

FCC CFR47 PART 22H, 24E, 27,90S CERTIFICATION TEST REPORT FCC ID: 2A8EM-HIBREAKPRO

Product: Smartphone
Trade Mark: Bigme
Model No.: HiBreak pro
HiBreak pro plus, HiBreak pro se, HiBreak pro color,
HiBreak pro color plus, HiBreak pro color se, B651,
Family Model: B651 Lite, B651 Pro, B651 Plus, B651C, B651C
Lite, B651C Pro, B651C+, B651 Color, B651 Color
Lite, B651 Color Pro, B651 Color Plus
Report No.: S25021100607006
Issue Date: Apr. 07, 2025

Prepared for

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : Bigme Cloud Literacy Technology Co., Ltd.

Address..... : 01 18F, COFCO Property Tower, Baomin No.1Rd, Bao an 3rd District, Shenzhen, China

Manufacturer's Name..... : Bigme Cloud Literacy Technology Co., Ltd.

Address..... : 01 18F, COFCO Property Tower, Baomin No.1Rd, Bao an 3rd District, Shenzhen, China

Product name..... : Smartphone

Model and/or type reference .. : HiBreak pro

Trade Mark..... : Bigme

Family Model..... : HiBreak pro plus, HiBreak pro se, HiBreak pro color, HiBreak pro color plus, HiBreak pro color se, B651, B651 Lite, B651 Pro, B651 Plus, B651C, B651C Lite, B651C Pro, B651C+, B651 Color, B651 Color Lite, B651 Color Pro, B651 Color Plus

Test Sample Number..... : S250211006008

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. 12, 2025 ~ Apr. 07, 2025

Date of Issue Apr. 07, 2025

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

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Smartphone
Trade Mark	Bigme
Model Name	HiBreak pro
Family Model	HiBreak pro plus, HiBreak pro se, HiBreak pro color, HiBreak pro color plus, HiBreak pro color se, B651, B651 Lite, B651 Pro, B651 Plus, B651C, B651C Lite, B651C Pro, B651C+, B651 Color, B651 Color Lite, B651 Color Pro, B651 Color Plus
Model Difference	All models are the same circuit and RF module, except for model names.
FCC ID:	2A8EM-HIBREAKPRO
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2,4,5,7,12,13, 17, 25, 26, 66 ☒ LTE TDD Band 38, 41,
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 25 Uplink: 1850MHz-1915MHz, Downlink: 1930MHz-1995MHz; LTE FDD Band 26A Uplink: 814MHz-824MHz, Downlink: 859MHz-869MHz; LTE FDD Band 26B Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE TDD Band 38 Uplink& Downlink: 2570MHz-2620MHz LTE TDD Band 41 Uplink& Downlink: 2496MHz-2690MHz LTE FDD Band 66 Uplink: 1710MHz-1780MHz Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.
Antenna:	FPC Antenna
Antenna gain:	Band 2: 0.66 dBi, Band 4: 2.89 dBi, Band 5: -5.88 dBi, Band 7: 0.97 dBi, Band 12: -5.13 dBi, Band 13: -5.21 dBi, Band 17: -5.13 dBi, Band25: 0.66 dBi, Band 26: -5.88 dBi, Band 38: 0.97 dBi,Band 41:0.97dBi , Band66: 2.89dBi;

Adapter	N/A
Battery	DC 3.85V, 4500mAh, 17.325Wh
Power supply	DC 3.85V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.27V to DC 4.43V (Nominal DC 3.85V) (Note 1)
HW Version	V1
FW Version	N/A
SW Version	N/A
** Note1: The High Voltage DC 4.43V and Low Voltage 3.27V 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: 2A8EM-HIBREAKPRO** 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% ($U = 2Uc(y)$)	2.5dB

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2/4/5/7/12/13/17/25/26/38/41/66

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

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

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

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

2.3 CONFIGURATION OF EUT SYSTEM

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Smartphone	HiBreak pro	FCC ID: 2A8EM-HIBREAKPRO	EUT

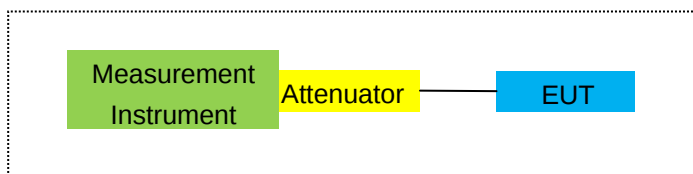
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

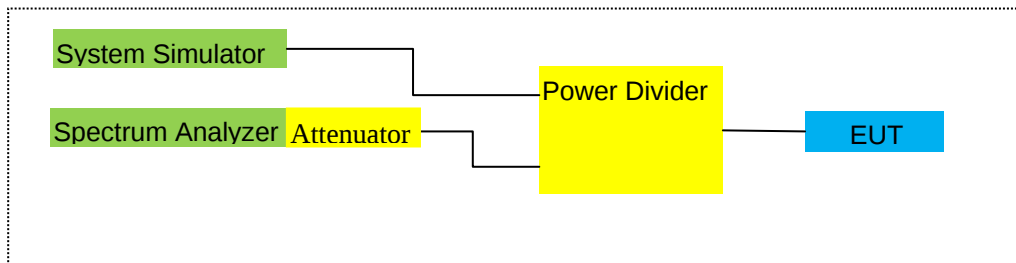
For Radiated Test Cases



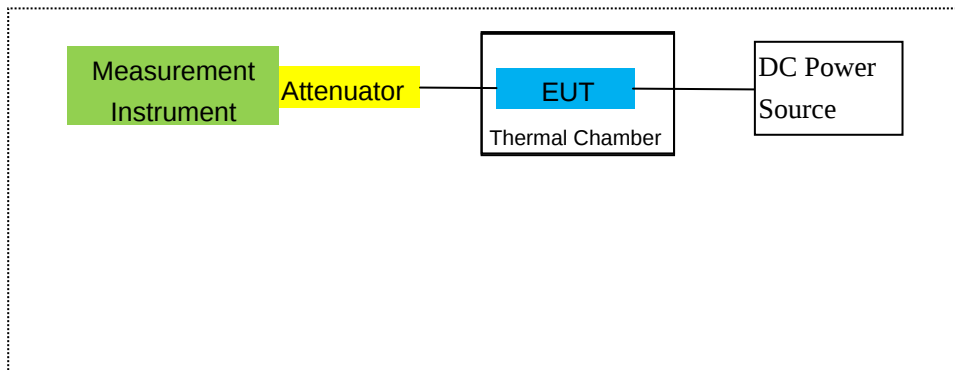
For Conducted Output Power



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	2024.04.25	2025.04.24	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	Horn Antenna	EM	EM-AH-10180	2011071402	2024.05.12	2027.05.11	3 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2024.05.12	2027.05.11	3 year
7	Amplifier	EM	EM-30180	060538	2024.04.26	2025.04.25	1 year
8	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	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	2024.04.25	2025.04.24	1 year
16	LISN	EMCO	3816/2	00042990	2024.04.25	2025.04.24	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 Tester	R&S	CMU200	105747	2024.04.26	2025.04.25	1 year
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

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	MWRFTtest	MTS 8200	2.0	RF Conducted Test
2	Farad	EZ-EMC_RE	AIT-03A	RadiatedTest
3	raditeq	RadiMation	2023.1.3	RadiatedTest

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

☐

Band 2/4/5/7/12/13/17/25/26/38/41/66

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53, and §90.691

FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

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

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

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

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.

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

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

MODES TESTED

Band 2/4/5/7/12/13/17/25/26/38/41/66

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 and §90.691

LIMITS

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

TEST PROCEDURE

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

For each out of band emissions measurement:

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

MODES TESTED

- ☐ Band 2/4/5/7/12/13/17/25/26/38/41/66
- ☐

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

LIMITS:

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

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

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

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

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

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

☐ Band 2/4/5/7/12/13/17/25/26/38/41/66

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP	Max. EIRP Average (mW)	Polarization Of Max. ERP	
						Average (dBm)			
1.4MHz Band QPSK	6/0	1850.7	-3.25	3.76	28.24	21.23	132.739	Horizontal	Pass
		1880	-3.06	3.91	28.22	21.25	133.352	Horizontal	Pass
		1909.3	-2.97	3.93	28.20	21.30	134.896	Horizontal	Pass
3.0MHz Band QPSK	15/0	1851.5	-3.31	3.77	28.23	21.15	130.317	Horizontal	Pass
		1880	-3.16	3.91	28.24	21.17	130.918	Horizontal	Pass
		1908.5	-3.03	3.94	28.25	21.28	134.276	Horizontal	Pass
5.0MHz Band QPSK	25/0	1852.5	-3.20	3.77	28.31	21.34	136.144	Horizontal	Pass
		1880	-2.82	3.91	28.22	21.49	140.929	Horizontal	Pass
		1907.5	-2.75	3.94	28.20	21.51	141.579	Horizontal	Pass
10.0MHz Band QPSK	50/0	1855	-3.06	3.79	28.33	21.48	140.605	Horizontal	Pass
		1880	-2.76	3.95	28.22	21.51	141.579	Horizontal	Pass
		1905	-2.65	3.97	28.19	21.57	143.549	Horizontal	Pass
15.0MHz Band QPSK	75/0	1857.5	-3.02	3.79	28.34	21.53	142.233	Horizontal	Pass
		1880	-2.81	3.95	28.22	21.46	139.959	Horizontal	Pass
		1902.5	-2.67	3.97	28.18	21.54	142.561	Horizontal	Pass
20.0MHz Band QPSK	100/0	1860	-3.01	3.81	28.35	21.53	142.233	Horizontal	Pass
		1880	-2.68	3.96	28.22	21.58	143.880	Horizontal	Pass
		1900	-2.62	4.00	28.16	21.54	142.561	Horizontal	Pass
1.4MHz Band QPSK	6/0	1850.7	-4.42	3.76	28.24	20.06	101.391	Vertical	Pass
		1880	-3.88	3.91	28.22	20.43	110.408	Vertical	Pass
		1909.3	-4.08	3.93	28.20	20.19	104.472	Vertical	Pass
3.0MHz Band QPSK	15/0	1851.5	-3.60	3.77	28.23	20.86	121.899	Vertical	Pass
		1880	-3.66	3.91	28.24	20.67	116.681	Vertical	Pass
		1908.5	-4.14	3.94	28.25	20.17	103.992	Vertical	Pass
5.0MHz Band QPSK	25/0	1852.5	-4.38	3.77	28.31	20.16	103.753	Vertical	Pass
		1880	-3.84	3.91	28.22	20.47	111.429	Vertical	Pass
		1907.5	-3.79	3.94	28.20	20.47	111.429	Vertical	Pass
10.0MHz Band QPSK	50/0	1855	-4.54	3.79	28.33	20.00	100.000	Vertical	Pass
		1880	-3.58	3.95	28.22	20.69	117.220	Vertical	Pass
		1905	-3.42	3.97	28.19	20.80	120.226	Vertical	Pass
15.0MHz	75/0	1857.5	-4.28	3.79	28.34	20.27	106.414	Vertical	Pass

Band QPSK		1880	-4.22	3.95	28.22	20.05	101.158	Vertical	Pass
		1902.5	-4.18	3.97	28.18	20.03	100.693	Vertical	Pass
20.0MHz Band QPSK	100/0	1860	-3.62	3.81	28.35	20.92	123.595	Vertical	Pass
		1880	-4.14	3.96	28.22	20.12	102.802	Vertical	Pass
		1900	-4.03	4.00	28.16	20.13	103.039	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1850.7	-4.37	3.76	28.24	20.11	102.565	Horizontal	Pass
		1880	-3.84	3.91	28.22	20.47	111.429	Horizontal	Pass
		1909.3	-3.77	3.93	28.20	20.50	112.202	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-3.87	3.77	28.23	20.59	114.551	Horizontal	Pass
		1880	-3.95	3.91	28.24	20.38	109.144	Horizontal	Pass
		1908.5	-4.16	3.94	28.25	20.15	103.514	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-3.81	3.77	28.31	20.73	118.304	Horizontal	Pass
		1880	-3.72	3.91	28.22	20.59	114.551	Horizontal	Pass
		1907.5	-3.40	3.94	28.20	20.86	121.899	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1855	-3.86	3.79	28.33	20.68	116.950	Horizontal	Pass
		1880	-3.85	3.95	28.22	20.42	110.154	Horizontal	Pass
		1905	-3.32	3.97	28.19	20.90	123.027	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-3.84	3.79	28.34	20.71	117.761	Horizontal	Pass
		1880	-3.63	3.95	28.22	20.64	115.878	Horizontal	Pass
		1902.5	-3.59	3.97	28.18	20.62	115.345	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1860	-3.73	3.81	28.35	20.81	120.504	Horizontal	Pass
		1880	-3.43	3.96	28.22	20.83	121.060	Horizontal	Pass
		1900	-3.25	4.00	28.16	20.91	123.310	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-4.94	3.76	28.24	19.54	89.950	Vertical	Pass
		1880	-4.86	3.91	28.22	19.45	88.105	Vertical	Pass
		1909.3	-4.65	3.93	28.20	19.62	91.622	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-4.78	3.77	28.23	19.68	92.897	Vertical	Pass
		1880	-4.49	3.91	28.24	19.84	96.383	Vertical	Pass
		1908.5	-5.11	3.94	28.25	19.20	83.176	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-4.72	3.77	28.31	19.82	95.940	Vertical	Pass
		1880	-4.54	3.91	28.22	19.77	94.842	Vertical	Pass
		1907.5	-5.09	3.94	28.20	19.17	82.604	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1855	-5.12	3.79	28.33	19.42	87.498	Vertical	Pass
		1880	-4.99	3.95	28.22	19.28	84.723	Vertical	Pass
		1905	-4.99	3.97	28.19	19.23	83.753	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-5.48	3.79	28.34	19.07	80.724	Vertical	Pass
		1880	-5.11	3.95	28.22	19.16	82.414	Vertical	Pass
		1902.5	-5.06	3.97	28.18	19.15	82.224	Vertical	Pass

20.0MHz	100/0	1860	-5.03	3.81	28.35	19.51	89.331	Vertical	Pass
Band 16		1880	-4.98	3.96	28.22	19.28	84.723	Vertical	Pass
QAM		1900	-4.66	4.00	28.16	19.50	89.125	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)

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-3.16	3.12	27.58	21.30	134.896	Horizontal	Pass
		1732.5	-3.15	3.27	27.61	21.19	131.522	Horizontal	Pass
		1754.3	-3.13	3.29	27.63	21.21	132.130	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	-3.33	3.13	27.61	21.15	130.317	Horizontal	Pass
		1732.5	-3.25	3.27	27.61	21.09	128.529	Horizontal	Pass
		1753.5	-3.17	3.30	27.62	21.15	130.317	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	-3.10	3.13	27.63	21.40	138.038	Horizontal	Pass
		1732.5	-3.00	3.27	27.61	21.34	136.144	Horizontal	Pass
		1752.5	-2.88	3.30	27.60	21.42	138.676	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	-3.04	3.15	27.64	21.45	139.637	Horizontal	Pass
		1732.5	-2.81	3.31	27.61	21.49	140.929	Horizontal	Pass
		1750	-2.83	3.33	27.59	21.43	138.995	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	-3.05	3.15	27.65	21.45	139.637	Horizontal	Pass
		1732.5	-2.89	3.31	27.61	21.41	138.357	Horizontal	Pass
		1747.5	-2.83	3.33	27.57	21.41	138.357	Horizontal	Pass
20.0MHz Band QPSK	100/0	1720	-2.99	3.17	27.66	21.50	141.254	Horizontal	Pass
		1732.5	-2.82	3.32	27.61	21.47	140.281	Horizontal	Pass
		1745	-2.76	3.36	27.56	21.44	139.316	Horizontal	Pass
1.4MHz Band QPSK	6/0	1710.7	-3.96	3.12	27.58	20.50	112.202	Vertical	Pass
		1732.5	-4.34	3.27	27.61	20.00	100.000	Vertical	Pass
		1754.3	-3.94	3.29	27.63	20.40	109.648	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-3.86	3.13	27.61	20.62	115.345	Vertical	Pass
		1732.5	-3.39	3.27	27.61	20.95	124.451	Vertical	Pass
		1753.5	-4.23	3.30	27.62	20.09	102.094	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-3.72	3.13	27.63	20.78	119.674	Vertical	Pass
		1732.5	-3.56	3.27	27.61	20.78	119.674	Vertical	Pass
		1752.5	-3.79	3.30	27.60	20.51	112.460	Vertical	Pass
10.0MHz Band QPSK	50/0	1715	-4.29	3.15	27.64	20.20	104.713	Vertical	Pass
		1732.5	-3.78	3.31	27.61	20.52	112.720	Vertical	Pass
		1750	-3.96	3.33	27.59	20.30	107.152	Vertical	Pass

15.0MHz Band QPSK	75/0	1717.5	-4.49	3.15	27.65	20.01	100.231	Vertical	Pass
		1732.5	-4.06	3.31	27.61	20.24	105.682	Vertical	Pass
		1747.5	-4.22	3.33	27.57	20.02	100.462	Vertical	Pass
20.0MHz Band QPSK	100/0	1720	-4.45	3.17	27.66	20.04	100.925	Vertical	Pass
		1732.5	-3.40	3.32	27.61	20.89	122.744	Vertical	Pass
		1745	-4.01	3.36	27.56	20.19	104.472	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1710.7	-3.97	3.12	27.58	20.49	111.944	Horizontal	Pass
		1732.5	-3.82	3.27	27.61	20.52	112.720	Horizontal	Pass
		1754.3	-3.82	3.29	27.63	20.52	112.720	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-3.91	3.13	27.61	20.57	114.025	Horizontal	Pass
		1732.5	-4.04	3.27	27.61	20.30	107.152	Horizontal	Pass
		1753.5	-4.26	3.30	27.62	20.06	101.391	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-3.74	3.13	27.63	20.76	119.124	Horizontal	Pass
		1732.5	-3.70	3.27	27.61	20.64	115.878	Horizontal	Pass
		1752.5	-3.39	3.30	27.60	20.91	123.310	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	-3.81	3.15	27.64	20.68	116.950	Horizontal	Pass
		1732.5	-4.00	3.31	27.61	20.30	107.152	Horizontal	Pass
		1750	-3.38	3.33	27.59	20.88	122.462	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-3.61	3.15	27.65	20.89	122.744	Horizontal	Pass
		1732.5	-3.67	3.31	27.61	20.63	115.611	Horizontal	Pass
		1747.5	-3.69	3.33	27.57	20.55	113.501	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	-3.56	3.17	27.66	20.93	123.880	Horizontal	Pass
		1732.5	-3.57	3.32	27.61	20.72	118.032	Horizontal	Pass
		1745	-3.38	3.36	27.56	20.82	120.781	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-4.61	3.12	27.58	19.85	96.605	Vertical	Pass
		1732.5	-4.87	3.27	27.61	19.47	88.512	Vertical	Pass
		1754.3	-5.11	3.29	27.63	19.23	83.753	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-4.80	3.13	27.61	19.68	92.897	Vertical	Pass
		1732.5	-4.70	3.27	27.61	19.64	92.045	Vertical	Pass
		1753.5	-4.74	3.30	27.62	19.58	90.782	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-5.36	3.13	27.63	19.14	82.035	Vertical	Pass
		1732.5	-5.07	3.27	27.61	19.27	84.528	Vertical	Pass
		1752.5	-4.68	3.30	27.60	19.62	91.622	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1715	-5.49	3.15	27.64	19.00	79.433	Vertical	Pass
		1732.5	-4.83	3.31	27.61	19.47	88.512	Vertical	Pass
		1750	-4.96	3.33	27.59	19.30	85.114	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-5.39	3.15	27.65	19.11	81.470	Vertical	Pass
		1732.5	-5.31	3.31	27.61	18.99	79.250	Vertical	Pass
		1747.5	-5.28	3.33	27.57	18.96	78.705	Vertical	Pass

20.0MHz	100/0	1720	-4.85	3.17	27.66	19.64	92.045	Vertical	Pass
Band 16		1732.5	-5.03	3.32	27.61	19.26	84.333	Vertical	Pass
QAM		1745	-4.69	3.36	27.56	19.51	89.331	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)

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	6.14	2.01	19.68	2.15	21.66	146.555	Horizontal	Pass
		836.5	6.02	2.01	19.77	2.15	21.63	145.546	Horizontal	Pass
		848.3	5.82	2.02	19.82	2.15	21.47	140.281	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	5.91	2.01	19.70	2.15	21.45	139.637	Horizontal	Pass
		836.5	5.81	2.01	19.77	2.15	21.42	138.676	Horizontal	Pass
		847.5	5.68	2.02	19.81	2.15	21.32	135.519	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	6.19	2.01	19.71	2.15	21.74	149.279	Horizontal	Pass
		836.5	6.07	2.01	19.77	2.15	21.68	147.231	Horizontal	Pass
		846.5	5.91	2.02	19.79	2.15	21.53	142.233	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	6.21	2.01	19.73	2.15	21.78	150.661	Horizontal	Pass
		836.5	6.16	2.01	19.77	2.15	21.77	150.314	Horizontal	Pass
		844	6.06	2.02	19.78	2.15	21.67	146.893	Horizontal	Pass
1.4MHz Band QPSK	6/0	824.7	4.73	2.01	19.68	2.15	20.25	105.925	Vertical	Pass
		836.5	4.77	2.01	19.77	2.15	20.38	109.144	Vertical	Pass
		848.3	5.10	2.02	19.82	2.15	20.75	118.850	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	5.41	2.01	19.70	2.15	20.95	124.451	Vertical	Pass
		836.5	4.90	2.01	19.77	2.15	20.51	112.460	Vertical	Pass
		847.5	4.92	2.02	19.81	2.15	20.56	113.763	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	4.65	2.01	19.71	2.15	20.20	104.713	Vertical	Pass
		836.5	4.85	2.01	19.77	2.15	20.46	111.173	Vertical	Pass
		846.5	4.92	2.02	19.79	2.15	20.54	113.240	Vertical	Pass
10.0MHz Band QPSK	50/0	829	4.51	2.01	19.73	2.15	20.08	101.859	Vertical	Pass
		836.5	5.09	2.01	19.77	2.15	20.70	117.490	Vertical	Pass
		844	5.32	2.02	19.78	2.15	20.93	123.880	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	824.7	5.29	2.01	19.68	2.15	20.81	120.504	Horizontal	Pass
		836.5	5.22	2.01	19.77	2.15	20.83	121.060	Horizontal	Pass
		848.3	5.06	2.02	19.82	2.15	20.71	117.761	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	5.37	2.01	19.70	2.15	20.91	123.310	Horizontal	Pass
		836.5	5.08	2.01	19.77	2.15	20.69	117.220	Horizontal	Pass
		847.5	4.56	2.02	19.81	2.15	20.20	104.713	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	5.69	2.01	19.71	2.15	21.24	133.045	Horizontal	Pass
		836.5	5.46	2.01	19.77	2.15	21.07	127.938	Horizontal	Pass
		846.5	5.21	2.02	19.79	2.15	20.83	121.060	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	5.69	2.01	19.73	2.15	21.26	133.660	Horizontal	Pass
		836.5	5.41	2.01	19.77	2.15	21.02	126.474	Horizontal	Pass
		844	4.95	2.02	19.78	2.15	20.56	113.763	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	4.43	2.01	19.68	2.15	19.95	98.855	Vertical	Pass
		836.5	5.34	2.01	19.77	2.15	20.95	124.451	Vertical	Pass
		848.3	4.86	2.02	19.82	2.15	20.51	112.460	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	4.74	2.01	19.70	2.15	20.28	106.660	Vertical	Pass
		836.5	3.68	2.01	19.77	2.15	19.29	84.918	Vertical	Pass
		847.5	4.35	2.02	19.81	2.15	19.99	99.770	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	4.39	2.01	19.71	2.15	19.94	98.628	Vertical	Pass
		836.5	3.93	2.01	19.77	2.15	19.54	89.950	Vertical	Pass
		846.5	3.35	2.02	19.79	2.15	18.97	78.886	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	3.90	2.01	19.73	2.15	19.47	88.512	Vertical	Pass
		836.5	3.77	2.01	19.77	2.15	19.38	86.696	Vertical	Pass
		844	4.17	2.02	19.78	2.15	19.78	95.060	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)

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP	Max. EIRP Average (mW)	Polarization Of Max. ERP	
						Average			
						(dBm)			
5.0MHz Band QPSK	25/0	2502.5	-1.44	4.54	27.75	21.77	150.314	Horizontal	Pass
		2535	-1.27	4.69	27.72	21.76	149.968	Horizontal	Pass
		2567.5	-1.20	4.71	27.71	21.80	151.356	Horizontal	Pass
10.0MHz Band QPSK	50/0	2505	-1.37	4.55	27.76	21.84	152.757	Horizontal	Pass
		2535	-1.18	4.69	27.72	21.85	153.109	Horizontal	Pass
		2565	-1.10	4.72	27.70	21.88	154.170	Horizontal	Pass
15.0MHz Band QPSK	75/0	2507.5	-1.38	4.55	27.77	21.84	152.757	Horizontal	Pass
		2535	-1.24	4.69	27.72	21.79	151.008	Horizontal	Pass
		2562.5	-1.14	4.72	27.69	21.83	152.405	Horizontal	Pass
20.0MHz Band QPSK	100/0	2510	-1.32	4.57	27.78	21.89	154.525	Horizontal	Pass
		2535	-1.14	4.73	27.72	21.85	153.109	Horizontal	Pass
		2560	-1.10	4.75	27.68	21.83	152.405	Horizontal	Pass
5.0MHz Band QPSK	25/0	2502.5	-3.24	4.54	27.75	19.97	99.312	Vertical	Pass
		2535	-3.01	4.69	27.72	20.02	100.462	Vertical	Pass
		2567.5	-2.36	4.71	27.71	20.64	115.878	Vertical	Pass
10.0MHz Band QPSK	50/0	2505	-2.64	4.55	27.76	20.57	114.025	Vertical	Pass
		2535	-2.30	4.69	27.72	20.73	118.304	Vertical	Pass
		2565	-2.91	4.72	27.70	20.07	101.625	Vertical	Pass
15.0MHz Band QPSK	75/0	2507.5	-2.54	4.55	27.77	20.68	116.950	Vertical	Pass
		2535	-2.24	4.69	27.72	20.79	119.950	Vertical	Pass
		2562.5	-3.02	4.72	27.69	19.95	98.855	Vertical	Pass
20.0MHz Band QPSK	100/0	2510	-2.33	4.57	27.78	20.88	122.462	Vertical	Pass
		2535	-2.79	4.73	27.72	20.20	104.713	Vertical	Pass
		2560	-2.97	4.75	27.68	19.96	99.083	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	25/0	2502.5	-2.13	4.54	27.75	21.08	128.233	Horizontal	Pass
		2535	-1.82	4.69	27.72	21.21	132.130	Horizontal	Pass
		2567.5	-1.90	4.71	27.71	21.10	128.825	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2505	-2.02	4.55	27.76	21.19	131.522	Horizontal	Pass
		2535	-2.03	4.69	27.72	21.00	125.893	Horizontal	Pass
		2565	-2.30	4.72	27.70	20.68	116.950	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-2.20	4.55	27.77	21.02	126.474	Horizontal	Pass
		2535	-2.17	4.69	27.72	20.86	121.899	Horizontal	Pass
		2562.5	-1.78	4.72	27.69	21.19	131.522	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2510	-2.08	4.57	27.78	21.13	129.718	Horizontal	Pass
		2535	-1.75	4.73	27.72	21.24	133.045	Horizontal	Pass
		2560	-1.85	4.75	27.68	21.08	128.233	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2502.5	-3.50	4.54	27.75	19.71	93.541	Vertical	Pass
		2535	-3.58	4.69	27.72	19.45	88.105	Vertical	Pass
		2567.5	-2.28	4.71	27.71	20.72	118.032	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2505	-2.39	4.55	27.76	20.82	120.781	Vertical	Pass
		2535	-2.83	4.69	27.72	20.20	104.713	Vertical	Pass
		2565	-2.87	4.72	27.70	20.11	102.565	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-2.77	4.55	27.77	20.45	110.917	Vertical	Pass
		2535	-3.03	4.69	27.72	20.00	100.000	Vertical	Pass
		2562.5	-3.21	4.72	27.69	19.76	94.624	Vertical	Pass
20.0MHz Band 16 QAM	100/0	2510	-3.76	4.57	27.78	19.45	88.105	Vertical	Pass
		2535	-3.51	4.73	27.72	19.48	88.716	Vertical	Pass
		2560	-2.62	4.75	27.68	20.31	107.399	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	699.7	6.51	1.91	19.21	2.15	21.66	146.555	Vertical	Pass
		707.5	6.43	1.91	19.26	2.15	21.63	145.546	Vertical	Pass
		715.3	6.21	1.93	19.34	2.15	21.47	140.281	Vertical	Pass
3.0MHz Band QPSK	15/0	700.5	6.30	1.91	19.21	2.15	21.45	139.637	Vertical	Pass
		707.5	6.22	1.91	19.26	2.15	21.42	138.676	Vertical	Pass
		714.5	6.06	1.93	19.34	2.15	21.32	135.519	Vertical	Pass
5.0MHz Band QPSK	25/0	701.5	6.57	1.91	19.23	2.15	21.74	149.279	Vertical	Pass
		707.5	6.48	1.91	19.26	2.15	21.68	147.231	Vertical	Pass
		713.5	6.27	1.92	19.33	2.15	21.53	142.233	Vertical	Pass
10.0MHz Band QPSK	50/0	704	6.59	1.91	19.25	2.15	21.78	150.661	Vertical	Pass
		707.5	6.57	1.91	19.26	2.15	21.77	150.314	Vertical	Pass
		711	6.42	1.92	19.32	2.15	21.67	146.893	Vertical	Pass
1.4MHz Band QPSK	6/0	699.7	5.43	1.91	19.21	2.15	20.58	114.288	Horizontal	Pass
		707.5	5.74	1.91	19.26	2.15	20.94	124.165	Horizontal	Pass
		715.3	5.58	1.93	19.34	2.15	20.84	121.339	Horizontal	Pass
3.0MHz Band QPSK	15/0	700.5	4.81	1.91	19.21	2.15	19.96	99.083	Horizontal	Pass
		707.5	4.85	1.91	19.26	2.15	20.05	101.158	Horizontal	Pass
		714.5	4.99	1.93	19.34	2.15	20.25	105.925	Horizontal	Pass
5.0MHz Band QPSK	25/0	701.5	5.36	1.91	19.23	2.15	20.53	112.980	Horizontal	Pass
		707.5	5.04	1.91	19.26	2.15	20.24	105.682	Horizontal	Pass
		713.5	5.37	1.92	19.33	2.15	20.63	115.611	Horizontal	Pass
10.0MHz Band QPSK	50/0	704	5.59	1.91	19.25	2.15	20.78	119.674	Horizontal	Pass
		707.5	5.26	1.91	19.26	2.15	20.46	111.173	Horizontal	Pass
		711	5.45	1.92	19.32	2.15	20.70	117.490	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	699.7	6.33	1.91	19.21	2.15	21.48	140.605	Vertical	Pass
		707.5	6.25	1.91	19.26	2.15	21.45	139.637	Vertical	Pass
		715.3	6.03	1.93	19.34	2.15	21.29	134.586	Vertical	Pass
3.0MHz Band 16 QAM	15/0	700.5	6.12	1.91	19.21	2.15	21.27	133.968	Vertical	Pass
		707.5	6.04	1.91	19.26	2.15	21.24	133.045	Vertical	Pass
		714.5	5.88	1.93	19.34	2.15	21.14	130.017	Vertical	Pass
5.0MHz Band 16 QAM	25/0	701.5	6.39	1.91	19.23	2.15	21.56	143.219	Vertical	Pass
		707.5	6.30	1.91	19.26	2.15	21.50	141.254	Vertical	Pass
		713.5	6.09	1.92	19.33	2.15	21.35	136.458	Vertical	Pass
10.0MHz Band 16 QAM	50/0	704	6.41	1.91	19.25	2.15	21.60	144.544	Vertical	Pass
		707.5	6.39	1.91	19.26	2.15	21.59	144.212	Vertical	Pass
		711	6.24	1.92	19.32	2.15	21.49	140.929	Vertical	Pass
1.4MHz Band 16 QAM	6/0	699.7	4.97	1.91	19.21	2.15	20.12	102.802	Horizontal	Pass
		707.5	4.99	1.91	19.26	2.15	20.19	104.472	Horizontal	Pass
		715.3	5.04	1.93	19.34	2.15	20.30	107.152	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	700.5	5.03	1.91	19.21	2.15	20.18	104.232	Horizontal	Pass
		707.5	5.14	1.91	19.26	2.15	20.34	108.143	Horizontal	Pass
		714.5	4.87	1.93	19.34	2.15	20.13	103.039	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	701.5	5.37	1.91	19.23	2.15	20.54	113.240	Horizontal	Pass
		707.5	5.21	1.91	19.26	2.15	20.41	109.901	Horizontal	Pass
		713.5	5.37	1.92	19.33	2.15	20.63	115.611	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	704	4.85	1.91	19.25	2.15	20.04	100.925	Horizontal	Pass
		707.5	4.62	1.91	19.26	2.15	19.82	95.940	Horizontal	Pass
		711	4.78	1.92	19.32	2.15	20.03	100.693	Horizontal	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.7 LTE BAND 13

Radiated Power (ERP) for Band 13										
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	
5.0MHz Band QPSK	25/0	779.5	4.94	1.91	19.23	2.15	20.11	102.57	Horizontal	Pass
		782	4.79	1.91	19.26	2.15	19.99	99.77	Horizontal	Pass
		784.5	3.62	1.92	19.33	2.15	18.88	77.27	Horizontal	Pass
10.0MHz Band QPSK	50/0	782	3.81	1.91	19.25	2.15	19.00	79.43	Horizontal	Pass
			5.09	1.91	19.26	2.15	20.29	106.91	Horizontal	Pass
			3.95	1.92	19.32	2.15	19.20	83.18	Horizontal	Pass
5.0MHz Band QPSK	25/0	779.5	3.90	1.91	19.23	2.15	19.07	80.72	Vertical	Pass
		782	3.62	1.91	19.26	2.15	18.82	76.21	Vertical	Pass
		784.5	3.98	1.92	19.33	2.15	19.24	83.95	Vertical	Pass
10.0MHz Band QPSK	50/0	782	3.77	1.91	19.25	2.15	18.96	78.70	Vertical	Pass
			3.44	1.91	19.26	2.15	18.64	73.11	Vertical	Pass
			3.55	1.92	19.32	2.15	18.80	75.86	Vertical	Pass

Radiated Power (ERP) for Band 13										
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	
5.0MHz Band 16 QAM	25/0	779.5	4.87	1.91	19.23	2.15	20.04	100.93	Horizontal	Pass
		782	3.38	1.91	19.26	2.15	18.58	72.11	Horizontal	Pass
		784.5	3.25	1.92	19.33	2.15	18.51	70.96	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	782	3.79	1.91	19.25	2.15	18.98	79.07	Horizontal	Pass
			4.86	1.91	19.26	2.15	20.06	101.39	Horizontal	Pass
			3.34	1.92	19.32	2.15	18.59	72.28	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	779.5	3.37	1.91	19.23	2.15	18.54	71.45	Vertical	Pass
		782	3.84	1.91	19.26	2.15	19.04	80.17	Vertical	Pass
		784.5	3.61	1.92	19.33	2.15	18.87	77.09	Vertical	Pass
10.0MHz Band 16 QAM	50/0	782	3.58	1.91	19.25	2.15	18.77	75.34	Vertical	Pass
			3.36	1.91	19.26	2.15	18.56	71.78	Vertical	Pass
			3.49	1.92	19.32	2.15	18.74	74.82	Vertical	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.8 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	706.5	6.55	1.91	19.23	2.15	21.72	148.594	Vertical	Pass
		710	6.41	1.91	19.26	2.15	21.61	144.877	Vertical	Pass
		713.5	6.31	1.92	19.33	2.15	21.57	143.549	Vertical	Pass
10.0MHz Band QPSK	50/0	709	6.56	1.91	19.25	2.15	21.75	149.624	Vertical	Pass
		710	6.51	1.91	19.26	2.15	21.71	148.252	Vertical	Pass
		711	6.47	1.92	19.32	2.15	21.72	148.594	Vertical	Pass
5.0MHz Band QPSK	25/0	706.5	5.12	1.91	19.23	2.15	20.29	106.905	Horizontal	Pass
		710	4.94	1.91	19.26	2.15	20.14	103.276	Horizontal	Pass
		713.5	5.35	1.92	19.33	2.15	20.61	115.080	Horizontal	Pass
10.0MHz Band QPSK	50/0	709	6.16	1.91	19.25	2.15	21.35	136.458	Horizontal	Pass
		710	5.82	1.91	19.26	2.15	21.02	126.474	Horizontal	Pass
		711	4.91	1.92	19.32	2.15	20.16	103.753	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	25/0	706.5	5.98	1.91	19.23	2.15	21.15	130.317	Vertical	Pass
		710	5.89	1.91	19.26	2.15	21.09	128.529	Vertical	Pass
		713.5	5.69	1.92	19.33	2.15	20.95	124.451	Vertical	Pass
10.0MHz Band 16 QAM	50/0	709	5.52	1.91	19.25	2.15	20.71	117.761	Vertical	Pass
		710	6.05	1.91	19.26	2.15	21.25	133.352	Vertical	Pass
		711	5.78	1.92	19.32	2.15	21.03	126.765	Vertical	Pass
5.0MHz Band 16 QAM	25/0	706.5	5.07	1.91	19.23	2.15	20.24	105.682	Horizontal	Pass
		710	4.93	1.91	19.26	2.15	20.13	103.039	Horizontal	Pass
		713.5	4.52	1.92	19.33	2.15	19.78	95.060	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	709	4.62	1.91	19.25	2.15	19.81	95.719	Horizontal	Pass
		710	4.42	1.91	19.26	2.15	19.62	91.622	Horizontal	Pass
		711	4.66	1.92	19.32	2.15	19.91	97.949	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.9 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	-3.26	3.12	27.58	21.20	131.826	Horizontal	Pass
		1882,5	-3.17	3.27	27.61	21.17	130.918	Horizontal	Pass
		1914.3	-3.33	3.29	27.63	21.01	126.183	Horizontal	Pass
3.0MHz Band QPSK	15/0	1851.5	-3.49	3.13	27.61	20.99	125.603	Horizontal	Pass
		1882,5	-3.38	3.27	27.61	20.96	124.738	Horizontal	Pass
		1913.5	-3.46	3.30	27.62	20.86	121.899	Horizontal	Pass
5.0MHz Band QPSK	25/0	1852.5	-3.22	3.13	27.63	21.28	134.276	Horizontal	Pass
		1882,5	-3.12	3.27	27.61	21.22	132.434	Horizontal	Pass
		1912.5	-3.23	3.30	27.60	21.07	127.938	Horizontal	Pass
10.0MHz Band QPSK	50/0	1855	-3.17	3.15	27.64	21.32	135.519	Horizontal	Pass
		1882,5	-2.99	3.31	27.61	21.31	135.207	Horizontal	Pass
		1910	-3.05	3.33	27.59	21.21	132.130	Horizontal	Pass
15.0MHz Band QPSK	75/0	1857.5	-4.54	3.15	27.65	19.96	99.083	Horizontal	Pass
		1882,5	-4.37	3.31	27.61	19.93	98.401	Horizontal	Pass
		1907.5	-4.51	3.33	27.57	19.73	93.972	Horizontal	Pass
20.0MHz Band QPSK	100/0	1860	-4.72	3.17	27.66	19.77	94.842	Horizontal	Pass
		1882,5	-2.96	3.32	27.61	21.33	135.831	Horizontal	Pass
		1905	-2.77	3.36	27.56	21.43	138.995	Horizontal	Pass
1.4MHz Band QPSK	6/0	1850.7	-4.29	3.12	27.58	20.17	103.992	Vertical	Pass
		1882,5	-4.03	3.27	27.61	20.31	107.399	Vertical	Pass
		1914.3	-4.17	3.29	27.63	20.17	103.992	Vertical	Pass
3.0MHz Band QPSK	15/0	1851.5	-4.07	3.13	27.61	20.41	109.901	Vertical	Pass
		1882,5	-4.31	3.27	27.61	20.03	100.693	Vertical	Pass
		1913.5	-4.30	3.30	27.62	20.02	100.462	Vertical	Pass
5.0MHz Band QPSK	25/0	1852.5	-4.08	3.13	27.63	20.42	110.154	Vertical	Pass
		1882,5	-4.63	3.27	27.61	19.71	93.541	Vertical	Pass
		1912.5	-3.94	3.30	27.60	20.36	108.643	Vertical	Pass
10.0MHz Band QPSK	50/0	1855	-4.63	3.15	27.64	19.86	96.828	Vertical	Pass
		1882,5	-4.09	3.31	27.61	20.21	104.954	Vertical	Pass
		1910	-4.35	3.33	27.59	19.91	97.949	Vertical	Pass
15.0MHz	75/0	1857.5	-4.86	3.15	27.65	19.64	92.045	Vertical	Pass

Band QPSK		1882,5	-4.17	3.31	27.61	20.13	103.039	Vertical	Pass
		1907.5	-3.91	3.33	27.57	20.33	107.895	Vertical	Pass
20.0MHz Band QPSK	100/0	1860	-4.65	3.17	27.66	19.84	96.383	Vertical	Pass
		1882,5	-3.99	3.32	27.61	20.30	107.152	Vertical	Pass
		1905	-4.57	3.36	27.56	19.63	91.833	Vertical	Pass

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1850.7	-3.08	3.12	27.58	21.38	137.404	Horizontal	Pass
		1882.5	-2.99	3.27	27.61	21.35	136.458	Horizontal	Pass
		1914.3	-3.15	3.29	27.63	21.19	131.522	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-3.31	3.13	27.61	21.17	130.918	Horizontal	Pass
		1882.5	-3.20	3.27	27.61	21.14	130.017	Horizontal	Pass
		1913.5	-3.28	3.30	27.62	21.04	127.057	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-3.04	3.13	27.63	21.46	139.959	Horizontal	Pass
		1882.5	-2.94	3.27	27.61	21.40	138.038	Horizontal	Pass
		1912.5	-3.05	3.30	27.60	21.25	133.352	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1855	-2.99	3.15	27.64	21.50	141.254	Horizontal	Pass
		1882.5	-2.81	3.31	27.61	21.49	140.929	Horizontal	Pass
		1910	-2.68	3.33	27.59	21.58	143.880	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-4.04	3.15	27.65	20.46	111.173	Horizontal	Pass
		1882.5	-4.28	3.31	27.61	20.02	100.462	Horizontal	Pass
		1907.5	-4.24	3.33	27.57	20.00	100.000	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1860	-2.87	3.17	27.66	21.62	145.211	Horizontal	Pass
		1882.5	-3.75	3.32	27.61	20.54	113.240	Horizontal	Pass
		1905	-4.42	3.36	27.56	19.78	95.060	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-4.41	3.12	27.58	20.05	101.158	Vertical	Pass
		1882.5	-3.96	3.27	27.61	20.38	109.144	Vertical	Pass
		1914.3	-4.62	3.29	27.63	19.72	93.756	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-4.43	3.13	27.61	20.05	101.158	Vertical	Pass
		1882.5	-4.31	3.27	27.61	20.03	100.693	Vertical	Pass
		1913.5	-4.27	3.30	27.62	20.05	101.158	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1852.5	-4.25	3.13	27.63	20.25	105.925	Vertical	Pass
		1882.5	-4.56	3.27	27.61	19.78	95.060	Vertical	Pass
		1912.5	-3.80	3.30	27.60	20.50	112.202	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1855	-4.55	3.15	27.64	19.94	98.628	Vertical	Pass
		1882.5	-3.87	3.31	27.61	20.43	110.408	Vertical	Pass
		1910	-3.68	3.33	27.59	20.58	114.288	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-4.03	3.15	27.65	20.47	111.429	Vertical	Pass
		1882.5	-3.82	3.31	27.61	20.48	111.686	Vertical	Pass
		1907.5	-4.32	3.33	27.57	19.92	98.175	Vertical	Pass

20.0MHz	100/0	1860	-4.36	3.17	27.66	20.13	103.039	Vertical	Pass
Band 16		1882,5	-3.94	3.32	27.61	20.35	108.393	Vertical	Pass
QAM		1905	-3.93	3.36	27.56	20.27	106.414	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)

8.10 LTE BAND 26 A

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	814.7	-0.81	3.76	28.24	2.15	21.52	141.91	Horizontal	Pass
		819	-0.67	3.91	28.22	2.15	21.49	140.93	Horizontal	Pass
		823.3	-0.79	3.93	28.20	2.15	21.33	135.83	Horizontal	Pass
3.0MHz BW QPSK	15/0	815.5	-1.00	3.77	28.23	2.15	21.31	135.21	Horizontal	Pass
		819	-0.90	3.91	28.24	2.15	21.28	134.28	Horizontal	Pass
		822.5	-0.98	3.94	28.25	2.15	21.18	131.22	Horizontal	Pass
5.0MHz BW QPSK	25/0	816.5	-0.79	3.77	28.31	2.15	21.60	144.54	Horizontal	Pass
		819	-0.62	3.91	28.22	2.15	21.54	142.56	Horizontal	Pass
		821.5	-0.72	3.94	28.20	2.15	21.39	137.72	Horizontal	Pass
10.0MHz BW QPSK	50/0	819	-0.52	3.91	28.22	2.15	21.64	145.88	Horizontal	Pass
1.4MHz BW QPSK	6/0	814.7	-0.77	3.79	28.34	2.15	21.63	145.55	Vertical	Pass
		819	-0.59	3.95	28.22	2.15	21.53	142.23	Vertical	Pass
		823.3	-1.34	3.97	28.18	2.15	20.72	118.03	Vertical	Pass
3.0MHz BW QPSK	15/0	815.5	-2.34	3.77	28.23	2.15	19.97	99.31	Vertical	Pass
		819	-1.98	3.91	28.24	2.15	20.20	104.71	Vertical	Pass
		822.5	-1.98	3.94	28.25	2.15	20.18	104.23	Vertical	Pass
5.0MHz BW QPSK	25/0	816.5	-1.60	3.77	28.31	2.15	20.79	119.95	Vertical	Pass
		819	-1.76	3.91	28.22	2.15	20.40	109.65	Vertical	Pass
		821.5	-1.61	3.94	28.20	2.15	20.50	112.20	Vertical	Pass
10.0MHz BW QPSK	50/0	819	-1.97	3.91	28.22	2.15	20.19	104.47	Vertical	Pass

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW 16 QAM	6/0	814.7	-0.90	3.76	28.24	2.15	21.43	139.00	Horizontal	Pass
		819	-0.76	3.91	28.22	2.15	21.40	138.04	Horizontal	Pass
		823.3	-0.88	3.93	28.20	2.15	21.24	133.05	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	815.5	-1.09	3.77	28.23	2.15	21.22	132.43	Horizontal	Pass
		819	-0.99	3.91	28.24	2.15	21.19	131.52	Horizontal	Pass
		822.5	-1.07	3.94	28.25	2.15	21.09	128.53	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	816.5	-0.88	3.77	28.31	2.15	21.51	141.58	Horizontal	Pass
		819	-0.71	3.91	28.22	2.15	21.45	139.64	Horizontal	Pass
		821.5	-0.81	3.94	28.20	2.15	21.30	134.90	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	819	-0.63	3.91	28.24	2.15	21.55	142.89	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	814.7	-0.86	3.79	28.34	2.15	21.54	142.56	Vertical	Pass
		819	-0.68	3.95	28.22	2.15	21.44	139.32	Vertical	Pass
		823.3	-2.26	3.97	28.18	2.15	19.80	95.50	Vertical	Pass
3.0MHz BW 16 QAM	15/0	815.5	-2.37	3.77	28.23	2.15	19.94	98.63	Vertical	Pass
		819	-1.62	3.91	28.24	2.15	20.56	113.76	Vertical	Pass
		822.5	-1.64	3.94	28.25	2.15	20.52	112.72	Vertical	Pass
5.0MHz BW 16 QAM	25/0	816.5	-1.85	3.77	28.31	2.15	20.54	113.24	Vertical	Pass
		819	-1.73	3.91	28.22	2.15	20.43	110.41	Vertical	Pass
		821.5	-2.24	3.94	28.20	2.15	19.87	97.05	Vertical	Pass
10.0MHz BW 16 QAM	50/0	819	-1.65	3.91	28.24	2.15	20.53	112.98	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)

ERP(dBm)=EIRP-2.15

8.11 LTE BAND 26 B

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	4.80	2.01	19.68	2.15	20.32	107.65	Horizontal	Pass
		836.5	4.74	2.01	19.77	2.15	20.35	108.39	Horizontal	Pass
		848.3	4.68	2.02	19.82	2.15	20.33	107.89	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	4.84	2.01	19.70	2.15	20.38	109.14	Horizontal	Pass
		836.5	4.47	2.01	19.77	2.15	20.08	101.86	Horizontal	Pass
		847.5	4.92	2.02	19.81	2.15	20.56	113.76	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	5.10	2.01	19.71	2.15	20.65	116.14	Horizontal	Pass
		836.5	4.92	2.01	19.77	2.15	20.53	112.98	Horizontal	Pass
		846.5	4.29	2.02	19.79	2.15	19.91	97.95	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	4.31	2.01	19.73	2.15	19.88	97.27	Horizontal	Pass
		836.5	4.43	2.01	19.77	2.15	20.04	100.93	Horizontal	Pass
		844	5.03	2.02	19.78	2.15	20.64	115.88	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	4.12	2.01	19.73	2.15	19.69	93.11	Horizontal	Pass
		836.5	5.05	2.01	19.77	2.15	20.66	116.41	Horizontal	Pass
		841.5	4.78	2.02	19.78	2.15	20.39	109.40	Horizontal	Pass
1.4MHz Band QPSK	6/0	824.7	4.38	2.01	19.68	2.15	19.90	97.72	Vertical	Pass
		836.5	4.32	2.01	19.77	2.15	19.93	98.40	Vertical	Pass
		848.3	4.58	2.02	19.82	2.15	20.23	105.44	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	4.52	2.01	19.70	2.15	20.06	101.39	Vertical	Pass
		836.5	4.14	2.01	19.77	2.15	19.75	94.41	Vertical	Pass
		847.5	4.39	2.02	19.81	2.15	20.03	100.69	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	4.54	2.01	19.71	2.15	20.09	102.09	Vertical	Pass
		836.5	4.29	2.01	19.77	2.15	19.90	97.72	Vertical	Pass
		846.5	4.41	2.02	19.79	2.15	20.03	100.69	Vertical	Pass
10.0MHz Band QPSK	50/0	829	4.18	2.01	19.73	2.15	19.75	94.41	Vertical	Pass
		836.5	4.52	2.01	19.77	2.15	20.13	103.04	Vertical	Pass
		844	4.36	2.02	19.78	2.15	19.97	99.31	Vertical	Pass
15.0MHz Band	75/0	831.5	4.19	2.01	19.73	2.15	19.76	94.62	Vertical	Pass
		836.5	4.94	2.01	19.77	2.15	20.55	113.50	Vertical	Pass

QPSK		841.5	4.54	2.02	19.78	2.15	20.15	103.51	Vertical	Pass
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Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	824.7	5.12	2.01	19.68	2.15	20.64	115.88	Horizontal	Pass
		836.5	4.35	2.01	19.77	2.15	19.96	99.08	Horizontal	Pass
		848.3	4.29	2.02	19.82	2.15	19.94	98.63	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	4.38	2.01	19.70	2.15	19.92	98.17	Horizontal	Pass
		836.5	4.68	2.01	19.77	2.15	20.29	106.91	Horizontal	Pass
		847.5	4.38	2.02	19.81	2.15	20.02	100.46	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	4.54	2.01	19.71	2.15	20.09	102.09	Horizontal	Pass
		836.5	4.51	2.01	19.77	2.15	20.12	102.80	Horizontal	Pass
		846.5	4.35	2.02	19.79	2.15	19.97	99.31	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	4.75	2.01	19.73	2.15	20.32	107.65	Horizontal	Pass
		836.5	5.07	2.01	19.77	2.15	20.68	116.95	Horizontal	Pass
		844	4.31	2.02	19.78	2.15	19.92	98.17	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	5.13	2.01	19.73	2.15	20.70	117.49	Horizontal	Pass
		836.5	4.31	2.01	19.77	2.15	19.92	98.17	Horizontal	Pass
		841.5	4.11	2.02	19.78	2.15	19.72	93.76	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	4.63	2.01	19.68	2.15	20.15	103.51	Vertical	Pass
		836.5	5.02	2.01	19.77	2.15	20.63	115.61	Vertical	Pass
		848.3	4.77	2.02	19.82	2.15	20.42	110.15	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	4.57	2.01	19.70	2.15	20.11	102.57	Vertical	Pass
		836.5	4.39	2.01	19.77	2.15	20.00	100.00	Vertical	Pass
		847.5	4.99	2.02	19.81	2.15	20.63	115.61	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	4.26	2.01	19.71	2.15	19.81	95.72	Vertical	Pass
		836.5	4.70	2.01	19.77	2.15	20.31	107.40	Vertical	Pass
		846.5	4.32	2.02	19.79	2.15	19.94	98.63	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	4.73	2.01	19.73	2.15	20.30	107.15	Vertical	Pass
		836.5	4.95	2.01	19.77	2.15	20.56	113.76	Vertical	Pass
		844	4.33	2.02	19.78	2.15	19.94	98.63	Vertical	Pass

15.0MHz	75/0	831.5	4.27	2.01	19.73	2.15	19.84	96.38	Vertical	Pass
Band		836.5	4.20	2.01	19.77	2.15	19.81	95.72	Vertical	Pass
QPSK		841.5	4.46	2.02	19.78	2.15	20.07	101.62	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)

ERP(dBm)=EIRP-2.15

8.12 LTE BAND 38

Radiated Power (EIRP) for Band 38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	2572.5	-2.12	4.95	27.79	19.71	93.541	Vertical	Pass
		2595	-2.64	4.88	27.71	20.17	103.992	Vertical	Pass
		2617.5	-2.58	4.93	27.95	19.89	97.499	Vertical	Pass
5.0MHz Band 16 QAM	25/0	2572.5	-2.37	4.81	27.73	19.70	93.325	Vertical	Pass
		2595	-2.47	4.95	27.81	20.19	104.472	Vertical	Pass
		2617.5	-2.59	5.03	27.69	20.44	110.662	Vertical	Pass
10.0MHz Band QPSK	50/0	2575	-2.98	5.01	27.86	20.23	105.439	Vertical	Pass
		2595	-2.6	5	27.65	19.71	93.541	Vertical	Pass
		2615	-2.67	4.87	27.89	20.09	102.094	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2575	-2.71	4.77	27.78	20.64	115.878	Vertical	Pass
		2595	-2.38	4.87	27.87	20.09	102.094	Vertical	Pass
		2615	-2.56	4.94	27.77	20.18	104.232	Vertical	Pass
15.0MHz Band QPSK	75/0	2577.5	-2.9	4.89	27.88	20.23	105.439	Vertical	Pass
		2595	-2.32	4.87	27.84	20.67	116.681	Vertical	Pass
		2612.5	-2.52	4.92	27.93	20.65	116.145	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2577.5	-2.53	4.75	27.78	20.12	102.802	Vertical	Pass
		2595	-2.53	4.98	27.82	20.27	106.414	Vertical	Pass
		2612.5	-2.6	4.95	27.83	20.53	112.980	Vertical	Pass
20.0MHz Band QPSK	100/0	2580	-2.53	4.86	27.8	20.61	115.080	Vertical	Pass
		2595	-2.37	4.79	27.83	21.29	134.586	Vertical	Pass
		2610	-2.68	4.89	27.87	20.65	116.145	Vertical	Pass
20.0MHz Band 16 QAM	100/0	2580	-2.87	4.95	27.73	20.56	113.763	Vertical	Pass
		2595	-2.88	4.91	27.71	19.85	96.605	Vertical	Pass
		2610	-2.81	4.96	27.92	20.45	110.917	Vertical	Pass

Radiated Power (EIRP) for Band 38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	2572.5	-2.12	4.95	27.79	19.62	91.622	Horizontal	Pass
		2595	-2.64	4.88	27.71	19.97	99.312	Horizontal	Pass
		2617.5	-2.58	4.93	27.95	19.63	91.833	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2572.5	-2.37	4.81	27.73	20.11	102.565	Horizontal	Pass
		2595	-2.47	4.95	27.81	19.93	98.401	Horizontal	Pass
		2617.5	-2.59	5.03	27.69	19.20	83.176	Horizontal	Pass
10.0MHz Band QPSK	50/0	2575	-2.98	5.01	27.86	19.52	89.536	Horizontal	Pass
		2595	-2.6	5	27.65	19.65	92.257	Horizontal	Pass
		2615	-2.67	4.87	27.89	19.87	97.051	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2575	-2.71	4.77	27.78	19.48	88.716	Horizontal	Pass
		2595	-2.38	4.87	27.87	20.16	103.753	Horizontal	Pass
		2615	-2.56	4.94	27.77	19.18	82.794	Horizontal	Pass
15.0MHz Band QPSK	75/0	2577.5	-2.9	4.89	27.88	19.60	91.201	Horizontal	Pass
		2595	-2.32	4.87	27.84	19.25	84.140	Horizontal	Pass
		2612.5	-2.52	4.92	27.93	19.57	90.573	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2577.5	-2.53	4.75	27.78	19.44	87.902	Horizontal	Pass
		2595	-2.53	4.98	27.82	19.71	93.541	Horizontal	Pass
		2612.5	-2.6	4.95	27.83	20.01	100.231	Horizontal	Pass
20.0MHz Band QPSK	100/0	2580	-2.53	4.86	27.8	19.88	97.275	Horizontal	Pass
		2595	-2.37	4.79	27.83	20.77	119.399	Horizontal	Pass
		2610	-2.68	4.89	27.87	19.38	86.696	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2580	-2.87	4.95	27.73	20.86	121.899	Horizontal	Pass
		2595	-2.88	4.91	27.71	19.33	85.704	Horizontal	Pass
		2610	-2.81	4.96	27.92	19.86	96.828	Horizontal	Pass

Note:

SG Level= Signal generator output

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

8.13 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	2498.5	-2.08	4.54	27.75	21.13	129.718	Horizontal	Pass
		2593	-1.93	4.69	27.72	21.10	128.825	Horizontal	Pass
		2687.5	-1.81	4.71	27.71	21.19	131.522	Horizontal	Pass
10.0MHz Band QPSK	50/0	2501	-2.16	4.55	27.76	21.05	127.350	Horizontal	Pass
		2593	-2.02	4.69	27.72	21.01	126.183	Horizontal	Pass
		2685	-2.01	4.72	27.70	20.97	125.026	Horizontal	Pass
15.0MHz Band QPSK	75/0	2503.5	-1.99	4.55	27.77	21.23	132.739	Horizontal	Pass
		2593	-1.71	4.69	27.72	21.32	135.519	Horizontal	Pass
		2682.5	-1.76	4.72	27.69	21.21	132.130	Horizontal	Pass
20.0MHz Band QPSK	100/0	2506	-1.60	4.57	27.78	21.61	144.877	Horizontal	Pass
		2593	-1.65	4.73	27.72	21.34	136.144	Horizontal	Pass
		2680	-1.65	4.75	27.68	21.28	134.276	Horizontal	Pass
5.0MHz Band QPSK	25/0	2498.5	-1.88	4.54	27.75	21.33	135.831	Vertical	Pass
		2593	-1.79	4.69	27.72	21.24	133.045	Vertical	Pass
		2687.5	-1.77	4.71	27.71	21.23	132.739	Vertical	Pass
10.0MHz Band QPSK	50/0	2501	-1.86	4.55	27.76	21.35	136.458	Vertical	Pass
		2593	-1.70	4.69	27.72	21.33	135.831	Vertical	Pass
		2685	-1.77	4.72	27.70	21.21	132.130	Vertical	Pass
15.0MHz Band QPSK	75/0	2503.5	-2.87	4.55	27.77	20.35	108.393	Vertical	Pass
		2593	-2.91	4.69	27.72	20.12	102.802	Vertical	Pass
		2682.5	-3.21	4.72	27.69	19.76	94.624	Vertical	Pass
20.0MHz Band QPSK	100/0	2506	-3.29	4.57	27.78	19.92	98.175	Vertical	Pass
		2593	-3.38	4.73	27.72	19.61	91.411	Vertical	Pass
		2680	-3.09	4.75	27.68	19.84	96.383	Vertical	Pass

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	25/0	2498.5	-2.11	4.54	27.75	21.10	128.825	Horizontal	Pass
		2593	-1.96	4.69	27.72	21.07	127.938	Horizontal	Pass
		2687.5	-1.84	4.71	27.71	21.16	130.617	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2501	-2.19	4.55	27.76	21.02	126.474	Horizontal	Pass
		2593	-2.05	4.69	27.72	20.98	125.314	Horizontal	Pass
		2685	-2.04	4.72	27.70	20.94	124.165	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2503.5	-2.02	4.55	27.77	21.20	131.826	Horizontal	Pass
		2593	-1.74	4.69	27.72	21.29	134.586	Horizontal	Pass
		2682.5	-1.79	4.72	27.69	21.18	131.220	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2506	-1.74	4.57	27.78	21.47	140.281	Horizontal	Pass
		2593	-1.68	4.73	27.72	21.31	135.207	Horizontal	Pass
		2680	-1.68	4.75	27.68	21.25	133.352	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2498.5	-1.91	4.54	27.75	21.30	134.896	Vertical	Pass
		2593	-1.82	4.69	27.72	21.21	132.130	Vertical	Pass
		2687.5	-1.80	4.71	27.71	21.20	131.826	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2501	-1.89	4.55	27.76	21.32	135.519	Vertical	Pass
		2593	-1.73	4.69	27.72	21.30	134.896	Vertical	Pass
		2685	-1.80	4.72	27.70	21.18	131.220	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2503.5	-3.35	4.55	27.77	19.87	97.051	Vertical	Pass
		2593	-2.75	4.69	27.72	20.28	106.660	Vertical	Pass
		2682.5	-2.99	4.72	27.69	19.98	99.541	Vertical	Pass
20.0MHz Band 16 QAM	100/0	2506	-3.44	4.57	27.78	19.77	94.842	Vertical	Pass
		2593	-3.11	4.73	27.72	19.88	97.275	Vertical	Pass
		2680	-2.90	4.75	27.68	20.03	100.693	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)

8.14 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-3.38	3.76	28.24	21.10	128.825	Horizontal	Pass
		1745	-3.24	3.91	28.22	21.07	127.938	Horizontal	Pass
		1779.3	-3.11	3.93	28.2	21.16	130.617	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	-3.44	3.77	28.23	21.02	126.474	Horizontal	Pass
		1745	-3.35	3.91	28.24	20.98	125.314	Horizontal	Pass
		1778.5	-3.37	3.94	28.25	20.94	124.165	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	-3.34	3.77	28.31	21.20	131.826	Horizontal	Pass
		1745	-3.02	3.91	28.22	21.29	134.586	Horizontal	Pass
		1777.5	-3.08	3.94	28.2	21.18	131.220	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	-3.23	3.79	28.33	21.31	135.207	Horizontal	Pass
		1745	-2.96	3.95	28.22	21.31	135.207	Horizontal	Pass
		1775	-2.97	3.97	28.19	21.25	133.352	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	-3.25	3.79	28.34	21.30	134.896	Horizontal	Pass
		1745	-3.06	3.95	28.22	21.21	132.130	Horizontal	Pass
		1772.5	-3.01	3.97	28.18	21.20	131.826	Horizontal	Pass
20.0MHz Band QPSK	100/0	1720	-3.22	3.81	28.35	21.32	135.519	Horizontal	Pass
		1745	-2.96	3.96	28.22	21.30	134.896	Horizontal	Pass
		1770	-2.98	4	28.16	21.18	131.220	Horizontal	Pass
1.4MHz Band QPSK	6/0	1710.7	-4.64	3.76	28.24	19.84	96.383	Vertical	Pass
		1745	-4.39	3.91	28.22	19.92	98.175	Vertical	Pass
		1779.3	-4.35	3.93	28.2	19.92	98.175	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-4.45	3.77	28.23	20.01	100.231	Vertical	Pass
		1745	-3.75	3.91	28.24	20.58	114.288	Vertical	Pass
		1778.5	-4.12	3.94	28.25	20.19	104.472	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-4.56	3.77	28.31	19.98	99.541	Vertical	Pass
		1745	-3.97	3.91	28.22	20.34	108.143	Vertical	Pass
		1777.5	-4.03	3.94	28.2	20.23	105.439	Vertical	Pass
10.0MHz Band QPSK	50/0	1715	-4.38	3.79	28.34	20.17	103.992	Vertical	Pass
		1745	-3.98	3.95	28.22	20.29	106.905	Vertical	Pass
		1775	-3.67	3.97	28.18	20.54	113.240	Vertical	Pass

15.0MHz	75/0	1717.5	-4.14	3.81	28.35	20.40	109.648	Vertical	Pass
Band		1745	-4.61	3.96	28.22	19.65	92.257	Vertical	Pass
QPSK		1772.5	-4.34	4	28.16	19.82	95.940	Vertical	Pass
20.0MHz	100/0	1720	-4.63	3.79	28.34	19.92	98.175	Vertical	Pass
Band		1745	-3.84	3.95	28.22	20.43	110.408	Vertical	Pass
QPSK		1770	-4.58	3.97	28.18	19.63	91.833	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1710.7	-4.30	3.76	28.24	20.18	104.232	Horizontal	Pass
		1745	-3.91	3.91	28.22	20.40	109.648	Horizontal	Pass
		1779.3	-4.09	3.93	28.2	20.18	104.232	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-4.69	3.77	28.23	19.77	94.842	Horizontal	Pass
		1745	-3.94	3.91	28.24	20.39	109.396	Horizontal	Pass
		1778.5	-4.23	3.94	28.25	20.08	101.859	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-4.11	3.77	28.31	20.43	110.408	Horizontal	Pass
		1745	-4.17	3.91	28.22	20.14	103.276	Horizontal	Pass
		1777.5	-3.84	3.94	28.2	20.42	110.154	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	-4.16	3.79	28.33	20.38	109.144	Horizontal	Pass
		1745	-3.82	3.95	28.22	20.45	110.917	Horizontal	Pass
		1775	-4.14	3.97	28.19	20.08	101.859	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-4.15	3.79	28.34	20.40	109.648	Horizontal	Pass
		1745	-3.97	3.95	28.22	20.30	107.152	Horizontal	Pass
		1772.5	-3.76	3.97	28.18	20.45	110.917	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	-3.98	3.81	28.35	20.56	113.763	Horizontal	Pass
		1745	-3.76	3.96	28.22	20.50	112.202	Horizontal	Pass
		1770	-3.70	4	28.16	20.46	111.173	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-4.38	3.76	28.24	20.10	102.329	Vertical	Pass
		1745	-5.73	3.91	28.22	18.58	72.111	Vertical	Pass
		1779.3	-4.13	3.93	28.2	20.14	103.276	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-5.77	3.77	28.23	18.69	73.961	Vertical	Pass
		1745	-4.22	3.91	28.24	20.11	102.565	Vertical	Pass
		1778.5	-5.82	3.94	28.25	18.49	70.632	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-5.51	3.77	28.31	19.03	79.983	Vertical	Pass
		1745	-5.69	3.91	28.22	18.62	72.778	Vertical	Pass
		1777.5	-5.38	3.94	28.2	18.88	77.268	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1715	-4.17	3.79	28.34	20.38	109.144	Vertical	Pass
		1745	-4.63	3.95	28.22	19.64	92.045	Vertical	Pass
		1775	-5.68	3.97	28.18	18.53	71.285	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-6.02	3.81	28.35	18.52	71.121	Vertical	Pass
		1745	-4.01	3.96	28.22	20.25	105.925	Vertical	Pass
		1772.5	-4.30	4	28.16	19.86	96.828	Vertical	Pass

20.0MHz	100/0	1720	-5.71	3.79	28.34	18.84	76.560	Vertical	Pass
Band 16		1745	-5.08	3.95	28.22	19.19	82.985	Vertical	Pass
QAM		1770	-3.99	3.97	28.18	20.22	105.196	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: §2.1053, §22.917, §24.238, §27.53 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.

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

Band 2/4/5/7/12/13/17/25/26/38/41/66

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-48.79	4.04	33.51	-19.32	-13	-6.32	Horizontal
3701.4	-46.34	4.04	33.51	-16.87	-13	-3.87	Vertical
5552.1	-46.63	5.24	35.84	-16.03	-13	-3.03	Vertical
5552.1	-49.02	5.24	35.84	-18.42	-13	-5.42	Horizontal
189.5	-37.13	1.43	16.02	-22.54	-13	-9.54	Vertical
380.1	-39.73	1.30	17.99	-23.04	-13	-10.04	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.14	4.04	33.56	-17.62	-13	-4.62	Horizontal
3760.0	-47.05	4.04	33.56	-17.53	-13	-4.53	Vertical
5640.0	-48.33	5.24	35.91	-17.66	-13	-4.66	Vertical
5640.0	-51.02	5.24	35.91	-20.35	-13	-7.35	Horizontal
198.2	-37.24	1.62	16.97	-21.89	-13	-8.89	Vertical
397.8	-43.37	1.74	15.98	-29.14	-13	-16.14	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-50.75	4.04	34.00	-20.79	-13	-7.79	Horizontal
3818.6	-49.59	4.04	34.00	-19.63	-13	-6.63	Vertical
5727.9	-52.28	5.24	36.04	-21.48	-13	-8.48	Vertical
5727.9	-52.26	5.24	36.04	-21.46	-13	-8.46	Horizontal
199.5	-36.16	1.42	17.29	-20.29	-13	-7.29	Vertical
333.1	-36.64	1.50	17.90	-20.23	-13	-7.23	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	-51.10	4.07	33.54	-21.63	-13	-8.63	Horizontal
3720.0	-49.37	4.07	33.54	-19.90	-13	-6.90	Vertical
5580.0	-49.24	5.28	35.86	-18.66	-13	-5.66	Vertical
5580.0	-52.81	5.28	35.86	-22.23	-13	-9.23	Horizontal
182.2	-42.91	1.58	16.89	-27.59	-13	-14.59	Vertical
262.8	-44.36	1.76	17.26	-28.86	-13	-15.86	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-46.56	4.04	33.56	-17.04	-13	-4.04	Horizontal
3760.0	-49.61	4.04	33.56	-20.09	-13	-7.09	Vertical
5640.0	-47.12	5.24	35.91	-16.45	-13	-3.45	Vertical
5640.0	-52.40	5.24	35.91	-21.73	-13	-8.73	Horizontal
197.4	-44.96	1.46	16.27	-30.15	-13	-17.15	Vertical
331.6	-36.33	1.59	15.15	-22.77	-13	-9.77	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-47.43	4.04	34.00	-17.47	-13	-4.47	Horizontal
3800.0	-49.13	4.04	34.00	-19.17	-13	-6.17	Vertical
5700.0	-53.02	5.24	36.04	-22.22	-13	-9.22	Vertical
5700.0	-52.19	5.24	36.04	-21.39	-13	-8.39	Horizontal
212.4	-35.66	1.36	17.39	-19.62	-13	-6.62	Vertical
286.5	-35.26	1.66	15.39	-21.53	-13	-8.53	Horizontal

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

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

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

9.2 LTE BAND 4

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-45.06	4.02	29.80	-19.28	-13	-6.28	Horizontal
3421.4	-48.77	4.02	29.80	-22.99	-13	-9.99	Vertical
5132.1	-53.78	5.24	35.84	-23.18	-13	-10.18	Vertical
5132.1	-53.66	5.24	35.84	-23.06	-13	-10.06	Horizontal
189.7	-42.59	1.68	16.04	-28.23	-13	-15.23	Vertical
237.8	-38.74	1.78	17.74	-22.78	-13	-9.78	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-49.22	4.03	30.00	-23.25	-13	-10.25	Horizontal
3465.0	-47.89	4.03	30.00	-21.92	-13	-8.92	Vertical
5197.5	-52.52	5.25	35.86	-21.91	-13	-8.91	Vertical
5197.5	-49.20	5.25	35.86	-18.59	-13	-5.59	Horizontal
202.8	-43.28	1.72	17.69	-27.31	-13	-14.31	Vertical
341.2	-42.56	1.62	16.02	-28.15	-13	-15.15	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-49.44	4.05	30.01	-23.48	-13	-10.48	Horizontal
3508.6	-46.77	4.05	30.01	-20.81	-13	-7.81	Vertical
5262.9	-49.44	5.26	35.86	-18.84	-13	-5.84	Vertical
5262.9	-52.97	5.26	35.86	-22.37	-13	-9.37	Horizontal
179.1	-41.05	1.80	16.69	-26.16	-13	-13.16	Vertical
342.1	-44.62	1.75	16.66	-29.72	-13	-16.72	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	-46.55	4.02	29.80	-20.77	-13	-7.77	Horizontal
3440.0	-52.21	4.02	29.80	-26.43	-13	-13.43	Vertical
5160.0	-49.21	5.24	35.84	-18.61	-13	-5.61	Vertical
5160.0	-53.92	5.24	35.84	-23.32	-13	-10.32	Horizontal
194.2	-39.47	1.57	17.26	-23.78	-13	-10.78	Vertical
393.3	-42.92	1.78	16.35	-28.35	-13	-15.35	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-50.53	4.03	30.00	-24.56	-13	-11.56	Horizontal
3465.0	-52.00	4.03	30.00	-26.03	-13	-13.03	Vertical
5197.5	-46.08	5.25	35.86	-15.47	-13	-2.47	Vertical
5197.5	-53.38	5.25	35.86	-22.77	-13	-9.77	Horizontal
195.2	-36.14	1.44	17.95	-19.63	-13	-6.63	Vertical
456.1	-38.37	1.65	16.09	-23.93	-13	-10.93	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-45.15	2.91	27.68	-20.38	-13	-7.38	Horizontal
3490.0	-47.70	2.91	27.68	-22.93	-13	-9.93	Vertical
5235.0	-47.80	5.26	35.86	-17.20	-13	-4.20	Vertical
5235.0	-51.66	5.26	35.86	-21.06	-13	-8.06	Horizontal
206.9	-36.84	1.61	16.85	-21.60	-13	-8.60	Vertical
242.6	-34.35	1.61	15.19	-20.77	-13	-7.77	Horizontal

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

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

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

9.3 LTE BAND 5

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-50.33	2.78	27.50	-25.61	-13	-12.61	Horizontal
1649.4	-47.02	2.78	27.50	-22.30	-13	-9.30	Vertical
2474.1	-46.02	2.90	27.80	-21.12	-13	-8.12	Vertical
2474.1	-51.07	2.90	27.80	-26.17	-13	-13.17	Horizontal
207.5	-39.30	1.76	17.59	-23.47	-13	-10.47	Vertical
331.1	-44.42	1.63	15.87	-30.18	-13	-17.18	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-45.79	2.80	27.48	-21.11	-13	-8.11	Horizontal
1673.0	-53.09	2.80	27.48	-28.41	-13	-15.41	Vertical
2509.5	-46.03	2.91	27.70	-21.24	-13	-8.24	Vertical
2509.5	-52.77	2.91	27.70	-27.98	-13	-14.98	Horizontal
196.5	-44.90	1.61	15.68	-30.83	-13	-17.83	Vertical
310.8	-40.58	1.59	17.52	-24.66	-13	-11.66	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-47.19	2.82	27.43	-22.58	-13	-9.58	Horizontal
1696.6	-45.67	2.82	27.43	-21.06	-13	-8.06	Vertical
2544.9	-51.34	2.92	27.74	-26.52	-13	-13.52	Vertical
2544.9	-49.28	2.92	27.74	-24.46	-13	-11.46	Horizontal
202.4	-41.90	1.69	16.67	-26.91	-13	-13.91	Vertical
374.8	-37.94	1.70	17.18	-22.46	-13	-9.46	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	-52.21	2.78	27.50	-27.49	-13	-14.49	Horizontal
1658.0	-49.39	2.78	27.50	-24.67	-13	-11.67	Vertical
2487.0	-47.33	2.90	27.80	-22.43	-13	-9.43	Vertical
2487.0	-52.40	2.90	27.80	-27.50	-13	-14.50	Horizontal
191.1	-37.04	1.71	15.57	-23.18	-13	-10.18	Vertical
436.0	-43.39	1.34	16.40	-28.33	-13	-15.33	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-45.53	2.80	27.48	-20.85	-13	-7.85	Horizontal
1673.0	-49.85	2.80	27.48	-25.17	-13	-12.17	Vertical
2509.5	-50.35	2.91	27.70	-25.56	-13	-12.56	Vertical
2509.5	-52.19	2.91	27.70	-27.40	-13	-14.40	Horizontal
182.3	-37.68	1.44	17.04	-22.08	-13	-9.08	Vertical
411.7	-41.20	1.76	17.62	-25.34	-13	-12.34	Horizontal
Test Results for High Channel 844MHz							
1688.0	-51.38	2.82	27.43	-26.77	-13	-13.77	Horizontal
1688.0	-49.99	2.82	27.43	-25.38	-13	-12.38	Vertical
2532.0	-49.05	2.92	27.74	-24.23	-13	-11.23	Vertical
2532.0	-49.07	2.92	27.74	-24.25	-13	-11.25	Horizontal
211.7	-37.87	1.74	17.70	-21.91	-13	-8.91	Vertical
455.7	-44.70	1.41	17.46	-28.64	-13	-15.64	Horizontal

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

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

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

9.4 LTE BAND 7

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

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-63.18	5.23	35.81	-32.60	-25	-7.60	Horizontal
5005.0	-62.58	5.23	35.81	-32.00	-25	-7.00	Vertical
7507.5	-63.01	5.67	36.85	-31.83	-25	-6.83	Vertical
7507.5	-64.16	5.67	36.85	-32.98	-25	-7.98	Horizontal
191.5	-53.55	1.73	17.97	-37.31	-25	-12.31	Vertical
446.8	-50.45	1.38	15.11	-36.72	-25	-11.72	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.46	5.23	35.82	-30.87	-25	-5.87	Horizontal
5070.0	-60.93	5.23	35.82	-30.34	-25	-5.34	Vertical
7605.0	-64.06	5.67	36.85	-32.88	-25	-7.88	Vertical
7605.0	-60.21	5.67	36.85	-29.03	-25	-4.03	Horizontal
205.6	-48.82	1.77	16.17	-34.41	-25	-9.41	Vertical
255.1	-52.85	1.63	15.21	-39.27	-25	-14.27	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-59.45	5.24	35.83	-28.86	-25	-3.86	Horizontal
5135.0	-60.23	5.24	35.83	-29.64	-25	-4.64	Vertical
7702.5	-60.63	5.68	36.87	-29.44	-25	-4.44	Vertical
7702.5	-64.62	5.68	36.87	-33.43	-25	-8.43	Horizontal
206.3	-51.28	1.58	17.56	-35.30	-25	-10.30	Vertical
325.9	-44.48	1.45	16.58	-29.35	-25	-4.35	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	-64.38	5.23	35.82	-33.79	-25	-8.79	Horizontal
5020.0	-60.67	5.23	35.82	-30.08	-25	-5.08	Vertical
7530.0	-59.26	5.67	36.86	-28.07	-25	-3.07	Vertical
7530.0	-59.82	5.67	36.86	-28.63	-25	-3.63	Horizontal
201.4	-48.16	1.63	15.76	-34.03	-25	-9.03	Vertical
464.8	-44.21	1.71	15.44	-30.48	-25	-5.48	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-62.79	5.23	35.82	-32.20	-25	-7.20	Horizontal
5070.0	-59.20	5.23	35.82	-28.61	-25	-3.61	Vertical
7605.0	-63.65	5.67	36.85	-32.47	-25	-7.47	Vertical
7605.0	-63.43	5.67	36.85	-32.25	-25	-7.25	Horizontal
178.6	-54.53	1.79	16.84	-39.47	-25	-14.47	Vertical
233.2	-54.29	1.71	17.64	-38.36	-25	-13.36	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-63.20	5.24	35.83	-32.61	-25	-7.61	Horizontal
5120.0	-62.39	5.24	35.83	-31.80	-25	-6.80	Vertical
7680.0	-61.38	5.70	36.88	-30.20	-25	-5.20	Vertical
7680.0	-60.52	5.70	36.88	-29.34	-25	-4.34	Horizontal
184.5	-47.57	1.79	16.84	-32.51	-25	-7.51	Vertical
262.4	-46.89	1.71	17.64	-30.96	-25	-5.96	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.5 LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-48.05	2.60	27.20	-23.45	-13	-10.45	Horizontal
1399.4	-49.78	2.60	27.20	-25.18	-13	-12.18	Vertical
2099.1	-50.47	2.85	27.54	-25.78	-13	-12.78	Vertical
2099.1	-51.37	2.85	27.54	-26.68	-13	-13.68	Horizontal
179.2	-40.73	1.49	17.78	-24.44	-13	-11.44	Vertical
274.1	-39.82	1.36	17.33	-23.85	-13	-10.85	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-52.21	2.61	27.28	-27.54	-13	-14.54	Horizontal
1415.0	-47.62	2.61	27.28	-22.95	-13	-9.95	Vertical
2122.5	-53.38	2.87	27.59	-28.66	-13	-15.66	Vertical
2122.5	-50.48	2.87	27.59	-25.76	-13	-12.76	Horizontal
184.3	-39.63	1.73	15.74	-25.62	-13	-12.62	Vertical
245.7	-36.69	1.62	15.79	-22.52	-13	-9.52	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-53.77	2.63	27.28	-29.12	-13	-16.12	Horizontal
1430.6	-48.74	2.63	27.28	-24.09	-13	-11.09	Vertical
2145.9	-48.08	2.88	27.60	-23.36	-13	-10.36	Vertical
2145.9	-49.23	2.88	27.60	-24.51	-13	-11.51	Horizontal
186.1	-34.22	1.61	18.00	-17.83	-13	-4.83	Vertical
322.9	-36.40	1.45	15.49	-22.37	-13	-9.37	Horizontal

QPSK EIRP POWER FOR LTE BAND 12 (10MHZ BANDWIDTH)

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-50.22	2.61	27.26	-25.57	-13	-12.57	Horizontal
1408.0	-46.73	2.61	27.26	-22.08	-13	-9.08	Vertical
2112.0	-50.10	2.87	27.58	-25.39	-13	-12.39	Vertical
2112.0	-51.08	2.87	27.58	-26.37	-13	-13.37	Horizontal
188.4	-37.17	1.31	16.97	-21.51	-13	-8.51	Vertical
388.7	-43.16	1.65	16.70	-28.11	-13	-15.11	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-48.44	2.61	27.28	-23.77	-13	-10.77	Horizontal
1415.0	-51.87	2.61	27.28	-27.20	-13	-14.20	Vertical
2122.5	-45.10	2.87	27.59	-20.38	-13	-7.38	Vertical
2122.5	-51.25	2.87	27.59	-26.53	-13	-13.53	Horizontal
209.2	-36.36	1.72	17.99	-20.09	-13	-7.09	Vertical
395.5	-43.29	1.73	17.94	-27.08	-13	-14.08	Horizontal
Test Results for High Channel 711MHz							
1422.0	-47.66	2.62	27.28	-23.00	-13	-10.00	Horizontal
1422.0	-44.69	2.62	27.28	-20.03	-13	-7.03	Vertical
2133.0	-52.01	2.87	27.60	-27.28	-13	-14.28	Vertical
2133.0	-49.22	2.87	27.60	-24.49	-13	-11.49	Horizontal
180.4	-38.34	1.58	15.93	-23.99	-13	-10.99	Vertical
469.9	-43.04	1.36	15.59	-28.81	-13	-15.81	Horizontal

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

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

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

9.6 LTE BAND 13

QPSK EIRP POWER FOR LTE BAND 13 (5MHZ BANDWIDTH)

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1559.0	-73.57	2.61	27.28	-48.90	-40	-8.90	Horizontal
1559.0	-72.74	2.61	27.28	-48.07	-40	-8.07	Vertical
2338.5	-41.39	2.87	27.59	-16.67	-13	-3.67	Vertical
2338.5	-40.76	2.87	27.59	-16.04	-13	-3.04	Horizontal
120.1	-38.54	1.54	15.61	-24.47	-13	-11.47	Vertical
197.8	-35.64	1.51	15.21	-21.94	-13	-8.94	Horizontal
Test Results For Mid Channel 782MHz							
1564.0	-71.72	2.62	27.30	-47.04	-40	-7.04	Horizontal
1564.0	-71.61	2.62	27.30	-46.93	-40	-6.93	Vertical
2346.0	-44.54	2.87	27.62	-19.79	-13	-6.79	Vertical
2346.0	-43.37	2.87	27.62	-18.62	-13	-5.62	Horizontal
131.2	-38.77	1.65	16.17	-24.25	-13	-11.25	Vertical
267.5	-39.92	1.48	16.88	-24.52	-13	-11.52	Horizontal
Test Results for High Channel 784.5MHz							
1569.0	-70.57	2.66	27.28	-45.95	-40	-5.95	Horizontal
1569.0	-70.43	2.66	27.28	-45.81	-40	-5.81	Vertical
2353.5	-41.35	2.88	27.60	-16.63	-13	-3.63	Vertical
2353.5	-40.18	2.88	27.60	-15.46	-13	-2.46	Horizontal
80.8	-34.04	1.54	16.40	-19.18	-13	-6.18	Vertical
155.6	-38.56	1.43	15.77	-24.22	-13	-11.22	Horizontal

QPSK EIRP POWER FOR LTE BAND 13 (10MHZ BANDWIDTH)

Test Results for Channel 782MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1564.0	-74.28	2.62	27.30	-49.60	-40	-9.60	Horizontal
1564.0	-69.27	2.62	27.30	-44.59	-40	-4.59	Vertical
2346.0	-43.36	2.87	27.62	-18.61	-13	-5.61	Vertical
2346.0	-44.08	2.87	27.62	-19.33	-13	-6.33	Horizontal
129.1	-35.57	1.43	17.03	-19.97	-13	-6.97	Vertical
86.9	-39.97	1.62	16.63	-24.96	-13	-11.96	Horizontal

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

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

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

9.7 LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (5MHZ BANDWIDTH)

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1413.0	-44.21	2.61	27.28	-19.54	-13	-6.54	Horizontal
1413.0	-52.96	2.61	27.28	-28.29	-13	-15.29	Vertical
2119.5	-51.27	2.87	27.59	-26.55	-13	-13.55	Vertical
2119.5	-49.07	2.87	27.59	-24.35	-13	-11.35	Horizontal
193.8	-38.20	1.71	16.15	-23.76	-13	-10.76	Vertical
363.2	-39.38	1.41	17.32	-23.47	-13	-10.47	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-47.57	2.62	27.30	-22.89	-13	-9.89	Horizontal
1420.0	-47.79	2.62	27.30	-23.11	-13	-10.11	Vertical
2130.0	-46.78	2.87	27.62	-22.03	-13	-9.03	Vertical
2130.0	-50.52	2.87	27.62	-25.77	-13	-12.77	Horizontal
199.9	-40.46	1.42	15.25	-26.64	-13	-13.64	Vertical
303.6	-38.19	1.36	17.19	-22.36	-13	-9.36	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-50.57	2.66	27.28	-25.95	-13	-12.95	Horizontal
1427.0	-53.23	2.66	27.28	-28.61	-13	-15.61	Vertical
2140.5	-46.96	2.88	27.60	-22.24	-13	-9.24	Vertical
2140.5	-51.62	2.88	27.60	-26.90	-13	-13.90	Horizontal
200.2	-35.69	1.32	17.29	-19.72	-13	-6.72	Vertical
342.6	-44.25	1.72	16.89	-29.08	-13	-16.08	Horizontal

QPSK EIRP POWER FOR LTE BAND 17 (10MHZ BANDWIDTH)

Test Results for Low Channel 709MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1418.0	-45.46	2.62	27.30	-20.78	-13	-7.78	Horizontal
1418.0	-52.68	2.62	27.30	-28.00	-13	-15.00	Vertical
2127.0	-50.86	2.87	27.62	-26.11	-13	-13.11	Vertical
2127.0	-52.49	2.87	27.62	-27.74	-13	-14.74	Horizontal
211.9	-42.61	1.35	16.91	-27.05	-13	-14.05	Vertical
431.0	-36.96	1.62	16.31	-22.27	-13	-9.27	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-53.29	2.62	27.30	-28.61	-13	-15.61	Horizontal
1420.0	-50.90	2.62	27.30	-26.22	-13	-13.22	Vertical
2130.0	-47.98	2.87	27.62	-23.23	-13	-10.23	Vertical
2130.0	-51.28	2.87	27.62	-26.53	-13	-13.53	Horizontal
181.4	-39.05	1.51	17.14	-23.42	-13	-10.42	Vertical
299.5	-37.58	1.77	16.88	-22.47	-13	-9.47	Horizontal
Test Results for High Channel 711MHz							
1422.0	-46.75	2.62	27.30	-22.07	-13	-9.07	Horizontal
1422.0	-49.40	2.62	27.30	-24.72	-13	-11.72	Vertical
2133.0	-47.79	2.87	27.62	-23.04	-13	-10.04	Vertical
2133.0	-52.70	2.87	27.62	-27.95	-13	-14.95	Horizontal
196.6	-40.83	1.78	15.95	-26.66	-13	-13.66	Vertical
323.5	-39.08	1.34	17.95	-22.48	-13	-9.48	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.8 LTE BAND 25

QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-47.99	4.02	29.80	-22.21	-13	-9.21	Horizontal
3701.4	-48.73	4.02	29.80	-22.95	-13	-9.95	Vertical
5552.1	-48.85	5.24	35.84	-18.25	-13	-5.25	Vertical
5552.1	-46.21	5.24	35.84	-15.61	-13	-2.61	Horizontal
93.9	-33.05	1.59	15.11	-19.53	-13	-6.53	Vertical
119.7	-32.79	1.80	15.61	-18.98	-13	-5.98	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-47.76	4.03	30.00	-21.79	-13	-8.79	Horizontal
3765.0	-46.19	4.03	30.00	-20.22	-13	-7.22	Vertical
5647.5	-49.73	5.25	35.86	-19.12	-13	-6.12	Vertical
5647.5	-46.89	5.25	35.86	-16.28	-13	-3.28	Horizontal
166.1	-34.25	1.37	15.62	-20.00	-13	-7.00	Vertical
274.4	-34.24	1.55	17.51	-18.28	-13	-5.28	Horizontal
Test Results for High Channel 1754.3MHz							
3828.6	-49.53	4.05	30.01	-23.57	-13	-10.57	Horizontal
3828.6	-47.70	4.05	30.01	-21.74	-13	-8.74	Vertical
5742.9	-48.79	5.26	35.86	-18.19	-13	-5.19	Vertical
5742.9	-46.49	5.26	35.86	-15.89	-13	-2.89	Horizontal
108.6	-34.94	1.66	17.19	-19.41	-13	-6.41	Vertical
138.7	-33.56	1.35	17.94	-16.97	-13	-3.97	Horizontal

QPSK EIRP POWER FOR LTE BAND 25 (20MHZ BANDWIDTH)

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-47.82	4.02	29.80	-22.04	-13	-9.04	Horizontal
3720.0	-49.26	4.02	29.80	-23.48	-13	-10.48	Vertical
5580.0	-48.39	5.24	35.84	-17.79	-13	-4.79	Vertical
5580.0	-47.98	5.24	35.84	-17.38	-13	-4.38	Horizontal
146.2	-34.49	1.70	15.24	-20.95	-13	-7.95	Vertical
215.4	-32.19	1.42	16.58	-17.03	-13	-4.03	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-48.84	4.03	30.00	-22.87	-13	-9.87	Horizontal
3765.0	-42.80	4.03	30.00	-16.83	-13	-3.83	Vertical
5647.5	-48.84	5.25	35.86	-18.23	-13	-5.23	Vertical
5647.5	-48.20	5.25	35.86	-17.59	-13	-4.59	Horizontal
132.2	-32.85	1.64	16.16	-18.33	-13	-5.33	Vertical
133.3	-33.21	1.62	17.37	-17.46	-13	-4.46	Horizontal
Test Results for High Channel 1745MHz							
3810.0	-49.55	2.91	27.68	-24.78	-13	-11.78	Horizontal
3810.0	-49.04	2.91	27.68	-24.27	-13	-11.27	Vertical
5715.0	-48.14	5.26	35.86	-17.54	-13	-4.54	Vertical
5715.0	-47.84	5.26	35.86	-17.24	-13	-4.24	Horizontal
212.6	-34.34	1.49	15.29	-20.54	-13	-7.54	Vertical
275.8	-33.80	1.79	16.42	-19.17	-13	-6.17	Horizontal

9.9 LTE BAND 26 A

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

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-49.76	2.78	27.50	-25.04	-13	-12.04	Horizontal
1629.4	-44.05	2.78	27.50	-19.33	-13	-6.33	Vertical
2444.1	-47.34	2.90	27.80	-22.44	-13	-9.44	Vertical
2444.1	-48.74	2.90	27.80	-23.84	-13	-10.84	Horizontal
229.6	-34.25	1.54	16.98	-18.81	-13	-5.81	Vertical
83.3	-34.96	1.47	15.82	-20.61	-13	-7.61	Horizontal
Test Results for Mid Channel 819MHz							
1638.0	-48.02	2.80	27.48	-23.34	-13	-10.34	Horizontal
1638.0	-43.98	2.80	27.48	-19.30	-13	-6.30	Vertical
2457.0	-46.99	2.91	27.70	-22.20	-13	-9.20	Vertical
2457.0	-46.32	2.91	27.70	-21.53	-13	-8.53	Horizontal
168.2	-34.34	1.74	16.19	-19.89	-13	-6.89	Vertical
92.9	-32.57	1.46	15.43	-18.60	-13	-5.60	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-49.00	2.82	27.43	-24.39	-13	-11.39	Horizontal
1646.6	-44.14	2.82	27.43	-19.53	-13	-6.53	Vertical
2469.9	-46.62	2.92	27.74	-21.80	-13	-8.80	Vertical
2469.9	-48.65	2.92	27.74	-23.83	-13	-10.83	Horizontal
213.1	-33.22	1.67	17.05	-17.84	-13	-4.84	Vertical
121.7	-34.37	1.42	16.12	-19.67	-13	-6.67	Horizontal

QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (10MHZ BANDWIDTH)

Test Results for Mid Channel 819MHz							
1638.0	-49.54	2.78	27.50	-24.82	-13	-11.82	Horizontal
1638.0	-44.29	2.78	27.50	-19.57	-13	-6.57	Vertical
2457.0	-47.59	2.90	27.80	-22.69	-13	-9.69	Vertical
2457.0	-49.84	2.90	27.80	-24.94	-13	-11.94	Horizontal
253.7	-34.69	1.43	17.34	-18.78	-13	-5.78	Vertical
256.8	-32.77	1.56	15.71	-18.62	-13	-5.62	Horizontal

9.10 LTE BAND 26 B

QPSK EIRP POWER FOR LTE BAND 26B(824MHz~849MHz) (1.4MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-47.26	2.78	27.50	-22.54	-13	-9.54	Horizontal
1649.4	-45.68	2.78	27.50	-20.96	-13	-7.96	Vertical
2474.1	-46.98	2.90	27.80	-22.08	-13	-9.08	Vertical
2474.1	-49.66	2.90	27.80	-24.76	-13	-11.76	Horizontal
237.0	-33.15	1.33	17.34	-17.14	-13	-4.14	Vertical
180.5	-34.66	1.47	16.80	-19.33	-13	-6.33	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-47.05	2.80	27.48	-22.37	-13	-9.37	Horizontal
1673.0	-48.84	2.80	27.48	-24.16	-13	-11.16	Vertical
2509.5	-49.68	2.91	27.70	-24.89	-13	-11.89	Vertical
2509.5	-46.18	2.91	27.70	-21.39	-13	-8.39	Horizontal
140.8	-33.88	1.75	15.46	-20.17	-13	-7.17	Vertical
90.6	-34.46	1.52	16.14	-19.84	-13	-6.84	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-48.67	2.82	27.43	-24.06	-13	-11.06	Horizontal
1696.6	-46.28	2.82	27.43	-21.67	-13	-8.67	Vertical
2544.9	-46.75	2.92	27.74	-21.93	-13	-8.93	Vertical
2544.9	-47.08	2.92	27.74	-22.26	-13	-9.26	Horizontal
171.4	-34.09	1.67	16.09	-19.67	-13	-6.67	Vertical
247.2	-32.37	1.80	17.55	-16.62	-13	-3.62	Horizontal

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

Test Results for Low Channel 831.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1663.0	-47.50	2.78	27.50	-22.78	-13	-9.78	Horizontal
1663.0	-46.05	2.78	27.50	-21.33	-13	-8.33	Vertical
2494.5	-48.38	2.90	27.80	-23.48	-13	-10.48	Vertical
2494.5	-46.61	2.90	27.80	-21.71	-13	-8.71	Horizontal
255.4	-33.48	1.52	15.72	-19.28	-13	-6.28	Vertical
163.1	-32.34	1.40	17.03	-16.71	-13	-3.71	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-48.05	2.80	27.48	-23.37	-13	-10.37	Horizontal
1673.0	-46.67	2.80	27.48	-21.99	-13	-8.99	Vertical
2509.5	-46.52	2.91	27.70	-21.73	-13	-8.73	Vertical
2509.5	-48.53	2.91	27.70	-23.74	-13	-10.74	Horizontal
227.1	-34.99	1.74	16.38	-20.35	-13	-7.35	Vertical
101.3	-34.27	1.79	15.20	-20.86	-13	-7.86	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-46.58	2.82	27.43	-21.97	-13	-8.97	Horizontal
1683.0	-45.45	2.82	27.43	-20.84	-13	-7.84	Vertical
2524.5	-47.02	2.92	27.74	-22.20	-13	-9.20	Vertical
2524.5	-47.53	2.92	27.74	-22.71	-13	-9.71	Horizontal
261.1	-34.87	1.78	17.44	-19.21	-13	-6.21	Vertical
120.1	-32.13	1.70	15.93	-17.90	-13	-4.90	Horizontal

9.11 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	-51.44	4.01	27.5	-27.95	-25	-2.95	Horizontal
5145	-52.30	4.01	27.5	-28.81	-25	-3.81	Vertical
7717.5	-52.93	5.09	27.8	-30.22	-25	-5.22	Vertical
7717.5	-50.08	5.09	27.8	-27.37	-25	-2.37	Horizontal
Test Results For Mid Channel 2595MHz							
5190	-52.47	4.1	27.48	-29.09	-25	-4.09	Horizontal
5190	-52.12	4.1	27.48	-28.74	-25	-3.74	Vertical
7785	-52.56	5.42	27.7	-30.28	-25	-5.28	Vertical
7785	-49.64	5.42	27.7	-27.36	-25	-2.36	Horizontal
Test Results for High Channel 2617.5MHz							
5234	-53.27	4.11	27.43	-29.95	-25	-4.95	Horizontal
5234	-51.36	4.11	27.43	-28.04	-25	-3.04	Vertical
7851	-52.37	5.31	27.74	-29.94	-25	-4.94	Vertical
7851	-53.94	5.31	27.74	-31.51	-25	-6.51	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	-51.25	3.89	27.5	-27.64	-25	-2.64	Horizontal
5160	-51.36	3.89	27.5	-27.75	-25	-2.75	Vertical
7740	-51.30	5.33	27.8	-28.83	-25	-3.83	Vertical
7740	-53.95	5.33	27.8	-31.48	-25	-6.48	Horizontal
Test Results for Mid Channel 2595MHz							
5190	-54.57	4.1	27.48	-31.19	-25	-6.19	Horizontal
5190	-50.78	4.1	27.48	-27.40	-25	-2.40	Vertical
7785	-54.32	5.42	27.7	-32.04	-25	-7.04	Vertical
7785	-50.69	5.42	27.7	-28.41	-25	-3.41	Horizontal
Test Results for High Channel 2610MHz							
5220	-54.72	4.01	27.43	-31.30	-25	-6.30	Horizontal
5220	-54.28	4.01	27.43	-30.86	-25	-5.86	Vertical
7830	-54.74	5.34	27.74	-32.34	-25	-7.34	Vertical
7830	-52.98	5.34	27.74	-30.58	-25	-5.58	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.

9.12 LTE BAND 41

LTE BAND 41 (5MHZ BANDWIDTH)

Test Results for Low Channel 2498.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4997.0	-59.80	5.23	35.81	-29.22	-25	-4.22	Horizontal
4997.0	-62.70	5.23	35.81	-32.12	-25	-7.12	Vertical
7495.5	-59.23	5.67	36.85	-28.05	-25	-3.05	Vertical
7495.5	-61.04	5.67	36.85	-29.86	-25	-4.86	Horizontal
435.3	-47.35	1.38	15.98	-32.75	-25	-7.75	Vertical
465.8	-44.55	1.62	15.66	-30.51	-25	-5.51	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-59.86	5.23	35.82	-29.27	-25	-4.27	Horizontal
5186.0	-59.96	5.23	35.82	-29.37	-25	-4.37	Vertical
7779.0	-62.06	5.67	36.85	-30.88	-25	-5.88	Vertical
7779.0	-62.55	5.67	36.85	-31.37	-25	-6.37	Horizontal
510.4	-44.89	1.62	16.17	-30.34	-25	-5.34	Vertical
562.9	-46.91	1.74	17.63	-31.02	-25	-6.02	Horizontal
Test Results for High Channel 2687.5MHz							
5375.0	-63.90	5.24	35.83	-33.31	-25	-8.31	Horizontal
5375.0	-60.62	5.24	35.83	-30.03	-25	-5.03	Vertical
8062.5	-59.31	5.68	36.87	-28.12	-25	-3.12	Vertical
8062.5	-60.97	5.68	36.87	-29.78	-25	-4.78	Horizontal
197.6	-45.87	1.55	15.84	-31.58	-25	-6.58	Vertical
353.1	-48.13	1.51	17.06	-32.58	-25	-7.58	Horizontal

LTE BAND 41 (20MHZ BANDWIDTH)

Test Results for Low Channel 2506MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5160.0	-61.40	5.23	35.82	-30.81	-25	-5.81	Horizontal
5160.0	-62.91	5.23	35.82	-32.32	-25	-7.32	Vertical
7518.0	-59.61	5.67	36.86	-28.42	-25	-3.42	Vertical
7518.0	-59.31	5.67	36.86	-28.12	-25	-3.12	Horizontal
128.9	-44.85	1.43	15.51	-30.77	-25	-5.77	Vertical
344.8	-49.53	1.40	16.97	-33.96	-25	-8.96	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-61.20	5.23	35.82	-30.61	-25	-5.61	Horizontal
5186.0	-61.77	5.23	35.82	-31.18	-25	-6.18	Vertical
7779.0	-64.90	5.67	36.85	-33.72	-25	-8.72	Vertical
7779.0	-62.66	5.67	36.85	-31.48	-25	-6.48	Horizontal
100.8	-45.81	1.77	16.72	-30.86	-25	-5.86	Vertical
263.5	-46.14	1.31	16.99	-30.46	-25	-5.46	Horizontal
Test Results for High Channel 2680MHz							
5360.0	-63.62	5.24	35.83	-33.03	-25	-8.03	Horizontal
5360.0	-59.32	5.24	35.83	-28.73	-25	-3.73	Vertical
8040.0	-59.14	5.70	36.88	-27.96	-25	-2.96	Vertical
8040.0	-60.57	5.70	36.88	-29.39	-25	-4.39	Horizontal
349.9	-47.07	1.70	15.73	-33.04	-25	-8.04	Vertical
110.3	-49.88	1.75	17.33	-34.30	-25	-9.30	Horizontal

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74
 . Margin = Spurious Emission Level - Limit
 . Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.13 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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-49.69	4.02	29.80	-23.91	-13	-10.91	Horizontal
3421.4	-46.08	4.02	29.80	-20.30	-13	-7.30	Vertical
5132.1	-49.87	5.24	35.84	-19.27	-13	-6.27	Vertical
5132.1	-47.34	5.24	35.84	-16.74	-13	-3.74	Horizontal
112.6	-51.89	1.52	15.57	-37.84	-13	-24.84	Vertical
220.5	-45.90	1.33	17.14	-30.09	-13	-17.09	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-51.47	4.03	30.00	-25.50	-13	-12.50	Horizontal
3490.0	-50.64	4.03	30.00	-24.67	-13	-11.67	Vertical
5235.0	-49.93	5.25	35.86	-19.32	-13	-6.32	Vertical
5235.0	-49.71	5.25	35.86	-19.10	-13	-6.10	Horizontal
157.3	-48.47	1.53	17.13	-32.87	-13	-19.87	Vertical
213.1	-54.62	1.41	15.95	-40.08	-13	-27.08	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-53.11	4.05	30.01	-27.15	-13	-14.15	Horizontal
3558.6	-51.09	4.05	30.01	-25.13	-13	-12.13	Vertical
5337.9	-52.09	5.26	35.86	-21.49	-13	-8.49	Vertical
5337.9	-51.54	5.26	35.86	-20.94	-13	-7.94	Horizontal
170.6	-50.40	1.44	15.51	-36.33	-13	-23.33	Vertical
169.0	-52.28	1.78	15.76	-38.30	-13	-25.30	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-53.02	4.02	29.80	-27.24	-13	-14.24	Horizontal
3440.0	-47.09	4.02	29.80	-21.31	-13	-8.31	Vertical
5160.0	-54.81	5.24	35.84	-24.21	-13	-11.21	Vertical
5160.0	-49.94	5.24	35.84	-19.34	-13	-6.34	Horizontal
268.8	-54.69	1.62	17.02	-39.29	-13	-26.29	Vertical
161.4	-45.38	1.32	17.31	-29.39	-13	-16.39	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-49.93	4.03	30.00	-23.96	-13	-10.96	Horizontal
3490.0	-47.17	4.03	30.00	-21.20	-13	-8.20	Vertical
5235.0	-52.35	5.25	35.86	-21.74	-13	-8.74	Vertical
5235.0	-53.76	5.25	35.86	-23.15	-13	-10.15	Horizontal
159.9	-50.69	1.45	15.17	-36.97	-13	-23.97	Vertical
172.1	-51.30	1.48	17.82	-34.96	-13	-21.96	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-51.36	2.91	27.68	-26.59	-13	-13.59	Horizontal
3540.0	-53.64	2.91	27.68	-28.87	-13	-15.87	Vertical
5310.0	-53.54	5.26	35.86	-22.94	-13	-9.94	Vertical
5310.0	-52.54	5.26	35.86	-21.94	-13	-8.94	Horizontal
197.3	-53.64	1.76	16.38	-39.02	-13	-26.02	Vertical
158.5	-47.02	1.43	17.13	-31.32	-13	-18.32	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 3.27V, Normal, DC 3.85V and High voltage, DC 4.43V.

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 2/4/5/7/12/13/17/25/26/38/41/66

RESULTS

See the following pages.

10.1 LTE BAND 2

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1880	12.6	0.006705	2.5
3.85	1880	13.7	0.007289	2.5
4.43	1880	13.1	0.006967	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.8	0.006802	2.5
Extreme (50C)	1880	12.0	0.006398	2.5
Extreme (40C)	1880	13.4	0.007153	2.5
Extreme (30C)	1880	13.2	0.007002	2.5
Extreme (10C)	1880	13.8	0.007362	2.5
Extreme (0C)	1880	12.3	0.006568	2.5
Extreme (-10C)	1880	12.9	0.006872	2.5
Extreme (-20C)	1880	13.9	0.007401	2.5
Extreme (-30C)	1880	14.3	0.007601	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1880	9.3	0.004952	2.5
3.85	1880	8.6	0.004583	2.5
4.43	1880	7.7	0.004097	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	10.0	0.005333	2.5
Extreme (50C)	1880	8.6	0.004597	2.5
Extreme (40C)	1880	7.9	0.004196	2.5
Extreme (30C)	1880	9.5	0.005037	2.5
Extreme (10C)	1880	8.6	0.004582	2.5
Extreme (0C)	1880	8.3	0.004400	2.5
Extreme (-10C)	1880	9.3	0.004958	2.5
Extreme (-20C)	1880	8.8	0.004681	2.5
Extreme (-30C)	1880	8.1	0.004298	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1732.5	9.0	0.005189	2.5
3.85	1732.5	9.0	0.005214	2.5
4.43	1732.5	8.2	0.004720	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.4	0.004850	2.5
Extreme (50C)	1732.5	8.5	0.004929	2.5
Extreme (40C)	1732.5	7.7	0.004416	2.5
Extreme (30C)	1732.5	6.1	0.003537	2.5
Extreme (10C)	1732.5	7.2	0.004158	2.5
Extreme (0C)	1732.5	9.9	0.005697	2.5
Extreme (-10C)	1732.5	8.4	0.004875	2.5
Extreme (-20C)	1732.5	7.0	0.004055	2.5
Extreme (-30C)	1732.5	8.3	0.004784	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1732.5	9.4	0.005398	2.5
3.85	1732.5	9.0	0.005220	2.5
4.43	1732.5	8.0	0.004617	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.3	0.005388	2.5
Extreme (50C)	1732.5	9.0	0.005167	2.5
Extreme (40C)	1732.5	7.8	0.004508	2.5
Extreme (30C)	1732.5	9.2	0.005297	2.5
Extreme (10C)	1732.5	8.8	0.005085	2.5
Extreme (0C)	1732.5	8.0	0.004609	2.5
Extreme (-10C)	1732.5	8.9	0.005125	2.5
Extreme (-20C)	1732.5	8.5	0.004928	2.5
Extreme (-30C)	1732.5	7.8	0.004505	2.5

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

10.3 LTE BAND 5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	836.5	6.2	0.007462	2.5
3.85	836.5	6.9	0.008256	2.5
4.43	836.5	4.6	0.005511	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.1	0.007337	2.5
Extreme (50C)	836.5	6.2	0.007360	2.5
Extreme (40C)	836.5	6.5	0.007719	2.5
Extreme (30C)	836.5	6.4	0.007690	2.5
Extreme (10C)	836.5	5.3	0.006369	2.5
Extreme (0C)	836.5	5.5	0.006565	2.5
Extreme (-10C)	836.5	5.9	0.007092	2.5
Extreme (-20C)	836.5	6.5	0.007807	2.5
Extreme (-30C)	836.5	6.7	0.008007	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	836.5	5.9	0.007076	2.5
3.85	836.5	6.5	0.007802	2.5
4.43	836.5	5.1	0.006083	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.1	0.007246	2.5
Extreme (50C)	836.5	5.9	0.007076	2.5
Extreme (40C)	836.5	6.0	0.007193	2.5
Extreme (30C)	836.5	6.8	0.008160	2.5
Extreme (10C)	836.5	5.2	0.006217	2.5
Extreme (0C)	836.5	5.3	0.006352	2.5
Extreme (-10C)	836.5	5.7	0.006765	2.5
Extreme (-20C)	836.5	5.7	0.006816	2.5
Extreme (-30C)	836.5	6.0	0.007141	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2535	10.2	0.004034	2.5
3.85	2535	8.8	0.003488	2.5
4.43	2535	8.3	0.003268	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.6	0.003797	2.5
Extreme (50C)	2535	9.2	0.003616	2.5
Extreme (40C)	2535	8.9	0.003503	2.5
Extreme (30C)	2535	8.5	0.003348	2.5
Extreme (10C)	2535	8.0	0.003165	2.5
Extreme (0C)	2535	8.3	0.003281	2.5
Extreme (-10C)	2535	9.1	0.003596	2.5
Extreme (-20C)	2535	9.3	0.003658	2.5
Extreme (-30C)	2535	8.0	0.003171	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2535	6.4	0.002508	2.5
3.85	2535	6.7	0.002642	2.5
4.43	2535	6.0	0.002369	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.7	0.002657	2.5
Extreme (50C)	2535	5.5	0.002160	2.5
Extreme (40C)	2535	5.3	0.002093	2.5
Extreme (30C)	2535	6.5	0.002573	2.5
Extreme (10C)	2535	5.6	0.002226	2.5
Extreme (0C)	2535	4.9	0.001931	2.5
Extreme (-10C)	2535	5.1	0.001997	2.5
Extreme (-20C)	2535	5.7	0.002248	2.5
Extreme (-30C)	2535	5.5	0.002172	2.5

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

10.5 LTE BAND 12

Band 12 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	707.5	9.1	0.012900	2.5
3.85	707.5	9.9	0.014016	2.5
4.43	707.5	8.4	0.011943	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.4	0.011865	2.5
Extreme (50C)	707.5	7.9	0.011107	2.5
Extreme (40C)	707.5	7.6	0.010758	2.5
Extreme (30C)	707.5	8.7	0.012256	2.5
Extreme (10C)	707.5	7.2	0.010154	2.5
Extreme (0C)	707.5	8.5	0.012055	2.5
Extreme (-10C)	707.5	8.9	0.012510	2.5
Extreme (-20C)	707.5	9.2	0.013017	2.5
Extreme (-30C)	707.5	7.3	0.010387	2.5

Band 12 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	707.5	7.3	0.010278	2.5
3.85	707.5	8.2	0.011606	2.5
4.43	707.5	7.1	0.010068	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	6.5	0.009175	2.5
Extreme (50C)	707.5	5.5	0.007765	2.5
Extreme (40C)	707.5	6.4	0.009110	2.5
Extreme (30C)	707.5	-7.7	-0.010912	2.5
Extreme (10C)	707.5	-8.2	-0.011590	2.5
Extreme (0C)	707.5	2.9	0.004100	2.5
Extreme (-10C)	707.5	-5.2	-0.007292	2.5
Extreme (-20C)	707.5	-8.7	-0.012302	2.5
Extreme (-30C)	707.5	-10.2	-0.014350	2.5

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

10.6 LTE BAND 13

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	12.2	0.017227	2.5
3.85	710.0	13.9	0.019569	2.5
4.43	710.0	13.6	0.019225	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	14.4	0.020234	2.5
Extreme (50C)	710.0	13.4	0.018856	2.5
Extreme (40C)	710.0	14.8	0.020906	2.5
Extreme (30C)	710.0	14.0	0.019682	2.5
Extreme (10C)	710.0	13.6	0.019136	2.5
Extreme (0C)	710.0	14.4	0.020301	2.5
Extreme (-10C)	710.0	14.1	0.019823	2.5
Extreme (-20C)	710	14.2	0.020010	2.5
Extreme (-30C)	710	13.2	0.018650	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	12.4	0.017501	2.5
3.85	710.0	13.5	0.018992	2.5
4.43	710.0	12.9	0.018207	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	12.6	0.017687	2.5
Extreme (50C)	710.0	11.2	0.015793	2.5
Extreme (40C)	710.0	14.1	0.019853	2.5
Extreme (30C)	710.0	13.1	0.018455	2.5
Extreme (10C)	710.0	14.1	0.019843	2.5
Extreme (0C)	710.0	12.2	0.017180	2.5
Extreme (-10C)	710.0	13.3	0.018754	2.5
Extreme (-20C)	710.0	13.9	0.019571	2.5
Extreme (-30C)	710.0	14.7	0.020738	2.5

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

10.7 LTE BAND 17

Band 17 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	10.2	0.014305	2.5
3.85	710.0	8.9	0.012465	2.5
4.43	710.0	7.9	0.011182	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.9	0.013904	2.5
Extreme (50C)	710.0	8.9	0.012476	2.5
Extreme (40C)	710.0	7.8	0.011016	2.5
Extreme (30C)	710.0	8.6	0.012162	2.5
Extreme (10C)	710.0	9.0	0.012617	2.5
Extreme (0C)	710.0	7.8	0.011005	2.5
Extreme (-10C)	710.0	8.9	0.012530	2.5
Extreme (-20C)	710.0	9.2	0.012919	2.5
Extreme (-30C)	710.0	8.6	0.012073	2.5

Band 17 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	10.1	0.014211	2.5
3.85	710.0	9.0	0.012624	2.5
4.43	710.0	8.9	0.012503	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.6	0.013466	2.5
Extreme (50C)	710.0	8.9	0.012469	2.5
Extreme (40C)	710.0	8.5	0.011908	2.5
Extreme (30C)	710.0	8.7	0.012220	2.5
Extreme (10C)	710.0	8.5	0.011988	2.5
Extreme (0C)	710.0	8.1	0.011374	2.5
Extreme (-10C)	710.0	9.7	0.013610	2.5
Extreme (-20C)	710.0	9.2	0.012939	2.5
Extreme (-30C)	710.0	8.4	0.011841	2.5

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

10.8 LTE BAND 25
QPSK, (20MHz BANDWIDTH)
Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1882.5	15	0.007968	2.5
3.85	1882.5	23	0.012218	2.5
4.43	1882.5	12	0.006375	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	4.3	0.002265	2.5
Extreme (50C)	1882.5	9.7	0.005153	2.5
Extreme (40C)	1882.5	6.3	0.003322	2.5
Extreme (30C)	1882.5	6.6	0.003508	2.5
Extreme (10C)	1882.5	5.2	0.002767	2.5
Extreme (0C)	1882.5	8.4	0.004487	2.5
Extreme (-10C)	1882.5	1.6	0.000833	2.5
Extreme (-20C)	1882.5	2.6	0.001402	2.5
Extreme (-30C)	1882.5	6.9	0.003667	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1882.5	9.7	0.005138	2.5
3.85	1882.5	7.2	0.003838	2.5
4.43	1882.5	5.9	0.003132	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	7.8	0.004148	2.5
Extreme (50C)	1882.5	5.6	0.002955	2.5
Extreme (40C)	1882.5	8.5	0.004510	2.5
Extreme (30C)	1882.5	1.4	0.000730	2.5
Extreme (10C)	1882.5	2.9	0.001530	2.5
Extreme (0C)	1882.5	6.7	0.003548	2.5
Extreme (-10C)	1882.5	5.6	0.002974	2.5
Extreme (-20C)	1882.5	7.5	0.003962	2.5
Extreme (-30C)	1882.5	6.7	0.003546	2.5

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

10.9 LTE BAND 26 A

Band 26A QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz)				
3.27	819	8.6	0.010445	2.5
3.85	819	5.5	0.006715	2.5
4.43	819	6.7	0.008196	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)				
Normal (25C)	819	8.5	0.010345	2.5
Extreme (50C)	819	1.2	0.001421	2.5
Extreme (40C)	819	2.3	0.002847	2.5
Extreme (30C)	819	6.2	0.007592	2.5
Extreme (10C)	819	5.7	0.006899	2.5
Extreme (0C)	819	6.9	0.008387	2.5
Extreme (-10C)	819	8.4	0.010246	2.5
Extreme (-20C)	819	6.7	0.008151	2.5
Extreme (-30C)	819	5.0	0.006103	2.5

Band 26A 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz)				
3.27	819	2.5	0.003043	2.5
3.85	819	6.3	0.007751	2.5
4.43	819	5.3	0.006435	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	6.3	0.007677	2.5
Extreme (50C)	819	8.4	0.010252	2.5
Extreme (40C)	819	6.6	0.008105	2.5
Extreme (30C)	819	4.8	0.005874	2.5
Extreme (10C)	819	6.4	0.007769	2.5
Extreme (0C)	819	5.8	0.007134	2.5
Extreme (-10C)	819	8.6	0.010513	2.5
Extreme (-20C)	819	6.4	0.007830	2.5
Extreme (-30C)	819	7.9	0.009701	2.5

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

10.10 LTE BAND 26 B

Band 26A QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz)				
3.27	836.5	8.2	0.009821	2.5
3.85	836.5	6.7	0.007956	2.5
4.43	836.5	8.3	0.009892	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)				
Normal (25C)	836.5	10.2	0.012200	2.5
Extreme (50C)	836.5	10.0	0.011943	2.5
Extreme (40C)	836.5	6.3	0.007502	2.5
Extreme (30C)	836.5	8.6	0.010300	2.5
Extreme (10C)	836.5	7.6	0.009061	2.5
Extreme (0C)	836.5	9.8	0.011689	2.5
Extreme (-10C)	836.5	1.8	0.002116	2.5
Extreme (-20C)	836.5	8.4	0.010013	2.5
Extreme (-30C)	836.5	7.9	0.009437	2.5

Band 26A 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz)				
3.27	836.5	9.6	0.011422	2.5
3.85	836.5	11.6	0.013848	2.5
4.43	836.5	10.9	0.013076	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)				
Normal (25C)	836.5	6.6	0.007929	2.5
Extreme (50C)	836.5	9.0	0.010743	2.5
Extreme (40C)	836.5	7.7	0.009233	2.5
Extreme (30C)	836.5	7.8	0.009310	2.5
Extreme (10C)	836.5	6.2	0.007357	2.5
Extreme (0C)	836.5	5.3	0.006371	2.5
Extreme (-10C)	836.5	5.2	0.006239	2.5
Extreme (-20C)	836.5	3.7	0.011237	2.5
Extreme (-30C)	836.5	8.9	0.007292	2.5

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

10.11 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]
3.27	2595	8.9	0.003429	2.5
3.85	2595	6.2	0.002390	2.5
4.43	2595	7.4	0.002856	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.4	0.002868	2.5
Extreme (50C)	2595	4.9	0.001884	2.5
Extreme (40C)	2595	5.1	0.001974	2.5
Extreme (30C)	2595	4.6	0.001788	2.5
Extreme (10C)	2595	5.9	0.002290	2.5
Extreme (0C)	2595	4.5	0.001716	2.5
Extreme (-10C)	2595	9.8	0.003764	2.5
Extreme (-20C)	2595	10.6	0.004095	2.5
Extreme (-30C)	2595	5.7	0.002211	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]
3.27	2595	8.0	0.003087	2.5
3.85	2595	6.6	0.002558	2.5
4.43	2595	6.1	0.002339	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	7.7	0.002985	2.5
Extreme (50C)	2595	4.5	0.001747	2.5
Extreme (40C)	2595	5.9	0.002264	2.5
Extreme (30C)	2595	4.7	0.001803	2.5
Extreme (10C)	2595	6.8	0.002639	2.5
Extreme (0C)	2595	5.1	0.001971	2.5
Extreme (-10C)	2595	9.2	0.003533	2.5
Extreme (-20C)	2595	10.8	0.004158	2.5
Extreme (-30C)	2595	5.9	0.002273	2.5

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

10.12 LTE BAND 41

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2593	8.4	0.003230	2.5
3.85	2593	6.3	0.002418	2.5
4.43	2593	7.5	0.002881	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	7.4	0.002865	2.5
Extreme (50C)	2593	4.7	0.001817	2.5
Extreme (40C)	2593	5.5	0.002103	2.5
Extreme (30C)	2593	4.5	0.001740	2.5
Extreme (10C)	2593	6.0	0.002327	2.5
Extreme (0C)	2593	4.6	0.001784	2.5
Extreme (-10C)	2593	9.8	0.003766	2.5
Extreme (-20C)	2593	11.2	0.004337	2.5
Extreme (-30C)	2593	6.2	0.002375	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2593	8.9	0.003414	2.5
3.85	2593	6.8	0.002620	2.5
4.43	2593	6.5	0.002517	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	7.2	0.002784	2.5
Extreme (50C)	2593	4.7	0.001822	2.5
Extreme (40C)	2593	4.9	0.001903	2.5
Extreme (30C)	2593	4.9	0.001878	2.5
Extreme (10C)	2593	6.7	0.002586	2.5
Extreme (0C)	2593	5.3	0.002043	2.5
Extreme (-10C)	2593	9.5	0.003674	2.5
Extreme (-20C)	2593	10.6	0.004107	2.5
Extreme (-30C)	2593	6.7	0.002565	2.5

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

10.13 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1745	12.3	0.00702	2.5
3.85	1745	13.5	0.00775	2.5
4.43	1745	12.9	0.00741	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.7	0.004397	2.5
Extreme (50C)	1745	4.6	0.002636	2.5
Extreme (40C)	1745	5.7	0.003283	2.5
Extreme (30C)	1745	4.8	0.002725	2.5
Extreme (10C)	1745	6.7	0.003862	2.5
Extreme (0C)	1745	5.3	0.003037	2.5
Extreme (-10C)	1745	9.5	0.005461	2.5
Extreme (-20C)	1745	11.0	0.006292	2.5
Extreme (-30C)	1745	6.1	0.003503	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1745	13.1	0.007504	2.5
3.85	1745	13.4	0.007699	2.5
4.43	1745	13.1	0.007523	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.7	0.004421	2.5
Extreme (50C)	1745	5.2	0.002984	2.5
Extreme (40C)	1745	5.7	0.003284	2.5
Extreme (30C)	1745	4.9	0.002826	2.5
Extreme (10C)	1745	6.3	0.003597	2.5
Extreme (0C)	1745	4.7	0.002682	2.5
Extreme (-10C)	1745	9.6	0.005503	2.5
Extreme (-20C)	1745	11.1	0.006382	2.5
Extreme (-30C)	1745	6.3	0.003637	2.5

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

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

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

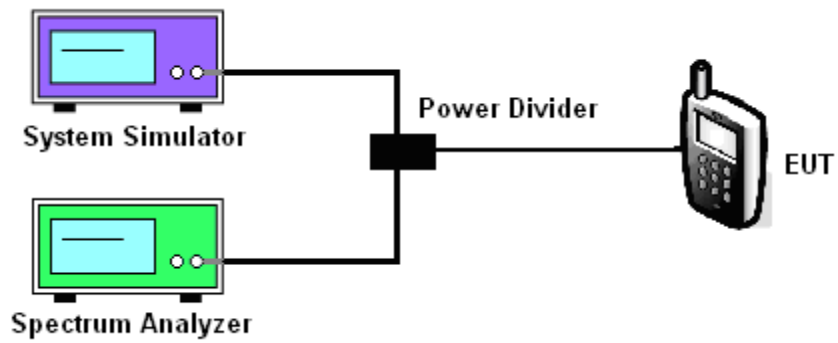
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

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

11.4 Test Setup



MODES TESTED

LTE Band 2/4/5/7/12/13/17/25/26/38/41/66

Test data reference attachment.

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