

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

FCC ID: 2AY6A-C7

Product: Mobile phone
Trade Mark: CLOUD MOBILE
Model Number: Stratus C7
Family Model: N/A
Report No.: STR220906001006E

Prepared for

Cloud Mobile Holding LLC
1149 S. HILL ST. SUITE H400, LOS ANGELES, CA 90015

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name	Cloud Mobile Holding LLC
Address.....	1149 S. HILL ST. SUITE H400, LOS ANGELES, CA 90015
Manufacturer's Name	Cloud Mobile Holding LLC
Address.....	1149 S. HILL ST. SUITE H400, LOS ANGELES, CA 90015
Product name.....	Mobile phone
Model and/or type reference ..	Stratus C7
Family Model:	N/A
Standards	FCC CFR 47 Part 22H, Part 24E, Part 27
Test procedure	ANSI C63.26:2015 ANSI/TIA-603-E-2016
Test sample number	T220906001R002

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

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Date of Test	
Date (s) of performance of tests.....	Sep 07, 2022 ~ Sep 27, 2022
Date of Issue	Sep 28, 2022
Test Result	Pass

Testing Engineer :

Allen Liu

(Allen Liu)

Authorized Signatory :

Alex Li

(Alex Li)

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Mobile phone
Trade Mark	CLOUD MOBILE
Model Name	Stratus C7
Family Model	N/A
Model Difference	N/A
FCC ID:	2AY6A-C7
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 12, 13, 17, 41, 66,71
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 13 Uplink: 777MHz-787MHz, Downlink: 746MHz-756MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 41 Uplink: 2496MHz-2690MHz, LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz; LTE FDD Band 71 Uplink: 663MHz-698MHz, Downlink: 617MHz-652MHz;
Type of Modulation:	QPSK/16QAM
Power Class	Class 3
Antenna:	LDS Antenna
Antenna gain:	0.82dBi;
Adapter	Model: JML-0500150NZ-LW Input: 100V-240V 50/60Hz 0.3A Output: 5.0V $\overline{\text{---}}$ 1.5A
Battery	DC 3.8V, 3000mAh

Power supply	DC 3.8V from battery or DC 5V from Adapter.
Extreme Vol. Limits:	DC 3.4V to DC 4.2V (Nominal DC 3.8V) (Note 1)
HW Version	W18_MB_V21
SW Version	W18_Stratus_C7
** Note1: The High Voltage 4.2V and Low Voltage 3.4V 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: 2AY6A-C7** filing to comply with the FCC Part 22H&24E &27.

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, ANSI C63.26:2015.

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB
2	Conducted Emission Test	$\pm 1.38\text{dB}$
3	RF power, conducted	$\pm 0.16\text{dB}$
4	Spurious emissions, conducted	$\pm 0.21\text{dB}$
5	All emissions, radiated(<1G)	$\pm 4.68\text{dB}$
6	All emissions, radiated(>1G)	$\pm 4.89\text{dB}$
7	Temperature	$\pm 0.5^\circ\text{C}$

8	Humidity	±2%
9	Frequency error, conducted	±0.19 ppm

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, Band 4, Band 5, Band 7, Band 12, Band 13, Band 17, Band 41, Band 66, Band 71.

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

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

1.6 SUMMARY OF TEST RESULTS

FCC Part22, Subpart H/ FCC Part24, Subpart E, FCC Part27, Subpart L, KDB 971168 D01 Power Meas License Digital Systems v03			
FCC Rule	Test Item	Verdict	Remark
2.1046	Conducted Output Power	PASS	
22.913(d) 24.232(d) 27.50(d)(5) KDB 971168 D01 Clause 5.7	Peak-to-Average Ratio	PASS	
2.1049 22.917(b) 24.238(b) KDB 971168 D01 Clause 4.2	Occupied Bandwidth	PASS	
2.1051 22.917(a) 24.238(a) 27.53(m), (g), (h) KDB 971168 D01 Clause 6	Band Edge	PASS	

22.913(a)(2) 27.50(c)(10) KDB 971168 D01 Clause 5.6	Effective Radiated Power	PASS	
24.232(c) 27.50(h)(2), (d)(4) KDB 971168 D01 Clause 5.6	Equivalent Isotropic Radiated Power	PASS	
2.1053 22.917(a) 24.238(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 7	Field Strength of Spurious Radiation	PASS	
2.1055 22.355 24.235 27.54 KDB 971168 D01 Clause 9	Frequency Stability for Temperature & Voltage	PASS	
2.1051 22.917(a) 24.238(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 6	Conducted Emission	PASS	
Remark: 1. "N/A" denotes test is not applicable in this Test Report. 2. All test items were verified and recorded according to the standards and without any deviation during the test. 3. No modifications are made to the EUT during all test items.			

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	Mobile phone	Stratus C7	FCC ID: 2AY6A-C7	EUT

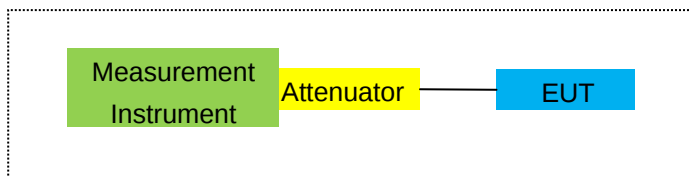
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

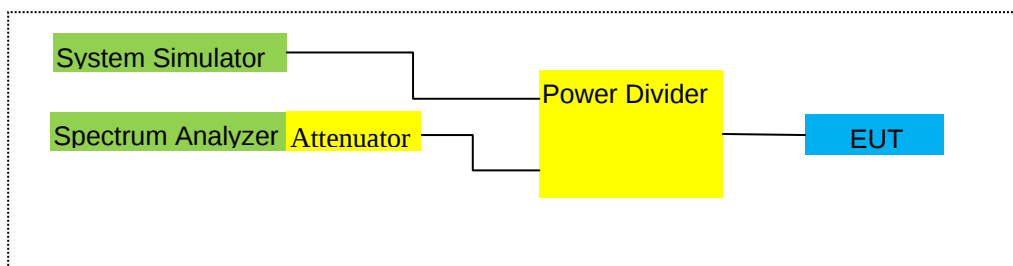
For Radiated Test Cases



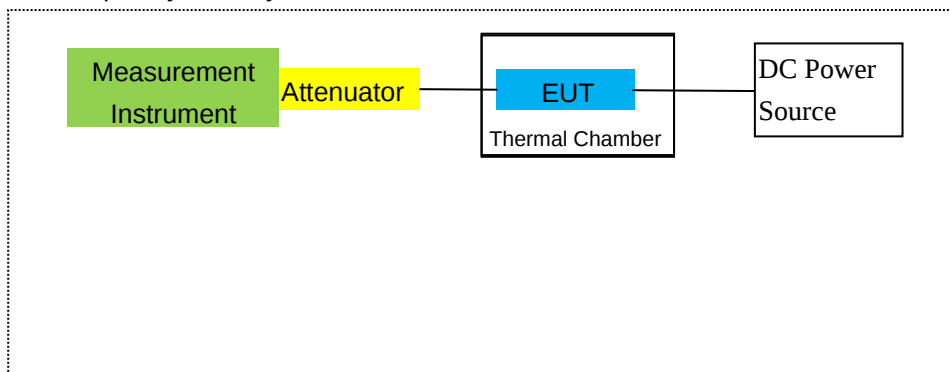
For Conducted Output Power



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



For Frequency Stability



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

3.TEST AND MEASUREMENT EQUIPMENT

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

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

26	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2022.04.06	2023.04.05	1 year
27	DC Power Source	N/A	PS-6005D	20170402923	2020.05.11	2023.05.10	3 year
28	PSG Analog Signal Generator	Agilent	E8257D	MY51110112	2022.06.16	2023.06.15	1 year
29	Communication Tester	R&S	CMW500	148500	2022.06.16	2023.06.15	1 year

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

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

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

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

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

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

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

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

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

- ☐ LTE Band2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66
- LTE Band 71

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m)

FCC: §2.1046, §22.913, §24.232

LIMITS

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 7 is as following.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is $65 + 10\log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, 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.

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 display line

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

MODES TESTED

- ☐ LTE Band 2/4/5/7/12/13/17/41/66/71

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m)

LIMITS

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 7 is as following.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is $65 + 10\log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, 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.

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

MODES TESTED

- ☐ LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66
- LTE Band 71

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported (LTE Band 2/4/7: above 10GHz).

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913(a)(2), §24.232(c) and §27.50 (h)(2), (b)(10), (c)(10), (d)(4)

LIMITS:

22.913(a) (2)- The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
 24.232 (c) Mobile and portable stations are limited to 2 watts EIRP.
 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 in the 2500–2570 MHz and 2620–2690 MHz bands. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17

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

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

MODES TESTED

- ☐ LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66
- LTE Band 71

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result					Polarization Of Max. ERP	Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP		
						Average (dBm)	Average (mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-2.29	3.76	28.24	22.19	165.577	Horizontal	Pass
		1880	-2.10	3.91	28.22	22.21	166.341	Horizontal	Pass
		1909.3	-2.01	3.93	28.20	22.26	168.267	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-2.35	3.77	28.23	22.11	162.555	Horizontal	Pass
		1880	-2.20	3.91	28.24	22.13	163.305	Horizontal	Pass
		1908.5	-2.07	3.94	28.25	22.24	167.494	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-2.24	3.77	28.31	22.30	169.824	Horizontal	Pass
		1880	-1.86	3.91	28.22	22.45	175.792	Horizontal	Pass
		1907.5	-1.79	3.94	28.20	22.47	176.604	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-2.10	3.79	28.33	22.44	175.388	Horizontal	Pass
		1880	-1.80	3.95	28.22	22.47	176.604	Horizontal	Pass
		1905	-1.69	3.97	28.19	22.53	179.061	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-2.06	3.79	28.34	22.49	177.419	Horizontal	Pass
		1880	-1.85	3.95	28.22	22.42	174.582	Horizontal	Pass
		1902.5	-1.71	3.97	28.18	22.50	177.828	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-2.05	3.81	28.35	22.49	177.419	Horizontal	Pass
		1880	-1.72	3.96	28.22	22.54	179.473	Horizontal	Pass
		1900	-1.66	4.00	28.16	22.50	177.828	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-2.79	3.76	28.24	21.69	147.571	Vertical	Pass
		1880	-3.19	3.91	28.22	21.12	129.420	Vertical	Pass
		1909.3	-3.33	3.93	28.20	20.94	124.165	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.55	3.77	28.23	20.91	123.310	Vertical	Pass
		1880	-3.19	3.91	28.24	21.14	130.017	Vertical	Pass
		1908.5	-2.83	3.94	28.25	21.48	140.605	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-2.95	3.77	28.31	21.59	144.212	Vertical	Pass
		1880	-2.94	3.91	28.22	21.37	137.088	Vertical	Pass
		1907.5	-2.69	3.94	28.20	21.57	143.549	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-2.81	3.79	28.33	21.73	148.936	Vertical	Pass
		1880	-3.10	3.95	28.22	21.17	130.918	Vertical	Pass
		1905	-2.95	3.97	28.19	21.27	133.968	Vertical	Pass

15.0MHz		1857.5	-3.52	3.79	28.34	21.03	126.765	Vertical	Pass
Band	1/#Mid	1880	-3.34	3.95	28.22	20.93	123.880	Vertical	Pass
QPSK		1902.5	-3.01	3.97	28.18	21.20	131.826	Vertical	Pass
20.0MHz		1860	-3.08	3.81	28.35	21.46	139.959	Vertical	Pass
Band	1/#Mid	1880	-3.30	3.96	28.22	20.96	124.738	Vertical	Pass
QPSK		1900	-2.92	4.00	28.16	21.24	133.045	Vertical	Pass

Note:

SG Level= Signal generator output

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

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	-3.20	3.76	28.24	21.28	134.276	Horizontal	Pass
		1880	-2.67	3.91	28.22	21.64	145.881	Horizontal	Pass
		1909.3	-2.60	3.93	28.20	21.67	146.893	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-2.70	3.77	28.23	21.76	149.968	Horizontal	Pass
		1880	-2.78	3.91	28.24	21.55	142.889	Horizontal	Pass
		1908.5	-2.99	3.94	28.25	21.32	135.519	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-2.64	3.77	28.31	21.90	154.882	Horizontal	Pass
		1880	-2.55	3.91	28.22	21.76	149.968	Horizontal	Pass
		1907.5	-2.23	3.94	28.20	22.03	159.588	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-2.69	3.79	28.33	21.85	153.109	Horizontal	Pass
		1880	-2.68	3.95	28.22	21.59	144.212	Horizontal	Pass
		1905	-2.15	3.97	28.19	22.07	161.065	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-2.67	3.79	28.34	21.88	154.170	Horizontal	Pass
		1880	-2.46	3.95	28.22	21.81	151.705	Horizontal	Pass
		1902.5	-2.42	3.97	28.18	21.79	151.008	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-2.56	3.81	28.35	21.98	157.761	Horizontal	Pass
		1880	-2.26	3.96	28.22	22.00	158.489	Horizontal	Pass
		1900	-2.08	4.00	28.16	22.08	161.436	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.28	3.76	28.24	20.20	104.713	Vertical	Pass
		1880	-4.15	3.91	28.22	20.16	103.753	Vertical	Pass
		1909.3	-4.02	3.93	28.20	20.25	105.925	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.50	3.77	28.23	20.96	124.738	Vertical	Pass
		1880	-3.59	3.91	28.24	20.74	118.577	Vertical	Pass
		1908.5	-3.38	3.94	28.25	20.93	123.880	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.97	3.77	28.31	20.57	114.025	Vertical	Pass
		1880	-3.77	3.91	28.22	20.54	113.240	Vertical	Pass
		1907.5	-3.66	3.94	28.20	20.60	114.815	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.17	3.79	28.33	20.37	108.893	Vertical	Pass
		1880	-3.94	3.95	28.22	20.33	107.895	Vertical	Pass
		1905	-4.02	3.97	28.19	20.20	104.713	Vertical	Pass
15.0MHz Band 16	1/#Mid	1857.5	-3.76	3.79	28.34	20.79	119.950	Vertical	Pass
		1880	-3.31	3.95	28.22	20.96	124.738	Vertical	Pass

QAM		1902.5	-3.49	3.97	28.18	20.72	118.032	Vertical	Pass
20.0MHz	1/#Mid	1860	-4.08	3.81	28.35	20.46	111.173	Vertical	Pass
Band 16		1880	-3.35	3.96	28.22	20.91	123.310	Vertical	Pass
QAM		1900	-3.54	4.00	28.16	20.62	115.345	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	Average	Average	Of Max. ERP	
						(dBm)	(mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-2.11	3.12	27.58	22.35	171.791	Horizontal	Pass
		1732.5	-2.10	3.27	27.61	22.24	167.494	Horizontal	Pass
		1754.3	-2.08	3.29	27.63	22.26	168.267	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.28	3.13	27.61	22.20	165.959	Horizontal	Pass
		1732.5	-2.20	3.27	27.61	22.14	163.682	Horizontal	Pass
		1753.5	-2.12	3.30	27.62	22.20	165.959	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-2.05	3.13	27.63	22.45	175.792	Horizontal	Pass
		1732.5	-1.95	3.27	27.61	22.39	173.380	Horizontal	Pass
		1752.5	-1.83	3.30	27.60	22.47	176.604	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-1.99	3.15	27.64	22.50	177.828	Horizontal	Pass
		1732.5	-1.76	3.31	27.61	22.54	179.473	Horizontal	Pass
		1750	-1.78	3.33	27.59	22.48	177.011	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-2.00	3.15	27.65	22.50	177.828	Horizontal	Pass
		1732.5	-1.84	3.31	27.61	22.46	176.198	Horizontal	Pass
		1747.5	-1.78	3.33	27.57	22.46	176.198	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-1.94	3.17	27.66	22.55	179.887	Horizontal	Pass
		1732.5	-1.77	3.32	27.61	22.52	178.649	Horizontal	Pass
		1745	-1.71	3.36	27.56	22.49	177.419	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-2.75	3.12	27.58	21.71	148.252	Vertical	Pass
		1732.5	-2.91	3.27	27.61	21.43	138.995	Vertical	Pass
		1754.3	-2.95	3.29	27.63	21.39	137.721	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.43	3.13	27.61	21.05	127.350	Vertical	Pass
		1732.5	-2.50	3.27	27.61	21.84	152.757	Vertical	Pass
		1753.5	-2.63	3.30	27.62	21.69	147.571	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.48	3.13	27.63	21.02	126.474	Vertical	Pass
		1732.5	-3.10	3.27	27.61	21.24	133.045	Vertical	Pass
		1752.5	-2.39	3.30	27.60	21.91	155.239	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-2.65	3.15	27.64	21.84	152.757	Vertical	Pass
		1732.5	-2.98	3.31	27.61	21.32	135.519	Vertical	Pass
		1750	-2.99	3.33	27.59	21.27	133.968	Vertical	Pass

15.0MHz		1717.5	-3.11	3.15	27.65	21.39	137.721	Vertical	Pass
Band	1/#Mid	1732.5	-2.96	3.31	27.61	21.34	136.144	Vertical	Pass
QPSK		1747.5	-2.47	3.33	27.57	21.77	150.314	Vertical	Pass
20.0MHz		1720	-2.80	3.17	27.66	21.69	147.571	Vertical	Pass
Band	1/#Mid	1732.5	-2.77	3.32	27.61	21.52	141.906	Vertical	Pass
QPSK		1745	-3.07	3.36	27.56	21.13	129.718	Vertical	Pass

Note:

SG Level= Signal generator output

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

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
1.4MHz	1/#Mid	1710.7	-2.80	3.12	27.58	21.66	146.555	Horizontal	Pass
Band 16		1732.5	-2.65	3.27	27.61	21.69	147.571	Horizontal	Pass
QAM		1754.3	-2.65	3.29	27.63	21.69	147.571	Horizontal	Pass
3.0MHz	1/#Mid	1711.5	-2.74	3.13	27.61	21.74	149.279	Horizontal	Pass
Band 16		1732.5	-2.87	3.27	27.61	21.47	140.281	Horizontal	Pass
QAM		1753.5	-3.09	3.30	27.62	21.23	132.739	Horizontal	Pass
5.0MHz	1/#Mid	1712.5	-2.57	3.13	27.63	21.93	155.955	Horizontal	Pass
Band 16		1732.5	-2.53	3.27	27.61	21.81	151.705	Horizontal	Pass
QAM		1752.5	-2.22	3.30	27.60	22.08	161.436	Horizontal	Pass
10.0MHz	1/#Mid	1715	-2.64	3.15	27.64	21.85	153.109	Horizontal	Pass
Band 16		1732.5	-2.83	3.31	27.61	21.47	140.281	Horizontal	Pass
QAM		1750	-2.21	3.33	27.59	22.05	160.325	Horizontal	Pass
15.0MHz	1/#Mid	1717.5	-2.44	3.15	27.65	22.06	160.694	Horizontal	Pass
Band 16		1732.5	-2.50	3.31	27.61	21.80	151.356	Horizontal	Pass
QAM		1747.5	-2.52	3.33	27.57	21.72	148.594	Horizontal	Pass
20.0MHz	1/#Mid	1720	-2.39	3.17	27.66	22.10	162.181	Horizontal	Pass
Band 16		1732.5	-2.40	3.32	27.61	21.89	154.525	Horizontal	Pass
QAM		1745	-2.21	3.36	27.56	21.99	158.125	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-4.07	3.12	27.58	20.39	109.396	Vertical	Pass
Band 16		1732.5	-3.70	3.27	27.61	20.64	115.878	Vertical	Pass
QAM		1754.3	-3.64	3.29	27.63	20.70	117.490	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-3.93	3.13	27.61	20.55	113.501	Vertical	Pass
Band 16		1732.5	-3.54	3.27	27.61	20.80	120.226	Vertical	Pass
QAM		1753.5	-3.77	3.30	27.62	20.55	113.501	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-3.60	3.13	27.63	20.90	123.027	Vertical	Pass
Band 16		1732.5	-3.33	3.27	27.61	21.01	126.183	Vertical	Pass
QAM		1752.5	-3.85	3.30	27.60	20.45	110.917	Vertical	Pass
10.0MHz	1/#Mid	1715	-3.96	3.15	27.64	20.53	112.980	Vertical	Pass
Band 16		1732.5	-3.26	3.31	27.61	21.04	127.057	Vertical	Pass
QAM		1750	-3.47	3.33	27.59	20.79	119.950	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-3.76	3.15	27.65	20.74	118.577	Vertical	Pass
Band 16		1732.5	-3.56	3.31	27.61	20.74	118.577	Vertical	Pass

QAM		1747.5	-4.11	3.33	27.57	20.13	103.039	Vertical	Pass
20.0MHz	1/#Mid	1720	-4.18	3.17	27.66	20.31	107.399	Vertical	Pass
Band 16		1732.5	-3.95	3.32	27.61	20.34	108.143	Vertical	Pass
QAM		1745	-3.83	3.36	27.56	20.37	108.893	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	Of Max. ERP	
							(dBm)	(mW)		
1.4MHz Band QPSK	3/#Mid	824.7	6.99	2.01	19.68	2.15	22.51	178.238	Horizontal	Pass
		836.5	6.87	2.01	19.77	2.15	22.48	177.011	Horizontal	Pass
		848.3	6.67	2.02	19.82	2.15	22.32	170.608	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	6.76	2.01	19.70	2.15	22.30	169.824	Horizontal	Pass
		836.5	6.66	2.01	19.77	2.15	22.27	168.655	Horizontal	Pass
		847.5	6.53	2.02	19.81	2.15	22.17	164.816	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	7.04	2.01	19.71	2.15	22.59	181.552	Horizontal	Pass
		836.5	6.92	2.01	19.77	2.15	22.53	179.061	Horizontal	Pass
		846.5	6.76	2.02	19.79	2.15	22.38	172.982	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	7.06	2.01	19.73	2.15	22.63	183.231	Horizontal	Pass
		836.5	7.01	2.01	19.77	2.15	22.62	182.810	Horizontal	Pass
		844	6.91	2.02	19.78	2.15	22.52	178.649	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	6.13	2.01	19.68	2.15	21.65	146.218	Vertical	Pass
		836.5	5.96	2.01	19.77	2.15	21.57	143.549	Vertical	Pass
		848.3	5.18	2.02	19.82	2.15	20.83	121.060	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.95	2.01	19.70	2.15	21.49	140.929	Vertical	Pass
		836.5	5.94	2.01	19.77	2.15	21.55	142.889	Vertical	Pass
		847.5	5.37	2.02	19.81	2.15	21.01	126.183	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.52	2.01	19.71	2.15	21.07	127.938	Vertical	Pass
		836.5	5.29	2.01	19.77	2.15	20.90	123.027	Vertical	Pass
		846.5	6.15	2.02	19.79	2.15	21.77	150.314	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	6.06	2.01	19.73	2.15	21.63	145.546	Vertical	Pass
		836.5	5.60	2.01	19.77	2.15	21.21	132.130	Vertical	Pass
		844	6.18	2.02	19.78	2.15	21.79	151.008	Vertical	Pass

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	Of Max. ERP	
							(dBm)	(mW)		
1.4MHz	3/#Mid	824.7	6.14	2.01	19.68	2.15	21.66	146.555	Horizontal	Pass
Band 16		836.5	6.07	2.01	19.77	2.15	21.68	147.231	Horizontal	Pass
QAM		848.3	5.91	2.02	19.82	2.15	21.56	143.219	Horizontal	Pass
3.0MHz	1/#Mid	825.5	6.22	2.01	19.70	2.15	21.76	149.968	Horizontal	Pass
Band 16		836.5	5.93	2.01	19.77	2.15	21.54	142.561	Horizontal	Pass
QAM		847.5	5.41	2.02	19.81	2.15	21.05	127.350	Horizontal	Pass
5.0MHz	1/#Mid	826.5	6.54	2.01	19.71	2.15	22.09	161.808	Horizontal	Pass
Band 16		836.5	6.31	2.01	19.77	2.15	21.92	155.597	Horizontal	Pass
QAM		846.5	6.06	2.02	19.79	2.15	21.68	147.231	Horizontal	Pass
10.0MHz	1/#Mid	829	6.54	2.01	19.73	2.15	22.11	162.555	Horizontal	Pass
Band 16		836.5	6.26	2.01	19.77	2.15	21.87	153.815	Horizontal	Pass
QAM		844	5.80	2.02	19.78	2.15	21.41	138.357	Horizontal	Pass
1.4MHz	1/#Mid	824.7	5.94	2.01	19.68	2.15	21.46	139.959	Vertical	Pass
Band 16		836.5	5.32	2.01	19.77	2.15	20.93	123.880	Vertical	Pass
QAM		848.3	5.63	2.02	19.82	2.15	21.28	134.276	Vertical	Pass
3.0MHz	1/#Mid	825.5	5.90	2.01	19.70	2.15	21.44	139.316	Vertical	Pass
Band 16		836.5	6.05	2.01	19.77	2.15	21.66	146.555	Vertical	Pass
QAM		847.5	5.45	2.02	19.81	2.15	21.09	128.529	Vertical	Pass
5.0MHz	1/#Mid	826.5	5.01	2.01	19.71	2.15	20.56	113.763	Vertical	Pass
Band 16		836.5	5.35	2.01	19.77	2.15	20.96	124.738	Vertical	Pass
QAM		846.5	5.38	2.02	19.79	2.15	21.00	125.893	Vertical	Pass
10.0MHz	1/#Mid	829	4.96	2.01	19.73	2.15	20.53	112.980	Vertical	Pass
Band 16		836.5	4.44	2.01	19.77	2.15	20.05	101.158	Vertical	Pass
QAM		844	6.02	2.02	19.78	2.15	21.63	145.546	Vertical	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG	Cable	Antenna	Max.	Max.	Polarization	
			Level	Loss	Factor	EIRP	EIRP	Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average	Average		
						(dBm)	(mW)		
5.0MHz Band QPSK	1/#Mid	2502.5	-0.61	4.54	27.75	22.60	181.970	Horizontal	Pass
		2535	-0.44	4.69	27.72	22.59	181.552	Horizontal	Pass
		2567.5	-0.37	4.71	27.71	22.63	183.231	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-0.54	4.55	27.76	22.67	184.927	Horizontal	Pass
		2535	-0.35	4.69	27.72	22.68	185.353	Horizontal	Pass
		2565	-0.27	4.72	27.70	22.71	186.638	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-0.55	4.55	27.77	22.67	184.927	Horizontal	Pass
		2535	-0.41	4.69	27.72	22.62	182.810	Horizontal	Pass
		2562.5	-0.31	4.72	27.69	22.66	184.502	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-0.49	4.57	27.78	22.72	187.068	Horizontal	Pass
		2535	-0.31	4.73	27.72	22.68	185.353	Horizontal	Pass
		2560	-0.27	4.75	27.68	22.66	184.502	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-2.26	4.54	27.75	20.95	124.451	Vertical	Pass
		2535	-1.60	4.69	27.72	21.43	138.995	Vertical	Pass
		2567.5	-1.41	4.71	27.71	21.59	144.212	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.40	4.55	27.76	20.81	120.504	Vertical	Pass
		2535	-1.55	4.69	27.72	21.48	140.605	Vertical	Pass
		2565	-2.09	4.72	27.70	20.89	122.744	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-1.90	4.55	27.77	21.32	135.519	Vertical	Pass
		2535	-1.61	4.69	27.72	21.42	138.676	Vertical	Pass
		2562.5	-1.25	4.72	27.69	21.72	148.594	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-2.39	4.57	27.78	20.82	120.781	Vertical	Pass
		2535	-2.02	4.73	27.72	20.97	125.026	Vertical	Pass
		2560	-1.81	4.75	27.68	21.12	129.420	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	Average	Average	Of Max. ERP	
						(dBm)	(mW)		
5.0MHz Band 16 QAM	1/#Mid	2502.5	-1.30	4.54	27.75	21.91	155.239	Horizontal	Pass
		2535	-0.99	4.69	27.72	22.04	159.956	Horizontal	Pass
		2567.5	-1.07	4.71	27.71	21.93	155.955	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-1.19	4.55	27.76	22.02	159.221	Horizontal	Pass
		2535	-1.20	4.69	27.72	21.83	152.405	Horizontal	Pass
		2565	-1.47	4.72	27.70	21.51	141.579	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-1.37	4.55	27.77	21.85	153.109	Horizontal	Pass
		2535	-1.34	4.69	27.72	21.69	147.571	Horizontal	Pass
		2562.5	-0.95	4.72	27.69	22.02	159.221	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-1.25	4.57	27.78	21.96	157.036	Horizontal	Pass
		2535	-0.92	4.73	27.72	22.07	161.065	Horizontal	Pass
		2560	-1.02	4.75	27.68	21.91	155.239	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-2.16	4.54	27.75	21.05	127.350	Vertical	Pass
		2535	-1.95	4.69	27.72	21.08	128.233	Vertical	Pass
		2567.5	-2.51	4.71	27.71	20.49	111.944	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-1.52	4.55	27.76	21.69	147.571	Vertical	Pass
		2535	-1.64	4.69	27.72	21.39	137.721	Vertical	Pass
		2565	-2.64	4.72	27.70	20.34	108.143	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-2.78	4.55	27.77	20.44	110.662	Vertical	Pass
		2535	-1.67	4.69	27.72	21.36	136.773	Vertical	Pass
		2562.5	-2.30	4.72	27.69	20.67	116.681	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-1.54	4.57	27.78	21.67	146.893	Vertical	Pass
		2535	-2.90	4.73	27.72	20.09	102.094	Vertical	Pass
		2560	-1.49	4.75	27.68	21.44	139.316	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	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average		
							(dBm)	(mW)		
1.4MHz Band QPSK	1/#Mid	699.7	7.78	1.91	19.21	2.15	22.93	196.336	Vertical	Pass
		707.5	7.70	1.91	19.26	2.15	22.90	194.984	Vertical	Pass
		715.3	7.48	1.93	19.34	2.15	22.74	187.932	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	700.5	7.57	1.91	19.21	2.15	22.72	187.068	Vertical	Pass
		707.5	7.49	1.91	19.26	2.15	22.69	185.780	Vertical	Pass
		714.5	7.33	1.93	19.34	2.15	22.59	181.552	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	701.5	7.84	1.91	19.23	2.15	23.01	199.986	Vertical	Pass
		707.5	7.75	1.91	19.26	2.15	22.95	197.242	Vertical	Pass
		713.5	7.54	1.92	19.33	2.15	22.80	190.546	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	704	7.86	1.91	19.25	2.15	23.05	201.837	Vertical	Pass
		707.5	7.84	1.91	19.26	2.15	23.04	201.372	Vertical	Pass
		711	7.69	1.92	19.32	2.15	22.94	196.789	Vertical	Pass
1.4MHz Band QPSK	1/#Mid	699.7	6.94	1.91	19.21	2.15	22.09	161.808	Horizontal	Pass
		707.5	6.08	1.91	19.26	2.15	21.28	134.276	Horizontal	Pass
		715.3	6.63	1.93	19.34	2.15	21.89	154.525	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	700.5	6.38	1.91	19.21	2.15	21.53	142.233	Horizontal	Pass
		707.5	6.20	1.91	19.26	2.15	21.40	138.038	Horizontal	Pass
		714.5	6.68	1.93	19.34	2.15	21.94	156.315	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	701.5	6.66	1.91	19.23	2.15	21.83	152.405	Horizontal	Pass
		707.5	6.81	1.91	19.26	2.15	22.01	158.855	Horizontal	Pass
		713.5	6.32	1.92	19.33	2.15	21.58	143.880	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	704	6.73	1.91	19.25	2.15	21.92	155.597	Horizontal	Pass
		707.5	6.47	1.91	19.26	2.15	21.67	146.893	Horizontal	Pass
		711	6.45	1.92	19.32	2.15	21.70	147.911	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	Of Max. ERP	
							(dBm)	(mW)		
1.4MHz	1/#Mid	699.7	7.82	1.91	19.21	2.15	22.97	198.153	Vertical	Pass
Band 16		707.5	7.74	1.91	19.26	2.15	22.94	196.789	Vertical	Pass
QAM		715.3	7.52	1.93	19.34	2.15	22.78	189.671	Vertical	Pass
3.0MHz	1/#Mid	700.5	7.61	1.91	19.21	2.15	22.76	188.799	Vertical	Pass
Band 16		707.5	7.53	1.91	19.26	2.15	22.73	187.499	Vertical	Pass
QAM		714.5	7.37	1.93	19.34	2.15	22.63	183.231	Vertical	Pass
5.0MHz	1/#Mid	701.5	7.88	1.91	19.23	2.15	23.05	201.837	Vertical	Pass
Band 16		707.5	7.79	1.91	19.26	2.15	22.99	199.067	Vertical	Pass
QAM		713.5	7.58	1.92	19.33	2.15	22.84	192.309	Vertical	Pass
10.0MHz	1/#Mid	704	7.90	1.91	19.25	2.15	23.09	203.704	Vertical	Pass
Band 16		707.5	7.88	1.91	19.26	2.15	23.08	203.236	Vertical	Pass
QAM		711	7.73	1.92	19.32	2.15	22.98	198.609	Vertical	Pass
1.4MHz	1/#Mid	699.7	7.01	1.91	19.21	2.15	22.16	164.437	Horizontal	Pass
Band 16		707.5	6.47	1.91	19.26	2.15	21.67	146.893	Horizontal	Pass
QAM		715.3	6.23	1.93	19.34	2.15	21.49	140.929	Horizontal	Pass
3.0MHz	1/#Mid	700.5	6.56	1.91	19.21	2.15	21.71	148.252	Horizontal	Pass
Band 16		707.5	6.70	1.91	19.26	2.15	21.90	154.882	Horizontal	Pass
QAM		714.5	6.92	1.93	19.34	2.15	22.18	165.196	Horizontal	Pass
5.0MHz	1/#Mid	701.5	6.64	1.91	19.23	2.15	21.81	151.705	Horizontal	Pass
Band 16		707.5	6.51	1.91	19.26	2.15	21.71	148.252	Horizontal	Pass
QAM		713.5	6.92	1.92	19.33	2.15	22.18	165.196	Horizontal	Pass
10.0MHz	1/#Mid	704	6.95	1.91	19.25	2.15	22.14	163.682	Horizontal	Pass
Band 16		707.5	6.73	1.91	19.26	2.15	21.93	155.955	Horizontal	Pass
QAM		711	6.75	1.92	19.32	2.15	22.00	158.489	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.7 LTE BAND 13

Radiated Power (ERP) for Band 13										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)		Average	Average	Of Max. ERP	
							(dBm)	(mW)		
5.0MHz Band QPSK	25/0	779.5	6.93	1.91	19.23	2.15	22.10	162.18	Horizontal	Pass
		782	7.98	1.91	19.26	2.15	23.18	207.97	Horizontal	Pass
		784.5	7.76	1.92	19.33	2.15	23.02	200.45	Horizontal	Pass
10.0MHz Band QPSK	50/0	782	7.81	1.91	19.25	2.15	23.00	199.53	Horizontal	Pass
			7.77	1.91	19.26	2.15	22.97	198.15	Horizontal	Pass
			7.62	1.92	19.32	2.15	22.87	193.64	Horizontal	Pass
5.0MHz Band QPSK	25/0	779.5	8.04	1.91	19.23	2.15	23.21	209.41	Vertical	Pass
		782	7.98	1.91	19.26	2.15	23.18	207.97	Vertical	Pass
		784.5	7.76	1.92	19.33	2.15	23.02	200.45	Vertical	Pass
10.0MHz Band QPSK	50/0	782	7.81	1.91	19.25	2.15	23.00	199.53	Vertical	Pass
			7.77	1.91	19.26	2.15	23.37	217.27	Vertical	Pass
			7.62	1.92	19.32	2.15	22.87	193.64	Vertical	Pass

Radiated Power (ERP) for Band 13										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)		Average	Average		
							(dBm)	(mW)		
5.0MHz Band 16 QAM	25/0	779.5	7.48	1.91	19.23	2.15	22.65	184.08	Horizontal	Pass
		782	7.83	1.91	19.26	2.15	23.03	200.91	Horizontal	Pass
		784.5	7.61	1.92	19.33	2.15	22.87	193.64	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	782	7.66	1.91	19.25	2.15	22.85	192.75	Horizontal	Pass
			7.62	1.91	19.26	2.15	22.82	191.43	Horizontal	Pass
			7.47	1.92	19.32	2.15	22.72	187.07	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	779.5	7.89	1.91	19.23	2.15	23.06	202.30	Vertical	Pass
		782	7.83	1.91	19.26	2.15	23.03	200.91	Vertical	Pass
		784.5	7.61	1.92	19.33	2.15	22.87	193.64	Vertical	Pass
10.0MHz Band 16 QAM	50/0	782	7.66	1.91	19.25	2.15	22.85	192.75	Vertical	Pass
			7.62	1.91	19.26	2.15	23.27	212.32	Vertical	Pass
			7.47	1.92	19.32	2.15	22.72	187.07	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.8 LTE BAND 17

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max.	Max.	Polarization Of	
			Level	Loss	Factor		EIRP	EIRP	Max. ERP	
			(dBm)	(dBm)	(dB)		Average	Average		
						(dB)	(dBm)	(mW)		
5.0MHz Band QPSK	1/#Mid	706.5	7.00	1.91	19.23	2.15	22.17	164.816	Vertical	Pass
		710	6.86	1.91	19.26	2.15	22.06	160.694	Vertical	Pass
		713.5	6.76	1.92	19.33	2.15	22.02	159.221	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	7.01	1.91	19.25	2.15	22.20	165.959	Vertical	Pass
		710	6.96	1.91	19.26	2.15	22.16	164.437	Vertical	Pass
		711	6.92	1.92	19.32	2.15	22.17	164.816	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	6.42	1.91	19.23	2.15	21.59	144.212	Horizontal	Pass
		710	6.22	1.91	19.26	2.15	21.42	138.676	Horizontal	Pass
		713.5	6.14	1.92	19.33	2.15	21.40	138.038	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	5.09	1.91	19.25	2.15	20.28	106.660	Horizontal	Pass
		710	6.46	1.91	19.26	2.15	21.66	146.555	Horizontal	Pass
		711	5.27	1.92	19.32	2.15	20.52	112.720	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max. EIRP	Max.	Polarization	
			Level	Loss	Factor		EIRP	Of Max.		
			(dBm)	(dBm)	(dB)		Average	Average	ERP	
						(dB)	(dBm)	(mW)		
5.0MHz	1/#Mid	706.5	6.35	1.91	19.23	2.15	21.52	141.906	Vertical	Pass
Band 16		710	6.26	1.91	19.26	2.15	21.46	139.959	Vertical	Pass
QAM		713.5	6.06	1.92	19.33	2.15	21.32	135.519	Vertical	Pass
10.0MHz	1/#Mid	709	5.89	1.91	19.25	2.15	21.08	128.233	Vertical	Pass
Band 16		710	6.42	1.91	19.26	2.15	21.62	145.211	Vertical	Pass
QAM		711	6.15	1.92	19.32	2.15	21.40	138.038	Vertical	Pass
5.0MHz	1/#Mid	706.5	5.15	1.91	19.23	2.15	20.32	107.647	Horizontal	Pass
Band 16		710	5.12	1.91	19.26	2.15	20.32	107.647	Horizontal	Pass
QAM		713.5	5.41	1.92	19.33	2.15	20.67	116.681	Horizontal	Pass
10.0MHz	1/#Mid	709	4.90	1.91	19.25	2.15	20.09	102.094	Horizontal	Pass
Band 16		710	4.99	1.91	19.26	2.15	20.19	104.472	Horizontal	Pass
QAM		711	5.61	1.92	19.32	2.15	20.86	121.899	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.9 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG	Cable Loss (dBm)	Antenna Factor (dB)	Max.	Max.	Polarization Of Max. ERP	
			Level			EIRP	EIRP		
			(dBm)			Average	Average		
						(dBm)	(mW)		
5.0MHz	1/#Mid	2498.5	-0.58	4.54	27.75	22.63	183.231	Horizontal	Pass
Band		2593	-0.43	4.69	27.72	22.60	181.970	Horizontal	Pass
QPSK		2687.5	-0.31	4.71	27.71	22.69	185.780	Horizontal	Pass
10.0MHz	1/#Mid	2501	-0.66	4.55	27.76	22.55	179.887	Horizontal	Pass
Band		2593	-0.52	4.69	27.72	22.51	178.238	Horizontal	Pass
QPSK		2685	-0.51	4.72	27.70	22.47	176.604	Horizontal	Pass
15.0MHz	1/#Mid	2503.5	-0.49	4.55	27.77	22.73	187.499	Horizontal	Pass
Band		2593	-0.21	4.69	27.72	22.82	191.426	Horizontal	Pass
QPSK		2682.5	-0.26	4.72	27.69	22.71	186.638	Horizontal	Pass
20.0MHz	1/#Mid	2506	-0.37	4.57	27.78	23.03	200.909	Horizontal	Pass
Band		2593	-0.15	4.73	27.72	22.84	192.309	Horizontal	Pass
QPSK		2680	-0.15	4.75	27.68	22.78	189.671	Horizontal	Pass
5.0MHz	1/#Mid	2498.5	-0.38	4.54	27.75	22.83	191.867	Vertical	Pass
Band		2593	-0.29	4.69	27.72	22.74	187.932	Vertical	Pass
QPSK		2687.5	-0.27	4.71	27.71	22.73	187.499	Vertical	Pass
10.0MHz	1/#Mid	2501	-0.36	4.55	27.76	22.85	192.752	Vertical	Pass
Band		2593	-0.20	4.69	27.72	22.83	191.867	Vertical	Pass
QPSK		2685	-0.27	4.72	27.70	22.71	186.638	Vertical	Pass
15.0MHz	1/#Mid	2503.5	-1.25	4.55	27.77	21.97	157.398	Vertical	Pass
Band		2593	-1.24	4.69	27.72	21.79	151.008	Vertical	Pass
QPSK		2682.5	-1.86	4.72	27.69	21.11	129.122	Vertical	Pass
20.0MHz	1/#Mid	2506	-1.18	4.57	27.78	22.03	159.588	Vertical	Pass
Band		2593	-1.23	4.73	27.72	21.76	149.968	Vertical	Pass
QPSK		2680	-1.02	4.75	27.68	21.91	155.239	Vertical	Pass

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			Level			Average	Average		
			(dBm)			(dBm)	(mW)		
5.0MHz	1/#Mid	2498.5	-0.49	4.54	27.75	22.72	187.068	Horizontal	Pass
Band 16		2593	-0.34	4.69	27.72	22.69	185.780	Horizontal	Pass
QAM		2687.5	-0.22	4.71	27.71	22.78	189.671	Horizontal	Pass
10.0MHz	1/#Mid	2501	-0.57	4.55	27.76	22.64	183.654	Horizontal	Pass
Band 16		2593	-0.43	4.69	27.72	22.60	181.970	Horizontal	Pass
QAM		2685	-0.42	4.72	27.70	22.56	180.302	Horizontal	Pass
15.0MHz	1/#Mid	2503.5	-0.40	4.55	27.77	22.82	191.426	Horizontal	Pass
Band 16		2593	-0.12	4.69	27.72	22.91	195.434	Horizontal	Pass
QAM		2682.5	-0.17	4.72	27.69	22.80	190.546	Horizontal	Pass
20.0MHz	1/#Mid	2506	-0.28	4.57	27.78	22.99	199.067	Horizontal	Pass
Band 16		2593	-0.06	4.73	27.72	22.93	196.336	Horizontal	Pass
QAM		2680	-0.06	4.75	27.68	22.87	193.642	Horizontal	Pass
5.0MHz	1/#Mid	2498.5	-0.29	4.54	27.75	22.92	195.884	Vertical	Pass
Band 16		2593	-0.20	4.69	27.72	22.83	191.867	Vertical	Pass
QAM		2687.5	-0.18	4.71	27.71	22.82	191.426	Vertical	Pass
10.0MHz	1/#Mid	2501	-0.27	4.55	27.76	22.94	196.789	Vertical	Pass
Band 16		2593	-0.11	4.69	27.72	22.92	195.884	Vertical	Pass
QAM		2685	-0.18	4.72	27.70	22.80	190.546	Vertical	Pass
15.0MHz	1/#Mid	2503.5	-1.95	4.55	27.77	21.27	133.968	Vertical	Pass
Band 16		2593	-1.74	4.69	27.72	21.29	134.586	Vertical	Pass
QAM		2682.5	-0.83	4.72	27.69	22.14	163.682	Vertical	Pass
20.0MHz	1/#Mid	2506	-1.19	4.57	27.78	22.02	159.221	Vertical	Pass
Band 16		2593	-1.59	4.73	27.72	21.40	138.038	Vertical	Pass
QAM		2680	-1.45	4.75	27.68	21.48	140.605	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)

8.10 LTE BAND 66

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	1/#Mid	1710.7	-2.01	3.76	28.24	22.47	176.604	Horizontal	Pass
		1745	-1.87	3.91	28.22	22.44	175.388	Horizontal	Pass
		1779.3	-1.74	3.93	28.2	22.53	179.061	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.07	3.77	28.23	22.39	173.380	Horizontal	Pass
		1745	-1.98	3.91	28.24	22.35	171.791	Horizontal	Pass
		1778.5	-2.00	3.94	28.25	22.31	170.216	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-1.97	3.77	28.31	22.57	180.717	Horizontal	Pass
		1745	-1.65	3.91	28.22	22.66	184.502	Horizontal	Pass
		1777.5	-1.71	3.94	28.2	22.55	179.887	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-1.86	3.79	28.33	22.68	185.353	Horizontal	Pass
		1745	-1.59	3.95	28.22	22.68	185.353	Horizontal	Pass
		1775	-1.60	3.97	28.19	22.62	182.810	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-1.88	3.79	28.34	22.67	184.927	Horizontal	Pass
		1745	-1.69	3.95	28.22	22.58	181.134	Horizontal	Pass
		1772.5	-1.64	3.97	28.18	22.57	180.717	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-1.85	3.81	28.35	22.69	185.780	Horizontal	Pass
		1745	-1.59	3.96	28.22	22.67	184.927	Horizontal	Pass
		1770	-1.61	4	28.16	22.55	179.887	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-3.42	3.76	28.24	21.06	127.644	Vertical	Pass
		1745	-3.25	3.91	28.22	21.06	127.644	Vertical	Pass
		1779.3	-2.40	3.93	28.2	21.87	153.815	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.55	3.77	28.23	21.91	155.239	Vertical	Pass
		1745	-2.46	3.91	28.24	21.87	153.815	Vertical	Pass
		1778.5	-2.93	3.94	28.25	21.38	137.404	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-2.90	3.77	28.31	21.64	145.881	Vertical	Pass
		1745	-3.17	3.91	28.22	21.14	130.017	Vertical	Pass
		1777.5	-3.15	3.94	28.2	21.11	129.122	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.55	3.79	28.34	21.00	125.893	Vertical	Pass
		1745	-2.66	3.95	28.22	21.61	144.877	Vertical	Pass

		1775	-2.65	3.97	28.18	21.56	143.219	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-3.26	3.81	28.35	21.28	134.276	Vertical	Pass
		1745	-3.21	3.96	28.22	21.05	127.350	Vertical	Pass
		1772.5	-2.50	4	28.16	21.66	146.555	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.80	3.79	28.34	21.75	149.624	Vertical	Pass
		1745	-3.00	3.95	28.22	21.27	133.968	Vertical	Pass
		1770	-2.64	3.97	28.18	21.57	143.549	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss	Antenna Factor	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-2.84	3.76	28.24	21.64	145.881	Horizontal	Pass
		1745	-2.45	3.91	28.22	21.86	153.462	Horizontal	Pass
		1779.3	-2.63	3.93	28.2	21.64	145.881	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-3.23	3.77	28.23	21.23	132.739	Horizontal	Pass
		1745	-2.48	3.91	28.24	21.85	153.109	Horizontal	Pass
		1778.5	-2.77	3.94	28.25	21.54	142.561	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-2.65	3.77	28.31	21.89	154.525	Horizontal	Pass
		1745	-2.71	3.91	28.22	21.60	144.544	Horizontal	Pass
		1777.5	-2.38	3.94	28.2	21.88	154.170	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-2.70	3.79	28.33	21.84	152.757	Horizontal	Pass
		1745	-2.36	3.95	28.22	21.91	155.239	Horizontal	Pass
		1775	-2.68	3.97	28.19	21.54	142.561	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-2.69	3.79	28.34	21.86	153.462	Horizontal	Pass
		1745	-2.51	3.95	28.22	21.76	149.968	Horizontal	Pass
		1772.5	-2.30	3.97	28.18	21.91	155.239	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-2.52	3.81	28.35	22.02	159.221	Horizontal	Pass
		1745	-2.30	3.96	28.22	21.96	157.036	Horizontal	Pass
		1770	-2.24	4	28.16	21.92	155.597	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-3.59	3.76	28.24	20.89	122.744	Vertical	Pass
		1745	-2.85	3.91	28.22	21.46	139.959	Vertical	Pass
		1779.3	-2.58	3.93	28.2	21.69	147.571	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-2.86	3.77	28.23	21.60	144.544	Vertical	Pass
		1745	-2.50	3.91	28.24	21.83	152.405	Vertical	Pass
		1778.5	-3.43	3.94	28.25	20.88	122.462	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-3.95	3.77	28.31	20.59	114.551	Vertical	Pass
		1745	-3.28	3.91	28.22	21.03	126.765	Vertical	Pass
		1777.5	-3.44	3.94	28.2	20.82	120.781	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-4.41	3.79	28.34	20.14	103.276	Vertical	Pass
		1745	-3.28	3.95	28.22	20.99	125.603	Vertical	Pass
		1775	-2.67	3.97	28.18	21.54	142.561	Vertical	Pass
15.0MHz Band 16	1/#Mid	1717.5	-3.09	3.81	28.35	21.45	139.637	Vertical	Pass
		1745	-4.04	3.96	28.22	20.22	105.196	Vertical	Pass

QAM		1772.5	-3.86	4	28.16	20.30	107.152	Vertical	Pass
20.0MHz	1/#Mid	1720	-2.90	3.79	28.34	21.65	146.218	Vertical	Pass
Band 16		1745	-3.93	3.95	28.22	20.34	108.143	Vertical	Pass
QAM		1770	-3.17	3.97	28.18	21.04	127.057	Vertical	Pass

Note:

SG Level= Signal generator output

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

8.11 LTE BAND 71

Radiated Power (ERP) for Band 71										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max.	Max.	Polarization Of	
			Level	Loss	Factor		EIRP	EIRP	Max. ERP	
			(dBm)	(dBm)	(dB)		Average	Average		
						(dB)	(dBm)	(mW)		
5.0MHz Band QPSK	25/0	665.5	7.54	2.01	19.68	2.15	23.06	202.30	Horizontal	Pass
		680.5	7.42	2.01	19.77	2.15	23.03	200.91	Horizontal	Pass
		695.5	7.22	2.02	19.82	2.15	22.87	193.64	Horizontal	Pass
10.0MHz Band QPSK	50/0	668	7.31	2.01	19.70	2.15	22.85	192.75	Horizontal	Pass
		680.5	7.21	2.01	19.77	2.15	22.82	191.43	Horizontal	Pass
		693	7.08	2.02	19.81	2.15	22.72	187.07	Horizontal	Pass
15.0MHz Band QPSK	75/0	670.5	7.59	2.01	19.71	2.15	23.14	206.06	Horizontal	Pass
		680.5	7.47	2.01	19.77	2.15	23.08	203.24	Horizontal	Pass
		690.5	7.31	2.02	19.79	2.15	22.93	196.34	Horizontal	Pass
20.0MHz Band QPSK	100/0	673	7.61	2.01	19.73	2.15	23.18	207.97	Horizontal	Pass
		683	7.56	2.01	19.77	2.15	23.17	207.49	Horizontal	Pass
		688	7.46	2.02	19.78	2.15	23.07	202.77	Horizontal	Pass
5.0MHz Band QPSK	25/0	665.5	6.79	2.01	19.68	2.15	22.31	170.22	Vertical	Pass
		680.5	6.22	2.01	19.77	2.15	21.83	152.41	Vertical	Pass
		695.5	6.12	2.02	19.82	2.15	21.77	150.31	Vertical	Pass
15.0MHz Band QPSK	50/0	668	6.07	2.01	19.70	2.15	21.61	144.88	Vertical	Pass
		680.5	6.22	2.01	19.77	2.15	21.83	152.41	Vertical	Pass
		693	5.91	2.02	19.81	2.15	21.55	142.89	Vertical	Pass
15.0MHz Band QPSK	75/0	670.5	5.92	2.01	19.71	2.15	21.47	140.28	Vertical	Pass
		680.5	6.12	2.01	19.77	2.15	21.73	148.94	Vertical	Pass
		690.5	6.67	2.02	19.79	2.15	22.29	169.43	Vertical	Pass
20MHz Band QPSK	100/0	673	5.82	2.01	19.73	2.15	21.39	137.72	Vertical	Pass
		683	6.64	2.01	19.77	2.15	22.25	167.88	Vertical	Pass
		688	6.35	2.02	19.78	2.15	21.96	157.04	Vertical	Pass

Radiated Power (ERP) for Band 71										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level	Cable Loss	Antenna Factor	Correction	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	Of Max. ERP	
							(dBm)	(mW)		
5.0MHz Band 16 QAM	25/0	665.5	7.59	2.01	19.68	2.15	23.11	204.64	Horizontal	Pass
		680.5	7.47	2.01	19.77	2.15	23.08	203.24	Horizontal	Pass
		695.5	7.27	2.02	19.82	2.15	22.92	195.88	Horizontal	Pass
10.0MHz Band 16 QAM	50/0	668	7.36	2.01	19.70	2.15	22.90	194.98	Horizontal	Pass
		680.5	7.26	2.01	19.77	2.15	22.87	193.64	Horizontal	Pass
		693	7.13	2.02	19.81	2.15	22.77	189.23	Horizontal	Pass
15.0MHz Band 16 QAM	75/0	670.5	7.64	2.01	19.71	2.15	23.19	208.45	Horizontal	Pass
		680.5	7.52	2.01	19.77	2.15	23.13	205.59	Horizontal	Pass
		690.5	7.36	2.02	19.79	2.15	22.98	198.61	Horizontal	Pass
20.0MHz Band 16 QAM	100/0	673	7.66	2.01	19.73	2.15	23.23	210.38	Horizontal	Pass
		683	7.61	2.01	19.77	2.15	23.22	209.89	Horizontal	Pass
		688	7.51	2.02	19.78	2.15	23.12	205.12	Horizontal	Pass
5.0MHz Band 16 QAM	25/0	665.5	6.32	2.01	19.68	2.15	21.84	152.76	Vertical	Pass
		680.5	6.44	2.01	19.77	2.15	22.05	160.32	Vertical	Pass
		695.5	5.90	2.02	19.82	2.15	21.55	142.89	Vertical	Pass
10.0MHz Band 16 QAM	50/0	668	6.69	2.01	19.70	2.15	22.23	167.11	Vertical	Pass
		680.5	5.84	2.01	19.77	2.15	21.45	139.64	Vertical	Pass
		693	6.10	2.02	19.81	2.15	21.74	149.28	Vertical	Pass
15.0MHz Band 16 QAM	75/0	670.5	6.32	2.01	19.71	2.15	21.87	153.82	Vertical	Pass
		680.5	6.21	2.01	19.77	2.15	21.82	152.05	Vertical	Pass
		690.5	5.88	2.02	19.79	2.15	21.50	141.25	Vertical	Pass
20.0MHz Band 16 QAM	100/0	673	6.41	2.01	19.73	2.15	21.98	157.76	Vertical	Pass
		683	6.42	2.01	19.77	2.15	22.03	159.59	Vertical	Pass
		688	6.76	2.02	19.78	2.15	22.37	172.58	Vertical	Pass

Note:

SG Level= Signal generator output

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

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m)

LIMIT

For Band 7, the minimum permissible attenuation level of any spurious emission is $55 + \log_{10}(P)$ [Watts]).

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P)$ [Watts]), where P is the transmitter power in Watts.

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
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66
- LTE Band 71

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-47.93	4.04	33.51	-18.46	-13	-5.46	Horizontal
3701.4	-49.06	4.04	33.51	-19.59	-13	-6.59	Vertical
5552.1	-52.47	5.24	35.84	-21.87	-13	-8.87	Vertical
5552.1	-49.75	5.24	35.84	-19.15	-13	-6.15	Horizontal
196.6	-37.30	1.43	16.02	-22.71	-13	-9.71	Vertical
379.7	-37.84	1.30	17.99	-21.15	-13	-8.15	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-45.57	4.04	33.56	-16.05	-13	-3.05	Horizontal
3760.0	-48.74	4.04	33.56	-19.22	-13	-6.22	Vertical
5640.0	-50.99	5.24	35.91	-20.32	-13	-7.32	Vertical
5640.0	-52.11	5.24	35.91	-21.44	-13	-8.44	Horizontal
203.1	-36.03	1.62	16.97	-20.68	-13	-7.68	Vertical
293.6	-40.77	1.74	15.98	-26.54	-13	-13.54	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-47.67	4.04	34.00	-17.71	-13	-4.71	Horizontal
3818.6	-51.29	4.04	34.00	-21.33	-13	-8.33	Vertical
5727.9	-49.11	5.24	36.04	-18.31	-13	-5.31	Vertical
5727.9	-49.29	5.24	36.04	-18.49	-13	-5.49	Horizontal
201.9	-34.97	1.42	17.29	-19.10	-13	-6.10	Vertical
414.8	-36.98	1.50	17.90	-20.57	-13	-7.57	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	-44.63	4.07	33.54	-15.16	-13	-2.16	Horizontal
3720.0	-51.82	4.07	33.54	-22.35	-13	-9.35	Vertical
5580.0	-49.39	5.28	35.86	-18.81	-13	-5.81	Vertical
5580.0	-52.02	5.28	35.86	-21.44	-13	-8.44	Horizontal
197.5	-38.26	1.58	16.89	-22.94	-13	-9.94	Vertical
464.7	-39.73	1.76	17.26	-24.23	-13	-11.23	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-48.75	4.04	33.56	-19.23	-13	-6.23	Horizontal
3760.0	-45.53	4.04	33.56	-16.01	-13	-3.01	Vertical
5640.0	-53.85	5.24	35.91	-23.18	-13	-10.18	Vertical
5640.0	-50.92	5.24	35.91	-20.25	-13	-7.25	Horizontal
202.1	-39.12	1.46	16.27	-24.31	-13	-11.31	Vertical
282.9	-36.03	1.59	15.15	-22.47	-13	-9.47	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-45.89	4.04	34.00	-15.93	-13	-2.93	Horizontal
3800.0	-46.56	4.04	34.00	-16.60	-13	-3.60	Vertical
5700.0	-48.70	5.24	36.04	-17.90	-13	-4.90	Vertical
5700.0	-49.16	5.24	36.04	-18.36	-13	-5.36	Horizontal
196.3	-35.96	1.36	17.39	-19.92	-13	-6.92	Vertical
329.9	-44.85	1.66	15.39	-31.12	-13	-18.12	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.2 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	-49.04	4.02	29.80	-23.26	-13	-10.26	Horizontal
3421.4	-52.79	4.02	29.80	-27.01	-13	-14.01	Vertical
5132.1	-50.76	5.24	35.84	-20.16	-13	-7.16	Vertical
5132.1	-52.13	5.24	35.84	-21.53	-13	-8.53	Horizontal
202.9	-42.15	1.68	16.04	-27.79	-13	-14.79	Vertical
351.4	-42.45	1.78	17.74	-26.49	-13	-13.49	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-53.39	4.03	30.00	-27.42	-13	-14.42	Horizontal
3465.0	-53.61	4.03	30.00	-27.64	-13	-14.64	Vertical
5197.5	-52.35	5.25	35.86	-21.74	-13	-8.74	Vertical
5197.5	-51.80	5.25	35.86	-21.19	-13	-8.19	Horizontal
184.0	-34.93	1.72	17.69	-18.96	-13	-5.96	Vertical
373.8	-39.73	1.62	16.02	-25.32	-13	-12.32	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-47.74	4.05	30.01	-21.78	-13	-8.78	Horizontal
3508.6	-48.81	4.05	30.01	-22.85	-13	-9.85	Vertical
5262.9	-51.46	5.26	35.86	-20.86	-13	-7.86	Vertical
5262.9	-53.45	5.26	35.86	-22.85	-13	-9.85	Horizontal
182.6	-39.10	1.80	16.69	-24.21	-13	-11.21	Vertical
331.7	-42.94	1.75	16.66	-28.04	-13	-15.04	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	-45.21	4.02	29.80	-19.43	-13	-6.43	Horizontal
3440.0	-45.61	4.02	29.80	-19.83	-13	-6.83	Vertical
5160.0	-51.25	5.24	35.84	-20.65	-13	-7.65	Vertical
5160.0	-52.94	5.24	35.84	-22.34	-13	-9.34	Horizontal
191.1	-39.52	1.57	17.26	-23.83	-13	-10.83	Vertical
333.9	-37.10	1.78	16.35	-22.53	-13	-9.53	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-44.60	4.03	30.00	-18.63	-13	-5.63	Horizontal
3465.0	-46.47	4.03	30.00	-20.50	-13	-7.50	Vertical
5197.5	-53.15	5.25	35.86	-22.54	-13	-9.54	Vertical
5197.5	-52.74	5.25	35.86	-22.13	-13	-9.13	Horizontal
177.5	-38.13	1.44	17.95	-21.62	-13	-8.62	Vertical
292.1	-37.28	1.65	16.09	-22.84	-13	-9.84	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-48.78	2.91	27.68	-24.01	-13	-11.01	Horizontal
3490.0	-47.31	2.91	27.68	-22.54	-13	-9.54	Vertical
5235.0	-50.50	5.26	35.86	-19.90	-13	-6.90	Vertical
5235.0	-50.00	5.26	35.86	-19.40	-13	-6.40	Horizontal
189.2	-34.53	1.61	16.85	-19.29	-13	-6.29	Vertical
269.1	-40.87	1.61	15.19	-27.29	-13	-14.29	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.

9.3 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	-46.50	2.78	27.50	-21.78	-13	-8.78	Horizontal
1649.4	-50.75	2.78	27.50	-26.03	-13	-13.03	Vertical
2474.1	-46.97	2.90	27.80	-22.07	-13	-9.07	Vertical
2474.1	-52.21	2.90	27.80	-27.31	-13	-14.31	Horizontal
187.6	-35.06	1.76	17.59	-19.23	-13	-6.23	Vertical
418.3	-39.56	1.63	15.87	-25.32	-13	-12.32	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-48.71	2.80	27.48	-24.03	-13	-11.03	Horizontal
1673.0	-47.85	2.80	27.48	-23.17	-13	-10.17	Vertical
2509.5	-49.72	2.91	27.70	-24.93	-13	-11.93	Vertical
2509.5	-49.58	2.91	27.70	-24.79	-13	-11.79	Horizontal
190.8	-34.20	1.61	15.68	-20.13	-13	-7.13	Vertical
331.7	-41.34	1.59	17.52	-25.42	-13	-12.42	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-46.01	2.82	27.43	-21.40	-13	-8.40	Horizontal
1696.6	-44.76	2.82	27.43	-20.15	-13	-7.15	Vertical
2544.9	-50.16	2.92	27.74	-25.34	-13	-12.34	Vertical
2544.9	-52.00	2.92	27.74	-27.18	-13	-14.18	Horizontal
180.9	-37.49	1.69	16.67	-22.50	-13	-9.50	Vertical
245.7	-39.33	1.70	17.18	-23.85	-13	-10.85	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	-46.58	2.78	27.50	-21.86	-13	-8.86	Horizontal
1658.0	-46.16	2.78	27.50	-21.44	-13	-8.44	Vertical
2487.0	-46.15	2.90	27.80	-21.25	-13	-8.25	Vertical
2487.0	-50.42	2.90	27.80	-25.52	-13	-12.52	Horizontal
205.6	-36.96	1.71	15.57	-23.10	-13	-10.10	Vertical
336.2	-40.35	1.34	16.40	-25.29	-13	-12.29	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-45.13	2.80	27.48	-20.45	-13	-7.45	Horizontal
1673.0	-44.76	2.80	27.48	-20.08	-13	-7.08	Vertical
2509.5	-49.60	2.91	27.70	-24.81	-13	-11.81	Vertical
2509.5	-51.35	2.91	27.70	-26.56	-13	-13.56	Horizontal
179.3	-39.15	1.44	17.04	-23.55	-13	-10.55	Vertical
353.6	-40.04	1.76	17.62	-24.18	-13	-11.18	Horizontal
Test Results for High Channel 844MHz							
1688.0	-53.12	2.82	27.43	-28.51	-13	-15.51	Horizontal
1688.0	-44.04	2.82	27.43	-19.43	-13	-6.43	Vertical
2532.0	-52.24	2.92	27.74	-27.42	-13	-14.42	Vertical
2532.0	-50.55	2.92	27.74	-25.73	-13	-12.73	Horizontal
207.6	-40.67	1.74	17.70	-24.71	-13	-11.71	Vertical
319.7	-43.24	1.41	17.46	-27.18	-13	-14.18	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.

9.4 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	-61.95	5.23	35.81	-31.37	-25	-6.37	Horizontal
5005.0	-59.87	5.23	35.81	-29.29	-25	-4.29	Vertical
7507.5	-62.30	5.67	36.85	-31.12	-25	-6.12	Vertical
7507.5	-63.24	5.67	36.85	-32.06	-25	-7.06	Horizontal
194.1	-49.33	1.73	17.97	-33.09	-25	-8.09	Vertical
405.3	-48.56	1.38	15.11	-34.83	-25	-9.83	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-62.11	5.23	35.82	-31.52	-25	-6.52	Horizontal
5070.0	-61.90	5.23	35.82	-31.31	-25	-6.31	Vertical
7605.0	-63.04	5.67	36.85	-31.86	-25	-6.86	Vertical
7605.0	-61.95	5.67	36.85	-30.77	-25	-5.77	Horizontal
186.5	-46.06	1.77	16.17	-31.65	-25	-6.65	Vertical
277.5	-45.45	1.63	15.21	-31.87	-25	-6.87	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-64.06	5.24	35.83	-33.47	-25	-8.47	Horizontal
5135.0	-61.45	5.24	35.83	-30.86	-25	-5.86	Vertical
7702.5	-62.63	5.68	36.87	-31.44	-25	-6.44	Vertical
7702.5	-63.89	5.68	36.87	-32.70	-25	-7.70	Horizontal
182.1	-49.56	1.58	17.56	-33.58	-25	-8.58	Vertical
417.0	-44.59	1.45	16.58	-29.46	-25	-4.46	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	-62.19	5.23	35.82	-31.60	-25	-6.60	Horizontal
5020.0	-61.92	5.23	35.82	-31.33	-25	-6.33	Vertical
7530.0	-61.96	5.67	36.86	-30.77	-25	-5.77	Vertical
7530.0	-64.66	5.67	36.86	-33.47	-25	-8.47	Horizontal
176.6	-49.56	1.63	15.76	-35.43	-25	-10.43	Vertical
428.7	-48.05	1.71	15.44	-34.32	-25	-9.32	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.48	5.23	35.82	-30.89	-25	-5.89	Horizontal
5070.0	-62.18	5.23	35.82	-31.59	-25	-6.59	Vertical
7605.0	-59.10	5.67	36.85	-27.92	-25	-2.92	Vertical
7605.0	-60.16	5.67	36.85	-28.98	-25	-3.98	Horizontal
176.1	-48.48	1.79	16.84	-33.42	-25	-8.42	Vertical
323.0	-46.01	1.71	17.64	-30.08	-25	-5.08	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-60.78	5.24	35.83	-30.19	-25	-5.19	Horizontal
5120.0	-61.94	5.24	35.83	-31.35	-25	-6.35	Vertical
7680.0	-63.37	5.70	36.88	-32.19	-25	-7.19	Vertical
7680.0	-59.10	5.70	36.88	-27.92	-25	-2.92	Horizontal
177.0	-45.36	1.79	16.84	-30.30	-25	-5.30	Vertical
409.2	-44.07	1.71	17.64	-28.14	-25	-3.14	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	-44.45	2.60	27.20	-19.85	-13	-6.85	Horizontal
1399.4	-48.04	2.60	27.20	-23.44	-13	-10.44	Vertical
2099.1	-51.82	2.85	27.54	-27.13	-13	-14.13	Vertical
2099.1	-50.07	2.85	27.54	-25.38	-13	-12.38	Horizontal
185.3	-37.39	1.49	17.78	-21.10	-13	-8.10	Vertical
248.1	-35.26	1.36	17.33	-19.29	-13	-6.29	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-51.83	2.61	27.28	-27.16	-13	-14.16	Horizontal
1415.0	-53.26	2.61	27.28	-28.59	-13	-15.59	Vertical
2122.5	-49.88	2.87	27.59	-25.16	-13	-12.16	Vertical
2122.5	-50.59	2.87	27.59	-25.87	-13	-12.87	Horizontal
188.6	-38.66	1.73	15.74	-24.65	-13	-11.65	Vertical
345.4	-43.12	1.62	15.79	-28.95	-13	-15.95	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-46.61	2.63	27.28	-21.96	-13	-8.96	Horizontal
1430.6	-45.83	2.63	27.28	-21.18	-13	-8.18	Vertical
2145.9	-51.58	2.88	27.60	-26.86	-13	-13.86	Vertical
2145.9	-50.62	2.88	27.60	-25.90	-13	-12.90	Horizontal
209.0	-43.87	1.61	18.00	-27.48	-13	-14.48	Vertical
246.4	-38.55	1.45	15.49	-24.52	-13	-11.52	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	-44.97	2.61	27.26	-20.32	-13	-7.32	Horizontal
1408.0	-51.72	2.61	27.26	-27.07	-13	-14.07	Vertical
2112.0	-48.18	2.87	27.58	-23.47	-13	-10.47	Vertical
2112.0	-49.75	2.87	27.58	-25.04	-13	-12.04	Horizontal
202.3	-43.88	1.31	16.97	-28.22	-13	-15.22	Vertical
424.0	-43.50	1.65	16.70	-28.45	-13	-15.45	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-50.32	2.61	27.28	-25.65	-13	-12.65	Horizontal
1415.0	-48.64	2.61	27.28	-23.97	-13	-10.97	Vertical
2122.5	-44.97	2.87	27.59	-20.25	-13	-7.25	Vertical
2122.5	-51.13	2.87	27.59	-26.41	-13	-13.41	Horizontal
177.2	-42.24	1.72	17.99	-25.97	-13	-12.97	Vertical
231.2	-43.94	1.73	17.94	-27.73	-13	-14.73	Horizontal
Test Results for High Channel 711MHz							
1422.0	-47.32	2.62	27.28	-22.66	-13	-9.66	Horizontal
1422.0	-53.55	2.62	27.28	-28.89	-13	-15.89	Vertical
2133.0	-49.01	2.87	27.60	-24.28	-13	-11.28	Vertical
2133.0	-50.13	2.87	27.60	-25.40	-13	-12.40	Horizontal
180.8	-39.12	1.58	15.93	-24.77	-13	-11.77	Vertical
328.4	-40.12	1.36	15.59	-25.89	-13	-12.89	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

9.6 LTE BAND 13

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

Test Results for Low Channel 779.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1559.0	-72.24	2.61	27.28	-47.57	-40	-7.57	Horizontal
1559.0	-69.76	2.61	27.28	-45.09	-40	-5.09	Vertical
2338.5	-44.80	2.87	27.59	-20.08	-13	-7.08	Vertical
2338.5	-42.42	2.87	27.59	-17.70	-13	-4.70	Horizontal
120.1	-36.33	1.54	15.61	-22.26	-13	-9.26	Vertical
197.8	-39.41	1.51	15.21	-25.71	-13	-12.71	Horizontal
Test Results For Mid Channel 782MHz							
1564.0	-72.80	2.62	27.30	-48.12	-40	-8.12	Horizontal
1564.0	-69.95	2.62	27.30	-45.27	-40	-5.27	Vertical
2346.0	-42.53	2.87	27.62	-17.78	-13	-4.78	Vertical
2346.0	-41.19	2.87	27.62	-16.44	-13	-3.44	Horizontal
131.2	-34.98	1.65	16.17	-20.46	-13	-7.46	Vertical
267.5	-37.75	1.48	16.88	-22.35	-13	-9.35	Horizontal
Test Results for High Channel 784.5MHz							
1569.0	-72.06	2.66	27.28	-47.44	-40	-7.44	Horizontal
1569.0	-74.80	2.66	27.28	-50.18	-40	-10.18	Vertical
2353.5	-43.05	2.88	27.60	-18.33	-13	-5.33	Vertical
2353.5	-42.00	2.88	27.60	-17.28	-13	-4.28	Horizontal
80.8	-39.72	1.54	16.40	-24.86	-13	-11.86	Vertical
155.6	-38.36	1.43	15.77	-24.02	-13	-11.02	Horizontal

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

Test Results for Channel 782MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1564.0	-70.93	2.62	27.30	-46.25	-40	-6.25	Horizontal
1564.0	-69.02	2.62	27.30	-44.34	-40	-4.34	Vertical
2346.0	-43.01	2.87	27.62	-18.26	-13	-5.26	Vertical
2346.0	-44.56	2.87	27.62	-19.81	-13	-6.81	Horizontal
129.1	-36.01	1.43	17.03	-20.41	-13	-7.41	Vertical
86.9	-37.71	1.62	16.63	-22.70	-13	-9.70	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 17

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

Test Results for Low Channel 706.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1413.0	-50.80	2.61	27.28	-26.13	-13	-13.13	Horizontal
1413.0	-44.17	2.61	27.28	-19.50	-13	-6.50	Vertical
2119.5	-51.34	2.87	27.59	-26.62	-13	-13.62	Vertical
2119.5	-51.38	2.87	27.59	-26.66	-13	-13.66	Horizontal
175.3	-36.37	1.71	16.15	-21.93	-13	-8.93	Vertical
244.8	-37.56	1.41	17.32	-21.65	-13	-8.65	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-48.43	2.62	27.30	-23.75	-13	-10.75	Horizontal
1420.0	-54.00	2.62	27.30	-29.32	-13	-16.32	Vertical
2130.0	-51.50	2.87	27.62	-26.75	-13	-13.75	Vertical
2130.0	-49.08	2.87	27.62	-24.33	-13	-11.33	Horizontal
186.7	-41.86	1.42	15.25	-28.04	-13	-15.04	Vertical
270.1	-40.57	1.36	17.19	-24.74	-13	-11.74	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-44.58	2.66	27.28	-19.96	-13	-6.96	Horizontal
1427.0	-46.64	2.66	27.28	-22.02	-13	-9.02	Vertical
2140.5	-50.72	2.88	27.60	-26.00	-13	-13.00	Vertical
2140.5	-49.80	2.88	27.60	-25.08	-13	-12.08	Horizontal
180.1	-36.19	1.32	17.29	-20.22	-13	-7.22	Vertical
427.1	-37.76	1.72	16.89	-22.59	-13	-9.59	Horizontal

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

Test Results for Low Channel 709MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1418.0	-48.20	2.62	27.30	-23.52	-13	-10.52	Horizontal
1418.0	-46.23	2.62	27.30	-21.55	-13	-8.55	Vertical
2127.0	-48.57	2.87	27.62	-23.82	-13	-10.82	Vertical
2127.0	-50.79	2.87	27.62	-26.04	-13	-13.04	Horizontal
185.5	-35.85	1.35	16.91	-20.29	-13	-7.29	Vertical
431.7	-37.68	1.62	16.31	-22.99	-13	-9.99	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-49.75	2.62	27.30	-25.07	-13	-12.07	Horizontal
1420.0	-48.05	2.62	27.30	-23.37	-13	-10.37	Vertical
2130.0	-46.18	2.87	27.62	-21.43	-13	-8.43	Vertical
2130.0	-49.12	2.87	27.62	-24.37	-13	-11.37	Horizontal
202.7	-41.56	1.51	17.14	-25.93	-13	-12.93	Vertical
382.2	-38.29	1.77	16.88	-23.18	-13	-10.18	Horizontal
Test Results for High Channel 711MHz							
1422.0	-46.21	2.62	27.30	-21.53	-13	-8.53	Horizontal
1422.0	-46.94	2.62	27.30	-22.26	-13	-9.26	Vertical
2133.0	-51.62	2.87	27.62	-26.87	-13	-13.87	Vertical
2133.0	-51.67	2.87	27.62	-26.92	-13	-13.92	Horizontal
194.1	-36.56	1.78	15.95	-22.39	-13	-9.39	Vertical
352.1	-35.27	1.34	17.95	-18.67	-13	-5.67	Horizontal

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

. Margin = Spurious Emission Level - Limit

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

9.8 LTE BAND 41

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

Test Results for Low Channel 2498.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4997.0	-60.70	5.23	35.81	-30.12	-25	-5.12	Horizontal
4997.0	-59.80	5.23	35.81	-29.22	-25	-4.22	Vertical
7495.5	-61.24	5.67	36.85	-30.06	-25	-5.06	Vertical
7495.5	-62.51	5.67	36.85	-31.33	-25	-6.33	Horizontal
435.3	-44.03	1.38	15.98	-29.43	-25	-4.43	Vertical
465.8	-47.05	1.62	15.66	-33.01	-25	-8.01	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-59.31	5.23	35.82	-28.72	-25	-3.72	Horizontal
5186.0	-61.88	5.23	35.82	-31.29	-25	-6.29	Vertical
7779.0	-62.94	5.67	36.85	-31.76	-25	-6.76	Vertical
7779.0	-63.80	5.67	36.85	-32.62	-25	-7.62	Horizontal
510.4	-47.53	1.62	16.17	-32.98	-25	-7.98	Vertical
562.9	-45.65	1.74	17.63	-29.76	-25	-4.76	Horizontal
Test Results for High Channel 2687.5MHz							
5375.0	-64.52	5.24	35.83	-33.93	-25	-8.93	Horizontal
5375.0	-59.28	5.24	35.83	-28.69	-25	-3.69	Vertical
8062.5	-64.49	5.68	36.87	-33.30	-25	-8.30	Vertical
8062.5	-64.20	5.68	36.87	-33.01	-25	-8.01	Horizontal
197.6	-44.15	1.55	15.84	-29.86	-25	-4.86	Vertical
353.1	-44.92	1.51	17.06	-29.37	-25	-4.37	Horizontal

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

Test Results for Low Channel 2506MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5012.0	-61.04	5.23	35.82	-30.45	-25	-5.45	Horizontal
5012.0	-64.83	5.23	35.82	-34.24	-25	-9.24	Vertical
7518.0	-62.49	5.67	36.86	-31.30	-25	-6.30	Vertical
7518.0	-61.88	5.67	36.86	-30.69	-25	-5.69	Horizontal
128.9	-48.80	1.43	15.51	-34.72	-25	-9.72	Vertical
344.8	-46.38	1.40	16.97	-30.81	-25	-5.81	Horizontal
Test Results for Mid Channel 2593MHz							
5186.0	-60.92	5.23	35.82	-30.33	-25	-5.33	Horizontal
5186.0	-59.44	5.23	35.82	-28.85	-25	-3.85	Vertical
7779.0	-61.94	5.67	36.85	-30.76	-25	-5.76	Vertical
7779.0	-59.26	5.67	36.85	-28.08	-25	-3.08	Horizontal
100.8	-47.69	1.77	16.72	-32.74	-25	-7.74	Vertical
263.5	-46.92	1.31	16.99	-31.24	-25	-6.24	Horizontal
Test Results for High Channel 2680MHz							
5360.0	-60.85	5.24	35.83	-30.26	-25	-5.26	Horizontal
5360.0	-63.14	5.24	35.83	-32.55	-25	-7.55	Vertical
8040.0	-61.55	5.70	36.88	-30.37	-25	-5.37	Vertical
8040.0	-60.37	5.70	36.88	-29.19	-25	-4.19	Horizontal
349.9	-47.57	1.70	15.73	-33.54	-25	-8.54	Vertical
110.3	-44.83	1.75	17.33	-29.25	-25	-4.25	Horizontal

9.9 LTE BAND 66

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-45.19	4.02	29.80	-19.41	-13	-6.41	Horizontal
3421.4	-51.41	4.02	29.80	-25.63	-13	-12.63	Vertical
5132.1	-54.58	5.24	35.84	-23.98	-13	-10.98	Vertical
5132.1	-54.82	5.24	35.84	-24.22	-13	-11.22	Horizontal
112.6	-45.09	1.52	15.57	-31.04	-13	-18.04	Vertical
220.5	-44.46	1.33	17.14	-28.65	-13	-15.65	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-51.40	4.03	30.00	-25.43	-13	-12.43	Horizontal
3490.0	-53.76	4.03	30.00	-27.79	-13	-14.79	Vertical
5235.0	-53.85	5.25	35.86	-23.24	-13	-10.24	Vertical
5235.0	-54.21	5.25	35.86	-23.60	-13	-10.60	Horizontal
157.3	-49.46	1.53	17.13	-33.86	-13	-20.86	Vertical
213.1	-52.17	1.41	15.95	-37.63	-13	-24.63	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-50.49	4.05	30.01	-24.53	-13	-11.53	Horizontal
3558.6	-46.22	4.05	30.01	-20.26	-13	-7.26	Vertical
5337.9	-54.46	5.26	35.86	-23.86	-13	-10.86	Vertical
5337.9	-52.38	5.26	35.86	-21.78	-13	-8.78	Horizontal
170.6	-48.87	1.44	15.51	-34.80	-13	-21.80	Vertical
169.0	-54.74	1.78	15.76	-40.76	-13	-27.76	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-48.05	4.02	29.80	-22.27	-13	-9.27	Horizontal
3440.0	-54.24	4.02	29.80	-28.46	-13	-15.46	Vertical
5160.0	-53.07	5.24	35.84	-22.47	-13	-9.47	Vertical
5160.0	-51.44	5.24	35.84	-20.84	-13	-7.84	Horizontal
268.8	-50.13	1.62	17.02	-34.73	-13	-21.73	Vertical
161.4	-51.98	1.32	17.31	-35.99	-13	-22.99	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-45.86	4.03	30.00	-19.89	-13	-6.89	Horizontal
3490.0	-54.16	4.03	30.00	-28.19	-13	-15.19	Vertical
5235.0	-50.74	5.25	35.86	-20.13	-13	-7.13	Vertical
5235.0	-48.02	5.25	35.86	-17.41	-13	-4.41	Horizontal
159.9	-53.61	1.45	15.17	-39.89	-13	-26.89	Vertical
172.1	-50.70	1.48	17.82	-34.36	-13	-21.36	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-50.10	2.91	27.68	-25.33	-13	-12.33	Horizontal
3540.0	-52.60	2.91	27.68	-27.83	-13	-14.83	Vertical
5310.0	-52.58	5.26	35.86	-21.98	-13	-8.98	Vertical
5310.0	-51.11	5.26	35.86	-20.51	-13	-7.51	Horizontal
197.3	-44.77	1.76	16.38	-30.15	-13	-17.15	Vertical
158.5	-52.21	1.43	17.13	-36.51	-13	-23.51	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.

9.10 LTE BAND 71

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

<u>Test Results for Low Channel 665.5MHz</u>							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1331	-48.69	2.61	27.28	-24.02	-13	-11.02	Horizontal
1331	-51.75	2.61	27.28	-27.08	-13	-14.08	Vertical
1996.5	-51.69	2.87	27.59	-26.97	-13	-13.97	Vertical
1996.5	-48.34	2.87	27.59	-23.62	-13	-10.62	Horizontal
<u>Test Results For Mid Channel 680.5MHz</u>							
1361	-48.56	2.62	27.30	-23.88	-13	-10.88	Horizontal
1361	-44.94	2.62	27.30	-20.26	-13	-7.26	Vertical
2041.5	-54.19	2.87	27.62	-29.44	-13	-16.44	Vertical
2041.5	-52.72	2.87	27.62	-27.97	-13	-14.97	Horizontal
<u>Test Results for High Channel 695.5MHz</u>							
1391	-49.55	2.66	27.28	-24.93	-13	-11.93	Horizontal
1391	-53.07	2.66	27.28	-28.45	-13	-15.45	Vertical
2086.5	-53.76	2.88	27.60	-29.04	-13	-16.04	Vertical
2086.5	-50.02	2.88	27.60	-25.30	-13	-12.30	Horizontal

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

Test Results for Low Channel 673MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1346	-49.13	2.62	27.30	-24.45	-13	-11.45	Horizontal
1346	-52.97	2.62	27.30	-28.29	-13	-15.29	Vertical
2019	-51.36	2.87	27.62	-26.61	-13	-13.61	Vertical
2019	-53.65	2.87	27.62	-28.90	-13	-15.90	Horizontal
Test Results for Mid Channel 683MHz							
1366	-47.62	2.62	27.30	-22.94	-13	-9.94	Horizontal
1366	-52.87	2.62	27.30	-28.19	-13	-15.19	Vertical
2049	-53.73	2.87	27.62	-28.98	-13	-15.98	Vertical
2049	-47.07	2.87	27.62	-22.32	-13	-9.32	Horizontal
Test Results for High Channel 688MHz							
1376	-45.53	2.62	27.30	-20.85	-13	-7.85	Horizontal
1376	-54.31	2.62	27.30	-29.63	-13	-16.63	Vertical
2064	-51.09	2.87	27.62	-26.34	-13	-13.34	Vertical
2064	-52.79	2.87	27.62	-28.04	-13	-15.04	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

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 34V, Normal, DC 3.8V and High voltage, DC 4.2V.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

- ☐ LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66
- LTE Band 71

RESULTS

See the following pages.

10.1 LTE BAND 2

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1880	13.1	0.006984	2.5
3.8	1880	13.5	0.007177	2.5
4.2	1880	13.6	0.007244	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.6	0.006695	2.5
Extreme (50C)	1880	12.0	0.006401	2.5
Extreme (40C)	1880	14.1	0.007506	2.5
Extreme (30C)	1880	13.0	0.006932	2.5
Extreme (10C)	1880	14.1	0.007504	2.5
Extreme (0C)	1880	11.8	0.006299	2.5
Extreme (-10C)	1880	12.6	0.006718	2.5
Extreme (-20C)	1880	14.1	0.007509	2.5
Extreme (-30C)	1880	15.1	0.008011	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1880	10.0	0.005341	2.5
3.8	1880	8.8	0.004655	2.5
4.2	1880	8.1	0.004312	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.9	0.005273	2.5
Extreme (50C)	1880	8.8	0.004678	2.5
Extreme (40C)	1880	7.7	0.004104	2.5
Extreme (30C)	1880	8.9	0.004745	2.5
Extreme (10C)	1880	9.1	0.004822	2.5
Extreme (0C)	1880	7.8	0.004161	2.5
Extreme (-10C)	1880	9.3	0.004922	2.5
Extreme (-20C)	1880	8.9	0.004713	2.5
Extreme (-30C)	1880	8.4	0.004450	2.5

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

10.2 LTE BAND 4

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1732.5	9.2	0.005319	2.5
3.8	1732.5	9.0	0.005211	2.5
4.2	1732.5	8.1	0.004656	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.1	0.004672	2.5
Extreme (50C)	1732.5	8.6	0.004939	2.5
Extreme (40C)	1732.5	7.6	0.004383	2.5
Extreme (30C)	1732.5	5.8	0.003333	2.5
Extreme (10C)	1732.5	7.3	0.004239	2.5
Extreme (0C)	1732.5	9.2	0.005294	2.5
Extreme (-10C)	1732.5	8.0	0.004594	2.5
Extreme (-20C)	1732.5	7.1	0.004124	2.5
Extreme (-30C)	1732.5	8.9	0.005131	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1732.5	9.7	0.005604	2.5
3.8	1732.5	9.2	0.005295	2.5
4.2	1732.5	7.9	0.004542	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	10.0	0.005784	2.5
Extreme (50C)	1732.5	9.3	0.005393	2.5
Extreme (40C)	1732.5	8.3	0.004778	2.5
Extreme (30C)	1732.5	8.8	0.005102	2.5
Extreme (10C)	1732.5	9.3	0.005385	2.5
Extreme (0C)	1732.5	7.7	0.004427	2.5
Extreme (-10C)	1732.5	9.3	0.005350	2.5
Extreme (-20C)	1732.5	9.2	0.005313	2.5
Extreme (-30C)	1732.5	8.4	0.004841	2.5

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

10.3 LTE BAND 5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	836.5	5.6	0.006720	2.5
3.8	836.5	6.2	0.007419	2.5
4.2	836.5	4.4	0.005290	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.5	0.007822	2.5
Extreme (50C)	836.5	6.1	0.007307	2.5
Extreme (40C)	836.5	5.9	0.007010	2.5
Extreme (30C)	836.5	6.8	0.008136	2.5
Extreme (10C)	836.5	5.7	0.006860	2.5
Extreme (0C)	836.5	5.1	0.006124	2.5
Extreme (-10C)	836.5	5.8	0.006893	2.5
Extreme (-20C)	836.5	5.8	0.006901	2.5
Extreme (-30C)	836.5	6.7	0.007993	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	836.5	5.6	0.006689	2.5
3.8	836.5	7.1	0.008445	2.5
4.2	836.5	4.6	0.005453	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.2	0.007415	2.5
Extreme (50C)	836.5	6.3	0.007537	2.5
Extreme (40C)	836.5	6.3	0.007573	2.5
Extreme (30C)	836.5	6.7	0.007994	2.5
Extreme (10C)	836.5	5.3	0.006365	2.5
Extreme (0C)	836.5	5.2	0.006220	2.5
Extreme (-10C)	836.5	5.1	0.006099	2.5
Extreme (-20C)	836.5	5.8	0.006947	2.5
Extreme (-30C)	836.5	6.3	0.007552	2.5

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

10.4 LTE BAND 7

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2535	10.0	0.003943	2.5
3.8	2535	8.6	0.003395	2.5
4.2	2535	8.2	0.003218	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	9.0	0.003542	2.5
Extreme (50C)	2535	8.4	0.003328	2.5
Extreme (40C)	2535	8.0	0.003143	2.5
Extreme (30C)	2535	8.5	0.003349	2.5
Extreme (10C)	2535	8.3	0.003282	2.5
Extreme (0C)	2535	8.7	0.003417	2.5
Extreme (-10C)	2535	9.1	0.003596	2.5
Extreme (-20C)	2535	8.7	0.003415	2.5
Extreme (-30C)	2535	8.8	0.003477	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2535	6.9	0.002722	2.5
3.8	2535	5.9	0.002345	2.5
4.2	2535	5.6	0.002190	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	6.9	0.002722	2.5
Extreme (50C)	2535	5.4	0.002143	2.5
Extreme (40C)	2535	5.2	0.002070	2.5
Extreme (30C)	2535	6.9	0.002714	2.5
Extreme (10C)	2535	5.4	0.002124	2.5
Extreme (0C)	2535	5.0	0.001961	2.5
Extreme (-10C)	2535	4.7	0.001867	2.5
Extreme (-20C)	2535	6.3	0.002487	2.5
Extreme (-30C)	2535	5.3	0.002085	2.5

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

10.5 LTE BAND 12

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	707.5	8.6	0.012187	2.5
3.8	707.5	9.7	0.013754	2.5
4.2	707.5	8.3	0.011778	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.8	0.012411	2.5
Extreme (50C)	707.5	7.8	0.011018	2.5
Extreme (40C)	707.5	7.9	0.011152	2.5
Extreme (30C)	707.5	8.7	0.012288	2.5
Extreme (10C)	707.5	7.8	0.011048	2.5
Extreme (0C)	707.5	9.2	0.012940	2.5
Extreme (-10C)	707.5	8.5	0.012072	2.5
Extreme (-20C)	707.5	8.9	0.012521	2.5
Extreme (-30C)	707.5	8.3	0.011662	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	707.5	7.7	0.010822	2.5
3.8	707.5	8.3	0.011724	2.5
4.2	707.5	7.7	0.010877	2.5

Frequency error vs. Temperature

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

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

10.6 LTE BAND 13

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 13 QPSK, (CH 23230 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	782	12.2	0.017186	2.5
3.8	782	14.1	0.019866	2.5
4.2	782	13.5	0.018967	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 13 QPSK, (CH 23230 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	782	14.3	0.020124	2.5
Extreme (50C)	782	13.3	0.018663	2.5
Extreme (40C)	782	14.9	0.020974	2.5
Extreme (30C)	782	14.4	0.020229	2.5
Extreme (10C)	782	14.0	0.019743	2.5
Extreme (0C)	782	14.4	0.020251	2.5
Extreme (-10C)	782	14.3	0.020181	2.5
Extreme (-20C)	782	13.8	0.019399	2.5
Extreme (-30C)	782	13.9	0.019615	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 13 16QAM, (CH 23230 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	782	12.9	0.018191	2.5
3.8	782	13.8	0.019382	2.5
4.2	782	13.6	0.019222	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 13 QPSK, (CH 23230 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	782	13.0	0.018366	2.5
Extreme (50C)	782	11.5	0.016219	2.5
Extreme (40C)	782	13.7	0.019295	2.5
Extreme (30C)	782	13.7	0.019341	2.5
Extreme (10C)	782	13.4	0.018912	2.5
Extreme (0C)	782	12.0	0.016838	2.5
Extreme (-10C)	782	13.0	0.018364	2.5
Extreme (-20C)	782	14.5	0.020402	2.5
Extreme (-30C)	782	15.0	0.021147	2.5

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

10.7 LTE BAND 17

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	710.0	9.7	0.013618	2.5
3.8	710.0	9.0	0.012663	2.5
4.2	710.0	7.8	0.011005	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	10.2	0.014299	2.5
Extreme (50C)	710.0	8.4	0.011847	2.5
Extreme (40C)	710.0	7.9	0.011085	2.5
Extreme (30C)	710.0	8.7	0.012273	2.5
Extreme (10C)	710.0	9.1	0.012853	2.5
Extreme (0C)	710.0	7.8	0.010995	2.5
Extreme (-10C)	710.0	8.6	0.012171	2.5
Extreme (-20C)	710.0	8.8	0.012372	2.5
Extreme (-30C)	710.0	7.6	0.010758	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	710.0	10.5	0.014762	2.5
3.8	710.0	9.3	0.013147	2.5
4.2	710.0	7.9	0.011183	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.7	0.013629	2.5
Extreme (50C)	710.0	9.0	0.012661	2.5
Extreme (40C)	710.0	8.0	0.011198	2.5
Extreme (30C)	710.0	8.5	0.011923	2.5
Extreme (10C)	710.0	7.8	0.011017	2.5
Extreme (0C)	710.0	8.4	0.011788	2.5
Extreme (-10C)	710.0	9.6	0.013586	2.5
Extreme (-20C)	710.0	8.9	0.012569	2.5
Extreme (-30C)	710.0	8.5	0.012023	2.5

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

10.8 LTE BAND 41

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2595	6.4	0.002474	2.5
3.8	2595	6.7	0.002572	2.5
4.2	2595	7.8	0.003024	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2595	5.7	0.002205	2.5
Extreme (50C)	2595	7.5	0.002878	2.5
Extreme (40C)	2595	6.7	0.002591	2.5
Extreme (30C)	2595	7.2	0.002789	2.5
Extreme (10C)	2595	7.5	0.002901	2.5
Extreme (0C)	2595	6.1	0.002359	2.5
Extreme (-10C)	2595	5.6	0.002154	2.5
Extreme (-20C)	2595	6.9	0.002664	2.5
Extreme (-30C)	2595	5.9	0.002263	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2595	8.5	0.003278	2.5
3.8	2595	7.8	0.003012	2.5
4.2	2595	9.4	0.003634	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2595	8.7	0.003351	2.5
Extreme (50C)	2595	8.2	0.003174	2.5
Extreme (40C)	2595	8.2	0.003174	2.5
Extreme (30C)	2595	7.5	0.002900	2.5
Extreme (10C)	2595	8.2	0.003142	2.5
Extreme (0C)	2595	6.4	0.002472	2.5
Extreme (-10C)	2595	8.9	0.003442	2.5
Extreme (-20C)	2595	8.0	0.003095	2.5
Extreme (-30C)	2595	5.9	0.002282	2.5

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

10.9 LTE BAND 66

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1745	7.2	0.003915	2.5
3.8	1745	7.7	0.003812	2.5
4.2	1745	7.8	0.004172	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	6.2	0.002985	2.5
Extreme (50C)	1745	7.9	0.004317	2.5
Extreme (40C)	1745	6.7	0.003454	2.5
Extreme (30C)	1745	7.4	0.003974	2.5
Extreme (10C)	1745	8.8	0.004509	2.5
Extreme (0C)	1745	6.5	0.003463	2.5
Extreme (-10C)	1745	6.1	0.003313	2.5
Extreme (-20C)	1745	7.0	0.003852	2.5
Extreme (-30C)	1745	6.3	0.003423	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	1745	8.4	0.00462	2.5
3.8	1745	8.3	0.004436	2.5
4.2	1745	9.4	0.005194	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	9.5	0.005061	2.5
Extreme (50C)	1745	8.0	0.004447	2.5
Extreme (40C)	1745	8.7	0.004757	2.5
Extreme (30C)	1745	8.7	0.004539	2.5
Extreme (10C)	1745	8.1	0.004636	2.5
Extreme (0C)	1745	6.8	0.003824	2.5
Extreme (-10C)	1745	8.7	0.004745	2.5
Extreme (-20C)	1745	9.4	0.004918	2.5
Extreme (-30C)	1745	6.2	0.003037	2.5

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

10.10 LTE BAND 71

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	683	8.6	0.01259	2.5
3.8	683	13.4	0.01962	2.5
4.2	683	13	0.01903	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	683	7.7	0.01127	2.5
Extreme (50C)	683	5.2	0.00761	2.5
Extreme (40C)	683	5.1	0.00747	2.5
Extreme (30C)	683	5	0.00732	2.5
Extreme (10C)	683	6.6	0.00966	2.5
Extreme (0C)	683	4.8	0.00703	2.5
Extreme (-10C)	683	9.8	0.01435	2.5
Extreme (-20C)	683	7.2	0.01054	2.5
Extreme (-30C)	683	7.3	0.01069	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	683	12.3	0.01801	2.5
3.8	683	14.2	0.02079	2.5
4.2	683	11.2	0.01640	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	683	7.7	0.01127	2.5
Extreme (50C)	683	4.7	0.00688	2.5
Extreme (40C)	683	5.9	0.00864	2.5
Extreme (30C)	683	5.2	0.00761	2.5
Extreme (10C)	683	5.2	0.00761	2.5
Extreme (0C)	683	6.3	0.00922	2.5
Extreme (-10C)	683	9.4	0.01376	2.5
Extreme (-20C)	683	8.2	0.01201	2.5
Extreme (-30C)	683	8.4	0.01230	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.

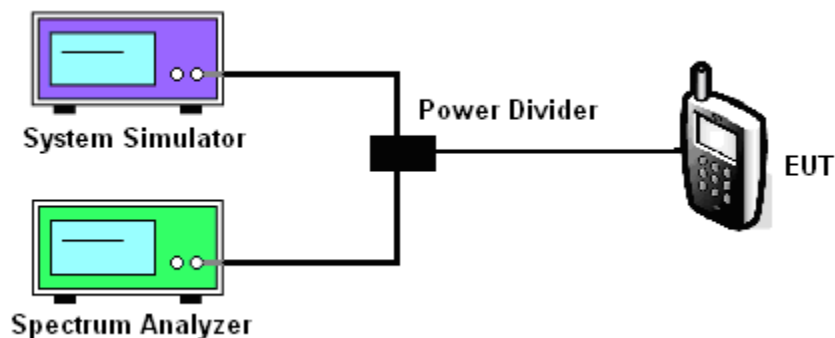
11.2 Measuring Instruments

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 2/4/5/7/12/13/17/41/66/71
☐

Test data reference attachment.

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