

FCC CFR47 PART 22H, 24E, 27, 90S CERTIFICATION TEST REPORT FCC ID: 2BLOZDS03P

Product: Vehicle intelligent video terminal

Trade Mark: Tensortec

Model No.: DS03P

Family Model: N/A

Report No.: S24101007405003

Issue Date: Dec. 25, 2024

Prepared for

Shenzhen Tensor Technology Co.,Ltd
AD601-15,Floor 6th,Building AD,Phase 1 GaoXinQi Area,
Liuxian Road 1, Xin'An Street,Bao'An District,Shenzhen,PRC

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street,
Baoan District, Shenzhen, Guangdong, People's Republic of China
Tel. 0755-23200050 Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name: Shenzhen Tensor Technology Co.,Ltd

Address: AD601-15,Floor 6th,Building AD,Phase 1 GaoXinQi Area, Liuxian Road 1,Xin'An Street,Bao'An District,Shenzhen,PRC

Manufacturer's Name: Shenzhen Tensor Technology Co.,Ltd

Address: AD601-15,Floor 6th,Building AD,Phase 1 GaoXinQi Area, Liuxian Road 1,Xin'An Street,Bao'An District,Shenzhen,PRC

Product name.....: Vehicle intelligent video terminal

Model and/or type reference ...: DS03P

Trade Mark.....: Tensortec

Family Model.....: N/A

Test Sample Number.....: S241010074006

Date of Test: Oct. 10, 2024 ~ Dec. 25, 2024

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

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

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

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Prepared : Kieron Luo
By : Kieron Luo
(Project Engineer)

Reviewed : Aaron Cheng
By : Aaron Cheng
(Supervisor)

Approved : Alex Li
By : Alex Li
(Manager)

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Vehicle intelligent video terminal
Trade Mark	Tensortec
Model Name	DS03P
Family Model	N/A
Model Difference	N/A
FCC ID:	2BLOZDS03P
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 12, 13, 25, 26 TDD Band 38, 40, 41
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 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; LTE FDD Band 25 Uplink: 1850MHz-1915MHz, Downlink: 1930MHz-1995MHz; LTE FDD Band 26 Uplink: 814MHz-849MHz, Downlink: 859MHz-894MHz; LTE TDD Band 38 Uplink & Downlink: 2570 MHz to 2620 MHz LTE TDD Band 40 Uplink& Downlink: 2305MHz-2315MHz&2350MHz-2360MHz LTE TDD Band 41 Uplink& Downlink: 2535MHz-2655MHz,
Type of Modulation:	QPSK/16QAM/64QAM(Only Downlink)
Power Class	Class 3
Antenna:	FPC Antenna
Antenna gain:	Band 2: 3.35dBi, Band 4: 2.71dBi, Band 5: 2.20dBi, Band 7: 4.31dBi, Band 12: 3.0dBi , Band 13: 3.20dBi, Band 25: 3.35dBi, Band 26: 2.20dBi, Band 38: 3.73dBi, Band 40: 3.75dBi, Band 41: 4.24dBi
Adapter	N/A

Battery	DC 3V (Button cell)
Power supply	DC 3V from battery or DC 24V from DC Source
Extreme Vol. Limits:	DC 21.6V to DC 26.4V (Nominal DC 24V) (Note 1)
HW Version	N/A
SW Version	N/A
** Note1: The High Voltage DC 26.4V and Low Voltage 21.6V 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: 2BLOZDS03P** filing to comply with the FCC Part 22H&24E&27&90S.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expanded 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, 13, 25, 26, 38, 40, 41

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	Vehicle intelligent video terminal	DS03P	FCC ID: 2BLOZDS03P	EUT

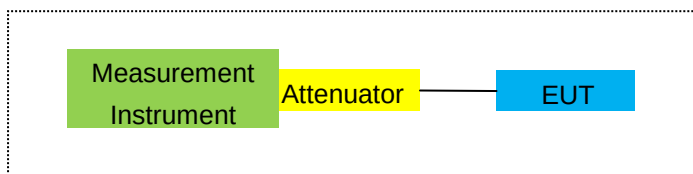
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

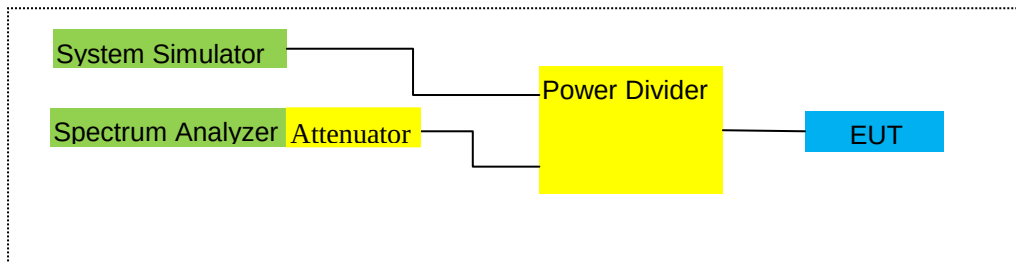
For Radiated Test Cases



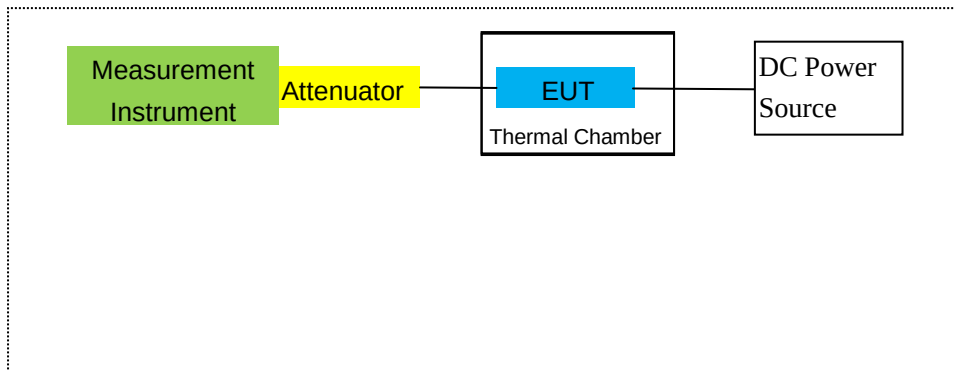
For Conducted Output Power



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



For Frequency Stability



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

3.TEST AND MEASUREMENT EQUIPMENT

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

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

26	DC Power Source	N/A	PS-6005D	2017040292 3	2024.04.25	2027.04.24	3 year
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Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years.

Measurement Software

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

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

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

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

MODES TESTED

☐

Band 2, 4, 5, 7, 12, 13, 25, 26, 38, 40, 41

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53,
FCC: §22.359

LIMITS

FCC: §22.917, §24.238, §27.53

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

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

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

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

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

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

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

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

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

MODES TESTED

Band 2, 4, 5, 7, 12, 13, 25, 26, 38, 40, 41

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, 13, 25, 26, 38, 40, 41
- ☐

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, 13, 25, 26, 38, 40, 41

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-5.22	3.76	28.24	19.26	84.333	Horizontal	Pass
		1880	-4.43	3.91	28.22	19.88	97.275	Horizontal	Pass
		1909.3	-4.58	3.93	28.20	19.69	93.111	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-4.81	3.77	28.23	19.65	92.257	Horizontal	Pass
		1880	-4.09	3.91	28.24	20.24	105.682	Horizontal	Pass
		1908.5	-4.15	3.94	28.25	20.16	103.753	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-4.30	3.77	28.31	20.24	105.682	Horizontal	Pass
		1880	-4.03	3.91	28.22	20.28	106.660	Horizontal	Pass
		1907.5	-4.36	3.94	28.20	19.90	97.724	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-4.03	3.79	28.33	20.51	112.460	Horizontal	Pass
		1880	-3.77	3.95	28.22	20.50	112.202	Horizontal	Pass
		1905	-3.57	3.97	28.19	20.65	116.145	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.20	3.79	28.34	20.35	108.393	Horizontal	Pass
		1880	-4.32	3.95	28.22	19.95	98.855	Horizontal	Pass
		1902.5	-4.32	3.97	28.18	19.89	97.499	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.62	3.81	28.35	19.92	98.175	Horizontal	Pass
		1880	-4.23	3.96	28.22	20.03	100.693	Horizontal	Pass
		1900	-3.45	4.00	28.16	20.71	117.761	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-4.59	3.76	28.24	19.89	97.499	Vertical	Pass
		1880	-5.48	3.91	28.22	18.83	76.384	Vertical	Pass
		1909.3	-4.37	3.93	28.20	19.90	97.724	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.50	3.77	28.23	18.96	78.705	Vertical	Pass
		1880	-5.57	3.91	28.24	18.76	75.162	Vertical	Pass
		1908.5	-5.59	3.94	28.25	18.72	74.473	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-5.20	3.77	28.31	19.34	85.901	Vertical	Pass
		1880	-5.31	3.91	28.22	19.00	79.433	Vertical	Pass
		1907.5	-4.73	3.94	28.20	19.53	89.743	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-5.71	3.79	28.33	18.83	76.384	Vertical	Pass
		1880	-4.88	3.95	28.22	19.39	86.896	Vertical	Pass
		1905	-5.71	3.97	28.19	18.51	70.958	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-5.42	3.79	28.34	19.13	81.846	Vertical	Pass

Band QPSK		1880	-5.36	3.95	28.22	18.91	77.804	Vertical	Pass
		1902.5	-4.85	3.97	28.18	19.36	86.298	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.88	3.81	28.35	19.66	92.470	Vertical	Pass
		1880	-5.20	3.96	28.22	19.06	80.538	Vertical	Pass
		1900	-5.13	4.00	28.16	19.03	79.983	Vertical	Pass

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average (mW)		
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.05	3.76	28.24	18.43	69.663	Horizontal	Pass
		1880	-5.40	3.91	28.22	18.91	77.804	Horizontal	Pass
		1909.3	-5.08	3.93	28.20	19.19	82.985	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.12	3.77	28.23	19.34	85.901	Horizontal	Pass
		1880	-5.19	3.91	28.24	19.14	82.035	Horizontal	Pass
		1908.5	-5.48	3.94	28.25	18.83	76.384	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.75	3.77	28.31	19.79	95.280	Horizontal	Pass
		1880	-5.23	3.91	28.22	19.08	80.910	Horizontal	Pass
		1907.5	-4.35	3.94	28.20	19.91	97.949	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.85	3.79	28.33	19.69	93.111	Horizontal	Pass
		1880	-5.31	3.95	28.22	18.96	78.705	Horizontal	Pass
		1905	-4.56	3.97	28.19	19.66	92.470	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.15	3.79	28.34	19.40	87.096	Horizontal	Pass
		1880	-4.87	3.95	28.22	19.40	87.096	Horizontal	Pass
		1902.5	-4.54	3.97	28.18	19.67	92.683	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-5.02	3.81	28.35	19.52	89.536	Horizontal	Pass
		1880	-4.73	3.96	28.22	19.53	89.743	Horizontal	Pass
		1900	-4.58	4.00	28.16	19.58	90.782	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-5.75	3.76	28.24	18.73	74.645	Vertical	Pass
		1880	-5.93	3.91	28.22	18.38	68.865	Vertical	Pass
		1909.3	-5.85	3.93	28.20	18.42	69.502	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-6.49	3.77	28.23	17.97	62.661	Vertical	Pass
		1880	-5.88	3.91	28.24	18.45	69.984	Vertical	Pass
		1908.5	-6.45	3.94	28.25	17.86	61.094	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-6.42	3.77	28.31	18.12	64.863	Vertical	Pass
		1880	-6.08	3.91	28.22	18.23	66.527	Vertical	Pass
		1907.5	-6.51	3.94	28.20	17.75	59.566	Vertical	Pass

10.0MHz Band 16 QAM	1/#Mid	1855	-7.00	3.79	28.33	17.54	56.754	Vertical	Pass
		1880	-6.31	3.95	28.22	17.96	62.517	Vertical	Pass
		1905	-5.74	3.97	28.19	18.48	70.469	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.76	3.79	28.34	18.79	75.683	Vertical	Pass
		1880	-5.78	3.95	28.22	18.49	70.632	Vertical	Pass
		1902.5	-6.02	3.97	28.18	18.19	65.917	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-6.45	3.81	28.35	18.09	64.417	Vertical	Pass
		1880	-6.02	3.96	28.22	18.24	66.681	Vertical	Pass
		1900	-5.71	4.00	28.16	18.45	69.984	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	-5.54	3.12	27.58	18.92	77.983	Horizontal	Pass
		1732.5	-4.21	3.27	27.61	20.13	103.039	Horizontal	Pass
		1754.3	-4.17	3.29	27.63	20.17	103.992	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-4.46	3.13	27.61	20.02	100.462	Horizontal	Pass
		1732.5	-4.20	3.27	27.61	20.14	103.276	Horizontal	Pass
		1753.5	-4.81	3.30	27.62	19.51	89.331	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-4.38	3.13	27.63	20.12	102.802	Horizontal	Pass
		1732.5	-4.67	3.27	27.61	19.67	92.683	Horizontal	Pass
		1752.5	-4.61	3.30	27.60	19.69	93.111	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-4.38	3.15	27.64	20.11	102.565	Horizontal	Pass
		1732.5	-4.48	3.31	27.61	19.82	95.940	Horizontal	Pass
		1750	-4.54	3.33	27.59	19.72	93.756	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-4.87	3.15	27.65	19.63	91.833	Horizontal	Pass
		1732.5	-4.52	3.31	27.61	19.78	95.060	Horizontal	Pass
		1747.5	-4.25	3.33	27.57	19.99	99.770	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-3.89	3.17	27.66	20.60	114.815	Horizontal	Pass
		1732.5	-3.71	3.32	27.61	20.58	114.288	Horizontal	Pass
		1745	-4.22	3.36	27.56	19.98	99.541	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-4.76	3.12	27.58	19.70	93.325	Vertical	Pass
		1732.5	-4.31	3.27	27.61	20.03	100.693	Vertical	Pass
		1754.3	-5.14	3.29	27.63	19.20	83.176	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-5.05	3.13	27.61	19.43	87.700	Vertical	Pass
		1732.5	-5.73	3.27	27.61	18.61	72.611	Vertical	Pass
		1753.5	-5.31	3.30	27.62	19.01	79.616	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-6.05	3.13	27.63	18.45	69.984	Vertical	Pass
		1732.5	-5.41	3.27	27.61	18.93	78.163	Vertical	Pass
		1752.5	-5.33	3.30	27.60	18.97	78.886	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-5.68	3.15	27.64	18.81	76.033	Vertical	Pass
		1732.5	-5.47	3.31	27.61	18.83	76.384	Vertical	Pass
		1750	-5.18	3.33	27.59	19.08	80.910	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1717.5	-5.00	3.15	27.65	19.50	89.125	Vertical	Pass
		1732.5	-5.08	3.31	27.61	19.22	83.560	Vertical	Pass
		1747.5	-5.32	3.33	27.57	18.92	77.983	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-5.38	3.17	27.66	19.11	81.470	Vertical	Pass
		1732.5	-6.03	3.32	27.61	18.26	66.988	Vertical	Pass
		1745	-4.72	3.36	27.56	19.48	88.716	Vertical	Pass

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-4.91	3.12	27.58	19.55	90.157	Horizontal	Pass
		1732.5	-5.26	3.27	27.61	19.08	80.910	Horizontal	Pass
		1754.3	-4.78	3.29	27.63	19.56	90.365	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-5.19	3.13	27.61	19.29	84.918	Horizontal	Pass
		1732.5	-5.52	3.27	27.61	18.82	76.208	Horizontal	Pass
		1753.5	-5.46	3.30	27.62	18.86	76.913	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-4.91	3.13	27.63	19.59	90.991	Horizontal	Pass
		1732.5	-5.19	3.27	27.61	19.15	82.224	Horizontal	Pass
		1752.5	-4.29	3.30	27.60	20.01	100.231	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.65	3.15	27.64	19.84	96.383	Horizontal	Pass
		1732.5	-5.51	3.31	27.61	18.79	75.683	Horizontal	Pass
		1750	-4.45	3.33	27.59	19.81	95.719	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-5.10	3.15	27.65	19.40	87.096	Horizontal	Pass
		1732.5	-4.84	3.31	27.61	19.46	88.308	Horizontal	Pass
		1747.5	-4.91	3.33	27.57	19.33	85.704	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-4.25	3.17	27.66	20.24	105.682	Horizontal	Pass
		1732.5	-4.84	3.32	27.61	19.45	88.105	Horizontal	Pass
		1745	-4.76	3.36	27.56	19.44	87.902	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-6.35	3.12	27.58	18.11	64.714	Vertical	Pass
		1732.5	-6.19	3.27	27.61	18.15	65.313	Vertical	Pass
		1754.3	-5.82	3.29	27.63	18.52	71.121	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-6.21	3.13	27.61	18.27	67.143	Vertical	Pass
		1732.5	-6.64	3.27	27.61	17.70	58.884	Vertical	Pass
		1753.5	-5.70	3.30	27.62	18.62	72.778	Vertical	Pass
5.0MHz Band 16	1/#Mid	1712.5	-6.50	3.13	27.63	18.00	63.096	Vertical	Pass
		1732.5	-6.45	3.27	27.61	17.89	61.518	Vertical	Pass

QAM		1752.5	-5.76	3.30	27.60	18.54	71.450	Vertical	Pass
10.0MHz	1/#Mid	1715	-6.46	3.15	27.64	18.03	63.533	Vertical	Pass
Band 16		1732.5	-6.46	3.31	27.61	17.84	60.814	Vertical	Pass
QAM		1750	-6.36	3.33	27.59	17.90	61.660	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-5.69	3.15	27.65	18.81	76.033	Vertical	Pass
Band 16		1732.5	-6.24	3.31	27.61	18.06	63.973	Vertical	Pass
QAM		1747.5	-5.49	3.33	27.57	18.75	74.989	Vertical	Pass
20.0MHz	1/#Mid	1720	-6.56	3.17	27.66	17.93	62.087	Vertical	Pass
Band 16		1732.5	-5.95	3.32	27.61	18.34	68.234	Vertical	Pass
QAM		1745	-6.35	3.36	27.56	17.85	60.954	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	3/#Mid	824.7	4.89	2.01	19.68	2.15	20.41	109.901	Horizontal	Pass
		836.5	4.67	2.01	19.77	2.15	20.28	106.660	Horizontal	Pass
		848.3	4.90	2.02	19.82	2.15	20.55	113.501	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	4.24	2.01	19.70	2.15	19.78	95.060	Horizontal	Pass
		836.5	4.30	2.01	19.77	2.15	19.91	97.949	Horizontal	Pass
		847.5	4.05	2.02	19.81	2.15	19.69	93.111	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	4.50	2.01	19.71	2.15	20.05	101.158	Horizontal	Pass
		836.5	4.28	2.01	19.77	2.15	19.89	97.499	Horizontal	Pass
		846.5	4.90	2.02	19.79	2.15	20.52	112.720	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	5.07	2.01	19.73	2.15	20.64	115.878	Horizontal	Pass
		836.5	4.99	2.01	19.77	2.15	20.60	114.815	Horizontal	Pass
		844	5.19	2.02	19.78	2.15	20.80	120.226	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	3.31	2.01	19.68	2.15	18.83	76.384	Vertical	Pass
		836.5	3.96	2.01	19.77	2.15	19.57	90.573	Vertical	Pass
		848.3	3.18	2.02	19.82	2.15	18.83	76.384	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	3.52	2.01	19.70	2.15	19.06	80.538	Vertical	Pass
		836.5	4.28	2.01	19.77	2.15	19.89	97.499	Vertical	Pass
		847.5	2.78	2.02	19.81	2.15	18.42	69.502	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	3.32	2.01	19.71	2.15	18.87	77.090	Vertical	Pass
		836.5	3.63	2.01	19.77	2.15	19.24	83.946	Vertical	Pass
		846.5	2.89	2.02	19.79	2.15	18.51	70.958	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	3.42	2.01	19.73	2.15	18.99	79.250	Vertical	Pass
		836.5	3.20	2.01	19.77	2.15	18.81	76.033	Vertical	Pass
		844	3.45	2.02	19.78	2.15	19.06	80.538	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	3/##Mid	824.7	4.06	2.01	19.68	2.15	19.58	90.782	Horizontal	Pass
		836.5	4.27	2.01	19.77	2.15	19.88	97.275	Horizontal	Pass
		848.3	4.06	2.02	19.82	2.15	19.71	93.541	Horizontal	Pass
3.0MHz Band 16 QAM	1/##Mid	825.5	3.90	2.01	19.70	2.15	19.44	87.902	Horizontal	Pass
		836.5	3.35	2.01	19.77	2.15	18.96	78.705	Horizontal	Pass
		847.5	3.48	2.02	19.81	2.15	19.12	81.658	Horizontal	Pass
5.0MHz Band 16 QAM	1/##Mid	826.5	3.99	2.01	19.71	2.15	19.54	89.950	Horizontal	Pass
		836.5	4.43	2.01	19.77	2.15	20.04	100.925	Horizontal	Pass
		846.5	3.67	2.02	19.79	2.15	19.29	84.918	Horizontal	Pass
10.0MHz Band 16 QAM	1/##Mid	829	4.07	2.01	19.73	2.15	19.64	92.045	Horizontal	Pass
		836.5	4.49	2.01	19.77	2.15	20.10	102.329	Horizontal	Pass
		844	3.72	2.02	19.78	2.15	19.33	85.704	Horizontal	Pass
1.4MHz Band 16 QAM	1/##Mid	824.7	2.60	2.01	19.68	2.15	18.12	64.863	Vertical	Pass
		836.5	3.04	2.01	19.77	2.15	18.65	73.282	Vertical	Pass
		848.3	2.31	2.02	19.82	2.15	17.96	62.517	Vertical	Pass
3.0MHz Band 16 QAM	1/##Mid	825.5	3.31	2.01	19.70	2.15	18.85	76.736	Vertical	Pass
		836.5	1.56	2.01	19.77	2.15	17.17	52.119	Vertical	Pass
		847.5	2.51	2.02	19.81	2.15	18.15	65.313	Vertical	Pass
5.0MHz Band 16 QAM	1/##Mid	826.5	3.34	2.01	19.71	2.15	18.89	77.446	Vertical	Pass
		836.5	3.06	2.01	19.77	2.15	18.67	73.621	Vertical	Pass
		846.5	2.60	2.02	19.79	2.15	18.22	66.374	Vertical	Pass
10.0MHz Band 16 QAM	1/##Mid	829	4.10	2.01	19.73	2.15	19.67	92.683	Vertical	Pass
		836.5	2.17	2.01	19.77	2.15	17.78	59.979	Vertical	Pass
		844	2.52	2.02	19.78	2.15	18.13	65.013	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2502.5	-2.93	4.54	27.75	20.28	106.660	Horizontal	Pass
		2535	-2.60	4.69	27.72	20.43	110.408	Horizontal	Pass
		2567.5	-2.23	4.71	27.71	20.77	119.399	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.64	4.55	27.76	20.57	114.025	Horizontal	Pass
		2535	-2.41	4.69	27.72	20.62	115.345	Horizontal	Pass
		2565	-2.11	4.72	27.70	20.87	122.180	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-2.71	4.55	27.77	20.51	112.460	Horizontal	Pass
		2535	-2.55	4.69	27.72	20.48	111.686	Horizontal	Pass
		2562.5	-2.06	4.72	27.69	20.91	123.310	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.82	4.57	27.78	20.39	109.396	Horizontal	Pass
		2535	-2.08	4.73	27.72	20.91	123.310	Horizontal	Pass
		2560	-1.96	4.75	27.68	20.97	125.026	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-4.74	4.54	27.75	18.47	70.307	Vertical	Pass
		2535	-4.24	4.69	27.72	18.79	75.683	Vertical	Pass
		2567.5	-4.67	4.71	27.71	18.33	68.077	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-4.10	4.55	27.76	19.11	81.470	Vertical	Pass
		2535	-3.78	4.69	27.72	19.25	84.140	Vertical	Pass
		2565	-4.65	4.72	27.70	18.33	68.077	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-4.38	4.55	27.77	18.84	76.560	Vertical	Pass
		2535	-3.47	4.69	27.72	19.56	90.365	Vertical	Pass
		2562.5	-3.49	4.72	27.69	19.48	88.716	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-4.10	4.57	27.78	19.11	81.470	Vertical	Pass
		2535	-3.14	4.73	27.72	19.85	96.605	Vertical	Pass
		2560	-4.05	4.75	27.68	18.88	77.268	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	-3.90	4.54	27.75	19.31	85.310	Horizontal	Pass
		2535	-2.96	4.69	27.72	20.07	101.625	Horizontal	Pass
		2567.5	-3.42	4.71	27.71	19.58	90.782	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-2.91	4.55	27.76	20.30	107.152	Horizontal	Pass
		2535	-3.44	4.69	27.72	19.59	90.991	Horizontal	Pass
		2565	-3.32	4.72	27.70	19.66	92.470	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-3.73	4.55	27.77	19.49	88.920	Horizontal	Pass
		2535	-3.79	4.69	27.72	19.24	83.946	Horizontal	Pass
		2562.5	-2.73	4.72	27.69	20.24	105.682	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-3.69	4.57	27.78	19.52	89.536	Horizontal	Pass
		2535	-2.60	4.73	27.72	20.39	109.396	Horizontal	Pass
		2560	-3.64	4.75	27.68	19.29	84.918	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-4.59	4.54	27.75	18.62	72.778	Vertical	Pass
		2535	-5.36	4.69	27.72	17.67	58.479	Vertical	Pass
		2567.5	-3.97	4.71	27.71	19.03	79.983	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.16	4.55	27.76	19.05	80.353	Vertical	Pass
		2535	-3.91	4.69	27.72	19.12	81.658	Vertical	Pass
		2565	-5.26	4.72	27.70	17.72	59.156	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-5.62	4.55	27.77	17.60	57.544	Vertical	Pass
		2535	-3.77	4.69	27.72	19.26	84.333	Vertical	Pass
		2562.5	-4.95	4.72	27.69	18.02	63.387	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-4.13	4.57	27.78	19.08	80.910	Vertical	Pass
		2535	-4.84	4.73	27.72	18.15	65.313	Vertical	Pass
		2560	-5.25	4.75	27.68	17.68	58.614	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	699.7	4.66	1.91	19.21	2.15	19.81	95.719	Vertical	Pass
		707.5	4.59	1.91	19.26	2.15	19.79	95.280	Vertical	Pass
		715.3	4.64	1.93	19.34	2.15	19.90	97.724	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	4.35	1.91	19.21	2.15	19.50	89.125	Vertical	Pass
		707.5	4.54	1.91	19.26	2.15	19.74	94.189	Vertical	Pass
		714.5	4.82	1.93	19.34	2.15	20.08	101.859	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	4.74	1.91	19.23	2.15	19.91	97.949	Vertical	Pass
		707.5	4.71	1.91	19.26	2.15	19.91	97.949	Vertical	Pass
		713.5	4.88	1.92	19.33	2.15	20.14	103.276	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	704	4.69	1.91	19.25	2.15	19.88	97.275	Vertical	Pass
		707.5	4.96	1.91	19.26	2.15	20.16	103.753	Vertical	Pass
		711	4.27	1.92	19.32	2.15	19.52	89.536	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	3.48	1.91	19.21	2.15	18.63	72.946	Horizontal	Pass
		707.5	3.73	1.91	19.26	2.15	18.93	78.163	Horizontal	Pass
		715.3	3.96	1.93	19.34	2.15	19.22	83.560	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	3.61	1.91	19.21	2.15	18.76	75.162	Horizontal	Pass
		707.5	3.73	1.91	19.26	2.15	18.93	78.163	Horizontal	Pass
		714.5	3.58	1.93	19.34	2.15	18.84	76.560	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	3.42	1.91	19.23	2.15	18.59	72.277	Horizontal	Pass
		707.5	3.58	1.91	19.26	2.15	18.78	75.509	Horizontal	Pass
		713.5	4.17	1.92	19.33	2.15	19.43	87.700	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	704	3.14	1.91	19.25	2.15	18.33	68.077	Horizontal	Pass
		707.5	3.64	1.91	19.26	2.15	18.84	76.560	Horizontal	Pass
		711	3.59	1.92	19.32	2.15	18.84	76.560	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Correction	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			(dB)	Average	Average		
							(dBm)	(mW)		
1.4MHz Band 16 QAM	1/#Mid	699.7	4.69	1.91	19.21	2.15	19.84	96.383	Vertical	Pass
		707.5	4.73	1.91	19.26	2.15	19.93	98.401	Vertical	Pass
		715.3	4.21	1.93	19.34	2.15	19.47	88.512	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	3.89	1.91	19.21	2.15	19.04	80.168	Vertical	Pass
		707.5	3.74	1.91	19.26	2.15	18.94	78.343	Vertical	Pass
		714.5	4.08	1.93	19.34	2.15	19.34	85.901	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	4.73	1.91	19.23	2.15	19.90	97.724	Vertical	Pass
		707.5	4.39	1.91	19.26	2.15	19.59	90.991	Vertical	Pass
		713.5	4.07	1.92	19.33	2.15	19.33	85.704	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	704	4.79	1.91	19.25	2.15	19.98	99.541	Vertical	Pass
		707.5	4.24	1.91	19.26	2.15	19.44	87.902	Vertical	Pass
		711	4.72	1.92	19.32	2.15	19.97	99.312	Vertical	Pass
1.4MHz Band 16 QAM	1/#Mid	699.7	4.02	1.91	19.21	2.15	19.17	82.604	Horizontal	Pass
		707.5	3.81	1.91	19.26	2.15	19.01	79.616	Horizontal	Pass
		715.3	3.34	1.93	19.34	2.15	18.60	72.444	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	700.5	3.07	1.91	19.21	2.15	18.22	66.374	Horizontal	Pass
		707.5	3.02	1.91	19.26	2.15	18.22	66.374	Horizontal	Pass
		714.5	3.13	1.93	19.34	2.15	18.39	69.024	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	701.5	3.22	1.91	19.23	2.15	18.39	69.024	Horizontal	Pass
		707.5	3.68	1.91	19.26	2.15	18.88	77.268	Horizontal	Pass
		713.5	2.75	1.92	19.33	2.15	18.01	63.241	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	704	3.85	1.91	19.25	2.15	19.04	80.168	Horizontal	Pass
		707.5	3.23	1.91	19.26	2.15	18.43	69.663	Horizontal	Pass
		711	3.56	1.92	19.32	2.15	18.81	76.033	Horizontal	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.7 LTE BAND 13

Radiated Power (ERP) for Band 13										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	779.5	6.15	1.91	19.23	2.15	21.32	135.519	Horizontal	Pass
		782	5.74	1.91	19.26	2.15	20.94	124.165	Horizontal	Pass
		784.5	5.10	1.92	19.33	2.15	20.36	108.643	Horizontal	Pass
10.0MHz Band QPSK	50/0	782	5.23	1.91	19.25	2.15	20.42	110.154	Horizontal	Pass
			6.23	1.91	19.26	2.15	21.43	138.995	Horizontal	Pass
			3.90	1.92	19.32	2.15	19.15	82.224	Horizontal	Pass
5.0MHz Band QPSK	25/0	779.5	5.59	1.91	19.23	2.15	20.76	119.124	Vertical	Pass
		782	4.63	1.91	19.26	2.15	19.83	96.161	Vertical	Pass
		784.5	5.25	1.92	19.33	2.15	20.51	112.460	Vertical	Pass
10.0MHz Band QPSK	50/0	782	4.81	1.91	19.25	2.15	20.00	100.000	Vertical	Pass
			5.29	1.91	19.26	2.15	20.49	111.944	Vertical	Pass
			4.51	1.92	19.32	2.15	19.76	94.624	Vertical	Pass

Radiated Power (ERP) for Band 13										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	25/0	779.5	5.53	1.91	19.23	2.15	20.70	117.490	Horizontal	Pass
		782	3.96	1.91	19.26	2.15	19.16	82.414	Horizontal	Pass
		784.5	4.96	1.92	19.33	2.15	20.22	105.196	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	782	4.69	1.91	19.25	2.15	19.88	97.275	Horizontal	Pass
			5.66	1.91	19.26	2.15	20.86	121.899	Horizontal	Pass
			4.49	1.92	19.32	2.15	19.74	94.189	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	779.5	4.59	1.91	19.23	2.15	19.76	94.624	Vertical	Pass
		782	5.26	1.91	19.26	2.15	20.46	111.173	Vertical	Pass
		784.5	3.65	1.92	19.33	2.15	18.91	77.804	Vertical	Pass
10.0MHz Band 16 QAM	50/0	782	4.19	1.91	19.25	2.15	19.38	86.696	Vertical	Pass
			4.25	1.91	19.26	2.15	19.45	88.105	Vertical	Pass
			3.95	1.92	19.32	2.15	19.20	83.176	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.8 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
1.4MHz Band QPSK	1/##Mid	1850.7	-5.41	3.12	27.58	19.05	80.353	Horizontal	Pass
		1882,5	-5.38	3.27	27.61	18.96	78.705	Horizontal	Pass
		1914.3	-5.60	3.29	27.63	18.74	74.817	Horizontal	Pass
3.0MHz Band QPSK	1/##Mid	1851.5	-5.35	3.13	27.61	19.13	81.846	Horizontal	Pass
		1882,5	-5.62	3.27	27.61	18.72	74.473	Horizontal	Pass
		1913.5	-5.92	3.30	27.62	18.40	69.183	Horizontal	Pass
5.0MHz Band QPSK	1/##Mid	1852.5	-5.29	3.13	27.63	19.21	83.368	Horizontal	Pass
		1882,5	-4.76	3.27	27.61	19.58	90.782	Horizontal	Pass
		1912.5	-5.22	3.30	27.60	19.08	80.910	Horizontal	Pass
10.0MHz Band QPSK	1/##Mid	1855	-5.60	3.15	27.64	18.89	77.446	Horizontal	Pass
		1882,5	-5.15	3.31	27.61	19.15	82.224	Horizontal	Pass
		1910	-5.56	3.33	27.59	18.70	74.131	Horizontal	Pass
15.0MHz Band QPSK	1/##Mid	1857.5	-6.34	3.15	27.65	18.16	65.464	Horizontal	Pass
		1882,5	-6.46	3.31	27.61	17.84	60.814	Horizontal	Pass
		1907.5	-6.70	3.33	27.57	17.54	56.754	Horizontal	Pass
20.0MHz Band QPSK	1/##Mid	1860	-6.49	3.17	27.66	18.00	63.096	Horizontal	Pass
		1882,5	-5.36	3.32	27.61	18.93	78.163	Horizontal	Pass
		1905	-4.31	3.36	27.56	19.89	97.499	Horizontal	Pass
1.4MHz Band QPSK	1/##Mid	1850.7	-6.21	3.12	27.58	18.25	66.834	Vertical	Pass
		1882,5	-6.36	3.27	27.61	17.98	62.806	Vertical	Pass
		1914.3	-6.60	3.29	27.63	17.74	59.429	Vertical	Pass
3.0MHz Band QPSK	1/##Mid	1851.5	-6.20	3.13	27.61	18.28	67.298	Vertical	Pass
		1882,5	-6.88	3.27	27.61	17.46	55.719	Vertical	Pass
		1913.5	-6.63	3.30	27.62	17.69	58.749	Vertical	Pass
5.0MHz Band QPSK	1/##Mid	1852.5	-5.68	3.13	27.63	18.82	76.208	Vertical	Pass
		1882,5	-6.34	3.27	27.61	18.00	63.096	Vertical	Pass
		1912.5	-5.95	3.30	27.60	18.35	68.391	Vertical	Pass
10.0MHz Band QPSK	1/##Mid	1855	-6.98	3.15	27.64	17.51	56.364	Vertical	Pass
		1882,5	-5.94	3.31	27.61	18.36	68.549	Vertical	Pass
		1910	-6.28	3.33	27.59	17.98	62.806	Vertical	Pass

15.0MHz Band QPSK	1/#Mid	1857.5	-6.68	3.15	27.65	17.82	60.534	Vertical	Pass
		1882,5	-5.90	3.31	27.61	18.40	69.183	Vertical	Pass
		1907.5	-6.16	3.33	27.57	18.08	64.269	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1860	-6.41	3.17	27.66	18.08	64.269	Vertical	Pass
		1882,5	-6.43	3.32	27.61	17.86	61.094	Vertical	Pass
		1905	-6.80	3.36	27.56	17.40	54.954	Vertical	Pass

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.77	3.12	27.58	19.69	93.111	Horizontal	Pass
		1882,5	-5.01	3.27	27.61	19.33	85.704	Horizontal	Pass
		1914.3	-5.37	3.29	27.63	18.97	78.886	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.58	3.13	27.61	18.90	77.625	Horizontal	Pass
		1882,5	-5.27	3.27	27.61	19.07	80.724	Horizontal	Pass
		1913.5	-4.90	3.30	27.62	19.42	87.498	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.92	3.13	27.63	19.58	90.782	Horizontal	Pass
		1882,5	-4.74	3.27	27.61	19.60	91.201	Horizontal	Pass
		1912.5	-5.61	3.30	27.60	18.69	73.961	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.06	3.15	27.64	19.43	87.700	Horizontal	Pass
		1882,5	-4.77	3.31	27.61	19.53	89.743	Horizontal	Pass
		1910	-4.69	3.33	27.59	19.57	90.573	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-6.54	3.15	27.65	17.96	62.517	Horizontal	Pass
		1882,5	-6.66	3.31	27.61	17.64	58.076	Horizontal	Pass
		1907.5	-6.72	3.33	27.57	17.52	56.494	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-4.58	3.17	27.66	19.91	97.949	Horizontal	Pass
		1882,5	-5.85	3.32	27.61	18.44	69.823	Horizontal	Pass
		1905	-4.32	3.36	27.56	19.88	97.275	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.97	3.12	27.58	17.49	56.105	Vertical	Pass
		1882,5	-6.52	3.27	27.61	17.82	60.534	Vertical	Pass
		1914.3	-6.88	3.29	27.63	17.46	55.719	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-6.57	3.13	27.61	17.91	61.802	Vertical	Pass
		1882,5	-6.87	3.27	27.61	17.47	55.847	Vertical	Pass
		1913.5	-6.41	3.30	27.62	17.91	61.802	Vertical	Pass
5.0MHz Band 16	1/#Mid	1852.5	-6.03	3.13	27.63	18.47	70.307	Vertical	Pass
		1882,5	-6.99	3.27	27.61	17.35	54.325	Vertical	Pass

QAM		1912.5	-5.68	3.30	27.60	18.62	72.778	Vertical	Pass
10.0MHz	1/#Mid	1855	-7.14	3.15	27.64	17.35	54.325	Vertical	Pass
Band 16		1882,5	-5.95	3.31	27.61	18.35	68.391	Vertical	Pass
QAM		1910	-5.46	3.33	27.59	18.80	75.858	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-6.04	3.15	27.65	18.46	70.146	Vertical	Pass
Band 16		1882,5	-6.17	3.31	27.61	18.13	65.013	Vertical	Pass
QAM		1907.5	-6.85	3.33	27.57	17.39	54.828	Vertical	Pass
20.0MHz	1/#Mid	1860	-6.86	3.17	27.66	17.63	57.943	Vertical	Pass
Band 16		1882,5	-6.11	3.32	27.61	18.18	65.766	Vertical	Pass
QAM		1905	-6.00	3.36	27.56	18.20	66.069	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.9 LTE BAND 26A

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
		MHz	SG Level	Cable Loss (dBm)	Antenna Gain (dB)	Correction	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
1.4MHz BW QPSK	6/0	814.7	21.73	3.76	5.60	2.15	21.42	138.80	Horizontal	Pass
		819	22.21	3.91	5.70	2.15	21.85	152.99	Horizontal	Pass
		823.3	21.52	3.93	5.80	2.15	21.24	133.13	Horizontal	Pass
3.0MHz BW QPSK	15/0	815.5	22.60	3.77	5.60	2.15	22.28	168.98	Horizontal	Pass
		819	22.20	3.91	5.70	2.15	21.84	152.70	Horizontal	Pass
		822.5	21.11	3.94	5.80	2.15	20.82	120.87	Horizontal	Pass
5.0MHz BW QPSK	25/0	816.5	21.20	3.77	5.60	2.15	20.88	122.56	Horizontal	Pass
		819	21.88	3.91	5.70	2.15	21.52	141.82	Horizontal	Pass
		821.5	22.13	3.94	5.80	2.15	21.84	152.89	Horizontal	Pass
10.0MHz BW QPSK	50/0	819	21.61	3.91	5.70	2.15	21.25	133.22	Horizontal	Pass
1.4MHz BW QPSK	6/0	814.7	21.77	3.79	5.60	2.15	21.43	138.87	Vertical	Pass
		819	22.98	3.95	5.70	2.15	22.58	180.99	Vertical	Pass
		823.3	22.33	3.97	5.80	2.15	22.01	159.03	Vertical	Pass
3.0MHz BW QPSK	15/0	815.5	21.17	3.77	5.60	2.15	20.85	121.53	Vertical	Pass
		819	21.93	3.91	5.70	2.15	21.57	143.58	Vertical	Pass
		822.5	21.26	3.94	5.80	2.15	20.97	125.09	Vertical	Pass
5.0MHz BW QPSK	25/0	816.5	22.13	3.77	5.60	2.15	21.81	151.70	Vertical	Pass
		819	22.64	3.91	5.70	2.15	22.28	168.94	Vertical	Pass
		821.5	22.41	3.94	5.80	2.15	22.12	162.96	Vertical	Pass
10.0MHz BW QPSK	50/0	819	23.05	3.91	5.70	2.15	22.69	185.78	Vertical	Pass

Radiated Power (ERP) for Band 26(814-824)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss (dBm)	Antenna Gain (dB)	Correction	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
1.4MHz BW 16 QAM	6/0	814.7	22.33	3.76	5.60	2.15	22.02	159.08	Horizontal	Pass
		819	21.40	3.91	5.70	2.15	21.04	127.16	Horizontal	Pass
		823.3	21.93	3.93	5.80	2.15	21.65	146.30	Horizontal	Pass
3.0MHz BW 16 QAM	15/0	815.5	21.85	3.77	5.60	2.15	21.53	142.31	Horizontal	Pass
		819	21.76	3.91	5.70	2.15	21.40	138.17	Horizontal	Pass
		822.5	21.52	3.94	5.80	2.15	21.23	132.85	Horizontal	Pass
5.0MHz BW 16 QAM	25/0	816.5	21.76	3.77	5.60	2.15	21.44	139.31	Horizontal	Pass
		819	21.51	3.91	5.70	2.15	21.15	130.45	Horizontal	Pass
		821.5	22.60	3.94	5.80	2.15	22.31	170.38	Horizontal	Pass
10.0MHz BW 16 QAM	50/0	819	21.51	3.91	5.70	2.15	21.15	130.24	Horizontal	Pass
1.4MHz BW 16 QAM	6/0	814.7	21.21	3.79	5.60	2.15	20.87	122.30	Vertical	Pass
		819	21.06	3.95	5.70	2.15	20.66	116.51	Vertical	Pass
		823.3	20.90	3.97	5.80	2.15	20.58	114.19	Vertical	Pass
3.0MHz BW 16 QAM	15/0	815.5	22.40	3.77	5.60	2.15	22.08	161.41	Vertical	Pass
		819	21.06	3.91	5.70	2.15	20.70	117.50	Vertical	Pass
		822.5	21.09	3.94	5.80	2.15	20.80	120.32	Vertical	Pass
5.0MHz BW 16 QAM	25/0	816.5	22.27	3.77	5.60	2.15	21.95	156.64	Vertical	Pass
		819	20.85	3.91	5.70	2.15	20.49	112.00	Vertical	Pass
		821.5	20.82	3.94	5.80	2.15	20.53	112.98	Vertical	Pass
10.0MHz BW 16 QAM	50/0	819	22.88	3.91	5.70	2.15	22.52	178.56	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.10 LTE BAND 26B

Radiated Power (ERP) for for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss (dBm)	Factor (dB)	Correction	Max. ERP	Max. ERP	Polarization Of Max. ERP	
			(dBm)			(dB)	Average	Average		
							(dBm)	(mW)		
1.4MHz Band QPSK	6/0	824.7	21.00	2.01	5.30	2.15	22.14	163.57	Horizontal	Pass
		836.5	19.26	2.01	5.30	2.15	20.40	109.69	Horizontal	Pass
		848.3	19.85	2.02	5.70	2.15	21.38	137.49	Horizontal	Pass
3.0MHz Band QPSK	15/0	825.5	19.20	2.01	5.30	2.15	20.34	108.14	Horizontal	Pass
		836.5	20.62	2.01	5.30	2.15	21.76	149.83	Horizontal	Pass
		847.5	18.87	2.02	5.70	2.15	20.40	109.57	Horizontal	Pass
5.0MHz Band QPSK	25/0	826.5	18.31	2.01	5.30	2.15	19.45	88.06	Horizontal	Pass
		836.5	19.03	2.01	5.30	2.15	20.17	104.10	Horizontal	Pass
		846.5	19.51	2.02	5.70	2.15	21.04	127.07	Horizontal	Pass
10.0MHz Band QPSK	50/0	829	18.87	2.01	5.30	2.15	20.01	100.33	Horizontal	Pass
		836.5	19.11	2.01	5.30	2.15	20.25	106.00	Horizontal	Pass
		844	18.37	2.02	5.70	2.15	19.90	97.77	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	20.48	2.01	5.30	2.15	21.62	145.18	Horizontal	Pass
		836.5	20.06	2.01	5.30	2.15	21.20	131.85	Horizontal	Pass
		841.5	20.21	2.02	5.70	2.15	21.74	149.11	Horizontal	Pass
1.4MHz Band QPSK	6/0	824.7	21.03	2.01	5.30	2.15	22.17	164.94	Vertical	Pass
		836.5	20.35	2.01	5.30	2.15	21.49	140.92	Vertical	Pass
		848.3	20.23	2.02	5.70	2.15	21.76	150.10	Vertical	Pass
3.0MHz Band QPSK	15/0	825.5	19.56	2.01	5.30	2.15	20.70	117.41	Vertical	Pass
		836.5	20.50	2.01	5.30	2.15	21.64	145.87	Vertical	Pass
		847.5	19.95	2.02	5.70	2.15	21.48	140.63	Vertical	Pass
5.0MHz Band QPSK	25/0	826.5	19.45	2.01	5.30	2.15	20.59	114.43	Vertical	Pass
		836.5	21.26	2.01	5.30	2.15	22.40	173.74	Vertical	Pass
		846.5	19.43	2.02	5.70	2.15	20.96	124.81	Vertical	Pass
10.0MHz Band QPSK	50/0	829	20.70	2.01	5.30	2.15	21.84	152.73	Vertical	Pass
		836.5	21.55	2.01	5.30	2.15	22.69	185.78	Vertical	Pass
		844	20.84	2.02	5.70	2.15	22.37	172.56	Vertical	Pass
15.0MHz Band QPSK	75/0	831.5	20.52	2.01	5.30	2.15	21.66	146.40	Vertical	Pass
		836.5	21.53	2.01	5.30	2.15	22.67	184.88	Vertical	Pass
		841.5	19.97	2.02	5.70	2.15	21.50	141.36	Vertical	Pass

Radiated Power (ERP) for for Band 26(824-849)										
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	6/0	824.7	20.10	2.01	5.30	2.15	21.24	133.17	Horizontal	Pass
		836.5	19.97	2.01	5.30	2.15	21.11	129.26	Horizontal	Pass
		848.3	18.21	2.02	5.70	2.15	19.74	94.09	Horizontal	Pass
3.0MHz Band 16 QAM	15/0	825.5	18.56	2.01	5.30	2.15	19.70	93.34	Horizontal	Pass
		836.5	19.85	2.01	5.30	2.15	20.99	125.65	Horizontal	Pass
		847.5	19.57	2.02	5.70	2.15	21.10	128.85	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	826.5	19.07	2.01	5.30	2.15	20.21	104.94	Horizontal	Pass
		836.5	19.61	2.01	5.30	2.15	20.75	118.80	Horizontal	Pass
		846.5	18.29	2.02	5.70	2.15	19.82	95.87	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	829	18.88	2.01	5.30	2.15	20.02	100.56	Horizontal	Pass
		836.5	21.14	2.01	5.30	2.15	22.28	168.87	Horizontal	Pass
		844	19.87	2.02	5.70	2.15	21.40	138.13	Horizontal	Pass
15.0MHz Band QPSK	75/0	831.5	19.53	2.01	5.30	2.15	20.67	116.72	Horizontal	Pass
		836.5	19.36	2.01	5.30	2.15	20.50	112.15	Horizontal	Pass
		841.5	19.12	2.02	5.70	2.15	20.65	116.10	Horizontal	Pass
1.4MHz Band 16 QAM	6/0	824.7	19.44	2.01	5.30	2.15	20.58	114.31	Vertical	Pass
		836.5	20.12	2.01	5.30	2.15	21.26	133.78	Vertical	Pass
		848.3	19.81	2.02	5.70	2.15	21.34	136.17	Vertical	Pass
3.0MHz Band 16 QAM	15/0	825.5	18.14	2.01	5.30	2.15	19.28	84.78	Vertical	Pass
		836.5	19.13	2.01	5.30	2.15	20.27	106.38	Vertical	Pass
		847.5	18.65	2.02	5.70	2.15	20.18	104.24	Vertical	Pass
5.0MHz Band 16 QAM	25/0	826.5	19.43	2.01	5.30	2.15	20.57	114.12	Vertical	Pass
		836.5	19.07	2.01	5.30	2.15	20.21	105.03	Vertical	Pass
		846.5	20.64	2.02	5.70	2.15	22.17	164.91	Vertical	Pass
10.0MHz Band 16 QAM	50/0	829	21.59	2.01	5.30	2.15	22.73	187.50	Vertical	Pass
		836.5	20.25	2.01	5.30	2.15	21.39	137.62	Vertical	Pass
		844	18.33	2.02	5.70	2.15	19.86	96.72	Vertical	Pass
15.0MHz Band QPSK	75/0	831.5	20.30	2.01	5.30	2.15	21.44	139.29	Vertical	Pass
		836.5	20.66	2.01	5.30	2.15	21.80	151.19	Vertical	Pass
		841.5	21.09	2.02	5.70	2.15	22.62	182.81	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

Note:

SG Level= Signal generator output

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

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

ERP(dBm)=EIRP-2.15

8.10 LTE BAND 38

Radiated Power (EIRP) for Band38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP	Max. EIRP Average (mW)	Polarization Of Max. ERP	
						Average (dBm)			
5.0MHz Band QPSK	25/0	2572.5	16.66	4.54	9.00	21.12	129.38	Horizontal	Pass
		2595	16.71	4.69	9.00	21.02	126.55	Horizontal	Pass
		2617.5	14.86	4.71	9.00	19.15	82.32	Horizontal	Pass
10.0MHz Band QPSK	50/0	2575	15.60	4.55	9.00	20.05	101.26	Horizontal	Pass
		2595	15.73	4.69	9.00	20.04	100.88	Horizontal	Pass
		2615	18.26	4.72	9.00	22.54	179.47	Horizontal	Pass
15.0MHz Band QPSK	75/0	2577.5	17.84	4.55	9.00	22.29	169.46	Horizontal	Pass
		2595	16.22	4.69	9.00	20.53	113.04	Horizontal	Pass
		2612.5	16.96	4.72	9.00	21.24	132.96	Horizontal	Pass
20.0MHz Band QPSK	100/0	2580	16.32	4.57	9.00	20.75	118.87	Horizontal	Pass
		2595	16.18	4.73	9.00	20.45	110.82	Horizontal	Pass
		2610	17.58	4.75	9.00	21.83	152.42	Horizontal	Pass
5.0MHz Band QPSK	25/0	2572.5	17.03	4.54	9.00	21.49	141.05	Vertical	Pass
		2595	17.80	4.69	9.00	22.11	162.61	Vertical	Pass
		2617.5	15.65	4.71	9.00	19.94	98.69	Vertical	Pass
10.0MHz Band QPSK	50/0	2575	15.48	4.55	9.00	19.93	98.40	Vertical	Pass
		2595	18.16	4.69	9.00	22.47	176.44	Vertical	Pass
		2615	17.87	4.72	9.00	22.15	163.97	Vertical	Pass
15.0MHz Band QPSK	75/0	2577.5	18.18	4.55	9.00	22.63	183.38	Vertical	Pass
		2595	17.67	4.69	9.00	21.98	157.65	Vertical	Pass
		2612.5	17.91	4.72	9.00	22.19	165.61	Vertical	Pass
20.0MHz Band QPSK	100/0	2580	17.99	4.57	9.00	22.42	174.55	Vertical	Pass
		2595	17.57	4.73	9.00	21.84	152.62	Vertical	Pass
		2610	17.62	4.75	9.00	21.87	153.69	Vertical	Pass

Radiated Power (EIRP) for Band38									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Gain (dBi)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	25/0	2572.5	15.87	4.54	9.00	20.33	107.94	Horizontal	Pass
		2595	16.41	4.69	9.00	20.72	117.93	Horizontal	Pass
		2617.5	16.00	4.71	9.00	20.29	106.85	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2575	16.57	4.55	9.00	21.02	126.35	Horizontal	Pass
		2595	17.15	4.69	9.00	21.46	139.83	Horizontal	Pass
		2615	16.59	4.72	9.00	20.87	122.31	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	2577.5	16.88	4.55	9.00	21.33	135.75	Horizontal	Pass
		2595	16.37	4.69	9.00	20.68	117.05	Horizontal	Pass
		2612.5	17.02	4.72	9.00	21.30	134.88	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	2580	17.72	4.57	9.00	22.15	164.22	Horizontal	Pass
		2595	15.02	4.73	9.00	19.29	85.00	Horizontal	Pass
		2610	18.00	4.75	9.00	22.25	167.77	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2572.5	15.30	4.54	9.00	19.76	94.53	Vertical	Pass
		2595	15.98	4.69	9.00	20.29	106.95	Vertical	Pass
		2617.5	16.70	4.71	9.00	20.99	125.62	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2575	16.91	4.55	9.00	21.36	136.65	Vertical	Pass
		2595	17.49	4.69	9.00	21.80	151.18	Vertical	Pass
		2615	16.31	4.72	9.00	20.59	114.44	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2577.5	18.02	4.55	9.00	22.47	176.41	Vertical	Pass
		2595	17.27	4.69	9.00	21.58	143.94	Vertical	Pass
		2612.5	15.36	4.72	9.00	19.64	92.07	Vertical	Pass
20.0MHz Band 16 QAM	100/0	2580	18.25	4.57	9.00	22.68	185.35	Vertical	Pass
		2595	17.62	4.73	9.00	21.89	154.47	Vertical	Pass
		2610	17.57	4.75	9.00	21.82	152.23	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.12 LTE BAND 40A

Radiated Power (EIRP) for Band 40 (2305-2315MHz)									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Gain	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
5.0MHz Band QPSK	25/0	2307.5	17.57	4.95	9.00	21.62	145.21	Horizontal	Pass
		2310	18.91	5.02	9.00	22.89	194.54	Horizontal	Pass
		2312.5	16.69	4.97	9.00	20.72	118.03	Horizontal	Pass
10.0MHz Band QPSK	50/0	2310	17.20	5	9.00	21.2	131.83	Horizontal	Pass
5.0MHz Band QPSK	25/0	2307.5	17.40	4.95	9.00	21.45	139.64	Vertical	Pass
		2310	17.56	5.02	9.00	21.54	142.56	Vertical	Pass
		2312.5	16.53	4.97	9.00	20.56	113.76	Vertical	Pass
10.0MHz Band QPSK	50/0	2310	18.61	4.75	9.00	22.86	193.20	Vertical	Pass

Radiated Power (EIRP) for Band 40 (2305-2315MHz)									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Gain	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
5.0MHz Band 16 QAM	25/0	2307.5	18.12	4.95	9.00	22.17	164.82	Horizontal	Pass
		2310	18.87	5.02	9.00	22.85	192.75	Horizontal	Pass
		2312.5	18.40	4.97	9.00	22.43	174.98	Horizontal	Pass
10.0MHz Band QPSK	50/0	2310	18.14	5	9.00	22.14	163.68	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	2307.5	17.63	4.95	9.00	21.68	147.23	Vertical	Pass
		2310	18.38	5.02	9.00	22.36	172.19	Vertical	Pass
		2312.5	17.83	4.97	9.00	21.86	153.46	Vertical	Pass
10.0MHz Band QPSK	50/0	2310	18.72	4.75	9.00	22.97	198.15	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.13 LTE BAND 40B

Radiated Power (EIRP) for Band 40(2350-2360MHz)									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Gain	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
5.0MHz Band QPSK	25/0	2352.5	16.38	4.92	9.00	20.46	111.17	Horizontal	Pass
		2355	16.69	4.95	9.00	20.74	118.58	Horizontal	Pass
		2357.5	16.63	4.81	9.00	20.82	120.78	Horizontal	Pass
10.0MHz Band QPSK	50/0	2355	15.70	4.86	9.00	19.84	96.38	Horizontal	Pass
5.0MHz Band QPSK	25/0	2352.5	16.60	4.92	9.00	20.68	116.95	Vertical	Pass
		2355	17.09	4.95	9.00	21.14	130.02	Vertical	Pass
		2357.5	17.60	4.81	9.00	21.79	151.01	Vertical	Pass
10.0MHz Band QPSK	50/0	2355	17.09	4.86	9.00	21.23	132.74	Vertical	Pass

Radiated Power (EIRP) for Band 40(2350-2360MHz)									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Gain	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
5.0MHz Band 16 QAM	25/0	2352.5	15.55	4.92	9.00	19.63	91.83	Vertical	Pass
		2355	17.05	4.95	9.00	21.10	128.82	Vertical	Pass
		2357.5	15.98	4.81	9.00	20.17	103.99	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2355	15.56	4.86	9.00	19.70	93.33	Vertical	Pass
5.0MHz Band 16 QAM	25/0	2352.5	16.73	4.92	9.00	20.81	120.50	Horizontal	Pass
		2355	16.41	4.95	9.00	20.46	111.17	Horizontal	Pass
		2357.5	16.62	4.81	9.00	20.81	120.50	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	2355	17.52	4.86	9.00	21.66	146.55	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)

8.12 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
						Average	Average		
						(dBm)	(mW)		
5.0MHz Band QPSK	1/##Mid	2537.5	-3.68	4.54	27.75	19.53	89.743	Horizontal	Pass
		2595	-3.52	4.69	27.72	19.51	89.331	Horizontal	Pass
		2652.5	-3.96	4.71	27.71	19.04	80.168	Horizontal	Pass
10.0MHz Band QPSK	1/##Mid	2540	-4.32	4.55	27.76	18.89	77.446	Horizontal	Pass
		2595	-3.91	4.69	27.72	19.12	81.658	Horizontal	Pass
		2650	-3.68	4.72	27.70	19.30	85.114	Horizontal	Pass
15.0MHz Band QPSK	1/##Mid	2542.5	-3.53	4.55	27.77	19.69	93.111	Horizontal	Pass
		2595	-3.73	4.69	27.72	19.30	85.114	Horizontal	Pass
		2647.5	-3.30	4.72	27.69	19.67	92.683	Horizontal	Pass
20.0MHz Band QPSK	1/##Mid	2545	-2.98	4.57	27.78	20.23	105.439	Horizontal	Pass
		2595	-3.25	4.73	27.72	19.74	94.189	Horizontal	Pass
		2645	-3.78	4.75	27.68	19.15	82.224	Horizontal	Pass
5.0MHz Band QPSK	1/##Mid	2537.5	-3.48	4.54	27.75	19.73	93.972	Vertical	Pass
		2595	-3.74	4.69	27.72	19.29	84.918	Vertical	Pass
		2652.5	-4.00	4.71	27.71	19.00	79.433	Vertical	Pass
10.0MHz Band QPSK	1/##Mid	2540	-3.39	4.55	27.76	19.82	95.940	Vertical	Pass
		2595	-3.51	4.69	27.72	19.52	89.536	Vertical	Pass
		2650	-3.92	4.72	27.70	19.06	80.538	Vertical	Pass
15.0MHz Band QPSK	1/##Mid	2542.5	-4.62	4.55	27.77	18.60	72.444	Vertical	Pass
		2595	-4.48	4.69	27.72	18.55	71.614	Vertical	Pass
		2647.5	-4.26	4.72	27.69	18.71	74.302	Vertical	Pass
20.0MHz Band QPSK	1/##Mid	2545	-4.05	4.57	27.78	19.16	82.414	Vertical	Pass
		2595	-4.74	4.73	27.72	18.25	66.834	Vertical	Pass
		2645	-4.62	4.75	27.68	18.31	67.764	Vertical	Pass

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
5.0MHz Band 16 QAM	1/#Mid	2537.5	-3.96	4.54	27.75	19.25	84.140	Horizontal	Pass
		2595	-3.89	4.69	27.72	19.14	82.035	Horizontal	Pass
		2652.5	-3.78	4.71	27.71	19.22	83.560	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-4.34	4.55	27.76	18.87	77.090	Horizontal	Pass
		2595	-4.30	4.69	27.72	18.73	74.645	Horizontal	Pass
		2650	-4.07	4.72	27.70	18.91	77.804	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-3.83	4.55	27.77	19.39	86.896	Horizontal	Pass
		2595	-3.48	4.69	27.72	19.55	90.157	Horizontal	Pass
		2647.5	-3.54	4.72	27.69	19.43	87.700	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-4.00	4.57	27.78	19.21	83.368	Horizontal	Pass
		2595	-3.05	4.73	27.72	19.94	98.628	Horizontal	Pass
		2645	-3.34	4.75	27.68	19.59	90.991	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2537.5	-3.61	4.54	27.75	19.60	91.201	Vertical	Pass
		2595	-3.60	4.69	27.72	19.43	87.700	Vertical	Pass
		2652.5	-3.78	4.71	27.71	19.22	83.560	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-3.66	4.55	27.76	19.55	90.157	Vertical	Pass
		2595	-3.96	4.69	27.72	19.07	80.724	Vertical	Pass
		2650	-3.53	4.72	27.70	19.45	88.105	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-4.75	4.55	27.77	18.47	70.307	Vertical	Pass
		2595	-4.51	4.69	27.72	18.52	71.121	Vertical	Pass
		2647.5	-4.50	4.72	27.69	18.47	70.307	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-4.88	4.57	27.78	18.33	68.077	Vertical	Pass
		2595	-4.72	4.73	27.72	18.27	67.143	Vertical	Pass
		2645	-4.81	4.75	27.68	18.12	64.863	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

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

LIMIT

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

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

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

TEST PROCEDURE

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

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

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

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

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

MODES TESTED

LTE Band 2, 4, 5, 7, 12, 13, 25, 26, 38, 40, 41

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-48.93	4.04	33.51	-19.46	-13	-6.46	Horizontal
3701.4	-53.47	4.04	33.51	-24.00	-13	-11.00	Vertical
5552.1	-54.40	5.24	35.84	-23.80	-13	-10.80	Vertical
5552.1	-50.45	5.24	35.84	-19.85	-13	-6.85	Horizontal
184.1	-40.27	1.43	16.02	-25.68	-13	-12.68	Vertical
342.2	-39.37	1.30	17.99	-22.68	-13	-9.68	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-49.85	4.04	33.56	-20.33	-13	-7.33	Horizontal
3760.0	-55.07	4.04	33.56	-25.55	-13	-12.55	Vertical
5640.0	-47.17	5.24	35.91	-16.50	-13	-3.50	Vertical
5640.0	-54.72	5.24	35.91	-24.05	-13	-11.05	Horizontal
204.9	-45.76	1.62	16.97	-30.41	-13	-17.41	Vertical
465.5	-43.10	1.74	15.98	-28.87	-13	-15.87	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-48.20	4.04	34.00	-18.24	-13	-5.24	Horizontal
3818.6	-50.77	4.04	34.00	-20.81	-13	-7.81	Vertical
5727.9	-48.57	5.24	36.04	-17.77	-13	-4.77	Vertical
5727.9	-55.37	5.24	36.04	-24.57	-13	-11.57	Horizontal
196.2	-44.75	1.42	17.29	-28.88	-13	-15.88	Vertical
322.5	-36.34	1.50	17.90	-19.93	-13	-6.93	Horizontal

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

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-55.56	4.07	33.54	-26.09	-13	-13.09	Horizontal
3720.0	-48.21	4.07	33.54	-18.74	-13	-5.74	Vertical
5580.0	-50.33	5.28	35.86	-19.75	-13	-6.75	Vertical
5580.0	-53.71	5.28	35.86	-23.13	-13	-10.13	Horizontal
174.8	-45.27	1.58	16.89	-29.95	-13	-16.95	Vertical
397.0	-44.75	1.76	17.26	-29.25	-13	-16.25	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-51.34	4.04	33.56	-21.82	-13	-8.82	Horizontal
3760.0	-47.69	4.04	33.56	-18.17	-13	-5.17	Vertical
5640.0	-54.94	5.24	35.91	-24.27	-13	-11.27	Vertical
5640.0	-54.06	5.24	35.91	-23.39	-13	-10.39	Horizontal
169.7	-38.94	1.46	16.27	-24.13	-13	-11.13	Vertical
339.6	-36.27	1.59	15.15	-22.71	-13	-9.71	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-48.92	4.04	34.00	-18.96	-13	-5.96	Horizontal
3800.0	-54.16	4.04	34.00	-24.20	-13	-11.20	Vertical
5700.0	-51.27	5.24	36.04	-20.47	-13	-7.47	Vertical
5700.0	-50.24	5.24	36.04	-19.44	-13	-6.44	Horizontal
201.6	-41.49	1.36	17.39	-25.45	-13	-12.45	Vertical
412.5	-38.06	1.66	15.39	-24.33	-13	-11.33	Horizontal

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

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

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

9.2 LTE BAND 4

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-55.52	4.02	29.80	-29.74	-13	-16.74	Horizontal
3421.4	-47.29	4.02	29.80	-21.51	-13	-8.51	Vertical
5132.1	-49.82	5.24	35.84	-19.22	-13	-6.22	Vertical
5132.1	-52.69	5.24	35.84	-22.09	-13	-9.09	Horizontal
186.0	-44.94	1.68	16.04	-30.58	-13	-17.58	Vertical
287.1	-44.12	1.78	17.74	-28.16	-13	-15.16	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-48.62	4.03	30.00	-22.65	-13	-9.65	Horizontal
3465.0	-50.67	4.03	30.00	-24.70	-13	-11.70	Vertical
5197.5	-51.39	5.25	35.86	-20.78	-13	-7.78	Vertical
5197.5	-53.61	5.25	35.86	-23.00	-13	-10.00	Horizontal
177.4	-36.85	1.72	17.69	-20.88	-13	-7.88	Vertical
334.5	-43.74	1.62	16.02	-29.33	-13	-16.33	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-55.40	4.05	30.01	-29.44	-13	-16.44	Horizontal
3508.6	-56.08	4.05	30.01	-30.12	-13	-17.12	Vertical
5262.9	-51.52	5.26	35.86	-20.92	-13	-7.92	Vertical
5262.9	-52.44	5.26	35.86	-21.84	-13	-8.84	Horizontal
184.6	-41.63	1.80	16.69	-26.74	-13	-13.74	Vertical
345.2	-40.61	1.75	16.66	-25.71	-13	-12.71	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-56.36	4.02	29.80	-30.58	-13	-17.58	Horizontal
3440.0	-48.58	4.02	29.80	-22.80	-13	-9.80	Vertical
5160.0	-52.02	5.24	35.84	-21.42	-13	-8.42	Vertical
5160.0	-54.62	5.24	35.84	-24.02	-13	-11.02	Horizontal
180.1	-45.35	1.57	17.26	-29.66	-13	-16.66	Vertical
441.0	-46.17	1.78	16.35	-31.60	-13	-18.60	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-55.07	4.03	30.00	-29.10	-13	-16.10	Horizontal
3465.0	-54.57	4.03	30.00	-28.60	-13	-15.60	Vertical
5197.5	-48.71	5.25	35.86	-18.10	-13	-5.10	Vertical
5197.5	-57.25	5.25	35.86	-26.64	-13	-13.64	Horizontal
199.2	-43.79	1.44	17.95	-27.28	-13	-14.28	Vertical
316.8	-46.90	1.65	16.09	-32.46	-13	-19.46	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-49.73	2.91	27.68	-24.96	-13	-11.96	Horizontal
3490.0	-46.60	2.91	27.68	-21.83	-13	-8.83	Vertical
5235.0	-50.28	5.26	35.86	-19.68	-13	-6.68	Vertical
5235.0	-51.78	5.26	35.86	-21.18	-13	-8.18	Horizontal
174.2	-44.60	1.61	16.85	-29.36	-13	-16.36	Vertical
245.4	-41.54	1.61	15.19	-27.96	-13	-14.96	Horizontal

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

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

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

9.3 LTE BAND 5

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

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1649.4	-48.59	2.78	27.50	-23.87	-13	-10.87	Horizontal
1649.4	-53.34	2.78	27.50	-28.62	-13	-15.62	Vertical
2474.1	-54.77	2.90	27.80	-29.87	-13	-16.87	Vertical
2474.1	-54.98	2.90	27.80	-30.08	-13	-17.08	Horizontal
181.2	-43.74	1.76	17.59	-27.91	-13	-14.91	Vertical
318.5	-43.78	1.63	15.87	-29.54	-13	-16.54	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-48.57	2.80	27.48	-23.89	-13	-10.89	Horizontal
1673.0	-51.42	2.80	27.48	-26.74	-13	-13.74	Vertical
2509.5	-54.06	2.91	27.70	-29.27	-13	-16.27	Vertical
2509.5	-52.09	2.91	27.70	-27.30	-13	-14.30	Horizontal
185.2	-43.32	1.61	15.68	-29.25	-13	-16.25	Vertical
398.6	-46.04	1.59	17.52	-30.12	-13	-17.12	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-54.32	2.82	27.43	-29.71	-13	-16.71	Horizontal
1696.6	-53.92	2.82	27.43	-29.31	-13	-16.31	Vertical
2544.9	-49.21	2.92	27.74	-24.39	-13	-11.39	Vertical
2544.9	-51.88	2.92	27.74	-27.06	-13	-14.06	Horizontal
195.5	-40.49	1.69	16.67	-25.50	-13	-12.50	Vertical
321.3	-42.59	1.70	17.18	-27.11	-13	-14.11	Horizontal

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

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-47.14	2.78	27.50	-22.42	-13	-9.42	Horizontal
1658.0	-53.67	2.78	27.50	-28.95	-13	-15.95	Vertical
2487.0	-53.71	2.90	27.80	-28.81	-13	-15.81	Vertical
2487.0	-53.77	2.90	27.80	-28.87	-13	-15.87	Horizontal
188.8	-36.81	1.71	15.57	-22.95	-13	-9.95	Vertical
371.6	-42.33	1.34	16.40	-27.27	-13	-14.27	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-47.74	2.80	27.48	-23.06	-13	-10.06	Horizontal
1673.0	-50.15	2.80	27.48	-25.47	-13	-12.47	Vertical
2509.5	-48.97	2.91	27.70	-24.18	-13	-11.18	Vertical
2509.5	-56.06	2.91	27.70	-31.27	-13	-18.27	Horizontal
176.7	-36.97	1.44	17.04	-21.37	-13	-8.37	Vertical
461.1	-46.75	1.76	17.62	-30.89	-13	-17.89	Horizontal
Test Results for High Channel 844MHz							
1688.0	-47.44	2.82	27.43	-22.83	-13	-9.83	Horizontal
1688.0	-54.39	2.82	27.43	-29.78	-13	-16.78	Vertical
2532.0	-47.53	2.92	27.74	-22.71	-13	-9.71	Vertical
2532.0	-54.23	2.92	27.74	-29.41	-13	-16.41	Horizontal
185.8	-45.68	1.74	17.70	-29.72	-13	-16.72	Vertical
269.9	-42.09	1.41	17.46	-26.03	-13	-13.03	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	-62.84	5.23	35.81	-32.26	-25	-7.26	Horizontal
5005.0	-64.88	5.23	35.81	-34.30	-25	-9.30	Vertical
7507.5	-63.45	5.67	36.85	-32.27	-25	-7.27	Vertical
7507.5	-65.08	5.67	36.85	-33.90	-25	-8.90	Horizontal
208.0	-48.60	1.73	17.97	-32.36	-25	-7.36	Vertical
458.2	-45.31	1.38	15.11	-31.58	-25	-6.58	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-62.87	5.23	35.82	-32.28	-25	-7.28	Horizontal
5070.0	-65.94	5.23	35.82	-35.35	-25	-10.35	Vertical
7605.0	-62.33	5.67	36.85	-31.15	-25	-6.15	Vertical
7605.0	-63.23	5.67	36.85	-32.05	-25	-7.05	Horizontal
205.9	-53.37	1.77	16.17	-38.96	-25	-13.96	Vertical
411.8	-46.70	1.63	15.21	-33.12	-25	-8.12	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-59.54	5.24	35.83	-28.95	-25	-3.95	Horizontal
5135.0	-65.56	5.24	35.83	-34.97	-25	-9.97	Vertical
7702.5	-66.00	5.68	36.87	-34.81	-25	-9.81	Vertical
7702.5	-61.31	5.68	36.87	-30.12	-25	-5.12	Horizontal
181.1	-53.73	1.58	17.56	-37.75	-25	-12.75	Vertical
360.7	-49.59	1.45	16.58	-34.46	-25	-9.46	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	-66.21	5.23	35.82	-35.62	-25	-10.62	Horizontal
5020.0	-67.38	5.23	35.82	-36.79	-25	-11.79	Vertical
7530.0	-50.65	5.67	36.86	-19.46	-25	5.54	Vertical
7530.0	-54.27	5.67	36.86	-23.08	-25	1.92	Horizontal
204.8	-51.94	1.63	15.76	-37.81	-25	-12.81	Vertical
249.3	-51.07	1.71	15.44	-37.34	-25	-12.34	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-67.27	5.23	35.82	-36.68	-25	-11.68	Horizontal
5070.0	-59.46	5.23	35.82	-28.87	-25	-3.87	Vertical
7605.0	-64.19	5.67	36.85	-33.01	-25	-8.01	Vertical
7605.0	-64.47	5.67	36.85	-33.29	-25	-8.29	Horizontal
193.7	-50.49	1.79	16.84	-35.43	-25	-10.43	Vertical
308.5	-49.43	1.71	17.64	-33.50	-25	-8.50	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-64.78	5.24	35.83	-34.19	-25	-9.19	Horizontal
5120.0	-63.61	5.24	35.83	-33.02	-25	-8.02	Vertical
7680.0	-67.07	5.70	36.88	-35.89	-25	-10.89	Vertical
7680.0	-65.01	5.70	36.88	-33.83	-25	-8.83	Horizontal
190.5	-46.57	1.79	16.84	-31.51	-25	-6.51	Vertical
391.8	-49.02	1.71	17.64	-33.09	-25	-8.09	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.5 LTE BAND 12

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

Test Results for Low Channel 699.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1399.4	-53.73	2.60	27.20	-29.13	-13	-16.13	Horizontal
1399.4	-48.57	2.60	27.20	-23.97	-13	-10.97	Vertical
2099.1	-47.03	2.85	27.54	-22.34	-13	-9.34	Vertical
2099.1	-55.23	2.85	27.54	-30.54	-13	-17.54	Horizontal
201.7	-38.01	1.49	17.78	-21.72	-13	-8.72	Vertical
284.6	-43.28	1.36	17.33	-27.31	-13	-14.31	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-56.01	2.61	27.28	-31.34	-13	-18.34	Horizontal
1415.0	-49.80	2.61	27.28	-25.13	-13	-12.13	Vertical
2122.5	-55.35	2.87	27.59	-30.63	-13	-17.63	Vertical
2122.5	-54.81	2.87	27.59	-30.09	-13	-17.09	Horizontal
189.4	-40.44	1.73	15.74	-26.43	-13	-13.43	Vertical
443.2	-43.13	1.62	15.79	-28.96	-13	-15.96	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-53.22	2.63	27.28	-28.57	-13	-15.57	Horizontal
1430.6	-54.88	2.63	27.28	-30.23	-13	-17.23	Vertical
2145.9	-54.59	2.88	27.60	-29.87	-13	-16.87	Vertical
2145.9	-55.58	2.88	27.60	-30.86	-13	-17.86	Horizontal
179.9	-45.60	1.61	18.00	-29.21	-13	-16.21	Vertical
369.1	-37.46	1.45	15.49	-23.43	-13	-10.43	Horizontal

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

Test Results for Low Channel 704MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1408.0	-47.98	2.61	27.26	-23.33	-13	-10.33	Horizontal
1408.0	-52.36	2.61	27.26	-27.71	-13	-14.71	Vertical
2112.0	-39.94	2.87	27.58	-15.23	-13	-2.23	Vertical
2112.0	-44.43	2.87	27.58	-19.72	-13	-6.72	Horizontal
172.4	-43.81	1.31	16.97	-28.15	-13	-15.15	Vertical
285.8	-42.68	1.65	16.70	-27.63	-13	-14.63	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-52.47	2.61	27.28	-27.80	-13	-14.80	Horizontal
1415.0	-48.34	2.61	27.28	-23.67	-13	-10.67	Vertical
2122.5	-50.09	2.87	27.59	-25.37	-13	-12.37	Vertical
2122.5	-53.30	2.87	27.59	-28.58	-13	-15.58	Horizontal
182.5	-40.85	1.72	17.99	-24.58	-13	-11.58	Vertical
432.1	-38.18	1.73	17.94	-21.97	-13	-8.97	Horizontal
Test Results for High Channel 711MHz							
1422.0	-45.27	2.62	27.28	-20.61	-13	-7.61	Horizontal
1422.0	-47.84	2.62	27.28	-23.18	-13	-10.18	Vertical
2133.0	-49.02	2.87	27.60	-24.29	-13	-11.29	Vertical
2133.0	-54.35	2.87	27.60	-29.62	-13	-16.62	Horizontal
184.3	-41.13	1.58	15.93	-26.78	-13	-13.78	Vertical
301.5	-40.63	1.36	15.59	-26.40	-13	-13.40	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 13
LTE BAND 13 (5MHZ BANDWIDTH)

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1559	-68.96	2.61	27.28	-44.29	-40	-4.29	Horizontal
1559	-72.87	2.61	27.28	-48.20	-40	-8.20	Vertical
2338.5	-53.04	2.87	27.59	-28.32	-13	-15.32	Vertical
2338.5	-51.98	2.87	27.59	-27.26	-13	-14.26	Horizontal
Test Results For Mid Channel 782MHz							
1564	-70.64	2.62	27.30	-45.96	-40	-5.96	Horizontal
1564	-72.59	2.62	27.30	-47.91	-40	-7.91	Vertical
2346	-50.78	2.87	27.62	-26.03	-13	-13.03	Vertical
2346	-54.92	2.87	27.62	-30.17	-13	-17.17	Horizontal
Test Results for High Channel 784.5MHz							
1569	-73.47	2.66	27.28	-48.85	-40	-8.85	Horizontal
1569	-72.40	2.66	27.28	-47.78	-40	-7.78	Vertical
2353.5	-45.33	2.88	27.60	-20.61	-13	-7.61	Vertical
2353.5	-47.60	2.88	27.60	-22.88	-13	-9.88	Horizontal

LTE BAND 13 (10MHZ BANDWIDTH)

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1564	-70.75	2.62	27.30	-46.07	-40	-6.07	Horizontal
1564	-72.20	2.62	27.30	-47.52	-40	-7.52	Vertical
2346	-49.92	2.87	27.62	-25.17	-13	-12.17	Vertical
2346	-53.06	2.87	27.62	-28.31	-13	-15.31	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.

9.7 LTE BAND 25

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-52.80	4.02	29.80	-27.02	-13	-14.02	Horizontal
3701.4	-48.51	4.02	29.80	-22.73	-13	-9.73	Vertical
5552.1	-50.86	5.24	35.84	-20.26	-13	-7.26	Vertical
5552.1	-50.84	5.24	35.84	-20.24	-13	-7.24	Horizontal
87.5	-35.65	1.59	15.11	-22.13	-13	-9.13	Vertical
116.3	-34.98	1.80	15.61	-21.17	-13	-8.17	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-51.32	4.03	30.00	-25.35	-13	-12.35	Horizontal
3765.0	-52.68	4.03	30.00	-26.71	-13	-13.71	Vertical
5647.5	-51.19	5.25	35.86	-20.58	-13	-7.58	Vertical
5647.5	-50.20	5.25	35.86	-19.59	-13	-6.59	Horizontal
160.6	-35.83	1.37	15.62	-21.58	-13	-8.58	Vertical
269.1	-38.44	1.55	17.51	-22.48	-13	-9.48	Horizontal
Test Results for High Channel 1754.3MHz							
3828.6	-51.35	4.05	30.01	-25.39	-13	-12.39	Horizontal
3828.6	-49.38	4.05	30.01	-23.42	-13	-10.42	Vertical
5742.9	-49.89	5.26	35.86	-19.29	-13	-6.29	Vertical
5742.9	-50.34	5.26	35.86	-19.74	-13	-6.74	Horizontal
101.6	-35.97	1.66	17.19	-20.44	-13	-7.44	Vertical
132.3	-38.11	1.35	17.94	-21.52	-13	-8.52	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-53.31	4.02	29.80	-27.53	-13	-14.53	Horizontal
3720.0	-48.84	4.02	29.80	-23.06	-13	-10.06	Vertical
5580.0	-36.48	5.24	35.84	-5.88	-13	7.12	Vertical
5580.0	-36.98	5.24	35.84	-6.38	-13	6.62	Horizontal
137.2	-36.06	1.70	15.24	-22.52	-13	-9.52	Vertical
210.2	-34.67	1.42	16.58	-19.51	-13	-6.51	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-51.12	4.03	30.00	-25.15	-13	-12.15	Horizontal
3765.0	-52.01	4.03	30.00	-26.04	-13	-13.04	Vertical
5647.5	-49.80	5.25	35.86	-19.19	-13	-6.19	Vertical
5647.5	-51.53	5.25	35.86	-20.92	-13	-7.92	Horizontal
128.0	-35.04	1.64	16.16	-20.52	-13	-7.52	Vertical
126.9	-34.75	1.62	17.37	-19.00	-13	-6.00	Horizontal
Test Results for High Channel 1745MHz							
3810.0	-52.36	2.91	27.68	-27.59	-13	-14.59	Horizontal
3810.0	-49.13	2.91	27.68	-24.36	-13	-11.36	Vertical
5715.0	-49.45	5.26	35.86	-18.85	-13	-5.85	Vertical
5715.0	-50.65	5.26	35.86	-20.05	-13	-7.05	Horizontal
204.0	-33.56	1.49	15.29	-19.76	-13	-6.76	Vertical
272.6	-37.02	1.79	16.42	-22.39	-13	-9.39	Horizontal

9.8 LTE BAND 26

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

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-48.18	2.78	27.50	-23.46	-13	-10.46	Horizontal
1629.4	-50.62	2.78	27.50	-25.90	-13	-12.90	Vertical
2444.1	-47.54	2.90	27.80	-22.64	-13	-9.64	Vertical
2444.1	-53.05	2.90	27.80	-28.15	-13	-15.15	Horizontal
176.6	-38.54	1.76	17.59	-22.71	-13	-9.71	Vertical
455.4	-41.51	1.63	15.87	-27.27	-13	-14.27	Horizontal
Test Results For Mid Channel 831.5MHz							
1663.0	-47.93	2.80	27.48	-23.25	-13	-10.25	Horizontal
1663.0	-48.74	2.80	27.48	-24.06	-13	-11.06	Vertical
2494.5	-45.16	2.91	27.70	-20.37	-13	-7.37	Vertical
2494.5	-53.33	2.91	27.70	-28.54	-13	-15.54	Horizontal
211.1	-41.91	1.61	15.68	-27.84	-13	-14.84	Vertical
429.2	-36.49	1.59	17.52	-20.57	-13	-7.57	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-52.31	2.82	27.43	-27.70	-13	-14.70	Horizontal
1696.6	-51.69	2.82	27.43	-27.08	-13	-14.08	Vertical
2544.9	-44.81	2.92	27.74	-19.99	-13	-6.99	Vertical
2544.9	-54.23	2.92	27.74	-29.41	-13	-16.41	Horizontal
189.2	-36.66	1.69	16.67	-21.67	-13	-8.67	Vertical
361.1	-36.30	1.70	17.18	-20.82	-13	-7.82	Horizontal

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

Test Results for Low Channel 821.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1643.0	-54.58	2.78	27.50	-29.86	-13	-16.86	Horizontal
1643.0	-44.80	2.78	27.50	-20.08	-13	-7.08	Vertical
2464.5	-53.45	2.90	27.80	-28.55	-13	-15.55	Vertical
2464.5	-49.17	2.90	27.80	-24.27	-13	-11.27	Horizontal
196.6	-42.67	1.71	15.57	-28.81	-13	-15.81	Vertical
358.4	-35.89	1.34	16.40	-20.83	-13	-7.83	Horizontal
Test Results for Mid Channel 831.5MHz							
1663.0	-44.42	2.80	27.48	-19.74	-13	-6.74	Horizontal
1663.0	-43.67	2.80	27.48	-18.99	-13	-5.99	Vertical
2494.5	-50.64	2.91	27.70	-25.85	-13	-12.85	Vertical
2494.5	-48.83	2.91	27.70	-24.04	-13	-11.04	Horizontal
211.1	-34.21	1.44	17.04	-18.61	-13	-5.61	Vertical
340.0	-44.47	1.76	17.62	-28.61	-13	-15.61	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-47.95	2.82	27.43	-23.34	-13	-10.34	Horizontal
1683.0	-47.90	2.82	27.43	-23.29	-13	-10.29	Vertical
2524.5	-54.52	2.92	27.74	-29.70	-13	-16.70	Vertical
2524.5	-47.46	2.92	27.74	-22.64	-13	-9.64	Horizontal
202.7	-35.88	1.74	17.70	-19.92	-13	-6.92	Vertical
389.0	-36.59	1.41	17.46	-20.53	-13	-7.53	Horizontal

9.9 LTE BAND 38

QPSK EIRP POWER FOR LTE BAND 38 (5MHZ BANDWIDTH)

Test Results for Low Channel 2572.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5145	-60.62	2.63	27.26	-35.99	-25	-10.99	Horizontal
5145	-60.55	2.63	27.26	-35.92	-25	-10.92	Vertical
7717.5	-63.91	2.67	27.58	-39.00	-25	-14.00	Vertical
7717.5	-64.71	2.67	27.58	-39.80	-25	-14.80	Horizontal
Test Results For Mid Channel 2595MHz							
5190	-58.67	2.62	27.28	-34.01	-25	-9.01	Horizontal
5190	-57.48	2.62	27.28	-32.82	-25	-7.82	Vertical
7785	-58.62	2.85	27.62	-33.85	-25	-8.85	Vertical
7785	-57.18	2.85	27.62	-32.41	-25	-7.41	Horizontal
Test Results for High Channel 2617.5MHz							
5235	-56.18	2.64	27.28	-31.54	-25	-6.54	Horizontal
5235	-60.38	2.64	27.28	-35.74	-25	-10.74	Vertical
7852.5	-59.53	2.85	27.70	-34.68	-25	-9.68	Vertical
7852.5	-58.01	2.85	27.70	-33.16	-25	-8.16	Horizontal

QPSK EIRP POWER FOR LTE BAND 38 (20MHZ BANDWIDTH)

Test Results for Low Channel 2580MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5160	-59.97	2.63	27.30	-35.30	-25	-10.30	Horizontal
5160	-57.89	2.63	27.30	-33.22	-25	-8.22	Vertical
7740	-61.03	2.67	27.62	-36.08	-25	-11.08	Vertical
7740	-62.91	2.67	27.62	-37.96	-25	-12.96	Horizontal
Test Results for Mid Channel 2595MHz							
5190	-61.57	2.62	27.33	-36.86	-25	-11.86	Horizontal
5190	-56.95	2.62	27.33	-32.24	-25	-7.24	Vertical
7785	-61.13	2.85	27.67	-36.31	-25	-11.31	Vertical
7785	-60.81	2.85	27.67	-35.99	-25	-10.99	Horizontal
Test Results for High Channel 2610MHz							
5220	-56.19	2.64	27.33	-31.50	-25	-6.50	Horizontal
5220	-60.07	2.64	27.33	-35.38	-25	-10.38	Vertical
7830	-62.69	2.85	27.67	-37.87	-25	-12.87	Vertical
7830	-59.21	2.85	27.67	-34.39	-25	-9.39	Horizontal

9.10 LTE BAND 40a

QPSK EIRP POWER FOR LTE BAND 40a (2305-2315MHz) (5.0MHz BANDWIDTH)

Test Results for Low Channel 2307.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4615	-75.09	4.04	33.51	-45.62	-40	-5.62	Horizontal
4615	-76.05	4.04	33.51	-46.58	-40	-6.58	Vertical
6922.5	-78.89	5.24	35.84	-48.29	-40	-8.29	Vertical
6922.5	-89.67	5.24	35.84	-59.07	-40	-19.07	Horizontal
Test Results for Mid Channel 2310MHz							
4620	-75.95	4.04	33.56	-46.43	-40	-6.43	Horizontal
4620	-77.58	4.04	33.56	-48.06	-40	-8.06	Vertical
6930	-78.50	5.24	35.91	-47.83	-40	-7.83	Vertical
6930	-80.09	5.24	35.91	-49.42	-40	-9.42	Horizontal
Test Results for High Channel 2312.5MHz							
4625	-75.39	4.04	34	-45.43	-40	-5.43	Horizontal
4625	-77.46	4.04	34	-47.50	-40	-7.50	Vertical
6937.5	-80.90	5.24	36.04	-50.10	-40	-10.10	Vertical
6937.5	-80.89	5.24	36.04	-50.09	-40	-10.09	Horizontal

16QAM EIRP POWER FOR LTE BAND 40a (2305-2315MHz) (5.0MHz BANDWIDTH)

Test Results for Low Channel 2307.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4615	-74.51	4.04	33.51	-45.04	-40	-5.04	Horizontal
4615	-75.17	4.04	33.51	-45.70	-40	-5.70	Vertical
6922.5	-78.15	5.24	35.84	-47.55	-40	-7.55	Vertical
6922.5	-89.02	5.24	35.84	-58.42	-40	-18.42	Horizontal
Test Results for Mid Channel 2310MHz							
4620	-75.28	4.04	33.56	-45.76	-40	-5.76	Horizontal
4620	-77.51	4.04	33.56	-47.99	-40	-7.99	Vertical
6930	-78.25	5.24	35.91	-47.58	-40	-7.58	Vertical
6930	-79.55	5.24	35.91	-48.88	-40	-8.88	Horizontal
Test Results for High Channel 2312.5MHz							
4625	-75.13	4.04	34	-45.17	-40	-5.17	Horizontal
4625	-76.72	4.04	34	-46.76	-40	-6.76	Vertical
6937.5	-80.04	5.24	36.04	-49.24	-40	-9.24	Vertical
6937.5	-80.12	5.24	36.04	-49.32	-40	-9.32	Horizontal

QPSK EIRP POWER FOR LTE BAND 40a (10.0MHZ BANDWIDTH)

Test Results for Low Channel 2310MHz							
Frequency (MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit(dBm)	Margin(dBm)	Polarity
4620	-77.76	4.04	33.56	-48.24	-40	-8.24	Horizontal
4620	-76.86	4.04	33.56	-47.34	-40	-7.34	Vertical
6930	-80.90	5.24	35.91	-50.23	-40	-10.23	Vertical
6930	-82.78	5.24	35.91	-52.11	-40	-12.11	Horizontal

16QAM EIRP POWER FOR LTE BAND 40a (10.0MHZ BANDWIDTH)

Test Results for Low Channel 2310MHz							
Frequency (MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit(dBm)	Margin(dBm)	Polarity
4620	-77.38	4.04	33.56	-47.86	-40	-7.86	Horizontal
4620	-75.92	4.04	33.56	-46.40	-40	-6.40	Vertical
6930	-80.60	5.24	35.91	-49.93	-40	-9.93	Vertical
6930	-81.92	5.24	35.91	-51.25	-40	-11.25	Horizontal

9.11 LTE BAND 40b

QPSK EIRP POWER FOR LTE BAND 40 (2350-2360MHz) (5.0MHz BANDWIDTH)

Test Results for Low Channel 2347.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4705	-75.31	4.04	33.51	-45.84	-40	-5.84	Horizontal
4705	-80.79	4.04	33.51	-51.32	-40	-11.32	Vertical
7057.5	-82.32	5.24	35.84	-51.72	-40	-11.72	Vertical
7057.5	-91.36	5.24	35.84	-60.76	-40	-20.76	Horizontal
Test Results for Mid Channel 2355MHz							
4710	-76.14	4.04	33.56	-46.62	-40	-6.62	Horizontal
4710	-79.24	4.04	33.56	-49.72	-40	-9.72	Vertical
7065	-80.80	5.24	35.91	-50.13	-40	-10.13	Vertical
7065	-82.85	5.24	35.91	-52.18	-40	-12.18	Horizontal
Test Results for High Channel 2357.5MHz							
4715	-77.78	4.04	34	-47.82	-40	-7.82	Horizontal
4715	-79.85	4.04	34	-49.89	-40	-9.89	Vertical
7072.5	-81.04	5.24	36.04	-50.24	-40	-10.24	Vertical
7072.5	-82.54	5.24	36.04	-51.74	-40	-11.74	Horizontal

QPSK EIRP POWER FOR LTE BAND 40b (10.0MHZ BANDWIDTH)

Test Results for Low Channel 2355MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4710	-82.01	4.04	33.56	-52.49	-40	-12.49	Horizontal
4710	-78.20	4.04	33.56	-48.68	-40	-8.68	Vertical
7065	-82.39	5.24	35.91	-51.72	-40	-11.72	Vertical
7065	-83.77	5.24	35.91	-53.10	-40	-13.10	Horizontal

16QAM EIRP POWER FOR LTE BAND 40b (2350-2360MHz) (5.0MHZ BANDWIDTH)

Test Results for Low Channel 2347.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4705	-76.20	4.04	33.51	-46.73	-40	-6.73	Horizontal
4705	-80.21	4.04	33.51	-50.74	-40	-10.74	Vertical
7057.5	-82.06	5.24	35.84	-51.46	-40	-11.46	Vertical
7057.5	-91.24	5.24	35.84	-60.64	-40	-20.64	Horizontal
Test Results for Mid Channel 2355MHz							
4710	-76.08	4.04	33.56	-46.56	-40	-6.56	Horizontal
4710	-79.35	4.04	33.56	-49.83	-40	-9.83	Vertical
7065	-81.15	5.24	35.91	-50.48	-40	-10.48	Vertical
7065	-82.93	5.24	35.91	-52.26	-40	-12.26	Horizontal
Test Results for High Channel 2357.5MHz							
4715	-77.78	4.04	34	-47.82	-40	-7.82	Horizontal
4715	-79.85	4.04	34	-49.89	-40	-9.89	Vertical
7072.5	-81.04	5.24	36.04	-50.24	-40	-10.24	Vertical
7072.5	-82.54	5.24	36.04	-51.74	-40	-11.74	Horizontal

16QAM EIRP POWER FOR LTE BAND 40b (10.0MHZ BANDWIDTH)

Test Results for Low Channel 2355MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Gain(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4710	-81.43	4.04	33.56	-51.91	-40	-11.91	Horizontal
4710	-78.48	4.04	33.56	-48.96	-40	-8.96	Vertical
7065	-82.51	5.24	35.91	-51.84	-40	-11.84	Vertical
7065	-83.68	5.24	35.91	-53.01	-40	-13.01	Horizontal

9.11 LTE BAND 41

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

Test Results for Low Channel 2537.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5075.0	-64.01	5.23	35.81	-33.43	-25	-8.43	Horizontal
5075.0	-61.32	5.23	35.81	-30.74	-25	-5.74	Vertical
7612.5	-64.00	5.67	36.85	-32.82	-25	-7.82	Vertical
7612.5	-63.45	5.67	36.85	-32.27	-25	-7.27	Horizontal
431.2	-48.87	1.38	15.98	-34.27	-25	-9.27	Vertical
459.6	-50.95	1.62	15.66	-36.91	-25	-11.91	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-61.87	5.23	35.82	-31.28	-25	-6.28	Horizontal
5190.0	-64.07	5.23	35.82	-33.48	-25	-8.48	Vertical
7785.0	-62.79	5.67	36.85	-31.61	-25	-6.61	Vertical
7785.0	-62.54	5.67	36.85	-31.36	-25	-6.36	Horizontal
504.8	-47.65	1.62	16.17	-33.10	-25	-8.10	Vertical
558.8	-50.25	1.74	17.63	-34.36	-25	-9.36	Horizontal
Test Results for High Channel 2652.5MHz							
5305.0	-62.76	5.24	35.83	-32.17	-25	-7.17	Horizontal
5305.0	-64.11	5.24	35.83	-33.52	-25	-8.52	Vertical
7957.5	-61.01	5.68	36.87	-29.82	-25	-4.82	Vertical
7957.5	-64.85	5.68	36.87	-33.66	-25	-8.66	Horizontal
191.8	-49.76	1.55	15.84	-35.47	-25	-10.47	Vertical
349.6	-50.41	1.51	17.06	-34.86	-25	-9.86	Horizontal

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

Test Results for Low Channel 2545MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5090.0	-65.73	5.23	35.82	-35.14	-25	-10.14	Horizontal
5090.0	-65.69	5.23	35.82	-35.10	-25	-10.10	Vertical
7635.0	-62.48	5.67	36.86	-31.29	-25	-6.29	Vertical
7635.0	-64.30	5.67	36.86	-33.11	-25	-8.11	Horizontal
122.7	-47.36	1.43	15.51	-33.28	-25	-8.28	Vertical
343.2	-51.51	1.40	16.97	-35.94	-25	-10.94	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-60.88	5.23	35.82	-30.29	-25	-5.29	Horizontal
5190.0	-65.50	5.23	35.82	-34.91	-25	-9.91	Vertical
7785.0	-60.60	5.67	36.85	-29.42	-25	-4.42	Vertical
7785.0	-60.80	5.67	36.85	-29.62	-25	-4.62	Horizontal
95.1	-48.66	1.77	16.72	-33.71	-25	-8.71	Vertical
258.2	-46.29	1.31	16.99	-30.61	-25	-5.61	Horizontal
Test Results for High Channel 2645MHz							
5290.0	-66.47	5.24	35.83	-35.88	-25	-10.88	Horizontal
5290.0	-62.10	5.24	35.83	-31.51	-25	-6.51	Vertical
7935.0	-63.25	5.70	36.88	-32.07	-25	-7.07	Vertical
7935.0	-62.32	5.70	36.88	-31.14	-25	-6.14	Horizontal
345.4	-49.41	1.70	15.73	-35.38	-25	-10.38	Vertical
108.7	-48.17	1.75	17.33	-32.59	-25	-7.59	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- ☐ Temp. = -30° to $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 21.6V, Normal, DC 24V and High voltage, DC 26.4V.

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, 13, 25, 26, 38, 40, 41

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]
21.6	1880	11.2	0.005957	2.5
24	1880	11.3	0.006011	2.5
26.4	1880	9.5	0.005053	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	10.1	0.005372	2.5
Extreme (50C)	1880	10.3	0.005479	2.5
Extreme (40C)	1880	13.4	0.007128	2.5
Extreme (30C)	1880	10.8	0.006948	2.5
Extreme (10C)	1880	11.3	0.007428	2.5
Extreme (0C)	1880	8.9	0.006505	2.5
Extreme (-10C)	1880	10.4	0.007085	2.5
Extreme (-20C)	1880	11.8	0.007762	2.5
Extreme (-30C)	1880	12.6	0.008083	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]
21.6	1880	7.6	0.004043	2.5
24	1880	6.8	0.003617	2.5
26.4	1880	5.7	0.003032	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	8.4	0.004468	2.5
Extreme (50C)	1880	7.1	0.003777	2.5
Extreme (40C)	1880	5.6	0.002979	2.5
Extreme (30C)	1880	5.5	0.002926	2.5
Extreme (10C)	1880	5.9	0.003138	2.5
Extreme (0C)	1880	5.1	0.002713	2.5
Extreme (-10C)	1880	5.9	0.003138	2.5
Extreme (-20C)	1880	6.3	0.003351	2.5
Extreme (-30C)	1880	5.7	0.003032	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]
21.6	1732.5	10.8	0.006234	2.5
24	1732.5	9.8	0.005657	2.5
26.4	1732.5	10.2	0.005887	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	11.8	0.006811	2.5
Extreme (50C)	1732.5	10.9	0.006291	2.5
Extreme (40C)	1732.5	10.6	0.006118	2.5
Extreme (30C)	1732.5	8.0	0.004618	2.5
Extreme (10C)	1732.5	9.2	0.005310	2.5
Extreme (0C)	1732.5	11.2	0.006465	2.5
Extreme (-10C)	1732.5	9.3	0.005368	2.5
Extreme (-20C)	1732.5	9.3	0.005368	2.5
Extreme (-30C)	1732.5	11.1	0.006407	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]
21.6	1732.5	11.0	0.006349	2.5
24	1732.5	11.3	0.006522	2.5
26.4	1732.5	10.8	0.006234	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	12.8	0.007388	2.5
Extreme (50C)	1732.5	10.5	0.006061	2.5
Extreme (40C)	1732.5	11.9	0.006869	2.5
Extreme (30C)	1732.5	12.1	0.006984	2.5
Extreme (10C)	1732.5	10.7	0.006176	2.5
Extreme (0C)	1732.5	11.6	0.006696	2.5
Extreme (-10C)	1732.5	10.4	0.006003	2.5
Extreme (-20C)	1732.5	11.3	0.006522	2.5
Extreme (-30C)	1732.5	11.5	0.006638	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]
21.6	836.5	2.6	0.003108	2.5
24	836.5	4.7	0.005619	2.5
26.4	836.5	1.1	0.001315	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	3.8	0.004543	2.5
Extreme (50C)	836.5	5.6	0.006695	2.5
Extreme (40C)	836.5	5.0	0.005977	2.5
Extreme (30C)	836.5	5.2	0.006216	2.5
Extreme (10C)	836.5	2.7	0.003228	2.5
Extreme (0C)	836.5	2.9	0.003467	2.5
Extreme (-10C)	836.5	2.6	0.003108	2.5
Extreme (-20C)	836.5	3.8	0.004543	2.5
Extreme (-30C)	836.5	3.9	0.004662	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]
21.6	836.5	4.8	0.005738	2.5
24	836.5	4.1	0.004901	2.5
26.4	836.5	2.1	0.002510	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	3.3	0.003945	2.5
Extreme (50C)	836.5	3.7	0.004423	2.5
Extreme (40C)	836.5	5.8	0.006934	2.5
Extreme (30C)	836.5	4.2	0.005021	2.5
Extreme (10C)	836.5	4.4	0.005260	2.5
Extreme (0C)	836.5	2.6	0.003108	2.5
Extreme (-10C)	836.5	3.1	0.003706	2.5
Extreme (-20C)	836.5	4.4	0.005260	2.5
Extreme (-30C)	836.5	4.8	0.005738	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]
21.6	2535	12.4	0.004892	2.5
24	2535	9.9	0.003905	2.5
26.4	2535	9.6	0.003787	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	10.7	0.004221	2.5
Extreme (50C)	2535	9.0	0.003550	2.5
Extreme (40C)	2535	11.5	0.004536	2.5
Extreme (30C)	2535	11.4	0.004497	2.5
Extreme (10C)	2535	9.4	0.003708	2.5
Extreme (0C)	2535	11.9	0.004694	2.5
Extreme (-10C)	2535	11.2	0.004418	2.5
Extreme (-20C)	2535	11.7	0.004615	2.5
Extreme (-30C)	2535	11.7	0.004615	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]
21.6	2535	9.1	0.003590	2.5
24	2535	7.7	0.003037	2.5
26.4	2535	8.0	0.003156	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	8.8	0.003471	2.5
Extreme (50C)	2535	5.9	0.002327	2.5
Extreme (40C)	2535	7.5	0.002959	2.5
Extreme (30C)	2535	9.1	0.003590	2.5
Extreme (10C)	2535	7.0	0.002761	2.5
Extreme (0C)	2535	7.6	0.002998	2.5
Extreme (-10C)	2535	9.0	0.003550	2.5
Extreme (-20C)	2535	7.1	0.002801	2.5
Extreme (-30C)	2535	8.2	0.003235	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]
21.6	707.5	7.7	0.010883	2.5
24	707.5	7.6	0.010742	2.5
26.4	707.5	6.4	0.009046	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	6.7	0.009470	2.5
Extreme (50C)	707.5	6.3	0.008905	2.5
Extreme (40C)	707.5	6.0	0.008481	2.5
Extreme (30C)	707.5	6.5	0.009187	2.5
Extreme (10C)	707.5	5.7	0.008057	2.5
Extreme (0C)	707.5	5.8	0.008198	2.5
Extreme (-10C)	707.5	4.8	0.006784	2.5
Extreme (-20C)	707.5	5.7	0.008057	2.5
Extreme (-30C)	707.5	6.5	0.009187	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]
21.6	707.5	7.0	0.009894	2.5
24	707.5	4.9	0.006926	2.5
26.4	707.5	4.7	0.006643	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	4.4	0.006219	2.5
Extreme (50C)	707.5	2.7	0.003816	2.5
Extreme (40C)	707.5	3.7	0.005230	2.5
Extreme (30C)	707.5	-10.8	-0.015265	2.5
Extreme (10C)	707.5	-10.7	-0.015124	2.5
Extreme (0C)	707.5	0.2	0.000283	2.5
Extreme (-10C)	707.5	-7.6	-0.010742	2.5
Extreme (-20C)	707.5	-10.2	-0.014417	2.5
Extreme (-30C)	707.5	-12.1	-0.017102	2.5

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

10.6 LTE BAND 13

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
21.6	710.0	14.2	0.020000	2.5
24	710.0	17.3	0.024366	2.5
26.4	710.0	15.2	0.021408	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	15.4	0.021690	2.5
Extreme (50C)	710.0	14.2	0.020000	2.5
Extreme (40C)	710.0	17.9	0.025211	2.5
Extreme (30C)	710.0	16.3	0.022958	2.5
Extreme (10C)	710.0	15.9	0.022394	2.5
Extreme (0C)	710.0	14.7	0.020704	2.5
Extreme (-10C)	710.0	17.1	0.024085	2.5
Extreme (-20C)	710	17.0	0.023944	2.5
Extreme (-30C)	710	14.3	0.020141	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
21.6	710.0	15.8	0.022254	2.5
24	710.0	14.8	0.020845	2.5
26.4	710.0	15.9	0.022394	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	14.0	0.019718	2.5
Extreme (50C)	710.0	14.6	0.020563	2.5
Extreme (40C)	710.0	15.5	0.021831	2.5
Extreme (30C)	710.0	14.8	0.020845	2.5
Extreme (10C)	710.0	14.9	0.020986	2.5
Extreme (0C)	710.0	12.0	0.016901	2.5
Extreme (-10C)	710.0	15.0	0.021127	2.5
Extreme (-20C)	710.0	16.7	0.023521	2.5
Extreme (-30C)	710.0	17.3	0.024366	2.5

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

10.7 LTE BAND 25

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
21.6	1882.5	21	0.01116	2.5
24	1882.5	13.8	0.00733	2.5
26.4	1882.5	16.6	0.00882	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	9.4	0.00499	2.5
Extreme (50C)	1882.5	9.4	0.00499	2.5
Extreme (40C)	1882.5	11.9	0.00632	2.5
Extreme (30C)	1882.5	8.1	0.00430	2.5
Extreme (10C)	1882.5	15.4	0.00818	2.5
Extreme (0C)	1882.5	15.3	0.00813	2.5
Extreme (-10C)	1882.5	5.5	0.00292	2.5
Extreme (-20C)	1882.5	15.1	0.00802	2.5
Extreme (-30C)	1882.5	10.7	0.00568	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
21.6	1882.5	10.6	0.00563	2.5
24	1882.5	16	0.00850	2.5
26.4	1882.5	13.1	0.00696	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1882.5	10.2	0.00542	2.5
Extreme (50C)	1882.5	7.9	0.00420	2.5
Extreme (40C)	1882.5	11	0.00584	2.5
Extreme (30C)	1882.5	18.7	0.00993	2.5
Extreme (10C)	1882.5	6.9	0.00367	2.5
Extreme (0C)	1882.5	8.2	0.00436	2.5
Extreme (-10C)	1882.5	7.9	0.00420	2.5
Extreme (-20C)	1882.5	21.9	0.01163	2.5
Normal (25C)	1882.5	10.2	0.00542	2.5

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

10.8 LTE BAND 26

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]
21.6	819	9.0	0.010989	2.5
24	819	5.9	0.007204	2.5
26.4	819	7.5	0.009158	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819	9.9	0.012088	2.5
Extreme (50C)	819	2.2	0.002686	2.5
Extreme (40C)	819	2.7	0.003297	2.5
Extreme (30C)	819	6.7	0.008181	2.5
Extreme (10C)	819	6.2	0.007570	2.5
Extreme (0C)	819	6.7	0.008181	2.5
Extreme (-10C)	819	9.7	0.011844	2.5
Extreme (-20C)	819	7.6	0.009280	2.5
Extreme (-30C)	819	5.8	0.007082	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]
21.6	819	9.0	0.010759	2.5
24	819	6.2	0.007412	2.5
26.4	819	9.1	0.010879	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	819	11.4	0.013628	2.5
Extreme (50C)	819	9.8	0.011715	2.5
Extreme (40C)	819	6.5	0.007770	2.5
Extreme (30C)	819	9.2	0.010998	2.5
Extreme (10C)	819	7.8	0.009325	2.5
Extreme (0C)	819	9.9	0.011835	2.5
Extreme (-10C)	819	1.8	0.002152	2.5
Extreme (-20C)	819	8.5	0.010161	2.5
Extreme (-30C)	819	7.3	0.008727	2.5

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

Band 26B 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]
21.6	836.5	9.5	0.011357	2.5
24	836.5	6.7	0.008010	2.5
26.4	836.5	9.1	0.010879	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	11.4	0.013628	2.5
Extreme (50C)	836.5	12.4	0.014824	2.5
Extreme (40C)	836.5	6.5	0.007770	2.5
Extreme (30C)	836.5	9.5	0.011357	2.5
Extreme (10C)	836.5	7.8	0.009325	2.5
Extreme (0C)	836.5	9.9	0.011835	2.5
Extreme (-10C)	836.5	1.8	0.002152	2.5
Extreme (-20C)	836.5	8.5	0.010161	2.5
Extreme (-30C)	836.5	7.5	0.008966	2.5

Band 26B 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]
21.6	836.5	9.8	0.011715	2.5
24	836.5	12.0	0.014345	2.5
26.4	836.5	11.2	0.013389	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	7.0	0.008368	2.5
Extreme (50C)	836.5	8.9	0.010640	2.5
Extreme (40C)	836.5	8.6	0.010281	2.5
Extreme (30C)	836.5	8.2	0.009803	2.5
Extreme (10C)	836.5	7.5	0.008966	2.5
Extreme (0C)	836.5	6.8	0.008129	2.5
Extreme (-10C)	836.5	5.9	0.007053	2.5
Extreme (-20C)	836.5	3.3	0.003945	2.5
Extreme (-30C)	836.5	8.3	0.009922	2.5

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

10.9 LTE BAND 38

Band 38 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]
21.6	2595	7.3	0.002813	2.5
24	2595	2.5	0.000963	2.5
26.4	2595	5.2	0.002004	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	5.5	0.002119	2.5
Extreme (50C)	2595	2.4	0.000925	2.5
Extreme (40C)	2595	3.0	0.001156	2.5
Extreme (30C)	2595	3.5	0.001349	2.5
Extreme (10C)	2595	4.2	0.001618	2.5
Extreme (0C)	2595	2.3	0.000886	2.5
Extreme (-10C)	2595	7.8	0.003006	2.5
Extreme (-20C)	2595	8.4	0.003237	2.5
Extreme (-30C)	2595	3.8	0.001464	2.5

Band 38 16QAM, (15MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
21.6	2595	7.6	0.002929	2.5
24	2595	2.8	0.001079	2.5
26.4	2595	5.3	0.002042	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	5.8	0.002235	2.5
Extreme (50C)	2595	3.5	0.001349	2.5
Extreme (40C)	2595	4.2	0.001618	2.5
Extreme (30C)	2595	3.8	0.001464	2.5
Extreme (10C)	2595	5.4	0.002081	2.5
Extreme (0C)	2595	4.7	0.001811	2.5
Extreme (-10C)	2595	6.6	0.002543	2.5
Extreme (-20C)	2595	8.7	0.003353	2.5
Extreme (-30C)	2595	6.6	0.002543	2.5

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

10.10 LTE BAND 40A

Band 40A 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]
20.4	2310	7.8	0.003377	2.5
24	2310	7.3	0.003160	2.5
27.6	2310	5.1	0.002208	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2310	6.7	0.002900	2.5
Extreme (50C)	2310	7.0	0.003030	2.5
Extreme (40C)	2310	5.9	0.002554	2.5
Extreme (30C)	2310	5.4	0.002338	2.5
Extreme (10C)	2310	7.4	0.003203	2.5
Extreme (0C)	2310	2.8	0.001212	2.5
Extreme (-10C)	2310	7.0	0.003030	2.5
Extreme (-20C)	2310	7.3	0.003160	2.5
Extreme (-30C)	2310	2.4	0.001039	2.5

Band 40A 16QAM, (00MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
20.4	2310	5.9	0.002554	2.5
24	2310	7.1	0.003074	2.5
27.6	2310	8.3	0.003593	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2310	5.2	0.002251	2.5
Extreme (50C)	2310	4.7	0.002035	2.5
Extreme (40C)	2310	6.8	0.002944	2.5
Extreme (30C)	2310	6.7	0.002900	2.5
Extreme (10C)	2310	6.1	0.002641	2.5
Extreme (0C)	2310	3.1	0.001342	2.5
Extreme (-10C)	2310	7.1	0.003074	2.5
Extreme (-20C)	2310	7.3	0.003160	2.5
Extreme (-30C)	2310	4.4	0.001905	2.5

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

10.11 LTE BAND 40B

Band 40 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]
20.4	2355	7.9	0.003355	2.5
24	2355	4.5	0.001911	2.5
27.6	2355	6.7	0.002845	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2355	5.5	0.002335	2.5
Extreme (50C)	2355	7.5	0.003185	2.5
Extreme (40C)	2355	6.3	0.002675	2.5
Extreme (30C)	2355	5.1	0.002166	2.5
Extreme (10C)	2355	5.9	0.002505	2.5
Extreme (0C)	2355	4.7	0.001996	2.5
Extreme (-10C)	2355	6.1	0.002590	2.5
Extreme (-20C)	2355	6.6	0.002803	2.5
Extreme (-30C)	2355	3.8	0.001614	2.5

Band 40B 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]
20.4	2355	6.8	0.002887	2.5
24	2355	5.1	0.002166	2.5
27.6	2355	9.2	0.003907	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2355	7.9	0.003355	2.5
Extreme (50C)	2355	7.1	0.003015	2.5
Extreme (40C)	2355	6.9	0.002930	2.5
Extreme (30C)	2355	4.6	0.001953	2.5
Extreme (10C)	2355	6.1	0.002590	2.5
Extreme (0C)	2355	4.0	0.001699	2.5
Extreme (-10C)	2355	5.6	0.002378	2.5
Extreme (-20C)	2355	5.8	0.002463	2.5
Extreme (-30C)	2355	1.9	0.000807	2.5

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

10.12 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]
21.6	2595	12.0	0.004624	2.5
24	2595	7.5	0.002890	2.5
26.4	2595	9.6	0.003699	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	9.3	0.003584	2.5
Extreme (50C)	2595	6.2	0.002389	2.5
Extreme (40C)	2595	8.4	0.003237	2.5
Extreme (30C)	2595	6.3	0.002428	2.5
Extreme (10C)	2595	9.5	0.003661	2.5
Extreme (0C)	2595	8.8	0.003391	2.5
Extreme (-10C)	2595	11.7	0.004509	2.5
Extreme (-20C)	2595	11.2	0.004316	2.5
Extreme (-30C)	2595	7.7	0.002967	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]
21.6	2595	9.2	0.003545	2.5
24	2595	7.6	0.002929	2.5
26.4	2595	7.4	0.002852	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2595	8.8	0.003391	2.5
Extreme (50C)	2595	6.2	0.002389	2.5
Extreme (40C)	2595	7.0	0.002697	2.5
Extreme (30C)	2595	6.1	0.002351	2.5
Extreme (10C)	2595	7.5	0.002890	2.5
Extreme (0C)	2595	5.6	0.002158	2.5
Extreme (-10C)	2595	11.0	0.004239	2.5
Extreme (-20C)	2595	11.6	0.004470	2.5
Extreme (-30C)	2595	8.0	0.003083	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.

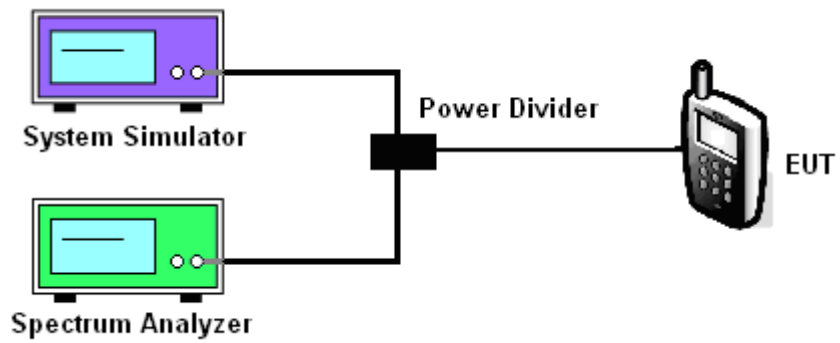
11.2 Measuring Instruments

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, 13, 25, 26, 38, 40, 41

Test data reference attachment.

12. Duty Cycle

12.1 LIMITS

The duty cycle must not exceed 38 percent

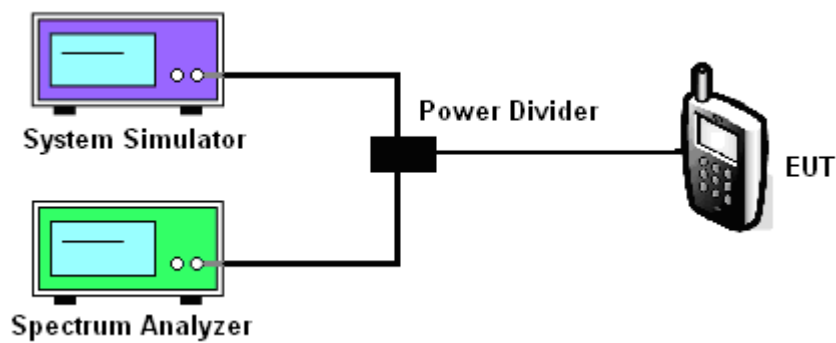
12.2 Measuring Instruments

See list of measuring instruments of this test report.

12.3 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.

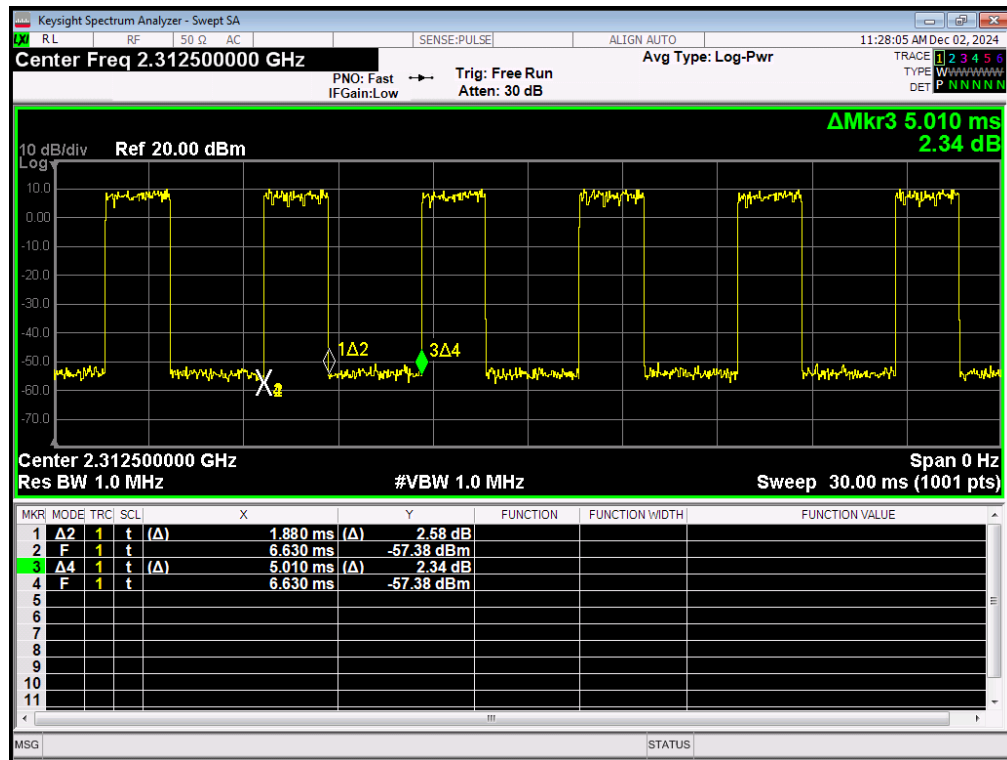
12.4 Test Setup



MODES TESTED

- ☐ LTE Band 40

LTE band 40



$$T_{on}=1.88ms \quad T_{total}=5.01ms$$

$$\text{Duty cycle}=T_{on}/T_{total}=1.88ms/5.01ms=37.52 \%$$

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