

FCC CFR47 PART 22H, 24E, 27, 90S CERTIFICATION TEST REPORT

FCC ID: ZSW-10-050

Product: Mobile Phone

Trade Mark: Bmobile

Model Number: C42

Family Model: N/A

Report No.: S25020601202004

Prepared for

b mobile HK Limited

FLAT/RM 1202, 12/FGOLDEN STAR BUILDING, 20 LOCKHART ROAD,
WANCHAI, HK, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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

Tel. 0755-2320 0050 Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name..... : b mobile HK Limited

Address : FLAT/RM 1202, 12/FGOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK, China

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

Address : FLAT/RM 1202, 12/FGOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK, China

Product name : Mobile Phone

Model and/or type reference : C42

Family Model: N/A

Test sample number S250206012003

Standards..... : FCC CFR 47 Part 22H, Part 24E, Part 27, Part 90S

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 Feb. 07, 2025 ~ Apr. 25, 2025

Date of Issue Apr. 25, 2025

Test Result **Pass**

Prepared : 
By : Allen Liu
(Project Engineer)

Reviewed : 
By : Aaron Cheng
(Supervisor)

Approved : 
By : Alex Li
(Manager)

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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	C42
Family Model	N/A
Model Difference	N/A
FCC ID:	ZSW-10-050
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 26, 66 LTE TDD Band 38
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 FDD Band 26 Uplink: 814MHz-849MHz, Downlink: 859MHz-894MHz; LTE TDD Band 38 Uplink& Downlink: 2570MHz-2620MHz LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM
Antenna:	FPC Antenna
Antenna gain:	LTE B2:0.9dBi; B4:0.8dBi; B5:-0.5dBi; B7:1.3dBi; B26:-0.5dBi; B38:1.3dBi; B66:0.8dBi;
Power Supply:	DC 3.8V from Battery or DC 5V from Adapter.
Battery	DC 3.8V, 1400 mAh, 5.32Wh
Adapter:	INPUT: AC 100-240V~50-60Hz 0.15A OUTPUT: DC 5.0V---550mA
Extreme Vol. Limits:	DC 3.6V to DC 4.35V (Nominal DC 3.8V) (Note 1)
HW Version	Bmobile_C42_HW_V1.0
SW Version	Bmobile_C42_OM_CL_V001
** Note1: The High Voltage 4.35V and Low Voltage 3.6V 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-10-050** filing to comply with the FCC Part 22H&24E &27&90S.

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, Part 90S ,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, Band 4, Band 5, Band 7, Band 26, Band 38, Band 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

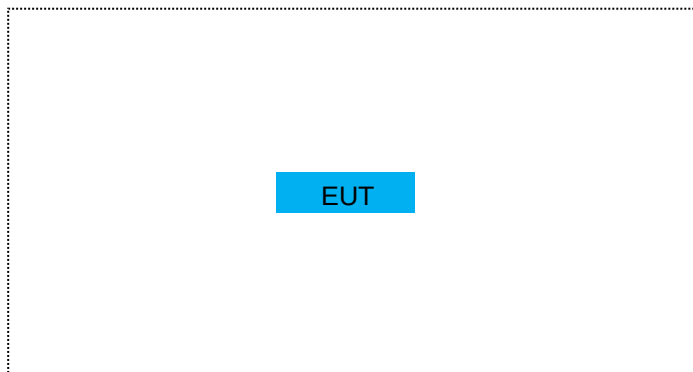
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Mobile Phone	C42	FCC ID: ZSW-10-050	EUT

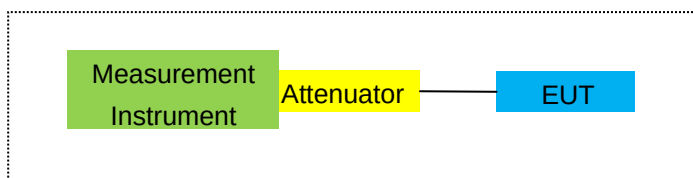
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

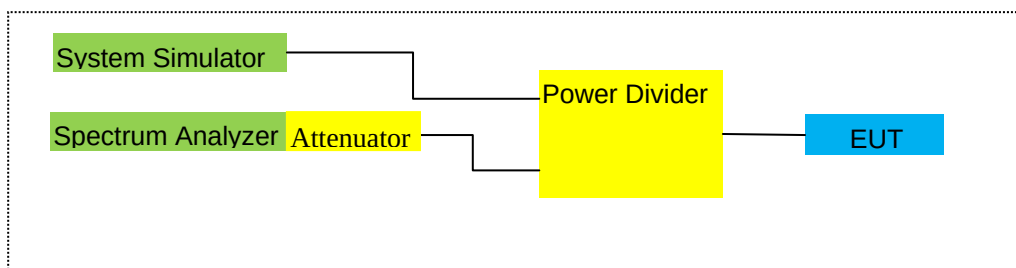
For Radiated Test Cases



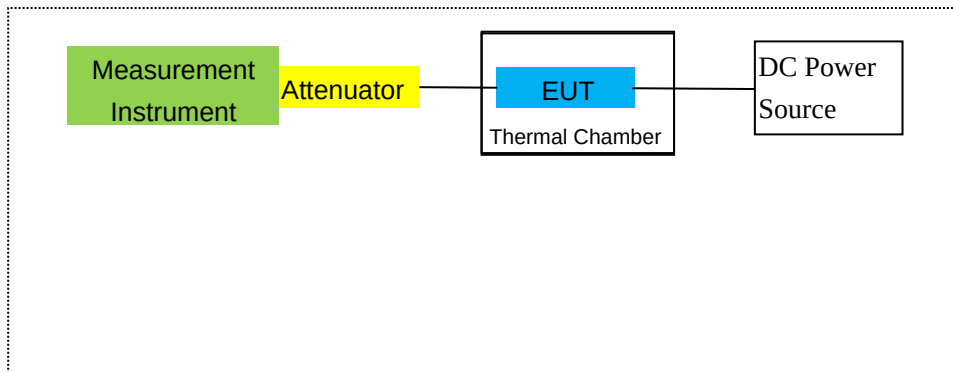
For Conducted Output Power



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	2024.04.18 2025.04.17	2025.04.17 2026.04.16	1 year
2	Test Receiver	R&S	ESPI	101318	2024.04.26	2025.04.25	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2024.05.12	2025.05.11	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	2024.04.26	2025.04.25	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	2024.04.26	2025.04.25	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2024.04.26	2025.04.25	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2024.04.26	2025.04.25	1 year
15	LISN	R&S	ENV216	101313	2024.04.18 2025.04.17	2025.04.17 2026.04.16	1 year
16	LISN	EMCO	3816/2	00042990	2024.04.18 2025.04.17	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	2024.03.20 2025.03.19	2025.03.19 2026.03.18	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	2024.04.26	2025.04.25	1 year
23	EMI Test Receiver	R&S	ESCI	101160	2024.04.26	2025.04.25	1 year
24	Universal Radio Communication	R&S	CMU200	105747	2024.04.26	2025.04.25	1 year

	Tester						
25	High and Low Temperature Box	WEISS	WT 20/40 EMC Simpac	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	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	584	2024.5.25	2025.5.24	1 year
28	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	586	2024.5.25	2025.5.24	1 year
29	Communication Tester	R&S	CMW500	148500	2024.5.30	2025.5.29	1 year
30	MXG Vector Signal Generator	Agilent	N5183B	MY57280984	2024.5.30	2025.5.29	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	Farad	EZ-EMC_CE	AIT-03A	AC Conducted Test

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

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 26
LTE Band 38
LTE Band 66

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m) and §90.691

FCC: §2.1046, §22.913, §24.232

LIMITS

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 7 is as following.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is $65 + 10\log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, 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.

FCC: §90.691 Emission mask requirements for EA-based systems.

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

90.543 (e) For operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the 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, in accordance with the following:

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$

dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

90.543 (f) For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 display line

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

MODES TESTED

☐ LTE Band 2/4/5/7/26/38/66

RESULTS

Test data reference attachment.

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

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m) and §90.691

LIMITS

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 7 is as following.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is $65 + 10\log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, 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.

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

MODES TESTED

- ☐ LTE Band 2/4/5/7/26/38/66

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.

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

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913(a)(2), §24.232(c) and §27.50 (h)(2), (b)(10), (c)(10), (d)(4) and §90.635

LIMITS:

22.913(a) (2)- 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 in the 2500–2570 MHz and 2620–2690 MHz bands. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

90.635(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

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

- ☐ LTE Band 2/4/5/7/26/38/66

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.	Max.	Polarization Of Max. ERP	
						EIRP	EIRP		
						Average (dBm)	Average (mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-5.22	3.76	28.24	19.26	84.333	Horizontal	Pass
		1880	-5.03	3.91	28.22	19.28	84.723	Horizontal	Pass
		1909.3	-4.94	3.93	28.20	19.33	85.704	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.28	3.77	28.23	19.18	82.794	Horizontal	Pass
		1880	-5.13	3.91	28.24	19.20	83.176	Horizontal	Pass
		1908.5	-5.00	3.94	28.25	19.31	85.310	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-5.17	3.77	28.31	19.37	86.497	Horizontal	Pass
		1880	-4.79	3.91	28.22	19.52	89.536	Horizontal	Pass
		1907.5	-4.72	3.94	28.20	19.54	89.950	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-5.03	3.79	28.33	19.51	89.331	Horizontal	Pass
		1880	-4.73	3.95	28.22	19.54	89.950	Horizontal	Pass
		1905	-4.62	3.97	28.19	19.60	91.201	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.99	3.79	28.34	19.56	90.365	Horizontal	Pass
		1880	-4.78	3.95	28.22	19.49	88.920	Horizontal	Pass
		1902.5	-4.64	3.97	28.18	19.57	90.573	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.98	3.81	28.35	19.56	90.365	Horizontal	Pass
		1880	-4.65	3.96	28.22	19.61	91.411	Horizontal	Pass
		1900	-4.59	4.00	28.16	19.57	90.573	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-6.39	3.76	28.24	18.09	64.417	Vertical	Pass
		1880	-5.85	3.91	28.22	18.46	70.146	Vertical	Pass
		1909.3	-6.05	3.93	28.20	18.22	66.374	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.57	3.77	28.23	18.89	77.446	Vertical	Pass
		1880	-5.63	3.91	28.24	18.70	74.131	Vertical	Pass
		1908.5	-6.11	3.94	28.25	18.20	66.069	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-6.35	3.77	28.31	18.19	65.917	Vertical	Pass
		1880	-5.81	3.91	28.22	18.50	70.795	Vertical	Pass
		1907.5	-5.76	3.94	28.20	18.50	70.795	Vertical	Pass
10.0MHz Band	1/#Mid	1855	-6.51	3.79	28.33	18.03	63.533	Vertical	Pass
		1880	-5.55	3.95	28.22	18.72	74.473	Vertical	Pass

QPSK		1905	-5.39	3.97	28.19	18.83	76.384	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-6.25	3.79	28.34	18.30	67.608	Vertical	Pass
Band		1880	-6.19	3.95	28.22	18.08	64.269	Vertical	Pass
QPSK		1902.5	-6.15	3.97	28.18	18.06	63.973	Vertical	Pass
20.0MHz	1/#Mid	1860	-5.59	3.81	28.35	18.95	78.524	Vertical	Pass
Band		1880	-6.11	3.96	28.22	18.15	65.313	Vertical	Pass
QPSK		1900	-6.00	4.00	28.16	18.16	65.464	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

Radiated Power (EIRP) for Band 2									
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 (dBm)	Average		
							(mW)		
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.34	3.76	28.24	18.14	65.163	Horizontal	Pass
		1880	-5.81	3.91	28.22	18.50	70.795	Horizontal	Pass
		1909.3	-5.74	3.93	28.20	18.53	71.285	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.84	3.77	28.23	18.62	72.778	Horizontal	Pass
		1880	-5.92	3.91	28.24	18.41	69.343	Horizontal	Pass
		1908.5	-6.13	3.94	28.25	18.18	65.766	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-5.78	3.77	28.31	18.76	75.162	Horizontal	Pass
		1880	-5.69	3.91	28.22	18.62	72.778	Horizontal	Pass
		1907.5	-5.37	3.94	28.20	18.89	77.446	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.83	3.79	28.33	18.71	74.302	Horizontal	Pass
		1880	-5.82	3.95	28.22	18.45	69.984	Horizontal	Pass
		1905	-5.29	3.97	28.19	18.93	78.163	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.81	3.79	28.34	18.74	74.817	Horizontal	Pass
		1880	-5.60	3.95	28.22	18.67	73.621	Horizontal	Pass
		1902.5	-5.56	3.97	28.18	18.65	73.282	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-5.70	3.81	28.35	18.84	76.560	Horizontal	Pass
		1880	-5.40	3.96	28.22	18.86	76.913	Horizontal	Pass
		1900	-5.22	4.00	28.16	18.94	78.343	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.91	3.76	28.24	17.57	57.148	Vertical	Pass
		1880	-6.83	3.91	28.22	17.48	55.976	Vertical	Pass
		1909.3	-6.62	3.93	28.20	17.65	58.210	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-6.75	3.77	28.23	17.71	59.020	Vertical	Pass
		1880	-6.46	3.91	28.24	17.87	61.235	Vertical	Pass
		1908.5	-7.08	3.94	28.25	17.23	52.845	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-6.69	3.77	28.31	17.85	60.954	Vertical	Pass
		1880	-6.51	3.91	28.22	17.80	60.256	Vertical	Pass
		1907.5	-7.06	3.94	28.20	17.20	52.481	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-7.09	3.79	28.33	17.45	55.590	Vertical	Pass
		1880	-6.96	3.95	28.22	17.31	53.827	Vertical	Pass
		1905	-6.96	3.97	28.19	17.26	53.211	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-7.45	3.79	28.34	17.10	51.286	Vertical	Pass
		1880	-7.08	3.95	28.22	17.19	52.360	Vertical	Pass
		1902.5	-7.03	3.97	28.18	17.18	52.240	Vertical	Pass

20.0MHz	1/#Mid	1860	-7.00	3.81	28.35	17.54	56.754	Vertical	Pass
Band 16		1880	-6.95	3.96	28.22	17.31	53.827	Vertical	Pass
QAM		1900	-6.63	4.00	28.16	17.53	56.624	Vertical	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Factor 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	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average (dBm)	Average (mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-5.13	3.12	27.58	19.33	85.704	Horizontal	Pass
		1732.5	-5.12	3.27	27.61	19.22	83.560	Horizontal	Pass
		1754.3	-5.10	3.29	27.63	19.24	83.946	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-5.30	3.13	27.61	19.18	82.794	Horizontal	Pass
		1732.5	-5.22	3.27	27.61	19.12	81.658	Horizontal	Pass
		1753.5	-5.14	3.30	27.62	19.18	82.794	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-5.07	3.13	27.63	19.43	87.700	Horizontal	Pass
		1732.5	-4.97	3.27	27.61	19.37	86.497	Horizontal	Pass
		1752.5	-4.85	3.30	27.60	19.45	88.105	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-5.01	3.15	27.64	19.48	88.716	Horizontal	Pass
		1732.5	-4.78	3.31	27.61	19.52	89.536	Horizontal	Pass
		1750	-4.80	3.33	27.59	19.46	88.308	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-5.02	3.15	27.65	19.48	88.716	Horizontal	Pass
		1732.5	-4.86	3.31	27.61	19.44	87.902	Horizontal	Pass
		1747.5	-4.80	3.33	27.57	19.44	87.902	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.96	3.17	27.66	19.53	89.743	Horizontal	Pass
		1732.5	-4.79	3.32	27.61	19.50	89.125	Horizontal	Pass
		1745	-4.73	3.36	27.56	19.47	88.512	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-5.93	3.12	27.58	18.53	71.285	Vertical	Pass
		1732.5	-6.31	3.27	27.61	18.03	63.533	Vertical	Pass
		1754.3	-5.91	3.29	27.63	18.43	69.663	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-5.83	3.13	27.61	18.65	73.282	Vertical	Pass
		1732.5	-5.36	3.27	27.61	18.98	79.068	Vertical	Pass
		1753.5	-6.20	3.30	27.62	18.12	64.863	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-5.69	3.13	27.63	18.81	76.033	Vertical	Pass
		1732.5	-5.53	3.27	27.61	18.81	76.033	Vertical	Pass
		1752.5	-5.76	3.30	27.60	18.54	71.450	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-6.26	3.15	27.64	18.23	66.527	Vertical	Pass
		1732.5	-5.75	3.31	27.61	18.55	71.614	Vertical	Pass
		1750	-5.93	3.33	27.59	18.33	68.077	Vertical	Pass

15.0MHz		1717.5	-6.46	3.15	27.65	18.04	63.680	Vertical	Pass
Band	1/#Mid	1732.5	-6.03	3.31	27.61	18.27	67.143	Vertical	Pass
QPSK		1747.5	-6.19	3.33	27.57	18.05	63.826	Vertical	Pass
20.0MHz		1720	-6.42	3.17	27.66	18.07	64.121	Vertical	Pass
Band	1/#Mid	1732.5	-5.37	3.32	27.61	18.92	77.983	Vertical	Pass
QPSK		1745	-5.98	3.36	27.56	18.22	66.374	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	Average	Average	Of Max. ERP	
						(dBm)	(mW)		
1.4MHz	1/#Mid	1710.7	-5.94	3.12	27.58	18.52	71.121	Horizontal	Pass
Band 16		1732.5	-5.79	3.27	27.61	18.55	71.614	Horizontal	Pass
QAM		1754.3	-5.79	3.29	27.63	18.55	71.614	Horizontal	Pass
3.0MHz	1/#Mid	1711.5	-5.88	3.13	27.61	18.60	72.444	Horizontal	Pass
Band 16		1732.5	-6.01	3.27	27.61	18.33	68.077	Horizontal	Pass
QAM		1753.5	-6.23	3.30	27.62	18.09	64.417	Horizontal	Pass
5.0MHz	1/#Mid	1712.5	-5.71	3.13	27.63	18.79	75.683	Horizontal	Pass
Band 16		1732.5	-5.67	3.27	27.61	18.67	73.621	Horizontal	Pass
QAM		1752.5	-5.36	3.30	27.60	18.94	78.343	Horizontal	Pass
10.0MHz	1/#Mid	1715	-5.78	3.15	27.64	18.71	74.302	Horizontal	Pass
Band 16		1732.5	-5.97	3.31	27.61	18.33	68.077	Horizontal	Pass
QAM		1750	-5.35	3.33	27.59	18.91	77.804	Horizontal	Pass
15.0MHz	1/#Mid	1717.5	-5.58	3.15	27.65	18.92	77.983	Horizontal	Pass
Band 16		1732.5	-5.64	3.31	27.61	18.66	73.451	Horizontal	Pass
QAM		1747.5	-5.66	3.33	27.57	18.58	72.111	Horizontal	Pass
20.0MHz	1/#Mid	1720	-5.53	3.17	27.66	18.96	78.705	Horizontal	Pass
Band 16		1732.5	-5.54	3.32	27.61	18.75	74.989	Horizontal	Pass
QAM		1745	-5.35	3.36	27.56	18.85	76.736	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-6.58	3.12	27.58	17.88	61.376	Vertical	Pass
Band 16		1732.5	-6.84	3.27	27.61	17.50	56.234	Vertical	Pass
QAM		1754.3	-7.08	3.29	27.63	17.26	53.211	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-6.77	3.13	27.61	17.71	59.020	Vertical	Pass
Band 16		1732.5	-6.67	3.27	27.61	17.67	58.479	Vertical	Pass
QAM		1753.5	-6.71	3.30	27.62	17.61	57.677	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-7.33	3.13	27.63	17.17	52.119	Vertical	Pass
Band 16		1732.5	-7.04	3.27	27.61	17.30	53.703	Vertical	Pass
QAM		1752.5	-6.65	3.30	27.60	17.65	58.210	Vertical	Pass
10.0MHz	1/#Mid	1715	-7.46	3.15	27.64	17.03	50.466	Vertical	Pass
Band 16		1732.5	-6.80	3.31	27.61	17.50	56.234	Vertical	Pass
QAM		1750	-6.93	3.33	27.59	17.33	54.075	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-7.36	3.15	27.65	17.14	51.761	Vertical	Pass
Band 16		1732.5	-7.28	3.31	27.61	17.02	50.350	Vertical	Pass
QAM		1747.5	-7.25	3.33	27.57	16.99	50.003	Vertical	Pass

20.0MHz		1720	-6.82	3.17	27.66	17.67	58.479	Vertical	Pass
Band 16	1/#Mid	1732.5	-7.00	3.32	27.61	17.29	53.580	Vertical	Pass
QAM		1745	-6.66	3.36	27.56	17.54	56.754	Vertical	Pass

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Factor 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	Cable Loss	Antenna	Correction	Max. ERP	Max. ERP	Polarization Of Max.	
			(dBm)	(dBm)	Factor	(dB)	Average	Average	ERP	
					(dB)		(dBm)	(mW)		
1.4MHz Band QPSK	3/#Mid	824.7	4.17	2.01	19.68	2.15	19.69	93.111	Horizontal	Pass
		836.5	4.05	2.01	19.77	2.15	19.66	92.470	Horizontal	Pass
		848.3	3.85	2.02	19.82	2.15	19.50	89.125	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.94	2.01	19.70	2.15	19.48	88.716	Horizontal	Pass
		836.5	3.84	2.01	19.77	2.15	19.45	88.105	Horizontal	Pass
		847.5	3.71	2.02	19.81	2.15	19.35	86.099	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	4.22	2.01	19.71	2.15	19.77	94.842	Horizontal	Pass
		836.5	4.10	2.01	19.77	2.15	19.71	93.541	Horizontal	Pass
		846.5	3.94	2.02	19.79	2.15	19.56	90.365	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	4.24	2.01	19.73	2.15	19.81	95.719	Horizontal	Pass
		836.5	4.19	2.01	19.77	2.15	19.80	95.499	Horizontal	Pass
		844	4.09	2.02	19.78	2.15	19.70	93.325	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	2.76	2.01	19.68	2.15	18.28	67.298	Vertical	Pass
		836.5	2.80	2.01	19.77	2.15	18.41	69.343	Vertical	Pass
		848.3	3.13	2.02	19.82	2.15	18.78	75.509	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.44	2.01	19.70	2.15	18.98	79.068	Vertical	Pass
		836.5	2.93	2.01	19.77	2.15	18.54	71.450	Vertical	Pass
		847.5	2.95	2.02	19.81	2.15	18.59	72.277	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.68	2.01	19.71	2.15	18.23	66.527	Vertical	Pass
		836.5	2.88	2.01	19.77	2.15	18.49	70.632	Vertical	Pass
		846.5	2.95	2.02	19.79	2.15	18.57	71.945	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	2.54	2.01	19.73	2.15	18.11	64.714	Vertical	Pass
		836.5	3.12	2.01	19.77	2.15	18.73	74.645	Vertical	Pass
		844	3.35	2.02	19.78	2.15	18.96	78.705	Vertical	Pass

Radiated Power (ERP) for Band 5

Radiated Power (ERP) for Band 5										
Mode	RB/R B SIZE	Frequenc y	Result							Conclusio n
			SG Level	Cable Loss	Antenn a	Correctio n	Max. ERP	Max. ERP	Polarizatio n Of Max.	
			(dBm)	(dBm)	Factor (dB)		Averag e	Averag e	ERP	
						(dB)	(dBm)	(mW)		
1.4MHz Band 16 QAM	3/#Mid	824.7	3.32	2.01	19.68	2.15	18.84	76.560	Horizontal	Pass
		836.5	3.25	2.01	19.77	2.15	18.86	76.913	Horizontal	Pass
		848.3	3.09	2.02	19.82	2.15	18.74	74.817	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	3.40	2.01	19.70	2.15	18.94	78.343	Horizontal	Pass
		836.5	3.11	2.01	19.77	2.15	18.72	74.473	Horizontal	Pass
		847.5	2.59	2.02	19.81	2.15	18.23	66.527	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	3.72	2.01	19.71	2.15	19.27	84.528	Horizontal	Pass
		836.5	3.49	2.01	19.77	2.15	19.10	81.283	Horizontal	Pass
		846.5	3.24	2.02	19.79	2.15	18.86	76.913	Horizontal	Pass
10.0MH z Band 16 QAM	1/#Mid	829	3.72	2.01	19.73	2.15	19.29	84.918	Horizontal	Pass
		836.5	3.44	2.01	19.77	2.15	19.05	80.353	Horizontal	Pass
		844	2.98	2.02	19.78	2.15	18.59	72.277	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.46	2.01	19.68	2.15	17.98	62.806	Vertical	Pass
		836.5	3.37	2.01	19.77	2.15	18.98	79.068	Vertical	Pass
		848.3	2.89	2.02	19.82	2.15	18.54	71.450	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.77	2.01	19.70	2.15	18.31	67.764	Vertical	Pass
		836.5	1.71	2.01	19.77	2.15	17.32	53.951	Vertical	Pass
		847.5	2.38	2.02	19.81	2.15	18.02	63.387	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.42	2.01	19.71	2.15	17.97	62.661	Vertical	Pass
		836.5	1.96	2.01	19.77	2.15	17.57	57.148	Vertical	Pass
		846.5	1.38	2.02	19.79	2.15	17.00	50.119	Vertical	Pass
10.0MH z Band 16 QAM	1/#Mid	829	1.93	2.01	19.73	2.15	17.50	56.234	Vertical	Pass
		836.5	1.80	2.01	19.77	2.15	17.41	55.081	Vertical	Pass
		844	2.20	2.02	19.78	2.15	17.81	60.395	Vertical	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

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

8.5 LTE BAND 7

Radiated Power (ERP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. ERP	Max. ERP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average (dBm)	Average (mW)		
5.0MHz Band QPSK	1/#Mid	2502.5	-3.41	4.54	27.75	19.80	95.499	Horizontal	Pass
		2535	-3.24	4.69	27.72	19.79	95.280	Horizontal	Pass
		2567.5	-3.17	4.71	27.71	19.83	96.161	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.34	4.55	27.76	19.87	97.051	Horizontal	Pass
		2535	-3.15	4.69	27.72	19.88	97.275	Horizontal	Pass
		2565	-3.07	4.72	27.70	19.91	97.949	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.35	4.55	27.77	19.87	97.051	Horizontal	Pass
		2535	-3.21	4.69	27.72	19.82	95.940	Horizontal	Pass
		2562.5	-3.11	4.72	27.69	19.86	96.828	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.29	4.57	27.78	19.92	98.175	Horizontal	Pass
		2535	-3.11	4.73	27.72	19.88	97.275	Horizontal	Pass
		2560	-3.07	4.75	27.68	19.86	96.828	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-5.21	4.54	27.75	18.00	63.096	Vertical	Pass
		2535	-4.98	4.69	27.72	18.05	63.826	Vertical	Pass
		2567.5	-4.33	4.71	27.71	18.67	73.621	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-4.61	4.55	27.76	18.60	72.444	Vertical	Pass
		2535	-4.27	4.69	27.72	18.76	75.162	Vertical	Pass
		2565	-4.88	4.72	27.70	18.10	64.565	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-4.51	4.55	27.77	18.71	74.302	Vertical	Pass
		2535	-4.21	4.69	27.72	18.82	76.208	Vertical	Pass
		2562.5	-4.99	4.72	27.69	17.98	62.806	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-4.30	4.57	27.78	18.91	77.804	Vertical	Pass
		2535	-4.76	4.73	27.72	18.23	66.527	Vertical	Pass
		2560	-4.94	4.75	27.68	17.99	62.951	Vertical	Pass

Radiated Power (ERP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. ERP	Max. ERP	Polarization	
			(dBm)	(dBm)	(dB)	Average	Average	Of Max. ERP	
						(dBm)	(mW)		
5.0MHz Band 16 QAM	1/#Mid	2502.5	-4.10	4.54	27.75	19.11	81.470	Horizontal	Pass
		2535	-3.79	4.69	27.72	19.24	83.946	Horizontal	Pass
		2567.5	-3.87	4.71	27.71	19.13	81.846	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.99	4.55	27.76	19.22	83.560	Horizontal	Pass
		2535	-4.00	4.69	27.72	19.03	79.983	Horizontal	Pass
		2565	-4.27	4.72	27.70	18.71	74.302	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-4.17	4.55	27.77	19.05	80.353	Horizontal	Pass
		2535	-4.14	4.69	27.72	18.89	77.446	Horizontal	Pass
		2562.5	-3.75	4.72	27.69	19.22	83.560	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-4.05	4.57	27.78	19.16	82.414	Horizontal	Pass
		2535	-3.72	4.73	27.72	19.27	84.528	Horizontal	Pass
		2560	-3.82	4.75	27.68	19.11	81.470	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-5.47	4.54	27.75	17.74	59.429	Vertical	Pass
		2535	-5.55	4.69	27.72	17.48	55.976	Vertical	Pass
		2567.5	-4.25	4.71	27.71	18.75	74.989	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.36	4.55	27.76	18.85	76.736	Vertical	Pass
		2535	-4.80	4.69	27.72	18.23	66.527	Vertical	Pass
		2565	-4.84	4.72	27.70	18.14	65.163	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-4.74	4.55	27.77	18.48	70.469	Vertical	Pass
		2535	-5.00	4.69	27.72	18.03	63.533	Vertical	Pass
		2562.5	-5.18	4.72	27.69	17.79	60.117	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-5.73	4.57	27.78	17.48	55.976	Vertical	Pass
		2535	-5.48	4.73	27.72	17.51	56.364	Vertical	Pass
		2560	-4.59	4.75	27.68	18.34	68.234	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.6 LTE BAND 26A

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	814.7	-2.75	3.76	28.24	2.15	19.58	90.78	Horizontal	Pass
		819	-2.61	3.91	28.22	2.15	19.55	90.16	Horizontal	Pass
		823.3	-2.73	3.93	28.20	2.15	19.39	86.90	Horizontal	Pass
3.0MHz BW QPSK	15/0	815.5	-2.94	3.77	28.23	2.15	19.37	86.50	Horizontal	Pass
		819	-2.84	3.91	28.24	2.15	19.34	85.90	Horizontal	Pass
		822.5	-2.92	3.94	28.25	2.15	19.24	83.95	Horizontal	Pass
5.0MHz BW QPSK	25/0	816.5	-2.73	3.77	28.31	2.15	19.66	92.47	Horizontal	Pass
		819	-2.56	3.91	28.22	2.15	19.60	91.20	Horizontal	Pass
		821.5	-2.66	3.94	28.20	2.15	19.45	88.10	Horizontal	Pass
10.0MHz BW QPSK	50/0	819	-2.46	3.91	28.22	2.15	19.70	93.33	Horizontal	Pass
1.4MHz BW QPSK	6/0	814.7	-2.71	3.79	28.34	2.15	19.69	93.11	Vertical	Pass
		819	-2.53	3.95	28.22	2.15	19.59	90.99	Vertical	Pass
		823.3	-3.28	3.97	28.18	2.15	18.78	75.51	Vertical	Pass
3.0MHz BW QPSK	15/0	815.5	-4.28	3.77	28.23	2.15	18.03	63.53	Vertical	Pass
		819	-3.92	3.91	28.24	2.15	18.26	66.99	Vertical	Pass
		822.5	-3.92	3.94	28.25	2.15	18.24	66.68	Vertical	Pass
5.0MHz BW QPSK	25/0	816.5	-3.54	3.77	28.31	2.15	18.85	76.74	Vertical	Pass
		819	-3.70	3.91	28.22	2.15	18.46	70.15	Vertical	Pass
		821.5	-3.55	3.94	28.20	2.15	18.56	71.78	Vertical	Pass
10.0MHz BW QPSK	50/0	819	-3.91	3.91	28.22	2.15	18.25	66.83	Vertical	Pass

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW 16 QAM	6/0	814.7	-2.59	3.76	28.24	2.15	19.74	94.19	Horizontal	Pass
		819	-2.45	3.91	28.22	2.15	19.71	93.54	Horizontal	Pass
		823.3	-2.57	3.93	28.20	2.15	19.55	90.16	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	815.5	-2.78	3.77	28.23	2.15	19.53	89.74	Horizontal	Pass
		819	-2.68	3.91	28.24	2.15	19.50	89.13	Horizontal	Pass
		822.5	-2.76	3.94	28.25	2.15	19.40	87.10	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	816.5	-2.57	3.77	28.31	2.15	19.82	95.94	Horizontal	Pass
		819	-2.40	3.91	28.22	2.15	19.76	94.62	Horizontal	Pass
		821.5	-2.50	3.94	28.20	2.15	19.61	91.41	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	819	-2.32	3.91	28.24	2.15	19.86	96.83	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	814.7	-2.55	3.79	28.34	2.15	19.85	96.61	Vertical	Pass
		819	-2.37	3.95	28.22	2.15	19.75	94.41	Vertical	Pass
		823.3	-3.95	3.97	28.18	2.15	18.11	64.71	Vertical	Pass
3.0MHz BW 16 QAM	15/0	815.5	-4.06	3.77	28.23	2.15	18.25	66.83	Vertical	Pass
		819	-3.31	3.91	28.24	2.15	18.87	77.09	Vertical	Pass
		822.5	-3.33	3.94	28.25	2.15	18.83	76.38	Vertical	Pass
5.0MHz BW 16 QAM	25/0	816.5	-3.54	3.77	28.31	2.15	18.85	76.74	Vertical	Pass
		819	-3.42	3.91	28.22	2.15	18.74	74.82	Vertical	Pass
		821.5	-3.93	3.94	28.20	2.15	18.18	65.77	Vertical	Pass
10.0MHz BW 16 QAM	50/0	819	-3.34	3.91	28.24	2.15	18.84	76.56	Vertical	Pass

8.7 LTE BAND 26B

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. ERP	Max. ERP	Polarization	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	Of Max. ERP	
							(dBm)	(mW)		
1.4MHz Band QPSK	6/0	824.7	3.18	2.01	19.68	2.15	18.70	74.13	Horizontal	Pass
		836.5	3.12	2.01	19.77	2.15	18.73	74.64	Horizontal	Pass
		848.3	3.06	2.02	19.82	2.15	18.71	74.30	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	3.22	2.01	19.70	2.15	18.76	75.16	Horizontal	Pass
		836.5	2.85	2.01	19.77	2.15	18.46	70.15	Horizontal	Pass
		847.5	3.30	2.02	19.81	2.15	18.94	78.34	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	3.48	2.01	19.71	2.15	19.03	79.98	Horizontal	Pass
		836.5	3.30	2.01	19.77	2.15	18.91	77.80	Horizontal	Pass
		846.5	2.67	2.02	19.79	2.15	18.29	67.45	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	2.69	2.01	19.73	2.15	18.26	66.99	Horizontal	Pass
		836.5	2.81	2.01	19.77	2.15	18.42	69.50	Horizontal	Pass
		844	3.41	2.02	19.78	2.15	19.02	79.80	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	2.50	2.01	19.73	2.15	18.07	64.12	Horizontal	Pass
		836.5	3.43	2.01	19.77	2.15	19.04	80.17	Horizontal	Pass
		841.5	3.16	2.02	19.78	2.15	18.77	75.34	Horizontal	Pass
1.4MHz Band QPSK	6/0	824.7	2.76	2.01	19.68	2.15	18.28	67.30	Vertical	Pass
		836.5	2.70	2.01	19.77	2.15	18.31	67.76	Vertical	Pass
		848.3	2.96	2.02	19.82	2.15	18.61	72.61	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	2.90	2.01	19.70	2.15	18.44	69.82	Vertical	Pass
		836.5	2.52	2.01	19.77	2.15	18.13	65.01	Vertical	Pass
		847.5	2.77	2.02	19.81	2.15	18.41	69.34	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	2.92	2.01	19.71	2.15	18.47	70.31	Vertical	Pass
		836.5	2.67	2.01	19.77	2.15	18.28	67.30	Vertical	Pass
		846.5	2.79	2.02	19.79	2.15	18.41	69.34	Vertical	Pass
10.0MHz Band QPSK	50/0	829	2.56	2.01	19.73	2.15	18.13	65.01	Vertical	Pass
		836.5	2.90	2.01	19.77	2.15	18.51	70.96	Vertical	Pass
		844	2.74	2.02	19.78	2.15	18.35	68.39	Vertical	Pass
15.0MHz Band QPSK	75/0	831.5	2.57	2.01	19.73	2.15	18.14	65.16	Vertical	Pass
		836.5	3.32	2.01	19.77	2.15	18.93	78.16	Vertical	Pass
		841.5	2.92	2.02	19.78	2.15	18.53	71.29	Vertical	Pass

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. ERP	Max. ERP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average		
							(dBm)	(mW)		
1.4MHz Band 16 QAM	6/0	824.7	3.54	2.01	19.68	2.15	19.06	80.54	Horizontal	Pass
		836.5	2.77	2.01	19.77	2.15	18.38	68.87	Horizontal	Pass
		848.3	2.71	2.02	19.82	2.15	18.36	68.55	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	2.80	2.01	19.70	2.15	18.34	68.23	Horizontal	Pass
		836.5	3.10	2.01	19.77	2.15	18.71	74.30	Horizontal	Pass
		847.5	2.80	2.02	19.81	2.15	18.44	69.82	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	2.96	2.01	19.71	2.15	18.51	70.96	Horizontal	Pass
		836.5	2.93	2.01	19.77	2.15	18.54	71.45	Horizontal	Pass
		846.5	2.77	2.02	19.79	2.15	18.39	69.02	Horizontal	Pass
10.0MHz z Band 16 QAM	50/0	829	3.17	2.01	19.73	2.15	18.74	74.82	Horizontal	Pass
		836.5	3.49	2.01	19.77	2.15	19.10	81.28	Horizontal	Pass
		844	2.73	2.02	19.78	2.15	18.34	68.23	Horizontal	Pass
15.0MHz z Band QPSK	75/0	831.5	3.55	2.01	19.73	2.15	19.12	81.66	Horizontal	Pass
		836.5	2.73	2.01	19.77	2.15	18.34	68.23	Horizontal	Pass
		841.5	2.53	2.02	19.78	2.15	18.14	65.16	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	3.05	2.01	19.68	2.15	18.57	71.94	Vertical	Pass
		836.5	3.44	2.01	19.77	2.15	19.05	80.35	Vertical	Pass
		848.3	3.19	2.02	19.82	2.15	18.84	76.56	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	2.99	2.01	19.70	2.15	18.53	71.29	Vertical	Pass
		836.5	2.81	2.01	19.77	2.15	18.42	69.50	Vertical	Pass
		847.5	3.41	2.02	19.81	2.15	19.05	80.35	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	2.68	2.01	19.71	2.15	18.23	66.53	Vertical	Pass
		836.5	3.12	2.01	19.77	2.15	18.73	74.64	Vertical	Pass
		846.5	2.74	2.02	19.79	2.15	18.36	68.55	Vertical	Pass
10.0MHz z Band 16 QAM	50/0	829	3.15	2.01	19.73	2.15	18.72	74.47	Vertical	Pass
		836.5	3.37	2.01	19.77	2.15	18.98	79.07	Vertical	Pass
		844	2.75	2.02	19.78	2.15	18.36	68.55	Vertical	Pass

15.0MH z Band QPSK	75/0	831.5	2.69	2.01	19.73	2.15	18.26	66.99	Vertical	Pass
		836.5	2.62	2.01	19.77	2.15	18.23	66.53	Vertical	Pass
		841.5	2.88	2.02	19.78	2.15	18.49	70.63	Vertical	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 38

Radiated Power (EIRP) for Band 38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Gain	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	Average	Average	Of Max. ERP	
						(dBm)	(mW)		
5.0MHz Band QPSK	25/0	2572.5	-2.12	4.95	27.79	18.13	65.013	Vertical	Pass
		2595	-2.64	4.88	27.71	18.71	74.302	Vertical	Pass
		2617.5	-2.58	4.93	27.95	19.02	79.799	Vertical	Pass
10.0MHz Band QPSK	50/0	2572.5	-2.37	4.81	27.73	18.56	71.779	Vertical	Pass
		2595	-2.47	4.95	27.81	18.57	71.945	Vertical	Pass
		2617.5	-2.59	5.03	27.69	18.74	74.817	Vertical	Pass
15.0MHz Band QPSK	75/0	2575	-2.98	5.01	27.86	18.37	68.707	Vertical	Pass
		2595	-2.6	5	27.65	18.30	67.608	Vertical	Pass
		2615	-2.67	4.87	27.89	18.82	76.208	Vertical	Pass
20.0MHz Band QPSK	100/0	2575	-2.71	4.77	27.78	19.08	80.910	Vertical	Pass
		2595	-2.38	4.87	27.87	18.25	66.834	Vertical	Pass
		2615	-2.56	4.94	27.77	18.36	68.549	Vertical	Pass
5.0MHz Band QPSK	25/0	2577.5	-2.9	4.89	27.88	18.79	75.683	Vertical	Pass
		2595	-2.32	4.87	27.84	18.39	69.024	Vertical	Pass
		2612.5	-2.52	4.92	27.93	18.98	79.068	Vertical	Pass
10.0MHz Band QPSK	50/0	2577.5	-2.53	4.75	27.78	18.41	69.343	Vertical	Pass
		2595	-2.53	4.98	27.82	18.49	70.632	Vertical	Pass
		2612.5	-2.6	4.95	27.83	18.71	74.302	Vertical	Pass
15.0MHz Band QPSK	75/0	2580	-2.53	4.86	27.8	18.42	69.502	Vertical	Pass
		2595	-2.37	4.79	27.83	18.52	71.121	Vertical	Pass
		2610	-2.68	4.89	27.87	18.45	69.984	Vertical	Pass
20.0MHz Band QPSK	100/0	2580	-2.87	4.95	27.73	18.47	70.307	Vertical	Pass
		2595	-2.88	4.91	27.71	18.29	67.453	Vertical	Pass
		2610	-2.81	4.96	27.92	19.71	93.541	Vertical	Pass

Radiated Power (EIRP) for Band 38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG	Cable	Antenna	Max.	Max.	Polarization	
			Level	Loss	Gain	EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)	Average	Average	ERP	
						(dBm)	(mW)		
5.0MHz Band 16 QAM	25/0	2572.5	-2.12	4.95	27.79	18.60	72.444	Horizontal	Pass
		2595	-2.64	4.88	27.71	19.05	80.353	Horizontal	Pass
		2617.5	-2.58	4.93	27.95	19.06	80.538	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2572.5	-2.37	4.81	27.73	18.19	65.917	Horizontal	Pass
		2595	-2.47	4.95	27.81	18.37	68.707	Horizontal	Pass
		2617.5	-2.59	5.03	27.69	18.27	67.143	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2575	-2.98	5.01	27.86	19.01	79.616	Horizontal	Pass
		2595	-2.6	5	27.65	18.76	75.162	Horizontal	Pass
		2615	-2.67	4.87	27.89	19.12	81.658	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2575	-2.71	4.77	27.78	18.99	79.250	Horizontal	Pass
		2595	-2.38	4.87	27.87	18.46	70.146	Horizontal	Pass
		2615	-2.56	4.94	27.77	18.84	76.560	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2577.5	-2.9	4.89	27.88	18.32	67.920	Horizontal	Pass
		2595	-2.32	4.87	27.84	18.53	71.285	Horizontal	Pass
		2612.5	-2.52	4.92	27.93	18.80	75.858	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2577.5	-2.53	4.75	27.78	18.25	66.834	Horizontal	Pass
		2595	-2.53	4.98	27.82	18.37	68.707	Horizontal	Pass
		2612.5	-2.6	4.95	27.83	18.34	68.234	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2580	-2.53	4.86	27.8	18.66	73.451	Horizontal	Pass
		2595	-2.37	4.79	27.83	19.60	91.201	Horizontal	Pass
		2610	-2.68	4.89	27.87	18.91	77.804	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2580	-2.87	4.95	27.73	18.27	67.143	Horizontal	Pass
		2595	-2.88	4.91	27.71	19.69	93.111	Horizontal	Pass
		2610	-2.81	4.96	27.92	18.24	66.681	Horizontal	Pass

Note:

SG Level= Signal generator output

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

8.9 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	
1.4MHz Band QPSK	1/##Mid	1710.7	-4.98	3.76	28.24	19.50	89.125	Horizontal	Pass
		1745	-4.84	3.91	28.22	19.47	88.512	Horizontal	Pass
		1779.3	-4.71	3.93	28.2	19.56	90.365	Horizontal	Pass
3.0MHz Band QPSK	1/##Mid	1711.5	-5.04	3.77	28.23	19.42	87.498	Horizontal	Pass
		1745	-4.95	3.91	28.24	19.38	86.696	Horizontal	Pass
		1778.5	-4.97	3.94	28.25	19.34	85.901	Horizontal	Pass
5.0MHz Band QPSK	1/##Mid	1712.5	-4.94	3.77	28.31	19.60	91.201	Horizontal	Pass
		1745	-4.62	3.91	28.22	19.69	93.111	Horizontal	Pass
		1777.5	-4.68	3.94	28.2	19.58	90.782	Horizontal	Pass
10.0MHz Band QPSK	1/##Mid	1715	-4.83	3.79	28.33	19.71	93.541	Horizontal	Pass
		1745	-4.56	3.95	28.22	19.71	93.541	Horizontal	Pass
		1775	-4.57	3.97	28.19	19.65	92.257	Horizontal	Pass
15.0MHz Band QPSK	1/##Mid	1717.5	-4.85	3.79	28.34	19.70	93.325	Horizontal	Pass
		1745	-4.66	3.95	28.22	19.61	91.411	Horizontal	Pass
		1772.5	-4.61	3.97	28.18	19.60	91.201	Horizontal	Pass
20.0MHz Band QPSK	1/##Mid	1720	-4.82	3.81	28.35	19.72	93.756	Horizontal	Pass
		1745	-4.56	3.96	28.22	19.70	93.325	Horizontal	Pass
		1770	-4.58	4	28.16	19.58	90.782	Horizontal	Pass
1.4MHz Band QPSK	1/##Mid	1710.7	-6.24	3.76	28.24	18.24	66.681	Vertical	Pass
		1745	-5.99	3.91	28.22	18.32	67.920	Vertical	Pass
		1779.3	-5.95	3.93	28.2	18.32	67.920	Vertical	Pass
3.0MHz Band QPSK	1/##Mid	1711.5	-6.05	3.77	28.23	18.41	69.343	Vertical	Pass
		1745	-5.35	3.91	28.24	18.98	79.068	Vertical	Pass
		1778.5	-5.72	3.94	28.25	18.59	72.277	Vertical	Pass
5.0MHz Band QPSK	1/##Mid	1712.5	-6.16	3.77	28.31	18.38	68.865	Vertical	Pass
		1745	-5.57	3.91	28.22	18.74	74.817	Vertical	Pass
		1777.5	-5.63	3.94	28.2	18.63	72.946	Vertical	Pass
10.0MHz Band QPSK	1/##Mid	1715	-5.98	3.79	28.34	18.57	71.945	Vertical	Pass
		1745	-5.58	3.95	28.22	18.69	73.961	Vertical	Pass
		1775	-5.27	3.97	28.18	18.94	78.343	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-5.74	3.81	28.35	18.80	75.858	Vertical	Pass
		1745	-6.21	3.96	28.22	18.05	63.826	Vertical	Pass
		1772.5	-5.94	4	28.16	18.22	66.374	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-6.23	3.79	28.34	18.32	67.920	Vertical	Pass
		1745	-5.44	3.95	28.22	18.83	76.384	Vertical	Pass
		1770	-6.18	3.97	28.18	18.03	63.533	Vertical	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 Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.92	3.76	28.24	18.56	71.779	Horizontal	Pass
		1745	-5.53	3.91	28.22	18.78	75.509	Horizontal	Pass
		1779.3	-5.71	3.93	28.2	18.56	71.779	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-6.31	3.77	28.23	18.15	65.313	Horizontal	Pass
		1745	-5.56	3.91	28.24	18.77	75.336	Horizontal	Pass
		1778.5	-5.85	3.94	28.25	18.46	70.146	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.73	3.77	28.31	18.81	76.033	Horizontal	Pass
		1745	-5.79	3.91	28.22	18.52	71.121	Horizontal	Pass
		1777.5	-5.46	3.94	28.2	18.80	75.858	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.78	3.79	28.33	18.76	75.162	Horizontal	Pass
		1745	-5.44	3.95	28.22	18.83	76.384	Horizontal	Pass
		1775	-5.76	3.97	28.19	18.46	70.146	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.77	3.79	28.34	18.78	75.509	Horizontal	Pass
		1745	-5.59	3.95	28.22	18.68	73.790	Horizontal	Pass
		1772.5	-5.38	3.97	28.18	18.83	76.384	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.60	3.81	28.35	18.94	78.343	Horizontal	Pass
		1745	-5.38	3.96	28.22	18.88	77.268	Horizontal	Pass
		1770	-5.32	4	28.16	18.84	76.560	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-6.00	3.76	28.24	18.48	70.469	Vertical	Pass
		1745	-7.35	3.91	28.22	16.96	49.659	Vertical	Pass
		1779.3	-5.75	3.93	28.2	18.52	71.121	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-7.39	3.77	28.23	17.07	50.933	Vertical	Pass
		1745	-5.84	3.91	28.24	18.49	70.632	Vertical	Pass
		1778.5	-7.44	3.94	28.25	16.87	48.641	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-7.13	3.77	28.31	17.41	55.081	Vertical	Pass
		1745	-7.31	3.91	28.22	17.00	50.119	Vertical	Pass
		1777.5	-7.00	3.94	28.2	17.26	53.211	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.79	3.79	28.34	18.76	75.162	Vertical	Pass
		1745	-6.25	3.95	28.22	18.02	63.387	Vertical	Pass
		1775	-7.30	3.97	28.18	16.91	49.091	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-7.64	3.81	28.35	16.90	48.978	Vertical	Pass
		1745	-5.63	3.96	28.22	18.63	72.946	Vertical	Pass
		1772.5	-5.92	4	28.16	18.24	66.681	Vertical	Pass

20.0MHz	1/#Mid	1720	-7.33	3.79	28.34	17.22	52.723	Vertical	Pass
Band 16		1745	-6.70	3.95	28.22	17.57	57.148	Vertical	Pass
QAM		1770	-5.61	3.97	28.18	18.60	72.444	Vertical	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: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m) and §90.691

LIMIT

§22.917 (e) and §24.238 and §90.691 (a): 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.

90.543 (e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the 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, in accordance with the following:

- (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.
- (4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.
- (5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

90.543 (f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 2/4/5/7/26/38/66

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	-52.09	4.04	33.51	-22.62	-13	-9.62	Horizontal
3701.4	-46.35	4.04	33.51	-16.88	-13	-3.88	Vertical
5552.1	-53.30	5.24	35.84	-22.70	-13	-9.70	Vertical
5552.1	-51.05	5.24	35.84	-20.45	-13	-7.45	Horizontal
180.2	-34.27	1.43	16.02	-19.68	-13	-6.68	Vertical
354.7	-35.38	1.30	17.99	-18.69	-13	-5.69	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-44.77	4.04	33.56	-15.25	-13	-2.25	Horizontal
3760.0	-53.76	4.04	33.56	-24.24	-13	-11.24	Vertical
5640.0	-48.87	5.24	35.91	-18.20	-13	-5.20	Vertical
5640.0	-52.33	5.24	35.91	-21.66	-13	-8.66	Horizontal
190.7	-43.83	1.62	16.97	-28.48	-13	-15.48	Vertical
334.8	-44.65	1.74	15.98	-30.42	-13	-17.42	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-47.13	4.04	34.00	-17.17	-13	-4.17	Horizontal
3818.6	-50.83	4.04	34.00	-20.87	-13	-7.87	Vertical
5727.9	-50.22	5.24	36.04	-19.42	-13	-6.42	Vertical
5727.9	-52.51	5.24	36.04	-21.71	-13	-8.71	Horizontal
201.6	-43.12	1.42	17.29	-27.25	-13	-14.25	Vertical
301.6	-42.50	1.50	17.90	-26.09	-13	-13.09	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	-51.21	4.07	33.54	-21.74	-13	-8.74	Horizontal
3720.0	-45.25	4.07	33.54	-15.78	-13	-2.78	Vertical
5580.0	-48.94	5.28	35.86	-18.36	-13	-5.36	Vertical
5580.0	-52.19	5.28	35.86	-21.61	-13	-8.61	Horizontal
190.0	-44.65	1.58	16.89	-29.33	-13	-16.33	Vertical
408.4	-35.61	1.76	17.26	-20.11	-13	-7.11	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-44.96	4.04	33.56	-15.44	-13	-2.44	Horizontal
3760.0	-50.39	4.04	33.56	-20.87	-13	-7.87	Vertical
5640.0	-45.97	5.24	35.91	-15.30	-13	-2.30	Vertical
5640.0	-53.33	5.24	35.91	-22.66	-13	-9.66	Horizontal
205.7	-44.18	1.46	16.27	-29.37	-13	-16.37	Vertical
282.5	-34.11	1.59	15.15	-20.55	-13	-7.55	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-53.64	4.04	34.00	-23.68	-13	-10.68	Horizontal
3800.0	-52.15	4.04	34.00	-22.19	-13	-9.19	Vertical
5700.0	-50.76	5.24	36.04	-19.96	-13	-6.96	Vertical
5700.0	-53.59	5.24	36.04	-22.79	-13	-9.79	Horizontal
186.3	-39.78	1.36	17.39	-23.74	-13	-10.74	Vertical
456.2	-35.47	1.66	15.39	-21.74	-13	-8.74	Horizontal

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	-44.22	4.02	29.80	-18.44	-13	-5.44	Horizontal
3421.4	-51.67	4.02	29.80	-25.89	-13	-12.89	Vertical
5132.1	-47.33	5.24	35.84	-16.73	-13	-3.73	Vertical
5132.1	-51.91	5.24	35.84	-21.31	-13	-8.31	Horizontal
182.1	-44.31	1.68	16.04	-29.95	-13	-16.95	Vertical
269.1	-35.24	1.78	17.74	-19.28	-13	-6.28	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-49.47	4.03	30.00	-23.50	-13	-10.50	Horizontal
3465.0	-48.16	4.03	30.00	-22.19	-13	-9.19	Vertical
5197.5	-50.89	5.25	35.86	-20.28	-13	-7.28	Vertical
5197.5	-51.88	5.25	35.86	-21.27	-13	-8.27	Horizontal
198.8	-37.04	1.72	17.69	-21.07	-13	-8.07	Vertical
255.7	-41.02	1.62	16.02	-26.61	-13	-13.61	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-50.26	4.05	30.01	-24.30	-13	-11.30	Horizontal
3508.6	-53.10	4.05	30.01	-27.14	-13	-14.14	Vertical
5262.9	-51.85	5.26	35.86	-21.25	-13	-8.25	Vertical
5262.9	-50.00	5.26	35.86	-19.40	-13	-6.40	Horizontal
194.8	-36.86	1.80	16.69	-21.97	-13	-8.97	Vertical
414.6	-41.53	1.75	16.66	-26.63	-13	-13.63	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	-46.44	4.02	29.80	-20.66	-13	-7.66	Horizontal
3440.0	-51.13	4.02	29.80	-25.35	-13	-12.35	Vertical
5160.0	-53.99	5.24	35.84	-23.39	-13	-10.39	Vertical
5160.0	-50.36	5.24	35.84	-19.76	-13	-6.76	Horizontal
175.3	-38.33	1.57	17.26	-22.64	-13	-9.64	Vertical
263.9	-44.02	1.78	16.35	-29.45	-13	-16.45	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-52.52	4.03	30.00	-26.55	-13	-13.55	Horizontal
3465.0	-50.60	4.03	30.00	-24.63	-13	-11.63	Vertical
5197.5	-50.53	5.25	35.86	-19.92	-13	-6.92	Vertical
5197.5	-50.42	5.25	35.86	-19.81	-13	-6.81	Horizontal
193.8	-39.40	1.44	17.95	-22.89	-13	-9.89	Vertical
256.5	-34.35	1.65	16.09	-19.91	-13	-6.91	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-52.06	2.91	27.68	-27.29	-13	-14.29	Horizontal
3490.0	-49.03	2.91	27.68	-24.26	-13	-11.26	Vertical
5235.0	-52.66	5.26	35.86	-22.06	-13	-9.06	Vertical
5235.0	-51.67	5.26	35.86	-21.07	-13	-8.07	Horizontal
176.8	-41.77	1.61	16.85	-26.53	-13	-13.53	Vertical
354.3	-38.66	1.61	15.19	-25.08	-13	-12.08	Horizontal

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	-46.55	2.78	27.50	-21.83	-13	-8.83	Horizontal
1649.4	-47.12	2.78	27.50	-22.40	-13	-9.40	Vertical
2474.1	-50.15	2.90	27.80	-25.25	-13	-12.25	Vertical
2474.1	-50.76	2.90	27.80	-25.86	-13	-12.86	Horizontal
192.1	-41.31	1.76	17.59	-25.48	-13	-12.48	Vertical
416.9	-37.32	1.63	15.87	-23.08	-13	-10.08	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-50.71	2.80	27.48	-26.03	-13	-13.03	Horizontal
1673.0	-51.80	2.80	27.48	-27.12	-13	-14.12	Vertical
2509.5	-44.39	2.91	27.70	-19.60	-13	-6.60	Vertical
2509.5	-51.04	2.91	27.70	-26.25	-13	-13.25	Horizontal
203.4	-39.39	1.61	15.68	-25.32	-13	-12.32	Vertical
245.9	-34.47	1.59	17.52	-18.55	-13	-5.55	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-49.19	2.82	27.43	-24.58	-13	-11.58	Horizontal
1696.6	-45.50	2.82	27.43	-20.89	-13	-7.89	Vertical
2544.9	-47.72	2.92	27.74	-22.90	-13	-9.90	Vertical
2544.9	-50.61	2.92	27.74	-25.79	-13	-12.79	Horizontal
187.8	-44.31	1.69	16.67	-29.32	-13	-16.32	Vertical
283.6	-44.88	1.70	17.18	-29.40	-13	-16.40	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	-48.15	2.78	27.50	-23.43	-13	-10.43	Horizontal
1658.0	-53.94	2.78	27.50	-29.22	-13	-16.22	Vertical
2487.0	-44.04	2.90	27.80	-19.14	-13	-6.14	Vertical
2487.0	-53.89	2.90	27.80	-28.99	-13	-15.99	Horizontal
176.9	-40.31	1.71	15.57	-26.45	-13	-13.45	Vertical
420.6	-39.45	1.34	16.40	-24.39	-13	-11.39	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-48.90	2.80	27.48	-24.22	-13	-11.22	Horizontal
1673.0	-48.16	2.80	27.48	-23.48	-13	-10.48	Vertical
2509.5	-52.33	2.91	27.70	-27.54	-13	-14.54	Vertical
2509.5	-49.62	2.91	27.70	-24.83	-13	-11.83	Horizontal
189.5	-38.14	1.44	17.04	-22.54	-13	-9.54	Vertical
451.2	-39.04	1.76	17.62	-23.18	-13	-10.18	Horizontal
Test Results for High Channel 844MHz							
1688.0	-44.88	2.82	27.43	-20.27	-13	-7.27	Horizontal
1688.0	-47.09	2.82	27.43	-22.48	-13	-9.48	Vertical
2532.0	-46.63	2.92	27.74	-21.81	-13	-8.81	Vertical
2532.0	-52.92	2.92	27.74	-28.10	-13	-15.10	Horizontal
185.3	-39.68	1.74	17.70	-23.72	-13	-10.72	Vertical
359.0	-36.84	1.41	17.46	-20.78	-13	-7.78	Horizontal

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	-63.56	5.23	35.81	-32.98	-25	-7.98	Horizontal
5005.0	-64.30	5.23	35.81	-33.72	-25	-8.72	Vertical
7507.5	-63.98	5.67	36.85	-32.80	-25	-7.80	Vertical
7507.5	-59.77	5.67	36.85	-28.59	-25	-3.59	Horizontal
184.4	-45.51	1.73	17.97	-29.27	-25	-4.27	Vertical
296.7	-52.27	1.38	15.11	-38.54	-25	-13.54	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-59.54	5.23	35.82	-28.95	-25	-3.95	Horizontal
5070.0	-64.12	5.23	35.82	-33.53	-25	-8.53	Vertical
7605.0	-64.53	5.67	36.85	-33.35	-25	-8.35	Vertical
7605.0	-62.57	5.67	36.85	-31.39	-25	-6.39	Horizontal
185.8	-54.02	1.77	16.17	-39.61	-25	-14.61	Vertical
256.4	-44.79	1.63	15.21	-31.21	-25	-6.21	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-62.54	5.24	35.83	-31.95	-25	-6.95	Horizontal
5135.0	-59.36	5.24	35.83	-28.77	-25	-3.77	Vertical
7702.5	-60.74	5.68	36.87	-29.55	-25	-4.55	Vertical
7702.5	-60.85	5.68	36.87	-29.66	-25	-4.66	Horizontal
189.4	-54.66	1.58	17.56	-38.68	-25	-13.68	Vertical
379.2	-47.10	1.45	16.58	-31.97	-25	-6.97	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	-62.15	5.23	35.82	-31.56	-25	-6.56	Horizontal
5020.0	-61.64	5.23	35.82	-31.05	-25	-6.05	Vertical
7530.0	-63.35	5.67	36.86	-32.16	-25	-7.16	Vertical
7530.0	-61.79	5.67	36.86	-30.60	-25	-5.60	Horizontal
212.3	-53.74	1.63	15.76	-39.61	-25	-14.61	Vertical
406.1	-53.89	1.71	15.44	-40.16	-25	-15.16	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-62.09	5.23	35.82	-31.50	-25	-6.50	Horizontal
5070.0	-62.63	5.23	35.82	-32.04	-25	-7.04	Vertical
7605.0	-63.86	5.67	36.85	-32.68	-25	-7.68	Vertical
7605.0	-61.90	5.67	36.85	-30.72	-25	-5.72	Horizontal
196.6	-46.00	1.79	16.84	-30.94	-25	-5.94	Vertical
378.2	-49.09	1.71	17.64	-33.16	-25	-8.16	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-62.66	5.24	35.83	-32.07	-25	-7.07	Horizontal
5120.0	-60.88	5.24	35.83	-30.29	-25	-5.29	Vertical
7680.0	-61.72	5.70	36.88	-30.54	-25	-5.54	Vertical
7680.0	-61.63	5.70	36.88	-30.45	-25	-5.45	Horizontal
186.6	-49.53	1.79	16.84	-34.47	-25	-9.47	Vertical
300.3	-48.58	1.71	17.64	-32.65	-25	-7.65	Horizontal

9.5 LTE BAND 26

QPSK EIRP POWER FOR LTE BAND 26(814MHz~824MHz) (1.4MHZ BANDWIDTH)

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-48.19	2.78	27.50	-23.47	-13	-10.47	Horizontal
1629.4	-46.66	2.78	27.50	-21.94	-13	-8.94	Vertical
2444.1	-46.19	2.90	27.80	-21.29	-13	-8.29	Vertical
2444.1	-49.11	2.90	27.80	-24.21	-13	-11.21	Horizontal
229.6	-34.38	1.54	16.98	-18.94	-13	-5.94	Vertical
83.3	-33.86	1.47	15.82	-19.51	-13	-6.51	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-46.14	2.80	27.48	-21.46	-13	-8.46	Horizontal
1638.0	-46.86	2.80	27.48	-22.18	-13	-9.18	Vertical
2457.0	-47.35	2.91	27.70	-22.56	-13	-9.56	Vertical
2457.0	-46.54	2.91	27.70	-21.75	-13	-8.75	Horizontal
168.2	-34.56	1.74	16.19	-20.11	-13	-7.11	Vertical
92.9	-34.32	1.46	15.43	-20.35	-13	-7.35	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-49.95	2.82	27.43	-25.34	-13	-12.34	Horizontal
1646.6	-49.17	2.82	27.43	-24.56	-13	-11.56	Vertical
2469.9	-47.09	2.92	27.74	-22.27	-13	-9.27	Vertical
2469.9	-49.68	2.92	27.74	-24.86	-13	-11.86	Horizontal
213.1	-34.38	1.67	17.05	-19.00	-13	-6.00	Vertical
121.7	-32.19	1.42	16.12	-17.49	-13	-4.49	Horizontal

QPSK EIRP POWER FOR LTE BAND 26(814MHz~824MHz) (1.4MHZ BANDWIDTH)

Test Results for Channel 819MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1638.0	-49.93	2.78	27.50	-25.21	-13	-12.21	Horizontal
1638.0	-48.70	2.78	27.50	-23.98	-13	-10.98	Vertical
2457.0	-48.70	2.90	27.80	-23.80	-13	-10.80	Vertical
2457.0	-48.14	2.90	27.80	-23.24	-13	-10.24	Horizontal
253.7	-34.65	1.43	17.34	-18.74	-13	-5.74	Vertical
256.8	-33.53	1.56	15.71	-19.38	-13	-6.38	Horizontal

QPSK EIRP POWER FOR LTE BAND 26(824MHz~849MHz) (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	-48.34	2.78	27.50	-23.62	-13	-10.62	Horizontal
1649.4	-43.65	2.78	27.50	-18.93	-13	-5.93	Vertical
2474.1	-46.85	2.90	27.80	-21.95	-13	-8.95	Vertical
2474.1	-48.08	2.90	27.80	-23.18	-13	-10.18	Horizontal
237.0	-34.55	1.33	17.34	-18.54	-13	-5.54	Vertical
180.5	-32.05	1.47	16.80	-16.72	-13	-3.72	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-49.01	2.80	27.48	-24.33	-13	-11.33	Horizontal
1673.0	-49.40	2.80	27.48	-24.72	-13	-11.72	Vertical
2509.5	-47.42	2.91	27.70	-22.63	-13	-9.63	Vertical
2509.5	-50.00	2.91	27.70	-25.21	-13	-12.21	Horizontal
140.8	-32.53	1.75	15.46	-18.82	-13	-5.82	Vertical
90.6	-33.49	1.52	16.14	-18.87	-13	-5.87	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-49.41	2.82	27.43	-24.80	-13	-11.80	Horizontal
1696.6	-42.67	2.82	27.43	-18.06	-13	-5.06	Vertical
2544.9	-47.36	2.92	27.74	-22.54	-13	-9.54	Vertical
2544.9	-47.89	2.92	27.74	-23.07	-13	-10.07	Horizontal
171.4	-34.51	1.67	16.09	-20.09	-13	-7.09	Vertical
247.2	-32.26	1.80	17.55	-16.51	-13	-3.51	Horizontal

QPSK EIRP POWER FOR LTE BAND 26(824MHz~849MHz) (15MHZ BANDWIDTH)

Test Results for Low Channel 831.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1663.0	-47.77	2.78	27.50	-23.05	-13	-10.05	Horizontal
1663.0	-49.47	2.78	27.50	-24.75	-13	-11.75	Vertical
2494.5	-48.10	2.90	27.80	-23.20	-13	-10.20	Vertical
2494.5	-46.87	2.90	27.80	-21.97	-13	-8.97	Horizontal
255.4	-33.13	1.52	15.72	-18.93	-13	-5.93	Vertical
163.1	-33.20	1.40	17.03	-17.57	-13	-4.57	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-48.50	2.80	27.48	-23.82	-13	-10.82	Horizontal
1673.0	-46.00	2.80	27.48	-21.32	-13	-8.32	Vertical
2509.5	-46.16	2.91	27.70	-21.37	-13	-8.37	Vertical
2509.5	-49.74	2.91	27.70	-24.95	-13	-11.95	Horizontal
227.1	-33.76	1.74	16.38	-19.12	-13	-6.12	Vertical
101.3	-33.07	1.79	15.20	-19.66	-13	-6.66	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-48.26	2.82	27.43	-23.65	-13	-10.65	Horizontal
1683.0	-45.04	2.82	27.43	-20.43	-13	-7.43	Vertical
2524.5	-49.38	2.92	27.74	-24.56	-13	-11.56	Vertical
2524.5	-48.21	2.92	27.74	-23.39	-13	-10.39	Horizontal
261.1	-34.42	1.78	17.44	-18.76	-13	-5.76	Vertical
120.1	-34.07	1.70	15.93	-19.84	-13	-6.84	Horizontal

9.6 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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5145	-52.90	4.01	27.5	-29.41	-25	-4.41	Horizontal
5145	-49.49	4.01	27.5	-26.00	-25	-1.00	Vertical
7717.5	-53.11	5.09	27.8	-30.40	-25	-5.40	Vertical
7717.5	-52.79	5.09	27.8	-30.08	-25	-5.08	Horizontal
Test Results For Mid Channel 2595MHz							
5190	-54.69	4.1	27.48	-31.31	-25	-6.31	Horizontal
5190	-53.65	4.1	27.48	-30.27	-25	-5.27	Vertical
7785	-53.52	5.42	27.7	-31.24	-25	-6.24	Vertical
7785	-54.12	5.42	27.7	-31.84	-25	-6.84	Horizontal
Test Results for High Channel 2617.5MHz							
5234	-51.49	4.11	27.43	-28.17	-25	-3.17	Horizontal
5234	-54.34	4.11	27.43	-31.02	-25	-6.02	Vertical
7851	-53.04	5.31	27.74	-30.61	-25	-5.61	Vertical
7851	-52.79	5.31	27.74	-30.36	-25	-5.36	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5160	-51.43	3.89	27.5	-27.82	-25	-2.82	Horizontal
5160	-52.67	3.89	27.5	-29.06	-25	-4.06	Vertical
7740	-54.14	5.33	27.8	-31.67	-25	-6.67	Vertical
7740	-50.22	5.33	27.8	-27.75	-25	-2.75	Horizontal
Test Results for Mid Channel 2595MHz							
5190	-52.09	4.1	27.48	-28.71	-25	-3.71	Horizontal
5190	-53.11	4.1	27.48	-29.73	-25	-4.73	Vertical
7785	-52.28	5.42	27.7	-30.00	-25	-5.00	Vertical
7785	-52.58	5.42	27.7	-30.30	-25	-5.30	Horizontal
Test Results for High Channel 2610MHz							
5220	-51.81	4.01	27.43	-28.39	-25	-3.39	Horizontal
5220	-49.66	4.01	27.43	-26.24	-25	-1.24	Vertical
7830	-51.35	5.34	27.74	-28.95	-25	-3.95	Vertical
7830	-54.46	5.34	27.74	-32.06	-25	-7.06	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	-51.68	4.02	29.80	-25.90	-13	-12.90	Horizontal
3421.4	-47.97	4.02	29.80	-22.19	-13	-9.19	Vertical
5132.1	-50.99	5.24	35.84	-20.39	-13	-7.39	Vertical
5132.1	-52.51	5.24	35.84	-21.91	-13	-8.91	Horizontal
112.6	-35.60	1.52	15.57	-21.55	-13	-8.55	Vertical
220.5	-34.29	1.33	17.14	-18.48	-13	-5.48	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-47.11	4.03	30.00	-21.14	-13	-8.14	Horizontal
3490.0	-51.73	4.03	30.00	-25.76	-13	-12.76	Vertical
5235.0	-51.83	5.25	35.86	-21.22	-13	-8.22	Vertical
5235.0	-49.04	5.25	35.86	-18.43	-13	-5.43	Horizontal
157.3	-37.20	1.53	17.13	-21.60	-13	-8.60	Vertical
213.1	-33.90	1.41	15.95	-19.36	-13	-6.36	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-48.45	4.05	30.01	-22.49	-13	-9.49	Horizontal
3558.6	-49.06	4.05	30.01	-23.10	-13	-10.10	Vertical
5337.9	-52.46	5.26	35.86	-21.86	-13	-8.86	Vertical
5337.9	-48.66	5.26	35.86	-18.06	-13	-5.06	Horizontal
170.6	-40.50	1.44	15.51	-26.43	-13	-13.43	Vertical
169.0	-42.90	1.78	15.76	-28.92	-13	-15.92	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	-50.80	4.02	29.80	-25.02	-13	-12.02	Horizontal
3440.0	-52.01	4.02	29.80	-26.23	-13	-13.23	Vertical
5160.0	-54.65	5.24	35.84	-24.05	-13	-11.05	Vertical
5160.0	-54.72	5.24	35.84	-24.12	-13	-11.12	Horizontal
268.8	-43.60	1.62	17.02	-28.20	-13	-15.20	Vertical
161.4	-44.90	1.32	17.31	-28.91	-13	-15.91	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-51.11	4.03	30.00	-25.14	-13	-12.14	Horizontal
3490.0	-51.67	4.03	30.00	-25.70	-13	-12.70	Vertical
5235.0	-52.38	5.25	35.86	-21.77	-13	-8.77	Vertical
5235.0	-53.31	5.25	35.86	-22.70	-13	-9.70	Horizontal
159.9	-47.90	1.45	15.17	-34.18	-13	-21.18	Vertical
172.1	-45.20	1.48	17.82	-28.86	-13	-15.86	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-44.78	2.91	27.68	-20.01	-13	-7.01	Horizontal
3540.0	-53.55	2.91	27.68	-28.78	-13	-15.78	Vertical
5310.0	-50.04	5.26	35.86	-19.44	-13	-6.44	Vertical
5310.0	-50.11	5.26	35.86	-19.51	-13	-6.51	Horizontal
197.3	-46.57	1.76	16.38	-31.95	-13	-18.95	Vertical
158.5	-46.01	1.43	17.13	-30.31	-13	-17.31	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, §90.213

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° to $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 3.6V, Normal, DC 3.8V and High voltage, DC 4.35V.

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 2/4/5/7/26/38/66

RESULTS

See the following pages.

10.1 LTE BAND 2

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1880	12.5	0.006641	2.5
3.8	1880	13.8	0.007341	2.5
4.35	1880	12.8	0.006819	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.5	0.006641	2.5
Extreme (50C)	1880	13.8	0.007341	2.5
Extreme (40C)	1880	12.8	0.006819	2.5
Extreme (30C)	1880	12.5	0.006641	2.5
Extreme (10C)	1880	13.8	0.007341	2.5
Extreme (0C)	1880	12.8	0.006819	2.5
Extreme (-10C)	1880	12.5	0.006641	2.5
Extreme (-20C)	1880	13.8	0.007341	2.5
Extreme (-30C)	1880	12.8	0.006819	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1880	9.5	0.005062	2.5
3.8	1880	9.3	0.004922	2.5
4.35	1880	8.0	0.004256	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.4	0.004977	2.5
Extreme (50C)	1880	8.8	0.004677	2.5
Extreme (40C)	1880	8.1	0.004329	2.5
Extreme (30C)	1880	9.1	0.004825	2.5
Extreme (10C)	1880	8.8	0.004686	2.5
Extreme (0C)	1880	7.9	0.004193	2.5
Extreme (-10C)	1880	9.3	0.004945	2.5
Extreme (-20C)	1880	8.6	0.004549	2.5
Extreme (-30C)	1880	8.2	0.004374	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

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1732.5	8.9	0.005139	2.5
3.8	1732.5	9.4	0.005409	2.5
4.35	1732.5	8.6	0.004984	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.2	0.004717	2.5
Extreme (50C)	1732.5	8.6	0.004972	2.5
Extreme (40C)	1732.5	7.1	0.004085	2.5
Extreme (30C)	1732.5	6.4	0.003694	2.5
Extreme (10C)	1732.5	6.7	0.003853	2.5
Extreme (0C)	1732.5	8.9	0.005139	2.5
Extreme (-10C)	1732.5	8.2	0.004719	2.5
Extreme (-20C)	1732.5	6.7	0.003884	2.5
Extreme (-30C)	1732.5	8.0	0.004626	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1732.5	10.2	0.005868	2.5
3.8	1732.5	8.8	0.005073	2.5
4.35	1732.5	8.4	0.004852	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.3	0.005364	2.5
Extreme (50C)	1732.5	8.7	0.005045	2.5
Extreme (40C)	1732.5	8.1	0.004661	2.5
Extreme (30C)	1732.5	9.2	0.005294	2.5
Extreme (10C)	1732.5	9.0	0.005220	2.5
Extreme (0C)	1732.5	8.5	0.004930	2.5
Extreme (-10C)	1732.5	8.7	0.005024	2.5
Extreme (-20C)	1732.5	8.9	0.005133	2.5
Extreme (-30C)	1732.5	8.2	0.004712	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

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	836.5	5.6	0.006736	2.5
3.8	836.5	7.2	0.008556	2.5
4.35	836.5	4.4	0.005318	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.0	0.007149	2.5
Extreme (50C)	836.5	5.9	0.007033	2.5
Extreme (40C)	836.5	6.2	0.007449	2.5
Extreme (30C)	836.5	6.7	0.007955	2.5
Extreme (10C)	836.5	5.6	0.006723	2.5
Extreme (0C)	836.5	5.2	0.006238	2.5
Extreme (-10C)	836.5	5.7	0.006791	2.5
Extreme (-20C)	836.5	6.1	0.007278	2.5
Extreme (-30C)	836.5	6.3	0.007496	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	836.5	5.6	0.006750	2.5
3.8	836.5	6.2	0.007414	2.5
4.35	836.5	4.4	0.005275	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.8	0.006881	2.5
Extreme (50C)	836.5	5.8	0.006897	2.5
Extreme (40C)	836.5	5.8	0.006990	2.5
Extreme (30C)	836.5	6.8	0.008160	2.5
Extreme (10C)	836.5	5.1	0.006064	2.5
Extreme (0C)	836.5	5.2	0.006257	2.5
Extreme (-10C)	836.5	5.3	0.006316	2.5
Extreme (-20C)	836.5	6.1	0.007317	2.5
Extreme (-30C)	836.5	6.8	0.008122	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

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	2535	10.4	0.004093	2.5
3.8	2535	9.3	0.003661	2.5
4.35	2535	8.7	0.003426	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.6	0.003789	2.5
Extreme (50C)	2535	8.5	0.003347	2.5
Extreme (40C)	2535	8.7	0.003444	2.5
Extreme (30C)	2535	8.8	0.003476	2.5
Extreme (10C)	2535	7.8	0.003074	2.5
Extreme (0C)	2535	8.1	0.003187	2.5
Extreme (-10C)	2535	9.3	0.003667	2.5
Extreme (-20C)	2535	9.3	0.003656	2.5
Extreme (-30C)	2535	8.5	0.003360	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	2535	6.6	0.002596	2.5
3.8	2535	6.2	0.002439	2.5
4.35	2535	5.7	0.002243	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.2	0.002453	2.5
Extreme (50C)	2535	6.0	0.002360	2.5
Extreme (40C)	2535	5.3	0.002074	2.5
Extreme (30C)	2535	6.8	0.002668	2.5
Extreme (10C)	2535	5.4	0.002133	2.5
Extreme (0C)	2535	4.8	0.001903	2.5
Extreme (-10C)	2535	5.6	0.002226	2.5
Extreme (-20C)	2535	6.1	0.002425	2.5
Extreme (-30C)	2535	5.5	0.002159	2.5

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

10.5 LTE BAND 26

Band 26 A (814MHz~824MHz) QPSK,10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.6	819	8.2	0.010018	2.5
3.8	819	5.5	0.006721	2.5
4.35	819	6.0	0.007371	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	8.9	0.010877	2.5
Extreme (50C)	819	1.5	0.001861	2.5
Extreme (40C)	819	2.4	0.002987	2.5
Extreme (30C)	819	6.4	0.007807	2.5
Extreme (10C)	819	5.4	0.006643	2.5
Extreme (0C)	819	6.0	0.007332	2.5
Extreme (-10C)	819	8.0	0.009771	2.5
Extreme (-20C)	819	6.1	0.007494	2.5
Extreme (-30C)	819	4.7	0.005755	2.5

Band 26A (814MHz~824MHz) 16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.6	819	2.1	0.002623	2.5
3.8	819	6.8	0.008264	2.5
4.35	819	5.8	0.007092	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	6.2	0.007586	2.5
Extreme (50C)	819	8.3	0.010114	2.5
Extreme (40C)	819	6.9	0.008428	2.5
Extreme (30C)	819	4.2	0.005068	2.5
Extreme (10C)	819	6.1	0.007468	2.5
Extreme (0C)	819	5.7	0.007006	2.5
Extreme (-10C)	819	8.9	0.010921	2.5
Extreme (-20C)	819	6.7	0.008175	2.5
Extreme (-30C)	819	7.1	0.008701	2.5

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

Band 26B ((824MHz~849MHz) QPSK,15MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	8.9	0.010694	2.5
3.8	836.5	6.0	0.007208	2.5
4.35	836.5	8.5	0.010172	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	11.0	0.013134	2.5
Extreme (50C)	836.5	9.5	0.011333	2.5
Extreme (40C)	836.5	6.3	0.007547	2.5
Extreme (30C)	836.5	8.3	0.009963	2.5
Extreme (10C)	836.5	7.9	0.009495	2.5
Extreme (0C)	836.5	9.8	0.011754	2.5
Extreme (-10C)	836.5	2.0	0.002366	2.5
Extreme (-20C)	836.5	8.5	0.010109	2.5
Extreme (-30C)	836.5	7.9	0.009416	2.5

Band 26B (824MHz~849MHz) 16QAM, (15MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	9.7	0.011607	2.5
3.8	836.5	11.5	0.013765	2.5
4.35	836.5	11.0	0.013133	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	6.8	0.008141	2.5
Extreme (50C)	836.5	9.0	0.010710	2.5
Extreme (40C)	836.5	7.4	0.008820	2.5
Extreme (30C)	836.5	7.8	0.009272	2.5
Extreme (10C)	836.5	6.8	0.008100	2.5
Extreme (0C)	836.5	5.4	0.006486	2.5
Extreme (-10C)	836.5	5.3	0.006379	2.5
Extreme (-20C)	836.5	3.5	0.011237	2.5
Extreme (-30C)	836.5	8.4	0.007292	2.5

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

10.6 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]
3.6	2595	8.5	0.003279	2.5
3.8	2595	6.3	0.002414	2.5
4.35	2595	7.5	0.002885	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.6	0.002927	2.5
Extreme (50C)	2595	5.0	0.001931	2.5
Extreme (40C)	2595	4.9	0.001898	2.5
Extreme (30C)	2595	4.8	0.001834	2.5
Extreme (10C)	2595	6.1	0.002338	2.5
Extreme (0C)	2595	4.5	0.001718	2.5
Extreme (-10C)	2595	9.4	0.003641	2.5
Extreme (-20C)	2595	10.5	0.004032	2.5
Extreme (-30C)	2595	6.2	0.002404	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]
3.6	2595	8.8	0.003373	2.5
3.8	2595	6.7	0.002574	2.5
4.35	2595	6.8	0.002602	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.2	0.002765	2.5
Extreme (50C)	2595	5.2	0.002022	2.5
Extreme (40C)	2595	5.5	0.002107	2.5
Extreme (30C)	2595	5.1	0.001969	2.5
Extreme (10C)	2595	6.7	0.002584	2.5
Extreme (0C)	2595	4.9	0.001895	2.5
Extreme (-10C)	2595	9.6	0.003717	2.5
Extreme (-20C)	2595	10.5	0.004063	2.5
Extreme (-30C)	2595	5.9	0.002291	2.5

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

10.7 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1745	13.1	0.00753	2.5
3.8	1745	13.9	0.00799	2.5
4.35	1745	13.0	0.00748	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.9	0.004503	2.5
Extreme (50C)	1745	5.1	0.002917	2.5
Extreme (40C)	1745	5.7	0.003262	2.5
Extreme (30C)	1745	5.2	0.003006	2.5
Extreme (10C)	1745	6.8	0.003878	2.5
Extreme (0C)	1745	5.3	0.003023	2.5
Extreme (-10C)	1745	9.1	0.005220	2.5
Extreme (-20C)	1745	11.0	0.006294	2.5
Extreme (-30C)	1745	6.6	0.003768	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.6	1745	13.1	0.007531	2.5
3.8	1745	13.4	0.007688	2.5
4.35	1745	13.2	0.007588	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.6	0.004384	2.5
Extreme (50C)	1745	4.7	0.002669	2.5
Extreme (40C)	1745	5.0	0.002894	2.5
Extreme (30C)	1745	4.7	0.002716	2.5
Extreme (10C)	1745	6.0	0.003417	2.5
Extreme (0C)	1745	4.7	0.002681	2.5
Extreme (-10C)	1745	9.8	0.005620	2.5
Extreme (-20C)	1745	10.8	0.006183	2.5
Extreme (-30C)	1745	5.9	0.003372	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.

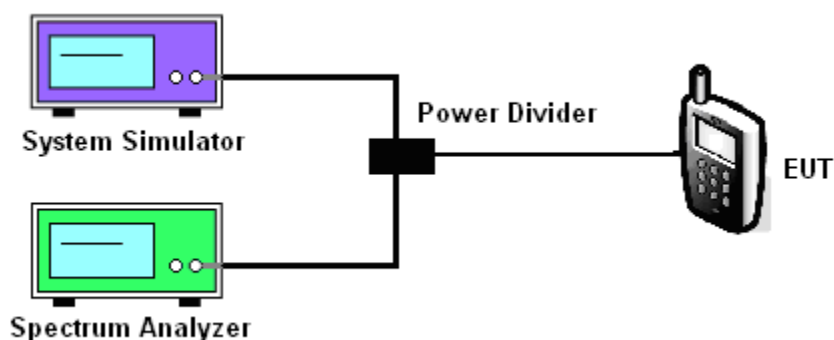
11.2 Measuring Instruments

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 GSM/EGPRS operating modes:
 - a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
 - b. Set EUT in maximum power output, and triggered the burst signal.
 - c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
4. For UMTS 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 2/4/5/7/26/38/66
- ☐

Test data reference attachment.

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