FCC CFR47 PART 22H, 24E, 27
CERTIFICATION TEST REPORT
FCC ID: O55664522

Product： 6.6 inch 4G smart phone

Trade Mark： LOGIC, ISWAG, UNONU

Model Number： L66 LITE

Family Model： ZAC, LEX

Report No.： STR221125001005E

Issue Date: Jan 07, 2023

Prepared for

SWAGTEK

10205 NW 19th Street STE101 Miami, FL 33172,United States

Prepared by

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TEST RESULT CERTIFICATION	
Applicant's name .....:	SWAGTEK
Address .....:	10205 NW 19th Street STE101 Miami, FL 33172,United States
Manufacturer's Name .....:	SWAGTEK
Address .....:	10205 NW 19th Street STE101 Miami, FL 33172,United States
Product description	
Product name .....:	6.6 inch 4G smart phone
Trade Mark .....:	LOGIC, ISWAG, UNONU
Model name.....:	L66 LITE
Family Model .....:	ZAC, LEX
Test Sample Number.....:	T221125001R002
Standards .....:	FCC CFR 47 Part 22H, Part 24E, Part 27
Test procedure.....	ANSI C63.26:2015 ANSI/TIA-603-E-2016

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

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Date of Test.....	
Date (s) of performance of tests	Nov 25, 2022 ~ Jan 07, 2023
Date of Issue	Jan 07, 2023
Test Result	**Pass**

Testing Engineer : Mukzi Lee

(Mukzi Lee)

Authorized Signatory : Alex

(Alex Li)

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	6.6 inch 4G smart phone
Trade Mark	LOGIC, ISWAG, UNONU
Model Name	L66 LITE
Family Model	ZAC, LEX
Model Difference	All the model are the same circuit and RF module,except the model names.
FCC ID:	O55664522
Frequency Bands:	U.S. Bands: ☒LTE FDD Band 2, 4, 5, 7, 12, 13, 17, 25, 26, 66
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 25 Uplink: 1850MHz-1915MHz, Downlink: 1930MHz-1995MHz; LTE FDD Band 26A Uplink: 814MHz-824MHz, Downlink: 859MHz-869MHz; LTE FDD Band 26B Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM
Power Class	Class 3
SIM CARD	SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.
Antenna:	PIFA Antenna
Antenna gain:	Band 2: 0.38 dBi; Band 4: 0.42 dBi; Band 5: 0.53 dBi; Band 7: 0.47 dBi; Band 12: 0.42 dBi; Band 13: 0.42 dBi; Band 17: 0.42 dBi; Band 25: 0.38 dBi; Band 26: 0.53 dBi; Band 66: 0.41 dBi;
Adapter:	Model: LY-JX058-09U0502000 Input: AC 100-240V~50/60Hz 0.3A Output: DC 5.0V⎓2000mA
Battery:	DC 3.85V, 4000mAh

Power supply:	DC 3.85V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.27V to DC 4.43V (Nominal DC 3.85V)（Note 1）
HW Version	E98A_V1.0X
SW Version	LOGIC_L66_LITE_GENERIC_V2.0
** Note1: The High Voltage 4.43V and Low Voltage 3.27V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: O55664522** filing to comply with the FCC Part 22H&24E &27.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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 = 2Uc(y))	2.5dB
2	Conducted Emission Test	±1.38dB
3	RF power, conducted	±0.16dB
4	Spurious emissions, conducted	±0.21dB
5	All emissions, radiated(<1G)	±4.68dB
6	All emissions, radiated(>1G)	±4.89dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	Frequency error, conducted	±0.19 ppm

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

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

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.

1.6 SUMMARY OF TEST RESULTS

FCC Part22, Subpart H/ FCC Part24, Subpart E, FCC Part27, Subpart L, KDB 971168 D01 Power Meas License Digital Systems v03			
FCC Rule	**Test Item**	**Verdict**	**Remark**
2.1046	Conducted Output Power	PASS	
22.913(d) 24.232(d) 27.50(d)(5) KDB 971168 D01 Clause 5.7	Peak-to-Average Ratio	PASS	
2.1049 22.917(b) 24.238(b) KDB 971168 D01 Clause 4.2	Occupied Bandwidth	PASS	
2.1051 22.917(a) 24.238(a) 27.53(m), (g), (h) KDB 971168 D01 Clause 6	Band Edge	PASS	
22.913(a)(2) 27.50(c)(10) KDB 971168 D01 Clause 5.6	Effective Radiated Power	PASS	
24.232(c) 27.50(h)(2), (d)(4) KDB 971168 D01 Clause 5.6	Equivalent Isotropic Radiated Power	PASS	

2.1053 22.917(a) 24.238(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 7	Field Strength of Spurious Radiation	PASS	
2.1055 22.355 24.235 27.54 KDB 971168 D01 Clause 9	Frequency Stability for Temperature & Voltage	PASS	
2.1051 22.917(a) 24.238(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 6	Conducted Emission	PASS	

Remark:

1. “N/A” denotes test is not applicable in this Test Report.
2. All test items were verified and recorded according to the standards and without any deviation during the test.
3. No modifications are made to the EUT during all test items.

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

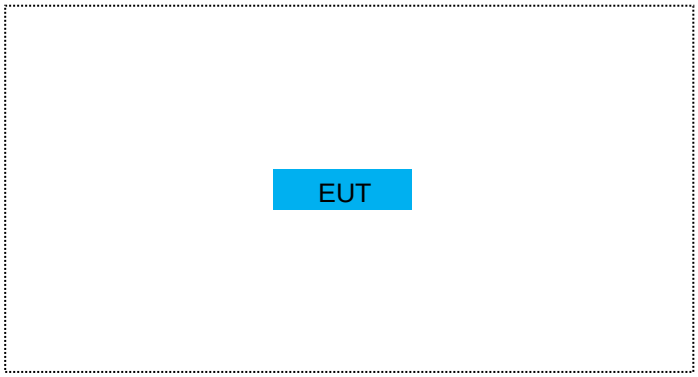
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	6.6 inch 4G smart phone	L66 LITE	FCC ID: O55664522	EUT

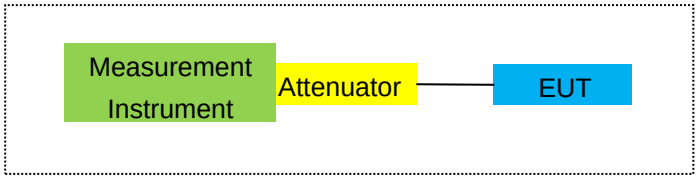
Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.

2.4 TEST SETUP

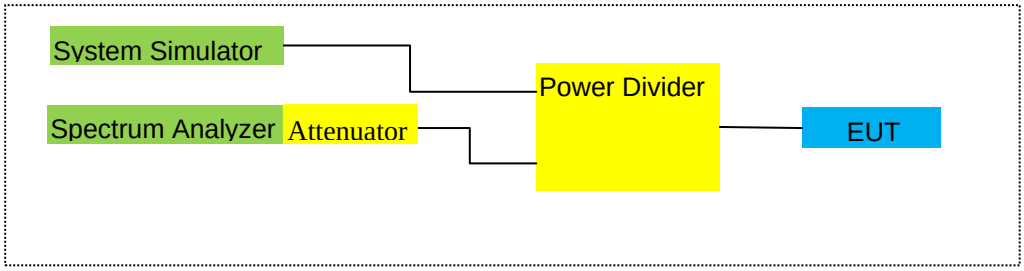
For Radiated Test Cases



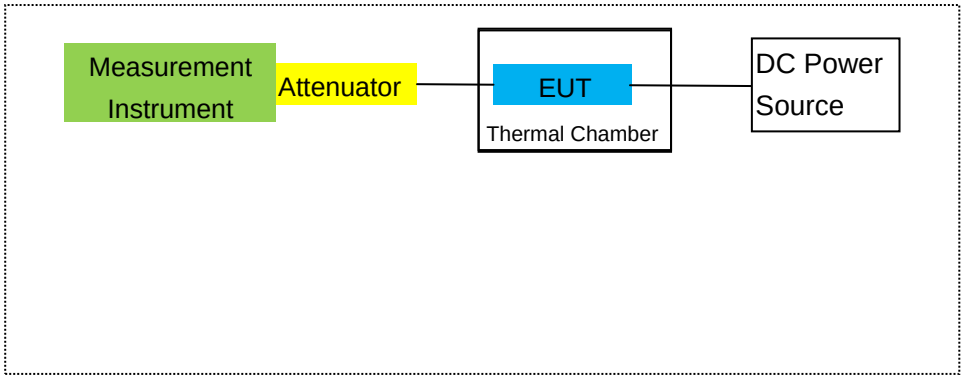
For Conducted Output Power



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	2022.06.16	2023.06.17	1 year
2	Test Receiver	R&S	ESPI	101318	2022.04.06	2023.04.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30	2023.03.29	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2022.03.31	2023.03.30	1 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2022.11.07	2023.11.06	1 year
7	Amplifier	EM	EM-30180	060538	2022.06.17	2023.06.16	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2022.04.06	2023.04.05	1 year
9	Power Meter	R&S	NRVS	100696	2022.06.17	2023.06.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2022.04.06	2023.04.05	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2022.04.06	2023.04.05	1 year
15	LISN	R&S	ENV216	101313	2022.04.06	2023.04.05	1 year
16	LISN	EMCO	3816/2	00042990	2022.04.06	2023.04.05	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2022.04.06	2023.04.05	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2022.04.06	2023.04.05	1 year
19	Test Cable	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
20	Test Cable	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
21	Test Cable	N/A	C03	N/A	2020.05.11	2023.05.10	3 year
22	Attenuator	MCE	24-10-34	BN9258	2022.04.01	2023.03.31	1 year
23	Spectrum Analyzer	agilent	e4440a	us44300399	2022.04.01	2023.03.31	1 year
24	test receiver	R&S	ESCI	a0304218	2022.04.06	2023.04.05	1 year
25	Communication Tester	R&S	CMU200	A0304247	2022.06.16	2023.06.15	1 year

26	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2022.04.06	2023.04.05	1 year
27	DC Power Source	N/A	PS-6005D	2017040292 3	2020.05.11	2023.05.10	3 year
28	MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2022.06.16	2023.06.15	1 year
29	Communication Tester	R&S	CMW500	148500	2022.06.16	2023.06.15	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

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

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

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

FCC: §2.1046, §22.913, §24.232

LIMITS

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

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

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

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

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is 65 + 10log10(P) = -35dBm in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

TEST PROCEDURE

The transmitter output was connected to a CMW500Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

Set display line

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

MODES TESTED

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

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.
The minimum permissible attenuation level for Band 7 is as following.
Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.
Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.
For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is 65 + 10log10(P) = -35dBm in a 6.25kHz bandwidth.
Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

TEST PROCEDURE

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

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

MODES TESTED

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

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported (LTE Band 2/4/7: above 10GHz).

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

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

LIMITS:

22.913(a) (2)- The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
24.232 (c) Mobile and portable stations are limited to 2 watts EIRP.
27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
27.50 (h)(2)Mobile and other user stations in the 2500–2570 MHz and 2620–2690 MHz bands. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17
KDB 971168 v02r01 RF power output using broadband peak and average power meter method.
KDB 971168 D01 Power Meas License Digital Systems v02r01, “Measurement Guidance for Certification of Licensed Digital Transmitters”

MODES TESTED

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

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	-4.32	3.76	28.24	20.16	103.753	Horizontal	Pass
		1880	-4.06	3.91	28.22	20.25	105.925	Horizontal	Pass
		1909.3	-4.13	3.93	28.20	20.14	103.276	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.32	3.77	28.23	20.14	103.276	Horizontal	Pass
		1880	-4.11	3.91	28.24	20.22	105.196	Horizontal	Pass
		1908.5	-4.06	3.94	28.25	20.25	105.925	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.32	3.77	28.31	20.22	105.196	Horizontal	Pass
		1880	-4.05	3.91	28.22	20.26	106.170	Horizontal	Pass
		1907.5	-4.02	3.94	28.20	20.24	105.682	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.34	3.79	28.33	20.20	104.713	Horizontal	Pass
		1880	-4.12	3.95	28.22	20.15	103.514	Horizontal	Pass
		1905	-4.06	3.97	28.19	20.16	103.753	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.41	3.79	28.34	20.14	103.276	Horizontal	Pass
		1880	-4.15	3.95	28.22	20.12	102.802	Horizontal	Pass
		1902.5	-4.04	3.97	28.18	20.17	103.992	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.32	3.81	28.35	20.22	105.196	Horizontal	Pass
		1880	-4.09	3.96	28.22	20.17	103.992	Horizontal	Pass
		1900	-3.91	4.00	28.16	20.25	105.925	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-4.26	3.76	28.24	20.22	105.196	Vertical	Pass
		1880	-4.09	3.91	28.22	20.22	105.196	Vertical	Pass
		1909.3	-4.09	3.93	28.20	20.18	104.232	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.23	3.77	28.23	20.23	105.439	Vertical	Pass
		1880	-4.07	3.91	28.24	20.26	106.170	Vertical	Pass
		1908.5	-4.12	3.94	28.25	20.19	104.472	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.39	3.77	28.31	20.15	103.514	Vertical	Pass
		1880	-4.16	3.91	28.22	20.15	103.514	Vertical	Pass
		1907.5	-4.01	3.94	28.20	20.25	105.925	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.33	3.79	28.33	20.21	104.954	Vertical	Pass
		1880	-4.09	3.95	28.22	20.18	104.232	Vertical	Pass
		1905	-3.95	3.97	28.19	20.27	106.414	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1857.5	-4.34	3.79	28.34	20.21	104.954	Vertical	Pass
		1880	-4.00	3.95	28.22	20.27	106.414	Vertical	Pass
		1902.5	-4.01	3.97	28.18	20.20	104.713	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.24	3.81	28.35	20.30	107.152	Vertical	Pass
		1880	-3.95	3.96	28.22	20.31	107.399	Vertical	Pass
		1900	-3.85	4.00	28.16	20.31	107.399	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 Band 16 QAM	1/#Mid	1850.7	-5.06	3.76	28.24	19.42	87.498	Horizontal	Pass
		1880	-4.92	3.91	28.22	19.39	86.896	Horizontal	Pass
		1909.3	-4.81	3.93	28.20	19.46	88.308	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.10	3.77	28.23	19.36	86.298	Horizontal	Pass
		1880	-4.97	3.91	28.24	19.36	86.298	Horizontal	Pass
		1908.5	-4.86	3.94	28.25	19.45	88.105	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-5.15	3.77	28.31	19.39	86.896	Horizontal	Pass
		1880	-4.86	3.91	28.22	19.45	88.105	Horizontal	Pass
		1907.5	-4.91	3.94	28.20	19.35	86.099	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.14	3.79	28.33	19.40	87.096	Horizontal	Pass
		1880	-4.82	3.95	28.22	19.45	88.105	Horizontal	Pass
		1905	-4.84	3.97	28.19	19.38	86.696	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.19	3.79	28.34	19.36	86.298	Horizontal	Pass
		1880	-4.80	3.95	28.22	19.47	88.512	Horizontal	Pass
		1902.5	-4.85	3.97	28.18	19.36	86.298	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-5.15	3.81	28.35	19.39	86.896	Horizontal	Pass
		1880	-4.84	3.96	28.22	19.42	87.498	Horizontal	Pass
		1900	-4.74	4.00	28.16	19.42	87.498	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-5.09	3.76	28.24	19.39	86.896	Vertical	Pass
		1880	-4.96	3.91	28.22	19.35	86.099	Vertical	Pass
		1909.3	-4.91	3.93	28.20	19.36	86.298	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.01	3.77	28.23	19.45	88.105	Vertical	Pass
		1880	-4.94	3.91	28.24	19.39	86.896	Vertical	Pass
		1908.5	-4.84	3.94	28.25	19.47	88.512	Vertical	Pass
5.0MHz	1/#Mid	1852.5	-5.10	3.77	28.31	19.44	87.902	Vertical	Pass

Band 16 QAM		1880	-4.94	3.91	28.22	19.37	86.497	Vertical	Pass
		1907.5	-4.84	3.94	28.20	19.42	87.498	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.13	3.79	28.33	19.41	87.297	Vertical	Pass
		1880	-4.82	3.95	28.22	19.45	88.105	Vertical	Pass
		1905	-4.84	3.97	28.19	19.38	86.696	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.15	3.79	28.34	19.40	87.096	Vertical	Pass
		1880	-4.91	3.95	28.22	19.36	86.298	Vertical	Pass
		1902.5	-4.81	3.97	28.18	19.40	87.096	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-5.05	3.81	28.35	19.49	88.920	Vertical	Pass
		1880	-4.78	3.96	28.22	19.48	88.716	Vertical	Pass
		1900	-4.67	4.00	28.16	19.49	88.920	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					Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-4.35	3.12	27.58	20.11	102.565	Horizontal	Pass
		1732.5	-4.13	3.27	27.61	20.21	104.954	Horizontal	Pass
		1754.3	-4.14	3.29	27.63	20.20	104.713	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.32	3.13	27.61	20.16	103.753	Horizontal	Pass
		1732.5	-4.13	3.27	27.61	20.21	104.954	Horizontal	Pass
		1753.5	-4.16	3.30	27.62	20.16	103.753	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.39	3.13	27.63	20.11	102.565	Horizontal	Pass
		1732.5	-4.16	3.27	27.61	20.18	104.232	Horizontal	Pass
		1752.5	-4.21	3.30	27.60	20.09	102.094	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.31	3.15	27.64	20.18	104.232	Horizontal	Pass
		1732.5	-4.14	3.31	27.61	20.16	103.753	Horizontal	Pass
		1750	-4.11	3.33	27.59	20.15	103.514	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-4.35	3.15	27.65	20.15	103.514	Horizontal	Pass
		1732.5	-4.21	3.31	27.61	20.09	102.094	Horizontal	Pass
		1747.5	-4.13	3.33	27.57	20.11	102.565	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.33	3.17	27.66	20.16	103.753	Horizontal	Pass
		1732.5	-4.13	3.32	27.61	20.16	103.753	Horizontal	Pass
		1745	-4.09	3.36	27.56	20.11	102.565	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.24	3.12	27.58	20.22	105.196	Vertical	Pass
		1732.5	-4.14	3.27	27.61	20.20	104.713	Vertical	Pass
		1754.3	-4.24	3.29	27.63	20.10	102.329	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.26	3.13	27.61	20.22	105.196	Vertical	Pass
		1732.5	-4.28	3.27	27.61	20.06	101.391	Vertical	Pass
		1753.5	-4.15	3.30	27.62	20.17	103.992	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.40	3.13	27.63	20.10	102.329	Vertical	Pass
		1732.5	-4.28	3.27	27.61	20.06	101.391	Vertical	Pass
		1752.5	-4.19	3.30	27.60	20.11	102.565	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.35	3.15	27.64	20.14	103.276	Vertical	Pass
		1732.5	-4.17	3.31	27.61	20.13	103.039	Vertical	Pass
		1750	-4.15	3.33	27.59	20.11	102.565	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-4.34	3.15	27.65	20.16	103.753	Vertical	Pass
		1732.5	-4.10	3.31	27.61	20.20	104.713	Vertical	Pass
		1747.5	-4.10	3.33	27.57	20.14	103.276	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.22	3.17	27.66	20.27	106.414	Vertical	Pass
		1732.5	-4.04	3.32	27.61	20.25	105.925	Vertical	Pass
		1745	-3.96	3.36	27.56	20.24	105.682	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	-5.42	3.12	27.58	19.04	80.168	Horizontal	Pass
		1732.5	-5.29	3.27	27.61	19.05	80.353	Horizontal	Pass
		1754.3	-5.24	3.29	27.63	19.10	81.283	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.40	3.13	27.61	19.08	80.910	Horizontal	Pass
		1732.5	-5.29	3.27	27.61	19.05	80.353	Horizontal	Pass
		1753.5	-5.29	3.30	27.62	19.03	79.983	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.47	3.13	27.63	19.03	79.983	Horizontal	Pass
		1732.5	-5.24	3.27	27.61	19.10	81.283	Horizontal	Pass
		1752.5	-5.19	3.30	27.60	19.11	81.470	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.45	3.15	27.64	19.04	80.168	Horizontal	Pass
		1732.5	-5.22	3.31	27.61	19.08	80.910	Horizontal	Pass
		1750	-5.18	3.33	27.59	19.08	80.910	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.42	3.15	27.65	19.08	80.910	Horizontal	Pass
		1732.5	-5.30	3.31	27.61	19.00	79.433	Horizontal	Pass
		1747.5	-5.19	3.33	27.57	19.05	80.353	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.42	3.17	27.66	19.07	80.724	Horizontal	Pass
		1732.5	-5.33	3.32	27.61	18.96	78.705	Horizontal	Pass
		1745	-5.19	3.36	27.56	19.01	79.616	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.38	3.12	27.58	19.08	80.910	Vertical	Pass
		1732.5	-5.31	3.27	27.61	19.03	79.983	Vertical	Pass
		1754.3	-5.33	3.29	27.63	19.01	79.616	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.44	3.13	27.61	19.04	80.168	Vertical	Pass
		1732.5	-5.24	3.27	27.61	19.10	81.283	Vertical	Pass
		1753.5	-5.33	3.30	27.62	18.99	79.250	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-5.52	3.13	27.63	18.98	79.068	Vertical	Pass

Band 16 QAM		1732.5	-5.27	3.27	27.61	19.07	80.724	Vertical	Pass
		1752.5	-5.20	3.30	27.60	19.10	81.283	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.43	3.15	27.64	19.06	80.538	Vertical	Pass
		1732.5	-5.19	3.31	27.61	19.11	81.470	Vertical	Pass
		1750	-5.27	3.33	27.59	18.99	79.250	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.54	3.15	27.65	18.96	78.705	Vertical	Pass
		1732.5	-5.19	3.31	27.61	19.11	81.470	Vertical	Pass
		1747.5	-5.12	3.33	27.57	19.12	81.658	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.34	3.17	27.66	19.15	82.224	Vertical	Pass
		1732.5	-5.15	3.32	27.61	19.14	82.035	Vertical	Pass
		1745	-5.06	3.36	27.56	19.14	82.035	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						Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)		
1.4MHz Band QPSK	1/#Mid	824.7	6.24	2.01	19.68	2.15	21.76	149.968	Horizontal	Pass
		836.5	6.10	2.01	19.77	2.15	21.71	148.252	Horizontal	Pass
		848.3	6.18	2.02	19.82	2.15	21.83	152.405	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	6.16	2.01	19.70	2.15	21.70	147.911	Horizontal	Pass
		836.5	6.11	2.01	19.77	2.15	21.72	148.594	Horizontal	Pass
		847.5	6.10	2.02	19.81	2.15	21.74	149.279	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	6.28	2.01	19.71	2.15	21.83	152.405	Horizontal	Pass
		836.5	6.08	2.01	19.77	2.15	21.69	147.571	Horizontal	Pass
		846.5	6.21	2.02	19.79	2.15	21.83	152.405	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	6.17	2.01	19.73	2.15	21.74	149.279	Horizontal	Pass
		836.5	6.14	2.01	19.77	2.15	21.75	149.624	Horizontal	Pass
		844	6.15	2.02	19.78	2.15	21.76	149.968	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	6.30	2.01	19.68	2.15	21.82	152.055	Vertical	Pass
		836.5	6.14	2.01	19.77	2.15	21.75	149.624	Vertical	Pass
		848.3	6.17	2.02	19.82	2.15	21.82	152.055	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	6.17	2.01	19.70	2.15	21.71	148.252	Vertical	Pass
		836.5	6.11	2.01	19.77	2.15	21.72	148.594	Vertical	Pass
		847.5	6.17	2.02	19.81	2.15	21.81	151.705	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	6.20	2.01	19.71	2.15	21.75	149.624	Vertical	Pass
		836.5	6.18	2.01	19.77	2.15	21.79	151.008	Vertical	Pass
		846.5	6.18	2.02	19.79	2.15	21.80	151.356	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	6.30	2.01	19.73	2.15	21.87	153.815	Vertical	Pass
		836.5	6.27	2.01	19.77	2.15	21.88	154.170	Vertical	Pass
		844	6.23	2.02	19.78	2.15	21.84	152.757	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	5.41	2.01	19.68	2.15	20.93	123.880	Horizontal	Pass
		836.5	5.27	2.01	19.77	2.15	20.88	122.462	Horizontal	Pass
		848.3	5.20	2.02	19.82	2.15	20.85	121.619	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	5.37	2.01	19.70	2.15	20.91	123.310	Horizontal	Pass
		836.5	5.31	2.01	19.77	2.15	20.92	123.595	Horizontal	Pass
		847.5	5.20	2.02	19.81	2.15	20.84	121.339	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.31	2.01	19.71	2.15	20.86	121.899	Horizontal	Pass
		836.5	5.30	2.01	19.77	2.15	20.91	123.310	Horizontal	Pass
		846.5	5.26	2.02	19.79	2.15	20.88	122.462	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	5.28	2.01	19.73	2.15	20.85	121.619	Horizontal	Pass
		836.5	5.16	2.01	19.77	2.15	20.77	119.399	Horizontal	Pass
		844	5.13	2.02	19.78	2.15	20.74	118.577	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	5.40	2.01	19.68	2.15	20.92	123.595	Vertical	Pass
		836.5	5.30	2.01	19.77	2.15	20.91	123.310	Vertical	Pass
		848.3	5.13	2.02	19.82	2.15	20.78	119.674	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	5.28	2.01	19.70	2.15	20.82	120.781	Vertical	Pass
		836.5	5.25	2.01	19.77	2.15	20.86	121.899	Vertical	Pass
		847.5	5.26	2.02	19.81	2.15	20.90	123.027	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.24	2.01	19.71	2.15	20.79	119.950	Vertical	Pass
		836.5	5.19	2.01	19.77	2.15	20.80	120.226	Vertical	Pass
		846.5	5.27	2.02	19.79	2.15	20.89	122.744	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	5.37	2.01	19.73	2.15	20.94	124.165	Vertical	Pass
		836.5	5.34	2.01	19.77	2.15	20.95	124.451	Vertical	Pass
		844	5.34	2.02	19.78	2.15	20.95	124.451	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)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	-2.22	4.54	27.75	20.99	125.603	Horizontal	Pass
		2535	-1.98	4.69	27.72	21.05	127.350	Horizontal	Pass
		2567.5	-2.07	4.71	27.71	20.93	123.880	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.18	4.55	27.76	21.03	126.765	Horizontal	Pass
		2535	-1.97	4.69	27.72	21.06	127.644	Horizontal	Pass
		2565	-2.06	4.72	27.70	20.92	123.595	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-2.23	4.55	27.77	20.99	125.603	Horizontal	Pass
		2535	-2.11	4.69	27.72	20.92	123.595	Horizontal	Pass
		2562.5	-2.07	4.72	27.69	20.90	123.027	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.24	4.57	27.78	20.97	125.026	Horizontal	Pass
		2535	-2.05	4.73	27.72	20.94	124.165	Horizontal	Pass
		2560	-1.89	4.75	27.68	21.04	127.057	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-2.22	4.54	27.75	20.99	125.603	Vertical	Pass
		2535	-2.10	4.69	27.72	20.93	123.880	Vertical	Pass
		2567.5	-2.02	4.71	27.71	20.98	125.314	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.18	4.55	27.76	21.03	126.765	Vertical	Pass
		2535	-2.08	4.69	27.72	20.95	124.451	Vertical	Pass
		2565	-1.92	4.72	27.70	21.06	127.644	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-2.23	4.55	27.77	20.99	125.603	Vertical	Pass
		2535	-2.08	4.69	27.72	20.95	124.451	Vertical	Pass
		2562.5	-1.93	4.72	27.69	21.04	127.057	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.10	4.57	27.78	21.11	129.122	Vertical	Pass
		2535	-1.89	4.73	27.72	21.10	128.825	Vertical	Pass
		2560	-1.84	4.75	27.68	21.09	128.529	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.49	4.54	27.75	19.72	93.756	Horizontal	Pass
		2535	-3.28	4.69	27.72	19.75	94.406	Horizontal	Pass
		2567.5	-3.24	4.71	27.71	19.76	94.624	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.41	4.55	27.76	19.80	95.499	Horizontal	Pass
		2535	-3.28	4.69	27.72	19.75	94.406	Horizontal	Pass
		2565	-3.13	4.72	27.70	19.85	96.605	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.42	4.55	27.77	19.80	95.499	Horizontal	Pass
		2535	-3.18	4.69	27.72	19.85	96.605	Horizontal	Pass
		2562.5	-3.18	4.72	27.69	19.79	95.280	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.44	4.57	27.78	19.77	94.842	Horizontal	Pass
		2535	-3.17	4.73	27.72	19.82	95.940	Horizontal	Pass
		2560	-3.16	4.75	27.68	19.77	94.842	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.36	4.54	27.75	19.85	96.605	Vertical	Pass
		2535	-3.25	4.69	27.72	19.78	95.060	Vertical	Pass
		2567.5	-3.26	4.71	27.71	19.74	94.189	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.49	4.55	27.76	19.72	93.756	Vertical	Pass
		2535	-3.18	4.69	27.72	19.85	96.605	Vertical	Pass
		2565	-3.15	4.72	27.70	19.83	96.161	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.47	4.55	27.77	19.75	94.406	Vertical	Pass
		2535	-3.21	4.69	27.72	19.82	95.940	Vertical	Pass
		2562.5	-3.19	4.72	27.69	19.78	95.060	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.32	4.57	27.78	19.89	97.499	Vertical	Pass
		2535	-3.12	4.73	27.72	19.87	97.051	Vertical	Pass
		2560	-3.02	4.75	27.68	19.91	97.949	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	699.7	7.10	1.91	19.21	2.15	22.25	167.880	Vertical	Pass
		707.5	7.07	1.91	19.26	2.15	22.27	168.655	Vertical	Pass
		715.3	7.00	1.93	19.34	2.15	22.26	168.267	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	7.07	1.91	19.21	2.15	22.22	166.725	Vertical	Pass
		707.5	6.99	1.91	19.26	2.15	22.19	165.577	Vertical	Pass
		714.5	7.03	1.93	19.34	2.15	22.29	169.434	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	7.06	1.91	19.23	2.15	22.23	167.109	Vertical	Pass
		707.5	6.94	1.91	19.26	2.15	22.14	163.682	Vertical	Pass
		713.5	6.94	1.92	19.33	2.15	22.20	165.959	Vertical	Pass
10.0Hz Band QPSK	1/#Mid	704	7.03	1.91	19.25	2.15	22.22	166.725	Vertical	Pass
		707.5	7.05	1.91	19.26	2.15	22.25	167.880	Vertical	Pass
		711	6.95	1.92	19.32	2.15	22.20	165.959	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	7.06	1.91	19.21	2.15	22.21	166.341	Horizontal	Pass
		707.5	7.05	1.91	19.26	2.15	22.25	167.880	Horizontal	Pass
		715.3	6.92	1.93	19.34	2.15	22.18	165.196	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	7.14	1.91	19.21	2.15	22.29	169.434	Horizontal	Pass
		707.5	7.03	1.91	19.26	2.15	22.23	167.109	Horizontal	Pass
		714.5	6.92	1.93	19.34	2.15	22.18	165.196	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	7.10	1.91	19.23	2.15	22.27	168.655	Horizontal	Pass
		707.5	7.02	1.91	19.26	2.15	22.22	166.725	Horizontal	Pass
		713.5	6.97	1.92	19.33	2.15	22.23	167.109	Horizontal	Pass
10.0Hz Band QPSK	1/#Mid	704	7.14	1.91	19.25	2.15	22.33	171.002	Horizontal	Pass
		707.5	7.16	1.91	19.26	2.15	22.36	172.187	Horizontal	Pass
		711	7.11	1.92	19.32	2.15	22.36	172.187	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	699.7	6.03	1.91	19.21	2.15	21.18	131.220	Vertical	Pass
		707.5	6.01	1.91	19.26	2.15	21.21	132.130	Vertical	Pass
		715.3	6.00	1.93	19.34	2.15	21.26	133.660	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	6.08	1.91	19.21	2.15	21.23	132.739	Vertical	Pass
		707.5	6.12	1.91	19.26	2.15	21.32	135.519	Vertical	Pass
		714.5	5.92	1.93	19.34	2.15	21.18	131.220	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	6.01	1.91	19.23	2.15	21.18	131.220	Vertical	Pass
		707.5	6.04	1.91	19.26	2.15	21.24	133.045	Vertical	Pass
		713.5	5.92	1.92	19.33	2.15	21.18	131.220	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	704	5.98	1.91	19.25	2.15	21.17	130.918	Vertical	Pass
		707.5	6.04	1.91	19.26	2.15	21.24	133.045	Vertical	Pass
		711	5.90	1.92	19.32	2.15	21.15	130.317	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	6.05	1.91	19.21	2.15	21.20	131.826	Horizontal	Pass
		707.5	6.04	1.91	19.26	2.15	21.24	133.045	Horizontal	Pass
		715.3	5.91	1.93	19.34	2.15	21.17	130.918	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	6.04	1.91	19.21	2.15	21.19	131.522	Horizontal	Pass
		707.5	6.05	1.91	19.26	2.15	21.25	133.352	Horizontal	Pass
		714.5	5.95	1.93	19.34	2.15	21.21	132.130	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	6.05	1.91	19.23	2.15	21.22	132.434	Horizontal	Pass
		707.5	6.09	1.91	19.26	2.15	21.29	134.586	Horizontal	Pass
		713.5	5.90	1.92	19.33	2.15	21.16	130.617	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	704	6.13	1.91	19.25	2.15	21.32	135.519	Horizontal	Pass
		707.5	6.13	1.91	19.26	2.15	21.33	135.831	Horizontal	Pass
		711	6.10	1.92	19.32	2.15	21.35	136.458	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 13

Radiated Power (ERP) for Band 13										
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	
5.0MHz Band QPSK	1/#Mid	779.5	5.95	1.95	19.23	2.15	21.08	128.233	Vertical	Pass
		782	5.92	1.95	19.26	2.15	21.08	128.233	Vertical	Pass
		784.5	5.90	1.96	19.33	2.15	21.12	129.420	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	782	6.05	1.95	19.25	2.15	21.2	131.826	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	779.5	5.99	1.95	19.23	2.15	21.12	129.420	Horizontal	Pass
		782	6.02	1.95	19.26	2.15	21.18	131.220	Horizontal	Pass
		784.5	5.88	1.96	19.33	2.15	21.10	128.825	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	782	6.1	1.95	19.25	2.15	21.25	133.352	Horizontal	Pass

Radiated Power (ERP) for Band 13										
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	
5.0MHz Band 16 QAM	1/#Mid	779.5	5.38	1.95	19.23	2.15	20.51	112.460	Vertical	Pass
		782	5.34	1.95	19.26	2.15	20.50	112.202	Vertical	Pass
		784.5	5.36	1.96	19.33	2.15	20.58	114.288	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	782	5.44	1.95	19.25	2.15	20.59	114.551	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	779.5	5.40	1.95	19.23	2.15	20.53	112.980	Horizontal	Pass
		782	5.44	1.95	19.26	2.15	20.60	114.815	Horizontal	Pass
		784.5	5.40	1.96	19.33	2.15	20.62	115.345	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	782	5.49	1.95	19.25	2.15	20.64	115.878	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)

8.8 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	706.5	5.75	1.91	19.23	2.15	20.92	123.595	Vertical	Pass
		710	5.75	1.91	19.26	2.15	20.95	124.451	Vertical	Pass
		713.5	5.67	1.92	19.33	2.15	20.93	123.880	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	5.75	1.91	19.25	2.15	20.94	124.165	Vertical	Pass
		710	5.74	1.91	19.26	2.15	20.94	124.165	Vertical	Pass
		711	5.73	1.92	19.32	2.15	20.98	125.314	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	5.84	1.91	19.23	2.15	21.01	126.183	Horizontal	Pass
		710	5.71	1.91	19.26	2.15	20.91	123.310	Horizontal	Pass
		713.5	5.73	1.92	19.33	2.15	20.99	125.603	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	5.87	1.91	19.25	2.15	21.06	127.644	Horizontal	Pass
		710	5.83	1.91	19.26	2.15	21.03	126.765	Horizontal	Pass
		711	5.81	1.92	19.32	2.15	21.06	127.644	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	706.5	5.44	1.91	19.23	2.15	20.61	115.080	Vertical	Pass
		710	5.38	1.91	19.26	2.15	20.58	114.288	Vertical	Pass
		713.5	5.23	1.92	19.33	2.15	20.49	111.944	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	709	5.40	1.91	19.25	2.15	20.59	114.551	Vertical	Pass
		710	5.38	1.91	19.26	2.15	20.58	114.288	Vertical	Pass
		711	5.23	1.92	19.32	2.15	20.48	111.686	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	5.32	1.91	19.23	2.15	20.49	111.944	Horizontal	Pass
		710	5.30	1.91	19.26	2.15	20.50	112.202	Horizontal	Pass
		713.5	5.21	1.92	19.33	2.15	20.47	111.429	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	709	5.47	1.91	19.25	2.15	20.66	116.413	Horizontal	Pass
		710	5.43	1.91	19.26	2.15	20.63	115.611	Horizontal	Pass
		711	5.41	1.92	19.32	2.15	20.66	116.413	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.9 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1850.7	-4.00	3.12	27.58	20.46	111.173	Horizontal	Pass
		1882.5	-3.90	3.27	27.61	20.44	110.662	Horizontal	Pass
		1914.3	-3.80	3.29	27.63	20.54	113.240	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.03	3.13	27.61	20.45	110.917	Horizontal	Pass
		1882.5	-3.90	3.27	27.61	20.44	110.662	Horizontal	Pass
		1753.5	-3.78	3.30	27.62	20.54	113.240	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.94	3.13	27.63	20.56	113.763	Horizontal	Pass
		1882.5	-3.91	3.27	27.61	20.43	110.408	Horizontal	Pass
		1912.5	-3.74	3.30	27.60	20.56	113.763	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.92	3.15	27.64	20.57	114.025	Horizontal	Pass
		1882.5	-3.76	3.31	27.61	20.54	113.240	Horizontal	Pass
		1910	-3.76	3.33	27.59	20.50	112.202	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.04	3.15	27.65	20.46	111.173	Horizontal	Pass
		1882.5	-3.73	3.31	27.61	20.57	114.025	Horizontal	Pass
		1907.5	-3.72	3.33	27.57	20.52	112.720	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.95	3.17	27.66	20.54	113.240	Horizontal	Pass
		1882.5	-3.82	3.32	27.61	20.47	111.429	Horizontal	Pass
		1905	-3.69	3.36	27.56	20.51	112.460	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-4.00	3.12	27.58	20.46	111.173	Vertical	Pass
		1882.5	-3.78	3.27	27.61	20.56	113.763	Vertical	Pass
		1914.3	-3.80	3.29	27.63	20.54	113.240	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.92	3.13	27.61	20.56	113.763	Vertical	Pass
		1882.5	-3.80	3.27	27.61	20.54	113.240	Vertical	Pass
		1753.5	-3.80	3.30	27.62	20.52	112.720	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.04	3.13	27.63	20.46	111.173	Vertical	Pass
		1882.5	-3.86	3.27	27.61	20.48	111.686	Vertical	Pass
		1912.5	-3.81	3.30	27.60	20.49	111.944	Vertical	Pass
10.0MHz Band	1/#Mid	1855	-4.02	3.15	27.64	20.47	111.429	Vertical	Pass
		1882.5	-3.76	3.31	27.61	20.54	113.240	Vertical	Pass

QPSK		1910	-3.75	3.33	27.59	20.51	112.460	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.01	3.15	27.65	20.49	111.944	Vertical	Pass
		1882.5	-3.84	3.31	27.61	20.46	111.173	Vertical	Pass
		1907.5	-3.70	3.33	27.57	20.54	113.240	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.89	3.17	27.66	20.60	114.815	Vertical	Pass
		1882.5	-3.70	3.32	27.61	20.59	114.551	Vertical	Pass
		1905	-3.62	3.36	27.56	20.58	114.288	Vertical	Pass

Radiated Power (EIRP) for Band 25									
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	-4.65	3.12	27.58	19.81	95.719	Horizontal	Pass
		1882.5	-4.61	3.27	27.61	19.73	93.972	Horizontal	Pass
		1914.3	-4.49	3.29	27.63	19.85	96.605	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.75	3.13	27.61	19.73	93.972	Horizontal	Pass
		1882.5	-4.59	3.27	27.61	19.75	94.406	Horizontal	Pass
		1753.5	-4.45	3.30	27.62	19.87	97.051	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.78	3.13	27.63	19.72	93.756	Horizontal	Pass
		1882.5	-4.49	3.27	27.61	19.85	96.605	Horizontal	Pass
		1912.5	-4.47	3.30	27.60	19.83	96.161	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.63	3.15	27.64	19.86	96.828	Horizontal	Pass
		1882.5	-4.45	3.31	27.61	19.85	96.605	Horizontal	Pass
		1910	-4.46	3.33	27.59	19.80	95.499	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.74	3.15	27.65	19.76	94.624	Horizontal	Pass
		1882.5	-4.57	3.31	27.61	19.73	93.972	Horizontal	Pass
		1907.5	-4.46	3.33	27.57	19.78	95.060	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.78	3.17	27.66	19.71	93.541	Horizontal	Pass
		1882.5	-4.55	3.32	27.61	19.74	94.189	Horizontal	Pass
		1905	-4.49	3.36	27.56	19.71	93.541	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-4.59	3.12	27.58	19.87	97.051	Vertical	Pass
		1882.5	-4.59	3.27	27.61	19.75	94.406	Vertical	Pass
		1914.3	-4.53	3.29	27.63	19.81	95.719	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.71	3.13	27.61	19.77	94.842	Vertical	Pass
		1882.5	-4.57	3.27	27.61	19.77	94.842	Vertical	Pass
		1753.5	-4.56	3.30	27.62	19.76	94.624	Vertical	Pass

5.0MHz Band QPSK	1/#Mid	1852.5	-4.73	3.13	27.63	19.77	94.842	Vertical	Pass
		1882.5	-4.60	3.27	27.61	19.74	94.189	Vertical	Pass
		1912.5	-4.45	3.30	27.60	19.85	96.605	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.62	3.15	27.64	19.87	97.051	Vertical	Pass
		1882.5	-4.56	3.31	27.61	19.74	94.189	Vertical	Pass
		1910	-4.48	3.33	27.59	19.78	95.060	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.73	3.15	27.65	19.77	94.842	Vertical	Pass
		1882.5	-4.45	3.31	27.61	19.85	96.605	Vertical	Pass
		1907.5	-4.40	3.33	27.57	19.84	96.383	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.59	3.17	27.66	19.90	97.724	Vertical	Pass
		1882.5	-4.36	3.32	27.61	19.93	98.401	Vertical	Pass
		1905	-4.29	3.36	27.56	19.91	97.949	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)
Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

8.10 LTE BAND 26 A

Radiated Power (ERP) for Band 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	6.11	1.91	19.21	2.15	21.26	133.660	Vertical	Pass
		819	6.06	1.91	19.26	2.15	21.26	133.660	Vertical	Pass
		823.3	6.05	1.93	19.34	2.15	21.31	135.207	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	815.5	6.06	1.91	19.21	2.15	21.21	132.130	Vertical	Pass
		819	6.07	1.91	19.26	2.15	21.27	133.968	Vertical	Pass
		822.5	6.04	1.93	19.34	2.15	21.30	134.896	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	816.5	6.05	1.91	19.23	2.15	21.22	132.434	Vertical	Pass
		819	6.00	1.91	19.26	2.15	21.20	131.826	Vertical	Pass
		821.5	5.90	1.92	19.33	2.15	21.16	130.617	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	819	6	1.93	19.25	2.15	21.17	130.918	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	814.7	6.11	1.91	19.21	2.15	21.26	133.660	Horizontal	Pass
		819	6.02	1.91	19.26	2.15	21.22	132.434	Horizontal	Pass
		823.3	5.95	1.93	19.34	2.15	21.21	132.130	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	815.5	6.04	1.91	19.21	2.15	21.19	131.522	Horizontal	Pass
		819	6.08	1.91	19.26	2.15	21.28	134.276	Horizontal	Pass
		822.5	6.07	1.93	19.34	2.15	21.33	135.831	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	816.5	6.13	1.91	19.23	2.15	21.30	134.896	Horizontal	Pass
		819	6.02	1.91	19.26	2.15	21.22	132.434	Horizontal	Pass
		821.5	6.04	1.92	19.33	2.15	21.30	134.896	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	819	6.17	1.93	19.25	2.15	21.34	136.144	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	5.01	1.91	19.21	2.15	20.16	103.753	Vertical	Pass
		819	5.03	1.91	19.26	2.15	20.23	105.439	Vertical	Pass
		823.3	4.91	1.93	19.34	2.15	20.17	103.992	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	4.94	1.91	19.21	2.15	20.09	102.094	Vertical	Pass
		819	4.99	1.91	19.26	2.15	20.19	104.472	Vertical	Pass
		822.5	4.95	1.93	19.34	2.15	20.21	104.954	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	4.99	1.91	19.23	2.15	20.16	103.753	Vertical	Pass
		819	4.86	1.91	19.26	2.15	20.06	101.391	Vertical	Pass
		821.5	4.89	1.92	19.33	2.15	20.15	103.514	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	819	5.05	1.93	19.25	2.15	20.22	105.196	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	814.7	4.99	1.91	19.21	2.15	20.14	103.276	Horizontal	Pass
		819	4.96	1.91	19.26	2.15	20.16	103.753	Horizontal	Pass
		823.3	4.92	1.93	19.34	2.15	20.18	104.232	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	5.03	1.91	19.21	2.15	20.18	104.232	Horizontal	Pass
		819	4.98	1.91	19.26	2.15	20.18	104.232	Horizontal	Pass
		822.5	4.83	1.93	19.34	2.15	20.09	102.094	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	4.89	1.91	19.23	2.15	20.06	101.391	Horizontal	Pass
		819	4.93	1.91	19.26	2.15	20.13	103.039	Horizontal	Pass
		821.5	4.92	1.92	19.33	2.15	20.18	104.232	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	819	5.11	1.93	19.25	2.15	20.28	106.660	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)

8.11 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	5.85	2.02	19.72	2.15	21.40	138.038	Horizontal	Pass
		836.5	5.74	2.02	19.83	2.15	21.40	138.038	Horizontal	Pass
		848.3	5.62	2.03	19.95	2.15	21.39	137.721	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.62	2.02	19.84	2.15	21.29	134.586	Horizontal	Pass
		836.5	5.52	2.02	19.94	2.15	21.29	134.586	Horizontal	Pass
		847.5	5.52	2.03	19.98	2.15	21.32	135.519	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.85	2.02	19.75	2.15	21.43	138.995	Horizontal	Pass
		836.5	5.71	2.02	19.83	2.15	21.37	137.088	Horizontal	Pass
		846.5	5.61	2.03	19.92	2.15	21.35	136.458	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	5.59	2.02	19.84	2.15	21.26	133.660	Horizontal	Pass
		836.5	5.53	2.02	19.90	2.15	21.26	133.660	Horizontal	Pass
		844	5.53	2.03	19.96	2.15	21.31	135.207	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	831.5	6.17	2.02	19.33	2.15	21.33	135.831	Vertical	Pass
		836.5	6.07	2.02	19.37	2.15	21.27	133.968	Vertical	Pass
		841.5	6.01	2.03	19.52	2.15	21.35	136.458	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	824.7	5.76	2.02	19.76	2.15	21.35	136.458	Vertical	Pass
		836.5	5.77	2.02	19.78	2.15	21.38	137.404	Vertical	Pass
		848.3	5.56	2.03	19.94	2.15	21.32	135.519	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.74	2.02	19.83	2.15	21.40	138.038	Vertical	Pass
		836.5	5.50	2.02	19.96	2.15	21.29	134.586	Vertical	Pass
		847.5	5.60	2.03	19.87	2.15	21.29	134.586	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.66	2.02	19.86	2.15	21.35	136.458	Vertical	Pass
		836.5	5.69	2.02	19.81	2.15	21.33	135.831	Vertical	Pass
		846.5	5.65	2.03	19.83	2.15	21.30	134.896	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	5.87	2.02	19.75	2.15	21.45	139.637	Vertical	Pass
		836.5	5.76	2.02	19.85	2.15	21.44	139.316	Vertical	Pass
		844	5.86	2.03	19.80	2.15	21.48	140.605	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	831.5	6.34	2.02	19.31	2.15	21.48	140.605	Horizontal	Pass
		836.5	6.31	2.02	19.33	2.15	21.47	140.281	Horizontal	Pass
		841.5	6.30	2.03	19.38	2.15	21.50	141.254	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	4.45	2.02	19.72	2.15	20.00	100.000	Horizontal	Pass
		836.5	4.25	2.02	19.83	2.15	19.91	97.949	Horizontal	Pass
		848.3	4.23	2.03	19.95	2.15	20.00	100.000	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.31	2.02	19.84	2.15	19.98	99.541	Horizontal	Pass
		836.5	4.17	2.02	19.94	2.15	19.94	98.628	Horizontal	Pass
		847.5	4.14	2.03	19.98	2.15	19.94	98.628	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	4.34	2.02	19.75	2.15	19.92	98.175	Horizontal	Pass
		836.5	4.20	2.02	19.83	2.15	19.86	96.828	Horizontal	Pass
		846.5	4.24	2.03	19.92	2.15	19.98	99.541	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	4.22	2.02	19.84	2.15	19.89	97.499	Horizontal	Pass
		836.5	4.24	2.02	19.90	2.15	19.97	99.312	Horizontal	Pass
		844	4.21	2.03	19.96	2.15	19.99	99.770	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	4.72	2.02	19.33	2.15	19.88	97.275	Vertical	Pass
		836.5	4.67	2.02	19.37	2.15	19.87	97.051	Vertical	Pass
		841.5	4.67	2.03	19.52	2.15	20.01	100.231	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	4.31	2.02	19.76	2.15	19.90	97.724	Vertical	Pass
		836.5	4.31	2.02	19.78	2.15	19.92	98.175	Vertical	Pass
		848.3	4.16	2.03	19.94	2.15	19.92	98.175	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.26	2.02	19.83	2.15	19.92	98.175	Vertical	Pass
		836.5	4.09	2.02	19.96	2.15	19.88	97.275	Vertical	Pass
		847.5	4.30	2.03	19.87	2.15	19.99	99.770	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	4.29	2.02	19.86	2.15	19.98	99.541	Vertical	Pass
		836.5	4.37	2.02	19.81	2.15	20.01	100.231	Vertical	Pass
		846.5	4.24	2.03	19.83	2.15	19.89	97.499	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	4.47	2.02	19.75	2.15	20.05	101.158	Vertical	Pass
		836.5	4.35	2.02	19.85	2.15	20.03	100.693	Vertical	Pass
		844	4.44	2.03	19.80	2.15	20.06	101.391	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	4.92	2.02	19.31	2.15	20.06	101.391	Horizontal	Pass
		836.5	4.91	2.02	19.33	2.15	20.07	101.625	Horizontal	Pass
		841.5	4.86	2.03	19.38	2.15	20.06	101.391	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)

8.13 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	1/#Mid	1710.7	-4.12	3.76	28.24	20.36	108.643	Horizontal	Pass
		1745	-3.93	3.91	28.22	20.38	109.144	Horizontal	Pass
		1779.3	-3.82	3.93	28.2	20.45	110.917	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.00	3.77	28.23	20.46	111.173	Horizontal	Pass
		1745	-3.88	3.91	28.24	20.45	110.917	Horizontal	Pass
		1778.5	-3.94	3.94	28.25	20.37	108.893	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.11	3.77	28.31	20.43	110.408	Horizontal	Pass
		1745	-3.95	3.91	28.22	20.36	108.643	Horizontal	Pass
		1777.5	-3.90	3.94	28.2	20.36	108.643	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.14	3.79	28.33	20.40	109.648	Horizontal	Pass
		1745	-3.85	3.95	28.22	20.42	110.154	Horizontal	Pass
		1775	-3.81	3.97	28.19	20.41	109.901	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-4.12	3.79	28.34	20.43	110.408	Horizontal	Pass
		1745	-3.91	3.95	28.22	20.36	108.643	Horizontal	Pass
		1772.5	-3.86	3.97	28.18	20.35	108.393	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.20	3.81	28.35	20.34	108.143	Horizontal	Pass
		1745	-3.80	3.96	28.22	20.46	111.173	Horizontal	Pass
		1770	-3.79	4	28.16	20.37	108.893	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.11	3.76	28.24	20.37	108.893	Vertical	Pass
		1745	-3.89	3.91	28.22	20.42	110.154	Vertical	Pass
		1779.3	-3.90	3.93	28.2	20.37	108.893	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-4.10	3.77	28.23	20.36	108.643	Vertical	Pass

Band QPSK		1745	-3.95	3.91	28.24	20.38	109.144	Vertical	Pass
		1778.5	-3.96	3.94	28.25	20.35	108.393	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.15	3.77	28.31	20.39	109.396	Vertical	Pass
		1745	-3.85	3.91	28.22	20.46	111.173	Vertical	Pass
		1777.5	-3.86	3.94	28.2	20.40	109.648	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.16	3.79	28.34	20.39	109.396	Vertical	Pass
		1745	-3.84	3.95	28.22	20.43	110.408	Vertical	Pass
		1775	-3.85	3.97	28.18	20.36	108.643	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-4.08	3.81	28.35	20.46	111.173	Vertical	Pass
		1745	-3.81	3.96	28.22	20.45	110.917	Vertical	Pass
		1772.5	-3.71	4	28.16	20.45	110.917	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.03	3.79	28.34	20.52	112.720	Vertical	Pass
		1745	-3.78	3.95	28.22	20.49	111.944	Vertical	Pass
		1770	-3.70	3.97	28.18	20.51	112.460	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	1/#Mid	1710.7	-5.24	3.76	28.24	19.24	83.946	Horizontal	Pass
		1745	-5.01	3.91	28.22	19.30	85.114	Horizontal	Pass
		1779.3	-5.03	3.93	28.2	19.24	83.946	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.15	3.77	28.23	19.31	85.310	Horizontal	Pass
		1745	-5.15	3.91	28.24	19.18	82.794	Horizontal	Pass
		1778.5	-5.01	3.94	28.25	19.30	85.114	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.24	3.77	28.31	19.30	85.114	Horizontal	Pass
		1745	-5.15	3.91	28.22	19.16	82.414	Horizontal	Pass
		1777.5	-5.11	3.94	28.2	19.15	82.224	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.25	3.79	28.33	19.29	84.918	Horizontal	Pass
		1745	-5.09	3.95	28.22	19.18	82.794	Horizontal	Pass
		1775	-4.94	3.97	28.19	19.28	84.723	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.25	3.79	28.34	19.30	85.114	Horizontal	Pass
		1745	-5.00	3.95	28.22	19.27	84.528	Horizontal	Pass
		1772.5	-5.05	3.97	28.18	19.16	82.414	Horizontal	Pass
20.0MHz Band 16	1/#Mid	1720	-5.25	3.81	28.35	19.29	84.918	Horizontal	Pass
		1745	-5.08	3.96	28.22	19.18	82.794	Horizontal	Pass

QAM		1770	-5.02	4	28.16	19.14	82.035	Horizontal	Pass
1.4MHz		1710.7	-5.20	3.76	28.24	19.28	84.723	Vertical	Pass
Band 16	1/#Mid	1745	-5.09	3.91	28.22	19.22	83.560	Vertical	Pass
QAM		1779.3	-5.06	3.93	28.2	19.21	83.368	Vertical	Pass
3.0MHz		1711.5	-5.23	3.77	28.23	19.23	83.753	Vertical	Pass
Band 16	1/#Mid	1745	-5.05	3.91	28.24	19.28	84.723	Vertical	Pass
QAM		1778.5	-5.04	3.94	28.25	19.27	84.528	Vertical	Pass
5.0MHz		1712.5	-5.26	3.77	28.31	19.28	84.723	Vertical	Pass
Band 16	1/#Mid	1745	-5.16	3.91	28.22	19.15	82.224	Vertical	Pass
QAM		1777.5	-5.12	3.94	28.2	19.14	82.035	Vertical	Pass
10.0MHz		1715	-5.28	3.79	28.34	19.27	84.528	Vertical	Pass
Band 16	1/#Mid	1745	-5.02	3.95	28.22	19.25	84.140	Vertical	Pass
QAM		1775	-5.01	3.97	28.18	19.20	83.176	Vertical	Pass
15.0MHz		1717.5	-5.36	3.81	28.35	19.18	82.794	Vertical	Pass
Band 16	1/#Mid	1745	-4.97	3.96	28.22	19.29	84.918	Vertical	Pass
QAM		1772.5	-4.95	4	28.16	19.21	83.368	Vertical	Pass
20.0MHz		1720	-5.22	3.79	28.34	19.33	85.704	Vertical	Pass
Band 16	1/#Mid	1745	-4.94	3.95	28.22	19.33	85.704	Vertical	Pass
QAM		1770	-4.89	3.97	28.18	19.32	85.507	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)
Factor Gain(dB)=Antenna Gain(dB) + Amplifier Factor (dB)

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

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

LIMIT

For Band 7, the minimum permissible attenuation level of any spurious emission is 55 + log10 (P [Watts]).
The minimum permissible attenuation level of any spurious emission is 43 + log10 (P [Watts]), where P is the transmitter power in Watts.

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 Log10 (p), dB; and
b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (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 2/4/5/7/12/13/17/25/26/66

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3701.4	-53.90	4.04	33.51	-24.43	-13	-11.43	Horizontal
3701.4	-46.46	4.04	33.51	-16.99	-13	-3.99	Vertical
5552.1	-46.33	5.24	35.84	-15.73	-13	-2.73	Vertical
5552.1	-49.41	5.24	35.84	-18.81	-13	-5.81	Horizontal
190.1	-38.00	1.43	16.02	-23.41	-13	-10.41	Vertical
294.9	-40.24	1.30	17.99	-23.55	-13	-10.55	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-49.99	4.04	33.56	-20.47	-13	-7.47	Horizontal
3760.0	-45.99	4.04	33.56	-16.47	-13	-3.47	Vertical
5640.0	-44.84	5.24	35.91	-14.17	-13	-1.17	Vertical
5640.0	-52.85	5.24	35.91	-22.18	-13	-9.18	Horizontal
203.6	-36.43	1.62	16.97	-21.08	-13	-8.08	Vertical
394.1	-39.75	1.74	15.98	-25.52	-13	-12.52	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-49.52	4.04	34.00	-19.56	-13	-6.56	Horizontal
3818.6	-48.12	4.04	34.00	-18.16	-13	-5.16	Vertical
5727.9	-44.82	5.24	36.04	-14.02	-13	-1.02	Vertical
5727.9	-49.75	5.24	36.04	-18.95	-13	-5.95	Horizontal
183.6	-41.58	1.42	17.29	-25.71	-13	-12.71	Vertical
443.0	-43.11	1.50	17.90	-26.70	-13	-13.70	Horizontal

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

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3720.0	-45.33	4.07	33.54	-15.86	-13	-2.86	Horizontal
3720.0	-47.64	4.07	33.54	-18.17	-13	-5.17	Vertical
5580.0	-48.08	5.28	35.86	-17.50	-13	-4.50	Vertical
5580.0	-51.25	5.28	35.86	-20.67	-13	-7.67	Horizontal
189.9	-41.23	1.58	16.89	-25.91	-13	-12.91	Vertical
318.4	-39.49	1.76	17.26	-23.99	-13	-10.99	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-52.50	4.04	33.56	-22.98	-13	-9.98	Horizontal
3760.0	-51.20	4.04	33.56	-21.68	-13	-8.68	Vertical
5640.0	-48.63	5.24	35.91	-17.96	-13	-4.96	Vertical
5640.0	-52.24	5.24	35.91	-21.57	-13	-8.57	Horizontal
205.7	-40.71	1.46	16.27	-25.90	-13	-12.90	Vertical
425.9	-38.16	1.59	15.15	-24.60	-13	-11.60	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-50.87	4.04	34.00	-20.91	-13	-7.91	Horizontal
3800.0	-49.78	4.04	34.00	-19.82	-13	-6.82	Vertical
5700.0	-53.09	5.24	36.04	-22.29	-13	-9.29	Vertical
5700.0	-52.01	5.24	36.04	-21.21	-13	-8.21	Horizontal
202.7	-36.84	1.36	17.39	-20.80	-13	-7.80	Vertical
453.3	-41.79	1.66	15.39	-28.06	-13	-15.06	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.

9.2 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	-45.42	4.02	29.80	-19.64	-13	-6.64	Horizontal
3421.4	-49.76	4.02	29.80	-23.98	-13	-10.98	Vertical
5132.1	-49.79	5.24	35.84	-19.19	-13	-6.19	Vertical
5132.1	-49.81	5.24	35.84	-19.21	-13	-6.21	Horizontal
184.0	-42.73	1.68	16.04	-28.37	-13	-15.37	Vertical
376.3	-44.14	1.78	17.74	-28.18	-13	-15.18	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-52.66	4.03	30.00	-26.69	-13	-13.69	Horizontal
3465.0	-52.82	4.03	30.00	-26.85	-13	-13.85	Vertical
5197.5	-49.85	5.25	35.86	-19.24	-13	-6.24	Vertical
5197.5	-50.30	5.25	35.86	-19.69	-13	-6.69	Horizontal
200.3	-34.25	1.72	17.69	-18.28	-13	-5.28	Vertical
429.9	-42.26	1.62	16.02	-27.85	-13	-14.85	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-51.20	4.05	30.01	-25.24	-13	-12.24	Horizontal
3508.6	-44.21	4.05	30.01	-18.25	-13	-5.25	Vertical
5262.9	-46.99	5.26	35.86	-16.39	-13	-3.39	Vertical
5262.9	-49.32	5.26	35.86	-18.72	-13	-5.72	Horizontal
199.9	-35.18	1.80	16.69	-20.29	-13	-7.29	Vertical
279.4	-40.43	1.75	16.66	-25.53	-13	-12.53	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	-45.42	4.02	29.80	-19.64	-13	-6.64	Horizontal
3440.0	-48.44	4.02	29.80	-22.66	-13	-9.66	Vertical
5160.0	-45.20	5.24	35.84	-14.60	-13	-1.60	Vertical
5160.0	-51.71	5.24	35.84	-21.11	-13	-8.11	Horizontal
191.9	-42.82	1.57	17.26	-27.13	-13	-14.13	Vertical
463.0	-42.52	1.78	16.35	-27.95	-13	-14.95	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-45.74	4.03	30.00	-19.77	-13	-6.77	Horizontal
3465.0	-46.17	4.03	30.00	-20.20	-13	-7.20	Vertical
5197.5	-53.23	5.25	35.86	-22.62	-13	-9.62	Vertical
5197.5	-53.86	5.25	35.86	-23.25	-13	-10.25	Horizontal
189.2	-41.64	1.44	17.95	-25.13	-13	-12.13	Vertical
329.8	-42.09	1.65	16.09	-27.65	-13	-14.65	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-52.20	4.05	27.68	-28.57	-13	-15.57	Horizontal
3490.0	-53.69	4.05	27.68	-30.06	-13	-17.06	Vertical
5235.0	-46.41	5.26	35.86	-15.81	-13	-2.81	Vertical
5235.0	-53.32	5.26	35.86	-22.72	-13	-9.72	Horizontal
192.6	-36.66	1.61	16.85	-21.42	-13	-8.42	Vertical
259.3	-35.96	1.61	15.19	-22.38	-13	-9.38	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(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	-52.49	2.78	27.50	-27.77	-13	-14.77	Horizontal
1649.4	-44.64	2.78	27.50	-19.92	-13	-6.92	Vertical
2474.1	-52.35	2.90	27.80	-27.45	-13	-14.45	Vertical
2474.1	-53.62	2.90	27.80	-28.72	-13	-15.72	Horizontal
188.6	-34.43	1.76	17.59	-18.60	-13	-5.60	Vertical
403.9	-40.66	1.63	15.87	-26.42	-13	-13.42	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-45.51	2.80	27.48	-20.83	-13	-7.83	Horizontal
1673.0	-53.59	2.80	27.48	-28.91	-13	-15.91	Vertical
2509.5	-47.50	2.91	27.70	-22.71	-13	-9.71	Vertical
2509.5	-50.22	2.91	27.70	-25.43	-13	-12.43	Horizontal
208.3	-35.01	1.61	15.68	-20.94	-13	-7.94	Vertical
260.6	-35.66	1.59	17.52	-19.74	-13	-6.74	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-50.22	2.82	27.43	-25.61	-13	-12.61	Horizontal
1696.6	-51.38	2.82	27.43	-26.77	-13	-13.77	Vertical
2544.9	-53.49	2.92	27.74	-28.67	-13	-15.67	Vertical
2544.9	-51.50	2.92	27.74	-26.68	-13	-13.68	Horizontal
204.8	-39.93	1.69	16.67	-24.94	-13	-11.94	Vertical
244.5	-38.21	1.70	17.18	-22.73	-13	-9.73	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	-50.61	2.78	27.50	-25.89	-13	-12.89	Horizontal
1658.0	-46.03	2.78	27.50	-21.31	-13	-8.31	Vertical
2487.0	-48.07	2.90	27.80	-23.17	-13	-10.17	Vertical
2487.0	-52.11	2.90	27.80	-27.21	-13	-14.21	Horizontal
196.0	-40.32	1.71	15.57	-26.46	-13	-13.46	Vertical
287.9	-34.94	1.34	16.40	-19.88	-13	-6.88	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-49.09	2.80	27.48	-24.41	-13	-11.41	Horizontal
1673.0	-45.58	2.80	27.48	-20.90	-13	-7.90	Vertical
2509.5	-45.24	2.91	27.70	-20.45	-13	-7.45	Vertical
2509.5	-52.29	2.91	27.70	-27.50	-13	-14.50	Horizontal
211.6	-39.62	1.44	17.04	-24.02	-13	-11.02	Vertical
442.0	-36.73	1.76	17.62	-20.87	-13	-7.87	Horizontal
Test Results for High Channel 844MHz							
1688.0	-49.72	2.82	27.43	-25.11	-13	-12.11	Horizontal
1688.0	-49.87	2.82	27.43	-25.26	-13	-12.26	Vertical
2532.0	-52.11	2.92	27.74	-27.29	-13	-14.29	Vertical
2532.0	-51.11	2.92	27.74	-26.29	-13	-13.29	Horizontal
183.7	-35.90	1.74	17.70	-19.94	-13	-6.94	Vertical
448.5	-39.94	1.41	17.46	-23.88	-13	-10.88	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(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	-64.70	5.23	35.81	-34.12	-25	-9.12	Horizontal
5005.0	-62.34	5.23	35.81	-31.76	-25	-6.76	Vertical
7507.5	-59.85	5.67	36.85	-28.67	-25	-3.67	Vertical
7507.5	-64.74	5.67	36.85	-33.56	-25	-8.56	Horizontal
176.6	-44.05	1.73	17.97	-27.81	-25	-2.81	Vertical
413.4	-47.36	1.38	15.11	-33.63	-25	-8.63	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.53	5.23	35.82	-30.94	-25	-5.94	Horizontal
5070.0	-63.81	5.23	35.82	-33.22	-25	-8.22	Vertical
7605.0	-60.18	5.67	36.85	-29.00	-25	-4.00	Vertical
7605.0	-62.49	5.67	36.85	-31.31	-25	-6.31	Horizontal
202.4	-49.75	1.77	16.17	-35.34	-25	-10.34	Vertical
445.4	-49.93	1.63	15.21	-36.35	-25	-11.35	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-62.95	5.24	35.83	-32.36	-25	-7.36	Horizontal
5135.0	-62.81	5.24	35.83	-32.22	-25	-7.22	Vertical
7702.5	-62.45	5.68	36.87	-31.26	-25	-6.26	Vertical
7702.5	-59.51	5.68	36.87	-28.32	-25	-3.32	Horizontal
186.7	-49.72	1.58	17.56	-33.74	-25	-8.74	Vertical
291.0	-52.36	1.45	16.58	-37.23	-25	-12.23	Horizontal

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

Test Results for Low Channel 2510MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5020.0	-62.20	5.23	35.82	-31.61	-25	-6.61	Horizontal
5020.0	-59.38	5.23	35.82	-28.79	-25	-3.79	Vertical
7530.0	-62.22	5.67	36.86	-31.03	-25	-6.03	Vertical
7530.0	-64.78	5.67	36.86	-33.59	-25	-8.59	Horizontal
188.8	-44.59	1.63	15.76	-30.46	-25	-5.46	Vertical
233.7	-51.52	1.71	15.44	-37.79	-25	-12.79	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.33	5.23	35.82	-30.74	-25	-5.74	Horizontal
5070.0	-63.83	5.23	35.82	-33.24	-25	-8.24	Vertical
7605.0	-62.73	5.67	36.85	-31.55	-25	-6.55	Vertical
7605.0	-62.41	5.67	36.85	-31.23	-25	-6.23	Horizontal
207.0	-49.88	1.79	16.84	-34.82	-25	-9.82	Vertical
389.0	-51.38	1.71	17.64	-35.45	-25	-10.45	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-59.33	5.24	35.83	-28.74	-25	-3.74	Horizontal
5120.0	-63.60	5.24	35.83	-33.01	-25	-8.01	Vertical
7680.0	-59.13	5.70	36.88	-27.95	-25	-2.95	Vertical
7680.0	-60.25	5.70	36.88	-29.07	-25	-4.07	Horizontal
193.8	-45.83	1.79	16.84	-30.77	-25	-5.77	Vertical
329.6	-49.58	1.71	17.64	-33.65	-25	-8.65	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	-51.66	2.60	27.20	-27.06	-13	-14.06	Horizontal
1399.4	-44.13	2.60	27.20	-19.53	-13	-6.53	Vertical
2099.1	-50.72	2.85	27.54	-26.03	-13	-13.03	Vertical
2099.1	-49.44	2.85	27.54	-24.75	-13	-11.75	Horizontal
208.7	-42.92	1.49	17.78	-26.63	-13	-13.63	Vertical
269.0	-43.20	1.36	17.33	-27.23	-13	-14.23	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-44.04	2.61	27.28	-19.37	-13	-6.37	Horizontal
1415.0	-52.29	2.61	27.28	-27.62	-13	-14.62	Vertical
2122.5	-47.60	2.87	27.59	-22.88	-13	-9.88	Vertical
2122.5	-51.81	2.87	27.59	-27.09	-13	-14.09	Horizontal
207.7	-35.84	1.73	15.74	-21.83	-13	-8.83	Vertical
239.3	-34.28	1.62	15.79	-20.11	-13	-7.11	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-50.21	2.63	27.28	-25.56	-13	-12.56	Horizontal
1430.6	-47.77	2.63	27.28	-23.12	-13	-10.12	Vertical
2145.9	-53.40	2.88	27.60	-28.68	-13	-15.68	Vertical
2145.9	-51.83	2.88	27.60	-27.11	-13	-14.11	Horizontal
179.6	-38.37	1.61	18.00	-21.98	-13	-8.98	Vertical
350.9	-39.91	1.45	15.49	-25.88	-13	-12.88	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	-53.57	2.61	27.26	-28.92	-13	-15.92	Horizontal
1408.0	-52.91	2.61	27.26	-28.26	-13	-15.26	Vertical
2112.0	-49.16	2.87	27.58	-24.45	-13	-11.45	Vertical
2112.0	-50.81	2.87	27.58	-26.10	-13	-13.10	Horizontal
184.5	-37.92	1.31	16.97	-22.26	-13	-9.26	Vertical
378.6	-39.27	1.65	16.70	-24.22	-13	-11.22	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-50.83	2.61	27.28	-26.16	-13	-13.16	Horizontal
1415.0	-49.60	2.61	27.28	-24.93	-13	-11.93	Vertical
2122.5	-46.38	2.87	27.59	-21.66	-13	-8.66	Vertical
2122.5	-51.22	2.87	27.59	-26.50	-13	-13.50	Horizontal
203.1	-43.60	1.72	17.99	-27.33	-13	-14.33	Vertical
239.8	-37.29	1.73	17.94	-21.08	-13	-8.08	Horizontal
Test Results for High Channel 711MHz							
1422.0	-50.66	2.62	27.28	-26.00	-13	-13.00	Horizontal
1422.0	-49.35	2.62	27.28	-24.69	-13	-11.69	Vertical
2133.0	-46.64	2.87	27.60	-21.91	-13	-8.91	Vertical
2133.0	-53.50	2.87	27.60	-28.77	-13	-15.77	Horizontal
207.5	-37.75	1.58	15.93	-23.40	-13	-10.40	Vertical
337.7	-34.70	1.36	15.59	-20.47	-13	-7.47	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

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

9.6 LTE BAND 13

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

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1559.0	-74.35	2.61	27.28	-49.68	-40	-9.68	Horizontal
1559.0	-74.46	2.61	27.28	-49.79	-40	-9.79	Vertical
2338.5	-71.89	2.87	27.59	-47.17	-13	-34.17	Vertical
2338.5	-70.99	2.87	27.59	-46.27	-13	-33.27	Horizontal
208.7	-69.02	1.71	16.15	-54.58	-13	-41.58	Vertical
252.3	-67.36	1.41	17.32	-51.45	-13	-38.45	Horizontal
Test Results For Mid Channel 782MHz							
1564.0	-72.52	2.62	27.30	-47.84	-40	-7.84	Horizontal
1564.0	-76.32	2.62	27.30	-51.64	-40	-11.64	Vertical
2346.0	-70.56	2.87	27.62	-45.81	-13	-32.81	Vertical
2346.0	-72.49	2.87	27.62	-47.74	-13	-34.74	Horizontal
193.7	-69.38	1.42	15.25	-55.56	-13	-42.56	Vertical
455.4	-70.89	1.36	17.19	-55.06	-13	-42.06	Horizontal
Test Results for High Channel 784.5MHz							
1569.0	-77.59	2.66	27.28	-52.97	-40	-12.97	Horizontal
1569.0	-72.06	2.66	27.28	-47.44	-40	-7.44	Vertical
2353.5	-68.42	2.88	27.60	-43.70	-13	-30.70	Vertical
2353.5	-74.35	2.88	27.60	-49.63	-13	-36.63	Horizontal
211.7	-68.08	1.32	17.29	-52.11	-13	-39.11	Vertical
379.0	-70.76	1.72	16.89	-55.59	-13	-42.59	Horizontal

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

Test Results for Channel 782MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1564.0	-72.78	2.62	27.30	-48.10	-40	-8.10	Horizontal
1564.0	-74.76	2.62	27.30	-50.08	-40	-10.08	Vertical
2346.0	-71.95	2.87	27.62	-47.20	-13	-34.20	Vertical
2346.0	-70.55	2.87	27.62	-45.80	-13	-32.80	Horizontal
175.9	-67.89	1.35	16.91	-52.33	-13	-39.33	Vertical
398.2	-71.66	1.62	16.31	-56.97	-13	-43.97	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

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

9.7 LTE BAND 17

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

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1413.0	-48.58	2.61	27.28	-23.91	-13	-10.91	Horizontal
1413.0	-50.06	2.61	27.28	-25.39	-13	-12.39	Vertical
2119.5	-50.03	2.87	27.59	-25.31	-13	-12.31	Vertical
2119.5	-51.59	2.87	27.59	-26.87	-13	-13.87	Horizontal
182.5	-35.70	1.71	16.15	-21.26	-13	-8.26	Vertical
360.1	-38.23	1.41	17.32	-22.32	-13	-9.32	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-52.55	2.62	27.30	-27.87	-13	-14.87	Horizontal
1420.0	-49.13	2.62	27.30	-24.45	-13	-11.45	Vertical
2130.0	-47.76	2.87	27.62	-23.01	-13	-10.01	Vertical
2130.0	-50.58	2.87	27.62	-25.83	-13	-12.83	Horizontal
200.5	-34.27	1.42	15.25	-20.45	-13	-7.45	Vertical
379.2	-35.87	1.36	17.19	-20.04	-13	-7.04	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-44.31	2.66	27.28	-19.69	-13	-6.69	Horizontal
1427.0	-49.90	2.66	27.28	-25.28	-13	-12.28	Vertical
2140.5	-48.72	2.88	27.60	-24.00	-13	-11.00	Vertical
2140.5	-51.93	2.88	27.60	-27.21	-13	-14.21	Horizontal
205.9	-38.61	1.32	17.29	-22.64	-13	-9.64	Vertical
381.9	-37.11	1.72	16.89	-21.94	-13	-8.94	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	-47.48	2.62	27.30	-22.80	-13	-9.80	Horizontal
1418.0	-50.68	2.62	27.30	-26.00	-13	-13.00	Vertical
2127.0	-53.10	2.87	27.62	-28.35	-13	-15.35	Vertical
2127.0	-51.61	2.87	27.62	-26.86	-13	-13.86	Horizontal
179.8	-35.77	1.35	16.91	-20.21	-13	-7.21	Vertical
398.5	-35.14	1.62	16.31	-20.45	-13	-7.45	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-52.14	2.62	27.30	-27.46	-13	-14.46	Horizontal
1420.0	-53.20	2.62	27.30	-28.52	-13	-15.52	Vertical
2130.0	-45.86	2.87	27.62	-21.11	-13	-8.11	Vertical
2130.0	-49.29	2.87	27.62	-24.54	-13	-11.54	Horizontal
207.6	-35.70	1.51	17.14	-20.07	-13	-7.07	Vertical
338.3	-40.94	1.77	16.88	-25.83	-13	-12.83	Horizontal
Test Results for High Channel 711MHz							
1422.0	-45.53	2.62	27.30	-20.85	-13	-7.85	Horizontal
1422.0	-49.69	2.62	27.30	-25.01	-13	-12.01	Vertical
2133.0	-50.37	2.87	27.62	-25.62	-13	-12.62	Vertical
2133.0	-52.54	2.87	27.62	-27.79	-13	-14.79	Horizontal
202.6	-36.95	1.78	15.95	-22.78	-13	-9.78	Vertical
242.3	-42.60	1.34	17.95	-26.00	-13	-13.00	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.8 LTE BAND 25

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3701.4	-48.70	4.26	29.80	-23.16	-13	-10.16	Horizontal
3701.4	-52.94	4.26	29.80	-27.40	-13	-14.40	Vertical
5552.1	-51.58	5.36	35.84	-21.10	-13	-8.10	Vertical
5552.1	-49.89	5.36	35.84	-19.41	-13	-6.41	Horizontal
207.6	-39.56	1.68	16.04	-25.20	-13	-12.20	Vertical
268.4	-41.46	1.78	17.74	-25.50	-13	-12.50	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-50.63	4.28	30.00	-24.91	-13	-11.91	Horizontal
3765.0	-51.29	4.28	30.00	-25.57	-13	-12.57	Vertical
5647.5	-47.82	5.41	35.86	-17.37	-13	-4.37	Vertical
5647.5	-51.20	5.41	35.86	-20.75	-13	-7.75	Horizontal
212.9	-42.37	1.72	17.69	-26.40	-13	-13.40	Vertical
243.6	-44.68	1.62	16.02	-30.27	-13	-17.27	Horizontal
Test Results for High Channel 1914.3MHz							
3828.6	-47.69	4.31	30.01	-21.99	-13	-8.99	Horizontal
3828.6	-52.08	4.31	30.01	-26.38	-13	-13.38	Vertical
5742.9	-49.57	5.43	35.86	-19.14	-13	-6.14	Vertical
5742.9	-51.45	5.43	35.86	-21.02	-13	-8.02	Horizontal
195.0	-38.14	1.80	16.69	-23.25	-13	-10.25	Vertical
231.9	-43.34	1.75	16.66	-28.44	-13	-15.44	Horizontal

QPSK EIRP POWER FOR LTE BAND 25 (20MHZ 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	-49.94	4.29	29.80	-24.43	-13	-11.43	Horizontal
3720.0	-44.13	4.29	29.80	-18.62	-13	-5.62	Vertical
5580.0	-48.25	5.38	35.84	-17.79	-13	-4.79	Vertical
5580.0	-51.04	5.38	35.84	-20.58	-13	-7.58	Horizontal
202.7	-35.17	1.57	17.26	-19.48	-13	-6.48	Vertical
441.6	-35.55	1.78	16.35	-20.98	-13	-7.98	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-47.09	4.28	30.00	-21.37	-13	-8.37	Horizontal
3765.0	-49.42	4.28	30.00	-23.70	-13	-10.70	Vertical
5647.5	-44.88	5.41	35.86	-14.43	-13	-1.43	Vertical
5647.5	-52.04	5.41	35.86	-21.59	-13	-8.59	Horizontal
182.4	-35.51	1.44	17.95	-19.00	-13	-6.00	Vertical
313.6	-34.96	1.65	16.09	-20.52	-13	-7.52	Horizontal
Test Results for High Channel 1905MHz							
3810.0	-45.14	4.35	27.68	-21.81	-13	-8.81	Horizontal
3810.0	-49.33	4.35	27.68	-26.00	-13	-13.00	Vertical
5715.0	-53.67	5.42	35.86	-23.23	-13	-10.23	Vertical
5715.0	-51.88	5.42	35.86	-21.44	-13	-8.44	Horizontal
177.4	-41.64	1.61	16.85	-26.40	-13	-13.40	Vertical
465.7	-40.89	1.61	15.19	-27.31	-13	-14.31	Horizontal

9.9 LTE 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	-45.21	4.26	29.80	-19.67	-13	-6.67	Horizontal
1629.4	-47.47	4.26	29.80	-21.93	-13	-8.93	Vertical
2444.1	-46.32	5.36	35.84	-15.84	-13	-2.84	Vertical
2444.1	-51.68	5.36	35.84	-21.20	-13	-8.20	Horizontal
198.9	-44.84	1.68	16.04	-30.48	-13	-17.48	Vertical
259.5	-42.66	1.78	17.74	-26.70	-13	-13.70	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-51.35	4.28	30.00	-25.63	-13	-12.63	Horizontal
1638.0	-52.79	4.28	30.00	-27.07	-13	-14.07	Vertical
2457.0	-51.64	5.41	35.86	-21.19	-13	-8.19	Vertical
2457.0	-51.12	5.41	35.86	-20.67	-13	-7.67	Horizontal
177.0	-35.59	1.72	17.69	-19.62	-13	-6.62	Vertical
437.3	-37.74	1.62	16.02	-23.33	-13	-10.33	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-51.35	4.31	30.01	-25.65	-13	-12.65	Horizontal
1646.6	-52.23	4.31	30.01	-26.53	-13	-13.53	Vertical
2469.9	-48.80	5.43	35.86	-18.37	-13	-5.37	Vertical
2469.9	-51.86	5.43	35.86	-21.43	-13	-8.43	Horizontal
186.6	-34.64	1.80	16.69	-19.75	-13	-6.75	Vertical
373.1	-40.93	1.75	16.66	-26.03	-13	-13.03	Horizontal

QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (1.4MHZ 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	-52.02	4.28	30.00	-26.30	-13	-13.30	Horizontal
1638.0	-46.84	4.28	30.00	-21.12	-13	-8.12	Vertical
2457.0	-49.88	5.41	35.86	-19.43	-13	-6.43	Vertical
2457.0	-50.95	5.41	35.86	-20.50	-13	-7.50	Horizontal
189.0	-37.80	1.44	17.95	-21.29	-13	-8.29	Vertical
325.5	-44.23	1.65	16.09	-29.79	-13	-16.79	Horizontal

9.10 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	-50.85	4.26	29.80	-25.31	-13	-12.31	Horizontal
1649.4	-47.80	4.26	29.80	-22.26	-13	-9.26	Vertical
2474.1	-46.96	5.36	35.84	-16.48	-13	-3.48	Vertical
2474.1	-50.43	5.36	35.84	-19.95	-13	-6.95	Horizontal
189.5	-43.26	1.68	16.04	-28.90	-13	-15.90	Vertical
389.1	-36.43	1.78	17.74	-20.47	-13	-7.47	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-51.39	4.28	30.00	-25.67	-13	-12.67	Horizontal
1673.0	-45.99	4.28	30.00	-20.27	-13	-7.27	Vertical
2509.5	-50.80	5.41	35.86	-20.35	-13	-7.35	Vertical
2509.5	-53.18	5.41	35.86	-22.73	-13	-9.73	Horizontal
210.6	-35.91	1.72	17.69	-19.94	-13	-6.94	Vertical
263.9	-38.96	1.62	16.02	-24.55	-13	-11.55	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-53.95	4.31	30.01	-28.25	-13	-15.25	Horizontal
1696.6	-51.83	4.31	30.01	-26.13	-13	-13.13	Vertical
2544.9	-45.30	5.43	35.86	-14.87	-13	-1.87	Vertical
2544.9	-49.13	5.43	35.86	-18.70	-13	-5.70	Horizontal
188.4	-43.33	1.80	16.69	-28.44	-13	-15.44	Vertical
288.7	-40.85	1.75	16.66	-25.95	-13	-12.95	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	-48.66	4.29	29.80	-23.15	-13	-10.15	Horizontal
1663.0	-53.29	4.29	29.80	-27.78	-13	-14.78	Vertical
2494.5	-44.21	5.38	35.84	-13.75	-13	-0.75	Vertical
2494.5	-53.14	5.38	35.84	-22.68	-13	-9.68	Horizontal
210.1	-38.94	1.57	17.26	-23.25	-13	-10.25	Vertical
248.3	-40.37	1.78	16.35	-25.80	-13	-12.80	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-47.93	4.28	30.00	-22.21	-13	-9.21	Horizontal
1673.0	-47.22	4.28	30.00	-21.50	-13	-8.50	Vertical
2509.5	-50.96	5.41	35.86	-20.51	-13	-7.51	Vertical
2509.5	-51.75	5.41	35.86	-21.30	-13	-8.30	Horizontal
179.3	-41.95	1.44	17.95	-25.44	-13	-12.44	Vertical
449.2	-44.46	1.65	16.09	-30.02	-13	-17.02	Horizontal
Test Results for High Channel841.5MHz							
1683.0	-44.80	4.35	27.68	-21.47	-13	-8.47	Horizontal
1683.0	-51.81	4.35	27.68	-28.48	-13	-15.48	Vertical
2524.5	-48.48	5.42	35.86	-18.04	-13	-5.04	Vertical
2524.5	-53.69	5.42	35.86	-23.25	-13	-10.25	Horizontal
203.2	-42.71	1.61	16.85	-27.47	-13	-14.47	Vertical
434.1	-42.21	1.61	15.19	-28.63	-13	-15.63	Horizontal

9.11 LTE BAND 66

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3421.4	-62.42	3.84	35.81	-30.45	-13	-17.45	Horizontal
3421.4	-60.14	3.84	35.81	-28.17	-13	-15.17	Vertical
5132.1	-63.76	5.18	36.85	-32.09	-13	-19.09	Vertical
5132.1	-60.54	5.18	36.85	-28.87	-13	-15.87	Horizontal
182.4	-48.80	1.56	17.97	-32.39	-13	-19.39	Vertical
335.7	-48.06	1.33	15.11	-34.28	-13	-21.28	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-63.68	3.85	35.82	-31.71	-13	-18.71	Horizontal
3490.0	-61.93	3.85	35.82	-29.96	-13	-16.96	Vertical
5235.0	-64.28	5.21	36.85	-32.64	-13	-19.64	Vertical
5235.0	-61.98	5.21	36.85	-30.34	-13	-17.34	Horizontal
190.4	-53.74	1.77	16.17	-39.33	-13	-26.33	Vertical
278.9	-52.65	1.63	15.21	-39.07	-13	-26.07	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-61.12	3.86	35.83	-29.15	-13	-16.15	Horizontal
3558.6	-61.65	3.86	35.83	-29.68	-13	-16.68	Vertical
5337.9	-64.87	5.24	36.87	-33.24	-13	-20.24	Vertical
5337.9	-64.93	5.24	36.87	-33.30	-13	-20.30	Horizontal
203.6	-49.98	1.58	17.56	-34.00	-13	-21.00	Vertical
258.4	-48.97	1.45	16.58	-33.84	-13	-20.84	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	-64.77	3.84	35.82	-32.79	-13	-19.79	Horizontal
3440.0	-63.48	3.84	35.82	-31.50	-13	-18.50	Vertical
5160.0	-61.94	5.18	36.86	-30.26	-13	-17.26	Vertical
5160.0	-59.72	5.18	36.86	-28.04	-13	-15.04	Horizontal
189.2	-53.76	1.56	15.76	-39.56	-13	-26.56	Vertical
311.9	-48.56	1.33	15.44	-34.45	-13	-21.45	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-60.92	3.85	35.82	-28.95	-13	-15.95	Horizontal
3490.0	-60.72	3.85	35.82	-28.75	-13	-15.75	Vertical
5235.0	-62.97	5.21	36.85	-31.33	-13	-18.33	Vertical
5235.0	-60.03	5.21	36.85	-28.39	-13	-15.39	Horizontal
189.1	-52.84	1.77	16.84	-37.76	-13	-24.76	Vertical
271.1	-48.69	1.63	17.64	-32.68	-13	-19.68	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-63.65	3.86	35.83	-31.68	-13	-18.68	Horizontal
3540.0	-64.86	3.86	35.83	-32.89	-13	-19.89	Vertical
5310.0	-61.22	5.24	36.88	-29.58	-13	-16.58	Vertical
5310.0	-59.37	5.24	36.88	-27.73	-13	-14.73	Horizontal
201.9	-49.78	1.58	16.84	-34.51	-13	-21.51	Vertical
336.6	-45.32	1.45	17.64	-29.13	-13	-16.13	Horizontal

Note: PMea(dBm)= Power(dBm)+ ARpl (dBm)

. Over Limit= : PMea(dBm)-Limit(dBm)

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage =low voltage, DC 327V, Normal, DC 3.85V and High voltage, DC 4.43V.

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to -30ºC 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 +50ºC is reached.

Frequency Stability vs Voltage:

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

MODES TESTED

LTE Band 2/4/5/12/13/25/26/66

RESULTS

See the following pages.

10.1 LTE BAND 2

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1880	12.2	0.006506	2.5
3.85	1880	13.9	0.007412	2.5
4.43	1880	13.7	0.007300	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	13.1	0.006975	2.5
Extreme (50C)	1880	11.6	0.006153	2.5
Extreme (40C)	1880	14.2	0.007547	2.5
Extreme (30C)	1880	13.5	0.007207	2.5
Extreme (10C)	1880	14.3	0.007607	2.5
Extreme (0C)	1880	12.6	0.006684	2.5
Extreme (-10C)	1880	13.0	0.006915	2.5
Extreme (-20C)	1880	14.6	0.007758	2.5
Extreme (-30C)	1880	14.4	0.007671	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1880	10.1	0.005372	2.5
3.85	1880	8.6	0.004577	2.5
4.43	1880	8.6	0.004552	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.9	0.005269	2.5
Extreme (50C)	1880	8.9	0.004755	2.5
Extreme (40C)	1880	7.9	0.00418144	2.5
Extreme (30C)	1880	9.2	0.004902809	2.5
Extreme (10C)	1880	9.4	0.004993171	2.5
Extreme (0C)	1880	7.7	0.004080169	2.5
Extreme (-10C)	1880	8.7	0.004639331	2.5
Extreme (-20C)	1880	9.3	0.004962938	2.5
Extreme (-30C)	1880	8.0	0.004270941	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1732.5	8.8	0.005082	2.5
3.85	1732.5	8.9	0.005125	2.5
4.43	1732.5	8.3	0.004769	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.4	0.004858	2.5
Extreme (50C)	1732.5	8.7	0.005049	2.5
Extreme (40C)	1732.5	7.4	0.004246	2.5
Extreme (30C)	1732.5	6.1	0.003517	2.5
Extreme (10C)	1732.5	7.2	0.004176	2.5
Extreme (0C)	1732.5	9.5	0.005491	2.5
Extreme (-10C)	1732.5	8.8	0.005100	2.5
Extreme (-20C)	1732.5	7.0	0.004057	2.5
Extreme (-30C)	1732.5	8.3	0.004794	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1732.5	10.0	0.005783	2.5
3.85	1732.5	8.4	0.004870	2.5
4.43	1732.5	8.3	0.004798	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.7	0.005573	2.5
Extreme (50C)	1732.5	9.3	0.005374	2.5
Extreme (40C)	1732.5	7.9	0.004572	2.5
Extreme (30C)	1732.5	8.6	0.004981	2.5
Extreme (10C)	1732.5	9.4	0.005404	2.5
Extreme (0C)	1732.5	8.2	0.004716	2.5
Extreme (-10C)	1732.5	9.3	0.005347	2.5
Extreme (-20C)	1732.5	9.2	0.005283	2.5
Extreme (-30C)	1732.5	7.9	0.004589	2.5

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

10.3 LTE BAND 5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	836.5	5.9	0.007002	2.5
3.85	836.5	7.0	0.008354	2.5
4.43	836.5	4.9	0.005808	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.9	0.007042	2.5
Extreme (50C)	836.5	5.4	0.006509	2.5
Extreme (40C)	836.5	6.5	0.007825	2.5
Extreme (30C)	836.5	6.7	0.007994	2.5
Extreme (10C)	836.5	5.0	0.005935	2.5
Extreme (0C)	836.5	5.1	0.006110	2.5
Extreme (-10C)	836.5	5.8	0.006886	2.5
Extreme (-20C)	836.5	6.5	0.007747	2.5
Extreme (-30C)	836.5	6.0	0.007124	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	836.5	6.1	0.007350	2.5
3.85	836.5	6.6	0.007920	2.5
4.43	836.5	4.8	0.005768	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.0	0.007204	2.5
Extreme (50C)	836.5	6.1	0.007328	2.5
Extreme (40C)	836.5	5.8	0.006980	2.5
Extreme (30C)	836.5	6.5	0.007824	2.5
Extreme (10C)	836.5	5.7	0.006848	2.5
Extreme (0C)	836.5	5.1	0.006084	2.5
Extreme (-10C)	836.5	5.3	0.006342	2.5
Extreme (-20C)	836.5	6.1	0.007307	2.5
Extreme (-30C)	836.5	6.5	0.007745	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2535	10.1	0.003988	2.5
3.85	2535	8.8	0.003488	2.5
4.43	2535	8.9	0.003505	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.6	0.003807	2.5
Extreme (50C)	2535	9.3	0.003663	2.5
Extreme (40C)	2535	8.5	0.003348	2.5
Extreme (30C)	2535	9.3	0.003652	2.5
Extreme (10C)	2535	7.7	0.003019	2.5
Extreme (0C)	2535	8.2	0.003247	2.5
Extreme (-10C)	2535	8.9	0.003519	2.5
Extreme (-20C)	2535	8.7	0.003424	2.5
Extreme (-30C)	2535	8.9	0.003493	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	2535	6.9	0.002722	2.5
3.85	2535	6.0	0.002349	2.5
4.43	2535	5.4	0.002118	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	5.7	0.002267	2.5
Extreme (40C)	2535	5.3	0.002091	2.5
Extreme (30C)	2535	6.3	0.002484	2.5
Extreme (10C)	2535	5.5	0.002182	2.5
Extreme (0C)	2535	5.3	0.002099	2.5
Extreme (-10C)	2535	5.1	0.002007	2.5
Extreme (-20C)	2535	6.2	0.002439	2.5
Extreme (-30C)	2535	5.4	0.002113	2.5

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

10.5 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	707.5	8.5	0.012034	2.5
3.85	707.5	10.4	0.014637	2.5
4.43	707.5	8.5	0.012009	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	9.2	0.012958	2.5
Extreme (50C)	707.5	7.5	0.010594	2.5
Extreme (40C)	707.5	7.0	0.009885	2.5
Extreme (30C)	707.5	8.3	0.011764	2.5
Extreme (10C)	707.5	7.2	0.010136	2.5
Extreme (0C)	707.5	8.5	0.012022	2.5
Extreme (-10C)	707.5	8.6	0.012214	2.5
Extreme (-20C)	707.5	9.1	0.012829	2.5
Extreme (-30C)	707.5	7.7	0.010882	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	707.5	7.4	0.010482	2.5
3.85	707.5	8.1	0.011431	2.5
4.43	707.5	7.8	0.011012	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.9	0.012513	2.5
Extreme (50C)	707.5	8.8	0.012457	2.5
Extreme (40C)	707.5	8.8	0.012407	2.5
Extreme (30C)	707.5	8.0	0.011312	2.5
Extreme (10C)	707.5	8.8	0.012376	2.5
Extreme (0C)	707.5	7.8	0.011041	2.5
Extreme (-10C)	707.5	7.0	0.009838	2.5
Extreme (-20C)	707.5	8.8	0.012429	2.5
Extreme (-30C)	707.5	8.3	0.011666	2.5

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

10.6 LTE BAND 13

Band 13 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	782.0	13.0	0.016584	2.5
3.85	782.0	14.1	0.018063	2.5
4.43	782.0	13.7	0.017559	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	782.0	14.7	0.018805	2.5
Extreme (50C)	782.0	14.0	0.017966	2.5
Extreme (40C)	782.0	15.3	0.019518	2.5
Extreme (30C)	782.0	13.7	0.017490	2.5
Extreme (10C)	782.0	13.8	0.017638	2.5
Extreme (0C)	782.0	14.0	0.017888	2.5
Extreme (-10C)	782.0	13.7	0.017519	2.5
Extreme (-20C)	782.0	14.3	0.018247	2.5
Extreme (-30C)	782.0	13.5	0.017248	2.5

Band 13 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	782.0	12.2	0.015645	2.5
3.85	782.0	13.6	0.017348	2.5
4.43	782.0	13.8	0.017630	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	782.0	13.1	0.016812	2.5
Extreme (50C)	782.0	11.9	0.015240	2.5
Extreme (40C)	782.0	13.4	0.017095	2.5
Extreme (30C)	782.0	13.4	0.017199	2.5
Extreme (10C)	782.0	14.2	0.018113	2.5
Extreme (0C)	782.0	11.8	0.015050	2.5
Extreme (-10C)	782.0	13.1	0.016768	2.5
Extreme (-20C)	782.0	14.0	0.017902	2.5
Extreme (-30C)	782.0	15.1	0.019357	2.5

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

10.7 LTE BAND 17

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	10.3	0.014458	2.5
3.85	710.0	8.6	0.012176	2.5
4.43	710.0	8.4	0.011796	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.6	0.013580	2.5
Extreme (50C)	710.0	9.4	0.013217	2.5
Extreme (40C)	710.0	8.0	0.011317	2.5
Extreme (30C)	710.0	8.9	0.012501	2.5
Extreme (10C)	710.0	8.4	0.011840	2.5
Extreme (0C)	710.0	7.9	0.011099	2.5
Extreme (-10C)	710.0	9.3	0.013037	2.5
Extreme (-20C)	710.0	8.8	0.012442	2.5
Extreme (-30C)	710.0	8.3	0.011759	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	710.0	10.2	0.014318	2.5
3.85	710.0	8.6	0.012178	2.5
4.43	710.0	8.1	0.011451	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.4	0.013199	2.5
Extreme (50C)	710.0	8.9	0.012532	2.5
Extreme (40C)	710.0	8.1	0.011362	2.5
Extreme (30C)	710.0	8.4	0.011898	2.5
Extreme (10C)	710.0	8.3	0.011730	2.5
Extreme (0C)	710.0	8.5	0.011920	2.5
Extreme (-10C)	710.0	9.5	0.013378	2.5
Extreme (-20C)	710.0	8.7	0.012324	2.5
Extreme (-30C)	710.0	8.0	0.011328	2.5

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

10.8 LTE BAND 25

Band 25 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1745	6.4	0.003651	2.5
3.85	1745	7.3	0.004157	2.5
4.43	1745	7.4	0.004257	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.8	0.003298	2.5
Extreme (50C)	1745	7.8	0.004457	2.5
Extreme (40C)	1745	6.6	0.003776	2.5
Extreme (30C)	1745	7.3	0.004199	2.5
Extreme (10C)	1745	7.4	0.004215	2.5
Extreme (0C)	1745	6.7	0.003827	2.5
Extreme (-10C)	1745	5.3	0.003058	2.5
Extreme (-20C)	1745	6.8	0.003884	2.5
Extreme (-30C)	1745	5.5	0.003133	2.5

Band 25 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.27	1745	8.7	0.004967	2.5
3.85	1745	7.6	0.004382	2.5
4.43	1745	9.1	0.005231	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	9.0	0.005135	2.5
Extreme (50C)	1745	8.4	0.004826	2.5
Extreme (40C)	1745	8.7	0.004985	2.5
Extreme (30C)	1745	8.0	0.004592	2.5
Extreme (10C)	1745	8.8	0.005020	2.5
Extreme (0C)	1745	6.5	0.003732	2.5
Extreme (-10C)	1745	8.2	0.004684	2.5
Extreme (-20C)	1745	8.8	0.005027	2.5
Extreme (-30C)	1745	5.7	0.003278	2.5

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

10.9 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]
3.27	819.0	9.7	0.011840	2.5
3.85	819.0	8.9	0.010854	2.5
4.43	819.0	8.5	0.010403	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	10.1	0.012332	2.5
Extreme (50C)	819.0	8.7	0.010590	2.5
Extreme (40C)	819.0	8.1	0.009845	2.5
Extreme (30C)	819.0	8.6	0.010560	2.5
Extreme (10C)	819.0	8.8	0.010800	2.5
Extreme (0C)	819.0	7.9	0.009612	2.5
Extreme (-10C)	819.0	8.7	0.010604	2.5
Extreme (-20C)	819.0	9.1	0.011119	2.5
Extreme (-30C)	819.0	8.3	0.010151	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]
3.27	819.0	9.5	0.011654	2.5
3.85	819.0	8.5	0.010357	2.5
4.43	819.0	8.6	0.010561	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.6	0.011672	2.5
Extreme (50C)	819.0	9.4	0.011436	2.5
Extreme (40C)	819.0	8.6	0.010558	2.5
Extreme (30C)	819.0	8.9	0.010885	2.5
Extreme (10C)	819.0	7.8	0.009506	2.5
Extreme (0C)	819.0	8.1	0.009919	2.5
Extreme (-10C)	819.0	9.5	0.011646	2.5
Extreme (-20C)	819.0	8.6	0.010509	2.5
Extreme (-30C)	819.0	8.3	0.010083	2.5

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

10.10 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]
3.27	836.5	9.5	0.011384	2.5
3.85	836.5	8.8	0.010508	2.5
4.43	836.5	8.1	0.009658	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	10.0	0.011909	2.5
Extreme (50C)	836.5	9.3	0.011112	2.5
Extreme (40C)	836.5	7.9	0.009403	2.5
Extreme (30C)	836.5	8.8	0.010522	2.5
Extreme (10C)	836.5	8.6	0.010339	2.5
Extreme (0C)	836.5	8.4	0.009986	2.5
Extreme (-10C)	836.5	9.4	0.011248	2.5
Extreme (-20C)	836.5	9.3	0.011111	2.5
Extreme (-30C)	836.5	7.9	0.009386	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]
3.27	836.5	9.8	0.011681	2.5
3.85	836.5	8.9	0.010588	2.5
4.43	836.5	8.1	0.009737	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.1	0.010838	2.5
Extreme (50C)	836.5	8.8	0.010488	2.5
Extreme (40C)	836.5	8.8	0.010539	2.5
Extreme (30C)	836.5	8.4	0.010093	2.5
Extreme (10C)	836.5	8.6	0.010247	2.5
Extreme (0C)	836.5	8.6	0.010254	2.5
Extreme (-10C)	836.5	8.9	0.010668	2.5
Extreme (-20C)	836.5	8.8	0.010559	2.5
Extreme (-30C)	836.5	8.5	0.010196	2.5

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

10.11 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]
3.27	1882.5	9.8	0.005230	2.5
3.85	1882.5	8.9	0.004749	2.5
4.43	1882.5	8.4	0.004449	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	10.2	0.005408	2.5
Extreme (50C)	1882.5	8.7	0.004611	2.5
Extreme (40C)	1882.5	8.0	0.004254	2.5
Extreme (30C)	1882.5	9.3	0.004965	2.5
Extreme (10C)	1882.5	9.3	0.004924	2.5
Extreme (0C)	1882.5	8.2	0.004371	2.5
Extreme (-10C)	1882.5	9.5	0.005024	2.5
Extreme (-20C)	1882.5	9.1	0.004836	2.5
Extreme (-30C)	1882.5	7.8	0.004135	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]
3.27	1882.5	10.2	0.005427	2.5
3.85	1882.5	9.2	0.004895	2.5
4.43	1882.5	8.4	0.004460	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.3	0.004933	2.5
Extreme (50C)	1882.5	8.8	0.004676	2.5
Extreme (40C)	1882.5	8.6	0.004567	2.5
Extreme (30C)	1882.5	9.0	0.004756	2.5
Extreme (10C)	1882.5	8.3	0.004410	2.5
Extreme (0C)	1882.5	8.8	0.004660	2.5
Extreme (-10C)	1882.5	9.1	0.004854	2.5
Extreme (-20C)	1882.5	9.2	0.004865	2.5
Extreme (-30C)	1882.5	8.5	0.004501	2.5

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

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

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

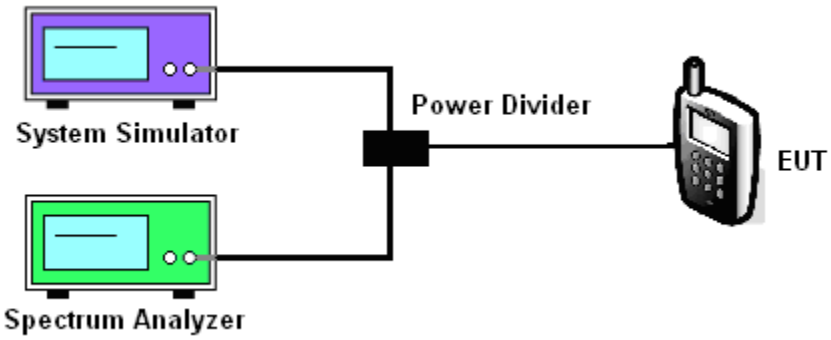
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

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

11.4 Test Setup



MODES TESTED

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

Test data reference attachment.

----END OF REPORT----