

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

FCC ID: 2BAK2-DT2

Product: Tablet

Trade Mark: FOSSIBOT

Model No.: DT2

Family Model: DT2 PRO, DT2 PLUS, DT2 Lite, DT2 S,
DT2 +

Report No.: S23080203509006

Issue Date: Sep 11, 2023

Prepared for

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TEST RESULT CERTIFICATION

Applicant's name : Shenzhen Qichang Intelligent Technology Co., Ltd
Address..... : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street,
Longgang , Shenzhen,China
Manufacturer's Name..... : Shenzhen Qichang Intelligent Technology Co., Ltd
Address..... : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street,
Longgang , Shenzhen,China
Product name..... : Tablet
Model and/or type reference .. : DT2
Trade Mark..... : FOSSIBOT
Family Model..... : DT2 PRO, DT2 PLUS, DT2 Lite, DT2 S, DT2 +
Test Sample Number..... S230802035009
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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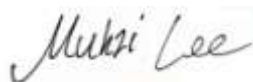
Date of Test

Date (s) of performance of tests..... Aug 02, 2023 ~Sep 11, 2023

Date of Issue Sep 11, 2023

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

Testing Engineer :



(Mukzi Lee)

Authorized Signatory :



(Alex Li)

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Tablet
Trade Mark	FOSSIBOT
Model Name	DT2
Family Model	DT2 PRO, DT2 PLUS, DT2 Lite, DT2 S, DT2 +
Model Difference	All the model are the same circuit and RF module,except the model names.
FCC ID:	2BAK2-DT2
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2,4,5,7,12, 17, 26, 66 LTE TDD Band 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 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 26A Uplink: 814MHz-824MHz, Downlink: 859MHz-869MHz; LTE FDD Band 26B Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE TDD Band 41 Uplink&Downlink: 2535MHz-2655MHz, LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
Antenna:	PIFA Antenna
Antenna gain:	Band 2: -1 dBi, Band 4: -1 dBi, Band 5: -2.8 dBi, Band 7: -2.3 dBi, Band 12: -3.9 dBi, Band 17: -3.9 dBi, Band 26a: -3.5dBi, Band 26b: -2.8 dBi, Band 41: -0.8 dBi, Band 66: -1dBi
Adapter	Model: HJ-PD66W-US Input: 100-240V~50/60Hz 1.5A Output: 5.0V---3.0A 15.0W OR 9.0V---3.0A 27.0W OR 12.0V---3.0A 36.0W OR 15.0V---3.0A 45.0W OR 20.0V---3.25A 65.0W OR 11.0V---6.0A 66.0W MAX
Battery	DC 3.87V, 21560mAh, 83.43Wh
Power supply	DC 3.87V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.29V to DC 4.45V (Nominal DC 3.87V) (Note 1)

HW Version	P518_MAIN_PCB_V1.1
SW Version	FOSSiBOT_DT2_E
** Note1: The High Voltage DC 4.45V and Low Voltage 3.29V 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: 2BAK2-DT2** 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.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R.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-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2,4,5,7,12,17,26,41,66

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	Tablet	DT2	FCC ID: 2BAK2-DT2	EUT

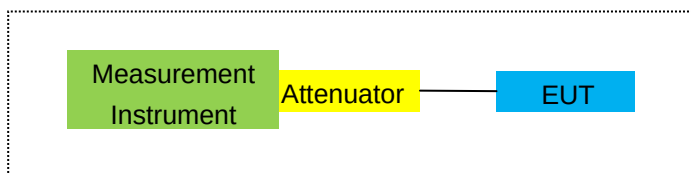
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

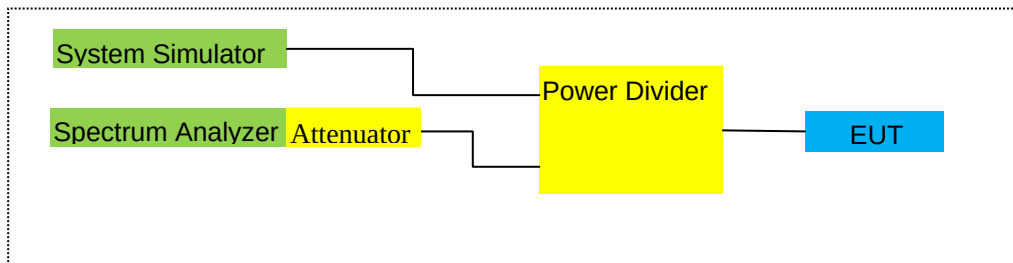
For Radiated Test Cases



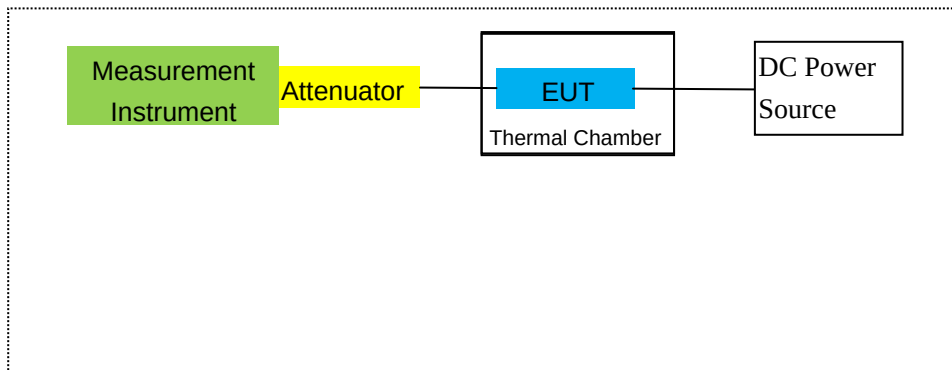
For Conducted Output Power



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	2023.05.29	2024.05.28	1 year
2	Test Receiver	R&S	ESPI	101318	2023.03.27	2024.03.26	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2023.03.16	2024.03.15	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.06	2026.05.05	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2022.03.31	2025.03.30	3 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2022.11.07	2023.11.06	1 year
7	Amplifier	EM	EM-30180	060538	2023.05.29	2024.05.28	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2022.11.04	2023.11.05	1 year
9	Power Meter	R&S	NRVS	100696	2023.05.29	2024.05.28	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2023.05.29	2024.05.28	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 Receiver	R&S	ESCI	101160	2023.03.27	2024.03.26	1 year
14	LISN	R&S	ENV216	101313	2023.03.27	2024.03.26	1 year
15	LISN	EMCO	3816/2	00042990	2023.03.27	2024.03.26	1 year
16	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2023.03.27	2024.03.26	1 year
17	Passive Voltage Probe	R&S	ESH2-Z3	100196	2023.03.27	2024.03.26	1 year
18	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
19	Spectrum Analyzer	agilent	e4440a	us44300399	2023.03.27	2024.03.26	1 year
20	test receiver	R&S	ESCI	a0304218	2023.03.27	2024.03.26	1 year
21	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2023.03.27	2024.03.26	1 year
22	DC Power Source	N/A	PS-6005D	20170402923	2023.05.06	2026.05.05	3 year
23	Wireless Communications Test Set	R&S	CMW500	1100.008.02	2023.05.29	2024.05.28	1 year

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

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 2,4,5,7,12,17,26,41,66

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, 17,26,41,66

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, 17, 26,41,66

☐

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 2,4,5,7,12,17,26,41,66

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)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1850.7	-3.78	3.76	28.24	20.70	117.490	Horizontal	Pass
		1880	-3.60	3.91	28.22	20.71	117.761	Horizontal	Pass
		1909.3	-3.56	3.93	28.20	20.71	117.761	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.79	3.77	28.23	20.67	116.681	Horizontal	Pass
		1880	-3.57	3.91	28.24	20.76	119.124	Horizontal	Pass
		1908.5	-3.58	3.94	28.25	20.73	118.304	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.78	3.77	28.31	20.76	119.124	Horizontal	Pass
		1880	-3.59	3.91	28.22	20.72	118.032	Horizontal	Pass
		1907.5	-3.64	3.94	28.20	20.62	115.345	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.83	3.79	28.33	20.71	117.761	Horizontal	Pass
		1880	-3.53	3.95	28.22	20.74	118.577	Horizontal	Pass
		1905	-3.49	3.97	28.19	20.73	118.304	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-3.90	3.79	28.34	20.65	116.145	Horizontal	Pass
		1880	-3.56	3.95	28.22	20.71	117.761	Horizontal	Pass
		1902.5	-3.48	3.97	28.18	20.73	118.304	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.77	3.81	28.35	20.77	119.399	Horizontal	Pass
		1880	-3.47	3.96	28.22	20.79	119.950	Horizontal	Pass
		1900	-3.47	4.00	28.16	20.69	117.220	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-3.74	3.76	28.24	20.74	118.577	Vertical	Pass
		1880	-3.58	3.91	28.22	20.73	118.304	Vertical	Pass
		1909.3	-3.60	3.93	28.20	20.67	116.681	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.68	3.77	28.23	20.78	119.674	Vertical	Pass
		1880	-3.58	3.91	28.24	20.75	118.850	Vertical	Pass
		1908.5	-3.51	3.94	28.25	20.80	120.226	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.75	3.77	28.31	20.79	119.950	Vertical	Pass
		1880	-3.57	3.91	28.22	20.74	118.577	Vertical	Pass
		1907.5	-3.59	3.94	28.20	20.67	116.681	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.87	3.79	28.33	20.67	116.681	Vertical	Pass
		1880	-3.58	3.95	28.22	20.69	117.220	Vertical	Pass
		1905	-3.53	3.97	28.19	20.69	117.220	Vertical	Pass

15.0MHz	1/#Mid	1857.5	-3.84	3.79	28.34	20.71	117.761	Vertical	Pass
Band		1880	-3.57	3.95	28.22	20.70	117.490	Vertical	Pass
QPSK		1902.5	-3.56	3.97	28.18	20.65	116.145	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.72	3.81	28.35	20.82	120.781	Vertical	Pass
Band		1880	-3.44	3.96	28.22	20.82	120.781	Vertical	Pass
QPSK		1900	-3.33	4.00	28.16	20.83	121.060	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	1/#Mid	1850.7	-4.65	3.76	28.24	19.83	96.161	Horizontal	Pass
Band 16		1880	-4.45	3.91	28.22	19.86	96.828	Horizontal	Pass
QAM		1909.3	-4.51	3.93	28.20	19.76	94.624	Horizontal	Pass
3.0MHz	1/#Mid	1851.5	-4.61	3.77	28.23	19.85	96.605	Horizontal	Pass
Band 16		1880	-4.46	3.91	28.24	19.87	97.051	Horizontal	Pass
QAM		1908.5	-4.42	3.94	28.25	19.89	97.499	Horizontal	Pass
5.0MHz	1/#Mid	1852.5	-4.75	3.77	28.31	19.79	95.280	Horizontal	Pass
Band 16		1880	-4.57	3.91	28.22	19.74	94.189	Horizontal	Pass
QAM		1907.5	-4.42	3.94	28.20	19.84	96.383	Horizontal	Pass
10.0MHz	1/#Mid	1855	-4.70	3.79	28.33	19.84	96.383	Horizontal	Pass
Band 16		1880	-4.47	3.95	28.22	19.80	95.499	Horizontal	Pass
QAM		1905	-4.34	3.97	28.19	19.88	97.275	Horizontal	Pass
15.0MHz	1/#Mid	1857.5	-4.73	3.79	28.34	19.82	95.940	Horizontal	Pass
Band 16		1880	-4.47	3.95	28.22	19.80	95.499	Horizontal	Pass
QAM		1902.5	-4.39	3.97	28.18	19.82	95.940	Horizontal	Pass
20.0MHz	1/#Mid	1860	-4.80	3.81	28.35	19.74	94.189	Horizontal	Pass
Band 16		1880	-4.50	3.96	28.22	19.76	94.624	Horizontal	Pass
QAM		1900	-4.27	4.00	28.16	19.89	97.499	Horizontal	Pass
1.4MHz	1/#Mid	1850.7	-4.66	3.76	28.24	19.82	95.940	Vertical	Pass
Band 16		1880	-4.45	3.91	28.22	19.86	96.828	Vertical	Pass
QAM		1909.3	-4.48	3.93	28.20	19.79	95.280	Vertical	Pass
3.0MHz	1/#Mid	1851.5	-4.68	3.77	28.23	19.78	95.060	Vertical	Pass
Band 16		1880	-4.52	3.91	28.24	19.81	95.719	Vertical	Pass
QAM		1908.5	-4.42	3.94	28.25	19.89	97.499	Vertical	Pass
5.0MHz	1/#Mid	1852.5	-4.76	3.77	28.31	19.78	95.060	Vertical	Pass

Band 16 QAM		1880	-4.57	3.91	28.22	19.74	94.189	Vertical	Pass
		1907.5	-4.36	3.94	28.20	19.90	97.724	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.72	3.79	28.33	19.82	95.940	Vertical	Pass
		1880	-4.39	3.95	28.22	19.88	97.275	Vertical	Pass
		1905	-4.35	3.97	28.19	19.87	97.051	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-4.76	3.79	28.34	19.79	95.280	Vertical	Pass
		1880	-4.52	3.95	28.22	19.75	94.406	Vertical	Pass
		1902.5	-4.39	3.97	28.18	19.82	95.940	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-4.59	3.81	28.35	19.95	98.855	Vertical	Pass
		1880	-4.33	3.96	28.22	19.93	98.401	Vertical	Pass
		1900	-4.24	4.00	28.16	19.92	98.175	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)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	-3.68	3.12	27.58	20.78	119.674	Horizontal	Pass
		1732.5	-3.49	3.27	27.61	20.85	121.619	Horizontal	Pass
		1754.3	-3.54	3.29	27.63	20.80	120.226	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.71	3.13	27.61	20.77	119.399	Horizontal	Pass
		1732.5	-3.53	3.27	27.61	20.81	120.504	Horizontal	Pass
		1753.5	-3.55	3.30	27.62	20.77	119.399	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.64	3.13	27.63	20.86	121.899	Horizontal	Pass
		1732.5	-3.48	3.27	27.61	20.86	121.899	Horizontal	Pass
		1752.5	-3.49	3.30	27.60	20.81	120.504	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.65	3.15	27.64	20.84	121.339	Horizontal	Pass
		1732.5	-3.53	3.31	27.61	20.77	119.399	Horizontal	Pass
		1750	-3.39	3.33	27.59	20.87	122.180	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-3.68	3.15	27.65	20.82	120.781	Horizontal	Pass
		1732.5	-3.53	3.31	27.61	20.77	119.399	Horizontal	Pass
		1747.5	-3.39	3.33	27.57	20.85	121.619	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-3.63	3.17	27.66	20.86	121.899	Horizontal	Pass
		1732.5	-3.48	3.32	27.61	20.81	120.504	Horizontal	Pass
		1745	-3.31	3.36	27.56	20.89	122.744	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-3.66	3.12	27.58	20.80	120.226	Vertical	Pass
		1732.5	-3.53	3.27	27.61	20.81	120.504	Vertical	Pass
		1754.3	-3.54	3.29	27.63	20.80	120.226	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.67	3.13	27.61	20.81	120.504	Vertical	Pass
		1732.5	-3.49	3.27	27.61	20.85	121.619	Vertical	Pass
		1753.5	-3.49	3.30	27.62	20.83	121.060	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.66	3.13	27.63	20.84	121.339	Vertical	Pass
		1732.5	-3.50	3.27	27.61	20.84	121.339	Vertical	Pass
		1752.5	-3.55	3.30	27.60	20.75	118.850	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.70	3.15	27.64	20.79	119.950	Vertical	Pass
		1732.5	-3.47	3.31	27.61	20.83	121.060	Vertical	Pass
		1750	-3.37	3.33	27.59	20.89	122.744	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-3.62	3.15	27.65	20.88	122.462	Vertical	Pass
		1732.5	-3.52	3.31	27.61	20.78	119.674	Vertical	Pass
		1747.5	-3.35	3.33	27.57	20.89	122.744	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-3.58	3.17	27.66	20.91	123.310	Vertical	Pass
		1732.5	-3.34	3.32	27.61	20.95	124.451	Vertical	Pass
		1745	-3.26	3.36	27.56	20.94	124.165	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.26	3.12	27.58	20.20	104.713	Horizontal	Pass
		1732.5	-4.07	3.27	27.61	20.27	106.414	Horizontal	Pass
		1754.3	-4.09	3.29	27.63	20.25	105.925	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.27	3.13	27.61	20.21	104.954	Horizontal	Pass
		1732.5	-4.05	3.27	27.61	20.29	106.905	Horizontal	Pass
		1753.5	-4.16	3.30	27.62	20.16	103.753	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-4.23	3.13	27.63	20.27	106.414	Horizontal	Pass
		1732.5	-4.14	3.27	27.61	20.20	104.713	Horizontal	Pass
		1752.5	-4.09	3.30	27.60	20.21	104.954	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.31	3.15	27.64	20.18	104.232	Horizontal	Pass
		1732.5	-4.06	3.31	27.61	20.24	105.682	Horizontal	Pass
		1750	-4.05	3.33	27.59	20.21	104.954	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-4.31	3.15	27.65	20.19	104.472	Horizontal	Pass
		1732.5	-4.13	3.31	27.61	20.17	103.992	Horizontal	Pass
		1747.5	-4.08	3.33	27.57	20.16	103.753	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.21	3.17	27.66	20.28	106.660	Horizontal	Pass
		1732.5	-4.04	3.32	27.61	20.25	105.925	Horizontal	Pass
		1745	-3.93	3.36	27.56	20.27	106.414	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.20	3.12	27.58	20.26	106.170	Vertical	Pass
		1732.5	-4.04	3.27	27.61	20.30	107.152	Vertical	Pass
		1754.3	-4.09	3.29	27.63	20.25	105.925	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.25	3.13	27.61	20.23	105.439	Vertical	Pass
		1732.5	-4.06	3.27	27.61	20.28	106.660	Vertical	Pass
		1753.5	-4.14	3.30	27.62	20.18	104.232	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-4.34	3.13	27.63	20.16	103.753	Vertical	Pass

Band 16 QAM		1732.5	-4.05	3.27	27.61	20.29	106.905	Vertical	Pass
		1752.5	-4.13	3.30	27.60	20.17	103.992	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.32	3.15	27.64	20.17	103.992	Vertical	Pass
		1732.5	-4.07	3.31	27.61	20.23	105.439	Vertical	Pass
		1750	-4.04	3.33	27.59	20.22	105.196	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-4.33	3.15	27.65	20.17	103.992	Vertical	Pass
		1732.5	-4.12	3.31	27.61	20.18	104.232	Vertical	Pass
		1747.5	-4.01	3.33	27.57	20.23	105.439	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.16	3.17	27.66	20.33	107.895	Vertical	Pass
		1732.5	-3.98	3.32	27.61	20.31	107.399	Vertical	Pass
		1745	-3.86	3.36	27.56	20.34	108.143	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							Conclusi on
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	824.7	3.03	2.01	19.68	2.15	18.55	71.614	Horizontal	Pass
		836.5	3.09	2.01	19.77	2.15	18.70	74.131	Horizontal	Pass
		848.3	3.02	2.02	19.82	2.15	18.67	73.621	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.08	2.01	19.70	2.15	18.62	72.778	Horizontal	Pass
		836.5	2.99	2.01	19.77	2.15	18.60	72.444	Horizontal	Pass
		847.5	2.97	2.02	19.81	2.15	18.61	72.611	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.01	2.01	19.71	2.15	18.56	71.779	Horizontal	Pass
		836.5	2.92	2.01	19.77	2.15	18.53	71.285	Horizontal	Pass
		846.5	2.98	2.02	19.79	2.15	18.60	72.444	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	3.11	2.01	19.73	2.15	18.68	73.790	Horizontal	Pass
		836.5	2.95	2.01	19.77	2.15	18.56	71.779	Horizontal	Pass
		844	2.90	2.02	19.78	2.15	18.51	70.958	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	3.17	2.01	19.68	2.15	18.69	73.961	Vertical	Pass
		836.5	2.99	2.01	19.77	2.15	18.60	72.444	Vertical	Pass
		848.3	2.91	2.02	19.82	2.15	18.56	71.779	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.04	2.01	19.70	2.15	18.58	72.111	Vertical	Pass
		836.5	3.07	2.01	19.77	2.15	18.68	73.790	Vertical	Pass
		847.5	2.97	2.02	19.81	2.15	18.61	72.611	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.99	2.01	19.71	2.15	18.54	71.450	Vertical	Pass
		836.5	2.92	2.01	19.77	2.15	18.53	71.285	Vertical	Pass
		846.5	2.93	2.02	19.79	2.15	18.55	71.614	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	3.15	2.01	19.73	2.15	18.72	74.473	Vertical	Pass
		836.5	3.11	2.01	19.77	2.15	18.72	74.473	Vertical	Pass
		844	3.09	2.02	19.78	2.15	18.70	74.131	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	824.7	2.31	2.01	19.68	2.15	17.83	60.674	Horizontal	Pass
		836.5	2.26	2.01	19.77	2.15	17.87	61.235	Horizontal	Pass
		848.3	2.14	2.02	19.82	2.15	17.79	60.117	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.22	2.01	19.70	2.15	17.76	59.704	Horizontal	Pass
		836.5	2.23	2.01	19.77	2.15	17.84	60.814	Horizontal	Pass
		847.5	2.12	2.02	19.81	2.15	17.76	59.704	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.32	2.01	19.71	2.15	17.87	61.235	Horizontal	Pass
		836.5	2.24	2.01	19.77	2.15	17.85	60.954	Horizontal	Pass
		846.5	2.14	2.02	19.79	2.15	17.76	59.704	Horizontal	Pass
10.0MHz z Band 16 QAM	1/#Mid	829	2.30	2.01	19.73	2.15	17.87	61.235	Horizontal	Pass
		836.5	2.24	2.01	19.77	2.15	17.85	60.954	Horizontal	Pass
		844	2.22	2.02	19.78	2.15	17.83	60.674	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.37	2.01	19.68	2.15	17.89	61.518	Vertical	Pass
		836.5	2.27	2.01	19.77	2.15	17.88	61.376	Vertical	Pass
		848.3	2.10	2.02	19.82	2.15	17.75	59.566	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.24	2.01	19.70	2.15	17.78	59.979	Vertical	Pass
		836.5	2.23	2.01	19.77	2.15	17.84	60.814	Vertical	Pass
		847.5	2.22	2.02	19.81	2.15	17.86	61.094	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.30	2.01	19.71	2.15	17.85	60.954	Vertical	Pass
		836.5	2.12	2.01	19.77	2.15	17.73	59.293	Vertical	Pass
		846.5	2.20	2.02	19.79	2.15	17.82	60.534	Vertical	Pass
10.0MHz z Band 16 QAM	1/#Mid	829	2.39	2.01	19.73	2.15	17.96	62.517	Vertical	Pass
		836.5	2.33	2.01	19.77	2.15	17.94	62.230	Vertical	Pass
		844	2.30	2.02	19.78	2.15	17.91	61.802	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)

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	-3.20	4.54	27.75	20.01	100.231	Horizontal	Pass
		2535	-3.02	4.69	27.72	20.01	100.231	Horizontal	Pass
		2567.5	-3.05	4.71	27.71	19.95	98.855	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.17	4.55	27.76	20.04	100.925	Horizontal	Pass
		2535	-3.07	4.69	27.72	19.96	99.083	Horizontal	Pass
		2565	-2.97	4.72	27.70	20.01	100.231	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.25	4.55	27.77	19.97	99.312	Horizontal	Pass
		2535	-2.96	4.69	27.72	20.07	101.625	Horizontal	Pass
		2562.5	-2.92	4.72	27.69	20.05	101.158	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.24	4.57	27.78	19.97	99.312	Horizontal	Pass
		2535	-3.02	4.73	27.72	19.97	99.312	Horizontal	Pass
		2560	-2.97	4.75	27.68	19.96	99.083	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-3.25	4.54	27.75	19.96	99.083	Vertical	Pass
		2535	-2.94	4.69	27.72	20.09	102.094	Vertical	Pass
		2567.5	-2.95	4.71	27.71	20.05	101.158	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.17	4.55	27.76	20.04	100.925	Vertical	Pass
		2535	-2.95	4.69	27.72	20.08	101.859	Vertical	Pass
		2565	-2.97	4.72	27.70	20.01	100.231	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.18	4.55	27.77	20.04	100.925	Vertical	Pass
		2535	-3.09	4.69	27.72	19.94	98.628	Vertical	Pass
		2562.5	-2.89	4.72	27.69	20.08	101.859	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.09	4.57	27.78	20.12	102.802	Vertical	Pass
		2535	-2.88	4.73	27.72	20.11	102.565	Vertical	Pass
		2560	-2.78	4.75	27.68	20.15	103.514	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.83	4.54	27.75	19.38	86.696	Horizontal	Pass
		2535	-3.77	4.69	27.72	19.26	84.333	Horizontal	Pass
		2567.5	-3.66	4.71	27.71	19.34	85.901	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.82	4.55	27.76	19.39	86.896	Horizontal	Pass
		2535	-3.65	4.69	27.72	19.38	86.696	Horizontal	Pass
		2565	-3.72	4.72	27.70	19.26	84.333	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.97	4.55	27.77	19.25	84.140	Horizontal	Pass
		2535	-3.68	4.69	27.72	19.35	86.099	Horizontal	Pass
		2562.5	-3.65	4.72	27.69	19.32	85.507	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.84	4.57	27.78	19.37	86.497	Horizontal	Pass
		2535	-3.68	4.73	27.72	19.31	85.310	Horizontal	Pass
		2560	-3.64	4.75	27.68	19.29	84.918	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.93	4.54	27.75	19.28	84.723	Vertical	Pass
		2535	-3.71	4.69	27.72	19.32	85.507	Vertical	Pass
		2567.5	-3.66	4.71	27.71	19.34	85.901	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.87	4.55	27.76	19.34	85.901	Vertical	Pass
		2535	-3.74	4.69	27.72	19.29	84.918	Vertical	Pass
		2565	-3.59	4.72	27.70	19.39	86.896	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.89	4.55	27.77	19.33	85.704	Vertical	Pass
		2535	-3.73	4.69	27.72	19.30	85.114	Vertical	Pass
		2562.5	-3.63	4.72	27.69	19.34	85.901	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.78	4.57	27.78	19.43	87.700	Vertical	Pass
		2535	-3.55	4.73	27.72	19.44	87.902	Vertical	Pass
		2560	-3.49	4.75	27.68	19.44	87.902	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)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	699.7	2.10	1.91	19.21	2.15	17.25	53.088	Vertical	Pass
		707.5	2.12	1.91	19.26	2.15	17.32	53.951	Vertical	Pass
		715.3	2.00	1.93	19.34	2.15	17.26	53.211	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	2.13	1.91	19.21	2.15	17.28	53.456	Vertical	Pass
		707.5	2.07	1.91	19.26	2.15	17.27	53.333	Vertical	Pass
		714.5	2.05	1.93	19.34	2.15	17.31	53.827	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	2.13	1.91	19.23	2.15	17.30	53.703	Vertical	Pass
		707.5	2.13	1.91	19.26	2.15	17.33	54.075	Vertical	Pass
		713.5	2.09	1.92	19.33	2.15	17.35	54.325	Vertical	Pass
10.0Hz Band QPSK	1/#Mid	704	2.13	1.91	19.25	2.15	17.32	53.951	Vertical	Pass
		707.5	2.14	1.91	19.26	2.15	17.34	54.200	Vertical	Pass
		711	2.10	1.92	19.32	2.15	17.35	54.325	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	2.25	1.91	19.21	2.15	17.40	54.954	Horizontal	Pass
		707.5	2.13	1.91	19.26	2.15	17.33	54.075	Horizontal	Pass
		715.3	2.11	1.93	19.34	2.15	17.37	54.576	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	2.21	1.91	19.21	2.15	17.36	54.450	Horizontal	Pass
		707.5	2.14	1.91	19.26	2.15	17.34	54.200	Horizontal	Pass
		714.5	2.05	1.93	19.34	2.15	17.31	53.827	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	2.13	1.91	19.23	2.15	17.30	53.703	Horizontal	Pass
		707.5	2.13	1.91	19.26	2.15	17.33	54.075	Horizontal	Pass
		713.5	2.14	1.92	19.33	2.15	17.40	54.954	Horizontal	Pass
10.0Hz Band QPSK	1/#Mid	704	2.22	1.91	19.25	2.15	17.41	55.081	Horizontal	Pass
		707.5	2.22	1.91	19.26	2.15	17.42	55.208	Horizontal	Pass
		711	2.18	1.92	19.32	2.15	17.43	55.335	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	699.7	1.51	1.91	19.21	2.15	16.66	46.345	Vertical	Pass
		707.5	1.60	1.91	19.26	2.15	16.80	47.863	Vertical	Pass
		715.3	1.39	1.93	19.34	2.15	16.65	46.238	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	1.57	1.91	19.21	2.15	16.72	46.989	Vertical	Pass
		707.5	1.50	1.91	19.26	2.15	16.70	46.774	Vertical	Pass
		714.5	1.45	1.93	19.34	2.15	16.71	46.881	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	1.49	1.91	19.23	2.15	16.66	46.345	Vertical	Pass
		707.5	1.54	1.91	19.26	2.15	16.74	47.206	Vertical	Pass
		713.5	1.46	1.92	19.33	2.15	16.72	46.989	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	704	1.60	1.91	19.25	2.15	16.79	47.753	Vertical	Pass
		707.5	1.44	1.91	19.26	2.15	16.64	46.132	Vertical	Pass
		711	1.38	1.92	19.32	2.15	16.63	46.026	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	1.61	1.91	19.21	2.15	16.76	47.424	Horizontal	Pass
		707.5	1.59	1.91	19.26	2.15	16.79	47.753	Horizontal	Pass
		715.3	1.45	1.93	19.34	2.15	16.71	46.881	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	1.62	1.91	19.21	2.15	16.77	47.534	Horizontal	Pass
		707.5	1.59	1.91	19.26	2.15	16.79	47.753	Horizontal	Pass
		714.5	1.49	1.93	19.34	2.15	16.75	47.315	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	1.52	1.91	19.23	2.15	16.69	46.666	Horizontal	Pass
		707.5	1.42	1.91	19.26	2.15	16.62	45.920	Horizontal	Pass
		713.5	1.38	1.92	19.33	2.15	16.64	46.132	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	704	1.64	1.91	19.25	2.15	16.83	48.195	Horizontal	Pass
		707.5	1.63	1.91	19.26	2.15	16.83	48.195	Horizontal	Pass
		711	1.60	1.92	19.32	2.15	16.85	48.417	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)

8.7 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	706.5	2.72	1.91	19.23	2.15	17.89	61.518	Vertical	Pass
		710	2.57	1.91	19.26	2.15	17.77	59.841	Vertical	Pass
		713.5	2.49	1.92	19.33	2.15	17.75	59.566	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	2.64	1.91	19.25	2.15	17.83	60.674	Vertical	Pass
		710	2.54	1.91	19.26	2.15	17.74	59.429	Vertical	Pass
		711	2.65	1.92	19.32	2.15	17.90	61.660	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	2.61	1.91	19.23	2.15	17.78	59.979	Horizontal	Pass
		710	2.66	1.91	19.26	2.15	17.86	61.094	Horizontal	Pass
		713.5	2.55	1.92	19.33	2.15	17.81	60.395	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	2.73	1.91	19.25	2.15	17.92	61.944	Horizontal	Pass
		710	2.72	1.91	19.26	2.15	17.92	61.944	Horizontal	Pass
		711	2.65	1.92	19.32	2.15	17.90	61.660	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)		Average	Average	Of Max. ERP	
							(dBm)	(mW)		
5.0MHz Band 16 QAM	1/#Mid	706.5	1.90	1.91	19.23	2.15	17.07	50.933	Vertical	Pass
		710	1.94	1.91	19.26	2.15	17.14	51.761	Vertical	Pass
		713.5	1.93	1.92	19.33	2.15	17.19	52.360	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	709	1.90	1.91	19.25	2.15	17.09	51.168	Vertical	Pass
		710	1.95	1.91	19.26	2.15	17.15	51.880	Vertical	Pass
		711	1.81	1.92	19.32	2.15	17.06	50.816	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	2.03	1.91	19.23	2.15	17.20	52.481	Horizontal	Pass
		710	1.87	1.91	19.26	2.15	17.07	50.933	Horizontal	Pass
		713.5	1.85	1.92	19.33	2.15	17.11	51.404	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	709	2.05	1.91	19.25	2.15	17.24	52.966	Horizontal	Pass
		710	2.03	1.91	19.26	2.15	17.23	52.845	Horizontal	Pass
		711	1.97	1.92	19.32	2.15	17.22	52.723	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)

8.8 LTE BAND 26A

Radiated Power (ERP) for Band 26A										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	814.7	3.13	1.91	19.21	2.15	18.28	67.298	Vertical	Pass
		819	2.98	1.91	19.26	2.15	18.18	65.766	Vertical	Pass
		823.3	2.93	1.93	19.34	2.15	18.19	65.917	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	815.5	3.02	1.91	19.21	2.15	18.17	65.615	Vertical	Pass
		819	3.02	1.91	19.26	2.15	18.22	66.374	Vertical	Pass
		822.5	3.02	1.93	19.34	2.15	18.28	67.298	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.99	1.91	19.23	2.15	18.16	65.464	Vertical	Pass
		819	3.04	1.91	19.26	2.15	18.24	66.681	Vertical	Pass
		821.5	2.90	1.92	19.33	2.15	18.16	65.464	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	819	3.11	1.93	19.25	2.15	18.28	67.298	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	814.7	3.03	1.91	19.21	2.15	18.18	65.766	Horizontal	Pass
		819	3.06	1.91	19.26	2.15	18.26	66.988	Horizontal	Pass
		823.3	2.97	1.93	19.34	2.15	18.23	66.527	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	815.5	3.10	1.91	19.21	2.15	18.25	66.834	Horizontal	Pass
		819	3.08	1.91	19.26	2.15	18.28	67.298	Horizontal	Pass
		822.5	2.94	1.93	19.34	2.15	18.20	66.069	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.98	1.91	19.23	2.15	18.15	65.313	Horizontal	Pass
		819	3.01	1.91	19.26	2.15	18.21	66.222	Horizontal	Pass
		821.5	3.03	1.92	19.33	2.15	18.29	67.453	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	819	3.15	1.93	19.25	2.15	18.32	67.920	Horizontal	Pass

Radiated Power (ERP) for Band 26A										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	814.7	2.18	1.91	19.21	2.15	17.33	54.075	Vertical	Pass
		819	2.18	1.91	19.26	2.15	17.38	54.702	Vertical	Pass
		823.3	2.13	1.93	19.34	2.15	17.39	54.828	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	2.11	1.91	19.21	2.15	17.26	53.211	Vertical	Pass
		819	2.12	1.91	19.26	2.15	17.32	53.951	Vertical	Pass
		822.5	2.07	1.93	19.34	2.15	17.33	54.075	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	2.22	1.91	19.23	2.15	17.39	54.828	Vertical	Pass
		819	2.04	1.91	19.26	2.15	17.24	52.966	Vertical	Pass
		821.5	2.01	1.92	19.33	2.15	17.27	53.333	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	819	2.04	1.93	19.25	2.15	17.21	52.602	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	814.7	2.17	1.91	19.21	2.15	17.32	53.951	Horizontal	Pass
		819	2.14	1.91	19.26	2.15	17.34	54.200	Horizontal	Pass
		823.3	2.08	1.93	19.34	2.15	17.34	54.200	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	2.17	1.91	19.21	2.15	17.32	53.951	Horizontal	Pass
		819	2.19	1.91	19.26	2.15	17.39	54.828	Horizontal	Pass
		822.5	2.10	1.93	19.34	2.15	17.36	54.450	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	2.16	1.91	19.23	2.15	17.33	54.075	Horizontal	Pass
		819	2.05	1.91	19.26	2.15	17.25	53.088	Horizontal	Pass
		821.5	2.13	1.92	19.33	2.15	17.39	54.828	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	819	2.27	1.93	19.25	2.15	17.44	55.463	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)

8.9 LTE BAND 26B

Radiated Power (ERP) for Band 26B										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	824.7	3.12	2.02	19.72	2.15	18.67	73.621	Horizontal	Pass
		836.5	3.07	2.02	19.83	2.15	18.73	74.645	Horizontal	Pass
		848.3	2.91	2.03	19.95	2.15	18.68	73.790	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.00	2.02	19.84	2.15	18.67	73.621	Horizontal	Pass
		836.5	2.92	2.02	19.94	2.15	18.69	73.961	Horizontal	Pass
		847.5	2.93	2.03	19.98	2.15	18.73	74.645	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.07	2.02	19.75	2.15	18.65	73.282	Horizontal	Pass
		836.5	3.11	2.02	19.83	2.15	18.77	75.336	Horizontal	Pass
		846.5	2.95	2.03	19.92	2.15	18.69	73.961	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	2.97	2.02	19.84	2.15	18.64	73.114	Horizontal	Pass
		836.5	2.98	2.02	19.90	2.15	18.71	74.302	Horizontal	Pass
		844	2.96	2.03	19.96	2.15	18.74	74.817	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	831.5	3.57	2.02	19.33	2.15	18.73	74.645	Vertical	Pass
		836.5	3.58	2.02	19.37	2.15	18.78	75.509	Vertical	Pass
		841.5	3.38	2.03	19.52	2.15	18.72	74.473	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	824.7	3.20	2.02	19.76	2.15	18.79	75.683	Vertical	Pass
		836.5	3.16	2.02	19.78	2.15	18.77	75.336	Vertical	Pass
		848.3	2.94	2.03	19.94	2.15	18.70	74.131	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.04	2.02	19.83	2.15	18.70	74.131	Vertical	Pass
		836.5	2.87	2.02	19.96	2.15	18.66	73.451	Vertical	Pass
		847.5	3.01	2.03	19.87	2.15	18.70	74.131	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.02	2.02	19.86	2.15	18.71	74.302	Vertical	Pass
		836.5	3.06	2.02	19.81	2.15	18.70	74.131	Vertical	Pass
		846.5	3.06	2.03	19.83	2.15	18.71	74.302	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	3.24	2.02	19.75	2.15	18.82	76.208	Vertical	Pass
		836.5	3.16	2.02	19.85	2.15	18.84	76.560	Vertical	Pass
		844	3.19	2.03	19.80	2.15	18.81	76.033	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	831.5	3.68	2.02	19.31	2.15	18.82	76.208	Horizontal	Pass
		836.5	3.72	2.02	19.33	2.15	18.88	77.268	Horizontal	Pass
		841.5	3.65	2.03	19.38	2.15	18.85	76.736	Horizontal	Pass

Radiated Power (ERP) for Band 26B										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	824.7	2.50	2.02	19.72	2.15	18.05	63.826	Horizontal	Pass
		836.5	2.39	2.02	19.83	2.15	18.05	63.826	Horizontal	Pass
		848.3	2.34	2.03	19.95	2.15	18.11	64.714	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.47	2.02	19.84	2.15	18.14	65.163	Horizontal	Pass
		836.5	2.39	2.02	19.94	2.15	18.16	65.464	Horizontal	Pass
		847.5	2.28	2.03	19.98	2.15	18.08	64.269	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.50	2.02	19.75	2.15	18.08	64.269	Horizontal	Pass
		836.5	2.47	2.02	19.83	2.15	18.13	65.013	Horizontal	Pass
		846.5	2.41	2.03	19.92	2.15	18.15	65.313	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	2.37	2.02	19.84	2.15	18.04	63.680	Horizontal	Pass
		836.5	2.44	2.02	19.90	2.15	18.17	65.615	Horizontal	Pass
		844	2.22	2.03	19.96	2.15	18.00	63.096	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	2.94	2.02	19.33	2.15	18.10	64.565	Vertical	Pass
		836.5	2.83	2.02	19.37	2.15	18.03	63.533	Vertical	Pass
		841.5	2.80	2.03	19.52	2.15	18.14	65.163	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.52	2.02	19.76	2.15	18.11	64.714	Vertical	Pass
		836.5	2.57	2.02	19.78	2.15	18.18	65.766	Vertical	Pass
		848.3	2.35	2.03	19.94	2.15	18.11	64.714	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.40	2.02	19.83	2.15	18.06	63.973	Vertical	Pass
		836.5	2.41	2.02	19.96	2.15	18.20	66.069	Vertical	Pass
		847.5	2.47	2.03	19.87	2.15	18.16	65.464	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.51	2.02	19.86	2.15	18.20	66.069	Vertical	Pass
		836.5	2.48	2.02	19.81	2.15	18.12	64.863	Vertical	Pass
		846.5	2.42	2.03	19.83	2.15	18.07	64.121	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	2.65	2.02	19.75	2.15	18.23	66.527	Vertical	Pass
		836.5	2.55	2.02	19.85	2.15	18.23	66.527	Vertical	Pass
		844	2.59	2.03	19.80	2.15	18.21	66.222	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	3.13	2.02	19.31	2.15	18.27	67.143	Horizontal	Pass
		836.5	3.07	2.02	19.33	2.15	18.23	66.527	Horizontal	Pass
		841.5	3.00	2.03	19.38	2.15	18.20	66.069	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)

8.10 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2537.5	-4.16	4.54	27.75	19.05	80.353	Horizontal	Pass
		2595	-3.88	4.69	27.72	19.15	82.224	Horizontal	Pass
		2652.5	-3.94	4.71	27.71	19.06	80.538	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2540	-4.02	4.55	27.76	19.19	82.985	Horizontal	Pass
		2595	-3.97	4.69	27.72	19.06	80.538	Horizontal	Pass
		2650	-3.80	4.72	27.70	19.18	82.794	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-4.07	4.55	27.77	19.15	82.224	Horizontal	Pass
		2595	-3.96	4.69	27.72	19.07	80.724	Horizontal	Pass
		2647.5	-3.90	4.72	27.69	19.07	80.724	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2545	-4.14	4.57	27.78	19.07	80.724	Horizontal	Pass
		2595	-3.81	4.73	27.72	19.18	82.794	Horizontal	Pass
		2645	-3.74	4.75	27.68	19.19	82.985	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2537.5	-4.13	4.54	27.75	19.08	80.910	Vertical	Pass
		2595	-3.84	4.69	27.72	19.19	82.985	Vertical	Pass
		2652.5	-3.95	4.71	27.71	19.05	80.353	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2540	-4.06	4.55	27.76	19.15	82.224	Vertical	Pass
		2595	-3.99	4.69	27.72	19.04	80.168	Vertical	Pass
		2650	-3.84	4.72	27.70	19.14	82.035	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-4.13	4.55	27.77	19.09	81.096	Vertical	Pass
		2595	-3.98	4.69	27.72	19.05	80.353	Vertical	Pass
		2647.5	-3.79	4.72	27.69	19.18	82.794	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2545	-3.99	4.57	27.78	19.22	83.560	Vertical	Pass
		2595	-3.78	4.73	27.72	19.21	83.368	Vertical	Pass
		2645	-3.70	4.75	27.68	19.23	83.753	Vertical	Pass

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2537.5	-4.88	4.54	27.75	18.33	68.077	Horizontal	Pass
		2595	-4.63	4.69	27.72	18.40	69.183	Horizontal	Pass
		2652.5	-4.73	4.71	27.71	18.27	67.143	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-4.90	4.55	27.76	18.31	67.764	Horizontal	Pass
		2595	-4.78	4.69	27.72	18.25	66.834	Horizontal	Pass
		2650	-4.67	4.72	27.70	18.31	67.764	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-4.92	4.55	27.77	18.30	67.608	Horizontal	Pass
		2595	-4.69	4.69	27.72	18.34	68.234	Horizontal	Pass
		2647.5	-4.70	4.72	27.69	18.27	67.143	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-4.93	4.57	27.78	18.28	67.298	Horizontal	Pass
		2595	-4.71	4.73	27.72	18.28	67.298	Horizontal	Pass
		2645	-4.62	4.75	27.68	18.31	67.764	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2537.5	-4.83	4.54	27.75	18.38	68.865	Vertical	Pass
		2595	-4.64	4.69	27.72	18.39	69.024	Vertical	Pass
		2652.5	-4.71	4.71	27.71	18.29	67.453	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-4.82	4.55	27.76	18.39	69.024	Vertical	Pass
		2595	-4.65	4.69	27.72	18.38	68.865	Vertical	Pass
		2650	-4.72	4.72	27.70	18.26	66.988	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-4.91	4.55	27.77	18.31	67.764	Vertical	Pass
		2595	-4.75	4.69	27.72	18.28	67.298	Vertical	Pass
		2647.5	-4.67	4.72	27.69	18.30	67.608	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-4.77	4.57	27.78	18.44	69.823	Vertical	Pass
		2595	-4.57	4.73	27.72	18.42	69.502	Vertical	Pass
		2645	-4.49	4.75	27.68	18.44	69.823	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)

8.11 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-3.70	3.76	28.24	20.78	119.674	Horizontal	Pass
		1745	-3.45	3.91	28.22	20.86	121.899	Horizontal	Pass
		1779.3	-3.42	3.93	28.2	20.85	121.619	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	-3.59	3.77	28.23	20.87	122.180	Horizontal	Pass
		1745	-3.56	3.91	28.24	20.77	119.399	Horizontal	Pass
		1778.5	-3.52	3.94	28.25	20.79	119.950	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	-3.78	3.77	28.31	20.76	119.124	Horizontal	Pass
		1745	-3.51	3.91	28.22	20.80	120.226	Horizontal	Pass
		1777.5	-3.46	3.94	28.2	20.80	120.226	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	-3.77	3.79	28.33	20.77	119.399	Horizontal	Pass
		1745	-3.45	3.95	28.22	20.82	120.781	Horizontal	Pass
		1775	-3.42	3.97	28.19	20.80	120.226	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	-3.67	3.79	28.34	20.88	122.462	Horizontal	Pass
		1745	-3.45	3.95	28.22	20.82	120.781	Horizontal	Pass
		1772.5	-3.32	3.97	28.18	20.89	122.744	Horizontal	Pass
20.0MHz Band QPSK	100/0	1720	-3.70	3.81	28.35	20.84	121.339	Horizontal	Pass
		1745	-3.54	3.96	28.22	20.72	118.032	Horizontal	Pass
		1770	-3.27	4	28.16	20.89	122.744	Horizontal	Pass
1.4MHz Band QPSK	6/0	1710.7	-3.58	3.76	28.24	20.90	123.027	Vertical	Pass
		1745	-3.55	3.91	28.22	20.76	119.124	Vertical	Pass
		1779.3	-3.50	3.93	28.2	20.77	119.399	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-3.67	3.77	28.23	20.79	119.950	Vertical	Pass
		1745	-3.56	3.91	28.24	20.77	119.399	Vertical	Pass
		1778.5	-3.53	3.94	28.25	20.78	119.674	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-3.74	3.77	28.31	20.80	120.226	Vertical	Pass
		1745	-3.55	3.91	28.22	20.76	119.124	Vertical	Pass
		1777.5	-3.43	3.94	28.2	20.83	121.060	Vertical	Pass
10.0MHz	50/0	1715	-3.79	3.79	28.34	20.76	119.124	Vertical	Pass

Band QPSK		1745	-3.42	3.95	28.22	20.85	121.619	Vertical	Pass
		1775	-3.45	3.97	28.18	20.76	119.124	Vertical	Pass
15.0MHz Band QPSK	75/0	1717.5	-3.69	3.81	28.35	20.85	121.619	Vertical	Pass
		1745	-3.41	3.96	28.22	20.85	121.619	Vertical	Pass
		1772.5	-3.28	4	28.16	20.88	122.462	Vertical	Pass
20.0MHz Band QPSK	100/0	1720	-3.63	3.79	28.34	20.92	123.595	Vertical	Pass
		1745	-3.35	3.95	28.22	20.92	123.595	Vertical	Pass
		1770	-3.28	3.97	28.18	20.93	123.880	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1710.7	-4.34	3.76	28.24	20.14	103.276	Horizontal	Pass
		1745	-4.21	3.91	28.22	20.10	102.329	Horizontal	Pass
		1779.3	-4.11	3.93	28.2	20.16	103.753	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-4.27	3.77	28.23	20.19	104.472	Horizontal	Pass
		1745	-4.22	3.91	28.24	20.11	102.565	Horizontal	Pass
		1778.5	-4.22	3.94	28.25	20.09	102.094	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-4.49	3.77	28.31	20.05	101.158	Horizontal	Pass
		1745	-4.12	3.91	28.22	20.19	104.472	Horizontal	Pass
		1777.5	-4.07	3.94	28.2	20.19	104.472	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	-4.47	3.79	28.33	20.07	101.625	Horizontal	Pass
		1745	-4.08	3.95	28.22	20.19	104.472	Horizontal	Pass
		1775	-4.12	3.97	28.19	20.10	102.329	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-4.51	3.79	28.34	20.04	100.925	Horizontal	Pass
		1745	-4.22	3.95	28.22	20.05	101.158	Horizontal	Pass
		1772.5	-4.11	3.97	28.18	20.10	102.329	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	-4.38	3.81	28.35	20.16	103.753	Horizontal	Pass
		1745	-4.09	3.96	28.22	20.17	103.992	Horizontal	Pass
		1770	-4.08	4	28.16	20.08	101.859	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-4.30	3.76	28.24	20.18	104.232	Vertical	Pass
		1745	-4.23	3.91	28.22	20.08	101.859	Vertical	Pass
		1779.3	-4.21	3.93	28.2	20.06	101.391	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-4.38	3.77	28.23	20.08	101.859	Vertical	Pass
		1745	-4.26	3.91	28.24	20.07	101.625	Vertical	Pass
		1778.5	-4.15	3.94	28.25	20.16	103.753	Vertical	Pass

5.0MHz	25/0	1712.5	-4.48	3.77	28.31	20.06	101.391	Vertical	Pass
Band 16		1745	-4.24	3.91	28.22	20.07	101.625	Vertical	Pass
QAM		1777.5	-4.22	3.94	28.2	20.04	100.925	Vertical	Pass
10.0MHz	50/0	1715	-4.36	3.79	28.34	20.19	104.472	Vertical	Pass
Band 16		1745	-4.13	3.95	28.22	20.14	103.276	Vertical	Pass
QAM		1775	-4.12	3.97	28.18	20.09	102.094	Vertical	Pass
15.0MHz	75/0	1717.5	-4.44	3.81	28.35	20.10	102.329	Vertical	Pass
Band 16		1745	-4.14	3.96	28.22	20.12	102.802	Vertical	Pass
QAM		1772.5	-4.06	4	28.16	20.10	102.329	Vertical	Pass
20.0MHz	100/0	1720	-4.31	3.79	28.34	20.24	105.682	Vertical	Pass
Band 16		1745	-4.06	3.95	28.22	20.21	104.954	Vertical	Pass
QAM		1770	-3.98	3.97	28.18	20.23	105.439	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

LTE Band 2,4,5,7,12, 17, 26,41,66

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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-49.13	4.04	33.51	-19.66	-13	-6.66	Horizontal
3701.4	-47.18	4.04	33.51	-17.71	-13	-4.71	Vertical
5552.1	-47.18	5.24	35.84	-16.58	-13	-3.58	Vertical
5552.1	-52.91	5.24	35.84	-22.31	-13	-9.31	Horizontal
203.5	-34.24	1.43	16.02	-19.65	-13	-6.65	Vertical
231.8	-35.55	1.30	17.99	-18.86	-13	-5.86	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-49.02	4.04	33.56	-19.50	-13	-6.50	Horizontal
3760.0	-47.81	4.04	33.56	-18.29	-13	-5.29	Vertical
5640.0	-52.33	5.24	35.91	-21.66	-13	-8.66	Vertical
5640.0	-53.18	5.24	35.91	-22.51	-13	-9.51	Horizontal
196.5	-37.66	1.62	16.97	-22.31	-13	-9.31	Vertical
329.7	-44.62	1.74	15.98	-30.39	-13	-17.39	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-44.77	4.04	34.00	-14.81	-13	-1.81	Horizontal
3818.6	-46.95	4.04	34.00	-16.99	-13	-3.99	Vertical
5727.9	-51.50	5.24	36.04	-20.70	-13	-7.70	Vertical
5727.9	-51.71	5.24	36.04	-20.91	-13	-7.91	Horizontal
208.1	-41.71	1.42	17.29	-25.84	-13	-12.84	Vertical
436.5	-41.00	1.50	17.90	-24.59	-13	-11.59	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-52.73	4.07	33.54	-23.26	-13	-10.26	Horizontal
3720.0	-50.81	4.07	33.54	-21.34	-13	-8.34	Vertical
5580.0	-50.20	5.28	35.86	-19.62	-13	-6.62	Vertical
5580.0	-53.13	5.28	35.86	-22.55	-13	-9.55	Horizontal
183.0	-42.30	1.58	16.89	-26.98	-13	-13.98	Vertical
268.8	-44.06	1.76	17.26	-28.56	-13	-15.56	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.92	4.04	33.56	-18.40	-13	-5.40	Horizontal
3760.0	-49.12	4.04	33.56	-19.60	-13	-6.60	Vertical
5640.0	-53.97	5.24	35.91	-23.30	-13	-10.30	Vertical
5640.0	-49.87	5.24	35.91	-19.20	-13	-6.20	Horizontal
177.7	-36.38	1.46	16.27	-21.57	-13	-8.57	Vertical
378.6	-38.02	1.59	15.15	-24.46	-13	-11.46	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-53.32	4.04	34.00	-23.36	-13	-10.36	Horizontal
3800.0	-48.30	4.04	34.00	-18.34	-13	-5.34	Vertical
5700.0	-50.83	5.24	36.04	-20.03	-13	-7.03	Vertical
5700.0	-53.30	5.24	36.04	-22.50	-13	-9.50	Horizontal
190.6	-34.50	1.36	17.39	-18.46	-13	-5.46	Vertical
243.0	-38.95	1.66	15.39	-25.22	-13	-12.22	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-46.60	4.02	29.80	-20.82	-13	-7.82	Horizontal
3421.4	-49.69	4.02	29.80	-23.91	-13	-10.91	Vertical
5132.1	-50.44	5.24	35.84	-19.84	-13	-6.84	Vertical
5132.1	-53.27	5.24	35.84	-22.67	-13	-9.67	Horizontal
197.7	-42.99	1.68	16.04	-28.63	-13	-15.63	Vertical
446.2	-38.64	1.78	17.74	-22.68	-13	-9.68	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-52.65	4.03	30.00	-26.68	-13	-13.68	Horizontal
3465.0	-48.18	4.03	30.00	-22.21	-13	-9.21	Vertical
5197.5	-48.16	5.25	35.86	-17.55	-13	-4.55	Vertical
5197.5	-49.93	5.25	35.86	-19.32	-13	-6.32	Horizontal
183.2	-43.27	1.72	17.69	-27.30	-13	-14.30	Vertical
312.7	-36.27	1.62	16.02	-21.86	-13	-8.86	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-50.95	4.05	30.01	-24.99	-13	-11.99	Horizontal
3508.6	-53.30	4.05	30.01	-27.34	-13	-14.34	Vertical
5262.9	-44.79	5.26	35.86	-14.19	-13	-1.19	Vertical
5262.9	-51.55	5.26	35.86	-20.95	-13	-7.95	Horizontal
186.7	-41.12	1.80	16.69	-26.23	-13	-13.23	Vertical
432.5	-37.90	1.75	16.66	-23.00	-13	-10.00	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-49.10	4.02	29.80	-23.32	-13	-10.32	Horizontal
3440.0	-50.84	4.02	29.80	-25.06	-13	-12.06	Vertical
5160.0	-53.70	5.24	35.84	-23.10	-13	-10.10	Vertical
5160.0	-50.71	5.24	35.84	-20.11	-13	-7.11	Horizontal
183.1	-38.79	1.57	17.26	-23.10	-13	-10.10	Vertical
293.8	-36.49	1.78	16.35	-21.92	-13	-8.92	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-48.98	4.03	30.00	-23.01	-13	-10.01	Horizontal
3465.0	-48.20	4.03	30.00	-22.23	-13	-9.23	Vertical
5197.5	-46.23	5.25	35.86	-15.62	-13	-2.62	Vertical
5197.5	-49.12	5.25	35.86	-18.51	-13	-5.51	Horizontal
181.6	-40.08	1.44	17.95	-23.57	-13	-10.57	Vertical
334.6	-34.65	1.65	16.09	-20.21	-13	-7.21	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-45.85	4.05	27.68	-22.22	-13	-9.22	Horizontal
3490.0	-44.78	4.05	27.68	-21.15	-13	-8.15	Vertical
5235.0	-46.83	5.26	35.86	-16.23	-13	-3.23	Vertical
5235.0	-49.25	5.26	35.86	-18.65	-13	-5.65	Horizontal
189.1	-40.46	1.61	16.85	-25.22	-13	-12.22	Vertical
406.1	-37.45	1.61	15.19	-23.87	-13	-10.87	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-47.81	2.78	27.50	-23.09	-13	-10.09	Horizontal
1649.4	-48.08	2.78	27.50	-23.36	-13	-10.36	Vertical
2474.1	-47.65	2.90	27.80	-22.75	-13	-9.75	Vertical
2474.1	-52.71	2.90	27.80	-27.81	-13	-14.81	Horizontal
192.6	-38.79	1.76	17.59	-22.96	-13	-9.96	Vertical
333.0	-37.16	1.63	15.87	-22.92	-13	-9.92	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-50.90	2.80	27.48	-26.22	-13	-13.22	Horizontal
1673.0	-50.16	2.80	27.48	-25.48	-13	-12.48	Vertical
2509.5	-45.26	2.91	27.70	-20.47	-13	-7.47	Vertical
2509.5	-50.17	2.91	27.70	-25.38	-13	-12.38	Horizontal
190.3	-41.93	1.61	15.68	-27.86	-13	-14.86	Vertical
268.7	-44.53	1.59	17.52	-28.61	-13	-15.61	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-52.39	2.82	27.43	-27.78	-13	-14.78	Horizontal
1696.6	-52.73	2.82	27.43	-28.12	-13	-15.12	Vertical
2544.9	-49.33	2.92	27.74	-24.51	-13	-11.51	Vertical
2544.9	-50.32	2.92	27.74	-25.50	-13	-12.50	Horizontal
200.8	-37.00	1.69	16.67	-22.01	-13	-9.01	Vertical
298.3	-41.60	1.70	17.18	-26.12	-13	-13.12	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-49.08	2.78	27.50	-24.36	-13	-11.36	Horizontal
1658.0	-51.37	2.78	27.50	-26.65	-13	-13.65	Vertical
2487.0	-46.05	2.90	27.80	-21.15	-13	-8.15	Vertical
2487.0	-52.98	2.90	27.80	-28.08	-13	-15.08	Horizontal
207.3	-42.36	1.71	15.57	-28.50	-13	-15.50	Vertical
257.7	-37.49	1.34	16.40	-22.43	-13	-9.43	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-50.66	2.80	27.48	-25.98	-13	-12.98	Horizontal
1673.0	-49.63	2.80	27.48	-24.95	-13	-11.95	Vertical
2509.5	-49.04	2.91	27.70	-24.25	-13	-11.25	Vertical
2509.5	-49.20	2.91	27.70	-24.41	-13	-11.41	Horizontal
204.5	-43.39	1.44	17.04	-27.79	-13	-14.79	Vertical
463.5	-44.34	1.76	17.62	-28.48	-13	-15.48	Horizontal
Test Results for High Channel 844MHz							
1688.0	-49.71	2.82	27.43	-25.10	-13	-12.10	Horizontal
1688.0	-50.01	2.82	27.43	-25.40	-13	-12.40	Vertical
2532.0	-46.78	2.92	27.74	-21.96	-13	-8.96	Vertical
2532.0	-52.40	2.92	27.74	-27.58	-13	-14.58	Horizontal
206.0	-34.34	1.74	17.70	-18.38	-13	-5.38	Vertical
343.1	-44.35	1.41	17.46	-28.29	-13	-15.29	Horizontal

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

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

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

9.4 LTE BAND 7

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

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-60.56	5.23	35.81	-29.98	-25	-4.98	Horizontal
5005.0	-60.13	5.23	35.81	-29.55	-25	-4.55	Vertical
7507.5	-63.74	5.67	36.85	-32.56	-25	-7.56	Vertical
7507.5	-62.46	5.67	36.85	-31.28	-25	-6.28	Horizontal
176.6	-46.84	1.73	17.97	-30.60	-25	-5.60	Vertical
311.1	-48.27	1.38	15.11	-34.54	-25	-9.54	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-64.37	5.23	35.82	-33.78	-25	-8.78	Horizontal
5070.0	-59.31	5.23	35.82	-28.72	-25	-3.72	Vertical
7605.0	-64.71	5.67	36.85	-33.53	-25	-8.53	Vertical
7605.0	-64.22	5.67	36.85	-33.04	-25	-8.04	Horizontal
211.2	-47.10	1.77	16.17	-32.69	-25	-7.69	Vertical
435.6	-44.66	1.63	15.21	-31.08	-25	-6.08	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-63.56	5.24	35.83	-32.97	-25	-7.97	Horizontal
5135.0	-60.95	5.24	35.83	-30.36	-25	-5.36	Vertical
7702.5	-62.88	5.68	36.87	-31.69	-25	-6.69	Vertical
7702.5	-63.94	5.68	36.87	-32.75	-25	-7.75	Horizontal
196.2	-48.08	1.58	17.56	-32.10	-25	-7.10	Vertical
274.8	-49.21	1.45	16.58	-34.08	-25	-9.08	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	-61.84	5.23	35.82	-31.25	-25	-6.25	Horizontal
5020.0	-63.26	5.23	35.82	-32.67	-25	-7.67	Vertical
7530.0	-61.05	5.67	36.86	-29.86	-25	-4.86	Vertical
7530.0	-64.70	5.67	36.86	-33.51	-25	-8.51	Horizontal
194.5	-54.08	1.63	15.76	-39.95	-25	-14.95	Vertical
299.0	-47.10	1.71	15.44	-33.37	-25	-8.37	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-63.84	5.23	35.82	-33.25	-25	-8.25	Horizontal
5070.0	-63.51	5.23	35.82	-32.92	-25	-7.92	Vertical
7605.0	-64.85	5.67	36.85	-33.67	-25	-8.67	Vertical
7605.0	-60.65	5.67	36.85	-29.47	-25	-4.47	Horizontal
184.4	-52.05	1.79	16.84	-36.99	-25	-11.99	Vertical
449.7	-47.15	1.71	17.64	-31.22	-25	-6.22	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-64.20	5.24	35.83	-33.61	-25	-8.61	Horizontal
5120.0	-59.98	5.24	35.83	-29.39	-25	-4.39	Vertical
7680.0	-63.34	5.70	36.88	-32.16	-25	-7.16	Vertical
7680.0	-64.02	5.70	36.88	-32.84	-25	-7.84	Horizontal
208.2	-46.46	1.79	16.84	-31.40	-25	-6.40	Vertical
252.8	-47.57	1.71	17.64	-31.64	-25	-6.64	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-53.46	2.60	27.20	-28.86	-13	-15.86	Horizontal
1399.4	-46.57	2.60	27.20	-21.97	-13	-8.97	Vertical
2099.1	-53.27	2.85	27.54	-28.58	-13	-15.58	Vertical
2099.1	-49.74	2.85	27.54	-25.05	-13	-12.05	Horizontal
206.9	-36.08	1.49	17.78	-19.79	-13	-6.79	Vertical
420.3	-44.82	1.36	17.33	-28.85	-13	-15.85	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-52.05	2.61	27.28	-27.38	-13	-14.38	Horizontal
1415.0	-46.81	2.61	27.28	-22.14	-13	-9.14	Vertical
2122.5	-46.16	2.87	27.59	-21.44	-13	-8.44	Vertical
2122.5	-52.67	2.87	27.59	-27.95	-13	-14.95	Horizontal
202.3	-36.62	1.73	15.74	-22.61	-13	-9.61	Vertical
348.7	-42.76	1.62	15.79	-28.59	-13	-15.59	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-45.91	2.63	27.28	-21.26	-13	-8.26	Horizontal
1430.6	-47.18	2.63	27.28	-22.53	-13	-9.53	Vertical
2145.9	-48.56	2.88	27.60	-23.84	-13	-10.84	Vertical
2145.9	-51.37	2.88	27.60	-26.65	-13	-13.65	Horizontal
181.3	-36.77	1.61	18.00	-20.38	-13	-7.38	Vertical
392.4	-44.30	1.45	15.49	-30.27	-13	-17.27	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-44.29	2.61	27.26	-19.64	-13	-6.64	Horizontal
1408.0	-44.47	2.61	27.26	-19.82	-13	-6.82	Vertical
2112.0	-51.51	2.87	27.58	-26.80	-13	-13.80	Vertical
2112.0	-52.90	2.87	27.58	-28.19	-13	-15.19	Horizontal
182.9	-35.02	1.31	16.97	-19.36	-13	-6.36	Vertical
407.5	-43.98	1.65	16.70	-28.93	-13	-15.93	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-49.79	2.61	27.28	-25.12	-13	-12.12	Horizontal
1415.0	-48.90	2.61	27.28	-24.23	-13	-11.23	Vertical
2122.5	-47.17	2.87	27.59	-22.45	-13	-9.45	Vertical
2122.5	-50.93	2.87	27.59	-26.21	-13	-13.21	Horizontal
184.4	-42.86	1.72	17.99	-26.59	-13	-13.59	Vertical
303.3	-38.57	1.73	17.94	-22.36	-13	-9.36	Horizontal
Test Results for High Channel 711MHz							
1422.0	-47.97	2.62	27.28	-23.31	-13	-10.31	Horizontal
1422.0	-50.24	2.62	27.28	-25.58	-13	-12.58	Vertical
2133.0	-53.63	2.87	27.60	-28.90	-13	-15.90	Vertical
2133.0	-53.01	2.87	27.60	-28.28	-13	-15.28	Horizontal
210.2	-38.13	1.58	15.93	-23.78	-13	-10.78	Vertical
301.7	-42.60	1.36	15.59	-28.37	-13	-15.37	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 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	-44.72	2.61	27.28	-20.05	-13	-7.05	Horizontal
1413.0	-50.95	2.61	27.28	-26.28	-13	-13.28	Vertical
2119.5	-50.57	2.87	27.59	-25.85	-13	-12.85	Vertical
2119.5	-50.56	2.87	27.59	-25.84	-13	-12.84	Horizontal
208.7	-34.87	1.71	16.15	-20.43	-13	-7.43	Vertical
403.9	-40.30	1.41	17.32	-24.39	-13	-11.39	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-47.33	2.62	27.30	-22.65	-13	-9.65	Horizontal
1420.0	-49.79	2.62	27.30	-25.11	-13	-12.11	Vertical
2130.0	-45.51	2.87	27.62	-20.76	-13	-7.76	Vertical
2130.0	-52.83	2.87	27.62	-28.08	-13	-15.08	Horizontal
204.7	-40.97	1.42	15.25	-27.15	-13	-14.15	Vertical
455.1	-35.18	1.36	17.19	-19.35	-13	-6.35	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-51.71	2.66	27.28	-27.09	-13	-14.09	Horizontal
1427.0	-46.46	2.66	27.28	-21.84	-13	-8.84	Vertical
2140.5	-46.79	2.88	27.60	-22.07	-13	-9.07	Vertical
2140.5	-49.76	2.88	27.60	-25.04	-13	-12.04	Horizontal
210.9	-44.27	1.32	17.29	-28.30	-13	-15.30	Vertical
314.8	-39.60	1.72	16.89	-24.43	-13	-11.43	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	-44.19	2.62	27.30	-19.51	-13	-6.51	Horizontal
1418.0	-51.77	2.62	27.30	-27.09	-13	-14.09	Vertical
2127.0	-45.67	2.87	27.62	-20.92	-13	-7.92	Vertical
2127.0	-51.88	2.87	27.62	-27.13	-13	-14.13	Horizontal
180.2	-43.06	1.35	16.91	-27.50	-13	-14.50	Vertical
407.1	-39.79	1.62	16.31	-25.10	-13	-12.10	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-46.14	2.62	27.30	-21.46	-13	-8.46	Horizontal
1420.0	-45.40	2.62	27.30	-20.72	-13	-7.72	Vertical
2130.0	-53.37	2.87	27.62	-28.62	-13	-15.62	Vertical
2130.0	-51.47	2.87	27.62	-26.72	-13	-13.72	Horizontal
197.2	-39.58	1.51	17.14	-23.95	-13	-10.95	Vertical
312.6	-44.48	1.77	16.88	-29.37	-13	-16.37	Horizontal
Test Results for High Channel 711MHz							
1422.0	-52.72	2.62	27.30	-28.04	-13	-15.04	Horizontal
1422.0	-45.35	2.62	27.30	-20.67	-13	-7.67	Vertical
2133.0	-49.75	2.87	27.62	-25.00	-13	-12.00	Vertical
2133.0	-49.71	2.87	27.62	-24.96	-13	-11.96	Horizontal
194.8	-37.74	1.78	15.95	-23.57	-13	-10.57	Vertical
298.3	-39.12	1.34	17.95	-22.52	-13	-9.52	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.

9.7LTE BAND 26A

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	-52.12	4.26	29.80	-26.58	-13	-13.58	Horizontal
1629.4	-51.48	4.26	29.80	-25.94	-13	-12.94	Vertical
2444.1	-46.57	5.36	35.84	-16.09	-13	-3.09	Vertical
2444.1	-53.97	5.36	35.84	-23.49	-13	-10.49	Horizontal
193.0	-44.03	1.68	16.04	-29.67	-13	-16.67	Vertical
448.2	-34.79	1.78	17.74	-18.83	-13	-5.83	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-44.06	4.28	30.00	-18.34	-13	-5.34	Horizontal
1638.0	-45.11	4.28	30.00	-19.39	-13	-6.39	Vertical
2457.0	-53.38	5.41	35.86	-22.93	-13	-9.93	Vertical
2457.0	-53.85	5.41	35.86	-23.40	-13	-10.40	Horizontal
209.8	-37.89	1.72	17.69	-21.92	-13	-8.92	Vertical
310.4	-42.31	1.62	16.02	-27.90	-13	-14.90	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-45.37	4.31	30.01	-19.67	-13	-6.67	Horizontal
1646.6	-46.90	4.31	30.01	-21.20	-13	-8.20	Vertical
2469.9	-48.90	5.43	35.86	-18.47	-13	-5.47	Vertical
2469.9	-53.55	5.43	35.86	-23.12	-13	-10.12	Horizontal
177.0	-40.43	1.80	16.69	-25.54	-13	-12.54	Vertical
242.1	-44.21	1.75	16.66	-29.31	-13	-16.31	Horizontal

QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (15MHZ BANDWIDTH)

Test Results for Channel 819MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1638.0	-49.68	4.28	30.00	-23.96	-13	-10.96	Horizontal
1638.0	-48.00	4.28	30.00	-22.28	-13	-9.28	Vertical
2457.0	-51.47	5.41	35.86	-21.02	-13	-8.02	Vertical
2457.0	-52.54	5.41	35.86	-22.09	-13	-9.09	Horizontal
196.4	-35.22	1.44	17.95	-18.71	-13	-5.71	Vertical
233.1	-37.13	1.65	16.09	-22.69	-13	-9.69	Horizontal

9.8 LTE BAND 26B

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	-52.87	4.26	29.80	-27.33	-13	-14.33	Horizontal
1649.4	-47.03	4.26	29.80	-21.49	-13	-8.49	Vertical
2474.1	-45.27	5.36	35.84	-14.79	-13	-1.79	Vertical
2474.1	-51.71	5.36	35.84	-21.23	-13	-8.23	Horizontal
182.1	-34.48	1.68	16.04	-20.12	-13	-7.12	Vertical
239.4	-41.93	1.78	17.74	-25.97	-13	-12.97	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-53.11	4.28	30.00	-27.39	-13	-14.39	Horizontal
1673.0	-52.03	4.28	30.00	-26.31	-13	-13.31	Vertical
2509.5	-47.57	5.41	35.86	-17.12	-13	-4.12	Vertical
2509.5	-49.18	5.41	35.86	-18.73	-13	-5.73	Horizontal
185.2	-35.35	1.72	17.69	-19.38	-13	-6.38	Vertical
304.8	-34.22	1.62	16.02	-19.81	-13	-6.81	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-52.04	4.31	30.01	-26.34	-13	-13.34	Horizontal
1696.6	-47.81	4.31	30.01	-22.11	-13	-9.11	Vertical
2544.9	-50.67	5.43	35.86	-20.24	-13	-7.24	Vertical
2544.9	-53.79	5.43	35.86	-23.36	-13	-10.36	Horizontal
177.4	-42.03	1.80	16.69	-27.14	-13	-14.14	Vertical
363.5	-43.05	1.75	16.66	-28.15	-13	-15.15	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	-51.91	4.29	29.80	-26.40	-13	-13.40	Horizontal
1663.0	-47.58	4.29	29.80	-22.07	-13	-9.07	Vertical
2494.5	-52.73	5.38	35.84	-22.27	-13	-9.27	Vertical
2494.5	-49.06	5.38	35.84	-18.60	-13	-5.60	Horizontal
183.3	-39.38	1.57	17.26	-23.69	-13	-10.69	Vertical
443.6	-43.94	1.78	16.35	-29.37	-13	-16.37	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-51.32	4.28	30.00	-25.60	-13	-12.60	Horizontal
1673.0	-44.18	4.28	30.00	-18.46	-13	-5.46	Vertical
2509.5	-47.88	5.41	35.86	-17.43	-13	-4.43	Vertical
2509.5	-49.61	5.41	35.86	-19.16	-13	-6.16	Horizontal
209.2	-39.18	1.44	17.95	-22.67	-13	-9.67	Vertical
320.5	-36.29	1.65	16.09	-21.85	-13	-8.85	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-48.94	4.35	27.68	-25.61	-13	-12.61	Horizontal
1683.0	-47.81	4.35	27.68	-24.48	-13	-11.48	Vertical
2524.5	-48.75	5.42	35.86	-18.31	-13	-5.31	Vertical
2524.5	-51.07	5.42	35.86	-20.63	-13	-7.63	Horizontal
178.5	-43.35	1.61	16.85	-28.11	-13	-15.11	Vertical
330.5	-34.30	1.61	15.19	-20.72	-13	-7.72	Horizontal

9.9 LTE BAND 41

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

Test Results for Low Channel 2537.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5075.0	-63.66	5.13	35.81	-32.98	-25	-7.98	Horizontal
5075.0	-63.74	5.13	35.81	-33.06	-25	-8.06	Vertical
7612.5	-60.24	5.42	36.85	-28.81	-25	-3.81	Vertical
7612.5	-63.14	5.42	36.85	-31.71	-25	-6.71	Horizontal
187.0	-44.11	1.56	17.97	-27.70	-25	-2.70	Vertical
332.0	-49.31	1.33	15.11	-35.53	-25	-10.53	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-59.45	5.16	35.82	-28.79	-25	-3.79	Horizontal
5190.0	-60.27	5.16	35.82	-29.61	-25	-4.61	Vertical
7785.0	-59.23	5.53	36.85	-27.91	-25	-2.91	Vertical
7785.0	-64.58	5.53	36.85	-33.26	-25	-8.26	Horizontal
199.0	-50.41	1.77	16.17	-36.00	-25	-11.00	Vertical
407.9	-49.83	1.63	15.21	-36.25	-25	-11.25	Horizontal
Test Results for High Channel 2652.5MHz							
5305.0	-59.66	5.23	35.83	-29.06	-25	-4.06	Horizontal
5305.0	-60.63	5.23	35.83	-30.03	-25	-5.03	Vertical
7957.5	-60.44	5.62	36.87	-29.19	-25	-4.19	Vertical
7957.5	-64.89	5.62	36.87	-33.64	-25	-8.64	Horizontal
201.4	-49.80	1.58	17.56	-33.82	-25	-8.82	Vertical
243.4	-54.00	1.45	16.58	-38.87	-25	-13.87	Horizontal

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

Test Results for Low Channel 2545MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5090.0	-63.26	5.23	35.82	-32.67	-25	-7.67	Horizontal
5090.0	-62.96	5.23	35.82	-32.37	-25	-7.37	Vertical
7635.0	-62.46	5.67	36.86	-31.27	-25	-6.27	Vertical
7635.0	-60.83	5.67	36.86	-29.64	-25	-4.64	Horizontal
205.4	-50.14	1.55	15.76	-35.93	-25	-10.93	Vertical
429.6	-44.53	1.62	15.44	-30.71	-25	-5.71	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-63.39	5.16	35.82	-32.73	-25	-7.73	Horizontal
5190.0	-60.79	5.16	35.82	-30.13	-25	-5.13	Vertical
7785.0	-61.82	5.53	36.85	-30.50	-25	-5.50	Vertical
7785.0	-61.20	5.53	36.85	-29.88	-25	-4.88	Horizontal
207.3	-51.83	1.58	16.84	-36.57	-25	-11.57	Vertical
254.7	-46.35	1.61	17.64	-30.32	-25	-5.32	Horizontal
Test Results for High Channel 2645MHz							
5290.0	-59.62	5.24	35.83	-29.03	-25	-4.03	Horizontal
5290.0	-60.81	5.24	35.83	-30.22	-25	-5.22	Vertical
7935.0	-63.19	5.70	36.88	-32.01	-25	-7.01	Vertical
7935.0	-59.36	5.70	36.88	-28.18	-25	-3.18	Horizontal
190.0	-47.21	1.48	16.84	-31.85	-25	-6.85	Vertical
325.4	-48.03	1.59	17.64	-31.98	-25	-6.98	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.

9.10 LTE BAND 66

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

Test Results for Low Channel 1710.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-63.57	3.84	35.81	-31.60	-13	-18.60	Horizontal
3421.4	-62.97	3.84	35.81	-31.00	-13	-18.00	Vertical
5132.1	-60.68	5.18	36.85	-29.01	-13	-16.01	Vertical
5132.1	-61.09	5.18	36.85	-29.42	-13	-16.42	Horizontal
184.3	-44.99	1.56	17.97	-28.58	-13	-15.58	Vertical
390.0	-53.84	1.33	15.11	-40.06	-13	-27.06	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-62.91	3.85	35.82	-30.94	-13	-17.94	Horizontal
3490.0	-59.59	3.85	35.82	-27.62	-13	-14.62	Vertical
5235.0	-64.44	5.21	36.85	-32.80	-13	-19.80	Vertical
5235.0	-64.15	5.21	36.85	-32.51	-13	-19.51	Horizontal
204.2	-45.55	1.77	16.17	-31.14	-13	-18.14	Vertical
419.1	-54.36	1.63	15.21	-40.78	-13	-27.78	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-60.91	3.86	35.83	-28.94	-13	-15.94	Horizontal
3558.6	-61.86	3.86	35.83	-29.89	-13	-16.89	Vertical
5337.9	-64.30	5.24	36.87	-32.67	-13	-19.67	Vertical
5337.9	-62.05	5.24	36.87	-30.42	-13	-17.42	Horizontal
212.1	-49.06	1.58	17.56	-33.08	-13	-20.08	Vertical
248.3	-47.55	1.45	16.58	-32.42	-13	-19.42	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	-61.49	3.84	35.82	-29.51	-13	-16.51	Horizontal
3440.0	-63.33	3.84	35.82	-31.35	-13	-18.35	Vertical
5160.0	-63.51	5.18	36.86	-31.83	-13	-18.83	Vertical
5160.0	-63.07	5.18	36.86	-31.39	-13	-18.39	Horizontal
194.7	-47.20	1.56	15.76	-33.00	-13	-20.00	Vertical
362.5	-50.72	1.33	15.44	-36.61	-13	-23.61	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-62.38	3.85	35.82	-30.41	-13	-17.41	Horizontal
3490.0	-61.47	3.85	35.82	-29.50	-13	-16.50	Vertical
5235.0	-59.85	5.21	36.85	-28.21	-13	-15.21	Vertical
5235.0	-62.78	5.21	36.85	-31.14	-13	-18.14	Horizontal
193.3	-49.07	1.77	16.84	-33.99	-13	-20.99	Vertical
389.9	-49.05	1.63	17.64	-33.04	-13	-20.04	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-64.03	3.86	35.83	-32.06	-13	-19.06	Horizontal
3540.0	-59.15	3.86	35.83	-27.18	-13	-14.18	Vertical
5310.0	-63.81	5.24	36.88	-32.17	-13	-19.17	Vertical
5310.0	-64.59	5.24	36.88	-32.95	-13	-19.95	Horizontal
208.1	-47.87	1.58	16.84	-32.60	-13	-19.60	Vertical
285.5	-46.73	1.45	17.64	-30.54	-13	-17.54	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 3.29V, Normal, DC 3.87V and High voltage, DC 4.45V.

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 2,4,5,7,12,17, 26,41,66

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]
3.29	1880	12.5	0.006644	2.5
3.87	1880	13.4	0.007134	2.5
4.45	1880	13.7	0.007279	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.2	0.006510	2.5
Extreme (50C)	1880	11.7	0.006246	2.5
Extreme (40C)	1880	14.0	0.007432	2.5
Extreme (30C)	1880	13.3	0.007070	2.5
Extreme (10C)	1880	14.3	0.007631	2.5
Extreme (0C)	1880	12.3	0.006534	2.5
Extreme (-10C)	1880	13.2	0.007026	2.5
Extreme (-20C)	1880	14.4	0.007683	2.5
Extreme (-30C)	1880	15.2	0.008061	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]
3.29	1880	9.5	0.005058	2.5
3.87	1880	8.7	0.004626	2.5
4.45	1880	8.4	0.004451	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	10.1	0.005361	2.5
Extreme (50C)	1880	8.9	0.004741	2.5
Extreme (40C)	1880	7.7	0.00407968	2.5
Extreme (30C)	1880	9.5	0.005049013	2.5
Extreme (10C)	1880	8.7	0.004633657	2.5
Extreme (0C)	1880	7.9	0.004190223	2.5
Extreme (-10C)	1880	8.8	0.004681715	2.5
Extreme (-20C)	1880	8.6	0.00455032	2.5
Extreme (-30C)	1880	7.9	0.004226194	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]
3.29	1732.5	9.2	0.005326	2.5
3.87	1732.5	8.5	0.004918	2.5
4.45	1732.5	8.3	0.004803	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.0	0.004613	2.5
Extreme (50C)	1732.5	9.0	0.005191	2.5
Extreme (40C)	1732.5	7.6	0.004401	2.5
Extreme (30C)	1732.5	5.5	0.003197	2.5
Extreme (10C)	1732.5	7.5	0.004344	2.5
Extreme (0C)	1732.5	9.3	0.005395	2.5
Extreme (-10C)	1732.5	8.9	0.005131	2.5
Extreme (-20C)	1732.5	7.3	0.004231	2.5
Extreme (-30C)	1732.5	8.1	0.004653	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]
3.29	1732.5	9.6	0.005540	2.5
3.87	1732.5	8.8	0.005102	2.5
4.45	1732.5	8.2	0.004721	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.9	0.005740	2.5
Extreme (50C)	1732.5	8.9	0.005118	2.5
Extreme (40C)	1732.5	8.3	0.004807	2.5
Extreme (30C)	1732.5	9.3	0.005366	2.5
Extreme (10C)	1732.5	9.2	0.005313	2.5
Extreme (0C)	1732.5	7.8	0.004513	2.5
Extreme (-10C)	1732.5	9.2	0.005291	2.5
Extreme (-20C)	1732.5	8.7	0.005040	2.5
Extreme (-30C)	1732.5	8.3	0.004806	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]
3.29	836.5	5.4	0.006489	2.5
3.87	836.5	7.0	0.008410	2.5
4.45	836.5	4.6	0.005550	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.7	0.006815	2.5
Extreme (50C)	836.5	5.9	0.007044	2.5
Extreme (40C)	836.5	6.2	0.007435	2.5
Extreme (30C)	836.5	6.2	0.007399	2.5
Extreme (10C)	836.5	5.7	0.006807	2.5
Extreme (0C)	836.5	4.8	0.005759	2.5
Extreme (-10C)	836.5	5.1	0.006143	2.5
Extreme (-20C)	836.5	6.3	0.007563	2.5
Extreme (-30C)	836.5	6.1	0.007338	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]
3.29	836.5	5.7	0.006865	2.5
3.87	836.5	6.9	0.008228	2.5
4.45	836.5	4.3	0.005168	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.1	0.007307	2.5
Extreme (50C)	836.5	6.1	0.007292	2.5
Extreme (40C)	836.5	6.4	0.007659	2.5
Extreme (30C)	836.5	6.0	0.007219	2.5
Extreme (10C)	836.5	5.0	0.006027	2.5
Extreme (0C)	836.5	5.8	0.006879	2.5
Extreme (-10C)	836.5	5.5	0.006629	2.5
Extreme (-20C)	836.5	6.0	0.007229	2.5
Extreme (-30C)	836.5	5.8	0.006955	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]
3.29	2535	10.3	0.004083	2.5
3.87	2535	8.7	0.003443	2.5
4.45	2535	8.5	0.003336	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.6	0.003773	2.5
Extreme (50C)	2535	8.8	0.003455	2.5
Extreme (40C)	2535	8.9	0.003505	2.5
Extreme (30C)	2535	8.6	0.003378	2.5
Extreme (10C)	2535	8.6	0.003389	2.5
Extreme (0C)	2535	8.6	0.003389	2.5
Extreme (-10C)	2535	9.1	0.003572	2.5
Extreme (-20C)	2535	9.2	0.003629	2.5
Extreme (-30C)	2535	8.1	0.003213	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]
3.29	2535	6.9	0.002722	2.5
3.87	2535	6.3	0.002485	2.5
4.45	2535	5.5	0.002179	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.9	0.002722	2.5
Extreme (50C)	2535	5.2	0.002040	2.5
Extreme (40C)	2535	5.1	0.002026	2.5
Extreme (30C)	2535	6.2	0.002456	2.5
Extreme (10C)	2535	6.0	0.002376	2.5
Extreme (0C)	2535	4.9	0.001937	2.5
Extreme (-10C)	2535	5.5	0.002165	2.5
Extreme (-20C)	2535	6.0	0.002377	2.5
Extreme (-30C)	2535	5.9	0.002310	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]
3.29	707.5	8.4	0.011867	2.5
3.87	707.5	10.4	0.014765	2.5
4.45	707.5	8.6	0.012181	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	9.2	0.013054	2.5
Extreme (50C)	707.5	7.4	0.010455	2.5
Extreme (40C)	707.5	7.5	0.010559	2.5
Extreme (30C)	707.5	8.2	0.011592	2.5
Extreme (10C)	707.5	7.2	0.010112	2.5
Extreme (0C)	707.5	9.0	0.012676	2.5
Extreme (-10C)	707.5	8.6	0.012189	2.5
Extreme (-20C)	707.5	8.4	0.011888	2.5
Extreme (-30C)	707.5	8.2	0.011536	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]
3.29	707.5	7.2	0.010132	2.5
3.87	707.5	8.7	0.012290	2.5
4.45	707.5	7.4	0.010441	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	9.5	0.013377	2.5
Extreme (50C)	707.5	8.5	0.012059	2.5
Extreme (40C)	707.5	9.4	0.013275	2.5
Extreme (30C)	707.5	7.4	0.010442	2.5
Extreme (10C)	707.5	9.3	0.013076	2.5
Extreme (0C)	707.5	7.1	0.010096	2.5
Extreme (-10C)	707.5	7.5	0.010657	2.5
Extreme (-20C)	707.5	8.9	0.012526	2.5
Extreme (-30C)	707.5	8.4	0.011890	2.5

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

10.6 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]
3.29	710.0	9.8	0.013777	2.5
3.87	710.0	9.1	0.012811	2.5
4.45	710.0	8.1	0.011458	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.6	0.013541	2.5
Extreme (50C)	710.0	8.6	0.012079	2.5
Extreme (40C)	710.0	8.1	0.011473	2.5
Extreme (30C)	710.0	8.8	0.012344	2.5
Extreme (10C)	710.0	9.1	0.012758	2.5
Extreme (0C)	710.0	8.1	0.011403	2.5
Extreme (-10C)	710.0	8.5	0.011989	2.5
Extreme (-20C)	710.0	8.4	0.011861	2.5
Extreme (-30C)	710.0	8.5	0.012024	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]
3.29	710.0	10.3	0.014521	2.5
3.87	710.0	8.9	0.012587	2.5
4.45	710.0	8.2	0.011615	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.2	0.012951	2.5
Extreme (50C)	710.0	8.4	0.011868	2.5
Extreme (40C)	710.0	8.0	0.011215	2.5
Extreme (30C)	710.0	9.2	0.012933	2.5
Extreme (10C)	710.0	7.9	0.011080	2.5
Extreme (0C)	710.0	8.2	0.011570	2.5
Extreme (-10C)	710.0	9.9	0.013892	2.5
Extreme (-20C)	710.0	8.5	0.011994	2.5
Extreme (-30C)	710.0	8.8	0.012376	2.5

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

10.7 LTE BAND 26A

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]
3.29	819.0	9.6	0.011707	2.5
3.87	819.0	9.2	0.011184	2.5
4.45	819.0	7.7	0.009355	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.5	0.011579	2.5
Extreme (50C)	819.0	8.9	0.010907	2.5
Extreme (40C)	819.0	8.0	0.009711	2.5
Extreme (30C)	819.0	9.2	0.011259	2.5
Extreme (10C)	819.0	9.2	0.011229	2.5
Extreme (0C)	819.0	8.3	0.010177	2.5
Extreme (-10C)	819.0	8.9	0.010847	2.5
Extreme (-20C)	819.0	9.0	0.010975	2.5
Extreme (-30C)	819.0	7.6	0.009338	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]
3.29	819.0	10.4	0.012743	2.5
3.87	819.0	9.0	0.010963	2.5
4.45	819.0	8.7	0.010598	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.8	0.011906	2.5
Extreme (50C)	819.0	8.5	0.010330	2.5
Extreme (40C)	819.0	8.7	0.010660	2.5
Extreme (30C)	819.0	8.5	0.010370	2.5
Extreme (10C)	819.0	7.6	0.009311	2.5
Extreme (0C)	819.0	8.7	0.010637	2.5
Extreme (-10C)	819.0	9.3	0.011337	2.5
Extreme (-20C)	819.0	9.3	0.011407	2.5
Extreme (-30C)	819.0	8.5	0.010360	2.5

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

10.8 LTE BAND 26B

Band 26B QPSK, (15MHz BANDWIDTH RB size 75 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	9.4	0.011179	2.5
3.87	836.5	9.0	0.010771	2.5
4.45	836.5	8.5	0.010217	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	10.1	0.012095	2.5
Extreme (50C)	836.5	8.7	0.010437	2.5
Extreme (40C)	836.5	8.6	0.010281	2.5
Extreme (30C)	836.5	8.7	0.010349	2.5
Extreme (10C)	836.5	8.8	0.010543	2.5
Extreme (0C)	836.5	8.2	0.009749	2.5
Extreme (-10C)	836.5	9.2	0.010993	2.5
Extreme (-20C)	836.5	9.4	0.011212	2.5
Extreme (-30C)	836.5	8.4	0.010078	2.5

Band 26B 16QAM, (15MHz BANDWIDTH RB size 75 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	10.2	0.012250	2.5
3.87	836.5	8.8	0.010536	2.5
4.45	836.5	7.9	0.009485	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.4	0.011221	2.5
Extreme (50C)	836.5	9.0	0.010764	2.5
Extreme (40C)	836.5	8.5	0.010207	2.5
Extreme (30C)	836.5	8.9	0.010580	2.5
Extreme (10C)	836.5	8.6	0.010254	2.5
Extreme (0C)	836.5	8.3	0.009864	2.5
Extreme (-10C)	836.5	9.8	0.011684	2.5
Extreme (-20C)	836.5	8.7	0.010389	2.5
Extreme (-30C)	836.5	8.8	0.010527	2.5

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

10.9 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]
3.29	2595	10.3	0.003986	2.5
3.87	2595	8.7	0.003352	2.5
4.45	2595	8.8	0.003393	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	9.5	0.003673	2.5
Extreme (50C)	2595	9.1	0.003498	2.5
Extreme (40C)	2595	8.6	0.003320	2.5
Extreme (30C)	2595	8.9	0.003425	2.5
Extreme (10C)	2595	7.6	0.002938	2.5
Extreme (0C)	2595	8.2	0.003175	2.5
Extreme (-10C)	2595	9.4	0.003635	2.5
Extreme (-20C)	2595	8.6	0.003310	2.5
Extreme (-30C)	2595	8.1	0.003117	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]
3.29	2595	6.9	0.002661	2.5
3.87	2595	6.1	0.002358	2.5
4.45	2595	5.9	0.002278	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	6.9	0.002661	2.5
Extreme (50C)	2595	5.8	0.002235	2.5
Extreme (40C)	2595	5.5	0.002124	2.5
Extreme (30C)	2595	6.9	0.002652	2.5
Extreme (10C)	2595	6.0	0.002313	2.5
Extreme (0C)	2595	5.5	0.002108	2.5
Extreme (-10C)	2595	4.9	0.001904	2.5
Extreme (-20C)	2595	5.7	0.002213	2.5
Extreme (-30C)	2595	5.6	0.002158	2.5

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

10.10 LTE BAND 66

Band 66 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]
3.29	1745	6.3	0.003619	2.5
3.87	1745	6.7	0.003860	2.5
4.45	1745	7.6	0.004358	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	6.0	0.003435	2.5
Extreme (50C)	1745	7.3	0.004173	2.5
Extreme (40C)	1745	6.4	0.003657	2.5
Extreme (30C)	1745	7.0	0.004014	2.5
Extreme (10C)	1745	7.1	0.004090	2.5
Extreme (0C)	1745	6.6	0.003754	2.5
Extreme (-10C)	1745	5.5	0.003132	2.5
Extreme (-20C)	1745	6.8	0.003872	2.5
Extreme (-30C)	1745	5.7	0.003267	2.5

Band 66 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]
3.29	1745	8.6	0.004943	2.5
3.87	1745	7.1	0.004090	2.5
4.45	1745	9.8	0.005637	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	8.9	0.005111	2.5
Extreme (50C)	1745	8.3	0.004767	2.5
Extreme (40C)	1745	8.8	0.005028	2.5
Extreme (30C)	1745	8.2	0.004716	2.5
Extreme (10C)	1745	8.0	0.004609	2.5
Extreme (0C)	1745	6.6	0.003807	2.5
Extreme (-10C)	1745	8.7	0.005008	2.5
Extreme (-20C)	1745	8.2	0.004717	2.5
Extreme (-30C)	1745	5.2	0.002959	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.

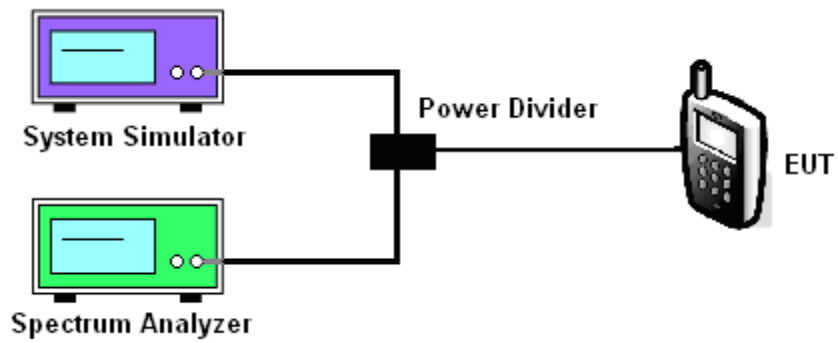
11.2 Measuring Instruments

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 2,4,5,7,12,17,26,41,66

Test data reference attachment.

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