

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

FCC ID: 2ANMU-C51

Product: Smart Phone

Trade Mark: OUKITEL

Model No.: C51

Family Model: C51 S, C51 Pro, C51 Ultra

Report No.: S24070104502006

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Prepared for

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TEST RESULT CERTIFICATION

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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: C51

Trade Mark: OUKITEL

Family Model: C51 S, C51 Pro, C51 Ultra

Test Sample Number S240701045002

Date of Test: Feb 23, 2024 ~ Mar 21, 2024

Standards: FCC CFR 47 Part 22H, Part 24E, Part 27, 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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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	C51
Family Model	C51 S, C51 Pro, C51 Ultra
Model Difference	All models have the same circuit and RF module, except for the model name and color.
FCC ID:	2ANMU-C51
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
Antenna:	FPC Antenna
Antenna gain:	Band 2: 0.81dBi, Band 4: 0.92dBi, Band 5: -2.63dBi, Band 7: 1.12dBi, Band 12: -1.42dBi, Band 17: -1.42dBi, Band 25: 0.81dBi, Band 26A: -2.63dBi, Band 26B: -2.63dBi, Band 66: 0.92dBi

Adapter	Model: HJ-0502000N2-US Input: 100-240V~50/60Hz 0.3A Output: 5.0V $\overline{\text{---}}$ 2.0A 10.0W
Battery	DC 3.87V, 5150mAh, 19.93Wh
Power supply	DC 3.87V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.29V to DC 4.45V (Nominal DC 3.87V) (Note 1)
HW Version	SC6002F_MB_V1.0.0_20231215
SW Version	OUKITEL_C51_EEA_V01_24012024
** 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-C51** filing to comply with the FCC Part 22H&24E&27&90S.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

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

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

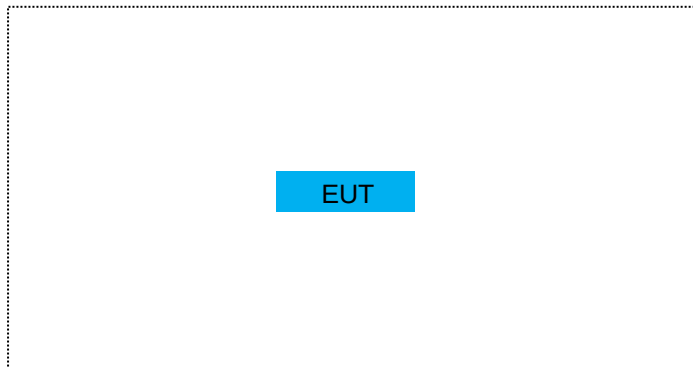
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Smart Phone	C51	FCC ID: 2ANMU-C51	EUT

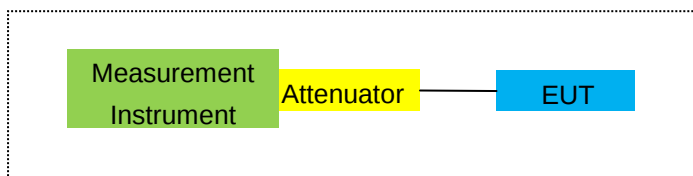
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

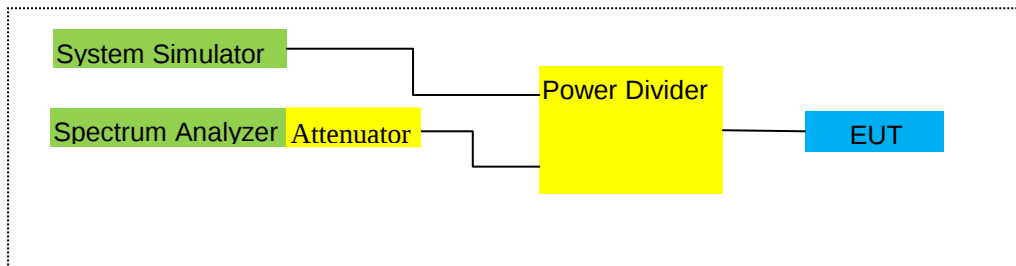
For Radiated Test Cases



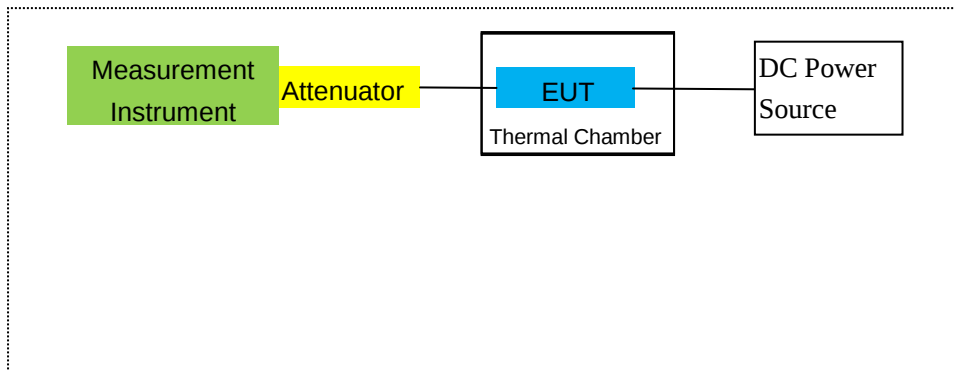
For Conducted Output Power



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	2025.03.11	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.06	2026.05.05	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	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	2023.05.06	2026.05.05	3 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	2017040292 3	2023.05.06	2026.05.05	3 year
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Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years.

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
64 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".

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

☐

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

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,
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 Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1850.7	-0.19	3.76	28.24	24.29	268.534	Horizontal	Pass
		1880	0.45	3.91	28.22	24.76	299.226	Horizontal	Pass
		1909.3	0.28	3.93	28.20	24.55	285.102	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-0.13	3.77	28.23	24.33	271.019	Horizontal	Pass
		1880	0.00	3.91	28.24	24.33	271.019	Horizontal	Pass
		1908.5	0.22	3.94	28.25	24.53	283.792	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-0.13	3.77	28.31	24.41	276.058	Horizontal	Pass
		1880	-0.15	3.91	28.22	24.16	260.615	Horizontal	Pass
		1907.5	0.08	3.94	28.20	24.34	271.644	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-0.11	3.79	28.33	24.43	277.332	Horizontal	Pass
		1880	0.23	3.95	28.22	24.50	281.838	Horizontal	Pass
		1905	0.05	3.97	28.19	24.27	267.301	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-0.62	3.79	28.34	23.93	247.172	Horizontal	Pass
		1880	-0.24	3.95	28.22	24.03	252.930	Horizontal	Pass
		1902.5	-0.33	3.97	28.18	23.88	244.343	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	0.20	3.81	28.35	24.74	297.852	Horizontal	Pass
		1880	-0.01	3.96	28.22	24.25	266.073	Horizontal	Pass
		1900	0.25	4.00	28.16	24.41	276.058	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-1.15	3.76	28.24	23.33	215.278	Vertical	Pass
		1880	-1.18	3.91	28.22	23.13	205.589	Vertical	Pass
		1909.3	-0.96	3.93	28.20	23.31	214.289	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-1.47	3.77	28.23	22.99	199.067	Vertical	Pass
		1880	-1.36	3.91	28.24	22.97	198.153	Vertical	Pass
		1908.5	-0.99	3.94	28.25	23.32	214.783	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-0.81	3.77	28.31	23.73	236.048	Vertical	Pass
		1880	-1.13	3.91	28.22	23.18	207.970	Vertical	Pass
		1907.5	-1.04	3.94	28.20	23.22	209.894	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-0.85	3.79	28.33	23.69	233.884	Vertical	Pass
		1880	-1.12	3.95	28.22	23.15	206.538	Vertical	Pass
		1905	-1.37	3.97	28.19	22.85	192.752	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-1.24	3.79	28.34	23.31	214.289	Vertical	Pass

Band		1880	-1.26	3.95	28.22	23.01	199.986	Vertical	Pass
QPSK		1902.5	-0.62	3.97	28.18	23.59	228.560	Vertical	Pass
20.0MHz	1/#Mid	1860	-1.07	3.81	28.35	23.47	222.331	Vertical	Pass
Band		1880	-0.70	3.96	28.22	23.56	226.986	Vertical	Pass
QPSK		1900	-0.59	4.00	28.16	23.57	227.510	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1850.7	0.11	3.76	28.24	24.59	287.740	Horizontal	Pass
		1880	-0.16	3.91	28.22	24.15	260.016	Horizontal	Pass
		1909.3	0.18	3.93	28.20	24.45	278.612	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	0.14	3.77	28.23	24.60	288.403	Horizontal	Pass
		1880	0.36	3.91	28.24	24.69	294.442	Horizontal	Pass
		1908.5	0.10	3.94	28.25	24.41	276.058	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	0.02	3.77	28.31	24.56	285.759	Horizontal	Pass
		1880	0.00	3.91	28.22	24.31	269.774	Horizontal	Pass
		1907.5	-0.10	3.94	28.20	24.16	260.615	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-0.21	3.79	28.33	24.33	271.019	Horizontal	Pass
		1880	0.50	3.95	28.22	24.77	299.916	Horizontal	Pass
		1905	0.35	3.97	28.19	24.57	286.418	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-0.46	3.79	28.34	24.09	256.448	Horizontal	Pass
		1880	-0.09	3.95	28.22	24.18	261.818	Horizontal	Pass
		1902.5	0.31	3.97	28.18	24.52	283.139	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-0.61	3.81	28.35	23.93	247.172	Horizontal	Pass
		1880	0.42	3.96	28.22	24.68	293.765	Horizontal	Pass
		1900	0.61	4.00	28.16	24.77	299.916	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-1.15	3.76	28.24	23.33	215.278	Vertical	Pass
		1880	-0.98	3.91	28.22	23.33	215.278	Vertical	Pass
		1909.3	-0.94	3.93	28.20	23.33	215.278	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-1.13	3.77	28.23	23.33	215.278	Vertical	Pass
		1880	-1.00	3.91	28.24	23.33	215.278	Vertical	Pass
		1908.5	-0.98	3.94	28.25	23.33	215.278	Vertical	Pass
5.0MHz Band 16	1/#Mid	1852.5	-1.21	3.77	28.31	23.33	215.278	Vertical	Pass
		1880	-0.98	3.91	28.22	23.33	215.278	Vertical	Pass

QAM		1907.5	-0.93	3.94	28.20	23.33	215.278	Vertical	Pass
10.0MHz	1/#Mid	1855	-1.21	3.79	28.33	23.33	215.278	Vertical	Pass
Band 16		1880	-0.94	3.95	28.22	23.33	215.278	Vertical	Pass
QAM		1905	-0.89	3.97	28.19	23.33	215.278	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-1.22	3.79	28.34	23.33	215.278	Vertical	Pass
Band 16		1880	-0.94	3.95	28.22	23.33	215.278	Vertical	Pass
QAM		1902.5	-0.88	3.97	28.18	23.33	215.278	Vertical	Pass
20.0MHz	1/#Mid	1860	-1.21	3.81	28.35	23.33	215.278	Vertical	Pass
Band 16		1880	-0.93	3.96	28.22	23.33	215.278	Vertical	Pass
QAM		1900	-0.83	4.00	28.16	23.33	215.278	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	0.94	3.12	27.58	25.40	346.737	Horizontal	Pass
		1732.5	1.44	3.27	27.61	25.78	378.443	Horizontal	Pass
		1754.3	1.40	3.29	27.63	25.74	374.973	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	0.68	3.13	27.61	25.16	328.095	Horizontal	Pass
		1732.5	1.35	3.27	27.61	25.69	370.681	Horizontal	Pass
		1753.5	0.66	3.30	27.62	24.98	314.775	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	0.93	3.13	27.63	25.43	349.140	Horizontal	Pass
		1732.5	1.06	3.27	27.61	25.40	346.737	Horizontal	Pass
		1752.5	1.35	3.30	27.60	25.65	367.282	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	0.78	3.15	27.64	25.27	336.512	Horizontal	Pass
		1732.5	1.11	3.31	27.61	25.41	347.536	Horizontal	Pass
		1750	1.01	3.33	27.59	25.27	336.512	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	1.28	3.15	27.65	25.78	378.443	Horizontal	Pass
		1732.5	1.29	3.31	27.61	25.59	362.243	Horizontal	Pass
		1747.5	1.46	3.33	27.57	25.70	371.535	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	1.41	3.17	27.66	25.90	389.045	Horizontal	Pass
		1732.5	1.35	3.32	27.61	25.64	366.438	Horizontal	Pass
		1745	1.30	3.36	27.56	25.50	354.813	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	0.38	3.12	27.58	24.84	304.789	Vertical	Pass
		1732.5	-0.53	3.27	27.61	23.81	240.436	Vertical	Pass
		1754.3	0.08	3.29	27.63	24.42	276.694	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	0.03	3.13	27.61	24.51	282.488	Vertical	Pass
		1732.5	-0.38	3.27	27.61	23.96	248.886	Vertical	Pass
		1753.5	0.17	3.30	27.62	24.49	281.190	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	0.30	3.13	27.63	24.80	301.995	Vertical	Pass
		1732.5	-0.01	3.27	27.61	24.33	271.019	Vertical	Pass
		1752.5	-1.05	3.30	27.60	23.25	211.349	Vertical	Pass
10.0MHz Band	1/#Mid	1715	-0.82	3.15	27.64	23.67	232.809	Vertical	Pass
		1732.5	0.37	3.31	27.61	24.67	293.089	Vertical	Pass

QPSK		1750	-1.15	3.33	27.59	23.11	204.644	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-0.53	3.15	27.65	23.97	249.459	Vertical	Pass
Band		1732.5	0.30	3.31	27.61	24.60	288.403	Vertical	Pass
QPSK		1747.5	-0.61	3.33	27.57	23.63	230.675	Vertical	Pass
20.0MHz	1/#Mid	1720	0.07	3.17	27.66	24.56	285.759	Vertical	Pass
Band		1732.5	-0.02	3.32	27.61	24.27	267.301	Vertical	Pass
QPSK		1745	-0.51	3.36	27.56	23.69	233.884	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	1/#Mid	1710.7	0.90	3.12	27.58	25.36	343.558	Horizontal	Pass
Band 16		1732.5	0.80	3.27	27.61	25.14	326.588	Horizontal	Pass
QAM		1754.3	0.71	3.29	27.63	25.05	319.890	Horizontal	Pass
3.0MHz	1/#Mid	1711.5	0.72	3.13	27.61	25.20	331.131	Horizontal	Pass
Band 16		1732.5	0.79	3.27	27.61	25.13	325.837	Horizontal	Pass
QAM		1753.5	1.39	3.30	27.62	25.71	372.392	Horizontal	Pass
5.0MHz	1/#Mid	1712.5	1.02	3.13	27.63	25.52	356.451	Horizontal	Pass
Band 16		1732.5	0.75	3.27	27.61	25.09	322.849	Horizontal	Pass
QAM		1752.5	1.24	3.30	27.60	25.54	358.096	Horizontal	Pass
10.0MHz	1/#Mid	1715	1.12	3.15	27.64	25.61	363.915	Horizontal	Pass
Band 16		1732.5	1.60	3.31	27.61	25.90	389.045	Horizontal	Pass
QAM		1750	1.10	3.33	27.59	25.36	343.558	Horizontal	Pass
15.0MHz	1/#Mid	1717.5	0.52	3.15	27.65	25.02	317.687	Horizontal	Pass
Band 16		1732.5	1.15	3.31	27.61	25.45	350.752	Horizontal	Pass
QAM		1747.5	1.28	3.33	27.57	25.52	356.451	Horizontal	Pass
20.0MHz	1/#Mid	1720	0.97	3.17	27.66	25.46	351.560	Horizontal	Pass
Band 16		1732.5	1.48	3.32	27.61	25.77	377.572	Horizontal	Pass
QAM		1745	0.73	3.36	27.56	24.93	311.172	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-0.94	3.12	27.58	23.52	224.905	Vertical	Pass
Band 16		1732.5	-1.24	3.27	27.61	23.10	204.174	Vertical	Pass
QAM		1754.3	-0.88	3.29	27.63	23.46	221.820	Vertical	Pass
3.0MHz	1/#Mid	1711.5	0.37	3.13	27.61	24.85	305.492	Vertical	Pass
Band 16		1732.5	-1.27	3.27	27.61	23.07	202.768	Vertical	Pass
QAM		1753.5	0.21	3.30	27.62	24.53	283.792	Vertical	Pass

5.0MHz Band 16 QAM	1/#Mid	1712.5	-0.12	3.13	27.63	24.38	274.157	Vertical	Pass
		1732.5	-0.38	3.27	27.61	23.96	248.886	Vertical	Pass
		1752.5	0.59	3.30	27.60	24.89	308.319	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-0.87	3.15	27.64	23.62	230.144	Vertical	Pass
		1732.5	-0.67	3.31	27.61	23.63	230.675	Vertical	Pass
		1750	-1.15	3.33	27.59	23.11	204.644	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-1.34	3.15	27.65	23.16	207.014	Vertical	Pass
		1732.5	-1.02	3.31	27.61	23.28	212.814	Vertical	Pass
		1747.5	-1.26	3.33	27.57	22.98	198.609	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-1.45	3.17	27.66	23.04	201.372	Vertical	Pass
		1732.5	-1.34	3.32	27.61	22.95	197.242	Vertical	Pass
		1745	-0.79	3.36	27.56	23.41	219.280	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	3/#Mid	824.7	5.98	2.01	19.68	2.15	21.50	141.254	Horizontal	Pass
		836.5	5.61	2.01	19.77	2.15	21.22	132.434	Horizontal	Pass
		848.3	5.63	2.02	19.82	2.15	21.28	134.276	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.69	2.01	19.70	2.15	21.23	132.739	Horizontal	Pass
		836.5	5.61	2.01	19.77	2.15	21.22	132.434	Horizontal	Pass
		847.5	5.62	2.02	19.81	2.15	21.26	133.660	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.70	2.01	19.71	2.15	21.25	133.352	Horizontal	Pass
		836.5	5.57	2.01	19.77	2.15	21.18	131.220	Horizontal	Pass
		846.5	5.18	2.02	19.79	2.15	20.80	120.226	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	5.68	2.01	19.73	2.15	21.25	133.352	Horizontal	Pass
		836.5	5.57	2.01	19.77	2.15	21.18	131.220	Horizontal	Pass
		844	5.71	2.02	19.78	2.15	21.32	135.519	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	4.35	2.01	19.68	2.15	19.87	97.051	Vertical	Pass
		836.5	4.24	2.01	19.77	2.15	19.85	96.605	Vertical	Pass
		848.3	4.51	2.02	19.82	2.15	20.16	103.753	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	4.07	2.01	19.70	2.15	19.61	91.411	Vertical	Pass
		836.5	3.78	2.01	19.77	2.15	19.39	86.896	Vertical	Pass
		847.5	4.67	2.02	19.81	2.15	20.31	107.399	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	4.15	2.01	19.71	2.15	19.70	93.325	Vertical	Pass
		836.5	4.37	2.01	19.77	2.15	19.98	99.541	Vertical	Pass
		846.5	4.07	2.02	19.79	2.15	19.69	93.111	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	4.44	2.01	19.73	2.15	20.01	100.231	Vertical	Pass
		836.5	4.43	2.01	19.77	2.15	20.04	100.925	Vertical	Pass
		844	4.67	2.02	19.78	2.15	20.28	106.660	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	3/#Mid	824.7	6.14	2.01	19.68	2.15	21.66	146.555	Horizontal	Pass
		836.5	5.15	2.01	19.77	2.15	20.76	119.124	Horizontal	Pass
		848.3	5.23	2.02	19.82	2.15	20.88	122.462	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	6.16	2.01	19.70	2.15	21.70	147.911	Horizontal	Pass
		836.5	5.13	2.01	19.77	2.15	20.74	118.577	Horizontal	Pass
		847.5	5.70	2.02	19.81	2.15	21.34	136.144	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.17	2.01	19.71	2.15	20.72	118.032	Horizontal	Pass
		836.5	5.21	2.01	19.77	2.15	20.82	120.781	Horizontal	Pass
		846.5	4.82	2.02	19.79	2.15	20.44	110.662	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	6.27	2.01	19.73	2.15	21.84	152.757	Horizontal	Pass
		836.5	5.80	2.01	19.77	2.15	21.41	138.357	Horizontal	Pass
		844	5.33	2.02	19.78	2.15	20.94	124.165	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	3.87	2.01	19.68	2.15	19.39	86.896	Vertical	Pass
		836.5	4.66	2.01	19.77	2.15	20.27	106.414	Vertical	Pass
		848.3	4.12	2.02	19.82	2.15	19.77	94.842	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.21	2.01	19.70	2.15	19.75	94.406	Vertical	Pass
		836.5	4.41	2.01	19.77	2.15	20.02	100.462	Vertical	Pass
		847.5	4.64	2.02	19.81	2.15	20.28	106.660	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	4.51	2.01	19.71	2.15	20.06	101.391	Vertical	Pass
		836.5	4.18	2.01	19.77	2.15	19.79	95.280	Vertical	Pass
		846.5	4.72	2.02	19.79	2.15	20.34	108.143	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	4.77	2.01	19.73	2.15	20.34	108.143	Vertical	Pass
		836.5	4.62	2.01	19.77	2.15	20.23	105.439	Vertical	Pass
		844	4.16	2.02	19.78	2.15	19.77	94.842	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	1.27	4.54	27.75	24.48	280.543	Horizontal	Pass
		2535	1.28	4.69	27.72	24.31	269.774	Horizontal	Pass
		2567.5	1.60	4.71	27.71	24.60	288.403	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	1.08	4.55	27.76	24.29	268.534	Horizontal	Pass
		2535	1.24	4.69	27.72	24.27	267.301	Horizontal	Pass
		2565	1.88	4.72	27.70	24.86	306.196	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	1.82	4.55	27.77	25.04	319.154	Horizontal	Pass
		2535	1.69	4.69	27.72	24.72	296.483	Horizontal	Pass
		2562.5	1.36	4.72	27.69	24.33	271.019	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	0.95	4.57	27.78	24.16	260.615	Horizontal	Pass
		2535	1.99	4.73	27.72	24.98	314.775	Horizontal	Pass
		2560	1.82	4.75	27.68	24.75	298.538	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	0.80	4.54	27.75	24.01	251.768	Vertical	Pass
		2535	0.62	4.69	27.72	23.65	231.739	Vertical	Pass
		2567.5	0.24	4.71	27.71	23.24	210.863	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	0.10	4.55	27.76	23.31	214.289	Vertical	Pass
		2535	0.99	4.69	27.72	24.02	252.348	Vertical	Pass
		2565	0.53	4.72	27.70	23.51	224.388	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	0.22	4.55	27.77	23.44	220.800	Vertical	Pass
		2535	0.54	4.69	27.72	23.57	227.510	Vertical	Pass
		2562.5	0.75	4.72	27.69	23.72	235.505	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	0.51	4.57	27.78	23.72	235.505	Vertical	Pass
		2535	0.97	4.73	27.72	23.96	248.886	Vertical	Pass
		2560	0.42	4.75	27.68	23.35	216.272	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2502.5	1.69	4.54	27.75	24.90	309.030	Horizontal	Pass
		2535	1.47	4.69	27.72	24.50	281.838	Horizontal	Pass
		2567.5	1.62	4.71	27.71	24.62	289.734	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	1.06	4.55	27.76	24.27	267.301	Horizontal	Pass
		2535	1.27	4.69	27.72	24.30	269.153	Horizontal	Pass
		2565	1.55	4.72	27.70	24.53	283.792	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	1.31	4.55	27.77	24.53	283.792	Horizontal	Pass
		2535	1.64	4.69	27.72	24.67	293.089	Horizontal	Pass
		2562.5	1.30	4.72	27.69	24.27	267.301	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	1.07	4.57	27.78	24.28	267.917	Horizontal	Pass
		2535	1.97	4.73	27.72	24.96	313.329	Horizontal	Pass
		2560	1.48	4.75	27.68	24.41	276.058	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	0.32	4.54	27.75	23.53	225.424	Vertical	Pass
		2535	1.08	4.69	27.72	24.11	257.632	Vertical	Pass
		2567.5	1.10	4.71	27.71	24.10	257.040	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	0.35	4.55	27.76	23.56	226.986	Vertical	Pass
		2535	0.48	4.69	27.72	23.51	224.388	Vertical	Pass
		2565	0.92	4.72	27.70	23.90	245.471	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	0.09	4.55	27.77	23.31	214.289	Vertical	Pass
		2535	0.68	4.69	27.72	23.71	234.963	Vertical	Pass
		2562.5	0.68	4.72	27.69	23.65	231.739	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	0.29	4.57	27.78	23.50	223.872	Vertical	Pass
		2535	0.37	4.73	27.72	23.36	216.770	Vertical	Pass
		2560	1.14	4.75	27.68	24.07	255.270	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/##Mid	699.7	7.31	1.91	19.21	2.15	22.46	176.198	Horizontal	Pass
		707.5	7.32	1.91	19.26	2.15	22.52	178.649	Horizontal	Pass
		715.3	7.54	1.93	19.34	2.15	22.80	190.546	Horizontal	Pass
3.0MHz Band QPSK	1/##Mid	700.5	7.56	1.91	19.21	2.15	22.71	186.638	Horizontal	Pass
		707.5	7.25	1.91	19.26	2.15	22.45	175.792	Horizontal	Pass
		714.5	7.55	1.93	19.34	2.15	22.81	190.985	Horizontal	Pass
5.0MHz Band QPSK	1/##Mid	701.5	7.33	1.91	19.23	2.15	22.50	177.828	Horizontal	Pass
		707.5	7.23	1.91	19.26	2.15	22.43	174.985	Horizontal	Pass
		713.5	7.19	1.92	19.33	2.15	22.45	175.792	Horizontal	Pass
10.0MHz Band QPSK	1/##Mid	704	7.53	1.91	19.25	2.15	22.72	187.068	Horizontal	Pass
		707.5	7.32	1.91	19.26	2.15	22.52	178.649	Horizontal	Pass
		711	7.38	1.92	19.32	2.15	22.63	183.231	Horizontal	Pass
1.4MHz Band QPSK	1/##Mid	699.7	6.08	1.91	19.21	2.15	21.23	132.739	Vertical	Pass
		707.5	5.59	1.91	19.26	2.15	20.79	119.950	Vertical	Pass
		715.3	5.88	1.93	19.34	2.15	21.14	130.017	Vertical	Pass
3.0MHz Band QPSK	1/##Mid	700.5	5.96	1.91	19.21	2.15	21.11	129.122	Vertical	Pass
		707.5	6.08	1.91	19.26	2.15	21.28	134.276	Vertical	Pass
		714.5	5.87	1.93	19.34	2.15	21.13	129.718	Vertical	Pass
5.0MHz Band QPSK	1/##Mid	701.5	5.54	1.91	19.23	2.15	20.71	117.761	Vertical	Pass
		707.5	5.9	1.91	19.26	2.15	21.10	128.825	Vertical	Pass
		713.5	5.56	1.92	19.33	2.15	20.82	120.781	Vertical	Pass
10.0MHz Band QPSK	1/##Mid	704	6.32	1.91	19.25	2.15	21.51	141.579	Vertical	Pass
		707.5	6.32	1.91	19.26	2.15	21.52	141.906	Vertical	Pass
		711	5.44	1.92	19.32	2.15	20.69	117.220	Vertical	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	1/#Mid	699.7	8.36	1.91	19.21	2.15	23.51	224.388	Horizontal	Pass
Band 16		707.5	6.85	1.91	19.26	2.15	22.05	160.325	Horizontal	Pass
QAM		715.3	6.94	1.93	19.34	2.15	22.20	165.959	Horizontal	Pass
3.0MHz	1/#Mid	700.5	8.08	1.91	19.21	2.15	23.23	210.378	Horizontal	Pass
Band 16		707.5	6.77	1.91	19.26	2.15	21.97	157.398	Horizontal	Pass
QAM		714.5	6.93	1.93	19.34	2.15	22.19	165.577	Horizontal	Pass
5.0MHz	1/#Mid	701.5	6.89	1.91	19.23	2.15	22.06	160.694	Horizontal	Pass
Band 16		707.5	6.88	1.91	19.26	2.15	22.08	161.436	Horizontal	Pass
QAM		713.5	7.29	1.92	19.33	2.15	22.55	179.887	Horizontal	Pass
10.0MHz	1/#Mid	704	7.79	1.91	19.25	2.15	22.98	198.609	Horizontal	Pass
Band 16		707.5	7.5	1.91	19.26	2.15	22.70	186.209	Horizontal	Pass
QAM		711	7.23	1.92	19.32	2.15	22.48	177.011	Horizontal	Pass
1.4MHz	1/#Mid	699.7	5.92	1.91	19.21	2.15	21.07	127.938	Vertical	Pass
Band 16		707.5	5.7	1.91	19.26	2.15	20.90	123.027	Vertical	Pass
QAM		715.3	5.4	1.93	19.34	2.15	20.66	116.413	Vertical	Pass
3.0MHz	1/#Mid	700.5	6.12	1.91	19.21	2.15	21.27	133.968	Vertical	Pass
Band 16		707.5	6.31	1.91	19.26	2.15	21.51	141.579	Vertical	Pass
QAM		714.5	5.66	1.93	19.34	2.15	20.92	123.595	Vertical	Pass
5.0MHz	1/#Mid	701.5	5.86	1.91	19.23	2.15	21.03	126.765	Vertical	Pass
Band 16		707.5	5.8	1.91	19.26	2.15	21.00	125.893	Vertical	Pass
QAM		713.5	6.18	1.92	19.33	2.15	21.44	139.316	Vertical	Pass
10.0MHz	1/#Mid	704	5.64	1.91	19.25	2.15	20.83	121.060	Vertical	Pass
Band 16		707.5	5.94	1.91	19.26	2.15	21.14	130.017	Vertical	Pass
QAM		711	6.07	1.92	19.32	2.15	21.32	135.519	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

8.7 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	706.5	7.43	1.91	19.23	2.15	22.60	181.970	Vertical	Pass
		710	7.41	1.91	19.26	2.15	22.61	182.390	Vertical	Pass
		713.5	7.38	1.92	19.33	2.15	22.64	183.654	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	7.47	1.91	19.25	2.15	22.66	184.502	Vertical	Pass
		710	7.44	1.91	19.26	2.15	22.64	183.654	Vertical	Pass
		711	7.62	1.92	19.32	2.15	22.87	193.642	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	7.03	1.91	19.23	2.15	22.20	165.959	Horizontal	Pass
		710	6.76	1.91	19.26	2.15	21.96	157.036	Horizontal	Pass
		713.5	7.18	1.92	19.33	2.15	22.44	175.388	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	6.74	1.91	19.25	2.15	21.93	155.955	Horizontal	Pass
		710	7.09	1.91	19.26	2.15	22.29	169.434	Horizontal	Pass
		711	7.31	1.92	19.32	2.15	22.56	180.302	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	706.5	7.07	1.91	19.23	2.15	22.24	167.494	Vertical	Pass
		710	7.07	1.91	19.26	2.15	22.27	168.655	Vertical	Pass
		713.5	7.55	1.92	19.33	2.15	22.81	190.985	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	709	7.91	1.91	19.25	2.15	23.10	204.174	Vertical	Pass
		710	7.64	1.91	19.26	2.15	22.84	192.309	Vertical	Pass
		711	7.38	1.92	19.32	2.15	22.63	183.231	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	7.04	1.91	19.23	2.15	22.21	166.341	Horizontal	Pass
		710	7.26	1.91	19.26	2.15	22.46	176.198	Horizontal	Pass
		713.5	6.83	1.92	19.33	2.15	22.09	161.808	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	709	6.40	1.91	19.25	2.15	21.59	144.212	Horizontal	Pass
		710	6.69	1.91	19.26	2.15	21.89	154.525	Horizontal	Pass
		711	6.78	1.92	19.32	2.15	22.03	159.588	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.8 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1850.7	0.53	3.12	27.58	24.99	315.500	Horizontal	Pass
		1882.5	1.07	3.27	27.61	25.41	347.536	Horizontal	Pass
		1914.3	0.83	3.29	27.63	25.17	328.852	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	1.02	3.13	27.61	25.50	354.813	Horizontal	Pass
		1882.5	1.25	3.27	27.61	25.59	362.243	Horizontal	Pass
		1753.5	1.26	3.30	27.62	25.58	361.410	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	0.59	3.13	27.63	25.09	322.849	Horizontal	Pass
		1882.5	0.54	3.27	27.61	24.88	307.610	Horizontal	Pass
		1912.5	0.74	3.30	27.60	25.04	319.154	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	0.40	3.15	27.64	24.89	308.319	Horizontal	Pass
		1882.5	1.31	3.31	27.61	25.61	363.915	Horizontal	Pass
		1910	0.71	3.33	27.59	24.97	314.051	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	0.63	3.15	27.65	25.13	325.837	Horizontal	Pass
		1882.5	0.73	3.31	27.61	25.03	318.420	Horizontal	Pass
		1907.5	1.44	3.33	27.57	25.68	369.828	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	0.58	3.17	27.66	25.07	321.366	Horizontal	Pass
		1882.5	1.46	3.32	27.61	25.75	375.837	Horizontal	Pass
		1905	0.84	3.36	27.56	25.04	319.154	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-0.84	3.12	27.58	23.62	230.144	Vertical	Pass
		1882.5	-0.71	3.27	27.61	23.63	230.675	Vertical	Pass
		1914.3	-1.17	3.29	27.63	23.17	207.491	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	0.12	3.13	27.61	24.60	288.403	Vertical	Pass
		1882.5	-0.16	3.27	27.61	24.18	261.818	Vertical	Pass
		1753.5	-0.19	3.30	27.62	24.13	258.821	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-0.77	3.13	27.63	23.73	236.048	Vertical	Pass
		1882.5	-0.29	3.27	27.61	24.05	254.097	Vertical	Pass
		1912.5	-0.69	3.30	27.60	23.61	229.615	Vertical	Pass
10.0MHz Band	1/#Mid	1855	0.10	3.15	27.64	24.59	287.740	Vertical	Pass
		1882.5	-0.95	3.31	27.61	23.35	216.272	Vertical	Pass

QPSK		1910	0.06	3.33	27.59	24.32	270.396	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-1.43	3.15	27.65	23.07	202.768	Vertical	Pass
Band		1882.5	0.21	3.31	27.61	24.51	282.488	Vertical	Pass
QPSK		1907.5	-0.84	3.33	27.57	23.40	218.776	Vertical	Pass
20.0MHz	1/#Mid	1860	0.00	3.17	27.66	24.49	281.190	Vertical	Pass
Band		1882.5	-0.81	3.32	27.61	23.48	222.844	Vertical	Pass
QPSK		1905	-0.92	3.36	27.56	23.28	212.814	Vertical	Pass

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	1/#Mid	1850.7	0.64	3.12	27.58	25.10	323.594	Horizontal	Pass
Band 16		1882.5	1.27	3.27	27.61	25.61	363.915	Horizontal	Pass
QAM		1914.3	1.43	3.29	27.63	25.77	377.572	Horizontal	Pass
3.0MHz	1/#Mid	1851.5	0.75	3.13	27.61	25.23	333.426	Horizontal	Pass
Band 16		1882.5	1.43	3.27	27.61	25.77	377.572	Horizontal	Pass
QAM		1753.5	0.89	3.30	27.62	25.21	331.894	Horizontal	Pass
5.0MHz	1/#Mid	1852.5	0.38	3.13	27.63	24.88	307.610	Horizontal	Pass
Band 16		1882.5	1.16	3.27	27.61	25.50	354.813	Horizontal	Pass
QAM		1912.5	1.24	3.30	27.60	25.54	358.096	Horizontal	Pass
10.0MHz	1/#Mid	1855	0.87	3.15	27.64	25.36	343.558	Horizontal	Pass
Band 16		1882.5	1.02	3.31	27.61	25.32	340.408	Horizontal	Pass
QAM		1910	0.87	3.33	27.59	25.13	325.837	Horizontal	Pass
15.0MHz	1/#Mid	1857.5	1.29	3.15	27.65	25.79	379.315	Horizontal	Pass
Band 16		1882.5	1.14	3.31	27.61	25.44	349.945	Horizontal	Pass
QAM		1907.5	0.67	3.33	27.57	24.91	309.742	Horizontal	Pass
20.0MHz	1/#Mid	1860	0.95	3.17	27.66	25.44	349.945	Horizontal	Pass
Band 16		1882.5	0.64	3.32	27.61	24.93	311.172	Horizontal	Pass
QAM		1905	1.60	3.36	27.56	25.80	380.189	Horizontal	Pass
1.4MHz	1/#Mid	1850.7	-0.05	3.12	27.58	24.41	276.058	Vertical	Pass
Band 16		1882.5	-1.30	3.27	27.61	23.04	201.372	Vertical	Pass
QAM		1914.3	-1.04	3.29	27.63	23.30	213.796	Vertical	Pass
3.0MHz	1/#Mid	1851.5	-1.46	3.13	27.61	23.02	200.447	Vertical	Pass
Band 16		1882.5	0.30	3.27	27.61	24.64	291.072	Vertical	Pass
QAM		1753.5	-0.83	3.30	27.62	23.49	223.357	Vertical	Pass

5.0MHz Band 16 QAM	1/#Mid	1852.5	0.18	3.13	27.63	24.68	293.765	Vertical	Pass
		1882.5	-1.24	3.27	27.61	23.10	204.174	Vertical	Pass
		1912.5	-1.22	3.30	27.60	23.08	203.236	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-1.01	3.15	27.64	23.48	222.844	Vertical	Pass
		1882.5	-1.11	3.31	27.61	23.19	208.449	Vertical	Pass
		1910	-0.15	3.33	27.59	24.11	257.632	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-1.12	3.15	27.65	23.38	217.771	Vertical	Pass
		1882.5	-0.33	3.31	27.61	23.97	249.459	Vertical	Pass
		1907.5	-1.36	3.33	27.57	22.88	194.089	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-0.94	3.17	27.66	23.55	226.464	Vertical	Pass
		1882.5	-0.46	3.32	27.61	23.83	241.546	Vertical	Pass
		1905	-1.36	3.36	27.56	22.84	192.309	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)

8.9 LTE BAND 26 A

Radiated Power (ERP) for Band 26a										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	814.7	3.15	1.91	19.21	2.15	18.30	67.608	Horizontal	Pass
		819	3.07	1.91	19.26	2.15	18.27	67.143	Horizontal	Pass
		823.3	3.18	1.93	19.34	2.15	18.44	69.823	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	815.5	3.15	1.91	19.21	2.15	18.30	67.608	Horizontal	Pass
		819	3.12	1.91	19.26	2.15	18.32	67.920	Horizontal	Pass
		822.5	3.20	1.93	19.34	2.15	18.46	70.146	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.72	1.91	19.23	2.15	17.89	61.518	Horizontal	Pass
		819	3.09	1.91	19.26	2.15	18.29	67.453	Horizontal	Pass
		821.5	2.76	1.92	19.33	2.15	18.02	63.387	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	819	3.10	1.93	19.25	2.15	18.27	67.143	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	814.7	2.25	1.91	19.21	2.15	17.40	54.954	Vertical	Pass
		819	2.22	1.91	19.26	2.15	17.42	55.208	Vertical	Pass
		823.3	2.33	1.93	19.34	2.15	17.59	57.412	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	815.5	3.18	1.91	19.21	2.15	18.33	68.077	Vertical	Pass
		819	2.54	1.91	19.26	2.15	17.74	59.429	Vertical	Pass
		822.5	2.60	1.93	19.34	2.15	17.86	61.094	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.33	1.91	19.23	2.15	17.50	56.234	Vertical	Pass
		819	2.23	1.91	19.26	2.15	17.43	55.335	Vertical	Pass
		821.5	2.18	1.92	19.33	2.15	17.44	55.463	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	819	2.51	1.93	19.25	2.15	17.68	58.614	Vertical	Pass

Radiated Power (ERP) for Band 26a										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	814.7	2.43	1.91	19.21	2.15	17.58	57.280	Horizontal	Pass
		819	2.68	1.91	19.26	2.15	17.88	61.376	Horizontal	Pass
		823.3	1.58	1.93	19.34	2.15	16.84	48.306	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	2.65	1.91	19.21	2.15	17.80	60.256	Horizontal	Pass
		819	2.56	1.91	19.26	2.15	17.76	59.704	Horizontal	Pass
		822.5	1.19	1.93	19.34	2.15	16.45	44.157	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	2.34	1.91	19.23	2.15	17.51	56.364	Horizontal	Pass
		819	3.28	1.91	19.26	2.15	18.48	70.469	Horizontal	Pass
		821.5	2.28	1.92	19.33	2.15	17.54	56.754	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	819	3.72	1.93	19.25	2.15	19.10	81.283	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	814.7	1.23	1.91	19.21	2.15	16.38	43.451	Vertical	Pass
		819	1.42	1.91	19.26	2.15	16.62	45.920	Vertical	Pass
		823.3	1.84	1.93	19.34	2.15	17.10	51.286	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	2.18	1.91	19.21	2.15	17.33	54.075	Vertical	Pass
		819	1.27	1.91	19.26	2.15	16.47	44.361	Vertical	Pass
		822.5	1.7	1.93	19.34	2.15	16.96	49.659	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	1.99	1.91	19.23	2.15	17.16	52.000	Vertical	Pass
		819	1.85	1.91	19.26	2.15	17.05	50.699	Vertical	Pass
		821.5	1.34	1.92	19.33	2.15	16.60	45.709	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	819	3.77	1.93	19.25	2.15	16.96	49.659	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 26B

Radiated Power (ERP) for Band 26b										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	824.7	2.74	2.02	19.72	2.15	18.29	67.453	Horizontal	Pass
		836.5	2.45	2.02	19.83	2.15	18.11	64.714	Horizontal	Pass
		848.3	2.46	2.03	19.95	2.15	18.23	66.527	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	2.52	2.02	19.84	2.15	18.19	65.917	Horizontal	Pass
		836.5	2.35	2.02	19.94	2.15	18.12	64.863	Horizontal	Pass
		847.5	2.41	2.03	19.98	2.15	18.21	66.222	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.46	2.02	19.75	2.15	18.04	63.680	Horizontal	Pass
		836.5	2.47	2.02	19.83	2.15	18.13	65.013	Horizontal	Pass
		846.5	2.12	2.03	19.92	2.15	17.86	61.094	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	2.41	2.02	19.84	2.15	18.08	64.269	Horizontal	Pass
		836.5	2.37	2.02	19.90	2.15	18.10	64.565	Horizontal	Pass
		844	2.49	2.03	19.96	2.15	18.27	67.143	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	831.5	2.97	2.02	19.33	2.15	18.13	65.013	Horizontal	Pass
		836.5	2.80	2.02	19.37	2.15	18.00	63.096	Horizontal	Pass
		841.5	2.78	2.03	19.52	2.15	18.12	64.863	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	1.67	2.02	19.76	2.15	17.26	53.211	Vertical	Pass
		836.5	0.90	2.02	19.78	2.15	16.51	44.771	Vertical	Pass
		848.3	1.04	2.03	19.94	2.15	16.80	47.863	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	0.82	2.02	19.83	2.15	16.48	44.463	Vertical	Pass
		836.5	1.29	2.02	19.96	2.15	17.08	51.050	Vertical	Pass
		847.5	1.30	2.03	19.87	2.15	16.99	50.003	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	1.07	2.02	19.86	2.15	16.76	47.424	Vertical	Pass
		836.5	1.20	2.02	19.81	2.15	16.84	48.306	Vertical	Pass
		846.5	1.45	2.03	19.83	2.15	17.10	51.286	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	1.58	2.02	19.75	2.15	17.16	52.000	Vertical	Pass
		836.5	0.95	2.02	19.85	2.15	16.63	46.026	Vertical	Pass
		844	0.92	2.03	19.80	2.15	16.54	45.082	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	831.5	1.54	2.02	19.31	2.15	16.68	46.559	Vertical	Pass
		836.5	1.93	2.02	19.33	2.15	17.09	51.168	Vertical	Pass
		841.5	1.88	2.03	19.38	2.15	17.08	51.050	Vertical	Pass

Radiated Power (ERP) for Band 26b										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	824.7	0.97	2.02	19.72	2.15	16.52	44.875	Horizontal	Pass
		836.5	2.14	2.02	19.83	2.15	17.80	60.256	Horizontal	Pass
		848.3	1.44	2.03	19.95	2.15	17.21	52.602	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	0.88	2.02	19.84	2.15	16.55	45.186	Horizontal	Pass
		836.5	2.35	2.02	19.94	2.15	18.12	64.863	Horizontal	Pass
		847.5	1.57	2.03	19.98	2.15	17.37	54.576	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	1.04	2.02	19.75	2.15	16.62	45.920	Horizontal	Pass
		836.5	3.10	2.02	19.83	2.15	18.76	75.162	Horizontal	Pass
		846.5	2.37	2.03	19.92	2.15	18.11	64.714	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	1.32	2.02	19.84	2.15	16.99	50.003	Horizontal	Pass
		836.5	3.56	2.02	19.90	2.15	19.29	84.918	Horizontal	Pass
		844	1.85	2.03	19.96	2.15	17.63	57.943	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	2.41	2.02	19.33	2.15	17.57	57.148	Horizontal	Pass
		836.5	3.74	2.02	19.37	2.15	18.94	78.343	Horizontal	Pass
		841.5	2.84	2.03	19.52	2.15	18.18	65.766	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	0.85	2.02	19.76	2.15	16.44	44.055	Vertical	Pass
		836.5	1.06	2.02	19.78	2.15	16.67	46.452	Vertical	Pass
		848.3	0.71	2.03	19.94	2.15	16.47	44.361	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	1.06	2.02	19.83	2.15	16.72	46.989	Vertical	Pass
		836.5	0.60	2.02	19.96	2.15	16.39	43.551	Vertical	Pass
		847.5	1.21	2.03	19.87	2.15	16.90	48.978	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	0.93	2.02	19.86	2.15	16.62	45.920	Vertical	Pass
		836.5	1.03	2.02	19.81	2.15	16.67	46.452	Vertical	Pass
		846.5	1.52	2.03	19.83	2.15	17.17	52.119	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	1.79	2.02	19.75	2.15	17.37	54.576	Vertical	Pass
		836.5	0.79	2.02	19.85	2.15	16.47	44.361	Vertical	Pass
		844	1.39	2.03	19.80	2.15	17.01	50.234	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	2.05	2.02	19.31	2.15	17.19	52.360	Vertical	Pass
		836.5	1.85	2.02	19.33	2.15	17.01	50.234	Vertical	Pass
		841.5	1.75	2.03	19.38	2.15	16.95	49.545	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.11 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	1.21	3.76	28.24	25.69	370.681	Horizontal	Pass
		1745	1.20	3.91	28.22	25.51	355.631	Horizontal	Pass
		1779.3	1.18	3.93	28.2	25.45	350.752	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	0.78	3.77	28.23	25.24	334.195	Horizontal	Pass
		1745	0.69	3.91	28.24	25.02	317.687	Horizontal	Pass
		1778.5	1.08	3.94	28.25	25.39	345.939	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	0.90	3.77	28.31	25.44	349.945	Horizontal	Pass
		1745	1.43	3.91	28.22	25.74	374.973	Horizontal	Pass
		1777.5	0.81	3.94	28.2	25.07	321.366	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	1.28	3.79	28.33	25.82	381.944	Horizontal	Pass
		1745	1.31	3.95	28.22	25.58	361.410	Horizontal	Pass
		1775	1.49	3.97	28.19	25.71	372.392	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	0.49	3.79	28.34	25.04	319.154	Horizontal	Pass
		1745	0.73	3.95	28.22	25.00	316.228	Horizontal	Pass
		1772.5	1.21	3.97	28.18	25.42	348.337	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	0.51	3.81	28.35	25.05	319.890	Horizontal	Pass
		1745	1.39	3.96	28.22	25.65	367.282	Horizontal	Pass
		1770	1.22	4	28.16	25.38	345.144	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-0.80	3.76	28.24	23.68	233.346	Vertical	Pass
		1745	0.15	3.91	28.22	24.46	279.254	Vertical	Pass
		1779.3	-1.16	3.93	28.2	23.11	204.644	Vertical	Pass
3.0MHz Band	1/#Mid	1711.5	-1.10	3.77	28.23	23.36	216.770	Vertical	Pass
		1745	0.32	3.91	28.24	24.65	291.743	Vertical	Pass

QPSK		1778.5	-0.98	3.94	28.25	23.33	215.278	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-0.70	3.77	28.31	23.84	242.103	Vertical	Pass
Band		1745	-0.83	3.91	28.22	23.48	222.844	Vertical	Pass
QPSK		1777.5	0.56	3.94	28.2	24.82	303.389	Vertical	Pass
10.0MHz	1/#Mid	1715	-0.36	3.79	28.34	24.19	262.422	Vertical	Pass
Band		1745	-0.24	3.95	28.22	24.03	252.930	Vertical	Pass
QPSK		1775	0.00	3.97	28.18	24.21	263.633	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-0.89	3.81	28.35	23.65	231.739	Vertical	Pass
Band		1745	-1.02	3.96	28.22	23.24	210.863	Vertical	Pass
QPSK		1772.5	0.12	4	28.16	24.28	267.917	Vertical	Pass
20.0MHz	1/#Mid	1720	-0.65	3.79	28.34	23.90	245.471	Vertical	Pass
Band		1745	-1.31	3.95	28.22	22.96	197.697	Vertical	Pass
QPSK		1770	0.69	3.97	28.18	24.90	309.030	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band 16 QAM	1/#Mid	1710.7	0.68	3.76	28.24	25.16	328.095	Horizontal	Pass
		1745	1.06	3.91	28.22	25.37	344.350	Horizontal	Pass
		1779.3	1.26	3.93	28.2	25.53	357.273	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	1.20	3.77	28.23	25.66	368.129	Horizontal	Pass
		1745	1.49	3.91	28.24	25.82	381.944	Horizontal	Pass
		1778.5	0.81	3.94	28.25	25.12	325.087	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	0.70	3.77	28.31	25.24	334.195	Horizontal	Pass
		1745	0.85	3.91	28.22	25.16	328.095	Horizontal	Pass
		1777.5	0.68	3.94	28.2	24.94	311.889	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	1.28	3.79	28.33	25.82	381.944	Horizontal	Pass
		1745	1.51	3.95	28.22	25.78	378.443	Horizontal	Pass
		1775	1.03	3.97	28.19	25.25	334.965	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	1.09	3.79	28.34	25.64	366.438	Horizontal	Pass
		1745	1.19	3.95	28.22	25.46	351.560	Horizontal	Pass
		1772.5	1.26	3.97	28.18	25.47	352.371	Horizontal	Pass
20.0MHz Band 16	1/#Mid	1720	1.01	3.81	28.35	25.55	358.922	Horizontal	Pass
		1745	0.71	3.96	28.22	24.97	314.051	Horizontal	Pass

QAM		1770	1.42	4	28.16	25.58	361.410	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-0.22	3.76	28.24	24.26	266.686	Vertical	Pass
Band 16		1745	-0.77	3.91	28.22	23.54	225.944	Vertical	Pass
QAM		1779.3	-0.55	3.93	28.2	23.72	235.505	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-0.84	3.77	28.23	23.62	230.144	Vertical	Pass
Band 16		1745	-0.31	3.91	28.24	24.02	252.348	Vertical	Pass
QAM		1778.5	-0.14	3.94	28.25	24.17	261.216	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-0.38	3.77	28.31	24.16	260.615	Vertical	Pass
Band 16		1745	-0.43	3.91	28.22	23.88	244.343	Vertical	Pass
QAM		1777.5	-1.33	3.94	28.2	22.93	196.336	Vertical	Pass
10.0MHz	1/#Mid	1715	0.08	3.79	28.34	24.63	290.402	Vertical	Pass
Band 16		1745	0.25	3.95	28.22	24.52	283.139	Vertical	Pass
QAM		1775	-1.16	3.97	28.18	23.05	201.837	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-0.25	3.81	28.35	24.29	268.534	Vertical	Pass
Band 16		1745	0.03	3.96	28.22	24.29	268.534	Vertical	Pass
QAM		1772.5	-0.37	4	28.16	23.79	239.332	Vertical	Pass
20.0MHz	1/#Mid	1720	-0.10	3.79	28.34	24.45	278.612	Vertical	Pass
Band 16		1745	-1.21	3.95	28.22	23.06	202.302	Vertical	Pass
QAM		1770	-0.69	3.97	28.18	23.52	224.905	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-51.18	4.04	33.51	-21.71	-13	-8.71	Horizontal
3701.4	-51.80	4.04	33.51	-22.33	-13	-9.33	Vertical
5552.1	-49.72	5.24	35.84	-19.12	-13	-6.12	Vertical
5552.1	-51.90	5.24	35.84	-21.30	-13	-8.30	Horizontal
180.2	-39.15	1.43	16.02	-24.56	-13	-11.56	Vertical
328.9	-40.58	1.30	17.99	-23.89	-13	-10.89	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-48.66	4.04	33.56	-19.14	-13	-6.14	Horizontal
3760.0	-49.41	4.04	33.56	-19.89	-13	-6.89	Vertical
5640.0	-49.53	5.24	35.91	-18.86	-13	-5.86	Vertical
5640.0	-53.48	5.24	35.91	-22.81	-13	-9.81	Horizontal
185.7	-40.37	1.62	16.97	-25.02	-13	-12.02	Vertical
333.3	-38.90	1.74	15.98	-24.67	-13	-11.67	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-52.53	4.04	34.00	-22.57	-13	-9.57	Horizontal
3818.6	-51.87	4.04	34.00	-21.91	-13	-8.91	Vertical
5727.9	-47.62	5.24	36.04	-16.82	-13	-3.82	Vertical
5727.9	-51.70	5.24	36.04	-20.90	-13	-7.90	Horizontal
180.1	-38.25	1.42	17.29	-22.38	-13	-9.38	Vertical
399.0	-39.49	1.50	17.90	-23.08	-13	-10.08	Horizontal

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

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-45.03	4.07	33.54	-15.56	-13	-2.56	Horizontal
3720.0	-50.56	4.07	33.54	-21.09	-13	-8.09	Vertical
5580.0	-46.77	5.28	35.86	-16.19	-13	-3.19	Vertical
5580.0	-49.76	5.28	35.86	-19.18	-13	-6.18	Horizontal
182.1	-39.86	1.58	16.89	-24.54	-13	-11.54	Vertical
306.5	-43.70	1.76	17.26	-28.20	-13	-15.20	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-53.81	4.04	33.56	-24.29	-13	-11.29	Horizontal
3760.0	-46.89	4.04	33.56	-17.37	-13	-4.37	Vertical
5640.0	-44.04	5.24	35.91	-13.37	-13	-0.37	Vertical
5640.0	-49.33	5.24	35.91	-18.66	-13	-5.66	Horizontal
177.9	-39.57	1.46	16.27	-24.76	-13	-11.76	Vertical
379.2	-36.96	1.59	15.15	-23.40	-13	-10.40	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-47.25	4.04	34.00	-17.29	-13	-4.29	Horizontal
3800.0	-51.49	4.04	34.00	-21.53	-13	-8.53	Vertical
5700.0	-45.27	5.24	36.04	-14.47	-13	-1.47	Vertical
5700.0	-51.14	5.24	36.04	-20.34	-13	-7.34	Horizontal
207.5	-41.84	1.36	17.39	-25.80	-13	-12.80	Vertical
408.8	-41.38	1.66	15.39	-27.65	-13	-14.65	Horizontal

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

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

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

9.2 LTE BAND 4

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-47.53	4.02	29.80	-21.75	-13	-8.75	Horizontal
3421.4	-49.86	4.02	29.80	-24.08	-13	-11.08	Vertical
5132.1	-45.18	5.24	35.84	-14.58	-13	-1.58	Vertical
5132.1	-51.73	5.24	35.84	-21.13	-13	-8.13	Horizontal
212.8	-36.35	1.68	16.04	-21.99	-13	-8.99	Vertical
266.2	-41.45	1.78	17.74	-25.49	-13	-12.49	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-53.22	4.03	30.00	-27.25	-13	-14.25	Horizontal
3465.0	-52.24	4.03	30.00	-26.27	-13	-13.27	Vertical
5197.5	-48.75	5.25	35.86	-18.14	-13	-5.14	Vertical
5197.5	-51.82	5.25	35.86	-21.21	-13	-8.21	Horizontal
201.9	-39.66	1.72	17.69	-23.69	-13	-10.69	Vertical
398.5	-39.94	1.62	16.02	-25.53	-13	-12.53	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-51.17	4.05	30.01	-25.21	-13	-12.21	Horizontal
3508.6	-50.97	4.05	30.01	-25.01	-13	-12.01	Vertical
5262.9	-51.92	5.26	35.86	-21.32	-13	-8.32	Vertical
5262.9	-53.81	5.26	35.86	-23.21	-13	-10.21	Horizontal
203.7	-41.12	1.80	16.69	-26.23	-13	-13.23	Vertical
333.3	-37.67	1.75	16.66	-22.77	-13	-9.77	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-45.99	4.02	29.80	-20.21	-13	-7.21	Horizontal
3440.0	-50.57	4.02	29.80	-24.79	-13	-11.79	Vertical
5160.0	-47.67	5.24	35.84	-17.07	-13	-4.07	Vertical
5160.0	-52.38	5.24	35.84	-21.78	-13	-8.78	Horizontal
182.7	-38.13	1.57	17.26	-22.44	-13	-9.44	Vertical
244.9	-41.10	1.78	16.35	-26.53	-13	-13.53	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-49.39	4.03	30.00	-23.42	-13	-10.42	Horizontal
3465.0	-53.44	4.03	30.00	-27.47	-13	-14.47	Vertical
5197.5	-51.75	5.25	35.86	-21.14	-13	-8.14	Vertical
5197.5	-51.90	5.25	35.86	-21.29	-13	-8.29	Horizontal
200.4	-44.89	1.44	17.95	-28.38	-13	-15.38	Vertical
333.1	-44.97	1.65	16.09	-30.53	-13	-17.53	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-46.16	2.91	27.68	-21.39	-13	-8.39	Horizontal
3490.0	-44.92	2.91	27.68	-20.15	-13	-7.15	Vertical
5235.0	-45.79	5.26	35.86	-15.19	-13	-2.19	Vertical
5235.0	-50.63	5.26	35.86	-20.03	-13	-7.03	Horizontal
201.3	-39.53	1.61	16.85	-24.29	-13	-11.29	Vertical
337.8	-42.06	1.61	15.19	-28.48	-13	-15.48	Horizontal

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

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

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

9.3 LTE BAND 5

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-53.59	2.78	27.50	-28.87	-13	-15.87	Horizontal
1649.4	-53.24	2.78	27.50	-28.52	-13	-15.52	Vertical
2474.1	-49.59	2.90	27.80	-24.69	-13	-11.69	Vertical
2474.1	-51.00	2.90	27.80	-26.10	-13	-13.10	Horizontal
204.6	-43.33	1.76	17.59	-27.50	-13	-14.50	Vertical
461.1	-41.47	1.63	15.87	-27.23	-13	-14.23	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-48.25	2.80	27.48	-23.57	-13	-10.57	Horizontal
1673.0	-48.02	2.80	27.48	-23.34	-13	-10.34	Vertical
2509.5	-51.77	2.91	27.70	-26.98	-13	-13.98	Vertical
2509.5	-50.35	2.91	27.70	-25.56	-13	-12.56	Horizontal
176.9	-34.73	1.61	15.68	-20.66	-13	-7.66	Vertical
379.6	-35.97	1.59	17.52	-20.05	-13	-7.05	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-44.76	2.82	27.43	-20.15	-13	-7.15	Horizontal
1696.6	-53.68	2.82	27.43	-29.07	-13	-16.07	Vertical
2544.9	-50.16	2.92	27.74	-25.34	-13	-12.34	Vertical
2544.9	-49.60	2.92	27.74	-24.78	-13	-11.78	Horizontal
195.8	-38.63	1.69	16.67	-23.64	-13	-10.64	Vertical
312.5	-36.54	1.70	17.18	-21.06	-13	-8.06	Horizontal

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

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-45.27	2.78	27.50	-20.55	-13	-7.55	Horizontal
1658.0	-52.09	2.78	27.50	-27.37	-13	-14.37	Vertical
2487.0	-44.93	2.90	27.80	-20.03	-13	-7.03	Vertical
2487.0	-52.99	2.90	27.80	-28.09	-13	-15.09	Horizontal
192.8	-42.90	1.71	15.57	-29.04	-13	-16.04	Vertical
434.5	-34.07	1.34	16.40	-19.01	-13	-6.01	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-51.95	2.80	27.48	-27.27	-13	-14.27	Horizontal
1673.0	-49.44	2.80	27.48	-24.76	-13	-11.76	Vertical
2509.5	-47.88	2.91	27.70	-23.09	-13	-10.09	Vertical
2509.5	-49.44	2.91	27.70	-24.65	-13	-11.65	Horizontal
185.7	-42.29	1.44	17.04	-26.69	-13	-13.69	Vertical
458.1	-41.66	1.76	17.62	-25.80	-13	-12.80	Horizontal
Test Results for High Channel 844MHz							
1688.0	-48.06	2.82	27.43	-23.45	-13	-10.45	Horizontal
1688.0	-48.24	2.82	27.43	-23.63	-13	-10.63	Vertical
2532.0	-50.35	2.92	27.74	-25.53	-13	-12.53	Vertical
2532.0	-53.82	2.92	27.74	-29.00	-13	-16.00	Horizontal
203.7	-42.42	1.74	17.70	-26.46	-13	-13.46	Vertical
242.6	-44.86	1.41	17.46	-28.80	-13	-15.80	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-63.94	5.23	35.81	-33.36	-25	-8.36	Horizontal
5005.0	-62.47	5.23	35.81	-31.89	-25	-6.89	Vertical
7507.5	-61.09	5.67	36.85	-29.91	-25	-4.91	Vertical
7507.5	-59.91	5.67	36.85	-28.73	-25	-3.73	Horizontal
199.3	-46.50	1.73	17.97	-30.26	-25	-5.26	Vertical
365.6	-51.00	1.38	15.11	-37.27	-25	-12.27	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-63.79	5.23	35.82	-33.20	-25	-8.20	Horizontal
5070.0	-59.75	5.23	35.82	-29.16	-25	-4.16	Vertical
7605.0	-59.48	5.67	36.85	-28.30	-25	-3.30	Vertical
7605.0	-63.11	5.67	36.85	-31.93	-25	-6.93	Horizontal
207.7	-50.27	1.77	16.17	-35.86	-25	-10.86	Vertical
319.2	-50.94	1.63	15.21	-37.36	-25	-12.36	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-59.29	5.24	35.83	-28.70	-25	-3.70	Horizontal
5135.0	-59.85	5.24	35.83	-29.26	-25	-4.26	Vertical
7702.5	-62.66	5.68	36.87	-31.47	-25	-6.47	Vertical
7702.5	-61.93	5.68	36.87	-30.74	-25	-5.74	Horizontal
183.4	-53.80	1.58	17.56	-37.82	-25	-12.82	Vertical
256.4	-53.78	1.45	16.58	-38.65	-25	-13.65	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5020.0	-59.02	5.23	35.82	-28.43	-25	-3.43	Horizontal
5020.0	-60.61	5.23	35.82	-30.02	-25	-5.02	Vertical
7530.0	-61.48	5.67	36.86	-30.29	-25	-5.29	Vertical
7530.0	-60.58	5.67	36.86	-29.39	-25	-4.39	Horizontal
183.8	-44.03	1.63	15.76	-29.90	-25	-4.90	Vertical
261.7	-50.02	1.71	15.44	-36.29	-25	-11.29	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-64.75	5.23	35.82	-34.16	-25	-9.16	Horizontal
5070.0	-63.35	5.23	35.82	-32.76	-25	-7.76	Vertical
7605.0	-64.28	5.67	36.85	-33.10	-25	-8.10	Vertical
7605.0	-62.16	5.67	36.85	-30.98	-25	-5.98	Horizontal
188.7	-50.81	1.79	16.84	-35.75	-25	-10.75	Vertical
313.7	-48.66	1.71	17.64	-32.73	-25	-7.73	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-60.75	5.24	35.83	-30.16	-25	-5.16	Horizontal
5120.0	-60.78	5.24	35.83	-30.19	-25	-5.19	Vertical
7680.0	-60.65	5.70	36.88	-29.47	-25	-4.47	Vertical
7680.0	-59.89	5.70	36.88	-28.71	-25	-3.71	Horizontal
188.0	-47.60	1.79	16.84	-32.54	-25	-7.54	Vertical
355.8	-48.30	1.71	17.64	-32.37	-25	-7.37	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.5 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-44.74	2.60	27.20	-20.14	-13	-7.14	Horizontal
1399.4	-44.13	2.60	27.20	-19.53	-13	-6.53	Vertical
2099.1	-51.68	2.85	27.54	-26.99	-13	-13.99	Vertical
2099.1	-49.12	2.85	27.54	-24.43	-13	-11.43	Horizontal
207.4	-36.66	1.49	17.78	-20.37	-13	-7.37	Vertical
465.1	-39.11	1.36	17.33	-23.14	-13	-10.14	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-46.17	2.61	27.28	-21.50	-13	-8.50	Horizontal
1415.0	-51.81	2.61	27.28	-27.14	-13	-14.14	Vertical
2122.5	-50.13	2.87	27.59	-25.41	-13	-12.41	Vertical
2122.5	-53.67	2.87	27.59	-28.95	-13	-15.95	Horizontal
206.8	-37.86	1.73	15.74	-23.85	-13	-10.85	Vertical
399.9	-34.60	1.62	15.79	-20.43	-13	-7.43	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-51.08	2.63	27.28	-26.43	-13	-13.43	Horizontal
1430.6	-47.17	2.63	27.28	-22.52	-13	-9.52	Vertical
2145.9	-49.39	2.88	27.60	-24.67	-13	-11.67	Vertical
2145.9	-49.15	2.88	27.60	-24.43	-13	-11.43	Horizontal
178.5	-41.42	1.61	18.00	-25.03	-13	-12.03	Vertical
279.0	-44.83	1.45	15.49	-30.80	-13	-17.80	Horizontal

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

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-45.33	2.61	27.26	-20.68	-13	-7.68	Horizontal
1408.0	-53.64	2.61	27.26	-28.99	-13	-15.99	Vertical
2112.0	-44.55	2.87	27.58	-19.84	-13	-6.84	Vertical
2112.0	-51.13	2.87	27.58	-26.42	-13	-13.42	Horizontal
177.8	-43.22	1.31	16.97	-27.56	-13	-14.56	Vertical
274.0	-44.66	1.65	16.70	-29.61	-13	-16.61	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-45.21	2.61	27.28	-20.54	-13	-7.54	Horizontal
1415.0	-48.07	2.61	27.28	-23.40	-13	-10.40	Vertical
2122.5	-49.52	2.87	27.59	-24.80	-13	-11.80	Vertical
2122.5	-49.63	2.87	27.59	-24.91	-13	-11.91	Horizontal
185.1	-36.93	1.72	17.99	-20.66	-13	-7.66	Vertical
348.0	-42.38	1.73	17.94	-26.17	-13	-13.17	Horizontal
Test Results for High Channel 711MHz							
1422.0	-51.38	2.62	27.28	-26.72	-13	-13.72	Horizontal
1422.0	-49.52	2.62	27.28	-24.86	-13	-11.86	Vertical
2133.0	-46.75	2.87	27.60	-22.02	-13	-9.02	Vertical
2133.0	-52.87	2.87	27.60	-28.14	-13	-15.14	Horizontal
205.2	-39.92	1.58	15.93	-25.57	-13	-12.57	Vertical
340.0	-36.80	1.36	15.59	-22.57	-13	-9.57	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1413.0	-49.85	2.61	27.28	-25.18	-13	-12.18	Horizontal
1413.0	-53.99	2.61	27.28	-29.32	-13	-16.32	Vertical
2119.5	-49.56	2.87	27.59	-24.84	-13	-11.84	Vertical
2119.5	-51.98	2.87	27.59	-27.26	-13	-14.26	Horizontal
200.4	-39.68	1.71	16.15	-25.24	-13	-12.24	Vertical
347.3	-42.41	1.41	17.32	-26.50	-13	-13.50	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-51.77	2.62	27.30	-27.09	-13	-14.09	Horizontal
1420.0	-47.11	2.62	27.30	-22.43	-13	-9.43	Vertical
2130.0	-45.06	2.87	27.62	-20.31	-13	-7.31	Vertical
2130.0	-52.34	2.87	27.62	-27.59	-13	-14.59	Horizontal
194.4	-34.85	1.42	15.25	-21.03	-13	-8.03	Vertical
417.5	-43.35	1.36	17.19	-27.52	-13	-14.52	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-47.58	2.66	27.28	-22.96	-13	-9.96	Horizontal
1427.0	-45.96	2.66	27.28	-21.34	-13	-8.34	Vertical
2140.5	-51.20	2.88	27.60	-26.48	-13	-13.48	Vertical
2140.5	-52.63	2.88	27.60	-27.91	-13	-14.91	Horizontal
190.5	-41.24	1.32	17.29	-25.27	-13	-12.27	Vertical
453.4	-34.74	1.72	16.89	-19.57	-13	-6.57	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1418.0	-51.47	2.62	27.30	-26.79	-13	-13.79	Horizontal
1418.0	-50.30	2.62	27.30	-25.62	-13	-12.62	Vertical
2127.0	-45.04	2.87	27.62	-20.29	-13	-7.29	Vertical
2127.0	-49.68	2.87	27.62	-24.93	-13	-11.93	Horizontal
178.1	-35.80	1.35	16.91	-20.24	-13	-7.24	Vertical
314.5	-44.57	1.62	16.31	-29.88	-13	-16.88	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-48.52	2.62	27.30	-23.84	-13	-10.84	Horizontal
1420.0	-51.98	2.62	27.30	-27.30	-13	-14.30	Vertical
2130.0	-53.22	2.87	27.62	-28.47	-13	-15.47	Vertical
2130.0	-49.35	2.87	27.62	-24.60	-13	-11.60	Horizontal
196.7	-44.72	1.51	17.14	-29.09	-13	-16.09	Vertical
295.7	-34.00	1.77	16.88	-18.89	-13	-5.89	Horizontal
Test Results for High Channel 711MHz							
1422.0	-47.52	2.62	27.30	-22.84	-13	-9.84	Horizontal
1422.0	-50.33	2.62	27.30	-25.65	-13	-12.65	Vertical
2133.0	-52.93	2.87	27.62	-28.18	-13	-15.18	Vertical
2133.0	-49.91	2.87	27.62	-25.16	-13	-12.16	Horizontal
210.2	-40.16	1.78	15.95	-25.99	-13	-12.99	Vertical
261.7	-37.57	1.34	17.95	-20.97	-13	-7.97	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 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-52.48	4.26	29.80	-26.94	-13	-13.94	Horizontal
3701.4	-49.18	4.26	29.80	-23.64	-13	-10.64	Vertical
5552.1	-52.71	5.36	35.84	-22.23	-13	-9.23	Vertical
5552.1	-49.76	5.36	35.84	-19.28	-13	-6.28	Horizontal
209.0	-41.65	1.68	16.04	-27.29	-13	-14.29	Vertical
331.4	-42.56	1.78	17.74	-26.60	-13	-13.60	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-49.82	4.28	30.00	-24.10	-13	-11.10	Horizontal
3765.0	-52.82	4.28	30.00	-27.10	-13	-14.10	Vertical
5647.5	-52.28	5.41	35.86	-21.83	-13	-8.83	Vertical
5647.5	-51.77	5.41	35.86	-21.32	-13	-8.32	Horizontal
211.4	-44.60	1.72	17.69	-28.63	-13	-15.63	Vertical
261.1	-34.07	1.62	16.02	-19.66	-13	-6.66	Horizontal
Test Results for High Channel 1914.3MHz							
3828.6	-53.64	4.31	30.01	-27.94	-13	-14.94	Horizontal
3828.6	-51.64	4.31	30.01	-25.94	-13	-12.94	Vertical
5742.9	-50.43	5.43	35.86	-20.00	-13	-7.00	Vertical
5742.9	-52.37	5.43	35.86	-21.94	-13	-8.94	Horizontal
177.8	-44.08	1.80	16.69	-29.19	-13	-16.19	Vertical
381.4	-42.99	1.75	16.66	-28.09	-13	-15.09	Horizontal

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

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-51.29	4.29	29.80	-25.78	-13	-12.78	Horizontal
3720.0	-49.02	4.29	29.80	-23.51	-13	-10.51	Vertical
5580.0	-52.56	5.38	35.84	-22.10	-13	-9.10	Vertical
5580.0	-53.27	5.38	35.84	-22.81	-13	-9.81	Horizontal
184.3	-34.34	1.57	17.26	-18.65	-13	-5.65	Vertical
407.0	-44.84	1.78	16.35	-30.27	-13	-17.27	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-49.46	4.28	30.00	-23.74	-13	-10.74	Horizontal
3765.0	-52.91	4.28	30.00	-27.19	-13	-14.19	Vertical
5647.5	-50.94	5.41	35.86	-20.49	-13	-7.49	Vertical
5647.5	-53.16	5.41	35.86	-22.71	-13	-9.71	Horizontal
204.1	-38.71	1.44	17.95	-22.20	-13	-9.20	Vertical
344.0	-41.67	1.65	16.09	-27.23	-13	-14.23	Horizontal
Test Results for High Channel 1905MHz							
3810.0	-52.69	4.35	27.68	-29.36	-13	-16.36	Horizontal
3810.0	-52.65	4.35	27.68	-29.32	-13	-16.32	Vertical
5715.0	-50.47	5.42	35.86	-20.03	-13	-7.03	Vertical
5715.0	-51.87	5.42	35.86	-21.43	-13	-8.43	Horizontal
176.5	-43.51	1.61	16.85	-28.27	-13	-15.27	Vertical
270.7	-38.31	1.61	15.19	-24.73	-13	-11.73	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.8 LTE BAND 26A

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

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-51.08	4.26	29.80	-25.54	-13	-12.54	Horizontal
1629.4	-51.59	4.26	29.80	-26.05	-13	-13.05	Vertical
2444.1	-53.65	5.36	35.84	-23.17	-13	-10.17	Vertical
2444.1	-49.98	5.36	35.84	-19.50	-13	-6.50	Horizontal
184.3	-38.77	1.68	16.04	-24.41	-13	-11.41	Vertical
338.6	-36.11	1.78	17.74	-20.15	-13	-7.15	Horizontal
Test Results for Mid Channel 819MHz							
1638.0	-49.58	4.28	30.00	-23.86	-13	-10.86	Horizontal
1638.0	-51.70	4.28	30.00	-25.98	-13	-12.98	Vertical
2457.0	-52.02	5.41	35.86	-21.57	-13	-8.57	Vertical
2457.0	-52.62	5.41	35.86	-22.17	-13	-9.17	Horizontal
190.0	-35.40	1.72	17.69	-19.43	-13	-6.43	Vertical
272.1	-39.99	1.62	16.02	-25.58	-13	-12.58	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-53.24	4.31	30.01	-27.54	-13	-14.54	Horizontal
1646.6	-51.62	4.31	30.01	-25.92	-13	-12.92	Vertical
2469.9	-52.80	5.43	35.86	-22.37	-13	-9.37	Vertical
2469.9	-53.17	5.43	35.86	-22.74	-13	-9.74	Horizontal
204.6	-38.61	1.80	16.69	-23.72	-13	-10.72	Vertical
467.8	-43.65	1.75	16.66	-28.75	-13	-15.75	Horizontal

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

Test Results for Mid Channel 819MHz							
1638.0	-49.61	4.28	30.00	-23.89	-13	-10.89	Horizontal
1638.0	-53.15	4.28	30.00	-27.43	-13	-14.43	Vertical
2457.0	-49.05	5.41	35.86	-18.60	-13	-5.60	Vertical
2457.0	-50.81	5.41	35.86	-20.36	-13	-7.36	Horizontal
197.1	-44.66	1.44	17.95	-28.15	-13	-15.15	Vertical
233.7	-35.49	1.65	16.09	-21.05	-13	-8.05	Horizontal

9.9 LTE BAND 26B

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-51.04	4.26	29.80	-25.50	-13	-12.50	Horizontal
1649.4	-52.06	4.26	29.80	-26.52	-13	-13.52	Vertical
2474.1	-53.96	5.36	35.84	-23.48	-13	-10.48	Vertical
2474.1	-53.14	5.36	35.84	-22.66	-13	-9.66	Horizontal
211.5	-38.68	1.68	16.04	-24.32	-13	-11.32	Vertical
396.2	-40.73	1.78	17.74	-24.77	-13	-11.77	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-51.68	4.28	30.00	-25.96	-13	-12.96	Horizontal
1673.0	-50.72	4.28	30.00	-25.00	-13	-12.00	Vertical
2509.5	-53.53	5.41	35.86	-23.08	-13	-10.08	Vertical
2509.5	-52.45	5.41	35.86	-22.00	-13	-9.00	Horizontal
180.9	-41.91	1.72	17.69	-25.94	-13	-12.94	Vertical
249.0	-35.97	1.62	16.02	-21.56	-13	-8.56	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-53.42	4.31	30.01	-27.72	-13	-14.72	Horizontal
1696.6	-49.95	4.31	30.01	-24.25	-13	-11.25	Vertical
2544.9	-50.04	5.43	35.86	-19.61	-13	-6.61	Vertical
2544.9	-53.31	5.43	35.86	-22.88	-13	-9.88	Horizontal
180.0	-38.47	1.80	16.69	-23.58	-13	-10.58	Vertical
465.6	-34.83	1.75	16.66	-19.93	-13	-6.93	Horizontal

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

Test Results for Low Channel 831.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1663.0	-49.04	4.29	29.80	-23.53	-13	-10.53	Horizontal
1663.0	-51.11	4.29	29.80	-25.60	-13	-12.60	Vertical
2494.5	-51.44	5.38	35.84	-20.98	-13	-7.98	Vertical
2494.5	-50.37	5.38	35.84	-19.91	-13	-6.91	Horizontal
201.3	-34.44	1.57	17.26	-18.75	-13	-5.75	Vertical
467.8	-35.27	1.78	16.35	-20.70	-13	-7.70	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-50.85	4.28	30.00	-25.13	-13	-12.13	Horizontal
1673.0	-53.52	4.28	30.00	-27.80	-13	-14.80	Vertical
2509.5	-52.40	5.41	35.86	-21.95	-13	-8.95	Vertical
2509.5	-53.45	5.41	35.86	-23.00	-13	-10.00	Horizontal
182.9	-41.82	1.44	17.95	-25.31	-13	-12.31	Vertical
253.6	-34.48	1.65	16.09	-20.04	-13	-7.04	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-53.06	4.35	27.68	-29.73	-13	-16.73	Horizontal
1683.0	-53.48	4.35	27.68	-30.15	-13	-17.15	Vertical
2524.5	-53.46	5.42	35.86	-23.02	-13	-10.02	Vertical
2524.5	-50.71	5.42	35.86	-20.27	-13	-7.27	Horizontal
192.4	-40.63	1.61	16.85	-25.39	-13	-12.39	Vertical
241.8	-41.53	1.61	15.19	-27.95	-13	-14.95	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 Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-53.43	3.84	35.81	-21.46	-13	-8.46	Horizontal
3421.4	-51.87	3.84	35.81	-19.90	-13	-6.90	Vertical
5132.1	-51.33	5.18	36.85	-19.66	-13	-6.66	Vertical
5132.1	-52.68	5.18	36.85	-21.01	-13	-8.01	Horizontal
203.6	-34.94	1.56	17.97	-18.53	-13	-5.53	Vertical
384.4	-40.19	1.33	15.11	-26.41	-13	-13.41	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-53.01	3.85	35.82	-21.04	-13	-8.04	Horizontal
3490.0	-50.69	3.85	35.82	-18.72	-13	-5.72	Vertical
5235.0	-49.28	5.21	36.85	-17.64	-13	-4.64	Vertical
5235.0	-51.57	5.21	36.85	-19.93	-13	-6.93	Horizontal
185.4	-35.99	1.77	16.17	-21.58	-13	-8.58	Vertical
324.5	-42.61	1.63	15.21	-29.03	-13	-16.03	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-52.64	3.86	35.83	-20.67	-13	-7.67	Horizontal
3558.6	-53.32	3.86	35.83	-21.35	-13	-8.35	Vertical
5337.9	-51.71	5.24	36.87	-20.08	-13	-7.08	Vertical
5337.9	-52.42	5.24	36.87	-20.79	-13	-7.79	Horizontal
188.4	-36.29	1.58	17.56	-20.31	-13	-7.31	Vertical
354.9	-39.71	1.45	16.58	-24.58	-13	-11.58	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-52.42	3.84	35.82	-20.44	-13	-7.44	Horizontal
3440.0	-53.11	3.84	35.82	-21.13	-13	-8.13	Vertical
5160.0	-52.47	5.18	36.86	-20.79	-13	-7.79	Vertical
5160.0	-50.05	5.18	36.86	-18.37	-13	-5.37	Horizontal
183.7	-44.16	1.56	15.76	-29.96	-13	-16.96	Vertical
329.8	-44.08	1.33	15.44	-29.97	-13	-16.97	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-50.73	3.85	35.82	-18.76	-13	-5.76	Horizontal
3490.0	-52.93	3.85	35.82	-20.96	-13	-7.96	Vertical
5235.0	-52.11	5.21	36.85	-20.47	-13	-7.47	Vertical
5235.0	-52.36	5.21	36.85	-20.72	-13	-7.72	Horizontal
192.8	-40.43	1.77	16.84	-25.35	-13	-12.35	Vertical
240.9	-44.91	1.63	17.64	-28.90	-13	-15.90	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-50.87	3.86	35.83	-18.90	-13	-5.90	Horizontal
3540.0	-53.79	3.86	35.83	-21.82	-13	-8.82	Vertical
5310.0	-49.31	5.24	36.88	-17.67	-13	-4.67	Vertical
5310.0	-52.28	5.24	36.88	-20.64	-13	-7.64	Horizontal
212.0	-37.09	1.58	16.84	-21.82	-13	-8.82	Vertical
376.2	-43.65	1.45	17.64	-27.46	-13	-14.46	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	13.2	0.007011	2.5
3.87	1880	14.0	0.007442	2.5
4.45	1880	13.3	0.007093	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.6	0.006690	2.5
Extreme (50C)	1880	12.0	0.006383	2.5
Extreme (40C)	1880	13.8	0.007356	2.5
Extreme (30C)	1880	13.6	0.007254	2.5
Extreme (10C)	1880	14.2	0.007538	2.5
Extreme (0C)	1880	12.4	0.006578	2.5
Extreme (-10C)	1880	12.8	0.006801	2.5
Extreme (-20C)	1880	14.3	0.007619	2.5
Extreme (-30C)	1880	14.6	0.007747	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1880	9.9	0.005242	2.5
3.87	1880	8.6	0.004594	2.5
4.45	1880	8.0	0.004251	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.1	0.004848	2.5
Extreme (50C)	1880	8.8	0.004695	2.5
Extreme (40C)	1880	8.5	0.004500443	2.5
Extreme (30C)	1880	8.7	0.004632731	2.5
Extreme (10C)	1880	9.4	0.004981656	2.5
Extreme (0C)	1880	7.6	0.004043762	2.5
Extreme (-10C)	1880	8.9	0.004748303	2.5
Extreme (-20C)	1880	8.8	0.004689671	2.5
Extreme (-30C)	1880	7.8	0.004170181	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1732.5	9.0	0.005210	2.5
3.87	1732.5	9.1	0.005275	2.5
4.45	1732.5	8.7	0.005048	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.1	0.004702	2.5
Extreme (50C)	1732.5	8.5	0.004892	2.5
Extreme (40C)	1732.5	7.0	0.004020	2.5
Extreme (30C)	1732.5	6.1	0.003505	2.5
Extreme (10C)	1732.5	7.3	0.004190	2.5
Extreme (0C)	1732.5	8.9	0.005160	2.5
Extreme (-10C)	1732.5	8.3	0.004776	2.5
Extreme (-20C)	1732.5	6.5	0.003779	2.5
Extreme (-30C)	1732.5	8.8	0.005058	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	9.5	0.005468	2.5
3.87	1732.5	8.7	0.005045	2.5
4.45	1732.5	8.2	0.004735	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.6	0.005548	2.5
Extreme (50C)	1732.5	9.3	0.005383	2.5
Extreme (40C)	1732.5	8.1	0.004658	2.5
Extreme (30C)	1732.5	8.8	0.005057	2.5
Extreme (10C)	1732.5	8.5	0.004905	2.5
Extreme (0C)	1732.5	8.4	0.004839	2.5
Extreme (-10C)	1732.5	9.4	0.005409	2.5
Extreme (-20C)	1732.5	8.9	0.005140	2.5
Extreme (-30C)	1732.5	7.8	0.004478	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	5.3	0.006340	2.5
3.87	836.5	6.4	0.007617	2.5
4.45	836.5	4.8	0.005781	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.3	0.007512	2.5
Extreme (50C)	836.5	6.2	0.007400	2.5
Extreme (40C)	836.5	6.4	0.007641	2.5
Extreme (30C)	836.5	6.2	0.007394	2.5
Extreme (10C)	836.5	5.0	0.006022	2.5
Extreme (0C)	836.5	5.0	0.005943	2.5
Extreme (-10C)	836.5	5.5	0.006552	2.5
Extreme (-20C)	836.5	6.0	0.007230	2.5
Extreme (-30C)	836.5	6.0	0.007181	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	5.4	0.006461	2.5
3.87	836.5	7.0	0.008376	2.5
4.45	836.5	4.4	0.005239	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.2	0.007441	2.5
Extreme (50C)	836.5	5.6	0.006651	2.5
Extreme (40C)	836.5	6.4	0.007700	2.5
Extreme (30C)	836.5	6.8	0.008083	2.5
Extreme (10C)	836.5	4.9	0.005915	2.5
Extreme (0C)	836.5	5.2	0.006227	2.5
Extreme (-10C)	836.5	5.6	0.006754	2.5
Extreme (-20C)	836.5	5.7	0.006873	2.5
Extreme (-30C)	836.5	6.4	0.007605	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	10.3	0.004054	2.5
3.87	2535	9.2	0.003635	2.5
4.45	2535	8.3	0.003261	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.8	0.003876	2.5
Extreme (50C)	2535	9.2	0.003648	2.5
Extreme (40C)	2535	8.4	0.003326	2.5
Extreme (30C)	2535	8.9	0.003508	2.5
Extreme (10C)	2535	7.8	0.003084	2.5
Extreme (0C)	2535	8.8	0.003465	2.5
Extreme (-10C)	2535	9.3	0.003682	2.5
Extreme (-20C)	2535	8.5	0.003345	2.5
Extreme (-30C)	2535	8.6	0.003402	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	6.9	0.002722	2.5
3.87	2535	6.7	0.002647	2.5
4.45	2535	5.7	0.002232	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.9	0.002722	2.5
Extreme (50C)	2535	5.4	0.002125	2.5
Extreme (40C)	2535	5.8	0.002273	2.5
Extreme (30C)	2535	6.8	0.002672	2.5
Extreme (10C)	2535	5.6	0.002194	2.5
Extreme (0C)	2535	5.4	0.002115	2.5
Extreme (-10C)	2535	5.6	0.002196	2.5
Extreme (-20C)	2535	6.3	0.002467	2.5
Extreme (-30C)	2535	5.8	0.002302	2.5

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

10.5 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	707.5	8.3	0.011665	2.5
3.87	707.5	9.7	0.013744	2.5
4.45	707.5	8.5	0.012038	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.6	0.012112	2.5
Extreme (50C)	707.5	8.0	0.011248	2.5
Extreme (40C)	707.5	7.5	0.010531	2.5
Extreme (30C)	707.5	8.7	0.012357	2.5
Extreme (10C)	707.5	7.9	0.011121	2.5
Extreme (0C)	707.5	8.9	0.012633	2.5
Extreme (-10C)	707.5	7.9	0.011178	2.5
Extreme (-20C)	707.5	8.5	0.011977	2.5
Extreme (-30C)	707.5	7.7	0.010851	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	7.3	0.010354	2.5
3.87	707.5	8.2	0.011609	2.5
4.45	707.5	7.3	0.010348	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	10.3	0.014454	2.5
3.87	710.0	8.4	0.011877	2.5
4.45	710.0	7.7	0.010838	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.4	0.013212	2.5
Extreme (50C)	710.0	9.3	0.013058	2.5
Extreme (40C)	710.0	8.4	0.011884	2.5
Extreme (30C)	710.0	8.7	0.012206	2.5
Extreme (10C)	710.0	8.8	0.012414	2.5
Extreme (0C)	710.0	8.3	0.011632	2.5
Extreme (-10C)	710.0	9.5	0.013376	2.5
Extreme (-20C)	710.0	8.5	0.012013	2.5
Extreme (-30C)	710.0	8.5	0.011991	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	710.0	10.1	0.014214	2.5
3.87	710.0	9.4	0.013211	2.5
4.45	710.0	7.9	0.011128	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.1	0.012759	2.5
Extreme (50C)	710.0	9.3	0.013054	2.5
Extreme (40C)	710.0	8.2	0.011524	2.5
Extreme (30C)	710.0	8.8	0.012337	2.5
Extreme (10C)	710.0	7.9	0.011118	2.5
Extreme (0C)	710.0	8.7	0.012192	2.5
Extreme (-10C)	710.0	9.5	0.013349	2.5
Extreme (-20C)	710.0	8.9	0.012503	2.5
Extreme (-30C)	710.0	8.6	0.012161	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

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1882.5	9.3	0.004963	2.5
3.87	1882.5	9.1	0.004823	2.5
4.45	1882.5	8.1	0.004285	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.3	0.004954	2.5
Extreme (50C)	1882.5	8.5	0.004536	2.5
Extreme (40C)	1882.5	8.1	0.004294	2.5
Extreme (30C)	1882.5	8.8	0.004693	2.5
Extreme (10C)	1882.5	9.1	0.004860	2.5
Extreme (0C)	1882.5	8.5	0.004498	2.5
Extreme (-10C)	1882.5	9.3	0.004965	2.5
Extreme (-20C)	1882.5	8.9	0.004710	2.5
Extreme (-30C)	1882.5	8.4	0.004477	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1882.5	9.9	0.005267	2.5
3.87	1882.5	8.9	0.004744	2.5
4.45	1882.5	8.4	0.004442	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.0	0.004772	2.5
Extreme (50C)	1882.5	8.6	0.004557	2.5
Extreme (40C)	1882.5	8.1	0.004298	2.5
Extreme (30C)	1882.5	8.9	0.004705	2.5
Extreme (10C)	1882.5	8.6	0.004558	2.5
Extreme (0C)	1882.5	8.6	0.004555	2.5
Extreme (-10C)	1882.5	9.7	0.005154	2.5
Extreme (-20C)	1882.5	9.1	0.004810	2.5
Extreme (-30C)	1882.5	8.6	0.004551	2.5

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

10.8 LTE BAND 26A

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	819.0	10.0	0.012159	2.5
3.87	819.0	8.9	0.010811	2.5
4.45	819.0	8.5	0.010421	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.4	0.011472	2.5
Extreme (50C)	819.0	8.5	0.010374	2.5
Extreme (40C)	819.0	8.0	0.009787	2.5
Extreme (30C)	819.0	8.6	0.010553	2.5
Extreme (10C)	819.0	8.8	0.010789	2.5
Extreme (0C)	819.0	8.1	0.009835	2.5
Extreme (-10C)	819.0	8.8	0.010732	2.5
Extreme (-20C)	819.0	8.5	0.010398	2.5
Extreme (-30C)	819.0	8.0	0.009729	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	819.0	9.6	0.011700	2.5
3.87	819.0	9.3	0.011385	2.5
4.45	819.0	7.9	0.009657	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.4	0.011462	2.5
Extreme (50C)	819.0	8.7	0.010648	2.5
Extreme (40C)	819.0	8.7	0.010632	2.5
Extreme (30C)	819.0	8.9	0.010815	2.5
Extreme (10C)	819.0	8.1	0.009905	2.5
Extreme (0C)	819.0	8.0	0.009792	2.5
Extreme (-10C)	819.0	9.4	0.011504	2.5
Extreme (-20C)	819.0	8.5	0.010369	2.5
Extreme (-30C)	819.0	8.6	0.010506	2.5

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

10.9 LTE BAND 26B

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	9.7	0.011642	2.5
3.87	836.5	8.9	0.010643	2.5
4.45	836.5	8.5	0.010192	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.4	0.011241	2.5
Extreme (50C)	836.5	9.1	0.010922	2.5
Extreme (40C)	836.5	8.5	0.010103	2.5
Extreme (30C)	836.5	8.8	0.010502	2.5
Extreme (10C)	836.5	9.2	0.010999	2.5
Extreme (0C)	836.5	7.9	0.009435	2.5
Extreme (-10C)	836.5	9.3	0.011155	2.5
Extreme (-20C)	836.5	9.3	0.011059	2.5
Extreme (-30C)	836.5	7.8	0.009371	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	9.8	0.011705	2.5
3.87	836.5	8.8	0.010486	2.5
4.45	836.5	8.6	0.010277	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.3	0.011171	2.5
Extreme (50C)	836.5	9.3	0.011107	2.5
Extreme (40C)	836.5	8.5	0.010121	2.5
Extreme (30C)	836.5	9.3	0.011100	2.5
Extreme (10C)	836.5	8.3	0.009914	2.5
Extreme (0C)	836.5	8.6	0.010228	2.5
Extreme (-10C)	836.5	9.1	0.010849	2.5
Extreme (-20C)	836.5	9.3	0.011142	2.5
Extreme (-30C)	836.5	8.9	0.010585	2.5

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

10.10 LTE BAND 66

Band 66 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1745	6.6	0.003811	2.5
3.87	1745	6.9	0.003963	2.5
4.45	1745	7.0	0.004031	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.6	0.003213	2.5
Extreme (50C)	1745	7.9	0.004556	2.5
Extreme (40C)	1745	6.5	0.003722	2.5
Extreme (30C)	1745	6.7	0.003857	2.5
Extreme (10C)	1745	7.7	0.004398	2.5
Extreme (0C)	1745	6.6	0.003769	2.5
Extreme (-10C)	1745	5.7	0.003261	2.5
Extreme (-20C)	1745	6.1	0.003470	2.5
Extreme (-30C)	1745	5.1	0.002937	2.5

Band 66 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1745	8.5	0.004877	2.5
3.87	1745	7.4	0.004221	2.5
4.45	1745	10.0	0.005724	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	9.0	0.005180	2.5
Extreme (50C)	1745	8.0	0.004597	2.5
Extreme (40C)	1745	8.4	0.004802	2.5
Extreme (30C)	1745	7.9	0.004523	2.5
Extreme (10C)	1745	8.3	0.004748	2.5
Extreme (0C)	1745	6.2	0.003567	2.5
Extreme (-10C)	1745	8.8	0.005048	2.5
Extreme (-20C)	1745	8.4	0.004835	2.5
Extreme (-30C)	1745	5.7	0.003288	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.

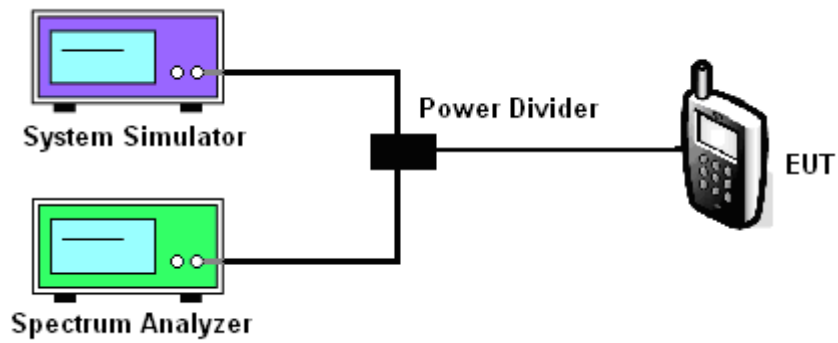
11.2 Measuring Instruments

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----