

FCC CFR47 PART 22H, 24E, 27,90S CERTIFICATION TEST REPORT FCC ID: 2ANMU-24137

Product: Smart Phone
Trade Mark: OUKITEL
Model No.: WP100 TITAN
Family Model: WP100, WP100 S, WP100 Pro,
WP100 Plus, WP100 Ultra, WP100 GT
Report No.: S24122402206006
Issue Date: Feb. 25, 2025

Prepared for

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GUANLAN, LONGHUA SHENZHEN, 518XXX China

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD

Address..... : A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU
INDUSTRIAL ZONE, GUANLAN,LONGHUA SHENZHEN, 518XXX
China

Manufacturer's Name..... : SHENZHEN YUNJI INTELLIGENT TECHNOLOGY CO.,LTD

Address..... : A2 2F BUILDING ENET NEW INDUSTRIAL PARK, DAFU
INDUSTRIAL ZONE, GUANLAN,LONGHUA SHENZHEN, 518XXX
China

Product name..... : Smart Phone

Model and/or type reference .. : WP100 TITAN

Trade Mark..... : OUKITEL

Family Model..... : WP100, WP100 S, WP100 Pro, WP100 Plus, WP100 Ultra, WP100
GT

Test Sample Number..... S S241224022007

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..... Dec. 24, 2024 ~ Feb. 25, 2025

Date of Issue Feb. 25, 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:	Smart Phone
Trade Mark	OUKITEL
Model Name	WP100 TITAN
Family Model	WP100, WP100 S, WP100 Pro, WP100 Plus, WP100 Ultra, WP100 GT
Model Difference	All models are the same circuit and RF module, except for model names.
FCC ID:	2ANMU-24137
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2,4,5,7,12,17, 25, 26, 66
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 25 Uplink: 1850MHz-1915MHz, Downlink: 1930MHz-1995MHz; LTE FDD Band 26A Uplink: 814MHz-824MHz, Downlink: 859MHz-869MHz; LTE FDD Band 26B Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM/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: -0.21 dBi, Band 4: -0.72 dBi, Band 5: -1.71 dBi, Band 7: 0.59 dBi, Band 12: -3.18 dBi, Band 17: -3.18 dBi, Band25: -0.21 dBi, Band 26: -1.71 dBi, Band66: -0.72 dBi;
Adapter	Model: HJ-PD66W-US Input: 100-240V~50/60Hz 1.5A Output: 5.0V---3.0A 15.0W OR 9.0V---3.0A 27.0W OR 12.0V---3.0A 36.0W OR 15.0V---3.0A 45.0W OR 20.0V---3.25A 65.0W OR 11.0V---6.0A 66.0W MAX
Battery	DC 3.87V, 33000mAh, 127.71Wh
Power supply	DC 3.87V from battery or DC 5V/9V/11V/12V/15V/20V from adapter
Extreme Vol. Limits:	DC 3.29V to DC 4.45V (Nominal DC 3.87V) (Note 1)
HW Version	M175-MUB-V2

FW Version	N/A
SW Version	V04
** Note1: The High Voltage DC 4.45V and Low Voltage 3.29V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2ANMU-24137** 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 2/4/5/7/12/17/25/26/66

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

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

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	Smart Phone	WP100 TITAN	FCC ID: 2ANMU-24137	EUT

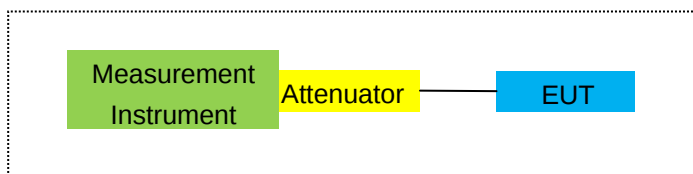
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

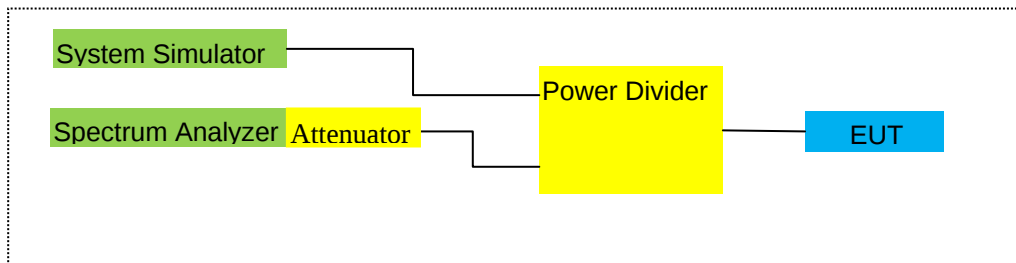
For Radiated Test Cases



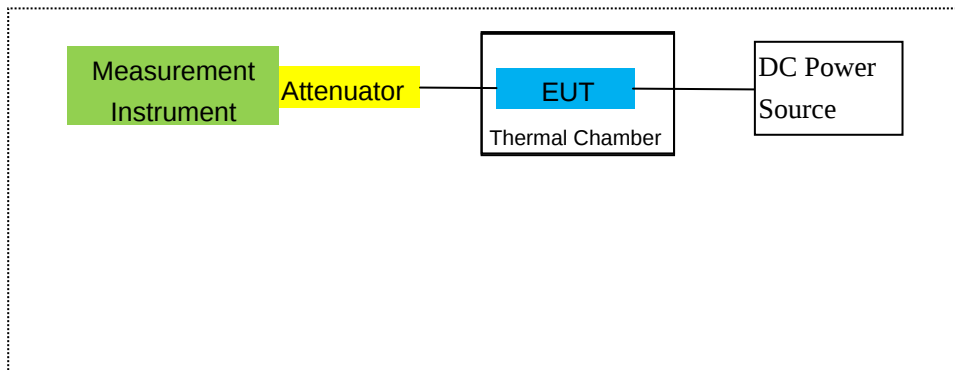
For Conducted Output Power



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



For Frequency Stability



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

3.TEST AND MEASUREMENT EQUIPMENT

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

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2024.04.25	2025.04.24	1 year
2	Test Receiver	R&S	ESPI	101318	2024.04.26	2025.04.25	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2024.05.12	2025.05.11	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2024.05.12	2027.05.11	3 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2024.05.12	2027.05.11	3 year
7	Amplifier	EM	EM-30180	060538	2024.04.26	2025.04.25	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2024.03.12	2025.03.11	1 year
9	Power Meter	R&S	NRVS	100696	2024.04.26	2025.04.25	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2024.04.26	2025.04.25	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2024.04.26	2025.04.25	1 year
15	LISN	R&S	ENV216	101313	2024.04.25	2025.04.24	1 year
16	LISN	EMCO	3816/2	00042990	2024.04.25	2025.04.24	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2024.03.12	2025.03.11	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2024.03.12	2025.03.11	1 year
19	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
20	Test Cable	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
21	Test Cable	N/A	C03	N/A	2023.05.06	2026.05.05	3 year
22	Spectrum Analyzer	agilent	e4440a	us44300399	2024.03.12	2025.03.11	1 year
23	test receiver	R&S	ESCI	a0304218	2024.03.12	2025.03.11	1 year
24	Communication Tester	R&S	CMU200	A0304247	2024.03.12	2025.03.11	1 year
25	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2024.03.12	2025.03.11	1 year

26	DC Power Source	N/A	PS-6005D	20170402923	2024.04.25	2027.04.24	3 year
27	MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2024.04.25	2025.04.24	1 year
28	Communication Tester	R&S	CMW500	148500	2024.05.30	2025.05.29	1 year
29	MXG Vector Signal Generator	Agilent	N5183B	MY57280984	2024.05.30	2025.05.29	1 year
30	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	584	2024.05.25	2025.05.24	1 year
31	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	586	2024.05.12	2025.05.11	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 2/4/5/7/12/17/25/26/66

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

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

FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

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

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

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

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

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

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

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

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

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

MODES TESTED

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

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

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

TEST PROCEDURE

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

For each out of band emissions measurement:

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

MODES TESTED

- ☐ Band 2/4/5/7/12/17/25/26/66
- ☐

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

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

LIMITS:

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

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

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

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

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

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

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17

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

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

MODES TESTED

☐ Band 2/4/5/7/12/17/25/26/66

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-3.25	3.76	28.24	21.23	132.739	Horizontal	Pass
		1880	-3.06	3.91	28.22	21.25	133.352	Horizontal	Pass
		1909.3	-2.97	3.93	28.20	21.30	134.896	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.31	3.77	28.23	21.15	130.317	Horizontal	Pass
		1880	-3.16	3.91	28.24	21.17	130.918	Horizontal	Pass
		1908.5	-3.03	3.94	28.25	21.28	134.276	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.20	3.77	28.31	21.34	136.144	Horizontal	Pass
		1880	-2.82	3.91	28.22	21.49	140.929	Horizontal	Pass
		1907.5	-2.75	3.94	28.20	21.51	141.579	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.06	3.79	28.33	21.48	140.605	Horizontal	Pass
		1880	-2.76	3.95	28.22	21.51	141.579	Horizontal	Pass
		1905	-2.65	3.97	28.19	21.57	143.549	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-3.02	3.79	28.34	21.53	142.233	Horizontal	Pass
		1880	-2.81	3.95	28.22	21.46	139.959	Horizontal	Pass
		1902.5	-2.67	3.97	28.18	21.54	142.561	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.01	3.81	28.35	21.53	142.233	Horizontal	Pass
		1880	-2.68	3.96	28.22	21.58	143.880	Horizontal	Pass
		1900	-2.62	4.00	28.16	21.54	142.561	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-4.42	3.76	28.24	20.06	101.391	Vertical	Pass
		1880	-3.88	3.91	28.22	20.43	110.408	Vertical	Pass
		1909.3	-4.08	3.93	28.20	20.19	104.472	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.60	3.77	28.23	20.86	121.899	Vertical	Pass
		1880	-3.66	3.91	28.24	20.67	116.681	Vertical	Pass
		1908.5	-4.14	3.94	28.25	20.17	103.992	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.38	3.77	28.31	20.16	103.753	Vertical	Pass
		1880	-3.84	3.91	28.22	20.47	111.429	Vertical	Pass
		1907.5	-3.79	3.94	28.20	20.47	111.429	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.54	3.79	28.33	20.00	100.000	Vertical	Pass
		1880	-3.58	3.95	28.22	20.69	117.220	Vertical	Pass
		1905	-3.42	3.97	28.19	20.80	120.226	Vertical	Pass
15.0MHz Band	1/#Mid	1857.5	-4.28	3.79	28.34	20.27	106.414	Vertical	Pass
		1880	-4.22	3.95	28.22	20.05	101.158	Vertical	Pass

QPSK		1902.5	-4.18	3.97	28.18	20.03	100.693	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.62	3.81	28.35	20.92	123.595	Vertical	Pass
Band		1880	-4.14	3.96	28.22	20.12	102.802	Vertical	Pass
QPSK		1900	-4.03	4.00	28.16	20.13	103.039	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.37	3.76	28.24	20.11	102.565	Horizontal	Pass
		1880	-3.84	3.91	28.22	20.47	111.429	Horizontal	Pass
		1909.3	-3.77	3.93	28.20	20.50	112.202	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.87	3.77	28.23	20.59	114.551	Horizontal	Pass
		1880	-3.95	3.91	28.24	20.38	109.144	Horizontal	Pass
		1908.5	-4.16	3.94	28.25	20.15	103.514	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.81	3.77	28.31	20.73	118.304	Horizontal	Pass
		1880	-3.72	3.91	28.22	20.59	114.551	Horizontal	Pass
		1907.5	-3.40	3.94	28.20	20.86	121.899	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-3.86	3.79	28.33	20.68	116.950	Horizontal	Pass
		1880	-3.85	3.95	28.22	20.42	110.154	Horizontal	Pass
		1905	-3.32	3.97	28.19	20.90	123.027	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.84	3.79	28.34	20.71	117.761	Horizontal	Pass
		1880	-3.63	3.95	28.22	20.64	115.878	Horizontal	Pass
		1902.5	-3.59	3.97	28.18	20.62	115.345	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-3.73	3.81	28.35	20.81	120.504	Horizontal	Pass
		1880	-3.43	3.96	28.22	20.83	121.060	Horizontal	Pass
		1900	-3.25	4.00	28.16	20.91	123.310	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.94	3.76	28.24	19.54	89.950	Vertical	Pass
		1880	-4.86	3.91	28.22	19.45	88.105	Vertical	Pass
		1909.3	-4.65	3.93	28.20	19.62	91.622	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-4.78	3.77	28.23	19.68	92.897	Vertical	Pass
		1880	-4.49	3.91	28.24	19.84	96.383	Vertical	Pass
		1908.5	-5.11	3.94	28.25	19.20	83.176	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.72	3.77	28.31	19.82	95.940	Vertical	Pass
		1880	-4.54	3.91	28.22	19.77	94.842	Vertical	Pass
		1907.5	-5.09	3.94	28.20	19.17	82.604	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.12	3.79	28.33	19.42	87.498	Vertical	Pass
		1880	-4.99	3.95	28.22	19.28	84.723	Vertical	Pass
		1905	-4.99	3.97	28.19	19.23	83.753	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.48	3.79	28.34	19.07	80.724	Vertical	Pass
		1880	-5.11	3.95	28.22	19.16	82.414	Vertical	Pass
		1902.5	-5.06	3.97	28.18	19.15	82.224	Vertical	Pass
20.0MHz	1/#Mid	1860	-5.03	3.81	28.35	19.51	89.331	Vertical	Pass

Band 16 QAM	1880	-4.98	3.96	28.22	19.28	84.723	Vertical	Pass
	1900	-4.66	4.00	28.16	19.50	89.125	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	-3.16	3.12	27.58	21.30	134.896	Horizontal	Pass
		1732.5	-3.15	3.27	27.61	21.19	131.522	Horizontal	Pass
		1754.3	-3.13	3.29	27.63	21.21	132.130	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.33	3.13	27.61	21.15	130.317	Horizontal	Pass
		1732.5	-3.25	3.27	27.61	21.09	128.529	Horizontal	Pass
		1753.5	-3.17	3.30	27.62	21.15	130.317	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.10	3.13	27.63	21.40	138.038	Horizontal	Pass
		1732.5	-3.00	3.27	27.61	21.34	136.144	Horizontal	Pass
		1752.5	-2.88	3.30	27.60	21.42	138.676	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.04	3.15	27.64	21.45	139.637	Horizontal	Pass
		1732.5	-2.81	3.31	27.61	21.49	140.929	Horizontal	Pass
		1750	-2.83	3.33	27.59	21.43	138.995	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-3.05	3.15	27.65	21.45	139.637	Horizontal	Pass
		1732.5	-2.89	3.31	27.61	21.41	138.357	Horizontal	Pass
		1747.5	-2.83	3.33	27.57	21.41	138.357	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.99	3.17	27.66	21.50	141.254	Horizontal	Pass
		1732.5	-2.82	3.32	27.61	21.47	140.281	Horizontal	Pass
		1745	-2.76	3.36	27.56	21.44	139.316	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-3.96	3.12	27.58	20.50	112.202	Vertical	Pass
		1732.5	-4.34	3.27	27.61	20.00	100.000	Vertical	Pass
		1754.3	-3.94	3.29	27.63	20.40	109.648	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.86	3.13	27.61	20.62	115.345	Vertical	Pass
		1732.5	-3.39	3.27	27.61	20.95	124.451	Vertical	Pass
		1753.5	-4.23	3.30	27.62	20.09	102.094	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.72	3.13	27.63	20.78	119.674	Vertical	Pass
		1732.5	-3.56	3.27	27.61	20.78	119.674	Vertical	Pass
		1752.5	-3.79	3.30	27.60	20.51	112.460	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.29	3.15	27.64	20.20	104.713	Vertical	Pass
		1732.5	-3.78	3.31	27.61	20.52	112.720	Vertical	Pass
		1750	-3.96	3.33	27.59	20.30	107.152	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-4.49	3.15	27.65	20.01	100.231	Vertical	Pass

Band		1732.5	-4.06	3.31	27.61	20.24	105.682	Vertical	Pass
QPSK		1747.5	-4.22	3.33	27.57	20.02	100.462	Vertical	Pass
20.0MHz	1/#Mid	1720	-4.45	3.17	27.66	20.04	100.925	Vertical	Pass
Band		1732.5	-3.40	3.32	27.61	20.89	122.744	Vertical	Pass
QPSK		1745	-4.01	3.36	27.56	20.19	104.472	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.97	3.12	27.58	20.49	111.944	Horizontal	Pass
		1732.5	-3.82	3.27	27.61	20.52	112.720	Horizontal	Pass
		1754.3	-3.82	3.29	27.63	20.52	112.720	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-3.91	3.13	27.61	20.57	114.025	Horizontal	Pass
		1732.5	-4.04	3.27	27.61	20.30	107.152	Horizontal	Pass
		1753.5	-4.26	3.30	27.62	20.06	101.391	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-3.74	3.13	27.63	20.76	119.124	Horizontal	Pass
		1732.5	-3.70	3.27	27.61	20.64	115.878	Horizontal	Pass
		1752.5	-3.39	3.30	27.60	20.91	123.310	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-3.81	3.15	27.64	20.68	116.950	Horizontal	Pass
		1732.5	-4.00	3.31	27.61	20.30	107.152	Horizontal	Pass
		1750	-3.38	3.33	27.59	20.88	122.462	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-3.61	3.15	27.65	20.89	122.744	Horizontal	Pass
		1732.5	-3.67	3.31	27.61	20.63	115.611	Horizontal	Pass
		1747.5	-3.69	3.33	27.57	20.55	113.501	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-3.56	3.17	27.66	20.93	123.880	Horizontal	Pass
		1732.5	-3.57	3.32	27.61	20.72	118.032	Horizontal	Pass
		1745	-3.38	3.36	27.56	20.82	120.781	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.61	3.12	27.58	19.85	96.605	Vertical	Pass
		1732.5	-4.87	3.27	27.61	19.47	88.512	Vertical	Pass
		1754.3	-5.11	3.29	27.63	19.23	83.753	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.80	3.13	27.61	19.68	92.897	Vertical	Pass
		1732.5	-4.70	3.27	27.61	19.64	92.045	Vertical	Pass
		1753.5	-4.74	3.30	27.62	19.58	90.782	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.36	3.13	27.63	19.14	82.035	Vertical	Pass
		1732.5	-5.07	3.27	27.61	19.27	84.528	Vertical	Pass
		1752.5	-4.68	3.30	27.60	19.62	91.622	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.49	3.15	27.64	19.00	79.433	Vertical	Pass
		1732.5	-4.83	3.31	27.61	19.47	88.512	Vertical	Pass
		1750	-4.96	3.33	27.59	19.30	85.114	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.39	3.15	27.65	19.11	81.470	Vertical	Pass
		1732.5	-5.31	3.31	27.61	18.99	79.250	Vertical	Pass
		1747.5	-5.28	3.33	27.57	18.96	78.705	Vertical	Pass
20.0MHz	1/#Mid	1720	-4.85	3.17	27.66	19.64	92.045	Vertical	Pass

Band 16 QAM		1732.5	-5.03	3.32	27.61	19.26	84.333	Vertical	Pass
		1745	-4.69	3.36	27.56	19.51	89.331	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	3/#Mid	824.7	6.14	2.01	19.68	2.15	21.66	146.555	Horizontal	Pass
		836.5	6.02	2.01	19.77	2.15	21.63	145.546	Horizontal	Pass
		848.3	5.82	2.02	19.82	2.15	21.47	140.281	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.91	2.01	19.70	2.15	21.45	139.637	Horizontal	Pass
		836.5	5.81	2.01	19.77	2.15	21.42	138.676	Horizontal	Pass
		847.5	5.68	2.02	19.81	2.15	21.32	135.519	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	6.19	2.01	19.71	2.15	21.74	149.279	Horizontal	Pass
		836.5	6.07	2.01	19.77	2.15	21.68	147.231	Horizontal	Pass
		846.5	5.91	2.02	19.79	2.15	21.53	142.233	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	6.21	2.01	19.73	2.15	21.78	150.661	Horizontal	Pass
		836.5	6.16	2.01	19.77	2.15	21.77	150.314	Horizontal	Pass
		844	6.06	2.02	19.78	2.15	21.67	146.893	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	4.73	2.01	19.68	2.15	20.25	105.925	Vertical	Pass
		836.5	4.77	2.01	19.77	2.15	20.38	109.144	Vertical	Pass
		848.3	5.10	2.02	19.82	2.15	20.75	118.850	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.41	2.01	19.70	2.15	20.95	124.451	Vertical	Pass
		836.5	4.90	2.01	19.77	2.15	20.51	112.460	Vertical	Pass
		847.5	4.92	2.02	19.81	2.15	20.56	113.763	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	4.65	2.01	19.71	2.15	20.20	104.713	Vertical	Pass
		836.5	4.85	2.01	19.77	2.15	20.46	111.173	Vertical	Pass
		846.5	4.92	2.02	19.79	2.15	20.54	113.240	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	4.51	2.01	19.73	2.15	20.08	101.859	Vertical	Pass
		836.5	5.09	2.01	19.77	2.15	20.70	117.490	Vertical	Pass
		844	5.32	2.02	19.78	2.15	20.93	123.880	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	3/#Mid	824.7	5.29	2.01	19.68	2.15	20.81	120.504	Horizontal	Pass
		836.5	5.22	2.01	19.77	2.15	20.83	121.060	Horizontal	Pass
		848.3	5.06	2.02	19.82	2.15	20.71	117.761	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	5.37	2.01	19.70	2.15	20.91	123.310	Horizontal	Pass
		836.5	5.08	2.01	19.77	2.15	20.69	117.220	Horizontal	Pass
		847.5	4.56	2.02	19.81	2.15	20.20	104.713	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.69	2.01	19.71	2.15	21.24	133.045	Horizontal	Pass
		836.5	5.46	2.01	19.77	2.15	21.07	127.938	Horizontal	Pass
		846.5	5.21	2.02	19.79	2.15	20.83	121.060	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	5.69	2.01	19.73	2.15	21.26	133.660	Horizontal	Pass
		836.5	5.41	2.01	19.77	2.15	21.02	126.474	Horizontal	Pass
		844	4.95	2.02	19.78	2.15	20.56	113.763	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	4.43	2.01	19.68	2.15	19.95	98.855	Vertical	Pass
		836.5	5.34	2.01	19.77	2.15	20.95	124.451	Vertical	Pass
		848.3	4.86	2.02	19.82	2.15	20.51	112.460	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.74	2.01	19.70	2.15	20.28	106.660	Vertical	Pass
		836.5	3.68	2.01	19.77	2.15	19.29	84.918	Vertical	Pass
		847.5	4.35	2.02	19.81	2.15	19.99	99.770	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	4.39	2.01	19.71	2.15	19.94	98.628	Vertical	Pass
		836.5	3.93	2.01	19.77	2.15	19.54	89.950	Vertical	Pass
		846.5	3.35	2.02	19.79	2.15	18.97	78.886	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	3.90	2.01	19.73	2.15	19.47	88.512	Vertical	Pass
		836.5	3.77	2.01	19.77	2.15	19.38	86.696	Vertical	Pass
		844	4.17	2.02	19.78	2.15	19.78	95.060	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	-1.44	4.54	27.75	21.77	150.314	Horizontal	Pass
		2535	-1.27	4.69	27.72	21.76	149.968	Horizontal	Pass
		2567.5	-1.20	4.71	27.71	21.80	151.356	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-1.37	4.55	27.76	21.84	152.757	Horizontal	Pass
		2535	-1.18	4.69	27.72	21.85	153.109	Horizontal	Pass
		2565	-1.10	4.72	27.70	21.88	154.170	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-1.38	4.55	27.77	21.84	152.757	Horizontal	Pass
		2535	-1.24	4.69	27.72	21.79	151.008	Horizontal	Pass
		2562.5	-1.14	4.72	27.69	21.83	152.405	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-1.32	4.57	27.78	21.89	154.525	Horizontal	Pass
		2535	-1.14	4.73	27.72	21.85	153.109	Horizontal	Pass
		2560	-1.10	4.75	27.68	21.83	152.405	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-3.24	4.54	27.75	19.97	99.312	Vertical	Pass
		2535	-3.01	4.69	27.72	20.02	100.462	Vertical	Pass
		2567.5	-2.36	4.71	27.71	20.64	115.878	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.64	4.55	27.76	20.57	114.025	Vertical	Pass
		2535	-2.30	4.69	27.72	20.73	118.304	Vertical	Pass
		2565	-2.91	4.72	27.70	20.07	101.625	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-2.54	4.55	27.77	20.68	116.950	Vertical	Pass
		2535	-2.24	4.69	27.72	20.79	119.950	Vertical	Pass
		2562.5	-3.02	4.72	27.69	19.95	98.855	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.33	4.57	27.78	20.88	122.462	Vertical	Pass
		2535	-2.79	4.73	27.72	20.20	104.713	Vertical	Pass
		2560	-2.97	4.75	27.68	19.96	99.083	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-2.13	4.54	27.75	21.08	128.233	Horizontal	Pass
		2535	-1.82	4.69	27.72	21.21	132.130	Horizontal	Pass
		2567.5	-1.90	4.71	27.71	21.10	128.825	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-2.02	4.55	27.76	21.19	131.522	Horizontal	Pass
		2535	-2.03	4.69	27.72	21.00	125.893	Horizontal	Pass
		2565	-2.30	4.72	27.70	20.68	116.950	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-2.20	4.55	27.77	21.02	126.474	Horizontal	Pass
		2535	-2.17	4.69	27.72	20.86	121.899	Horizontal	Pass
		2562.5	-1.78	4.72	27.69	21.19	131.522	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-2.08	4.57	27.78	21.13	129.718	Horizontal	Pass
		2535	-1.75	4.73	27.72	21.24	133.045	Horizontal	Pass
		2560	-1.85	4.75	27.68	21.08	128.233	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.50	4.54	27.75	19.71	93.541	Vertical	Pass
		2535	-3.58	4.69	27.72	19.45	88.105	Vertical	Pass
		2567.5	-2.28	4.71	27.71	20.72	118.032	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-2.39	4.55	27.76	20.82	120.781	Vertical	Pass
		2535	-2.83	4.69	27.72	20.20	104.713	Vertical	Pass
		2565	-2.87	4.72	27.70	20.11	102.565	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-2.77	4.55	27.77	20.45	110.917	Vertical	Pass
		2535	-3.03	4.69	27.72	20.00	100.000	Vertical	Pass
		2562.5	-3.21	4.72	27.69	19.76	94.624	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.76	4.57	27.78	19.45	88.105	Vertical	Pass
		2535	-3.51	4.73	27.72	19.48	88.716	Vertical	Pass
		2560	-2.62	4.75	27.68	20.31	107.399	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	699.7	6.51	1.91	19.21	2.15	21.66	146.555	Vertical	Pass
		707.5	6.43	1.91	19.26	2.15	21.63	145.546	Vertical	Pass
		715.3	6.21	1.93	19.34	2.15	21.47	140.281	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	6.30	1.91	19.21	2.15	21.45	139.637	Vertical	Pass
		707.5	6.22	1.91	19.26	2.15	21.42	138.676	Vertical	Pass
		714.5	6.06	1.93	19.34	2.15	21.32	135.519	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	6.57	1.91	19.23	2.15	21.74	149.279	Vertical	Pass
		707.5	6.48	1.91	19.26	2.15	21.68	147.231	Vertical	Pass
		713.5	6.27	1.92	19.33	2.15	21.53	142.233	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	704	6.59	1.91	19.25	2.15	21.78	150.661	Vertical	Pass
		707.5	6.57	1.91	19.26	2.15	21.77	150.314	Vertical	Pass
		711	6.42	1.92	19.32	2.15	21.67	146.893	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	5.43	1.91	19.21	2.15	20.58	114.288	Horizontal	Pass
		707.5	5.74	1.91	19.26	2.15	20.94	124.165	Horizontal	Pass
		715.3	5.58	1.93	19.34	2.15	20.84	121.339	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	4.81	1.91	19.21	2.15	19.96	99.083	Horizontal	Pass
		707.5	4.85	1.91	19.26	2.15	20.05	101.158	Horizontal	Pass
		714.5	4.99	1.93	19.34	2.15	20.25	105.925	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	5.36	1.91	19.23	2.15	20.53	112.980	Horizontal	Pass
		707.5	5.04	1.91	19.26	2.15	20.24	105.682	Horizontal	Pass
		713.5	5.37	1.92	19.33	2.15	20.63	115.611	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	704	5.59	1.91	19.25	2.15	20.78	119.674	Horizontal	Pass
		707.5	5.26	1.91	19.26	2.15	20.46	111.173	Horizontal	Pass
		711	5.45	1.92	19.32	2.15	20.70	117.490	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Correction	Max. ERP	Max. ERP	Polarization Of Max. ERP	
						(dB)	Average	Average		
							(dBm)	(mW)		
1.4MHz Band 16 QAM	1/#Mid	699.7	6.67	1.91	19.21	2.15	21.82	152.055	Vertical	Pass
		707.5	6.59	1.91	19.26	2.15	21.79	151.008	Vertical	Pass
		715.3	6.37	1.93	19.34	2.15	21.63	145.546	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	6.46	1.91	19.21	2.15	21.61	144.877	Vertical	Pass
		707.5	6.38	1.91	19.26	2.15	21.58	143.880	Vertical	Pass
		714.5	6.22	1.93	19.34	2.15	21.48	140.605	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	6.73	1.91	19.23	2.15	21.90	154.882	Vertical	Pass
		707.5	6.64	1.91	19.26	2.15	21.84	152.757	Vertical	Pass
		713.5	6.43	1.92	19.33	2.15	21.69	147.571	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	704	6.75	1.91	19.25	2.15	21.94	156.315	Vertical	Pass
		707.5	6.73	1.91	19.26	2.15	21.93	155.955	Vertical	Pass
		711	6.58	1.92	19.32	2.15	21.83	152.405	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	5.31	1.91	19.21	2.15	20.46	111.173	Horizontal	Pass
		707.5	5.33	1.91	19.26	2.15	20.53	112.980	Horizontal	Pass
		715.3	5.38	1.93	19.34	2.15	20.64	115.878	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	5.37	1.91	19.21	2.15	20.52	112.720	Horizontal	Pass
		707.5	5.48	1.91	19.26	2.15	20.68	116.950	Horizontal	Pass
		714.5	5.21	1.93	19.34	2.15	20.47	111.429	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	5.71	1.91	19.23	2.15	20.88	122.462	Horizontal	Pass
		707.5	5.55	1.91	19.26	2.15	20.75	118.850	Horizontal	Pass
		713.5	5.71	1.92	19.33	2.15	20.97	125.026	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	704	5.19	1.91	19.25	2.15	20.38	109.144	Horizontal	Pass
		707.5	4.96	1.91	19.26	2.15	20.16	103.753	Horizontal	Pass
		711	5.12	1.92	19.32	2.15	20.37	108.893	Horizontal	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.7 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	706.5	7.13	1.91	19.23	2.15	22.30	169.824	Vertical	Pass
		710	6.99	1.91	19.26	2.15	22.19	165.577	Vertical	Pass
		713.5	6.89	1.92	19.33	2.15	22.15	164.059	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	7.14	1.91	19.25	2.15	22.33	171.002	Vertical	Pass
		710	7.09	1.91	19.26	2.15	22.29	169.434	Vertical	Pass
		711	7.05	1.92	19.32	2.15	22.30	169.824	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	5.70	1.91	19.23	2.15	20.87	122.180	Horizontal	Pass
		710	5.52	1.91	19.26	2.15	20.72	118.032	Horizontal	Pass
		713.5	5.93	1.92	19.33	2.15	21.19	131.522	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	6.74	1.91	19.25	2.15	21.93	155.955	Horizontal	Pass
		710	6.40	1.91	19.26	2.15	21.60	144.544	Horizontal	Pass
		711	5.49	1.92	19.32	2.15	20.74	118.577	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	706.5	6.25	1.91	19.23	2.15	21.42	138.676	Vertical	Pass
		710	6.16	1.91	19.26	2.15	21.36	136.773	Vertical	Pass
		713.5	5.96	1.92	19.33	2.15	21.22	132.434	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	709	5.79	1.91	19.25	2.15	20.98	125.314	Vertical	Pass
		710	6.32	1.91	19.26	2.15	21.52	141.906	Vertical	Pass
		711	6.05	1.92	19.32	2.15	21.30	134.896	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	5.34	1.91	19.23	2.15	20.51	112.460	Horizontal	Pass
		710	5.20	1.91	19.26	2.15	20.40	109.648	Horizontal	Pass
		713.5	4.79	1.92	19.33	2.15	20.05	101.158	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	709	4.89	1.91	19.25	2.15	20.08	101.859	Horizontal	Pass
		710	4.69	1.91	19.26	2.15	19.89	97.499	Horizontal	Pass
		711	4.93	1.92	19.32	2.15	20.18	104.232	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.6 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
1.4MHz Band QPSK	1/##Mid	1850.7	-2.68	3.12	27.58	21.78	150.661	Horizontal	Pass
		1882,5	-2.59	3.27	27.61	21.75	149.624	Horizontal	Pass
		1914.3	-2.75	3.29	27.63	21.59	144.212	Horizontal	Pass
3.0MHz Band QPSK	1/##Mid	1851.5	-2.91	3.13	27.61	21.57	143.549	Horizontal	Pass
		1882,5	-2.80	3.27	27.61	21.54	142.561	Horizontal	Pass
		1913.5	-2.88	3.30	27.62	21.44	139.316	Horizontal	Pass
5.0MHz Band QPSK	1/##Mid	1852.5	-2.64	3.13	27.63	21.86	153.462	Horizontal	Pass
		1882,5	-2.54	3.27	27.61	21.80	151.356	Horizontal	Pass
		1912.5	-2.65	3.30	27.60	21.65	146.218	Horizontal	Pass
10.0MHz Band QPSK	1/##Mid	1855	-2.59	3.15	27.64	21.90	154.882	Horizontal	Pass
		1882,5	-2.41	3.31	27.61	21.89	154.525	Horizontal	Pass
		1910	-2.47	3.33	27.59	21.79	151.008	Horizontal	Pass
15.0MHz Band QPSK	1/##Mid	1857.5	-3.96	3.15	27.65	20.54	113.240	Horizontal	Pass
		1882,5	-3.79	3.31	27.61	20.51	112.460	Horizontal	Pass
		1907.5	-3.93	3.33	27.57	20.31	107.399	Horizontal	Pass
20.0MHz Band QPSK	1/##Mid	1860	-4.14	3.17	27.66	20.35	108.393	Horizontal	Pass
		1882,5	-2.38	3.32	27.61	21.91	155.239	Horizontal	Pass
		1905	-2.19	3.36	27.56	22.01	158.855	Horizontal	Pass
1.4MHz Band QPSK	1/##Mid	1850.7	-3.71	3.12	27.58	20.75	118.850	Vertical	Pass
		1882,5	-3.45	3.27	27.61	20.89	122.744	Vertical	Pass
		1914.3	-3.59	3.29	27.63	20.75	118.850	Vertical	Pass
3.0MHz Band QPSK	1/##Mid	1851.5	-3.49	3.13	27.61	20.99	125.603	Vertical	Pass
		1882,5	-3.73	3.27	27.61	20.61	115.080	Vertical	Pass
		1913.5	-3.72	3.30	27.62	20.60	114.815	Vertical	Pass
5.0MHz Band QPSK	1/##Mid	1852.5	-3.50	3.13	27.63	21.00	125.893	Vertical	Pass
		1882,5	-4.05	3.27	27.61	20.29	106.905	Vertical	Pass
		1912.5	-3.36	3.30	27.60	20.94	124.165	Vertical	Pass
10.0MHz Band	1/##Mid	1855	-4.05	3.15	27.64	20.44	110.662	Vertical	Pass
		1882,5	-3.51	3.31	27.61	20.79	119.950	Vertical	Pass

QPSK		1910	-3.77	3.33	27.59	20.49	111.944	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-4.28	3.15	27.65	20.22	105.196	Vertical	Pass
Band		1882,5	-3.59	3.31	27.61	20.71	117.761	Vertical	Pass
QPSK		1907.5	-3.33	3.33	27.57	20.91	123.310	Vertical	Pass
20.0MHz	1/#Mid	1860	-4.07	3.17	27.66	20.42	110.154	Vertical	Pass
Band		1882,5	-3.41	3.32	27.61	20.88	122.462	Vertical	Pass
QPSK		1905	-3.99	3.36	27.56	20.21	104.954	Vertical	Pass

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization	
			(dBm)			Average (dBm)	Average (mW)	Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.03	3.12	27.58	21.43	138.995	Horizontal	Pass
		1882.5	-2.94	3.27	27.61	21.40	138.038	Horizontal	Pass
		1914.3	-3.10	3.29	27.63	21.24	133.045	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.26	3.13	27.61	21.22	132.434	Horizontal	Pass
		1882.5	-3.15	3.27	27.61	21.19	131.522	Horizontal	Pass
		1913.5	-3.23	3.30	27.62	21.09	128.529	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-2.99	3.13	27.63	21.51	141.579	Horizontal	Pass
		1882.5	-2.89	3.27	27.61	21.45	139.637	Horizontal	Pass
		1912.5	-3.00	3.30	27.60	21.30	134.896	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-2.94	3.15	27.64	21.55	142.889	Horizontal	Pass
		1882.5	-2.76	3.31	27.61	21.54	142.561	Horizontal	Pass
		1910	-2.63	3.33	27.59	21.63	145.546	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.99	3.15	27.65	20.51	112.460	Horizontal	Pass
		1882.5	-4.23	3.31	27.61	20.07	101.625	Horizontal	Pass
		1907.5	-4.19	3.33	27.57	20.05	101.158	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-4.65	3.17	27.66	19.84	96.383	Horizontal	Pass
		1882.5	-3.70	3.32	27.61	20.59	114.551	Horizontal	Pass
		1905	-2.55	3.36	27.56	21.65	146.218	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.36	3.12	27.58	20.10	102.329	Vertical	Pass
		1882.5	-3.91	3.27	27.61	20.43	110.408	Vertical	Pass
		1914.3	-4.57	3.29	27.63	19.77	94.842	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-4.38	3.13	27.61	20.10	102.329	Vertical	Pass
		1882.5	-4.26	3.27	27.61	20.08	101.859	Vertical	Pass
		1913.5	-4.22	3.30	27.62	20.10	102.329	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.20	3.13	27.63	20.30	107.152	Vertical	Pass
		1882.5	-4.51	3.27	27.61	19.83	96.161	Vertical	Pass
		1912.5	-3.75	3.30	27.60	20.55	113.501	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.50	3.15	27.64	19.99	99.770	Vertical	Pass
		1882.5	-3.82	3.31	27.61	20.48	111.686	Vertical	Pass
		1910	-3.63	3.33	27.59	20.63	115.611	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.98	3.15	27.65	20.52	112.720	Vertical	Pass
		1882.5	-3.77	3.31	27.61	20.53	112.980	Vertical	Pass
		1907.5	-4.27	3.33	27.57	19.97	99.312	Vertical	Pass
20.0MHz	1/#Mid	1860	-4.31	3.17	27.66	20.18	104.232	Vertical	Pass

Band 16 QAM		1882.5	-3.89	3.32	27.61	20.40	109.648	Vertical	Pass
		1905	-3.88	3.36	27.56	20.32	107.647	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.8 LTE BAND 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. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	814.7	-0.47	3.76	28.24	2.15	21.86	153.46	Horizontal	Pass
		819	-0.33	3.91	28.22	2.15	21.83	152.41	Horizontal	Pass
		823.3	-0.45	3.93	28.20	2.15	21.67	146.89	Horizontal	Pass
3.0MHz BW QPSK	15/0	815.5	-0.66	3.77	28.23	2.15	21.65	146.22	Horizontal	Pass
		819	-0.56	3.91	28.24	2.15	21.62	145.21	Horizontal	Pass
		822.5	-0.64	3.94	28.25	2.15	21.52	141.91	Horizontal	Pass
5.0MHz BW QPSK	25/0	816.5	-0.45	3.77	28.31	2.15	21.94	156.31	Horizontal	Pass
		819	-0.28	3.91	28.22	2.15	21.88	154.17	Horizontal	Pass
		821.5	-0.38	3.94	28.20	2.15	21.73	148.94	Horizontal	Pass
10.0MHz BW QPSK	50/0	819	-0.18	3.91	28.22	2.15	21.98	157.76	Horizontal	Pass
1.4MHz BW QPSK	6/0	814.7	-0.43	3.79	28.34	2.15	21.97	157.40	Vertical	Pass
		819	-0.25	3.95	28.22	2.15	21.87	153.82	Vertical	Pass
		823.3	-1.00	3.97	28.18	2.15	21.06	127.64	Vertical	Pass
3.0MHz BW QPSK	15/0	815.5	-2.00	3.77	28.23	2.15	20.31	107.40	Vertical	Pass
		819	-1.64	3.91	28.24	2.15	20.54	113.24	Vertical	Pass
		822.5	-1.64	3.94	28.25	2.15	20.52	112.72	Vertical	Pass
5.0MHz BW QPSK	25/0	816.5	-1.26	3.77	28.31	2.15	21.13	129.72	Vertical	Pass
		819	-1.42	3.91	28.22	2.15	20.74	118.58	Vertical	Pass
		821.5	-1.27	3.94	28.20	2.15	20.84	121.34	Vertical	Pass
10.0MHz BW QPSK	50/0	819	-1.63	3.91	28.22	2.15	20.53	112.98	Vertical	Pass

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz BW 16 QAM	6/0	814.7	-0.59	3.76	28.24	2.15	21.74	149.28	Horizontal	Pass
		819	-0.45	3.91	28.22	2.15	21.71	148.25	Horizontal	Pass
		823.3	-0.57	3.93	28.20	2.15	21.55	142.89	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	815.5	-0.78	3.77	28.23	2.15	21.53	142.23	Horizontal	Pass
		819	-0.68	3.91	28.24	2.15	21.50	141.25	Horizontal	Pass
		822.5	-0.76	3.94	28.25	2.15	21.40	138.04	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	816.5	-0.57	3.77	28.31	2.15	21.82	152.05	Horizontal	Pass
		819	-0.40	3.91	28.22	2.15	21.76	149.97	Horizontal	Pass
		821.5	-0.50	3.94	28.20	2.15	21.61	144.88	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	819	-0.32	3.91	28.24	2.15	21.86	153.46	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	814.7	-0.55	3.79	28.34	2.15	21.85	153.11	Vertical	Pass
		819	-0.37	3.95	28.22	2.15	21.75	149.62	Vertical	Pass
		823.3	-1.95	3.97	28.18	2.15	20.11	102.57	Vertical	Pass
3.0MHz BW 16 QAM	15/0	815.5	-2.06	3.77	28.23	2.15	20.25	105.93	Vertical	Pass
		819	-1.31	3.91	28.24	2.15	20.87	122.18	Vertical	Pass
		822.5	-1.33	3.94	28.25	2.15	20.83	121.06	Vertical	Pass
5.0MHz BW 16 QAM	25/0	816.5	-1.54	3.77	28.31	2.15	20.85	121.62	Vertical	Pass
		819	-1.42	3.91	28.22	2.15	20.74	118.58	Vertical	Pass
		821.5	-1.93	3.94	28.20	2.15	20.18	104.23	Vertical	Pass
10.0MHz BW 16 QAM	50/0	819	-1.34	3.91	28.24	2.15	20.84	121.34	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.9 LTE BAND 26 B

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	824.7	5.18	2.01	19.68	2.15	20.70	117.49	Horizontal	Pass
		836.5	5.12	2.01	19.77	2.15	20.73	118.30	Horizontal	Pass
		848.3	5.06	2.02	19.82	2.15	20.71	117.76	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	5.22	2.01	19.70	2.15	20.76	119.12	Horizontal	Pass
		836.5	4.85	2.01	19.77	2.15	20.46	111.17	Horizontal	Pass
		847.5	5.30	2.02	19.81	2.15	20.94	124.17	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	5.48	2.01	19.71	2.15	21.03	126.77	Horizontal	Pass
		836.5	5.30	2.01	19.77	2.15	20.91	123.31	Horizontal	Pass
		846.5	4.67	2.02	19.79	2.15	20.29	106.91	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	4.69	2.01	19.73	2.15	20.26	106.17	Horizontal	Pass
		836.5	4.81	2.01	19.77	2.15	20.42	110.15	Horizontal	Pass
		844	5.41	2.02	19.78	2.15	21.02	126.47	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	4.50	2.01	19.73	2.15	20.07	101.62	Horizontal	Pass
		836.5	5.43	2.01	19.77	2.15	21.04	127.06	Horizontal	Pass
		841.5	5.16	2.02	19.78	2.15	20.77	119.40	Horizontal	Pass
1.4MHz Band QPSK	6/0	824.7	4.76	2.01	19.68	2.15	20.28	106.66	Vertical	Pass
		836.5	4.70	2.01	19.77	2.15	20.31	107.40	Vertical	Pass
		848.3	4.96	2.02	19.82	2.15	20.61	115.08	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	4.90	2.01	19.70	2.15	20.44	110.66	Vertical	Pass
		836.5	4.52	2.01	19.77	2.15	20.13	103.04	Vertical	Pass
		847.5	4.77	2.02	19.81	2.15	20.41	109.90	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	4.92	2.01	19.71	2.15	20.47	111.43	Vertical	Pass
		836.5	4.67	2.01	19.77	2.15	20.28	106.66	Vertical	Pass
		846.5	4.79	2.02	19.79	2.15	20.41	109.90	Vertical	Pass
10.0MHz Band QPSK	50/0	829	4.56	2.01	19.73	2.15	20.13	103.04	Vertical	Pass
		836.5	4.90	2.01	19.77	2.15	20.51	112.46	Vertical	Pass
		844	4.74	2.02	19.78	2.15	20.35	108.39	Vertical	Pass
15.0MHz Band QPSK	75/0	831.5	4.57	2.01	19.73	2.15	20.14	103.28	Vertical	Pass
		836.5	5.32	2.01	19.77	2.15	20.93	123.88	Vertical	Pass
		841.5	4.92	2.02	19.78	2.15	20.53	112.98	Vertical	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. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	824.7	5.35	2.01	19.68	2.15	20.87	122.18	Horizontal	Pass
		836.5	4.58	2.01	19.77	2.15	20.19	104.47	Horizontal	Pass
		848.3	4.52	2.02	19.82	2.15	20.17	103.99	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	4.61	2.01	19.70	2.15	20.15	103.51	Horizontal	Pass
		836.5	4.91	2.01	19.77	2.15	20.52	112.72	Horizontal	Pass
		847.5	4.61	2.02	19.81	2.15	20.25	105.93	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	4.77	2.01	19.71	2.15	20.32	107.65	Horizontal	Pass
		836.5	4.74	2.01	19.77	2.15	20.35	108.39	Horizontal	Pass
		846.5	4.58	2.02	19.79	2.15	20.20	104.71	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	4.98	2.01	19.73	2.15	20.55	113.50	Horizontal	Pass
		836.5	5.30	2.01	19.77	2.15	20.91	123.31	Horizontal	Pass
		844	4.54	2.02	19.78	2.15	20.15	103.51	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	5.36	2.01	19.73	2.15	20.93	123.88	Horizontal	Pass
		836.5	4.54	2.01	19.77	2.15	20.15	103.51	Horizontal	Pass
		841.5	4.34	2.02	19.78	2.15	19.95	98.86	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	4.86	2.01	19.68	2.15	20.38	109.14	Vertical	Pass
		836.5	5.25	2.01	19.77	2.15	20.86	121.90	Vertical	Pass
		848.3	5.00	2.02	19.82	2.15	20.65	116.14	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	4.80	2.01	19.70	2.15	20.34	108.14	Vertical	Pass
		836.5	4.62	2.01	19.77	2.15	20.23	105.44	Vertical	Pass
		847.5	5.22	2.02	19.81	2.15	20.86	121.90	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	4.49	2.01	19.71	2.15	20.04	100.93	Vertical	Pass
		836.5	4.93	2.01	19.77	2.15	20.54	113.24	Vertical	Pass
		846.5	4.55	2.02	19.79	2.15	20.17	103.99	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	4.96	2.01	19.73	2.15	20.53	112.98	Vertical	Pass
		836.5	5.18	2.01	19.77	2.15	20.79	119.95	Vertical	Pass
		844	4.56	2.02	19.78	2.15	20.17	103.99	Vertical	Pass

15.0MHz	75/0	831.5	4.50	2.01	19.73	2.15	20.07	101.62	Vertical	Pass
Band		836.5	4.43	2.01	19.77	2.15	20.04	100.93	Vertical	Pass
QPSK		841.5	4.69	2.02	19.78	2.15	20.30	107.15	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.10 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-3.08	3.76	28.24	21.40	138.038	Horizontal	Pass
		1745	-2.94	3.91	28.22	21.37	137.088	Horizontal	Pass
		1779.3	-2.81	3.93	28.2	21.46	139.959	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.14	3.77	28.23	21.32	135.519	Horizontal	Pass
		1745	-3.05	3.91	28.24	21.28	134.276	Horizontal	Pass
		1778.5	-3.07	3.94	28.25	21.24	133.045	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.04	3.77	28.31	21.50	141.254	Horizontal	Pass
		1745	-2.72	3.91	28.22	21.59	144.212	Horizontal	Pass
		1777.5	-2.78	3.94	28.2	21.48	140.605	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-2.93	3.79	28.33	21.61	144.877	Horizontal	Pass
		1745	-2.66	3.95	28.22	21.61	144.877	Horizontal	Pass
		1775	-2.67	3.97	28.19	21.55	142.889	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-2.95	3.79	28.34	21.60	144.544	Horizontal	Pass
		1745	-2.76	3.95	28.22	21.51	141.579	Horizontal	Pass
		1772.5	-2.71	3.97	28.18	21.50	141.254	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.92	3.81	28.35	21.62	145.211	Horizontal	Pass
		1745	-2.66	3.96	28.22	21.60	144.544	Horizontal	Pass
		1770	-2.68	4	28.16	21.48	140.605	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.34	3.76	28.24	20.14	103.276	Vertical	Pass
		1745	-4.09	3.91	28.22	20.22	105.196	Vertical	Pass
		1779.3	-4.05	3.93	28.2	20.22	105.196	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.15	3.77	28.23	20.31	107.399	Vertical	Pass
		1745	-3.45	3.91	28.24	20.88	122.462	Vertical	Pass
		1778.5	-3.82	3.94	28.25	20.49	111.944	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.26	3.77	28.31	20.28	106.660	Vertical	Pass
		1745	-3.67	3.91	28.22	20.64	115.878	Vertical	Pass
		1777.5	-3.73	3.94	28.2	20.53	112.980	Vertical	Pass
10.0MHz Band	1/#Mid	1715	-4.08	3.79	28.34	20.47	111.429	Vertical	Pass
		1745	-3.68	3.95	28.22	20.59	114.551	Vertical	Pass

QPSK		1775	-3.37	3.97	28.18	20.84	121.339	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-3.84	3.81	28.35	20.70	117.490	Vertical	Pass
Band		1745	-4.31	3.96	28.22	19.95	98.855	Vertical	Pass
QPSK		1772.5	-4.04	4	28.16	20.12	102.802	Vertical	Pass
20.0MHz	1/#Mid	1720	-4.33	3.79	28.34	20.22	105.196	Vertical	Pass
Band		1745	-3.54	3.95	28.22	20.73	118.304	Vertical	Pass
QPSK		1770	-4.28	3.97	28.18	19.93	98.401	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.72	3.76	28.24	20.76	119.124	Horizontal	Pass
		1745	-3.33	3.91	28.22	20.98	125.314	Horizontal	Pass
		1779.3	-3.51	3.93	28.2	20.76	119.124	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.11	3.77	28.23	20.35	108.393	Horizontal	Pass
		1745	-3.36	3.91	28.24	20.97	125.026	Horizontal	Pass
		1778.5	-3.65	3.94	28.25	20.66	116.413	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-3.53	3.77	28.31	21.01	126.183	Horizontal	Pass
		1745	-3.59	3.91	28.22	20.72	118.032	Horizontal	Pass
		1777.5	-3.26	3.94	28.2	21.00	125.893	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-3.58	3.79	28.33	20.96	124.738	Horizontal	Pass
		1745	-3.24	3.95	28.22	21.03	126.765	Horizontal	Pass
		1775	-3.56	3.97	28.19	20.66	116.413	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-3.57	3.79	28.34	20.98	125.314	Horizontal	Pass
		1745	-3.39	3.95	28.22	20.88	122.462	Horizontal	Pass
		1772.5	-3.18	3.97	28.18	21.03	126.765	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-3.40	3.81	28.35	21.14	130.017	Horizontal	Pass
		1745	-3.18	3.96	28.22	21.08	128.233	Horizontal	Pass
		1770	-3.12	4	28.16	21.04	127.057	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.80	3.76	28.24	20.68	116.950	Vertical	Pass
		1745	-5.15	3.91	28.22	19.16	82.414	Vertical	Pass
		1779.3	-3.55	3.93	28.2	20.72	118.032	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.19	3.77	28.23	19.27	84.528	Vertical	Pass
		1745	-3.64	3.91	28.24	20.69	117.220	Vertical	Pass
		1778.5	-5.24	3.94	28.25	19.07	80.724	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-4.93	3.77	28.31	19.61	91.411	Vertical	Pass
		1745	-5.11	3.91	28.22	19.20	83.176	Vertical	Pass
		1777.5	-4.80	3.94	28.2	19.46	88.308	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-3.59	3.79	28.34	20.96	124.738	Vertical	Pass
		1745	-4.05	3.95	28.22	20.22	105.196	Vertical	Pass
		1775	-5.10	3.97	28.18	19.11	81.470	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-5.44	3.81	28.35	19.10	81.283	Vertical	Pass

Band 16 QAM		1745	-3.43	3.96	28.22	20.83	121.060	Vertical	Pass
		1772.5	-3.72	4	28.16	20.44	110.662	Vertical	Pass
20.0MHz	1/#Mid	1720	-5.13	3.79	28.34	19.42	87.498	Vertical	Pass
Band 16		1745	-4.50	3.95	28.22	19.77	94.842	Vertical	Pass
QAM		1770	-3.41	3.97	28.18	20.80	120.226	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

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

LIMIT

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

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

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

TEST PROCEDURE

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

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

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

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

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

MODES TESTED

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

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-49.53	4.04	33.51	-20.06	-13	-7.06	Horizontal
3701.4	-44.56	4.04	33.51	-15.09	-13	-2.09	Vertical
5552.1	-50.29	5.24	35.84	-19.69	-13	-6.69	Vertical
5552.1	-51.14	5.24	35.84	-20.54	-13	-7.54	Horizontal
199.4	-34.29	1.43	16.02	-19.70	-13	-6.70	Vertical
342.2	-38.51	1.30	17.99	-21.82	-13	-8.82	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-51.67	4.04	33.56	-22.15	-13	-9.15	Horizontal
3760.0	-51.35	4.04	33.56	-21.83	-13	-8.83	Vertical
5640.0	-51.79	5.24	35.91	-21.12	-13	-8.12	Vertical
5640.0	-51.33	5.24	35.91	-20.66	-13	-7.66	Horizontal
177.7	-43.47	1.62	16.97	-28.12	-13	-15.12	Vertical
331.0	-35.48	1.74	15.98	-21.25	-13	-8.25	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-48.72	4.04	34.00	-18.76	-13	-5.76	Horizontal
3818.6	-44.07	4.04	34.00	-14.11	-13	-1.11	Vertical
5727.9	-47.78	5.24	36.04	-16.98	-13	-3.98	Vertical
5727.9	-50.73	5.24	36.04	-19.93	-13	-6.93	Horizontal
200.7	-40.77	1.42	17.29	-24.90	-13	-11.90	Vertical
389.2	-40.75	1.50	17.90	-24.34	-13	-11.34	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	-50.45	4.07	33.54	-20.98	-13	-7.98	Horizontal
3720.0	-49.10	4.07	33.54	-19.63	-13	-6.63	Vertical
5580.0	-50.97	5.28	35.86	-20.39	-13	-7.39	Vertical
5580.0	-49.52	5.28	35.86	-18.94	-13	-5.94	Horizontal
198.0	-40.68	1.58	16.89	-25.36	-13	-12.36	Vertical
260.9	-40.49	1.76	17.26	-24.99	-13	-11.99	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-49.29	4.04	33.56	-19.77	-13	-6.77	Horizontal
3760.0	-51.57	4.04	33.56	-22.05	-13	-9.05	Vertical
5640.0	-47.11	5.24	35.91	-16.44	-13	-3.44	Vertical
5640.0	-53.60	5.24	35.91	-22.93	-13	-9.93	Horizontal
211.2	-41.20	1.46	16.27	-26.39	-13	-13.39	Vertical
247.0	-40.10	1.59	15.15	-26.54	-13	-13.54	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-53.85	4.04	34.00	-23.89	-13	-10.89	Horizontal
3800.0	-44.53	4.04	34.00	-14.57	-13	-1.57	Vertical
5700.0	-45.67	5.24	36.04	-14.87	-13	-1.87	Vertical
5700.0	-53.60	5.24	36.04	-22.80	-13	-9.80	Horizontal
207.6	-37.16	1.36	17.39	-21.12	-13	-8.12	Vertical
352.1	-44.91	1.66	15.39	-31.18	-13	-18.18	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	-50.04	4.02	29.80	-24.26	-13	-11.26	Horizontal
3421.4	-53.05	4.02	29.80	-27.27	-13	-14.27	Vertical
5132.1	-51.58	5.24	35.84	-20.98	-13	-7.98	Vertical
5132.1	-51.24	5.24	35.84	-20.64	-13	-7.64	Horizontal
178.3	-43.84	1.68	16.04	-29.48	-13	-16.48	Vertical
235.0	-39.46	1.78	17.74	-23.50	-13	-10.50	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-52.46	4.03	30.00	-26.49	-13	-13.49	Horizontal
3465.0	-46.93	4.03	30.00	-20.96	-13	-7.96	Vertical
5197.5	-46.14	5.25	35.86	-15.53	-13	-2.53	Vertical
5197.5	-52.66	5.25	35.86	-22.05	-13	-9.05	Horizontal
194.8	-35.28	1.72	17.69	-19.31	-13	-6.31	Vertical
443.0	-34.11	1.62	16.02	-19.70	-13	-6.70	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-52.85	4.05	30.01	-26.89	-13	-13.89	Horizontal
3508.6	-53.58	4.05	30.01	-27.62	-13	-14.62	Vertical
5262.9	-50.67	5.26	35.86	-20.07	-13	-7.07	Vertical
5262.9	-49.40	5.26	35.86	-18.80	-13	-5.80	Horizontal
195.4	-36.94	1.80	16.69	-22.05	-13	-9.05	Vertical
469.9	-40.97	1.75	16.66	-26.07	-13	-13.07	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	-50.03	4.02	29.80	-24.25	-13	-11.25	Horizontal
3440.0	-45.11	4.02	29.80	-19.33	-13	-6.33	Vertical
5160.0	-51.72	5.24	35.84	-21.12	-13	-8.12	Vertical
5160.0	-51.63	5.24	35.84	-21.03	-13	-8.03	Horizontal
208.8	-41.84	1.57	17.26	-26.15	-13	-13.15	Vertical
434.0	-36.64	1.78	16.35	-22.07	-13	-9.07	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-53.69	4.03	30.00	-27.72	-13	-14.72	Horizontal
3465.0	-53.19	4.03	30.00	-27.22	-13	-14.22	Vertical
5197.5	-46.41	5.25	35.86	-15.80	-13	-2.80	Vertical
5197.5	-51.96	5.25	35.86	-21.35	-13	-8.35	Horizontal
211.0	-39.30	1.44	17.95	-22.79	-13	-9.79	Vertical
391.6	-35.19	1.65	16.09	-20.75	-13	-7.75	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-46.35	2.91	27.68	-21.58	-13	-8.58	Horizontal
3490.0	-47.18	2.91	27.68	-22.41	-13	-9.41	Vertical
5235.0	-45.24	5.26	35.86	-14.64	-13	-1.64	Vertical
5235.0	-51.65	5.26	35.86	-21.05	-13	-8.05	Horizontal
192.8	-39.25	1.61	16.85	-24.01	-13	-11.01	Vertical
315.5	-36.41	1.61	15.19	-22.83	-13	-9.83	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	-51.52	2.78	27.50	-26.80	-13	-13.80	Horizontal
1649.4	-47.51	2.78	27.50	-22.79	-13	-9.79	Vertical
2474.1	-53.41	2.90	27.80	-28.51	-13	-15.51	Vertical
2474.1	-49.98	2.90	27.80	-25.08	-13	-12.08	Horizontal
201.1	-43.67	1.76	17.59	-27.84	-13	-14.84	Vertical
461.4	-35.16	1.63	15.87	-20.92	-13	-7.92	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-47.96	2.80	27.48	-23.28	-13	-10.28	Horizontal
1673.0	-49.27	2.80	27.48	-24.59	-13	-11.59	Vertical
2509.5	-53.66	2.91	27.70	-28.87	-13	-15.87	Vertical
2509.5	-53.85	2.91	27.70	-29.06	-13	-16.06	Horizontal
182.7	-44.32	1.61	15.68	-30.25	-13	-17.25	Vertical
431.0	-43.19	1.59	17.52	-27.27	-13	-14.27	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-46.57	2.82	27.43	-21.96	-13	-8.96	Horizontal
1696.6	-44.78	2.82	27.43	-20.17	-13	-7.17	Vertical
2544.9	-52.31	2.92	27.74	-27.49	-13	-14.49	Vertical
2544.9	-53.98	2.92	27.74	-29.16	-13	-16.16	Horizontal
187.2	-43.17	1.69	16.67	-28.18	-13	-15.18	Vertical
442.5	-39.05	1.70	17.18	-23.57	-13	-10.57	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	-47.84	2.78	27.50	-23.12	-13	-10.12	Horizontal
1658.0	-49.88	2.78	27.50	-25.16	-13	-12.16	Vertical
2487.0	-52.00	2.90	27.80	-27.10	-13	-14.10	Vertical
2487.0	-50.23	2.90	27.80	-25.33	-13	-12.33	Horizontal
182.2	-42.61	1.71	15.57	-28.75	-13	-15.75	Vertical
273.5	-37.63	1.34	16.40	-22.57	-13	-9.57	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-44.82	2.80	27.48	-20.14	-13	-7.14	Horizontal
1673.0	-49.27	2.80	27.48	-24.59	-13	-11.59	Vertical
2509.5	-46.92	2.91	27.70	-22.13	-13	-9.13	Vertical
2509.5	-53.19	2.91	27.70	-28.40	-13	-15.40	Horizontal
194.9	-34.16	1.44	17.04	-18.56	-13	-5.56	Vertical
295.2	-41.23	1.76	17.62	-25.37	-13	-12.37	Horizontal
Test Results for High Channel 844MHz							
1688.0	-44.53	2.82	27.43	-19.92	-13	-6.92	Horizontal
1688.0	-52.60	2.82	27.43	-27.99	-13	-14.99	Vertical
2532.0	-49.48	2.92	27.74	-24.66	-13	-11.66	Vertical
2532.0	-50.22	2.92	27.74	-25.40	-13	-12.40	Horizontal
183.3	-35.02	1.74	17.70	-19.06	-13	-6.06	Vertical
393.4	-42.75	1.41	17.46	-26.69	-13	-13.69	Horizontal

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

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

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

9.4 LTE BAND 7

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

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-63.41	5.23	35.81	-32.83	-25	-7.83	Horizontal
5005.0	-61.01	5.23	35.81	-30.43	-25	-5.43	Vertical
7507.5	-60.50	5.67	36.85	-29.32	-25	-4.32	Vertical
7507.5	-61.19	5.67	36.85	-30.01	-25	-5.01	Horizontal
188.7	-52.01	1.73	17.97	-35.77	-25	-10.77	Vertical
270.3	-46.60	1.38	15.11	-32.87	-25	-7.87	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.37	5.23	35.82	-30.78	-25	-5.78	Horizontal
5070.0	-63.72	5.23	35.82	-33.13	-25	-8.13	Vertical
7605.0	-64.48	5.67	36.85	-33.30	-25	-8.30	Vertical
7605.0	-62.70	5.67	36.85	-31.52	-25	-6.52	Horizontal
175.2	-45.05	1.77	16.17	-30.64	-25	-5.64	Vertical
234.6	-46.04	1.63	15.21	-32.46	-25	-7.46	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-60.74	5.24	35.83	-30.15	-25	-5.15	Horizontal
5135.0	-64.52	5.24	35.83	-33.93	-25	-8.93	Vertical
7702.5	-60.44	5.68	36.87	-29.25	-25	-4.25	Vertical
7702.5	-63.68	5.68	36.87	-32.49	-25	-7.49	Horizontal
187.8	-53.73	1.58	17.56	-37.75	-25	-12.75	Vertical
300.1	-53.86	1.45	16.58	-38.73	-25	-13.73	Horizontal

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

Test Results for Low Channel 2510MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5020.0	-62.51	5.23	35.82	-31.92	-25	-6.92	Horizontal
5020.0	-59.50	5.23	35.82	-28.91	-25	-3.91	Vertical
7530.0	-62.33	5.67	36.86	-31.14	-25	-6.14	Vertical
7530.0	-62.32	5.67	36.86	-31.13	-25	-6.13	Horizontal
184.6	-49.29	1.63	15.76	-35.16	-25	-10.16	Vertical
264.7	-44.25	1.71	15.44	-30.52	-25	-5.52	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.82	5.23	35.82	-31.23	-25	-6.23	Horizontal
5070.0	-61.18	5.23	35.82	-30.59	-25	-5.59	Vertical
7605.0	-61.34	5.67	36.85	-30.16	-25	-5.16	Vertical
7605.0	-61.42	5.67	36.85	-30.24	-25	-5.24	Horizontal
199.8	-44.25	1.79	16.84	-29.19	-25	-4.19	Vertical
243.0	-44.57	1.71	17.64	-28.64	-25	-3.64	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-61.38	5.24	35.83	-30.79	-25	-5.79	Horizontal
5120.0	-62.02	5.24	35.83	-31.43	-25	-6.43	Vertical
7680.0	-60.17	5.70	36.88	-28.99	-25	-3.99	Vertical
7680.0	-59.47	5.70	36.88	-28.29	-25	-3.29	Horizontal
199.8	-45.64	1.79	16.84	-30.58	-25	-5.58	Vertical
327.3	-46.05	1.71	17.64	-30.12	-25	-5.12	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.5 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-48.58	2.60	27.20	-23.98	-13	-10.98	Horizontal
1399.4	-47.00	2.60	27.20	-22.40	-13	-9.40	Vertical
2099.1	-49.70	2.85	27.54	-25.01	-13	-12.01	Vertical
2099.1	-51.26	2.85	27.54	-26.57	-13	-13.57	Horizontal
186.0	-41.25	1.49	17.78	-24.96	-13	-11.96	Vertical
240.4	-39.14	1.36	17.33	-23.17	-13	-10.17	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-47.23	2.61	27.28	-22.56	-13	-9.56	Horizontal
1415.0	-53.98	2.61	27.28	-29.31	-13	-16.31	Vertical
2122.5	-52.95	2.87	27.59	-28.23	-13	-15.23	Vertical
2122.5	-53.07	2.87	27.59	-28.35	-13	-15.35	Horizontal
200.8	-42.54	1.73	15.74	-28.53	-13	-15.53	Vertical
340.2	-42.79	1.62	15.79	-28.62	-13	-15.62	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-50.31	2.63	27.28	-25.66	-13	-12.66	Horizontal
1430.6	-49.42	2.63	27.28	-24.77	-13	-11.77	Vertical
2145.9	-48.27	2.88	27.60	-23.55	-13	-10.55	Vertical
2145.9	-50.66	2.88	27.60	-25.94	-13	-12.94	Horizontal
189.8	-37.86	1.61	18.00	-21.47	-13	-8.47	Vertical
420.9	-42.90	1.45	15.49	-28.87	-13	-15.87	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	-48.37	2.61	27.26	-23.72	-13	-10.72	Horizontal
1408.0	-45.56	2.61	27.26	-20.91	-13	-7.91	Vertical
2112.0	-47.22	2.87	27.58	-22.51	-13	-9.51	Vertical
2112.0	-49.26	2.87	27.58	-24.55	-13	-11.55	Horizontal
176.3	-35.98	1.31	16.97	-20.32	-13	-7.32	Vertical
322.4	-38.47	1.65	16.70	-23.42	-13	-10.42	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-49.08	2.61	27.28	-24.41	-13	-11.41	Horizontal
1415.0	-52.26	2.61	27.28	-27.59	-13	-14.59	Vertical
2122.5	-46.84	2.87	27.59	-22.12	-13	-9.12	Vertical
2122.5	-49.90	2.87	27.59	-25.18	-13	-12.18	Horizontal
175.6	-35.45	1.72	17.99	-19.18	-13	-6.18	Vertical
359.0	-37.34	1.73	17.94	-21.13	-13	-8.13	Horizontal
Test Results for High Channel 711MHz							
1422.0	-49.47	2.62	27.28	-24.81	-13	-11.81	Horizontal
1422.0	-45.20	2.62	27.28	-20.54	-13	-7.54	Vertical
2133.0	-44.87	2.87	27.60	-20.14	-13	-7.14	Vertical
2133.0	-50.64	2.87	27.60	-25.91	-13	-12.91	Horizontal
193.2	-38.75	1.58	15.93	-24.40	-13	-11.40	Vertical
369.7	-41.86	1.36	15.59	-27.63	-13	-14.63	Horizontal

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

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

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

9.6 LTE BAND 17

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

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1413.0	-50.34	2.61	27.28	-25.67	-13	-12.67	Horizontal
1413.0	-46.49	2.61	27.28	-21.82	-13	-8.82	Vertical
2119.5	-51.82	2.87	27.59	-27.10	-13	-14.10	Vertical
2119.5	-52.82	2.87	27.59	-28.10	-13	-15.10	Horizontal
193.3	-43.84	1.71	16.15	-29.40	-13	-16.40	Vertical
383.3	-43.34	1.41	17.32	-27.43	-13	-14.43	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-53.33	2.62	27.30	-28.65	-13	-15.65	Horizontal
1420.0	-50.77	2.62	27.30	-26.09	-13	-13.09	Vertical
2130.0	-50.59	2.87	27.62	-25.84	-13	-12.84	Vertical
2130.0	-51.22	2.87	27.62	-26.47	-13	-13.47	Horizontal
184.3	-36.23	1.42	15.25	-22.41	-13	-9.41	Vertical
447.3	-38.93	1.36	17.19	-23.10	-13	-10.10	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-45.83	2.66	27.28	-21.21	-13	-8.21	Horizontal
1427.0	-46.06	2.66	27.28	-21.44	-13	-8.44	Vertical
2140.5	-46.49	2.88	27.60	-21.77	-13	-8.77	Vertical
2140.5	-50.79	2.88	27.60	-26.07	-13	-13.07	Horizontal
192.5	-38.02	1.32	17.29	-22.05	-13	-9.05	Vertical
315.2	-38.41	1.72	16.89	-23.24	-13	-10.24	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	-50.60	2.62	27.30	-25.92	-13	-12.92	Horizontal
1418.0	-53.10	2.62	27.30	-28.42	-13	-15.42	Vertical
2127.0	-53.39	2.87	27.62	-28.64	-13	-15.64	Vertical
2127.0	-52.47	2.87	27.62	-27.72	-13	-14.72	Horizontal
209.9	-36.15	1.35	16.91	-20.59	-13	-7.59	Vertical
265.1	-36.91	1.62	16.31	-22.22	-13	-9.22	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-49.96	2.62	27.30	-25.28	-13	-12.28	Horizontal
1420.0	-44.29	2.62	27.30	-19.61	-13	-6.61	Vertical
2130.0	-51.80	2.87	27.62	-27.05	-13	-14.05	Vertical
2130.0	-50.94	2.87	27.62	-26.19	-13	-13.19	Horizontal
191.4	-43.27	1.51	17.14	-27.64	-13	-14.64	Vertical
289.3	-35.86	1.77	16.88	-20.75	-13	-7.75	Horizontal
Test Results for High Channel 711MHz							
1422.0	-48.77	2.62	27.30	-24.09	-13	-11.09	Horizontal
1422.0	-49.18	2.62	27.30	-24.50	-13	-11.50	Vertical
2133.0	-44.20	2.87	27.62	-19.45	-13	-6.45	Vertical
2133.0	-53.91	2.87	27.62	-29.16	-13	-16.16	Horizontal
184.8	-35.53	1.78	15.95	-21.36	-13	-8.36	Vertical
447.2	-42.82	1.34	17.95	-26.22	-13	-13.22	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.

9.7 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	-46.53	4.02	29.80	-20.75	-13	-7.75	Horizontal
3701.4	-49.36	4.02	29.80	-23.58	-13	-10.58	Vertical
5552.1	-47.03	5.24	35.84	-16.43	-13	-3.43	Vertical
5552.1	-49.85	5.24	35.84	-19.25	-13	-6.25	Horizontal
93.9	-32.42	1.59	15.11	-18.90	-13	-5.90	Vertical
119.7	-34.86	1.80	15.61	-21.05	-13	-8.05	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-46.92	4.03	30.00	-20.95	-13	-7.95	Horizontal
3765.0	-47.08	4.03	30.00	-21.11	-13	-8.11	Vertical
5647.5	-47.07	5.25	35.86	-16.46	-13	-3.46	Vertical
5647.5	-46.22	5.25	35.86	-15.61	-13	-2.61	Horizontal
166.1	-32.37	1.37	15.62	-18.12	-13	-5.12	Vertical
274.4	-33.14	1.55	17.51	-17.18	-13	-4.18	Horizontal
Test Results for High Channel 1754.3MHz							
3828.6	-47.03	4.05	30.01	-21.07	-13	-8.07	Horizontal
3828.6	-43.30	4.05	30.01	-17.34	-13	-4.34	Vertical
5742.9	-48.27	5.26	35.86	-17.67	-13	-4.67	Vertical
5742.9	-48.97	5.26	35.86	-18.37	-13	-5.37	Horizontal
108.6	-32.94	1.66	17.19	-17.41	-13	-4.41	Vertical
138.7	-32.47	1.35	17.94	-15.88	-13	-2.88	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	-49.71	4.02	29.80	-23.93	-13	-10.93	Horizontal
3720.0	-46.39	4.02	29.80	-20.61	-13	-7.61	Vertical
5580.0	-49.82	5.24	35.84	-19.22	-13	-6.22	Vertical
5580.0	-48.75	5.24	35.84	-18.15	-13	-5.15	Horizontal
146.2	-33.44	1.70	15.24	-19.90	-13	-6.90	Vertical
215.4	-32.19	1.42	16.58	-17.03	-13	-4.03	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-49.12	4.03	30.00	-23.15	-13	-10.15	Horizontal
3765.0	-45.32	4.03	30.00	-19.35	-13	-6.35	Vertical
5647.5	-49.09	5.25	35.86	-18.48	-13	-5.48	Vertical
5647.5	-49.10	5.25	35.86	-18.49	-13	-5.49	Horizontal
132.2	-32.41	1.64	16.16	-17.89	-13	-4.89	Vertical
133.3	-34.55	1.62	17.37	-18.80	-13	-5.80	Horizontal
Test Results for High Channel 1745MHz							
3810.0	-49.39	2.91	27.68	-24.62	-13	-11.62	Horizontal
3810.0	-44.91	2.91	27.68	-20.14	-13	-7.14	Vertical
5715.0	-47.33	5.26	35.86	-16.73	-13	-3.73	Vertical
5715.0	-46.57	5.26	35.86	-15.97	-13	-2.97	Horizontal
212.6	-32.84	1.49	15.29	-19.04	-13	-6.04	Vertical
275.8	-32.31	1.79	16.42	-17.68	-13	-4.68	Horizontal

9.8 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	-48.51	2.78	27.50	-23.79	-13	-10.79	Horizontal
1629.4	-43.47	2.78	27.50	-18.75	-13	-5.75	Vertical
2444.1	-49.65	2.90	27.80	-24.75	-13	-11.75	Vertical
2444.1	-47.15	2.90	27.80	-22.25	-13	-9.25	Horizontal
229.6	-32.86	1.54	16.98	-17.42	-13	-4.42	Vertical
83.3	-33.00	1.47	15.82	-18.65	-13	-5.65	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-47.99	2.80	27.48	-23.31	-13	-10.31	Horizontal
1638.0	-41.08	2.80	27.48	-16.40	-13	-3.40	Vertical
2457.0	-49.30	2.91	27.70	-24.51	-13	-11.51	Vertical
2457.0	-47.90	2.91	27.70	-23.11	-13	-10.11	Horizontal
168.2	-34.60	1.74	16.19	-20.15	-13	-7.15	Vertical
92.9	-33.30	1.46	15.43	-19.33	-13	-6.33	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-48.43	2.82	27.43	-23.82	-13	-10.82	Horizontal
1646.6	-49.81	2.82	27.43	-25.20	-13	-12.20	Vertical
2469.9	-48.80	2.92	27.74	-23.98	-13	-10.98	Vertical
2469.9	-46.55	2.92	27.74	-21.73	-13	-8.73	Horizontal
213.1	-32.43	1.67	17.05	-17.05	-13	-4.05	Vertical
121.7	-34.25	1.42	16.12	-19.55	-13	-6.55	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	-46.17	2.78	27.50	-21.45	-13	-8.45	Horizontal
1638.0	-45.28	2.78	27.50	-20.56	-13	-7.56	Vertical
2457.0	-46.50	2.90	27.80	-21.60	-13	-8.60	Vertical
2457.0	-46.50	2.90	27.80	-21.60	-13	-8.60	Horizontal
253.7	-32.80	1.43	17.34	-16.89	-13	-3.89	Vertical
256.8	-32.20	1.56	15.71	-18.05	-13	-5.05	Horizontal

9.9 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	-49.04	2.78	27.50	-24.32	-13	-11.32	Horizontal
1649.4	-43.39	2.78	27.50	-18.67	-13	-5.67	Vertical
2474.1	-46.08	2.90	27.80	-21.18	-13	-8.18	Vertical
2474.1	-47.08	2.90	27.80	-22.18	-13	-9.18	Horizontal
237.0	-33.45	1.33	17.34	-17.44	-13	-4.44	Vertical
180.5	-32.90	1.47	16.80	-17.57	-13	-4.57	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-49.85	2.80	27.48	-25.17	-13	-12.17	Horizontal
1673.0	-45.23	2.80	27.48	-20.55	-13	-7.55	Vertical
2509.5	-46.36	2.91	27.70	-21.57	-13	-8.57	Vertical
2509.5	-48.59	2.91	27.70	-23.80	-13	-10.80	Horizontal
140.8	-34.05	1.75	15.46	-20.34	-13	-7.34	Vertical
90.6	-32.15	1.52	16.14	-17.53	-13	-4.53	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-47.86	2.82	27.43	-23.25	-13	-10.25	Horizontal
1696.6	-47.01	2.82	27.43	-22.40	-13	-9.40	Vertical
2544.9	-49.11	2.92	27.74	-24.29	-13	-11.29	Vertical
2544.9	-46.54	2.92	27.74	-21.72	-13	-8.72	Horizontal
171.4	-33.42	1.67	16.09	-19.00	-13	-6.00	Vertical
247.2	-32.33	1.80	17.55	-16.58	-13	-3.58	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	-48.56	2.78	27.50	-23.84	-13	-10.84	Horizontal
1663.0	-43.64	2.78	27.50	-18.92	-13	-5.92	Vertical
2494.5	-46.58	2.90	27.80	-21.68	-13	-8.68	Vertical
2494.5	-47.69	2.90	27.80	-22.79	-13	-9.79	Horizontal
255.4	-33.31	1.52	15.72	-19.11	-13	-6.11	Vertical
163.1	-33.23	1.40	17.03	-17.60	-13	-4.60	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-49.61	2.80	27.48	-24.93	-13	-11.93	Horizontal
1673.0	-47.74	2.80	27.48	-23.06	-13	-10.06	Vertical
2509.5	-48.75	2.91	27.70	-23.96	-13	-10.96	Vertical
2509.5	-48.30	2.91	27.70	-23.51	-13	-10.51	Horizontal
227.1	-32.84	1.74	16.38	-18.20	-13	-5.20	Vertical
101.3	-34.05	1.79	15.20	-20.64	-13	-7.64	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-48.80	2.82	27.43	-24.19	-13	-11.19	Horizontal
1683.0	-45.50	2.82	27.43	-20.89	-13	-7.89	Vertical
2524.5	-49.62	2.92	27.74	-24.80	-13	-11.80	Vertical
2524.5	-49.44	2.92	27.74	-24.62	-13	-11.62	Horizontal
261.1	-34.52	1.78	17.44	-18.86	-13	-5.86	Vertical
120.1	-33.54	1.70	15.93	-19.31	-13	-6.31	Horizontal

9.10 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	-44.20	4.02	29.80	-18.42	-13	-5.42	Horizontal
3421.4	-48.05	4.02	29.80	-22.27	-13	-9.27	Vertical
5132.1	-49.49	5.24	35.84	-18.89	-13	-5.89	Vertical
5132.1	-52.10	5.24	35.84	-21.50	-13	-8.50	Horizontal
112.6	-50.36	1.52	15.57	-36.31	-13	-23.31	Vertical
220.5	-45.42	1.33	17.14	-29.61	-13	-16.61	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-47.09	4.03	30.00	-21.12	-13	-8.12	Horizontal
3490.0	-49.34	4.03	30.00	-23.37	-13	-10.37	Vertical
5235.0	-49.29	5.25	35.86	-18.68	-13	-5.68	Vertical
5235.0	-47.40	5.25	35.86	-16.79	-13	-3.79	Horizontal
157.3	-51.21	1.53	17.13	-35.61	-13	-22.61	Vertical
213.1	-52.49	1.41	15.95	-37.95	-13	-24.95	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-45.63	4.05	30.01	-19.67	-13	-6.67	Horizontal
3558.6	-51.11	4.05	30.01	-25.15	-13	-12.15	Vertical
5337.9	-54.36	5.26	35.86	-23.76	-13	-10.76	Vertical
5337.9	-52.45	5.26	35.86	-21.85	-13	-8.85	Horizontal
170.6	-53.94	1.44	15.51	-39.87	-13	-26.87	Vertical
169.0	-53.98	1.78	15.76	-40.00	-13	-27.00	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	-45.64	4.02	29.80	-19.86	-13	-6.86	Horizontal
3440.0	-49.54	4.02	29.80	-23.76	-13	-10.76	Vertical
5160.0	-54.54	5.24	35.84	-23.94	-13	-10.94	Vertical
5160.0	-49.79	5.24	35.84	-19.19	-13	-6.19	Horizontal
268.8	-50.76	1.62	17.02	-35.36	-13	-22.36	Vertical
161.4	-50.46	1.32	17.31	-34.47	-13	-21.47	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-45.29	4.03	30.00	-19.32	-13	-6.32	Horizontal
3490.0	-46.20	4.03	30.00	-20.23	-13	-7.23	Vertical
5235.0	-53.98	5.25	35.86	-23.37	-13	-10.37	Vertical
5235.0	-54.38	5.25	35.86	-23.77	-13	-10.77	Horizontal
159.9	-54.45	1.45	15.17	-40.73	-13	-27.73	Vertical
172.1	-48.44	1.48	17.82	-32.10	-13	-19.10	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-52.88	2.91	27.68	-28.11	-13	-15.11	Horizontal
3540.0	-48.74	2.91	27.68	-23.97	-13	-10.97	Vertical
5310.0	-53.84	5.26	35.86	-23.24	-13	-10.24	Vertical
5310.0	-47.30	5.26	35.86	-16.70	-13	-3.70	Horizontal
197.3	-47.93	1.76	16.38	-33.31	-13	-20.31	Vertical
158.5	-49.50	1.43	17.13	-33.80	-13	-20.80	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- ☐ Temp. = -30° to $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 3.29V, Normal, DC 3.87V and High voltage, DC 4.45V.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

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

RESULTS

See the following pages.

10.1 LTE BAND 2

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1880	12.3	0.006563	2.5
3.87	1880	13.6	0.007238	2.5
4.45	1880	13.7	0.007288	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	13.1	0.006953	2.5
Extreme (50C)	1880	11.6	0.006162	2.5
Extreme (40C)	1880	13.3	0.007082	2.5
Extreme (30C)	1880	13.6	0.007229	2.5
Extreme (10C)	1880	13.4	0.007150	2.5
Extreme (0C)	1880	12.0	0.006369	2.5
Extreme (-10C)	1880	12.7	0.006730	2.5
Extreme (-20C)	1880	13.6	0.007256	2.5
Extreme (-30C)	1880	14.8	0.007862	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1880	10.3	0.005459	2.5
3.87	1880	9.0	0.004788	2.5
4.45	1880	7.9	0.004184	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.5	0.005062	2.5
Extreme (50C)	1880	9.3	0.004929	2.5
Extreme (40C)	1880	8.1	0.004293	2.5
Extreme (30C)	1880	8.8	0.004688	2.5
Extreme (10C)	1880	9.3	0.004925	2.5
Extreme (0C)	1880	8.3	0.004434	2.5
Extreme (-10C)	1880	8.8	0.004659	2.5
Extreme (-20C)	1880	9.3	0.004958	2.5
Extreme (-30C)	1880	8.3	0.004391	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1732.5	8.9	0.005110	2.5
3.87	1732.5	8.7	0.005017	2.5
4.45	1732.5	8.2	0.004722	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.0	0.004635	2.5
Extreme (50C)	1732.5	8.5	0.004917	2.5
Extreme (40C)	1732.5	7.0	0.004039	2.5
Extreme (30C)	1732.5	5.8	0.003341	2.5
Extreme (10C)	1732.5	7.6	0.004362	2.5
Extreme (0C)	1732.5	9.0	0.005191	2.5
Extreme (-10C)	1732.5	8.4	0.004865	2.5
Extreme (-20C)	1732.5	7.2	0.004166	2.5
Extreme (-30C)	1732.5	8.6	0.004969	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1732.5	9.7	0.005582	2.5
3.87	1732.5	9.2	0.005327	2.5
4.45	1732.5	8.1	0.004651	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.5	0.005496	2.5
Extreme (50C)	1732.5	8.7	0.005005	2.5
Extreme (40C)	1732.5	8.1	0.004694	2.5
Extreme (30C)	1732.5	8.5	0.004917	2.5
Extreme (10C)	1732.5	8.8	0.005060	2.5
Extreme (0C)	1732.5	7.9	0.004549	2.5
Extreme (-10C)	1732.5	9.3	0.005388	2.5
Extreme (-20C)	1732.5	8.9	0.005121	2.5
Extreme (-30C)	1732.5	8.5	0.004885	2.5

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

10.3 LTE BAND 5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	5.5	0.006537	2.5
3.87	836.5	6.5	0.007783	2.5
4.45	836.5	4.8	0.005691	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.8	0.006980	2.5
Extreme (50C)	836.5	6.1	0.007340	2.5
Extreme (40C)	836.5	6.2	0.007367	2.5
Extreme (30C)	836.5	6.4	0.007619	2.5
Extreme (10C)	836.5	5.7	0.006777	2.5
Extreme (0C)	836.5	5.3	0.006362	2.5
Extreme (-10C)	836.5	5.1	0.006108	2.5
Extreme (-20C)	836.5	6.3	0.007502	2.5
Extreme (-30C)	836.5	6.2	0.007369	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	6.0	0.007185	2.5
3.87	836.5	6.8	0.008083	2.5
4.45	836.5	4.5	0.005337	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.6	0.007883	2.5
Extreme (50C)	836.5	5.6	0.006734	2.5
Extreme (40C)	836.5	5.9	0.007094	2.5
Extreme (30C)	836.5	6.2	0.007416	2.5
Extreme (10C)	836.5	5.5	0.006616	2.5
Extreme (0C)	836.5	5.7	0.006771	2.5
Extreme (-10C)	836.5	6.0	0.007219	2.5
Extreme (-20C)	836.5	5.8	0.006896	2.5
Extreme (-30C)	836.5	6.4	0.007707	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	10.4	0.004106	2.5
3.87	2535	8.8	0.003483	2.5
4.45	2535	8.0	0.003158	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.8	0.003886	2.5
Extreme (50C)	2535	8.6	0.003404	2.5
Extreme (40C)	2535	8.4	0.003302	2.5
Extreme (30C)	2535	8.5	0.003357	2.5
Extreme (10C)	2535	8.0	0.003165	2.5
Extreme (0C)	2535	7.9	0.003123	2.5
Extreme (-10C)	2535	9.0	0.003545	2.5
Extreme (-20C)	2535	9.2	0.003620	2.5
Extreme (-30C)	2535	8.1	0.003198	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	7.0	0.002777	2.5
3.87	2535	6.2	0.002461	2.5
4.45	2535	5.4	0.002113	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	7.1	0.002794	2.5
Extreme (50C)	2535	5.3	0.002083	2.5
Extreme (40C)	2535	4.9	0.001937	2.5
Extreme (30C)	2535	7.0	0.002776	2.5
Extreme (10C)	2535	6.0	0.002368	2.5
Extreme (0C)	2535	5.0	0.001968	2.5
Extreme (-10C)	2535	5.3	0.002079	2.5
Extreme (-20C)	2535	5.7	0.002265	2.5
Extreme (-30C)	2535	6.0	0.002384	2.5

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

10.5 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	707.5	9.1	0.012899	2.5
3.87	707.5	9.9	0.013975	2.5
4.45	707.5	8.9	0.012546	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	9.0	0.012780	2.5
Extreme (50C)	707.5	7.7	0.010822	2.5
Extreme (40C)	707.5	7.3	0.010294	2.5
Extreme (30C)	707.5	8.1	0.011519	2.5
Extreme (10C)	707.5	7.9	0.011105	2.5
Extreme (0C)	707.5	9.0	0.012711	2.5
Extreme (-10C)	707.5	8.6	0.012207	2.5
Extreme (-20C)	707.5	8.4	0.011921	2.5
Extreme (-30C)	707.5	7.9	0.011208	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	707.5	7.8	0.011025	2.5
3.87	707.5	8.4	0.011933	2.5
4.45	707.5	7.8	0.011087	2.5

Frequency error vs. Temperature

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

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

10.6 LTE BAND 17

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	710.0	10.2	0.014297	2.5
3.87	710.0	8.8	0.012429	2.5
4.45	710.0	8.3	0.011697	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.4	0.013178	2.5
Extreme (50C)	710.0	9.4	0.013215	2.5
Extreme (40C)	710.0	7.9	0.011061	2.5
Extreme (30C)	710.0	9.5	0.013377	2.5
Extreme (10C)	710.0	8.5	0.011915	2.5
Extreme (0C)	710.0	8.4	0.011853	2.5
Extreme (-10C)	710.0	9.3	0.013120	2.5
Extreme (-20C)	710.0	8.9	0.012498	2.5
Extreme (-30C)	710.0	7.9	0.011081	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	710.0	9.5	0.013441	2.5
3.87	710.0	9.3	0.013063	2.5
4.45	710.0	8.9	0.012511	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.6	0.013536	2.5
Extreme (50C)	710.0	8.9	0.012521	2.5
Extreme (40C)	710.0	8.3	0.011690	2.5
Extreme (30C)	710.0	9.0	0.012654	2.5
Extreme (10C)	710.0	8.0	0.011237	2.5
Extreme (0C)	710.0	8.0	0.011220	2.5
Extreme (-10C)	710.0	9.3	0.013100	2.5
Extreme (-20C)	710.0	9.2	0.012999	2.5
Extreme (-30C)	710.0	8.5	0.011912	2.5

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

10.7 LTE BAND 25

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1882.5	17	0.009031	2.5
3.87	1882.5	17	0.009031	2.5
4.45	1882.5	17	0.009031	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	4.9	0.002611	2.5
Extreme (50C)	1882.5	9.4	0.004969	2.5
Extreme (40C)	1882.5	6.6	0.003529	2.5
Extreme (30C)	1882.5	6.9	0.003691	2.5
Extreme (10C)	1882.5	5.6	0.002953	2.5
Extreme (0C)	1882.5	8.3	0.004396	2.5
Extreme (-10C)	1882.5	1.6	0.000862	2.5
Extreme (-20C)	1882.5	2.6	0.001369	2.5
Extreme (-30C)	1882.5	6.3	0.003340	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1882.5	9.8	0.005186	2.5
3.87	1882.5	7.7	0.004089	2.5
4.45	1882.5	5.9	0.003129	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	7.7	0.004111	2.5
Extreme (50C)	1882.5	5.8	0.003067	2.5
Extreme (40C)	1882.5	8.5	0.004528	2.5
Extreme (30C)	1882.5	1.3	0.000704	2.5
Extreme (10C)	1882.5	2.3	0.001215	2.5
Extreme (0C)	1882.5	6.5	0.003473	2.5
Extreme (-10C)	1882.5	5.3	0.002830	2.5
Extreme (-20C)	1882.5	7.8	0.004149	2.5
Extreme (-30C)	1882.5	7.0	0.003699	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 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)				
3.29	819	8.0	0.009806	2.5
3.87	819	5.6	0.006823	2.5
4.45	819	6.9	0.008432	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	8.8	0.010803	2.5
Extreme (50C)	819	1.0	0.001255	2.5
Extreme (40C)	819	2.4	0.002928	2.5
Extreme (30C)	819	6.5	0.007973	2.5
Extreme (10C)	819	5.7	0.007003	2.5
Extreme (0C)	819	6.2	0.007516	2.5
Extreme (-10C)	819	8.8	0.010797	2.5
Extreme (-20C)	819	6.9	0.008399	2.5
Extreme (-30C)	819	5.0	0.006058	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)				
3.29	819	2.4	0.002929	2.5
3.87	819	6.7	0.008224	2.5
4.45	819	6.0	0.007302	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 16QAM, (CH 26915 RB size 75 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	6.2	0.007532	2.5
Extreme (50C)	819	8.9	0.010838	2.5
Extreme (40C)	819	6.7	0.008130	2.5
Extreme (30C)	819	4.5	0.005523	2.5
Extreme (10C)	819	6.9	0.008425	2.5
Extreme (0C)	819	5.3	0.006532	2.5
Extreme (-10C)	819	8.5	0.010351	2.5
Extreme (-20C)	819	6.8	0.008327	2.5
Extreme (-30C)	819	7.2	0.008755	2.5

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

10.9 LTE BAND 26 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)				
3.29	836.5	8.3	0.009920	2.5
3.87	836.5	6.4	0.007604	2.5
4.45	836.5	8.4	0.010072	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26 QPSK, (CH 26740 RB size 75 RB Offset 0 10MHz)				
Normal (25C)	836.5	10.2	0.012194	2.5
Extreme (50C)	836.5	10.0	0.011930	2.5
Extreme (40C)	836.5	7.0	0.008348	2.5
Extreme (30C)	836.5	8.2	0.009768	2.5
Extreme (10C)	836.5	7.4	0.008836	2.5
Extreme (0C)	836.5	9.5	0.011316	2.5
Extreme (-10C)	836.5	1.5	0.001749	2.5
Extreme (-20C)	836.5	8.9	0.010695	2.5
Extreme (-30C)	836.5	7.1	0.008441	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)				
3.29	836.5	9.6	0.011448	2.5
3.87	836.5	11.7	0.013960	2.5
4.45	836.5	11.0	0.013121	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	6.3	0.007569	2.5
Extreme (50C)	836.5	8.9	0.010647	2.5
Extreme (40C)	836.5	7.7	0.009224	2.5
Extreme (30C)	836.5	7.7	0.009186	2.5
Extreme (10C)	836.5	6.4	0.007672	2.5
Extreme (0C)	836.5	5.7	0.006831	2.5
Extreme (-10C)	836.5	5.2	0.006214	2.5
Extreme (-20C)	836.5	3.9	0.011237	2.5
Extreme (-30C)	836.5	8.6	0.007292	2.5

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

10.10 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.29	1745	13.2	0.00755	2.5
3.87	1745	13.9	0.00799	2.5
4.45	1745	13.3	0.00761	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.6	0.004370	2.5
Extreme (50C)	1745	4.5	0.002551	2.5
Extreme (40C)	1745	5.0	0.002872	2.5
Extreme (30C)	1745	4.7	0.002667	2.5
Extreme (10C)	1745	6.6	0.003798	2.5
Extreme (0C)	1745	4.5	0.002589	2.5
Extreme (-10C)	1745	9.7	0.005550	2.5
Extreme (-20C)	1745	10.5	0.006039	2.5
Extreme (-30C)	1745	6.0	0.003424	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.29	1745	12.5	0.007190	2.5
3.87	1745	13.6	0.007801	2.5
4.45	1745	12.9	0.007406	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.7	0.004406	2.5
Extreme (50C)	1745	4.9	0.002796	2.5
Extreme (40C)	1745	5.6	0.003207	2.5
Extreme (30C)	1745	4.5	0.002576	2.5
Extreme (10C)	1745	6.9	0.003937	2.5
Extreme (0C)	1745	5.1	0.002925	2.5
Extreme (-10C)	1745	9.7	0.005540	2.5
Extreme (-20C)	1745	11.1	0.006384	2.5
Extreme (-30C)	1745	5.9	0.003369	2.5

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

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

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

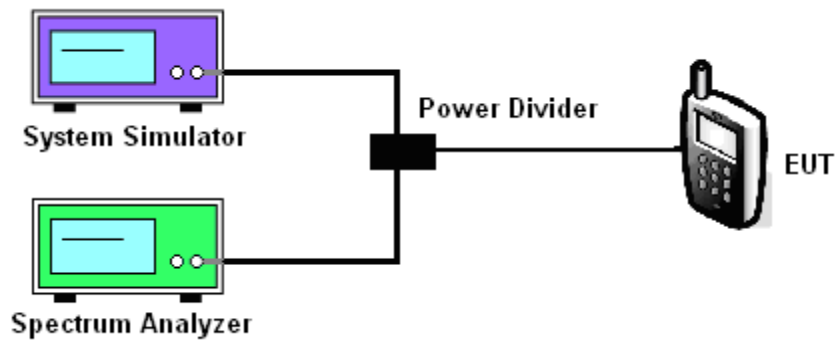
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

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

11.4 Test Setup



MODES TESTED

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

Test data reference attachment.

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