



TEST REPORT

Report Number: C21T00061-RF02-V02

Applicant	Shanghai Sunmi Technology Co., Ltd.
Product Name	Handheld Wireless Terminal
Model Name	T8911
Brand Name	SUNMI
FCC ID	2AH25T8911
IC	22621-T8911

Industrial Internet Innovation Center (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in FCC Part 2/22/24/90, ANSI/TIA-603-E, ANSI C63.26, KDB 971168 D01, RSS-Gen Issue 5, RSS-130 Issue 2; RSS-132 Issue 3, RSS-133 Issue 6, RSS-139 Issue 3; RSS-199 Issue 3.

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Industrial Internet Innovation Center (Shanghai) Co., Ltd.

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Test Laboratory:

Industrial Internet Innovation Center (Shanghai) Co., Ltd.

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Tel: +86 21 68866880

Revision Version

Report Number	Revision	Date	Memo
C21T00061-RF02-V00	00	2021-11-03	Initial creation of test report
C21T00061-RF02-V01	01	2021-11-25	Add test standard on report cover
C21T00061-RF02-V02	02	2021-12-08	Update output power in e.r.p. and e.i.r.p. in report

CONTENTS

1. TEST LABORATORY	6
1.1. TESTING LOCATION	6
1.2. TESTING ENVIRONMENT	6
1.3. PROJECT INFORMATION	6
2. CLIENT INFORMATION	7
2.1. APPLICANT INFORMATION	7
2.2. MANUFACTURER INFORMATION	7
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	8
3.1. ABOUT EUT	8
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	8
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST	9
4. REFERENCE DOCUMENTS	10
4.1. REFERENCE DOCUMENTS FOR TESTING	10
4.2. REFERENCE INFORMATION FROM CLIENT	11
5. TEST SUMMARY	12
5.1. SUMMARY OF TEST RESULTS	12
5.2. STATEMENTS	17
6. MEASUREMENT RESULTS	18
6.1. EMISSION LIMIT	19
6.2. FRQUENCY STABILITY	38
6.3. OUTPUT POWER	47
6.4. OCCUPIED BANDWIDTH	118
6.5. EMISSION BANDWIDTH	192
6.6. BAND EDGE COMPLIANCE	265



6.7.	CONDUCTED SPURIOUS EMISSION	289
6.8.	PEAK-TO-AVERAGE POWER RATIO	293
7.	TEST EQUIPMENT LIST.....	295
	CONDUCTED TEST SYSTEM.....	295
	RADIATED EMISSION TEST SYSTEM.....	295
ANNEX A: MEASUREMENT UNCERTAINTY		296
ANNEX B: ACCREDITATION CERTIFICATE.....		297

1. Test Laboratory

1.1. Testing Location

Company Name	Industrial Internet Innovation Center (Shanghai) Co., Ltd.
Address	Building 4, No. 766 Jingang Rd, Pudong, Shanghai, China
FCC Registration No.	958356
FCC Degistration No.	CN1177
IC Degistration No.	CN0067

1.2. Testing Environment

Normal Temperature	15°C~35°C
Relative Humidity	30%RH~60%RH
Supply Voltage	120V/60Hz

1.3. Project Information

Project Leader	Wang Wenwen
Testing Start Date	2021-06-04
Testing End Date	2021-10-28

2. Client Information

2.1. Applicant Information

Company Name	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505, KIC Plaza, No.388 Song Hu Road, Yang Pu District, Shanghai, China
Telephone	+86 18721763396

2.2. Manufacturer Information

Company Name	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505, KIC Plaza, No.388 Song Hu Road, Yang Pu District, Shanghai, China
Telephone	+86 18721763396

3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Product Name	Handheld Wireless Terminal
Model name	T8911
Supported Radio Technology and Bands	GSM850/GSM900/GSM1800/GSM1900 WCDMA Band I /Band II /Band IV /Band V /Band VIII CDMA Band BC0/BC1/BC10 LTE 1/2/3/4/5/7/12/13/14/17/18/19/25/26/28/38/41/66/71 LTE CA Up Link 2CA: 7C,41C BT5.0 WLAN 802.11b,g,n WLAN 802.11a,n,ac NFC GPS GLONASS Galileo BDS
Hardware Version	V1.02
Software Version	V01_T46
FCC ID	2AH25T8911
IC	22621-T8911
Extreme Temperature	-20°C~55°C
Nominal Voltage	3.8V
Extreme High Voltage	4.2V
Extreme Low Voltage	3.5V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N01	864679050005368 864679050014659	V1.02	V01_T46	2021-06-04
N03	864679050005749 864679050015037	V1.02	V01_T46	2021-06-04
N05	864679050005574 864679050014865	V1.02	V01_T46	2021-06-04

*EUT ID: is internally used to identify the test sample in the lab.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	SN/Remark
AE1	RF cable	N/A	N/A

*AE ID: is internally used to identify the test sample in the lab.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	2018-10-01
FCC Part 22	PUBLIC MOBILE SERVICES	2018-10-01
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	2018-10-01
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	2018-10-01
FCC Part 90	PRIVATE LAND MOBILE RADIO SERVICES	2018-10-01
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard of Procedures for Compliance Testing of Licensed Transmitters Used in Licensed Radio	2015
KDB 971168 D01	Measurement Guidance for Certification of Licensed Digital Transmitters	v03r01
RSS-Gen Issue 5	RSS-Gen —General Requirements for Compliance of Radio Apparatus	2019-03
RSS-130 Issue 2	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz	2019-01
RSS-132 Issue 3	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz	2013-01
RSS-133 Issue 6	2 GHz Personal Communications Services	2018-01
RSS-139 Issue 3	Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz	2015-07
RSS-199 Issue 3	Broadband Radio Service (BRS) Equipment Operating in the Band 2500–2690 MHz	2016-12

4.2. Reference Information from client

Antenna gain Information of the test sample provided by Shanghai Sunmi Technology Co., Ltd.

Antenna Gain:

LTE B2: 0.13 dBi	LTE B13:-3.07 dBi	LTE B41 : 2.45 dBi
LTE B4: 0.21 dBi	LTE B17:-3.54 dBi	LTE B66 : 0.21 dBi
LTE B5: -1.74 dBi	LTE B25 : 0.24 dBi	LTE B71 : -5.1 dBi
LTE B7: 2.94 dBi	LTE B26 : -1.77 dBi	
LTE B12: -3.14 dBi	LTE B38 : 2.67 dBi	

5. Test Summary

5.1. Summary of Test Results

LTE Band 2

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	24.232(c)	RSS-133 6.4	Pass
2	Emission Limit	24.238(a), 2.1051	RSS-133 6.5	Pass
3	Frequency Stability	24.235, 2.1055	RSS-133 6.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-133 6.6	Pass
5	Emission Bandwidth	24.238(a)	RSS-133 6.6	Pass
6	Band Edge Compliance	24.238(a)	RSS-133 6.5	Pass
7	Conducted Spurious Emission	24.238, 2.1057	RSS-133 6.13/6.5	Pass
8	Peak to Average Power Ratio	24.232 (d)	RSS-133 6.4	Pass

LTE Band 4

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-139 6.5	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-139 6.6	Pass
3	Frequency Stability	27.54, 2.1055	RSS-139 6.4	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-139 6.6	Pass
5	Emission Bandwidth	27.53(h)	RSS-139 6.6	Pass
6	Band Edge Compliance	27.53(h)	RSS-139 6.6	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-139 6.6	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-139 6.5	Pass

LTE Band 5

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	2.1046(a), 22.913(a)	RSS-132 5.4	Pass
2	Emission Limit	22.917, 2.1051	RSS-132 6.6	Pass
3	Frequency Stability	22.235, 2.1055	RSS-132 5.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-132 6.6	Pass
5	Emission Bandwidth	22.917(b)	RSS-132 6.6	Pass
6	Band Edge Compliance	22.917(b)	RSS-132 5.5	Pass

7	Conducted Spurious Emission	22.917, 2.1057	RSS-132 5.5	Pass
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LTE Band 7

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-199 4.4	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-199 4.5	Pass
3	Frequency Stability	27.54, 2.1055	RSS-199 4.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-199 4.2	Pass
5	Emission Bandwidth	27.53(h)	RSS-199 4.5	Pass
6	Band Edge Compliance	27.53(h)	RSS-199 4.5	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-199 4.5	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-199 4.4	Pass

LTE Band 12

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-130 4.6	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-130 4.7	Pass
3	Frequency Stability	27.54, 2.1055	RSS-130 4.5	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-130 4.5	Pass
5	Emission Bandwidth	27.53(h)	RSS-130 4.7	Pass
6	Band Edge Compliance	27.53(h)	RSS-130 4.7	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-130 4.7	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-130 4.6	Pass

LTE Band 13

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(c)(10)	RSS-130 4.6	Pass
2	Emission Limit	27.53(g), 2.1051	RSS-130 4.7	Pass
3	Frequency Stability	27.54, 2.1055	RSS-130 4.5	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-130 4.2	Pass
5	Emission Bandwidth	27.53(g)	RSS-130 6.7	Pass
6	Band Edge Compliance	27.53(g)	RSS-130 4.7	Pass
7	Conducted Spurious Emission	27.53(g), 2.1057	RSS-130 4.7	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-130 4.4	Pass

LTE Band 14

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	2.1046, 90.541	N/A	Pass
2	Emission Limit	2.1053,90.543(e)	N/A	Pass
3	Frequency Stability	2.1055,90.539(e)	N/A	Pass
4	Occupied Bandwidth	2.1049	N/A	Pass
5	Emission Bandwidth	90.543(e)	N/A	Pass
6	Band Edge Compliance	2.1051,90.543(e)	N/A	Pass
7	Conducted Spurious Emission	90.543(e)	N/A	Pass
8	Peak to AveragePower Ratio	90.541	N/A	Pass

LTE Band 17

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-130 4.6	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-130 4.7	Pass
3	Frequency Stability	27.54, 2.1055	RSS-130 4.5	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-130 4.5	Pass
5	Emission Bandwidth	27.53(h)	RSS-130 4.7	Pass
6	Band Edge Compliance	27.53(h)	RSS-130 4.7	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-130 4.7	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-130 4.6	Pass

LTE Band 25

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	2.1046/24.232	RSS-133 6.4	Pass
2	Emission Limit	2.1053/24.238	RSS-133 6.5	Pass
3	Frequency Stability	2.1055/24.235	RSS-133 6.3	Pass
4	Occupied Bandwidth	2.1049/24.238	RSS-133 6.6	Pass
5	Emission Bandwidth	2.1049/24.238	RSS-133 6.6	Pass
6	Band Edge Compliance	2.1049/24.238	RSS-133 6.5	Pass
7	Conducted Spurious Emission	2.1049/24.238	RSS-133 6.13/6.5	Pass
8	Peak to Average Power Ratio	2.1049/24.238	RSS-133 6.4	Pass

LTE Band 26(Part 22)

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	2.1046(a), 22.913(a)	RSS-132 5.4	Pass
2	Emission Limit	22.917, 2.1051	RSS-132 6.6	Pass
3	Frequency Stability	22.235, 2.1055	RSS-132 5.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-132 6.6	Pass
5	Emission Bandwidth	22.917(b)	RSS-132 6.6	Pass
6	Band Edge Compliance	22.917(b)	RSS-132 5.5	Pass
7	Conducted Spurious Emission	22.917, 2.1057	RSS-132 5.5	Pass

LTE Band 38

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-199 4.4	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-199 4.5	Pass
3	Frequency Stability	27.54, 2.1055	RSS-199 4.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-199 4.2	Pass
5	Emission Bandwidth	27.53(h)	RSS-199 4.5	Pass
6	Band Edge Compliance	27.53(h)	RSS-199 4.5	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-199 4.5	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-199 4.4	Pass

LTE Band 41

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-199 4.4	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-199 4.5	Pass
3	Frequency Stability	27.54, 2.1055	RSS-199 4.3	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-199 4.2	Pass
5	Emission Bandwidth	27.53(h)	RSS-199 4.5	Pass
6	Band Edge Compliance	27.53(h)	RSS-199 4.5	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-199 4.5	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-199 4.4	Pass

LTE Band 66

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(d)(4)	RSS-139 6.5	Pass
2	Emission Limit	27.53(h), 2.1051	RSS-139 6.6	Pass
3	Frequency Stability	27.54, 2.1055	RSS-139 6.4	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-139 6.6	Pass
5	Emission Bandwidth	27.53(h)	RSS-139 6.6	Pass
6	Band Edge Compliance	27.53(h)	RSS-139 6.6	Pass
7	Conducted Spurious Emission	27.53(h), 2.1057	RSS-139 6.6	Pass
8	Peak to Average Power Ratio	27.50(a)	RSS-139 6.5	Pass

LTE Band 71

Items	Test Name	Clause in FCC rules	Sub-clause of IC	Verdict
1	Output Power	27.50(c)(10)	RSS-130 4.6	Pass
2	Emission Limit	27.53(g),2.1051	RSS-130 4.7	Pass
3	Frequency Stability	27.54, 2.1055	RSS-130 4.5	Pass
4	Occupied Bandwidth	2.1049(h)(i)	RSS-130 4.2	Pass
5	Emission Bandwidth	27.53(g)	RSS-130 6.7	Pass
6	Band Edge Compliance	27.53(g)	RSS-130 4.7	Pass
7	Conducted Spurious Emission	27.53(g),2.1057	RSS-130 4.7	Pass
8	Peak to AveragePower Ratio	27.50(a)	4.4	Pass

Test Conditions

Tnom	Normal Temperature
Tmin	Low Temperature
Tmax	High Temperature
Vnom	Normal Voltage
Vmin	Low Voltage
Vmax	High Voltage
Hnom	Norm Humidity
Anom	Norm Air Pressure

For this report, all the test case listed above are tested under Normal Temperature and Normal Voltage, and also under norm humidity, the specific conditions as following:

Temperature	Tnom	25℃
Voltage	Vnom	3.80V
Humidity	Hnom	48%
Air Pressure	Anom	1010hPa

5.2. Statements

The T8911, manufactured by Shanghai Sunmi Technology Co., Ltd. is a new product for testing.

The test data in the report conform to current IC valid standards.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. only performed test cases which identified with Pass/Fail/Inc result in section 5.1.

Industrial Internet Innovation Center (Shanghai) Co., Ltd. has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

6. Measurement Results

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Ground system resistance	< 0.5 Ω
Temperature	Min. = 15 °C, Max. = 35 °C

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber1 (6.9 meters×10.9 meters×5.4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 1GHz to 18GHz
Site Attenuation Deviation	Between -4 and 4 dB, 30MHz to 1GHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

6.1. Emission Limit

Reference

Rule RSS-132 6.6; Rule RSS-133 6.5; Rule RSS-139 (6.5)

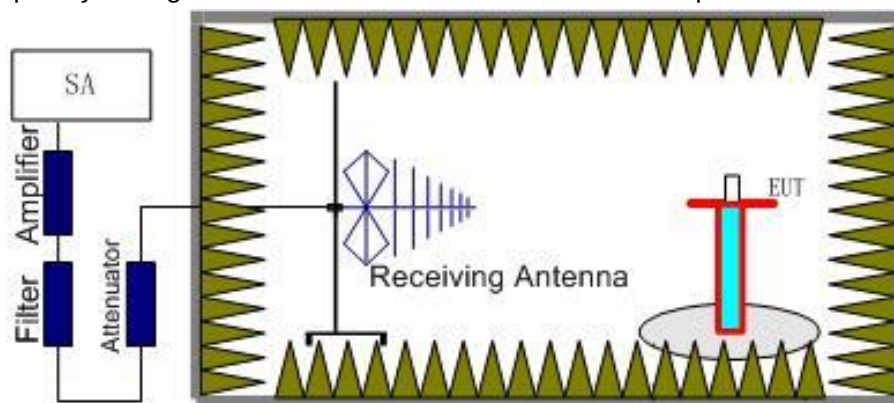
6.1.1 Measurement Method

The measurements procedures in TIA-603E-2016 are used. This measurement is carried out in fully-anechoic chamber FAC-3.

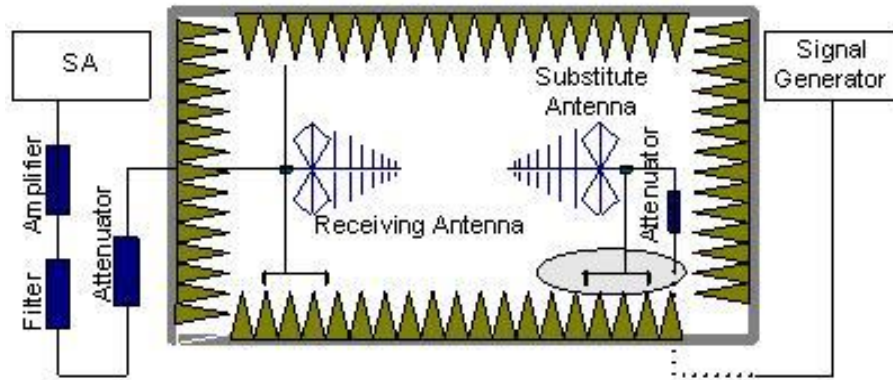
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz as outlined in Part 27.53(g), Part 27.53(h), Part 27.53(m). The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of the LTE Bands 7.

The procedure of radiated spurious emissions is as follows:

- Below 1 GHz, EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. Above 1 GHz, EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



- The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
- The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.

An amplifier should be connected in for the test.

The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.

The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} - P_{pl} + G_a$$

5. This value is EIRP since the measurement is calibrated using an antenna of known gain (unit: dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

6.1.2 Measurement Limit

Rule RSS-132 6.6 specifies that " In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$.

After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$. If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required." Limit -13 dBm

Rule RSS-133 6.5 specifies that " In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$.

After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least $43 + 10 \log_{10} p(\text{watts})$. If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required." Limit -13 dBm

Rule RSS-139 (6.5) specifies that "The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt."

$$\text{Limit} \leq 1 \text{ W } (30 \text{ dBm})$$

6.1.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the LTE Bands 7. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the LTE Bands 7. Into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The evaluated frequency range is from 30MHz to 26GHz.

BAND	Channel		Result
2	L	18607	Pass
	M	18900	Pass
	H	19193	Pass
4	L	19957	Pass
	M	20175	Pass
	H	20393	Pass
5	L	20407	Pass
	M	20525	Pass
	H	20643	Pass
7	L	20775	Pass
	M	21100	Pass
	H	21425	Pass
12	L	23017	Pass
	M	23095	Pass
	H	23173	Pass
13	L	23205	Pass
	M	23230	Pass
	H	23255	Pass
14	L	23305	Pass
	M	23330	Pass
	H	23355	Pass

17	L	23755	Pass
	M	23790	Pass
	H	23825	Pass
25	L	26047	Pass
	M	26365	Pass
	H	26683	Pass
26	L	27033	Pass
	M	26915	Pass
	H	26797	Pass
38	L	37775	Pass
	M	38000	Pass
	H	38225	Pass
41	L	40065	Pass
	M	40640	Pass
	H	41215	Pass
66	L	131979	Pass
	M	132322	Pass
	H	132665	Pass
71	L	133147	Pass
	M	133297	Pass
	H	133447	Pass

RSE-LTE2-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3700.0	-54.5	6.6	7.9	-53.2	-13	V
5496.4	-52.44	8.2	9.8	-50.84	-13	H
7412.0	-52.78	9.7	11.6	-50.88	-13	H
9255.6	-48.67	10.7	12.7	-46.67	-13	V
11098.0	-46.61	12.1	12.3	-46.41	-13	H
12906.8	-44.61	13.0	12.3	-45.31	-13	H

RSE-LTE2-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3709.2	-53.77	6.6	7.9	-52.47	-13	H
5608.0	-53.13	8.3	9.8	-51.63	-13	V
7502.4	-52.13	9.7	11.6	-50.23	-13	V
9338.0	-49.67	10.7	12.7	-47.67	-13	V
11457.8	-45.75	12.3	12.3	-45.75	-13	V
13317.0	-43.34	13.6	12.3	-44.64	-13	H

RSE-LTE2-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3803.2	-54.12	6.7	7.9	-52.92	-13	V
5763.2	-52.29	8.5	10.2	-50.59	-13	V
7626.8	-52.34	9.7	11.8	-50.24	-13	V
9528.4	-50.19	10.7	12.7	-48.19	-13	H
11417.2	-47.47	12.1	12.3	-47.27	-13	V
13416.4	-43.22	13.7	12.3	-44.62	-13	H

RSE-LTE4-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3420.4	-50.52	6.3	7.8	-49.02	-13	V

5130.8	-45.12	7.9	9.4	-43.62	-13	H
6840.8	-25.69	9.2	10.9	-23.99	-13	V
8550.8	-42.15	10.3	12.6	-39.85	-13	H
10261.6	-34.83	11.5	12.3	-34.03	-13	V
11971.6	-35.2	12.6	12.3	-35.5	-13	H

RSE-LTE4-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3464.0	-48.47	6.4	7.8	-47.07	-13	V
5196.4	-44.84	8.0	9.4	-43.44	-13	H
6928.4	-25.39	9.3	11.1	-23.59	-13	V
8660.0	-40.72	10.3	12.7	-38.32	-13	H
10392.4	-32.81	11.6	12.3	-32.11	-13	H
12124.2	-34.04	12.6	12.3	-34.34	-13	V

RSE-LTE4-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3507.2	-43.81	6.4	7.8	-42.41	-13	V
5261.6	-41.85	8.0	9.4	-40.45	-13	V
7016.0	-34.69	9.3	11.1	-32.89	-13	V
8769.2	-37.55	10.4	12.7	-35.25	-13	H
10523.2	-31.34	11.6	12.3	-30.64	-13	H
12276.8	-25.89	12.7	12.3	-26.29	-13	H

RSE-LTE5-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1711.3	-48.52	4.5	4.7	-48.32	-13	V
2406.2	-40.79	5.3	5.6	-40.49	-13	H
3341.6	-52.54	6.2	6.9	-51.84	-13	H
4105.2	-54.53	7.0	8.6	-52.93	-13	H

4928.8	-52.71	7.7	9.6	-50.81	-13	V
5744.4	-53.48	8.5	10.2	-51.78	-13	V

RSE-LTE5-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1611.6	-52.98	4.2	5.3	-51.88	-13	V
2933.8	-41.2	5.8	6.7	-40.3	-13	H
3304.4	-53.48	6.2	6.9	-52.78	-13	H
4116.4	-54.78	7.0	8.6	-53.18	-13	V
5037.6	-54.42	7.8	9.6	-52.62	-13	H
5820.8	-54.31	8.4	10.2	-52.51	-13	V

RSE-LTE5-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1715.8	-48.79	4.5	4.7	-48.59	-13	H
2491.5	-43.7	5.4	5.6	-43.5	-13	H
3346.8	-52.2	6.2	6.9	-51.5	-13	H
4197.6	-53.86	7.0	8.9	-51.96	-13	V
5086.8	-50.9	7.9	9.6	-49.2	-13	V
5899.2	-53.08	8.5	10.2	-51.38	-13	V

RSE-LTE7-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3812.4	-50.84	6.7	7.9	-49.64	-25	H
5000.4	-30.38	7.8	9.6	-28.58	-25	H
7500.8	-36.33	9.7	11.6	-34.43	-25	H
10001.6	-29.87	11.2	12.5	-28.57	-25	H
12501.5	-28.93	12.7	12.3	-29.33	-25	H
15002.2	-31.88	14.4	12.3	-33.98	-25	V

RSE-LTE7-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3849.6	-50.97	6.7	7.9	-49.77	-25	H
5065.6	-30.6	7.8	9.6	-28.8	-25	H
7598.4	-37.48	9.7	11.6	-35.58	-25	H
10130.8	-32.82	11.3	12.5	-31.62	-25	H
12664.2	-30.31	12.7	12.3	-30.71	-25	H
15196.5	-29.24	14.5	12.3	-31.44	-25	V

RSE-LTE7-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3859.2	-50.66	6.7	7.9	-49.46	-25	V
5130.8	-26.34	7.9	9.4	-24.84	-25	H
7696.0	-38.53	9.8	11.8	-36.53	-25	H
10261.6	-32.34	11.5	12.3	-31.54	-25	H
12825.2	-31.45	12.5	12.3	-31.65	-25	H
15392.5	-30.29	14.4	12.3	-32.39	-25	H

RSE-LTE12-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1358.6	-52.35	3.9	3.0	-53.25	-13	V
2426.5	-41.63	5.3	5.6	-41.33	-13	H
2906.9	-41.15	5.8	6.7	-40.25	-13	V
3562.4	-53.83	6.4	7.8	-52.43	-13	H
4445.2	-53.09	7.3	8.7	-51.69	-13	H
5594.0	-50.94	8.3	9.8	-49.44	-13	H

RSE-LTE12-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1417.4	-54.07	4.0	5.3	-52.77	-13	H

2410.8	-33.5	5.3	5.6	-33.2	-13	V
2889.6	-41.5	5.8	6.7	-40.6	-13	V
3590.8	-53.21	6.5	7.8	-51.91	-13	V
4033.6	-53.88	6.9	8.6	-52.18	-13	H
4925.2	-53.17	7.7	9.6	-51.27	-13	H

RSE-LTE12-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1431.3	-51.1	4.1	5.3	-49.9	-13	H
2116.5	-46.61	4.9	4.5	-47.01	-13	H
2892.7	-41.37	5.8	6.7	-40.47	-13	H
3502.8	-54.13	6.4	7.8	-52.73	-13	H
4011.2	-53.65	6.9	8.6	-51.95	-13	V
4968.0	-54.1	7.7	9.6	-52.2	-13	H

RSE-LTE13-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1564.2	-51.72	4.2	5.3	-50.62	-13	H
2415.8	-42.01	5.3	5.6	-41.71	-13	H
3117.2	-52.66	6.0	6.7	-51.96	-13	V
3528.8	-54.61	6.4	7.8	-53.21	-13	H
4101.2	-54.4	7.0	8.6	-52.8	-13	V
4902.0	-53.98	7.7	9.6	-52.08	-13	V

RSE-LTE13-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1529.6	-52.21	4.2	5.3	-51.11	-13	H
2883.5	-41.45	5.8	6.7	-40.55	-13	V
3110.4	-53.03	6.0	6.7	-52.33	-13	V
3860.0	-52.4	6.7	7.9	-51.2	-13	H

4200.8	-53.81	7.0	8.9	-51.91	-13	V
4912.8	-53.43	7.7	9.6	-51.53	-13	H

RSE-LTE13-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1405.0	-54.65	4.0	5.3	-53.35	-13	H
2111.2	-46.01	4.9	4.5	-46.41	-13	V
2914.2	-42.09	5.8	6.7	-41.19	-13	V
3509.6	-54.96	6.4	7.8	-53.56	-13	H
4215.2	-54.51	7.0	8.9	-52.61	-13	V
5087.6	-52.79	7.9	9.6	-51.09	-13	H

RSE-LTE14-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1586.0	-53.73	4.2	5.3	-52.63	-13	V
2413.5	-41.58	5.3	5.6	-41.28	-13	V
3153.2	-52.94	6.0	6.9	-52.04	-13	H
3949.2	-53.47	6.8	8.6	-51.67	-13	H
4700.0	-53.8	7.5	9.0	-52.3	-13	H
5558.4	-52.85	8.2	9.8	-51.25	-13	H

RSE-LTE14-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1501.9	-53.39	4.1	5.3	-52.19	-13	H
2446.9	-40.61	5.3	5.6	-40.31	-13	V
3158.0	-52.51	6.0	6.9	-51.61	-13	H
3956.8	-53.49	6.8	8.6	-51.69	-13	H
4701.2	-53.46	7.5	9.0	-51.96	-13	H
5494.0	-52.88	8.2	9.8	-51.28	-13	H

RSE-LTE14-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1499.1	-53.11	4.1	5.3	-51.91	-13	V
2432.3	-43.51	5.3	5.6	-43.21	-13	H
3121.6	-54.41	6.0	6.7	-53.71	-13	H
3918.4	-54.44	6.8	8.6	-52.64	-13	H
4759.6	-52.89	7.5	9.0	-51.39	-13	V
5553.2	-51.22	8.2	9.8	-49.62	-13	H

RSE-LTE17-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1728.6	-45.61	4.5	4.7	-45.41	-13	H
2138.8	-46.26	5.0	5.1	-46.16	-13	H
2820.8	-41.17	5.7	6.1	-40.77	-13	H
3502.4	-55.16	6.4	7.8	-53.76	-13	V
4040.0	-54.22	6.9	8.6	-52.52	-13	H
4813.2	-52.4	7.6	9.0	-51	-13	H

RSE-LTE17-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1400.1	-54.42	4.0	5.3	-53.12	-13	H
2401.9	-41.02	5.3	5.6	-40.72	-13	H
2877.7	-41.25	5.8	6.7	-40.35	-13	H
3546.4	-54.04	6.4	7.8	-52.64	-13	V
4210.8	-54.78	7.0	8.9	-52.88	-13	H
4921.2	-54.42	7.7	9.6	-52.52	-13	H

RSE-LTE17-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1423.0	-53.08	4.0	5.3	-51.78	-13	H

2480.0	-39.76	5.4	5.6	-39.56	-13	V
2801.9	-40.83	5.7	6.1	-40.43	-13	H
3508.8	-54.41	6.4	7.8	-53.01	-13	V
4141.6	-53.87	7.0	8.9	-51.97	-13	H
4827.6	-52.65	7.6	9.0	-51.25	-13	V

RSE-LTE25-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3700.0	-54.5	6.6	7.9	-53.2	-13	V
5496.4	-52.44	8.2	9.8	-50.84	-13	H
7412.0	-52.78	9.7	11.6	-50.88	-13	H
9255.6	-48.67	10.7	12.7	-46.67	-13	V
11098.0	-46.61	12.1	12.3	-46.41	-13	H
12906.8	-44.61	13.0	12.3	-45.31	-13	H

RSE-LTE25-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3709.2	-53.77	6.6	7.9	-52.47	-13	H
5608.0	-53.13	8.3	9.8	-51.63	-13	V
7502.4	-52.13	9.7	11.6	-50.23	-13	V
9338.0	-49.67	10.7	12.7	-47.67	-13	V
11457.8	-45.75	12.3	12.3	-45.75	-13	V
13317.0	-43.34	13.6	12.3	-44.64	-13	H

RSE-LTE25-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3803.2	-54.12	6.7	7.9	-52.92	-13	V
5763.2	-52.29	8.5	10.2	-50.59	-13	V
7626.8	-52.34	9.7	11.8	-50.24	-13	V
9528.4	-50.19	10.7	12.7	-48.19	-13	H

11417.2	-47.47	12.1	12.3	-47.27	-13	V
13416.4	-43.22	13.7	12.3	-44.62	-13	H

RSE-LTE26-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1711.3	-48.52	4.5	4.7	-48.32	-13	V
2406.2	-40.79	5.3	5.6	-40.49	-13	H
3341.6	-52.54	6.2	6.9	-51.84	-13	H
4105.2	-54.53	7.0	8.6	-52.93	-13	H
4928.8	-52.71	7.7	9.6	-50.81	-13	V
5744.4	-53.48	8.5	10.2	-51.78	-13	V

RSE-LTE26-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1611.6	-52.98	4.2	5.3	-51.88	-13	V
2933.8	-41.2	5.8	6.7	-40.3	-13	H
3304.4	-53.48	6.2	6.9	-52.78	-13	H
4116.4	-54.78	7.0	8.6	-53.18	-13	V
5037.6	-54.42	7.8	9.6	-52.62	-13	H
5820.8	-54.31	8.4	10.2	-52.51	-13	V

RSE-LTE26-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1715.8	-48.79	4.5	4.7	-48.59	-13	H
2491.5	-43.7	5.4	5.6	-43.5	-13	H
3346.8	-52.2	6.2	6.9	-51.5	-13	H
4197.6	-53.86	7.0	8.9	-51.96	-13	V
5086.8	-50.9	7.9	9.6	-49.2	-13	V
5899.2	-53.08	8.5	10.2	-51.38	-13	V

RSE-LTE38-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3701.6	-51.61	6.6	7.9	-50.31	-13	H
5140.4	-26.61	7.9	9.4	-25.11	-13	H
7711.2	-28.14	9.8	11.8	-26.14	-13	V
10281.2	-24.81	11.5	12.3	-24.01	-13	H
12851.5	-35.01	13.0	12.3	-35.71	-13	V
15928.0	-32.76	15.0	12.3	-35.46	-13	H

RSE-LTE38-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3872.8	-51.19	6.7	7.9	-49.99	-13	V
5185.6	-31.2	8.0	9.4	-29.8	-13	H
6379.6	-49.55	8.9	10.6	-47.85	-13	V
7778.4	-26.5	9.9	11.8	-24.6	-13	V
10371.2	-23.92	11.6	12.3	-23.22	-13	V
14920.0	-37.57	14.3	12.3	-39.57	-13	V

RSE-LTE38-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3847.2	-51.24	6.7	7.9	-50.04	-13	H
5230.4	-26.21	8.0	9.4	-24.81	-13	H
7845.6	-28.61	9.9	11.8	-26.71	-13	H
10461.6	-24.23	11.6	12.3	-23.53	-13	H
13474.5	-38.85	13.7	12.3	-40.25	-13	H
16458.2	-32.95	14.6	12.3	-35.25	-13	H

RSE-LTE41-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3611.2	-54.26	6.5	7.8	-52.96	-13	H

4992.4	-33.18	7.8	9.6	-31.38	-13	H
7488.8	-23.43	9.7	11.6	-21.53	-13	H
9985.2	-25.39	11.2	12.5	-24.09	-13	H
12481.2	-34.38	12.7	12.3	-34.78	-13	V
14978.8	-38.23	14.4	12.3	-40.33	-13	H

RSE-LTE41-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3598.8	-54.35	6.5	7.8	-53.05	-13	H
5181.6	-26.78	8.0	9.4	-25.38	-13	V
7772.4	-24.82	9.8	11.8	-22.82	-13	H
10364.4	-31.29	11.6	12.3	-30.59	-13	H
12954.4	-40.14	13.2	12.3	-41.04	-13	V
15544.4	-35.09	14.5	12.3	-37.29	-13	H

RSE-LTE41-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3568.0	-53.97	6.4	7.8	-52.57	-13	H
5371.2	-31.41	8.1	9.4	-30.11	-13	H
7100.0	-53.09	9.4	11.1	-51.39	-13	V
8056.4	-24.82	9.9	12.2	-22.52	-13	H
10742.0	-28.08	11.7	12.3	-27.48	-13	H
13426.2	-41.02	13.7	12.3	-42.42	-13	H

RSE-LTE66-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5130.8	-43.31	7.9	9.4	-41.81	-13	H
6841.2	-24.35	9.2	10.9	-22.65	-13	V
8551.2	-37.85	10.3	12.6	-35.55	-13	H
10262.0	-31.49	11.5	12.3	-30.69	-13	H

11970.2	-34	12.6	12.3	-34.3	-13	V
13681.0	-40.61	13.9	12.3	-42.21	-13	H

RSE-LTE66-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3402.0	-53.9	6.3	7.8	-52.4	-13	H
5233.6	-43.22	8.0	9.4	-41.82	-13	V
6978.4	-30.32	9.3	11.1	-28.52	-13	V
8722.8	-36.16	10.4	12.7	-33.86	-13	H
10467.2	-35.39	11.6	12.3	-34.69	-13	H
12211.0	-31.06	12.6	12.3	-31.36	-13	V

RSE-LTE66-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3555.6	-50.08	6.4	7.8	-48.68	-13	H
5329.6	-50.57	8.1	9.4	-49.27	-13	H
7104.4	-44.95	9.4	11.1	-43.25	-13	V
8880.8	-40.72	10.4	12.6	-38.52	-13	H
10670.0	-47.97	11.7	12.3	-47.37	-13	V
12433.6	-43.23	12.5	12.3	-43.43	-13	H

RSE-LTE71-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1330.9	-54.59	3.9	3.0	-55.49	-13	H
1996.5	-50.58	4.8	4.5	-50.88	-13	H
2662.3	-44.27	5.5	6.1	-43.67	-13	H
3327.2	-53.9	6.2	6.9	-53.2	-13	V
3992.8	-54.43	6.9	8.6	-52.73	-13	H
4658.4	-54.15	7.5	9.0	-52.65	-13	H

RSE-LTE71-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1362.0	-53.83	3.9	3.0	-54.73	-13	H
2040.0	-48.89	4.8	4.5	-49.19	-13	H
2722.3	-43.52	5.6	6.1	-43.02	-13	H
3402.0	-54.88	6.3	7.8	-53.38	-13	V
4085.2	-55.02	7.0	8.6	-53.42	-13	V
4763.6	-53.41	7.5	9.0	-51.91	-13	H

RSE-LTE71-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
1390.8	-55.71	4.0	5.3	-54.41	-13	H
2086.2	-49.54	4.9	4.5	-49.94	-13	H
2782.3	-43.56	5.7	6.1	-43.16	-13	V
3477.6	-55.02	6.4	7.8	-53.62	-13	H
4172.8	-54.93	7.0	8.9	-53.03	-13	H
4870.0	-53.51	7.6	9.0	-52.11	-13	V

RSE-CA-7C-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5022.0	-35.51	7.8	9.6	-33.71	-13	H
7530.4	-33.89	9.7	11.6	-31.99	-13	H
10043.2	-30.63	11.2	12.5	-29.33	-13	V
12552.2	-30.2	12.8	12.3	-30.7	-13	V
15063.5	-36.2	14.4	12.3	-38.3	-13	V
17578.2	-32.39	15.5	12.3	-35.59	-13	V

RSE-CA-7C-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3565.6	-51.58	6.4	7.8	-50.18	-13	V

5062.4	-33.49	7.8	9.6	-31.69	-13	V
7592.0	-33.61	9.7	11.6	-31.71	-13	V
10122.4	-29.39	11.3	12.5	-28.19	-13	H
12652.0	-31.14	12.7	12.3	-31.54	-13	H
16869.5	-29.49	16.3	12.3	-33.49	-13	H

RSE-CA-7C-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5102.4	-32.14	7.9	9.6	-30.44	-13	V
7650.0	-35.08	9.7	11.8	-32.98	-13	H
10202.0	-32.63	11.3	12.5	-31.43	-13	H
12751.8	-34.85	12.5	12.3	-35.05	-13	H
15186.0	-35.88	14.5	12.3	-38.08	-13	H
17189.8	-31.98	16.0	12.3	-35.68	-13	H

RSE-CA-41C-L

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
5004.4	-31.65	7.8	9.6	-29.85	-13	H
7505.2	-28.27	9.7	11.6	-26.37	-13	H
10007.6	-28.79	11.2	12.5	-27.49	-13	V
12508.5	-28.73	12.7	12.3	-29.13	-13	V
15011.0	-33.19	14.4	12.3	-35.29	-13	H
17515.2	-32.72	15.1	12.3	-35.52	-13	V

RSE-CA-41C-M

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3540.8	-52.41	6.4	7.8	-51.01	-13	H
5172.4	-24.27	7.9	9.4	-22.77	-13	H
7758.4	-35.33	9.8	11.8	-33.33	-13	H
10346.0	-33.81	11.5	12.3	-33.01	-13	V

12932.0	-34.79	13.0	12.3	-35.49	-13	V
15518.5	-30.93	14.5	12.3	-33.13	-13	V

RSE-CA-41C-H

Frequency (MHz)	PMea (dBm)	Pcl (dBm)	Ga (dBd)	Peak ERP (dBm)	Limit (dBm)	Polarization
3626.4	-51.13	6.6	7.9	-49.83	-13	H
5341.2	-25.2	8.1	9.4	-23.9	-13	H
8012.0	-34.92	9.9	12.2	-32.62	-13	H
10683.2	-31.46	11.7	12.3	-30.86	-13	V
13171.8	-40.53	13.0	12.3	-41.23	-13	V
15770.5	-32.46	14.9	12.3	-35.06	-13	H

6.2. Frequency Stability

Reference

Rule RSS-132 5.3; Rule RSS-133 6.3; Rule RSS-139 6.4

6.2.1 Method of Measurement

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -10°C.
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for LTE band 7. Measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -10°C to +50°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 °C decrements from +50°C to -10°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

6.2.2 Measurement Limit

Rule RSS-132 5.3 specifies that “The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.” Limits $\leq \pm 2.5$ ppm

Rule RSS-133 6.3 specifies that “The carrier frequency shall not depart from the reference frequency, in excess of ± 2.5 ppm for mobile stations.” Limit $\leq \pm 2.5$ ppm

Rule RSS-139 6.4 specifies that “The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.”

6.2.3 Measurement results

LTE Band 2, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	9.127	89.078	19.927	0.005	0.048	0.011
3.8	14.405	88.749	26.064	0.008	0.048	0.014
4.2	10.042	91.481	13.475	0.005	0.049	0.012

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	11.001	87.662	26.493	0.006	0.047	0.014
40	9.212	86.603	23.203	0.005	0.047	0.012
30	11.830	88.320	20.299	0.006	0.048	0.011
20	7.868	93.155	19.698	0.004	0.050	0.010
10	12.460	89.693	19.225	0.007	0.048	0.010
0	10.500	87.719	14.276	0.006	0.047	0.008
-10	11.086	92.983	14.291	0.006	0.050	0.008
-20	13.003	82.293	13.261	0.007	0.048	0.007
-30	9.642	91.767	10.457	0.005	0.050	0.006

LTE Band 4, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-9.570	69.079	17.910	0.006	0.040	0.010
3.8	8.512	63.200	22.345	0.005	0.037	0.013
4.2	-8.268	62.385	15.507	0.005	0.036	0.009

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	5.250	65.818	15.121	0.003	0.038	0.009
40	6.151	66.261	15.693	0.004	0.039	0.009
30	6.795	59.338	9.513	0.004	0.035	0.005
20	-4.921	62.771	12.703	0.003	0.037	0.007
10	4.706	64.702	6.437	0.003	0.038	0.004
0	-4.077	61.326	7.696	0.002	0.036	0.004
-10	6.094	59.681	7.896	0.004	0.035	0.005
-20	5.651	63.944	7.782	0.003	0.037	0.004
-30	5.364	68.078	6.881	0.003	0.040	0.004

LTE Band 5, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-4.706	34.118	17.996	0.006	0.041	0.022
3.8	-3.276	35.448	12.202	0.004	0.043	0.015
4.2	-4.306	31.986	7.195	0.005	0.039	0.009

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	-3.033	35.377	3.433	0.004	0.043	0.004
40	-5.121	32.673	3.862	0.006	0.039	0.005
30	-3.219	35.503	3.877	0.004	0.040	0.005
20	-3.319	32.802	3.262	0.004	0.040	0.004
10	-4.377	34.432	-3.276	0.005	0.042	0.004
0	-4.549	31.986	-3.805	0.005	0.039	0.005
-10	-5.322	32.973	-4.449	0.006	0.040	0.005
- 20	-5.221	34.933	-3.805	0.006	0.042	0.005
- 30	-5.021	33.445	-3.462	0.006	0.040	0.004

LTE Band 7, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-12.245	17.123	-4.749	0.005	0.007	0.002
3.8	-9.027	10.114	7.839	0.004	0.004	0.003
4.2	8.426	12.059	8.140	0.003	0.005	0.003

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	7.124	16.193	-6.723	0.003	0.006	0.003
40	-11.215	-19.813	-8.769	0.004	0.008	0.003
30	-8.669	14.477	13.976	0.003	0.006	0.006
20	-6.323	-15.349	7.811	0.002	0.006	0.003
10	-8.311	14.234	-6.166	0.003	0.006	0.002
0	-10.500	13.461	-11.802	0.004	0.005	0.005
-10	-6.824	20.285	-7.381	0.003	0.008	0.003
- 20	-13.404	13.676	-12.159	0.005	0.005	0.005
- 30	-13.432	14.062	-9.527	0.005	0.006	0.004

LTE Band 12, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-4.406	29.225	9.127	0.006	0.041	0.013
3.8	3.662	31.343	8.469	0.005	0.044	0.012
4.2	-4.277	28.596	4.578	0.006	0.040	0.006

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	1.745	31.571	4.106	0.002	0.045	0.006
40	4.377	23.210	2.646	0.006	0.040	0.004
30	-5.493	28.868	-2.675	0.008	0.041	0.004
20	-3.734	29.311	6.022	0.005	0.041	0.009
10	-5.035	27.781	4.005	0.007	0.039	0.006
0	-2.675	31.28	-4.950	0.004	0.044	0.007
-10	-6.423	27.838	3.233	0.009	0.039	0.005
- 20	-5.879	29.311	-3.619	0.008	0.041	0.005
- 30	-5.422	28.439	3.462	0.008	0.040	0.005

LTE Band 13, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-3.734	33.560	6.552	0.005	0.043	0.008
3.8	3.333	35.648	7.696	0.004	0.046	0.010
4.2	-4.306	33.402	5.350	0.006	0.043	0.007

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	-6.294	35.563	4.234	0.008	0.045	0.005
40	4.005	34.604	6.537	0.005	0.044	0.008
30	5.178	34.089	-3.161	0.007	0.044	0.004
20	-6.466	33.302	4.706	0.008	0.043	0.006
10	4.479	37.150	-5.293	0.006	0.048	0.007
0	8.626	33.875	4.649	0.011	0.043	0.006
-10	-3.505	31.700	4.735	0.004	0.041	0.006
- 20	-4.134	32.229	-3.762	0.005	0.041	0.005
- 30	-3.448	32.287	5.121	0.004	0.041	0.007

LTE Band 14, 10MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-2.604	36.764	3.719	0.003	0.046	0.005
3.8	3.862	32.673	7.353	0.005	0.041	0.009
4.2	2.489	33.545	4.563	0.003	0.042	0.006

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	4.692	33.932	4.408	0.006	0.043	0.005
40	3.533	32.487	3.405	0.004	0.041	0.004
30	-2.961	33.417	3.033	0.004	0.042	0.004
20	4.349	32.7116	5.779	0.005	0.041	0.007
10	-3.619	32.988	6.180	0.005	0.042	0.008
0	3.963	32.115	3.505	0.005	0.040	0.004
-10	-6.924	36.296	3.533	0.009	0.046	0.004
- 20	3.176	31.915	3.176	0.004	0.040	0.004
- 30	-3.076	33.059	4.692	0.004	0.042	0.006

LTE Band 17, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	2.975	32.487	5.579	0.004	0.046	0.008
3.8	-1.445	34.661	4.306	0.002	0.049	0.006
4.2	-6.180	34.661	3.676	0.009	0.049	0.005

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	5.965	32.473	3.147	0.008	0.046	0.004
40	2.546	34.690	2.718	0.004	0.049	0.004
30	4.191	30.484	4.921	0.006	0.043	0.007
20	-4.020	34.089	3.991	0.006	0.048	0.006
10	-3.290	31.543	4.163	0.005	0.044	0.006
0	-2.704	32.973	4.621	0.004	0.047	0.007
-10	-5.279	33.674	4.592	0.007	0.047	0.006
- 20	4.091	34.629	4.735	0.006	0.045	0.007
- 30	-3.905	32.244	5.093	0.006	0.045	0.007

LTE Band 25, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	11.530	33.574	-9.613	0.006	0.018	0.005
3.8	9.913	27.208	-5.207	0.005	0.014	0.003
4.2	12.445	28.825	-13.204	0.007	0.015	0.007

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	7.224	26.293	-14.791	0.004	0.014	0.008
40	7.567	32.988	-21.229	0.004	0.017	0.011
30	11.072	34.862	-17.924	0.006	0.018	0.010
20	10.071	32.372	-16.150	0.005	0.017	0.009
10	12.374	30.384	-14.048	0.006	0.016	0.007
0	6.237	31.343	-11.058	0.003	0.016	0.006
-10	10.700	29.626	-10.643	0.006	0.016	0.006
- 20	7.739	28.753	-8.082	0.004	0.015	0.004
- 30	12.231	27.151	-5.579	0.006	0.014	0.003

LTE Band 26 (Part22) , 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-6.580	38.824	17.281	0.008	0.046	0.021
3.8	-2.446	35.362	8.311	0.003	0.042	0.010
4.2	-6.051	35.362	6.495	0.007	0.042	0.008

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	4.048	36.273	2.775	0.005	0.043	0.003
40	6.022	36.349	3.619	0.007	0.043	0.004
30	5.665	34.175	-3.319	0.007	0.041	0.004
20	3.333	36.349	3.891	0.004	0.043	0.005
10	4.234	32.001	-5.250	0.005	0.038	0.006
0	4.005	35.906	6.351	0.005	0.043	0.008
-10	3.633	35.076	-4.163	0.004	0.042	0.005
- 20	-2.704	32.773	-3.777	0.003	0.039	0.005
- 30	4.792	33.603	-3.533	0.006	0.040	0.004

LTE Band 38, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	13.204	41.928	9.756	0.005	0.016	0.004
3.8	8.168	42.300	-12.002	0.003	0.016	0.005
4.2	9.298	37.909	25.907	0.004	0.015	0.010

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	-10.900	38.767	19.355	0.004	0.015	0.007
40	10.357	39.568	19.112	0.004	0.015	0.007
30	14.491	52.085	20.070	0.006	0.020	0.008
20	18.353	44.417	19.741	0.007	0.017	0.008
10	17.824	43.859	18.353	0.007	0.017	0.007
0	7.854	40.426	17.023	0.003	0.015	0.007
-10	10.414	37.079	27.680	0.004	0.014	0.011
- 20	-18.182	43.073	28.095	0.007	0.017	0.011
- 30	-14.362	38.667	28.439	0.006	0.015	0.011

LTE Band 41, 5MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	17.323	-78.092	37.107	0.007	0.030	0.014
3.8	28.110	-79.112	35.949	0.011	0.031	0.014
4.2	17.638	-81.553	36.750	0.007	0.031	0.014

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	18.697	-85.788	26.793	0.007	0.033	0.010
40	22.988	-72.470	29.753	0.009	0.028	0.011
30	25.320	-70.496	42.143	0.010	0.027	0.016
20	21.977	-76.833	26.722	0.008	0.030	0.010
10	26.507	-78.521	20.971	0.010	0.030	0.008
0	15.306	-78.020	26.736	0.006	0.030	0.010
-10	28.696	-88.162	32.458	0.011	0.034	0.013
- 20	24.548	-79.050	28.052	0.009	0.030	0.011
- 30	21.944	-75.302	28.853	0.008	0.029	0.011

LTE Band 66, 1.4MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	9.456	-74.430	-15.149	0.005	0.042	0.009
3.8	15.550	-70.810	-19.655	0.009	0.040	0.011
4.2	9.198	-74.644	-16.279	0.005	0.042	0.009

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	8.097	-70.653	-19.598	0.005	0.040	0.011
40	7.224	-71.697	-12.045	0.004	0.041	0.007
30	11.744	-71.597	-12.074	0.007	0.040	0.007
20	9.584	-70.567	-12.259	0.005	0.040	0.007
10	9.055	-70.753	-12.546	0.005	0.040	0.007
0	9.170	-71.783	-7.796	0.005	0.041	0.004
-10	10.915	-71.197	-10.056	0.006	0.040	0.006
- 20	11.902	-71.325	-9.241	0.007	0.040	0.005
- 30	5.722	-74.787	-6.824	0.003	0.042	0.004

LTE Band 71, 20MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	13.747	30.627	6.223	0.020	0.045	0.009
3.8	10.443	31.528	8.025	0.015	0.046	0.012
4.2	8.025	32.930	4.306	0.012	0.048	0.006

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	12.174	30.470	6.924	0.018	0.044	0.010
40	7.582	38.166	7.253	0.011	0.055	0.011
30	20.528	30.799	8.254	0.030	0.045	0.012
20	16.279	30.313	-7.153	0.024	0.044	0.011
10	8.497	27.423	4.463	0.012	0.040	0.007
0	11.759	32.072	7.038	0.017	0.047	0.010
-10	8.297	35.205	6.652	0.012	0.051	0.010
- 20	6.495	36.235	7.210	0.009	0.053	0.011
- 30	10.600	28.996	5.350	0.015	0.042	0.008

LTE CA-7C, 15MHz+20MHz bandwidth (worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	-1.86	-0.36	0.21	-0.0007	-0.0001	0.0001
3.8	1.21	1.14	1.20	0.0005	0.0005	0.0005
4.2	3.22	0.54	2.31	0.0013	0.0002	0.0009

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	3.92	1.21	1.31	0.0016	0.0005	0.0005
40	-1.59	0.47	2.13	-0.0006	0.0002	0.0008
30	0.53	1.2	4.13	0.0002	0.0005	0.0016
20	2.12	-2.2	2.1	0.0008	-0.0009	0.0008
10	-0.47	2.6	2.6	-0.0002	0.0010	0.0010
0	1.44	1.01	4.21	0.0006	0.0004	0.0017
-10	1.92	2.10	2.13	0.0008	0.0008	0.0008
- 20	0.17	-1.0	0.7	0.0001	-0.0004	0.0003
- 30	2.40	-0.94	3.6	0.0010	-0.0004	0.0014

LTE CA-41C, 15MHz+20MHz bandwidth Low(worst case of all bandwidths)

Frequency Error vs Voltage

Voltage (V)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
3.5	14.26	15.05	15.12	0.006	0.006	0.006
3.8	15.69	14.98	15.21	0.006	0.006	0.006
4.2	17.01	18.05	17.64	0.007	0.007	0.007

Frequency Error vs Temperature

Temperature (°C)	Frequency error (Hz)			Frequency error (ppm)		
	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
50	15.02	13.53	14.21	0.006	0.005	0.005
40	11.34	12.12	13.12	0.004	0.005	0.005
30	15.76	16.34	15.21	0.006	0.006	0.006
20	16.61	17.91	17.92	0.006	0.007	0.007
10	19.91	9.82	8.61	0.008	0.004	0.003
0	16.48	6.53	15.31	0.006	0.003	0.006
-10	19.40	17.10	20.62	0.007	0.007	0.008
- 20	18.25	16.24	18.21	0.007	0.006	0.007
- 30	14.49	12.12	10.41	0.006	0.005	0.004

6.3. Output Power

6.3.1. Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation.

In all cases, output power is within the specified limits.

CMW500 setting:

1: CMW500 is connected to the DUT

2; Set RX Expected PEP to 30 dBm

6.3.2. Conducted

6.3.2.1. Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.

These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

6.3.2.2 Measurement result

LTE band 2

LTE 2			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				18607	18900	19193
QPSK	1	Low	23	21.90	22.11	22.22
		Middle		21.93	22.25	22.23
		High		21.94	22.10	22.23
	50%	Low	23	21.96	22.13	22.26
		Middle		21.98	22.15	22.41
		High		22.00	22.11	22.30
	100%	/	22	20.94	21.12	21.22
16QAM	1	Low	22	21.37	21.53	21.59
		Middle		21.33	21.36	21.67
		High		21.24	21.41	21.63
	5	Low	22	20.86	21.13	21.30
		Middle		20.88	21.26	21.33
		High		20.90	21.15	21.29
	100%	/	21	20.14	20.27	20.34
64QAM	1	Low	21	20.59	20.67	20.37
		Middle		20.67	20.69	20.41
		High		20.58	20.58	20.35
	5	Low	21	20.44	20.47	20.58
		Middle		20.38	20.45	20.55
		High		20.44	20.46	20.61
	100%	/	20	19.23	19.30	19.59
Modulation	RB	RB Offset	Tune up	3MHz		
				18615	18900	19185
QPSK	1	Low	23	21.94	22.25	22.54

		Middle		21.92	22.36	22.14
		High		21.88	22.18	22.26
	50%	Low	22	20.99	21.25	21.36
		Middle		21.00	21.21	21.36
		High		20.96	21.19	21.40
	100%	/	22	20.99	21.25	21.37
16QAM	1	Low	22	21.34	21.69	21.77
		Middle		21.21	21.42	21.63
		High		21.23	21.44	21.64
	50%	Low	22	20.00	20.23	20.40
		Middle		20.07	20.24	20.47
		High		20.05	20.29	20.38
	100%	/	21	20.02	20.24	20.40
64QAM	1	Low	21	20.36	20.60	20.40
		Middle		20.32	20.59	20.45
		High		20.27	20.52	20.45
	50%	Low	20	19.18	19.51	19.29
		Middle		19.07	19.48	19.28
		High		19.16	19.42	19.28
	100%	/	20	19.42	19.35	19.23
Modulation	RB	RB Offset	Tune up	5MHz		
				18625	18900	19175
QPSK	1	Low	23	22.03	22.42	22.45
		Middle		21.98	22.30	22.26
		High		22.00	22.14	22.31
	50%	Low	22	21.02	21.29	21.46
		Middle		20.97	21.21	21.38
		High		20.94	21.29	21.25
	100%	/	22	21.03	21.21	21.40
16QAM	1	Low	22	21.27	21.69	21.86
		Middle		21.26	21.48	21.51
		High		21.37	21.55	21.66
	50%	Low	22	20.04	20.32	20.45
		Middle		20.00	20.21	20.40
		High		19.94	20.27	20.39
	100%	/	21	20.00	20.21	20.37
64QAM	1	Low	21	20.44	20.48	20.66
		Middle		20.53	20.33	20.56
		High		20.46	20.33	20.48
	50%	Low	20	19.36	19.37	19.49
		Middle		19.35	19.27	19.44
		High		19.27	19.37	19.37

	100%	/	20	19.35	19.40	19.48
Modulation	RB	RB Offset	Tune up	10MHz		
				18650	18900	19150
QPSK	1	Low	23	22.28	22.29	22.61
		Middle		22.15	22.14	22.46
		High		22.20	22.21	22.34
	50%	Low	22	21.04	21.33	21.41
		Middle		21.03	21.16	21.35
		High		21.06	21.21	21.35
	100%	/	22	21.02	21.18	21.37
16QAM	1	Low	22	21.47	21.59	21.87
		Middle		21.20	21.33	21.49
		High		21.47	21.43	21.56
	50%	Low	22	19.98	20.26	20.37
		Middle		20.06	20.18	20.41
		High		20.05	20.19	20.32
	100%	/	21	20.05	20.21	20.37
64QAM	1	Low	21	20.42	20.72	20.67
		Middle		20.34	20.60	20.53
		High		20.52	20.69	20.68
	50%	Low	20	19.32	19.42	19.47
		Middle		19.42	19.40	19.44
		High		19.41	19.36	19.52
	100%	/	20	19.32	19.36	19.48
Modulation	RB	RB Offset	Tune up	15MHz		
				18675	18900	19125
QPSK	1	Low	23	22.09	22.42	22.62
		Middle		22.06	22.21	22.24
		High		22.18	22.45	22.38
	50%	Low	22	21.03	21.13	21.25
		Middle		21.09	21.18	21.34
		High		20.99	21.20	21.37
	100%	/	22	21.04	21.17	21.27
16QAM	1	Low	22	21.26	21.59	21.98
		Middle		21.23	21.30	21.65
		High		21.52	21.40	21.68
	50%	Low	22	20.04	20.15	20.27
		Middle		20.05	20.17	20.33
		High		19.98	20.16	20.30
	100%	/	21	20.03	20.16	20.26
64QAM	1	Low	21	20.39	20.75	20.76
		Middle		20.28	20.71	20.52

	50%	High	20	20.63	20.48	20.61
		Low		19.43	19.70	19.76
		Middle		19.62	19.67	19.58
		High		19.57	19.74	19.60
	100%	/	20	19.26	19.30	19.36
Modulation	RB	RB Offset	Tune up	20MHz		
				18700	18900	19100
QPSK	1	Low	23	21.97	22.22	22.41
		Middle		21.91	22.10	22.29
		High		21.82	21.97	22.07
	50%	Low	22	21.04	21.25	21.35
		Middle		21.02	21.22	21.28
		High		20.96	21.13	21.33
	100%	/	22	20.96	21.14	21.33
16QAM	1	Low	22	21.00	21.55	21.59
		Middle		21.13	21.27	21.84
		High		21.02	21.08	21.14
	50%	Low	22	20.06	20.22	20.35
		Middle		20.04	20.22	20.31
		High		19.98	20.15	20.29
	100%	/	21	19.96	20.14	20.38
64QAM	1	Low	21	20.52	20.56	20.78
		Middle		20.56	20.45	20.87
		High		20.41	20.27	20.50
	50%	Low	20	19.27	19.33	19.39
		Middle		19.18	19.28	19.38
		High		19.21	19.34	19.35
	100%	/	20	19.16	19.22	19.34

LTE band 4

LTE 4			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				19957	20175	20393
QPSK	1	Low	23	21.89	22.10	21.85
		Middle		21.99	21.94	21.87
		High		21.89	22.12	22.11
	50%	Low	23	21.89	22.36	22.13
		Middle		21.86	22.31	21.97
		High		21.86	22.29	22.02
	100%	/	22	20.89	21.15	20.95
16QAM	1	Low	22	21.29	21.52	21.41

		Middle		21.27	21.55	21.33
		High		21.27	21.39	21.18
		Low		20.79	21.20	21.02
	5	Middle	21.5	20.85	21.24	20.91
		High		20.79	21.01	21.01
	100%	/	21	19.99	20.32	20.12
64QAM	1	Low	21	20.00	20.48	20.14
		Middle		20.00	20.57	20.15
		High		19.95	20.43	20.16
	5	Low	21	19.92	20.42	20.36
		Middle		19.94	20.37	20.33
		High		19.96	20.39	20.35
	100%	/	20	19.20	19.13	19.34
Modulation	RB	RB Offset	Tune up	3MHz		
				19965	20175	20385
QPSK	1	Low	23	22.11	22.35	22.07
		Middle		21.86	22.20	22.17
		High		22.01	22.19	-10.94
	50%	Low	22	21.13	21.38	21.13
		Middle		21.04	21.29	21.06
		High		21.01	21.33	21.05
	100%	/	22	20.99	21.28	21.10
16QAM	1	Low	22	21.20	21.73	21.19
		Middle		21.24	21.47	21.34
		High		21.16	21.42	21.29
	50%	Low	21.5	20.16	20.42	20.24
		Middle		20.06	20.39	20.15
		High		20.06	20.33	20.12
	100%	/	21	20.08	20.32	20.13
64QAM	1	Low	21	20.19	20.59	20.23
		Middle		20.16	20.45	20.25
		High		20.09	20.31	20.22
	50%	Low	21	19.08	19.40	19.09
		Middle		19.14	19.38	19.01
		High		18.89	19.32	19.00
	100%	/	20	19.19	19.16	19.29
Modulation	RB	RB Offset	Tune up	5MHz		
				19975	20175	20375
QPSK	1	Low	23	22.05	22.52	22.23
		Middle		22.11	22.26	22.29
		High		22.00	22.26	22.02
	50%	Low	22	21.08	21.47	21.27

		Middle		21.09	21.29	21.17
		High		21.00	21.25	21.10
	100%	/	22	21.13	21.35	21.18
16QAM	1	Low	22	21.38	21.96	21.47
		Middle		21.24	21.35	21.40
		High		21.33	21.64	21.35
	50%	Low	21.5	20.09	20.50	20.27
		Middle		20.10	20.30	20.19
		High		20.06	20.27	20.12
	100%	/	21	20.17	20.31	20.19
64QAM	1	Low	21	20.21	20.27	20.43
		Middle		20.32	20.47	20.35
		High		20.23	20.27	20.24
	50%	Low	21	19.12	19.29	19.29
		Middle		19.17	19.27	19.19
		High		19.05	19.13	19.13
	100%	/	20	19.19	19.22	19.26
Modulation	RB	RB Offset	Tune up	10MHz		
				20000	20175	20350
QPSK	1	Low	23	22.34	22.60	22.62
		Middle		22.09	22.37	22.20
		High		22.36	22.46	22.25
	50%	Low	22	21.11	21.47	21.30
		Middle		21.15	21.44	21.22
		High		21.19	21.32	21.20
	100%	/	22	21.17	21.39	21.29
16QAM	1	Low	22	21.50	21.73	21.63
		Middle		21.29	21.56	21.32
		High		21.51	21.76	21.61
	50%	Low	21.5	20.17	20.52	20.25
		Middle		20.17	20.50	20.25
		High		20.13	20.36	20.23
	100%	/	21	20.26	20.48	20.31
64QAM	1	Low	21	20.36	20.66	20.47
		Middle		20.27	20.47	20.28
		High		20.56	20.69	20.48
	50%	Low	21	19.16	19.38	19.31
		Middle		19.07	19.33	19.28
		High		19.28	19.23	19.30
	100%	/	20	19.24	19.31	19.27
Modulation	RB	RB Offset	Tune up	15MHz		
				20025	20175	20325

QPSK	1	Low	23	22.46	22.51	22.52
		Middle		22.12	22.07	21.88
		High		22.33	22.41	22.14
	50%	Low	22	21.22	21.30	21.13
		Middle		21.34	21.17	20.99
		High		21.28	21.21	21.03
	100%	/	22	21.27	21.26	21.09
16QAM	1	Low	22	21.73	21.52	21.61
		Middle		21.39	21.25	21.19
		High		21.55	21.56	21.37
	50%	Low	21.5	20.28	20.29	20.14
		Middle		20.35	20.20	20.02
		High		20.22	20.25	20.08
	100%	/	21	20.26	20.25	20.10
64QAM	1	Low	21	20.53	20.66	20.40
		Middle		20.34	20.38	20.17
		High		20.49	20.67	20.44
	50%	Low	21	19.52	19.66	19.52
		Middle		19.44	19.56	19.44
		High		19.49	19.68	19.35
	100%	/	20	19.21	19.19	19.06
Modulation	RB	RB Offset	Tune up	20MHz		
				20050	20175	20300
QPSK	1	Low	23	22.41	22.24	22.53
		Middle		22.19	22.04	22.11
		High		22.30	22.36	22.10
	50%	Low	22	21.43	21.40	21.23
		Middle		21.33	21.27	21.17
		High		21.33	21.26	21.13
	100%	/	22	21.38	21.37	21.28
16QAM	1	Low	22	21.68	21.48	21.55
		Middle		21.30	21.44	21.32
		High		21.45	21.59	21.36
	50%	Low	21.5	20.49	20.33	20.32
		Middle		20.40	20.27	20.26
		High		20.43	20.26	20.25
	100%	/	21	20.38	20.35	20.30
64QAM	1	Low	21	20.57	20.43	20.58
		Middle		20.49	20.32	20.46
		High		20.64	20.51	20.59
	50%	Low	21	19.27	19.31	19.18
		Middle		19.29	19.29	19.25

		High		19.30	19.27	19.21
	100%	/	20	19.24	19.29	19.21

LTE band 5

LTE 5			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				20407	20525	20643
QPSK	1	Low	23.5	22.91	23.00	23.09
		Middle		22.98	22.95	22.98
		High		22.91	22.89	22.93
	50%	Low	23.5	22.95	22.96	23.09
		Middle		22.96	23.02	23.07
		High		22.97	22.95	23.01
	100%	/	22.5	21.93	22.01	22.06
16QAM	1	Low	23	22.31	22.20	22.43
		Middle		22.36	22.45	22.54
		High		22.36	22.45	22.32
	5	Low	22.5	21.99	22.12	22.05
		Middle		22.05	22.11	22.07
		High		22.04	22.06	22.01
	100%	/	21.5	21.03	21.09	21.09
64QAM	1	Low	21.5	20.20	20.79	20.67
		Middle		20.24	20.86	20.59
		High		20.29	20.75	20.47
	5	Low	21.5	20.34	20.67	20.66
		Middle		20.33	20.56	20.56
		High		20.37	20.61	20.65
	100%	/	20.5	19.41	19.43	19.72
Modulation	RB	RB Offset	Tune up	3MHz		
				20415	20525	20635
QPSK	1	Low	23.5	22.89	22.95	23.08
		Middle		23.00	23.05	23.07
		High		22.96	23.10	23.15
	50%	Low	22.5	22.00	22.01	21.99
		Middle		21.99	22.08	22.17
		High		21.99	22.04	22.09
	100%	/	22.5	21.97	22.08	22.18
16QAM	1	Low	23	22.31	22.50	22.36
		Middle		22.30	22.35	22.73
		High		22.44	22.43	22.46
	50%	Low	22	21.10	21.08	21.12

		Middle		21.07	21.20	21.15
		High		21.05	21.11	21.17
	100%	/	22	20.93	21.13	21.19
64QAM	1	Low	21.5	20.41	20.68	20.60
		Middle		20.54	20.73	20.61
		High		20.46	20.71	20.67
	50%	Low	20.5	19.32	19.52	19.44
		Middle		19.42	19.47	19.58
		High		19.35	19.58	19.51
	100%	/	20.5	19.54	19.47	19.74
Modulation	RB	RB Offset	Tune up	5MHz		
				20425	20525	20625
QPSK	1	Low	23.5	22.95	23.01	23.17
		Middle		22.92	22.98	23.00
		High		23.02	22.93	23.06
	50%	Low	22.5	21.98	22.08	22.08
		Middle		21.97	22.09	22.06
		High		21.97	22.06	22.08
	100%	/	22.5	22.01	22.09	22.10
16QAM	1	Low	23	22.36	22.35	22.38
		Middle		22.04	22.29	22.29
		High		22.23	22.40	22.45
	50%	Low	22	20.98	21.10	21.15
		Middle		20.99	21.13	21.13
		High		21.08	21.16	21.16
	100%	/	22	21.09	21.09	21.18
64QAM	1	Low	21.5	20.57	20.42	20.81
		Middle		20.63	20.48	20.74
		High		20.53	20.40	20.65
	50%	Low	20.5	19.42	19.35	19.58
		Middle		19.49	19.44	19.66
		High		19.41	19.49	19.60
	100%	/	20.5	19.49	19.47	19.65
Modulation	RB	RB Offset	Tune up	10MHz		
				20450	20525	20600
QPSK	1	Low	23.5	23.02	23.04	23.29
		Middle		23.05	23.05	23.06
		High		23.41	23.30	23.32
	50%	Low	22.5	22.05	22.13	22.18
		Middle		22.06	22.16	22.14
		High		22.01	22.14	22.12
	100%	/	22.5	22.10	22.18	22.14

16QAM	1	Low	23	22.33	22.53	22.61
		Middle		22.39	22.42	22.41
		High		22.61	22.72	22.44
	50%	Low	22	21.03	21.12	21.20
		Middle		21.10	21.13	21.13
		High		21.01	21.21	21.30
	100%	/	22	21.13	21.16	21.18
64QAM	1	Low	21.5	20.62	20.79	20.82
		Middle		20.54	20.67	20.60
		High		20.93	21.02	20.89
	50%	Low	20.5	19.55	19.49	19.70
		Middle		19.65	19.59	19.73
		High		19.61	19.55	19.67
	100%	/	20.5	19.58	19.57	19.68

LTE band 7

LTE 7			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	5MHz		
				20775	21100	21425
QPSK	1	Low	23	21.84	21.99	22.17
		Middle		21.66	22.01	22.29
		High		21.68	21.98	22.23
	50%	Low	22	20.81	20.95	21.17
		Middle		20.65	20.98	21.21
		High		20.83	20.98	21.12
	100%	/	22	20.72	20.94	21.22
16QAM	1	Low	22	21.13	21.30	21.49
		Middle		20.88	21.11	21.29
		High		20.87	21.21	21.34
	5	Low	21	19.73	19.95	20.23
		Middle		19.58	19.99	20.20
		High		19.71	19.97	20.22
	100%	/	21	19.75	20.00	20.27
64QAM	1	Low	21	19.39	19.59	19.91
		Middle		19.38	19.58	19.88
		High		19.50	19.59	19.89
	5	Low	20	18.43	18.59	18.81
		Middle		18.45	18.53	18.77
		High		18.34	18.59	18.83
	100%	/	20	18.37	18.64	18.73
Modulation	RB	RB Offset	Tune up	10MHz		
				20800	21100	21400

QPSK	1	Low	23	21.86	22.16	22.51
		Middle		21.69	21.93	22.02
		High		21.98	22.10	22.37
	50%	Low	22	20.74	20.92	21.24
		Middle		20.70	20.96	21.16
		High		20.66	21.04	21.17
	100%	/	22	20.74	20.97	21.24
16QAM	1	Low	22	21.08	21.31	21.65
		Middle		20.83	21.00	21.38
		High		21.01	21.17	21.43
	50%	Low	21	19.83	19.94	20.19
		Middle		19.71	19.99	20.14
		High		19.72	20.01	20.17
	100%	/	21	19.80	19.95	20.20
64QAM	1	Low	21	19.64	19.85	19.95
		Middle		19.41	19.64	19.75
		High		19.58	19.81	20.00
	50%	Low	20	18.59	18.61	18.86
		Middle		18.48	18.59	18.84
		High		18.42	18.62	18.88
	100%	/	20	18.42	18.59	18.92
Modulation	RB	RB Offset	Tune up	15MHz		
				20825	21100	21375
QPSK	1	Low	23	21.59	21.86	22.02
		Middle		21.72	21.95	22.29
		High		21.73	22.03	22.08
	50%	Low	22	20.83	20.94	21.14
		Middle		20.81	21.10	21.21
		High		20.81	21.20	21.19
	100%	/	22	20.82	21.08	21.18
16QAM	1	Low	22	20.86	20.88	21.33
		Middle		20.93	21.13	21.32
		High		20.94	21.11	21.34
	50%	Low	21	19.78	19.92	20.10
		Middle		19.82	20.10	20.24
		High		19.81	20.11	20.14
	100%	/	21	19.79	20.08	20.16
64QAM	1	Low	21	19.64	19.64	19.71
		Middle		19.41	19.71	19.73
		High		19.58	19.78	19.87
	50%	Low	20	18.59	19.61	19.72
		Middle		18.47	19.59	19.78

		High		18.42	19.76	19.79
	100%	/	20	18.42	18.70	18.71
Modulation	RB	RB Offset	Tune up	20MHz		
				20850	21100	21350
QPSK	1	Low	23	21.69	21.85	22.00
		Middle		21.70	21.96	22.11
		High		21.97	22.05	22.06
	50%	Low	22	20.77	21.04	21.10
		Middle		20.79	21.16	21.19
		High		20.90	21.06	21.24
	100%	/	22	20.84	21.00	21.29
16QAM	1	Low	22	20.81	20.91	21.13
		Middle		20.71	21.17	21.34
		High		20.92	21.29	21.41
	50%	Low	21	19.77	20.02	20.17
		Middle		19.80	20.11	20.24
		High		19.92	20.16	20.18
	100%	/	21	19.83	20.00	20.20
64QAM	1	Low	21	19.29	19.75	19.94
		Middle		19.39	19.84	20.01
		High		19.34	19.77	20.04
	50%	Low	20	19.33	18.58	18.74
		Middle		19.39	18.64	18.77
		High		19.38	18.71	18.69
	100%	/	20	18.41	18.61	18.75

LTE band 12

LTE 12				Output power (dBm)		
Modulation	RB	RB Offset	Tune up	1.4MHz		
				23017	23095	23173
QPSK	1	Low	23.5	22.37	22.55	22.58
		Middle		22.47	22.54	22.69
		High		22.54	22.71	22.68
	50%	Low	23.5	22.63	22.72	22.66
		Middle		22.57	22.72	22.85
		High		22.59	22.82	22.77
	100%	/	22.5	21.61	21.66	21.57
16QAM	1	Low	22.5	21.93	22.09	21.88
		Middle		21.80	22.20	22.15
		High		21.72	21.93	21.90
	5	Low	22	21.59	21.70	21.63
		Middle		21.59	21.80	21.68

		High		21.61	21.71	21.59
	100%	/	21.5	20.62	20.76	20.71
64QAM	1	Low	21.5	20.40	20.58	20.31
		Middle		20.48	20.54	20.38
		High		20.26	20.63	20.36
	5	Low	21.5	20.29	19.39	19.19
		Middle		20.26	19.44	19.11
		High		20.00	19.41	19.09
	100%	/	20.5	18.89	18.33	18.40
Modulation	RB	RB Offset	Tune up	3MHz		
				23025	23095	23165
QPSK	1	Low	23.5	22.48	22.68	22.76
		Middle		22.63	22.94	22.67
		High		22.60	22.66	22.82
	50%	Low	22.5	21.60	21.78	21.77
		Middle		21.60	21.80	21.72
		High		21.58	21.83	21.67
	100%	/	22.5	21.68	21.80	21.80
16QAM	1	Low	22.5	21.63	22.11	21.90
		Middle		21.99	22.30	21.96
		High		21.93	21.99	22.13
	50%	Low	22	20.47	20.74	20.79
		Middle		20.60	20.79	20.85
		High		20.53	20.78	20.71
	100%	/	21.5	20.61	20.74	20.78
64QAM	1	Low	21.5	20.06	20.39	20.34
		Middle		20.16	20.47	20.45
		High		20.25	20.35	20.39
	50%	Low	20.5	18.82	19.29	19.20
		Middle		18.88	19.33	19.11
		High		18.89	19.29	19.19
	100%	/	20.5	19.26	19.36	19.28
Modulation	RB	RB Offset	Tune up	5MHz		
				23035	23095	23155
QPSK	1	Low	23.5	22.56	22.77	22.64
		Middle		22.81	22.72	22.58
		High		22.80	22.90	22.98
	50%	Low	22.5	21.66	21.81	21.69
		Middle		21.70	21.79	21.69
		High		21.68	21.79	21.67
	100%	/	22.5	21.68	21.84	21.78
16QAM	1	Low	22.5	21.81	22.09	21.93

		Middle		21.66	22.03	22.17
		High		21.91	22.24	22.05
		Low		20.67	20.73	20.74
	50%	Middle	22	20.70	20.78	20.77
		High		20.67	20.69	20.75
	100%	/	21.5	20.75	20.74	20.81
64QAM	1	Low	21.5	20.36	20.67	20.53
		Middle		20.37	20.49	20.30
		High		20.34	20.70	20.47
	50%	Low	20.5	19.17	19.43	19.46
		Middle		19.11	19.35	19.37
		High		19.15	19.45	19.37
	100%	/	20.5	19.30	19.38	19.31
Modulation	RB	RB Offset	Tune up	10MHz		
				23060	23095	23130
QPSK	1	Low	23.5	22.73	22.85	22.89
		Middle		22.84	23.02	22.73
		High		22.85	23.10	22.88
	50%	Low	22.5	21.90	21.83	21.86
		Middle		21.82	21.81	21.72
		High		21.76	21.95	21.81
	100%	/	22.5	21.79	21.90	21.69
16QAM	1	Low	22.5	22.07	22.09	22.25
		Middle		21.92	22.11	22.18
		High		22.18	22.23	22.17
	50%	Low	22	20.80	20.74	20.87
		Middle		20.78	20.75	20.80
		High		20.74	20.95	20.83
	100%	/	21.5	20.81	20.82	20.87
64QAM	1	Low	21.5	20.46	20.33	20.56
		Middle		20.34	20.30	20.55
		High		20.54	20.33	20.54
	50%	Low	20.5	19.40	20.37	19.57
		Middle		19.44	20.16	19.55
		High		19.37	20.39	19.59
	100%	/	20.5	19.32	19.35	19.40

LTE Band 13

LTE 13			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	5MHz		
				23205	23230	23255
QPSK	1	Low	24	22.96	22.92	23.01

		Middle		22.80	22.98	23.12
		High		22.91	23.01	22.96
		Low		21.92	22.04	22.05
	50%	Middle	23	21.90	21.97	22.06
		High		21.87	22.02	22.12
	100%	/	23	21.85	22.02	22.06
16QAM	1	Low	23	22.21	22.19	22.27
		Middle		22.22	22.23	22.16
		High		22.17	22.30	22.55
	5	Low	22	20.94	21.11	21.01
		Middle		20.93	21.03	21.03
		High		20.93	20.97	21.09
	100%	/	22	20.91	21.03	21.02
64QAM	1	Low	22	21.15	21.14	21.12
		Middle		20.82	10.81	20.78
		High		20.97	20.99	20.98
	5	Low	21	19.66	19.66	19.66
		Middle		19.65	19.68	19.58
		High		19.56	19.51	19.55
	100%	/	21	19.65	19.68	19.68
Modulation	RB	RB Offset	Tune up	10MHz		
				23230	23230	23230
QPSK	1	Low	24	23.49	23.25	23.42
		Middle		22.99	22.95	22.96
		High		23.26	23.25	23.32
	50%	Low	23	22.12	22.07	22.10
		Middle		22.07	22.07	22.08
		High		22.06	22.03	22.04
	100%	/	23	22.10	22.10	22.11
16QAM	1	Low	23	22.55	22.61	22.43
		Middle		22.28	22.34	22.25
		High		22.54	22.43	22.38
	50%	Low	22	20.91	20.96	21.07
		Middle		21.00	21.10	21.09
		High		21.04	20.97	21.03
	100%	/	22	21.03	21.03	21.09
64QAM	1	Low	22	20.40	20.66	21.00
		Middle		20.54	20.66	20.96
		High		20.45	20.71	21.06
	50%	Low	21	19.54	19.52	19.91
		Middle		19.44	19.55	19.84
		High		19.43	19.59	19.88

	100%	/	21	19.54	19.58	19.99
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LTE band 14

LTE 14			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	5MHz		
				23305	23330	23355
QPSK	1	Low	24	23.54	23.44	23.37
		Middle		23.38	23.36	23.35
		High		23.39	23.26	23.41
	50%	Low	23	22.48	22.30	22.36
		Middle		22.47	22.35	22.31
		High		22.41	22.26	22.28
	100%	/	23	22.62	22.35	22.37
16QAM	1	Low	23	22.87	22.79	22.62
		Middle		22.67	22.54	22.54
		High		22.65	22.45	22.65
	5	Low	22	21.51	21.21	21.38
		Middle		21.53	21.24	21.29
		High		21.40	21.25	21.27
	100%	/	22	21.57	21.23	21.27
64QAM	1	Low	22	21.39	21.41	21.08
		Middle		20.99	20.98	21.00
		High		21.19	21.15	21.15
	5	Low	21	20.10	20.07	20.09
		Middle		19.89	20.07	19.98
		High		19.78	19.76	19.74
	100%	/	21	20.01	20.01	19.91
Modulation	RB	RB Offset	Tune up	10MHz		
				23330	23330	23330
QPSK	1	Low	24	23.65	23.60	23.63
		Middle		23.35	23.34	23.25
		High		23.50	23.44	23.45
	50%	Low	23	22.67	22.60	22.59
		Middle		22.30	22.38	22.37
		High		22.24	22.27	22.29
	100%	/	23	22.48	22.53	22.46
16QAM	1	Low	23	22.86	22.87	22.79
		Middle		22.48	22.46	22.51
		High		22.71	22.76	22.63
	50%	Low	22	21.42	21.55	21.49
		Middle		21.31	21.31	21.39
		High		21.32	21.30	21.22

	100%	/	22	21.40	21.60	21.53
64QAM	1	Low	22	20.92	21.06	21.15
		Middle		20.82	21.08	21.42
		High		20.69	21.00	21.00
	50%	Low	21	19.71	19.89	20.09
		Middle		19.82	19.88	19.74
		High		19.73	19.84	19.98
	100%	/	21	19.82	19.91	19.98

LTE band 17

LTE 17			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	5MHz		
				23755	23790	23825
QPSK	1	Low	23.5	22.89	22.87	22.79
		Middle		22.81	22.91	22.70
		High		22.94	22.91	22.70
	50%	Low	22.5	21.88	21.90	21.84
		Middle		21.90	21.96	21.91
		High		21.89	21.91	21.90
	100%	/	22.5	21.90	21.86	21.95
16QAM	1	Low	22.5	22.12	22.04	22.15
		Middle		22.13	22.09	22.09
		High		22.21	22.11	22.16
	5	Low	21.5	20.88	20.92	20.87
		Middle		20.89	21.00	20.85
		High		20.95	20.85	20.89
	100%	/	21.5	20.85	20.79	20.95
64QAM	1	Low	21.5	20.55	20.72	20.61
		Middle		20.29	20.54	20.32
		High		20.50	20.68	20.53
	5	Low	20.5	19.43	19.40	19.45
		Middle		19.41	19.33	19.49
		High		19.39	19.32	19.50
	100%	/	20.5	19.32	19.43	19.33
Modulation	RB	RB Offset	Tune up	10MHz		
				23780	23790	23800
QPSK	1	Low	23.5	23.14	23.10	23.02
		Middle		22.83	22.96	22.93
		High		22.96	23.02	23.07
	50%	Low	22.5	21.93	21.91	21.93
		Middle		21.87	21.80	21.89

		High		21.88	21.91	21.91
	100%	/	22.5	21.87	21.97	21.95
16QAM	1	Low	23	22.27	22.28	22.36
		Middle		22.00	22.23	22.01
		High		22.33	22.30	22.27
	50%	Low	21.5	20.88	20.84	20.91
		Middle		20.94	20.83	20.90
		High		20.88	20.92	20.94
	100%	/	21.5	20.88	20.91	20.91
64QAM	1	Low	21.5	20.34	20.53	20.37
		Middle		20.30	20.58	20.40
		High		20.31	20.49	20.43
	50%	Low	20.5	19.27	19.40	19.45
		Middle		19.29	19.38	19.39
		High		19.24	19.33	19.30
	100%	/	20.5	19.23	19.47	19.30

LTE band 25

LTE 25			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				26047	26365	26683
QPSK	1	Low	23	21.95	22.02	22.38
		Middle		22.03	21.98	22.45
		High		21.98	22.01	22.36
	50%	Low	23	22.01	22.05	22.46
		Middle		22.07	22.10	22.41
		High		22.02	22.05	22.35
	100%	/	22.5	21.04	21.11	21.43
16QAM	1	Low	22.5	21.38	21.40	21.89
		Middle		21.31	21.31	21.80
		High		21.24	21.22	21.57
	5	Low	22	20.99	21.12	21.41
		Middle		21.05	21.18	21.45
		High		20.97	21.08	21.45
	100%	/	21	20.05	20.11	20.51
64QAM	1	Low	21	20.28	20.34	20.45
		Middle		20.42	20.33	20.41
		High		20.33	20.21	20.27
	5	Low	21	20.23	20.15	20.44
		Middle		20.28	20.18	20.56
		High		20.20	20.12	20.46
	100%	/	20	18.98	18.94	19.57

Modulation	RB	RB Offset	Tune up	3MHz		
				26055	26365	26675
QPSK	1	Low	23	22.05	21.99	22.51
		Middle		22.02	22.11	22.42
		High		21.98	21.96	22.30
	50%	Low	22	21.05	21.16	21.47
		Middle		21.02	21.10	21.42
		High		20.97	21.12	21.37
	100%	/	22	20.99	21.10	21.44
16QAM	1	Low	22.5	21.30	21.29	21.71
		Middle		21.26	21.43	22.03
		High		21.34	21.37	21.90
	50%	Low	22	20.06	20.21	20.64
		Middle		20.09	20.08	20.40
		High		20.01	20.24	20.46
	100%	/	21	20.02	20.03	20.36
64QAM	1	Low	21	20.15	20.26	20.55
		Middle		20.11	20.21	20.42
		High		20.19	20.21	20.28
	50%	Low	20	19.00	19.16	19.27
		Middle		18.91	19.18	19.28
		High		18.99	19.15	19.21
	100%	/	20	19.61	19.01	19.49
Modulation	RB	RB Offset	Tune up	5MHz		
				26065	26365	26665
QPSK	1	Low	23	22.03	22.21	22.62
		Middle		22.08	22.13	22.37
		High		22.01	22.16	22.38
	50%	Low	22	20.99	21.11	21.35
		Middle		21.03	21.17	21.51
		High		21.01	21.07	21.47
	100%	/	22	21.07	21.11	21.42
16QAM	1	Low	22.5	21.43	21.53	21.89
		Middle		21.23	21.42	21.68
		High		21.29	21.41	21.73
	50%	Low	22	20.01	20.10	20.55
		Middle		20.06	20.13	20.48
		High		20.02	20.10	20.36
	100%	/	21	20.04	20.12	20.52
64QAM	1	Low	21	20.21	20.12	20.75
		Middle		20.24	19.99	20.42
		High		20.17	19.98	20.32

	50%	Low	20	19.00	19.00	19.42
		Middle		19.01	18.97	19.42
		High		19.21	18.99	19.29
	100%	/	20	19.11	19.06	19.33
Modulation	RB	RB Offset	Tune up	10MHz		
				26090	26365	26640
QPSK	1	Low	23	22.08	22.37	22.65
		Middle		21.97	22.09	22.39
		High		22.07	22.35	22.48
	50%	Low	22	21.09	21.16	21.32
		Middle		21.00	21.15	21.46
		High		21.15	21.11	21.48
	100%	/	22	20.99	21.10	21.49
16QAM	1	Low	22.5	21.34	21.75	21.77
		Middle		21.34	21.40	21.69
		High		21.65	21.33	21.78
	50%	Low	22	20.06	20.17	20.42
		Middle		20.00	20.13	20.49
		High		20.14	20.14	20.54
	100%	/	21	19.99	20.12	20.43
64QAM	1	Low	21	20.38	20.21	20.87
		Middle		20.15	20.49	20.30
		High		20.13	20.43	20.12
	50%	Low	20	19.15	19.07	19.34
		Middle		19.24	19.06	19.44
		High		19.27	19.09	19.47
	100%	/	20	19.04	19.08	19.34
Modulation	RB	RB Offset	Tune up	15MHz		
				26115	26365	26615
QPSK	1	Low	23	22.15	22.37	22.63
		Middle		22.12	22.14	22.67
		High		22.27	22.41	22.73
	50%	Low	22	21.14	21.24	21.73
		Middle		21.14	21.30	21.64
		High		21.18	21.37	21.81
	100%	/	22	21.20	21.31	21.81
16QAM	1	Low	22.5	21.51	21.70	22.11
		Middle		21.39	21.41	22.06
		High		21.66	21.69	21.89
	50%	Low	22	20.17	20.25	20.68
		Middle		20.17	20.25	20.71
		High		20.12	20.31	20.84

	100%	/	21	20.19	20.34	20.80
64QAM	1	Low	21	20.09	20.42	20.41
		Middle		20.15	20.48	20.44
		High		20.33	20.31	20.43
	50%	Low	20	19.10	19.41	19.80
		Middle		19.33	19.49	19.33
		High		19.14	19.45	19.36
	100%	/	20	19.19	19.27	19.68
Modulation	RB	RB Offset	Tune up	20MHz		
				26140	26365	26590
QPSK	1	Low	23	22.16	22.29	22.94
		Middle		22.14	22.09	22.60
		High		21.71	21.69	22.40
	50%	Low	22	21.11	21.23	21.61
		Middle		21.08	21.14	21.60
		High		21.03	21.16	21.58
	100%	/	22	21.04	21.18	21.48
16QAM	1	Low	22.5	21.49	21.70	22.45
		Middle		21.50	21.53	22.11
		High		21.14	21.45	21.61
	50%	Low	22	20.09	20.17	20.64
		Middle		20.06	20.18	20.68
		High		20.04	20.12	20.52
	100%	/	21	20.05	20.17	20.66
64QAM	1	Low	21	20.32	20.43	20.85
		Middle		20.33	20.31	20.87
		High		20.10	20.14	20.51
	50%	Low	20	19.07	19.13	19.52
		Middle		19.00	19.18	19.45
		High		19.09	19.25	19.54
	100%	/	20	19.04	19.12	19.52

LTE band 26(part22)

LTE 26			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				26697	26865	27033
QPSK	1	Low	24	22.81	22.85	22.95
		Middle		22.77	22.87	23.02
		High		22.74	22.90	22.93
	50%	Low	24	22.88	22.82	22.96
		Middle		22.90	22.87	22.95
		High		22.84	22.86	23.03

	100%	/	23	21.83	21.85	22.01
16QAM	1	Low	23.5	22.07	22.17	22.26
		Middle		22.17	22.05	22.17
		High		21.97	22.15	22.31
	5	Low	22.5	21.90	21.89	22.05
		Middle		21.82	21.91	22.01
		High		21.88	21.86	21.89
	100%	/	22	20.92	20.98	21.04
64QAM	1	Low	22	20.24	20.73	20.64
		Middle		20.23	20.73	20.63
		High		20.23	20.69	20.56
	5	Low	22	20.35	20.54	20.68
		Middle		20.33	20.46	20.56
		High		20.30	20.48	20.66
	100%	/	21	19.42	19.42	19.71
Modulation	RB	RB Offset	Tune up	3MHz		
				26705	26865	27025
QPSK	1	Low	24	21.88	22.89	22.98
		Middle		22.06	22.98	22.93
		High		21.83	22.79	22.90
	50%	Low	23	20.99	21.82	22.06
		Middle		20.96	21.91	22.04
		High		20.94	21.85	21.96
	100%	/	23	20.92	21.89	22.03
16QAM	1	Low	23.5	21.14	22.15	22.30
		Middle		21.33	22.33	22.23
		High		21.18	22.19	22.18
	50%	Low	22.5	20.74	20.95	21.09
		Middle		20.73	21.01	21.08
		High		20.71	20.90	21.05
	100%	/	22	20.88	20.98	21.11
64QAM	1	Low	22	20.45	20.66	20.65
		Middle		20.37	20.54	20.65
		High		20.25	20.55	20.60
	50%	Low	21	19.23	19.52	19.47
		Middle		19.09	19.55	19.48
		High		19.07	19.49	19.47
	100%	/	21	19.43	19.41	19.72
Modulation	RB	RB Offset	Tune up	5MHz		
				26715	26865	27015
QPSK	1	Low	24	22.89	22.98	23.19
		Middle		22.59	22.89	23.13

	50%	High	23	22.78	22.86	22.96
		Low		21.74	21.85	22.11
		Middle		21.75	21.83	22.07
		High		21.79	21.92	22.02
	100%	/	23	21.79	21.89	22.11
16QAM	1	Low	23.5	22.33	22.31	22.58
		Middle		21.93	22.16	22.30
		High		22.08	22.14	22.24
	50%	Low	22.5	20.77	20.82	21.09
		Middle		20.69	20.82	21.09
		High		20.82	20.86	21.01
	100%	/	22	20.80	20.85	21.11
64QAM	1	Low	22	20.41	20.43	20.91
		Middle		20.39	20.37	20.77
		High		20.64	20.41	20.67
	50%	Low	21	19.28	19.43	19.65
		Middle		19.32	19.30	19.59
		High		19.28	19.33	19.56
	100%	/	21	19.36	19.32	19.68
Modulation	RB	RB Offset	Tune up	10MHz		
				26750	26865	26990
QPSK	1	Low	24	22.84	23.11	23.49
		Middle		22.64	22.84	23.14
		High		23.00	23.13	23.22
	50%	Low	23	21.72	22.02	22.28
		Middle		21.72	21.96	22.19
		High		21.75	21.98	22.10
	100%	/	23	21.76	22.01	22.18
16QAM	1	Low	23.5	22.11	22.52	22.79
		Middle		21.87	22.24	22.28
		High		22.27	22.53	22.51
	50%	Low	22.5	20.75	20.98	21.29
		Middle		20.76	21.00	21.11
		High		20.80	20.98	21.14
	100%	/	22	20.72	21.05	21.22
64QAM	1	Low	22	20.49	20.90	21.09
		Middle		20.31	20.59	21.76
		High		20.62	20.91	20.85
	50%	Low	21	19.33	19.57	19.88
		Middle		19.41	19.60	19.77
		High		19.40	19.58	19.76
	100%	/	21	19.31	19.52	19.76

Modulation	RB	RB Offset	Tune up	15MHz		
				26775	26865	26965
QPSK	1	Low	24	23.08	23.59	23.77
		Middle		22.99	23.15	23.46
		High		23.40	23.63	23.74
	50%	Low	23	22.12	22.59	22.77
		Middle		22.02	22.33	22.57
		High		21.88	22.15	22.37
	100%	/	23	22.06	22.34	22.62
16QAM	1	Low	23.5	22.31	22.87	23.07
		Middle		22.41	22.81	22.68
		High		22.71	23.02	22.86
	50%	Low	22.5	21.15	21.65	21.84
		Middle		21.06	21.37	21.59
		High		20.93	21.13	21.34
	100%	/	22	21.02	21.28	21.60
64QAM	1	Low	22	20.71	21.35	21.36
		Middle		20.52	21.44	21.11
		High		21.01	21.41	21.33
	50%	Low	21.5	20.66	21.34	21.38
		Middle		20.78	21.41	21.26
		High		20.99	21.14	21.29
	100%	/	21	19.55	19.83	20.15

LTE Band 38

LTE 38				Output power (dBm)		
Modulation	RB	RB Offset	Tune up	5MHz		
				37775	38000	38225
QPSK	1	Low	23	22.08	22.17	22.38
		Middle		22.15	22.07	22.32
		High		21.95	22.16	22.22
	50%	Low	22	21.05	21.13	21.20
		Middle		20.99	21.14	21.20
		High		20.98	21.23	21.26
	100%	/	22	20.97	21.27	21.19
16QAM	1	Low	22	21.23	21.43	21.41
		Middle		21.24	21.46	21.43
		High		21.25	21.34	21.49
	5	Low	21	20.12	20.26	20.33
		Middle		20.18	20.18	20.38
		High		20.09	20.21	20.34

	100%	/	21	20.19	20.26	20.22
64QAM	1	Low	21	20.50	20.49	20.44
		Middle		20.46	20.50	20.36
		High		20.45	20.41	20.35
	5	Low	20	19.10	19.45	19.44
		Middle		19.00	19.51	19.59
		High		19.02	19.50	19.35
	100%	/	20	18.96	19.51	19.39
Modulation	RB	RB Offset	Tune up	10MHz		
				37800	38000	38200
QPSK	1	Low	23	22.28	22.36	22.53
		Middle		22.08	22.04	22.13
		High		22.19	22.44	22.37
	50%	Low	22	21.12	21.13	21.31
		Middle		21.16	21.22	21.23
		High		21.10	21.28	21.25
	100%	/	22	21.18	21.17	21.23
16QAM	1	Low	22	21.47	21.62	21.68
		Middle		21.29	21.26	21.28
		High		21.60	21.65	21.84
	50%	Low	21	20.09	20.17	20.34
		Middle		20.22	20.17	20.32
		High		20.21	20.45	20.38
	100%	/	21	20.24	20.24	20.36
64QAM	1	Low	21	20.58	20.49	20.44
		Middle		20.33	20.31	20.31
		High		20.62	20.61	20.66
	50%	Low	20	19.01	19.47	19.52
		Middle		19.03	19.55	19.67
		High		19.05	19.56	19.55
	100%	/	20	19.08	19.45	19.36
Modulation	RB	RB Offset	Tune up	15MHz		
				37825	38000	38175
QPSK	1	Low	23	22.27	22.27	22.49
		Middle		21.94	22.06	22.36
		High		22.35	22.63	22.76
	50%	Low	22	20.93	21.03	21.31
		Middle		21.09	21.24	21.30
		High		21.19	21.20	21.45
	100%	/	22	21.04	21.20	21.43
16QAM	1	Low	22	21.37	21.42	21.71
		Middle		21.22	21.25	21.30

	50%	High	21	21.74	21.80	21.93
		Low		19.96	20.05	20.28
		Middle		20.18	20.15	20.53
		High		20.32	20.22	20.33
	100%	/	21	20.10	20.32	20.50
64QAM	1	Low	21	20.58	20.21	20.28
		Middle		20.38	20.08	20.16
		High		20.90	20.61	20.56
	50%	Low	20	19.52	19.35	19.54
		Middle		19.78	19.56	19.55
		High		19.77	19.89	19.76
	100%	/	20	19.05	19.23	19.18
Modulation	RB	RB Offset	Tune up	20MHz		
				37850	38000	38150
QPSK	1	Low	23	22.11	22.13	22.40
		Middle		22.10	22.03	22.22
		High		22.60	22.42	22.82
	50%	Low	22	21.03	20.99	21.25
		Middle		21.09	21.09	21.34
		High		21.38	21.33	21.37
	100%	/	22	21.21	21.22	21.31
16QAM	1	Low	22	21.28	21.31	21.51
		Middle		21.32	21.25	21.56
		High		21.65	21.71	21.88
	50%	Low	21	20.17	20.07	20.33
		Middle		20.28	20.28	20.34
		High		20.32	20.42	20.46
	100%	/	21	20.31	20.21	20.37
64QAM	1	Low	21	20.21	20.15	20.22
		Middle		20.16	20.19	20.45
		High		20.66	20.35	20.41
	50%	Low	20	18.98	18.94	18.99
		Middle		19.25	18.89	19.04
		High		19.38	19.09	19.23
	100%	/	20	19.12	19.06	19.04

LTE band 41

LTE 41			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	5MHz		
				39675	40620	41565
QPSK	1	Low	23	20.99	21.78	21.04
		Middle		20.98	21.70	21.19

	50%	High	22	20.98	21.56	21.10
		Low		20.02	20.85	20.31
		Middle		19.97	20.77	20.24
		High		19.99	20.71	20.22
	100%	/	22	19.92	20.68	20.21
16QAM	1	Low	22	20.16	20.98	20.27
		Middle		20.16	20.89	20.40
		High		20.19	20.74	20.27
	5	Low	21	19.20	19.75	19.33
		Middle		19.14	19.91	19.34
		High		19.12	19.67	19.26
	100%	/	21	19.08	19.74	19.27
64QAM	1	Low	22	21.02	20.90	20.40
		Middle		20.97	21.05	20.61
		High		20.99	20.74	20.32
	5	Low	21	19.59	20.19	20.23
		Middle		19.58	20.12	20.21
		High		19.55	20.11	20.18
	100%	/	21	19.47	20.14	20.18
Modulation	RB	RB Offset	Tune up	10MHz		
				39700	40620	41540
QPSK	1	Low	23	21.29	21.71	20.81
		Middle		21.13	21.73	21.19
		High		21.29	21.61	20.80
	50%	Low	22	20.04	20.72	20.44
		Middle		19.93	20.65	20.15
		High		20.03	20.69	20.19
	100%	/	22	19.93	20.70	20.35
16QAM	1	Low	22	20.40	21.13	20.03
		Middle		20.17	20.83	20.41
		High		20.49	20.91	19.99
	50%	Low	21	19.09	19.72	19.28
		Middle		19.13	19.70	19.21
		High		19.08	19.71	19.25
	100%	/	21	19.13	19.70	19.42
64QAM	1	Low	21	21.03	20.68	20.17
		Middle		20.84	20.88	20.50
		High		21.07	20.35	19.98
	50%	Low	21	19.51	20.17	20.09
		Middle		19.53	20.11	20.05
		High		19.57	20.08	20.01
	100%	/	21	19.60	20.06	20.07

Modulation	RB	RB Offset	Tune up	15MHz		
				39725	40620	41515
QPSK	1	Low	23	21.06	21.81	21.05
		Middle		21.50	21.99	21.13
		High		20.73	21.37	20.95
	50%	Low	22	20.46	21.15	20.87
		Middle		20.43	21.22	20.82
		High		20.27	20.76	20.45
	100%	/	22	20.44	20.96	20.60
16QAM	1	Low	22	20.17	21.13	20.31
		Middle		20.57	21.35	20.39
		High		20.03	20.67	20.13
	50%	Low	21	19.43	20.09	19.96
		Middle		19.30	20.05	19.74
		High		19.17	19.79	19.43
	100%	/	21	19.30	19.95	19.68
64QAM	1	Low	22	20.67	20.76	20.45
		Middle		21.11	20.81	20.45
		High		20.38	20.43	20.25
	50%	Low	21	19.66	19.74	20.46
		Middle		19.44	19.82	20.31
		High		19.46	19.47	20.25
	100%	/	21	19.68	19.91	20.16
Modulation	RB	RB Offset	Tune up	20MHz		
				39750	40620	41490
QPSK	1	Low	23	21.43	21.91	20.97
		Middle		21.47	21.96	21.08
		High		21.64	21.73	20.97
	50%	Low	22	20.44	21.07	20.82
		Middle		20.56	21.13	20.83
		High		20.57	21.17	20.84
	100%	/	22	20.55	21.15	20.97
16QAM	1	Low	22	20.66	21.41	20.27
		Middle		20.76	21.36	20.35
		High		20.87	21.06	20.23
	50%	Low	21	19.45	20.29	19.96
		Middle		19.67	20.10	19.94
		High		19.60	20.33	19.80
	100%	/	21	19.56	20.17	19.90
64QAM	1	Low	22	20.93	21.50	20.13
		Middle		20.94	21.30	20.10
		High		21.04	20.88	19.87

	50%	Low	21	19.86	20.17	20.25
		Middle		19.89	20.09	20.13
		High		20.01	20.30	20.12
	100%	/	21	19.85	20.20	20.15

LTE band 66

LTE 66			Output power (dBm)			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				131979	132322	132665
QPSK	1	Low	23	21.32	21.23	21.14
		Middle		21.42	21.27	21.13
		High		21.37	21.2	21.1
	50%	Low	23	21.42	21.32	21.22
		Middle		21.49	21.36	21.24
		High		21.47	21.37	21.21
	100%	/	22	20.38	20.3	20.14
16QAM	1	Low	22.5	21.24	21.14	21.04
		Middle		21.21	21.16	21.05
		High		21.21	21.06	20.98
	5	Low	21.5	20.9	20.79	20.64
		Middle		20.95	20.84	20.71
		High		20.91	20.82	20.71
	100%	/	21	19.99	19.79	19.67
64QAM	1	Low	21	19.84	19.73	19.50
		Middle		19.78	19.73	19.38
		High		19.72	19.71	19.48
	5	Low	21	18.74	19.61	19.63
		Middle		18.66	19.55	19.58
		High		18.63	19.56	19.63
	100%	/	20	18.71	18.44	18.58
Modulation	RB	RB Offset	Tune up	3MHz		
				131987	132322	132657
QPSK	1	Low	23	21.34	21.22	21.27
		Middle		21.43	21.38	21.01
		High		21.20	21.13	21.00
	50%	Low	22	21.47	21.35	21.36
		Middle		21.51	21.36	21.23
		High		21.53	21.37	21.28
	100%	/	22	20.55	20.37	20.12
16QAM	1	Low	22	21.63	20.63	20.64
		Middle		21.46	20.87	20.72
		High		21.14	20.57	21.17

	50%	Low	21.5	20.96	20.80	20.83
		Middle		20.86	20.88	20.72
		High		20.97	20.92	20.67
	100%	/	21	20.17	19.81	19.66
64QAM	1	Low	21	19.49	19.64	19.45
		Middle		19.57	19.77	19.45
		High		19.58	19.63	19.42
	50%	Low	21	18.47	18.65	18.27
		Middle		18.39	18.38	18.31
		High		18.55	18.58	18.33
	100%	/	20	18.31	18.47	18.61
Modulation	RB	RB Offset	Tune up	5MHz		
				131997	132322	132647
QPSK	1	Low	23	22.13	21.97	21.79
		Middle		21.97	21.84	21.63
		High		21.98	21.81	21.56
	50%	Low	22	21.05	20.86	20.74
		Middle		20.93	20.78	20.66
		High		20.93	20.71	20.59
	100%	/	22	20.95	20.81	20.64
16QAM	1	Low	22	21.5	21.31	21.05
		Middle		21.27	21.1	20.95
		High		21.31	21.15	20.93
	50%	Low	21.5	20.15	19.95	19.76
		Middle		20.02	19.9	19.71
		High		19.97	19.81	19.65
	100%	/	21	19.97	19.87	19.67
64QAM	1	Low	21	19.84	19.59	19.52
		Middle		19.78	19.50	19.50
		High		19.72	19.41	19.41
	50%	Low	21	18.74	18.46	18.50
		Middle		18.77	18.44	18.45
		High		18.63	18.31	18.37
	100%	/	20	18.71	18.48	18.49
Modulation	RB	RB Offset	Tune up	10MHz		
				132022	132322	132622
QPSK	1	Low	23	20.97	21.12	21
		Middle		21.6	21.62	21.46
		High		22.1	22.13	22.11
	50%	Low	22	20.56	20.74	20.58
		Middle		20.71	20.75	20.6
		High		20.71	20.84	20.69

	100%	/	22	20.7	20.75	20.6
16QAM	1	Low	22	20.39	20.49	20.22
		Middle		20.94	20.98	20.74
		High		21.32	21.34	21.12
	50%	Low	21.5	19.67	19.7	19.46
		Middle		19.88	19.73	19.49
		High		19.87	19.77	19.52
	100%	/	21	19.85	19.7	19.46
64QAM	1	Low	21	19.24	19.24	18.86
		Middle		19.79	19.28	19.44
		High		20.24	20.14	19.95
	50%	Low	21	18.67	18.51	18.37
		Middle		18.86	18.52	18.45
		High		18.68	18.57	18.61
	100%	/	20	18.76	18.52	18.35
Modulation	RB	RB Offset	Tune up	15MHz		
				132047	132322	132597
QPSK	1	Low	23	22.24	22.09	21.95
		Middle		21.91	21.61	21.6
		High		22.03	21.81	21.71
	50%	Low	22	21.03	20.81	20.76
		Middle		20.98	20.72	20.69
		High		20.89	20.64	20.61
	100%	/	22	21.01	20.73	20.72
16QAM	1	Low	22	21.21	21.08	20.96
		Middle		20.87	20.7	20.77
		High		20.94	20.78	20.69
	50%	Low	21.5	19.67	19.42	19.49
		Middle		19.63	19.4	19.42
		High		19.57	19.33	19.33
	100%	/	21	19.61	19.37	19.41
64QAM	1	Low	21	20.11	19.93	19.82
		Middle		19.67	19.66	19.46
		High		19.83	19.76	19.61
	50%	Low	21	20.07	19.97	19.79
		Middle		19.74	19.88	19.66
		High		19.74	19.76	19.57
	100%	/	20	18.54	18.36	18.35
Modulation	RB	RB Offset	Tune up	20MHz		
				132072	132322	132572
QPSK	1	Low	23	21.42	21.2	21.24
		Middle		21.4	21.27	21.21

	50%	High	22	21.6	21.57	21.74
		Low		20.47	20.28	20.26
		Middle		20.44	20.28	20.24
		High		20.39	20.27	20.49
	100%	/	22	20.45	20.26	20.29
16QAM	1	Low	22	20.79	20.55	20.53
		Middle		20.65	20.54	20.56
		High		20.97	20.88	20.81
	50%	Low	21.5	19.45	19.22	19.24
		Middle		19.43	19.28	19.25
		High		19.46	19.27	19.23
	100%	/	21	19.41	19.29	19.25
64QAM	1	Low	21	19.92	19.43	19.59
		Middle		19.87	19.45	19.65
		High		20.18	19.83	19.96
	50%	Low	21	18.55	18.37	18.31
		Middle		18.65	18.33	18.38
		High		18.66	18.38	18.30
	100%	/	20	18.51	18.34	18.36

LTE Band 71

LTE 71				Output power (dBm)		
Modulation	RB	RB Offset	Tune up	5MHz		
				133147	133297	133447
QPSK	1	Low	23	21.99	21.94	21.96
		Middle		21.81	21.90	21.94
		High		21.78	21.86	21.93
	50%	Low	22.5	21.32	20.87	20.82
		Middle		21.31	20.92	20.79
		High		21.29	20.97	20.76
	100%	/	22	21.26	20.94	20.89
16QAM	1	Low	22.5	21.28	20.95	21.07
		Middle		21.30	20.91	21.05
		High		21.34	20.87	21.04
	5	Low	21.5	20.31	19.88	19.93
		Middle		20.30	19.93	19.90
		High		20.28	19.98	19.87
	100%	/	21	20.25	19.95	20.00
64QAM	1	Low	21	20.27	19.96	20.18
		Middle		20.29	19.92	20.16
		High		20.33	19.88	20.15
	5	Low	20	19.30	18.89	19.04

		Middle		19.29	18.94	19.01
		High		19.27	18.99	18.98
	100%	/	20	19.24	18.96	19.11
Modulation	RB	RB Offset	Tune up	10MHz		
				133172	133297	133422
QPSK	1	Low	23	21.43	21.49	20.98
		Middle		22.18	22.22	21.83
		High		22.59	22.64	22.20
	50%	Low	22.5	21.05	20.81	20.67
		Middle		21.18	20.90	20.79
		High		21.31	20.99	20.90
	100%	/	22	21.09	20.89	20.75
16QAM	1	Low	22.5	20.42	20.50	20.09
		Middle		21.17	21.23	20.94
		High		21.58	21.65	21.31
	50%	Low	21.5	20.04	19.82	19.78
		Middle		20.17	19.91	19.90
		High		20.30	20.00	20.01
	100%	/	21	20.08	19.90	19.86
64QAM	1	Low	21	19.41	19.51	19.20
		Middle		20.16	20.24	20.05
		High		20.57	20.66	20.42
	50%	Low	20	19.03	18.83	18.89
		Middle		19.16	18.92	19.01
		High		19.29	19.01	19.12
	100%	/	20	19.07	18.91	18.97
Modulation	RB	RB Offset	Tune up	15MHz		
				133197	133297	133397
QPSK	1	Low	23	21.82	21.77	21.56
		Middle		22.04	22.08	21.75
		High		21.97	21.79	21.67
	50%	Low	22.5	21.81	21.77	21.49
		Middle		21.86	21.77	21.60
		High		21.90	21.76	21.71
	100%	/	22	20.81	20.65	20.45
16QAM	1	Low	22.5	20.81	20.78	20.67
		Middle		21.03	21.09	20.86
		High		20.96	20.80	20.78
	50%	Low	21.5	20.80	20.78	20.60
		Middle		20.85	20.78	20.71
		High		20.89	20.77	20.82
	100%	/	21	19.80	19.66	19.56

64QAM	1	Low	21	19.80	19.79	19.78
		Middle		20.02	20.10	19.97
		High		19.95	19.81	19.89
	50%	Low	20	19.79	19.79	19.71
		Middle		19.84	19.79	19.82
		High		19.88	19.78	19.93
	100%	/	20	18.79	18.67	18.67
Modulation	RB	RB Offset	Tune up	20MHz		
				133222	133322	133372
QPSK	1	Low	23	21.58	21.56	21.43
		Middle		22.43	22.55	22.57
		High		22.47	22.45	22.49
	50%	Low	22.5	20.70	21.15	21.13
		Middle		21.51	21.50	21.56
		High		20.98	21.44	21.45
	100%	/	22	20.81	20.83	20.75
16QAM	1	Low	22.5	21.17	21.15	21.20
		Middle		22.13	22.24	22.12
		High		22.10	22.14	22.15
	50%	Low	21.5	20.12	20.28	20.18
		Middle		20.56	20.55	20.47
		High		20.45	20.46	20.44
	100%	/	21	20.32	20.38	20.27
64QAM	1	Low	21	19.24	19.20	19.17
		Middle		20.30	20.29	20.15
		High		20.12	20.05	20.15
	50%	Low	20	18.50	18.57	18.53
		Middle		18.60	18.67	18.65
		High		18.70	18.77	18.76
	100%	/	20	18.62	18.64	18.58

LTE CA_7C

LTE CA_7C (Sensor off)					Output power (dBm)		
BW	PCC Frequency (MHz)	SCC Frequency (MHz)	PCC RB	SCC RB	QPSK	16QAM	64QAM
10MHz/20MHz	2505.5	2519.9	1@49	1@0	20.88	20.94	20.36
			50@0	100@0	20.71	20.93	20.27
	2525.6	2540.0	1@49	1@0	21.39	21.64	21.43
			50@0	100@0	20.65	20.62	20.33

	2545.6	2560.0	1@49	1@0	21.61	21.61	21.18
			50@0	100@0	21.04	20.72	20.31
20MHz/10MHz	2510.0	2524.4	1@99	1@0	20.94	21.58	20.85
			100@0	50@0	20.37	20.42	20.21
	2530.1	2544.5	1@99	1@0	21.22	21.45	21.3
			100@0	50@0	20.02	19.12	18.78
	2550.1	2564.5	1@99	1@0	21.45	21.96	20.64
			100@0	50@0	20.33	20.34	20.13
15MHz/15MHz	2507.5	2522.5	1@74	1@0	20.98	21.63	21.24
			75@0	75@0	20.83	20.68	20.25
	2527.5	2542.5	1@74	1@0	20.85	21.43	21.03
			75@0	75@0	20.73	20.02	19.96
	2547.5	2562.5	1@74	1@0	21.14	21.36	21.17
			75@0	75@0	20.87	20.86	20.63
15MHz/20MHz	2507.8	2524.9	1@74	1@0	21.03	22.91	21.86
			75@0	75@0	20.78	20.62	20.36
	2525.3	2542.4	1@74	1@0	20.83	21.37	21.28
			75@0	75@0	20.58	20.51	20.32
	2542.9	2560.0	1@74	1@0	21.60	21.52	20.97
			75@0	75@0	21.26	21.03	20.54
20MHz/15MHz	2510.0	2527.1	1@99	1@0	20.58	21.56	21.16
			100@0	50@0	20.61	20.55	20.33
	2527.6	2544.7	1@99	1@0	20.90	21.12	21.02
			100@0	50@0	21.02	20.70	19.64
	2545.1	2562.2	1@99	1@0	20.97	21.14	20.43
			100@0	50@0	21.36	21.27	21.03
20MHz/20MHz	2510.0	2529.8	1@99	1@0	21.50	21.54	21.27
			1@0	1@99	12.49	12.47	11.95
			100@0	100@0	20.48	20.46	20.27
	2525.1	2544.9	1@99	1@0	21.02	21.84	21.46
			1@0	1@99	13.03	12.89	12.74
			100@0	100@0	20.58	20.48	20.34

	2540.2	2560.0	1@99	1@0	21.29	21.58	21.19
			1@0	1@99	12.92	12.47	12.37
			100@0	100@0	20.96	20.70	19.84

LTE CA_41C

LTE CA_41C (Sensor off)					Output power (dBm)		
BW	PCC Frequency (MHz)	SCC Frequency (MHz)	PCC RB	SCC RB	QPSK	16QAM	64QAM
10MHz/20MHz	2501.5	2515.9	1@49	1@0	19.78	21.39	21.23
			50@0	100@0	21.02	21.04	20.86
	2583.6	2598.0	1@49	1@0	20.96	20.42	20.37
			50@0	100@0	20.55	20.33	19.96
	2665.6	2680.0	1@49	1@0	20.53	19.46	19.18
			50@0	100@0	18.71	16.82	16.43
20MHz/10MHz	2506.0	2520.4	1@99	1@0	20.94	21.03	20.97
			100@0	50@0	20.50	20.34	20.21
	2588.1	2602.5	1@99	1@0	20.13	20.31	19.92
			100@0	50@0	21.03	20.11	18.46
	2670.1	2684.5	1@99	1@0	15.93	20.17	20.05
			100@0	50@0	17.63	15.56	14.53
15MHz/15MHz	2503.5	2518.5	1@74	1@0	20.62	20.43	19.65
			75@0	75@0	21.05	20.58	20.31
	2585.5	2600.5	1@74	1@0	20.97	20.01	18.99
			75@0	75@0	21.04	20.27	20.12
	2667.5	2682.5	1@74	1@0	20.13	18.44	17.79
			75@0	75@0	17.80	15.96	13.57
15MHz/20MHz	2503.8	2520.9	1@74	1@0	21.03	20.67	19.4
			75@0	75@0	20.57	20.35	20.05
	2583.3	2600.4	1@74	1@0	20.57	20.35	19.99
			75@0	75@0	20.45	20.48	20.04
	2662.9	2680.0	1@74	1@0	20.46	19.43	18.95
			75@0	75@0	18.80	16.27	15.87

20MHz/15MHz	2506.0	2523.1	1@99	1@0	20.17	19.84	18.66
			100@0	50@0	21.04	20.21	20.04
	2585.6	2602.7	1@99	1@0	20.09	20.14	19.85
			100@0	50@0	20.28	20.23	19.35
	2665.1	2682.2	1@99	1@0	20.12	19.14	18.74
			100@0	50@0	17.65	15.62	14.68
20MHz/20MHz	2506.0	2525.8	1@99	1@0	20.23	20.64	20.35
			1@0	1@99	19.43	15.03	13.98
			100@0	100@0	20.46	21.05	20.42
	2583.1	2602.9	1@99	1@0	20.44	20.61	20.33
			1@0	1@99	18.73	18.81	17.84
			100@0	100@0	20.35	20.03	18.4
	2660.2	2680.0	1@99	1@0	20.23	19.25	17.94
			1@0	1@99	18.84	19.25	17.63
			100@0	100@0	17.76	19.66	18.49

6.1.3 Radiated

6.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

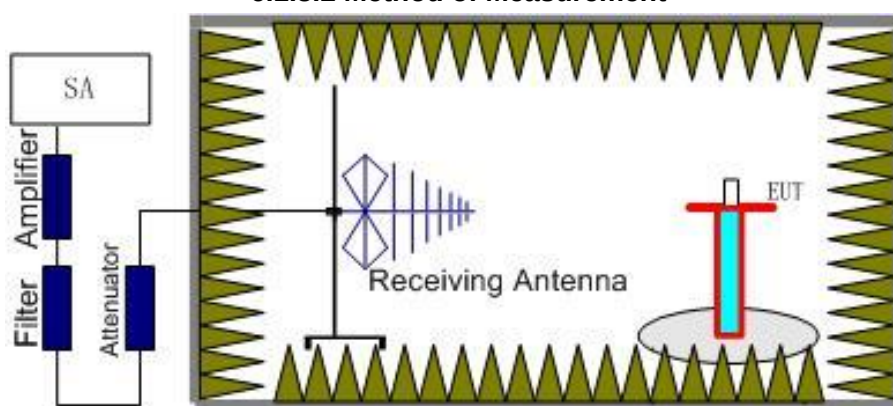
Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p. Peak power" and 24.232(c) specifies that "Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage."

Rule Part 27.50(d) specifies "Fixed, mobile, and portable (handheld) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP".

Rule Part 27.50(h)(2) specifies "Mobile stations are limited to 2.0 watts EIRP".

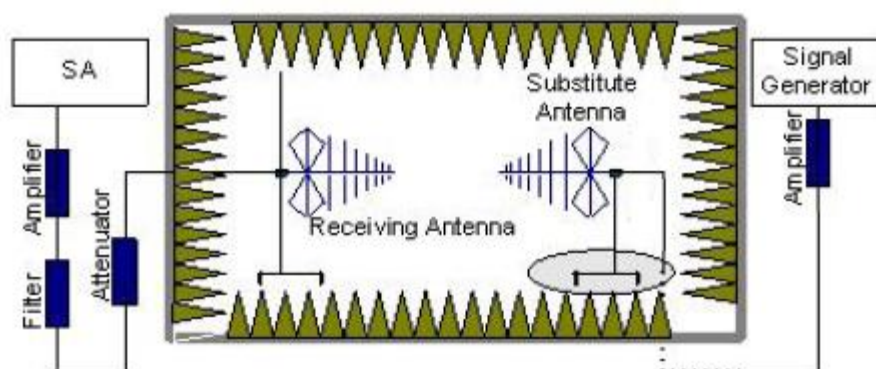
Rule Part 27.50(c) specifies "Portable stations (hand-held de-vices) are limited to 3 watts ERP".

6.1.3.2 Method of Measurement



The measurements procedures in TIA-603E-2016 are used.

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (P_r).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. An amplifier should be connected to the Signal Source output port. And the cable should be connected between the amplifier and the substitution antenna.
The cable loss (P_{cl}), the substitution antenna Gain (G_a) and the amplifier Gain (P_{Ag}) should be recorded after test.

The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} + P_{Ag} - P_{cl} + G_a$$

5. This value is EIRP since the measurement is calibrated using an antenna of known gain (unit dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

6.3.3.3 Measurement result

LTE Band 2- EIRP 24. 232(b)

Limits: $\leq 33\text{dBm}$ (2W)

LTE Band 2_1.4MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1850.7	22.13	33.00	H
1880	22.38	33.00	H
1909.3	22.54	33.00	H

LTE Band 2_3MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1851.5	22.07	33.00	H
1880	22.49	33.00	H
1908.5	22.67	33.00	H

LTE Band 2_5MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1852.5	22.16	33.00	H
1880	22.55	33.00	H
1907.5	22.58	33.00	H

LTE Band 2_10MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1855	22.41	33.00	H
1880	22.42	33.00	H
1905	22.74	33.00	H

LTE Band 2_15MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1857.5	22.31	33.00	H
1880	22.58	33.00	H
1902.5	22.75	33.00	H

LTE Band 2_20 MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1860	22.10	33.00	H
1880	22.35	33.00	H
1900	22.54	33.00	H

LTE Band 2_1.4MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1850.7	21.50	33.00	H
1880	21.66	33.00	H
1909.3	21.80	33.00	H

LTE Band 2_3MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1851.5	21.47	33.00	H

1880	21.82	33.00	H
1908.5	21.90	33.00	H

LTE Band 2_5MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1852.5	21.50	33.00	H
1880	21.82	33.00	H
1907.5	21.99	33.00	H

LTE Band 2_10MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1855	21.60	33.00	H
1880	21.72	33.00	H
1905	22.00	33.00	H

LTE Band 2_15MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1857.5	21.65	33.00	H
1880	21.72	33.00	H
1902.5	22.11	33.00	H

LTE Band 2_20 MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1860	21.26	33.00	H
1880	21.68	33.00	H
1900	21.97	33.00	H

LTE Band 2_1.4MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1850.7	20.80	33.00	H
1880	20.82	33.00	H
1909.3	20.74	33.00	H

LTE Band 2_3MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1851.5	20.49	33.00	H
1880	20.73	33.00	H
1908.5	20.58	33.00	H

LTE Band 2_5MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1852.5	20.66	33.00	H
1880	20.61	33.00	H
1907.5	20.79	33.00	H

LTE Band 2_10MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1855	20.65	33.00	H
1880	20.85	33.00	H

1905	20.81	33.00	H
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LTE Band 2_15MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1857.5	20.76	33.00	H
1880	20.88	33.00	H
1902.5	20.89	33.00	H

LTE Band 2_20 MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1860	20.69	33.00	H
1880	20.69	33.00	H
1900	21.00	33.00	H

LTE Band 4- EIRP 27.50(d)

Limits: ≤30dBm (1W)

LTE Band 4_1.4MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1710.7	22.20	30.00	H
1732.5	22.57	30.00	H
1754.3	22.34	30.00	H

LTE Band 4_3MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1711.5	22.32	30.00	H
1732.5	22.56	30.00	H
1753.5	22.38	30.00	H

LTE Band 4_5MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1712.5	22.32	30.00	H
1732.5	22.73	30.00	H
1752.5	22.50	30.00	H

LTE Band 4_10MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1715	22.57	30.00	H
1732.5	22.81	30.00	H
1750	22.83	30.00	H

LTE Band 4_15MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1717.5	22.67	30.00	H
1732.5	22.72	30.00	H
1747.5	22.73	30.00	H

LTE Band 4_20MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
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1720	22.62	30.00	H
1732.5	22.57	30.00	H
1745	22.74	30.00	H

LTE Band 4_1.4MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1710.7	21.50	30.00	H
1732.5	21.76	30.00	H
1754.3	21.62	30.00	H

LTE Band 4_3MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1711.5	21.45	30.00	H
1732.5	21.94	30.00	H
1753.5	21.55	30.00	H

LTE Band 4_5MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1712.5	21.59	30.00	H
1732.5	22.17	30.00	H
1752.5	21.68	30.00	H

LTE Band 4_10MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1715	21.72	30.00	H
1732.5	21.97	30.00	H
1750.5	21.84	30.00	H

LTE Band 4_15MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1717.5	21.94	30.00	H
1732.5	21.77	30.00	H
1747.5	21.82	30.00	H

LTE Band 4_20MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1720	21.92	30.00	H
1732.5	21.83	30.00	H
1745	21.79	30.00	H

LTE Band 4_1.4MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1710.7	20.21	30.00	H
1732.5	20.78	30.00	H
1754.3	20.57	30.00	H

LTE Band 4_3MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1711.5	20.40	30.00	H

1732.5	20.80	30.00	H
1753.5	20.46	30.00	H

LTE Band 4_5MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1712.5	20.53	30.00	H
1732.5	20.68	30.00	H
1752.5	20.64	30.00	H

LTE Band 4_10MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1715	20.77	30.00	H
1732.5	20.90	30.00	H
1750.5	20.69	30.00	H

LTE Band 4_15MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1717.5	20.74	30.00	H
1732.5	20.88	30.00	H
1747.5	20.65	30.00	H

LTE Band 4_20MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
1720	20.85	30.00	H
1732.5	20.72	30.00	H
1745	20.80	30.00	H

LTE Band 5- ERP/EIRP 22.913(a)

Limits: ≤38.45dBm (7W)

LTE Band 5_1.4MHz_QPSK

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
824.70	19.09	21.24	38.45	H
836.50	19.13	21.28	38.45	H
848.30	19.2	21.35	38.45	H

LTE Band 5_3MHz_QPSK

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
825.50	19.11	21.26	38.45	H
836.50	19.21	21.36	38.45	H
847.50	19.26	21.41	38.45	H

LTE Band 5_5MHz_QPSK

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
826.50	19.13	21.28	38.45	H
836.50	19.12	21.27	38.45	H
846.50	19.28	21.43	38.45	H

LTE Band 5_10MHz_QPSK

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
829.00	19.52	21.67	38.45	H
836.50	19.41	21.56	38.45	H
844.00	19.43	21.58	38.45	H

LTE Band 5_1.4MHz_16QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
824.70	18.47	20.62	38.45	H
836.50	18.56	20.71	38.45	H
848.30	18.65	20.8	38.45	H

LTE Band 5_3MHz_16QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
825.50	18.55	20.7	38.45	H
836.50	18.61	20.76	38.45	H
847.50	18.84	20.99	38.45	H

LTE Band 5_5MHz_16QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
826.50	18.47	20.62	38.45	H
836.50	18.51	20.66	38.45	H
846.50	18.56	20.71	38.45	H

LTE Band 5_10MHz_16QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
829.00	18.72	20.87	38.45	H
836.50	18.83	20.98	38.45	H
844.00	18.72	20.87	38.45	H

LTE Band 5_1.4MHz_64QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
824.70	16.48	18.63	38.45	H
836.50	16.97	19.12	38.45	H
848.30	16.78	18.93	38.45	H

LTE Band 5_3MHz_64QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
825.50	16.65	18.8	38.45	H
836.50	16.84	18.99	38.45	H
847.50	16.78	18.93	38.45	H

LTE Band 5_5MHz_64QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
826.50	16.74	18.89	38.45	H
836.50	16.59	18.74	38.45	H
846.50	16.92	19.07	38.45	H

LTE Band 5_10MHz_64QAM

Frequency(MHz)	ERP(dBm)	EIRP(dBm)	Limit(dBm)	Polarization
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829.00	17.04	19.19	38.45	H
836.50	17.13	19.28	38.45	H
844.00	17	19.15	38.45	H

LTE Band 7- EIRP 27.50(h)(2)

Limits: ≤33 dBm (2W)

LTE Band 7_5MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2502.5	24.78	33.00	H
2535	24.95	33.00	H
2567.5	25.23	33.00	H

LTE Band 7_10MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2505	24.92	33.00	H
2535	25.10	33.00	H
2565	25.45	33.00	H

LTE Band 7_15MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2507.5	24.67	33.00	H
2535	24.97	33.00	H
2562.5	25.23	33.00	H

LTE Band 7_20MHz_QPSK

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2510	24.91	33.00	H
2535	24.99	33.00	H
2560	25.05	33.00	H

LTE Band 7_5MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2502.5	24.07	33.00	H
2535	24.24	33.00	H
2567.5	24.43	33.00	H

LTE Band 7_10MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2505	24.02	33.00	H
2535	24.25	33.00	H
2565	24.59	33.00	H

LTE Band 7_15MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2507.5	23.88	33.00	H
2535	24.07	33.00	H
2562.5	24.28	33.00	H

LTE Band 7_20MHz_16QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2510	23.86	33.00	H
2535	24.23	33.00	H
2560	24.35	33.00	H

LTE Band 7_5MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2502.5	22.44	33.00	H
2535	22.53	33.00	H
2567.5	22.85	33.00	H

LTE Band 7_10MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2505	22.58	33.00	H
2535	22.79	33.00	H
2565	22.94	33.00	H

LTE Band 7_15MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2507.5	22.58	33.00	H
2535	22.72	33.00	H
2562.5	22.81	33.00	H

LTE Band 7_20MHz_64QAM

Frequency(MHz)	EIRP(dBm)	Limit(dBm)	Polarization
2510	22.33	33.00	H
2535	22.78	33.00	H
2560	22.98	33.00	H

LTE Band 12- ERP 27.50(c)

Limits: ≤38.45dBm (7W)

LTE Band 12_1.4MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
699.7	17.34	38.45	H
707.5	17.53	38.45	H
715.3	17.56	38.45	H

LTE Band 12_3MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
700.5	17.34	38.45	H
707.5	17.65	38.45	H
714.5	17.53	38.45	H

LTE Band 12_5MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
701.5	17.52	38.45	H

707.5	17.61	38.45	H
713.5	17.69	38.45	H

LTE Band 12_10MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
704	17.56	38.45	H
707.5	17.81	38.45	H
711	17.6	38.45	H

LTE Band 12_1.4MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
699.7	16.64	38.45	H
707.5	16.91	38.45	H
715.3	16.86	38.45	H

LTE Band 12_3MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
700.5	16.7	38.45	H
707.5	17.01	38.45	H
714.5	16.84	38.45	H

LTE Band 12_5MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
701.5	16.62	38.45	H
707.5	16.95	38.45	H
713.5	16.88	38.45	H

LTE Band 12_10MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
704	16.89	38.45	H
707.5	16.94	38.45	H
711	16.96	38.45	H

LTE Band 12_1.4MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
699.7	15.19	38.45	H
707.5	15.34	38.45	H
715.3	15.09	38.45	H

LTE Band 12_3MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
700.5	14.96	38.45	H
707.5	15.18	38.45	H
714.5	15.16	38.45	H

LTE Band 12_5MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
701.5	15.08	38.45	H
707.5	15.41	38.45	H

713.5	15.24	38.45	H
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LTE Band 12_10MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
704	15.25	38.45	H
707.5	15.1	38.45	H
711	15.27	38.45	H

LTE Band 13- ERP 27.50(c)

Limits: ≤38.45dBm (7W)

LTE Band 13_5MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
779.5	17.74	38.45	H
782	17.79	38.45	H
784.5	17.9	38.45	H

LTE Band 13_10MHz_QPSK

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
782	18.27	38.45	H
782	18.03	38.45	H
782	18.2	38.45	H

LTE Band 13_5MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
779.5	17	38.45	H
782	17.08	38.45	H
784.5	17.33	38.45	H

LTE Band 13_10MHz_16QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
782	17.33	38.45	H
782	17.39	38.45	H
782	17.21	38.45	H

LTE Band 13_5MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
779.5	15.93	38.45	H
782	15.92	38.45	H
784.5	15.9	38.45	H

LTE Band 13_10MHz_64QAM

Frequency(MHz)	ERP(dBm)	Limit(dBm)	Polarization
782	15.32	38.45	H
782	15.49	38.45	H
782	15.84	38.45	H