

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

FCC ID: ZSW-10-052

Product: Mobile Phone

Trade Mark: Bmobile

Model Number: BS40C

Family Model: N/A

Report No.: N25110405505E

Prepared for

b mobile HK Limited

FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI,
HK

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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

Tel. 0755-23200050 Website: <http://www.ntek.org.cn>

TEST RESULT CERTIFICATION

Applicant's name..... : b mobile HK Limited

Address : FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK

Manufacturer's Name..... : b mobile HK Limited

Address : FLAT/RM 1202, 12/F GOLDEN STAR BUILDING, 20 LOCKHART ROAD, WANCHAI, HK

Product name : Mobile Phone

Model and/or type reference : BS40C

Family Model: N/A

Test sample number S2511040245-1#

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

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 Nov. 04, 2025 ~ Dec. 15, 2025

Date of Issue Dec. 15, 2025

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	5
1.1 PRODUCT DESCRIPTION	5
1.2 RELATED SUBMITTAL(S) / GRANT (S).....	6
1.3 TEST METHODOLOGY	6
1.4 TEST FACILITY	6
MEASUREMENT UNCERTAINTY	6
1.5 SPECIAL ACCESSORIES.....	6
1.6 WORST-CASE CONFIGURATION AND MODE.....	6
2. SYSTEM TEST CONFIGURATION	7
2.1 EUT CONFIGURATION.....	7
2.2 EUT EXERCISE	7
2.3 CONFIGURATION OF EUT SYSTEM.....	7
2.4 TEST SETUP	8
3.TEST AND MEASUREMENT EQUIPMENT	9
4. OUTPUT POWER.....	11
4.1 OUTPUT POWER MEASUREMENT	11
6. BANDEDGE AND EMISSION MASK	14
7. OUT OF BAND EMISSIONS.....	15
7.1 MEASUREMENT METHOD	16
8. RADIATED MEASUREMENT	17
8.1. RADIATED POWER (ERP & EIRP).....	17
8.2 LTE BAND 2	18
8.3 LTE BAND 4	22
8.4 LTE BAND 5	26
8.5 LTE BAND 7	28

8.6 LTE BAND 66	30
9. SPURIOUS RADIATION EMISSION	34
9.1 LTE BAND 2	36
9.2 LTE BAND 4	38
9.3 LTE BAND 5	40
9.4 LTE BAND 7	42
9.5 LTE BAND 66	44
10. FREQUENCY STABILITY	46
10.1 LTE BAND 2	47
10.2 LTE BAND 4	49
10.3 LTE BAND 5	51
10.4 LTE BAND 7	53
10.5 LTE BAND 66	55
11. PEAK-TO-AVERAGE RATIO	57
11.1 Description of the PAR Measurement	57
11.2 Measuring Instruments	57
11.3 Test Procedures	57
11.4 Test Setup	57

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Mobile Phone
Trade Mark	Bmobile
Model Name	BS40C
Family Model	N/A
Model Difference	N/A
FCC ID:	ZSW-10-052
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 2, 4, 5, 7, 66
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 66 Uplink: 1710MHz-1780MHz, Downlink: 2110MHz-2200MHz;
Type of Modulation:	QPSK/16QAM
Antenna:	FPC Antenna
Antenna gain:	LTE B2:1.0dBi; B4:1.0dBi; B5:-1.2dBi; B7:1.2dBi; B66:1.1dBi;
Power Supply:	DC 3.7V from Battery or DC 5V from Adapter.
Battery	DC 3.7V, 1400 mAh, 5.18Wh
Adapter:	INPUT: AC 100-240V~50-60Hz 0.15A OUTPUT: DC 5.0V 0.55A
Extreme Vol. Limits:	DC 3.15 V to DC 4.26V (Nominal DC 3.7V) (Note 1)
HW Version	Bmobile_BS40C_HW_V1.0
SW Version	Bmobile_BS40C_OM_CL_V001
** Note1: The High Voltage 4.26V and Low Voltage 3.15V 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: ZSW-10-052** filing to comply with the FCC Part 22H&24E &27.

1.3 TEST METHODOLOGY

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

1.4 TEST FACILITY

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

ShenZhen NTEK Testing Technology Co., Ltd.

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

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

FCC Registration No.:463705

IC Registration No.:9270A,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

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

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

1.5 SPECIAL ACCESSORIES

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

1.6 WORST-CASE CONFIGURATION AND MODE

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

The device has LTE Bands of: Band 2, Band 4, Band 5, Band 7, 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

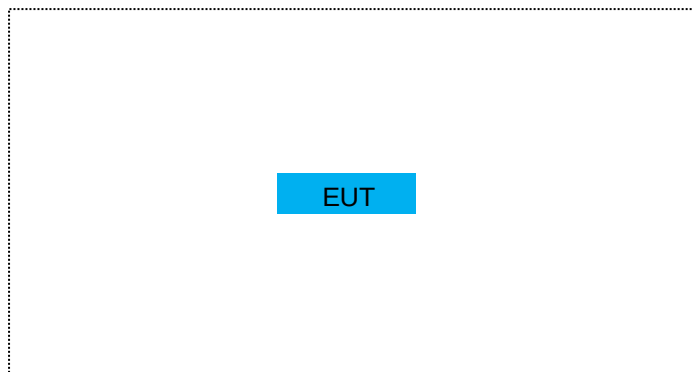
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Mobile Phone	BS40C	FCC ID: ZSW-10-052	EUT

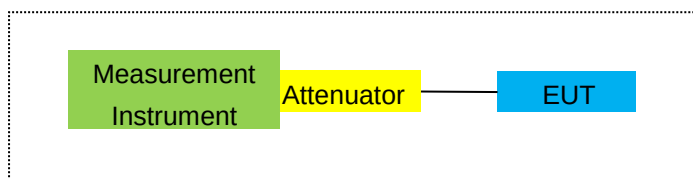
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

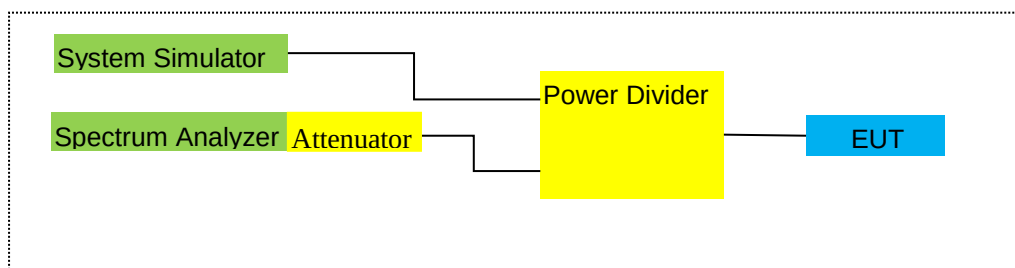
For Radiated Test Cases



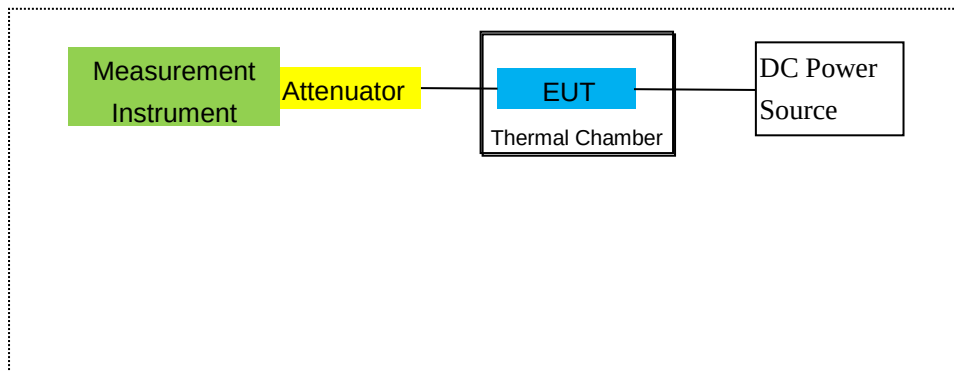
For Conducted Output Power



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	2025.04.17	2026.04.16	1 year
2	Test Receiver	R&S	ESPI	101318	2025.04.17	2026.04.16	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2025.04.17	2026.04.16	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
5	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2816	2024.5.18	2027.05.17	3 year
6	Broadband Horn Antenna	SCHWARZBECK	BBHA 9120 D	2817	2024.5.18	2027.05.17	3 year
7	Amplifier	EM	EM-30180	060538	2025.04.17	2026.04.16	1 year
8	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
9	Power Meter	R&S	NRVS	100696	2025.04.17	2026.04.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2025.04.17	2026.04.16	1 year
11	Test Cable	N/A	R-01	N/A	2023.06.17	2026.06.16	3 year
12	Test Cable	N/A	R-02	N/A	2023.06.17	2026.06.16	3 year
13	Test Cable	N/A	R-03	N/A	2023.06.17	2026.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2025.04.17	2026.04.16	1 year
15	LISN	R&S	ENV216	101313	2025.04.17	2026.04.16	1 year
16	LISN	EMCO	3816/2	00042990	2025.04.17	2026.04.16	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
18	Field strength probe	narda	EP601	711WX81278	2025.04.17	2026.04.16	1 year
19	Test Cable	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
20	Test Cable	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
21	Test Cable	N/A	C03	N/A	2023.05.06	2026.05.05	3 year
22	Spectrum Analyzer	Agilent	E4440A	MY41000130	2025.04.17	2026.04.16	1 year
23	EMI Test Receiver	R&S	ESCI	101160	2025.04.17	2026.04.16	1 year
24	Universal Radio Communication Tester	R&S	CMU200	105747	2025.04.17	2026.04.16	1 year

25	High and Low Temperature Box	WEISS	WT 20/40 EMC Simpac	58226119460030	2024.05.30	2027.05.29	3 year
26	DC Power Source	N/A	PS-6005D	20170402923	2024.04.25	2027.04.24	3 year
27	MXG Vector Signal Generator	Agilent	N5183B	MY57280984	2025.04.17	2026.04.16	1 year
28	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	584	2025.04.17	2026.04.16	1 year
29	Log-Periodic Antenna	SCHWARZBECK	VULB 9162	586	2025.04.17	2026.04.16	1 year
30	Communication Tester	R&S	CMW500	148500	2025.05.06	2026.05.05	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.

Measurement Software

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

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
64 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 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)

FCC: §2.1046, §22.913, §24.232

LIMITS

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

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

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

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

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

Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

TEST PROCEDURE

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

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

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

Set display line

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

MODES TESTED

LTE Band 2/4/5/7/66

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)

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 2/4/5/7/66

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)

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 2/4/5/7/66

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		Limit	
							(mW)			
1.4MHz Band QPSK	1/#Mid	1850.7	-5.22	3.76	28.24	19.26	84.333	Horizontal	2	Pass
		1880	-5.03	3.91	28.22	19.28	84.723	Horizontal	2	Pass
		1909.3	-4.94	3.93	28.20	19.33	85.704	Horizontal	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.28	3.77	28.23	19.18	82.794	Horizontal	2	Pass
		1880	-5.13	3.91	28.24	19.20	83.176	Horizontal	2	Pass
		1908.5	-5.00	3.94	28.25	19.31	85.310	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-5.17	3.77	28.31	19.37	86.497	Horizontal	2	Pass
		1880	-4.79	3.91	28.22	19.52	89.536	Horizontal	2	Pass
		1907.5	-4.72	3.94	28.20	19.54	89.950	Horizontal	2	Pass
10.0MHz Band QPSK	1/#Mid	1855	-5.03	3.79	28.33	19.51	89.331	Horizontal	2	Pass
		1880	-4.73	3.95	28.22	19.54	89.950	Horizontal	2	Pass
		1905	-4.62	3.97	28.19	19.60	91.201	Horizontal	2	Pass
15.0MHz Band QPSK	1/#Mid	1857.5	-4.99	3.79	28.34	19.56	90.365	Horizontal	2	Pass
		1880	-4.78	3.95	28.22	19.49	88.920	Horizontal	2	Pass
		1902.5	-4.64	3.97	28.18	19.57	90.573	Horizontal	2	Pass
20.0MHz Band QPSK	1/#Mid	1860	-4.98	3.81	28.35	19.56	90.365	Horizontal	2	Pass
		1880	-4.65	3.96	28.22	19.61	91.411	Horizontal	2	Pass
		1900	-4.59	4.00	28.16	19.57	90.573	Horizontal	2	Pass
1.4MHz Band QPSK	1/#Mid	1850.7	-6.39	3.76	28.24	18.09	64.417	Vertical	2	Pass
		1880	-5.85	3.91	28.22	18.46	70.146	Vertical	2	Pass
		1909.3	-6.05	3.93	28.20	18.22	66.374	Vertical	2	Pass
3.0MHz Band QPSK	1/#Mid	1851.5	-5.57	3.77	28.23	18.89	77.446	Vertical	2	Pass
		1880	-5.63	3.91	28.24	18.70	74.131	Vertical	2	Pass
		1908.5	-6.11	3.94	28.25	18.20	66.069	Vertical	2	Pass
5.0MHz Band QPSK	1/#Mid	1852.5	-6.35	3.77	28.31	18.19	65.917	Vertical	2	Pass
		1880	-5.81	3.91	28.22	18.50	70.795	Vertical	2	Pass
		1907.5	-5.76	3.94	28.20	18.50	70.795	Vertical	2	Pass
10.0MHz Band	1/#Mid	1855	-6.51	3.79	28.33	18.03	63.533	Vertical	2	Pass
		1880	-5.55	3.95	28.22	18.72	74.473	Vertical	2	Pass

QPSK		1905	-5.39	3.97	28.19	18.83	76.384	Vertical	2	Pass
15.0MHz	1/#Mid	1857.5	-6.25	3.79	28.34	18.30	67.608	Vertical	2	Pass
Band		1880	-6.19	3.95	28.22	18.08	64.269	Vertical	2	Pass
QPSK		1902.5	-6.15	3.97	28.18	18.06	63.973	Vertical	2	Pass
20.0MHz	1/#Mid	1860	-5.59	3.81	28.35	18.95	78.524	Vertical	2	Pass
Band		1880	-6.11	3.96	28.22	18.15	65.313	Vertical	2	Pass
QPSK		1900	-6.00	4.00	28.16	18.16	65.464	Vertical	2	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 Average (dBm)	Max. EIRP	Polarization Of Max. ERP		
							Average		Limit	
							(mW)		(W)	
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.34	3.76	28.24	18.14	65.163	Horizontal	2	Pass
		1880	-5.81	3.91	28.22	18.50	70.795	Horizontal	2	Pass
		1909.3	-5.74	3.93	28.20	18.53	71.285	Horizontal	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-5.84	3.77	28.23	18.62	72.778	Horizontal	2	Pass
		1880	-5.92	3.91	28.24	18.41	69.343	Horizontal	2	Pass
		1908.5	-6.13	3.94	28.25	18.18	65.766	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-5.78	3.77	28.31	18.76	75.162	Horizontal	2	Pass
		1880	-5.69	3.91	28.22	18.62	72.778	Horizontal	2	Pass
		1907.5	-5.37	3.94	28.20	18.89	77.446	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-5.83	3.79	28.33	18.71	74.302	Horizontal	2	Pass
		1880	-5.82	3.95	28.22	18.45	69.984	Horizontal	2	Pass
		1905	-5.29	3.97	28.19	18.93	78.163	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-5.81	3.79	28.34	18.74	74.817	Horizontal	2	Pass
		1880	-5.60	3.95	28.22	18.67	73.621	Horizontal	2	Pass
		1902.5	-5.56	3.97	28.18	18.65	73.282	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	1860	-5.70	3.81	28.35	18.84	76.560	Horizontal	2	Pass
		1880	-5.40	3.96	28.22	18.86	76.913	Horizontal	2	Pass
		1900	-5.22	4.00	28.16	18.94	78.343	Horizontal	2	Pass
1.4MHz Band 16 QAM	1/#Mid	1850.7	-6.91	3.76	28.24	17.57	57.148	Vertical	2	Pass
		1880	-6.83	3.91	28.22	17.48	55.976	Vertical	2	Pass
		1909.3	-6.62	3.93	28.20	17.65	58.210	Vertical	2	Pass
3.0MHz Band 16 QAM	1/#Mid	1851.5	-6.75	3.77	28.23	17.71	59.020	Vertical	2	Pass
		1880	-6.46	3.91	28.24	17.87	61.235	Vertical	2	Pass
		1908.5	-7.08	3.94	28.25	17.23	52.845	Vertical	2	Pass
5.0MHz Band 16 QAM	1/#Mid	1852.5	-6.69	3.77	28.31	17.85	60.954	Vertical	2	Pass
		1880	-6.51	3.91	28.22	17.80	60.256	Vertical	2	Pass
		1907.5	-7.06	3.94	28.20	17.20	52.481	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	1855	-7.09	3.79	28.33	17.45	55.590	Vertical	2	Pass
		1880	-6.96	3.95	28.22	17.31	53.827	Vertical	2	Pass
		1905	-6.96	3.97	28.19	17.26	53.211	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	1857.5	-7.45	3.79	28.34	17.10	51.286	Vertical	2	Pass
		1880	-7.08	3.95	28.22	17.19	52.360	Vertical	2	Pass
		1902.5	-7.03	3.97	28.18	17.18	52.240	Vertical	2	Pass
20.0MHz	1/#Mid	1860	-7.00	3.81	28.35	17.54	56.754	Vertical	2	Pass

Band 16		1880	-6.95	3.96	28.22	17.31	53.827	Vertical	2	Pass
QAM		1900	-6.63	4.00	28.16	17.53	56.624	Vertical	2	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						Limit (W)	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	-6.98	3.12	27.58	17.48	55.976	Horizontal	1	Pass
		1732.5	-6.97	3.27	27.61	17.37	54.576	Horizontal	1	Pass
		1754.3	-6.95	3.29	27.63	17.39	54.828	Horizontal	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-7.15	3.13	27.61	17.33	54.075	Horizontal	1	Pass
		1732.5	-7.07	3.27	27.61	17.27	53.333	Horizontal	1	Pass
		1753.5	-6.99	3.30	27.62	17.33	54.075	Horizontal	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-6.92	3.13	27.63	17.58	57.280	Horizontal	1	Pass
		1732.5	-6.82	3.27	27.61	17.52	56.494	Horizontal	1	Pass
		1752.5	-6.70	3.30	27.60	17.60	57.544	Horizontal	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-6.86	3.15	27.64	17.63	57.943	Horizontal	1	Pass
		1732.5	-6.63	3.31	27.61	17.67	58.479	Horizontal	1	Pass
		1750	-6.65	3.33	27.59	17.61	57.677	Horizontal	1	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-6.87	3.15	27.65	17.63	57.943	Horizontal	1	Pass
		1732.5	-6.71	3.31	27.61	17.59	57.412	Horizontal	1	Pass
		1747.5	-6.65	3.33	27.57	17.59	57.412	Horizontal	1	Pass
20.0MHz Band QPSK	1/#Mid	1720	-6.81	3.17	27.66	17.68	58.614	Horizontal	1	Pass
		1732.5	-6.64	3.32	27.61	17.65	58.210	Horizontal	1	Pass
		1745	-6.58	3.36	27.56	17.62	57.810	Horizontal	1	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-7.78	3.12	27.58	16.68	46.559	Vertical	1	Pass
		1732.5	-8.16	3.27	27.61	16.18	41.495	Vertical	1	Pass
		1754.3	-7.76	3.29	27.63	16.58	45.499	Vertical	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-7.68	3.13	27.61	16.80	47.863	Vertical	1	Pass
		1732.5	-7.21	3.27	27.61	17.13	51.642	Vertical	1	Pass
		1753.5	-8.05	3.30	27.62	16.27	42.364	Vertical	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-7.54	3.13	27.63	16.96	49.659	Vertical	1	Pass
		1732.5	-7.38	3.27	27.61	16.96	49.659	Vertical	1	Pass
		1752.5	-7.61	3.30	27.60	16.69	46.666	Vertical	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-8.11	3.15	27.64	16.38	43.451	Vertical	1	Pass
		1732.5	-7.60	3.31	27.61	16.70	46.774	Vertical	1	Pass
		1750	-7.78	3.33	27.59	16.48	44.463	Vertical	1	Pass

15.0MHz	Band QPSK	1/#Mid	1717.5	-8.31	3.15	27.65	16.19	41.591	Vertical	1	Pass
			1732.5	-7.88	3.31	27.61	16.42	43.853	Vertical	1	Pass
			1747.5	-8.04	3.33	27.57	16.20	41.687	Vertical	1	Pass
20.0MHz	Band QPSK	1/#Mid	1720	-8.27	3.17	27.66	16.22	41.879	Vertical	1	Pass
			1732.5	-7.22	3.32	27.61	17.07	50.933	Vertical	1	Pass
			1745	-7.83	3.36	27.56	16.37	43.351	Vertical	1	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						Limit (W)	Conclusion
			SG Level	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP	Max. EIRP	Polarization Of Max. ERP		
						Average	Average			
						(dBm)	(mW)			
1.4MHz Band 16 QAM	1/#Mid	1710.7	-7.79	3.12	27.58	16.67	46.452	Horizontal	1	Pass
		1732.5	-7.64	3.27	27.61	16.70	46.774	Horizontal	1	Pass
		1754.3	-7.64	3.29	27.63	16.70	46.774	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-7.73	3.13	27.61	16.75	47.315	Horizontal	1	Pass
		1732.5	-7.86	3.27	27.61	16.48	44.463	Horizontal	1	Pass
		1753.5	-8.08	3.30	27.62	16.24	42.073	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-7.56	3.13	27.63	16.94	49.431	Horizontal	1	Pass
		1732.5	-7.52	3.27	27.61	16.82	48.084	Horizontal	1	Pass
		1752.5	-7.21	3.30	27.60	17.09	51.168	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-7.63	3.15	27.64	16.86	48.529	Horizontal	1	Pass
		1732.5	-7.82	3.31	27.61	16.48	44.463	Horizontal	1	Pass
		1750	-7.20	3.33	27.59	17.06	50.816	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-7.43	3.15	27.65	17.07	50.933	Horizontal	1	Pass
		1732.5	-7.49	3.31	27.61	16.81	47.973	Horizontal	1	Pass
		1747.5	-7.51	3.33	27.57	16.73	47.098	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-7.38	3.17	27.66	17.11	51.404	Horizontal	1	Pass
		1732.5	-7.39	3.32	27.61	16.90	48.978	Horizontal	1	Pass
		1745	-7.20	3.36	27.56	17.00	50.119	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-8.43	3.12	27.58	16.03	40.087	Vertical	1	Pass
		1732.5	-8.69	3.27	27.61	15.65	36.728	Vertical	1	Pass
		1754.3	-8.93	3.29	27.63	15.41	34.754	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-8.62	3.13	27.61	15.86	38.548	Vertical	1	Pass
		1732.5	-8.52	3.27	27.61	15.82	38.194	Vertical	1	Pass
		1753.5	-8.56	3.30	27.62	15.76	37.670	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-9.18	3.13	27.63	15.32	34.041	Vertical	1	Pass
		1732.5	-8.89	3.27	27.61	15.45	35.075	Vertical	1	Pass
		1752.5	-8.50	3.30	27.60	15.80	38.019	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-9.31	3.15	27.64	15.18	32.961	Vertical	1	Pass
		1732.5	-8.65	3.31	27.61	15.65	36.728	Vertical	1	Pass
		1750	-8.78	3.33	27.59	15.48	35.318	Vertical	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-9.21	3.15	27.65	15.29	33.806	Vertical	1	Pass
		1732.5	-9.13	3.31	27.61	15.17	32.885	Vertical	1	Pass
		1747.5	-9.10	3.33	27.57	15.14	32.659	Vertical	1	Pass

20.0MHz	1/#Mid	1720	-8.67	3.17	27.66	15.82	38.194	Vertical	1	Pass
Band 16		1732.5	-8.85	3.32	27.61	15.44	34.995	Vertical	1	Pass
QAM		1745	-8.51	3.36	27.56	15.69	37.068	Vertical	1	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 Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
1.4MHz	3/#Mid	824.7	4.05	2.01	19.68	2.15	19.57	90.573	Horizontal	7	Pass
Band		836.5	3.93	2.01	19.77	2.15	19.54	89.950	Horizontal	7	Pass
QPSK		848.3	3.73	2.02	19.82	2.15	19.38	86.696	Horizontal	7	Pass
3.0MHz	1/#Mid	825.5	3.82	2.01	19.70	2.15	19.36	86.298	Horizontal	7	Pass
Band		836.5	3.72	2.01	19.77	2.15	19.33	85.704	Horizontal	7	Pass
QPSK		847.5	3.59	2.02	19.81	2.15	19.23	83.753	Horizontal	7	Pass
5.0MHz	1/#Mid	826.5	4.10	2.01	19.71	2.15	19.65	92.257	Horizontal	7	Pass
Band		836.5	3.98	2.01	19.77	2.15	19.59	90.991	Horizontal	7	Pass
QPSK		846.5	3.82	2.02	19.79	2.15	19.44	87.902	Horizontal	7	Pass
10.0MHz	1/#Mid	829	4.12	2.01	19.73	2.15	19.69	93.111	Horizontal	7	Pass
Band		836.5	4.07	2.01	19.77	2.15	19.68	92.897	Horizontal	7	Pass
QPSK		844	3.97	2.02	19.78	2.15	19.58	90.782	Horizontal	7	Pass
1.4MHz	1/#Mid	824.7	2.64	2.01	19.68	2.15	18.16	65.464	Vertical	7	Pass
Band		836.5	2.68	2.01	19.77	2.15	18.29	67.453	Vertical	7	Pass
QPSK		848.3	3.01	2.02	19.82	2.15	18.66	73.451	Vertical	7	Pass
3.0MHz	1/#Mid	825.5	3.32	2.01	19.70	2.15	18.86	76.913	Vertical	7	Pass
Band		836.5	2.81	2.01	19.77	2.15	18.42	69.502	Vertical	7	Pass
QPSK		847.5	2.83	2.02	19.81	2.15	18.47	70.307	Vertical	7	Pass
5.0MHz	1/#Mid	826.5	2.56	2.01	19.71	2.15	18.11	64.714	Vertical	7	Pass
Band		836.5	2.76	2.01	19.77	2.15	18.37	68.707	Vertical	7	Pass
QPSK		846.5	2.83	2.02	19.79	2.15	18.45	69.984	Vertical	7	Pass
10.0MHz	1/#Mid	829	2.42	2.01	19.73	2.15	17.99	62.951	Vertical	7	Pass
Band		836.5	3.00	2.01	19.77	2.15	18.61	72.611	Vertical	7	Pass
QPSK		844	3.23	2.02	19.78	2.15	18.84	76.560	Vertical	7	Pass

Radiated Power (ERP) for Band 5

		Radiated Power (ERP) for Band 5									
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
										Limit	
										(W)	
1.4MHz Band 16 QAM	3/#Mid	824.7	3.20	2.01	19.68	2.15	18.72	74.473	Horizontal	7	Pass
		836.5	3.13	2.01	19.77	2.15	18.74	74.817	Horizontal	7	Pass
		848.3	2.97	2.02	19.82	2.15	18.62	72.778	Horizontal	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	3.28	2.01	19.70	2.15	18.82	76.208	Horizontal	7	Pass
		836.5	2.99	2.01	19.77	2.15	18.60	72.444	Horizontal	7	Pass
		847.5	2.47	2.02	19.81	2.15	18.11	64.714	Horizontal	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	3.60	2.01	19.71	2.15	19.15	82.224	Horizontal	7	Pass
		836.5	3.37	2.01	19.77	2.15	18.98	79.068	Horizontal	7	Pass
		846.5	3.12	2.02	19.79	2.15	18.74	74.817	Horizontal	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	3.60	2.01	19.73	2.15	19.17	82.604	Horizontal	7	Pass
		836.5	3.32	2.01	19.77	2.15	18.93	78.163	Horizontal	7	Pass
		844	2.86	2.02	19.78	2.15	18.47	70.307	Horizontal	7	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	2.34	2.01	19.68	2.15	17.86	61.094	Vertical	7	Pass
		836.5	3.25	2.01	19.77	2.15	18.86	76.913	Vertical	7	Pass
		848.3	2.77	2.02	19.82	2.15	18.42	69.502	Vertical	7	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	2.65	2.01	19.70	2.15	18.19	65.917	Vertical	7	Pass
		836.5	1.59	2.01	19.77	2.15	17.20	52.481	Vertical	7	Pass
		847.5	2.26	2.02	19.81	2.15	17.90	61.660	Vertical	7	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	2.30	2.01	19.71	2.15	17.85	60.954	Vertical	7	Pass
		836.5	1.84	2.01	19.77	2.15	17.45	55.590	Vertical	7	Pass
		846.5	1.26	2.02	19.79	2.15	16.88	48.753	Vertical	7	Pass
10.0MHz Band 16 QAM	1/#Mid	829	1.81	2.01	19.73	2.15	17.38	54.702	Vertical	7	Pass
		836.5	1.68	2.01	19.77	2.15	17.29	53.580	Vertical	7	Pass
		844	2.08	2.02	19.78	2.15	17.69	58.749	Vertical	7	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 (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
5.0MHz Band QPSK	1/#Mid	2502.5	-3.67	4.54	27.75	19.54	89.950	Horizontal	2	Pass
		2535	-3.50	4.69	27.72	19.53	89.743	Horizontal	2	Pass
		2567.5	-3.43	4.71	27.71	19.57	90.573	Horizontal	2	Pass
10.0MHz Band QPSK	1/#Mid	2505	-3.60	4.55	27.76	19.61	91.411	Horizontal	2	Pass
		2535	-3.41	4.69	27.72	19.62	91.622	Horizontal	2	Pass
		2565	-3.33	4.72	27.70	19.65	92.257	Horizontal	2	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-3.61	4.55	27.77	19.61	91.411	Horizontal	2	Pass
		2535	-3.47	4.69	27.72	19.56	90.365	Horizontal	2	Pass
		2562.5	-3.37	4.72	27.69	19.60	91.201	Horizontal	2	Pass
20.0MHz Band QPSK	1/#Mid	2510	-3.55	4.57	27.78	19.66	92.470	Horizontal	2	Pass
		2535	-3.37	4.73	27.72	19.62	91.622	Horizontal	2	Pass
		2560	-3.33	4.75	27.68	19.60	91.201	Horizontal	2	Pass
5.0MHz Band QPSK	1/#Mid	2502.5	-5.47	4.54	27.75	17.74	59.429	Vertical	2	Pass
		2535	-5.24	4.69	27.72	17.79	60.117	Vertical	2	Pass
		2567.5	-4.59	4.71	27.71	18.41	69.343	Vertical	2	Pass
10.0MHz Band QPSK	1/#Mid	2505	-4.87	4.55	27.76	18.34	68.234	Vertical	2	Pass
		2535	-4.53	4.69	27.72	18.50	70.795	Vertical	2	Pass
		2565	-5.14	4.72	27.70	17.84	60.814	Vertical	2	Pass
15.0MHz Band QPSK	1/#Mid	2507.5	-4.77	4.55	27.77	18.45	69.984	Vertical	2	Pass
		2535	-4.47	4.69	27.72	18.56	71.779	Vertical	2	Pass
		2562.5	-5.25	4.72	27.69	17.72	59.156	Vertical	2	Pass
20.0MHz Band QPSK	1/#Mid	2510	-4.56	4.57	27.78	18.65	73.282	Vertical	2	Pass
		2535	-5.02	4.73	27.72	17.97	62.661	Vertical	2	Pass
		2560	-5.20	4.75	27.68	17.73	59.293	Vertical	2	Pass

		Radiated Power (EIRP) for Band 7								
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP		
									Limit	
									(W)	
5.0MHz Band 16 QAM	1/#Mid	2502.5	-4.36	4.54	27.75	18.85	76.736	Horizontal	2	Pass
		2535	-4.05	4.69	27.72	18.98	79.068	Horizontal	2	Pass
		2567.5	-4.13	4.71	27.71	18.87	77.090	Horizontal	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.25	4.55	27.76	18.96	78.705	Horizontal	2	Pass
		2535	-4.26	4.69	27.72	18.77	75.336	Horizontal	2	Pass
		2565	-4.53	4.72	27.70	18.45	69.984	Horizontal	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-4.43	4.55	27.77	18.79	75.683	Horizontal	2	Pass
		2535	-4.40	4.69	27.72	18.63	72.946	Horizontal	2	Pass
		2562.5	-4.01	4.72	27.69	18.96	78.705	Horizontal	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-4.31	4.57	27.78	18.90	77.625	Horizontal	2	Pass
		2535	-3.98	4.73	27.72	19.01	79.616	Horizontal	2	Pass
		2560	-4.08	4.75	27.68	18.85	76.736	Horizontal	2	Pass
5.0MHz Band 16 QAM	1/#Mid	2502.5	-5.73	4.54	27.75	17.48	55.976	Vertical	2	Pass
		2535	-5.81	4.69	27.72	17.22	52.723	Vertical	2	Pass
		2567.5	-4.51	4.71	27.71	18.49	70.632	Vertical	2	Pass
10.0MHz Band 16 QAM	1/#Mid	2505	-4.62	4.55	27.76	18.59	72.277	Vertical	2	Pass
		2535	-5.06	4.69	27.72	17.97	62.661	Vertical	2	Pass
		2565	-5.10	4.72	27.70	17.88	61.376	Vertical	2	Pass
15.0MHz Band 16 QAM	1/#Mid	2507.5	-5.00	4.55	27.77	18.22	66.374	Vertical	2	Pass
		2535	-5.26	4.69	27.72	17.77	59.841	Vertical	2	Pass
		2562.5	-5.44	4.72	27.69	17.53	56.624	Vertical	2	Pass
20.0MHz Band 16 QAM	1/#Mid	2510	-5.99	4.57	27.78	17.22	52.723	Vertical	2	Pass
		2535	-5.74	4.73	27.72	17.25	53.088	Vertical	2	Pass
		2560	-4.85	4.75	27.68	18.08	64.269	Vertical	2	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 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		
									Limit	
									(W)	
1.4MHz Band QPSK	1/#Mid	1710.7	-7.02	3.76	28.24	17.46	55.719	Horizontal	1	Pass
		1745	-6.88	3.91	28.22	17.43	55.335	Horizontal	1	Pass
		1779.3	-6.75	3.93	28.2	17.52	56.494	Horizontal	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-7.08	3.77	28.23	17.38	54.702	Horizontal	1	Pass
		1745	-6.99	3.91	28.24	17.34	54.200	Horizontal	1	Pass
		1778.5	-7.01	3.94	28.25	17.30	53.703	Horizontal	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-6.98	3.77	28.31	17.56	57.016	Horizontal	1	Pass
		1745	-6.66	3.91	28.22	17.65	58.210	Horizontal	1	Pass
		1777.5	-6.72	3.94	28.2	17.54	56.754	Horizontal	1	Pass
10.0MHz Band QPSK	1/#Mid	1715	-6.87	3.79	28.33	17.67	58.479	Horizontal	1	Pass
		1745	-6.60	3.95	28.22	17.67	58.479	Horizontal	1	Pass
		1775	-6.61	3.97	28.19	17.61	57.677	Horizontal	1	Pass
15.0MHz Band QPSK	1/#Mid	1717.5	-6.89	3.79	28.34	17.66	58.345	Horizontal	1	Pass
		1745	-6.70	3.95	28.22	17.57	57.148	Horizontal	1	Pass
		1772.5	-6.65	3.97	28.18	17.56	57.016	Horizontal	1	Pass
20.0MHz Band QPSK	1/#Mid	1720	-6.86	3.81	28.35	17.69	58.749	Horizontal	1	Pass
		1745	-6.60	3.96	28.22	17.66	58.345	Horizontal	1	Pass
		1770	-6.62	4	28.16	17.54	56.754	Horizontal	1	Pass
1.4MHz Band QPSK	1/#Mid	1710.7	-8.28	3.76	28.24	16.20	41.687	Vertical	1	Pass
		1745	-8.03	3.91	28.22	16.28	42.462	Vertical	1	Pass
		1779.3	-7.99	3.93	28.2	16.28	42.462	Vertical	1	Pass
3.0MHz Band QPSK	1/#Mid	1711.5	-8.09	3.77	28.23	16.37	43.351	Vertical	1	Pass
		1745	-7.39	3.91	28.24	16.94	49.431	Vertical	1	Pass
		1778.5	-7.76	3.94	28.25	16.55	45.186	Vertical	1	Pass
5.0MHz Band QPSK	1/#Mid	1712.5	-8.20	3.77	28.31	16.34	43.053	Vertical	1	Pass
		1745	-7.61	3.91	28.22	16.70	46.774	Vertical	1	Pass
		1777.5	-7.67	3.94	28.2	16.59	45.604	Vertical	1	Pass

10.0MHz	1/#Mid	1715	-8.02	3.79	28.34	16.53	44.978	Vertical	1	Pass
Band		1745	-7.62	3.95	28.22	16.65	46.238	Vertical	1	Pass
QPSK		1775	-7.31	3.97	28.18	16.90	48.978	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-7.78	3.81	28.35	16.76	47.424	Vertical	1	Pass
Band		1745	-8.25	3.96	28.22	16.01	39.902	Vertical	1	Pass
QPSK		1772.5	-7.98	4	28.16	16.18	41.495	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-8.27	3.79	28.34	16.28	42.462	Vertical	1	Pass
Band		1745	-7.48	3.95	28.22	16.79	47.753	Vertical	1	Pass
QPSK		1770	-8.22	3.97	28.18	15.99	39.719	Vertical	1	Pass

		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	Polarization Of Max. ERP		
							Average		Limit	
							(mW)		(W)	
1.4MHz Band 16 QAM	1/#Mid	1710.7	-7.91	3.76	28.24	16.57	45.394	Horizontal	1	Pass
		1745	-7.52	3.91	28.22	16.79	47.753	Horizontal	1	Pass
		1779.3	-7.70	3.93	28.2	16.57	45.394	Horizontal	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-8.30	3.77	28.23	16.16	41.305	Horizontal	1	Pass
		1745	-7.55	3.91	28.24	16.78	47.643	Horizontal	1	Pass
		1778.5	-7.84	3.94	28.25	16.47	44.361	Horizontal	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-7.72	3.77	28.31	16.82	48.084	Horizontal	1	Pass
		1745	-7.78	3.91	28.22	16.53	44.978	Horizontal	1	Pass
		1777.5	-7.45	3.94	28.2	16.81	47.973	Horizontal	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-7.77	3.79	28.33	16.77	47.534	Horizontal	1	Pass
		1745	-7.43	3.95	28.22	16.84	48.306	Horizontal	1	Pass
		1775	-7.75	3.97	28.19	16.47	44.361	Horizontal	1	Pass
15.0MHz Band 16 QAM	1/#Mid	1717.5	-7.76	3.79	28.34	16.79	47.753	Horizontal	1	Pass
		1745	-7.58	3.95	28.22	16.69	46.666	Horizontal	1	Pass
		1772.5	-7.37	3.97	28.18	16.84	48.306	Horizontal	1	Pass
20.0MHz Band 16 QAM	1/#Mid	1720	-7.59	3.81	28.35	16.95	49.545	Horizontal	1	Pass
		1745	-7.37	3.96	28.22	16.89	48.865	Horizontal	1	Pass
		1770	-7.31	4	28.16	16.85	48.417	Horizontal	1	Pass
1.4MHz Band 16 QAM	1/#Mid	1710.7	-7.99	3.76	28.24	16.49	44.566	Vertical	1	Pass
		1745	-9.34	3.91	28.22	14.97	31.405	Vertical	1	Pass
		1779.3	-7.74	3.93	28.2	16.53	44.978	Vertical	1	Pass
3.0MHz Band 16 QAM	1/#Mid	1711.5	-9.38	3.77	28.23	15.08	32.211	Vertical	1	Pass
		1745	-7.83	3.91	28.24	16.50	44.668	Vertical	1	Pass
		1778.5	-9.43	3.94	28.25	14.88	30.761	Vertical	1	Pass
5.0MHz Band 16 QAM	1/#Mid	1712.5	-9.12	3.77	28.31	15.42	34.834	Vertical	1	Pass
		1745	-9.30	3.91	28.22	15.01	31.696	Vertical	1	Pass
		1777.5	-8.99	3.94	28.2	15.27	33.651	Vertical	1	Pass
10.0MHz Band 16 QAM	1/#Mid	1715	-7.78	3.79	28.34	16.77	47.534	Vertical	1	Pass
		1745	-8.24	3.95	28.22	16.03	40.087	Vertical	1	Pass
		1775	-9.29	3.97	28.18	14.92	31.046	Vertical	1	Pass
15.0MHz	1/#Mid	1717.5	-9.63	3.81	28.35	14.91	30.974	Vertical	1	Pass

Band 16 QAM		1745	-7.62	3.96	28.22	16.64	46.132	Vertical	1	Pass
		1772.5	-7.91	4	28.16	16.25	42.170	Vertical	1	Pass
20.0MHz	1/#Mid	1720	-9.32	3.79	28.34	15.23	33.343	Vertical	1	Pass
Band 16		1745	-8.69	3.95	28.22	15.58	36.141	Vertical	1	Pass
QAM		1770	-7.60	3.97	28.18	16.61	45.814	Vertical	1	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)

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 2/4/5/7/66

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	-51.25	4.04	33.51	-21.78	-13	-8.78	Horizontal
3701.4	-48.75	4.04	33.51	-19.28	-13	-6.28	Vertical
5552.1	-50.26	5.24	35.84	-19.66	-13	-6.66	Vertical
5552.1	-49.98	5.24	35.84	-19.38	-13	-6.38	Horizontal
205.7	-43.05	1.43	16.02	-28.46	-13	-15.46	Vertical
428.3	-35.79	1.30	17.99	-19.10	-13	-6.10	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.69	4.04	33.56	-18.17	-13	-5.17	Horizontal
3760.0	-49.97	4.04	33.56	-20.45	-13	-7.45	Vertical
5640.0	-50.38	5.24	35.91	-19.71	-13	-6.71	Vertical
5640.0	-50.42	5.24	35.91	-19.75	-13	-6.75	Horizontal
186.8	-35.66	1.62	16.97	-20.31	-13	-7.31	Vertical
348.8	-38.61	1.74	15.98	-24.38	-13	-11.38	Horizontal
Test Results for High Channel 1909.3MHz							
3818.6	-46.43	4.04	34.00	-16.47	-13	-3.47	Horizontal
3818.6	-52.40	4.04	34.00	-22.44	-13	-9.44	Vertical
5727.9	-53.96	5.24	36.04	-23.16	-13	-10.16	Vertical
5727.9	-49.95	5.24	36.04	-19.15	-13	-6.15	Horizontal
180.9	-37.44	1.42	17.29	-21.57	-13	-8.57	Vertical
434.2	-38.46	1.50	17.90	-22.05	-13	-9.05	Horizontal

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

Test Results for Low Channel 1860MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3720.0	-51.49	4.07	33.54	-22.02	-13	-9.02	Horizontal
3720.0	-50.33	4.07	33.54	-20.86	-13	-7.86	Vertical
5580.0	-51.18	5.28	35.86	-20.60	-13	-7.60	Vertical
5580.0	-51.48	5.28	35.86	-20.90	-13	-7.90	Horizontal
206.1	-42.88	1.58	16.89	-27.56	-13	-14.56	Vertical
269.5	-37.68	1.76	17.26	-22.18	-13	-9.18	Horizontal
Test Results for Mid Channel 1880MHz							
3760.0	-47.10	4.04	33.56	-17.58	-13	-4.58	Horizontal
3760.0	-51.27	4.04	33.56	-21.75	-13	-8.75	Vertical
5640.0	-46.54	5.24	35.91	-15.87	-13	-2.87	Vertical
5640.0	-49.69	5.24	35.91	-19.02	-13	-6.02	Horizontal
208.7	-39.41	1.46	16.27	-24.60	-13	-11.60	Vertical
279.8	-34.48	1.59	15.15	-20.92	-13	-7.92	Horizontal
Test Results for High Channel 1900MHz							
3800.0	-48.45	4.04	34.00	-18.49	-13	-5.49	Horizontal
3800.0	-47.84	4.04	34.00	-17.88	-13	-4.88	Vertical
5700.0	-45.61	5.24	36.04	-14.81	-13	-1.81	Vertical
5700.0	-53.98	5.24	36.04	-23.18	-13	-10.18	Horizontal
179.5	-36.07	1.36	17.39	-20.03	-13	-7.03	Vertical
328.2	-39.37	1.66	15.39	-25.64	-13	-12.64	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	-45.69	4.02	29.80	-19.91	-13	-6.91	Horizontal
3421.4	-53.98	4.02	29.80	-28.20	-13	-15.20	Vertical
5132.1	-52.76	5.24	35.84	-22.16	-13	-9.16	Vertical
5132.1	-50.51	5.24	35.84	-19.91	-13	-6.91	Horizontal
200.9	-44.71	1.68	16.04	-30.35	-13	-17.35	Vertical
305.0	-41.44	1.78	17.74	-25.48	-13	-12.48	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-44.20	4.03	30.00	-18.23	-13	-5.23	Horizontal
3465.0	-46.85	4.03	30.00	-20.88	-13	-7.88	Vertical
5197.5	-53.96	5.25	35.86	-23.35	-13	-10.35	Vertical
5197.5	-53.31	5.25	35.86	-22.70	-13	-9.70	Horizontal
206.2	-36.33	1.72	17.69	-20.36	-13	-7.36	Vertical
289.4	-40.73	1.62	16.02	-26.32	-13	-13.32	Horizontal
Test Results for High Channel 1754.3MHz							
3508.6	-53.96	4.05	30.01	-28.00	-13	-15.00	Horizontal
3508.6	-44.22	4.05	30.01	-18.26	-13	-5.26	Vertical
5262.9	-49.37	5.26	35.86	-18.77	-13	-5.77	Vertical
5262.9	-52.24	5.26	35.86	-21.64	-13	-8.64	Horizontal
181.2	-41.91	1.80	16.69	-27.02	-13	-14.02	Vertical
373.6	-43.69	1.75	16.66	-28.79	-13	-15.79	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-45.83	4.02	29.80	-20.05	-13	-7.05	Horizontal
3440.0	-53.74	4.02	29.80	-27.96	-13	-14.96	Vertical
5160.0	-47.42	5.24	35.84	-16.82	-13	-3.82	Vertical
5160.0	-51.84	5.24	35.84	-21.24	-13	-8.24	Horizontal
207.7	-42.92	1.57	17.26	-27.23	-13	-14.23	Vertical
257.4	-36.38	1.78	16.35	-21.81	-13	-8.81	Horizontal
Test Results for Mid Channel 1732.5MHz							
3465.0	-52.33	4.03	30.00	-26.36	-13	-13.36	Horizontal
3465.0	-49.51	4.03	30.00	-23.54	-13	-10.54	Vertical
5197.5	-48.71	5.25	35.86	-18.10	-13	-5.10	Vertical
5197.5	-50.24	5.25	35.86	-19.63	-13	-6.63	Horizontal
182.6	-37.21	1.44	17.95	-20.70	-13	-7.70	Vertical
238.5	-43.58	1.65	16.09	-29.14	-13	-16.14	Horizontal
Test Results for High Channel 1745MHz							
3490.0	-52.24	2.91	27.68	-27.47	-13	-14.47	Horizontal
3490.0	-47.13	2.91	27.68	-22.36	-13	-9.36	Vertical
5235.0	-48.63	5.26	35.86	-18.03	-13	-5.03	Vertical
5235.0	-49.90	5.26	35.86	-19.30	-13	-6.30	Horizontal
211.5	-35.00	1.61	16.85	-19.76	-13	-6.76	Vertical
453.1	-35.80	1.61	15.19	-22.22	-13	-9.22	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	-53.06	2.78	27.50	-28.34	-13	-15.34	Horizontal
1649.4	-48.06	2.78	27.50	-23.34	-13	-10.34	Vertical
2474.1	-46.34	2.90	27.80	-21.44	-13	-8.44	Vertical
2474.1	-53.82	2.90	27.80	-28.92	-13	-15.92	Horizontal
195.6	-40.00	1.76	17.59	-24.17	-13	-11.17	Vertical
449.8	-42.51	1.63	15.87	-28.27	-13	-15.27	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-47.16	2.80	27.48	-22.48	-13	-9.48	Horizontal
1673.0	-50.74	2.80	27.48	-26.06	-13	-13.06	Vertical
2509.5	-47.70	2.91	27.70	-22.91	-13	-9.91	Vertical
2509.5	-49.88	2.91	27.70	-25.09	-13	-12.09	Horizontal
187.9	-39.53	1.61	15.68	-25.46	-13	-12.46	Vertical
305.7	-35.10	1.59	17.52	-19.18	-13	-6.18	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-53.04	2.82	27.43	-28.43	-13	-15.43	Horizontal
1696.6	-45.75	2.82	27.43	-21.14	-13	-8.14	Vertical
2544.9	-53.90	2.92	27.74	-29.08	-13	-16.08	Vertical
2544.9	-53.72	2.92	27.74	-28.90	-13	-15.90	Horizontal
196.9	-34.24	1.69	16.67	-19.25	-13	-6.25	Vertical
447.1	-35.21	1.70	17.18	-19.73	-13	-6.73	Horizontal

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

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
1658.0	-46.24	2.78	27.50	-21.52	-13	-8.52	Horizontal
1658.0	-51.19	2.78	27.50	-26.47	-13	-13.47	Vertical
2487.0	-46.90	2.90	27.80	-22.00	-13	-9.00	Vertical
2487.0	-49.91	2.90	27.80	-25.01	-13	-12.01	Horizontal
179.2	-35.85	1.71	15.57	-21.99	-13	-8.99	Vertical
322.6	-36.45	1.34	16.40	-21.39	-13	-8.39	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-48.37	2.80	27.48	-23.69	-13	-10.69	Horizontal
1673.0	-50.88	2.80	27.48	-26.20	-13	-13.20	Vertical
2509.5	-52.69	2.91	27.70	-27.90	-13	-14.90	Vertical
2509.5	-52.62	2.91	27.70	-27.83	-13	-14.83	Horizontal
192.4	-36.35	1.44	17.04	-20.75	-13	-7.75	Vertical
246.8	-38.84	1.76	17.62	-22.98	-13	-9.98	Horizontal
Test Results for High Channel 844MHz							
1688.0	-52.81	2.82	27.43	-28.20	-13	-15.20	Horizontal
1688.0	-45.15	2.82	27.43	-20.54	-13	-7.54	Vertical
2532.0	-49.34	2.92	27.74	-24.52	-13	-11.52	Vertical
2532.0	-50.76	2.92	27.74	-25.94	-13	-12.94	Horizontal
191.6	-36.08	1.74	17.70	-20.12	-13	-7.12	Vertical
331.7	-36.78	1.41	17.46	-20.72	-13	-7.72	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	-61.50	5.23	35.81	-30.92	-25	-5.92	Horizontal
5005.0	-63.95	5.23	35.81	-33.37	-25	-8.37	Vertical
7507.5	-61.74	5.67	36.85	-30.56	-25	-5.56	Vertical
7507.5	-63.95	5.67	36.85	-32.77	-25	-7.77	Horizontal
178.1	-49.45	1.73	17.97	-33.21	-25	-8.21	Vertical
417.5	-49.30	1.38	15.11	-35.57	-25	-10.57	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-63.82	5.23	35.82	-33.23	-25	-8.23	Horizontal
5070.0	-63.15	5.23	35.82	-32.56	-25	-7.56	Vertical
7605.0	-61.96	5.67	36.85	-30.78	-25	-5.78	Vertical
7605.0	-62.53	5.67	36.85	-31.35	-25	-6.35	Horizontal
212.5	-52.04	1.77	16.17	-37.63	-25	-12.63	Vertical
461.2	-44.52	1.63	15.21	-30.94	-25	-5.94	Horizontal
Test Results for High Channel 2567.5MHz							
5135.0	-62.05	5.24	35.83	-31.46	-25	-6.46	Horizontal
5135.0	-63.95	5.24	35.83	-33.36	-25	-8.36	Vertical
7702.5	-60.65	5.68	36.87	-29.46	-25	-4.46	Vertical
7702.5	-61.67	5.68	36.87	-30.48	-25	-5.48	Horizontal
184.9	-47.09	1.58	17.56	-31.11	-25	-6.11	Vertical
316.9	-46.57	1.45	16.58	-31.44	-25	-6.44	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	-60.95	5.23	35.82	-30.36	-25	-5.36	Horizontal
5020.0	-59.74	5.23	35.82	-29.15	-25	-4.15	Vertical
7530.0	-64.05	5.67	36.86	-32.86	-25	-7.86	Vertical
7530.0	-59.95	5.67	36.86	-28.76	-25	-3.76	Horizontal
182.0	-54.31	1.63	15.76	-40.18	-25	-15.18	Vertical
401.8	-44.93	1.71	15.44	-31.20	-25	-6.20	Horizontal
Test Results for Mid Channel 2535MHz							
5070.0	-65.00	5.23	35.82	-34.41	-25	-9.41	Horizontal
5070.0	-61.17	5.23	35.82	-30.58	-25	-5.58	Vertical
7605.0	-64.63	5.67	36.85	-33.45	-25	-8.45	Vertical
7605.0	-62.58	5.67	36.85	-31.40	-25	-6.40	Horizontal
197.8	-45.39	1.79	16.84	-30.33	-25	-5.33	Vertical
316.9	-47.48	1.71	17.64	-31.55	-25	-6.55	Horizontal
Test Results for High Channel 2560MHz							
5120.0	-62.71	5.24	35.83	-32.12	-25	-7.12	Horizontal
5120.0	-60.28	5.24	35.83	-29.69	-25	-4.69	Vertical
7680.0	-61.94	5.70	36.88	-30.76	-25	-5.76	Vertical
7680.0	-61.14	5.70	36.88	-29.96	-25	-4.96	Horizontal
203.3	-49.23	1.79	16.84	-34.17	-25	-9.17	Vertical
273.8	-44.30	1.71	17.64	-28.37	-25	-3.37	Horizontal

9.5 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	-48.48	4.02	29.80	-22.70	-13	-9.70	Horizontal
3421.4	-51.65	4.02	29.80	-25.87	-13	-12.87	Vertical
5132.1	-50.09	5.24	35.84	-19.49	-13	-6.49	Vertical
5132.1	-53.37	5.24	35.84	-22.77	-13	-9.77	Horizontal
112.6	-54.67	1.52	15.57	-40.62	-13	-27.62	Vertical
220.5	-46.07	1.33	17.14	-30.26	-13	-17.26	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-47.82	4.03	30.00	-21.85	-13	-8.85	Horizontal
3490.0	-54.28	4.03	30.00	-28.31	-13	-15.31	Vertical
5235.0	-49.83	5.25	35.86	-19.22	-13	-6.22	Vertical
5235.0	-50.44	5.25	35.86	-19.83	-13	-6.83	Horizontal
157.3	-54.71	1.53	17.13	-39.11	-13	-26.11	Vertical
213.1	-44.39	1.41	15.95	-29.85	-13	-16.85	Horizontal
Test Results for High Channel 1779.3MHz							
3558.6	-45.45	4.05	30.01	-19.49	-13	-6.49	Horizontal
3558.6	-48.09	4.05	30.01	-22.13	-13	-9.13	Vertical
5337.9	-51.25	5.26	35.86	-20.65	-13	-7.65	Vertical
5337.9	-47.16	5.26	35.86	-16.56	-13	-3.56	Horizontal
170.6	-52.16	1.44	15.51	-38.09	-13	-25.09	Vertical
169.0	-46.05	1.78	15.76	-32.07	-13	-19.07	Horizontal

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

Test Results for Low Channel 1720MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit (dBm)	Margin(dBm)	Polarity
3440.0	-48.90	4.02	29.80	-23.12	-13	-10.12	Horizontal
3440.0	-47.22	4.02	29.80	-21.44	-13	-8.44	Vertical
5160.0	-53.71	5.24	35.84	-23.11	-13	-10.11	Vertical
5160.0	-48.50	5.24	35.84	-17.90	-13	-4.90	Horizontal
268.8	-50.23	1.62	17.02	-34.83	-13	-21.83	Vertical
161.4	-45.20	1.32	17.31	-29.21	-13	-16.21	Horizontal
Test Results for Mid Channel 1745MHz							
3490.0	-54.47	4.03	30.00	-28.50	-13	-15.50	Horizontal
3490.0	-47.47	4.03	30.00	-21.50	-13	-8.50	Vertical
5235.0	-50.81	5.25	35.86	-20.20	-13	-7.20	Vertical
5235.0	-49.85	5.25	35.86	-19.24	-13	-6.24	Horizontal
159.9	-49.46	1.45	15.17	-35.74	-13	-22.74	Vertical
172.1	-46.18	1.48	17.82	-29.84	-13	-16.84	Horizontal
Test Results for High Channel 1770MHz							
3540.0	-49.17	2.91	27.68	-24.40	-13	-11.40	Horizontal
3540.0	-44.70	2.91	27.68	-19.93	-13	-6.93	Vertical
5310.0	-49.49	5.26	35.86	-18.89	-13	-5.89	Vertical
5310.0	-52.83	5.26	35.86	-22.23	-13	-9.23	Horizontal
197.3	-51.53	1.76	16.38	-36.91	-13	-23.91	Vertical
158.5	-48.01	1.43	17.13	-32.31	-13	-19.31	Horizontal

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

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

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

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

10. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

Temp. = -30° to $+50^{\circ}\text{C}$

Voltage = low voltage, DC 3.15V, Normal, DC 3.7V and High voltage, DC 4.26V.

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 2/4/5/7/66

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]
3.15	1880	12.5	0.006629	2.5
3.7	1880	13.8	0.007329	2.5
4.26	1880	13.5	0.007196	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	12.2	0.006493	2.5
Extreme (50C)	1880	11.8	0.006291	2.5
Extreme (40C)	1880	13.4	0.007153	2.5
Extreme (30C)	1880	13.7	0.007280	2.5
Extreme (10C)	1880	13.7	0.007297	2.5
Extreme (0C)	1880	12.5	0.006632	2.5
Extreme (-10C)	1880	12.6	0.006689	2.5
Extreme (-20C)	1880	14.2	0.007548	2.5
Extreme (-30C)	1880	14.2	0.007575	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	1880	9.7	0.005183	2.5
3.7	1880	8.8	0.004675	2.5
4.26	1880	8.5	0.004521	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1880	9.7	0.005161	2.5
Extreme (50C)	1880	8.9	0.004759	2.5
Extreme (40C)	1880	8.3	0.004427	2.5
Extreme (30C)	1880	8.5	0.004534	2.5
Extreme (10C)	1880	9.2	0.004868	2.5
Extreme (0C)	1880	7.7	0.004096	2.5
Extreme (-10C)	1880	9.1	0.004820	2.5
Extreme (-20C)	1880	8.6	0.004582	2.5
Extreme (-30C)	1880	8.3	0.004407	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]
3.15	1732.5	8.4	0.004836	2.5
3.7	1732.5	9.1	0.005246	2.5
4.26	1732.5	8.0	0.004621	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	8.5	0.004895	2.5
Extreme (50C)	1732.5	9.1	0.005229	2.5
Extreme (40C)	1732.5	7.5	0.004328	2.5
Extreme (30C)	1732.5	6.1	0.003512	2.5
Extreme (10C)	1732.5	7.5	0.004337	2.5
Extreme (0C)	1732.5	9.4	0.005430	2.5
Extreme (-10C)	1732.5	8.1	0.004653	2.5
Extreme (-20C)	1732.5	7.2	0.004179	2.5
Extreme (-30C)	1732.5	8.2	0.004741	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	1732.5	9.9	0.005708	2.5
3.7	1732.5	9.2	0.005299	2.5
4.26	1732.5	8.1	0.004694	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1732.5	9.3	0.005395	2.5
Extreme (50C)	1732.5	8.9	0.005119	2.5
Extreme (40C)	1732.5	8.0	0.004603	2.5
Extreme (30C)	1732.5	9.5	0.005469	2.5
Extreme (10C)	1732.5	8.7	0.005005	2.5
Extreme (0C)	1732.5	8.5	0.004925	2.5
Extreme (-10C)	1732.5	8.8	0.005096	2.5
Extreme (-20C)	1732.5	9.2	0.005324	2.5
Extreme (-30C)	1732.5	7.8	0.004486	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]
3.15	836.5	5.8	0.006895	2.5
3.7	836.5	6.6	0.007847	2.5
4.26	836.5	5.3	0.006280	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	6.4	0.007677	2.5
Extreme (50C)	836.5	6.2	0.007443	2.5
Extreme (40C)	836.5	6.5	0.007778	2.5
Extreme (30C)	836.5	6.5	0.007713	2.5
Extreme (10C)	836.5	5.4	0.006412	2.5
Extreme (0C)	836.5	5.8	0.006912	2.5
Extreme (-10C)	836.5	5.2	0.006181	2.5
Extreme (-20C)	836.5	6.1	0.007303	2.5
Extreme (-30C)	836.5	6.5	0.007779	2.5

16QAM, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	836.5	5.8	0.006954	2.5
3.7	836.5	6.6	0.007851	2.5
4.26	836.5	4.4	0.005257	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.7	0.006848	2.5
Extreme (50C)	836.5	6.3	0.007556	2.5
Extreme (40C)	836.5	6.1	0.007336	2.5
Extreme (30C)	836.5	6.5	0.007760	2.5
Extreme (10C)	836.5	5.6	0.006645	2.5
Extreme (0C)	836.5	5.2	0.006204	2.5
Extreme (-10C)	836.5	5.6	0.006637	2.5
Extreme (-20C)	836.5	6.1	0.007323	2.5
Extreme (-30C)	836.5	6.3	0.007480	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]
3.15	2535	9.8	0.003872	2.5
3.7	2535	9.4	0.003701	2.5
4.26	2535	8.6	0.003401	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	8.9	0.003512	2.5
Extreme (50C)	2535	8.5	0.003372	2.5
Extreme (40C)	2535	8.0	0.003147	2.5
Extreme (30C)	2535	8.5	0.003359	2.5
Extreme (10C)	2535	8.2	0.003219	2.5
Extreme (0C)	2535	8.4	0.003295	2.5
Extreme (-10C)	2535	9.3	0.003685	2.5
Extreme (-20C)	2535	9.2	0.003616	2.5
Extreme (-30C)	2535	8.1	0.003193	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	2535	6.3	0.002491	2.5
3.7	2535	6.5	0.002573	2.5
4.26	2535	5.6	0.002191	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	2535	7.2	0.002822	2.5
Extreme (50C)	2535	6.1	0.002387	2.5
Extreme (40C)	2535	5.0	0.001962	2.5
Extreme (30C)	2535	7.1	0.002819	2.5
Extreme (10C)	2535	5.6	0.002191	2.5
Extreme (0C)	2535	5.2	0.002067	2.5
Extreme (-10C)	2535	5.2	0.002062	2.5
Extreme (-20C)	2535	6.0	0.002374	2.5
Extreme (-30C)	2535	5.8	0.002272	2.5

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

10.5 LTE BAND 66

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	1745	13.1	0.00752	2.5
3.7	1745	14.2	0.00813	2.5
4.26	1745	13.3	0.00765	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.2	0.004102	2.5
Extreme (50C)	1745	5.0	0.002891	2.5
Extreme (40C)	1745	5.3	0.003052	2.5
Extreme (30C)	1745	4.3	0.002444	2.5
Extreme (10C)	1745	6.3	0.003619	2.5
Extreme (0C)	1745	4.9	0.002836	2.5
Extreme (-10C)	1745	10.0	0.005739	2.5
Extreme (-20C)	1745	11.0	0.006316	2.5
Extreme (-30C)	1745	5.9	0.003397	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.15	1745	12.6	0.007214	2.5
3.7	1745	14.0	0.008037	2.5
4.26	1745	13.0	0.007462	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	1745	7.1	0.004063	2.5
Extreme (50C)	1745	4.9	0.002815	2.5
Extreme (40C)	1745	5.9	0.003376	2.5
Extreme (30C)	1745	4.7	0.002691	2.5
Extreme (10C)	1745	6.6	0.003790	2.5
Extreme (0C)	1745	5.3	0.003016	2.5
Extreme (-10C)	1745	9.4	0.005376	2.5
Extreme (-20C)	1745	10.8	0.006210	2.5
Extreme (-30C)	1745	6.5	0.003726	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.

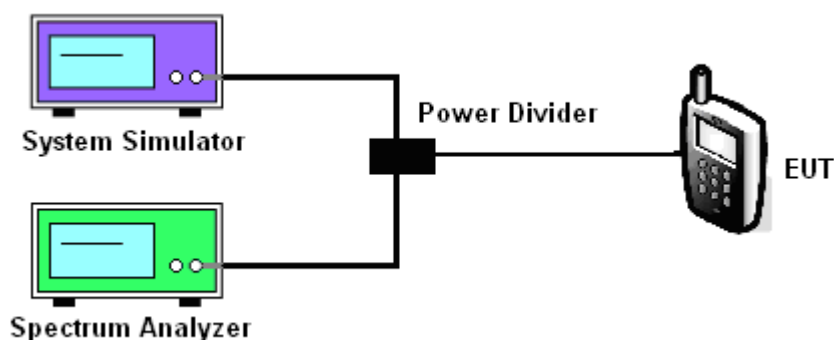
11.2 Measuring Instruments

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 2/4/5/7/66

Test data reference attachment.

----END OF REPORT----