

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

FCC ID: 2BQHGIV-4G-1

Product: Northlight 4G
Trade Mark: INOVA
Model No.: IV_4G_1
Family Model: N/A
Report No.: S25060902503006
Issue Date: Jul. 11, 2025

Prepared for

INTELLI GROUP

#200-3071 No.5 Road, Richmond BC, Canada V6X 2T4

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : INTELLI GROUP

Address..... : #200-3071 No.5 Road, Richmond BC, Canada V6X 2T4

Manufacturer's Name..... : Shenzhen Along Electronics Co.,Ltd

Address..... : Shenzhen Baoan District Xixiang street Gushu community new Industrial Park 35

Product name..... : Northlight 4G

Model and/or type reference .. : IV_4G_1

Trade Mark..... : INOVA

Family Model..... : N/A

Test Sample Number..... : S250609025003

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

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

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

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Date of Test

Date (s) of performance of tests..... Jun. 11, 2025 ~ Jul. 11, 2025

Date of Issue Jul. 11, 2025

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

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Northlight 4G
Trade Mark	INOVA
Model Name	IV_4G_1
Family Model	N/A
Model Difference	N/A
FCC ID:	2BQHGIIV-4G-1
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 12, 17, 25, 26, 66, 71
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 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; 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; LTE FDD Band 71 Uplink: 663MHz-698MHz, Downlink: 617MHz-652MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
SIM Card:	SIM 1 and SIM 2 is a chipset unit and tested as a single chipset. The SIM 1 is chosen for test.
Antenna:	FPC Antenna
Antenna gain:	Band 2: -0.3 dBi, Band 4: -0.78 dBi, Band 5: -0.18 dBi, Band 12: 1.18 dBi, Band 17: 1.18 dBi, Band 25: -0.3 dBi, Band 26: -0.34 dBi, Band 66: -0.78 dBi, Band 71: -1.14 dBi;
Adapter	Model: BCT050100-078U Input: 100-240V~50/60Hz 0.3A Output: 5V---1000mA
Battery	DC 3.8V, 2500mAh, 9.5Wh
Power supply	DC 3.8V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.23V to DC 4.37V (Nominal DC 3.8V) (Note 1)

HW Version	AL5510-Main-V1.0-c20240622
SW Version	Northlight_4G _20250817
** Note1: The High Voltage DC 4.37V and Low Voltage 3.23V 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: 2BQHGIV-4G-1** filing to comply with the FCC Part 22H&24E&27&90S

1.3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E-2016, FCC CFR 47 Part 2, Part 22, Part 24, Part 27, Part 90S, ANSI C63.26:2015.

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2/4/5/12/17/25/26/66/71

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

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

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

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

2.3 CONFIGURATION OF EUT SYSTEM

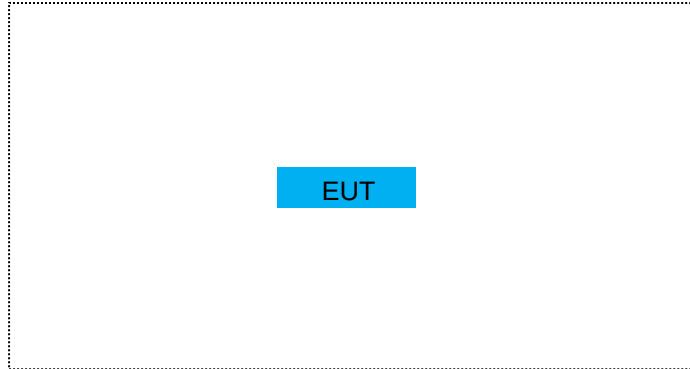
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Northlight 4G	IV_4G_1	FCC ID: 2BQHGIV-4G-1	EUT

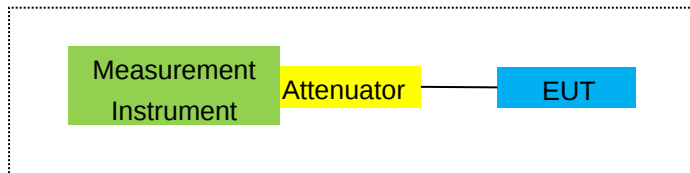
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

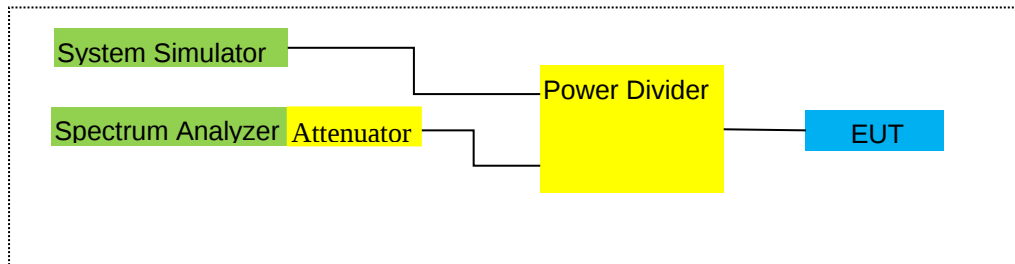
For Radiated Test Cases



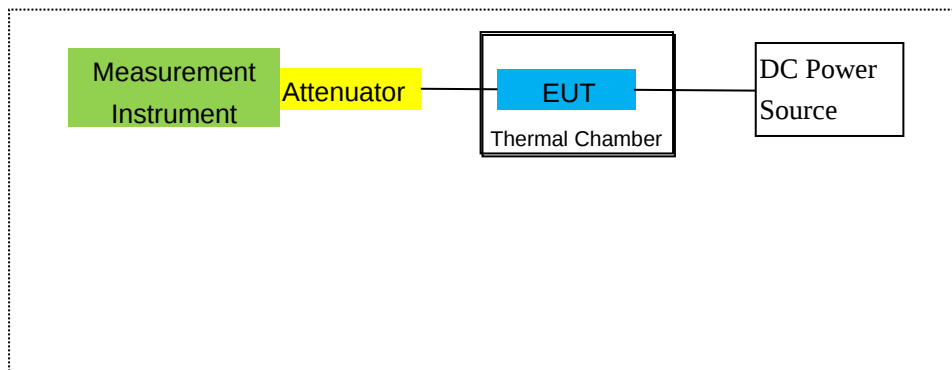
For Conducted Output Power



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



For Frequency Stability



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

3.TEST AND MEASUREMENT EQUIPMENT

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

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2025.04.17	2026.04.16	1 year
2	Test Receiver	R&S	ESPI7	101318	2025.04.17	2026.04.16	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2025.04.17	2026.04.16	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2024.05.12	2027.05.11	3 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2024.05.12	2027.05.11	3 year
7	Amplifier	EM	EM-30180	060538	2025.04.17	2026.04.16	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2025.04.17	2026.04.16	1 year
9	Power Meter	R&S	NRVS	100696	2025.04.17	2026.04.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2025.04.17	2026.04.16	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2024.04.26	2025.04.25	1 year
15	LISN	R&S	ENV216	101313	2025.04.17	2026.04.16	1 year
16	LISN	EMCO	3816/2	00042990	2025.04.17	2026.04.16	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2025.04.17	2026.04.16	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2025.04.17	2026.04.16	1 year
19	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
20	Test Cable	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
21	Test Cable	N/A	C03	N/A	2023.05.06	2026.05.05	3 year
22	Attenuator	MCE	24-10-34	BN9258	2025.04.17	2026.04.16	1 year
23	Spectrum Analyzer	agilent	e4440a	us44300399	2025.04.17	2026.04.16	1 year
24	test receiver	R&S	ESCI	a0304218	2025.04.17	2026.04.16	1 year
25	Communication Tester	R&S	CMU200	A0304247	2025.04.17	2026.04.16	1 year
26	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2025.04.17	2026.04.16	1 year

27	DC Power Source	N/A	PS-6005D	20170402923	2023.05.06	2026.05.05	3 year
28	MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2025.04.17	2026.04.16	1 year
29	Communication Tester	R&S	CMW500	148500	2025.05.06	2026.05.05	1 year

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

Measurement Software

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

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

Band 2/4/5/12/17/25/26/66/71

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

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

FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

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

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

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

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

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

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

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

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

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

MODES TESTED

Band 2/4/5/12/17/25/26/66/71

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

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

TEST PROCEDURE

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

For each out of band emissions measurement:

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

MODES TESTED

Band 2/4/5/12/17/25/26/66/71

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

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

LIMITS:

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

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

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

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

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

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

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

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17

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

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

MODES TESTED

Band 2/4/5/12/17/25/26/66/71

RESULTS

Pass

8.2 LTE BAND 2

		Radiated Power (EIRP) for Band 2								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	Limit (W)	
							Average			
							(mW)			
1.4MHz Band QPSK	1/#Mid	1850.7	-3.90	3.76	28.24	20.58	114.288	Horizontal	2	Pass
1880		-3.71	3.91	28.22	20.60	114.815	Horizontal	2	Pass	
1909.3		-3.62	3.93	28.20	20.65	116.145	Horizontal	2	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-3.96	3.77	28.23	20.50	112.202	Horizontal	2	Pass
1880		-3.81	3.91	28.24	20.52	112.720	Horizontal	2	Pass	
1908.5		-3.68	3.94	28.25	20.63	115.611	Horizontal	2	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-3.85	3.77	28.31	20.69	117.220	Horizontal	2	Pass
1880		-3.47	3.91	28.22	20.84	121.339	Horizontal	2	Pass	
1907.5		-3.40	3.94	28.20	20.86	121.899	Horizontal	2	Pass	
10.0MHz Band QPSK	1/#Mid	1855	-3.71	3.79	28.33	20.83	121.060	Horizontal	2	Pass
1880		-3.41	3.95	28.22	20.86	121.899	Horizontal	2	Pass	
1905		-3.30	3.97	28.19	20.92	123.595	Horizontal	2	Pass	
15.0MHz Band QPSK	1/#Mid	1857.5	-3.67	3.79	28.34	20.88	122.462	Horizontal	2	Pass
1880		-3.46	3.95	28.22	20.81	120.504	Horizontal	2	Pass	
1902.5		-3.32	3.97	28.18	20.89	122.744	Horizontal	2	Pass	
20.0MHz Band QPSK	1/#Mid	1860	-3.66	3.81	28.35	20.88	122.462	Horizontal	2	Pass
1880		-3.33	3.96	28.22	20.93	123.880	Horizontal	2	Pass	
1900		-3.27	4.00	28.16	20.89	122.744	Horizontal	2	Pass	
1.4MHz Band QPSK	1/#Mid	1850.7	-5.07	3.76	28.24	19.41	87.297	Vertical	2	Pass
1880		-4.53	3.91	28.22	19.78	95.060	Vertical	2	Pass	
1909.3		-4.73	3.93	28.20	19.54	89.950	Vertical	2	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-4.25	3.77	28.23	20.21	104.954	Vertical	2	Pass
1880		-4.31	3.91	28.24	20.02	100.462	Vertical	2	Pass	
1908.5		-4.79	3.94	28.25	19.52	89.536	Vertical	2	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-5.03	3.77	28.31	19.51	89.331	Vertical	2	Pass
1880		-4.49	3.91	28.22	19.82	95.940	Vertical	2	Pass	
1907.5		-4.44	3.94	28.20	19.82	95.940	Vertical	2	Pass	
10.0MHz Band QPSK	1/#Mid	1855	-5.19	3.79	28.33	19.35	86.099	Vertical	2	Pass
1880		-4.23	3.95	28.22	20.04	100.925	Vertical	2	Pass	
1905		-4.07	3.97	28.19	20.15	103.514	Vertical	2	Pass	
15.0MHz	1/#Mid	1857.5	-4.93	3.79	28.34	19.62	91.622	Vertical	2	Pass

Band		1880	-4.87	3.95	28.22	19.40	87.096	Vertical	2	Pass
QPSK		1902.5	-4.83	3.97	28.18	19.38	86.696	Vertical	2	Pass
20.0MHz	1/#Mid	1860	-4.27	3.81	28.35	20.27	106.414	Vertical	2	Pass
Band		1880	-4.79	3.96	28.22	19.47	88.512	Vertical	2	Pass
QPSK		1900	-4.68	4.00	28.16	19.48	88.716	Vertical	2	Pass

		Radiated Power (EIRP) for Band 2								
Mode	RB/RB SIZE	Frequency	Result						Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP		
							Average			
							(mW)			
1.4MHz Band 16 QAM	1/#Mid	1850.7	-5.02	3.76	28.24	19.46	88.308	Horizontal	2	Pass
		1880	-4.49	3.91	28.22	19.82	95.940	Horizontal	2	Pass
		1909.3	-4.42	3.93	28.20	19.85	96.605	Horizontal	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-4.52	3.77	28.23	19.94	98.628	Horizontal	2	Pass
		1880	-4.60	3.91	28.24	19.73	93.972	Horizontal	2	Pass
		1908.5	-4.81	3.94	28.25	19.50	89.125	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.46	3.77	28.31	20.08	101.859	Horizontal	2	Pass
		1880	-4.37	3.91	28.22	19.94	98.628	Horizontal	2	Pass
		1907.5	-4.05	3.94	28.20	20.21	104.954	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.51	3.79	28.33	20.03	100.693	Horizontal	2	Pass
		1880	-4.50	3.95	28.22	19.77	94.842	Horizontal	2	Pass
		1905	-3.97	3.97	28.19	20.25	105.925	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-4.49	3.79	28.34	20.06	101.391	Horizontal	2	Pass
		1880	-4.28	3.95	28.22	19.99	99.770	Horizontal	2	Pass
		1902.5	-4.24	3.97	28.18	19.97	99.312	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-4.38	3.81	28.35	20.16	103.753	Horizontal	2	Pass
		1880	-4.08	3.96	28.22	20.18	104.232	Horizontal	2	Pass
		1900	-3.90	4.00	28.16	20.26	106.170	Horizontal	2	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-5.59	3.76	28.24	18.89	77.446	Vertical	2	Pass
		1880	-5.51	3.91	28.22	18.80	75.858	Vertical	2	Pass
		1909.3	-5.30	3.93	28.20	18.97	78.886	Vertical	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.43	3.77	28.23	19.03	79.983	Vertical	2	Pass
		1880	-5.14	3.91	28.24	19.19	82.985	Vertical	2	Pass
		1908.5	-5.76	3.94	28.25	18.55	71.614	Vertical	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-5.37	3.77	28.31	19.17	82.604	Vertical	2	Pass
		1880	-5.19	3.91	28.22	19.12	81.658	Vertical	2	Pass
		1907.5	-5.74	3.94	28.20	18.52	71.121	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.77	3.79	28.33	18.77	75.336	Vertical	2	Pass
		1880	-5.64	3.95	28.22	18.63	72.946	Vertical	2	Pass
		1905	-5.64	3.97	28.19	18.58	72.111	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-6.13	3.79	28.34	18.42	69.502	Vertical	2	Pass
		1880	-5.76	3.95	28.22	18.51	70.958	Vertical	2	Pass
		1902.5	-5.71	3.97	28.18	18.50	70.795	Vertical	2	Pass

20.0MHz		1860	-5.68	3.81	28.35	18.86	76.913	Vertical	2	Pass
Band 16	1/#Mid	1880	-5.63	3.96	28.22	18.63	72.946	Vertical	2	Pass
QAM		1900	-5.31	4.00	28.16	18.85	76.736	Vertical	2	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4										
Mode	RB/RB SIZE	Frequency	Result						Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
1.4MHz Band QPSK	1/#Mid	1710.7	-3.81	3.12	27.58	20.65	116.145	Horizontal	1	Pass
		1732.5	-3.80	3.27	27.61	20.54	113.240	Horizontal	1	Pass
		1754.3	-3.78	3.29	27.63	20.56	113.763	Horizontal	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.98	3.13	27.61	20.50	112.202	Horizontal	1	Pass
		1732.5	-3.90	3.27	27.61	20.44	110.662	Horizontal	1	Pass
		1753.5	-3.82	3.30	27.62	20.50	112.202	Horizontal	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.75	3.13	27.63	20.75	118.850	Horizontal	1	Pass
		1732.5	-3.65	3.27	27.61	20.69	117.220	Horizontal	1	Pass
		1752.5	-3.53	3.30	27.60	20.77	119.399	Horizontal	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.69	3.15	27.64	20.80	120.226	Horizontal	1	Pass
		1732.5	-3.46	3.31	27.61	20.84	121.339	Horizontal	1	Pass
		1750	-3.48	3.33	27.59	20.78	119.674	Horizontal	1	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-3.70	3.15	27.65	20.80	120.226	Horizontal	1	Pass
		1732.5	-3.54	3.31	27.61	20.76	119.124	Horizontal	1	Pass
		1747.5	-3.48	3.33	27.57	20.76	119.124	Horizontal	1	Pass
20.0MHz Band QPSK	1/#Mid	1720	-3.64	3.17	27.66	20.85	121.619	Horizontal	1	Pass
		1732.5	-3.47	3.32	27.61	20.82	120.781	Horizontal	1	Pass
		1745	-3.41	3.36	27.56	20.79	119.950	Horizontal	1	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.61	3.12	27.58	19.85	96.605	Vertical	1	Pass
		1732.5	-4.99	3.27	27.61	19.35	86.099	Vertical	1	Pass
		1754.3	-4.59	3.29	27.63	19.75	94.406	Vertical	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.51	3.13	27.61	19.97	99.312	Vertical	1	Pass
		1732.5	-4.04	3.27	27.61	20.30	107.152	Vertical	1	Pass
		1753.5	-4.88	3.30	27.62	19.44	87.902	Vertical	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.37	3.13	27.63	20.13	103.039	Vertical	1	Pass
		1732.5	-4.21	3.27	27.61	20.13	103.039	Vertical	1	Pass
		1752.5	-4.44	3.30	27.60	19.86	96.828	Vertical	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.94	3.15	27.64	19.55	90.157	Vertical	1	Pass
		1732.5	-4.43	3.31	27.61	19.87	97.051	Vertical	1	Pass
		1750	-4.61	3.33	27.59	19.65	92.257	Vertical	1	Pass

15.0MHz	Band QPSK	1/#Mid	1717.5	-5.14	3.15	27.65	19.36	86.298	Vertical	1	Pass
			1732.5	-4.71	3.31	27.61	19.59	90.991	Vertical	1	Pass
			1747.5	-4.87	3.33	27.57	19.37	86.497	Vertical	1	Pass
20.0MHz	Band QPSK	1/#Mid	1720	-5.10	3.17	27.66	19.39	86.896	Vertical	1	Pass
			1732.5	-4.05	3.32	27.61	20.24	105.682	Vertical	1	Pass
			1745	-4.66	3.36	27.56	19.54	89.950	Vertical	1	Pass

Radiated Power (EIRP) for Band 4										
Mode	RB/RB SIZE	Frequency	Result						Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.62	3.12	27.58	19.84	96.383	Horizontal	1	Pass
		1732.5	-4.47	3.27	27.61	19.87	97.051	Horizontal	1	Pass
		1754.3	-4.47	3.29	27.63	19.87	97.051	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.56	3.13	27.61	19.92	98.175	Horizontal	1	Pass
		1732.5	-4.69	3.27	27.61	19.65	92.257	Horizontal	1	Pass
		1753.5	-4.91	3.30	27.62	19.41	87.297	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-4.39	3.13	27.63	20.11	102.565	Horizontal	1	Pass
		1732.5	-4.35	3.27	27.61	19.99	99.770	Horizontal	1	Pass
		1752.5	-4.04	3.30	27.60	20.26	106.170	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.46	3.15	27.64	20.03	100.693	Horizontal	1	Pass
		1732.5	-4.65	3.31	27.61	19.65	92.257	Horizontal	1	Pass
		1750	-4.03	3.33	27.59	20.23	105.439	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-4.26	3.15	27.65	20.24	105.682	Horizontal	1	Pass
		1732.5	-4.32	3.31	27.61	19.98	99.541	Horizontal	1	Pass
		1747.5	-4.34	3.33	27.57	19.90	97.724	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.21	3.17	27.66	20.28	106.660	Horizontal	1	Pass
		1732.5	-4.22	3.32	27.61	20.07	101.625	Horizontal	1	Pass
		1745	-4.03	3.36	27.56	20.17	103.992	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.26	3.12	27.58	19.20	83.176	Vertical	1	Pass
		1732.5	-5.52	3.27	27.61	18.82	76.208	Vertical	1	Pass
		1754.3	-5.76	3.29	27.63	18.58	72.111	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.45	3.13	27.61	19.03	79.983	Vertical	1	Pass
		1732.5	-5.35	3.27	27.61	18.99	79.250	Vertical	1	Pass
		1753.5	-5.39	3.30	27.62	18.93	78.163	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-6.01	3.13	27.63	18.49	70.632	Vertical	1	Pass
		1732.5	-5.72	3.27	27.61	18.62	72.778	Vertical	1	Pass
		1752.5	-5.33	3.30	27.60	18.97	78.886	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-6.14	3.15	27.64	18.35	68.391	Vertical	1	Pass
		1732.5	-5.48	3.31	27.61	18.82	76.208	Vertical	1	Pass
		1750	-5.61	3.33	27.59	18.65	73.282	Vertical	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-6.04	3.15	27.65	18.46	70.146	Vertical	1	Pass
		1732.5	-5.96	3.31	27.61	18.34	68.234	Vertical	1	Pass
		1747.5	-5.93	3.33	27.57	18.31	67.764	Vertical	1	Pass

20.0MHz		1720	-5.50	3.17	27.66	18.99	79.250	Vertical	1	Pass
Band 16	1/#Mid	1732.5	-5.68	3.32	27.61	18.61	72.611	Vertical	1	Pass
QAM		1745	-5.34	3.36	27.56	18.86	76.913	Vertical	1	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
1.4MHz Band QPSK	3/#Mid	824.7	5.49	2.01	19.68	2.15	21.01	126.183	Horizontal	7	Pass
		836.5	5.37	2.01	19.77	2.15	20.98	125.314	Horizontal	7	Pass
		848.3	5.17	2.02	19.82	2.15	20.82	120.781	Horizontal	7	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.26	2.01	19.70	2.15	20.80	120.226	Horizontal	7	Pass
		836.5	5.16	2.01	19.77	2.15	20.77	119.399	Horizontal	7	Pass
		847.5	5.03	2.02	19.81	2.15	20.67	116.681	Horizontal	7	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.54	2.01	19.71	2.15	21.09	128.529	Horizontal	7	Pass
		836.5	5.42	2.01	19.77	2.15	21.03	126.765	Horizontal	7	Pass
		846.5	5.26	2.02	19.79	2.15	20.88	122.462	Horizontal	7	Pass
10.0MHz Band QPSK	1/#Mid	829	5.56	2.01	19.73	2.15	21.13	129.718	Horizontal	7	Pass
		836.5	5.51	2.01	19.77	2.15	21.12	129.420	Horizontal	7	Pass
		844	5.41	2.02	19.78	2.15	21.02	126.474	Horizontal	7	Pass
1.4MHz Band QPSK	1/#Mid	824.7	4.08	2.01	19.68	2.15	19.60	91.201	Vertical	7	Pass
		836.5	4.12	2.01	19.77	2.15	19.73	93.972	Vertical	7	Pass
		848.3	4.45	2.02	19.82	2.15	20.10	102.329	Vertical	7	Pass
3.0MHz Band QPSK	1/#Mid	825.5	4.76	2.01	19.70	2.15	20.30	107.152	Vertical	7	Pass
		836.5	4.25	2.01	19.77	2.15	19.86	96.828	Vertical	7	Pass
		847.5	4.27	2.02	19.81	2.15	19.91	97.949	Vertical	7	Pass
5.0MHz Band QPSK	1/#Mid	826.5	4.00	2.01	19.71	2.15	19.55	90.157	Vertical	7	Pass
		836.5	4.20	2.01	19.77	2.15	19.81	95.719	Vertical	7	Pass
		846.5	4.27	2.02	19.79	2.15	19.89	97.499	Vertical	7	Pass
10.0MHz Band QPSK	1/#Mid	829	3.86	2.01	19.73	2.15	19.43	87.700	Vertical	7	Pass
		836.5	4.44	2.01	19.77	2.15	20.05	101.158	Vertical	7	Pass
		844	4.67	2.02	19.78	2.15	20.28	106.660	Vertical	7	Pass

Radiated Power (ERP) for Band 5											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
1.4MHz Band 16 QAM	3/#Mid	824.7	4.64	2.01	19.68	2.15	20.16	103.753	Horizontal	7	Pass
		836.5	4.57	2.01	19.77	2.15	20.18	104.232	Horizontal	7	Pass
		848.3	4.41	2.02	19.82	2.15	20.06	101.391	Horizontal	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.72	2.01	19.70	2.15	20.26	106.170	Horizontal	7	Pass
		836.5	4.43	2.01	19.77	2.15	20.04	100.925	Horizontal	7	Pass
		847.5	3.91	2.02	19.81	2.15	19.55	90.157	Horizontal	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.04	2.01	19.71	2.15	20.59	114.551	Horizontal	7	Pass
		836.5	4.81	2.01	19.77	2.15	20.42	110.154	Horizontal	7	Pass
		846.5	4.56	2.02	19.79	2.15	20.18	104.232	Horizontal	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	5.04	2.01	19.73	2.15	20.61	115.080	Horizontal	7	Pass
		836.5	4.76	2.01	19.77	2.15	20.37	108.893	Horizontal	7	Pass
		844	4.30	2.02	19.78	2.15	19.91	97.949	Horizontal	7	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	3.78	2.01	19.68	2.15	19.30	85.114	Vertical	7	Pass
		836.5	4.69	2.01	19.77	2.15	20.30	107.152	Vertical	7	Pass
		848.3	4.21	2.02	19.82	2.15	19.86	96.828	Vertical	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.09	2.01	19.70	2.15	19.63	91.833	Vertical	7	Pass
		836.5	3.03	2.01	19.77	2.15	18.64	73.114	Vertical	7	Pass
		847.5	3.70	2.02	19.81	2.15	19.34	85.901	Vertical	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	3.74	2.01	19.71	2.15	19.29	84.918	Vertical	7	Pass
		836.5	3.28	2.01	19.77	2.15	18.89	77.446	Vertical	7	Pass
		846.5	2.70	2.02	19.79	2.15	18.32	67.920	Vertical	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	3.25	2.01	19.73	2.15	18.82	76.208	Vertical	7	Pass
		836.5	3.12	2.01	19.77	2.15	18.73	74.645	Vertical	7	Pass
		844	3.52	2.02	19.78	2.15	19.13	81.846	Vertical	7	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 12

Radiated Power (ERP) for Band 12											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
1.4MHz Band QPSK	1/#Mid	699.7	5.86	1.91	19.21	2.15	21.01	126.183	Vertical	3	Pass
		707.5	5.78	1.91	19.26	2.15	20.98	125.314	Vertical	3	Pass
		715.3	5.56	1.93	19.34	2.15	20.82	120.781	Vertical	3	Pass
3.0MHz Band QPSK	1/#Mid	700.5	5.65	1.91	19.21	2.15	20.80	120.226	Vertical	3	Pass
		707.5	5.57	1.91	19.26	2.15	20.77	119.399	Vertical	3	Pass
		714.5	5.41	1.93	19.34	2.15	20.67	116.681	Vertical	3	Pass
5.0MHz Band QPSK	1/#Mid	701.5	5.92	1.91	19.23	2.15	21.09	128.529	Vertical	3	Pass
		707.5	5.83	1.91	19.26	2.15	21.03	126.765	Vertical	3	Pass
		713.5	5.62	1.92	19.33	2.15	20.88	122.462	Vertical	3	Pass
10.0MHz Band QPSK	1/#Mid	704	5.94	1.91	19.25	2.15	21.13	129.718	Vertical	3	Pass
		707.5	5.92	1.91	19.26	2.15	21.12	129.420	Vertical	3	Pass
		711	5.77	1.92	19.32	2.15	21.02	126.474	Vertical	3	Pass
1.4MHz Band QPSK	1/#Mid	699.7	4.78	1.91	19.21	2.15	19.93	98.401	Horizontal	3	Pass
		707.5	5.09	1.91	19.26	2.15	20.29	106.905	Horizontal	3	Pass
		715.3	4.93	1.93	19.34	2.15	20.19	104.472	Horizontal	3	Pass
3.0MHz Band QPSK	1/#Mid	700.5	4.16	1.91	19.21	2.15	19.31	85.310	Horizontal	3	Pass
		707.5	4.20	1.91	19.26	2.15	19.40	87.096	Horizontal	3	Pass
		714.5	4.34	1.93	19.34	2.15	19.60	91.201	Horizontal	3	Pass
5.0MHz Band QPSK	1/#Mid	701.5	4.71	1.91	19.23	2.15	19.88	97.275	Horizontal	3	Pass
		707.5	4.39	1.91	19.26	2.15	19.59	90.991	Horizontal	3	Pass
		713.5	4.72	1.92	19.33	2.15	19.98	99.541	Horizontal	3	Pass
10.0MHz Band QPSK	1/#Mid	704	4.94	1.91	19.25	2.15	20.13	103.039	Horizontal	3	Pass
		707.5	4.61	1.91	19.26	2.15	19.81	95.719	Horizontal	3	Pass
		711	4.80	1.92	19.32	2.15	20.05	101.158	Horizontal	3	Pass

		Radiated Power (ERP) for Band 12									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Correction	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	Limit (W)	
						(dB)	Average	Average			
							(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	699.7	5.73	1.91	19.21	2.15	20.88	122.462	Vertical	3	Pass
		707.5	5.65	1.91	19.26	2.15	20.85	121.619	Vertical	3	Pass
		715.3	5.43	1.93	19.34	2.15	20.69	117.220	Vertical	3	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	5.52	1.91	19.21	2.15	20.67	116.681	Vertical	3	Pass
		707.5	5.44	1.91	19.26	2.15	20.64	115.878	Vertical	3	Pass
		714.5	5.28	1.93	19.34	2.15	20.54	113.240	Vertical	3	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	5.79	1.91	19.23	2.15	20.96	124.738	Vertical	3	Pass
		707.5	5.70	1.91	19.26	2.15	20.90	123.027	Vertical	3	Pass
		713.5	5.49	1.92	19.33	2.15	20.75	118.850	Vertical	3	Pass
10.0MHz Band 16 QAM	1/#Mid	704	5.81	1.91	19.25	2.15	21.00	125.893	Vertical	3	Pass
		707.5	5.79	1.91	19.26	2.15	20.99	125.603	Vertical	3	Pass
		711	5.64	1.92	19.32	2.15	20.89	122.744	Vertical	3	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	4.37	1.91	19.21	2.15	19.52	89.536	Horizontal	3	Pass
		707.5	4.39	1.91	19.26	2.15	19.59	90.991	Horizontal	3	Pass
		715.3	4.44	1.93	19.34	2.15	19.70	93.325	Horizontal	3	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	4.43	1.91	19.21	2.15	19.58	90.782	Horizontal	3	Pass
		707.5	4.54	1.91	19.26	2.15	19.74	94.189	Horizontal	3	Pass
		714.5	4.27	1.93	19.34	2.15	19.53	89.743	Horizontal	3	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	4.77	1.91	19.23	2.15	19.94	98.628	Horizontal	3	Pass
		707.5	4.61	1.91	19.26	2.15	19.81	95.719	Horizontal	3	Pass
		713.5	4.77	1.92	19.33	2.15	20.03	100.693	Horizontal	3	Pass
10.0MHz Band 16 QAM	1/#Mid	704	4.25	1.91	19.25	2.15	19.44	87.902	Horizontal	3	Pass
		707.5	4.02	1.91	19.26	2.15	19.22	83.560	Horizontal	3	Pass
		711	4.18	1.92	19.32	2.15	19.43	87.700	Horizontal	3	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.6 LTE BAND 17

Radiated Power (ERP) for Band 17											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	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	6.19	1.91	19.23	2.15	21.36	136.773	Vertical	3	Pass
		710	6.05	1.91	19.26	2.15	21.25	133.352	Vertical	3	Pass
		713.5	5.95	1.92	19.33	2.15	21.21	132.130	Vertical	3	Pass
10.0MHz Band QPSK	1/#Mid	709	6.20	1.91	19.25	2.15	21.39	137.721	Vertical	3	Pass
		710	6.15	1.91	19.26	2.15	21.35	136.458	Vertical	3	Pass
		711	6.11	1.92	19.32	2.15	21.36	136.773	Vertical	3	Pass
5.0MHz Band QPSK	1/#Mid	706.5	4.76	1.91	19.23	2.15	19.93	98.401	Horizontal	3	Pass
		710	4.58	1.91	19.26	2.15	19.78	95.060	Horizontal	3	Pass
		713.5	4.99	1.92	19.33	2.15	20.25	105.925	Horizontal	3	Pass
10.0MHz Band QPSK	1/#Mid	709	5.80	1.91	19.25	2.15	20.99	125.603	Horizontal	3	Pass
		710	5.46	1.91	19.26	2.15	20.66	116.413	Horizontal	3	Pass
		711	4.55	1.92	19.32	2.15	19.80	95.499	Horizontal	3	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		
										Limit	
										(W)	
5.0MHz Band 16 QAM	1/#Mid	706.5	5.41	1.91	19.23	2.15	20.58	114.288	Vertical	3	Pass
		710	5.32	1.91	19.26	2.15	20.52	112.720	Vertical	3	Pass
		713.5	5.12	1.92	19.33	2.15	20.38	109.144	Vertical	3	Pass
10.0MHz Band 16 QAM	1/#Mid	709	4.95	1.91	19.25	2.15	20.14	103.276	Vertical	3	Pass
		710	5.48	1.91	19.26	2.15	20.68	116.950	Vertical	3	Pass
		711	5.21	1.92	19.32	2.15	20.46	111.173	Vertical	3	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	4.50	1.91	19.23	2.15	19.67	92.683	Horizontal	3	Pass
		710	4.36	1.91	19.26	2.15	19.56	90.365	Horizontal	3	Pass
		713.5	3.95	1.92	19.33	2.15	19.21	83.368	Horizontal	3	Pass
10.0MHz Band 16 QAM	1/#Mid	709	4.05	1.91	19.25	2.15	19.24	83.946	Horizontal	3	Pass
		710	3.85	1.91	19.26	2.15	19.05	80.353	Horizontal	3	Pass
		711	4.09	1.92	19.32	2.15	19.34	85.901	Horizontal	3	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.7 LTE BAND 25

			Radiated Power (EIRP) for Band 25							
Mode	RB/R B SIZE	Frequenc y	Result							Conclusio n
			SG	Cable Loss (dBm)	Antenn a Factor (dB)	Max. EIRP	Max. EIRP	Polarizatio n Of Max. ERP		
			Level			Averag e	Averag e		Limi t	
			(dBm)			(dBm)	(mW)			
1.4MHz Band QPSK	1/#Mid	1850.7	-3.99	3.12	27.58	20.47	111.429	Horizontal	2	Pass
		1882,5	-3.90	3.27	27.61	20.44	110.662	Horizontal	2	Pass
		1914.3	-4.06	3.29	27.63	20.28	106.660	Horizontal	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.22	3.13	27.61	20.26	106.170	Horizontal	2	Pass
		1882,5	-4.11	3.27	27.61	20.23	105.439	Horizontal	2	Pass
		1913.5	-4.19	3.30	27.62	20.13	103.039	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.95	3.13	27.63	20.55	113.501	Horizontal	2	Pass
		1882,5	-3.85	3.27	27.61	20.49	111.944	Horizontal	2	Pass
		1912.5	-3.96	3.30	27.60	20.34	108.143	Horizontal	2	Pass
10.0MH z Band QPSK	1/#Mid	1855	-3.90	3.15	27.64	20.59	114.551	Horizontal	2	Pass
		1882,5	-3.72	3.31	27.61	20.58	114.288	Horizontal	2	Pass
		1910	-3.78	3.33	27.59	20.48	111.686	Horizontal	2	Pass
15.0MH z Band QPSK	1/#Mid	1857.5	-5.27	3.15	27.65	19.23	83.753	Horizontal	2	Pass
		1882,5	-5.10	3.31	27.61	19.20	83.176	Horizontal	2	Pass
		1907.5	-5.24	3.33	27.57	19.00	79.433	Horizontal	2	Pass
20.0MH z Band QPSK	1/#Mid	1860	-5.45	3.17	27.66	19.04	80.168	Horizontal	2	Pass
		1882,5	-3.69	3.32	27.61	20.60	114.815	Horizontal	2	Pass
		1905	-3.50	3.36	27.56	20.70	117.490	Horizontal	2	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-5.02	3.12	27.58	19.44	87.902	Vertical	2	Pass
		1882,5	-4.76	3.27	27.61	19.58	90.782	Vertical	2	Pass
		1914.3	-4.90	3.29	27.63	19.44	87.902	Vertical	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.80	3.13	27.61	19.68	92.897	Vertical	2	Pass
		1882,5	-5.04	3.27	27.61	19.30	85.114	Vertical	2	Pass
		1913.5	-5.03	3.30	27.62	19.29	84.918	Vertical	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.81	3.13	27.63	19.69	93.111	Vertical	2	Pass
		1882,5	-5.36	3.27	27.61	18.98	79.068	Vertical	2	Pass
		1912.5	-4.67	3.30	27.60	19.63	91.833	Vertical	2	Pass
10.0MH	1/#Mid	1855	-5.36	3.15	27.64	19.13	81.846	Vertical	2	Pass

z Band		1882,5	-4.82	3.31	27.61	19.48	88.716	Vertical	2	Pass
QPSK		1910	-5.08	3.33	27.59	19.18	82.794	Vertical	2	Pass
15.0MH	1/#Mid	1857.5	-5.59	3.15	27.65	18.91	77.804	Vertical	2	Pass
z Band		1882,5	-4.90	3.31	27.61	19.40	87.096	Vertical	2	Pass
QPSK		1907.5	-4.64	3.33	27.57	19.60	91.201	Vertical	2	Pass
20.0MH	1/#Mid	1860	-5.38	3.17	27.66	19.11	81.470	Vertical	2	Pass
z Band		1882,5	-4.72	3.32	27.61	19.57	90.573	Vertical	2	Pass
QPSK		1905	-5.30	3.36	27.56	18.90	77.625	Vertical	2	Pass

		Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result							Conclusion	
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP			Limit (W)
						Average	Average				
						(dBm)	(mW)				
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.89	3.12	27.58	20.57	114.025	Horizontal	2	Pass	
		1882,5	-3.80	3.27	27.61	20.54	113.240	Horizontal	2	Pass	
		1914.3	-3.96	3.29	27.63	20.38	109.144	Horizontal	2	Pass	
3.0MHz Band 16 QAM	1/#Mid	1851.5	-4.12	3.13	27.61	20.36	108.643	Horizontal	2	Pass	
		1882,5	-4.01	3.27	27.61	20.33	107.895	Horizontal	2	Pass	
		1913.5	-4.09	3.30	27.62	20.23	105.439	Horizontal	2	Pass	
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.85	3.13	27.63	20.65	116.145	Horizontal	2	Pass	
		1882,5	-3.75	3.27	27.61	20.59	114.551	Horizontal	2	Pass	
		1912.5	-3.86	3.30	27.60	20.44	110.662	Horizontal	2	Pass	
10.0MHz Band 16 QAM	1/#Mid	1855	-3.80	3.15	27.64	20.69	117.220	Horizontal	2	Pass	
		1882,5	-3.62	3.31	27.61	20.68	116.950	Horizontal	2	Pass	
		1910	-3.49	3.33	27.59	20.77	119.399	Horizontal	2	Pass	
15.0MHz Band 16 QAM	1/#Mid	1857.5	-4.85	3.15	27.65	19.65	92.257	Horizontal	2	Pass	
		1882,5	-5.09	3.31	27.61	19.21	83.368	Horizontal	2	Pass	
		1907.5	-5.05	3.33	27.57	19.19	82.985	Horizontal	2	Pass	
20.0MHz Band 16 QAM	1/#Mid	1860	-3.64	3.17	27.66	20.85	121.619	Horizontal	2	Pass	
		1882,5	-4.56	3.32	27.61	19.73	93.972	Horizontal	2	Pass	
		1905	-5.23	3.36	27.56	18.97	78.886	Horizontal	2	Pass	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-5.22	3.12	27.58	19.24	83.946	Vertical	2	Pass	
		1882,5	-4.77	3.27	27.61	19.57	90.573	Vertical	2	Pass	
		1914.3	-5.43	3.29	27.63	18.91	77.804	Vertical	2	Pass	
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.24	3.13	27.61	19.24	83.946	Vertical	2	Pass	
		1882,5	-5.12	3.27	27.61	19.22	83.560	Vertical	2	Pass	
		1913.5	-5.08	3.30	27.62	19.24	83.946	Vertical	2	Pass	
5.0MHz Band 16 QAM	1/#Mid	1852.5	-5.06	3.13	27.63	19.44	87.902	Vertical	2	Pass	
		1882,5	-5.37	3.27	27.61	18.97	78.886	Vertical	2	Pass	
		1912.5	-4.61	3.30	27.60	19.69	93.111	Vertical	2	Pass	
10.0MHz Band 16 QAM	1/#Mid	1855	-5.36	3.15	27.64	19.13	81.846	Vertical	2	Pass	
		1882,5	-4.68	3.31	27.61	19.62	91.622	Vertical	2	Pass	
		1910	-4.49	3.33	27.59	19.77	94.842	Vertical	2	Pass	
15.0MHz Band 16 QAM	1/#Mid	1857.5	-4.84	3.15	27.65	19.66	92.470	Vertical	2	Pass	
		1882,5	-4.63	3.31	27.61	19.67	92.683	Vertical	2	Pass	
		1907.5	-5.13	3.33	27.57	19.11	81.470	Vertical	2	Pass	

20.0MHz		1860	-5.17	3.17	27.66	19.32	85.507	Vertical	2	Pass
Band 16	1/#Mid	1882,5	-4.75	3.32	27.61	19.54	89.950	Vertical	2	Pass
QAM		1905	-4.74	3.36	27.56	19.46	88.308	Vertical	2	Pass

Note:

SG Level= Signal generator output

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

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

8.8 LTE BAND 26 A

		Radiated Power (ERP) for Band 26(814-824)									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
										(W)	
1.4MHz	6/0	814.7	-1.68	3.76	28.24	2.15	20.65	116.14	Horizontal	100	Pass
BW		819	-1.54	3.91	28.22	2.15	20.62	115.35	Horizontal	100	Pass
QPSK		823.3	-1.66	3.93	28.20	2.15	20.46	111.17	Horizontal	100	Pass
3.0MHz	15/0	815.5	-1.87	3.77	28.23	2.15	20.44	110.66	Horizontal	100	Pass
BW		819	-1.77	3.91	28.24	2.15	20.41	109.90	Horizontal	100	Pass
QPSK		822.5	-1.85	3.94	28.25	2.15	20.31	107.40	Horizontal	100	Pass
5.0MHz	25/0	816.5	-1.66	3.77	28.31	2.15	20.73	118.30	Horizontal	100	Pass
BW		819	-1.49	3.91	28.22	2.15	20.67	116.68	Horizontal	100	Pass
QPSK		821.5	-1.59	3.94	28.20	2.15	20.52	112.72	Horizontal	100	Pass
10.0MHz	50/0	819	-1.39	3.91	28.22	2.15	20.77	119.40	Horizontal	100	Pass
1.4MHz	6/0	814.7	-1.64	3.79	28.34	2.15	20.76	119.12	Vertical	100	Pass
BW		819	-1.46	3.95	28.22	2.15	20.66	116.41	Vertical	100	Pass
QPSK		823.3	-2.21	3.97	28.18	2.15	19.85	96.61	Vertical	100	Pass
3.0MHz	15/0	815.5	-3.21	3.77	28.23	2.15	19.10	81.28	Vertical	100	Pass
BW		819	-2.85	3.91	28.24	2.15	19.33	85.70	Vertical	100	Pass
QPSK		822.5	-2.85	3.94	28.25	2.15	19.31	85.31	Vertical	100	Pass
5.0MHz	25/0	816.5	-2.47	3.77	28.31	2.15	19.92	98.17	Vertical	100	Pass
BW		819	-2.63	3.91	28.22	2.15	19.53	89.74	Vertical	100	Pass
QPSK		821.5	-2.48	3.94	28.20	2.15	19.63	91.83	Vertical	100	Pass
10.0MHz	50/0	819	-2.84	3.91	28.22	2.15	19.32	85.51	Vertical	100	Pass

		Radiated Power (ERP) for Band 26(814-824)									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
										(W)	
1.4MHz BW 16 QAM	6/0	814.7	-1.77	3.76	28.24	2.15	20.56	113.76	Horizontal	100	Pass
		819	-1.63	3.91	28.22	2.15	20.53	112.98	Horizontal	100	Pass
		823.3	-1.75	3.93	28.20	2.15	20.37	108.89	Horizontal	100	Pass
3.0MHz BW 16 QAM	15/0	815.5	-1.96	3.77	28.23	2.15	20.35	108.39	Horizontal	100	Pass
		819	-1.86	3.91	28.24	2.15	20.32	107.65	Horizontal	100	Pass
		822.5	-1.94	3.94	28.25	2.15	20.22	105.20	Horizontal	100	Pass
5.0MHz BW 16 QAM	25/0	816.5	-1.75	3.77	28.31	2.15	20.64	115.88	Horizontal	100	Pass
		819	-1.58	3.91	28.22	2.15	20.58	114.29	Horizontal	100	Pass
		821.5	-1.68	3.94	28.20	2.15	20.43	110.41	Horizontal	100	Pass
10.0MHz BW 16 QAM	50/0	819	-1.50	3.91	28.24	2.15	20.68	116.95	Horizontal	100	Pass
1.4MHz BW 16 QAM	6/0	814.7	-1.73	3.79	28.34	2.15	20.67	116.68	Vertical	100	Pass
		819	-1.55	3.95	28.22	2.15	20.57	114.02	Vertical	100	Pass
		823.3	-3.13	3.97	28.18	2.15	18.93	78.16	Vertical	100	Pass
3.0MHz BW 16 QAM	15/0	815.5	-3.24	3.77	28.23	2.15	19.07	80.72	Vertical	100	Pass
		819	-2.49	3.91	28.24	2.15	19.69	93.11	Vertical	100	Pass
		822.5	-2.51	3.94	28.25	2.15	19.65	92.26	Vertical	100	Pass
5.0MHz BW 16 QAM	25/0	816.5	-2.72	3.77	28.31	2.15	19.67	92.68	Vertical	100	Pass
		819	-2.60	3.91	28.22	2.15	19.56	90.36	Vertical	100	Pass
		821.5	-3.11	3.94	28.20	2.15	19.00	79.43	Vertical	100	Pass
10.0MHz BW 16 QAM	50/0	819	-2.52	3.91	28.24	2.15	19.66	92.47	Vertical	100	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.9 LTE BAND 26 B

		Radiated Power (ERP) for Band 26(824-849)									
Mode	RB/RB SIZE	Frequency	Result								
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
										(W)	
1.4MHz	6/0	824.7	4.13	2.01	19.68	2.15	19.65	92.26	Horizontal	7	Pass
Band		836.5	4.07	2.01	19.77	2.15	19.68	92.90	Horizontal	7	Pass
QPSK		848.3	4.01	2.02	19.82	2.15	19.66	92.47	Horizontal	7	Pass
3.0MHz	15/0	825.5	4.17	2.01	19.70	2.15	19.71	93.54	Horizontal	7	Pass
Band		836.5	3.80	2.01	19.77	2.15	19.41	87.30	Horizontal	7	Pass
QPSK		847.5	4.25	2.02	19.81	2.15	19.89	97.50	Horizontal	7	Pass
5.0MHz	25/0	826.5	4.43	2.01	19.71	2.15	19.98	99.54	Horizontal	7	Pass
Band		836.5	4.25	2.01	19.77	2.15	19.86	96.83	Horizontal	7	Pass
QPSK		846.5	3.62	2.02	19.79	2.15	19.24	83.95	Horizontal	7	Pass
10.0MHz	50/0	829	3.64	2.01	19.73	2.15	19.21	83.37	Horizontal	7	Pass
Band		836.5	3.76	2.01	19.77	2.15	19.37	86.50	Horizontal	7	Pass
QPSK		844	4.36	2.02	19.78	2.15	19.97	99.31	Horizontal	7	Pass
15.0MHz	75/0	831.5	3.45	2.01	19.73	2.15	19.02	79.80	Horizontal	7	Pass
Band		836.5	4.38	2.01	19.77	2.15	19.99	99.77	Horizontal	7	Pass
QPSK		841.5	4.11	2.02	19.78	2.15	19.72	93.76	Horizontal	7	Pass
1.4MHz	6/0	824.7	3.71	2.01	19.68	2.15	19.23	83.75	Vertical	7	Pass
Band		836.5	3.65	2.01	19.77	2.15	19.26	84.33	Vertical	7	Pass
QPSK		848.3	3.91	2.02	19.82	2.15	19.56	90.36	Vertical	7	Pass
3.0MHz	15/0	825.5	3.85	2.01	19.70	2.15	19.39	86.90	Vertical	7	Pass
Band		836.5	3.47	2.01	19.77	2.15	19.08	80.91	Vertical	7	Pass
QPSK		847.5	3.72	2.02	19.81	2.15	19.36	86.30	Vertical	7	Pass
5.0MHz	25/0	826.5	3.87	2.01	19.71	2.15	19.42	87.50	Vertical	7	Pass
Band		836.5	3.62	2.01	19.77	2.15	19.23	83.75	Vertical	7	Pass
QPSK		846.5	3.74	2.02	19.79	2.15	19.36	86.30	Vertical	7	Pass
10.0MHz	50/0	829	3.51	2.01	19.73	2.15	19.08	80.91	Vertical	7	Pass
Band		836.5	3.85	2.01	19.77	2.15	19.46	88.31	Vertical	7	Pass
QPSK		844	3.69	2.02	19.78	2.15	19.30	85.11	Vertical	7	Pass
15.0MHz	75/0	831.5	3.52	2.01	19.73	2.15	19.09	81.10	Vertical	7	Pass
Band		836.5	4.27	2.01	19.77	2.15	19.88	97.27	Vertical	7	Pass
QPSK		841.5	3.87	2.02	19.78	2.15	19.48	88.72	Vertical	7	Pass

		Radiated Power (ERP) for Band 26(824-849)									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
										(W)	
1.4MHz Band 16 QAM	6/0	824.7	4.44	2.01	19.68	2.15	19.96	99.08	Horizontal	7	Pass
		836.5	3.67	2.01	19.77	2.15	19.28	84.72	Horizontal	7	Pass
		848.3	3.61	2.02	19.82	2.15	19.26	84.33	Horizontal	7	Pass
3.0MHz Band 16 QAM	15/0	825.5	3.70	2.01	19.70	2.15	19.24	83.95	Horizontal	7	Pass
		836.5	4.00	2.01	19.77	2.15	19.61	91.41	Horizontal	7	Pass
		847.5	3.70	2.02	19.81	2.15	19.34	85.90	Horizontal	7	Pass
5.0MHz Band 16 QAM	25/0	826.5	3.86	2.01	19.71	2.15	19.41	87.30	Horizontal	7	Pass
		836.5	3.83	2.01	19.77	2.15	19.44	87.90	Horizontal	7	Pass
		846.5	3.67	2.02	19.79	2.15	19.29	84.92	Horizontal	7	Pass
10.0MHz Band 16 QAM	50/0	829	4.07	2.01	19.73	2.15	19.64	92.04	Horizontal	7	Pass
		836.5	4.39	2.01	19.77	2.15	20.00	100.00	Horizontal	7	Pass
		844	3.63	2.02	19.78	2.15	19.24	83.95	Horizontal	7	Pass
15.0MHz Band QPSK	75/0	831.5	4.45	2.01	19.73	2.15	20.02	100.46	Horizontal	7	Pass
		836.5	3.63	2.01	19.77	2.15	19.24	83.95	Horizontal	7	Pass
		841.5	3.43	2.02	19.78	2.15	19.04	80.17	Horizontal	7	Pass
1.4MHz Band 16 QAM	6/0	824.7	3.95	2.01	19.68	2.15	19.47	88.51	Vertical	7	Pass
		836.5	4.34	2.01	19.77	2.15	19.95	98.86	Vertical	7	Pass
		848.3	4.09	2.02	19.82	2.15	19.74	94.19	Vertical	7	Pass
3.0MHz Band 16 QAM	15/0	825.5	3.89	2.01	19.70	2.15	19.43	87.70	Vertical	7	Pass
		836.5	3.71	2.01	19.77	2.15	19.32	85.51	Vertical	7	Pass
		847.5	4.31	2.02	19.81	2.15	19.95	98.86	Vertical	7	Pass
5.0MHz Band 16 QAM	25/0	826.5	3.58	2.01	19.71	2.15	19.13	81.85	Vertical	7	Pass
		836.5	4.02	2.01	19.77	2.15	19.63	91.83	Vertical	7	Pass
		846.5	3.64	2.02	19.79	2.15	19.26	84.33	Vertical	7	Pass
10.0MHz Band 16 QAM	50/0	829	4.05	2.01	19.73	2.15	19.62	91.62	Vertical	7	Pass
		836.5	4.27	2.01	19.77	2.15	19.88	97.27	Vertical	7	Pass
		844	3.65	2.02	19.78	2.15	19.26	84.33	Vertical	7	Pass

15.0MHz	75/0	831.5	3.59	2.01	19.73	2.15	19.16	82.41	Vertical	7	Pass
Band		836.5	3.52	2.01	19.77	2.15	19.13	81.85	Vertical	7	Pass
QPSK		841.5	3.78	2.02	19.78	2.15	19.39	86.90	Vertical	7	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.10 LTE BAND 66

		Radiated Power (EIRP) for Band 66								
Mode	RB/RB SIZE	Frequency	Result						Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP		
							Average			
							(mW)			
1.4MHz Band QPSK	1/#Mid	1710.7	-3.98	3.76	28.24	20.50	112.202	Horizontal	1	Pass
		1745	-3.84	3.91	28.22	20.47	111.429	Horizontal	1	Pass
		1779.3	-3.71	3.93	28.2	20.56	113.763	Horizontal	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.04	3.77	28.23	20.42	110.154	Horizontal	1	Pass
		1745	-3.95	3.91	28.24	20.38	109.144	Horizontal	1	Pass
		1778.5	-3.97	3.94	28.25	20.34	108.143	Horizontal	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.94	3.77	28.31	20.60	114.815	Horizontal	1	Pass
		1745	-3.62	3.91	28.22	20.69	117.220	Horizontal	1	Pass
		1777.5	-3.68	3.94	28.2	20.58	114.288	Horizontal	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.83	3.79	28.33	20.71	117.761	Horizontal	1	Pass
		1745	-3.56	3.95	28.22	20.71	117.761	Horizontal	1	Pass
		1775	-3.57	3.97	28.19	20.65	116.145	Horizontal	1	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-3.85	3.79	28.34	20.70	117.490	Horizontal	1	Pass
		1745	-3.66	3.95	28.22	20.61	115.080	Horizontal	1	Pass
		1772.5	-3.61	3.97	28.18	20.60	114.815	Horizontal	1	Pass
20.0MHz Band QPSK	1/#Mid	1720	-3.82	3.81	28.35	20.72	118.032	Horizontal	1	Pass
		1745	-3.56	3.96	28.22	20.70	117.490	Horizontal	1	Pass
		1770	-3.58	4	28.16	20.58	114.288	Horizontal	1	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-5.24	3.76	28.24	19.24	83.946	Vertical	1	Pass
		1745	-4.99	3.91	28.22	19.32	85.507	Vertical	1	Pass
		1779.3	-4.95	3.93	28.2	19.32	85.507	Vertical	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-5.05	3.77	28.23	19.41	87.297	Vertical	1	Pass
		1745	-4.35	3.91	28.24	19.98	99.541	Vertical	1	Pass
		1778.5	-4.72	3.94	28.25	19.59	90.991	Vertical	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-5.16	3.77	28.31	19.38	86.696	Vertical	1	Pass
		1745	-4.57	3.91	28.22	19.74	94.189	Vertical	1	Pass
		1777.5	-4.63	3.94	28.2	19.63	91.833	Vertical	1	Pass
10.0MHz Band	1/#Mid	1715	-4.98	3.79	28.34	19.57	90.573	Vertical	1	Pass
		1745	-4.58	3.95	28.22	19.69	93.111	Vertical	1	Pass

QPSK		1775	-4.27	3.97	28.18	19.94	98.628	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-4.74	3.81	28.35	19.80	95.499	Vertical	1	Pass
Band		1745	-5.21	3.96	28.22	19.05	80.353	Vertical	1	Pass
QPSK		1772.5	-4.94	4	28.16	19.22	83.560	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-5.23	3.79	28.34	19.32	85.507	Vertical	1	Pass
Band		1745	-4.44	3.95	28.22	19.83	96.161	Vertical	1	Pass
QPSK		1770	-5.18	3.97	28.18	19.03	79.983	Vertical	1	Pass

		Radiated Power (EIRP) for Band 66								
Mode	RB/RB SIZE	Frequency	Result							
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	Limit (W)	
							Average			
							(mW)			
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.95	3.76	28.24	19.53	89.743	Horizontal	1	Pass
		1745	-4.56	3.91	28.22	19.75	94.406	Horizontal	1	Pass
		1779.3	-4.74	3.93	28.2	19.53	89.743	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.34	3.77	28.23	19.12	81.658	Horizontal	1	Pass
		1745	-4.59	3.91	28.24	19.74	94.189	Horizontal	1	Pass
		1778.5	-4.88	3.94	28.25	19.43	87.700	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-4.76	3.77	28.31	19.78	95.060	Horizontal	1	Pass
		1745	-4.82	3.91	28.22	19.49	88.920	Horizontal	1	Pass
		1777.5	-4.49	3.94	28.2	19.77	94.842	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.81	3.79	28.33	19.73	93.972	Horizontal	1	Pass
		1745	-4.47	3.95	28.22	19.80	95.499	Horizontal	1	Pass
		1775	-4.79	3.97	28.19	19.43	87.700	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-4.80	3.79	28.34	19.75	94.406	Horizontal	1	Pass
		1745	-4.62	3.95	28.22	19.65	92.257	Horizontal	1	Pass
		1772.5	-4.41	3.97	28.18	19.80	95.499	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.63	3.81	28.35	19.91	97.949	Horizontal	1	Pass
		1745	-4.41	3.96	28.22	19.85	96.605	Horizontal	1	Pass
		1770	-4.35	4	28.16	19.81	95.719	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.03	3.76	28.24	19.45	88.105	Vertical	1	Pass
		1745	-6.38	3.91	28.22	17.93	62.087	Vertical	1	Pass
		1779.3	-4.78	3.93	28.2	19.49	88.920	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-6.42	3.77	28.23	18.04	63.680	Vertical	1	Pass
		1745	-4.87	3.91	28.24	19.46	88.308	Vertical	1	Pass
		1778.5	-6.47	3.94	28.25	17.84	60.814	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-6.16	3.77	28.31	18.38	68.865	Vertical	1	Pass
		1745	-6.34	3.91	28.22	17.97	62.661	Vertical	1	Pass
		1777.5	-6.03	3.94	28.2	18.23	66.527	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.82	3.79	28.34	19.73	93.972	Vertical	1	Pass
		1745	-5.28	3.95	28.22	18.99	79.250	Vertical	1	Pass
		1775	-6.33	3.97	28.18	17.88	61.376	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-6.67	3.81	28.35	17.87	61.235	Vertical	1	Pass

Band 16		1745	-4.66	3.96	28.22	19.60	91.201	Vertical	1	Pass
QAM		1772.5	-4.95	4	28.16	19.21	83.368	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-6.36	3.79	28.34	18.19	65.917	Vertical	1	Pass
Band 16		1745	-5.73	3.95	28.22	18.54	71.450	Vertical	1	Pass
QAM		1770	-4.64	3.97	28.18	19.57	90.573	Vertical	1	Pass

Note:

SG Level= Signal generator output

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

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

8.11 LTE BAND 71

Radiated Power (ERP) for Band 71											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP		
5.0MHz Band QPSK	25/0	665.5	5.03	2.01	19.68	2.15	20.55	113.50	Horizontal	3	Pass
		680.5	4.91	2.01	19.77	2.15	20.52	112.72	Horizontal	3	Pass
		695.5	4.71	2.02	19.82	2.15	20.36	108.64	Horizontal	3	Pass
10.0MHz Band QPSK	50/0	668	4.80	2.01	19.70	2.15	20.34	108.14	Horizontal	3	Pass
		680.5	4.70	2.01	19.77	2.15	20.31	107.40	Horizontal	3	Pass
		693	4.57	2.02	19.81	2.15	20.21	104.95	Horizontal	3	Pass
15.0MHz Band QPSK	75/0	670.5	5.08	2.01	19.71	2.15	20.63	115.61	Horizontal	3	Pass
		680.5	4.96	2.01	19.77	2.15	20.57	114.02	Horizontal	3	Pass
		690.5	4.80	2.02	19.79	2.15	20.42	110.15	Horizontal	3	Pass
20.0MHz Band QPSK	100/0	673	5.10	2.01	19.73	2.15	20.67	116.68	Horizontal	3	Pass
		683	5.05	2.01	19.77	2.15	20.66	116.41	Horizontal	3	Pass
		688	4.95	2.02	19.78	2.15	20.56	113.76	Horizontal	3	Pass
5.0MHz Band QPSK	25/0	665.5	4.12	2.01	19.68	2.15	19.64	92.04	Vertical	3	Pass
		680.5	3.59	2.01	19.77	2.15	19.20	83.18	Vertical	3	Pass
		695.5	3.24	2.02	19.82	2.15	18.89	77.45	Vertical	3	Pass
15.0MHz Band QPSK	50/0	668	3.80	2.01	19.70	2.15	19.34	85.90	Vertical	3	Pass
		680.5	4.17	2.01	19.77	2.15	19.78	95.06	Vertical	3	Pass
		693	4.13	2.02	19.81	2.15	19.77	94.84	Vertical	3	Pass
15.0MHz Band QPSK	75/0	670.5	3.50	2.01	19.71	2.15	19.05	80.35	Vertical	3	Pass
		680.5	3.82	2.01	19.77	2.15	19.43	87.70	Vertical	3	Pass
		690.5	3.70	2.02	19.79	2.15	19.32	85.51	Vertical	3	Pass
20MHz Band QPSK	100/0	673	3.59	2.01	19.73	2.15	19.16	82.41	Vertical	3	Pass
		683	4.00	2.01	19.77	2.15	19.61	91.41	Vertical	3	Pass
		688	3.53	2.02	19.78	2.15	19.14	82.04	Vertical	3	Pass

Radiated Power (ERP) for Band 71											
Mode	RB/RB SIZE	Frequency	Result							Limit (W)	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP		
5.0MHz Band 16 QAM	25/0	665.5	4.93	2.01	19.68	2.15	20.45	110.92	Horizontal	3	Pass
		680.5	4.81	2.01	19.77	2.15	20.42	110.15	Horizontal	3	Pass
		695.5	4.61	2.02	19.82	2.15	20.26	106.17	Horizontal	3	Pass
10.0MHz Band 16 QAM	50/0	668	4.70	2.01	19.70	2.15	20.24	105.68	Horizontal	3	Pass
		680.5	4.60	2.01	19.77	2.15	20.21	104.95	Horizontal	3	Pass
		693	4.47	2.02	19.81	2.15	20.11	102.57	Horizontal	3	Pass
15.0MHz Band 16 QAM	75/0	670.5	4.98	2.01	19.71	2.15	20.53	112.98	Horizontal	3	Pass
		680.5	4.86	2.01	19.77	2.15	20.47	111.43	Horizontal	3	Pass
		690.5	4.70	2.02	19.79	2.15	20.32	107.65	Horizontal	3	Pass
20.0MHz Band 16 QAM	100/0	673	5.00	2.01	19.73	2.15	20.57	114.02	Horizontal	3	Pass
		683	4.95	2.01	19.77	2.15	20.56	113.76	Horizontal	3	Pass
		688	4.85	2.02	19.78	2.15	20.46	111.17	Horizontal	3	Pass
5.0MHz Band 16 QAM	25/0	665.5	3.92	2.01	19.68	2.15	19.44	87.90	Vertical	3	Pass
		680.5	3.77	2.01	19.77	2.15	19.38	86.70	Vertical	3	Pass
		695.5	3.74	2.02	19.82	2.15	19.39	86.90	Vertical	3	Pass
10.0MHz Band 16 QAM	50/0	668	4.04	2.01	19.70	2.15	19.58	90.78	Vertical	3	Pass
		680.5	3.28	2.01	19.77	2.15	18.89	77.45	Vertical	3	Pass
		693	3.39	2.02	19.81	2.15	19.03	79.98	Vertical	3	Pass
15.0MHz Band 16 QAM	75/0	670.5	3.23	2.01	19.71	2.15	18.78	75.51	Vertical	3	Pass
		680.5	3.35	2.01	19.77	2.15	18.96	78.70	Vertical	3	Pass
		690.5	4.08	2.02	19.79	2.15	19.70	93.33	Vertical	3	Pass
20.0MHz Band 16 QAM	100/0	673	4.14	2.01	19.73	2.15	19.71	93.54	Vertical	3	Pass
		683	3.38	2.01	19.77	2.15	18.99	79.25	Vertical	3	Pass
		688	4.08	2.02	19.78	2.15	19.69	93.11	Vertical	3	Pass

Note:

SG Level= Signal generator output

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

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

ERP=EIRP-2.15

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691

LIMIT

§22.917 (e) and §24.238 and §90.691 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

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

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

TEST PROCEDURE

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

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

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

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

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

MODES TESTED

LTE Band 2/4/5/12/17/25/26/66/71

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	-44.33	4.04	33.51	-14.86	-13	-1.86	Horizontal
3701.4	-49.08	4.04	33.51	-19.61	-13	-6.61	Vertical
5552.1	-45.41	5.24	35.84	-14.81	-13	-1.81	Vertical
5552.1	-49.48	5.24	35.84	-18.88	-13	-5.88	Horizontal
176.2	-34.27	1.43	16.02	-19.68	-13	-6.68	Vertical
281.1	-36.21	1.30	17.99	-19.52	-13	-6.52	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-45.32	4.04	33.56	-15.80	-13	-2.80	Horizontal
3760.0	-46.26	4.04	33.56	-16.74	-13	-3.74	Vertical
5640.0	-48.33	5.24	35.91	-17.66	-13	-4.66	Vertical
5640.0	-50.93	5.24	35.91	-20.26	-13	-7.26	Horizontal
196.6	-40.78	1.62	16.97	-25.43	-13	-12.43	Vertical
341.2	-36.21	1.74	15.98	-21.98	-13	-8.98	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-44.00	4.04	34.00	-14.04	-13	-1.04	Horizontal
3818.6	-52.16	4.04	34.00	-22.20	-13	-9.20	Vertical
5727.9	-48.07	5.24	36.04	-17.27	-13	-4.27	Vertical
5727.9	-53.26	5.24	36.04	-22.46	-13	-9.46	Horizontal
201.4	-42.75	1.42	17.29	-26.88	-13	-13.88	Vertical
326.1	-36.73	1.50	17.90	-20.32	-13	-7.32	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	-48.06	4.07	33.54	-18.59	-13	-5.59	Horizontal
3720.0	-49.70	4.07	33.54	-20.23	-13	-7.23	Vertical
5580.0	-46.98	5.28	35.86	-16.40	-13	-3.40	Vertical
5580.0	-52.54	5.28	35.86	-21.96	-13	-8.96	Horizontal
211.7	-40.58	1.58	16.89	-25.26	-13	-12.26	Vertical
378.0	-41.11	1.76	17.26	-25.61	-13	-12.61	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-50.30	4.04	33.56	-20.78	-13	-7.78	Horizontal
3760.0	-46.50	4.04	33.56	-16.98	-13	-3.98	Vertical
5640.0	-47.36	5.24	35.91	-16.69	-13	-3.69	Vertical
5640.0	-51.59	5.24	35.91	-20.92	-13	-7.92	Horizontal
203.3	-40.51	1.46	16.27	-25.70	-13	-12.70	Vertical
282.2	-44.99	1.59	15.15	-31.43	-13	-18.43	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-50.55	4.04	34.00	-20.59	-13	-7.59	Horizontal
3800.0	-51.88	4.04	34.00	-21.92	-13	-8.92	Vertical
5700.0	-46.63	5.24	36.04	-15.83	-13	-2.83	Vertical
5700.0	-52.62	5.24	36.04	-21.82	-13	-8.82	Horizontal
204.4	-39.43	1.36	17.39	-23.39	-13	-10.39	Vertical
277.1	-34.59	1.66	15.39	-20.86	-13	-7.86	Horizontal

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

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

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

9.2 LTE BAND 4

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-48.95	4.02	29.80	-23.17	-13	-10.17	Horizontal
3421.4	-53.05	4.02	29.80	-27.27	-13	-14.27	Vertical
5132.1	-49.05	5.24	35.84	-18.45	-13	-5.45	Vertical
5132.1	-52.28	5.24	35.84	-21.68	-13	-8.68	Horizontal
206.8	-42.36	1.68	16.04	-28.00	-13	-15.00	Vertical
315.0	-38.81	1.78	17.74	-22.85	-13	-9.85	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-53.96	4.03	30.00	-27.99	-13	-14.99	Horizontal
3465.0	-44.93	4.03	30.00	-18.96	-13	-5.96	Vertical
5197.5	-49.33	5.25	35.86	-18.72	-13	-5.72	Vertical
5197.5	-52.24	5.25	35.86	-21.63	-13	-8.63	Horizontal
206.5	-37.10	1.72	17.69	-21.13	-13	-8.13	Vertical
318.3	-34.37	1.62	16.02	-19.96	-13	-6.96	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-47.26	4.05	30.01	-21.30	-13	-8.30	Horizontal
3508.6	-53.23	4.05	30.01	-27.27	-13	-14.27	Vertical
5262.9	-51.71	5.26	35.86	-21.11	-13	-8.11	Vertical
5262.9	-53.97	5.26	35.86	-23.37	-13	-10.37	Horizontal
186.4	-34.08	1.80	16.69	-19.19	-13	-6.19	Vertical
252.6	-43.95	1.75	16.66	-29.05	-13	-16.05	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-46.98	4.02	29.80	-21.20	-13	-8.20	Horizontal
3440.0	-50.87	4.02	29.80	-25.09	-13	-12.09	Vertical
5160.0	-51.61	5.24	35.84	-21.01	-13	-8.01	Vertical
5160.0	-53.01	5.24	35.84	-22.41	-13	-9.41	Horizontal
202.4	-36.04	1.57	17.26	-20.35	-13	-7.35	Vertical
273.5	-37.16	1.78	16.35	-22.59	-13	-9.59	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-46.36	4.03	30.00	-20.39	-13	-7.39	Horizontal
3465.0	-53.64	4.03	30.00	-27.67	-13	-14.67	Vertical
5197.5	-51.83	5.25	35.86	-21.22	-13	-8.22	Vertical
5197.5	-51.03	5.25	35.86	-20.42	-13	-7.42	Horizontal
179.6	-35.04	1.44	17.95	-18.53	-13	-5.53	Vertical
426.9	-41.54	1.65	16.09	-27.10	-13	-14.10	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-46.85	2.91	27.68	-22.08	-13	-9.08	Horizontal
3490.0	-49.89	2.91	27.68	-25.12	-13	-12.12	Vertical
5235.0	-45.05	5.26	35.86	-14.45	-13	-1.45	Vertical
5235.0	-49.22	5.26	35.86	-18.62	-13	-5.62	Horizontal
187.7	-38.09	1.61	16.85	-22.85	-13	-9.85	Vertical
252.2	-41.18	1.61	15.19	-27.60	-13	-14.60	Horizontal

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

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

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

9.3 LTE BAND 5

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-51.50	2.78	27.50	-26.78	-13	-13.78	Horizontal
1649.4	-47.97	2.78	27.50	-23.25	-13	-10.25	Vertical
2474.1	-53.55	2.90	27.80	-28.65	-13	-15.65	Vertical
2474.1	-49.07	2.90	27.80	-24.17	-13	-11.17	Horizontal
190.9	-42.31	1.76	17.59	-26.48	-13	-13.48	Vertical
298.9	-37.98	1.63	15.87	-23.74	-13	-10.74	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-53.57	2.80	27.48	-28.89	-13	-15.89	Horizontal
1673.0	-48.89	2.80	27.48	-24.21	-13	-11.21	Vertical
2509.5	-47.09	2.91	27.70	-22.30	-13	-9.30	Vertical
2509.5	-53.25	2.91	27.70	-28.46	-13	-15.46	Horizontal
185.7	-34.85	1.61	15.68	-20.78	-13	-7.78	Vertical
353.0	-36.32	1.59	17.52	-20.40	-13	-7.40	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-44.15	2.82	27.43	-19.54	-13	-6.54	Horizontal
1696.6	-45.98	2.82	27.43	-21.37	-13	-8.37	Vertical
2544.9	-48.83	2.92	27.74	-24.01	-13	-11.01	Vertical
2544.9	-52.17	2.92	27.74	-27.35	-13	-14.35	Horizontal
206.1	-44.37	1.69	16.67	-29.38	-13	-16.38	Vertical
440.3	-38.18	1.70	17.18	-22.70	-13	-9.70	Horizontal

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

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-51.51	2.78	27.50	-26.79	-13	-13.79	Horizontal
1658.0	-46.85	2.78	27.50	-22.13	-13	-9.13	Vertical
2487.0	-45.93	2.90	27.80	-21.03	-13	-8.03	Vertical
2487.0	-51.97	2.90	27.80	-27.07	-13	-14.07	Horizontal
202.4	-43.68	1.71	15.57	-29.82	-13	-16.82	Vertical
326.5	-35.51	1.34	16.40	-20.45	-13	-7.45	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-52.31	2.80	27.48	-27.63	-13	-14.63	Horizontal
1673.0	-52.31	2.80	27.48	-27.63	-13	-14.63	Vertical
2509.5	-53.29	2.91	27.70	-28.50	-13	-15.50	Vertical
2509.5	-50.32	2.91	27.70	-25.53	-13	-12.53	Horizontal
185.0	-43.81	1.44	17.04	-28.21	-13	-15.21	Vertical
236.2	-35.02	1.76	17.62	-19.16	-13	-6.16	Horizontal
Test Results for High Channel 844MHz							
1688.0	-45.04	2.82	27.43	-20.43	-13	-7.43	Horizontal
1688.0	-49.18	2.82	27.43	-24.57	-13	-11.57	Vertical
2532.0	-53.00	2.92	27.74	-28.18	-13	-15.18	Vertical
2532.0	-53.46	2.92	27.74	-28.64	-13	-15.64	Horizontal
194.8	-44.07	1.74	17.70	-28.11	-13	-15.11	Vertical
299.2	-39.98	1.41	17.46	-23.92	-13	-10.92	Horizontal

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

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

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

9.4 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-50.48	2.60	27.20	-25.88	-13	-12.88	Horizontal
1399.4	-46.35	2.60	27.20	-21.75	-13	-8.75	Vertical
2099.1	-47.48	2.85	27.54	-22.79	-13	-9.79	Vertical
2099.1	-52.01	2.85	27.54	-27.32	-13	-14.32	Horizontal
192.2	-39.91	1.49	17.78	-23.62	-13	-10.62	Vertical
420.1	-35.76	1.36	17.33	-19.79	-13	-6.79	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-52.59	2.61	27.28	-27.92	-13	-14.92	Horizontal
1415.0	-47.23	2.61	27.28	-22.56	-13	-9.56	Vertical
2122.5	-45.23	2.87	27.59	-20.51	-13	-7.51	Vertical
2122.5	-51.86	2.87	27.59	-27.14	-13	-14.14	Horizontal
201.6	-35.41	1.73	15.74	-21.40	-13	-8.40	Vertical
347.0	-38.88	1.62	15.79	-24.71	-13	-11.71	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-49.09	2.63	27.28	-24.44	-13	-11.44	Horizontal
1430.6	-47.77	2.63	27.28	-23.12	-13	-10.12	Vertical
2145.9	-51.23	2.88	27.60	-26.51	-13	-13.51	Vertical
2145.9	-51.55	2.88	27.60	-26.83	-13	-13.83	Horizontal
178.1	-34.39	1.61	18.00	-18.00	-13	-5.00	Vertical
384.1	-43.69	1.45	15.49	-29.66	-13	-16.66	Horizontal

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

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-45.76	2.61	27.26	-21.11	-13	-8.11	Horizontal
1408.0	-47.04	2.61	27.26	-22.39	-13	-9.39	Vertical
2112.0	-46.63	2.87	27.58	-21.92	-13	-8.92	Vertical
2112.0	-52.36	2.87	27.58	-27.65	-13	-14.65	Horizontal
179.4	-41.31	1.31	16.97	-25.65	-13	-12.65	Vertical
291.6	-37.70	1.65	16.70	-22.65	-13	-9.65	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-49.62	2.61	27.28	-24.95	-13	-11.95	Horizontal
1415.0	-49.17	2.61	27.28	-24.50	-13	-11.50	Vertical
2122.5	-53.06	2.87	27.59	-28.34	-13	-15.34	Vertical
2122.5	-53.90	2.87	27.59	-29.18	-13	-16.18	Horizontal
187.1	-43.67	1.72	17.99	-27.40	-13	-14.40	Vertical
383.2	-34.86	1.73	17.94	-18.65	-13	-5.65	Horizontal
Test Results for High Channel 711MHz							
1422.0	-49.34	2.62	27.28	-24.68	-13	-11.68	Horizontal
1422.0	-48.27	2.62	27.28	-23.61	-13	-10.61	Vertical
2133.0	-49.19	2.87	27.60	-24.46	-13	-11.46	Vertical
2133.0	-50.92	2.87	27.60	-26.19	-13	-13.19	Horizontal
205.5	-38.13	1.58	15.93	-23.78	-13	-10.78	Vertical
450.0	-42.50	1.36	15.59	-28.27	-13	-15.27	Horizontal

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

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

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

9.5 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	-53.76	2.61	27.28	-29.09	-13	-16.09	Horizontal
1413.0	-47.68	2.61	27.28	-23.01	-13	-10.01	Vertical
2119.5	-51.13	2.87	27.59	-26.41	-13	-13.41	Vertical
2119.5	-52.46	2.87	27.59	-27.74	-13	-14.74	Horizontal
197.7	-43.88	1.71	16.15	-29.44	-13	-16.44	Vertical
347.5	-40.40	1.41	17.32	-24.49	-13	-11.49	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-45.98	2.62	27.30	-21.30	-13	-8.30	Horizontal
1420.0	-46.93	2.62	27.30	-22.25	-13	-9.25	Vertical
2130.0	-51.47	2.87	27.62	-26.72	-13	-13.72	Vertical
2130.0	-49.44	2.87	27.62	-24.69	-13	-11.69	Horizontal
177.0	-36.96	1.42	15.25	-23.14	-13	-10.14	Vertical
441.0	-35.25	1.36	17.19	-19.42	-13	-6.42	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-52.23	2.66	27.28	-27.61	-13	-14.61	Horizontal
1427.0	-47.27	2.66	27.28	-22.65	-13	-9.65	Vertical
2140.5	-50.41	2.88	27.60	-25.69	-13	-12.69	Vertical
2140.5	-51.84	2.88	27.60	-27.12	-13	-14.12	Horizontal
188.8	-35.53	1.32	17.29	-19.56	-13	-6.56	Vertical
297.8	-43.13	1.72	16.89	-27.96	-13	-14.96	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	-49.76	2.62	27.30	-25.08	-13	-12.08	Horizontal
1418.0	-52.27	2.62	27.30	-27.59	-13	-14.59	Vertical
2127.0	-52.94	2.87	27.62	-28.19	-13	-15.19	Vertical
2127.0	-52.52	2.87	27.62	-27.77	-13	-14.77	Horizontal
192.1	-44.74	1.35	16.91	-29.18	-13	-16.18	Vertical
465.4	-40.27	1.62	16.31	-25.58	-13	-12.58	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-48.12	2.62	27.30	-23.44	-13	-10.44	Horizontal
1420.0	-45.29	2.62	27.30	-20.61	-13	-7.61	Vertical
2130.0	-51.75	2.87	27.62	-27.00	-13	-14.00	Vertical
2130.0	-49.21	2.87	27.62	-24.46	-13	-11.46	Horizontal
180.9	-42.02	1.51	17.14	-26.39	-13	-13.39	Vertical
382.0	-39.93	1.77	16.88	-24.82	-13	-11.82	Horizontal
Test Results for High Channel 711MHz							
1422.0	-44.85	2.62	27.30	-20.17	-13	-7.17	Horizontal
1422.0	-49.59	2.62	27.30	-24.91	-13	-11.91	Vertical
2133.0	-53.41	2.87	27.62	-28.66	-13	-15.66	Vertical
2133.0	-50.46	2.87	27.62	-25.71	-13	-12.71	Horizontal
199.8	-40.19	1.78	15.95	-26.02	-13	-13.02	Vertical
389.2	-39.23	1.34	17.95	-22.63	-13	-9.63	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.

9.6 LTE BAND 25

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-46.31	4.02	29.80	-20.53	-13	-7.53	Horizontal
3701.4	-45.98	4.02	29.80	-20.20	-13	-7.20	Vertical
5552.1	-46.65	5.24	35.84	-16.05	-13	-3.05	Vertical
5552.1	-46.08	5.24	35.84	-15.48	-13	-2.48	Horizontal
93.9	-34.65	1.59	15.11	-21.13	-13	-8.13	Vertical
119.7	-33.18	1.80	15.61	-19.37	-13	-6.37	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-47.40	4.03	30.00	-21.43	-13	-8.43	Horizontal
3765.0	-46.49	4.03	30.00	-20.52	-13	-7.52	Vertical
5647.5	-46.62	5.25	35.86	-16.01	-13	-3.01	Vertical
5647.5	-47.68	5.25	35.86	-17.07	-13	-4.07	Horizontal
166.1	-33.38	1.37	15.62	-19.13	-13	-6.13	Vertical
274.4	-32.81	1.55	17.51	-16.85	-13	-3.85	Horizontal
Test Results for High Channel 1754.3MHz							
3828.6	-48.54	4.05	30.01	-22.58	-13	-9.58	Horizontal
3828.6	-43.53	4.05	30.01	-17.57	-13	-4.57	Vertical
5742.9	-46.65	5.26	35.86	-16.05	-13	-3.05	Vertical
5742.9	-48.82	5.26	35.86	-18.22	-13	-5.22	Horizontal
108.6	-33.52	1.66	17.19	-17.99	-13	-4.99	Vertical
138.7	-32.38	1.35	17.94	-15.79	-13	-2.79	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-48.19	4.02	29.80	-22.41	-13	-9.41	Horizontal
3720.0	-46.49	4.02	29.80	-20.71	-13	-7.71	Vertical
5580.0	-49.38	5.24	35.84	-18.78	-13	-5.78	Vertical
5580.0	-47.19	5.24	35.84	-16.59	-13	-3.59	Horizontal
146.2	-33.33	1.70	15.24	-19.79	-13	-6.79	Vertical
215.4	-32.72	1.42	16.58	-17.56	-13	-4.56	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-48.78	4.03	30.00	-22.81	-13	-9.81	Horizontal
3765.0	-41.12	4.03	30.00	-15.15	-13	-2.15	Vertical
5647.5	-46.88	5.25	35.86	-16.27	-13	-3.27	Vertical
5647.5	-46.96	5.25	35.86	-16.35	-13	-3.35	Horizontal
132.2	-34.31	1.64	16.16	-19.79	-13	-6.79	Vertical
133.3	-34.46	1.62	17.37	-18.71	-13	-5.71	Horizontal
Test Results for High Channel 1745MHz							
3810.0	-46.74	2.91	27.68	-21.97	-13	-8.97	Horizontal
3810.0	-44.52	2.91	27.68	-19.75	-13	-6.75	Vertical
5715.0	-49.36	5.26	35.86	-18.76	-13	-5.76	Vertical
5715.0	-47.89	5.26	35.86	-17.29	-13	-4.29	Horizontal
212.6	-32.93	1.49	15.29	-19.13	-13	-6.13	Vertical
275.8	-33.23	1.79	16.42	-18.60	-13	-5.60	Horizontal

9.7 LTE BAND 26 A

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

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-48.41	2.78	27.50	-23.69	-13	-10.69	Horizontal
1629.4	-42.65	2.78	27.50	-17.93	-13	-4.93	Vertical
2444.1	-46.84	2.90	27.80	-21.94	-13	-8.94	Vertical
2444.1	-47.45	2.90	27.80	-22.55	-13	-9.55	Horizontal
229.6	-33.91	1.54	16.98	-18.47	-13	-5.47	Vertical
83.3	-34.39	1.47	15.82	-20.04	-13	-7.04	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-47.57	2.80	27.48	-22.89	-13	-9.89	Horizontal
1638.0	-46.50	2.80	27.48	-21.82	-13	-8.82	Vertical
2457.0	-49.16	2.91	27.70	-24.37	-13	-11.37	Vertical
2457.0	-47.83	2.91	27.70	-23.04	-13	-10.04	Horizontal
168.2	-32.17	1.74	16.19	-17.72	-13	-4.72	Vertical
92.9	-33.35	1.46	15.43	-19.38	-13	-6.38	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-46.94	2.82	27.43	-22.33	-13	-9.33	Horizontal
1646.6	-46.19	2.82	27.43	-21.58	-13	-8.58	Vertical
2469.9	-47.84	2.92	27.74	-23.02	-13	-10.02	Vertical
2469.9	-47.32	2.92	27.74	-22.50	-13	-9.50	Horizontal
213.1	-34.04	1.67	17.05	-18.66	-13	-5.66	Vertical
121.7	-32.09	1.42	16.12	-17.39	-13	-4.39	Horizontal

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

Test Results for Channel 819MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1638.0	-47.39	2.78	27.50	-22.67	-13	-9.67	Horizontal
1638.0	-50.00	2.78	27.50	-25.28	-13	-12.28	Vertical
2457.0	-48.93	2.90	27.80	-24.03	-13	-11.03	Vertical
2457.0	-48.52	2.90	27.80	-23.62	-13	-10.62	Horizontal
253.7	-32.37	1.43	17.34	-16.46	-13	-3.46	Vertical
256.8	-32.79	1.56	15.71	-18.64	-13	-5.64	Horizontal

9.8 LTE BAND 26 B

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-49.99	2.78	27.50	-25.27	-13	-12.27	Horizontal
1649.4	-44.25	2.78	27.50	-19.53	-13	-6.53	Vertical
2474.1	-46.99	2.90	27.80	-22.09	-13	-9.09	Vertical
2474.1	-49.05	2.90	27.80	-24.15	-13	-11.15	Horizontal
237.0	-34.81	1.33	17.34	-18.80	-13	-5.80	Vertical
180.5	-34.96	1.47	16.80	-19.63	-13	-6.63	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-46.31	2.80	27.48	-21.63	-13	-8.63	Horizontal
1673.0	-44.36	2.80	27.48	-19.68	-13	-6.68	Vertical
2509.5	-46.05	2.91	27.70	-21.26	-13	-8.26	Vertical
2509.5	-48.18	2.91	27.70	-23.39	-13	-10.39	Horizontal
140.8	-32.14	1.75	15.46	-18.43	-13	-5.43	Vertical
90.6	-34.52	1.52	16.14	-19.90	-13	-6.90	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-49.23	2.82	27.43	-24.62	-13	-11.62	Horizontal
1696.6	-43.49	2.82	27.43	-18.88	-13	-5.88	Vertical
2544.9	-48.41	2.92	27.74	-23.59	-13	-10.59	Vertical
2544.9	-47.07	2.92	27.74	-22.25	-13	-9.25	Horizontal
171.4	-33.93	1.67	16.09	-19.51	-13	-6.51	Vertical
247.2	-33.04	1.80	17.55	-17.29	-13	-4.29	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 Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1663.0	-48.95	2.78	27.50	-24.23	-13	-11.23	Horizontal
1663.0	-45.77	2.78	27.50	-21.05	-13	-8.05	Vertical
2494.5	-48.73	2.90	27.80	-23.83	-13	-10.83	Vertical
2494.5	-47.48	2.90	27.80	-22.58	-13	-9.58	Horizontal
255.4	-34.09	1.52	15.72	-19.89	-13	-6.89	Vertical
163.1	-34.83	1.40	17.03	-19.20	-13	-6.20	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-46.64	2.80	27.48	-21.96	-13	-8.96	Horizontal
1673.0	-42.09	2.80	27.48	-17.41	-13	-4.41	Vertical
2509.5	-49.28	2.91	27.70	-24.49	-13	-11.49	Vertical
2509.5	-46.00	2.91	27.70	-21.21	-13	-8.21	Horizontal
227.1	-34.44	1.74	16.38	-19.80	-13	-6.80	Vertical
101.3	-34.38	1.79	15.20	-20.97	-13	-7.97	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-46.02	2.82	27.43	-21.41	-13	-8.41	Horizontal
1683.0	-41.68	2.82	27.43	-17.07	-13	-4.07	Vertical
2524.5	-49.22	2.92	27.74	-24.40	-13	-11.40	Vertical
2524.5	-49.74	2.92	27.74	-24.92	-13	-11.92	Horizontal
261.1	-32.32	1.78	17.44	-16.66	-13	-3.66	Vertical
120.1	-34.40	1.70	15.93	-20.17	-13	-7.17	Horizontal

9.9 LTE BAND 66

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-47.92	4.02	29.80	-22.14	-13	-9.14	Horizontal
3421.4	-46.87	4.02	29.80	-21.09	-13	-8.09	Vertical
5132.1	-54.94	5.24	35.84	-24.34	-13	-11.34	Vertical
5132.1	-51.97	5.24	35.84	-21.37	-13	-8.37	Horizontal
112.6	-48.95	1.52	15.57	-34.90	-13	-21.90	Vertical
220.5	-49.77	1.33	17.14	-33.96	-13	-20.96	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-51.95	4.03	30.00	-25.98	-13	-12.98	Horizontal
3490.0	-54.67	4.03	30.00	-28.70	-13	-15.70	Vertical
5235.0	-49.13	5.25	35.86	-18.52	-13	-5.52	Vertical
5235.0	-47.39	5.25	35.86	-16.78	-13	-3.78	Horizontal
157.3	-46.47	1.53	17.13	-30.87	-13	-17.87	Vertical
213.1	-51.72	1.41	15.95	-37.18	-13	-24.18	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-50.63	4.05	30.01	-24.67	-13	-11.67	Horizontal
3558.6	-53.57	4.05	30.01	-27.61	-13	-14.61	Vertical
5337.9	-51.80	5.26	35.86	-21.20	-13	-8.20	Vertical
5337.9	-54.23	5.26	35.86	-23.63	-13	-10.63	Horizontal
170.6	-44.82	1.44	15.51	-30.75	-13	-17.75	Vertical
169.0	-51.86	1.78	15.76	-37.88	-13	-24.88	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-48.39	4.02	29.80	-22.61	-13	-9.61	Horizontal
3440.0	-46.53	4.02	29.80	-20.75	-13	-7.75	Vertical
5160.0	-53.75	5.24	35.84	-23.15	-13	-10.15	Vertical
5160.0	-50.16	5.24	35.84	-19.56	-13	-6.56	Horizontal
268.8	-47.38	1.62	17.02	-31.98	-13	-18.98	Vertical
161.4	-50.85	1.32	17.31	-34.86	-13	-21.86	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-53.56	4.03	30.00	-27.59	-13	-14.59	Horizontal
3490.0	-54.92	4.03	30.00	-28.95	-13	-15.95	Vertical
5235.0	-49.48	5.25	35.86	-18.87	-13	-5.87	Vertical
5235.0	-50.32	5.25	35.86	-19.71	-13	-6.71	Horizontal
159.9	-53.41	1.45	15.17	-39.69	-13	-26.69	Vertical
172.1	-46.06	1.48	17.82	-29.72	-13	-16.72	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-46.40	2.91	27.68	-21.63	-13	-8.63	Horizontal
3540.0	-51.90	2.91	27.68	-27.13	-13	-14.13	Vertical
5310.0	-49.29	5.26	35.86	-18.69	-13	-5.69	Vertical
5310.0	-51.21	5.26	35.86	-20.61	-13	-7.61	Horizontal
197.3	-46.24	1.76	16.38	-31.62	-13	-18.62	Vertical
158.5	-54.79	1.43	17.13	-39.09	-13	-26.09	Horizontal

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

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

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

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

9.10 LTE BAND 71

QPSK EIRP POWER FOR LTE BAND 71 (5MHZ BANDWIDTH)

Test Results for Low Channel 665.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1331	-48.52	2.61	27.28	-23.85	-13	-10.85	Horizontal
1331	-44.76	2.61	27.28	-20.09	-13	-7.09	Vertical
1996.5	-48.05	2.87	27.59	-23.33	-13	-10.33	Vertical
1996.5	-46.50	2.87	27.59	-21.78	-13	-8.78	Horizontal
Test Results for Mid Channel 680.5MHz							
1361	-52.03	2.62	27.30	-27.35	-13	-14.35	Horizontal
1361	-47.56	2.62	27.30	-22.88	-13	-9.88	Vertical
2041.5	-48.71	2.87	27.62	-23.96	-13	-10.96	Vertical
2041.5	-44.89	2.87	27.62	-20.14	-13	-7.14	Horizontal
Test Results for High Channel 695.5MHz							
1391	-52.11	2.66	27.28	-27.49	-13	-14.49	Horizontal
1391	-51.73	2.66	27.28	-27.11	-13	-14.11	Vertical
2086.5	-51.72	2.88	27.60	-27.00	-13	-14.00	Vertical
2086.5	-52.78	2.88	27.60	-28.06	-13	-15.06	Horizontal

QPSK EIRP POWER FOR LTE BAND 71 (20MHZ BANDWIDTH)

Test Results for Low Channel 673MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1346	-53.60	2.62	27.30	-28.92	-13	-15.92	Horizontal
1346	-44.83	2.62	27.30	-20.15	-13	-7.15	Vertical
2019	-47.23	2.87	27.62	-22.48	-13	-9.48	Vertical
2019	-50.78	2.87	27.62	-26.03	-13	-13.03	Horizontal
Test Results for Mid Channel 683MHz							
1366	-46.98	2.62	27.30	-22.30	-13	-9.30	Horizontal
1366	-49.58	2.62	27.30	-24.90	-13	-11.90	Vertical
2049	-47.75	2.87	27.62	-23.00	-13	-10.00	Vertical
2049	-45.28	2.87	27.62	-20.53	-13	-7.53	Horizontal
Test Results for High Channel 688MHz							
1376	-45.96	2.62	27.30	-21.28	-13	-8.28	Horizontal
1376	-47.45	2.62	27.30	-22.77	-13	-9.77	Vertical
2064	-52.96	2.87	27.62	-28.21	-13	-15.21	Vertical
2064	-50.31	2.87	27.62	-25.56	-13	-12.56	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54, §90.213

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

Temp. = -30° to $+50^{\circ}\text{C}$

Voltage = low voltage, DC 3.23V, Normal, DC 3.8V and High voltage, DC 4.37V.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

LTE Band 2/4/5/12/17/25/26/66/71

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]
3.23	1880	12.6	0.006705	2.5
3.8	1880	14.1	0.007516	2.5
4.37	1880	13.1	0.006963	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.5	0.006638	2.5
Extreme (50C)	1880	11.2	0.005934	2.5
Extreme (40C)	1880	13.7	0.007270	2.5
Extreme (30C)	1880	13.2	0.007020	2.5
Extreme (10C)	1880	13.8	0.007342	2.5
Extreme (0C)	1880	12.3	0.006562	2.5
Extreme (-10C)	1880	13.4	0.007145	2.5
Extreme (-20C)	1880	13.8	0.007325	2.5
Extreme (-30C)	1880	14.6	0.007784	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]
3.23	1880	9.6	0.005125	2.5
3.8	1880	9.0	0.004798	2.5
4.37	1880	8.1	0.004283	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.3	0.004945	2.5
Extreme (50C)	1880	8.6	0.004562	2.5
Extreme (40C)	1880	8.5	0.004529	2.5
Extreme (30C)	1880	9.4	0.004989	2.5
Extreme (10C)	1880	8.8	0.004684	2.5
Extreme (0C)	1880	7.8	0.004175	2.5
Extreme (-10C)	1880	8.7	0.004614	2.5
Extreme (-20C)	1880	8.6	0.004590	2.5
Extreme (-30C)	1880	7.7	0.004100	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]
3.23	1732.5	8.8	0.005074	2.5
3.8	1732.5	8.6	0.004982	2.5
4.37	1732.5	8.6	0.004949	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.0	0.004630	2.5
Extreme (50C)	1732.5	8.5	0.004919	2.5
Extreme (40C)	1732.5	7.0	0.004017	2.5
Extreme (30C)	1732.5	6.1	0.003544	2.5
Extreme (10C)	1732.5	7.3	0.004225	2.5
Extreme (0C)	1732.5	9.6	0.005521	2.5
Extreme (-10C)	1732.5	8.1	0.004692	2.5
Extreme (-20C)	1732.5	6.9	0.004005	2.5
Extreme (-30C)	1732.5	8.9	0.005120	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]
3.23	1732.5	9.8	0.005651	2.5
3.8	1732.5	8.4	0.004859	2.5
4.37	1732.5	8.1	0.004654	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.9	0.005700	2.5
Extreme (50C)	1732.5	9.0	0.005178	2.5
Extreme (40C)	1732.5	7.7	0.004472	2.5
Extreme (30C)	1732.5	8.9	0.005153	2.5
Extreme (10C)	1732.5	9.3	0.005376	2.5
Extreme (0C)	1732.5	8.6	0.004950	2.5
Extreme (-10C)	1732.5	8.9	0.005135	2.5
Extreme (-20C)	1732.5	9.2	0.005308	2.5
Extreme (-30C)	1732.5	7.6	0.004400	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]
3.23	836.5	5.7	0.006765	2.5
3.8	836.5	6.4	0.007605	2.5
4.37	836.5	4.9	0.005833	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.3	0.007538	2.5
Extreme (50C)	836.5	6.4	0.007631	2.5
Extreme (40C)	836.5	6.2	0.007378	2.5
Extreme (30C)	836.5	6.9	0.008222	2.5
Extreme (10C)	836.5	5.5	0.006571	2.5
Extreme (0C)	836.5	5.0	0.006012	2.5
Extreme (-10C)	836.5	6.0	0.007202	2.5
Extreme (-20C)	836.5	6.3	0.007481	2.5
Extreme (-30C)	836.5	6.3	0.007573	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]
3.23	836.5	5.8	0.006959	2.5
3.8	836.5	6.3	0.007511	2.5
4.37	836.5	4.6	0.005514	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.9	0.007064	2.5
Extreme (50C)	836.5	5.7	0.006795	2.5
Extreme (40C)	836.5	5.7	0.006807	2.5
Extreme (30C)	836.5	6.8	0.008115	2.5
Extreme (10C)	836.5	5.4	0.006422	2.5
Extreme (0C)	836.5	5.8	0.006913	2.5
Extreme (-10C)	836.5	5.4	0.006501	2.5
Extreme (-20C)	836.5	6.3	0.007494	2.5
Extreme (-30C)	836.5	6.7	0.007962	2.5

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

10.4 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]
3.23	707.5	9.0	0.012786	2.5
3.8	707.5	9.6	0.013537	2.5
4.37	707.5	8.6	0.012166	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.8	0.012481	2.5
Extreme (50C)	707.5	7.1	0.009992	2.5
Extreme (40C)	707.5	7.0	0.009829	2.5
Extreme (30C)	707.5	8.5	0.012054	2.5
Extreme (10C)	707.5	7.0	0.009833	2.5
Extreme (0C)	707.5	9.4	0.013318	2.5
Extreme (-10C)	707.5	8.9	0.012564	2.5
Extreme (-20C)	707.5	9.0	0.012761	2.5
Extreme (-30C)	707.5	7.5	0.010650	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]
3.23	707.5	7.8	0.010982	2.5
3.8	707.5	8.3	0.011695	2.5
4.37	707.5	7.0	0.009947	2.5

Frequency error vs. Temperature

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

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

10.5 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]
3.23	710.0	10.0	0.014132	2.5
3.8	710.0	9.2	0.012902	2.5
4.37	710.0	8.3	0.011678	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.7	0.013716	2.5
Extreme (50C)	710.0	9.1	0.012756	2.5
Extreme (40C)	710.0	8.1	0.011435	2.5
Extreme (30C)	710.0	9.4	0.013249	2.5
Extreme (10C)	710.0	8.5	0.011984	2.5
Extreme (0C)	710.0	7.9	0.011168	2.5
Extreme (-10C)	710.0	8.8	0.012420	2.5
Extreme (-20C)	710.0	8.6	0.012063	2.5
Extreme (-30C)	710.0	8.0	0.011227	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]
3.23	710.0	9.6	0.013590	2.5
3.8	710.0	8.8	0.012460	2.5
4.37	710.0	8.3	0.011687	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.3	0.013156	2.5
Extreme (50C)	710.0	9.4	0.013188	2.5
Extreme (40C)	710.0	8.6	0.012155	2.5
Extreme (30C)	710.0	9.3	0.013055	2.5
Extreme (10C)	710.0	8.3	0.011704	2.5
Extreme (0C)	710.0	8.5	0.011979	2.5
Extreme (-10C)	710.0	9.4	0.013211	2.5
Extreme (-20C)	710.0	8.9	0.012528	2.5
Extreme (-30C)	710.0	8.0	0.011202	2.5

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

10.6 LTE BAND 25

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.23	1882.5	12	0.006375	2.5
3.8	1882.5	16	0.008499	2.5
4.37	1882.5	18	0.009562	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	4.3	0.002291	2.5
Extreme (50C)	1882.5	9.5	0.005021	2.5
Extreme (40C)	1882.5	6.9	0.003684	2.5
Extreme (30C)	1882.5	6.2	0.003281	2.5
Extreme (10C)	1882.5	5.6	0.002972	2.5
Extreme (0C)	1882.5	8.2	0.004350	2.5
Extreme (-10C)	1882.5	1.2	0.000636	2.5
Extreme (-20C)	1882.5	2.1	0.001116	2.5
Extreme (-30C)	1882.5	6.3	0.003345	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.23	1882.5	9.7	0.005136	2.5
3.8	1882.5	7.1	0.003791	2.5
4.37	1882.5	5.6	0.002979	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	7.8	0.004145	2.5
Extreme (50C)	1882.5	5.0	0.002666	2.5
Extreme (40C)	1882.5	8.5	0.004516	2.5
Extreme (30C)	1882.5	1.5	0.000797	2.5
Extreme (10C)	1882.5	2.8	0.001474	2.5
Extreme (0C)	1882.5	6.9	0.003690	2.5
Extreme (-10C)	1882.5	5.9	0.003148	2.5
Extreme (-20C)	1882.5	7.6	0.004015	2.5
Extreme (-30C)	1882.5	6.7	0.003558	2.5

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

10.7 LTE BAND 26 A

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.23	819	8.4	0.010208	2.5
3.8	819	5.9	0.007145	2.5
4.37	819	6.5	0.007949	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	8.3	0.010168	2.5
Extreme (50C)	819	2.0	0.002386	2.5
Extreme (40C)	819	2.8	0.003405	2.5
Extreme (30C)	819	6.5	0.007973	2.5
Extreme (10C)	819	5.3	0.006510	2.5
Extreme (0C)	819	6.4	0.007805	2.5
Extreme (-10C)	819	8.2	0.010037	2.5
Extreme (-20C)	819	6.1	0.007396	2.5
Extreme (-30C)	819	4.3	0.005284	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
3.23	819	2.2	0.002632	2.5
3.8	819	6.9	0.008410	2.5
4.37	819	5.2	0.006325	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	6.5	0.007946	2.5
Extreme (50C)	819	8.3	0.010165	2.5
Extreme (40C)	819	6.9	0.008470	2.5
Extreme (30C)	819	4.9	0.006041	2.5
Extreme (10C)	819	6.3	0.007750	2.5
Extreme (0C)	819	5.1	0.006260	2.5
Extreme (-10C)	819	9.0	0.010948	2.5
Extreme (-20C)	819	6.6	0.008002	2.5
Extreme (-30C)	819	7.3	0.008928	2.5

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

10.8 LTE BAND 26 B

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz)				
3.23	836.5	8.8	0.010541	2.5
3.8	836.5	6.6	0.007949	2.5
4.37	836.5	8.4	0.010030	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz)				
Normal (25C)	836.5	10.8	0.012920	2.5
Extreme (50C)	836.5	9.7	0.011622	2.5
Extreme (40C)	836.5	6.2	0.007393	2.5
Extreme (30C)	836.5	8.9	0.010696	2.5
Extreme (10C)	836.5	7.8	0.009324	2.5
Extreme (0C)	836.5	9.8	0.011707	2.5
Extreme (-10C)	836.5	1.7	0.002020	2.5
Extreme (-20C)	836.5	8.6	0.010320	2.5
Extreme (-30C)	836.5	7.4	0.008866	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz)				
3.23	836.5	9.4	0.011279	2.5
3.8	836.5	11.6	0.013870	2.5
4.37	836.5	10.9	0.013022	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26740 RB size 75 RB Offset 0 10MHz)				
Normal (25C)	836.5	6.4	0.007642	2.5
Extreme (50C)	836.5	9.0	0.010717	2.5
Extreme (40C)	836.5	8.0	0.009527	2.5
Extreme (30C)	836.5	7.3	0.008735	2.5
Extreme (10C)	836.5	6.3	0.007542	2.5
Extreme (0C)	836.5	5.4	0.006411	2.5
Extreme (-10C)	836.5	5.2	0.006166	2.5
Extreme (-20C)	836.5	3.2	0.011237	2.5
Extreme (-30C)	836.5	8.8	0.007292	2.5

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

10.9 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]
3.23	1745	13.2	0.00756	2.5
3.8	1745	14.1	0.00806	2.5
4.37	1745	13.3	0.00765	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.4	0.004215	2.5
Extreme (50C)	1745	4.7	0.002721	2.5
Extreme (40C)	1745	4.9	0.002820	2.5
Extreme (30C)	1745	5.0	0.002838	2.5
Extreme (10C)	1745	6.5	0.003737	2.5
Extreme (0C)	1745	4.3	0.002480	2.5
Extreme (-10C)	1745	9.9	0.005650	2.5
Extreme (-20C)	1745	10.4	0.005977	2.5
Extreme (-30C)	1745	6.3	0.003594	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]
3.23	1745	13.2	0.007559	2.5
3.8	1745	14.2	0.008136	2.5
4.37	1745	13.3	0.007633	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.3	0.004192	2.5
Extreme (50C)	1745	4.8	0.002756	2.5
Extreme (40C)	1745	5.5	0.003148	2.5
Extreme (30C)	1745	4.6	0.002643	2.5
Extreme (10C)	1745	6.9	0.003939	2.5
Extreme (0C)	1745	4.9	0.002815	2.5
Extreme (-10C)	1745	10.0	0.005735	2.5
Extreme (-20C)	1745	10.4	0.005978	2.5
Extreme (-30C)	1745	6.2	0.003576	2.5

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

10.10 LTE BAND 71

Band 71 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]
3.23	683	12.3	0.01803	2.5
3.8	683	13.5	0.01970	2.5
4.37	683	13.5	0.01977	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	683	7.5	0.010970	2.5
Extreme (50C)	683	5.2	0.007668	2.5
Extreme (40C)	683	5.6	0.008192	2.5
Extreme (30C)	683	4.8	0.006978	2.5
Extreme (10C)	683	6.1	0.008970	2.5
Extreme (0C)	683	5.1	0.007518	2.5
Extreme (-10C)	683	9.9	0.014442	2.5
Extreme (-20C)	683	11.2	0.016366	2.5
Extreme (-30C)	683	5.7	0.008326	2.5

Band 71 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]
3.23	683	12.4	0.018150	2.5
3.8	683	14.1	0.020578	2.5
4.37	683	13.6	0.019937	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	683	7.7	0.011211	2.5
Extreme (50C)	683	4.8	0.007058	2.5
Extreme (40C)	683	5.6	0.008231	2.5
Extreme (30C)	683	4.5	0.006564	2.5
Extreme (10C)	683	6.4	0.009342	2.5
Extreme (0C)	683	5.1	0.007435	2.5
Extreme (-10C)	683	9.5	0.013870	2.5
Extreme (-20C)	683	10.9	0.015926	2.5
Extreme (-30C)	683	5.8	0.008487	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.

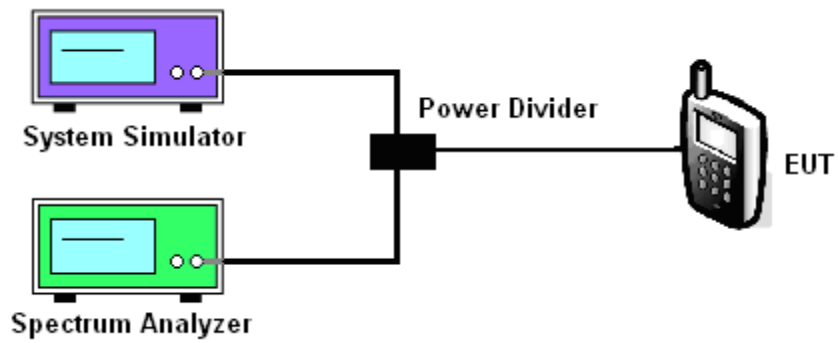
11.2 Measuring Instruments

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 2/4/5/12/17/25/26/66/71

Test data reference attachment.

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