBIT MAX
Family Model	N/A
Model Difference	N/A
FCC ID:	ZSW-30-143
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 66 TDD Band 38, 41
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE TDD Band 38 Uplink& Downlink: 2570MHz-2620MHz LTE TDD Band 41 Uplink & Downlink: 2535MHz-2655MHz, LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.
Antenna:	PIFA Antenna
Antenna gain:	Band 2: -1.28 dBi, Band 4: -1.44 dBi, Band 5:-2.43 dBi, Band 7: -0.52 dBi, Band 38: -0.49dBi, Band 41: -0.52 dBi, Band66: -1.44 dBi;
Adapter	Input: 100-240V~50-60Hz 0.6A OUTPUT: DC 9.0V $\overline{\text{---}}$ 2.0A 18.0W
Battery	Rated Capacity: DC 3.89V, 5900mAh, 22.951Wh Typical Capacity: DC 3.89V, 6000mAh, 23.340Wh
Power supply	DC 3.89V from Battery or DC 9V from Adapter.
Extreme Vol. Limits:	DC 3.31V to DC 4.47V (Nominal DC 3.89V) (Note 1)
HW Version	Bmobile_ORBIT_MAX_A1_HW_V1.0
FW Version	N/A
SW Version	Bmobile_ORBIT_MAX_OM_CL_V001
** Note1: The High Voltage DC 4.47V and Low Voltage 3.31V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: ZSW-30-143** filing to comply with the FCC Part 22H&24E&27

1.3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E-2016, FCC CFR 47 Part 2, Part 22, Part 24, Part 27, ANSI C63.26:2015.

1.4 TEST FACILITY

The test site used to collect the radiated data is located at:

ShenZhen NTEK Testing Technology Co., Ltd.

No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.26:2015& ANSI C63.4: 2014.

FCC Registration No.:463705

IC Registration No.:9270A,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB

1.5 SPECIAL ACCESSORIES

The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

1.6 WORST-CASE CONFIGURATION AND MODE

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of: Band 2/4/5/7/38/41/66

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

For the fundamental investigation of radiated emissions, the EUT is investigated for vertical and horizontal antenna orientations and X Y and Z orientations of the EUT alone. After the investigations the worst case was determined to be at X orientation for all LTE bands.

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

2.3 CONFIGURATION OF EUT SYSTEM

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Mobile Phone	ORBIT MAX	FCC ID: ZSW-30-143	EUT

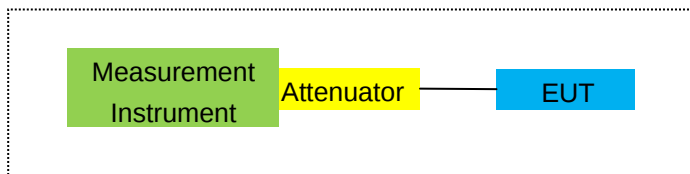
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

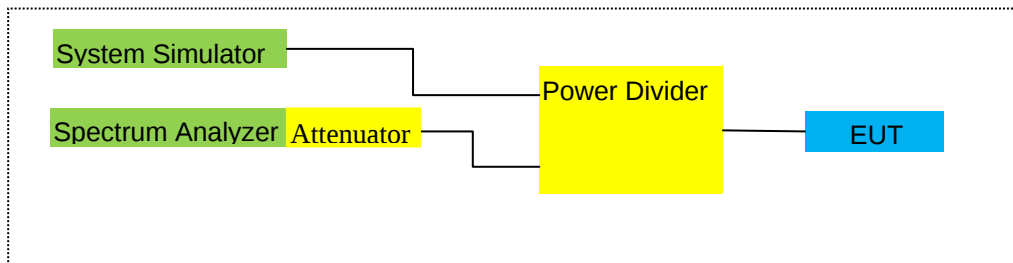
For Radiated Test Cases



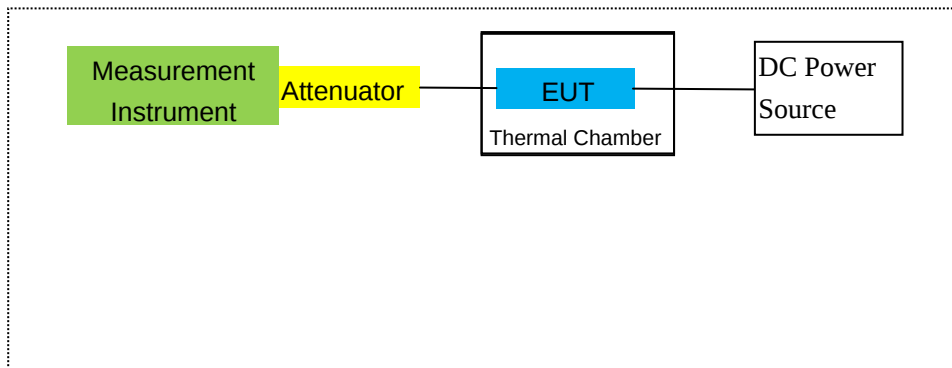
For Conducted Output Power



For Peak-to Average Ratio, Occupied Bandwidth, Conducted Band edge and Conducted Spurious Emission



For Frequency Stability



Note: EUT built-in battery-powered, the battery is fully-charged.

3.TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2025.04.17	2026.04.16	1 year
2	Test Receiver	R&S	ESPI	101318	2025.04.17	2026.04.16	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2025.04.17	2026.04.16	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
5	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2816	2024.5.18	2027.5.17	3 year
6	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2817	2024.5.18	2027.5.17	3 year
7	Amplifier	EM	EM-30180	060538	2025.04.17	2026.04.16	1 year
8	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
9	Power Meter	R&S	NRVS	100696	2025.04.17	2026.04.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2025.04.17	2026.04.16	1 year
11	Test Cable	N/A	R-01	N/A	2023.06.17	2026.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2023.06.17	2026.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2023.06.17	2026.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2025.04.17	2026.04.16	1 year
15	LISN	R&S	ENV216	101313	2025.04.17	2026.04.16	1 year
16	LISN	EMCO	3816/2	00042990	2025.04.17	2026.04.16	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
18	Field strength probe	narda	EP601	711WX81278	2025.04.17	2026.04.16	1 year
19	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
20	Test Cable	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
21	Test Cable	N/A	C03	N/A	2023.05.06	2026.05.05	3 year
22	Spectrum Analyzer	Agilent	E4440A	MY41000130	2025.04.17	2026.04.16	1 year

23	EMI Test Receiver	R&S	ESCI	101160	2025.04.17	2026.04.16	1 year
24	Universal Radio Communication Tester	R&S	CMU200	105747	2025.04.17	2026.04.16	1 year
25	High and Low Temperature Box	WEISS	WT 20/40 EMC Simpact	58226119460030	2024.05.30	2027.05.29	3 year
26	DC Power Source	N/A	PS-6005D	20170402923	2024.04.25	2027.04.24	3 year
27	MXG Vector Signal Generator	Agilent	N5183B	MY57280984	2025.04.17	2026.04.16	1 year
28	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	584	2025.04.17	2026.04.16	1 year
29	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	586	2025.04.17	2026.04.16	1 year
30	Communication Tester	R&S	CMW500	148500	2025.05.06	2026.05.05	1 year

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years

Measurement Software

Item	Manufacturer	Software Name	Software Version	Description
1	MWRFTest	MTS 8200	2.0	RF Conducted Test
2	Farad	EZ-EMC_RE	AIT-03A	RadiatedTest
3	raditeq	RadiMation	2023.1.3	RadiatedTest

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set. The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".³

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

MODES TESTED

☐

Band 2/4/5/7/38/41/66

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53

FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ 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 as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Show citation box.

(c)(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;

TEST PROCEDURE

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

Set a marker to point the corresponding band edge frequency in each test case.

Set resolution bandwidth to at least 1% of emission bandwidth.

MODES TESTED

Band 2/4/5/7/38/41/66

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53

LIMITS

1. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.
2. The Band 7/41 emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $55 + 10 \log (P)$ dB.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- ☐
- ☐ Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

- ☐ Band 2/4/5/7/38/41/66
- ☐

7.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50

LIMITS:

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232 (c) Mobile and portable stations are limited to 2 watts EIRP.

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

27.50 (h)(2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17

KDB 971168 v02r01 RF power output using broadband peak and average power meter method.

KDB 971168 D01 Power Meas License Digital Systems v02r01, "Measurement Guidance for Certification of Licensed Digital Transmitters"

MODES TESTED

☐ Band 2/4/5/7/38/41/66

RESULTS

Pass

8.2 LTE BAND 2

		Radiated Power (EIRP) for Band 2								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP		
							Average		Limit	
							(mW)		(W)	
1.4MHz Band QPSK	1/#Mid	1850.7	-5.53	3.76	28.24	18.95	78.524	Horizontal	2	Pass
		1880	-5.34	3.91	28.22	18.97	78.886	Horizontal	2	Pass
		1909.3	-5.25	3.93	28.20	19.02	79.799	Horizontal	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.59	3.77	28.23	18.87	77.090	Horizontal	2	Pass
		1880	-5.44	3.91	28.24	18.89	77.446	Horizontal	2	Pass
		1908.5	-5.31	3.94	28.25	19.00	79.433	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-5.48	3.77	28.31	19.06	80.538	Horizontal	2	Pass
		1880	-5.10	3.91	28.22	19.21	83.368	Horizontal	2	Pass
		1907.5	-5.03	3.94	28.20	19.23	83.753	Horizontal	2	Pass
10.0MHz Band QPSK	1/#Mid	1855	-5.34	3.79	28.33	19.20	83.176	Horizontal	2	Pass
		1880	-5.04	3.95	28.22	19.23	83.753	Horizontal	2	Pass
		1905	-4.93	3.97	28.19	19.29	84.918	Horizontal	2	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-5.30	3.79	28.34	19.25	84.140	Horizontal	2	Pass
		1880	-5.09	3.95	28.22	19.18	82.794	Horizontal	2	Pass
		1902.5	-4.95	3.97	28.18	19.26	84.333	Horizontal	2	Pass
20.0MHz Band QPSK	1/#Mid	1860	-5.29	3.81	28.35	19.25	84.140	Horizontal	2	Pass
		1880	-4.96	3.96	28.22	19.30	85.114	Horizontal	2	Pass
		1900	-4.90	4.00	28.16	19.26	84.333	Horizontal	2	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-6.70	3.76	28.24	17.78	59.979	Vertical	2	Pass
		1880	-6.16	3.91	28.22	18.15	65.313	Vertical	2	Pass
		1909.3	-6.36	3.93	28.20	17.91	61.802	Vertical	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.88	3.77	28.23	18.58	72.111	Vertical	2	Pass
		1880	-5.94	3.91	28.24	18.39	69.024	Vertical	2	Pass
		1908.5	-6.42	3.94	28.25	17.89	61.518	Vertical	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-6.66	3.77	28.31	17.88	61.376	Vertical	2	Pass
		1880	-6.12	3.91	28.22	18.19	65.917	Vertical	2	Pass
		1907.5	-6.07	3.94	28.20	18.19	65.917	Vertical	2	Pass
10.0MHz Band QPSK	1/#Mid	1855	-6.82	3.79	28.33	17.72	59.156	Vertical	2	Pass
		1880	-5.86	3.95	28.22	18.41	69.343	Vertical	2	Pass
		1905	-5.70	3.97	28.19	18.52	71.121	Vertical	2	Pass
15.0MHz	1/#Mid	1857.5	-6.56	3.79	28.34	17.99	62.951	Vertical	2	Pass

Band		1880	-6.50	3.95	28.22	17.77	59.841	Vertical	2	Pass
QPSK		1902.5	-6.46	3.97	28.18	17.75	59.566	Vertical	2	Pass
20.0MHz	1/#Mid	1860	-5.90	3.81	28.35	18.64	73.114	Vertical	2	Pass
Band		1880	-6.42	3.96	28.22	17.84	60.814	Vertical	2	Pass
QPSK		1900	-6.31	4.00	28.16	17.85	60.954	Vertical	2	Pass

	Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.65	3.76	28.24	17.83	60.674	Horizontal	2	Pass
		1880	-6.12	3.91	28.22	18.19	65.917	Horizontal	2	Pass
		1909.3	-6.05	3.93	28.20	18.22	66.374	Horizontal	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-6.15	3.77	28.23	18.31	67.764	Horizontal	2	Pass
		1880	-6.23	3.91	28.24	18.10	64.565	Horizontal	2	Pass
		1908.5	-6.44	3.94	28.25	17.87	61.235	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-6.09	3.77	28.31	18.45	69.984	Horizontal	2	Pass
		1880	-6.00	3.91	28.22	18.31	67.764	Horizontal	2	Pass
		1907.5	-5.68	3.94	28.20	18.58	72.111	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-6.14	3.79	28.33	18.40	69.183	Horizontal	2	Pass
		1880	-6.13	3.95	28.22	18.14	65.163	Horizontal	2	Pass
		1905	-5.60	3.97	28.19	18.62	72.778	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-6.12	3.79	28.34	18.43	69.663	Horizontal	2	Pass
		1880	-5.91	3.95	28.22	18.36	68.549	Horizontal	2	Pass
		1902.5	-5.87	3.97	28.18	18.34	68.234	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-6.01	3.81	28.35	18.53	71.285	Horizontal	2	Pass
		1880	-5.71	3.96	28.22	18.55	71.614	Horizontal	2	Pass
		1900	-5.53	4.00	28.16	18.63	72.946	Horizontal	2	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-7.22	3.76	28.24	17.26	53.211	Vertical	2	Pass
		1880	-7.14	3.91	28.22	17.17	52.119	Vertical	2	Pass
		1909.3	-6.93	3.93	28.20	17.34	54.200	Vertical	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-7.06	3.77	28.23	17.40	54.954	Vertical	2	Pass
		1880	-6.77	3.91	28.24	17.56	57.016	Vertical	2	Pass
		1908.5	-7.39	3.94	28.25	16.92	49.204	Vertical	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-7.00	3.77	28.31	17.54	56.754	Vertical	2	Pass
		1880	-6.82	3.91	28.22	17.49	56.105	Vertical	2	Pass
		1907.5	-7.37	3.94	28.20	16.89	48.865	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-7.40	3.79	28.33	17.14	51.761	Vertical	2	Pass
		1880	-7.27	3.95	28.22	17.00	50.119	Vertical	2	Pass
		1905	-7.27	3.97	28.19	16.95	49.545	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-7.76	3.79	28.34	16.79	47.753	Vertical	2	Pass
		1880	-7.39	3.95	28.22	16.88	48.753	Vertical	2	Pass
		1902.5	-7.34	3.97	28.18	16.87	48.641	Vertical	2	Pass

20.0MHz		1860	-7.31	3.81	28.35	17.23	52.845	Vertical	2	Pass
Band 16	1/#Mid	1880	-7.26	3.96	28.22	17.00	50.119	Vertical	2	Pass
QAM		1900	-6.94	4.00	28.16	17.22	52.723	Vertical	2	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

8.3 LTE BAND 4

		Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP			
									Limit		
										(W)	
1.4MHz	1/#Mid	1710.7	-5.44	3.12	27.58	19.02	79.799	Horizontal	1	Pass	
Band		1732.5	-5.43	3.27	27.61	18.91	77.804	Horizontal	1	Pass	
QPSK		1754.3	-5.41	3.29	27.63	18.93	78.163	Horizontal	1	Pass	
3.0MHz	1/#Mid	1711.5	-5.61	3.13	27.61	18.87	77.090	Horizontal	1	Pass	
Band		1732.5	-5.53	3.27	27.61	18.81	76.033	Horizontal	1	Pass	
QPSK		1753.5	-5.45	3.30	27.62	18.87	77.090	Horizontal	1	Pass	
5.0MHz	1/#Mid	1712.5	-5.38	3.13	27.63	19.12	81.658	Horizontal	1	Pass	
Band		1732.5	-5.28	3.27	27.61	19.06	80.538	Horizontal	1	Pass	
QPSK		1752.5	-5.16	3.30	27.60	19.14	82.035	Horizontal	1	Pass	
10.0MHz	1/#Mid	1715	-5.32	3.15	27.64	19.17	82.604	Horizontal	1	Pass	
Band		1732.5	-5.09	3.31	27.61	19.21	83.368	Horizontal	1	Pass	
QPSK		1750	-5.11	3.33	27.59	19.15	82.224	Horizontal	1	Pass	
15.0MHz	1/#Mid	1717.5	-5.33	3.15	27.65	19.17	82.604	Horizontal	1	Pass	
Band		1732.5	-5.17	3.31	27.61	19.13	81.846	Horizontal	1	Pass	
QPSK		1747.5	-5.11	3.33	27.57	19.13	81.846	Horizontal	1	Pass	
20.0MHz	1/#Mid	1720	-5.27	3.17	27.66	19.22	83.560	Horizontal	1	Pass	
Band		1732.5	-5.10	3.32	27.61	19.19	82.985	Horizontal	1	Pass	
QPSK		1745	-5.04	3.36	27.56	19.16	82.414	Horizontal	1	Pass	
1.4MHz	1/#Mid	1710.7	-6.24	3.12	27.58	18.22	66.374	Vertical	1	Pass	
Band		1732.5	-6.62	3.27	27.61	17.72	59.156	Vertical	1	Pass	
QPSK		1754.3	-6.22	3.29	27.63	18.12	64.863	Vertical	1	Pass	
3.0MHz	1/#Mid	1711.5	-6.14	3.13	27.61	18.34	68.234	Vertical	1	Pass	
Band		1732.5	-5.67	3.27	27.61	18.67	73.621	Vertical	1	Pass	
QPSK		1753.5	-6.51	3.30	27.62	17.81	60.395	Vertical	1	Pass	
5.0MHz	1/#Mid	1712.5	-6.00	3.13	27.63	18.50	70.795	Vertical	1	Pass	
Band		1732.5	-5.84	3.27	27.61	18.50	70.795	Vertical	1	Pass	
QPSK		1752.5	-6.07	3.30	27.60	18.23	66.527	Vertical	1	Pass	
10.0MHz	1/#Mid	1715	-6.57	3.15	27.64	17.92	61.944	Vertical	1	Pass	
Band		1732.5	-6.06	3.31	27.61	18.24	66.681	Vertical	1	Pass	
QPSK		1750	-6.24	3.33	27.59	18.02	63.387	Vertical	1	Pass	

15.0MHz	1/#Mid	1717.5	-6.77	3.15	27.65	17.73	59.293	Vertical	1	Pass
Band		1732.5	-6.34	3.31	27.61	17.96	62.517	Vertical	1	Pass
QPSK		1747.5	-6.50	3.33	27.57	17.74	59.429	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-6.73	3.17	27.66	17.76	59.704	Vertical	1	Pass
Band		1732.5	-5.68	3.32	27.61	18.61	72.611	Vertical	1	Pass
QPSK		1745	-6.29	3.36	27.56	17.91	61.802	Vertical	1	Pass

	Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-6.25	3.12	27.58	18.21	66.222	Horizontal	1	Pass
		1732.5	-6.10	3.27	27.61	18.24	66.681	Horizontal	1	Pass
		1754.3	-6.10	3.29	27.63	18.24	66.681	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-6.19	3.13	27.61	18.29	67.453	Horizontal	1	Pass
		1732.5	-6.32	3.27	27.61	18.02	63.387	Horizontal	1	Pass
		1753.5	-6.54	3.30	27.62	17.78	59.979	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-6.02	3.13	27.63	18.48	70.469	Horizontal	1	Pass
		1732.5	-5.98	3.27	27.61	18.36	68.549	Horizontal	1	Pass
		1752.5	-5.67	3.30	27.60	18.63	72.946	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-6.09	3.15	27.64	18.40	69.183	Horizontal	1	Pass
		1732.5	-6.28	3.31	27.61	18.02	63.387	Horizontal	1	Pass
		1750	-5.66	3.33	27.59	18.60	72.444	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.89	3.15	27.65	18.61	72.611	Horizontal	1	Pass
		1732.5	-5.95	3.31	27.61	18.35	68.391	Horizontal	1	Pass
		1747.5	-5.97	3.33	27.57	18.27	67.143	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.84	3.17	27.66	18.65	73.282	Horizontal	1	Pass
		1732.5	-5.85	3.32	27.61	18.44	69.823	Horizontal	1	Pass
		1745	-5.66	3.36	27.56	18.54	71.450	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-6.89	3.12	27.58	17.57	57.148	Vertical	1	Pass
		1732.5	-7.15	3.27	27.61	17.19	52.360	Vertical	1	Pass
		1754.3	-7.39	3.29	27.63	16.95	49.545	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-7.08	3.13	27.61	17.40	54.954	Vertical	1	Pass
		1732.5	-6.98	3.27	27.61	17.36	54.450	Vertical	1	Pass
		1753.5	-7.02	3.30	27.62	17.30	53.703	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-7.64	3.13	27.63	16.86	48.529	Vertical	1	Pass
		1732.5	-7.35	3.27	27.61	16.99	50.003	Vertical	1	Pass
		1752.5	-6.96	3.30	27.60	17.34	54.200	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-7.77	3.15	27.64	16.72	46.989	Vertical	1	Pass
		1732.5	-7.11	3.31	27.61	17.19	52.360	Vertical	1	Pass
		1750	-7.24	3.33	27.59	17.02	50.350	Vertical	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-7.67	3.15	27.65	16.83	48.195	Vertical	1	Pass
		1732.5	-7.59	3.31	27.61	16.71	46.881	Vertical	1	Pass
		1747.5	-7.56	3.33	27.57	16.68	46.559	Vertical	1	Pass

20.0MHz		1720	-7.13	3.17	27.66	17.36	54.450	Vertical	1	Pass
Band 16	1/#Mid	1732.5	-7.31	3.32	27.61	16.98	49.888	Vertical	1	Pass
QAM		1745	-6.97	3.36	27.56	17.23	52.845	Vertical	1	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

8.4 LTE BAND 5

		Radiated Power (ERP) for Band 5									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
1.4MHz Band QPSK	3/#Mid	824.7	3.86	2.01	19.68	2.15	19.38	86.696	Horizontal	7	Pass
		836.5	3.74	2.01	19.77	2.15	19.35	86.099	Horizontal	7	Pass
		848.3	3.54	2.02	19.82	2.15	19.19	82.985	Horizontal	7	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.63	2.01	19.70	2.15	19.17	82.604	Horizontal	7	Pass
		836.5	3.53	2.01	19.77	2.15	19.14	82.035	Horizontal	7	Pass
		847.5	3.40	2.02	19.81	2.15	19.04	80.168	Horizontal	7	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.91	2.01	19.71	2.15	19.46	88.308	Horizontal	7	Pass
		836.5	3.79	2.01	19.77	2.15	19.40	87.096	Horizontal	7	Pass
		846.5	3.63	2.02	19.79	2.15	19.25	84.140	Horizontal	7	Pass
10.0MHz Band QPSK	1/#Mid	829	3.93	2.01	19.73	2.15	19.50	89.125	Horizontal	7	Pass
		836.5	3.88	2.01	19.77	2.15	19.49	88.920	Horizontal	7	Pass
		844	3.78	2.02	19.78	2.15	19.39	86.896	Horizontal	7	Pass
1.4MHz Band QPSK	1/#Mid	824.7	2.45	2.01	19.68	2.15	17.97	62.661	Vertical	7	Pass
		836.5	2.49	2.01	19.77	2.15	18.10	64.565	Vertical	7	Pass
		848.3	2.82	2.02	19.82	2.15	18.47	70.307	Vertical	7	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.13	2.01	19.70	2.15	18.67	73.621	Vertical	7	Pass
		836.5	2.62	2.01	19.77	2.15	18.23	66.527	Vertical	7	Pass
		847.5	2.64	2.02	19.81	2.15	18.28	67.298	Vertical	7	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.37	2.01	19.71	2.15	17.92	61.944	Vertical	7	Pass
		836.5	2.57	2.01	19.77	2.15	18.18	65.766	Vertical	7	Pass
		846.5	2.64	2.02	19.79	2.15	18.26	66.988	Vertical	7	Pass
10.0MHz Band QPSK	1/#Mid	829	2.23	2.01	19.73	2.15	17.80	60.256	Vertical	7	Pass
		836.5	2.81	2.01	19.77	2.15	18.42	69.502	Vertical	7	Pass
		844	3.04	2.02	19.78	2.15	18.65	73.282	Vertical	7	Pass

		Radiated Power (ERP) for Band 5									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
1.4MHz Band 16 QAM	3/#Mid	824.7	3.01	2.01	19.68	2.15	18.53	71.285	Horizontal	7	Pass
		836.5	2.94	2.01	19.77	2.15	18.55	71.614	Horizontal	7	Pass
		848.3	2.78	2.02	19.82	2.15	18.43	69.663	Horizontal	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	3.09	2.01	19.70	2.15	18.63	72.946	Horizontal	7	Pass
		836.5	2.80	2.01	19.77	2.15	18.41	69.343	Horizontal	7	Pass
		847.5	2.28	2.02	19.81	2.15	17.92	61.944	Horizontal	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	3.41	2.01	19.71	2.15	18.96	78.705	Horizontal	7	Pass
		836.5	3.18	2.01	19.77	2.15	18.79	75.683	Horizontal	7	Pass
		846.5	2.93	2.02	19.79	2.15	18.55	71.614	Horizontal	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	3.41	2.01	19.73	2.15	18.98	79.068	Horizontal	7	Pass
		836.5	3.13	2.01	19.77	2.15	18.74	74.817	Horizontal	7	Pass
		844	2.67	2.02	19.78	2.15	18.28	67.298	Horizontal	7	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.15	2.01	19.68	2.15	17.67	58.479	Vertical	7	Pass
		836.5	3.06	2.01	19.77	2.15	18.67	73.621	Vertical	7	Pass
		848.3	2.58	2.02	19.82	2.15	18.23	66.527	Vertical	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.46	2.01	19.70	2.15	18.00	63.096	Vertical	7	Pass
		836.5	1.40	2.01	19.77	2.15	17.01	50.234	Vertical	7	Pass
		847.5	2.07	2.02	19.81	2.15	17.71	59.020	Vertical	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.11	2.01	19.71	2.15	17.66	58.345	Vertical	7	Pass
		836.5	1.65	2.01	19.77	2.15	17.26	53.211	Vertical	7	Pass
		846.5	1.07	2.02	19.79	2.15	16.69	46.666	Vertical	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	1.62	2.01	19.73	2.15	17.19	52.360	Vertical	7	Pass
		836.5	1.49	2.01	19.77	2.15	17.10	51.286	Vertical	7	Pass
		844	1.89	2.02	19.78	2.15	17.50	56.234	Vertical	7	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 7

		Radiated Power (EIRP) for Band 7								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
5.0MHz Band QPSK	1/#Mid	2502.5	-3.72	4.54	27.75	19.49	88.920	Horizontal	2	Pass
		2535	-3.55	4.69	27.72	19.48	88.716	Horizontal	2	Pass
		2567.5	-3.48	4.71	27.71	19.52	89.536	Horizontal	2	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.65	4.55	27.76	19.56	90.365	Horizontal	2	Pass
		2535	-3.46	4.69	27.72	19.57	90.573	Horizontal	2	Pass
		2565	-3.38	4.72	27.70	19.60	91.201	Horizontal	2	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.66	4.55	27.77	19.56	90.365	Horizontal	2	Pass
		2535	-3.52	4.69	27.72	19.51	89.331	Horizontal	2	Pass
		2562.5	-3.42	4.72	27.69	19.55	90.157	Horizontal	2	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.60	4.57	27.78	19.61	91.411	Horizontal	2	Pass
		2535	-3.42	4.73	27.72	19.57	90.573	Horizontal	2	Pass
		2560	-3.38	4.75	27.68	19.55	90.157	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-5.52	4.54	27.75	17.69	58.749	Vertical	2	Pass
		2535	-5.29	4.69	27.72	17.74	59.429	Vertical	2	Pass
		2567.5	-4.64	4.71	27.71	18.36	68.549	Vertical	2	Pass
10.0MHz Band QPSK	1/#Mid	2505	-4.92	4.55	27.76	18.29	67.453	Vertical	2	Pass
		2535	-4.58	4.69	27.72	18.45	69.984	Vertical	2	Pass
		2565	-5.19	4.72	27.70	17.79	60.117	Vertical	2	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-4.82	4.55	27.77	18.40	69.183	Vertical	2	Pass
		2535	-4.52	4.69	27.72	18.51	70.958	Vertical	2	Pass
		2562.5	-5.30	4.72	27.69	17.67	58.479	Vertical	2	Pass
20.0MHz Band QPSK	1/#Mid	2510	-4.61	4.57	27.78	18.60	72.444	Vertical	2	Pass
		2535	-5.07	4.73	27.72	17.92	61.944	Vertical	2	Pass
		2560	-5.25	4.75	27.68	17.68	58.614	Vertical	2	Pass

		Radiated Power (EIRP) for Band 7								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-4.41	4.54	27.75	18.80	75.858	Horizontal	2	Pass
		2535	-4.10	4.69	27.72	18.93	78.163	Horizontal	2	Pass
		2567.5	-4.18	4.71	27.71	18.82	76.208	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.30	4.55	27.76	18.91	77.804	Horizontal	2	Pass
		2535	-4.31	4.69	27.72	18.72	74.473	Horizontal	2	Pass
		2565	-4.58	4.72	27.70	18.40	69.183	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-4.48	4.55	27.77	18.74	74.817	Horizontal	2	Pass
		2535	-4.45	4.69	27.72	18.58	72.111	Horizontal	2	Pass
		2562.5	-4.06	4.72	27.69	18.91	77.804	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-4.36	4.57	27.78	18.85	76.736	Horizontal	2	Pass
		2535	-4.03	4.73	27.72	18.96	78.705	Horizontal	2	Pass
		2560	-4.13	4.75	27.68	18.80	75.858	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-5.78	4.54	27.75	17.43	55.335	Vertical	2	Pass
		2535	-5.86	4.69	27.72	17.17	52.119	Vertical	2	Pass
		2567.5	-4.56	4.71	27.71	18.44	69.823	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.67	4.55	27.76	18.54	71.450	Vertical	2	Pass
		2535	-5.11	4.69	27.72	17.92	61.944	Vertical	2	Pass
		2565	-5.15	4.72	27.70	17.83	60.674	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-5.05	4.55	27.77	18.17	65.615	Vertical	2	Pass
		2535	-5.31	4.69	27.72	17.72	59.156	Vertical	2	Pass
		2562.5	-5.49	4.72	27.69	17.48	55.976	Vertical	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-6.04	4.57	27.78	17.17	52.119	Vertical	2	Pass
		2535	-5.79	4.73	27.72	17.20	52.481	Vertical	2	Pass
		2560	-4.90	4.75	27.68	18.03	63.533	Vertical	2	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Factor (dB)+ SG Level (dBm)- Cable Loss(dBm)

8.6 LTE BAND 38

		Radiated Power (EIRP) for Band 38								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
5.0MHz Band QPSK	25/0	2572.5	-2.12	4.95	27.79	17.84	60.814	Vertical	2	Pass
		2595	-2.64	4.88	27.71	18.13	65.013	Vertical	2	Pass
		2617.5	-2.58	4.93	27.95	18.77	75.336	Vertical	2	Pass
5.0MHz Band 16 QAM	25/0	2572.5	-2.37	4.81	27.73	17.92	61.944	Vertical	2	Pass
		2595	-2.47	4.95	27.81	17.92	61.944	Vertical	2	Pass
		2617.5	-2.59	5.03	27.69	18.76	75.162	Vertical	2	Pass
10.0MHz Band QPSK	50/0	2575	-2.98	5.01	27.86	17.90	61.660	Vertical	2	Pass
		2595	-2.6	5	27.65	18.16	65.464	Vertical	2	Pass
		2615	-2.67	4.87	27.89	18.76	75.162	Vertical	2	Pass
10.0MHz Band 16 QAM	50/0	2575	-2.71	4.77	27.78	18.58	72.111	Vertical	2	Pass
		2595	-2.38	4.87	27.87	18.33	68.077	Vertical	2	Pass
		2615	-2.56	4.94	27.77	18.76	75.162	Vertical	2	Pass
15.0MHz Band QPSK	75/0	2577.5	-2.9	4.89	27.88	18.79	75.683	Vertical	2	Pass
		2595	-2.32	4.87	27.84	18.68	73.790	Vertical	2	Pass
		2612.5	-2.52	4.92	27.93	18.63	72.946	Vertical	2	Pass
15.0MHz Band 16 QAM	75/0	2577.5	-2.53	4.75	27.78	17.95	62.373	Vertical	2	Pass
		2595	-2.53	4.98	27.82	18.24	66.681	Vertical	2	Pass
		2612.5	-2.6	4.95	27.83	17.84	60.814	Vertical	2	Pass
20.0MHz Band QPSK	100/0	2580	-2.53	4.86	27.8	18.22	66.374	Vertical	2	Pass
		2595	-2.37	4.79	27.83	19.42	87.498	Vertical	2	Pass
		2610	-2.68	4.89	27.87	18.02	63.387	Vertical	2	Pass
20.0MHz Band 16 QAM	100/0	2580	-2.87	4.95	27.73	18.09	64.417	Vertical	2	Pass
		2595	-2.88	4.91	27.71	18.22	66.374	Vertical	2	Pass
		2610	-2.81	4.96	27.92	18.22	66.374	Vertical	2	Pass

		Radiated Power (EIRP) for Band 38								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
5.0MHz Band QPSK	25/0	2572.5	-2.12	4.95	27.79	18.36	68.549	Horizontal	2	Pass
		2595	-2.64	4.88	27.71	18.19	65.917	Horizontal	2	Pass
		2617.5	-2.58	4.93	27.95	18.08	64.269	Horizontal	2	Pass
5.0MHz Band 16 QAM	25/0	2572.5	-2.37	4.81	27.73	18.44	69.823	Horizontal	2	Pass
		2595	-2.47	4.95	27.81	18.27	67.143	Horizontal	2	Pass
		2617.5	-2.59	5.03	27.69	18.17	65.615	Horizontal	2	Pass
10.0MHz Band QPSK	50/0	2575	-2.98	5.01	27.86	18.79	75.683	Horizontal	2	Pass
		2595	-2.6	5	27.65	18.27	67.143	Horizontal	2	Pass
		2615	-2.67	4.87	27.89	18.09	64.417	Horizontal	2	Pass
10.0MHz Band 16 QAM	50/0	2575	-2.71	4.77	27.78	18.53	71.285	Horizontal	2	Pass
		2595	-2.38	4.87	27.87	18.20	66.069	Horizontal	2	Pass
		2615	-2.56	4.94	27.77	18.82	76.208	Horizontal	2	Pass
15.0MHz Band QPSK	75/0	2577.5	-2.9	4.89	27.88	18.51	70.958	Horizontal	2	Pass
		2595	-2.32	4.87	27.84	18.73	74.645	Horizontal	2	Pass
		2612.5	-2.52	4.92	27.93	17.99	62.951	Horizontal	2	Pass
15.0MHz Band 16 QAM	75/0	2577.5	-2.53	4.75	27.78	18.23	66.527	Horizontal	2	Pass
		2595	-2.53	4.98	27.82	17.91	61.802	Horizontal	2	Pass
		2612.5	-2.6	4.95	27.83	18.31	67.764	Horizontal	2	Pass
20.0MHz Band QPSK	100/0	2580	-2.53	4.86	27.8	18.47	70.307	Horizontal	2	Pass
		2595	-2.37	4.79	27.83	19.51	89.331	Horizontal	2	Pass
		2610	-2.68	4.89	27.87	18.17	65.615	Horizontal	2	Pass
20.0MHz Band 16 QAM	100/0	2580	-2.87	4.95	27.73	18.57	71.945	Horizontal	2	Pass
		2595	-2.88	4.91	27.71	18.66	73.451	Horizontal	2	Pass
		2610	-2.81	4.96	27.92	19.88	97.275	Horizontal	2	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

8.7 LTE BAND 41

		Radiated Power (EIRP) for Band 41								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP		
						Average	Average		Limit	
						(dBm)	(mW)		(W)	
5.0MHz Band QPSK	1/#Mid	2537.5	-3.97	4.54	27.75	19.24	83.946	Horizontal	2	Pass
		2595	-3.82	4.69	27.72	19.21	83.368	Horizontal	2	Pass
		2652.5	-3.70	4.71	27.71	19.30	85.114	Horizontal	2	Pass
10.0MHz Band QPSK	1/#Mid	2540	-4.05	4.55	27.76	19.16	82.414	Horizontal	2	Pass
		2595	-3.91	4.69	27.72	19.12	81.658	Horizontal	2	Pass
		2650	-3.90	4.72	27.70	19.08	80.910	Horizontal	2	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-3.88	4.55	27.77	19.34	85.901	Horizontal	2	Pass
		2595	-3.60	4.69	27.72	19.43	87.700	Horizontal	2	Pass
		2647.5	-3.65	4.72	27.69	19.32	85.507	Horizontal	2	Pass
20.0MHz Band QPSK	1/#Mid	2545	-3.49	4.57	27.78	19.72	93.756	Horizontal	2	Pass
		2595	-3.54	4.73	27.72	19.45	88.105	Horizontal	2	Pass
		2645	-3.54	4.75	27.68	19.39	86.896	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	2537.5	-3.77	4.54	27.75	19.44	87.902	Vertical	2	Pass
		2595	-3.68	4.69	27.72	19.35	86.099	Vertical	2	Pass
		2652.5	-3.66	4.71	27.71	19.34	85.901	Vertical	2	Pass
10.0MHz Band QPSK	1/#Mid	2540	-3.75	4.55	27.76	19.46	88.308	Vertical	2	Pass
		2595	-3.59	4.69	27.72	19.44	87.902	Vertical	2	Pass
		2650	-3.66	4.72	27.70	19.32	85.507	Vertical	2	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-4.54	4.55	27.77	18.68	73.790	Vertical	2	Pass
		2595	-4.54	4.69	27.72	18.49	70.632	Vertical	2	Pass
		2647.5	-4.50	4.72	27.69	18.47	70.307	Vertical	2	Pass
20.0MHz Band QPSK	1/#Mid	2545	-5.44	4.57	27.78	17.77	59.841	Vertical	2	Pass
		2595	-4.91	4.73	27.72	18.08	64.269	Vertical	2	Pass
		2645	-4.31	4.75	27.68	18.62	72.778	Vertical	2	Pass

		Radiated Power (EIRP) for Band 41								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP		
						Average	Average		Limit	
						(dBm)	(mW)		(W)	
5.0MHz Band 16 QAM	1/#Mid	2537.5	-3.99	4.54	27.75	19.22	83.560	Horizontal	2	Pass
		2595	-3.84	4.69	27.72	19.19	82.985	Horizontal	2	Pass
		2652.5	-3.72	4.71	27.71	19.28	84.723	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-4.07	4.55	27.76	19.14	82.035	Horizontal	2	Pass
		2595	-3.93	4.69	27.72	19.10	81.283	Horizontal	2	Pass
		2650	-3.92	4.72	27.70	19.06	80.538	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-3.90	4.55	27.77	19.32	85.507	Horizontal	2	Pass
		2595	-3.62	4.69	27.72	19.41	87.297	Horizontal	2	Pass
		2647.5	-3.67	4.72	27.69	19.30	85.114	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-3.62	4.57	27.78	19.59	90.991	Horizontal	2	Pass
		2595	-3.56	4.73	27.72	19.43	87.700	Horizontal	2	Pass
		2645	-3.56	4.75	27.68	19.37	86.497	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	2537.5	-3.79	4.54	27.75	19.42	87.498	Vertical	2	Pass
		2595	-3.70	4.69	27.72	19.33	85.704	Vertical	2	Pass
		2652.5	-3.68	4.71	27.71	19.32	85.507	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-3.77	4.55	27.76	19.44	87.902	Vertical	2	Pass
		2595	-3.61	4.69	27.72	19.42	87.498	Vertical	2	Pass
		2650	-3.68	4.72	27.70	19.30	85.114	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-4.54	4.55	27.77	18.68	73.790	Vertical	2	Pass
		2595	-4.51	4.69	27.72	18.52	71.121	Vertical	2	Pass
		2647.5	-4.68	4.72	27.69	18.29	67.453	Vertical	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-4.96	4.57	27.78	18.25	66.834	Vertical	2	Pass
		2595	-4.69	4.73	27.72	18.30	67.608	Vertical	2	Pass
		2645	-4.49	4.75	27.68	18.44	69.823	Vertical	2	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

8.8 LTE BAND 66

		Radiated Power (EIRP) for Band 66								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
									(W)	
1.4MHz Band QPSK	1/#Mid	1710.7	-5.26	3.76	28.24	19.22	83.560	Horizontal	1	Pass
		1745	-5.12	3.91	28.22	19.19	82.985	Horizontal	1	Pass
		1779.3	-4.99	3.93	28.2	19.28	84.723	Horizontal	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-5.32	3.77	28.23	19.14	82.035	Horizontal	1	Pass
		1745	-5.23	3.91	28.24	19.10	81.283	Horizontal	1	Pass
		1778.5	-5.25	3.94	28.25	19.06	80.538	Horizontal	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-5.22	3.77	28.31	19.32	85.507	Horizontal	1	Pass
		1745	-4.90	3.91	28.22	19.41	87.297	Horizontal	1	Pass
		1777.5	-4.96	3.94	28.2	19.30	85.114	Horizontal	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-5.11	3.79	28.33	19.43	87.700	Horizontal	1	Pass
		1745	-4.84	3.95	28.22	19.43	87.700	Horizontal	1	Pass
		1775	-4.85	3.97	28.19	19.37	86.497	Horizontal	1	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-5.13	3.79	28.34	19.42	87.498	Horizontal	1	Pass
		1745	-4.94	3.95	28.22	19.33	85.704	Horizontal	1	Pass
		1772.5	-4.89	3.97	28.18	19.32	85.507	Horizontal	1	Pass
20.0MHz Band QPSK	1/#Mid	1720	-5.10	3.81	28.35	19.44	87.902	Horizontal	1	Pass
		1745	-4.84	3.96	28.22	19.42	87.498	Horizontal	1	Pass
		1770	-4.86	4	28.16	19.30	85.114	Horizontal	1	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-6.52	3.76	28.24	17.96	62.517	Vertical	1	Pass
		1745	-6.27	3.91	28.22	18.04	63.680	Vertical	1	Pass
		1779.3	-6.23	3.93	28.2	18.04	63.680	Vertical	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-6.33	3.77	28.23	18.13	65.013	Vertical	1	Pass
		1745	-5.63	3.91	28.24	18.70	74.131	Vertical	1	Pass
		1778.5	-6.00	3.94	28.25	18.31	67.764	Vertical	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-6.44	3.77	28.31	18.10	64.565	Vertical	1	Pass
		1745	-5.85	3.91	28.22	18.46	70.146	Vertical	1	Pass
		1777.5	-5.91	3.94	28.2	18.35	68.391	Vertical	1	Pass

10.0MHz	1/#Mid	1715	-6.26	3.79	28.34	18.29	67.453	Vertical	1	Pass
Band		1745	-5.86	3.95	28.22	18.41	69.343	Vertical	1	Pass
QPSK		1775	-5.55	3.97	28.18	18.66	73.451	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-6.02	3.81	28.35	18.52	71.121	Vertical	1	Pass
Band		1745	-6.49	3.96	28.22	17.77	59.841	Vertical	1	Pass
QPSK		1772.5	-6.22	4	28.16	17.94	62.230	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-6.51	3.79	28.34	18.04	63.680	Vertical	1	Pass
Band		1745	-5.72	3.95	28.22	18.55	71.614	Vertical	1	Pass
QPSK		1770	-6.46	3.97	28.18	17.75	59.566	Vertical	1	Pass

		Radiated Power (EIRP) for Band 66								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP		
							Average		Limit	
							(mW)		(W)	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.97	3.76	28.24	18.51	70.958	Horizontal	1	Pass
		1745	-5.58	3.91	28.22	18.73	74.645	Horizontal	1	Pass
		1779.3	-5.76	3.93	28.2	18.51	70.958	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-6.36	3.77	28.23	18.10	64.565	Horizontal	1	Pass
		1745	-5.61	3.91	28.24	18.72	74.473	Horizontal	1	Pass
		1778.5	-5.90	3.94	28.25	18.41	69.343	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.78	3.77	28.31	18.76	75.162	Horizontal	1	Pass
		1745	-5.84	3.91	28.22	18.47	70.307	Horizontal	1	Pass
		1777.5	-5.51	3.94	28.2	18.75	74.989	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.83	3.79	28.33	18.71	74.302	Horizontal	1	Pass
		1745	-5.49	3.95	28.22	18.78	75.509	Horizontal	1	Pass
		1775	-5.81	3.97	28.19	18.41	69.343	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.82	3.79	28.34	18.73	74.645	Horizontal	1	Pass
		1745	-5.64	3.95	28.22	18.63	72.946	Horizontal	1	Pass
		1772.5	-5.43	3.97	28.18	18.78	75.509	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.65	3.81	28.35	18.89	77.446	Horizontal	1	Pass
		1745	-5.43	3.96	28.22	18.83	76.384	Horizontal	1	Pass
		1770	-5.37	4	28.16	18.79	75.683	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-6.05	3.76	28.24	18.43	69.663	Vertical	1	Pass
		1745	-7.40	3.91	28.22	16.91	49.091	Vertical	1	Pass
		1779.3	-5.80	3.93	28.2	18.47	70.307	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-7.44	3.77	28.23	17.02	50.350	Vertical	1	Pass
		1745	-5.89	3.91	28.24	18.44	69.823	Vertical	1	Pass
		1778.5	-7.49	3.94	28.25	16.82	48.084	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-7.18	3.77	28.31	17.36	54.450	Vertical	1	Pass
		1745	-7.36	3.91	28.22	16.95	49.545	Vertical	1	Pass
		1777.5	-7.05	3.94	28.2	17.21	52.602	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.84	3.79	28.34	18.71	74.302	Vertical	1	Pass
		1745	-6.30	3.95	28.22	17.97	62.661	Vertical	1	Pass
		1775	-7.35	3.97	28.18	16.86	48.529	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-7.69	3.81	28.35	16.85	48.417	Vertical	1	Pass

Band 16		1745	-5.68	3.96	28.22	18.58	72.111	Vertical	1	Pass
QAM		1772.5	-5.97	4	28.16	18.19	65.917	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-7.38	3.79	28.34	17.17	52.119	Vertical	1	Pass
Band 16		1745	-6.75	3.95	28.22	17.52	56.494	Vertical	1	Pass
QAM		1770	-5.66	3.97	28.18	18.55	71.614	Vertical	1	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53

LIMIT

§22.917 (e) and §24.238: Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:

- a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than $43 + 10 \log_{10}(p)$, dB; and
- b. for mobile subscriber equipment, the attenuation shall not be less than $43 + 10 \log_{10}(p)$, dB at the channel edges and $55 + 10 \log_{10}(p)$ at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

LTE Band 2/4/5/7/38/41/66

RESULTS

PASS

9.1 LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-49.75	4.04	33.51	-20.28	-13	-7.28	Horizontal
3701.4	-51.13	4.04	33.51	-21.66	-13	-8.66	Vertical
5552.1	-50.26	5.24	35.84	-19.66	-13	-6.66	Vertical
5552.1	-51.80	5.24	35.84	-21.20	-13	-8.20	Horizontal
211.2	-44.03	1.43	16.02	-29.44	-13	-16.44	Vertical
463.7	-38.74	1.30	17.99	-22.05	-13	-9.05	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-51.59	4.04	33.56	-22.07	-13	-9.07	Horizontal
3760.0	-45.17	4.04	33.56	-15.65	-13	-2.65	Vertical
5640.0	-53.48	5.24	35.91	-22.81	-13	-9.81	Vertical
5640.0	-53.05	5.24	35.91	-22.38	-13	-9.38	Horizontal
207.1	-39.66	1.62	16.97	-24.31	-13	-11.31	Vertical
288.1	-34.28	1.74	15.98	-20.05	-13	-7.05	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-53.74	4.04	34.00	-23.78	-13	-10.78	Horizontal
3818.6	-47.04	4.04	34.00	-17.08	-13	-4.08	Vertical
5727.9	-52.69	5.24	36.04	-21.89	-13	-8.89	Vertical
5727.9	-52.10	5.24	36.04	-21.30	-13	-8.30	Horizontal
176.1	-44.37	1.42	17.29	-28.50	-13	-15.50	Vertical
414.2	-35.36	1.50	17.90	-18.95	-13	-5.95	Horizontal

QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-47.47	4.07	33.54	-18.00	-13	-5.00	Horizontal
3720.0	-47.47	4.07	33.54	-18.00	-13	-5.00	Vertical
5580.0	-50.63	5.28	35.86	-20.05	-13	-7.05	Vertical
5580.0	-52.70	5.28	35.86	-22.12	-13	-9.12	Horizontal
177.4	-40.60	1.58	16.89	-25.28	-13	-12.28	Vertical
433.4	-34.89	1.76	17.26	-19.39	-13	-6.39	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-46.25	4.04	33.56	-16.73	-13	-3.73	Horizontal
3760.0	-44.48	4.04	33.56	-14.96	-13	-1.96	Vertical
5640.0	-53.36	5.24	35.91	-22.69	-13	-9.69	Vertical
5640.0	-53.27	5.24	35.91	-22.60	-13	-9.60	Horizontal
209.1	-44.13	1.46	16.27	-29.32	-13	-16.32	Vertical
412.9	-44.81	1.59	15.15	-31.25	-13	-18.25	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-45.46	4.04	34.00	-15.50	-13	-2.50	Horizontal
3800.0	-47.03	4.04	34.00	-17.07	-13	-4.07	Vertical
5700.0	-46.16	5.24	36.04	-15.36	-13	-2.36	Vertical
5700.0	-51.91	5.24	36.04	-21.11	-13	-8.11	Horizontal
181.3	-38.32	1.36	17.39	-22.28	-13	-9.28	Vertical
269.1	-37.73	1.66	15.39	-24.00	-13	-11.00	Horizontal

Note: $P_{Mea}(dBm) = Power(dBm) + AR_{pl} (dBm)$

Over Limit = : $P_{Mea}(dBm) - Limit(dBm)$

Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.2 LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-45.54	4.02	29.80	-19.76	-13	-6.76	Horizontal
3421.4	-44.89	4.02	29.80	-19.11	-13	-6.11	Vertical
5132.1	-47.75	5.24	35.84	-17.15	-13	-4.15	Vertical
5132.1	-51.50	5.24	35.84	-20.90	-13	-7.90	Horizontal
183.7	-36.74	1.68	16.04	-22.38	-13	-9.38	Vertical
443.2	-43.19	1.78	17.74	-27.23	-13	-14.23	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-50.10	4.03	30.00	-24.13	-13	-11.13	Horizontal
3465.0	-53.72	4.03	30.00	-27.75	-13	-14.75	Vertical
5197.5	-53.28	5.25	35.86	-22.67	-13	-9.67	Vertical
5197.5	-51.46	5.25	35.86	-20.85	-13	-7.85	Horizontal
186.4	-37.92	1.72	17.69	-21.95	-13	-8.95	Vertical
257.7	-34.50	1.62	16.02	-20.09	-13	-7.09	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-46.87	4.05	30.01	-20.91	-13	-7.91	Horizontal
3508.6	-51.58	4.05	30.01	-25.62	-13	-12.62	Vertical
5262.9	-48.52	5.26	35.86	-17.92	-13	-4.92	Vertical
5262.9	-51.84	5.26	35.86	-21.24	-13	-8.24	Horizontal
196.6	-36.82	1.80	16.69	-21.93	-13	-8.93	Vertical
262.8	-41.75	1.75	16.66	-26.85	-13	-13.85	Horizontal

QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-49.46	4.02	29.80	-23.68	-13	-10.68	Horizontal
3440.0	-51.29	4.02	29.80	-25.51	-13	-12.51	Vertical
5160.0	-49.35	5.24	35.84	-18.75	-13	-5.75	Vertical
5160.0	-52.57	5.24	35.84	-21.97	-13	-8.97	Horizontal
191.8	-40.37	1.57	17.26	-24.68	-13	-11.68	Vertical
317.4	-39.63	1.78	16.35	-25.06	-13	-12.06	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-47.25	4.03	30.00	-21.28	-13	-8.28	Horizontal
3465.0	-44.57	4.03	30.00	-18.60	-13	-5.60	Vertical
5197.5	-48.49	5.25	35.86	-17.88	-13	-4.88	Vertical
5197.5	-50.32	5.25	35.86	-19.71	-13	-6.71	Horizontal
210.2	-38.39	1.44	17.95	-21.88	-13	-8.88	Vertical
236.1	-35.40	1.65	16.09	-20.96	-13	-7.96	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-49.02	2.91	27.68	-24.25	-13	-11.25	Horizontal
3490.0	-51.02	2.91	27.68	-26.25	-13	-13.25	Vertical
5235.0	-51.82	5.26	35.86	-21.22	-13	-8.22	Vertical
5235.0	-51.31	5.26	35.86	-20.71	-13	-7.71	Horizontal
185.0	-38.66	1.61	16.85	-23.42	-13	-10.42	Vertical
440.3	-41.65	1.61	15.19	-28.07	-13	-15.07	Horizontal

Note: P_{Mea}(dBm)= Power(dBm)+ AR_{pl} (dBm)

. Over Limit= : P_{Mea}(dBm)-Limit(dBm)

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.3 LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-50.46	2.78	27.50	-25.74	-13	-12.74	Horizontal
1649.4	-48.09	2.78	27.50	-23.37	-13	-10.37	Vertical
2474.1	-51.28	2.90	27.80	-26.38	-13	-13.38	Vertical
2474.1	-51.89	2.90	27.80	-26.99	-13	-13.99	Horizontal
177.6	-40.75	1.76	17.59	-24.92	-13	-11.92	Vertical
315.0	-43.24	1.63	15.87	-29.00	-13	-16.00	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-49.81	2.80	27.48	-25.13	-13	-12.13	Horizontal
1673.0	-47.88	2.80	27.48	-23.20	-13	-10.20	Vertical
2509.5	-53.32	2.91	27.70	-28.53	-13	-15.53	Vertical
2509.5	-50.46	2.91	27.70	-25.67	-13	-12.67	Horizontal
191.7	-40.35	1.61	15.68	-26.28	-13	-13.28	Vertical
235.6	-43.78	1.59	17.52	-27.86	-13	-14.86	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-50.91	2.82	27.43	-26.30	-13	-13.30	Horizontal
1696.6	-50.90	2.82	27.43	-26.29	-13	-13.29	Vertical
2544.9	-46.93	2.92	27.74	-22.11	-13	-9.11	Vertical
2544.9	-52.28	2.92	27.74	-27.46	-13	-14.46	Horizontal
204.7	-39.27	1.69	16.67	-24.28	-13	-11.28	Vertical
240.2	-42.61	1.70	17.18	-27.13	-13	-14.13	Horizontal

QPSK EIRP POWER FOR LTE BAND 5 (10MHZ BANDWIDTH)

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-48.53	2.78	27.50	-23.81	-13	-10.81	Horizontal
1658.0	-50.05	2.78	27.50	-25.33	-13	-12.33	Vertical
2487.0	-53.18	2.90	27.80	-28.28	-13	-15.28	Vertical
2487.0	-50.37	2.90	27.80	-25.47	-13	-12.47	Horizontal
187.6	-40.76	1.71	15.57	-26.90	-13	-13.90	Vertical
464.9	-43.98	1.34	16.40	-28.92	-13	-15.92	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-51.16	2.80	27.48	-26.48	-13	-13.48	Horizontal
1673.0	-48.16	2.80	27.48	-23.48	-13	-10.48	Vertical
2509.5	-45.17	2.91	27.70	-20.38	-13	-7.38	Vertical
2509.5	-53.53	2.91	27.70	-28.74	-13	-15.74	Horizontal
192.2	-37.21	1.44	17.04	-21.61	-13	-8.61	Vertical
236.9	-37.39	1.76	17.62	-21.53	-13	-8.53	Horizontal
Test Results for High Channel 844MHz							
1688.0	-52.46	2.82	27.43	-27.85	-13	-14.85	Horizontal
1688.0	-44.46	2.82	27.43	-19.85	-13	-6.85	Vertical
2532.0	-45.91	2.92	27.74	-21.09	-13	-8.09	Vertical
2532.0	-49.39	2.92	27.74	-24.57	-13	-11.57	Horizontal
192.8	-36.28	1.74	17.70	-20.32	-13	-7.32	Vertical
355.3	-40.42	1.41	17.46	-24.36	-13	-11.36	Horizontal

Note: P_{Mea}(dBm)= Power(dBm)+ AR_{pl} (dBm)

. Over Limit= : P_{Mea}(dBm)-Limit(dBm)

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.4 LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-60.32	5.23	35.81	-29.74	-25	-4.74	Horizontal
5005.0	-60.92	5.23	35.81	-30.34	-25	-5.34	Vertical
7507.5	-60.05	5.67	36.85	-28.87	-25	-3.87	Vertical
7507.5	-61.28	5.67	36.85	-30.10	-25	-5.10	Horizontal
183.5	-52.32	1.73	17.97	-36.08	-25	-11.08	Vertical
340.5	-46.52	1.38	15.11	-32.79	-25	-7.79	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.30	5.23	35.82	-30.71	-25	-5.71	Horizontal
5070.0	-62.93	5.23	35.82	-32.34	-25	-7.34	Vertical
7605.0	-59.17	5.67	36.85	-27.99	-25	-2.99	Vertical
7605.0	-61.04	5.67	36.85	-29.86	-25	-4.86	Horizontal
196.4	-53.11	1.77	16.17	-38.70	-25	-13.70	Vertical
347.2	-46.54	1.63	15.21	-32.96	-25	-7.96	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-60.40	5.24	35.83	-29.81	-25	-4.81	Horizontal
5135.0	-64.09	5.24	35.83	-33.50	-25	-8.50	Vertical
7702.5	-60.54	5.68	36.87	-29.35	-25	-4.35	Vertical
7702.5	-64.39	5.68	36.87	-33.20	-25	-8.20	Horizontal
205.6	-49.53	1.58	17.56	-33.55	-25	-8.55	Vertical
321.0	-51.96	1.45	16.58	-36.83	-25	-11.83	Horizontal

QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

Test Results for Low Channel 2510MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5020.0	-59.04	5.23	35.82	-28.45	-25	-3.45	Horizontal
5020.0	-59.39	5.23	35.82	-28.80	-25	-3.80	Vertical
7530.0	-60.72	5.67	36.86	-29.53	-25	-4.53	Vertical
7530.0	-63.37	5.67	36.86	-32.18	-25	-7.18	Horizontal
208.1	-46.63	1.63	15.76	-32.50	-25	-7.50	Vertical
312.6	-48.85	1.71	15.44	-35.12	-25	-10.12	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-62.10	5.23	35.82	-31.51	-25	-6.51	Horizontal
5070.0	-59.34	5.23	35.82	-28.75	-25	-3.75	Vertical
7605.0	-62.75	5.67	36.85	-31.57	-25	-6.57	Vertical
7605.0	-59.17	5.67	36.85	-27.99	-25	-2.99	Horizontal
182.6	-46.54	1.79	16.84	-31.48	-25	-6.48	Vertical
372.0	-45.07	1.71	17.64	-29.14	-25	-4.14	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-61.55	5.24	35.83	-30.96	-25	-5.96	Horizontal
5120.0	-62.26	5.24	35.83	-31.67	-25	-6.67	Vertical
7680.0	-61.04	5.70	36.88	-29.86	-25	-4.86	Vertical
7680.0	-62.44	5.70	36.88	-31.26	-25	-6.26	Horizontal
182.6	-48.13	1.79	16.84	-33.07	-25	-8.07	Vertical
423.0	-49.54	1.71	17.64	-33.61	-25	-8.61	Horizontal

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74

. Margin = Spurious Emission Level - Limit

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.5 LTE BAND 38

QPSK EIRP POWER FOR LTE BAND 38 (5MHZ BANDWIDTH)

Test Results for Low Channel 2572.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5145	-53.88	4.01	27.5	-30.39	-25	-5.39	Horizontal
5145	-53.85	4.01	27.5	-30.36	-25	-5.36	Vertical
7717.5	-54.00	5.09	27.8	-31.29	-25	-6.29	Vertical
7717.5	-50.10	5.09	27.8	-27.39	-25	-2.39	Horizontal
Test Results for Mid Channel 2595MHz							
5190	-49.78	4.1	27.48	-26.40	-25	-1.40	Horizontal
5190	-50.87	4.1	27.48	-27.49	-25	-2.49	Vertical
7785	-50.19	5.42	27.7	-27.91	-25	-2.91	Vertical
7785	-54.29	5.42	27.7	-32.01	-25	-7.01	Horizontal
Test Results for High Channel 2617.5MHz							
5234	-51.65	4.11	27.43	-28.33	-25	-3.33	Horizontal
5234	-50.25	4.11	27.43	-26.93	-25	-1.93	Vertical
7851	-52.05	5.31	27.74	-29.62	-25	-4.62	Vertical
7851	-54.39	5.31	27.74	-31.96	-25	-6.96	Horizontal

QPSK EIRP POWER FOR LTE BAND 38 (20MHZ BANDWIDTH)

Test Results for Low Channel 2580MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5160	-53.60	3.89	27.5	-29.99	-25	-4.99	Horizontal
5160	-53.36	3.89	27.5	-29.75	-25	-4.75	Vertical
7740	-51.77	5.33	27.8	-29.30	-25	-4.30	Vertical
7740	-49.47	5.33	27.8	-27.00	-25	-2.00	Horizontal
Test Results for Mid Channel 2595MHz							
5190	-52.11	4.1	27.48	-28.73	-25	-3.73	Horizontal
5190	-50.99	4.1	27.48	-27.61	-25	-2.61	Vertical
7785	-50.36	5.42	27.7	-28.08	-25	-3.08	Vertical
7785	-54.49	5.42	27.7	-32.21	-25	-7.21	Horizontal
Test Results for High Channel 2610MHz							
5220	-52.41	4.01	27.43	-28.99	-25	-3.99	Horizontal
5220	-51.85	4.01	27.43	-28.43	-25	-3.43	Vertical
7830	-49.82	5.34	27.74	-27.42	-25	-2.42	Vertical
7830	-53.26	5.34	27.74	-30.86	-25	-5.86	Horizontal

Note: $P_{Mea}(dBm) = Power(dBm) + AR_{pl}(dBm)$

. Over Limit = : $P_{Mea}(dBm) - Limit(dBm)$

. We test both H direction and V direction, recorded worst case direction.

Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.6 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (5MHZ BANDWIDTH)

Test Results for Low Channel 2537.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5075.0	-64.01	5.23	35.81	-33.43	-25	-8.43	Horizontal
5075.0	-63.50	5.23	35.81	-32.92	-25	-7.92	Vertical
7612.5	-61.40	5.67	36.85	-30.22	-25	-5.22	Vertical
7612.5	-59.50	5.67	36.85	-28.32	-25	-3.32	Horizontal
435.3	-48.48	1.38	15.98	-33.88	-25	-8.88	Vertical
465.8	-48.69	1.62	15.66	-34.65	-25	-9.65	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-63.79	5.23	35.82	-33.20	-25	-8.20	Horizontal
5190.0	-61.79	5.23	35.82	-31.20	-25	-6.20	Vertical
7785.0	-59.16	5.67	36.85	-27.98	-25	-2.98	Vertical
7785.0	-60.76	5.67	36.85	-29.58	-25	-4.58	Horizontal
510.4	-46.25	1.62	16.17	-31.70	-25	-6.70	Vertical
562.9	-44.54	1.74	17.63	-28.65	-25	-3.65	Horizontal
Test Results for High Channel 2652.5MHz							
5305.0	-64.88	5.24	35.83	-34.29	-25	-9.29	Horizontal
5305.0	-64.36	5.24	35.83	-33.77	-25	-8.77	Vertical
7957.5	-59.58	5.68	36.87	-28.39	-25	-3.39	Vertical
7957.5	-62.34	5.68	36.87	-31.15	-25	-6.15	Horizontal
197.6	-44.36	1.55	15.84	-30.07	-25	-5.07	Vertical
353.1	-45.98	1.51	17.06	-30.43	-25	-5.43	Horizontal

QPSK EIRP POWER FOR LTE BAND 41 (20MHZ BANDWIDTH)

Test Results for Low Channel 2545MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5090.0	-61.48	5.23	35.82	-30.89	-25	-5.89	Horizontal
5090.0	-59.65	5.23	35.82	-29.06	-25	-4.06	Vertical
7635.0	-63.56	5.67	36.86	-32.37	-25	-7.37	Vertical
7635.0	-59.73	5.67	36.86	-28.54	-25	-3.54	Horizontal
128.9	-47.55	1.43	15.51	-33.47	-25	-8.47	Vertical
344.8	-44.78	1.40	16.97	-29.21	-25	-4.21	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-60.29	5.23	35.82	-29.70	-25	-4.70	Horizontal
5190.0	-64.08	5.23	35.82	-33.49	-25	-8.49	Vertical
7785.0	-61.10	5.67	36.85	-29.92	-25	-4.92	Vertical
7785.0	-61.51	5.67	36.85	-30.33	-25	-5.33	Horizontal
100.8	-46.96	1.77	16.72	-32.01	-25	-7.01	Vertical
263.5	-48.38	1.31	16.99	-32.70	-25	-7.70	Horizontal
Test Results for High Channel 2645MHz							
5290.0	-64.31	5.24	35.83	-33.72	-25	-8.72	Horizontal
5290.0	-63.22	5.24	35.83	-32.63	-25	-7.63	Vertical
7935.0	-61.52	5.70	36.88	-30.34	-25	-5.34	Vertical
7935.0	-59.57	5.70	36.88	-28.39	-25	-3.39	Horizontal
349.9	-45.61	1.70	15.73	-31.58	-25	-6.58	Vertical
110.3	-47.44	1.75	17.33	-31.86	-25	-6.86	Horizontal

Note: $P_{Mea}(dBm) = Power(dBm) + AR_{pl}(dBm)$

Over Limit = $P_{Mea}(dBm) - Limit(dBm)$

We test both H direction and V direction, recorded worst case direction.

Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.7 LTE BAND 66

QPSK EIRP POWER FOR LTE BAND 66 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-45.95	4.02	29.80	-20.17	-13	-7.17	Horizontal
3421.4	-53.98	4.02	29.80	-28.20	-13	-15.20	Vertical
5132.1	-52.41	5.24	35.84	-21.81	-13	-8.81	Vertical
5132.1	-54.77	5.24	35.84	-24.17	-13	-11.17	Horizontal
112.6	-44.35	1.52	15.57	-30.30	-13	-17.30	Vertical
220.5	-50.37	1.33	17.14	-34.56	-13	-21.56	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-53.80	4.03	30.00	-27.83	-13	-14.83	Horizontal
3490.0	-51.46	4.03	30.00	-25.49	-13	-12.49	Vertical
5235.0	-54.95	5.25	35.86	-24.34	-13	-11.34	Vertical
5235.0	-54.01	5.25	35.86	-23.40	-13	-10.40	Horizontal
157.3	-47.74	1.53	17.13	-32.14	-13	-19.14	Vertical
213.1	-49.99	1.41	15.95	-35.45	-13	-22.45	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-51.09	4.05	30.01	-25.13	-13	-12.13	Horizontal
3558.6	-53.82	4.05	30.01	-27.86	-13	-14.86	Vertical
5337.9	-54.13	5.26	35.86	-23.53	-13	-10.53	Vertical
5337.9	-52.97	5.26	35.86	-22.37	-13	-9.37	Horizontal
170.6	-45.60	1.44	15.51	-31.53	-13	-18.53	Vertical
169.0	-47.03	1.78	15.76	-33.05	-13	-20.05	Horizontal

QPSK EIRP POWER FOR LTE BAND 66 (20MHZ BANDWIDTH)

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-50.50	4.02	29.80	-24.72	-13	-11.72	Horizontal
3440.0	-50.52	4.02	29.80	-24.74	-13	-11.74	Vertical
5160.0	-49.51	5.24	35.84	-18.91	-13	-5.91	Vertical
5160.0	-52.44	5.24	35.84	-21.84	-13	-8.84	Horizontal
268.8	-46.82	1.62	17.02	-31.42	-13	-18.42	Vertical
161.4	-51.70	1.32	17.31	-35.71	-13	-22.71	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-53.46	4.03	30.00	-27.49	-13	-14.49	Horizontal
3490.0	-53.40	4.03	30.00	-27.43	-13	-14.43	Vertical
5235.0	-50.32	5.25	35.86	-19.71	-13	-6.71	Vertical
5235.0	-54.19	5.25	35.86	-23.58	-13	-10.58	Horizontal
159.9	-54.71	1.45	15.17	-40.99	-13	-27.99	Vertical
172.1	-47.86	1.48	17.82	-31.52	-13	-18.52	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-54.65	2.91	27.68	-29.88	-13	-16.88	Horizontal
3540.0	-44.32	2.91	27.68	-19.55	-13	-6.55	Vertical
5310.0	-53.78	5.26	35.86	-23.18	-13	-10.18	Vertical
5310.0	-53.70	5.26	35.86	-23.10	-13	-10.10	Horizontal
197.3	-54.55	1.76	16.38	-39.93	-13	-26.93	Vertical
158.5	-51.67	1.43	17.13	-35.97	-13	-22.97	Horizontal

Note: P_{Mea}(dBm)= Power(dBm)+ AR_{pl} (dBm)

. Over Limit= : P_{Mea}(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

10. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- ☐ Temp. = -30°C to $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 3.31V, Normal, DC 3.89V and High voltage, DC 4.47V.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to -30°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

LTE Band 2/4/5/7/38/41/66

RESULTS

See the following pages.

10.1 LTE BAND 2

Band 2 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	1880	12.7	0.006776	2.5
3.89	1880	14.1	0.007522	2.5
4.47	1880	13.0	0.006917	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	13.1	0.006964	2.5
Extreme (50C)	1880	11.2	0.005952	2.5
Extreme (40C)	1880	13.7	0.007262	2.5
Extreme (30C)	1880	13.7	0.007314	2.5
Extreme (10C)	1880	13.8	0.007357	2.5
Extreme (0C)	1880	12.2	0.006512	2.5
Extreme (-10C)	1880	12.7	0.006752	2.5
Extreme (-20C)	1880	14.0	0.007426	2.5
Extreme (-30C)	1880	14.5	0.007712	2.5

Band 2 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	1880	10.2	0.005449	2.5
3.89	1880	9.1	0.004865	2.5
4.47	1880	7.6	0.004066	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.2	0.004895	2.5
Extreme (50C)	1880	8.8	0.004657	2.5
Extreme (40C)	1880	8.3	0.004395	2.5
Extreme (30C)	1880	9.2	0.004877	2.5
Extreme (10C)	1880	9.1	0.004829	2.5
Extreme (0C)	1880	8.4	0.004458	2.5
Extreme (-10C)	1880	9.0	0.004799	2.5
Extreme (-20C)	1880	9.0	0.004761	2.5
Extreme (-30C)	1880	7.9	0.004188	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.2 LTE BAND 4

Band 4 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	1732.5	8.6	0.004939	2.5
3.89	1732.5	8.8	0.005073	2.5
4.47	1732.5	8.5	0.004919	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.0	0.004611	2.5
Extreme (50C)	1732.5	9.2	0.005330	2.5
Extreme (40C)	1732.5	6.9	0.004000	2.5
Extreme (30C)	1732.5	6.1	0.003540	2.5
Extreme (10C)	1732.5	6.9	0.003983	2.5
Extreme (0C)	1732.5	9.7	0.005596	2.5
Extreme (-10C)	1732.5	8.3	0.004782	2.5
Extreme (-20C)	1732.5	7.1	0.004082	2.5
Extreme (-30C)	1732.5	8.2	0.004712	2.5

Band 4 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	1732.5	10.2	0.005869	2.5
3.89	1732.5	9.3	0.005370	2.5
4.47	1732.5	8.0	0.004604	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.4	0.005441	2.5
Extreme (50C)	1732.5	9.4	0.005406	2.5
Extreme (40C)	1732.5	8.6	0.004938	2.5
Extreme (30C)	1732.5	9.4	0.005410	2.5
Extreme (10C)	1732.5	9.2	0.005314	2.5
Extreme (0C)	1732.5	8.2	0.004760	2.5
Extreme (-10C)	1732.5	9.2	0.005339	2.5
Extreme (-20C)	1732.5	8.5	0.004879	2.5
Extreme (-30C)	1732.5	8.3	0.004768	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.3 LTE BAND 5

Band 5 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	836.5	5.7	0.006801	2.5
3.89	836.5	6.2	0.007432	2.5
4.47	836.5	4.7	0.005568	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.6	0.006730	2.5
Extreme (50C)	836.5	5.9	0.007034	2.5
Extreme (40C)	836.5	5.6	0.006744	2.5
Extreme (30C)	836.5	6.5	0.007768	2.5
Extreme (10C)	836.5	5.6	0.006732	2.5
Extreme (0C)	836.5	5.5	0.006589	2.5
Extreme (-10C)	836.5	6.0	0.007231	2.5
Extreme (-20C)	836.5	5.9	0.007072	2.5
Extreme (-30C)	836.5	6.0	0.007232	2.5

Band 5 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	836.5	6.0	0.007210	2.5
3.89	836.5	6.8	0.008122	2.5
4.47	836.5	5.0	0.006017	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.8	0.006936	2.5
Extreme (50C)	836.5	6.4	0.007647	2.5
Extreme (40C)	836.5	6.5	0.007761	2.5
Extreme (30C)	836.5	6.2	0.007409	2.5
Extreme (10C)	836.5	5.5	0.006602	2.5
Extreme (0C)	836.5	5.7	0.006850	2.5
Extreme (-10C)	836.5	5.4	0.006469	2.5
Extreme (-20C)	836.5	6.5	0.007809	2.5
Extreme (-30C)	836.5	6.2	0.007416	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.4 LTE BAND 7

Band 7 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2535	9.9	0.003916	2.5
3.89	2535	8.5	0.003339	2.5
4.47	2535	8.5	0.003342	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.3	0.003660	2.5
Extreme (50C)	2535	9.2	0.003611	2.5
Extreme (40C)	2535	8.7	0.003437	2.5
Extreme (30C)	2535	9.3	0.003688	2.5
Extreme (10C)	2535	8.1	0.003208	2.5
Extreme (0C)	2535	8.3	0.003266	2.5
Extreme (-10C)	2535	9.9	0.003896	2.5
Extreme (-20C)	2535	8.6	0.003380	2.5
Extreme (-30C)	2535	8.6	0.003409	2.5

Band 7 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2535	6.9	0.002725	2.5
3.89	2535	6.6	0.002594	2.5
4.47	2535	5.9	0.002340	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.2	0.002461	2.5
Extreme (50C)	2535	5.8	0.002279	2.5
Extreme (40C)	2535	5.1	0.001997	2.5
Extreme (30C)	2535	6.4	0.002520	2.5
Extreme (10C)	2535	5.4	0.002138	2.5
Extreme (0C)	2535	5.0	0.001959	2.5
Extreme (-10C)	2535	4.9	0.001947	2.5
Extreme (-20C)	2535	5.9	0.002316	2.5
Extreme (-30C)	2535	5.4	0.002133	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.5 LTE BAND 38

Band 38 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2595	8.8	0.003406	2.5
3.89	2595	6.7	0.002600	2.5
4.47	2595	7.4	0.002839	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.6	0.002914	2.5
Extreme (50C)	2595	5.0	0.001945	2.5
Extreme (40C)	2595	5.4	0.002074	2.5
Extreme (30C)	2595	4.9	0.001874	2.5
Extreme (10C)	2595	6.3	0.002442	2.5
Extreme (0C)	2595	5.0	0.001929	2.5
Extreme (-10C)	2595	9.3	0.003566	2.5
Extreme (-20C)	2595	10.5	0.004054	2.5
Extreme (-30C)	2595	6.6	0.002525	2.5

Band 38 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2595	8.9	0.003421	2.5
3.89	2595	6.7	0.002590	2.5
4.47	2595	6.2	0.002382	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.4	0.002864	2.5
Extreme (50C)	2595	4.7	0.001817	2.5
Extreme (40C)	2595	5.6	0.002171	2.5
Extreme (30C)	2595	4.7	0.001824	2.5
Extreme (10C)	2595	6.9	0.002643	2.5
Extreme (0C)	2595	4.7	0.001814	2.5
Extreme (-10C)	2595	9.2	0.003541	2.5
Extreme (-20C)	2595	11.2	0.004308	2.5
Extreme (-30C)	2595	6.4	0.002458	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.6 LTE BAND 41

Band 41 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2595	8.6	0.003310	2.5
3.89	2595	6.6	0.002558	2.5
4.47	2595	7.5	0.002877	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.6	0.002938	2.5
Extreme (50C)	2595	5.1	0.001960	2.5
Extreme (40C)	2595	5.2	0.001987	2.5
Extreme (30C)	2595	4.9	0.001881	2.5
Extreme (10C)	2595	6.7	0.002598	2.5
Extreme (0C)	2595	5.0	0.001933	2.5
Extreme (-10C)	2595	9.8	0.003796	2.5
Extreme (-20C)	2595	10.8	0.004153	2.5
Extreme (-30C)	2595	5.8	0.002220	2.5

Band 41 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.31	2595	8.5	0.003296	2.5
3.89	2595	6.6	0.002539	2.5
4.47	2595	6.1	0.002348	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.1	0.002721	2.5
Extreme (50C)	2595	5.2	0.002011	2.5
Extreme (40C)	2595	5.7	0.002181	2.5
Extreme (30C)	2595	4.6	0.001761	2.5
Extreme (10C)	2595	6.0	0.002322	2.5
Extreme (0C)	2595	4.5	0.001729	2.5
Extreme (-10C)	2595	9.1	0.003514	2.5
Extreme (-20C)	2595	11.0	0.004259	2.5
Extreme (-30C)	2595	5.8	0.002239	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.12 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.31	1745	13.1	0.00753	2.5
3.89	1745	14.2	0.00815	2.5
4.47	1745	13.1	0.00753	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.3	0.004173	2.5
Extreme (50C)	1745	5.2	0.002955	2.5
Extreme (40C)	1745	5.4	0.003084	2.5
Extreme (30C)	1745	4.9	0.002806	2.5
Extreme (10C)	1745	6.1	0.003486	2.5
Extreme (0C)	1745	4.9	0.002808	2.5
Extreme (-10C)	1745	9.4	0.005383	2.5
Extreme (-20C)	1745	10.8	0.006167	2.5
Extreme (-30C)	1745	6.2	0.003534	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.31	1745	12.9	0.007372	2.5
3.89	1745	14.1	0.008083	2.5
4.47	1745	12.9	0.007410	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.8	0.004493	2.5
Extreme (50C)	1745	5.2	0.003000	2.5
Extreme (40C)	1745	5.5	0.003168	2.5
Extreme (30C)	1745	4.5	0.002571	2.5
Extreme (10C)	1745	6.0	0.003455	2.5
Extreme (0C)	1745	5.0	0.002885	2.5
Extreme (-10C)	1745	10.0	0.005744	2.5
Extreme (-20C)	1745	10.9	0.006237	2.5
Extreme (-30C)	1745	6.0	0.003446	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

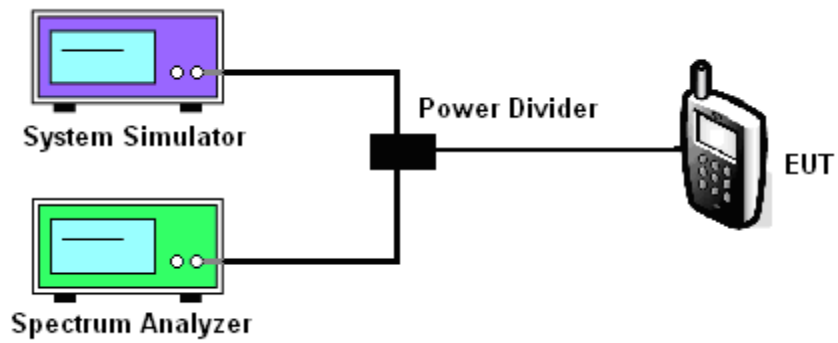
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. For LTE operating modes:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

11.4 Test Setup



MODES TESTED

LTE Band 2/4/5/7/38/41/66

Test data reference attachment.

-----END OF REPORT-----