

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

FCC ID: 2BAK2-DT1

Product: Tablet

Trade Mark: Fossibot

Model No.: DT1

Family Model: DT1 PLUS, DT1 PRO, DT2,
DT2 PRO, DT3, DT3S, DT5

Report No.: STR230309002006E

Issue Date: Apr 23, 2023

Prepared for

Shenzhen Qichang Intelligent Technology Co., Ltd
Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street,
Longgang , Shenzhen,China

Prepared by

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
Tel. 400-800-6106, 0755-2320 0050, 0755-2320 0090
Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name : Shenzhen Qichang Intelligent Technology Co., Ltd
Address..... : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street,
Longgang , Shenzhen,China
Manufacturer's Name..... : Shenzhen Qichang Intelligent Technology Co., Ltd
Address..... : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street,
Longgang , Shenzhen,China
Product name..... : Tablet
Model and/or type reference .. : DT1
Trade Mark..... : Fossibot
Family Model..... : DT1 PLUS, DT1 PRO, DT2, DT2 PRO, DT3, DT3S, DT5
Test Sample Number..... T230221004R003
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.

This report shall not be reproduced except in full, without the written approval of NTEK, this document may be altered or revised by NTEK, personal only, and shall be noted in the revision of the document.

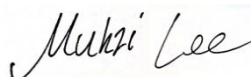
Date of Test

Date (s) of performance of tests..... Mar 9, 2022 ~Apr 23, 2023

Date of Issue Apr 23, 2023

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

Testing Engineer :



(Mukzi Lee)

Authorized Signatory :



(Alex Li)

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	6
1. GENERAL INFORMATION.....	6
1.1 PRODUCT DESCRIPTION	6
1.3 TEST METHODOLOGY	8
1.4 TEST FACILITY.....	8
MEASUREMENT UNCERTAINTY	8
1.5 SPECIAL ACCESSORIES.....	8
1.6 WORST-CASE CONFIGURATION AND MODE.....	8
2. SYSTEM TEST CONFIGURATION	9
2.1 EUT CONFIGURATION.....	9
2.2 EUT EXERCISE	9
2.3 CONFIGURATION OF EUT SYSTEM.....	9
2.4 TEST SETUP	10
3.TEST AND MEASUREMENT EQUIPMENT	11
4. OUTPUT POWER.....	13
4.1 OUTPUT POWER MEASUREMENT	13
6. BANDEDGE AND EMISSION MASK.....	16
7. OUT OF BAND EMISSIONS	18
7.1 MEASUREMENT METHOD	18
8. RADIATED MEASUREMENT	19
8.1. RADIATED POWER (ERP & EIRP).....	19
8.2 LTE BAND 2.....	20
8.3 LTE BAND 4.....	23

8.4 LTE BAND 5.....	26
8.5 LTE BAND 7.....	28
8.6 LTE BAND 12	30
8.7 LTE BAND 17	32
8.8 LTE BAND 26A	34
8.9 LTE BAND 26B	36
8.10 LTE BAND 41	38
8.11 LTE BAND 66	40
8.12 LTE BAND 71	43
9. SPURIOUS RADIATION EMISSION	45
9.1 LTE BAND 2.....	47
9.2 LTE BAND 4.....	49
9.3 LTE BAND 5.....	51
9.4 LTE BAND 7.....	53
9.5 LTE BAND 12	55
9.6 LTE BAND 17	57
9.7LTE BAND 26A.....	59
9.8 LTE BAND 26B	61
9.9 LTE BAND 41	63
9.10 LTE BAND 66	65
9.11 LTE BAND 71	67
10. FREQUENCY STABILITY	69
10.1 LTE BAND 2	70
10.2 LTE BAND 4	72
10.3 LTE BAND 5	74
10.4 LTE BAND 7	76
10.5 LTE BAND 12	78
10.6 LTE BAND 17	80
10.7 LTE BAND 26A	82

10.8 LTE BAND 26B	84
10.9 LTE BAND 41	86
10.10 LTE BAND 66	88
10.11 LTE BAND 71	90
11. PEAK-TO-AVERAGE RATIO.....	92
11.1 Description of the PAR Measurement	92
11.2 Measuring Instruments	92
11.3 Test Procedures.....	92
11.4 Test Setup.....	93

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Tablet
Trade Mark	Fossibot
Model Name	DT1
Family Model	DT1 PLUS, DT1 PRO, DT2, DT2 PRO, DT3, DT3S, DT5
Model Difference	All the model are the same circuit and RF module,except the model names.
FCC ID:	2BAK2-DT1
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2,4,5,7,12, 17, 26 TDD Band 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 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 26A Uplink: 814MHz-824MHz, Downlink: 859MHz-869MHz; LTE FDD Band 26B Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE TDD Band 41 Uplink: 2535MHz-2655MHz, LTE TDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz; LTE TDD Band 71 Uplink: 663MHz-698MHz, Downlink: 617MHz-652MHz;
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
Antenna:	PIFA Antenna
Antenna gain:	Band 2: -1 dBi, Band 4: -1 dBi, Band 5: -2.8 dBi, Band 7: -2.3 dBi, Band 12: -3.9 dBi, Band 17: -3.9 dBi, Band 26a: -3.5dBi, Band 26b: -2.8 dBi, Band 41: -0.8 dBi, Band 66: -1dBi, Band 71: -4.1 dBi
Adapter	Model: HJ-FC017K7-US Input: 100-240V~50/60Hz 0.6A Output: 5.0V---2.0A OR 7.0V---2.0A OR 9.0V---2.0A OR 12.0V---1.5A 18.0W
Battery	DC 3.87V, 11000mAh,42.57Wh
Power supply	DC 3.87V from battery or DC 5V from adapter
Extreme Vol. Limits:	DC 3.29V to DC 4.45V (Nominal DC 3.87V) (Note 1)
HW Version	M102BSR120

SW Version	FOSSiBOT_DT1
** Note1: The High Voltage DC 4.45V and Low Voltage 3.29V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2BAK2-DT1** filing to comply with the FCC Part 22H&24E&27&90S.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2,4,5,7,12,17, 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	Tablet	DT1	FCC ID: 2BAK2-DT1	EUT

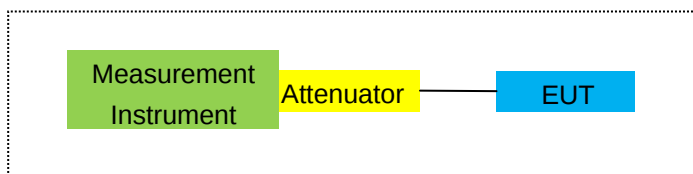
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

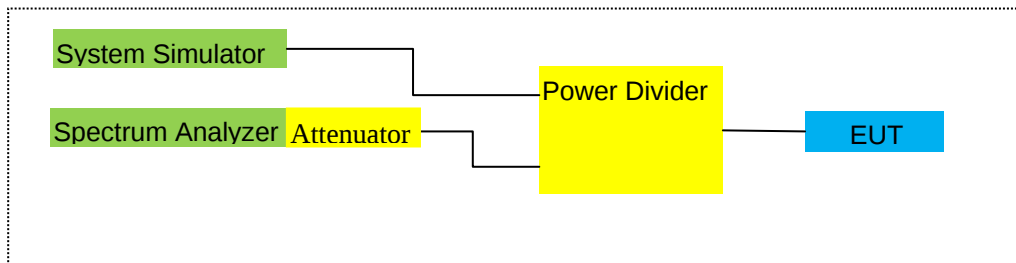
For Radiated Test Cases



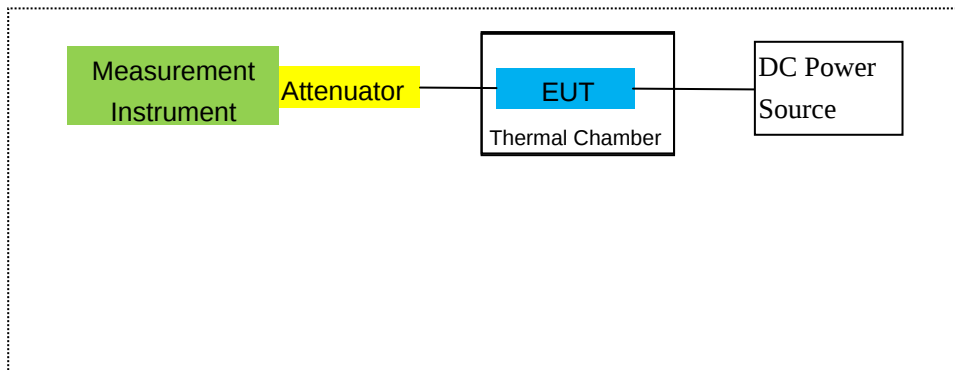
For Conducted Output Power



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	2023.06.15	1 year
2	Test Receiver	R&S	ESPI	101318	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30 2023.03.16	2023.03.29 2024.03.15	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
5	Horn Antenna	EM	EM-AH-1018 0	2011071402	2022.03.31	2025.03.30	3 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2022.11.07	2023.11.06	1 year
7	Amplifier	EM	EM-30180	060538	2022.06.17	2023.06.16	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2022.11.04	2023.11.05	1 year
9	Power Meter	R&S	NRVS	100696	2022.06.17	2023.06.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.0 5	2022.06.17	2023.06.16	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
15	LISN	R&S	ENV216	101313	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
16	LISN	EMCO	3816/2	00042990	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2022.04.01 2023.03.27	2023.03.31 2024.03.27	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2022.04.06 2023.03.27	2023.04.05 2024.03.26	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	Spectrum Analyzer	agilent	e4440a	us44300399	2022.04.01 2023.03.27	2023.03.31 2024.03.27	1 year

23	test receiver	R&S	ESCI	a0304218	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
24	Communication Tester	R&S	CMU200	A0304247	2022.06.16	2023.06.15	1 year
25	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2022.04.06 2023.03.27	2023.04.05 2024.03.26	1 year
26	DC Power Source	N/A	PS-6005D	2017040292 3	2020.05.11	2023.05.10	3 year

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

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

☐

Band 2,4,5,7,12, 17, 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 than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Show citation box.

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

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

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

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

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

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

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

MODES TESTED

Band 2,4,5,7,12, 17, 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

- ☐ Band 2,4,5,7,12, 17, 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

- ☐ Band 2,4,5,7,12, 17, 26,41,66,71

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1850.7	-3.77	3.76	28.24	20.71	117.761	Horizontal	Pass
		1880	-3.57	3.91	28.22	20.74	118.577	Horizontal	Pass
		1909.3	-3.56	3.93	28.20	20.71	117.761	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.66	3.77	28.23	20.80	120.226	Horizontal	Pass
		1880	-3.69	3.91	28.24	20.64	115.878	Horizontal	Pass
		1908.5	-3.65	3.94	28.25	20.66	116.413	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.74	3.77	28.31	20.80	120.226	Horizontal	Pass
		1880	-3.66	3.91	28.22	20.65	116.145	Horizontal	Pass
		1907.5	-3.61	3.94	28.20	20.65	116.145	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.86	3.79	28.33	20.68	116.950	Horizontal	Pass
		1880	-3.52	3.95	28.22	20.75	118.850	Horizontal	Pass
		1905	-3.54	3.97	28.19	20.68	116.950	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-3.89	3.79	28.34	20.66	116.413	Horizontal	Pass
		1880	-3.49	3.95	28.22	20.78	119.674	Horizontal	Pass
		1902.5	-3.51	3.97	28.18	20.70	117.490	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.88	3.81	28.35	20.66	116.413	Horizontal	Pass
		1880	-3.60	3.96	28.22	20.66	116.413	Horizontal	Pass
		1900	-3.50	4.00	28.16	20.66	116.413	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-3.76	3.76	28.24	20.72	118.032	Vertical	Pass
		1880	-3.58	3.91	28.22	20.73	118.304	Vertical	Pass
		1909.3	-3.54	3.93	28.20	20.73	118.304	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.71	3.77	28.23	20.75	118.850	Vertical	Pass
		1880	-3.61	3.91	28.24	20.72	118.032	Vertical	Pass
		1908.5	-3.52	3.94	28.25	20.79	119.950	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.81	3.77	28.31	20.73	118.304	Vertical	Pass
		1880	-3.62	3.91	28.22	20.69	117.220	Vertical	Pass
		1907.5	-3.60	3.94	28.20	20.66	116.413	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.81	3.79	28.33	20.73	118.304	Vertical	Pass
		1880	-3.52	3.95	28.22	20.75	118.850	Vertical	Pass
		1905	-3.53	3.97	28.19	20.69	117.220	Vertical	Pass

15.0MHz	1/#Mid	1857.5	-3.89	3.79	28.34	20.66	116.413	Vertical	Pass
Band		1880	-3.54	3.95	28.22	20.73	118.304	Vertical	Pass
QPSK		1902.5	-3.46	3.97	28.18	20.75	118.850	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.74	3.81	28.35	20.80	120.226	Vertical	Pass
Band		1880	-3.44	3.96	28.22	20.82	120.781	Vertical	Pass
QPSK		1900	-3.34	4.00	28.16	20.82	120.781	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz	1/#Mid	1850.7	-4.50	3.76	28.24	19.98	99.541	Horizontal	Pass
Band 16		1880	-4.32	3.91	28.22	19.99	99.770	Horizontal	Pass
QAM		1909.3	-4.19	3.93	28.20	20.08	101.859	Horizontal	Pass
3.0MHz	1/#Mid	1851.5	-4.48	3.77	28.23	19.98	99.541	Horizontal	Pass
Band 16		1880	-4.27	3.91	28.24	20.06	101.391	Horizontal	Pass
QAM		1908.5	-4.29	3.94	28.25	20.02	100.462	Horizontal	Pass
5.0MHz	1/#Mid	1852.5	-4.60	3.77	28.31	19.94	98.628	Horizontal	Pass
Band 16		1880	-4.36	3.91	28.22	19.95	98.855	Horizontal	Pass
QAM		1907.5	-4.23	3.94	28.20	20.03	100.693	Horizontal	Pass
10.0MHz	1/#Mid	1855	-4.48	3.79	28.33	20.06	101.391	Horizontal	Pass
Band 16		1880	-4.18	3.95	28.22	20.09	102.094	Horizontal	Pass
QAM		1905	-4.14	3.97	28.19	20.08	101.859	Horizontal	Pass
15.0MHz	1/#Mid	1857.5	-4.55	3.79	28.34	20.00	100.000	Horizontal	Pass
Band 16		1880	-4.19	3.95	28.22	20.08	101.859	Horizontal	Pass
QAM		1902.5	-4.26	3.97	28.18	19.95	98.855	Horizontal	Pass
20.0MHz	1/#Mid	1860	-4.55	3.81	28.35	19.99	99.770	Horizontal	Pass
Band 16		1880	-4.20	3.96	28.22	20.06	101.391	Horizontal	Pass
QAM		1900	-4.17	4.00	28.16	19.99	99.770	Horizontal	Pass
1.4MHz	1/#Mid	1850.7	-4.46	3.76	28.24	20.02	100.462	Vertical	Pass
Band 16		1880	-4.30	3.91	28.22	20.01	100.231	Vertical	Pass
QAM		1909.3	-4.21	3.93	28.20	20.06	101.391	Vertical	Pass
3.0MHz	1/#Mid	1851.5	-4.43	3.77	28.23	20.03	100.693	Vertical	Pass
Band 16		1880	-4.29	3.91	28.24	20.04	100.925	Vertical	Pass
QAM		1908.5	-4.22	3.94	28.25	20.09	102.094	Vertical	Pass
5.0MHz	1/#Mid	1852.5	-4.62	3.77	28.31	19.92	98.175	Vertical	Pass

Band 16		1880	-4.37	3.91	28.22	19.94	98.628	Vertical	Pass
QAM		1907.5	-4.17	3.94	28.20	20.09	102.094	Vertical	Pass
10.0MHz	1/#Mid	1855	-4.51	3.79	28.33	20.03	100.693	Vertical	Pass
Band 16		1880	-4.25	3.95	28.22	20.02	100.462	Vertical	Pass
QAM		1905	-4.21	3.97	28.19	20.01	100.231	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-4.60	3.79	28.34	19.95	98.855	Vertical	Pass
Band 16		1880	-4.29	3.95	28.22	19.98	99.541	Vertical	Pass
QAM		1902.5	-4.21	3.97	28.18	20.00	100.000	Vertical	Pass
20.0MHz	1/#Mid	1860	-4.40	3.81	28.35	20.14	103.276	Vertical	Pass
Band 16		1880	-4.13	3.96	28.22	20.13	103.039	Vertical	Pass
QAM		1900	-4.02	4.00	28.16	20.14	103.276	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	-4.39	3.12	27.58	20.07	101.625	Horizontal	Pass
		1732.5	-4.32	3.27	27.61	20.02	100.462	Horizontal	Pass
		1754.3	-4.34	3.29	27.63	20.00	100.000	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.54	3.13	27.61	19.94	98.628	Horizontal	Pass
		1732.5	-4.37	3.27	27.61	19.97	99.312	Horizontal	Pass
		1753.5	-4.22	3.30	27.62	20.10	102.329	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.52	3.13	27.63	19.98	99.541	Horizontal	Pass
		1732.5	-4.37	3.27	27.61	19.97	99.312	Horizontal	Pass
		1752.5	-4.23	3.30	27.60	20.07	101.625	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.44	3.15	27.64	20.05	101.158	Horizontal	Pass
		1732.5	-4.25	3.31	27.61	20.05	101.158	Horizontal	Pass
		1750	-4.19	3.33	27.59	20.07	101.625	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-4.51	3.15	27.65	19.99	99.770	Horizontal	Pass
		1732.5	-4.31	3.31	27.61	19.99	99.770	Horizontal	Pass
		1747.5	-4.19	3.33	27.57	20.05	101.158	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.45	3.17	27.66	20.04	100.925	Horizontal	Pass
		1732.5	-4.28	3.32	27.61	20.01	100.231	Horizontal	Pass
		1745	-4.15	3.36	27.56	20.05	101.158	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.40	3.12	27.58	20.06	101.391	Vertical	Pass
		1732.5	-4.32	3.27	27.61	20.02	100.462	Vertical	Pass
		1754.3	-4.28	3.29	27.63	20.06	101.391	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.53	3.13	27.61	19.95	98.855	Vertical	Pass
		1732.5	-4.38	3.27	27.61	19.96	99.083	Vertical	Pass
		1753.5	-4.32	3.30	27.62	20.00	100.000	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.53	3.13	27.63	19.97	99.312	Vertical	Pass
		1732.5	-4.39	3.27	27.61	19.95	98.855	Vertical	Pass
		1752.5	-4.36	3.30	27.60	19.94	98.628	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.53	3.15	27.64	19.96	99.083	Vertical	Pass
		1732.5	-4.25	3.31	27.61	20.05	101.158	Vertical	Pass
		1750	-4.17	3.33	27.59	20.09	102.094	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-4.51	3.15	27.65	19.99	99.770	Vertical	Pass
		1732.5	-4.25	3.31	27.61	20.05	101.158	Vertical	Pass
		1747.5	-4.29	3.33	27.57	19.95	98.855	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-4.38	3.17	27.66	20.11	102.565	Vertical	Pass
		1732.5	-4.17	3.32	27.61	20.12	102.802	Vertical	Pass
		1745	-4.07	3.36	27.56	20.13	103.039	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.01	3.12	27.58	19.45	88.105	Horizontal	Pass
		1732.5	-4.95	3.27	27.61	19.39	86.896	Horizontal	Pass
		1754.3	-4.88	3.29	27.63	19.46	88.308	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-4.99	3.13	27.61	19.49	88.920	Horizontal	Pass
		1732.5	-4.93	3.27	27.61	19.41	87.297	Horizontal	Pass
		1753.5	-4.97	3.30	27.62	19.35	86.099	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-5.02	3.13	27.63	19.48	88.716	Horizontal	Pass
		1732.5	-4.97	3.27	27.61	19.37	86.497	Horizontal	Pass
		1752.5	-4.93	3.30	27.60	19.37	86.497	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.12	3.15	27.64	19.37	86.497	Horizontal	Pass
		1732.5	-4.86	3.31	27.61	19.44	87.902	Horizontal	Pass
		1750	-4.78	3.33	27.59	19.48	88.716	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.06	3.15	27.65	19.44	87.902	Horizontal	Pass
		1732.5	-4.82	3.31	27.61	19.48	88.716	Horizontal	Pass
		1747.5	-4.90	3.33	27.57	19.34	85.901	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-5.08	3.17	27.66	19.41	87.297	Horizontal	Pass
		1732.5	-4.92	3.32	27.61	19.37	86.497	Horizontal	Pass
		1745	-4.79	3.36	27.56	19.41	87.297	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-5.05	3.12	27.58	19.41	87.297	Vertical	Pass
		1732.5	-4.92	3.27	27.61	19.42	87.498	Vertical	Pass
		1754.3	-4.94	3.29	27.63	19.40	87.096	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.00	3.13	27.61	19.48	88.716	Vertical	Pass
		1732.5	-4.96	3.27	27.61	19.38	86.696	Vertical	Pass
		1753.5	-4.92	3.30	27.62	19.40	87.096	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-5.03	3.13	27.63	19.47	88.512	Vertical	Pass

Band 16 QAM		1732.5	-5.01	3.27	27.61	19.33	85.704	Vertical	Pass
		1752.5	-4.81	3.30	27.60	19.49	88.920	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-5.04	3.15	27.64	19.45	88.105	Vertical	Pass
		1732.5	-4.81	3.31	27.61	19.49	88.920	Vertical	Pass
		1750	-4.78	3.33	27.59	19.48	88.716	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.14	3.15	27.65	19.36	86.298	Vertical	Pass
		1732.5	-4.89	3.31	27.61	19.41	87.297	Vertical	Pass
		1747.5	-4.75	3.33	27.57	19.49	88.920	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.97	3.17	27.66	19.52	89.536	Vertical	Pass
		1732.5	-4.75	3.32	27.61	19.54	89.950	Vertical	Pass
		1745	-4.69	3.36	27.56	19.51	89.331	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusi on
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	824.7	3.00	2.01	19.68	2.15	18.52	71.121	Horizontal	Pass
		836.5	2.89	2.01	19.77	2.15	18.50	70.795	Horizontal	Pass
		848.3	2.86	2.02	19.82	2.15	18.51	70.958	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.01	2.01	19.70	2.15	18.55	71.614	Horizontal	Pass
		836.5	2.88	2.01	19.77	2.15	18.49	70.632	Horizontal	Pass
		847.5	2.83	2.02	19.81	2.15	18.47	70.307	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.94	2.01	19.71	2.15	18.49	70.632	Horizontal	Pass
		836.5	2.84	2.01	19.77	2.15	18.45	69.984	Horizontal	Pass
		846.5	2.81	2.02	19.79	2.15	18.43	69.663	Horizontal	Pass
10.0MHz z Band QPSK	1/#Mid	829	2.97	2.01	19.73	2.15	18.54	71.450	Horizontal	Pass
		836.5	2.98	2.01	19.77	2.15	18.59	72.277	Horizontal	Pass
		844	2.96	2.02	19.78	2.15	18.57	71.945	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	3.05	2.01	19.68	2.15	18.57	71.945	Vertical	Pass
		836.5	2.99	2.01	19.77	2.15	18.60	72.444	Vertical	Pass
		848.3	2.80	2.02	19.82	2.15	18.45	69.984	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	2.99	2.01	19.70	2.15	18.53	71.285	Vertical	Pass
		836.5	2.92	2.01	19.77	2.15	18.53	71.285	Vertical	Pass
		847.5	2.88	2.02	19.81	2.15	18.52	71.121	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.03	2.01	19.71	2.15	18.58	72.111	Vertical	Pass
		836.5	2.94	2.01	19.77	2.15	18.55	71.614	Vertical	Pass
		846.5	2.85	2.02	19.79	2.15	18.47	70.307	Vertical	Pass
10.0MHz z Band QPSK	1/#Mid	829	3.07	2.01	19.73	2.15	18.64	73.114	Vertical	Pass
		836.5	3.04	2.01	19.77	2.15	18.65	73.282	Vertical	Pass
		844	3.01	2.02	19.78	2.15	18.62	72.778	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	824.7	2.30	2.01	19.68	2.15	17.82	60.534	Horizontal	Pass
		836.5	2.20	2.01	19.77	2.15	17.81	60.395	Horizontal	Pass
		848.3	2.12	2.02	19.82	2.15	17.77	59.841	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.32	2.01	19.70	2.15	17.86	61.094	Horizontal	Pass
		836.5	2.23	2.01	19.77	2.15	17.84	60.814	Horizontal	Pass
		847.5	2.11	2.02	19.81	2.15	17.75	59.566	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.29	2.01	19.71	2.15	17.84	60.814	Horizontal	Pass
		836.5	2.13	2.01	19.77	2.15	17.74	59.429	Horizontal	Pass
		846.5	2.11	2.02	19.79	2.15	17.73	59.293	Horizontal	Pass
10.0MHz z Band 16 QAM	1/#Mid	829	2.15	2.01	19.73	2.15	17.72	59.156	Horizontal	Pass
		836.5	2.17	2.01	19.77	2.15	17.78	59.979	Horizontal	Pass
		844	2.09	2.02	19.78	2.15	17.70	58.884	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.27	2.01	19.68	2.15	17.79	60.117	Vertical	Pass
		836.5	2.29	2.01	19.77	2.15	17.90	61.660	Vertical	Pass
		848.3	2.23	2.02	19.82	2.15	17.88	61.376	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.35	2.01	19.70	2.15	17.89	61.518	Vertical	Pass
		836.5	2.28	2.01	19.77	2.15	17.89	61.518	Vertical	Pass
		847.5	2.16	2.02	19.81	2.15	17.80	60.256	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.22	2.01	19.71	2.15	17.77	59.841	Vertical	Pass
		836.5	2.11	2.01	19.77	2.15	17.72	59.156	Vertical	Pass
		846.5	2.13	2.02	19.79	2.15	17.75	59.566	Vertical	Pass
10.0MHz z Band 16 QAM	1/#Mid	829	2.35	2.01	19.73	2.15	17.92	61.944	Vertical	Pass
		836.5	2.30	2.01	19.77	2.15	17.91	61.802	Vertical	Pass
		844	2.31	2.02	19.78	2.15	17.92	61.944	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	-2.94	4.54	27.75	20.27	106.414	Horizontal	Pass
		2535	-2.84	4.69	27.72	20.19	104.472	Horizontal	Pass
		2567.5	-2.81	4.71	27.71	20.19	104.472	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.95	4.55	27.76	20.26	106.170	Horizontal	Pass
		2535	-2.86	4.69	27.72	20.17	103.992	Horizontal	Pass
		2565	-2.80	4.72	27.70	20.18	104.232	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-2.97	4.55	27.77	20.25	105.925	Horizontal	Pass
		2535	-2.88	4.69	27.72	20.15	103.514	Horizontal	Pass
		2562.5	-2.84	4.72	27.69	20.13	103.039	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.03	4.57	27.78	20.18	104.232	Horizontal	Pass
		2535	-2.84	4.73	27.72	20.15	103.514	Horizontal	Pass
		2560	-2.74	4.75	27.68	20.19	104.472	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-2.99	4.54	27.75	20.22	105.196	Vertical	Pass
		2535	-2.78	4.69	27.72	20.25	105.925	Vertical	Pass
		2567.5	-2.83	4.71	27.71	20.17	103.992	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.04	4.55	27.76	20.17	103.992	Vertical	Pass
		2535	-2.79	4.69	27.72	20.24	105.682	Vertical	Pass
		2565	-2.74	4.72	27.70	20.24	105.682	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.07	4.55	27.77	20.15	103.514	Vertical	Pass
		2535	-2.79	4.69	27.72	20.24	105.682	Vertical	Pass
		2562.5	-2.81	4.72	27.69	20.16	103.753	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.86	4.57	27.78	20.35	108.393	Vertical	Pass
		2535	-2.67	4.73	27.72	20.32	107.647	Vertical	Pass
		2560	-2.59	4.75	27.68	20.34	108.143	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.82	4.54	27.75	19.39	86.896	Horizontal	Pass
		2535	-3.53	4.69	27.72	19.50	89.125	Horizontal	Pass
		2567.5	-3.59	4.71	27.71	19.41	87.297	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.82	4.55	27.76	19.39	86.896	Horizontal	Pass
		2535	-3.63	4.69	27.72	19.40	87.096	Horizontal	Pass
		2565	-3.56	4.72	27.70	19.42	87.498	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.79	4.55	27.77	19.43	87.700	Horizontal	Pass
		2535	-3.54	4.69	27.72	19.49	88.920	Horizontal	Pass
		2562.5	-3.64	4.72	27.69	19.33	85.704	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.78	4.57	27.78	19.43	87.700	Horizontal	Pass
		2535	-3.59	4.73	27.72	19.40	87.096	Horizontal	Pass
		2560	-3.52	4.75	27.68	19.41	87.297	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-3.83	4.54	27.75	19.38	86.696	Vertical	Pass
		2535	-3.57	4.69	27.72	19.46	88.308	Vertical	Pass
		2567.5	-3.59	4.71	27.71	19.41	87.297	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-3.79	4.55	27.76	19.42	87.498	Vertical	Pass
		2535	-3.59	4.69	27.72	19.44	87.902	Vertical	Pass
		2565	-3.60	4.72	27.70	19.38	86.696	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.89	4.55	27.77	19.33	85.704	Vertical	Pass
		2535	-3.64	4.69	27.72	19.39	86.896	Vertical	Pass
		2562.5	-3.48	4.72	27.69	19.49	88.920	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.67	4.57	27.78	19.54	89.950	Vertical	Pass
		2535	-3.46	4.73	27.72	19.53	89.743	Vertical	Pass
		2560	-3.38	4.75	27.68	19.55	90.157	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	699.7	2.56	1.91	19.21	2.15	17.71	59.020	Vertical	Pass
		707.5	2.55	1.91	19.26	2.15	17.75	59.566	Vertical	Pass
		715.3	2.51	1.93	19.34	2.15	17.77	59.841	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	2.63	1.91	19.21	2.15	17.78	59.979	Vertical	Pass
		707.5	2.52	1.91	19.26	2.15	17.72	59.156	Vertical	Pass
		714.5	2.48	1.93	19.34	2.15	17.74	59.429	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	2.52	1.91	19.23	2.15	17.69	58.749	Vertical	Pass
		707.5	2.55	1.91	19.26	2.15	17.75	59.566	Vertical	Pass
		713.5	2.41	1.92	19.33	2.15	17.67	58.479	Vertical	Pass
10.0Hz Band QPSK	1/#Mid	704	2.45	1.91	19.25	2.15	17.64	58.076	Vertical	Pass
		707.5	2.59	1.91	19.26	2.15	17.79	60.117	Vertical	Pass
		711	2.37	1.92	19.32	2.15	17.62	57.810	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	2.64	1.91	19.21	2.15	17.79	60.117	Horizontal	Pass
		707.5	2.46	1.91	19.26	2.15	17.66	58.345	Horizontal	Pass
		715.3	2.43	1.93	19.34	2.15	17.69	58.749	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	2.52	1.91	19.21	2.15	17.67	58.479	Horizontal	Pass
		707.5	2.52	1.91	19.26	2.15	17.72	59.156	Horizontal	Pass
		714.5	2.40	1.93	19.34	2.15	17.66	58.345	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	2.59	1.91	19.23	2.15	17.76	59.704	Horizontal	Pass
		707.5	2.53	1.91	19.26	2.15	17.73	59.293	Horizontal	Pass
		713.5	2.38	1.92	19.33	2.15	17.64	58.076	Horizontal	Pass
10.0Hz Band QPSK	1/#Mid	704	2.65	1.91	19.25	2.15	17.84	60.814	Horizontal	Pass
		707.5	2.61	1.91	19.26	2.15	17.81	60.395	Horizontal	Pass
		711	2.58	1.92	19.32	2.15	17.83	60.674	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	699.7	1.98	1.91	19.21	2.15	17.13	51.642	Vertical	Pass
		707.5	1.98	1.91	19.26	2.15	17.18	52.240	Vertical	Pass
		715.3	1.83	1.93	19.34	2.15	17.09	51.168	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	1.97	1.91	19.21	2.15	17.12	51.523	Vertical	Pass
		707.5	1.91	1.91	19.26	2.15	17.11	51.404	Vertical	Pass
		714.5	1.92	1.93	19.34	2.15	17.18	52.240	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	1.98	1.91	19.23	2.15	17.15	51.880	Vertical	Pass
		707.5	1.93	1.91	19.26	2.15	17.13	51.642	Vertical	Pass
		713.5	1.78	1.92	19.33	2.15	17.04	50.582	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	704	1.91	1.91	19.25	2.15	17.10	51.286	Vertical	Pass
		707.5	1.83	1.91	19.26	2.15	17.03	50.466	Vertical	Pass
		711	1.86	1.92	19.32	2.15	17.11	51.404	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	1.97	1.91	19.21	2.15	17.12	51.523	Horizontal	Pass
		707.5	1.92	1.91	19.26	2.15	17.12	51.523	Horizontal	Pass
		715.3	1.89	1.93	19.34	2.15	17.15	51.880	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	1.90	1.91	19.21	2.15	17.05	50.699	Horizontal	Pass
		707.5	1.96	1.91	19.26	2.15	17.16	52.000	Horizontal	Pass
		714.5	1.94	1.93	19.34	2.15	17.20	52.481	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	1.88	1.91	19.23	2.15	17.05	50.699	Horizontal	Pass
		707.5	1.87	1.91	19.26	2.15	17.07	50.933	Horizontal	Pass
		713.5	1.76	1.92	19.33	2.15	17.02	50.350	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	704	2.03	1.91	19.25	2.15	17.22	52.723	Horizontal	Pass
		707.5	2.03	1.91	19.26	2.15	17.23	52.845	Horizontal	Pass
		711	1.98	1.92	19.32	2.15	17.23	52.845	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 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	706.5	2.31	1.91	19.23	2.15	17.48	55.976	Vertical	Pass
		710	2.37	1.91	19.26	2.15	17.57	57.148	Vertical	Pass
		713.5	2.27	1.92	19.33	2.15	17.53	56.624	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	2.29	1.91	19.25	2.15	17.48	55.976	Vertical	Pass
		710	2.35	1.91	19.26	2.15	17.55	56.885	Vertical	Pass
		711	2.33	1.92	19.32	2.15	17.58	57.280	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	2.42	1.91	19.23	2.15	17.59	57.412	Horizontal	Pass
		710	2.28	1.91	19.26	2.15	17.48	55.976	Horizontal	Pass
		713.5	2.19	1.92	19.33	2.15	17.45	55.590	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	2.44	1.91	19.25	2.15	17.63	57.943	Horizontal	Pass
		710	2.42	1.91	19.26	2.15	17.62	57.810	Horizontal	Pass
		711	2.39	1.92	19.32	2.15	17.64	58.076	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor		Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)		Average	Average		
							(dBm)	(mW)		
5.0MHz Band 16 QAM	1/#Mid	706.5	1.64	1.91	19.23	2.15	16.81	47.973	Vertical	Pass
		710	1.57	1.91	19.26	2.15	16.77	47.534	Vertical	Pass
		713.5	1.63	1.92	19.33	2.15	16.89	48.865	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	709	1.62	1.91	19.25	2.15	16.81	47.973	Vertical	Pass
		710	1.55	1.91	19.26	2.15	16.75	47.315	Vertical	Pass
		711	1.52	1.92	19.32	2.15	16.77	47.534	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	706.5	1.71	1.91	19.23	2.15	16.88	48.753	Horizontal	Pass
		710	1.65	1.91	19.26	2.15	16.85	48.417	Horizontal	Pass
		713.5	1.58	1.92	19.33	2.15	16.84	48.306	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	709	1.76	1.91	19.25	2.15	16.95	49.545	Horizontal	Pass
		710	1.71	1.91	19.26	2.15	16.91	49.091	Horizontal	Pass
		711	1.70	1.92	19.32	2.15	16.95	49.545	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.8 LTE BAND 26A

Radiated Power (ERP) for Band 26A										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	814.7	2.62	1.91	19.21	2.15	17.77	59.841	Vertical	Pass
		819	2.61	1.91	19.26	2.15	17.81	60.395	Vertical	Pass
		823.3	2.52	1.93	19.34	2.15	17.78	59.979	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	815.5	2.71	1.91	19.21	2.15	17.86	61.094	Vertical	Pass
		819	2.62	1.91	19.26	2.15	17.82	60.534	Vertical	Pass
		822.5	2.56	1.93	19.34	2.15	17.82	60.534	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.59	1.91	19.23	2.15	17.76	59.704	Vertical	Pass
		819	2.58	1.91	19.26	2.15	17.78	59.979	Vertical	Pass
		821.5	2.55	1.92	19.33	2.15	17.81	60.395	Vertical	Pass
10.0MHz z Band QPSK	1/#Mid	819	2.59	1.93	19.25	2.15	17.76	59.704	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	814.7	2.68	1.91	19.21	2.15	17.83	60.674	Horizontal	Pass
		819	2.55	1.91	19.26	2.15	17.75	59.566	Horizontal	Pass
		823.3	2.62	1.93	19.34	2.15	17.88	61.376	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	815.5	2.71	1.91	19.21	2.15	17.86	61.094	Horizontal	Pass
		819	2.65	1.91	19.26	2.15	17.85	60.954	Horizontal	Pass
		822.5	2.54	1.93	19.34	2.15	17.80	60.256	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	816.5	2.63	1.91	19.23	2.15	17.80	60.256	Horizontal	Pass
		819	2.53	1.91	19.26	2.15	17.73	59.293	Horizontal	Pass
		821.5	2.58	1.92	19.33	2.15	17.84	60.814	Horizontal	Pass
10.0MHz z Band QPSK	1/#Mid	819	2.78	1.93	19.25	2.15	17.95	62.373	Horizontal	Pass

Radiated Power (ERP) for Band 26A										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	814.7	1.70	1.91	19.21	2.15	16.85	48.417	Vertical	Pass
		819	1.65	1.91	19.26	2.15	16.85	48.417	Vertical	Pass
		823.3	1.62	1.93	19.34	2.15	16.88	48.753	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	1.71	1.91	19.21	2.15	16.86	48.529	Vertical	Pass
		819	1.66	1.91	19.26	2.15	16.86	48.529	Vertical	Pass
		822.5	1.61	1.93	19.34	2.15	16.87	48.641	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	1.74	1.91	19.23	2.15	16.91	49.091	Vertical	Pass
		819	1.62	1.91	19.26	2.15	16.82	48.084	Vertical	Pass
		821.5	1.59	1.92	19.33	2.15	16.85	48.417	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	819	1.81	1.93	19.25	2.15	16.98	49.888	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	814.7	1.70	1.91	19.21	2.15	16.85	48.417	Horizontal	Pass
		819	1.73	1.91	19.26	2.15	16.93	49.317	Horizontal	Pass
		823.3	1.66	1.93	19.34	2.15	16.92	49.204	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	815.5	1.84	1.91	19.21	2.15	16.99	50.003	Horizontal	Pass
		819	1.76	1.91	19.26	2.15	16.96	49.659	Horizontal	Pass
		822.5	1.66	1.93	19.34	2.15	16.92	49.204	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	816.5	1.83	1.91	19.23	2.15	17.00	50.119	Horizontal	Pass
		819	1.66	1.91	19.26	2.15	16.86	48.529	Horizontal	Pass
		821.5	1.61	1.92	19.33	2.15	16.87	48.641	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	819	1.85	1.93	19.25	2.15	17.02	50.350	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)

8.9 LTE BAND 26B

Radiated Power (ERP) for Band 26B										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	824.7	2.93	2.02	19.72	2.15	18.48	70.469	Horizontal	Pass
		836.5	2.71	2.02	19.83	2.15	18.37	68.707	Horizontal	Pass
		848.3	2.62	2.03	19.95	2.15	18.39	69.024	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	2.79	2.02	19.84	2.15	18.46	70.146	Horizontal	Pass
		836.5	2.71	2.02	19.94	2.15	18.48	70.469	Horizontal	Pass
		847.5	2.65	2.03	19.98	2.15	18.45	69.984	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.87	2.02	19.75	2.15	18.45	69.984	Horizontal	Pass
		836.5	2.83	2.02	19.83	2.15	18.49	70.632	Horizontal	Pass
		846.5	2.61	2.03	19.92	2.15	18.35	68.391	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	2.64	2.02	19.84	2.15	18.31	67.764	Horizontal	Pass
		836.5	2.60	2.02	19.90	2.15	18.33	68.077	Horizontal	Pass
		844	2.65	2.03	19.96	2.15	18.43	69.663	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	831.5	3.27	2.02	19.33	2.15	18.43	69.663	Vertical	Pass
		836.5	3.27	2.02	19.37	2.15	18.47	70.307	Vertical	Pass
		841.5	3.02	2.03	19.52	2.15	18.36	68.549	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	824.7	2.88	2.02	19.76	2.15	18.47	70.307	Vertical	Pass
		836.5	2.87	2.02	19.78	2.15	18.48	70.469	Vertical	Pass
		848.3	2.73	2.03	19.94	2.15	18.49	70.632	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	2.83	2.02	19.83	2.15	18.49	70.632	Vertical	Pass
		836.5	2.59	2.02	19.96	2.15	18.38	68.865	Vertical	Pass
		847.5	2.68	2.03	19.87	2.15	18.37	68.707	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	2.79	2.02	19.86	2.15	18.48	70.469	Vertical	Pass
		836.5	2.84	2.02	19.81	2.15	18.48	70.469	Vertical	Pass
		846.5	2.76	2.03	19.83	2.15	18.41	69.343	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	2.95	2.02	19.75	2.15	18.53	71.285	Vertical	Pass
		836.5	2.83	2.02	19.85	2.15	18.51	70.958	Vertical	Pass
		844	2.92	2.03	19.80	2.15	18.54	71.450	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	831.5	3.39	2.02	19.31	2.15	18.53	71.285	Horizontal	Pass
		836.5	3.35	2.02	19.33	2.15	18.51	70.958	Horizontal	Pass
		841.5	3.31	2.03	19.38	2.15	18.51	70.958	Horizontal	Pass

Radiated Power (ERP) for Band 26B										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. EPR Average (dBm)	Max. EPR Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	824.7	2.15	2.02	19.72	2.15	17.70	58.884	Horizontal	Pass
		836.5	1.93	2.02	19.83	2.15	17.59	57.412	Horizontal	Pass
		848.3	1.88	2.03	19.95	2.15	17.65	58.210	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.02	2.02	19.84	2.15	17.69	58.749	Horizontal	Pass
		836.5	1.82	2.02	19.94	2.15	17.59	57.412	Horizontal	Pass
		847.5	1.75	2.03	19.98	2.15	17.55	56.885	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.10	2.02	19.75	2.15	17.68	58.614	Horizontal	Pass
		836.5	1.87	2.02	19.83	2.15	17.53	56.624	Horizontal	Pass
		846.5	1.91	2.03	19.92	2.15	17.65	58.210	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	1.99	2.02	19.84	2.15	17.66	58.345	Horizontal	Pass
		836.5	1.89	2.02	19.90	2.15	17.62	57.810	Horizontal	Pass
		844	1.87	2.03	19.96	2.15	17.65	58.210	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	2.47	2.02	19.33	2.15	17.63	57.943	Vertical	Pass
		836.5	2.36	2.02	19.37	2.15	17.56	57.016	Vertical	Pass
		841.5	2.30	2.03	19.52	2.15	17.64	58.076	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	1.99	2.02	19.76	2.15	17.58	57.280	Vertical	Pass
		836.5	2.01	2.02	19.78	2.15	17.62	57.810	Vertical	Pass
		848.3	1.91	2.03	19.94	2.15	17.67	58.479	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	1.95	2.02	19.83	2.15	17.61	57.677	Vertical	Pass
		836.5	1.89	2.02	19.96	2.15	17.68	58.614	Vertical	Pass
		847.5	1.93	2.03	19.87	2.15	17.62	57.810	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	1.97	2.02	19.86	2.15	17.66	58.345	Vertical	Pass
		836.5	1.97	2.02	19.81	2.15	17.61	57.677	Vertical	Pass
		846.5	1.93	2.03	19.83	2.15	17.58	57.280	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	2.14	2.02	19.75	2.15	17.72	59.156	Vertical	Pass
		836.5	2.04	2.02	19.85	2.15	17.72	59.156	Vertical	Pass
		844	2.11	2.03	19.80	2.15	17.73	59.293	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	831.5	2.58	2.02	19.31	2.15	17.72	59.156	Horizontal	Pass
		836.5	2.57	2.02	19.33	2.15	17.73	59.293	Horizontal	Pass
		841.5	2.54	2.03	19.38	2.15	17.74	59.429	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 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2537.5	-1.93	4.54	27.75	21.28	134.276	Horizontal	Pass
		2595	-1.76	4.69	27.72	21.27	133.968	Horizontal	Pass
		2652.5	-1.66	4.71	27.71	21.34	136.144	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2540	-1.84	4.55	27.76	21.37	137.088	Horizontal	Pass
		2595	-1.73	4.69	27.72	21.30	134.896	Horizontal	Pass
		2650	-1.62	4.72	27.70	21.36	136.773	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-1.94	4.55	27.77	21.28	134.276	Horizontal	Pass
		2595	-1.70	4.69	27.72	21.33	135.831	Horizontal	Pass
		2647.5	-1.65	4.72	27.69	21.32	135.519	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2545	-1.82	4.57	27.78	21.39	137.721	Horizontal	Pass
		2595	-1.67	4.73	27.72	21.32	135.519	Horizontal	Pass
		2645	-1.59	4.75	27.68	21.34	136.144	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2537.5	-1.93	4.54	27.75	21.28	134.276	Vertical	Pass
		2595	-1.74	4.69	27.72	21.29	134.586	Vertical	Pass
		2652.5	-1.72	4.71	27.71	21.28	134.276	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2540	-1.95	4.55	27.76	21.26	133.660	Vertical	Pass
		2595	-1.72	4.69	27.72	21.31	135.207	Vertical	Pass
		2650	-1.65	4.72	27.70	21.33	135.831	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-1.86	4.55	27.77	21.36	136.773	Vertical	Pass
		2595	-1.74	4.69	27.72	21.29	134.586	Vertical	Pass
		2647.5	-1.74	4.72	27.69	21.23	132.739	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2545	-1.76	4.57	27.78	21.45	139.637	Vertical	Pass
		2595	-1.57	4.73	27.72	21.42	138.676	Vertical	Pass
		2645	-1.50	4.75	27.68	21.43	138.995	Vertical	Pass

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2537.5	-2.65	4.54	27.75	20.56	113.763	Horizontal	Pass
		2595	-2.42	4.69	27.72	20.61	115.080	Horizontal	Pass
		2652.5	-2.32	4.71	27.71	20.68	116.950	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-2.61	4.55	27.76	20.60	114.815	Horizontal	Pass
		2595	-2.40	4.69	27.72	20.63	115.611	Horizontal	Pass
		2650	-2.36	4.72	27.70	20.62	115.345	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-2.68	4.55	27.77	20.54	113.240	Horizontal	Pass
		2595	-2.36	4.69	27.72	20.67	116.681	Horizontal	Pass
		2647.5	-2.39	4.72	27.69	20.58	114.288	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-2.63	4.57	27.78	20.58	114.288	Horizontal	Pass
		2595	-2.43	4.73	27.72	20.56	113.763	Horizontal	Pass
		2645	-2.27	4.75	27.68	20.66	116.413	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2537.5	-2.61	4.54	27.75	20.60	114.815	Vertical	Pass
		2595	-2.46	4.69	27.72	20.57	114.025	Vertical	Pass
		2652.5	-2.41	4.71	27.71	20.59	114.551	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-2.65	4.55	27.76	20.56	113.763	Vertical	Pass
		2595	-2.48	4.69	27.72	20.55	113.501	Vertical	Pass
		2650	-2.43	4.72	27.70	20.55	113.501	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-2.62	4.55	27.77	20.60	114.815	Vertical	Pass
		2595	-2.40	4.69	27.72	20.63	115.611	Vertical	Pass
		2647.5	-2.35	4.72	27.69	20.62	115.345	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-2.50	4.57	27.78	20.71	117.761	Vertical	Pass
		2595	-2.26	4.73	27.72	20.73	118.304	Vertical	Pass
		2645	-2.21	4.75	27.68	20.72	118.032	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)

8.11 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-4.13	3.76	28.24	20.35	108.393	Horizontal	Pass
		1745	-3.91	3.91	28.22	20.40	109.648	Horizontal	Pass
		1779.3	-3.97	3.93	28.2	20.30	107.152	Horizontal	Pass
3.0MHz Band QPSK	15/0	1711.5	-4.20	3.77	28.23	20.26	106.170	Horizontal	Pass
		1745	-3.97	3.91	28.24	20.36	108.643	Horizontal	Pass
		1778.5	-4.02	3.94	28.25	20.29	106.905	Horizontal	Pass
5.0MHz Band QPSK	25/0	1712.5	-4.30	3.77	28.31	20.24	105.682	Horizontal	Pass
		1745	-3.97	3.91	28.22	20.34	108.143	Horizontal	Pass
		1777.5	-4.03	3.94	28.2	20.23	105.439	Horizontal	Pass
10.0MHz Band QPSK	50/0	1715	-4.14	3.79	28.33	20.40	109.648	Horizontal	Pass
		1745	-3.91	3.95	28.22	20.36	108.643	Horizontal	Pass
		1775	-3.85	3.97	28.19	20.37	108.893	Horizontal	Pass
15.0MHz Band QPSK	75/0	1717.5	-4.16	3.79	28.34	20.39	109.396	Horizontal	Pass
		1745	-3.95	3.95	28.22	20.32	107.647	Horizontal	Pass
		1772.5	-3.84	3.97	28.18	20.37	108.893	Horizontal	Pass
20.0MHz Band QPSK	100/0	1720	-4.22	3.81	28.35	20.32	107.647	Horizontal	Pass
		1745	-3.96	3.96	28.22	20.30	107.152	Horizontal	Pass
		1770	-3.84	4	28.16	20.32	107.647	Horizontal	Pass
1.4MHz Band QPSK	6/0	1710.7	-4.08	3.76	28.24	20.40	109.648	Vertical	Pass
		1745	-3.96	3.91	28.22	20.35	108.393	Vertical	Pass
		1779.3	-3.94	3.93	28.2	20.33	107.895	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-4.21	3.77	28.23	20.25	105.925	Vertical	Pass
		1745	-4.05	3.91	28.24	20.28	106.660	Vertical	Pass
		1778.5	-3.97	3.94	28.25	20.34	108.143	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-4.19	3.77	28.31	20.35	108.393	Vertical	Pass
		1745	-4.01	3.91	28.22	20.30	107.152	Vertical	Pass
		1777.5	-3.90	3.94	28.2	20.36	108.643	Vertical	Pass
10.0MHz	50/0	1715	-4.20	3.79	28.34	20.35	108.393	Vertical	Pass

Band QPSK		1745	-4.02	3.95	28.22	20.25	105.925	Vertical	Pass
		1775	-3.84	3.97	28.18	20.37	108.893	Vertical	Pass
15.0MHz Band QPSK	75/0	1717.5	-4.29	3.81	28.35	20.25	105.925	Vertical	Pass
		1745	-3.99	3.96	28.22	20.27	106.414	Vertical	Pass
		1772.5	-3.90	4	28.16	20.26	106.170	Vertical	Pass
20.0MHz Band QPSK	100/0	1720	-4.10	3.79	28.34	20.45	110.917	Vertical	Pass
		1745	-3.85	3.95	28.22	20.42	110.154	Vertical	Pass
		1770	-3.78	3.97	28.18	20.43	110.408	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	6/0	1710.7	-5.02	3.76	28.24	19.46	88.308	Horizontal	Pass
		1745	-4.85	3.91	28.22	19.46	88.308	Horizontal	Pass
		1779.3	-4.88	3.93	28.2	19.39	86.896	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-5.03	3.77	28.23	19.43	87.700	Horizontal	Pass
		1745	-4.93	3.91	28.24	19.40	87.096	Horizontal	Pass
		1778.5	-4.91	3.94	28.25	19.40	87.096	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-5.12	3.77	28.31	19.42	87.498	Horizontal	Pass
		1745	-4.83	3.91	28.22	19.48	88.716	Horizontal	Pass
		1777.5	-4.88	3.94	28.2	19.38	86.696	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	1715	-5.04	3.79	28.33	19.50	89.125	Horizontal	Pass
		1745	-4.83	3.95	28.22	19.44	87.902	Horizontal	Pass
		1775	-4.82	3.97	28.19	19.40	87.096	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-5.10	3.79	28.34	19.45	88.105	Horizontal	Pass
		1745	-4.87	3.95	28.22	19.40	87.096	Horizontal	Pass
		1772.5	-4.76	3.97	28.18	19.45	88.105	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	1720	-5.08	3.81	28.35	19.46	88.308	Horizontal	Pass
		1745	-4.88	3.96	28.22	19.38	86.696	Horizontal	Pass
		1770	-4.83	4	28.16	19.33	85.704	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-5.12	3.76	28.24	19.36	86.298	Vertical	Pass
		1745	-4.92	3.91	28.22	19.39	86.896	Vertical	Pass
		1779.3	-4.79	3.93	28.2	19.48	88.716	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-5.05	3.77	28.23	19.41	87.297	Vertical	Pass
		1745	-4.97	3.91	28.24	19.36	86.298	Vertical	Pass
		1778.5	-4.87	3.94	28.25	19.44	87.902	Vertical	Pass

5.0MHz	25/0	1712.5	-5.18	3.77	28.31	19.36	86.298	Vertical	Pass
Band 16		1745	-4.84	3.91	28.22	19.47	88.512	Vertical	Pass
QAM		1777.5	-4.87	3.94	28.2	19.39	86.896	Vertical	Pass
10.0MHz	50/0	1715	-5.09	3.79	28.34	19.46	88.308	Vertical	Pass
Band 16		1745	-4.78	3.95	28.22	19.49	88.920	Vertical	Pass
QAM		1775	-4.77	3.97	28.18	19.44	87.902	Vertical	Pass
15.0MHz	75/0	1717.5	-5.08	3.81	28.35	19.46	88.308	Vertical	Pass
Band 16		1745	-4.82	3.96	28.22	19.44	87.902	Vertical	Pass
QAM		1772.5	-4.71	4	28.16	19.45	88.105	Vertical	Pass
20.0MHz	100/0	1720	-5.00	3.79	28.34	19.55	90.157	Vertical	Pass
Band 16		1745	-4.74	3.95	28.22	19.53	89.743	Vertical	Pass
QAM		1770	-4.67	3.97	28.18	19.54	89.950	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 71

Radiated Power (ERP) for Band 71										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	665.5	2.12	1.91	19.21	2.15	17.27	53.333	Vertical	Pass
		680.5	2.02	1.91	19.26	2.15	17.22	52.723	Vertical	Pass
		695.5	2.03	1.93	19.34	2.15	17.29	53.580	Vertical	Pass
10.0MHz z Band QPSK	1/#Mid	668	2.01	1.91	19.21	2.15	17.16	52.000	Vertical	Pass
		680.5	2.09	1.91	19.26	2.15	17.29	53.580	Vertical	Pass
		693	1.91	1.93	19.34	2.15	17.17	52.119	Vertical	Pass
15.0MHz z Band QPSK	1/#Mid	670.5	2.12	1.91	19.23	2.15	17.29	53.580	Vertical	Pass
		680.5	1.96	1.91	19.26	2.15	17.16	52.000	Vertical	Pass
		690.5	1.91	1.92	19.33	2.15	17.17	52.119	Vertical	Pass
20.0MHz z Band QPSK	1/#Mid	673	1.99	1.91	19.25	2.15	17.18	52.240	Vertical	Pass
		683	2.04	1.91	19.26	2.15	17.24	52.966	Vertical	Pass
		688	1.97	1.92	19.32	2.15	17.22	52.723	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	665.5	2.13	1.91	19.21	2.15	17.28	53.456	Horizontal	Pass
		680.5	2.00	1.91	19.26	2.15	17.20	52.481	Horizontal	Pass
		695.5	1.96	1.93	19.34	2.15	17.22	52.723	Horizontal	Pass
10.0MHz z Band QPSK	1/#Mid	668	2.13	1.91	19.21	2.15	17.28	53.456	Horizontal	Pass
		680.5	2.00	1.91	19.26	2.15	17.20	52.481	Horizontal	Pass
		693	2.02	1.93	19.34	2.15	17.28	53.456	Horizontal	Pass
15.0MHz z Band QPSK	1/#Mid	670.5	2.11	1.91	19.23	2.15	17.28	53.456	Horizontal	Pass
		680.5	1.97	1.91	19.26	2.15	17.17	52.119	Horizontal	Pass
		690.5	1.89	1.92	19.33	2.15	17.15	51.880	Horizontal	Pass
20.0MHz z Band QPSK	1/#Mid	673	2.12	1.91	19.25	2.15	17.31	53.827	Horizontal	Pass
		683	2.12	1.91	19.26	2.15	17.32	53.951	Horizontal	Pass
		688	2.09	1.92	19.32	2.15	17.34	54.200	Horizontal	Pass

Radiated Power (ERP) for Band 71										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Factor (dB)	Correction (dB)	Max. ERP Average (dBm)	Max. ERP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	665.5	1.52	1.91	19.21	2.15	16.67	46.452	Vertical	Pass
		680.5	1.40	1.91	19.26	2.15	16.60	45.709	Vertical	Pass
		695.5	1.42	1.93	19.34	2.15	16.68	46.559	Vertical	Pass
10.0MH z Band 16 QAM	1/#Mid	668	1.48	1.91	19.21	2.15	16.63	46.026	Vertical	Pass
		680.5	1.50	1.91	19.26	2.15	16.70	46.774	Vertical	Pass
		693	1.34	1.93	19.34	2.15	16.60	45.709	Vertical	Pass
15.0MH z Band 16 QAM	1/#Mid	670.5	1.36	1.91	19.23	2.15	16.53	44.978	Vertical	Pass
		680.5	1.40	1.91	19.26	2.15	16.60	45.709	Vertical	Pass
		690.5	1.32	1.92	19.33	2.15	16.58	45.499	Vertical	Pass
20.0MH z Band 16 QAM	1/#Mid	673	1.51	1.91	19.25	2.15	16.70	46.774	Vertical	Pass
		683	1.42	1.91	19.26	2.15	16.62	45.920	Vertical	Pass
		688	1.27	1.92	19.32	2.15	16.52	44.875	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	665.5	1.44	1.91	19.21	2.15	16.59	45.604	Horizontal	Pass
		680.5	1.38	1.91	19.26	2.15	16.58	45.499	Horizontal	Pass
		695.5	1.36	1.93	19.34	2.15	16.62	45.920	Horizontal	Pass
10.0MH z Band 16 QAM	1/#Mid	668	1.53	1.91	19.21	2.15	16.68	46.559	Horizontal	Pass
		680.5	1.49	1.91	19.26	2.15	16.69	46.666	Horizontal	Pass
		693	1.30	1.93	19.34	2.15	16.56	45.290	Horizontal	Pass
15.0MH z Band 16 QAM	1/#Mid	670.5	1.39	1.91	19.23	2.15	16.56	45.290	Horizontal	Pass
		680.5	1.42	1.91	19.26	2.15	16.62	45.920	Horizontal	Pass
		690.5	1.38	1.92	19.33	2.15	16.64	46.132	Horizontal	Pass
20.0MH z Band 16 QAM	1/#Mid	673	1.53	1.91	19.25	2.15	16.72	46.989	Horizontal	Pass
		683	1.53	1.91	19.26	2.15	16.73	47.098	Horizontal	Pass
		688	1.46	1.92	19.32	2.15	16.71	46.881	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 $43 + 10 \log_{10}(p)$, dB; and
- b. for mobile subscriber equipment, the attenuation shall not be less than $43 + 10 \log_{10}(p)$, dB at the channel edges and $55 + 10 \log_{10}(p)$ at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

LTE Band 2,4,5,7,12, 17, 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	-50.84	4.04	33.51	-21.37	-13	-8.37	Horizontal
3701.4	-53.88	4.04	33.51	-24.41	-13	-11.41	Vertical
5552.1	-50.37	5.24	35.84	-19.77	-13	-6.77	Vertical
5552.1	-50.85	5.24	35.84	-20.25	-13	-7.25	Horizontal
181.4	-43.16	1.43	16.02	-28.57	-13	-15.57	Vertical
263.1	-34.76	1.30	17.99	-18.07	-13	-5.07	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.42	4.04	33.56	-17.90	-13	-4.90	Horizontal
3760.0	-46.29	4.04	33.56	-16.77	-13	-3.77	Vertical
5640.0	-47.62	5.24	35.91	-16.95	-13	-3.95	Vertical
5640.0	-49.89	5.24	35.91	-19.22	-13	-6.22	Horizontal
206.8	-36.94	1.62	16.97	-21.59	-13	-8.59	Vertical
441.6	-35.17	1.74	15.98	-20.94	-13	-7.94	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-47.05	4.04	34.00	-17.09	-13	-4.09	Horizontal
3818.6	-47.04	4.04	34.00	-17.08	-13	-4.08	Vertical
5727.9	-53.51	5.24	36.04	-22.71	-13	-9.71	Vertical
5727.9	-49.31	5.24	36.04	-18.51	-13	-5.51	Horizontal
206.7	-40.22	1.42	17.29	-24.35	-13	-11.35	Vertical
295.5	-40.15	1.50	17.90	-23.74	-13	-10.74	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	-48.49	4.07	33.54	-19.02	-13	-6.02	Horizontal
3720.0	-46.63	4.07	33.54	-17.16	-13	-4.16	Vertical
5580.0	-44.92	5.28	35.86	-14.34	-13	-1.34	Vertical
5580.0	-49.99	5.28	35.86	-19.41	-13	-6.41	Horizontal
194.4	-42.48	1.58	16.89	-27.16	-13	-14.16	Vertical
357.5	-37.34	1.76	17.26	-21.84	-13	-8.84	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-50.92	4.04	33.56	-21.40	-13	-8.40	Horizontal
3760.0	-50.47	4.04	33.56	-20.95	-13	-7.95	Vertical
5640.0	-52.42	5.24	35.91	-21.75	-13	-8.75	Vertical
5640.0	-52.89	5.24	35.91	-22.22	-13	-9.22	Horizontal
193.9	-42.19	1.46	16.27	-27.38	-13	-14.38	Vertical
386.8	-35.18	1.59	15.15	-21.62	-13	-8.62	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-49.79	4.04	34.00	-19.83	-13	-6.83	Horizontal
3800.0	-53.50	4.04	34.00	-23.54	-13	-10.54	Vertical
5700.0	-51.96	5.24	36.04	-21.16	-13	-8.16	Vertical
5700.0	-50.45	5.24	36.04	-19.65	-13	-6.65	Horizontal
191.1	-42.04	1.36	17.39	-26.00	-13	-13.00	Vertical
324.9	-40.15	1.66	15.39	-26.42	-13	-13.42	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	-50.34	4.02	29.80	-24.56	-13	-11.56	Horizontal
3421.4	-51.18	4.02	29.80	-25.40	-13	-12.40	Vertical
5132.1	-44.49	5.24	35.84	-13.89	-13	-0.89	Vertical
5132.1	-52.93	5.24	35.84	-22.33	-13	-9.33	Horizontal
176.6	-44.20	1.68	16.04	-29.84	-13	-16.84	Vertical
429.2	-39.57	1.78	17.74	-23.61	-13	-10.61	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-50.38	4.03	30.00	-24.41	-13	-11.41	Horizontal
3465.0	-48.47	4.03	30.00	-22.50	-13	-9.50	Vertical
5197.5	-48.66	5.25	35.86	-18.05	-13	-5.05	Vertical
5197.5	-53.97	5.25	35.86	-23.36	-13	-10.36	Horizontal
211.9	-37.61	1.72	17.69	-21.64	-13	-8.64	Vertical
270.3	-35.60	1.62	16.02	-21.19	-13	-8.19	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-44.77	4.05	30.01	-18.81	-13	-5.81	Horizontal
3508.6	-53.32	4.05	30.01	-27.36	-13	-14.36	Vertical
5262.9	-52.36	5.26	35.86	-21.76	-13	-8.76	Vertical
5262.9	-49.75	5.26	35.86	-19.15	-13	-6.15	Horizontal
185.7	-36.55	1.80	16.69	-21.66	-13	-8.66	Vertical
389.9	-38.16	1.75	16.66	-23.26	-13	-10.26	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	-44.77	4.02	29.80	-18.99	-13	-5.99	Horizontal
3440.0	-45.04	4.02	29.80	-19.26	-13	-6.26	Vertical
5160.0	-52.17	5.24	35.84	-21.57	-13	-8.57	Vertical
5160.0	-51.98	5.24	35.84	-21.38	-13	-8.38	Horizontal
181.2	-35.11	1.57	17.26	-19.42	-13	-6.42	Vertical
401.5	-41.39	1.78	16.35	-26.82	-13	-13.82	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-45.49	4.03	30.00	-19.52	-13	-6.52	Horizontal
3465.0	-52.05	4.03	30.00	-26.08	-13	-13.08	Vertical
5197.5	-46.81	5.25	35.86	-16.20	-13	-3.20	Vertical
5197.5	-50.33	5.25	35.86	-19.72	-13	-6.72	Horizontal
177.4	-34.29	1.44	17.95	-17.78	-13	-4.78	Vertical
341.2	-42.51	1.65	16.09	-28.07	-13	-15.07	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-47.96	4.05	27.68	-24.33	-13	-11.33	Horizontal
3490.0	-49.85	4.05	27.68	-26.22	-13	-13.22	Vertical
5235.0	-46.76	5.26	35.86	-16.16	-13	-3.16	Vertical
5235.0	-53.13	5.26	35.86	-22.53	-13	-9.53	Horizontal
182.9	-41.18	1.61	16.85	-25.94	-13	-12.94	Vertical
403.7	-43.66	1.61	15.19	-30.08	-13	-17.08	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	-50.20	2.78	27.50	-25.48	-13	-12.48	Horizontal
1649.4	-49.44	2.78	27.50	-24.72	-13	-11.72	Vertical
2474.1	-50.51	2.90	27.80	-25.61	-13	-12.61	Vertical
2474.1	-50.37	2.90	27.80	-25.47	-13	-12.47	Horizontal
192.7	-35.36	1.76	17.59	-19.53	-13	-6.53	Vertical
459.3	-37.20	1.63	15.87	-22.96	-13	-9.96	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-50.16	2.80	27.48	-25.48	-13	-12.48	Horizontal
1673.0	-51.21	2.80	27.48	-26.53	-13	-13.53	Vertical
2509.5	-44.16	2.91	27.70	-19.37	-13	-6.37	Vertical
2509.5	-53.06	2.91	27.70	-28.27	-13	-15.27	Horizontal
208.8	-38.71	1.61	15.68	-24.64	-13	-11.64	Vertical
259.3	-43.53	1.59	17.52	-27.61	-13	-14.61	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-48.08	2.82	27.43	-23.47	-13	-10.47	Horizontal
1696.6	-52.29	2.82	27.43	-27.68	-13	-14.68	Vertical
2544.9	-46.17	2.92	27.74	-21.35	-13	-8.35	Vertical
2544.9	-50.10	2.92	27.74	-25.28	-13	-12.28	Horizontal
189.8	-38.19	1.69	16.67	-23.20	-13	-10.20	Vertical
272.9	-35.54	1.70	17.18	-20.06	-13	-7.06	Horizontal

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

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-50.65	2.78	27.50	-25.93	-13	-12.93	Horizontal
1658.0	-48.22	2.78	27.50	-23.50	-13	-10.50	Vertical
2487.0	-45.63	2.90	27.80	-20.73	-13	-7.73	Vertical
2487.0	-49.67	2.90	27.80	-24.77	-13	-11.77	Horizontal
183.2	-40.32	1.71	15.57	-26.46	-13	-13.46	Vertical
251.5	-42.85	1.34	16.40	-27.79	-13	-14.79	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-45.23	2.80	27.48	-20.55	-13	-7.55	Horizontal
1673.0	-52.41	2.80	27.48	-27.73	-13	-14.73	Vertical
2509.5	-52.94	2.91	27.70	-28.15	-13	-15.15	Vertical
2509.5	-52.91	2.91	27.70	-28.12	-13	-15.12	Horizontal
212.9	-35.10	1.44	17.04	-19.50	-13	-6.50	Vertical
291.2	-44.38	1.76	17.62	-28.52	-13	-15.52	Horizontal
Test Results for High Channel 844MHz							
1688.0	-52.41	2.82	27.43	-27.80	-13	-14.80	Horizontal
1688.0	-50.02	2.82	27.43	-25.41	-13	-12.41	Vertical
2532.0	-45.71	2.92	27.74	-20.89	-13	-7.89	Vertical
2532.0	-51.72	2.92	27.74	-26.90	-13	-13.90	Horizontal
191.7	-42.68	1.74	17.70	-26.72	-13	-13.72	Vertical
362.4	-35.90	1.41	17.46	-19.84	-13	-6.84	Horizontal

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

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

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

9.4 LTE BAND 7

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

Test Results for Low Channel 2502.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5005.0	-62.70	5.23	35.81	-32.12	-25	-7.12	Horizontal
5005.0	-63.17	5.23	35.81	-32.59	-25	-7.59	Vertical
7507.5	-62.87	5.67	36.85	-31.69	-25	-6.69	Vertical
7507.5	-61.65	5.67	36.85	-30.47	-25	-5.47	Horizontal
175.8	-47.69	1.73	17.97	-31.45	-25	-6.45	Vertical
350.8	-49.26	1.38	15.11	-35.53	-25	-10.53	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-63.26	5.23	35.82	-32.67	-25	-7.67	Horizontal
5070.0	-64.50	5.23	35.82	-33.91	-25	-8.91	Vertical
7605.0	-64.88	5.67	36.85	-33.70	-25	-8.70	Vertical
7605.0	-63.85	5.67	36.85	-32.67	-25	-7.67	Horizontal
193.6	-47.69	1.77	16.17	-33.28	-25	-8.28	Vertical
359.3	-54.01	1.63	15.21	-40.43	-25	-15.43	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-63.19	5.24	35.83	-32.60	-25	-7.60	Horizontal
5135.0	-59.33	5.24	35.83	-28.74	-25	-3.74	Vertical
7702.5	-59.90	5.68	36.87	-28.71	-25	-3.71	Vertical
7702.5	-61.25	5.68	36.87	-30.06	-25	-5.06	Horizontal
183.9	-50.00	1.58	17.56	-34.02	-25	-9.02	Vertical
235.5	-51.13	1.45	16.58	-36.00	-25	-11.00	Horizontal

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

Test Results for Low Channel 2510MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5020.0	-59.97	5.23	35.82	-29.38	-25	-4.38	Horizontal
5020.0	-63.38	5.23	35.82	-32.79	-25	-7.79	Vertical
7530.0	-59.27	5.67	36.86	-28.08	-25	-3.08	Vertical
7530.0	-64.40	5.67	36.86	-33.21	-25	-8.21	Horizontal
201.7	-44.96	1.63	15.76	-30.83	-25	-5.83	Vertical
387.8	-53.77	1.71	15.44	-40.04	-25	-15.04	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-59.03	5.23	35.82	-28.44	-25	-3.44	Horizontal
5070.0	-59.66	5.23	35.82	-29.07	-25	-4.07	Vertical
7605.0	-60.44	5.67	36.85	-29.26	-25	-4.26	Vertical
7605.0	-60.10	5.67	36.85	-28.92	-25	-3.92	Horizontal
180.8	-53.78	1.79	16.84	-38.72	-25	-13.72	Vertical
390.3	-44.05	1.71	17.64	-28.12	-25	-3.12	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-61.79	5.24	35.83	-31.20	-25	-6.20	Horizontal
5120.0	-62.48	5.24	35.83	-31.89	-25	-6.89	Vertical
7680.0	-62.72	5.70	36.88	-31.54	-25	-6.54	Vertical
7680.0	-60.46	5.70	36.88	-29.28	-25	-4.28	Horizontal
189.1	-45.35	1.79	16.84	-30.29	-25	-5.29	Vertical
391.1	-47.03	1.71	17.64	-31.10	-25	-6.10	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.5 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-45.04	2.60	27.20	-20.44	-13	-7.44	Horizontal
1399.4	-48.79	2.60	27.20	-24.19	-13	-11.19	Vertical
2099.1	-45.53	2.85	27.54	-20.84	-13	-7.84	Vertical
2099.1	-52.02	2.85	27.54	-27.33	-13	-14.33	Horizontal
192.3	-43.64	1.49	17.78	-27.35	-13	-14.35	Vertical
407.5	-38.70	1.36	17.33	-22.73	-13	-9.73	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-49.47	2.61	27.28	-24.80	-13	-11.80	Horizontal
1415.0	-46.51	2.61	27.28	-21.84	-13	-8.84	Vertical
2122.5	-44.31	2.87	27.59	-19.59	-13	-6.59	Vertical
2122.5	-51.20	2.87	27.59	-26.48	-13	-13.48	Horizontal
182.5	-41.18	1.73	15.74	-27.17	-13	-14.17	Vertical
357.9	-38.67	1.62	15.79	-24.50	-13	-11.50	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-52.94	2.63	27.28	-28.29	-13	-15.29	Horizontal
1430.6	-49.71	2.63	27.28	-25.06	-13	-12.06	Vertical
2145.9	-53.85	2.88	27.60	-29.13	-13	-16.13	Vertical
2145.9	-49.43	2.88	27.60	-24.71	-13	-11.71	Horizontal
181.2	-37.54	1.61	18.00	-21.15	-13	-8.15	Vertical
243.4	-43.37	1.45	15.49	-29.34	-13	-16.34	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	-52.25	2.61	27.26	-27.60	-13	-14.60	Horizontal
1408.0	-46.07	2.61	27.26	-21.42	-13	-8.42	Vertical
2112.0	-50.70	2.87	27.58	-25.99	-13	-12.99	Vertical
2112.0	-51.15	2.87	27.58	-26.44	-13	-13.44	Horizontal
183.2	-40.60	1.31	16.97	-24.94	-13	-11.94	Vertical
465.8	-36.62	1.65	16.70	-21.57	-13	-8.57	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-50.93	2.61	27.28	-26.26	-13	-13.26	Horizontal
1415.0	-47.42	2.61	27.28	-22.75	-13	-9.75	Vertical
2122.5	-44.51	2.87	27.59	-19.79	-13	-6.79	Vertical
2122.5	-52.67	2.87	27.59	-27.95	-13	-14.95	Horizontal
199.9	-41.63	1.72	17.99	-25.36	-13	-12.36	Vertical
339.5	-40.39	1.73	17.94	-24.18	-13	-11.18	Horizontal
Test Results for High Channel 711MHz							
1422.0	-50.53	2.62	27.28	-25.87	-13	-12.87	Horizontal
1422.0	-49.76	2.62	27.28	-25.10	-13	-12.10	Vertical
2133.0	-49.32	2.87	27.60	-24.59	-13	-11.59	Vertical
2133.0	-52.74	2.87	27.60	-28.01	-13	-15.01	Horizontal
176.0	-40.80	1.58	15.93	-26.45	-13	-13.45	Vertical
378.7	-42.42	1.36	15.59	-28.19	-13	-15.19	Horizontal

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

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

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

9.6 LTE BAND 17

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

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1413.0	-47.17	2.61	27.28	-22.50	-13	-9.50	Horizontal
1413.0	-51.28	2.61	27.28	-26.61	-13	-13.61	Vertical
2119.5	-45.81	2.87	27.59	-21.09	-13	-8.09	Vertical
2119.5	-49.78	2.87	27.59	-25.06	-13	-12.06	Horizontal
189.2	-34.98	1.71	16.15	-20.54	-13	-7.54	Vertical
265.4	-41.37	1.41	17.32	-25.46	-13	-12.46	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-53.21	2.62	27.30	-28.53	-13	-15.53	Horizontal
1420.0	-46.87	2.62	27.30	-22.19	-13	-9.19	Vertical
2130.0	-53.86	2.87	27.62	-29.11	-13	-16.11	Vertical
2130.0	-50.53	2.87	27.62	-25.78	-13	-12.78	Horizontal
211.5	-38.55	1.42	15.25	-24.73	-13	-11.73	Vertical
244.9	-41.02	1.36	17.19	-25.19	-13	-12.19	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-48.27	2.66	27.28	-23.65	-13	-10.65	Horizontal
1427.0	-53.28	2.66	27.28	-28.66	-13	-15.66	Vertical
2140.5	-49.51	2.88	27.60	-24.79	-13	-11.79	Vertical
2140.5	-49.64	2.88	27.60	-24.92	-13	-11.92	Horizontal
186.0	-36.01	1.32	17.29	-20.04	-13	-7.04	Vertical
398.5	-36.83	1.72	16.89	-21.66	-13	-8.66	Horizontal

QPSK EIRP POWER FOR LTE BAND 17 (10MHZ BANDWIDTH)

Test Results for Low Channel 709MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1418.0	-48.08	2.62	27.30	-23.40	-13	-10.40	Horizontal
1418.0	-44.61	2.62	27.30	-19.93	-13	-6.93	Vertical
2127.0	-45.17	2.87	27.62	-20.42	-13	-7.42	Vertical
2127.0	-53.47	2.87	27.62	-28.72	-13	-15.72	Horizontal
187.4	-35.63	1.35	16.91	-20.07	-13	-7.07	Vertical
394.5	-42.21	1.62	16.31	-27.52	-13	-14.52	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-46.05	2.62	27.30	-21.37	-13	-8.37	Horizontal
1420.0	-51.58	2.62	27.30	-26.90	-13	-13.90	Vertical
2130.0	-50.30	2.87	27.62	-25.55	-13	-12.55	Vertical
2130.0	-53.82	2.87	27.62	-29.07	-13	-16.07	Horizontal
201.2	-41.20	1.51	17.14	-25.57	-13	-12.57	Vertical
346.8	-34.05	1.77	16.88	-18.94	-13	-5.94	Horizontal
Test Results for High Channel 711MHz							
1422.0	-51.16	2.62	27.30	-26.48	-13	-13.48	Horizontal
1422.0	-52.90	2.62	27.30	-28.22	-13	-15.22	Vertical
2133.0	-53.00	2.87	27.62	-28.25	-13	-15.25	Vertical
2133.0	-49.88	2.87	27.62	-25.13	-13	-12.13	Horizontal
175.6	-36.52	1.78	15.95	-22.35	-13	-9.35	Vertical
393.0	-41.76	1.34	17.95	-25.16	-13	-12.16	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.7LTE 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	-48.29	4.26	29.80	-22.75	-13	-9.75	Horizontal
1629.4	-49.28	4.26	29.80	-23.74	-13	-10.74	Vertical
2444.1	-49.87	5.36	35.84	-19.39	-13	-6.39	Vertical
2444.1	-50.37	5.36	35.84	-19.89	-13	-6.89	Horizontal
196.7	-42.78	1.68	16.04	-28.42	-13	-15.42	Vertical
290.6	-39.11	1.78	17.74	-23.15	-13	-10.15	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-53.70	4.28	30.00	-27.98	-13	-14.98	Horizontal
1638.0	-50.68	4.28	30.00	-24.96	-13	-11.96	Vertical
2457.0	-51.67	5.41	35.86	-21.22	-13	-8.22	Vertical
2457.0	-53.83	5.41	35.86	-23.38	-13	-10.38	Horizontal
195.2	-34.35	1.72	17.69	-18.38	-13	-5.38	Vertical
325.1	-41.82	1.62	16.02	-27.41	-13	-14.41	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-44.20	4.31	30.01	-18.50	-13	-5.50	Horizontal
1646.6	-47.56	4.31	30.01	-21.86	-13	-8.86	Vertical
2469.9	-50.44	5.43	35.86	-20.01	-13	-7.01	Vertical
2469.9	-50.11	5.43	35.86	-19.68	-13	-6.68	Horizontal
199.4	-38.56	1.80	16.69	-23.67	-13	-10.67	Vertical
410.9	-35.64	1.75	16.66	-20.74	-13	-7.74	Horizontal

QPSK EIRP POWER FOR LTE BAND 26A(814MHz~824MHz) (15MHZ 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	-46.53	4.28	30.00	-20.81	-13	-7.81	Horizontal
1638.0	-44.46	4.28	30.00	-18.74	-13	-5.74	Vertical
2457.0	-52.17	5.41	35.86	-21.72	-13	-8.72	Vertical
2457.0	-52.71	5.41	35.86	-22.26	-13	-9.26	Horizontal
206.4	-41.28	1.44	17.95	-24.77	-13	-11.77	Vertical
260.8	-36.86	1.65	16.09	-22.42	-13	-9.42	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	-47.21	4.26	29.80	-21.67	-13	-8.67	Horizontal
1649.4	-44.08	4.26	29.80	-18.54	-13	-5.54	Vertical
2474.1	-46.40	5.36	35.84	-15.92	-13	-2.92	Vertical
2474.1	-51.58	5.36	35.84	-21.10	-13	-8.10	Horizontal
207.2	-35.54	1.68	16.04	-21.18	-13	-8.18	Vertical
426.9	-44.35	1.78	17.74	-28.39	-13	-15.39	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-47.82	4.28	30.00	-22.10	-13	-9.10	Horizontal
1673.0	-49.27	4.28	30.00	-23.55	-13	-10.55	Vertical
2509.5	-44.86	5.41	35.86	-14.41	-13	-1.41	Vertical
2509.5	-49.04	5.41	35.86	-18.59	-13	-5.59	Horizontal
202.2	-39.86	1.72	17.69	-23.89	-13	-10.89	Vertical
393.2	-38.84	1.62	16.02	-24.43	-13	-11.43	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-49.96	4.31	30.01	-24.26	-13	-11.26	Horizontal
1696.6	-47.45	4.31	30.01	-21.75	-13	-8.75	Vertical
2544.9	-47.01	5.43	35.86	-16.58	-13	-3.58	Vertical
2544.9	-52.95	5.43	35.86	-22.52	-13	-9.52	Horizontal
196.1	-40.06	1.80	16.69	-25.17	-13	-12.17	Vertical
354.5	-43.13	1.75	16.66	-28.23	-13	-15.23	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	-53.62	4.29	29.80	-28.11	-13	-15.11	Horizontal
1663.0	-44.20	4.29	29.80	-18.69	-13	-5.69	Vertical
2494.5	-51.67	5.38	35.84	-21.21	-13	-8.21	Vertical
2494.5	-53.37	5.38	35.84	-22.91	-13	-9.91	Horizontal
175.3	-39.83	1.57	17.26	-24.14	-13	-11.14	Vertical
375.7	-44.21	1.78	16.35	-29.64	-13	-16.64	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-49.29	4.28	30.00	-23.57	-13	-10.57	Horizontal
1673.0	-51.18	4.28	30.00	-25.46	-13	-12.46	Vertical
2509.5	-46.77	5.41	35.86	-16.32	-13	-3.32	Vertical
2509.5	-52.59	5.41	35.86	-22.14	-13	-9.14	Horizontal
187.6	-34.90	1.44	17.95	-18.39	-13	-5.39	Vertical
384.1	-39.93	1.65	16.09	-25.49	-13	-12.49	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-52.58	4.35	27.68	-29.25	-13	-16.25	Horizontal
1683.0	-46.00	4.35	27.68	-22.67	-13	-9.67	Vertical
2524.5	-50.28	5.42	35.86	-19.84	-13	-6.84	Vertical
2524.5	-49.40	5.42	35.86	-18.96	-13	-5.96	Horizontal
188.9	-44.89	1.61	16.85	-29.65	-13	-16.65	Vertical
313.1	-39.48	1.61	15.19	-25.90	-13	-12.90	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	-60.00	5.13	35.81	-29.32	-25	-4.32	Horizontal
4997.0	-60.59	5.13	35.81	-29.91	-25	-4.91	Vertical
7495.5	-60.20	5.42	36.85	-28.77	-25	-3.77	Vertical
7495.5	-61.76	5.42	36.85	-30.33	-25	-5.33	Horizontal
196.4	-48.51	1.56	17.97	-32.10	-25	-7.10	Vertical
298.5	-48.92	1.33	15.11	-35.14	-25	-10.14	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-61.96	5.16	35.82	-31.30	-25	-6.30	Horizontal
5186.0	-62.52	5.16	35.82	-31.86	-25	-6.86	Vertical
7779.0	-62.40	5.53	36.85	-31.08	-25	-6.08	Vertical
7779.0	-59.77	5.53	36.85	-28.45	-25	-3.45	Horizontal
210.5	-50.27	1.77	16.17	-35.86	-25	-10.86	Vertical
408.6	-48.21	1.63	15.21	-34.63	-25	-9.63	Horizontal
Test Results for High Channel 2687.5MHz							
5375.0	-59.40	5.23	35.83	-28.80	-25	-3.80	Horizontal
5375.0	-60.62	5.23	35.83	-30.02	-25	-5.02	Vertical
8062.5	-64.35	5.62	36.87	-33.10	-25	-8.10	Vertical
8062.5	-64.73	5.62	36.87	-33.48	-25	-8.48	Horizontal
205.0	-49.79	1.58	17.56	-33.81	-25	-8.81	Vertical
424.7	-50.61	1.45	16.58	-35.48	-25	-10.48	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
5012.0	-64.05	5.23	35.82	-33.46	-25	-8.46	Horizontal
5012.0	-59.46	5.23	35.82	-28.87	-25	-3.87	Vertical
7518.0	-60.38	5.67	36.86	-29.19	-25	-4.19	Vertical
7518.0	-59.96	5.67	36.86	-28.77	-25	-3.77	Horizontal
180.0	-47.70	1.55	15.76	-33.49	-25	-8.49	Vertical
292.1	-48.13	1.62	15.44	-34.31	-25	-9.31	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-62.77	5.16	35.82	-32.11	-25	-7.11	Horizontal
5186.0	-62.80	5.16	35.82	-32.14	-25	-7.14	Vertical
7779.0	-59.14	5.53	36.85	-27.82	-25	-2.82	Vertical
7779.0	-61.09	5.53	36.85	-29.77	-25	-4.77	Horizontal
208.4	-44.91	1.58	16.84	-29.65	-25	-4.65	Vertical
263.5	-49.65	1.61	17.64	-33.62	-25	-8.62	Horizontal
Test Results for High Channel 2680MHz							
5360.0	-59.65	5.24	35.83	-29.06	-25	-4.06	Horizontal
5360.0	-60.76	5.24	35.83	-30.17	-25	-5.17	Vertical
8040.0	-59.81	5.70	36.88	-28.63	-25	-3.63	Vertical
8040.0	-63.39	5.70	36.88	-32.21	-25	-7.21	Horizontal
177.2	-46.48	1.48	16.84	-31.12	-25	-6.12	Vertical
370.7	-45.53	1.59	17.64	-29.48	-25	-4.48	Horizontal

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

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

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

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

9.10 LTE BAND 66

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

Test Results for Low Channel 1710.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-63.59	3.84	35.81	-31.62	-13	-18.62	Horizontal
3421.4	-64.07	3.84	35.81	-32.10	-13	-19.10	Vertical
5132.1	-61.04	5.18	36.85	-29.37	-13	-16.37	Vertical
5132.1	-61.02	5.18	36.85	-29.35	-13	-16.35	Horizontal
198.7	-46.33	1.56	17.97	-29.92	-13	-16.92	Vertical
385.3	-54.22	1.33	15.11	-40.44	-13	-27.44	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-63.28	3.85	35.82	-31.31	-13	-18.31	Horizontal
3490.0	-61.38	3.85	35.82	-29.41	-13	-16.41	Vertical
5235.0	-64.04	5.21	36.85	-32.40	-13	-19.40	Vertical
5235.0	-63.05	5.21	36.85	-31.41	-13	-18.41	Horizontal
210.6	-49.54	1.77	16.17	-35.13	-13	-22.13	Vertical
270.1	-50.22	1.63	15.21	-36.64	-13	-23.64	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-59.99	3.86	35.83	-28.02	-13	-15.02	Horizontal
3558.6	-62.49	3.86	35.83	-30.52	-13	-17.52	Vertical
5337.9	-60.80	5.24	36.87	-29.17	-13	-16.17	Vertical
5337.9	-64.50	5.24	36.87	-32.87	-13	-19.87	Horizontal
211.4	-45.20	1.58	17.56	-29.22	-13	-16.22	Vertical
238.9	-52.77	1.45	16.58	-37.64	-13	-24.64	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	-59.78	3.84	35.82	-27.80	-13	-14.80	Horizontal
3440.0	-63.96	3.84	35.82	-31.98	-13	-18.98	Vertical
5160.0	-59.78	5.18	36.86	-28.10	-13	-15.10	Vertical
5160.0	-59.65	5.18	36.86	-27.97	-13	-14.97	Horizontal
199.3	-52.16	1.56	15.76	-37.96	-13	-24.96	Vertical
295.6	-46.82	1.33	15.44	-32.71	-13	-19.71	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-61.61	3.85	35.82	-29.64	-13	-16.64	Horizontal
3490.0	-62.74	3.85	35.82	-30.77	-13	-17.77	Vertical
5235.0	-64.02	5.21	36.85	-32.38	-13	-19.38	Vertical
5235.0	-62.26	5.21	36.85	-30.62	-13	-17.62	Horizontal
200.5	-46.76	1.77	16.84	-31.68	-13	-18.68	Vertical
399.3	-44.74	1.63	17.64	-28.73	-13	-15.73	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-62.13	3.86	35.83	-30.16	-13	-17.16	Horizontal
3540.0	-61.15	3.86	35.83	-29.18	-13	-16.18	Vertical
5310.0	-59.73	5.24	36.88	-28.09	-13	-15.09	Vertical
5310.0	-62.78	5.24	36.88	-31.14	-13	-18.14	Horizontal
176.8	-45.06	1.58	16.84	-29.79	-13	-16.79	Vertical
356.1	-45.65	1.45	17.64	-29.46	-13	-16.46	Horizontal

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

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

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

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

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	-62.94	2.16	35.81	-29.29	-13	-16.29	Horizontal
1331.0	-62.94	2.16	35.81	-29.29	-13	-16.29	Vertical
1996.5	-60.20	2.89	36.85	-26.24	-13	-13.24	Vertical
1996.5	-61.68	2.89	36.85	-27.72	-13	-14.72	Horizontal
188.2	-44.59	1.56	17.97	-28.18	-13	-15.18	Vertical
234.2	-49.76	1.33	15.11	-35.98	-13	-22.98	Horizontal
Test Results for Mid Channel 680.5MHz							
1361.0	-59.11	2.17	35.82	-25.46	-13	-12.46	Horizontal
1361.0	-61.08	2.17	35.82	-27.43	-13	-14.43	Vertical
2041.5	-62.49	2.90	36.85	-28.54	-13	-15.54	Vertical
2041.5	-60.23	2.90	36.85	-26.28	-13	-13.28	Horizontal
188.8	-46.74	1.77	16.17	-32.33	-13	-19.33	Vertical
347.3	-50.51	1.63	15.21	-36.93	-13	-23.93	Horizontal
Test Results for High Channel 695.5MHz							
1391.0	-59.62	2.19	35.83	-25.98	-13	-12.98	Horizontal
1391.0	-64.60	2.19	35.83	-30.96	-13	-17.96	Vertical
2086.5	-59.20	2.95	36.87	-25.28	-13	-12.28	Vertical
2086.5	-64.29	2.95	36.87	-30.37	-13	-17.37	Horizontal
197.3	-45.54	1.58	17.56	-29.56	-13	-16.56	Vertical
246.8	-53.01	1.45	16.58	-37.88	-13	-24.88	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	-62.74	2.16	35.82	-29.08	-13	-16.08	Horizontal
1346.0	-61.62	2.16	35.82	-27.96	-13	-14.96	Vertical
2019.0	-62.43	2.89	36.86	-28.46	-13	-15.46	Vertical
2019.0	-64.68	2.89	36.86	-30.71	-13	-17.71	Horizontal
196.8	-49.98	1.56	15.76	-35.78	-13	-22.78	Vertical
429.1	-54.41	1.33	15.44	-40.30	-13	-27.30	Horizontal
Test Results for Mid Channel 683MHz							
1366.0	-62.53	2.17	35.82	-28.88	-13	-15.88	Horizontal
1366.0	-59.74	2.17	35.82	-26.09	-13	-13.09	Vertical
2049.0	-63.18	2.90	36.85	-29.23	-13	-16.23	Vertical
2049.0	-62.12	2.90	36.85	-28.17	-13	-15.17	Horizontal
177.0	-50.83	1.77	16.84	-35.75	-13	-22.75	Vertical
461.7	-52.90	1.63	17.64	-36.89	-13	-23.89	Horizontal
Test Results for High Channel 688MHz							
1376.0	-63.12	2.19	35.83	-29.48	-13	-16.48	Horizontal
1376.0	-64.85	2.19	35.83	-31.21	-13	-18.21	Vertical
2064.0	-60.47	2.95	36.88	-26.54	-13	-13.54	Vertical
2064.0	-63.57	2.95	36.88	-29.64	-13	-16.64	Horizontal
192.9	-46.79	1.58	16.84	-31.52	-13	-18.52	Vertical
243.2	-47.80	1.45	17.64	-31.61	-13	-18.61	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

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

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

LTE Band 2,4,5,7,12,17, 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]
3.29	1880	12.7	0.006751	2.5
3.87	1880	13.5	0.007159	2.5
4.45	1880	13.2	0.007047	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.9	0.006861	2.5
Extreme (50C)	1880	11.3	0.006002	2.5
Extreme (40C)	1880	14.0	0.007467	2.5
Extreme (30C)	1880	13.9	0.007369	2.5
Extreme (10C)	1880	13.5	0.007192	2.5
Extreme (0C)	1880	11.9	0.006341	2.5
Extreme (-10C)	1880	13.2	0.007020	2.5
Extreme (-20C)	1880	14.0	0.007468	2.5
Extreme (-30C)	1880	14.5	0.007736	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1880	9.9	0.005269	2.5
3.87	1880	9.4	0.004992	2.5
4.45	1880	8.2	0.004343	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.8	0.005204	2.5
Extreme (50C)	1880	8.9	0.004746	2.5
Extreme (40C)	1880	8.0	0.004240841	2.5
Extreme (30C)	1880	8.6	0.004549578	2.5
Extreme (10C)	1880	9.0	0.004764328	2.5
Extreme (0C)	1880	8.2	0.004366644	2.5
Extreme (-10C)	1880	8.6	0.004594073	2.5
Extreme (-20C)	1880	8.6	0.004549541	2.5
Extreme (-30C)	1880	7.7	0.004071958	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1732.5	9.1	0.005271	2.5
3.87	1732.5	8.6	0.004941	2.5
4.45	1732.5	8.3	0.004771	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.0	0.004625	2.5
Extreme (50C)	1732.5	9.1	0.005256	2.5
Extreme (40C)	1732.5	7.6	0.004412	2.5
Extreme (30C)	1732.5	6.3	0.003629	2.5
Extreme (10C)	1732.5	6.9	0.003977	2.5
Extreme (0C)	1732.5	9.5	0.005479	2.5
Extreme (-10C)	1732.5	8.7	0.005040	2.5
Extreme (-20C)	1732.5	6.9	0.004005	2.5
Extreme (-30C)	1732.5	8.1	0.004677	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1732.5	10.1	0.005819	2.5
3.87	1732.5	9.2	0.005293	2.5
4.45	1732.5	7.7	0.004465	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.6	0.005551	2.5
Extreme (50C)	1732.5	9.2	0.005320	2.5
Extreme (40C)	1732.5	7.8	0.004476	2.5
Extreme (30C)	1732.5	8.7	0.004993	2.5
Extreme (10C)	1732.5	9.0	0.005180	2.5
Extreme (0C)	1732.5	7.8	0.004476	2.5
Extreme (-10C)	1732.5	9.4	0.005454	2.5
Extreme (-20C)	1732.5	8.4	0.004858	2.5
Extreme (-30C)	1732.5	8.6	0.004954	2.5

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

10.3 LTE BAND 5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	6.1	0.007350	2.5
3.87	836.5	6.9	0.008298	2.5
4.45	836.5	5.1	0.006076	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.3	0.007559	2.5
Extreme (50C)	836.5	5.5	0.006629	2.5
Extreme (40C)	836.5	6.5	0.007828	2.5
Extreme (30C)	836.5	6.5	0.007785	2.5
Extreme (10C)	836.5	5.3	0.006343	2.5
Extreme (0C)	836.5	5.2	0.006201	2.5
Extreme (-10C)	836.5	5.7	0.006814	2.5
Extreme (-20C)	836.5	5.8	0.006909	2.5
Extreme (-30C)	836.5	6.4	0.007648	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	6.2	0.007365	2.5
3.87	836.5	7.0	0.008427	2.5
4.45	836.5	5.0	0.005989	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.5	0.007766	2.5
Extreme (50C)	836.5	6.0	0.007205	2.5
Extreme (40C)	836.5	5.8	0.006895	2.5
Extreme (30C)	836.5	6.2	0.007426	2.5
Extreme (10C)	836.5	5.3	0.006365	2.5
Extreme (0C)	836.5	5.6	0.006640	2.5
Extreme (-10C)	836.5	5.8	0.006963	2.5
Extreme (-20C)	836.5	6.3	0.007564	2.5
Extreme (-30C)	836.5	5.9	0.007022	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	10.0	0.003942	2.5
3.87	2535	9.3	0.003688	2.5
4.45	2535	8.6	0.003394	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.4	0.003721	2.5
Extreme (50C)	2535	8.7	0.003448	2.5
Extreme (40C)	2535	8.2	0.003248	2.5
Extreme (30C)	2535	8.8	0.003466	2.5
Extreme (10C)	2535	7.8	0.003093	2.5
Extreme (0C)	2535	8.4	0.003318	2.5
Extreme (-10C)	2535	9.5	0.003739	2.5
Extreme (-20C)	2535	8.8	0.003473	2.5
Extreme (-30C)	2535	8.7	0.003418	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	2535	6.9	0.002722	2.5
3.87	2535	6.4	0.002506	2.5
4.45	2535	5.6	0.002224	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.9	0.002722	2.5
Extreme (50C)	2535	5.9	0.002321	2.5
Extreme (40C)	2535	5.0	0.001959	2.5
Extreme (30C)	2535	7.0	0.002765	2.5
Extreme (10C)	2535	6.0	0.002360	2.5
Extreme (0C)	2535	4.7	0.001843	2.5
Extreme (-10C)	2535	5.2	0.002045	2.5
Extreme (-20C)	2535	6.3	0.002481	2.5
Extreme (-30C)	2535	5.6	0.002192	2.5

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

10.5 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	707.5	8.6	0.012087	2.5
3.87	707.5	10.1	0.014329	2.5
4.45	707.5	8.7	0.012288	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.4	0.011825	2.5
Extreme (50C)	707.5	7.5	0.010578	2.5
Extreme (40C)	707.5	7.2	0.010133	2.5
Extreme (30C)	707.5	8.5	0.012016	2.5
Extreme (10C)	707.5	7.6	0.010711	2.5
Extreme (0C)	707.5	8.6	0.012140	2.5
Extreme (-10C)	707.5	8.6	0.012157	2.5
Extreme (-20C)	707.5	9.2	0.012948	2.5
Extreme (-30C)	707.5	7.9	0.011154	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	707.5	7.6	0.010689	2.5
3.87	707.5	7.8	0.011029	2.5
4.45	707.5	7.8	0.011080	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.8	0.012449	2.5
Extreme (50C)	707.5	8.2	0.011645	2.5
Extreme (40C)	707.5	9.2	0.013059	2.5
Extreme (30C)	707.5	8.0	0.011295	2.5
Extreme (10C)	707.5	8.6	0.012181	2.5
Extreme (0C)	707.5	7.3	0.010348	2.5
Extreme (-10C)	707.5	7.4	0.010397	2.5
Extreme (-20C)	707.5	9.1	0.012812	2.5
Extreme (-30C)	707.5	8.1	0.011508	2.5

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

10.6 LTE BAND 17

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	710.0	9.4	0.013202	2.5
3.87	710.0	8.8	0.012427	2.5
4.45	710.0	8.2	0.011520	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	10.0	0.014075	2.5
Extreme (50C)	710.0	8.9	0.012578	2.5
Extreme (40C)	710.0	7.9	0.011141	2.5
Extreme (30C)	710.0	8.5	0.012034	2.5
Extreme (10C)	710.0	9.2	0.012998	2.5
Extreme (0C)	710.0	7.7	0.010866	2.5
Extreme (-10C)	710.0	8.6	0.012109	2.5
Extreme (-20C)	710.0	8.4	0.011875	2.5
Extreme (-30C)	710.0	8.0	0.011221	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	710.0	10.5	0.014767	2.5
3.87	710.0	8.9	0.012476	2.5
4.45	710.0	8.3	0.011714	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.0	0.012620	2.5
Extreme (50C)	710.0	8.9	0.012468	2.5
Extreme (40C)	710.0	8.4	0.011869	2.5
Extreme (30C)	710.0	9.0	0.012673	2.5
Extreme (10C)	710.0	7.8	0.010928	2.5
Extreme (0C)	710.0	8.6	0.012182	2.5
Extreme (-10C)	710.0	9.0	0.012710	2.5
Extreme (-20C)	710.0	8.4	0.011868	2.5
Extreme (-30C)	710.0	8.1	0.011395	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]
3.29	819.0	10.2	0.012470	2.5
3.87	819.0	9.0	0.011022	2.5
4.45	819.0	8.3	0.010101	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	10.1	0.012278	2.5
Extreme (50C)	819.0	8.9	0.010889	2.5
Extreme (40C)	819.0	7.8	0.009546	2.5
Extreme (30C)	819.0	8.7	0.010641	2.5
Extreme (10C)	819.0	8.7	0.010679	2.5
Extreme (0C)	819.0	8.4	0.010223	2.5
Extreme (-10C)	819.0	9.2	0.011272	2.5
Extreme (-20C)	819.0	9.2	0.011288	2.5
Extreme (-30C)	819.0	7.6	0.009280	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	819.0	10.2	0.012491	2.5
3.87	819.0	9.0	0.011010	2.5
4.45	819.0	8.0	0.009801	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819.0	9.3	0.011299	2.5
Extreme (50C)	819.0	8.5	0.010430	2.5
Extreme (40C)	819.0	8.6	0.010490	2.5
Extreme (30C)	819.0	8.7	0.010615	2.5
Extreme (10C)	819.0	7.9	0.009672	2.5
Extreme (0C)	819.0	7.9	0.009669	2.5
Extreme (-10C)	819.0	9.3	0.011311	2.5
Extreme (-20C)	819.0	8.4	0.010296	2.5
Extreme (-30C)	819.0	8.5	0.010340	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]
3.29	836.5	10.1	0.012085	2.5
3.87	836.5	8.8	0.010566	2.5
4.45	836.5	7.6	0.009137	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.5	0.011298	2.5
Extreme (50C)	836.5	9.3	0.011065	2.5
Extreme (40C)	836.5	7.9	0.009489	2.5
Extreme (30C)	836.5	8.9	0.010655	2.5
Extreme (10C)	836.5	8.9	0.010600	2.5
Extreme (0C)	836.5	7.8	0.009325	2.5
Extreme (-10C)	836.5	8.6	0.010281	2.5
Extreme (-20C)	836.5	9.0	0.010811	2.5
Extreme (-30C)	836.5	7.7	0.009156	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	836.5	10.2	0.012201	2.5
3.87	836.5	9.2	0.010946	2.5
4.45	836.5	8.4	0.010072	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	9.0	0.010795	2.5
Extreme (50C)	836.5	9.2	0.010966	2.5
Extreme (40C)	836.5	8.2	0.009813	2.5
Extreme (30C)	836.5	9.0	0.010741	2.5
Extreme (10C)	836.5	7.7	0.009250	2.5
Extreme (0C)	836.5	8.2	0.009800	2.5
Extreme (-10C)	836.5	8.9	0.010676	2.5
Extreme (-20C)	836.5	9.3	0.011123	2.5
Extreme (-30C)	836.5	8.6	0.010278	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]
3.29	2593	10.5	0.004034	2.5
3.87	2593	8.5	0.003267	2.5
4.45	2593	8.0	0.003080	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	9.1	0.003520	2.5
Extreme (50C)	2593	8.8	0.003387	2.5
Extreme (40C)	2593	8.2	0.003175	2.5
Extreme (30C)	2593	9.1	0.003527	2.5
Extreme (10C)	2593	7.8	0.003008	2.5
Extreme (0C)	2593	8.4	0.003253	2.5
Extreme (-10C)	2593	9.2	0.003561	2.5
Extreme (-20C)	2593	9.2	0.003563	2.5
Extreme (-30C)	2593	7.9	0.003065	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]
3.29	2593	6.9	0.002661	2.5
3.87	2593	6.6	0.002553	2.5
4.45	2593	6.1	0.002338	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	5.5	0.002106	2.5
Extreme (40C)	2593	5.2	0.001989	2.5
Extreme (30C)	2593	7.1	0.002751	2.5
Extreme (10C)	2593	5.5	0.002133	2.5
Extreme (0C)	2593	5.2	0.001996	2.5
Extreme (-10C)	2593	5.0	0.001944	2.5
Extreme (-20C)	2593	5.9	0.002259	2.5
Extreme (-30C)	2593	6.2	0.002390	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]
3.29	1745	6.6	0.003786	2.5
3.87	1745	6.7	0.003838	2.5
4.45	1745	7.8	0.004455	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.8	0.003322	2.5
Extreme (50C)	1745	7.1	0.004040	2.5
Extreme (40C)	1745	6.6	0.003768	2.5
Extreme (30C)	1745	7.5	0.004282	2.5
Extreme (10C)	1745	7.1	0.004061	2.5
Extreme (0C)	1745	6.5	0.003718	2.5
Extreme (-10C)	1745	5.7	0.003252	2.5
Extreme (-20C)	1745	6.3	0.003598	2.5
Extreme (-30C)	1745	5.1	0.002948	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.29	1745	8.8	0.005054	2.5
3.87	1745	7.7	0.004434	2.5
4.45	1745	9.0	0.005181	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	8.5	0.004861	2.5
Extreme (50C)	1745	8.6	0.004903	2.5
Extreme (40C)	1745	8.8	0.005038	2.5
Extreme (30C)	1745	8.0	0.004569	2.5
Extreme (10C)	1745	8.7	0.004967	2.5
Extreme (0C)	1745	6.4	0.003683	2.5
Extreme (-10C)	1745	8.3	0.004780	2.5
Extreme (-20C)	1745	8.1	0.004634	2.5
Extreme (-30C)	1745	5.9	0.003404	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]
3.29	1745	6.9	0.003933	2.5
3.87	1745	7.0	0.003998	2.5
4.45	1745	7.5	0.004302	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	5.8	0.003350	2.5
Extreme (50C)	1745	7.2	0.004136	2.5
Extreme (40C)	1745	6.3	0.003634	2.5
Extreme (30C)	1745	7.0	0.003984	2.5
Extreme (10C)	1745	7.3	0.004183	2.5
Extreme (0C)	1745	6.7	0.003867	2.5
Extreme (-10C)	1745	5.0	0.002868	2.5
Extreme (-20C)	1745	6.2	0.003543	2.5
Extreme (-30C)	1745	5.1	0.002912	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]
3.29	1745	9.0	0.005149	2.5
3.87	1745	7.0	0.004031	2.5
4.45	1745	9.4	0.005406	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	8.8	0.005039	2.5
Extreme (50C)	1745	7.7	0.004412	2.5
Extreme (40C)	1745	9.0	0.005129	2.5
Extreme (30C)	1745	7.7	0.004429	2.5
Extreme (10C)	1745	8.8	0.005025	2.5
Extreme (0C)	1745	6.7	0.003815	2.5
Extreme (-10C)	1745	8.6	0.004908	2.5
Extreme (-20C)	1745	8.1	0.004628	2.5
Extreme (-30C)	1745	5.4	0.003115	2.5

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

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

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

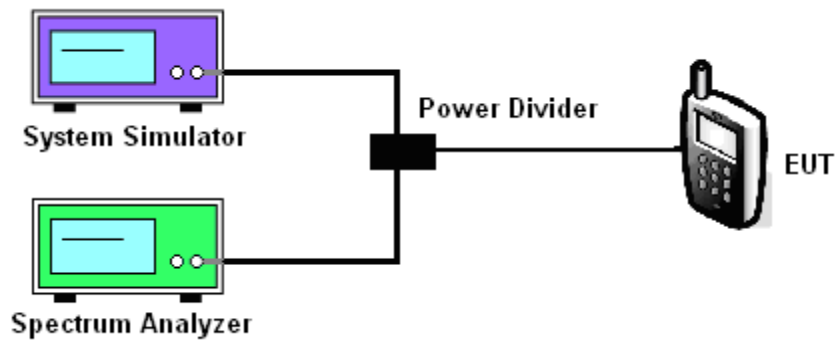
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

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

11.4 Test Setup



MODES TESTED

LTE Band 2,4,5,7,12, 17, 26,41,66,71

Test data reference attachment.

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