

FCC CFR47 PART 22H, 24E, 27, 90S CERTIFICATION TEST REPORT FCC ID: 2APJ4-SLT779

Product: MiFi

Trade Mark: MEIGLink

Model No.: SLT779

Family Model: N/A

Report No.: S22080803502004

Issue Date: Aug 17, 2022

Prepared for

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TEST RESULT CERTIFICATION

Applicant's name : MeiG Smart Technology Co., Ltd
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Manufacturer's Name : MeiG Smart Technology Co., Ltd
Address : 2nd Floor,Office Building,No.5 Lingxia Road,Fenghuang,Fuyong Street,Bao'an District,Shenzhen,China
Product name : MiFi
Model and/or type reference : SLT779
Family Model : N/A
Test Sample Number : S220808035001
Standards : FCC CFR 47 Part 22H, Part 24E, Part 27, Part 90S
Test procedure : ANSI C63.26:2015
ANSI/TIA-603-E-2016

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

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Date of Test :
Date (s) of performance of tests : Aug 08, 2022 ~Aug 17, 2022
Date of Issue : Aug 17, 2022
Test Result : Pass

Testing Engineer : Mukzi Lee
(Mukzi Lee)

Authorized Signatory : Alex
(Alex Li)

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	MiFi
Trade Mark	MEIGLink
Model Name	SLT779
Family Model	N/A
Model Difference	N/A
FCC ID:	2APJ4-SLT779
Frequency Bands:	U.S. Bands: <input checked="" type="checkbox"/> LTE FDD Band 2,4,5,12,13,25,26,41,66, 71
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; 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 41 Uplink: 2496MHz-2690MHz, LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz; LTE FDD Band 71 Uplink: 663MHz-698MHz, Downlink: 617MHz-652MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Antenna:	LDS Antenna
Antenna gain:	Band 2: 1.5 dBi; Band 4: 1.5 dBi ; Band 5: 0.6 dBi ; Band 12: 0.5 dBi ; Band 13: 0.5 dBi; Band 25: 1.5 dBi; Band 26: 0.5 dBi; Band 41: 2.5 dBi; Band 66: 1.5 dBi; Band 71: 0.5 dBi;
Adapter	N/A
Battery	DC 3.7V, 2300mAh, 8.51Wh

Power Rating	DC 3.7V from battery or DC 5V from usb port
Extreme Vol. Limits:	DC 3.4V to DC 4.2V (Nominal DC 3.7V) (Note 1)
HW Version	K779HSDL_V1.02_PCB
SW Version	AWM45_2.00.3_EQ100
<p>** Note1: The High Voltage DC 4.2V and Low Voltage 3.4V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.</p>	

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2APJ4-SLT779** 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 = 2Uc(y))	2.5dB

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2/4/5/12/13/25/26/41/66/71

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

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

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

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

2.3 CONFIGURATION OF EUT SYSTEM

Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	MiFi	SLT779	FCC ID: 2APJ4-SLT779	EUT

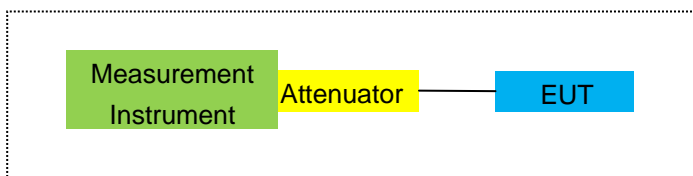
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

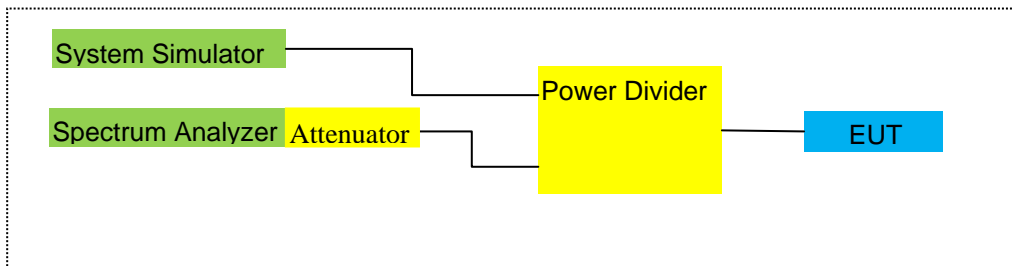
For Radiated Test Cases



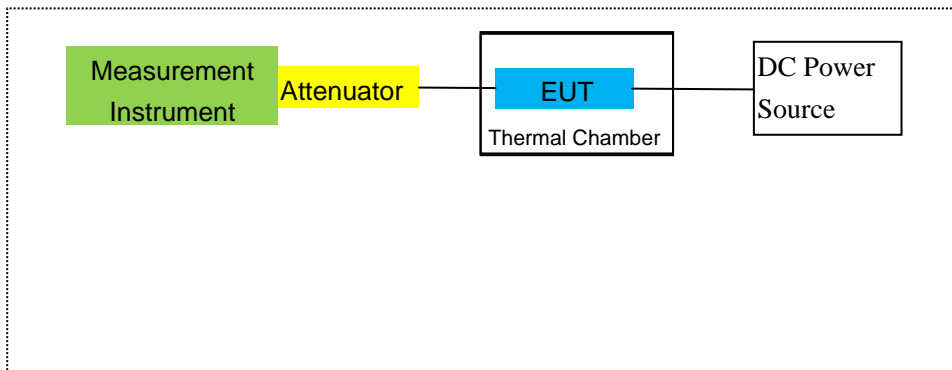
For Conducted Output Power



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



For Frequency Stability



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

3. TEST AND MEASUREMENT EQUIPMENT

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

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2022.06.16	2023.06.17	1 year
2	Test Receiver	R&S	ESPI	101318	2022.04.06	2023.04.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30	2023.03.29	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2022.03.31	2023.03.30	1 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2021.11.07	2022.11.06	1 year
7	Amplifier	EM	EM-30180	060538	2022.06.17	2023.06.16	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2022.04.06	2023.04.05	1 year
9	Power Meter	R&S	NRVS	100696	2022.06.17	2023.06.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2022.04.06	2023.04.05	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2022.04.06	2023.04.05	1 year
15	LISN	R&S	ENV216	101313	2022.04.06	2023.04.05	1 year
16	LISN	EMCO	3816/2	00042990	2022.04.06	2023.04.05	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2022.04.06	2023.04.05	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2022.04.06	2023.04.05	1 year
19	Test Cable	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
20	Test Cable	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
21	Test Cable	N/A	C03	N/A	2020.05.11	2023.05.10	3 year
22	Attenuator	MCE	24-10-34	BN9258	2022.04.01	2023.03.31	1 year
23	Spectrum Analyzer	agilent	e4440a	us44300399	2022.04.01	2023.03.31	1 year
24	test receiver	R&S	ESCI	a0304218	2022.04.06	2023.04.05	1 year
25	Communication Tester	R&S	CMU200	A0304247	2022.06.16	2023.06.15	1 year

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

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

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

LTE Band 2/4/5/12/13/25/26/41/66/71

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

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

FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

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

(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ 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

LTE Band 2/4/5/12/13/25/26/41/66/71

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

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

TEST PROCEDURE

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

For each out of band emissions measurement:

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

MODES TESTED

- LTE Band 2/4/5/12/13/25/26/41/66/71
-

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

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

LIMITS:

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

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

LTE Band 2/4/5/12/13/25/26/41/66/71

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result					Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP		
							Average (mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-2.53	3.76	28.24	21.95	156.675	Horizontal	Pass
		1880	-2.45	3.91	28.22	21.86	153.462	Horizontal	Pass
		1909.3	-2.30	3.93	28.20	21.97	157.398	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-2.60	3.77	28.23	21.86	153.462	Horizontal	Pass
		1880	-2.48	3.91	28.24	21.85	153.109	Horizontal	Pass
		1908.5	-2.46	3.94	28.25	21.85	153.109	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-2.70	3.77	28.31	21.84	152.757	Horizontal	Pass
		1880	-2.43	3.91	28.22	21.88	154.170	Horizontal	Pass
		1907.5	-2.37	3.94	28.20	21.89	154.525	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-2.62	3.79	28.33	21.92	155.597	Horizontal	Pass
		1880	-2.41	3.95	28.22	21.86	153.462	Horizontal	Pass
		1905	-2.25	3.97	28.19	21.97	157.398	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-2.59	3.79	28.34	21.96	157.036	Horizontal	Pass
		1880	-2.36	3.95	28.22	21.91	155.239	Horizontal	Pass
		1902.5	-2.34	3.97	28.18	21.87	153.815	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-2.66	3.81	28.35	21.88	154.170	Horizontal	Pass
		1880	-2.38	3.96	28.22	21.88	154.170	Horizontal	Pass
		1900	-2.22	4.00	28.16	21.94	156.315	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-2.57	3.76	28.24	21.91	155.239	Vertical	Pass
		1880	-2.36	3.91	28.22	21.95	156.675	Vertical	Pass
		1909.3	-2.36	3.93	28.20	21.91	155.239	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-2.61	3.77	28.23	21.85	153.109	Vertical	Pass
		1880	-2.48	3.91	28.24	21.85	153.109	Vertical	Pass
		1908.5	-2.44	3.94	28.25	21.87	153.815	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-2.65	3.77	28.31	21.89	154.525	Vertical	Pass
		1880	-2.35	3.91	28.22	21.96	157.036	Vertical	Pass
		1907.5	-2.35	3.94	28.20	21.91	155.239	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-2.64	3.79	28.33	21.90	154.882	Vertical	Pass
		1880	-2.31	3.95	28.22	21.96	157.036	Vertical	Pass
		1905	-2.29	3.97	28.19	21.93	155.955	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1857.5	-2.62	3.79	28.34	21.93	155.955	Vertical	Pass
		1880	-2.41	3.95	28.22	21.86	153.462	Vertical	Pass
		1902.5	-2.24	3.97	28.18	21.97	157.398	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-2.51	3.81	28.35	22.03	159.588	Vertical	Pass
		1880	-2.24	3.96	28.22	22.02	159.221	Vertical	Pass
		1900	-2.15	4.00	28.16	22.01	158.855	Vertical	Pass

Radiated Power (EIRP) for Band 2										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP			
							Average (mW)			
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.42	3.76	28.24	21.06	127.644	Horizontal	Pass	
		1880	-3.16	3.91	28.22	21.15	130.317	Horizontal	Pass	
		1909.3	-3.12	3.93	28.20	21.15	130.317	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.33	3.77	28.23	21.13	129.718	Horizontal	Pass	
		1880	-3.23	3.91	28.24	21.10	128.825	Horizontal	Pass	
		1908.5	-3.20	3.94	28.25	21.11	129.122	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.38	3.77	28.31	21.16	130.617	Horizontal	Pass	
		1880	-3.16	3.91	28.22	21.15	130.317	Horizontal	Pass	
		1907.5	-3.17	3.94	28.20	21.09	128.529	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	1855	-3.45	3.79	28.33	21.09	128.529	Horizontal	Pass	
		1880	-3.09	3.95	28.22	21.18	131.220	Horizontal	Pass	
		1905	-3.03	3.97	28.19	21.19	131.522	Horizontal	Pass	
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.48	3.79	28.34	21.07	127.938	Horizontal	Pass	
		1880	-3.23	3.95	28.22	21.04	127.057	Horizontal	Pass	
		1902.5	-3.07	3.97	28.18	21.14	130.017	Horizontal	Pass	
20.0MHz Band 16 QAM	1/#Mid	1860	-3.42	3.81	28.35	21.12	129.420	Horizontal	Pass	
		1880	-3.14	3.96	28.22	21.12	129.420	Horizontal	Pass	
		1900	-3.10	4.00	28.16	21.06	127.644	Horizontal	Pass	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.31	3.76	28.24	21.17	130.918	Vertical	Pass	
		1880	-3.20	3.91	28.22	21.11	129.122	Vertical	Pass	
		1909.3	-3.15	3.93	28.20	21.12	129.420	Vertical	Pass	
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.31	3.77	28.23	21.15	130.317	Vertical	Pass	
		1880	-3.27	3.91	28.24	21.06	127.644	Vertical	Pass	
		1908.5	-3.15	3.94	28.25	21.16	130.617	Vertical	Pass	
5.0MHz	1/#Mid	1852.5	-3.44	3.77	28.31	21.10	128.825	Vertical	Pass	

Band 16		1880	-3.22	3.91	28.22	21.09	128.529	Vertical	Pass
QAM		1907.5	-3.14	3.94	28.20	21.12	129.420	Vertical	Pass
10.0MHz	1/#Mid	1855	-3.43	3.79	28.33	21.11	129.122	Vertical	Pass
Band 16		1880	-3.09	3.95	28.22	21.18	131.220	Vertical	Pass
QAM		1905	-3.07	3.97	28.19	21.15	130.317	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-3.49	3.79	28.34	21.06	127.644	Vertical	Pass
Band 16		1880	-3.11	3.95	28.22	21.16	130.617	Vertical	Pass
QAM		1902.5	-3.03	3.97	28.18	21.18	131.220	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.33	3.81	28.35	21.21	132.130	Vertical	Pass
Band 16		1880	-3.06	3.96	28.22	21.20	131.826	Vertical	Pass
QAM		1900	-2.94	4.00	28.16	21.22	132.434	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	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average (dBm)	Average (mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-2.70	3.12	27.58	21.76	149.968	Horizontal	Pass
		1732.5	-2.52	3.27	27.61	21.82	152.055	Horizontal	Pass
		1754.3	-2.56	3.29	27.63	21.78	150.661	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.66	3.13	27.61	21.82	152.055	Horizontal	Pass
		1732.5	-2.58	3.27	27.61	21.76	149.968	Horizontal	Pass
		1753.5	-2.49	3.30	27.62	21.83	152.405	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-2.61	3.13	27.63	21.89	154.525	Horizontal	Pass
		1732.5	-2.49	3.27	27.61	21.85	153.109	Horizontal	Pass
		1752.5	-2.46	3.30	27.60	21.84	152.757	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-2.62	3.15	27.64	21.87	153.815	Horizontal	Pass
		1732.5	-2.52	3.31	27.61	21.78	150.661	Horizontal	Pass
		1750	-2.44	3.33	27.59	21.82	152.055	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-2.64	3.15	27.65	21.86	153.462	Horizontal	Pass
		1732.5	-2.49	3.31	27.61	21.81	151.705	Horizontal	Pass
		1747.5	-2.40	3.33	27.57	21.84	152.757	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.77	3.17	27.66	21.72	148.594	Horizontal	Pass
		1732.5	-2.47	3.32	27.61	21.82	152.055	Horizontal	Pass
		1745	-2.35	3.36	27.56	21.85	153.109	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-2.68	3.12	27.58	21.78	150.661	Vertical	Pass
		1732.5	-2.53	3.27	27.61	21.81	151.705	Vertical	Pass
		1754.3	-2.51	3.29	27.63	21.83	152.405	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.66	3.13	27.61	21.82	152.055	Vertical	Pass
		1732.5	-2.52	3.27	27.61	21.82	152.055	Vertical	Pass
		1753.5	-2.57	3.30	27.62	21.75	149.624	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-2.67	3.13	27.63	21.83	152.405	Vertical	Pass
		1732.5	-2.46	3.27	27.61	21.88	154.170	Vertical	Pass
		1752.5	-2.52	3.30	27.60	21.78	150.661	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-2.62	3.15	27.64	21.87	153.815	Vertical	Pass
		1732.5	-2.42	3.31	27.61	21.88	154.170	Vertical	Pass
		1750	-2.49	3.33	27.59	21.77	150.314	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-2.68	3.15	27.65	21.82	152.055	Vertical	Pass
		1732.5	-2.45	3.31	27.61	21.85	153.109	Vertical	Pass
		1747.5	-2.48	3.33	27.57	21.76	149.968	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.56	3.17	27.66	21.93	155.955	Vertical	Pass
		1732.5	-2.37	3.32	27.61	21.92	155.597	Vertical	Pass
		1745	-2.26	3.36	27.56	21.94	156.315	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result					Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP		
						Average	Average		
						(dBm)	(mW)		
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.75	3.12	27.58	20.71	117.761	Horizontal	Pass
		1732.5	-3.58	3.27	27.61	20.76	119.124	Horizontal	Pass
		1754.3	-3.54	3.29	27.63	20.80	120.226	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-3.81	3.13	27.61	20.67	116.681	Horizontal	Pass
		1732.5	-3.67	3.27	27.61	20.67	116.681	Horizontal	Pass
		1753.5	-3.58	3.30	27.62	20.74	118.577	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-3.84	3.13	27.63	20.66	116.413	Horizontal	Pass
		1732.5	-3.60	3.27	27.61	20.74	118.577	Horizontal	Pass
		1752.5	-3.62	3.30	27.60	20.68	116.950	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-3.70	3.15	27.64	20.79	119.950	Horizontal	Pass
		1732.5	-3.61	3.31	27.61	20.69	117.220	Horizontal	Pass
		1750	-3.58	3.33	27.59	20.68	116.950	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-3.80	3.15	27.65	20.70	117.490	Horizontal	Pass
		1732.5	-3.60	3.31	27.61	20.70	117.490	Horizontal	Pass
		1747.5	-3.59	3.33	27.57	20.65	116.145	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-3.74	3.17	27.66	20.75	118.850	Horizontal	Pass
		1732.5	-3.66	3.32	27.61	20.63	115.611	Horizontal	Pass
		1745	-3.46	3.36	27.56	20.74	118.577	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.73	3.12	27.58	20.73	118.304	Vertical	Pass
		1732.5	-3.61	3.27	27.61	20.73	118.304	Vertical	Pass
		1754.3	-3.64	3.29	27.63	20.70	117.490	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-3.70	3.13	27.61	20.78	119.674	Vertical	Pass
		1732.5	-3.65	3.27	27.61	20.69	117.220	Vertical	Pass
		1753.5	-3.65	3.30	27.62	20.67	116.681	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-3.87	3.13	27.63	20.63	115.611	Vertical	Pass

Band 16		1732.5	-3.70	3.27	27.61	20.64	115.878	Vertical	Pass
QAM		1752.5	-3.56	3.30	27.60	20.74	118.577	Vertical	Pass
10.0MHz	1/#Mid	1715	-3.71	3.15	27.64	20.78	119.674	Vertical	Pass
Band 16		1732.5	-3.65	3.31	27.61	20.65	116.145	Vertical	Pass
QAM		1750	-3.53	3.33	27.59	20.73	118.304	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-3.82	3.15	27.65	20.68	116.950	Vertical	Pass
Band 16		1732.5	-3.66	3.31	27.61	20.64	115.878	Vertical	Pass
QAM		1747.5	-3.56	3.33	27.57	20.68	116.950	Vertical	Pass
20.0MHz	1/#Mid	1720	-3.65	3.17	27.66	20.84	121.339	Vertical	Pass
Band 16		1732.5	-3.47	3.32	27.61	20.82	120.781	Vertical	Pass
QAM		1745	-3.38	3.36	27.56	20.82	120.781	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss	Factor	Correction	Max. ERP	Max. ERP			
			(dBm)	(dBm)	(dB)	(dB)	Average	Average			
						(dBm)	(mW)				
1.4MHz Band QPSK	1/#Midd	824.7	6.05	2.01	19.68	2.15	21.57	143.549	Horizontal	Pass	
		836.5	5.93	2.01	19.77	2.15	21.54	142.561	Horizontal	Pass	
		848.3	5.92	2.02	19.82	2.15	21.57	143.549	Horizontal	Pass	
3.0MHz Band QPSK	1/#Midd	825.5	6.06	2.01	19.70	2.15	21.60	144.544	Horizontal	Pass	
		836.5	5.96	2.01	19.77	2.15	21.57	143.549	Horizontal	Pass	
		847.5	5.92	2.02	19.81	2.15	21.56	143.219	Horizontal	Pass	
5.0MHz Band QPSK	1/#Midd	826.5	6.06	2.01	19.71	2.15	21.61	144.877	Horizontal	Pass	
		836.5	5.89	2.01	19.77	2.15	21.50	141.254	Horizontal	Pass	
		846.5	5.97	2.02	19.79	2.15	21.59	144.212	Horizontal	Pass	
10.0MHz Band QPSK	1/#Midd	829	6.06	2.01	19.73	2.15	21.63	145.546	Horizontal	Pass	
		836.5	5.94	2.01	19.77	2.15	21.55	142.889	Horizontal	Pass	
		844	5.89	2.02	19.78	2.15	21.50	141.254	Horizontal	Pass	
1.4MHz Band QPSK	1/#Midd	824.7	6.03	2.01	19.68	2.15	21.55	142.889	Vertical	Pass	
		836.5	5.88	2.01	19.77	2.15	21.49	140.929	Vertical	Pass	
		848.3	5.89	2.02	19.82	2.15	21.54	142.561	Vertical	Pass	
3.0MHz Band QPSK	1/#Midd	825.5	5.95	2.01	19.70	2.15	21.49	140.929	Vertical	Pass	
		836.5	5.96	2.01	19.77	2.15	21.57	143.549	Vertical	Pass	
		847.5	5.92	2.02	19.81	2.15	21.56	143.219	Vertical	Pass	
5.0MHz Band QPSK	1/#Midd	826.5	6.04	2.01	19.71	2.15	21.59	144.212	Vertical	Pass	
		836.5	5.99	2.01	19.77	2.15	21.60	144.544	Vertical	Pass	
		846.5	5.97	2.02	19.79	2.15	21.59	144.212	Vertical	Pass	
10.0MHz Band QPSK	1/#Midd	829	6.11	2.01	19.73	2.15	21.68	147.231	Vertical	Pass	
		836.5	6.06	2.01	19.77	2.15	21.67	146.893	Vertical	Pass	
		844	6.07	2.02	19.78	2.15	21.68	147.231	Vertical	Pass	

Radiated Power (ERP) for Band 5											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)			
1.4MHz Band 16 QAM	1/#Mid	824.7	5.22	2.01	19.68	2.15	20.74	118.577	Horizontal	Pass	
		836.5	5.17	2.01	19.77	2.15	20.78	119.674	Horizontal	Pass	
		848.3	5.05	2.02	19.82	2.15	20.70	117.490	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	825.5	5.14	2.01	19.70	2.15	20.68	116.950	Horizontal	Pass	
		836.5	5.12	2.01	19.77	2.15	20.73	118.304	Horizontal	Pass	
		847.5	5.11	2.02	19.81	2.15	20.75	118.850	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	826.5	5.09	2.01	19.71	2.15	20.64	115.878	Horizontal	Pass	
		836.5	5.01	2.01	19.77	2.15	20.62	115.345	Horizontal	Pass	
		846.5	5.07	2.02	19.79	2.15	20.69	117.220	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	829	5.13	2.01	19.73	2.15	20.70	117.490	Horizontal	Pass	
		836.5	5.14	2.01	19.77	2.15	20.75	118.850	Horizontal	Pass	
		844	5.16	2.02	19.78	2.15	20.77	119.399	Horizontal	Pass	
1.4MHz Band 16 QAM	1/#Mid	824.7	5.21	2.01	19.68	2.15	20.73	118.304	Vertical	Pass	
		836.5	5.03	2.01	19.77	2.15	20.64	115.878	Vertical	Pass	
		848.3	5.00	2.02	19.82	2.15	20.65	116.145	Vertical	Pass	
3.0MHz Band 16 QAM	1/#Mid	825.5	5.18	2.01	19.70	2.15	20.72	118.032	Vertical	Pass	
		836.5	5.13	2.01	19.77	2.15	20.74	118.577	Vertical	Pass	
		847.5	5.13	2.02	19.81	2.15	20.77	119.399	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	826.5	5.20	2.01	19.71	2.15	20.75	118.850	Vertical	Pass	
		836.5	5.00	2.01	19.77	2.15	20.61	115.080	Vertical	Pass	
		846.5	5.00	2.02	19.79	2.15	20.62	115.345	Vertical	Pass	
10.0MHz Band 16 QAM	1/#Mid	829	5.23	2.01	19.73	2.15	20.80	120.226	Vertical	Pass	
		836.5	5.23	2.01	19.77	2.15	20.84	121.339	Vertical	Pass	
		844	5.21	2.02	19.78	2.15	20.82	120.781	Vertical	Pass	

Note:

SG Level= Signal generator output

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

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

8.5 LTE BAND 12

Radiated Power (ERP) for Band 12											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)			
1.4MHz Band QPSK	1/#Mid	699.7	4.23	1.91	19.21	2.15	19.38	86.696	Vertical	Pass	
		707.5	4.18	1.91	19.26	2.15	19.38	86.696	Vertical	Pass	
		715.3	4.21	1.93	19.34	2.15	19.47	88.512	Vertical	Pass	
3.0MHz Band QPSK	1/#Mid	700.5	4.21	1.91	19.21	2.15	19.36	86.298	Vertical	Pass	
		707.5	4.18	1.91	19.26	2.15	19.38	86.696	Vertical	Pass	
		714.5	4.13	1.93	19.34	2.15	19.39	86.896	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	701.5	4.30	1.91	19.23	2.15	19.47	88.512	Vertical	Pass	
		707.5	4.24	1.91	19.26	2.15	19.44	87.902	Vertical	Pass	
		713.5	4.21	1.92	19.33	2.15	19.47	88.512	Vertical	Pass	
10.0Hz Band QPSK	1/#Mid	704	4.18	1.91	19.25	2.15	19.37	86.497	Vertical	Pass	
		707.5	4.18	1.91	19.26	2.15	19.38	86.696	Vertical	Pass	
		711	4.09	1.92	19.32	2.15	19.34	85.901	Vertical	Pass	
1.4MHz Band QPSK	1/#Mid	699.7	4.26	1.91	19.21	2.15	19.41	87.297	Horizontal	Pass	
		707.5	4.25	1.91	19.26	2.15	19.45	88.105	Horizontal	Pass	
		715.3	4.21	1.93	19.34	2.15	19.47	88.512	Horizontal	Pass	
3.0MHz Band QPSK	1/#Mid	700.5	4.22	1.91	19.21	2.15	19.37	86.497	Horizontal	Pass	
		707.5	4.25	1.91	19.26	2.15	19.45	88.105	Horizontal	Pass	
		714.5	4.19	1.93	19.34	2.15	19.45	88.105	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	701.5	4.15	1.91	19.23	2.15	19.32	85.507	Horizontal	Pass	
		707.5	4.20	1.91	19.26	2.15	19.40	87.096	Horizontal	Pass	
		713.5	4.14	1.92	19.33	2.15	19.40	87.096	Horizontal	Pass	
10.0Hz Band QPSK	1/#Mid	704	4.36	1.91	19.25	2.15	19.55	90.157	Horizontal	Pass	
		707.5	4.32	1.91	19.26	2.15	19.52	89.536	Horizontal	Pass	
		711	4.27	1.92	19.32	2.15	19.52	89.536	Horizontal	Pass	

Radiated Power (ERP) for Band 12											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Antenna Gain (dB)	Correction	Max. EIRP	Max. EIRP			
			(dBm)			(dB)	Average	Average			
							(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	699.7	3.54	1.91	19.21	2.15	18.69	73.961	Vertical	Pass	
		707.5	3.46	1.91	19.26	2.15	18.66	73.451	Vertical	Pass	
		715.3	3.45	1.93	19.34	2.15	18.71	74.302	Vertical	Pass	
3.0MHz Band 16 QAM	1/#Mid	700.5	3.50	1.91	19.21	2.15	18.65	73.282	Vertical	Pass	
		707.5	3.53	1.91	19.26	2.15	18.73	74.645	Vertical	Pass	
		714.5	3.39	1.93	19.34	2.15	18.65	73.282	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	701.5	3.52	1.91	19.23	2.15	18.69	73.961	Vertical	Pass	
		707.5	3.54	1.91	19.26	2.15	18.74	74.817	Vertical	Pass	
		713.5	3.43	1.92	19.33	2.15	18.69	73.961	Vertical	Pass	
10.0MHz Band 16 QAM	1/#Mid	704	3.58	1.91	19.25	2.15	18.77	75.336	Vertical	Pass	
		707.5	3.56	1.91	19.26	2.15	18.76	75.162	Vertical	Pass	
		711	3.46	1.92	19.32	2.15	18.71	74.302	Vertical	Pass	
1.4MHz Band 16 QAM	1/#Mid	699.7	3.65	1.91	19.21	2.15	18.80	75.858	Horizontal	Pass	
		707.5	3.50	1.91	19.26	2.15	18.70	74.131	Horizontal	Pass	
		715.3	3.43	1.93	19.34	2.15	18.69	73.961	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	700.5	3.61	1.91	19.21	2.15	18.76	75.162	Horizontal	Pass	
		707.5	3.59	1.91	19.26	2.15	18.79	75.683	Horizontal	Pass	
		714.5	3.40	1.93	19.34	2.15	18.66	73.451	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	701.5	3.47	1.91	19.23	2.15	18.64	73.114	Horizontal	Pass	
		707.5	3.53	1.91	19.26	2.15	18.73	74.645	Horizontal	Pass	
		713.5	3.51	1.92	19.33	2.15	18.77	75.336	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	704	3.63	1.91	19.25	2.15	18.82	76.208	Horizontal	Pass	
		707.5	3.60	1.91	19.26	2.15	18.80	75.858	Horizontal	Pass	
		711	3.60	1.92	19.32	2.15	18.85	76.736	Horizontal	Pass	

Note:

SG Level= Signal generator output

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

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

8.6 LTE BAND 13

Radiated Power (ERP) for Band 13											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)			
			5.0MHz Band QPSK	1/#Midd	779.5	5.14	1.95	19.23	2.15		
		782	5.06	1.95	19.26	2.15	20.22	105.196	Vertical	Pass	
		784.5	4.94	1.96	19.33	2.15	20.16	103.753	Vertical	Pass	
10.0MHz Band QPSK	1/#Midd	782	5.14	1.95	19.25	2.15	20.29	106.905	Vertical	Pass	
5.0MHz Band QPSK	1/#Midd	779.5	5.04	1.95	19.23	2.15	20.17	103.992	Horizontal	Pass	
		782	5.00	1.95	19.26	2.15	20.16	103.753	Horizontal	Pass	
		784.5	5.08	1.96	19.33	2.15	20.30	107.152	Horizontal	Pass	
10.0MHz Band QPSK	1/#Midd	782	5.2	1.95	19.25	2.15	20.35	108.393	Horizontal	Pass	

Radiated Power (ERP) for Band 13											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR	Max. EPR			
			(dBm)				Average	Average			
							(dBm)	(mW)			
5.0MHz Band 16 QAM	1/#Mid	779.5	4.13	1.95	19.23	2.15	19.26	84.333	Vertical	Pass	
		782	4.14	1.95	19.26	2.15	19.30	85.114	Vertical	Pass	
		784.5	4.05	1.96	19.33	2.15	19.27	84.528	Vertical	Pass	
10.0MHz z Band 16 QAM	1/#Mid	782	4.03	1.95	19.25	2.15	19.18	82.794	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	779.5	4.16	1.95	19.23	2.15	19.29	84.918	Horizontal	Pass	
		782	4.04	1.95	19.26	2.15	19.20	83.176	Horizontal	Pass	
		784.5	4.01	1.96	19.33	2.15	19.23	83.753	Horizontal	Pass	
10.0MHz z Band 16 QAM	1/#Mid	782	4.15	1.95	19.25	2.15	19.3	85.114	Horizontal	Pass	

Note:

SG Level= Signal generator output

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

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

8.7 LTE BAND 25

Radiated Power (EIRP) for Band 25										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP			
			(dBm)			Average	Average			
						(dBm)	(mW)			
1.4MHz Band QPSK	1/#Mid	1850.7	-2.76	3.12	27.58	21.70	147.911	Horizontal	Pass	
		1882.5	-2.64	3.27	27.61	21.70	147.911	Horizontal	Pass	
		1914.3	-2.67	3.29	27.63	21.67	146.893	Horizontal	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-2.71	3.13	27.61	21.77	150.314	Horizontal	Pass	
		1882.5	-2.59	3.27	27.61	21.75	149.624	Horizontal	Pass	
		1753.5	-2.65	3.30	27.62	21.67	146.893	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-2.75	3.13	27.63	21.75	149.624	Horizontal	Pass	
		1882.5	-2.56	3.27	27.61	21.78	150.661	Horizontal	Pass	
		1912.5	-2.68	3.30	27.60	21.62	145.211	Horizontal	Pass	
10.0MHz Band QPSK	1/#Mid	1855	-2.81	3.15	27.64	21.68	147.231	Horizontal	Pass	
		1882.5	-2.55	3.31	27.61	21.75	149.624	Horizontal	Pass	
		1910	-2.60	3.33	27.59	21.66	146.555	Horizontal	Pass	
15.0MHz Band QPSK	1/#Mid	1857.5	-2.76	3.15	27.65	21.74	149.279	Horizontal	Pass	
		1882.5	-2.54	3.31	27.61	21.76	149.968	Horizontal	Pass	
		1907.5	-2.60	3.33	27.57	21.64	145.881	Horizontal	Pass	
20.0MHz Band QPSK	1/#Mid	1860	-2.74	3.17	27.66	21.75	149.624	Horizontal	Pass	
		1882.5	-2.55	3.32	27.61	21.74	149.279	Horizontal	Pass	
		1905	-2.54	3.36	27.56	21.66	146.555	Horizontal	Pass	
1.4MHz Band QPSK	1/#Mid	1850.7	-2.77	3.12	27.58	21.69	147.571	Vertical	Pass	
		1882.5	-2.65	3.27	27.61	21.69	147.571	Vertical	Pass	
		1914.3	-2.65	3.29	27.63	21.69	147.571	Vertical	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-2.80	3.13	27.61	21.68	147.231	Vertical	Pass	
		1882.5	-2.57	3.27	27.61	21.77	150.314	Vertical	Pass	
		1753.5	-2.55	3.30	27.62	21.77	150.314	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-2.83	3.13	27.63	21.67	146.893	Vertical	Pass	
		1882.5	-2.67	3.27	27.61	21.67	146.893	Vertical	Pass	
		1912.5	-2.63	3.30	27.60	21.67	146.893	Vertical	Pass	
10.0MHz	1/#Mid	1855	-2.70	3.15	27.64	21.79	151.008	Vertical	Pass	

Band		1882.5	-2.63	3.31	27.61	21.67	146.893	Vertical	Pass
QPSK		1910	-2.52	3.33	27.59	21.74	149.279	Vertical	Pass
15.0MHz		1857.5	-2.71	3.15	27.65	21.79	151.008	Vertical	Pass
Band	1/#Mid	1882.5	-2.59	3.31	27.61	21.71	148.252	Vertical	Pass
QPSK		1907.5	-2.47	3.33	27.57	21.77	150.314	Vertical	Pass
20.0MHz		1860	-2.66	3.17	27.66	21.83	152.405	Vertical	Pass
Band	1/#Mid	1882.5	-2.46	3.32	27.61	21.83	152.405	Vertical	Pass
QPSK		1905	-2.39	3.36	27.56	21.81	151.705	Vertical	Pass

Radiated Power (EIRP) for Band 25										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP			
						Average	Average			
						(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.53	3.12	27.58	20.93	123.880	Horizontal	Pass	
		1882.5	-3.40	3.27	27.61	20.94	124.165	Horizontal	Pass	
		1914.3	-3.37	3.29	27.63	20.97	125.026	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.49	3.13	27.61	20.99	125.603	Horizontal	Pass	
		1882.5	-3.33	3.27	27.61	21.01	126.183	Horizontal	Pass	
		1753.5	-3.32	3.30	27.62	21.00	125.893	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.58	3.13	27.63	20.92	123.595	Horizontal	Pass	
		1882.5	-3.41	3.27	27.61	20.93	123.880	Horizontal	Pass	
		1912.5	-3.27	3.30	27.60	21.03	126.765	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	1855	-3.45	3.15	27.64	21.04	127.057	Horizontal	Pass	
		1882.5	-3.25	3.31	27.61	21.05	127.350	Horizontal	Pass	
		1910	-3.35	3.33	27.59	20.91	123.310	Horizontal	Pass	
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.52	3.15	27.65	20.98	125.314	Horizontal	Pass	
		1882.5	-3.26	3.31	27.61	21.04	127.057	Horizontal	Pass	
		1907.5	-3.26	3.33	27.57	20.98	125.314	Horizontal	Pass	
20.0MHz Band 16 QAM	1/#Mid	1860	-3.47	3.17	27.66	21.02	126.474	Horizontal	Pass	
		1882.5	-3.27	3.32	27.61	21.02	126.474	Horizontal	Pass	
		1905	-3.30	3.36	27.56	20.90	123.027	Horizontal	Pass	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.51	3.12	27.58	20.95	124.451	Vertical	Pass	
		1882.5	-3.42	3.27	27.61	20.92	123.595	Vertical	Pass	
		1914.3	-3.30	3.29	27.63	21.04	127.057	Vertical	Pass	
3.0MHz Band 16	1/#Mid	1851.5	-3.53	3.13	27.61	20.95	124.451	Vertical	Pass	
		1882.5	-3.29	3.27	27.61	21.05	127.350	Vertical	Pass	

QAM		1753.5	-3.28	3.30	27.62	21.04	127.057	Vertical	Pass
5.0MHz	1/#Mid	1852.5	-3.56	3.13	27.63	20.94	124.165	Vertical	Pass
Band 16		1882.5	-3.36	3.27	27.61	20.98	125.314	Vertical	Pass
QAM		1912.5	-3.26	3.30	27.60	21.04	127.057	Vertical	Pass
10.0MHz	1/#Mid	1855	-3.50	3.15	27.64	20.99	125.603	Vertical	Pass
Band 16		1882.5	-3.24	3.31	27.61	21.06	127.644	Vertical	Pass
QAM		1910	-3.21	3.33	27.59	21.05	127.350	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-3.56	3.15	27.65	20.94	124.165	Vertical	Pass
Band 16		1882.5	-3.32	3.31	27.61	20.98	125.314	Vertical	Pass
QAM		1907.5	-3.32	3.33	27.57	20.92	123.595	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.41	3.17	27.66	21.08	128.233	Vertical	Pass
Band 16		1882.5	-3.20	3.32	27.61	21.09	128.529	Vertical	Pass
QAM		1905	-3.10	3.36	27.56	21.10	128.825	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							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss	Factor	Correction	Max. EPR	Max. EPR			
			(dBm)	(dBm)	(dB)	(dB)	Average	Average			
							(dBm)	(mW)			
1.4MHz Band QPSK	1/#Midd	814.7	5.46	1.91	19.21	2.15	20.61	115.080	Vertical	Pass	
		819	5.53	1.91	19.26	2.15	20.73	118.304	Vertical	Pass	
		823.3	5.45	1.93	19.34	2.15	20.71	117.761	Vertical	Pass	
3.0MHz Band QPSK	1/#Midd	815.5	5.55	1.91	19.21	2.15	20.70	117.490	Vertical	Pass	
		819	5.46	1.91	19.26	2.15	20.66	116.413	Vertical	Pass	
		822.5	5.43	1.93	19.34	2.15	20.69	117.220	Vertical	Pass	
5.0MHz Band QPSK	1/#Midd	816.5	5.53	1.91	19.23	2.15	20.70	117.490	Vertical	Pass	
		819	5.52	1.91	19.26	2.15	20.72	118.032	Vertical	Pass	
		821.5	5.46	1.92	19.33	2.15	20.72	118.032	Vertical	Pass	
10.0MHz Band QPSK	1/#Midd	819	5.47	1.93	19.25	2.15	20.64	115.878	Vertical	Pass	
1.4MHz Band QPSK	1/#Midd	814.7	5.49	1.91	19.21	2.15	20.64	115.878	Horizontal	Pass	
		819	5.54	1.91	19.26	2.15	20.74	118.577	Horizontal	Pass	
		823.3	5.40	1.93	19.34	2.15	20.66	116.413	Horizontal	Pass	
3.0MHz Band QPSK	1/#Midd	815.5	5.55	1.91	19.21	2.15	20.70	117.490	Horizontal	Pass	
		819	5.41	1.91	19.26	2.15	20.61	115.080	Horizontal	Pass	
		822.5	5.38	1.93	19.34	2.15	20.64	115.878	Horizontal	Pass	
5.0MHz Band QPSK	1/#Midd	816.5	5.46	1.91	19.23	2.15	20.63	115.611	Horizontal	Pass	
		819	5.44	1.91	19.26	2.15	20.64	115.878	Horizontal	Pass	
		821.5	5.32	1.92	19.33	2.15	20.58	114.288	Horizontal	Pass	
10.0MHz Band QPSK	1/#Midd	819	5.59	1.93	19.25	2.15	20.76	119.124	Horizontal	Pass	

Radiated Power (ERP) for Band 26a											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Correction	Max. EPR	Max. EPR			
			(dBm)			(dB)	Average	Average			
							(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	814.7	4.44	1.91	19.21	2.15	19.59	90.991	Vertical	Pass	
		819	4.38	1.91	19.26	2.15	19.58	90.782	Vertical	Pass	
		823.3	4.45	1.93	19.34	2.15	19.71	93.541	Vertical	Pass	
3.0MHz Band 16 QAM	1/#Mid	815.5	4.49	1.91	19.21	2.15	19.64	92.045	Vertical	Pass	
		819	4.52	1.91	19.26	2.15	19.72	93.756	Vertical	Pass	
		822.5	4.42	1.93	19.34	2.15	19.68	92.897	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	816.5	4.40	1.91	19.23	2.15	19.57	90.573	Vertical	Pass	
		819	4.38	1.91	19.26	2.15	19.58	90.782	Vertical	Pass	
		821.5	4.32	1.92	19.33	2.15	19.58	90.782	Vertical	Pass	
10.0MHz Band 16 QAM	1/#Mid	819	4.46	1.93	19.25	2.15	19.63	91.833	Vertical	Pass	
1.4MHz Band 16 QAM	1/#Mid	814.7	4.47	1.91	19.21	2.15	19.62	91.622	Horizontal	Pass	
		819	4.44	1.91	19.26	2.15	19.64	92.045	Horizontal	Pass	
		823.3	4.44	1.93	19.34	2.15	19.70	93.325	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	815.5	4.54	1.91	19.21	2.15	19.69	93.111	Horizontal	Pass	
		819	4.39	1.91	19.26	2.15	19.59	90.991	Horizontal	Pass	
		822.5	4.40	1.93	19.34	2.15	19.66	92.470	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	816.5	4.40	1.91	19.23	2.15	19.57	90.573	Horizontal	Pass	
		819	4.47	1.91	19.26	2.15	19.67	92.683	Horizontal	Pass	
		821.5	4.32	1.92	19.33	2.15	19.58	90.782	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	819	4.56	1.93	19.25	2.15	19.73	93.972	Horizontal	Pass	

Note:

SG Level= Signal generator output

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

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

8.10 LTE BAND 26B

Radiated Power (ERP) for Band 26B											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss	Factor	Correction	Max. ERP	Max. ERP			
			(dBm)	(dBm)	(dB)	(dB)	Average	Average			
						(dBm)	(mW)				
1.4MHz Band QPSK	1/#Mid	824.7	4.71	2.02	19.72	2.15	20.26	106.170	Horizontal	Pass	
		836.5	4.56	2.02	19.83	2.15	20.22	105.196	Horizontal	Pass	
		848.3	4.51	2.03	19.95	2.15	20.28	106.660	Horizontal	Pass	
3.0MHz Band QPSK	1/#Mid	825.5	4.58	2.02	19.84	2.15	20.25	105.925	Horizontal	Pass	
		836.5	4.47	2.02	19.94	2.15	20.24	105.682	Horizontal	Pass	
		847.5	4.39	2.03	19.98	2.15	20.19	104.472	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	826.5	4.54	2.02	19.75	2.15	20.12	102.802	Horizontal	Pass	
		836.5	4.58	2.02	19.83	2.15	20.24	105.682	Horizontal	Pass	
		846.5	4.55	2.03	19.92	2.15	20.29	106.905	Horizontal	Pass	
10.0MHz Band QPSK	1/#Mid	829	4.55	2.02	19.84	2.15	20.22	105.196	Horizontal	Pass	
		836.5	4.51	2.02	19.90	2.15	20.24	105.682	Horizontal	Pass	
		844	4.36	2.03	19.96	2.15	20.14	103.276	Horizontal	Pass	
15.0MHz Band QPSK	1/#Mid	831.5	5.00	2.02	19.33	2.15	20.16	103.753	Vertical	Pass	
		836.5	4.93	2.02	19.37	2.15	20.13	103.039	Vertical	Pass	
		841.5	4.93	2.03	19.52	2.15	20.27	106.414	Vertical	Pass	
1.4MHz Band QPSK	1/#Mid	824.7	4.65	2.02	19.76	2.15	20.24	105.682	Vertical	Pass	
		836.5	4.64	2.02	19.78	2.15	20.25	105.925	Vertical	Pass	
		848.3	4.48	2.03	19.94	2.15	20.24	105.682	Vertical	Pass	
3.0MHz Band QPSK	1/#Mid	825.5	4.50	2.02	19.83	2.15	20.16	103.753	Vertical	Pass	
		836.5	4.43	2.02	19.96	2.15	20.22	105.196	Vertical	Pass	
		847.5	4.59	2.03	19.87	2.15	20.28	106.660	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	826.5	4.51	2.02	19.86	2.15	20.20	104.713	Vertical	Pass	
		836.5	4.60	2.02	19.81	2.15	20.24	105.682	Vertical	Pass	
		846.5	4.50	2.03	19.83	2.15	20.15	103.514	Vertical	Pass	
10.0MHz Band QPSK	1/#Mid	829	4.76	2.02	19.75	2.15	20.34	108.143	Vertical	Pass	
		836.5	4.63	2.02	19.85	2.15	20.31	107.399	Vertical	Pass	
		844	4.70	2.03	19.80	2.15	20.32	107.647	Vertical	Pass	
15.0MHz Band QPSK	1/#Mid	831.5	5.23	2.02	19.31	2.15	20.37	108.893	Horizontal	Pass	
		836.5	5.18	2.02	19.33	2.15	20.34	108.143	Horizontal	Pass	
		841.5	5.17	2.03	19.38	2.15	20.37	108.893	Horizontal	Pass	

Radiated Power (ERP) for Band 26B											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Correction	Max. EPR	Max. EPR			
			(dBm)			(dB)	Average	Average			
							(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	824.7	3.72	2.02	19.72	2.15	19.27	84.528	Horizontal	Pass	
		836.5	3.62	2.02	19.83	2.15	19.28	84.723	Horizontal	Pass	
		848.3	3.43	2.03	19.95	2.15	19.20	83.176	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	825.5	3.54	2.02	19.84	2.15	19.21	83.368	Horizontal	Pass	
		836.5	3.40	2.02	19.94	2.15	19.17	82.604	Horizontal	Pass	
		847.5	3.37	2.03	19.98	2.15	19.17	82.604	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	826.5	3.72	2.02	19.75	2.15	19.30	85.114	Horizontal	Pass	
		836.5	3.55	2.02	19.83	2.15	19.21	83.368	Horizontal	Pass	
		846.5	3.40	2.03	19.92	2.15	19.14	82.035	Horizontal	Pass	
10.0MHz z Band 16 QAM	1/#Mid	829	3.54	2.02	19.84	2.15	19.21	83.368	Horizontal	Pass	
		836.5	3.44	2.02	19.90	2.15	19.17	82.604	Horizontal	Pass	
		844	3.48	2.03	19.96	2.15	19.26	84.333	Horizontal	Pass	
15.0MHz z Band 16 QAM	1/#Mid	831.5	3.99	2.02	19.33	2.15	19.15	82.224	Vertical	Pass	
		836.5	3.92	2.02	19.37	2.15	19.12	81.658	Vertical	Pass	
		841.5	3.89	2.03	19.52	2.15	19.23	83.753	Vertical	Pass	
1.4MHz Band 16 QAM	1/#Mid	824.7	3.59	2.02	19.76	2.15	19.18	82.794	Vertical	Pass	
		836.5	3.58	2.02	19.78	2.15	19.19	82.985	Vertical	Pass	
		848.3	3.45	2.03	19.94	2.15	19.21	83.368	Vertical	Pass	
3.0MHz Band 16 QAM	1/#Mid	825.5	3.57	2.02	19.83	2.15	19.23	83.753	Vertical	Pass	
		836.5	3.47	2.02	19.96	2.15	19.26	84.333	Vertical	Pass	
		847.5	3.58	2.03	19.87	2.15	19.27	84.528	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	826.5	3.46	2.02	19.86	2.15	19.15	82.224	Vertical	Pass	
		836.5	3.59	2.02	19.81	2.15	19.23	83.753	Vertical	Pass	
		846.5	3.61	2.03	19.83	2.15	19.26	84.333	Vertical	Pass	
10.0MHz z Band 16 QAM	1/#Mid	829	3.76	2.02	19.75	2.15	19.34	85.901	Vertical	Pass	
		836.5	3.63	2.02	19.85	2.15	19.31	85.310	Vertical	Pass	
		844	3.71	2.03	19.80	2.15	19.33	85.704	Vertical	Pass	
15.0MHz z Band 16 QAM	1/#Mid	831.5	4.20	2.02	19.31	2.15	19.34	85.901	Horizontal	Pass	
		836.5	4.14	2.02	19.33	2.15	19.30	85.114	Horizontal	Pass	
		841.5	4.11	2.03	19.38	2.15	19.31	85.310	Horizontal	Pass	

Note:

SG Level= Signal generator output

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

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

8.11 LTE BAND 41

Radiated Power (EIRP) for Band 41										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP			
			(dBm)			Average	Average			
						(dBm)	(mW)			
5.0MHz Band QPSK	1/#Mid	2498.5	0.18	4.54	27.75	23.39	218.273	Horizontal	Pass	
		2593	0.34	4.69	27.72	23.37	217.270	Horizontal	Pass	
		2687.5	0.43	4.71	27.71	23.43	220.293	Horizontal	Pass	
10.0MHz Band QPSK	1/#Mid	2501	0.26	4.55	27.76	23.47	222.331	Horizontal	Pass	
		2593	0.34	4.69	27.72	23.37	217.270	Horizontal	Pass	
		2685	0.47	4.72	27.70	23.45	221.309	Horizontal	Pass	
15.0MHz Band QPSK	1/#Mid	2503.5	0.22	4.55	27.77	23.44	220.800	Horizontal	Pass	
		2593	0.37	4.69	27.72	23.40	218.776	Horizontal	Pass	
		2682.5	0.37	4.72	27.69	23.34	215.774	Horizontal	Pass	
20.0MHz Band QPSK	1/#Mid	2506	0.25	4.57	27.78	23.46	221.820	Horizontal	Pass	
		2593	0.42	4.73	27.72	23.41	219.280	Horizontal	Pass	
		2680	0.43	4.75	27.68	23.36	216.770	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	2498.5	0.26	4.54	27.75	23.47	222.331	Vertical	Pass	
		2593	0.40	4.69	27.72	23.43	220.293	Vertical	Pass	
		2687.5	0.49	4.71	27.71	23.49	223.357	Vertical	Pass	
10.0MHz Band QPSK	1/#Mid	2501	0.22	4.55	27.76	23.43	220.293	Vertical	Pass	
		2593	0.40	4.69	27.72	23.43	220.293	Vertical	Pass	
		2685	0.41	4.72	27.70	23.39	218.273	Vertical	Pass	
15.0MHz Band QPSK	1/#Mid	2503.5	0.27	4.55	27.77	23.49	223.357	Vertical	Pass	
		2593	0.42	4.69	27.72	23.45	221.309	Vertical	Pass	
		2682.5	0.46	4.72	27.69	23.43	220.293	Vertical	Pass	
20.0MHz Band QPSK	1/#Mid	2506	0.30	4.57	27.78	23.51	224.388	Vertical	Pass	
		2593	0.56	4.73	27.72	23.55	226.464	Vertical	Pass	
		2680	0.61	4.75	27.68	23.54	225.944	Vertical	Pass	

Radiated Power (EIRP) for Band 41										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Max. EIRP	Max. EIRP			
			(dBm)			Average (dBm)	Average (mW)			
5.0MHz Band 16 QAM	1/#Mid	2502.5	2498.5	4.54	27.75	22.03	159.588	Horizontal	Pass	
		2535	2593	4.69	27.72	21.96	157.036	Horizontal	Pass	
		2567.5	2687.5	4.71	27.71	22.07	161.065	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	2505	2501	4.55	27.76	21.94	156.315	Horizontal	Pass	
		2535	2593	4.69	27.72	22.00	158.489	Horizontal	Pass	
		2565	2685	4.72	27.70	21.93	155.955	Horizontal	Pass	
15.0MHz Band 16 QAM	1/#Mid	2507.5	2503.5	4.55	27.77	21.91	155.239	Horizontal	Pass	
		2535	2593	4.69	27.72	21.92	155.597	Horizontal	Pass	
		2562.5	2682.5	4.72	27.69	21.91	155.239	Horizontal	Pass	
20.0MHz Band 16 QAM	1/#Mid	2510	2506	4.57	27.78	22.04	159.956	Horizontal	Pass	
		2535	2593	4.73	27.72	22.02	159.221	Horizontal	Pass	
		2560	2680	4.75	27.68	21.95	156.675	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	2502.5	2498.5	4.54	27.75	21.94	156.315	Vertical	Pass	
		2535	2593	4.69	27.72	21.94	156.315	Vertical	Pass	
		2567.5	2687.5	4.71	27.71	21.97	157.398	Vertical	Pass	
10.0MHz Band 16 QAM	1/#Mid	2505	2501	4.55	27.76	22.06	160.694	Vertical	Pass	
		2535	2593	4.69	27.72	21.98	157.761	Vertical	Pass	
		2565	2685	4.72	27.70	22.05	160.325	Vertical	Pass	
15.0MHz Band 16 QAM	1/#Mid	2507.5	2503.5	4.55	27.77	21.95	156.675	Vertical	Pass	
		2535	2593	4.69	27.72	21.94	156.315	Vertical	Pass	
		2562.5	2682.5	4.72	27.69	21.91	155.239	Vertical	Pass	
20.0MHz Band 16 QAM	1/#Mid	2510	2506	4.57	27.78	22.09	161.808	Vertical	Pass	
		2535	2593	4.73	27.72	22.11	162.555	Vertical	Pass	
		2560	2680	4.75	27.68	22.10	162.181	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)

8.12 LTE BAND 66

Radiated Power (EIRP) for Band 66										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)			
1.4MHz Band QPSK	1/#Mid	1710.7	-2.81	3.76	28.24	21.67	146.893	Horizontal	Pass	
		1745	-2.76	3.91	28.22	21.55	142.889	Horizontal	Pass	
		1779.3	-2.72	3.93	28.2	21.55	142.889	Horizontal	Pass	
3.0MHz Band QPSK	1/#Mid	1711.5	-2.88	3.77	28.23	21.58	143.880	Horizontal	Pass	
		1745	-2.72	3.91	28.24	21.61	144.877	Horizontal	Pass	
		1778.5	-2.68	3.94	28.25	21.63	145.546	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	1712.5	-2.95	3.77	28.31	21.59	144.212	Horizontal	Pass	
		1745	-2.70	3.91	28.22	21.61	144.877	Horizontal	Pass	
		1777.5	-2.68	3.94	28.2	21.58	143.880	Horizontal	Pass	
10.0MHz Band QPSK	1/#Mid	1715	-2.87	3.79	28.33	21.67	146.893	Horizontal	Pass	
		1745	-2.70	3.95	28.22	21.57	143.549	Horizontal	Pass	
		1775	-2.62	3.97	28.19	21.60	144.544	Horizontal	Pass	
15.0MHz Band QPSK	1/#Mid	1717.5	-2.88	3.79	28.34	21.67	146.893	Horizontal	Pass	
		1745	-2.72	3.95	28.22	21.55	142.889	Horizontal	Pass	
		1772.5	-2.63	3.97	28.18	21.58	143.880	Horizontal	Pass	
20.0MHz Band QPSK	1/#Mid	1720	-2.93	3.81	28.35	21.61	144.877	Horizontal	Pass	
		1745	-2.59	3.96	28.22	21.67	146.893	Horizontal	Pass	
		1770	-2.61	4	28.16	21.55	142.889	Horizontal	Pass	
1.4MHz Band QPSK	1/#Mid	1710.7	-2.87	3.76	28.24	21.61	144.877	Vertical	Pass	
		1745	-2.69	3.91	28.22	21.62	145.211	Vertical	Pass	
		1779.3	-2.72	3.93	28.2	21.55	142.889	Vertical	Pass	
3.0MHz Band QPSK	1/#Mid	1711.5	-2.85	3.77	28.23	21.61	144.877	Vertical	Pass	
		1745	-2.64	3.91	28.24	21.69	147.571	Vertical	Pass	
		1778.5	-2.64	3.94	28.25	21.67	146.893	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	1712.5	-3.02	3.77	28.31	21.52	141.906	Vertical	Pass	
		1745	-2.79	3.91	28.22	21.52	141.906	Vertical	Pass	
		1777.5	-2.62	3.94	28.2	21.64	145.881	Vertical	Pass	
10.0MHz	1/#Mid	1715	-2.94	3.79	28.34	21.61	144.877	Vertical	Pass	

Band		1745	-2.68	3.95	28.22	21.59	144.212	Vertical	Pass
QPSK		1775	-2.63	3.97	28.18	21.58	143.880	Vertical	Pass
15.0MHz		1717.5	-2.97	3.81	28.35	21.57	143.549	Vertical	Pass
Band	1/#Mid	1745	-2.69	3.96	28.22	21.57	143.549	Vertical	Pass
QPSK		1772.5	-2.50	4	28.16	21.66	146.555	Vertical	Pass
20.0MHz		1720	-2.82	3.79	28.34	21.73	148.936	Vertical	Pass
Band	1/#Mid	1745	-2.56	3.95	28.22	21.71	148.252	Vertical	Pass
QPSK		1770	-2.51	3.97	28.18	21.70	147.911	Vertical	Pass

Radiated Power (EIRP) for Band 66										
Mode	RB/RB SIZE	Frequency	Result						Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)			
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.16	3.76	28.24	21.32	135.519	Horizontal	Pass	
		1745	-3.05	3.91	28.22	21.26	133.660	Horizontal	Pass	
		1779.3	-3.02	3.93	28.2	21.25	133.352	Horizontal	Pass	
3.0MHz Band 16 QAM	1/#Mid	1711.5	-3.22	3.77	28.23	21.24	133.045	Horizontal	Pass	
		1745	-3.02	3.91	28.24	21.31	135.207	Horizontal	Pass	
		1778.5	-2.95	3.94	28.25	21.36	136.773	Horizontal	Pass	
5.0MHz Band 16 QAM	1/#Mid	1712.5	-3.21	3.77	28.31	21.33	135.831	Horizontal	Pass	
		1745	-3.00	3.91	28.22	21.31	135.207	Horizontal	Pass	
		1777.5	-3.02	3.94	28.2	21.24	133.045	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	1715	-3.25	3.79	28.33	21.29	134.586	Horizontal	Pass	
		1745	-2.90	3.95	28.22	21.37	137.088	Horizontal	Pass	
		1775	-2.89	3.97	28.19	21.33	135.831	Horizontal	Pass	
15.0MHz Band 16 QAM	1/#Mid	1717.5	-3.24	3.79	28.34	21.31	135.207	Horizontal	Pass	
		1745	-2.91	3.95	28.22	21.36	136.773	Horizontal	Pass	
		1772.5	-2.92	3.97	28.18	21.29	134.586	Horizontal	Pass	
20.0MHz Band 16 QAM	1/#Mid	1720	-3.27	3.81	28.35	21.27	133.968	Horizontal	Pass	
		1745	-2.98	3.96	28.22	21.28	134.276	Horizontal	Pass	
		1770	-2.94	4	28.16	21.22	132.434	Horizontal	Pass	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.14	3.76	28.24	21.34	136.144	Vertical	Pass	
		1745	-3.06	3.91	28.22	21.25	133.352	Vertical	Pass	
		1779.3	-2.90	3.93	28.2	21.37	137.088	Vertical	Pass	
3.0MHz Band 16	1/#Mid	1711.5	-3.17	3.77	28.23	21.29	134.586	Vertical	Pass	
		1745	-3.05	3.91	28.24	21.28	134.276	Vertical	Pass	

QAM		1778.5	-2.94	3.94	28.25	21.37	137.088	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-3.26	3.77	28.31	21.28	134.276	Vertical	Pass
Band 16		1745	-3.10	3.91	28.22	21.21	132.130	Vertical	Pass
QAM		1777.5	-3.06	3.94	28.2	21.20	131.826	Vertical	Pass
10.0MHz	1/#Mid	1715	-3.18	3.79	28.34	21.37	137.088	Vertical	Pass
Band 16		1745	-2.98	3.95	28.22	21.29	134.586	Vertical	Pass
QAM		1775	-2.84	3.97	28.18	21.37	137.088	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-3.17	3.81	28.35	21.37	137.088	Vertical	Pass
Band 16		1745	-3.01	3.96	28.22	21.25	133.352	Vertical	Pass
QAM		1772.5	-2.93	4	28.16	21.23	132.739	Vertical	Pass
20.0MHz	1/#Mid	1720	-3.13	3.79	28.34	21.42	138.676	Vertical	Pass
Band 16		1745	-2.87	3.95	28.22	21.40	138.038	Vertical	Pass
QAM		1770	-2.79	3.97	28.18	21.42	138.676	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)

8.13 LTE BAND 71

Radiated Power (ERP) for Band 71											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Correctio	Max. EPR	Max. EPR			
			(dBm)			n (dB)	Averag e (dBm)	Averag e (mW)			
5.0MHz Band QPSK	1/#Mid	665.5	5.18	1.91	19.21	2.15	20.33	107.895	Vertical	Pass	
		680.5	5.16	1.91	19.26	2.15	20.36	108.643	Vertical	Pass	
		695.5	5.12	1.93	19.34	2.15	20.38	109.144	Vertical	Pass	
10.0MHz z Band QPSK	1/#Mid	668	5.16	1.91	19.21	2.15	20.31	107.399	Vertical	Pass	
		680.5	5.15	1.91	19.26	2.15	20.35	108.393	Vertical	Pass	
		693	5.05	1.93	19.34	2.15	20.31	107.399	Vertical	Pass	
15.0MHz z Band QPSK	1/#Mid	670.5	5.20	1.91	19.23	2.15	20.37	108.893	Vertical	Pass	
		680.5	5.07	1.91	19.26	2.15	20.27	106.414	Vertical	Pass	
		690.5	5.03	1.92	19.33	2.15	20.29	106.905	Vertical	Pass	
20.0MHz z Band QPSK	1/#Mid	673	5.11	1.91	19.25	2.15	20.30	107.152	Vertical	Pass	
		683	5.13	1.91	19.26	2.15	20.33	107.895	Vertical	Pass	
		688	5.03	1.92	19.32	2.15	20.28	106.660	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	665.5	5.10	1.91	19.21	2.15	20.25	105.925	Horizontal	Pass	
		680.5	5.10	1.91	19.26	2.15	20.30	107.152	Horizontal	Pass	
		695.5	5.12	1.93	19.34	2.15	20.38	109.144	Horizontal	Pass	
10.0MHz z Band QPSK	1/#Mid	668	5.10	1.91	19.21	2.15	20.25	105.925	Horizontal	Pass	
		680.5	5.18	1.91	19.26	2.15	20.38	109.144	Horizontal	Pass	
		693	5.02	1.93	19.34	2.15	20.28	106.660	Horizontal	Pass	
15.0MHz z Band QPSK	1/#Mid	670.5	5.18	1.91	19.23	2.15	20.35	108.393	Horizontal	Pass	
		680.5	5.10	1.91	19.26	2.15	20.30	107.152	Horizontal	Pass	
		690.5	5.01	1.92	19.33	2.15	20.27	106.414	Horizontal	Pass	
20.0MHz z Band QPSK	1/#Mid	673	5.22	1.91	19.25	2.15	20.41	109.901	Horizontal	Pass	
		683	5.21	1.91	19.26	2.15	20.41	109.901	Horizontal	Pass	
		688	5.18	1.92	19.32	2.15	20.43	110.408	Horizontal	Pass	

Radiated Power (ERP) for Band 71											
Mode	RB/RB SIZE	Frequency	Result							Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR (dBm)	Max. EPR (mW)			
							Average	Average			
5.0MHz Band 16 QAM	1/#Mid	665.5	3.75	1.91	19.21	2.15	18.90	77.625	Vertical	Pass	
		680.5	3.75	1.91	19.26	2.15	18.95	78.524	Vertical	Pass	
		695.5	3.66	1.93	19.34	2.15	18.92	77.983	Vertical	Pass	
10.0MHz Band 16 QAM	1/#Mid	668	3.79	1.91	19.21	2.15	18.94	78.343	Vertical	Pass	
		680.5	3.66	1.91	19.26	2.15	18.86	76.913	Vertical	Pass	
		693	3.56	1.93	19.34	2.15	18.82	76.208	Vertical	Pass	
15.0MHz Band 16 QAM	1/#Mid	670.5	3.75	1.91	19.23	2.15	18.92	77.983	Vertical	Pass	
		680.5	3.68	1.91	19.26	2.15	18.88	77.268	Vertical	Pass	
		690.5	3.57	1.92	19.33	2.15	18.83	76.384	Vertical	Pass	
20.0MHz Band 16 QAM	1/#Mid	673	3.66	1.91	19.25	2.15	18.85	76.736	Vertical	Pass	
		683	3.67	1.91	19.26	2.15	18.87	77.090	Vertical	Pass	
		688	3.65	1.92	19.32	2.15	18.90	77.625	Vertical	Pass	
5.0MHz Band 16 QAM	1/#Mid	665.5	3.70	1.91	19.21	2.15	18.85	76.736	Horizontal	Pass	
		680.5	3.76	1.91	19.26	2.15	18.96	78.705	Horizontal	Pass	
		695.5	3.64	1.93	19.34	2.15	18.90	77.625	Horizontal	Pass	
10.0MHz Band 16 QAM	1/#Mid	668	3.68	1.91	19.21	2.15	18.83	76.384	Horizontal	Pass	
		680.5	3.72	1.91	19.26	2.15	18.92	77.983	Horizontal	Pass	
		693	3.58	1.93	19.34	2.15	18.84	76.560	Horizontal	Pass	
15.0MHz Band 16 QAM	1/#Mid	670.5	3.65	1.91	19.23	2.15	18.82	76.208	Horizontal	Pass	
		680.5	3.62	1.91	19.26	2.15	18.82	76.208	Horizontal	Pass	
		690.5	3.69	1.92	19.33	2.15	18.95	78.524	Horizontal	Pass	
20.0MHz Band 16 QAM	1/#Mid	673	3.79	1.91	19.25	2.15	18.98	79.068	Horizontal	Pass	
		683	3.78	1.91	19.26	2.15	18.98	79.068	Horizontal	Pass	
		688	3.73	1.92	19.32	2.15	18.98	79.068	Horizontal	Pass	

Note:

SG Level= Signal generator output

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

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

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

MODES TESTED

LTE Band 2/4/5/12/13/25/26/41/66/71

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-47.38	4.04	33.51	-17.91	-13	-4.91	Horizontal
3701.4	-52.90	4.04	33.51	-23.43	-13	-10.43	Vertical
5552.1	-50.19	5.24	35.84	-19.59	-13	-6.59	Vertical
5552.1	-52.69	5.24	35.84	-22.09	-13	-9.09	Horizontal
199.2	-44.64	1.43	16.02	-30.05	-13	-17.05	Vertical
373.9	-34.27	1.30	17.99	-17.58	-13	-4.58	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-53.58	4.04	33.56	-24.06	-13	-11.06	Horizontal
3760.0	-46.03	4.04	33.56	-16.51	-13	-3.51	Vertical
5640.0	-49.71	5.24	35.91	-19.04	-13	-6.04	Vertical
5640.0	-54.00	5.24	35.91	-23.33	-13	-10.33	Horizontal
197.7	-35.86	1.62	16.97	-20.51	-13	-7.51	Vertical
237.8	-41.78	1.74	15.98	-27.55	-13	-14.55	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-53.53	4.04	34.00	-23.57	-13	-10.57	Horizontal
3818.6	-46.88	4.04	34.00	-16.92	-13	-3.92	Vertical
5727.9	-46.52	5.24	36.04	-15.72	-13	-2.72	Vertical
5727.9	-51.56	5.24	36.04	-20.76	-13	-7.76	Horizontal
206.7	-42.15	1.42	17.29	-26.28	-13	-13.28	Vertical
303.8	-37.46	1.50	17.90	-21.05	-13	-8.05	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	-45.44	4.07	33.54	-15.97	-13	-2.97	Horizontal
3720.0	-46.24	4.07	33.54	-16.77	-13	-3.77	Vertical
5580.0	-46.76	5.28	35.86	-16.18	-13	-3.18	Vertical
5580.0	-52.57	5.28	35.86	-21.99	-13	-8.99	Horizontal
188.7	-35.60	1.58	16.89	-20.28	-13	-7.28	Vertical
462.9	-36.47	1.76	17.26	-20.97	-13	-7.97	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-45.98	4.04	33.56	-16.46	-13	-3.46	Horizontal
3760.0	-50.99	4.04	33.56	-21.47	-13	-8.47	Vertical
5640.0	-48.02	5.24	35.91	-17.35	-13	-4.35	Vertical
5640.0	-51.84	5.24	35.91	-21.17	-13	-8.17	Horizontal
206.5	-38.40	1.46	16.27	-23.59	-13	-10.59	Vertical
236.9	-42.50	1.59	15.15	-28.94	-13	-15.94	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-44.26	4.04	34.00	-14.30	-13	-1.30	Horizontal
3800.0	-49.67	4.04	34.00	-19.71	-13	-6.71	Vertical
5700.0	-53.55	5.24	36.04	-22.75	-13	-9.75	Vertical
5700.0	-53.11	5.24	36.04	-22.31	-13	-9.31	Horizontal
193.7	-35.40	1.36	17.39	-19.36	-13	-6.36	Vertical
325.0	-36.83	1.66	15.39	-23.10	-13	-10.10	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	-44.34	4.02	29.80	-18.56	-13	-5.56	Horizontal
3421.4	-49.52	4.02	29.80	-23.74	-13	-10.74	Vertical
5132.1	-46.71	5.24	35.84	-16.11	-13	-3.11	Vertical
5132.1	-52.07	5.24	35.84	-21.47	-13	-8.47	Horizontal
185.9	-36.12	1.68	16.04	-21.76	-13	-8.76	Vertical
428.7	-41.20	1.78	17.74	-25.24	-13	-12.24	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-44.30	4.03	30.00	-18.33	-13	-5.33	Horizontal
3465.0	-44.41	4.03	30.00	-18.44	-13	-5.44	Vertical
5197.5	-47.51	5.25	35.86	-16.90	-13	-3.90	Vertical
5197.5	-52.95	5.25	35.86	-22.34	-13	-9.34	Horizontal
181.3	-36.07	1.72	17.69	-20.10	-13	-7.10	Vertical
435.2	-43.13	1.62	16.02	-28.72	-13	-15.72	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-45.73	4.05	30.01	-19.77	-13	-6.77	Horizontal
3508.6	-45.82	4.05	30.01	-19.86	-13	-6.86	Vertical
5262.9	-49.71	5.26	35.86	-19.11	-13	-6.11	Vertical
5262.9	-50.76	5.26	35.86	-20.16	-13	-7.16	Horizontal
176.3	-41.85	1.80	16.69	-26.96	-13	-13.96	Vertical
462.3	-39.63	1.75	16.66	-24.73	-13	-11.73	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	-50.98	4.02	29.80	-25.20	-13	-12.20	Horizontal
3440.0	-52.00	4.02	29.80	-26.22	-13	-13.22	Vertical
5160.0	-53.91	5.24	35.84	-23.31	-13	-10.31	Vertical
5160.0	-53.54	5.24	35.84	-22.94	-13	-9.94	Horizontal
185.8	-36.63	1.57	17.26	-20.94	-13	-7.94	Vertical
293.7	-38.30	1.78	16.35	-23.73	-13	-10.73	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-47.17	4.03	30.00	-21.20	-13	-8.20	Horizontal
3465.0	-48.26	4.03	30.00	-22.29	-13	-9.29	Vertical
5197.5	-46.98	5.25	35.86	-16.37	-13	-3.37	Vertical
5197.5	-52.11	5.25	35.86	-21.50	-13	-8.50	Horizontal
209.3	-41.63	1.44	17.95	-25.12	-13	-12.12	Vertical
446.9	-44.19	1.65	16.09	-29.75	-13	-16.75	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-52.57	4.05	27.68	-28.94	-13	-15.94	Horizontal
3490.0	-48.05	4.05	27.68	-24.42	-13	-11.42	Vertical
5235.0	-49.36	5.26	35.86	-18.76	-13	-5.76	Vertical
5235.0	-50.62	5.26	35.86	-20.02	-13	-7.02	Horizontal
202.7	-44.58	1.61	16.85	-29.34	-13	-16.34	Vertical
286.4	-44.64	1.61	15.19	-31.06	-13	-18.06	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	-48.15	2.78	27.50	-23.43	-13	-10.43	Horizontal
1649.4	-51.19	2.78	27.50	-26.47	-13	-13.47	Vertical
2474.1	-45.59	2.90	27.80	-20.69	-13	-7.69	Vertical
2474.1	-53.53	2.90	27.80	-28.63	-13	-15.63	Horizontal
202.0	-43.62	1.76	17.59	-27.79	-13	-14.79	Vertical
453.0	-34.13	1.63	15.87	-19.89	-13	-6.89	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-47.24	2.80	27.48	-22.56	-13	-9.56	Horizontal
1673.0	-48.19	2.80	27.48	-23.51	-13	-10.51	Vertical
2509.5	-53.26	2.91	27.70	-28.47	-13	-15.47	Vertical
2509.5	-53.27	2.91	27.70	-28.48	-13	-15.48	Horizontal
177.7	-36.72	1.61	15.68	-22.65	-13	-9.65	Vertical
305.5	-38.32	1.59	17.52	-22.40	-13	-9.40	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-47.26	2.82	27.43	-22.65	-13	-9.65	Horizontal
1696.6	-53.65	2.82	27.43	-29.04	-13	-16.04	Vertical
2544.9	-45.31	2.92	27.74	-20.49	-13	-7.49	Vertical
2544.9	-51.90	2.92	27.74	-27.08	-13	-14.08	Horizontal
212.1	-40.12	1.69	16.67	-25.13	-13	-12.13	Vertical
469.5	-44.27	1.70	17.18	-28.79	-13	-15.79	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	-48.55	2.78	27.50	-23.83	-13	-10.83	Horizontal
1658.0	-48.23	2.78	27.50	-23.51	-13	-10.51	Vertical
2487.0	-51.97	2.90	27.80	-27.07	-13	-14.07	Vertical
2487.0	-53.66	2.90	27.80	-28.76	-13	-15.76	Horizontal
192.2	-44.02	1.71	15.57	-30.16	-13	-17.16	Vertical
431.1	-40.41	1.34	16.40	-25.35	-13	-12.35	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-48.79	2.80	27.48	-24.11	-13	-11.11	Horizontal
1673.0	-51.16	2.80	27.48	-26.48	-13	-13.48	Vertical
2509.5	-49.27	2.91	27.70	-24.48	-13	-11.48	Vertical
2509.5	-51.39	2.91	27.70	-26.60	-13	-13.60	Horizontal
184.8	-35.07	1.44	17.04	-19.47	-13	-6.47	Vertical
449.0	-42.19	1.76	17.62	-26.33	-13	-13.33	Horizontal
Test Results for High Channel 844MHz							
1688.0	-48.78	2.82	27.43	-24.17	-13	-11.17	Horizontal
1688.0	-44.38	2.82	27.43	-19.77	-13	-6.77	Vertical
2532.0	-48.50	2.92	27.74	-23.68	-13	-10.68	Vertical
2532.0	-52.38	2.92	27.74	-27.56	-13	-14.56	Horizontal
182.0	-40.24	1.74	17.70	-24.28	-13	-11.28	Vertical
283.7	-36.41	1.41	17.46	-20.35	-13	-7.35	Horizontal

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

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

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

9.4 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-53.74	2.60	27.20	-29.14	-13	-16.14	Horizontal
1399.4	-46.93	2.60	27.20	-22.33	-13	-9.33	Vertical
2099.1	-53.17	2.85	27.54	-28.48	-13	-15.48	Vertical
2099.1	-50.83	2.85	27.54	-26.14	-13	-13.14	Horizontal
191.6	-39.81	1.49	17.78	-23.52	-13	-10.52	Vertical
444.7	-39.37	1.36	17.33	-23.40	-13	-10.40	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-44.09	2.61	27.28	-19.42	-13	-6.42	Horizontal
1415.0	-50.74	2.61	27.28	-26.07	-13	-13.07	Vertical
2122.5	-53.97	2.87	27.59	-29.25	-13	-16.25	Vertical
2122.5	-52.06	2.87	27.59	-27.34	-13	-14.34	Horizontal
196.5	-41.70	1.73	15.74	-27.69	-13	-14.69	Vertical
469.7	-39.52	1.62	15.79	-25.35	-13	-12.35	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-52.56	2.63	27.28	-27.91	-13	-14.91	Horizontal
1430.6	-49.36	2.63	27.28	-24.71	-13	-11.71	Vertical
2145.9	-47.04	2.88	27.60	-22.32	-13	-9.32	Vertical
2145.9	-53.26	2.88	27.60	-28.54	-13	-15.54	Horizontal
182.2	-39.11	1.61	18.00	-22.72	-13	-9.72	Vertical
420.5	-41.85	1.45	15.49	-27.82	-13	-14.82	Horizontal

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

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-53.88	2.61	27.26	-29.23	-13	-16.23	Horizontal
1408.0	-48.84	2.61	27.26	-24.19	-13	-11.19	Vertical
2112.0	-46.59	2.87	27.58	-21.88	-13	-8.88	Vertical
2112.0	-50.28	2.87	27.58	-25.57	-13	-12.57	Horizontal
182.1	-38.52	1.31	16.97	-22.86	-13	-9.86	Vertical
408.5	-35.72	1.65	16.70	-20.67	-13	-7.67	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-52.62	2.61	27.28	-27.95	-13	-14.95	Horizontal
1415.0	-50.88	2.61	27.28	-26.21	-13	-13.21	Vertical
2122.5	-49.54	2.87	27.59	-24.82	-13	-11.82	Vertical
2122.5	-51.01	2.87	27.59	-26.29	-13	-13.29	Horizontal
193.7	-40.72	1.72	17.99	-24.45	-13	-11.45	Vertical
350.3	-43.76	1.73	17.94	-27.55	-13	-14.55	Horizontal
Test Results for High Channel 711MHz							
1422.0	-47.92	2.62	27.28	-23.26	-13	-10.26	Horizontal
1422.0	-47.85	2.62	27.28	-23.19	-13	-10.19	Vertical
2133.0	-51.19	2.87	27.60	-26.46	-13	-13.46	Vertical
2133.0	-50.74	2.87	27.60	-26.01	-13	-13.01	Horizontal
192.1	-38.19	1.58	15.93	-23.84	-13	-10.84	Vertical
445.4	-34.15	1.36	15.59	-19.92	-13	-6.92	Horizontal

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

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

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

9.5 LTE BAND 13

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

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1559.0	-69.47	2.61	27.28	-44.80	-40	-4.80	Horizontal
1559.0	-74.08	2.61	27.28	-49.41	-40	-9.41	Vertical
2338.5	-71.01	2.87	27.59	-46.29	-13	-33.29	Vertical
2338.5	-67.48	2.87	27.59	-42.76	-13	-29.76	Horizontal
212.6	-73.66	1.71	16.15	-59.22	-13	-46.22	Vertical
332.4	-74.54	1.41	17.32	-58.63	-13	-45.63	Horizontal
Test Results For Mid Channel 782MHz							
1564.0	-69.15	2.62	27.30	-44.47	-40	-4.47	Horizontal
1564.0	-74.41	2.62	27.30	-49.73	-40	-9.73	Vertical
2346.0	-71.90	2.87	27.62	-47.15	-13	-34.15	Vertical
2346.0	-71.67	2.87	27.62	-46.92	-13	-33.92	Horizontal
211.7	-70.72	1.42	15.25	-56.90	-13	-43.90	Vertical
441.7	-69.54	1.36	17.19	-53.71	-13	-40.71	Horizontal
Test Results for High Channel 784.5MHz							
1569.0	-74.34	2.66	27.28	-49.72	-40	-9.72	Horizontal
1569.0	-75.04	2.66	27.28	-50.42	-40	-10.42	Vertical
2353.5	-67.88	2.88	27.60	-43.16	-13	-30.16	Vertical
2353.5	-67.88	2.88	27.60	-43.16	-13	-30.16	Horizontal
191.5	-73.40	1.32	17.29	-57.43	-13	-44.43	Vertical
433.1	-74.61	1.72	16.89	-59.44	-13	-46.44	Horizontal

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

Test Results for Channel 782MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1564.0	-73.50	2.62	27.30	-48.82	-40	-8.82	Horizontal
1564.0	-73.49	2.62	27.30	-48.81	-40	-8.81	Vertical
2346.0	-67.75	2.87	27.62	-43.00	-13	-30.00	Vertical
2346.0	-69.99	2.87	27.62	-45.24	-13	-32.24	Horizontal
199.6	-68.72	1.35	16.91	-53.16	-13	-40.16	Vertical
459.6	-68.00	1.62	16.31	-53.31	-13	-40.31	Horizontal

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

. 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 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	-51.01	4.26	29.80	-25.47	-13	-12.47	Horizontal
3701.4	-45.06	4.26	29.80	-19.52	-13	-6.52	Vertical
5552.1	-48.65	5.36	35.84	-18.17	-13	-5.17	Vertical
5552.1	-53.49	5.36	35.84	-23.01	-13	-10.01	Horizontal
192.9	-37.37	1.68	16.04	-23.01	-13	-10.01	Vertical
258.8	-41.10	1.78	17.74	-25.14	-13	-12.14	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-44.68	4.28	30.00	-18.96	-13	-5.96	Horizontal
3765.0	-45.62	4.28	30.00	-19.90	-13	-6.90	Vertical
5647.5	-46.95	5.41	35.86	-16.50	-13	-3.50	Vertical
5647.5	-53.05	5.41	35.86	-22.60	-13	-9.60	Horizontal
201.1	-38.03	1.72	17.69	-22.06	-13	-9.06	Vertical
380.0	-42.52	1.62	16.02	-28.11	-13	-15.11	Horizontal
Test Results for High Channel 1914.3MHz							
3828.6	-52.12	4.31	30.01	-26.42	-13	-13.42	Horizontal
3828.6	-50.39	4.31	30.01	-24.69	-13	-11.69	Vertical
5742.9	-47.74	5.43	35.86	-17.31	-13	-4.31	Vertical
5742.9	-51.13	5.43	35.86	-20.70	-13	-7.70	Horizontal
208.9	-36.06	1.80	16.69	-21.17	-13	-8.17	Vertical
298.4	-39.44	1.75	16.66	-24.54	-13	-11.54	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	-48.56	4.29	29.80	-23.05	-13	-10.05	Horizontal
3720.0	-48.16	4.29	29.80	-22.65	-13	-9.65	Vertical
5580.0	-46.33	5.38	35.84	-15.87	-13	-2.87	Vertical
5580.0	-51.81	5.38	35.84	-21.35	-13	-8.35	Horizontal
189.6	-44.46	1.57	17.26	-28.77	-13	-15.77	Vertical
330.8	-43.59	1.78	16.35	-29.02	-13	-16.02	Horizontal
Test Results for Mid Channel 1882.5MHz							
3765.0	-51.24	4.28	30.00	-25.52	-13	-12.52	Horizontal
3765.0	-51.93	4.28	30.00	-26.21	-13	-13.21	Vertical
5647.5	-48.29	5.41	35.86	-17.84	-13	-4.84	Vertical
5647.5	-49.27	5.41	35.86	-18.82	-13	-5.82	Horizontal
198.1	-42.03	1.44	17.95	-25.52	-13	-12.52	Vertical
307.1	-34.11	1.65	16.09	-19.67	-13	-6.67	Horizontal
Test Results for High Channel 1905MHz							
3810.0	-46.06	4.35	27.68	-22.73	-13	-9.73	Horizontal
3810.0	-53.85	4.35	27.68	-30.52	-13	-17.52	Vertical
5715.0	-50.76	5.42	35.86	-20.32	-13	-7.32	Vertical
5715.0	-52.36	5.42	35.86	-21.92	-13	-8.92	Horizontal
207.4	-34.90	1.61	16.85	-19.66	-13	-6.66	Vertical
380.0	-37.19	1.61	15.19	-23.61	-13	-10.61	Horizontal

9.7 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	-48.32	4.26	29.80	-22.78	-13	-9.78	Horizontal
1629.4	-49.19	4.26	29.80	-23.65	-13	-10.65	Vertical
2444.1	-48.59	5.36	35.84	-18.11	-13	-5.11	Vertical
2444.1	-51.90	5.36	35.84	-21.42	-13	-8.42	Horizontal
203.5	-43.72	1.68	16.04	-29.36	-13	-16.36	Vertical
449.3	-41.44	1.78	17.74	-25.48	-13	-12.48	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-48.00	4.28	30.00	-22.28	-13	-9.28	Horizontal
1638.0	-52.39	4.28	30.00	-26.67	-13	-13.67	Vertical
2457.0	-45.58	5.41	35.86	-15.13	-13	-2.13	Vertical
2457.0	-52.34	5.41	35.86	-21.89	-13	-8.89	Horizontal
201.3	-35.49	1.72	17.69	-19.52	-13	-6.52	Vertical
283.1	-42.63	1.62	16.02	-28.22	-13	-15.22	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-44.57	4.31	30.01	-18.87	-13	-5.87	Horizontal
1646.6	-44.95	4.31	30.01	-19.25	-13	-6.25	Vertical
2469.9	-51.38	5.43	35.86	-20.95	-13	-7.95	Vertical
2469.9	-52.64	5.43	35.86	-22.21	-13	-9.21	Horizontal
186.8	-39.58	1.80	16.69	-24.69	-13	-11.69	Vertical
370.1	-38.38	1.75	16.66	-23.48	-13	-10.48	Horizontal

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

Test Results for Channel 819MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1638.0	-50.89	4.28	30.00	-25.17	-13	-12.17	Horizontal
1638.0	-49.36	4.28	30.00	-23.64	-13	-10.64	Vertical
2457.0	-50.17	5.41	35.86	-19.72	-13	-6.72	Vertical
2457.0	-53.14	5.41	35.86	-22.69	-13	-9.69	Horizontal
211.3	-41.79	1.44	17.95	-25.28	-13	-12.28	Vertical
441.4	-35.03	1.65	16.09	-20.59	-13	-7.59	Horizontal

9.8 LTE BAND 26B

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-46.08	4.26	29.80	-20.54	-13	-7.54	Horizontal
1649.4	-49.10	4.26	29.80	-23.56	-13	-10.56	Vertical
2474.1	-51.47	5.36	35.84	-20.99	-13	-7.99	Vertical
2474.1	-49.41	5.36	35.84	-18.93	-13	-5.93	Horizontal
203.6	-39.39	1.68	16.04	-25.03	-13	-12.03	Vertical
303.4	-34.89	1.78	17.74	-18.93	-13	-5.93	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-52.68	4.28	30.00	-26.96	-13	-13.96	Horizontal
1673.0	-49.99	4.28	30.00	-24.27	-13	-11.27	Vertical
2509.5	-51.66	5.41	35.86	-21.21	-13	-8.21	Vertical
2509.5	-51.87	5.41	35.86	-21.42	-13	-8.42	Horizontal
176.1	-39.33	1.72	17.69	-23.36	-13	-10.36	Vertical
382.6	-34.57	1.62	16.02	-20.16	-13	-7.16	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-48.33	4.31	30.01	-22.63	-13	-9.63	Horizontal
1696.6	-48.00	4.31	30.01	-22.30	-13	-9.30	Vertical
2544.9	-46.23	5.43	35.86	-15.80	-13	-2.80	Vertical
2544.9	-53.52	5.43	35.86	-23.09	-13	-10.09	Horizontal
182.5	-42.07	1.80	16.69	-27.18	-13	-14.18	Vertical
306.8	-36.37	1.75	16.66	-21.47	-13	-8.47	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	-49.13	4.29	29.80	-23.62	-13	-10.62	Horizontal
1663.0	-50.60	4.29	29.80	-25.09	-13	-12.09	Vertical
2494.5	-49.31	5.38	35.84	-18.85	-13	-5.85	Vertical
2494.5	-53.69	5.38	35.84	-23.23	-13	-10.23	Horizontal
197.9	-35.47	1.57	17.26	-19.78	-13	-6.78	Vertical
326.6	-38.57	1.78	16.35	-24.00	-13	-11.00	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-45.83	4.28	30.00	-20.11	-13	-7.11	Horizontal
1673.0	-53.21	4.28	30.00	-27.49	-13	-14.49	Vertical
2509.5	-46.44	5.41	35.86	-15.99	-13	-2.99	Vertical
2509.5	-53.17	5.41	35.86	-22.72	-13	-9.72	Horizontal
176.9	-43.81	1.44	17.95	-27.30	-13	-14.30	Vertical
436.8	-35.26	1.65	16.09	-20.82	-13	-7.82	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-48.58	4.35	27.68	-25.25	-13	-12.25	Horizontal
1683.0	-52.33	4.35	27.68	-29.00	-13	-16.00	Vertical
2524.5	-49.23	5.42	35.86	-18.79	-13	-5.79	Vertical
2524.5	-53.05	5.42	35.86	-22.61	-13	-9.61	Horizontal
184.7	-41.13	1.61	16.85	-25.89	-13	-12.89	Vertical
411.6	-44.42	1.61	15.19	-30.84	-13	-17.84	Horizontal

9.9 LTE BAND 41

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

Test Results for Low Channel 2498.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4997.0	-63.29	5.13	35.81	-32.61	-25	-7.61	Horizontal
4997.0	-61.85	5.13	35.81	-31.17	-25	-6.17	Vertical
7495.5	-64.50	5.42	36.85	-33.07	-25	-8.07	Vertical
7495.5	-59.56	5.42	36.85	-28.13	-25	-3.13	Horizontal
202.9	-53.81	1.56	17.97	-37.40	-25	-12.40	Vertical
425.4	-48.10	1.33	15.11	-34.32	-25	-9.32	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-60.07	5.16	35.82	-29.41	-25	-4.41	Horizontal
5186.0	-63.17	5.16	35.82	-32.51	-25	-7.51	Vertical
7779.0	-62.20	5.53	36.85	-30.88	-25	-5.88	Vertical
7779.0	-60.59	5.53	36.85	-29.27	-25	-4.27	Horizontal
183.9	-53.47	1.77	16.17	-39.06	-25	-14.06	Vertical
261.2	-44.72	1.63	15.21	-31.14	-25	-6.14	Horizontal
Test Results for High Channel 2687.5MHz							
5375.0	-61.31	5.23	35.83	-30.71	-25	-5.71	Horizontal
5375.0	-60.62	5.23	35.83	-30.02	-25	-5.02	Vertical
8062.5	-59.94	5.62	36.87	-28.69	-25	-3.69	Vertical
8062.5	-63.69	5.62	36.87	-32.44	-25	-7.44	Horizontal
189.6	-51.37	1.58	17.56	-35.39	-25	-10.39	Vertical
284.1	-54.55	1.45	16.58	-39.42	-25	-14.42	Horizontal

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

Test Results for Low Channel 2506MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5160.0	-63.99	5.23	35.82	-33.40	-25	-8.40	Horizontal
5160.0	-64.78	5.23	35.82	-34.19	-25	-9.19	Vertical
7740.0	-72.02	5.67	36.86	-40.83	-25	-15.83	Vertical
7740.0	-68.68	5.67	36.86	-37.49	-25	-12.49	Horizontal
128.9	-53.67	1.43	15.51	-39.59	-25	-14.59	Vertical
344.8	-57.84	1.40	16.97	-42.27	-25	-17.27	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-59.76	5.16	35.82	-29.10	-25	-4.10	Horizontal
5186.0	-63.28	5.16	35.82	-32.62	-25	-7.62	Vertical
7779.0	-59.79	5.53	36.85	-28.47	-25	-3.47	Vertical
7779.0	-62.39	5.53	36.85	-31.07	-25	-6.07	Horizontal
204.1	-51.22	1.58	16.84	-35.96	-25	-10.96	Vertical
278.4	-54.04	1.61	17.64	-38.01	-25	-13.01	Horizontal
Test Results for High Channel 2680MHz							
5360.0	-63.38	5.24	35.83	-32.79	-25	-7.79	Horizontal
5360.0	-64.92	5.24	35.83	-34.33	-25	-9.33	Vertical
8040.0	-62.98	5.70	36.88	-31.80	-25	-6.80	Vertical
8040.0	-62.78	5.70	36.88	-31.60	-25	-6.60	Horizontal
191.2	-46.40	1.48	16.84	-31.04	-25	-6.04	Vertical
298.5	-47.55	1.59	17.64	-31.50	-25	-6.50	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	-64.68	3.84	35.81	-32.71	-13	-19.71	Horizontal
3421.4	-62.71	3.84	35.81	-30.74	-13	-17.74	Vertical
5132.1	-63.11	5.18	36.85	-31.44	-13	-18.44	Vertical
5132.1	-64.73	5.18	36.85	-33.06	-13	-20.06	Horizontal
190.2	-49.13	1.56	17.97	-32.72	-13	-19.72	Vertical
434.9	-45.44	1.33	15.11	-31.66	-13	-18.66	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-59.10	3.85	35.82	-27.13	-13	-14.13	Horizontal
3490.0	-63.47	3.85	35.82	-31.50	-13	-18.50	Vertical
5235.0	-62.05	5.21	36.85	-30.41	-13	-17.41	Vertical
5235.0	-60.54	5.21	36.85	-28.90	-13	-15.90	Horizontal
208.2	-46.51	1.77	16.17	-32.10	-13	-19.10	Vertical
287.7	-46.77	1.63	15.21	-33.19	-13	-20.19	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-62.04	3.86	35.83	-30.07	-13	-17.07	Horizontal
3558.6	-61.52	3.86	35.83	-29.55	-13	-16.55	Vertical
5337.9	-62.50	5.24	36.87	-30.87	-13	-17.87	Vertical
5337.9	-64.21	5.24	36.87	-32.58	-13	-19.58	Horizontal
181.7	-54.06	1.58	17.56	-38.08	-13	-25.08	Vertical
269.3	-51.91	1.45	16.58	-36.78	-13	-23.78	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-64.26	3.84	35.82	-32.28	-13	-19.28	Horizontal
3440.0	-61.16	3.84	35.82	-29.18	-13	-16.18	Vertical
5160.0	-61.57	5.18	36.86	-29.89	-13	-16.89	Vertical
5160.0	-64.00	5.18	36.86	-32.32	-13	-19.32	Horizontal
209.0	-45.33	1.56	15.76	-31.13	-13	-18.13	Vertical
437.9	-47.37	1.33	15.44	-33.26	-13	-20.26	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-63.23	3.85	35.82	-31.26	-13	-18.26	Horizontal
3490.0	-61.53	3.85	35.82	-29.56	-13	-16.56	Vertical
5235.0	-59.80	5.21	36.85	-28.16	-13	-15.16	Vertical
5235.0	-59.68	5.21	36.85	-28.04	-13	-15.04	Horizontal
180.4	-48.38	1.77	16.84	-33.30	-13	-20.30	Vertical
464.2	-47.97	1.63	17.64	-31.96	-13	-18.96	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-62.05	3.86	35.83	-30.08	-13	-17.08	Horizontal
3540.0	-64.69	3.86	35.83	-32.72	-13	-19.72	Vertical
5310.0	-60.85	5.24	36.88	-29.21	-13	-16.21	Vertical
5310.0	-63.40	5.24	36.88	-31.76	-13	-18.76	Horizontal
210.0	-47.23	1.58	16.84	-31.96	-13	-18.96	Vertical
293.1	-47.31	1.45	17.64	-31.12	-13	-18.12	Horizontal

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

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

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

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

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

Test Results for Low Channel 665.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1331.0	-62.57	2.16	35.81	-28.92	-13	-15.92	Horizontal
1331.0	-60.38	2.16	35.81	-26.73	-13	-13.73	Vertical
1996.5	-63.80	2.89	36.85	-29.84	-13	-16.84	Vertical
1996.5	-61.97	2.89	36.85	-28.01	-13	-15.01	Horizontal
190.4	-45.99	1.56	17.97	-29.58	-13	-16.58	Vertical
465.9	-54.15	1.33	15.11	-40.37	-13	-27.37	Horizontal
Test Results for Mid Channel 680.5MHz							
1361.0	-62.34	2.17	35.82	-28.69	-13	-15.69	Horizontal
1361.0	-59.96	2.17	35.82	-26.31	-13	-13.31	Vertical
2041.5	-61.88	2.90	36.85	-27.93	-13	-14.93	Vertical
2041.5	-62.87	2.90	36.85	-28.92	-13	-15.92	Horizontal
188.5	-48.07	1.77	16.17	-33.66	-13	-20.66	Vertical
358.7	-53.19	1.63	15.21	-39.61	-13	-26.61	Horizontal
Test Results for High Channel 695.5MHz							
1391.0	-61.62	2.19	35.83	-27.98	-13	-14.98	Horizontal
1391.0	-63.43	2.19	35.83	-29.79	-13	-16.79	Vertical
2086.5	-60.49	2.95	36.87	-26.57	-13	-13.57	Vertical
2086.5	-60.26	2.95	36.87	-26.34	-13	-13.34	Horizontal
185.8	-44.28	1.58	17.56	-28.30	-13	-15.3	Vertical
309.4	-52.00	1.45	16.58	-36.87	-13	-23.87	Horizontal

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

Test Results for Low Channel 673MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1346.0	-63.20	2.16	35.82	-29.54	-13	-16.54	Horizontal
1346.0	-60.04	2.16	35.82	-26.38	-13	-13.38	Vertical
2019.0	-60.21	2.89	36.86	-26.24	-13	-13.24	Vertical
2019.0	-60.61	2.89	36.86	-26.64	-13	-13.64	Horizontal
205.7	-53.42	1.56	15.76	-39.22	-13	-26.22	Vertical
442.3	-48.50	1.33	15.44	-34.39	-13	-21.39	Horizontal
Test Results for Mid Channel 683MHz							
1366.0	-64.46	2.17	35.82	-30.81	-13	-17.81	Horizontal
1366.0	-59.83	2.17	35.82	-26.18	-13	-13.18	Vertical
2049.0	-60.29	2.90	36.85	-26.34	-13	-13.34	Vertical
2049.0	-63.20	2.90	36.85	-29.25	-13	-16.25	Horizontal
175.0	-52.12	1.77	16.84	-37.04	-13	-24.04	Vertical
359.0	-54.98	1.63	17.64	-38.97	-13	-25.97	Horizontal
Test Results for High Channel 688MHz							
1376.0	-64.02	2.19	35.83	-30.38	-13	-17.38	Horizontal
1376.0	-64.24	2.19	35.83	-30.60	-13	-17.60	Vertical
2064.0	-61.80	2.95	36.88	-27.87	-13	-14.87	Vertical
2064.0	-61.13	2.95	36.88	-27.20	-13	-14.20	Horizontal
210.2	-49.25	1.58	16.84	-33.98	-13	-20.98	Vertical
299.3	-46.20	1.45	17.64	-30.01	-13	-17.01	Horizontal

Note: P_{Mea}(dBm)= Power(dBm)+ ARpl (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 3.4V, Normal, DC 37V and High voltage, DC 4.2V.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

LTE Band 2/4/5/12/13/25/26/41/66/71

RESULTS

See the following pages.

10.1 LTE BAND 2

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1880	12.3	0.006541	2.5
3.7	1880	13.5	0.007205	2.5
4.2	1880	13.3	0.007081	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	13.1	0.006972	2.5
Extreme (50C)	1880	11.7	0.006244	2.5
Extreme (40C)	1880	14.1	0.007490	2.5
Extreme (30C)	1880	13.1	0.006979	2.5
Extreme (10C)	1880	13.6	0.007227	2.5
Extreme (0C)	1880	11.8	0.006299	2.5
Extreme (-10C)	1880	13.2	0.006995	2.5
Extreme (-20C)	1880	13.7	0.007293	2.5
Extreme (-30C)	1880	14.4	0.007672	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]
3.4	1880	9.5	0.005046	2.5
3.7	1880	8.6	0.004560	2.5
4.2	1880	8.5	0.004528	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.6	0.005102	2.5
Extreme (50C)	1880	8.8	0.004677	2.5
Extreme (40C)	1880	8.2	0.0043559	2.5
Extreme (30C)	1880	9.3	0.004952094	2.5
Extreme (10C)	1880	9.0	0.00480162	2.5
Extreme (0C)	1880	7.8	0.004140517	2.5
Extreme (-10C)	1880	8.7	0.004640741	2.5
Extreme (-20C)	1880	9.4	0.004988129	2.5
Extreme (-30C)	1880	7.7	0.004092953	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]
3.4	1732.5	8.6	0.004957	2.5
3.7	1732.5	9.3	0.005378	2.5
4.2	1732.5	8.7	0.005034	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.7	0.005004	2.5
Extreme (50C)	1732.5	9.0	0.005209	2.5
Extreme (40C)	1732.5	7.1	0.004127	2.5
Extreme (30C)	1732.5	6.0	0.003452	2.5
Extreme (10C)	1732.5	7.0	0.004039	2.5
Extreme (0C)	1732.5	9.0	0.005217	2.5
Extreme (-10C)	1732.5	8.8	0.005100	2.5
Extreme (-20C)	1732.5	6.7	0.003849	2.5
Extreme (-30C)	1732.5	7.9	0.004568	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]
3.4	1732.5	10.3	0.005941	2.5
3.7	1732.5	8.6	0.004981	2.5
4.2	1732.5	7.9	0.004558	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.4	0.005417	2.5
Extreme (50C)	1732.5	9.2	0.005293	2.5
Extreme (40C)	1732.5	8.0	0.004639	2.5
Extreme (30C)	1732.5	9.3	0.005344	2.5
Extreme (10C)	1732.5	8.7	0.005006	2.5
Extreme (0C)	1732.5	7.7	0.004463	2.5
Extreme (-10C)	1732.5	9.0	0.005207	2.5
Extreme (-20C)	1732.5	8.9	0.005150	2.5
Extreme (-30C)	1732.5	8.4	0.004855	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]
3.4	836.5	6.1	0.007256	2.5
3.7	836.5	6.9	0.008209	2.5
4.2	836.5	4.4	0.005272	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.0	0.007222	2.5
Extreme (50C)	836.5	5.4	0.006483	2.5
Extreme (40C)	836.5	6.1	0.007301	2.5
Extreme (30C)	836.5	6.3	0.007494	2.5
Extreme (10C)	836.5	5.2	0.006250	2.5
Extreme (0C)	836.5	5.2	0.006250	2.5
Extreme (-10C)	836.5	5.9	0.007105	2.5
Extreme (-20C)	836.5	5.8	0.006953	2.5
Extreme (-30C)	836.5	6.1	0.007250	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]
3.4	836.5	5.7	0.006807	2.5
3.7	836.5	6.6	0.007934	2.5
4.2	836.5	4.5	0.005328	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.5	0.007792	2.5
Extreme (50C)	836.5	5.6	0.006746	2.5
Extreme (40C)	836.5	6.2	0.007409	2.5
Extreme (30C)	836.5	5.9	0.007106	2.5
Extreme (10C)	836.5	5.7	0.006825	2.5
Extreme (0C)	836.5	5.2	0.006227	2.5
Extreme (-10C)	836.5	5.3	0.006394	2.5
Extreme (-20C)	836.5	5.8	0.006918	2.5
Extreme (-30C)	836.5	5.8	0.006943	2.5

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

10.4 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	707.5	8.3	0.011714	2.5
3.7	707.5	9.6	0.013631	2.5
4.2	707.5	8.7	0.012267	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.4	0.011852	2.5
Extreme (50C)	707.5	7.2	0.010119	2.5
Extreme (40C)	707.5	7.5	0.010574	2.5
Extreme (30C)	707.5	8.7	0.012273	2.5
Extreme (10C)	707.5	7.9	0.011140	2.5
Extreme (0C)	707.5	9.3	0.013078	2.5
Extreme (-10C)	707.5	8.5	0.011945	2.5
Extreme (-20C)	707.5	8.7	0.012249	2.5
Extreme (-30C)	707.5	7.7	0.010927	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]
3.4	707.5	6.9	0.009821	2.5
3.7	707.5	8.7	0.012303	2.5
4.2	707.5	7.3	0.010287	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	9.2	0.013024	2.5
Extreme (50C)	707.5	8.3	0.011720	2.5
Extreme (40C)	707.5	8.7	0.012280	2.5
Extreme (30C)	707.5	7.4	0.010480	2.5
Extreme (10C)	707.5	9.2	0.013067	2.5
Extreme (0C)	707.5	7.5	0.010615	2.5
Extreme (-10C)	707.5	7.6	0.010775	2.5
Extreme (-20C)	707.5	9.3	0.013111	2.5
Extreme (-30C)	707.5	8.3	0.011668	2.5

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

10.5 LTE BAND 13

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	782.0	12.8	0.016363	2.5
3.7	782.0	14.2	0.018169	2.5
4.2	782.0	13.5	0.017281	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	782.0	14.2	0.018123	2.5
Extreme (50C)	782.0	13.4	0.017189	2.5
Extreme (40C)	782.0	14.7	0.018859	2.5
Extreme (30C)	782.0	14.5	0.018507	2.5
Extreme (10C)	782.0	13.8	0.017689	2.5
Extreme (0C)	782.0	13.8	0.017687	2.5
Extreme (-10C)	782.0	14.2	0.018183	2.5
Extreme (-20C)	782.0	13.7	0.017522	2.5
Extreme (-30C)	782.0	13.5	0.017282	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	782.0	12.8	0.016364	2.5
3.7	782.0	14.0	0.017893	2.5
4.2	782.0	13.3	0.017019	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	782.0	12.3	0.015710	2.5
Extreme (50C)	782.0	11.7	0.014917	2.5
Extreme (40C)	782.0	13.9	0.017758	2.5
Extreme (30C)	782.0	13.1	0.016793	2.5
Extreme (10C)	782.0	13.9	0.017809	2.5
Extreme (0C)	782.0	12.5	0.016015	2.5
Extreme (-10C)	782.0	12.9	0.016520	2.5
Extreme (-20C)	782.0	13.9	0.017771	2.5
Extreme (-30C)	782.0	14.4	0.018402	2.5

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

10.6 LTE BAND 25

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]
3.4	1882.5	10.2	0.005426	2.5
3.7	1882.5	8.4	0.004477	2.5
4.2	1882.5	8.5	0.004510	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.6	0.005113	2.5
Extreme (50C)	1882.5	8.5	0.004542	2.5
Extreme (40C)	1882.5	8.6	0.004565	2.5
Extreme (30C)	1882.5	9.2	0.004880	2.5
Extreme (10C)	1882.5	8.4	0.004480	2.5
Extreme (0C)	1882.5	8.4	0.004462	2.5
Extreme (-10C)	1882.5	8.8	0.004666	2.5
Extreme (-20C)	1882.5	8.8	0.004700	2.5
Extreme (-30C)	1882.5	8.4	0.004447	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]
3.4	1882.5	10.2	0.005405	2.5
3.7	1882.5	9.1	0.004811	2.5
4.2	1882.5	8.8	0.004662	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.7	0.005154	2.5
Extreme (50C)	1882.5	9.0	0.004763	2.5
Extreme (40C)	1882.5	8.0	0.004226	2.5
Extreme (30C)	1882.5	8.4	0.004488	2.5
Extreme (10C)	1882.5	8.2	0.004331	2.5
Extreme (0C)	1882.5	8.1	0.004293	2.5
Extreme (-10C)	1882.5	9.6	0.005086	2.5
Extreme (-20C)	1882.5	8.8	0.004675	2.5
Extreme (-30C)	1882.5	7.9	0.004211	2.5

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

10.7 LTE BAND 26A

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	819.0	9.5	0.011631	2.5
3.7	819.0	8.7	0.010620	2.5
4.2	819.0	8.6	0.010466	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.7	0.011828	2.5
Extreme (50C)	819.0	8.5	0.010364	2.5
Extreme (40C)	819.0	8.4	0.010244	2.5
Extreme (30C)	819.0	9.1	0.011060	2.5
Extreme (10C)	819.0	9.1	0.011102	2.5
Extreme (0C)	819.0	7.8	0.009471	2.5
Extreme (-10C)	819.0	8.7	0.010591	2.5
Extreme (-20C)	819.0	8.5	0.010367	2.5
Extreme (-30C)	819.0	8.5	0.010377	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]
3.4	819.0	10.1	0.012317	2.5
3.7	819.0	9.3	0.011339	2.5
4.2	819.0	8.1	0.009901	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.8	0.012013	2.5
Extreme (50C)	819.0	8.9	0.010812	2.5
Extreme (40C)	819.0	8.1	0.009859	2.5
Extreme (30C)	819.0	8.8	0.010758	2.5
Extreme (10C)	819.0	8.5	0.010424	2.5
Extreme (0C)	819.0	8.5	0.010399	2.5
Extreme (-10C)	819.0	9.0	0.010937	2.5
Extreme (-20C)	819.0	9.1	0.011090	2.5
Extreme (-30C)	819.0	8.3	0.010099	2.5

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

10.8 LTE BAND 26B

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	836.5	9.6	0.011501	2.5
3.7	836.5	9.3	0.011108	2.5
4.2	836.5	7.9	0.009415	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.2	0.011016	2.5
Extreme (50C)	836.5	9.0	0.010702	2.5
Extreme (40C)	836.5	8.3	0.009910	2.5
Extreme (30C)	836.5	9.4	0.011246	2.5
Extreme (10C)	836.5	9.1	0.010864	2.5
Extreme (0C)	836.5	8.4	0.010089	2.5
Extreme (-10C)	836.5	8.7	0.010402	2.5
Extreme (-20C)	836.5	8.5	0.010160	2.5
Extreme (-30C)	836.5	7.7	0.009228	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]
3.4	836.5	10.5	0.012531	2.5
3.7	836.5	8.6	0.010295	2.5
4.2	836.5	8.1	0.009732	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.2	0.010957	2.5
Extreme (50C)	836.5	9.1	0.010923	2.5
Extreme (40C)	836.5	8.4	0.010065	2.5
Extreme (30C)	836.5	9.0	0.010725	2.5
Extreme (10C)	836.5	8.5	0.010110	2.5
Extreme (0C)	836.5	8.2	0.009807	2.5
Extreme (-10C)	836.5	9.3	0.011106	2.5
Extreme (-20C)	836.5	8.9	0.010673	2.5
Extreme (-30C)	836.5	8.4	0.010006	2.5

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

10.9 LTE BAND 41

Band 41 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2593	10.3	0.003955	2.5
3.7	2593	8.6	0.003317	2.5
4.2	2593	8.0	0.003079	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	9.3	0.003594	2.5
Extreme (50C)	2593	9.0	0.003453	2.5
Extreme (40C)	2593	8.0	0.003085	2.5
Extreme (30C)	2593	9.1	0.003506	2.5
Extreme (10C)	2593	8.2	0.003175	2.5
Extreme (0C)	2593	8.4	0.003231	2.5
Extreme (-10C)	2593	9.3	0.003570	2.5
Extreme (-20C)	2593	9.1	0.003492	2.5
Extreme (-30C)	2593	8.5	0.003281	2.5

Band 41 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2593	6.9	0.002661	2.5
3.7	2593	6.2	0.002396	2.5
4.2	2593	5.9	0.002288	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	6.9	0.002661	2.5
Extreme (50C)	2593	5.7	0.002194	2.5
Extreme (40C)	2593	5.8	0.002245	2.5
Extreme (30C)	2593	6.7	0.002577	2.5
Extreme (10C)	2593	5.4	0.002093	2.5
Extreme (0C)	2593	5.1	0.001955	2.5
Extreme (-10C)	2593	4.9	0.001876	2.5
Extreme (-20C)	2593	5.8	0.002254	2.5
Extreme (-30C)	2593	5.5	0.002121	2.5

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

10.10 LTE BAND 66

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1745	6.4	0.003687	2.5
3.7	1745	6.9	0.003963	2.5
4.2	1745	7.9	0.004500	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.8	0.003320	2.5
Extreme (50C)	1745	7.4	0.004258	2.5
Extreme (40C)	1745	6.8	0.003913	2.5
Extreme (30C)	1745	7.1	0.004084	2.5
Extreme (10C)	1745	7.3	0.004170	2.5
Extreme (0C)	1745	6.2	0.003561	2.5
Extreme (-10C)	1745	5.8	0.003346	2.5
Extreme (-20C)	1745	6.1	0.003496	2.5
Extreme (-30C)	1745	5.8	0.003342	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]
3.4	1745	8.4	0.004824	2.5
3.7	1745	7.6	0.004372	2.5
4.2	1745	9.3	0.005340	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	8.4	0.004788	2.5
Extreme (50C)	1745	8.0	0.004556	2.5
Extreme (40C)	1745	8.1	0.004619	2.5
Extreme (30C)	1745	8.5	0.004865	2.5
Extreme (10C)	1745	8.6	0.004904	2.5
Extreme (0C)	1745	6.1	0.003513	2.5
Extreme (-10C)	1745	8.6	0.004934	2.5
Extreme (-20C)	1745	8.9	0.005124	2.5
Extreme (-30C)	1745	5.9	0.003365	2.5

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

10.11 LTE BAND 71

Band 71 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1745	6.5	0.003729	2.5
3.7	1745	7.2	0.004124	2.5
4.2	1745	7.3	0.004209	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.7	0.003257	2.5
Extreme (50C)	1745	7.4	0.004264	2.5
Extreme (40C)	1745	6.6	0.003781	2.5
Extreme (30C)	1745	6.8	0.003916	2.5
Extreme (10C)	1745	7.7	0.004433	2.5
Extreme (0C)	1745	6.6	0.003766	2.5
Extreme (-10C)	1745	5.9	0.003360	2.5
Extreme (-20C)	1745	6.7	0.003847	2.5
Extreme (-30C)	1745	5.8	0.003336	2.5

Band 71 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1745	8.1	0.004640	2.5
3.7	1745	7.9	0.004531	2.5
4.2	1745	9.8	0.005612	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	8.7	0.005011	2.5
Extreme (50C)	1745	8.0	0.004594	2.5
Extreme (40C)	1745	8.1	0.004635	2.5
Extreme (30C)	1745	7.6	0.004359	2.5
Extreme (10C)	1745	8.7	0.004978	2.5
Extreme (0C)	1745	6.3	0.003611	2.5
Extreme (-10C)	1745	8.3	0.004738	2.5
Extreme (-20C)	1745	8.3	0.004736	2.5
Extreme (-30C)	1745	5.9	0.003377	2.5

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

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

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

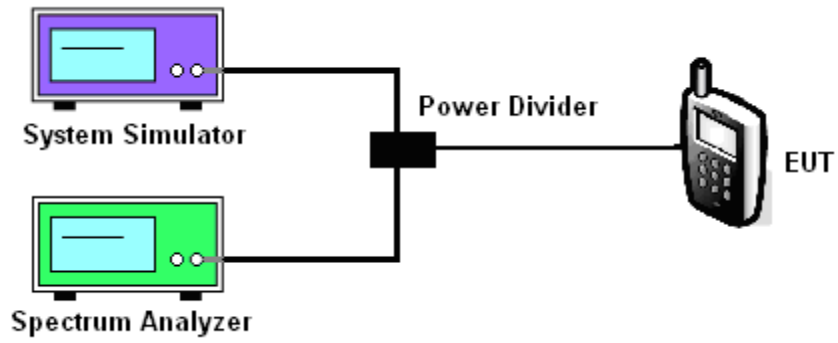
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

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

11.4 Test Setup



MODES TESTED

LTE Band 2/4/5/12/13/25/26/41/66/71

Test data reference attachment.

----END OF REPORT----