

FCC CFR47 PART 22H, 24E, 27, 90S CERTIFICATION TEST REPORT FCC ID: 2BAK2-F106PRO

Product: smartphone

Trade Mark: 

Model Number: F106 Pro

Family Model: F106, F106 P, F106 PLUS, F106 S, F106 +

Report No.: S24020200807006

Prepared for

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

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
1/F, Building E, Fenda Science Park, Sanwei Community,
Xixiang Street Bao'an District, Shenzhen 518126 P.R. China
Tel. 400-800-6106, 0755-2320 0050, 0755-2320 0090
Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name..... : Shenzhen Qichang Intelligent Technology Co., Ltd

Address : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street, Longgang , Shenzhen, China

Manufacturer's Name..... : Shenzhen Qichang Intelligent Technology Co., Ltd

Address : Room 510, Building 7, Yunli Intelligent Park, No. 7, Bantian Street, Longgang , Shenzhen, China

Product name : smartphone

Model and/or type reference : F106 Pro

Family Model: F106, F106 P, F106 PLUS, F106 S, F106 +

Test sample number S240202008007

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

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

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

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

Date of Test

Date (s) of performance of tests Feb 05, 2024 ~ Mar 14, 2024

Date of Issue Mar 15, 2024

Test Result **Pass**

Prepared : 
By : Allen Liu
(Project Engineer)

Reviewed : 
By : Aaron Cheng
(Supervisor)

Approved : 
By : Alex Li
(Manager)

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	6
1.1 PRODUCT DESCRIPTION	6
1.2 RELATED SUBMITTAL(S) / GRANT (S).....	8
1.3 TEST METHODOLOGY	8
1.4 TEST FACILITY	8
MEASUREMENT UNCERTAINTY	8
1.5 SPECIAL ACCESSORIES	8
1.6 WORST-CASE CONFIGURATION AND MODE	8
2. SYSTEM TEST CONFIGURATION	9
2.1 EUT CONFIGURATION	9
2.2 EUT EXERCISE	9
2.3 CONFIGURATION OF EUT SYSTEM	9
2.4 TEST SETUP	10
3. TEST AND MEASUREMENT EQUIPMENT	11
4. OUTPUT POWER.....	13
4.1 OUTPUT POWER MEASUREMENT	13
6. BANDEDGE AND EMISSION MASK.....	16
7. OUT OF BAND EMISSIONS	17
7.1 MEASUREMENT METHOD	18
8. RADIATED MEASUREMENT	19
8.1. RADIATED POWER (ERP & EIRP)	19
8.2 LTE BAND 2	20
8.3 LTE BAND 4	24
8.4 LTE BAND 5	28
8.5 LTE BAND 7	30

8.6 LTE BAND 12	32
8.7 LTE BAND 17	34
8.8 LTE BAND 25	36
8.9 LTE BAND 26 A	40
8.10 LTE BAND 26B.....	42
8.11 LTE BAND 41	45
8.12 LTE BAND 66	47
9. SPURIOUS RADIATION EMISSION	51
9.1 LTE BAND 2	53
9.2 LTE BAND 4	55
9.3 LTE BAND 5	57
9.4 LTE BAND 7	59
9.5 LTE BAND 12	61
9.6 LTE BAND 17	63
9.7 LTE BAND 25	65
9.8 LTE BAND 26	67
9.9 LTE BAND 41	71
9.10 LTE BAND 66	73
10. FREQUENCY STABILITY	75
10.1 LTE BAND 2	76
10.2 LTE BAND 4	78
10.3 LTE BAND 5	80
10.4 LTE BAND 7	82
10.5 LTE BAND 12	84
10.6 LTE BAND 17	86
10.7 LTE BAND 25	88
10.8 LTE BAND 26	90
10.9 LTE BAND 41	94
10.10 LTE BAND 66	96

11. PEAK-TO-AVERAGE RATIO.....	98
11.1 Description of the PAR Measurement.....	98
11.2 Measuring Instruments.....	98
11.3 Test Procedures	98
11.4 Test Setup	98

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	smartphone
Trade Mark	
Model Name	F106 Pro
Family Model	F106, F106 P, F106 PLUS, F106 S, F106 +
Model Difference	All models are the same circuit and RF module, except the model name.
FCC ID:	2BAK2-F106PRO
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 12, 17, 25, 26, 66 LTE TDD Band 41
Frequency Range:	LTE FDD Band 2 Uplink: 1850MHz-1910MHz, Downlink: 1930MHz-1990MHz; LTE FDD Band 4 Uplink: 1710MHz-1755MHz, Downlink: 2110MHz-2155MHz; LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE-FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE FDD Band 12 Uplink: 699MHz-716MHz, Downlink: 729MHz-746MHz; LTE FDD Band 17 Uplink: 704MHz-716MHz, Downlink: 734MHz-746MHz; LTE FDD Band 25 Uplink: 1850MHz-1915MHz, Downlink: 1930MHz-1995MHz; LTE FDD Band 26 Uplink: 814MHz-849MHz, Downlink: 859MHz-894MHz; LTE TDD Band 41 Uplink: 2496MHz-2690MHz LTE FDD Band 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM
Antenna:	PIFA Antenna
Antenna gain:	1.2 dBi
Power Supply:	DC 3.85V/12000mAh from battery or DC 5V from Adapter.
Adapter:	Model: XY-PD030C01 Input: 100-240V~50/60Hz 1A Max

	Output USB-C: 5V---3A, 9V---3A, 12V---2.5A 15V---2A, 20V---1.5A 30W
Extreme Vol. Limits:	DC 3.4V to DC 4.4V (Nominal DC 3.85V) (Note 1)
HW Version	G2306D-MD-V1.1-20231230
SW Version	FOSSiBOT_F106_Pro_F
** Note1: The High Voltage 4.4V 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: 2BAK2-F106PRO** filing to comply with the FCC Part 22H&24E &27&90S.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2, Band 4, Band 5, Band 7, Band 12, Band 17, Band 25, Band 26,Band 41, Band 66.

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

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

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

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

2.2 EUT EXERCISE

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

2.3 CONFIGURATION OF EUT SYSTEM

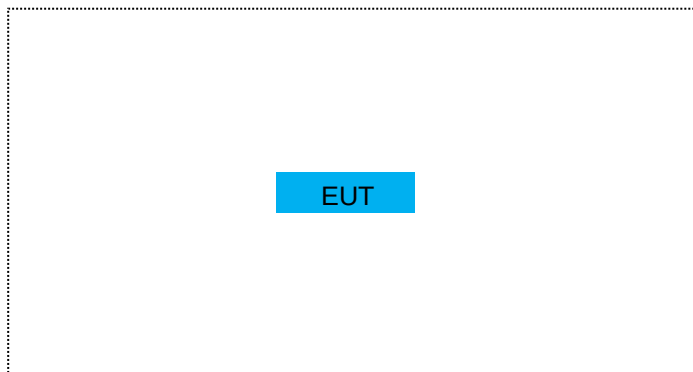
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	smartphone	F106 Pro	FCC ID: 2BAK2-F106PRO	EUT

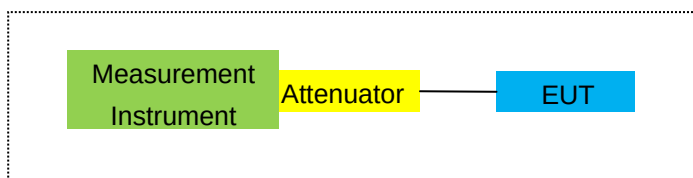
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

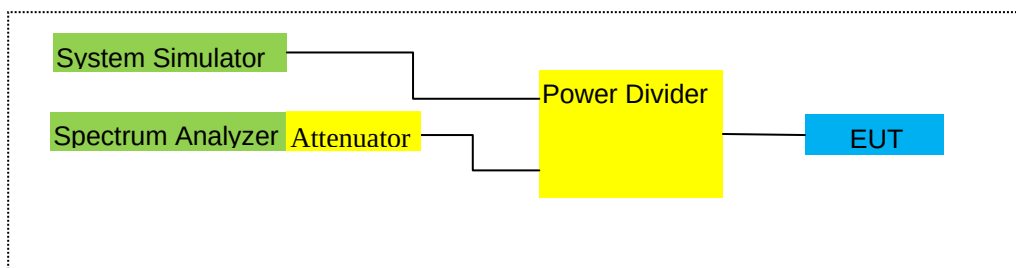
For Radiated Test Cases



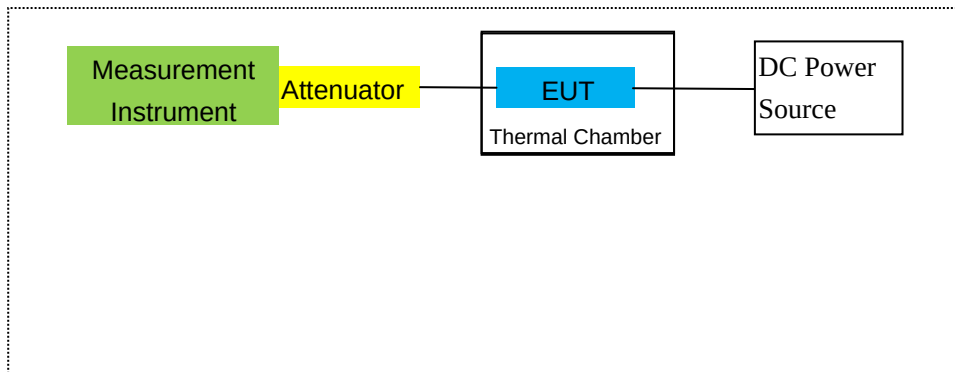
For Conducted Output Power



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	2023.05.29	2024.05.28	1 year
2	Test Receiver	R&S	ESPI	101318	2023.03.27	2024.03.26	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2023.03.27	2024.03.26	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.06	2026.05.05	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2023.03.27	2024.03.26	1 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2023.05.29	2024.05.28	1 year
7	Amplifier	EM	EM-30180	060538	2023.05.29	2024.05.28	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2023.03.27	2024.03.26	1 year
9	Power Meter	R&S	NRVS	100696	2023.05.29	2024.05.28	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2023.03.27	2024.03.26	1 year
11	Test Cable	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2023.03.27	2024.03.26	1 year
15	LISN	R&S	ENV216	101313	2023.03.27	2024.03.26	1 year
16	LISN	EMCO	3816/2	00042990	2023.03.27	2024.03.26	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2023.03.27	2024.03.26	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2023.03.27	2024.03.26	1 year
19	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
20	Test Cable	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
21	Test Cable	N/A	C03	N/A	2023.05.06	2026.05.05	3 year
22	Attenuator	MCE	24-10-34	BN9258	2023.03.27	2024.03.26	1 year
23	Spectrum Analyzer	agilent	e4440a	us44300399	2023.03.27	2024.03.26	1 year
24	test receiver	R&S	ESCI	a0304218	2023.03.27	2024.03.26	1 year
25	Communication Tester	R&S	CMU200	A0304247	2023.05.29	2024.05.28	1 year

26	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2023.03.27	2024.03.26	1 year
27	DC Power Source	N/A	PS-6005D	20170402923	2023.05.06	2026.05.05	3 year
28	MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2023.05.29	2024.05.28	1 year
29	Communication Tester	R&S	CMW500	148500	2023.05.29	2024.05.28	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 Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41
- LTE Band 66

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) and §90.691

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 Band2/4/5/7/12/17/25/26/41/66

RESULTS

Test data reference attachment.

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

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m) and §90.691

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 2/4/5/7/12/17/25/26/41/66

7.1 MEASUREMENT METHOD

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

Test data reference attachment.

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

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) and §90.635

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 2/4/5/7/12/17/25/26/41/66

RESULTS

Pass

8.2 LTE BAND 2

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
							Average		
							(mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-2.63	3.76	28.24	21.85	153.109	Horizontal	Pass
1880		-2.44	3.91	28.22	21.87	153.815	Horizontal	Pass	
1909.3		-2.35	3.93	28.20	21.92	155.597	Horizontal	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-2.69	3.77	28.23	21.77	150.314	Horizontal	Pass
1880		-2.54	3.91	28.24	21.79	151.008	Horizontal	Pass	
1908.5		-2.41	3.94	28.25	21.90	154.882	Horizontal	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-2.58	3.77	28.31	21.96	157.036	Horizontal	Pass
1880		-2.20	3.91	28.22	22.11	162.555	Horizontal	Pass	
1907.5		-2.13	3.94	28.20	22.13	163.305	Horizontal	Pass	
10.0MHz Band QPSK	1/#Mid	1855	-2.44	3.79	28.33	22.10	162.181	Horizontal	Pass
1880		-2.14	3.95	28.22	22.13	163.305	Horizontal	Pass	
1905		-2.03	3.97	28.19	22.19	165.577	Horizontal	Pass	
15.0MHz Band QPSK	1/#Mid	1857.5	-2.40	3.79	28.34	22.15	164.059	Horizontal	Pass
1880		-2.19	3.95	28.22	22.08	161.436	Horizontal	Pass	
1902.5		-2.05	3.97	28.18	22.16	164.437	Horizontal	Pass	
20.0MHz Band QPSK	1/#Mid	1860	-2.39	3.81	28.35	22.15	164.059	Horizontal	Pass
1880		-2.06	3.96	28.22	22.20	165.959	Horizontal	Pass	
1900		-2.00	4.00	28.16	22.16	164.437	Horizontal	Pass	
1.4MHz Band QPSK	1/#Mid	1850.7	-3.80	3.76	28.24	20.68	116.950	Vertical	Pass
1880		-3.26	3.91	28.22	21.05	127.350	Vertical	Pass	
1909.3		-3.46	3.93	28.20	20.81	120.504	Vertical	Pass	
3.0MHz Band QPSK	1/#Mid	1851.5	-2.98	3.77	28.23	21.48	140.605	Vertical	Pass
1880		-3.04	3.91	28.24	21.29	134.586	Vertical	Pass	
1908.5		-3.52	3.94	28.25	20.79	119.950	Vertical	Pass	
5.0MHz Band QPSK	1/#Mid	1852.5	-3.76	3.77	28.31	20.78	119.674	Vertical	Pass
1880		-3.22	3.91	28.22	21.09	128.529	Vertical	Pass	
1907.5		-3.17	3.94	28.20	21.09	128.529	Vertical	Pass	
10.0MHz Band QPSK	1/#Mid	1855	-3.92	3.79	28.33	20.62	115.345	Vertical	Pass
1880		-2.96	3.95	28.22	21.31	135.207	Vertical	Pass	
1905		-2.80	3.97	28.19	21.42	138.676	Vertical	Pass	

15.0MHz	1/#Mid	1857.5	-3.66	3.79	28.34	20.89	122.744	Vertical	Pass
Band		1880	-3.60	3.95	28.22	20.67	116.681	Vertical	Pass
QPSK		1902.5	-3.56	3.97	28.18	20.65	116.145	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.00	3.81	28.35	21.54	142.561	Vertical	Pass
Band		1880	-3.52	3.96	28.22	20.74	118.577	Vertical	Pass
QPSK		1900	-3.41	4.00	28.16	20.75	118.850	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

Radiated Power (EIRP) for Band 2									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
						Average (dBm)	Average		
							(mW)		
1.4MHz Band 16 QAM	1/#Mid	1850.7	-3.75	3.76	28.24	20.73	118.304	Horizontal	Pass
		1880	-3.22	3.91	28.22	21.09	128.529	Horizontal	Pass
		1909.3	-3.15	3.93	28.20	21.12	129.420	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-3.25	3.77	28.23	21.21	132.130	Horizontal	Pass
		1880	-3.33	3.91	28.24	21.00	125.893	Horizontal	Pass
		1908.5	-3.54	3.94	28.25	20.77	119.399	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-3.19	3.77	28.31	21.35	136.458	Horizontal	Pass
		1880	-3.10	3.91	28.22	21.21	132.130	Horizontal	Pass
		1907.5	-2.78	3.94	28.20	21.48	140.605	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-3.24	3.79	28.33	21.30	134.896	Horizontal	Pass
		1880	-3.23	3.95	28.22	21.04	127.057	Horizontal	Pass
		1905	-2.70	3.97	28.19	21.52	141.906	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-3.22	3.79	28.34	21.33	135.831	Horizontal	Pass
		1880	-3.01	3.95	28.22	21.26	133.660	Horizontal	Pass
		1902.5	-2.97	3.97	28.18	21.24	133.045	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-3.11	3.81	28.35	21.43	138.995	Horizontal	Pass
		1880	-2.81	3.96	28.22	21.45	139.637	Horizontal	Pass
		1900	-2.63	4.00	28.16	21.53	142.233	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-4.32	3.76	28.24	20.16	103.753	Vertical	Pass
		1880	-4.24	3.91	28.22	20.07	101.625	Vertical	Pass
		1909.3	-4.03	3.93	28.20	20.24	105.682	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-4.16	3.77	28.23	20.30	107.152	Vertical	Pass
		1880	-3.87	3.91	28.24	20.46	111.173	Vertical	Pass
		1908.5	-4.49	3.94	28.25	19.82	95.940	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-4.10	3.77	28.31	20.44	110.662	Vertical	Pass
		1880	-3.92	3.91	28.22	20.39	109.396	Vertical	Pass
		1907.5	-4.47	3.94	28.20	19.79	95.280	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-4.50	3.79	28.33	20.04	100.925	Vertical	Pass
		1880	-4.37	3.95	28.22	19.90	97.724	Vertical	Pass
		1905	-4.37	3.97	28.19	19.85	96.605	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-4.86	3.79	28.34	19.69	93.111	Vertical	Pass
		1880	-4.49	3.95	28.22	19.78	95.060	Vertical	Pass
		1902.5	-4.44	3.97	28.18	19.77	94.842	Vertical	Pass

20.0MHz		1860	-4.41	3.81	28.35	20.13	103.039	Vertical	Pass
Band 16	1/#Mid	1880	-4.36	3.96	28.22	19.90	97.724	Vertical	Pass
QAM		1900	-4.04	4.00	28.16	20.12	102.802	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.3 LTE BAND 4

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss	Antenna Factor	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)	(dBm)	(dB)	Average (dBm)	Average (mW)		
1.4MHz Band QPSK	1/#Mid	1710.7	-2.54	3.12	27.58	21.92	155.597	Horizontal	Pass
		1732.5	-2.53	3.27	27.61	21.81	151.705	Horizontal	Pass
		1754.3	-2.51	3.29	27.63	21.83	152.405	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-2.71	3.13	27.61	21.77	150.314	Horizontal	Pass
		1732.5	-2.63	3.27	27.61	21.71	148.252	Horizontal	Pass
		1753.5	-2.55	3.30	27.62	21.77	150.314	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-2.48	3.13	27.63	22.02	159.221	Horizontal	Pass
		1732.5	-2.38	3.27	27.61	21.96	157.036	Horizontal	Pass
		1752.5	-2.26	3.30	27.60	22.04	159.956	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1715	-2.42	3.15	27.64	22.07	161.065	Horizontal	Pass
		1732.5	-2.19	3.31	27.61	22.11	162.555	Horizontal	Pass
		1750	-2.21	3.33	27.59	22.05	160.325	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-2.43	3.15	27.65	22.07	161.065	Horizontal	Pass
		1732.5	-2.27	3.31	27.61	22.03	159.588	Horizontal	Pass
		1747.5	-2.21	3.33	27.57	22.03	159.588	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1720	-2.37	3.17	27.66	22.12	162.930	Horizontal	Pass
		1732.5	-2.20	3.32	27.61	22.09	161.808	Horizontal	Pass
		1745	-2.14	3.36	27.56	22.06	160.694	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-3.34	3.12	27.58	21.12	129.420	Vertical	Pass
		1732.5	-3.72	3.27	27.61	20.62	115.345	Vertical	Pass
		1754.3	-3.32	3.29	27.63	21.02	126.474	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-3.24	3.13	27.61	21.24	133.045	Vertical	Pass
		1732.5	-2.77	3.27	27.61	21.57	143.549	Vertical	Pass
		1753.5	-3.61	3.30	27.62	20.71	117.761	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-3.10	3.13	27.63	21.40	138.038	Vertical	Pass
		1732.5	-2.94	3.27	27.61	21.40	138.038	Vertical	Pass
		1752.5	-3.17	3.30	27.60	21.13	129.718	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1715	-3.67	3.15	27.64	20.82	120.781	Vertical	Pass
		1732.5	-3.16	3.31	27.61	21.14	130.017	Vertical	Pass
		1750	-3.34	3.33	27.59	20.92	123.595	Vertical	Pass

15.0MHz		1717.5	-3.87	3.15	27.65	20.63	115.611	Vertical	Pass
Band	1/#Mid	1732.5	-3.44	3.31	27.61	20.86	121.899	Vertical	Pass
QPSK		1747.5	-3.60	3.33	27.57	20.64	115.878	Vertical	Pass
20.0MHz		1720	-3.83	3.17	27.66	20.66	116.413	Vertical	Pass
Band	1/#Mid	1732.5	-2.78	3.32	27.61	21.51	141.579	Vertical	Pass
QPSK		1745	-3.39	3.36	27.56	20.81	120.504	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

Radiated Power (EIRP) for Band 4									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable	Antenna	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	Loss	Factor	Average	Average	Of Max. ERP	
				(dBm)	(dB)	(dBm)	(mW)		
1.4MHz	1/#Mid	1710.7	-3.35	3.12	27.58	21.11	129.122	Horizontal	Pass
Band 16		1732.5	-3.20	3.27	27.61	21.14	130.017	Horizontal	Pass
QAM		1754.3	-3.20	3.29	27.63	21.14	130.017	Horizontal	Pass
3.0MHz	1/#Mid	1711.5	-3.29	3.13	27.61	21.19	131.522	Horizontal	Pass
Band 16		1732.5	-3.42	3.27	27.61	20.92	123.595	Horizontal	Pass
QAM		1753.5	-3.64	3.30	27.62	20.68	116.950	Horizontal	Pass
5.0MHz	1/#Mid	1712.5	-3.12	3.13	27.63	21.38	137.404	Horizontal	Pass
Band 16		1732.5	-3.08	3.27	27.61	21.26	133.660	Horizontal	Pass
QAM		1752.5	-2.77	3.30	27.60	21.53	142.233	Horizontal	Pass
10.0MHz	1/#Mid	1715	-3.19	3.15	27.64	21.30	134.896	Horizontal	Pass
Band 16		1732.5	-3.38	3.31	27.61	20.92	123.595	Horizontal	Pass
QAM		1750	-2.76	3.33	27.59	21.50	141.254	Horizontal	Pass
15.0MHz	1/#Mid	1717.5	-2.99	3.15	27.65	21.51	141.579	Horizontal	Pass
Band 16		1732.5	-3.05	3.31	27.61	21.25	133.352	Horizontal	Pass
QAM		1747.5	-3.07	3.33	27.57	21.17	130.918	Horizontal	Pass
20.0MHz	1/#Mid	1720	-2.94	3.17	27.66	21.55	142.889	Horizontal	Pass
Band 16		1732.5	-2.95	3.32	27.61	21.34	136.144	Horizontal	Pass
QAM		1745	-2.76	3.36	27.56	21.44	139.316	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-3.99	3.12	27.58	20.47	111.429	Vertical	Pass
Band 16		1732.5	-4.25	3.27	27.61	20.09	102.094	Vertical	Pass
QAM		1754.3	-4.49	3.29	27.63	19.85	96.605	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-4.18	3.13	27.61	20.30	107.152	Vertical	Pass
Band 16		1732.5	-4.08	3.27	27.61	20.26	106.170	Vertical	Pass
QAM		1753.5	-4.12	3.30	27.62	20.20	104.713	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-4.74	3.13	27.63	19.76	94.624	Vertical	Pass
Band 16		1732.5	-4.45	3.27	27.61	19.89	97.499	Vertical	Pass
QAM		1752.5	-4.06	3.30	27.60	20.24	105.682	Vertical	Pass
10.0MHz	1/#Mid	1715	-4.87	3.15	27.64	19.62	91.622	Vertical	Pass
Band 16		1732.5	-4.21	3.31	27.61	20.09	102.094	Vertical	Pass
QAM		1750	-4.34	3.33	27.59	19.92	98.175	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-4.77	3.15	27.65	19.73	93.972	Vertical	Pass
Band 16		1732.5	-4.69	3.31	27.61	19.61	91.411	Vertical	Pass
QAM		1747.5	-4.66	3.33	27.57	19.58	90.782	Vertical	Pass

20.0MHz	1/#Mid	1720	-4.23	3.17	27.66	20.26	106.170	Vertical	Pass
Band 16		1732.5	-4.41	3.32	27.61	19.88	97.275	Vertical	Pass
QAM		1745	-4.07	3.36	27.56	20.13	103.039	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.4 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna		Max. EIRP	Max.	Polarization	
			Level	Loss	Factor	Correction		EIRP	Of Max.	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	ERP	
							(dBm)	(mW)		
1.4MHz	3#Mid	824.7	6.76	2.01	19.68	2.15	22.28	169.044	Horizontal	Pass
Band		836.5	6.64	2.01	19.77	2.15	22.25	167.880	Horizontal	Pass
QPSK		848.3	6.44	2.02	19.82	2.15	22.09	161.808	Horizontal	Pass
3.0MHz	1#Mid	825.5	6.53	2.01	19.70	2.15	22.07	161.065	Horizontal	Pass
Band		836.5	6.43	2.01	19.77	2.15	22.04	159.956	Horizontal	Pass
QPSK		847.5	6.30	2.02	19.81	2.15	21.94	156.315	Horizontal	Pass
5.0MHz	1#Mid	826.5	6.81	2.01	19.71	2.15	22.36	172.187	Horizontal	Pass
Band		836.5	6.69	2.01	19.77	2.15	22.30	169.824	Horizontal	Pass
QPSK		846.5	6.53	2.02	19.79	2.15	22.15	164.059	Horizontal	Pass
10.0MHz	1#Mid	829	6.83	2.01	19.73	2.15	22.40	173.780	Horizontal	Pass
Band		836.5	6.78	2.01	19.77	2.15	22.39	173.380	Horizontal	Pass
QPSK		844	6.68	2.02	19.78	2.15	22.29	169.434	Horizontal	Pass
1.4MHz	1#Mid	824.7	5.35	2.01	19.68	2.15	20.87	122.180	Vertical	Pass
Band		836.5	5.39	2.01	19.77	2.15	21.00	125.893	Vertical	Pass
QPSK		848.3	5.72	2.02	19.82	2.15	21.37	137.088	Vertical	Pass
3.0MHz	1#Mid	825.5	6.03	2.01	19.70	2.15	21.57	143.549	Vertical	Pass
Band		836.5	5.52	2.01	19.77	2.15	21.13	129.718	Vertical	Pass
QPSK		847.5	5.54	2.02	19.81	2.15	21.18	131.220	Vertical	Pass
5.0MHz	1#Mid	826.5	5.27	2.01	19.71	2.15	20.82	120.781	Vertical	Pass
Band		836.5	5.47	2.01	19.77	2.15	21.08	128.233	Vertical	Pass
QPSK		846.5	5.54	2.02	19.79	2.15	21.16	130.617	Vertical	Pass
10.0MHz	1#Mid	829	5.13	2.01	19.73	2.15	20.70	117.490	Vertical	Pass
Band		836.5	5.71	2.01	19.77	2.15	21.32	135.519	Vertical	Pass
QPSK		844	5.94	2.02	19.78	2.15	21.55	142.889	Vertical	Pass

Radiated Power (ERP) for Band 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max.	Max.	Polarization	
			Level	Loss	Factor		EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)		Average	Average	ERP	
						(dB)	(dBm)	(mW)		
1.4MHz	3/#Mid	824.7	5.91	2.01	19.68	2.15	21.43	138.995	Horizontal	Pass
Band 16		836.5	5.84	2.01	19.77	2.15	21.45	139.637	Horizontal	Pass
QAM		848.3	5.68	2.02	19.82	2.15	21.33	135.831	Horizontal	Pass
3.0MHz	1/#Mid	825.5	5.99	2.01	19.70	2.15	21.53	142.233	Horizontal	Pass
Band 16		836.5	5.70	2.01	19.77	2.15	21.31	135.207	Horizontal	Pass
QAM		847.5	5.18	2.02	19.81	2.15	20.82	120.781	Horizontal	Pass
5.0MHz	1/#Mid	826.5	6.31	2.01	19.71	2.15	21.86	153.462	Horizontal	Pass
Band 16		836.5	6.08	2.01	19.77	2.15	21.69	147.571	Horizontal	Pass
QAM		846.5	5.83	2.02	19.79	2.15	21.45	139.637	Horizontal	Pass
10.0MHz	1/#Mid	829	6.31	2.01	19.73	2.15	21.88	154.170	Horizontal	Pass
Band 16		836.5	6.03	2.01	19.77	2.15	21.64	145.881	Horizontal	Pass
QAM		844	5.57	2.02	19.78	2.15	21.18	131.220	Horizontal	Pass
1.4MHz	1/#Mid	824.7	5.05	2.01	19.68	2.15	20.57	114.025	Vertical	Pass
Band 16		836.5	5.96	2.01	19.77	2.15	21.57	143.549	Vertical	Pass
QAM		848.3	5.48	2.02	19.82	2.15	21.13	129.718	Vertical	Pass
3.0MHz	1/#Mid	825.5	5.36	2.01	19.70	2.15	20.90	123.027	Vertical	Pass
Band 16		836.5	4.30	2.01	19.77	2.15	19.91	97.949	Vertical	Pass
QAM		847.5	4.97	2.02	19.81	2.15	20.61	115.080	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	4.55	2.01	19.77	2.15	20.16	103.753	Vertical	Pass
QAM		846.5	3.97	2.02	19.79	2.15	19.59	90.991	Vertical	Pass
10.0MHz	1/#Mid	829	4.52	2.01	19.73	2.15	20.09	102.094	Vertical	Pass
Band 16		836.5	4.39	2.01	19.77	2.15	20.00	100.000	Vertical	Pass
QAM		844	4.79	2.02	19.78	2.15	20.40	109.648	Vertical	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

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

8.5 LTE BAND 7

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
5.0MHz Band QPSK	1/#Mid	2502.5	-0.82	4.54	27.75	22.39	173.380	Horizontal	Pass
		2535	-0.65	4.69	27.72	22.38	172.982	Horizontal	Pass
		2567.5	-0.58	4.71	27.71	22.42	174.582	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2505	-0.75	4.55	27.76	22.46	176.198	Horizontal	Pass
		2535	-0.56	4.69	27.72	22.47	176.604	Horizontal	Pass
		2565	-0.48	4.72	27.70	22.50	177.828	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-0.76	4.55	27.77	22.46	176.198	Horizontal	Pass
		2535	-0.62	4.69	27.72	22.41	174.181	Horizontal	Pass
		2562.5	-0.52	4.72	27.69	22.45	175.792	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2510	-0.70	4.57	27.78	22.51	178.238	Horizontal	Pass
		2535	-0.52	4.73	27.72	22.47	176.604	Horizontal	Pass
		2560	-0.48	4.75	27.68	22.45	175.792	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-2.62	4.54	27.75	20.59	114.551	Vertical	Pass
		2535	-2.39	4.69	27.72	20.64	115.878	Vertical	Pass
		2567.5	-1.74	4.71	27.71	21.26	133.660	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2505	-2.02	4.55	27.76	21.19	131.522	Vertical	Pass
		2535	-1.68	4.69	27.72	21.35	136.458	Vertical	Pass
		2565	-2.29	4.72	27.70	20.69	117.220	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-1.92	4.55	27.77	21.30	134.896	Vertical	Pass
		2535	-1.62	4.69	27.72	21.41	138.357	Vertical	Pass
		2562.5	-2.40	4.72	27.69	20.57	114.025	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2510	-1.71	4.57	27.78	21.50	141.254	Vertical	Pass
		2535	-2.17	4.73	27.72	20.82	120.781	Vertical	Pass
		2560	-2.35	4.75	27.68	20.58	114.288	Vertical	Pass

Radiated Power (EIRP) for Band 7									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable	Antenna	Max. EIRP	Max. EIRP	Polarization	
			(dBm)	Loss	Factor	Average	Average	Of Max. ERP	
				(dBm)	(dB)	(dBm)	(mW)		
5.0MHz	1/#Mid	2502.5	-1.51	4.54	27.75	21.70	147.911	Horizontal	Pass
Band 16		2535	-1.20	4.69	27.72	21.83	152.405	Horizontal	Pass
QAM		2567.5	-1.28	4.71	27.71	21.72	148.594	Horizontal	Pass
10.0MHz	1/#Mid	2505	-1.40	4.55	27.76	21.81	151.705	Horizontal	Pass
Band 16		2535	-1.41	4.69	27.72	21.62	145.211	Horizontal	Pass
QAM		2565	-1.68	4.72	27.70	21.30	134.896	Horizontal	Pass
15.0MHz	1/#Mid	2507.5	-1.58	4.55	27.77	21.64	145.881	Horizontal	Pass
Band 16		2535	-1.55	4.69	27.72	21.48	140.605	Horizontal	Pass
QAM		2562.5	-1.16	4.72	27.69	21.81	151.705	Horizontal	Pass
20.0MHz	1/#Mid	2510	-1.46	4.57	27.78	21.75	149.624	Horizontal	Pass
Band 16		2535	-1.13	4.73	27.72	21.86	153.462	Horizontal	Pass
QAM		2560	-1.23	4.75	27.68	21.70	147.911	Horizontal	Pass
5.0MHz	1/#Mid	2502.5	-2.88	4.54	27.75	20.33	107.895	Vertical	Pass
Band 16		2535	-2.96	4.69	27.72	20.07	101.625	Vertical	Pass
QAM		2567.5	-1.66	4.71	27.71	21.34	136.144	Vertical	Pass
10.0MHz	1/#Mid	2505	-1.77	4.55	27.76	21.44	139.316	Vertical	Pass
Band 16		2535	-2.21	4.69	27.72	20.82	120.781	Vertical	Pass
QAM		2565	-2.25	4.72	27.70	20.73	118.304	Vertical	Pass
15.0MHz	1/#Mid	2507.5	-2.15	4.55	27.77	21.07	127.938	Vertical	Pass
Band 16		2535	-2.41	4.69	27.72	20.62	115.345	Vertical	Pass
QAM		2562.5	-2.59	4.72	27.69	20.38	109.144	Vertical	Pass
20.0MHz	1/#Mid	2510	-3.14	4.57	27.78	20.07	101.625	Vertical	Pass
Band 16		2535	-2.89	4.73	27.72	20.10	102.329	Vertical	Pass
QAM		2560	-2.00	4.75	27.68	20.93	123.880	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.6 LTE BAND 12

Radiated Power (ERP) for Band 12											
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)	Average	Average			
							(dBm)	(mW)			
1.4MHz	Band QPSK	1/#Mid	699.7	7.13	1.91	19.21	2.15	22.28	169.044	Vertical	Pass
			707.5	7.05	1.91	19.26	2.15	22.25	167.880	Vertical	Pass
			715.3	6.83	1.93	19.34	2.15	22.09	161.808	Vertical	Pass
3.0MHz	Band QPSK	1/#Mid	700.5	6.92	1.91	19.21	2.15	22.07	161.065	Vertical	Pass
			707.5	6.84	1.91	19.26	2.15	22.04	159.956	Vertical	Pass
			714.5	6.68	1.93	19.34	2.15	21.94	156.315	Vertical	Pass
5.0MHz	Band QPSK	1/#Mid	701.5	7.19	1.91	19.23	2.15	22.36	172.187	Vertical	Pass
			707.5	7.10	1.91	19.26	2.15	22.30	169.824	Vertical	Pass
			713.5	6.89	1.92	19.33	2.15	22.15	164.059	Vertical	Pass
10.0MHz	Band QPSK	1/#Mid	704	7.21	1.91	19.25	2.15	22.40	173.780	Vertical	Pass
			707.5	7.19	1.91	19.26	2.15	22.39	173.380	Vertical	Pass
			711	7.04	1.92	19.32	2.15	22.29	169.434	Vertical	Pass
1.4MHz	Band QPSK	1/#Mid	699.7	6.05	1.91	19.21	2.15	21.20	131.826	Horizontal	Pass
			707.5	6.36	1.91	19.26	2.15	21.56	143.219	Horizontal	Pass
			715.3	6.20	1.93	19.34	2.15	21.46	139.959	Horizontal	Pass
3.0MHz	Band QPSK	1/#Mid	700.5	5.43	1.91	19.21	2.15	20.58	114.288	Horizontal	Pass
			707.5	5.47	1.91	19.26	2.15	20.67	116.681	Horizontal	Pass
			714.5	5.61	1.93	19.34	2.15	20.87	122.180	Horizontal	Pass
5.0MHz	Band QPSK	1/#Mid	701.5	5.98	1.91	19.23	2.15	21.15	130.317	Horizontal	Pass
			707.5	5.66	1.91	19.26	2.15	20.86	121.899	Horizontal	Pass
			713.5	5.99	1.92	19.33	2.15	21.25	133.352	Horizontal	Pass
10.0MHz	Band QPSK	1/#Mid	704	6.21	1.91	19.25	2.15	21.40	138.038	Horizontal	Pass
			707.5	5.88	1.91	19.26	2.15	21.08	128.233	Horizontal	Pass
			711	6.07	1.92	19.32	2.15	21.32	135.519	Horizontal	Pass

Radiated Power (ERP) for Band 12										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna		Max.	Max.	Polarization	
			Level	Loss	Factor	Correction	EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	ERP	
							(dBm)	(mW)		
1.4MHz	1/#Mid	699.7	7.00	1.91	19.21	2.15	22.15	164.059	Vertical	Pass
Band 16		707.5	6.92	1.91	19.26	2.15	22.12	162.930	Vertical	Pass
QAM		715.3	6.70	1.93	19.34	2.15	21.96	157.036	Vertical	Pass
3.0MHz	1/#Mid	700.5	6.79	1.91	19.21	2.15	21.94	156.315	Vertical	Pass
Band 16		707.5	6.71	1.91	19.26	2.15	21.91	155.239	Vertical	Pass
QAM		714.5	6.55	1.93	19.34	2.15	21.81	151.705	Vertical	Pass
5.0MHz	1/#Mid	701.5	7.06	1.91	19.23	2.15	22.23	167.109	Vertical	Pass
Band 16		707.5	6.97	1.91	19.26	2.15	22.17	164.816	Vertical	Pass
QAM		713.5	6.76	1.92	19.33	2.15	22.02	159.221	Vertical	Pass
10.0MHz	1/#Mid	704	7.08	1.91	19.25	2.15	22.27	168.655	Vertical	Pass
Band 16		707.5	7.06	1.91	19.26	2.15	22.26	168.267	Vertical	Pass
QAM		711	6.91	1.92	19.32	2.15	22.16	164.437	Vertical	Pass
1.4MHz	1/#Mid	699.7	5.64	1.91	19.21	2.15	20.79	119.950	Horizontal	Pass
Band 16		707.5	5.66	1.91	19.26	2.15	20.86	121.899	Horizontal	Pass
QAM		715.3	5.71	1.93	19.34	2.15	20.97	125.026	Horizontal	Pass
3.0MHz	1/#Mid	700.5	5.70	1.91	19.21	2.15	20.85	121.619	Horizontal	Pass
Band 16		707.5	5.81	1.91	19.26	2.15	21.01	126.183	Horizontal	Pass
QAM		714.5	5.54	1.93	19.34	2.15	20.80	120.226	Horizontal	Pass
5.0MHz	1/#Mid	701.5	6.04	1.91	19.23	2.15	21.21	132.130	Horizontal	Pass
Band 16		707.5	5.88	1.91	19.26	2.15	21.08	128.233	Horizontal	Pass
QAM		713.5	6.04	1.92	19.33	2.15	21.30	134.896	Horizontal	Pass
10.0MHz	1/#Mid	704	5.52	1.91	19.25	2.15	20.71	117.761	Horizontal	Pass
Band 16		707.5	5.29	1.91	19.26	2.15	20.49	111.944	Horizontal	Pass
QAM		711	5.45	1.92	19.32	2.15	20.70	117.490	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 17

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	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)		Average	Average	ERP	
						(dB)	(dBm)	(mW)		
5.0MHz Band QPSK	1/#Mid	706.5	7.46	1.91	19.23	2.15	22.63	183.231	Vertical	Pass
		710	7.32	1.91	19.26	2.15	22.52	178.649	Vertical	Pass
		713.5	7.22	1.92	19.33	2.15	22.48	177.011	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	709	7.47	1.91	19.25	2.15	22.66	184.502	Vertical	Pass
		710	7.42	1.91	19.26	2.15	22.62	182.810	Vertical	Pass
		711	7.38	1.92	19.32	2.15	22.63	183.231	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	706.5	6.03	1.91	19.23	2.15	21.20	131.826	Horizontal	Pass
		710	5.85	1.91	19.26	2.15	21.05	127.350	Horizontal	Pass
		713.5	6.26	1.92	19.33	2.15	21.52	141.906	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	709	7.07	1.91	19.25	2.15	22.26	168.267	Horizontal	Pass
		710	6.73	1.91	19.26	2.15	21.93	155.955	Horizontal	Pass
		711	5.82	1.92	19.32	2.15	21.07	127.938	Horizontal	Pass

Radiated Power (ERP) for Band 17										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max.	Max.	Polarization	
			Level	Loss	Factor		EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)		Average	Average	ERP	
						(dB)	(dBm)	(mW)		
5.0MHz	1/#Mid	706.5	6.89	1.91	19.23	2.15	22.06	160.694	Vertical	Pass
Band 16		710	6.80	1.91	19.26	2.15	22.00	158.489	Vertical	Pass
QAM		713.5	6.60	1.92	19.33	2.15	21.86	153.462	Vertical	Pass
10.0MHz	1/#Mid	709	6.43	1.91	19.25	2.15	21.62	145.211	Vertical	Pass
Band 16		710	6.96	1.91	19.26	2.15	22.16	164.437	Vertical	Pass
QAM		711	6.69	1.92	19.32	2.15	21.94	156.315	Vertical	Pass
5.0MHz	1/#Mid	706.5	5.98	1.91	19.23	2.15	21.15	130.317	Horizontal	Pass
Band 16		710	5.84	1.91	19.26	2.15	21.04	127.057	Horizontal	Pass
QAM		713.5	5.43	1.92	19.33	2.15	20.69	117.220	Horizontal	Pass
10.0MHz	1/#Mid	709	5.53	1.91	19.25	2.15	20.72	118.032	Horizontal	Pass
Band 16		710	5.33	1.91	19.26	2.15	20.53	112.980	Horizontal	Pass
QAM		711	5.57	1.92	19.32	2.15	20.82	120.781	Horizontal	Pass

Note:

ERP=EIRP-2.15

SG Level= Signal generator output

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

8.8 LTE BAND 25

Radiated Power (EIRP) for Band 25									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
1.4MHz Band QPSK	1/#Mid	1850.7	-2.30	3.12	27.58	22.16	164.437	Horizontal	Pass
		1882,5	-2.21	3.27	27.61	22.13	163.305	Horizontal	Pass
		1914.3	-2.37	3.29	27.63	21.97	157.398	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-2.53	3.13	27.61	21.95	156.675	Horizontal	Pass
		1882,5	-2.42	3.27	27.61	21.92	155.597	Horizontal	Pass
		1913.5	-2.50	3.30	27.62	21.82	152.055	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-2.26	3.13	27.63	22.24	167.494	Horizontal	Pass
		1882,5	-2.16	3.27	27.61	22.18	165.196	Horizontal	Pass
		1912.5	-2.27	3.30	27.60	22.03	159.588	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	1855	-2.21	3.15	27.64	22.28	169.044	Horizontal	Pass
		1882,5	-2.03	3.31	27.61	22.27	168.655	Horizontal	Pass
		1910	-2.09	3.33	27.59	22.17	164.816	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-3.58	3.15	27.65	20.92	123.595	Horizontal	Pass
		1882,5	-3.41	3.31	27.61	20.89	122.744	Horizontal	Pass
		1907.5	-3.55	3.33	27.57	20.69	117.220	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	1860	-3.76	3.17	27.66	20.73	118.304	Horizontal	Pass
		1882,5	-2.00	3.32	27.61	22.29	169.434	Horizontal	Pass
		1905	-1.81	3.36	27.56	22.39	173.380	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-3.33	3.12	27.58	21.13	129.718	Vertical	Pass
		1882,5	-3.07	3.27	27.61	21.27	133.968	Vertical	Pass
		1914.3	-3.21	3.29	27.63	21.13	129.718	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-3.11	3.13	27.61	21.37	137.088	Vertical	Pass
		1882,5	-3.35	3.27	27.61	20.99	125.603	Vertical	Pass
		1913.5	-3.34	3.30	27.62	20.98	125.314	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-3.12	3.13	27.63	21.38	137.404	Vertical	Pass
		1882,5	-3.67	3.27	27.61	20.67	116.681	Vertical	Pass
		1912.5	-2.98	3.30	27.60	21.32	135.519	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	1855	-3.67	3.15	27.64	20.82	120.781	Vertical	Pass
		1882,5	-3.13	3.31	27.61	21.17	130.918	Vertical	Pass
		1910	-3.39	3.33	27.59	20.87	122.180	Vertical	Pass

15.0MHz	1/#Mid	1857.5	-3.90	3.15	27.65	20.60	114.815	Vertical	Pass
Band		1882,5	-3.21	3.31	27.61	21.09	128.529	Vertical	Pass
QPSK		1907.5	-2.95	3.33	27.57	21.29	134.586	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.69	3.17	27.66	20.80	120.226	Vertical	Pass
Band		1882,5	-3.03	3.32	27.61	21.26	133.660	Vertical	Pass
QPSK		1905	-3.61	3.36	27.56	20.59	114.551	Vertical	Pass

Radiated Power (EIRP) for Band 25									
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)		
1.4MHz	1/#Mid	1850.7	-2.23	3.12	27.58	22.23	167.109	Horizontal	Pass
Band 16		1882,5	-2.14	3.27	27.61	22.20	165.959	Horizontal	Pass
QAM		1914.3	-2.30	3.29	27.63	22.04	159.956	Horizontal	Pass
3.0MHz	1/#Mid	1851.5	-2.46	3.13	27.61	22.02	159.221	Horizontal	Pass
Band 16		1882,5	-2.35	3.27	27.61	21.99	158.125	Horizontal	Pass
QAM		1913.5	-2.43	3.30	27.62	21.89	154.525	Horizontal	Pass
5.0MHz	1/#Mid	1852.5	-2.19	3.13	27.63	22.31	170.216	Horizontal	Pass
Band 16		1882,5	-2.09	3.27	27.61	22.25	167.880	Horizontal	Pass
QAM		1912.5	-2.20	3.30	27.60	22.10	162.181	Horizontal	Pass
10.0MHz	1/#Mid	1855	-2.14	3.15	27.64	22.35	171.791	Horizontal	Pass
Band 16		1882,5	-1.96	3.31	27.61	22.34	171.396	Horizontal	Pass
QAM		1910	-2.24	3.33	27.59	22.02	159.221	Horizontal	Pass
15.0MHz	1/#Mid	1857.5	-3.19	3.15	27.65	21.31	135.207	Horizontal	Pass
Band 16		1882,5	-3.43	3.31	27.61	20.87	122.180	Horizontal	Pass
QAM		1907.5	-3.39	3.33	27.57	20.85	121.619	Horizontal	Pass
20.0MHz	1/#Mid	1860	-3.85	3.17	27.66	20.64	115.878	Horizontal	Pass
Band 16		1882,5	-2.90	3.32	27.61	21.39	137.721	Horizontal	Pass
QAM		1905	-1.78	3.36	27.56	22.42	174.582	Horizontal	Pass
1.4MHz	1/#Mid	1850.7	-3.56	3.12	27.58	20.90	123.027	Vertical	Pass
Band 16		1882,5	-3.11	3.27	27.61	21.23	132.739	Vertical	Pass
QAM		1914.3	-3.77	3.29	27.63	20.57	114.025	Vertical	Pass
3.0MHz	1/#Mid	1851.5	-3.58	3.13	27.61	20.90	123.027	Vertical	Pass
Band 16		1882,5	-3.46	3.27	27.61	20.88	122.462	Vertical	Pass
QAM		1913.5	-3.42	3.30	27.62	20.90	123.027	Vertical	Pass
5.0MHz	1/#Mid	1852.5	-3.40	3.13	27.63	21.10	128.825	Vertical	Pass
Band 16		1882,5	-3.71	3.27	27.61	20.63	115.611	Vertical	Pass
QAM		1912.5	-2.95	3.30	27.60	21.35	136.458	Vertical	Pass
10.0MHz	1/#Mid	1855	-3.70	3.15	27.64	20.79	119.950	Vertical	Pass
Band 16		1882,5	-3.02	3.31	27.61	21.28	134.276	Vertical	Pass
QAM		1910	-2.83	3.33	27.59	21.43	138.995	Vertical	Pass
15.0MHz	1/#Mid	1857.5	-3.18	3.15	27.65	21.32	135.519	Vertical	Pass
Band 16		1882,5	-2.97	3.31	27.61	21.33	135.831	Vertical	Pass

QAM		1907.5	-3.47	3.33	27.57	20.77	119.399	Vertical	Pass
20.0MHz	1/#Mid	1860	-3.51	3.17	27.66	20.98	125.314	Vertical	Pass
Band 16		1882.5	-3.09	3.32	27.61	21.20	131.826	Vertical	Pass
QAM		1905	-3.08	3.36	27.56	21.12	129.420	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.9 LTE BAND 26 A

Radiated Power (ERP) for Band 26(814-824)										
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)		
1.4MHz	6/0	814.7	-0.11	3.76	28.24	2.15	22.22	166.72	Horizontal	Pass
BW		819	0.03	3.91	28.22	2.15	22.19	165.58	Horizontal	Pass
QPSK		823.3	-0.09	3.93	28.20	2.15	22.03	159.59	Horizontal	Pass
3.0MHz	15/0	815.5	-0.30	3.77	28.23	2.15	22.01	158.85	Horizontal	Pass
BW		819	-0.20	3.91	28.24	2.15	21.98	157.76	Horizontal	Pass
QPSK		822.5	-0.28	3.94	28.25	2.15	21.88	154.17	Horizontal	Pass
5.0MHz	25/0	816.5	-0.09	3.77	28.31	2.15	22.30	169.82	Horizontal	Pass
BW		819	0.08	3.91	28.22	2.15	22.24	167.49	Horizontal	Pass
QPSK		821.5	-0.02	3.94	28.20	2.15	22.09	161.81	Horizontal	Pass
10.0MHz	50/0	819	0.18	3.91	28.22	2.15	22.34	171.40	Horizontal	Pass
1.4MHz	6/0	814.7	-0.07	3.79	28.34	2.15	22.33	171.00	Vertical	Pass
BW		819	0.11	3.95	28.22	2.15	22.23	167.11	Vertical	Pass
QPSK		823.3	-0.64	3.97	28.18	2.15	21.42	138.68	Vertical	Pass
3.0MHz	15/0	815.5	-1.64	3.77	28.23	2.15	20.67	116.68	Vertical	Pass
BW		819	-1.28	3.91	28.24	2.15	20.90	123.03	Vertical	Pass
QPSK		822.5	-1.28	3.94	28.25	2.15	20.88	122.46	Vertical	Pass
5.0MHz	25/0	816.5	-0.90	3.77	28.31	2.15	21.49	140.93	Vertical	Pass
BW		819	-1.06	3.91	28.22	2.15	21.10	128.82	Vertical	Pass
QPSK		821.5	-0.91	3.94	28.20	2.15	21.20	131.83	Vertical	Pass
10.0MHz	50/0	819	-1.27	3.91	28.22	2.15	20.89	122.74	Vertical	Pass

Radiated Power (ERP) for Band 26(814-824)										
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	6/0	814.7	-0.17	3.76	28.24	2.15	22.16	164.44	Horizontal	Pass
BW 16		819	-0.03	3.91	28.22	2.15	22.13	163.31	Horizontal	Pass
QAM		823.3	-0.15	3.93	28.20	2.15	21.97	157.40	Horizontal	Pass
3.0MHz	15/0	815.5	-0.36	3.77	28.23	2.15	21.95	156.68	Horizontal	Pass
BW 16		819	-0.26	3.91	28.24	2.15	21.92	155.60	Horizontal	Pass
QAM		822.5	-0.34	3.94	28.25	2.15	21.82	152.05	Horizontal	Pass
5.0MHz	25/0	816.5	-0.15	3.77	28.31	2.15	22.24	167.49	Horizontal	Pass
BW 16		819	0.02	3.91	28.22	2.15	22.18	165.20	Horizontal	Pass
QAM		821.5	-0.08	3.94	28.20	2.15	22.03	159.59	Horizontal	Pass
10.0MHz	50/0	819	0.10	3.91	28.24	2.15	22.28	169.04	Horizontal	Pass
1.4MHz	6/0	814.7	-0.13	3.79	28.34	2.15	22.27	168.66	Vertical	Pass
BW 16		819	0.05	3.95	28.22	2.15	22.17	164.82	Vertical	Pass
QAM		823.3	-1.53	3.97	28.18	2.15	20.53	112.98	Vertical	Pass
3.0MHz	15/0	815.5	-1.64	3.77	28.23	2.15	20.67	116.68	Vertical	Pass
BW 16		819	-0.89	3.91	28.24	2.15	21.29	134.59	Vertical	Pass
QAM		822.5	-0.91	3.94	28.25	2.15	21.25	133.35	Vertical	Pass
5.0MHz	25/0	816.5	-1.12	3.77	28.31	2.15	21.27	133.97	Vertical	Pass
BW 16		819	-1.00	3.91	28.22	2.15	21.16	130.62	Vertical	Pass
QAM		821.5	-1.51	3.94	28.20	2.15	20.60	114.82	Vertical	Pass
10.0MHz	50/0	819	-0.92	3.91	28.24	2.15	21.26	133.66	Vertical	Pass

8.10 LTE BAND 26B

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna	Correction	Max. EIRP	Max.	Polarization	
			Level	Loss	Factor		EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)		Average	Average	ERP	
						(dB)	(dBm)	(mW)		
1.4MHz	6/0	824.7	5.60	2.01	19.68	2.15	21.12	129.42	Horizontal	Pass
Band		836.5	5.54	2.01	19.77	2.15	21.15	130.32	Horizontal	Pass
QPSK		848.3	5.48	2.02	19.82	2.15	21.13	129.72	Horizontal	Pass
3.0MHz	15/0	825.5	5.64	2.01	19.70	2.15	21.18	131.22	Horizontal	Pass
Band		836.5	5.27	2.01	19.77	2.15	20.88	122.46	Horizontal	Pass
QPSK		847.5	5.72	2.02	19.81	2.15	21.36	136.77	Horizontal	Pass
5.0MHz	25/0	826.5	5.90	2.01	19.71	2.15	21.45	139.64	Horizontal	Pass
Band		836.5	5.72	2.01	19.77	2.15	21.33	135.83	Horizontal	Pass
QPSK		846.5	5.09	2.02	19.79	2.15	20.71	117.76	Horizontal	Pass
10.0MHz	50/0	829	5.11	2.01	19.73	2.15	20.68	116.95	Horizontal	Pass
Band		836.5	5.23	2.01	19.77	2.15	20.84	121.34	Horizontal	Pass
QPSK		844	5.83	2.02	19.78	2.15	21.44	139.32	Horizontal	Pass
15.0MHz	75/0	831.5	4.92	2.01	19.73	2.15	20.49	111.94	Horizontal	Pass
Band		836.5	5.85	2.01	19.77	2.15	21.46	139.96	Horizontal	Pass
QPSK		841.5	5.58	2.02	19.78	2.15	21.19	131.52	Horizontal	Pass
1.4MHz	6/0	824.7	5.18	2.01	19.68	2.15	20.70	117.49	Vertical	Pass
Band		836.5	5.12	2.01	19.77	2.15	20.73	118.30	Vertical	Pass
QPSK		848.3	5.38	2.02	19.82	2.15	21.03	126.77	Vertical	Pass
3.0MHz	15/0	825.5	5.32	2.01	19.70	2.15	20.86	121.90	Vertical	Pass
Band		836.5	4.94	2.01	19.77	2.15	20.55	113.50	Vertical	Pass
QPSK		847.5	5.19	2.02	19.81	2.15	20.83	121.06	Vertical	Pass
5.0MHz	25/0	826.5	5.34	2.01	19.71	2.15	20.89	122.74	Vertical	Pass
Band		836.5	5.09	2.01	19.77	2.15	20.70	117.49	Vertical	Pass
QPSK		846.5	5.21	2.02	19.79	2.15	20.83	121.06	Vertical	Pass
10.0MHz	50/0	829	4.98	2.01	19.73	2.15	20.55	113.50	Vertical	Pass
Band		836.5	5.32	2.01	19.77	2.15	20.93	123.88	Vertical	Pass
QPSK		844	5.16	2.02	19.78	2.15	20.77	119.40	Vertical	Pass
15.0MHz	75/0	831.5	4.99	2.01	19.73	2.15	20.56	113.76	Vertical	Pass
Band		836.5	5.74	2.01	19.77	2.15	21.35	136.46	Vertical	Pass
QPSK		841.5	5.34	2.02	19.78	2.15	20.95	124.45	Vertical	Pass

Radiated Power (ERP) for Band 26(824-849)										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG	Cable	Antenna		Max.	Max.	Polarization	
			Level	Loss	Factor	Correction	EIRP	EIRP	Of Max.	
			(dBm)	(dBm)	(dB)	(dB)	Average	Average	ERP	
							(dBm)	(mW)		
1.4MHz	6/0	824.7	6.05	2.01	19.68	2.15	21.57	143.55	Horizontal	Pass
Band 16		836.5	5.28	2.01	19.77	2.15	20.89	122.74	Horizontal	Pass
QAM		848.3	5.22	2.02	19.82	2.15	20.87	122.18	Horizontal	Pass
3.0MHz	15/0	825.5	5.31	2.01	19.70	2.15	20.85	121.62	Horizontal	Pass
Band 16		836.5	5.61	2.01	19.77	2.15	21.22	132.43	Horizontal	Pass
QAM		847.5	5.31	2.02	19.81	2.15	20.95	124.45	Horizontal	Pass
5.0MHz	25/0	826.5	5.47	2.01	19.71	2.15	21.02	126.47	Horizontal	Pass
Band 16		836.5	5.44	2.01	19.77	2.15	21.05	127.35	Horizontal	Pass
QAM		846.5	5.28	2.02	19.79	2.15	20.90	123.03	Horizontal	Pass
10.0MHz	50/0	829	5.68	2.01	19.73	2.15	21.25	133.35	Horizontal	Pass
Band 16		836.5	6.00	2.01	19.77	2.15	21.61	144.88	Horizontal	Pass
QAM		844	5.24	2.02	19.78	2.15	20.85	121.62	Horizontal	Pass
15.0MHz	75/0	831.5	6.06	2.01	19.73	2.15	21.63	145.55	Horizontal	Pass
Band		836.5	5.24	2.01	19.77	2.15	20.85	121.62	Horizontal	Pass
QPSK		841.5	5.04	2.02	19.78	2.15	20.65	116.14	Horizontal	Pass
1.4MHz	6/0	824.7	5.56	2.01	19.68	2.15	21.08	128.23	Vertical	Pass
Band 16		836.5	5.95	2.01	19.77	2.15	21.56	143.22	Vertical	Pass
QAM		848.3	5.70	2.02	19.82	2.15	21.35	136.46	Vertical	Pass
3.0MHz	15/0	825.5	5.50	2.01	19.70	2.15	21.04	127.06	Vertical	Pass
Band 16		836.5	5.32	2.01	19.77	2.15	20.93	123.88	Vertical	Pass
QAM		847.5	5.92	2.02	19.81	2.15	21.56	143.22	Vertical	Pass
5.0MHz	25/0	826.5	5.19	2.01	19.71	2.15	20.74	118.58	Vertical	Pass
Band 16		836.5	5.63	2.01	19.77	2.15	21.24	133.05	Vertical	Pass
QAM		846.5	5.25	2.02	19.79	2.15	20.87	122.18	Vertical	Pass

10.0MHz	50/0	829	5.66	2.01	19.73	2.15	21.23	132.74	Vertical	Pass
Band 16		836.5	5.88	2.01	19.77	2.15	21.49	140.93	Vertical	Pass
QAM		844	5.26	2.02	19.78	2.15	20.87	122.18	Vertical	Pass
15.0MHz	75/0	831.5	5.20	2.01	19.73	2.15	20.77	119.40	Vertical	Pass
Band		836.5	5.13	2.01	19.77	2.15	20.74	118.58	Vertical	Pass
QPSK		841.5	5.39	2.02	19.78	2.15	21.00	125.89	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.11 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP	
			(dBm)			Average	Average		
						(dBm)	(mW)		
5.0MHz	Band 1/#Mid QPSK	2498.5	-1.17	4.54	27.75	22.04	159.956	Horizontal	Pass
2593		-1.02	4.69	27.72	22.01	158.855	Horizontal	Pass	
2687.5		-0.90	4.71	27.71	22.10	162.181	Horizontal	Pass	
10.0MHz	Band 1/#Mid QPSK	2501	-1.25	4.55	27.76	21.96	157.036	Horizontal	Pass
2593		-1.11	4.69	27.72	21.92	155.597	Horizontal	Pass	
2685		-1.10	4.72	27.70	21.88	154.170	Horizontal	Pass	
15.0MHz	Band 1/#Mid QPSK	2503.5	-1.08	4.55	27.77	22.14	163.682	Horizontal	Pass
2593		-0.80	4.69	27.72	22.23	167.109	Horizontal	Pass	
2682.5		-0.85	4.72	27.69	22.12	162.930	Horizontal	Pass	
20.0MHz	Band 1/#Mid QPSK	2506	-0.69	4.57	27.78	22.52	178.649	Horizontal	Pass
2593		-0.74	4.73	27.72	22.25	167.880	Horizontal	Pass	
2680		-0.74	4.75	27.68	22.19	165.577	Horizontal	Pass	
5.0MHz	Band 1/#Mid QPSK	2498.5	-0.97	4.54	27.75	22.24	167.494	Vertical	Pass
2593		-0.88	4.69	27.72	22.15	164.059	Vertical	Pass	
2687.5		-0.86	4.71	27.71	22.14	163.682	Vertical	Pass	
10.0MHz	Band 1/#Mid QPSK	2501	-0.95	4.55	27.76	22.26	168.267	Vertical	Pass
2593		-0.79	4.69	27.72	22.24	167.494	Vertical	Pass	
2685		-0.86	4.72	27.70	22.12	162.930	Vertical	Pass	
15.0MHz	Band 1/#Mid QPSK	2503.5	-2.35	4.55	27.77	20.87	122.180	Vertical	Pass
2593		-1.86	4.69	27.72	21.17	130.918	Vertical	Pass	
2682.5		-2.21	4.72	27.69	20.76	119.124	Vertical	Pass	
20.0MHz	Band 1/#Mid QPSK	2506	-2.46	4.57	27.78	20.75	118.850	Vertical	Pass
2593		-2.16	4.73	27.72	20.83	121.060	Vertical	Pass	
2680		-2.11	4.75	27.68	20.82	120.781	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	-1.28	4.54	27.75	21.93	155.955	Horizontal	Pass
Band 16		2593	-1.13	4.69	27.72	21.90	154.882	Horizontal	Pass
QAM		2687.5	-1.01	4.71	27.71	21.99	158.125	Horizontal	Pass
10.0MHz	1/#Mid	2501	-1.36	4.55	27.76	21.85	153.109	Horizontal	Pass
Band 16		2593	-1.22	4.69	27.72	21.81	151.705	Horizontal	Pass
QAM		2685	-1.21	4.72	27.70	21.77	150.314	Horizontal	Pass
15.0MHz	1/#Mid	2503.5	-1.19	4.55	27.77	22.03	159.588	Horizontal	Pass
Band 16		2593	-0.91	4.69	27.72	22.12	162.930	Horizontal	Pass
QAM		2682.5	-0.96	4.72	27.69	22.01	158.855	Horizontal	Pass
20.0MHz	1/#Mid	2506	-0.91	4.57	27.78	22.30	169.824	Horizontal	Pass
Band 16		2593	-0.85	4.73	27.72	22.14	163.682	Horizontal	Pass
QAM		2680	-0.85	4.75	27.68	22.08	161.436	Horizontal	Pass
5.0MHz	1/#Mid	2498.5	-1.08	4.54	27.75	22.13	163.305	Vertical	Pass
Band 16		2593	-0.99	4.69	27.72	22.04	159.956	Vertical	Pass
QAM		2687.5	-0.97	4.71	27.71	22.03	159.588	Vertical	Pass
10.0MHz	1/#Mid	2501	-1.06	4.55	27.76	22.15	164.059	Vertical	Pass
Band 16		2593	-0.90	4.69	27.72	22.13	163.305	Vertical	Pass
QAM		2685	-0.97	4.72	27.70	22.01	158.855	Vertical	Pass
15.0MHz	1/#Mid	2503.5	-2.06	4.55	27.77	21.16	130.617	Vertical	Pass
Band 16		2593	-2.32	4.69	27.72	20.71	117.761	Vertical	Pass
QAM		2682.5	-2.54	4.72	27.69	20.43	110.408	Vertical	Pass
20.0MHz	1/#Mid	2506	-1.80	4.57	27.78	21.41	138.357	Vertical	Pass
Band 16		2593	-1.64	4.73	27.72	21.35	136.458	Vertical	Pass
QAM		2680	-2.36	4.75	27.68	20.57	114.025	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

8.12 LTE BAND 66

Radiated Power (EIRP) for Band 66										
Mode	RB/RB SIZE	Frequency	Result						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	-2.55	3.76	28.24	21.93	155.955	Horizontal	Pass
1745			-2.41	3.91	28.22	21.90	154.882	Horizontal	Pass	
1779.3			-2.28	3.93	28.2	21.99	158.125	Horizontal	Pass	
3.0MHz	Band QPSK	1/#Mid	1711.5	-2.61	3.77	28.23	21.85	153.109	Horizontal	Pass
1745			-2.52	3.91	28.24	21.81	151.705	Horizontal	Pass	
1778.5			-2.54	3.94	28.25	21.77	150.314	Horizontal	Pass	
5.0MHz	Band QPSK	1/#Mid	1712.5	-2.51	3.77	28.31	22.03	159.588	Horizontal	Pass
1745			-2.19	3.91	28.22	22.12	162.930	Horizontal	Pass	
1777.5			-2.25	3.94	28.2	22.01	158.855	Horizontal	Pass	
10.0MHz	Band QPSK	1/#Mid	1715	-2.40	3.79	28.33	22.14	163.682	Horizontal	Pass
1745			-2.13	3.95	28.22	22.14	163.682	Horizontal	Pass	
1775			-2.14	3.97	28.19	22.08	161.436	Horizontal	Pass	
15.0MHz	Band QPSK	1/#Mid	1717.5	-2.42	3.79	28.34	22.13	163.305	Horizontal	Pass
1745			-2.23	3.95	28.22	22.04	159.956	Horizontal	Pass	
1772.5			-2.18	3.97	28.18	22.03	159.588	Horizontal	Pass	
20.0MHz	Band QPSK	1/#Mid	1720	-2.39	3.81	28.35	22.15	164.059	Horizontal	Pass
1745			-2.13	3.96	28.22	22.13	163.305	Horizontal	Pass	
1770			-2.15	4	28.16	22.01	158.855	Horizontal	Pass	
1.4MHz	Band QPSK	1/#Mid	1710.7	-3.81	3.76	28.24	20.67	116.681	Vertical	Pass
1745			-3.56	3.91	28.22	20.75	118.850	Vertical	Pass	
1779.3			-3.52	3.93	28.2	20.75	118.850	Vertical	Pass	
3.0MHz	Band QPSK	1/#Mid	1711.5	-3.62	3.77	28.23	20.84	121.339	Vertical	Pass
1745			-2.92	3.91	28.24	21.41	138.357	Vertical	Pass	
1778.5			-3.29	3.94	28.25	21.02	126.474	Vertical	Pass	
5.0MHz	Band QPSK	1/#Mid	1712.5	-3.73	3.77	28.31	20.81	120.504	Vertical	Pass
1745			-3.14	3.91	28.22	21.17	130.918	Vertical	Pass	
1777.5			-3.20	3.94	28.2	21.06	127.644	Vertical	Pass	
10.0MHz	Band QPSK	1/#Mid	1715	-3.55	3.79	28.34	21.00	125.893	Vertical	Pass
1745			-3.15	3.95	28.22	21.12	129.420	Vertical	Pass	
1775			-2.84	3.97	28.18	21.37	137.088	Vertical	Pass	

15.0MHz	1/#Mid	1717.5	-3.31	3.81	28.35	21.23	132.739	Vertical	Pass
Band		1745	-3.78	3.96	28.22	20.48	111.686	Vertical	Pass
QPSK		1772.5	-3.51	4	28.16	20.65	116.145	Vertical	Pass
20.0MHz	1/#Mid	1720	-3.80	3.79	28.34	20.75	118.850	Vertical	Pass
Band		1745	-3.01	3.95	28.22	21.26	133.660	Vertical	Pass
QPSK		1770	-3.75	3.97	28.18	20.46	111.173	Vertical	Pass

Radiated Power (EIRP) for Band 66									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP	Polarization Of Max. ERP	
				Loss			Average		
				(dBm)			(mW)		
1.4MHz	1/#Mid	1710.7	-3.28	3.76	28.24	21.20	131.826	Horizontal	Pass
Band 16		1745	-2.89	3.91	28.22	21.42	138.676	Horizontal	Pass
QAM		1779.3	-3.07	3.93	28.2	21.20	131.826	Horizontal	Pass
3.0MHz	1/#Mid	1711.5	-3.67	3.77	28.23	20.79	119.950	Horizontal	Pass
Band 16		1745	-2.92	3.91	28.24	21.41	138.357	Horizontal	Pass
QAM		1778.5	-3.21	3.94	28.25	21.10	128.825	Horizontal	Pass
5.0MHz	1/#Mid	1712.5	-3.09	3.77	28.31	21.45	139.637	Horizontal	Pass
Band 16		1745	-3.15	3.91	28.22	21.16	130.617	Horizontal	Pass
QAM		1777.5	-2.82	3.94	28.2	21.44	139.316	Horizontal	Pass
10.0MHz	1/#Mid	1715	-3.14	3.79	28.33	21.40	138.038	Horizontal	Pass
Band 16		1745	-2.80	3.95	28.22	21.47	140.281	Horizontal	Pass
QAM		1775	-3.12	3.97	28.19	21.10	128.825	Horizontal	Pass
15.0MHz	1/#Mid	1717.5	-3.13	3.79	28.34	21.42	138.676	Horizontal	Pass
Band 16		1745	-2.95	3.95	28.22	21.32	135.519	Horizontal	Pass
QAM		1772.5	-2.74	3.97	28.18	21.47	140.281	Horizontal	Pass
20.0MHz	1/#Mid	1720	-2.96	3.81	28.35	21.58	143.880	Horizontal	Pass
Band 16		1745	-2.74	3.96	28.22	21.52	141.906	Horizontal	Pass
QAM		1770	-2.68	4	28.16	21.48	140.605	Horizontal	Pass
1.4MHz	1/#Mid	1710.7	-3.36	3.76	28.24	21.12	129.420	Vertical	Pass
Band 16		1745	-4.71	3.91	28.22	19.60	91.201	Vertical	Pass
QAM		1779.3	-3.11	3.93	28.2	21.16	130.617	Vertical	Pass
3.0MHz	1/#Mid	1711.5	-4.75	3.77	28.23	19.71	93.541	Vertical	Pass
Band 16		1745	-3.20	3.91	28.24	21.13	129.718	Vertical	Pass
QAM		1778.5	-4.80	3.94	28.25	19.51	89.331	Vertical	Pass
5.0MHz	1/#Mid	1712.5	-4.49	3.77	28.31	20.05	101.158	Vertical	Pass
Band 16		1745	-4.67	3.91	28.22	19.64	92.045	Vertical	Pass
QAM		1777.5	-4.36	3.94	28.2	19.90	97.724	Vertical	Pass
10.0MHz	1/#Mid	1715	-3.15	3.79	28.34	21.40	138.038	Vertical	Pass
Band 16		1745	-3.61	3.95	28.22	20.66	116.413	Vertical	Pass
QAM		1775	-4.66	3.97	28.18	19.55	90.157	Vertical	Pass
15.0MHz	1/#Mid	1717.5	-5.00	3.81	28.35	19.54	89.950	Vertical	Pass
Band 16		1745	-2.99	3.96	28.22	21.27	133.968	Vertical	Pass

QAM		1772.5	-3.28	4	28.16	20.88	122.462	Vertical	Pass
20.0MHz	1/#Mid	1720	-4.69	3.79	28.34	19.86	96.828	Vertical	Pass
Band 16		1745	-4.06	3.95	28.22	20.21	104.954	Vertical	Pass
QAM		1770	-2.97	3.97	28.18	21.24	133.045	Vertical	Pass

Note:

SG Level= Signal generator output

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

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

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238(a), §27.53(c)(g)(h)(m) and §90.691

LIMIT

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

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10} (P \text{ [Watts]})$, 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 2/4/5/7/12/17/25/26/41/66

RESULTS

PASS

9.1 LTE BAND 2

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

Test Results for Low Channel 1850.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-58.30	4.04	33.51	-28.83	-13	-15.83	Horizontal
3701.4	-50.20	4.04	33.51	-20.73	-13	-7.73	Vertical
5552.1	-53.20	5.24	35.84	-22.60	-13	-9.60	Vertical
5552.1	-53.72	5.24	35.84	-23.12	-13	-10.12	Horizontal
188.8	-42.42	1.43	16.02	-27.83	-13	-14.83	Vertical
448.6	-34.54	1.30	17.99	-17.85	-13	-4.85	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-46.68	4.04	33.56	-17.16	-13	-4.16	Horizontal
3760.0	-47.92	4.04	33.56	-18.40	-13	-5.40	Vertical
5640.0	-51.58	5.24	35.91	-20.91	-13	-7.91	Vertical
5640.0	-49.55	5.24	35.91	-18.88	-13	-5.88	Horizontal
186.1	-44.61	1.62	16.97	-29.26	-13	-16.26	Vertical
370.8	-43.71	1.74	15.98	-29.48	-13	-16.48	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-47.64	4.04	34.00	-17.68	-13	-4.68	Horizontal
3818.6	-51.03	4.04	34.00	-21.07	-13	-8.07	Vertical
5727.9	-50.36	5.24	36.04	-19.56	-13	-6.56	Vertical
5727.9	-53.90	5.24	36.04	-23.10	-13	-10.10	Horizontal
207.4	-41.54	1.42	17.29	-25.67	-13	-12.67	Vertical
279.0	-39.54	1.50	17.90	-23.13	-13	-10.13	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	-53.94	4.07	33.54	-24.47	-13	-11.47	Horizontal
3720.0	-48.87	4.07	33.54	-19.40	-13	-6.40	Vertical
5580.0	-56.30	5.28	35.86	-25.72	-13	-12.72	Vertical
5580.0	-50.86	5.28	35.86	-20.28	-13	-7.28	Horizontal
193.0	-36.29	1.58	16.89	-20.97	-13	-7.97	Vertical
246.3	-40.84	1.76	17.26	-25.34	-13	-12.34	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.56	4.04	33.56	-18.04	-13	-5.04	Horizontal
3760.0	-46.83	4.04	33.56	-17.31	-13	-4.31	Vertical
5640.0	-49.20	5.24	35.91	-18.53	-13	-5.53	Vertical
5640.0	-51.55	5.24	35.91	-20.88	-13	-7.88	Horizontal
194.2	-40.83	1.46	16.27	-26.02	-13	-13.02	Vertical
462.5	-37.96	1.59	15.15	-24.40	-13	-11.40	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-46.48	4.04	34.00	-16.52	-13	-3.52	Horizontal
3800.0	-52.65	4.04	34.00	-22.69	-13	-9.69	Vertical
5700.0	-47.49	5.24	36.04	-16.69	-13	-3.69	Vertical
5700.0	-50.01	5.24	36.04	-19.21	-13	-6.21	Horizontal
197.7	-38.02	1.36	17.39	-21.98	-13	-8.98	Vertical
290.8	-40.56	1.66	15.39	-26.83	-13	-13.83	Horizontal

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	-49.31	4.02	29.80	-23.53	-13	-10.53	Horizontal
3421.4	-46.34	4.02	29.80	-20.56	-13	-7.56	Vertical
5132.1	-51.20	5.24	35.84	-20.60	-13	-7.60	Vertical
5132.1	-53.03	5.24	35.84	-22.43	-13	-9.43	Horizontal
192.0	-38.47	1.68	16.04	-24.11	-13	-11.11	Vertical
396.1	-34.95	1.78	17.74	-18.99	-13	-5.99	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-46.19	4.03	30.00	-20.22	-13	-7.22	Horizontal
3465.0	-53.47	4.03	30.00	-27.50	-13	-14.50	Vertical
5197.5	-51.18	5.25	35.86	-20.57	-13	-7.57	Vertical
5197.5	-50.74	5.25	35.86	-20.13	-13	-7.13	Horizontal
205.4	-44.77	1.72	17.69	-28.80	-13	-15.80	Vertical
428.9	-41.07	1.62	16.02	-26.66	-13	-13.66	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-49.39	4.05	30.01	-23.43	-13	-10.43	Horizontal
3508.6	-45.90	4.05	30.01	-19.94	-13	-6.94	Vertical
5262.9	-49.11	5.26	35.86	-18.51	-13	-5.51	Vertical
5262.9	-50.06	5.26	35.86	-19.46	-13	-6.46	Horizontal
195.9	-36.21	1.80	16.69	-21.32	-13	-8.32	Vertical
414.9	-40.83	1.75	16.66	-25.93	-13	-12.93	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	-46.41	4.02	29.80	-20.63	-13	-7.63	Horizontal
3440.0	-52.85	4.02	29.80	-27.07	-13	-14.07	Vertical
5160.0	-52.30	5.24	35.84	-21.70	-13	-8.70	Vertical
5160.0	-49.31	5.24	35.84	-18.71	-13	-5.71	Horizontal
212.0	-43.17	1.57	17.26	-27.48	-13	-14.48	Vertical
328.0	-39.72	1.78	16.35	-25.15	-13	-12.15	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-44.59	4.03	30.00	-18.62	-13	-5.62	Horizontal
3465.0	-50.70	4.03	30.00	-24.73	-13	-11.73	Vertical
5197.5	-46.67	5.25	35.86	-16.06	-13	-3.06	Vertical
5197.5	-49.23	5.25	35.86	-18.62	-13	-5.62	Horizontal
208.4	-44.10	1.44	17.95	-27.59	-13	-14.59	Vertical
338.7	-40.98	1.65	16.09	-26.54	-13	-13.54	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-48.67	2.91	27.68	-23.90	-13	-10.90	Horizontal
3490.0	-45.42	2.91	27.68	-20.65	-13	-7.65	Vertical
5235.0	-46.73	5.26	35.86	-16.13	-13	-3.13	Vertical
5235.0	-49.39	5.26	35.86	-18.79	-13	-5.79	Horizontal
212.9	-38.69	1.61	16.85	-23.45	-13	-10.45	Vertical
248.7	-41.42	1.61	15.19	-27.84	-13	-14.84	Horizontal

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	-51.35	2.78	27.50	-26.63	-13	-13.63	Horizontal
1649.4	-46.84	2.78	27.50	-22.12	-13	-9.12	Vertical
2474.1	-50.70	2.90	27.80	-25.80	-13	-12.80	Vertical
2474.1	-49.63	2.90	27.80	-24.73	-13	-11.73	Horizontal
182.0	-41.40	1.76	17.59	-25.57	-13	-12.57	Vertical
439.8	-36.40	1.63	15.87	-22.16	-13	-9.16	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-48.60	2.80	27.48	-23.92	-13	-10.92	Horizontal
1673.0	-51.63	2.80	27.48	-26.95	-13	-13.95	Vertical
2509.5	-44.41	2.91	27.70	-19.62	-13	-6.62	Vertical
2509.5	-50.84	2.91	27.70	-26.05	-13	-13.05	Horizontal
195.1	-39.63	1.61	15.68	-25.56	-13	-12.56	Vertical
241.6	-39.29	1.59	17.52	-23.37	-13	-10.37	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-50.73	2.82	27.43	-26.12	-13	-13.12	Horizontal
1696.6	-44.58	2.82	27.43	-19.97	-13	-6.97	Vertical
2544.9	-44.74	2.92	27.74	-19.92	-13	-6.92	Vertical
2544.9	-49.28	2.92	27.74	-24.46	-13	-11.46	Horizontal
189.4	-34.62	1.69	16.67	-19.63	-13	-6.63	Vertical
265.5	-35.61	1.70	17.18	-20.13	-13	-7.13	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	-44.16	2.78	27.50	-19.44	-13	-6.44	Horizontal
1658.0	-53.46	2.78	27.50	-28.74	-13	-15.74	Vertical
2487.0	-45.56	2.90	27.80	-20.66	-13	-7.66	Vertical
2487.0	-51.83	2.90	27.80	-26.93	-13	-13.93	Horizontal
181.5	-34.27	1.71	15.57	-20.41	-13	-7.41	Vertical
283.3	-44.45	1.34	16.40	-29.39	-13	-16.39	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-53.72	2.80	27.48	-29.04	-13	-16.04	Horizontal
1673.0	-50.37	2.80	27.48	-25.69	-13	-12.69	Vertical
2509.5	-49.44	2.91	27.70	-24.65	-13	-11.65	Vertical
2509.5	-50.47	2.91	27.70	-25.68	-13	-12.68	Horizontal
201.1	-35.58	1.44	17.04	-19.98	-13	-6.98	Vertical
458.0	-38.83	1.76	17.62	-22.97	-13	-9.97	Horizontal
Test Results for High Channel 844MHz							
1688.0	-44.98	2.82	27.43	-20.37	-13	-7.37	Horizontal
1688.0	-46.15	2.82	27.43	-21.54	-13	-8.54	Vertical
2532.0	-46.42	2.92	27.74	-21.60	-13	-8.60	Vertical
2532.0	-52.62	2.92	27.74	-27.80	-13	-14.80	Horizontal
192.8	-38.03	1.74	17.70	-22.07	-13	-9.07	Vertical
356.8	-42.37	1.41	17.46	-26.31	-13	-13.31	Horizontal

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	-61.22	5.23	35.81	-30.64	-25	-5.64	Horizontal
5005.0	-64.06	5.23	35.81	-33.48	-25	-8.48	Vertical
7507.5	-62.40	5.67	36.85	-31.22	-25	-6.22	Vertical
7507.5	-64.34	5.67	36.85	-33.16	-25	-8.16	Horizontal
197.7	-51.42	1.73	17.97	-35.18	-25	-10.18	Vertical
462.7	-50.06	1.38	15.11	-36.33	-25	-11.33	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.82	5.23	35.82	-31.23	-25	-6.23	Horizontal
5070.0	-60.10	5.23	35.82	-29.51	-25	-4.51	Vertical
7605.0	-63.00	5.67	36.85	-31.82	-25	-6.82	Vertical
7605.0	-64.58	5.67	36.85	-33.40	-25	-8.40	Horizontal
202.2	-50.19	1.77	16.17	-35.78	-25	-10.78	Vertical
255.3	-51.16	1.63	15.21	-37.58	-25	-12.58	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-59.15	5.24	35.83	-28.56	-25	-3.56	Horizontal
5135.0	-62.43	5.24	35.83	-31.84	-25	-6.84	Vertical
7702.5	-61.20	5.68	36.87	-30.01	-25	-5.01	Vertical
7702.5	-64.92	5.68	36.87	-33.73	-25	-8.73	Horizontal
209.2	-48.53	1.58	17.56	-32.55	-25	-7.55	Vertical
319.6	-44.94	1.45	16.58	-29.81	-25	-4.81	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	-61.35	5.23	35.82	-30.76	-25	-5.76	Horizontal
5020.0	-62.22	5.23	35.82	-31.63	-25	-6.63	Vertical
7530.0	-60.01	5.67	36.86	-28.82	-25	-3.82	Vertical
7530.0	-65.00	5.67	36.86	-33.81	-25	-8.81	Horizontal
203.0	-51.51	1.63	15.76	-37.38	-25	-12.38	Vertical
359.9	-47.31	1.71	15.44	-33.58	-25	-8.58	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-61.42	5.23	35.82	-30.83	-25	-5.83	Horizontal
5070.0	-63.99	5.23	35.82	-33.40	-25	-8.40	Vertical
7605.0	-62.42	5.67	36.85	-31.24	-25	-6.24	Vertical
7605.0	-63.03	5.67	36.85	-31.85	-25	-6.85	Horizontal
190.3	-54.52	1.79	16.84	-39.46	-25	-14.46	Vertical
303.3	-45.74	1.71	17.64	-29.81	-25	-4.81	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-61.87	5.24	35.83	-31.28	-25	-6.28	Horizontal
5120.0	-64.58	5.24	35.83	-33.99	-25	-8.99	Vertical
7680.0	-60.02	5.70	36.88	-28.84	-25	-3.84	Vertical
7680.0	-62.78	5.70	36.88	-31.60	-25	-6.60	Horizontal
176.5	-46.97	1.79	16.84	-31.91	-25	-6.91	Vertical
354.5	-48.87	1.71	17.64	-32.94	-25	-7.94	Horizontal

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	-51.14	2.60	27.20	-26.54	-13	-13.54	Horizontal
1399.4	-53.55	2.60	27.20	-28.95	-13	-15.95	Vertical
2099.1	-46.51	2.85	27.54	-21.82	-13	-8.82	Vertical
2099.1	-51.70	2.85	27.54	-27.01	-13	-14.01	Horizontal
179.8	-36.07	1.49	17.78	-19.78	-13	-6.78	Vertical
239.8	-41.20	1.36	17.33	-25.23	-13	-12.23	Horizontal
Test Results For Mid Channel 707.5MHz							
1415.0	-51.01	2.61	27.28	-26.34	-13	-13.34	Horizontal
1415.0	-44.35	2.61	27.28	-19.68	-13	-6.68	Vertical
2122.5	-53.52	2.87	27.59	-28.80	-13	-15.80	Vertical
2122.5	-53.04	2.87	27.59	-28.32	-13	-15.32	Horizontal
195.3	-39.06	1.73	15.74	-25.05	-13	-12.05	Vertical
330.0	-42.89	1.62	15.79	-28.72	-13	-15.72	Horizontal
Test Results for High Channel 715.3MHz							
1430.6	-49.28	2.63	27.28	-24.63	-13	-11.63	Horizontal
1430.6	-47.06	2.63	27.28	-22.41	-13	-9.41	Vertical
2145.9	-48.19	2.88	27.60	-23.47	-13	-10.47	Vertical
2145.9	-50.78	2.88	27.60	-26.06	-13	-13.06	Horizontal
182.3	-44.50	1.61	18.00	-28.11	-13	-15.11	Vertical
384.9	-44.07	1.45	15.49	-30.04	-13	-17.04	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	-45.99	2.61	27.26	-21.34	-13	-8.34	Horizontal
1408.0	-50.64	2.61	27.26	-25.99	-13	-12.99	Vertical
2112.0	-50.35	2.87	27.58	-25.64	-13	-12.64	Vertical
2112.0	-49.67	2.87	27.58	-24.96	-13	-11.96	Horizontal
180.1	-34.13	1.31	16.97	-18.47	-13	-5.47	Vertical
387.4	-42.56	1.65	16.70	-27.51	-13	-14.51	Horizontal
Test Results for Mid Channel 707.5MHz							
1415.0	-47.19	2.61	27.28	-22.52	-13	-9.52	Horizontal
1415.0	-51.80	2.61	27.28	-27.13	-13	-14.13	Vertical
2122.5	-46.48	2.87	27.59	-21.76	-13	-8.76	Vertical
2122.5	-50.68	2.87	27.59	-25.96	-13	-12.96	Horizontal
201.7	-39.13	1.72	17.99	-22.86	-13	-9.86	Vertical
251.2	-41.50	1.73	17.94	-25.29	-13	-12.29	Horizontal
Test Results for High Channel 711MHz							
1422.0	-45.84	2.62	27.28	-21.18	-13	-8.18	Horizontal
1422.0	-49.26	2.62	27.28	-24.60	-13	-11.60	Vertical
2133.0	-53.61	2.87	27.60	-28.88	-13	-15.88	Vertical
2133.0	-50.79	2.87	27.60	-26.06	-13	-13.06	Horizontal
194.8	-38.35	1.58	15.93	-24.00	-13	-11.00	Vertical
452.8	-40.18	1.36	15.59	-25.95	-13	-12.95	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 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	-46.28	2.61	27.28	-21.61	-13	-8.61	Horizontal
1413.0	-46.95	2.61	27.28	-22.28	-13	-9.28	Vertical
2119.5	-53.92	2.87	27.59	-29.20	-13	-16.20	Vertical
2119.5	-50.52	2.87	27.59	-25.80	-13	-12.80	Horizontal
190.0	-44.85	1.71	16.15	-30.41	-13	-17.41	Vertical
330.6	-34.04	1.41	17.32	-18.13	-13	-5.13	Horizontal
Test Results For Mid Channel 710MHz							
1420.0	-47.96	2.62	27.30	-23.28	-13	-10.28	Horizontal
1420.0	-46.18	2.62	27.30	-21.50	-13	-8.50	Vertical
2130.0	-49.40	2.87	27.62	-24.65	-13	-11.65	Vertical
2130.0	-50.20	2.87	27.62	-25.45	-13	-12.45	Horizontal
196.6	-40.34	1.42	15.25	-26.52	-13	-13.52	Vertical
393.4	-44.40	1.36	17.19	-28.57	-13	-15.57	Horizontal
Test Results for High Channel 713.5MHz							
1427.0	-46.04	2.66	27.28	-21.42	-13	-8.42	Horizontal
1427.0	-46.35	2.66	27.28	-21.73	-13	-8.73	Vertical
2140.5	-51.06	2.88	27.60	-26.34	-13	-13.34	Vertical
2140.5	-50.47	2.88	27.60	-25.75	-13	-12.75	Horizontal
204.7	-36.06	1.32	17.29	-20.09	-13	-7.09	Vertical
256.6	-41.34	1.72	16.89	-26.17	-13	-13.17	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	-50.97	2.62	27.30	-26.29	-13	-13.29	Horizontal
1418.0	-51.10	2.62	27.30	-26.42	-13	-13.42	Vertical
2127.0	-48.33	2.87	27.62	-23.58	-13	-10.58	Vertical
2127.0	-52.08	2.87	27.62	-27.33	-13	-14.33	Horizontal
181.9	-39.30	1.35	16.91	-23.74	-13	-10.74	Vertical
259.3	-39.46	1.62	16.31	-24.77	-13	-11.77	Horizontal
Test Results for Mid Channel 710MHz							
1420.0	-47.53	2.62	27.30	-22.85	-13	-9.85	Horizontal
1420.0	-44.99	2.62	27.30	-20.31	-13	-7.31	Vertical
2130.0	-50.08	2.87	27.62	-25.33	-13	-12.33	Vertical
2130.0	-53.61	2.87	27.62	-28.86	-13	-15.86	Horizontal
181.7	-40.52	1.51	17.14	-24.89	-13	-11.89	Vertical
238.6	-34.79	1.77	16.88	-19.68	-13	-6.68	Horizontal
Test Results for High Channel 711MHz							
1422.0	-52.15	2.62	27.30	-27.47	-13	-14.47	Horizontal
1422.0	-52.86	2.62	27.30	-28.18	-13	-15.18	Vertical
2133.0	-49.09	2.87	27.62	-24.34	-13	-11.34	Vertical
2133.0	-49.30	2.87	27.62	-24.55	-13	-11.55	Horizontal
203.0	-40.82	1.78	15.95	-26.65	-13	-13.65	Vertical
233.5	-34.67	1.34	17.95	-18.07	-13	-5.07	Horizontal

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

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

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

9.7 LTE BAND 25

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3701.4	-46.85	4.02	29.80	-21.07	-13	-8.07	Horizontal
3701.4	-46.49	4.02	29.80	-20.71	-13	-7.71	Vertical
5552.1	-48.81	5.24	35.84	-18.21	-13	-5.21	Vertical
5552.1	-48.81	5.24	35.84	-18.21	-13	-5.21	Horizontal
93.9	-32.98	1.59	15.11	-19.46	-13	-6.46	Vertical
119.7	-32.48	1.80	15.61	-18.67	-13	-5.67	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-47.33	4.03	30.00	-21.36	-13	-8.36	Horizontal
3765.0	-45.29	4.03	30.00	-19.32	-13	-6.32	Vertical
5647.5	-46.93	5.25	35.86	-16.32	-13	-3.32	Vertical
5647.5	-46.41	5.25	35.86	-15.80	-13	-2.80	Horizontal
166.1	-32.30	1.37	15.62	-18.05	-13	-5.05	Vertical
274.4	-32.51	1.55	17.51	-16.55	-13	-3.55	Horizontal
Test Results for High Channel 1754.3MHz							
3828.6	-46.28	4.05	30.01	-20.32	-13	-7.32	Horizontal
3828.6	-42.08	4.05	30.01	-16.12	-13	-3.12	Vertical
5742.9	-49.80	5.26	35.86	-19.20	-13	-6.20	Vertical
5742.9	-49.78	5.26	35.86	-19.18	-13	-6.18	Horizontal
108.6	-34.47	1.66	17.19	-18.94	-13	-5.94	Vertical
138.7	-32.61	1.35	17.94	-16.02	-13	-3.02	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-46.90	4.02	29.80	-21.12	-13	-8.12	Horizontal
3720.0	-42.08	4.02	29.80	-16.30	-13	-3.30	Vertical
5580.0	-48.05	5.24	35.84	-17.45	-13	-4.45	Vertical
5580.0	-47.66	5.24	35.84	-17.06	-13	-4.06	Horizontal
146.2	-34.42	1.70	15.24	-20.88	-13	-7.88	Vertical
215.4	-34.09	1.42	16.58	-18.93	-13	-5.93	Horizontal
Test Results for Mid Channel 1732.5MHz							
3765.0	-49.28	4.03	30.00	-23.31	-13	-10.31	Horizontal
3765.0	-44.06	4.03	30.00	-18.09	-13	-5.09	Vertical
5647.5	-46.97	5.25	35.86	-16.36	-13	-3.36	Vertical
5647.5	-50.30	5.25	35.86	-19.69	-13	-6.69	Horizontal
132.2	-33.10	1.64	16.16	-18.58	-13	-5.58	Vertical
133.3	-34.35	1.62	17.37	-18.60	-13	-5.60	Horizontal
Test Results for High Channel 1745MHz							
3810.0	-47.00	2.91	27.68	-22.23	-13	-9.23	Horizontal
3810.0	-45.56	2.91	27.68	-20.79	-13	-7.79	Vertical
5715.0	-47.56	5.26	35.86	-16.96	-13	-3.96	Vertical
5715.0	-47.33	5.26	35.86	-16.73	-13	-3.73	Horizontal
212.6	-33.90	1.49	15.29	-20.10	-13	-7.10	Vertical
275.8	-33.38	1.79	16.42	-18.75	-13	-5.75	Horizontal

9.8 LTE BAND 26

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

Test Results for Low Channel 814.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1629.4	-47.44	2.78	27.50	-22.72	-13	-9.72	Horizontal
1629.4	-47.84	2.78	27.50	-23.12	-13	-10.12	Vertical
2444.1	-47.40	2.90	27.80	-22.50	-13	-9.50	Vertical
2444.1	-48.63	2.90	27.80	-23.73	-13	-10.73	Horizontal
229.6	-34.33	1.54	16.98	-18.89	-13	-5.89	Vertical
83.3	-32.92	1.47	15.82	-18.57	-13	-5.57	Horizontal
Test Results For Mid Channel 819MHz							
1638.0	-48.90	2.80	27.48	-24.22	-13	-11.22	Horizontal
1638.0	-42.88	2.80	27.48	-18.20	-13	-5.20	Vertical
2457.0	-47.83	2.91	27.70	-23.04	-13	-10.04	Vertical
2457.0	-49.66	2.91	27.70	-24.87	-13	-11.87	Horizontal
168.2	-33.29	1.74	16.19	-18.84	-13	-5.84	Vertical
92.9	-34.72	1.46	15.43	-20.75	-13	-7.75	Horizontal
Test Results for High Channel 823.3MHz							
1646.6	-49.58	2.82	27.43	-24.97	-13	-11.97	Horizontal
1646.6	-45.73	2.82	27.43	-21.12	-13	-8.12	Vertical
2469.9	-47.53	2.92	27.74	-22.71	-13	-9.71	Vertical
2469.9	-46.77	2.92	27.74	-21.95	-13	-8.95	Horizontal
213.1	-34.61	1.67	17.05	-19.23	-13	-6.23	Vertical
121.7	-32.84	1.42	16.12	-18.14	-13	-5.14	Horizontal

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

Test Results for Channel 819MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1638.0	-48.56	2.78	27.50	-23.84	-13	-10.84	Horizontal
1638.0	-45.59	2.78	27.50	-20.87	-13	-7.87	Vertical
2457.0	-46.33	2.90	27.80	-21.43	-13	-8.43	Vertical
2457.0	-49.88	2.90	27.80	-24.98	-13	-11.98	Horizontal
253.7	-32.62	1.43	17.34	-16.71	-13	-3.71	Vertical
256.8	-33.99	1.56	15.71	-19.84	-13	-6.84	Horizontal

QPSK EIRP POWER FOR LTE BAND 26(824MHz~849MHz) (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	-46.59	2.78	27.50	-21.87	-13	-8.87	Horizontal
1649.4	-46.73	2.78	27.50	-22.01	-13	-9.01	Vertical
2474.1	-47.79	2.90	27.80	-22.89	-13	-9.89	Vertical
2474.1	-49.80	2.90	27.80	-24.90	-13	-11.90	Horizontal
237.0	-33.72	1.33	17.34	-17.71	-13	-4.71	Vertical
180.5	-33.79	1.47	16.80	-18.46	-13	-5.46	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-46.01	2.80	27.48	-21.33	-13	-8.33	Horizontal
1673.0	-44.33	2.80	27.48	-19.65	-13	-6.65	Vertical
2509.5	-49.06	2.91	27.70	-24.27	-13	-11.27	Vertical
2509.5	-46.01	2.91	27.70	-21.22	-13	-8.22	Horizontal
140.8	-32.29	1.75	15.46	-18.58	-13	-5.58	Vertical
90.6	-32.27	1.52	16.14	-17.65	-13	-4.65	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-46.29	2.82	27.43	-21.68	-13	-8.68	Horizontal
1696.6	-49.18	2.82	27.43	-24.57	-13	-11.57	Vertical
2544.9	-47.70	2.92	27.74	-22.88	-13	-9.88	Vertical
2544.9	-49.85	2.92	27.74	-25.03	-13	-12.03	Horizontal
171.4	-33.76	1.67	16.09	-19.34	-13	-6.34	Vertical
247.2	-33.96	1.80	17.55	-18.21	-13	-5.21	Horizontal

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

Test Results for Low Channel 831.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1663.0	-49.90	2.78	27.50	-25.18	-13	-12.18	Horizontal
1663.0	-42.88	2.78	27.50	-18.16	-13	-5.16	Vertical
2494.5	-48.11	2.90	27.80	-23.21	-13	-10.21	Vertical
2494.5	-47.26	2.90	27.80	-22.36	-13	-9.36	Horizontal
255.4	-34.77	1.52	15.72	-20.57	-13	-7.57	Vertical
163.1	-32.13	1.40	17.03	-16.50	-13	-3.50	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-49.12	2.80	27.48	-24.44	-13	-11.44	Horizontal
1673.0	-43.65	2.80	27.48	-18.97	-13	-5.97	Vertical
2509.5	-49.67	2.91	27.70	-24.88	-13	-11.88	Vertical
2509.5	-48.07	2.91	27.70	-23.28	-13	-10.28	Horizontal
227.1	-33.30	1.74	16.38	-18.66	-13	-5.66	Vertical
101.3	-33.70	1.79	15.20	-20.29	-13	-7.29	Horizontal
Test Results for High Channel 841.5MHz							
1683.0	-46.45	2.82	27.43	-21.84	-13	-8.84	Horizontal
1683.0	-44.81	2.82	27.43	-20.20	-13	-7.20	Vertical
2524.5	-47.68	2.92	27.74	-22.86	-13	-9.86	Vertical
2524.5	-49.95	2.92	27.74	-25.13	-13	-12.13	Horizontal
261.1	-33.03	1.78	17.44	-17.37	-13	-4.37	Vertical
120.1	-32.92	1.70	15.93	-18.69	-13	-5.69	Horizontal

9.9 LTE BAND 41

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

Test Results for Low Channel 2498.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
4997	-59.91	5.23	35.81	-29.33	-25	-4.33	Horizontal
4997	-63.76	5.23	35.81	-33.18	-25	-8.18	Vertical
7495.5	-64.84	5.67	36.85	-33.66	-25	-8.66	Vertical
7495.5	-61.13	5.67	36.85	-29.95	-25	-4.95	Horizontal
435.3	-45.95	1.38	15.98	-31.35	-25	-6.35	Vertical
465.8	-44.48	1.62	15.66	-30.44	-25	-5.44	Horizontal
Test Results for Mid Channel 2593MHz							
5186	-59.53	5.23	35.82	-28.94	-25	-3.94	Horizontal
5186	-63.42	5.23	35.82	-32.83	-25	-7.83	Vertical
7779	-59.38	5.67	36.85	-28.20	-25	-3.20	Vertical
7779	-60.64	5.67	36.85	-29.46	-25	-4.46	Horizontal
510.4	-44.50	1.62	16.17	-29.95	-25	-4.95	Vertical
562.9	-48.99	1.74	17.63	-33.10	-25	-8.10	Horizontal
Test Results for High Channel 2687.5MHz							
5375	-64.10	5.24	35.83	-33.51	-25	-8.51	Horizontal
5375	-59.72	5.24	35.83	-29.13	-25	-4.13	Vertical
8062.5	-63.50	5.68	36.87	-32.31	-25	-7.31	Vertical
8062.5	-65.30	5.68	36.87	-34.11	-25	-9.11	Horizontal
197.6	-49.79	1.55	15.84	-35.50	-25	-10.50	Vertical
353.1	-45.14	1.51	17.06	-29.59	-25	-4.59	Horizontal

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

Test Results for Low Channel 2506MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
5012	-61.21	5.23	35.82	-30.62	-25	-5.62	Horizontal
5012	-60.41	5.23	35.82	-29.82	-25	-4.82	Vertical
7518	-64.30	5.67	36.86	-33.11	-25	-8.11	Vertical
7518	-60.84	5.67	36.86	-29.65	-25	-4.65	Horizontal
128.9	-47.24	1.43	15.51	-33.16	-25	-8.16	Vertical
344.8	-49.28	1.40	16.97	-33.71	-25	-8.71	Horizontal
Test Results for Mid Channel 2593MHz							
5186	-64.57	5.23	35.82	-33.98	-25	-8.98	Horizontal
5186	-59.05	5.23	35.82	-28.46	-25	-3.46	Vertical
7779	-64.44	5.67	36.85	-33.26	-25	-8.26	Vertical
7779	-62.68	5.67	36.85	-31.50	-25	-6.50	Horizontal
100.8	-45.86	1.77	16.72	-30.91	-25	-5.91	Vertical
263.5	-49.17	1.31	16.99	-33.49	-25	-8.49	Horizontal
Test Results for High Channel 2680MHz							
5360	-59.13	5.24	35.83	-28.54	-25	-3.54	Horizontal
5360	-63.36	5.24	35.83	-32.77	-25	-7.77	Vertical
8040	-64.46	5.70	36.88	-33.28	-25	-8.28	Vertical
8040	-59.40	5.70	36.88	-28.22	-25	-3.22	Horizontal
349.9	-46.21	1.70	15.73	-32.18	-25	-7.18	Vertical
110.3	-49.00	1.75	17.33	-33.42	-25	-8.42	Horizontal

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

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

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

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

9.10 LTE BAND 66

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

Test Results for Low Channel 1710.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3421.4	-46.82	4.02	29.80	-21.04	-13	-8.04	Horizontal
3421.4	-45.80	4.02	29.80	-20.02	-13	-7.02	Vertical
5132.1	-50.98	5.24	35.84	-20.38	-13	-7.38	Vertical
5132.1	-47.08	5.24	35.84	-16.48	-13	-3.48	Horizontal
112.6	-49.17	1.52	15.57	-35.12	-13	-22.12	Vertical
220.5	-46.68	1.33	17.14	-30.87	-13	-17.87	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-51.94	4.03	30.00	-25.97	-13	-12.97	Horizontal
3490.0	-44.63	4.03	30.00	-18.66	-13	-5.66	Vertical
5235.0	-49.25	5.25	35.86	-18.64	-13	-5.64	Vertical
5235.0	-53.80	5.25	35.86	-23.19	-13	-10.19	Horizontal
157.3	-49.77	1.53	17.13	-34.17	-13	-21.17	Vertical
213.1	-50.56	1.41	15.95	-36.02	-13	-23.02	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-52.10	4.05	30.01	-26.14	-13	-13.14	Horizontal
3558.6	-48.34	4.05	30.01	-22.38	-13	-9.38	Vertical
5337.9	-53.53	5.26	35.86	-22.93	-13	-9.93	Vertical
5337.9	-51.08	5.26	35.86	-20.48	-13	-7.48	Horizontal
170.6	-45.44	1.44	15.51	-31.37	-13	-18.37	Vertical
169.0	-51.42	1.78	15.76	-37.44	-13	-24.44	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	-51.53	4.02	29.80	-25.75	-13	-12.75	Horizontal
3440.0	-44.92	4.02	29.80	-19.14	-13	-6.14	Vertical
5160.0	-54.99	5.24	35.84	-24.39	-13	-11.39	Vertical
5160.0	-53.33	5.24	35.84	-22.73	-13	-9.73	Horizontal
268.8	-53.12	1.62	17.02	-37.72	-13	-24.72	Vertical
161.4	-47.05	1.32	17.31	-31.06	-13	-18.06	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-52.24	4.03	30.00	-26.27	-13	-13.27	Horizontal
3490.0	-46.03	4.03	30.00	-20.06	-13	-7.06	Vertical
5235.0	-49.76	5.25	35.86	-19.15	-13	-6.15	Vertical
5235.0	-53.95	5.25	35.86	-23.34	-13	-10.34	Horizontal
159.9	-47.29	1.45	15.17	-33.57	-13	-20.57	Vertical
172.1	-49.14	1.48	17.82	-32.80	-13	-19.80	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-53.72	2.91	27.68	-28.95	-13	-15.95	Horizontal
3540.0	-48.38	2.91	27.68	-23.61	-13	-10.61	Vertical
5310.0	-52.49	5.26	35.86	-21.89	-13	-8.89	Vertical
5310.0	-50.67	5.26	35.86	-20.07	-13	-7.07	Horizontal
197.3	-51.42	1.76	16.38	-36.80	-13	-23.80	Vertical
158.5	-48.76	1.43	17.13	-33.06	-13	-20.06	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- ☐ Temp. = -30° to $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 3.4V, Normal, DC 3.85V and High voltage, DC 4.4V.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

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

MODES TESTED

- ☐ LTE Band 2/4/5/7/12/17/25/26/41/66

RESULTS

See the following pages.

10.1 LTE BAND 2

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1880	12.5	0.006658	2.5
3.85	1880	13.5	0.007200	2.5
4.4	1880	13.4	0.007106	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	12.7	0.006769	2.5
Extreme (50C)	1880	11.9	0.006340	2.5
Extreme (40C)	1880	14.0	0.007442	2.5
Extreme (30C)	1880	13.5	0.007161	2.5
Extreme (10C)	1880	14.3	0.007628	2.5
Extreme (0C)	1880	12.1	0.006449	2.5
Extreme (-10C)	1880	12.8	0.006833	2.5
Extreme (-20C)	1880	14.2	0.007568	2.5
Extreme (-30C)	1880	14.5	0.007706	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1880	9.3	0.004951	2.5
3.85	1880	8.5	0.004542	2.5
4.4	1880	8.4	0.004486	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	9.3	0.004939	2.5
Extreme (50C)	1880	9.4	0.004983	2.5
Extreme (40C)	1880	8.6	0.004557	2.5
Extreme (30C)	1880	9.3	0.004963	2.5
Extreme (10C)	1880	9.0	0.004769	2.5
Extreme (0C)	1880	8.1	0.004288	2.5
Extreme (-10C)	1880	9.3	0.004944	2.5
Extreme (-20C)	1880	9.4	0.004987	2.5
Extreme (-30C)	1880	8.2	0.004350	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

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1732.5	8.4	0.004823	2.5
3.85	1732.5	8.7	0.005001	2.5
4.4	1732.5	8.2	0.004710	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	7.9	0.004584	2.5
Extreme (50C)	1732.5	9.1	0.005227	2.5
Extreme (40C)	1732.5	7.3	0.004209	2.5
Extreme (30C)	1732.5	6.4	0.003671	2.5
Extreme (10C)	1732.5	7.5	0.004337	2.5
Extreme (0C)	1732.5	9.4	0.005422	2.5
Extreme (-10C)	1732.5	8.6	0.004951	2.5
Extreme (-20C)	1732.5	7.1	0.004084	2.5
Extreme (-30C)	1732.5	8.2	0.004720	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1732.5	10.1	0.005808	2.5
3.85	1732.5	9.1	0.005247	2.5
4.4	1732.5	7.7	0.004453	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	10.1	0.005856	2.5
Extreme (50C)	1732.5	9.1	0.005272	2.5
Extreme (40C)	1732.5	8.4	0.004867	2.5
Extreme (30C)	1732.5	9.0	0.005211	2.5
Extreme (10C)	1732.5	8.8	0.005084	2.5
Extreme (0C)	1732.5	8.2	0.004711	2.5
Extreme (-10C)	1732.5	9.4	0.005433	2.5
Extreme (-20C)	1732.5	8.5	0.004904	2.5
Extreme (-30C)	1732.5	7.9	0.004577	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

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	836.5	6.0	0.007131	2.5
3.85	836.5	6.5	0.007806	2.5
4.4	836.5	5.0	0.005979	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	5.9	0.007065	2.5
Extreme (50C)	836.5	6.0	0.007218	2.5
Extreme (40C)	836.5	5.8	0.006960	2.5
Extreme (30C)	836.5	6.7	0.008018	2.5
Extreme (10C)	836.5	5.2	0.006223	2.5
Extreme (0C)	836.5	5.1	0.006074	2.5
Extreme (-10C)	836.5	5.7	0.006799	2.5
Extreme (-20C)	836.5	5.7	0.006819	2.5
Extreme (-30C)	836.5	6.4	0.007694	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	836.5	5.5	0.006554	2.5
3.85	836.5	6.9	0.008192	2.5
4.4	836.5	4.5	0.005333	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	6.0	0.007159	2.5
Extreme (50C)	836.5	6.4	0.007629	2.5
Extreme (40C)	836.5	6.3	0.007473	2.5
Extreme (30C)	836.5	6.5	0.007723	2.5
Extreme (10C)	836.5	5.7	0.006761	2.5
Extreme (0C)	836.5	5.0	0.005922	2.5
Extreme (-10C)	836.5	5.6	0.006751	2.5
Extreme (-20C)	836.5	5.8	0.006969	2.5
Extreme (-30C)	836.5	5.9	0.007016	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

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2535	9.7	0.003840	2.5
3.85	2535	9.3	0.003669	2.5
4.4	2535	8.9	0.003506	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	8.9	0.003523	2.5
Extreme (50C)	2535	9.3	0.003678	2.5
Extreme (40C)	2535	8.2	0.003244	2.5
Extreme (30C)	2535	9.2	0.003644	2.5
Extreme (10C)	2535	8.5	0.003343	2.5
Extreme (0C)	2535	8.3	0.003273	2.5
Extreme (-10C)	2535	9.2	0.003637	2.5
Extreme (-20C)	2535	9.3	0.003650	2.5
Extreme (-30C)	2535	8.2	0.003251	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2535	6.6	0.002621	2.5
3.85	2535	6.8	0.002687	2.5
4.4	2535	5.7	0.002232	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	7.0	0.002748	2.5
Extreme (50C)	2535	6.1	0.002393	2.5
Extreme (40C)	2535	5.1	0.002027	2.5
Extreme (30C)	2535	6.2	0.002463	2.5
Extreme (10C)	2535	5.6	0.002212	2.5
Extreme (0C)	2535	4.7	0.001836	2.5
Extreme (-10C)	2535	5.5	0.002186	2.5
Extreme (-20C)	2535	6.0	0.002372	2.5
Extreme (-30C)	2535	6.1	0.002415	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	8.3	0.011719	2.5
3.85	707.5	10.2	0.014361	2.5
4.4	707.5	8.2	0.011578	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	707.5	8.5	0.012004	2.5
Extreme (50C)	707.5	7.0	0.009955	2.5
Extreme (40C)	707.5	7.7	0.010887	2.5
Extreme (30C)	707.5	8.4	0.011842	2.5
Extreme (10C)	707.5	6.9	0.009811	2.5
Extreme (0C)	707.5	9.1	0.012860	2.5
Extreme (-10C)	707.5	8.9	0.012554	2.5
Extreme (-20C)	707.5	8.8	0.012376	2.5
Extreme (-30C)	707.5	8.2	0.011653	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	7.1	0.009972	2.5
3.85	707.5	8.2	0.011657	2.5
4.4	707.5	7.6	0.010686	2.5

Frequency error vs. Temperature

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

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

10.6 LTE BAND 17

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	710.0	10.2	0.014339	2.5
3.85	710.0	9.2	0.012928	2.5
4.4	710.0	8.5	0.012002	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.2	0.012974	2.5
Extreme (50C)	710.0	9.2	0.012954	2.5
Extreme (40C)	710.0	8.5	0.012028	2.5
Extreme (30C)	710.0	9.0	0.012637	2.5
Extreme (10C)	710.0	8.5	0.011934	2.5
Extreme (0C)	710.0	8.5	0.012014	2.5
Extreme (-10C)	710.0	9.2	0.012899	2.5
Extreme (-20C)	710.0	8.5	0.011946	2.5
Extreme (-30C)	710.0	7.8	0.010998	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	9.8	0.013832	2.5
3.85	710.0	8.9	0.012477	2.5
4.4	710.0	8.1	0.011382	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	710.0	9.3	0.013161	2.5
Extreme (50C)	710.0	9.2	0.012979	2.5
Extreme (40C)	710.0	8.4	0.011845	2.5
Extreme (30C)	710.0	9.2	0.012900	2.5
Extreme (10C)	710.0	7.7	0.010802	2.5
Extreme (0C)	710.0	8.8	0.012340	2.5
Extreme (-10C)	710.0	9.6	0.013572	2.5
Extreme (-20C)	710.0	8.7	0.012214	2.5
Extreme (-30C)	710.0	8.2	0.011557	2.5

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

10.7 LTE BAND 25

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 25 QPSK, (CH 26365 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1882.5	5	0.002656	2.5
3.85	1882.5	23	0.012218	2.5
4.4	1882.5	6	0.003187	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 25 QPSK, (CH 26365 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1882.5	4.4	0.002331	2.5
Extreme (50C)	1882.5	9.8	0.005186	2.5
Extreme (40C)	1882.5	6.2	0.003299	2.5
Extreme (30C)	1882.5	6.7	0.003581	2.5
Extreme (10C)	1882.5	5.6	0.002961	2.5
Extreme (0C)	1882.5	8.8	0.004658	2.5
Extreme (-10C)	1882.5	1.4	0.000755	2.5
Extreme (-20C)	1882.5	2.2	0.001150	2.5
Extreme (-30C)	1882.5	6.9	0.003676	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 25 16QAM, (CH 26365 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1882.5	9.2	0.004903	2.5
3.85	1882.5	7.3	0.003879	2.5
4.4	1882.5	5.9	0.003127	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 25 16QAM, (CH 26365 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1882.5	7.0	0.003734	2.5
Extreme (50C)	1882.5	5.2	0.002744	2.5
Extreme (40C)	1882.5	8.5	0.004532	2.5
Extreme (30C)	1882.5	2.0	0.001060	2.5
Extreme (10C)	1882.5	2.3	0.001200	2.5
Extreme (0C)	1882.5	6.9	0.003662	2.5
Extreme (-10C)	1882.5	6.0	0.003161	2.5
Extreme (-20C)	1882.5	7.8	0.004119	2.5
Extreme (-30C)	1882.5	6.9	0.003666	2.5

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

10.8 LTE BAND 26

Band 26 A (814MHz~824MHz) QPSK,10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26A QPSK, (CH 26740 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	819	8.9	0.010903	2.5
3.85	819	5.6	0.006844	2.5
4.4	819	6.8	0.008361	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26A QPSK, (CH 26740RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	8.8	0.010716	2.5
Extreme (50C)	819	1.0	0.001267	2.5
Extreme (40C)	819	2.4	0.002900	2.5
Extreme (30C)	819	7.0	0.008522	2.5
Extreme (10C)	819	5.2	0.006326	2.5
Extreme (0C)	819	6.1	0.007400	2.5
Extreme (-10C)	819	8.2	0.009994	2.5
Extreme (-20C)	819	6.6	0.008028	2.5
Extreme (-30C)	819	4.3	0.005288	2.5

Band 26A (814MHz~824MHz) 16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26A 16QAM, (CH 26740 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.4	819	2.7	0.003325	2.5
3.85	819	6.5	0.007996	2.5
4.4	819	5.4	0.006549	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26A 16QAM, (CH 26740 RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	819	6.1	0.007460	2.5
Extreme (50C)	819	8.9	0.010818	2.5
Extreme (40C)	819	6.3	0.007656	2.5
Extreme (30C)	819	4.0	0.004924	2.5
Extreme (10C)	819	6.9	0.008406	2.5
Extreme (0C)	819	5.8	0.007043	2.5
Extreme (-10C)	819	8.4	0.010206	2.5
Extreme (-20C)	819	6.7	0.008176	2.5
Extreme (-30C)	819	7.7	0.009371	2.5

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

Band 26B ((824MHz~849MHz) QPSK,15MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26B QPSK, (CH 26915 RB size 75 RB Offset 0 15MHz BANDWIDTH)				
3.4	836.5	8.6	0.010303	2.5
3.85	836.5	6.6	0.007838	2.5
4.4	836.5	8.3	0.009887	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26B QPSK, (CH 26915 RB size 75 RB Offset 0 15MHz BANDWIDTH)				
Normal (25C)	836.5	10.8	0.012963	2.5
Extreme (50C)	836.5	9.7	0.011613	2.5
Extreme (40C)	836.5	6.7	0.008003	2.5
Extreme (30C)	836.5	8.0	0.009573	2.5
Extreme (10C)	836.5	7.1	0.008518	2.5
Extreme (0C)	836.5	10.0	0.011905	2.5
Extreme (-10C)	836.5	1.7	0.001992	2.5
Extreme (-20C)	836.5	8.8	0.010572	2.5
Extreme (-30C)	836.5	7.6	0.009084	2.5

Band 26B (824MHz~849MHz) 16QAM, (15MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26B 16QAM, (CH 26915 RB size 75 RB Offset 0 15MHz BANDWIDTH)				
3.4	836.5	9.9	0.011879	2.5
3.85	836.5	11.0	0.013184	2.5
4.4	836.5	10.0	0.011969	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 26B 16QAM, (CH 26915 RB size 75 RB Offset 0 15MHz BANDWIDTH)				
Normal (25C)	836.5	6.2	0.007399	2.5
Extreme (50C)	836.5	8.8	0.010563	2.5
Extreme (40C)	836.5	7.5	0.009018	2.5
Extreme (30C)	836.5	7.6	0.009058	2.5
Extreme (10C)	836.5	6.9	0.008278	2.5
Extreme (0C)	836.5	5.3	0.006293	2.5
Extreme (-10C)	836.5	5.2	0.006234	2.5
Extreme (-20C)	836.5	3.2	0.011237	2.5
Extreme (-30C)	836.5	8.2	0.007292	2.5

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

10.9 LTE BAND 41

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2593	8.3	0.003216	2.5
3.85	2593	6.5	0.002501	2.5
4.4	2593	7.9	0.003045	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	7.0	0.002693	2.5
Extreme (50C)	2593	4.8	0.001843	2.5
Extreme (40C)	2593	5.6	0.002165	2.5
Extreme (30C)	2593	4.6	0.001792	2.5
Extreme (10C)	2593	6.4	0.002450	2.5
Extreme (0C)	2593	4.4	0.001710	2.5
Extreme (-10C)	2593	9.8	0.003785	2.5
Extreme (-20C)	2593	11.1	0.004270	2.5
Extreme (-30C)	2593	5.9	0.002267	2.5

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

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	2593	8.3	0.003184	2.5
3.85	2593	6.6	0.002539	2.5
4.4	2593	6.7	0.002581	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2593	7.1	0.002731	2.5
Extreme (50C)	2593	4.6	0.001765	2.5
Extreme (40C)	2593	5.0	0.001939	2.5
Extreme (30C)	2593	4.3	0.001669	2.5
Extreme (10C)	2593	6.7	0.002592	2.5
Extreme (0C)	2593	4.8	0.001839	2.5
Extreme (-10C)	2593	9.3	0.003597	2.5
Extreme (-20C)	2593	10.9	0.004204	2.5
Extreme (-30C)	2593	6.2	0.002406	2.5

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

10.10 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1745	13.0	0.00744	2.5
3.85	1745	14.1	0.00806	2.5
4.4	1745	13.0	0.00748	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 QPSK, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.6	0.004362	2.5
Extreme (50C)	1745	5.1	0.002912	2.5
Extreme (40C)	1745	5.8	0.003324	2.5
Extreme (30C)	1745	5.1	0.002938	2.5
Extreme (10C)	1745	6.6	0.003766	2.5
Extreme (0C)	1745	4.9	0.002787	2.5
Extreme (-10C)	1745	9.3	0.005348	2.5
Extreme (-20C)	1745	10.8	0.006169	2.5
Extreme (-30C)	1745	6.0	0.003461	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	1745	13.1	0.007499	2.5
3.85	1745	13.4	0.007705	2.5
4.4	1745	13.5	0.007759	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 66 16QAM, (CH 132322 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1745	7.1	0.004074	2.5
Extreme (50C)	1745	5.0	0.002873	2.5
Extreme (40C)	1745	5.1	0.002907	2.5
Extreme (30C)	1745	4.3	0.002491	2.5
Extreme (10C)	1745	6.1	0.003471	2.5
Extreme (0C)	1745	5.0	0.002842	2.5
Extreme (-10C)	1745	9.6	0.005473	2.5
Extreme (-20C)	1745	10.4	0.005984	2.5
Extreme (-30C)	1745	6.5	0.003722	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.

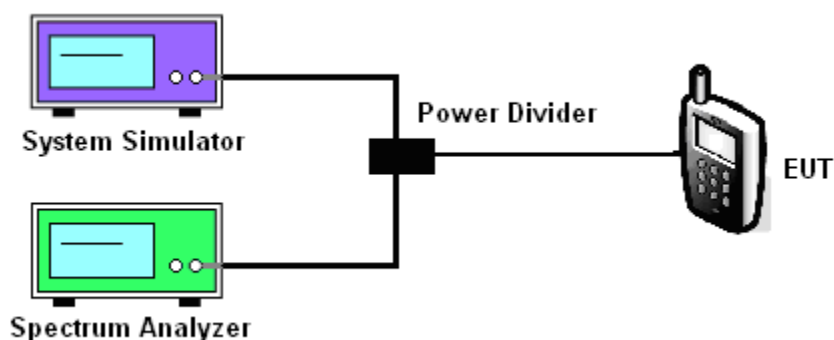
11.2 Measuring Instruments

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 GSM/EGPRS operating modes:
 - a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
 - b. Set EUT in maximum power output, and triggered the burst signal.
 - c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
4. For UMTS operating modes:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

11.4 Test Setup



MODES TESTED

- ☐ LTE Band 2/4/5/7/12/17/25/26/41/66
- ☐

Test data reference attachment.

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