



# TEST REPORT

## No.I23Z70158-WMD03

for

**Samsung Electronics Co., Ltd.**

**Multi-band GSM/WCDMA/LTE/5GNR Tablet with Bluetooth, WLAN**

**Model Name: SM-X216B**

**FCC ID: ZCASM216B**

with

**Hardware Version: REV1.0**

**Software Version: X216B.001**

**Issued Date: 2023-09-08**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

**Test Laboratory:**

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## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
I23Z70158-WMD03	Rev.0	1 <sup>st</sup> edition	2023-09-07
I23Z70158-WMD03	Rev.1	Modified the description in Chapter 6	2023-09-08

Note: the latest revision of the test report supersedes all previous version.

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## **1. Test Laboratory**

### **1.1. Introduction & Accreditation**

**Telecommunication Technology Labs, CAICT** is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

### **1.2. Testing Location**

Location 1: CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China 100191

Location 2: CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology  
Development Area, Beijing, P. R. China 100176

### 1.3. Testing Environment

Normal Temperature: 15-35℃  
Relative Humidity: 20-75%

### 1.4. Project Data

Testing Start Date: 2023-07-01  
Testing End Date: 2023-09-06

### 1.5. Signature



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**Dong Yuan**  
**(Prepared this test report)**



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**Zhou Yu**  
**(Reviewed this test report)**



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**Zhao Hui Lin**  
**Deputy Director of the laboratory**  
**(Approved this test report)**



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Samsung Electronics Co., Ltd.  
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### **2.2. Manufacturer Information**

Company Name: Samsung Electronics Co., Ltd.  
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Contact: Sunghoon Cho  
Email: ggobi.cho@samsung.com  
Telephone: Samsung Electronics Co., Ltd.

### **3. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

#### **3.1. About EUT**

Description	Multi-band GSM/WCDMA/LTE/5G NR Tablet with Bluetooth, WLAN
Model Name	SM-X216B
FCC ID	ZCASM X216B
Antenna	Embedded
Output power	24.97 dBm maximum EIRP measured for LTE B41
Extreme Voltage	3.55VDC to 4.4VDC (nominal: 3.85VDC)
Extreme Temperature	-10°C to +55°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

#### **3.2. Internal Identification of EUT used during the test**

<b>EUT ID*</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>	<b>Date of receipt</b>
UT08a	2370158UT08a	REV1.0	X216B.001	2023-06-30
UT24a	2370158UT24a	REV1.0	X216B.001	2023-07-15

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

#### **3.3. Internal Identification of AE used during the test**

<b>AE ID*</b>	<b>Description</b>
AE1	Battery
AE1	
Model	WT-S-W11
Manufacturer	SCUD (Fujian) Electronics Co., Ltd.
Capacitance	7040mAh

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

## **4. Reference Documents**

### **4.1. Documents supplied by applicant**

EUT parameters are supplied by the customer, which are the bases of testing. CAICT is not responsible for the accuracy of customer supplied technical information that may affect the test results (for example, antenna gain and loss of customer supplied cable).

### **4.2. Reference Documents for testing**

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

<b>Reference</b>	<b>Title</b>	<b>Version</b>
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-22 Edition
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-22 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-22 Edition
FCC Part 90	PRIVATE LAND MOBILE RADIO SERVICES	10-1-22 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01



## 5. Summary of Test Result

### LTE Band 2

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	24.232	P
2	Emission Limit	24.238	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	24.238	P
6	Band Edge Compliance	24.238	P
7	Conducted Spurious Emission	24.238	P
8	Peak-to-Average Power Ratio	24.232	P

### LTE Band 4

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

### LTE Band 7

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

**LTE Band 12 (17)**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

**LTE Band 13**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

**LTE Band 26(814MHz~824MHz)**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	90.635	P
2	Emission Limit	90.691	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	2.1049	P
6	Band Edge Compliance	90.691	P
7	Conducted Spurious Emission	90.691	P

**LTE Band 26(824MHz~849MHz) (5)**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	22.917	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	22.917	P
6	Band Edge Compliance	22.917	P
7	Conducted Spurious Emission	22.917	P

**LTE Band 38**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

**LTE Band 41**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

**LTE Band 66**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

Terms used in Verdict column

P	Pass. The EUT complies with the essential requirements in the standard.
NP	Not Performed. The test was not performed by CTTL.
NA	Not Applicable. The test was not applicable.
BR	Re-use test data from basic model report.
F	Fail. The EUT does not comply with the essential requirements in the standard.

All the test results are based on normal power.

LTE Band 26 and Band 12 overlaps the entire frequency range of LTE Band 5 and Band 17. Therefore, test data provided in this report covers Band 5, Band 17 as well as Band 26, Band 12.

LTE Band 41 is tested by power class 3.

#### Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results. Output power was measured on QPSK, 16QAM, 64QAM and 256QAM modulations. It was found that QPSK was the worst case. All testing was performed using QPSK modulations to represent the worst case unless otherwise stated. The test results shown in the following sections represent the worst case emission.

## 6. Test Equipment Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Wideband Radio Communication Tester	CMW500	159082	R&S	2024-01-09	1 year
Spectrum Analyzer	FSU	200030	R&S	2024-05-25	1 year
Climate Chamber	SH-242	93008556	ESPEC	2023-12-23	3 years
Test Receiver	FSV40	101047	R&S	2024-06-25	1 year
EMI Antenna	VULB9163	9163-482	Schwarzbeck	2023-11-28	1 year
EMI Antenna	LB-7180-NF	J20300130005	A-INFO	2024-05-25	1 year
EMI Antenna	LB-180400-25-C-KF	J211060826	A-INFO	2024-03-02	1 year
EMI Antenna	3115	00167252	ETS-Lindgren	2024-01-28	1 year
EMI Antenna	3116	2663	ETS-Lindgren	2023-11-22	1 year
Signal Generator	SMF100A	101295	R&S	2024-02-08	1 year
Power Amplifier	5S1G4	0341863	AR	/	/
Universal Radio Communication Tester	CMW500	143008	R&S	2024-01-03	1 year
Universal Radio Communication Tester	MT8821C	62724459649	Anritsu	2024-08-12	2 year

## Annex A: Measurement Results

### A.1 Output Power

#### A.1.1 Summary

During the process of testing, the EUT was controlled via communication tester to ensure max power transmission and proper modulation.

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

#### A.1.2 Conducted

##### A.1.2.1 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.

The results below include a correction factor for cable loss that is provided by the customer.

##### A.1.2.2 Measurement Result

#### LTE band 2

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1909.3	22.82	22.06	21.00	18.11
		1880.0	22.91	22.25	21.00	18.05
		1850.7	23.07	22.31	21.11	18.20
	1 RB low	1909.3	22.98	22.29	21.04	18.10
		1880.0	22.96	22.21	21.02	18.14
		1850.7	23.14	22.48	21.41	18.18
	50% RB mid	1909.3	22.90	22.03	20.94	18.12
		1880.0	23.01	22.06	20.71	18.06
		1850.7	23.18	22.30	21.02	18.18
	100% RB	1909.3	22.03	21.12	19.81	18.06
		1880.0	22.06	21.04	19.87	18.09
		1850.7	22.18	21.24	20.04	18.23
3MHz	1 RB high	1908.5	22.97	22.33	21.01	18.13
		1880.0	22.92	22.30	20.94	18.07
		1851.5	23.07	22.60	21.22	18.22
	1 RB low	1908.5	23.14	22.30	21.01	18.12
		1880.0	23.12	22.39	21.13	18.16
		1851.5	23.21	22.52	21.27	18.20
	50% RB mid	1908.5	22.08	21.21	20.02	18.14
		1880.0	22.18	21.15	20.07	18.08
		1851.5	22.35	21.38	20.17	18.20
	100% RB	1908.5	22.06	21.10	19.92	18.08

		1880.0	22.10	21.12	19.94	18.11
		1851.5	22.34	21.32	20.07	18.25
5MHz	1 RB high	1907.5	22.93	22.32	21.05	17.95
		1880.0	22.96	22.36	21.07	17.89
		1852.5	23.10	22.43	21.27	18.04
	1 RB low	1907.5	22.99	22.37	21.04	17.94
		1880.0	23.07	22.36	21.13	17.98
		1852.5	23.18	22.56	21.27	18.02
	50% RB mid	1907.5	22.09	21.23	19.98	17.96
		1880.0	22.22	21.14	20.06	17.90
		1852.5	22.28	21.37	20.20	18.02
	100% RB	1907.5	22.08	21.14	19.91	17.90
		1880.0	22.15	21.08	20.02	17.93
		1852.5	22.21	21.18	20.15	18.07
10MHz	1 RB high	1905.0	22.98	22.46	21.09	17.93
		1880.0	22.98	22.38	20.98	17.87
		1855.0	23.08	22.56	21.04	18.02
	1 RB low	1905.0	23.06	22.53	21.14	17.92
		1880.0	23.09	22.58	21.24	17.96
		1855.0	23.18	22.67	21.28	18.00
	50% RB mid	1905.0	22.18	21.13	19.97	17.94
		1880.0	22.19	21.17	20.04	17.88
		1855.0	22.36	21.35	20.10	18.00
	100% RB	1905.0	22.18	21.17	19.92	17.88
		1880.0	22.16	21.19	19.93	17.91
		1855.0	22.31	21.33	20.17	18.05
15MHz	1 RB high	1902.5	22.89	22.28	21.15	17.98
		1880.0	22.83	22.16	20.90	17.92
		1857.5	22.95	22.22	20.97	18.07
	1 RB low	1902.5	22.90	22.20	20.90	17.97
		1880.0	22.85	22.25	20.95	18.01
		1857.5	23.04	22.44	21.21	18.05
	50% RB mid	1902.5	22.05	21.01	19.82	17.99
		1880.0	22.02	20.94	19.82	17.93
		1857.5	22.19	21.12	20.01	18.05
	100% RB	1902.5	21.93	21.04	19.87	17.93
		1880.0	21.96	20.99	19.87	17.96
		1857.5	22.16	21.10	19.98	18.10
20MHz	1 RB high	1900.0	22.54	21.98	20.90	18.02
		1880.0	22.57	22.00	20.83	17.96
		1860.0	22.70	22.05	21.01	18.11
	1 RB low	1900.0	22.65	22.02	20.89	18.01
		1880.0	22.84	22.12	20.94	18.05



		1860.0	22.82	22.12	20.99	18.09
	50% RB mid	1900.0	21.83	20.86	19.82	18.03
		1880.0	21.84	20.78	19.76	17.97
		1860.0	21.98	20.96	19.89	18.09
	100% RB	1900.0	21.80	20.85	19.76	17.97
		1880.0	21.71	20.77	19.79	18.00
		1860.0	21.93	20.91	19.95	18.14



**LTE band 4**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1754.3	22.56	21.86	20.73	17.72
		1732.5	22.71	22.10	21.01	17.71
		1710.7	22.78	22.19	21.08	17.70
	1 RB low	1754.3	22.66	21.85	20.95	17.81
		1732.5	22.68	21.98	20.99	17.86
		1710.7	22.81	22.16	21.05	17.91
	50% RB mid	1754.3	22.72	21.78	20.91	17.84
		1732.5	22.82	21.92	21.01	17.73
		1710.7	22.85	21.94	21.11	17.80
	100% RB	1754.3	21.72	20.64	19.63	17.80
		1732.5	21.82	20.87	19.84	17.70
		1710.7	21.91	20.96	19.90	17.92
3MHz	1 RB high	1753.5	22.67	22.06	20.84	17.81
		1732.5	22.80	22.13	21.00	17.79
		1711.5	22.91	22.26	21.19	17.88
	1 RB low	1753.5	22.78	22.13	21.00	17.87
		1732.5	22.88	22.18	21.20	17.94
		1711.5	22.87	22.20	21.23	17.95
	50% RB mid	1753.5	21.83	20.85	19.77	17.72
		1732.5	22.03	20.99	19.97	17.85
		1711.5	21.99	21.07	20.02	17.80
	100% RB	1753.5	21.76	20.78	19.79	17.73
		1732.5	21.95	20.85	19.94	17.93
		1711.5	21.99	21.01	19.99	17.97
5MHz	1 RB high	1752.5	22.73	22.08	20.96	17.96
		1732.5	22.83	22.08	21.01	17.75
		1712.5	22.90	22.24	21.13	17.99
	1 RB low	1752.5	22.73	22.13	20.99	17.76
		1732.5	22.93	22.22	21.01	17.76
		1712.5	22.99	22.22	21.16	17.84
	50% RB mid	1752.5	21.84	20.83	19.75	17.71
		1732.5	21.94	20.99	20.01	17.95
		1712.5	22.00	21.10	20.08	17.88
	100% RB	1752.5	21.76	20.80	19.83	17.86
		1732.5	21.88	20.93	19.98	17.95
		1712.5	22.05	21.02	20.02	17.85
10MHz	1 RB high	1750.0	22.61	22.00	20.97	17.94
		1732.5	22.84	22.19	21.06	17.83
		1715.0	22.75	22.24	20.94	17.98
	1 RB low	1750.0	22.71	22.15	21.09	17.79

		1732.5	22.78	22.21	21.00	17.70	
		1715.0	22.88	22.21	21.21	17.78	
		1750.0	21.87	20.88	19.91	17.80	
	50% RB mid	1732.5	21.95	20.98	20.04	17.84	
		1715.0	22.04	21.01	20.07	17.70	
		1750.0	21.82	20.88	19.89	17.86	
	100% RB	1732.5	21.84	20.89	19.95	17.78	
		1715.0	22.00	21.08	20.06	17.71	
		1750.0	21.82	20.88	19.89	17.86	
15MHz	1 RB high	1747.5	22.53	21.73	20.67	17.73	
		1732.5	22.67	22.01	20.91	17.91	
		1717.5	22.70	22.05	20.96	17.87	
	1 RB low	1747.5	22.67	22.14	21.04	17.97	
		1732.5	22.68	22.11	20.92	17.93	
		1717.5	22.67	22.19	21.11	17.90	
	50% RB mid	1747.5	21.73	20.75	19.81	17.95	
		1732.5	21.81	20.80	19.88	17.79	
		1717.5	21.83	20.87	19.89	17.90	
	100% RB	1747.5	21.68	20.72	19.60	17.78	
		1732.5	21.70	20.70	19.75	17.93	
		1717.5	21.81	20.84	19.76	17.97	
	20MHz	1 RB high	1745.0	22.70	21.91	20.80	17.80
			1732.5	22.70	22.05	20.97	17.91
			1720.0	22.84	22.04	20.92	17.83
		1 RB low	1745.0	22.92	22.18	20.98	17.86
			1732.5	22.88	22.19	20.97	18.01
			1720.0	22.90	22.20	20.92	18.01
50% RB mid		1745.0	21.89	20.85	19.89	17.72	
		1732.5	21.87	20.83	19.78	17.84	
		1720.0	21.96	20.98	19.91	17.90	
100% RB		1745.0	21.81	20.82	19.74	17.78	
		1732.5	21.85	20.83	19.77	17.80	
		1720.0	21.95	20.87	19.90	17.93	

**LTE band 7**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2567.5	24.80	23.96	22.86	19.58
		2535.0	24.58	23.96	22.77	19.89
		2502.5	24.44	23.67	22.50	19.81
	1 RB low	2567.5	24.76	23.84	22.96	19.94
		2535.0	24.52	23.88	22.64	19.87
		2502.5	24.27	23.58	22.44	19.63
	50% RB mid	2567.5	23.83	22.99	21.87	19.87
		2535.0	23.75	22.75	21.65	19.93
		2502.5	23.56	22.55	21.42	19.84
	100% RB	2567.5	23.82	22.92	21.87	19.93
		2535.0	23.66	22.59	21.54	19.93
		2502.5	23.29	22.28	21.25	19.88
10MHz	1 RB high	2565.0	24.57	23.94	22.85	19.60
		2535.0	24.73	23.90	22.96	19.91
		2505.0	24.34	23.58	22.60	19.83
	1 RB low	2565.0	24.70	23.83	22.96	19.96
		2535.0	24.54	23.84	22.63	19.89
		2505.0	24.25	23.89	22.46	19.65
	50% RB mid	2565.0	23.84	22.87	21.86	19.89
		2535.0	23.58	22.62	21.66	19.95
		2505.0	23.40	22.54	21.51	19.86
	100% RB	2565.0	23.88	22.87	21.85	19.95
		2535.0	23.63	22.69	21.57	19.95
		2505.0	23.43	22.46	21.44	19.90
15MHz	1 RB high	2562.5	24.45	23.95	22.86	19.62
		2535.0	24.49	23.80	22.72	19.93
		2507.5	24.08	23.70	22.58	19.85
	1 RB low	2562.5	24.52	23.81	22.93	19.98
		2535.0	24.23	23.61	22.74	19.91
		2507.5	24.11	23.51	22.34	19.67
	50% RB mid	2562.5	23.73	22.73	21.81	19.91
		2535.0	23.40	22.47	21.48	19.97
		2507.5	23.28	22.26	21.26	19.88
	100% RB	2562.5	23.63	22.79	21.78	19.97
		2535.0	23.41	22.48	21.47	19.97
		2507.5	23.24	22.25	21.24	19.92
20MHz	1 RB high	2560.0	24.59	23.92	22.50	19.64
		2535.0	24.64	23.95	22.96	19.95
		2510.0	24.58	23.90	22.76	19.87
	1 RB low	2560.0	24.53	23.92	22.87	20.00



		2535.0	24.67	23.88	22.83	19.93
		2510.0	24.28	23.76	22.71	19.69
	50% RB mid	2560.0	23.86	22.81	21.85	19.93
		2535.0	23.81	22.89	21.88	19.99
		2510.0	23.61	22.60	21.68	19.90
	100% RB	2560.0	23.82	22.80	21.78	19.99
		2535.0	23.83	22.81	21.78	19.99
		2510.0	23.61	22.69	21.72	19.94

**LTE band 12**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	715.3	24.57	23.47	22.17	19.10
		707.5	24.27	23.52	22.37	18.83
		699.7	24.28	23.74	22.57	18.93
	1 RB low	715.3	24.44	23.61	22.30	19.05
		707.5	24.17	23.44	22.61	18.96
		699.7	24.36	23.78	22.58	18.99
	50% RB mid	715.3	24.37	23.38	22.45	18.84
		707.5	24.49	23.41	22.51	18.89
		699.7	24.55	23.35	22.47	18.98
	100% RB	715.3	23.32	22.63	21.28	18.89
		707.5	23.32	22.47	21.33	18.94
		699.7	23.44	22.50	21.42	18.87
3MHz	1 RB high	714.5	24.11	23.41	22.29	19.08
		707.5	24.32	23.85	22.47	18.81
		700.5	24.32	23.77	22.54	18.91
	1 RB low	714.5	24.19	23.72	22.44	19.03
		707.5	24.41	23.78	22.53	18.94
		700.5	24.47	23.98	22.61	18.97
	50% RB mid	714.5	23.37	22.52	21.46	18.82
		707.5	23.52	22.59	21.58	18.87
		700.5	23.54	22.68	21.42	18.96
	100% RB	714.5	23.34	22.40	21.39	18.87
		707.5	23.49	22.55	21.53	18.92
		700.5	23.61	22.62	21.55	18.85
5MHz	1 RB high	713.5	24.10	23.57	22.11	19.06
		707.5	24.33	23.75	22.47	18.79
		701.5	24.32	23.72	22.54	18.89
	1 RB low	713.5	24.44	23.76	22.49	19.01
		707.5	24.30	23.81	22.54	18.92
		701.5	24.43	23.70	22.57	18.95
	50% RB mid	713.5	23.51	22.62	21.51	18.80
		707.5	23.50	22.58	21.47	18.85
		701.5	23.57	22.60	21.50	18.94
	100% RB	713.5	23.35	22.41	21.33	18.85
		707.5	23.47	22.55	21.49	18.90
		701.5	23.54	22.49	21.48	18.83
10MHz	1 RB high	711.0	23.94	23.46	22.55	19.10
		707.5	24.02	23.24	22.24	18.83
		704.0	24.15	23.59	22.35	18.93
	1 RB low	711.0	24.06	23.86	22.50	19.05



		707.5	24.27	23.62	22.39	18.96
		704.0	24.17	23.74	22.43	18.99
	50% RB mid	711.0	23.10	22.21	21.15	18.84
		707.5	23.14	22.19	21.21	18.89
		704.0	23.21	22.21	21.31	18.98
	100% RB	711.0	23.21	22.12	21.21	18.89
		707.5	23.16	22.25	21.26	18.94
		704.0	23.25	22.25	21.18	18.87

**LTE band 13**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	784.5	23.42	22.80	21.80	18.13
		782.0	23.53	22.77	21.61	18.09
		779.5	23.31	22.98	21.67	18.16
	1 RB low	784.5	23.38	22.81	21.58	18.10
		782.0	23.63	23.01	21.68	18.16
		779.5	23.45	22.99	21.55	18.11
	50% RB mid	784.5	22.54	21.62	20.63	18.09
		782.0	22.43	21.62	20.60	18.14
		779.5	22.63	21.67	20.59	18.08
	100% RB	784.5	22.49	21.43	20.44	18.17
		782.0	22.48	21.48	20.51	18.13
		779.5	22.61	21.61	20.63	18.09
10MHz	1 RB high	782.0	23.09	22.39	21.35	18.15
	1 RB low	782.0	23.21	22.65	21.68	18.18
	50% RB mid	782.0	22.17	21.36	20.29	18.13
	100% RB	782.0	22.16	21.34	20.28	18.12

**LTE band 26(814MHz~824MHz)**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	823.3	22.71	21.93	20.92	17.61
		819.0	22.76	21.89	20.75	17.89
		814.7	22.76	21.87	21.18	18.13
	1 RB low	823.3	22.69	21.95	20.80	17.74
		819.0	22.76	21.85	20.75	18.06
		814.7	22.76	21.83	21.15	18.08
	50% RB mid	823.3	22.69	22.02	20.70	17.90
		819.0	22.75	22.04	21.12	17.93
		814.7	22.81	22.10	20.87	17.96
	100% RB	823.3	21.81	21.01	19.79	17.92
		819.0	21.84	20.75	19.85	17.84
		814.7	21.89	21.11	19.89	18.00
3MHz	1 RB high	822.5	22.81	21.86	20.78	17.86
		819.0	22.71	21.84	20.78	17.81
		815.5	22.86	21.89	20.84	17.94
	1 RB low	822.5	22.79	21.84	20.67	17.86
		819.0	22.81	21.89	20.64	18.38
		815.5	22.92	21.99	20.75	17.97
	50% RB mid	822.5	21.86	20.95	19.95	17.97
		819.0	21.87	20.97	19.97	17.96
		815.5	21.95	21.03	19.87	17.95
	100% RB	822.5	21.87	20.84	19.88	17.92
		819.0	21.87	20.85	19.85	17.89
		815.5	21.96	20.93	19.96	17.93
5MHz	1 RB high	821.5	22.85	21.91	20.93	17.98
		819.0	22.79	21.93	20.97	17.98
		816.5	22.87	21.95	21.04	17.99
	1 RB low	821.5	22.83	21.95	21.20	17.91
		819.0	22.85	21.93	21.22	18.00
		816.5	22.93	22.09	21.19	18.10
	50% RB mid	821.5	21.94	21.00	20.07	18.05
		819.0	21.94	21.02	20.08	18.04
		816.5	21.94	21.04	20.01	18.12
	100% RB	821.5	21.91	20.89	20.00	17.97
		819.0	21.94	20.90	19.96	17.96
		816.5	21.96	20.95	19.98	17.98
10MHz	1 RB high	819.0	22.83	22.06	20.82	17.96
	1 RB low	819.0	22.89	21.89	20.86	17.97
	50% RB mid	819.0	22.92	22.03	20.86	17.95
	100% RB	819.0	22.88	22.08	20.77	18.10



**LTE band 26(824MHz~849MHz)**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	848.3	22.64	21.84	20.77	17.79
		836.5	22.76	21.90	20.90	17.65
		824.7	22.75	21.82	20.87	17.95
	1 RB low	848.3	22.65	21.75	20.60	18.04
		836.5	22.74	21.86	20.94	17.55
		824.7	22.76	21.81	20.69	18.06
	50% RB mid	848.3	22.64	21.97	20.74	17.89
		836.5	22.72	22.08	21.14	17.99
		824.7	22.77	22.08	20.79	17.91
	100% RB	848.3	21.78	20.60	19.86	17.84
		836.5	21.84	21.02	19.88	17.87
		824.7	21.84	21.03	19.84	17.95
3MHz	1 RB high	847.5	22.69	21.80	20.69	17.78
		836.5	22.81	21.82	20.83	17.89
		825.5	22.87	21.92	20.82	17.92
	1 RB low	847.5	22.79	21.84	20.64	17.83
		836.5	22.81	21.84	20.71	17.85
		825.5	22.85	21.90	20.75	17.85
	50% RB mid	847.5	21.78	20.87	19.85	17.88
		836.5	21.87	20.96	19.97	17.96
		825.5	21.89	20.95	19.85	17.97
	100% RB	847.5	21.81	20.83	19.76	17.86
		836.5	21.88	20.84	19.88	17.89
		825.5	21.89	20.85	19.88	18.01
5MHz	1 RB high	846.5	22.73	21.84	20.89	17.91
		836.5	22.81	21.94	20.99	17.99
		826.5	22.84	22.00	20.99	18.03
	1 RB low	846.5	22.80	21.95	21.16	17.97
		836.5	22.83	21.98	21.21	17.96
		826.5	22.86	21.95	21.27	17.95
	50% RB mid	846.5	21.88	20.92	19.98	17.98
		836.5	21.90	20.91	20.06	18.01
		826.5	21.91	21.00	20.00	18.08
	100% RB	846.5	21.85	20.78	19.93	17.92
		836.5	21.91	20.87	19.97	17.93
		826.5	21.91	20.87	19.98	17.98
10MHz	1 RB high	844.0	22.79	21.83	20.76	17.95
		836.5	22.84	21.86	20.81	18.01
		829.0	22.85	21.94	20.99	17.75
	1 RB low	844.0	22.84	21.96	20.55	17.97

		836.5	22.89	21.93	20.66	17.94
		829.0	22.87	21.91	20.93	17.78
	50% RB mid	844.0	21.94	21.00	20.03	17.98
		836.5	21.94	20.99	20.03	18.03
		829.0	21.96	21.11	20.08	18.08
	100% RB	844.0	21.89	20.93	19.91	17.91
		836.5	21.99	21.02	20.01	18.00
		829.0	21.99	21.02	20.03	18.02
	15MHz	1 RB high	841.5	22.62	22.07	21.08
836.5			22.72	22.19	21.19	18.22
831.5			22.71	22.17	21.02	18.32
1 RB low		841.5	22.71	22.17	21.06	18.11
		836.5	22.72	22.18	21.15	18.14
		831.5	22.71	22.17	21.39	18.23
50% RB mid		841.5	21.85	20.76	19.86	17.75
		836.5	21.90	20.78	19.85	17.77
		831.5	21.85	20.72	19.82	17.79
100% RB		841.5	21.81	20.80	19.85	17.77
		836.5	21.80	20.82	19.83	17.78
		831.5	21.76	20.76	19.76	17.78

**LTE band 38**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2617.5	24.78	24.12	23.08	20.26
		2595.0	24.86	24.14	22.90	20.21
		2572.5	24.95	24.26	23.02	20.31
	1 RB low	2617.5	24.75	24.09	23.00	20.32
		2595.0	24.90	24.15	22.96	20.42
		2572.5	24.93	24.21	22.94	20.43
	50% RB mid	2617.5	23.84	22.84	21.89	20.39
		2595.0	23.85	22.86	21.91	20.38
		2572.5	23.96	22.98	21.99	20.30
	100% RB	2617.5	23.85	22.89	21.82	20.42
		2595.0	23.83	22.92	21.98	20.42
		2572.5	23.97	23.00	21.08	20.28
10MHz	1 RB high	2615.0	24.81	24.13	23.01	20.28
		2595.0	24.87	24.14	23.06	20.23
		2575.0	24.88	24.15	23.10	20.33
	1 RB low	2615.0	24.82	24.13	23.04	20.34
		2595.0	24.92	24.16	23.07	20.44
		2575.0	24.95	24.30	23.14	20.45
	50% RB mid	2615.0	23.86	22.94	21.86	20.41
		2595.0	23.93	22.96	21.91	20.40
		2575.0	23.94	22.99	21.97	20.32
	100% RB	2615.0	23.90	22.89	21.86	20.44
		2595.0	23.90	22.97	21.85	20.44
		2575.0	23.95	22.98	21.91	20.30
15MHz	1 RB high	2612.5	24.61	23.99	22.88	20.30
		2595.0	24.65	23.99	22.91	20.25
		2577.5	24.72	24.11	23.00	20.35
	1 RB low	2612.5	24.71	24.03	22.95	20.36
		2595.0	24.73	24.10	23.00	20.46
		2577.5	24.77	24.14	23.09	20.47
	50% RB mid	2612.5	23.76	22.79	21.75	20.43
		2595.0	23.82	22.80	21.79	20.42
		2577.5	23.92	22.93	21.94	20.34
	100% RB	2612.5	23.74	22.77	21.76	20.46
		2595.0	23.79	22.79	21.77	20.46
		2577.5	23.78	22.86	21.85	20.32
20MHz	1 RB high	2610.0	24.64	24.02	22.91	20.32
		2595.0	24.65	23.98	22.85	20.27
		2580.0	24.68	24.09	22.97	20.37
	1 RB low	2610.0	24.70	24.05	22.98	20.38



		2595.0	24.78	24.17	23.09	20.48
		2580.0	24.76	24.16	23.10	20.49
	50% RB mid	2610.0	23.77	22.83	21.78	20.45
		2595.0	23.77	22.86	21.77	20.44
		2580.0	23.93	22.97	21.89	20.36
	100% RB	2610.0	23.77	22.80	21.81	20.48
		2595.0	23.81	22.83	21.81	20.48
		2580.0	23.81	22.82	21.87	20.34

**LTE band 41**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2687.5	24.16	23.42	22.20	18.16
		2593.0	24.08	23.39	22.10	18.12
		2498.5	23.86	23.13	21.83	18.01
	1 RB low	2687.5	24.03	23.26	22.04	18.17
		2593.0	24.02	23.34	22.10	18.21
		2498.5	23.79	23.04	21.86	18.02
	50% RB mid	2687.5	23.17	22.32	21.27	18.27
		2593.0	23.06	22.21	21.17	18.18
		2498.5	22.86	21.84	20.98	18.13
	100% RB	2687.5	23.16	22.17	21.22	18.24
		2593.0	23.07	22.08	21.14	18.20
		2498.5	22.80	21.84	20.91	18.12
10MHz	1 RB high	2685.0	24.00	23.42	22.08	18.19
		2593.0	23.99	23.31	22.05	18.16
		2501.0	23.82	23.23	21.99	18.05
	1 RB low	2685.0	24.14	23.39	22.25	18.21
		2593.0	24.10	23.40	22.18	18.25
		2501.0	23.77	23.14	21.91	18.06
	50% RB mid	2685.0	23.19	22.23	21.28	18.31
		2593.0	23.10	22.11	21.20	18.22
		2501.0	22.94	22.02	21.06	18.17
	100% RB	2685.0	23.18	22.25	21.21	18.28
		2593.0	23.09	22.22	21.15	18.24
		2501.0	22.97	22.04	20.97	18.16
15MHz	1 RB high	2682.5	23.99	23.27	21.89	18.20
		2593.0	23.96	23.26	21.86	18.18
		2503.5	23.76	23.13	21.63	18.07
	1 RB low	2682.5	23.96	23.25	21.83	18.23
		2593.0	23.96	23.29	21.90	18.27
		2503.5	23.59	22.94	21.62	18.08
	50% RB mid	2682.5	23.05	22.02	21.01	18.33
		2593.0	23.02	21.93	20.94	18.24
		2503.5	22.78	21.76	20.75	18.19
	100% RB	2682.5	23.07	22.07	21.02	18.30
		2593.0	22.99	22.00	20.95	18.26
		2503.5	22.85	21.79	20.79	18.18
20MHz	1 RB high	2680.0	24.14	23.37	21.85	18.19
		2593.0	24.10	23.37	21.86	18.20
		2506.0	23.93	23.22	21.73	18.09
	1 RB low	2680.0	24.13	23.40	21.92	18.25



		2593.0	24.10	23.34	21.97	18.29
		2506.0	23.72	23.02	21.59	18.00
	50% RB mid	2680.0	23.20	22.17	21.06	18.35
		2593.0	23.17	22.12	20.96	18.26
		2506.0	23.03	22.03	20.90	18.21
	100% RB	2680.0	23.21	22.14	21.02	18.32
		2593.0	23.16	22.12	20.98	18.28
		2506.0	23.02	22.01	20.89	18.20

**LTE band 66**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1779.3	23.66	22.93	21.95	18.30
		1745.0	23.72	23.27	22.07	18.30
		1710.7	23.80	23.11	22.04	18.27
	1 RB low	1779.3	23.58	23.08	22.02	18.27
		1745.0	23.76	23.12	22.16	18.24
		1710.7	23.60	23.10	22.12	18.32
	50% RB mid	1779.3	23.77	22.85	22.00	18.18
		1745.0	23.65	22.77	22.23	18.09
		1710.7	23.66	23.00	22.10	18.17
	100% RB	1779.3	22.78	21.92	20.89	18.01
		1745.0	22.89	21.96	20.91	18.10
		1710.7	22.85	21.94	20.84	18.18
3MHz	1 RB high	1778.5	23.72	23.31	22.12	18.28
		1745.0	23.65	23.06	22.24	18.28
		1711.5	23.70	23.34	22.13	18.25
	1 RB low	1778.5	23.65	23.10	21.99	18.25
		1745.0	23.64	23.39	22.16	18.22
		1711.5	23.74	23.29	22.01	18.30
	50% RB mid	1778.5	22.96	22.05	21.05	18.16
		1745.0	23.05	22.01	20.97	18.07
		1711.5	23.12	22.17	21.15	18.15
	100% RB	1778.5	22.83	21.96	20.83	17.99
		1745.0	22.94	21.85	20.97	18.08
		1711.5	23.03	22.00	20.97	18.16
5MHz	1 RB high	1777.5	23.68	23.09	22.04	18.32
		1745.0	23.67	23.32	22.19	18.32
		1712.5	23.71	23.38	22.13	18.29
	1 RB low	1777.5	23.79	23.24	21.87	18.29
		1745.0	23.76	23.27	22.19	18.26
		1712.5	23.71	23.33	22.18	18.34
	50% RB mid	1777.5	22.92	21.96	20.97	18.20
		1745.0	22.92	22.04	20.95	18.11
		1712.5	23.04	22.09	21.00	18.19
	100% RB	1777.5	22.91	21.94	20.97	18.03
		1745.0	22.95	21.99	21.03	18.12
		1712.5	22.99	22.02	21.03	18.20
10MHz	1 RB high	1775.0	23.71	23.44	22.07	18.36
		1745.0	23.62	23.26	22.17	18.36
		1715.0	23.68	23.39	22.00	18.33
	1 RB low	1775.0	23.56	23.44	22.05	18.33

		1745.0	23.59	23.34	22.09	18.30	
		1715.0	23.73	23.38	22.16	18.38	
	50% RB mid	1775.0	22.92	21.94	20.96	18.24	
		1745.0	22.96	22.06	21.00	18.15	
		1715.0	23.04	22.03	21.18	18.23	
	100% RB	1775.0	22.96	21.95	20.90	18.07	
		1745.0	22.86	21.94	20.93	18.16	
1715.0		23.05	22.07	20.93	18.24		
15MHz	1 RB high	1772.5	23.68	23.02	22.21	18.40	
		1745.0	23.71	23.12	22.23	18.40	
		1717.5	23.74	23.19	22.18	18.37	
	1 RB low	1772.5	23.70	23.23	22.17	18.37	
		1745.0	23.79	23.14	22.17	18.34	
		1717.5	23.77	23.16	22.10	18.42	
	50% RB mid	1772.5	22.87	21.85	20.85	18.28	
		1745.0	22.75	21.84	20.88	18.19	
		1717.5	22.96	21.96	20.99	18.27	
	100% RB	1772.5	22.72	21.84	20.81	18.11	
		1745.0	22.75	21.87	20.81	18.20	
		1717.5	22.89	21.98	20.91	18.28	
	20MHz	1 RB high	1770.0	23.29	22.88	21.76	18.44
			1745.0	23.32	22.63	21.76	18.44
			1720.0	23.36	22.57	21.72	18.41
1 RB low		1770.0	23.22	22.59	21.73	18.41	
		1745.0	23.40	22.66	21.69	18.38	
		1720.0	23.37	22.67	21.79	18.46	
50% RB mid		1770.0	22.31	21.34	20.49	18.32	
		1745.0	22.31	21.35	20.38	18.23	
		1720.0	22.52	21.47	20.47	18.31	
100% RB		1770.0	22.29	21.33	20.29	18.15	
		1745.0	22.25	21.41	20.40	18.24	
		1720.0	22.51	21.51	20.49	18.32	



**LTE CA band 7C**

Bandwidth	Frequency(MHz)	Frequency(MHz)	Modulation	PCC RB		SCC RB		Conducted Power(dBm)
				Size	Offset	Size	Offset	
10MHz/20MHz	2525.6	2540.0	QPSK	50	0	100	0	23.29
			QPSK	1	49	1	0	25.07
			16QAM	50	0	100	0	22.42
			16QAM	1	49	1	0	24.30
			64QAM	50	0	100	0	22.36
			64QAM	1	49	1	0	22.95
			256QAM	1	49	1	0	20.21
15MHz/10MHz	2530.1	2542.1	QPSK	75	0	50	0	23.34
			QPSK	1	74	1	0	25.18
			16QAM	75	0	50	0	22.44
			16QAM	1	74	1	0	24.41
			64QAM	75	0	50	0	22.41
			64QAM	1	74	1	0	23.06
			256QAM	1	74	1	0	20.29
15MHz/15MHz	2527.5	2542.5	QPSK	75	0	75	0	23.38
			QPSK	1	74	1	0	25.17
			16QAM	75	0	75	0	22.39
			16QAM	1	74	1	0	24.61
			64QAM	75	0	75	0	22.42
			64QAM	1	74	1	0	23.35
			256QAM	1	74	1	0	20.30
15MHz/20MHz	2525.3	2542.4	QPSK	75	0	100	0	23.39
			QPSK	1	74	1	0	25.17
			16QAM	75	0	100	0	22.40
			16QAM	1	74	1	0	24.34
			64QAM	75	0	100	0	22.45
			64QAM	1	74	1	0	23.05
			256QAM	1	74	1	0	20.45
20MHz/10MHz	2530.1	2544.5	QPSK	100	0	50	0	23.47
			QPSK	1	99	1	0	25.40
			16QAM	100	0	50	0	22.43
			16QAM	1	99	1	0	24.55
			64QAM	100	0	50	0	22.44
			64QAM	1	99	1	0	23.44
			256QAM	1	99	1	0	20.22

			256QAM	100	0	50	0	20.39
20MHz/15MH z	2527.6	2544.7	QPSK	100	0	75	0	23.45
			QPSK	1	99	1	0	25.43
			16QAM	100	0	75	0	22.44
			16QAM	1	99	1	0	24.77
			64QAM	100	0	75	0	22.50
			64QAM	1	99	1	0	23.38
			256QAM	1	99	1	0	20.25
			256QAM	100	0	75	0	20.38
20MHz/20MH z	2525.1	2544.9	QPSK	100	0	100	0	23.46
			QPSK	1	99	1	0	25.39
			16QAM	100	0	100	0	22.43
			16QAM	1	99	1	0	24.27
			64QAM	100	0	100	0	22.45
			64QAM	1	99	1	0	23.46
			256QAM	1	99	1	0	20.52
			256QAM	100	0	100	0	20.38

**LTE CA band 38C**

Bandwidth	Frequency(MHz)	Frequency(MHz)	Modulation	PCC RB		SCC RB		Conducted Power(dBm)
				Size	Offset	Size	Offset	
15MHz/15MHz	2587.5	2602.5	QPSK	1	74	1	0	25.43
			QPSK	75	0	75	0	23.63
			16QAM	1	74	1	0	24.27
			16QAM	75	0	75	0	22.66
			64QAM	1	74	1	0	23.58
			64QAM	75	0	75	0	22.72
			256QAM	1	74	1	0	20.58
			256QAM	75	0	75	0	20.71
20MHz/20MHz	2585.1	2604.9	QPSK	1	99	1	0	25.48
			QPSK	100	0	100	0	23.74
			16QAM	1	99	1	0	24.38
			16QAM	100	0	100	0	22.67
			64QAM	1	99	1	0	23.65
			64QAM	100	0	100	0	22.68
			256QAM	1	99	1	0	20.53
			256QAM	100	0	100	0	20.65

### A.1.3 Radiated

#### A.1.3 Radiated

##### A.1.3.1 Description

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

**FDD Band 2:** Part 24.232(c) specifies "Mobile and portable stations are limited to 2 watts EIRP".

**FDD Band 4/66:** Part 27.50(d)(4) specifies "Fixed, mobile, and portable(handheld) stations operating in the 1710–1755 MHz band and mobile and portable stations operating in the 1695–1710 MHz and 1755–1780 MHz bands are limited to 1 watt EIRP".

**FDD Band 5/26(824MHz~849MHz):** Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

**FDD Band 7/TDD Band 38/41:** Part 27.50(h)(2) specifies "Mobile stations are limited to 2.0 watts EIRP".

**FDD Band 12:** Part 27.50(c) (10) specifies "Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP".

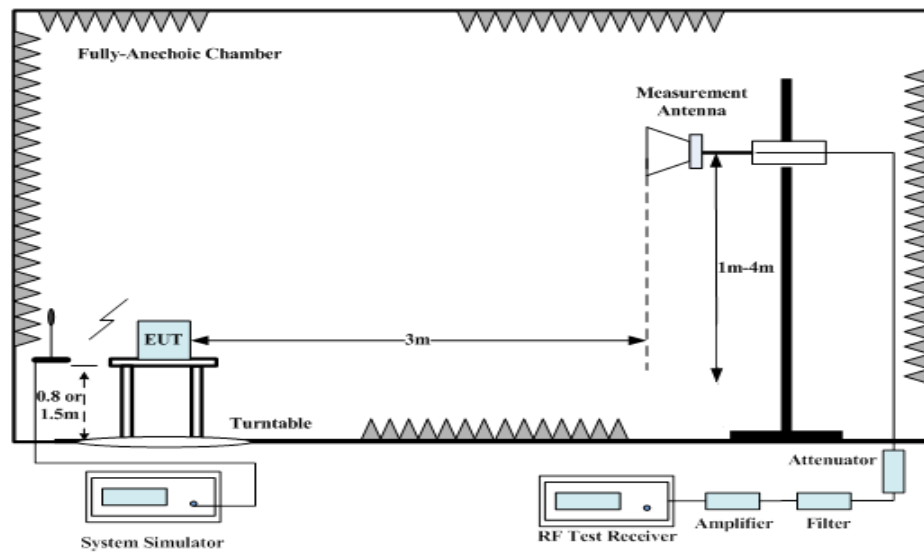
**FDD Band 13:** Part 27.50(b) specifies "Portable stations (hand-held devices) transmitting in the 746–757 MHz, 776–788 MHz, and 805–806 MHz bands are limited to 3 watts ERP".

**LTE Band 26(814MHz~824MHz):** Part 90.635(b) specifies "The maximum output power of the transmitter for mobile stations is 100 watts (50dBm)".

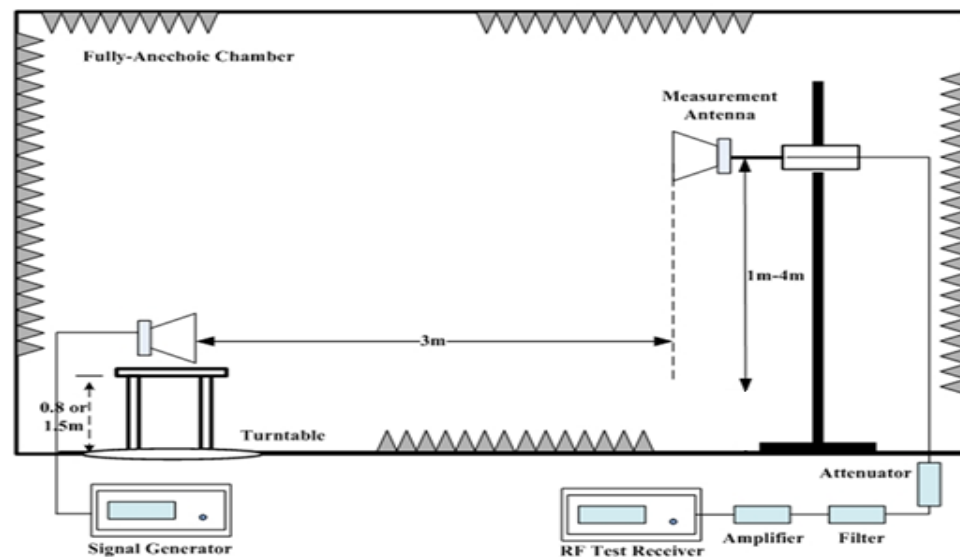
##### A.1.3.2 Method of Measurement

The measurements procedures in ANSI C63.26 are used.

1. EUT was placed on a 0.8/1.5 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 receiving antenna shall be varied from 1 to 4m in height above the reference ground. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and the EUT is manipulated through all orthogonal planes representative of its typical use. The test is carried out with both vertical and horizontal polarization of the receiving antenna. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with rms 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:

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

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,  $\text{ERP} = \text{EIRP} - 2.15$ .

### A.1.3.3 Measurement result

#### LTE Band 2-EIRP

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

Mod.	Bandwidth (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol	
QPSK	1.4	1850.70	-23.44	2.92	43.75	4.87	22.26	33.00	10.74	V	
		1880.00	-24.81	2.85	43.75	4.82	20.91	33.00	12.09	V	
		1909.30	-26.02	2.87	43.77	4.76	19.64	33.00	13.36	V	
	3	1851.50	-23.53	2.87	43.75	4.87	22.22	33.00	10.78	V	
		1880.00	-24.76	2.85	43.75	4.82	20.96	33.00	12.04	V	
		1908.50	-25.83	2.89	43.78	4.76	19.82	33.00	13.18	V	
	5	1852.50	-23.56	2.87	43.75	4.87	22.19	33.00	10.81	V	
		1880.00	-24.68	2.85	43.75	4.82	21.04	33.00	11.96	V	
		1907.50	-25.81	2.84	43.77	4.77	19.89	33.00	13.11	V	
	10	1855.00	-23.81	2.88	43.74	4.86	21.91	33.00	11.09	V	
		1880.00	-24.77	2.85	43.75	4.82	20.95	33.00	12.05	V	
		1905.00	-25.93	2.87	43.77	4.77	19.74	33.00	13.26	V	
	15	1857.50	-23.97	2.87	43.75	4.86	21.77	33.00	11.23	V	
		1880.00	-24.86	2.85	43.75	4.82	20.86	33.00	12.14	V	
		1902.50	-25.85	2.86	43.77	4.78	19.84	33.00	13.16	V	
	20	1860.00	-24.06	2.86	43.75	4.85	21.68	33.00	11.32	V	
		1880.00	-24.86	2.85	43.75	4.82	20.86	33.00	12.14	V	
		1900.00	-25.68	2.87	43.77	4.78	20.00	33.00	13.00	V	
	16QAM	1.4	1850.70	-24.13	2.92	43.75	4.87	21.57	33.00	11.43	V
			1880.00	-25.41	2.85	43.75	4.82	20.31	33.00	12.69	V
			1909.30	-26.62	2.87	43.77	4.76	19.04	33.00	13.96	V
		3	1851.50	-24.14	2.87	43.75	4.87	21.61	33.00	11.39	V
			1880.00	-25.27	2.85	43.75	4.82	20.45	33.00	12.55	V
			1908.50	-26.39	2.89	43.78	4.76	19.26	33.00	13.74	V
5		1852.50	-24.08	2.87	43.75	4.87	21.67	33.00	11.33	V	
		1880.00	-25.35	2.85	43.75	4.82	20.37	33.00	12.63	V	
		1907.50	-26.31	2.84	43.77	4.77	19.39	33.00	13.61	V	
10		1855.00	-24.34	2.88	43.74	4.86	21.38	33.00	11.62	V	
		1880.00	-25.48	2.85	43.75	4.82	20.24	33.00	12.76	V	
		1905.00	-26.50	2.87	43.77	4.77	19.17	33.00	13.83	V	
15		1857.50	-24.68	2.87	43.75	4.86	21.06	33.00	11.94	V	
		1880.00	-25.50	2.85	43.75	4.82	20.22	33.00	12.78	V	
		1902.50	-26.45	2.86	43.77	4.78	19.24	33.00	13.76	V	
20		1860.00	-24.83	2.86	43.75	4.85	20.91	33.00	12.09	V	
		1880.00	-25.61	2.85	43.75	4.82	20.11	33.00	12.89	V	
		1900.00	-26.40	2.87	43.77	4.78	19.28	33.00	13.72	V	
64QAM		1.4	1850.70	-25.09	2.92	43.75	4.87	20.61	33.00	12.39	H
			1880.00	-26.52	2.85	43.75	4.82	19.20	33.00	13.80	V

		1909.30	-27.33	2.87	43.77	4.76	18.33	33.00	14.67	H
	3	1851.50	-25.08	2.87	43.75	4.87	20.67	33.00	12.33	H
		1880.00	-26.49	2.85	43.75	4.82	19.23	33.00	13.77	V
		1908.50	-27.07	2.89	43.78	4.76	18.58	33.00	14.42	H
	5	1852.50	-25.33	2.87	43.75	4.87	20.42	33.00	12.58	V
		1880.00	-26.47	2.85	43.75	4.82	19.25	33.00	13.75	V
		1907.50	-27.60	2.84	43.77	4.77	18.10	33.00	14.90	V
	10	1855.00	-25.45	2.88	43.74	4.86	20.27	33.00	12.73	V
		1880.00	-26.61	2.85	43.75	4.82	19.11	33.00	13.89	V
		1905.00	-27.60	2.87	43.77	4.77	18.07	33.00	14.93	V
	15	1857.50	-25.82	2.87	43.75	4.86	19.92	33.00	13.08	V
		1880.00	-26.62	2.85	43.75	4.82	19.10	33.00	13.90	V
		1902.50	-27.63	2.86	43.77	4.78	18.06	33.00	14.94	V
	20	1860.00	-25.97	2.86	43.75	4.85	19.77	33.00	13.23	V
		1880.00	-26.66	2.85	43.75	4.82	19.06	33.00	13.94	V
1900.00		-27.57	2.87	43.77	4.78	18.11	33.00	14.89	V	
256QAM	1.4	1850.70	-27.97	2.92	43.75	4.87	17.73	33.00	15.27	V
	3	1851.50	-27.89	2.87	43.75	4.87	17.86	33.00	15.14	H
	5	1852.50	-28.42	2.87	43.75	4.87	17.33	33.00	15.67	V
	10	1855.00	-28.54	2.88	43.74	4.86	17.18	33.00	15.82	V
	15	1857.50	-28.75	2.87	43.75	4.86	16.99	33.00	16.01	V
	20	1860.00	-29.18	2.86	43.75	4.85	16.56	33.00	16.44	V



**LTE Band 4-EIRP**
**Limits:** ≤30dBm (1W)

Mod.	Bandwidth (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	1.4	1710.70	-26.17	3.17	44.10	5.12	19.88	30.00	10.12	H
		1732.50	-25.51	3.33	44.14	5.08	20.38	30.00	9.62	H
		1754.30	-24.29	3.76	44.14	5.04	21.13	30.00	8.87	H
	3	1711.50	-25.86	3.40	44.10	5.12	19.96	30.00	10.04	H
		1732.50	-25.58	3.33	44.14	5.08	20.31	30.00	9.69	H
		1753.50	-24.13	3.80	44.13	5.04	21.24	30.00	8.76	H
	5	1712.50	-25.66	3.66	44.10	5.12	19.90	30.00	10.10	H
		1732.50	-25.43	3.33	44.14	5.08	20.46	30.00	9.54	H
		1752.50	-24.33	3.82	44.14	5.05	21.04	30.00	8.96	H
	10	1715.00	-25.64	3.56	44.10	5.11	20.01	30.00	9.99	H
		1732.50	-25.55	3.33	44.14	5.08	20.34	30.00	9.66	H
		1750.00	-25.24	3.00	44.15	5.05	20.96	30.00	9.04	H
	15	1717.50	-25.73	3.47	44.11	5.11	20.02	30.00	9.98	H
		1732.50	-25.59	3.33	44.14	5.08	20.30	30.00	9.70	H
		1747.50	-25.06	3.34	44.15	5.05	20.80	30.00	9.20	H
20	1720.00	-25.89	3.37	44.11	5.10	19.95	30.00	10.05	H	
	1732.50	-25.36	3.33	44.14	5.08	20.53	30.00	9.47	H	
	1745.00	-24.70	3.68	44.16	5.06	20.84	30.00	9.16	H	
16QAM	1.4	1710.70	-27.69	3.17	44.10	5.12	18.36	30.00	11.64	H
		1732.50	-27.25	3.33	44.14	5.08	18.64	30.00	11.36	H
		1754.30	-26.03	3.76	44.14	5.04	19.39	30.00	10.61	H
	3	1711.50	-27.66	3.40	44.10	5.12	18.16	30.00	11.84	H
		1732.50	-27.26	3.33	44.14	5.08	18.63	30.00	11.37	H
		1753.50	-25.69	3.80	44.13	5.04	19.68	30.00	10.32	H
	5	1712.50	-27.52	3.66	44.10	5.12	18.04	30.00	11.96	H
		1732.50	-27.25	3.33	44.14	5.08	18.64	30.00	11.36	H
		1752.50	-25.84	3.82	44.14	5.05	19.53	30.00	10.47	H
	10	1715.00	-27.50	3.56	44.10	5.11	18.15	30.00	11.85	H
		1732.50	-27.06	3.33	44.14	5.08	18.83	30.00	11.17	H
		1750.00	-27.02	3.00	44.15	5.05	19.18	30.00	10.82	H
	15	1717.50	-27.36	3.47	44.11	5.11	18.39	30.00	11.61	H
		1732.50	-27.37	3.33	44.14	5.08	18.52	30.00	11.48	H
		1747.50	-26.93	3.34	44.15	5.05	18.93	30.00	11.07	H
20	1720.00	-27.68	3.37	44.11	5.10	18.16	30.00	11.84	H	
	1732.50	-27.00	3.33	44.14	5.08	18.89	30.00	11.11	H	
	1745.00	-26.45	3.68	44.16	5.06	19.09	30.00	10.91	H	
64QAM	1.4	1710.70	-28.95	3.17	44.10	5.12	17.10	30.00	12.90	H
		1732.50	-28.43	3.33	44.14	5.08	17.46	30.00	12.54	H
		1754.30	-27.11	3.76	44.14	5.04	18.31	30.00	11.69	H

	3	1711.50	-28.80	3.40	44.10	5.12	17.02	30.00	12.98	H	
		1732.50	-28.36	3.33	44.14	5.08	17.53	30.00	12.47	H	
		1753.50	-26.93	3.80	44.13	5.04	18.44	30.00	11.56	H	
	5	1712.50	-28.65	3.66	44.10	5.12	16.91	30.00	13.09	H	
		1732.50	-28.11	3.33	44.14	5.08	17.78	30.00	12.22	H	
		1752.50	-27.21	3.82	44.14	5.05	18.16	30.00	11.84	H	
	10	1715.00	-28.49	3.56	44.10	5.11	17.16	30.00	12.84	H	
		1732.50	-28.18	3.33	44.14	5.08	17.71	30.00	12.29	H	
		1750.00	-28.10	3.00	44.15	5.05	18.10	30.00	11.90	H	
	15	1717.50	-28.35	3.47	44.11	5.11	17.40	30.00	12.60	H	
		1732.50	-28.30	3.33	44.14	5.08	17.59	30.00	12.41	H	
		1747.50	-27.75	3.34	44.15	5.05	18.11	30.00	11.89	H	
	20	1720.00	-28.59	3.37	44.11	5.10	17.25	30.00	12.75	H	
		1732.50	-28.05	3.33	44.14	5.08	17.84	30.00	12.16	H	
		1745.00	-27.48	3.68	44.16	5.06	18.06	30.00	11.94	H	
	256QAM	1.4	1754.30	-29.13	3.76	44.14	5.04	16.29	30.00	13.71	H
		3	1753.50	-29.03	3.80	44.13	5.04	16.34	30.00	13.66	H
		5	1752.50	-29.25	3.82	44.14	5.05	16.12	30.00	13.88	H
10		1750.00	-30.05	3.00	44.15	5.05	16.15	30.00	13.85	H	
15		1747.50	-29.99	3.34	44.15	5.05	15.87	30.00	14.13	H	
20		1745.00	-29.49	3.68	44.16	5.06	16.05	30.00	13.95	H	

**LTE Band 7- EIRP**
**Limits:** ≤33 dBm (2W)

Mod.	Bandwidth (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	5	2502.50	-24.07	3.58	45.68	6.10	24.13	33.00	8.87	H
		2535.00	-22.60	3.63	44.82	6.16	24.75	33.00	8.25	V
		2567.50	-23.09	3.65	44.92	6.22	24.40	33.00	8.60	V
	10	2505.00	-23.83	3.59	45.64	6.11	24.33	33.00	8.67	H
		2535.00	-22.71	3.63	44.82	6.16	24.64	33.00	8.36	V
		2565.00	-22.98	3.65	44.97	6.22	24.56	33.00	8.44	V
	15	2507.50	-23.34	3.59	44.92	6.11	24.10	33.00	8.90	H
		2535.00	-22.95	3.63	44.82	6.16	24.40	33.00	8.60	V
		2562.50	-24.08	3.65	45.67	6.21	24.15	33.00	8.85	V
	20	2510.00	-23.89	3.58	45.36	6.12	24.01	33.00	8.99	H
		2535.00	-22.82	3.63	44.82	6.16	24.53	33.00	8.47	V
		2560.00	-24.12	3.63	45.98	6.21	24.44	33.00	8.56	V
16QAM	5	2502.50	-25.27	3.58	45.68	6.10	22.93	33.00	10.07	H
		2535.00	-23.54	3.63	44.82	6.16	23.81	33.00	9.19	V
		2567.50	-24.16	3.65	44.92	6.22	23.33	33.00	9.67	V
	10	2505.00	-24.81	3.59	45.64	6.11	23.35	33.00	9.65	H
		2535.00	-23.62	3.63	44.82	6.16	23.73	33.00	9.27	V
		2565.00	-23.88	3.65	44.97	6.22	23.66	33.00	9.34	V
	15	2507.50	-24.32	3.59	44.92	6.11	23.12	33.00	9.88	H
		2535.00	-23.95	3.63	44.82	6.16	23.40	33.00	9.60	V
		2562.50	-25.12	3.65	45.67	6.21	23.11	33.00	9.89	V
	20	2510.00	-25.12	3.58	45.36	6.12	22.78	33.00	10.22	H
		2535.00	-23.80	3.63	44.82	6.16	23.55	33.00	9.45	V
		2560.00	-25.12	3.63	45.98	6.21	23.44	33.00	9.56	V
64QAM	5	2502.50	-26.33	3.58	45.68	6.10	21.87	33.00	11.13	H
		2535.00	-24.78	3.63	44.82	6.16	22.57	33.00	10.43	V
		2567.50	-25.50	3.65	44.92	6.22	21.99	33.00	11.01	V
	10	2505.00	-26.30	3.59	45.64	6.11	21.86	33.00	11.14	H
		2535.00	-24.95	3.63	44.82	6.16	22.40	33.00	10.60	V
		2565.00	-25.47	3.65	44.97	6.22	22.07	33.00	10.93	V
	15	2507.50	-25.73	3.59	44.92	6.11	21.71	33.00	11.29	H
		2535.00	-25.22	3.63	44.82	6.16	22.13	33.00	10.87	V
		2562.50	-26.55	3.65	45.67	6.21	21.68	33.00	11.32	V
	20	2510.00	-26.15	3.58	45.36	6.12	21.75	33.00	11.25	H
		2535.00	-25.25	3.63	44.82	6.16	22.10	33.00	10.90	V
		2560.00	-26.29	3.63	45.98	6.21	22.27	33.00	10.73	V
256QAM	5	2535.00	-25.36	3.63	44.82	6.16	21.99	33.00	11.01	V
	10	2535.00	-25.82	3.63	44.82	6.16	21.53	33.00	11.47	V
	15	2535.00	-26.13	3.63	44.82	6.16	21.22	33.00	11.78	V
	20	2535.00	-26.06	3.63	44.82	6.16	21.29	33.00	11.71	V

**LTE Band 7C- EIRP**
**Limits: ≤33 dBm (2W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol	
QPSK	10+20	2505.5	2519.9	-26.24	3.58	45.32	6.13	21.63	33.00	11.37	H	
		2525.6	2540	-24.76	3.63	44.85	6.15	22.61	33.00	10.39	H	
		2545.6	2560	-25.75	3.63	45.68	6.19	22.49	33.00	10.51	V	
	20+10	2510	2524.4	-26.40	3.58	45.22	6.14	21.38	33.00	11.62	H	
		2530.1	2544.5	-25.03	3.63	44.99	6.16	22.49	33.00	10.51	H	
		2550.1	2564.5	-24.64	3.63	44.65	6.19	22.57	33.00	10.43	V	
	15+10	2507.5	2519.5	-26.50	3.58	45.32	6.13	21.37	33.00	11.63	H	
		2530.1	2542.1	-24.65	3.63	44.86	6.16	22.74	33.00	10.26	H	
		2552.7	2564.7	-24.76	3.63	44.90	6.19	22.70	33.00	10.30	V	
	15+15	2507.5	2522.5	-26.81	3.58	45.30	6.13	21.04	33.00	11.96	H	
		2527.5	2542.5	-24.53	3.63	44.82	6.16	22.82	33.00	10.18	H	
		2547.5	2562.5	-25.77	3.63	45.75	6.19	22.54	33.00	10.46	V	
	15+20	2507.8	2524.9	-26.28	3.58	45.24	6.13	21.51	33.00	11.49	H	
		2525.3	2542.4	-24.73	3.63	44.83	6.15	22.62	33.00	10.38	H	
		2542.9	2560	-25.60	3.63	45.58	6.19	22.54	33.00	10.46	V	
	20+15	2510	2527.1	-26.38	3.58	45.19	6.14	21.37	33.00	11.63	H	
		2527.6	2544.7	-24.67	3.63	44.86	6.16	22.72	33.00	10.28	H	
		2545.1	2562.2	-25.83	3.63	45.82	6.19	22.55	33.00	10.45	V	
	20+20	2510	2529.8	-26.39	3.61	45.14	6.14	21.28	33.00	11.72	H	
		2525.1	2544.9	-24.89	3.63	44.82	6.16	22.46	33.00	10.54	H	
		2540.2	2560	-25.58	3.62	45.52	6.19	22.51	33.00	10.49	V	
	16QAM	10+20	2505.5	2519.9	-27.67	3.58	45.32	6.13	20.20	33.00	12.80	H
			2525.6	2540	-26.12	3.63	44.85	6.15	21.25	33.00	11.75	H
			2545.6	2560	-27.19	3.63	45.68	6.19	21.05	33.00	11.95	V
		20+10	2510	2524.4	-27.77	3.58	45.22	6.14	20.01	33.00	12.99	H
			2530.1	2544.5	-26.48	3.63	44.99	6.16	21.04	33.00	11.96	H
			2550.1	2564.5	-26.04	3.63	44.65	6.19	21.17	33.00	11.83	V
15+10		2507.5	2519.5	-27.95	3.58	45.32	6.13	19.92	33.00	13.08	H	
		2530.1	2542.1	-26.33	3.63	44.86	6.16	21.06	33.00	11.94	H	
		2552.7	2564.7	-26.30	3.63	44.90	6.19	21.16	33.00	11.84	V	
15+15		2507.5	2522.5	-28.17	3.58	45.30	6.13	19.68	33.00	13.32	H	
		2527.5	2542.5	-26.10	3.63	44.82	6.16	21.25	33.00	11.75	H	
		2547.5	2562.5	-27.23	3.63	45.75	6.19	21.08	33.00	11.92	V	
15+20		2507.8	2524.9	-27.63	3.58	45.24	6.13	20.16	33.00	12.84	H	
		2525.3	2542.4	-26.26	3.63	44.83	6.15	21.09	33.00	11.91	H	
		2542.9	2560	-27.18	3.63	45.58	6.19	20.96	33.00	12.04	V	
20+15		2510	2527.1	-27.84	3.58	45.19	6.14	19.91	33.00	13.09	H	
		2527.6	2544.7	-26.23	3.63	44.86	6.16	21.16	33.00	11.84	H	

		2545.1	2562.2	-27.46	3.63	45.82	6.19	20.92	33.00	12.08	V	
	20+20	2510	2529.8	-28.07	3.61	45.14	6.14	19.60	33.00	13.40	H	
		2525.1	2544.9	-26.43	3.63	44.82	6.16	20.92	33.00	12.08	H	
		2540.2	2560	-27.17	3.62	45.52	6.19	20.92	33.00	12.08	V	
64QAM	10+20	2505.5	2519.9	-30.34	3.58	45.32	6.13	17.53	33.00	15.47	H	
		2525.6	2540	-28.78	3.63	44.85	6.15	18.59	33.00	14.41	H	
		2545.6	2560	-29.79	3.63	45.68	6.19	18.45	33.00	14.55	V	
		20+10	2510	2524.4	-30.26	3.58	45.22	6.14	17.52	33.00	15.48	H
			2530.1	2544.5	-29.05	3.63	44.99	6.16	18.47	33.00	14.53	H
			2550.1	2564.5	-28.71	3.63	44.65	6.19	18.50	33.00	14.50	V
		15+10	2507.5	2519.5	-30.44	3.58	45.32	6.13	17.43	33.00	15.57	H
			2530.1	2542.1	-28.67	3.63	44.86	6.16	18.72	33.00	14.28	H
			2552.7	2564.7	-28.83	3.63	44.90	6.19	18.63	33.00	14.37	V
		15+15	2507.5	2522.5	-30.93	3.58	45.30	6.13	16.92	33.00	16.08	H
			2527.5	2542.5	-28.39	3.63	44.82	6.16	18.96	33.00	14.04	H
			2547.5	2562.5	-29.66	3.63	45.75	6.19	18.65	33.00	14.35	V
		15+20	2507.8	2524.9	-30.34	3.58	45.24	6.13	17.45	33.00	15.55	H
			2525.3	2542.4	-28.82	3.63	44.83	6.15	18.53	33.00	14.47	H
			2542.9	2560	-29.49	3.63	45.58	6.19	18.65	33.00	14.35	V
		20+15	2510	2527.1	-30.58	3.58	45.19	6.14	17.17	33.00	15.83	H
			2527.6	2544.7	-28.65	3.63	44.86	6.16	18.74	33.00	14.26	H
			2545.1	2562.2	-29.69	3.63	45.82	6.19	18.69	33.00	14.31	V
		20+20	2510	2529.8	-30.54	3.61	45.14	6.14	17.13	33.00	15.87	H
			2525.1	2544.9	-28.92	3.63	44.82	6.16	18.43	33.00	14.57	H
			2540.2	2560	-29.43	3.62	45.52	6.19	18.66	33.00	14.34	V
256QAM	10+20	2525.6	2540	-29.44	3.63	44.85	6.15	17.93	33.00	15.07	H	
	20+10	2550.1	2564.5	-29.28	3.63	44.65	6.19	17.93	33.00	15.07	V	
	15+10	2530.1	2542.1	-29.33	3.63	44.86	6.16	18.06	33.00	14.94	H	
	15+15	2527.5	2542.5	-29.33	3.63	44.82	6.16	18.02	33.00	14.98	H	
	15+20	2525.3	2542.4	-29.62	3.63	44.83	6.15	17.73	33.00	15.27	H	
	20+15	2527.6	2544.7	-29.46	3.63	44.86	6.16	17.93	33.00	15.07	H	
	20+20	2525.1	2544.9	-29.67	3.63	44.82	6.16	17.68	33.00	15.32	H	

**LTE Band 12 - ERP**
**Limits:  $\leq 34.77$ dBm (3W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Correction (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	1.4	699.70	-21.74	1.90	44.66	0.77	2.15	19.64	34.77	15.13	H
		707.50	-21.02	1.91	44.94	0.62	2.15	20.48	34.77	14.29	H
		715.30	-20.61	1.92	45.26	0.50	2.15	21.08	34.77	13.69	H
	3	700.50	-21.56	1.90	44.68	0.76	2.15	19.83	34.77	14.94	H
		707.50	-21.01	1.91	44.94	0.62	2.15	20.49	34.77	14.28	H
		714.50	-20.47	1.92	45.26	0.50	2.15	21.22	34.77	13.55	H
	5	701.50	-21.64	1.90	44.81	0.74	2.15	19.86	34.77	14.91	H
		707.50	-21.05	1.91	44.94	0.62	2.15	20.45	34.77	14.32	H
		713.50	-20.68	1.92	45.22	0.50	2.15	20.97	34.77	13.80	H
	10	704.00	-21.59	1.91	44.93	0.70	2.15	19.98	34.77	14.79	H
		707.50	-21.11	1.91	44.94	0.62	2.15	20.39	34.77	14.38	H
		711.00	-20.51	1.92	45.19	0.53	2.15	21.14	34.77	13.63	H
16QAM	1.4	699.70	-22.26	1.90	44.66	0.77	2.15	19.12	34.77	15.65	H
		707.50	-21.88	1.91	44.94	0.62	2.15	19.62	34.77	15.15	H
		715.30	-21.43	1.92	45.26	0.50	2.15	20.26	34.77	14.51	H
	3	700.50	-22.44	1.90	44.68	0.76	2.15	18.95	34.77	15.82	H
		707.50	-21.88	1.91	44.94	0.62	2.15	19.62	34.77	15.15	H
		714.50	-21.01	1.92	45.26	0.50	2.15	20.68	34.77	14.09	H
	5	701.50	-22.45	1.90	44.81	0.74	2.15	19.05	34.77	15.72	H
		707.50	-21.56	1.91	44.94	0.62	2.15	19.94	34.77	14.83	H
		713.50	-21.30	1.92	45.22	0.50	2.15	20.35	34.77	14.42	H
	10	704.00	-22.40	1.91	44.93	0.70	2.15	19.17	34.77	15.60	H
		707.50	-21.95	1.91	44.94	0.62	2.15	19.55	34.77	15.22	H
		711.00	-21.06	1.92	45.19	0.53	2.15	20.59	34.77	14.18	H
16QAM	1.4	699.70	-23.38	1.90	44.66	0.77	2.15	18.00	34.77	16.77	H
		707.50	-22.66	1.91	44.94	0.62	2.15	18.84	34.77	15.93	H
		715.30	-22.31	1.92	45.26	0.50	2.15	19.38	34.77	15.39	H
	3	700.50	-23.20	1.90	44.68	0.76	2.15	18.19	34.77	16.58	H
		707.50	-22.78	1.91	44.94	0.62	2.15	18.72	34.77	16.05	H
		714.50	-22.37	1.92	45.26	0.50	2.15	19.32	34.77	15.45	H
	5	701.50	-23.35	1.90	44.81	0.74	2.15	18.15	34.77	16.62	H
		707.50	-22.87	1.91	44.94	0.62	2.15	18.63	34.77	16.14	H
		713.50	-22.41	1.92	45.22	0.50	2.15	19.24	34.77	15.53	H
	10	704.00	-23.24	1.91	44.93	0.70	2.15	18.33	34.77	16.44	H
		707.50	-22.87	1.91	44.94	0.62	2.15	18.63	34.77	16.14	H
		711.00	-22.28	1.92	45.19	0.53	2.15	19.37	34.77	15.40	H
256QAM	1.4	715.30	-24.47	1.92	45.26	0.50	2.15	17.22	34.77	17.55	H
	3	714.50	-24.35	1.92	45.26	0.50	2.15	17.34	34.77	17.43	H
	5	713.50	-24.67	1.92	45.22	0.50	2.15	16.98	34.77	17.79	H
	10	711.00	-24.50	1.92	45.19	0.53	2.15	17.15	34.77	17.62	H

**LTE Band 13 - ERP**
**Limits:  $\leq 34.77$ dBm (3W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Correctio n (dB)	EIRP (dBm)	Limit (dBm)	Margi n (dB)	Ant.Pol
QPSK	5	779.50	-23.33	2.01	45.64	0.04	2.15	18.19	34.77	16.58	H
		782.00	-23.35	2.01	45.65	0.09	2.15	18.23	34.77	16.54	H
		784.50	-23.39	2.01	45.67	0.16	2.15	18.28	34.77	16.49	H
	10	782.00	-23.43	2.01	45.65	0.09	2.15	18.15	34.77	16.62	H
16QAM	5	779.50	-23.98	2.01	45.64	0.04	2.15	17.54	34.77	17.23	H
		782.00	-23.96	2.01	45.65	0.09	2.15	17.62	34.77	17.15	H
		784.50	-24.01	2.01	45.67	0.16	2.15	17.66	34.77	17.11	H
	10	782.00	-23.98	2.01	45.65	0.09	2.15	17.60	34.77	17.17	H
16QAM	5	779.50	-25.08	2.01	45.64	0.04	2.15	16.44	34.77	18.33	H
		782.00	-25.08	2.01	45.65	0.09	2.15	16.50	34.77	18.27	H
		784.50	-25.18	2.01	45.67	0.16	2.15	16.49	34.77	18.28	H
	10	782.00	-25.18	2.01	45.65	0.09	2.15	16.40	34.77	18.37	H
256QAM	5	782.00	-28.24	2.01	45.65	0.09	2.15	13.34	34.77	21.43	H
	10	782.00	-28.46	2.01	45.65	0.09	2.15	13.12	34.77	21.65	H

**LTE Band 26(814MHz~824MHz)- ERP**
**Limits: ≤50dBm (100W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Correctio n (dB)	EIRP (dBm)	Limit (dBm)	Margi n (dB)	Ant.Pol
QPSK	1.4	814.70	-24.00	2.13	45.86	0.89	2.15	18.47	50.00	31.53	V
		819.00	-23.51	2.19	45.84	1.05	2.15	19.04	50.00	30.96	V
		823.30	-22.03	2.24	45.79	0.55	2.15	19.92	50.00	30.08	H
	3	815.50	-24.30	2.14	45.87	0.93	2.15	18.21	50.00	31.79	V
		819.00	-23.75	2.19	45.84	1.05	2.15	18.80	50.00	31.20	V
		822.50	-22.33	2.23	45.81	0.33	2.15	19.43	50.00	30.57	V
	5	816.50	-24.21	2.16	45.88	0.98	2.15	18.34	50.00	31.66	V
		819.00	-23.73	2.19	45.84	1.05	2.15	18.82	50.00	31.18	V
		821.50	-23.10	2.22	45.82	0.71	2.15	19.06	50.00	30.94	V
	10	819.00	-23.91	2.19	45.84	1.05	2.15	18.64	50.00	31.36	V
16QAM	1.4	814.70	-24.65	2.13	45.86	0.89	2.15	17.82	50.00	32.18	V
		819.00	-24.00	2.19	45.84	1.05	2.15	18.55	50.00	31.45	V
		823.30	-22.57	2.24	45.79	0.55	2.15	19.38	50.00	30.62	V
	3	815.50	-25.00	2.14	45.87	0.93	2.15	17.51	50.00	32.49	V
		819.00	-23.76	2.19	45.84	1.05	2.15	18.79	50.00	31.21	V
		822.50	-22.93	2.23	45.81	0.33	2.15	18.83	50.00	31.17	V
	5	816.50	-24.71	2.16	45.88	0.98	2.15	17.84	50.00	32.16	V
		819.00	-24.43	2.19	45.84	1.05	2.15	18.12	50.00	31.88	V
		821.50	-23.67	2.22	45.82	0.71	2.15	18.49	50.00	31.51	V
	10	819.00	-24.44	2.19	45.84	1.05	2.15	18.11	50.00	31.89	V
16QAM	1.4	814.70	-25.73	2.13	45.86	0.89	2.15	16.74	50.00	33.26	V
		819.00	-24.88	2.19	45.84	1.05	2.15	17.67	50.00	32.33	V
		823.30	-23.75	2.24	45.79	0.55	2.15	18.20	50.00	31.80	H
	3	815.50	-25.99	2.14	45.87	0.93	2.15	16.52	50.00	33.48	H
		819.00	-25.54	2.19	45.84	1.05	2.15	17.01	50.00	32.99	V
		822.50	-24.08	2.23	45.81	0.33	2.15	17.68	50.00	32.32	H
	5	816.50	-25.89	2.16	45.88	0.98	2.15	16.66	50.00	33.34	H
		819.00	-25.53	2.19	45.84	1.05	2.15	17.02	50.00	32.98	H
		821.50	-24.87	2.22	45.82	0.71	2.15	17.29	50.00	32.71	H
	10	819.00	-25.60	2.19	45.84	1.05	2.15	16.95	50.00	33.05	H
256QAM	1.4	823.30	-26.70	2.24	45.79	0.55	2.15	15.25	50.00	34.75	H
	3	822.50	-27.21	2.23	45.81	0.33	2.15	14.55	50.00	35.45	H
	5	821.50	-27.95	2.22	45.82	0.71	2.15	14.21	50.00	35.79	H
	10	819.00	-28.75	2.19	45.84	1.05	2.15	13.80	50.00	36.20	H



**LTE Band 26(824MHz~849MHz) - ERP**
**Limits: ≤38.45dBm (7W)**

Mod.	Bandwidth (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Correction (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	1.4	824.70	-22.66	2.26	45.79	0.95	2.15	19.67	38.45	18.78	H
		836.50	-20.32	2.26	45.66	0.82	2.15	21.75	38.45	16.70	H
		848.30	-20.08	2.27	45.55	0.80	2.15	21.85	38.45	16.60	H
	3	825.50	-22.38	2.26	45.79	0.94	2.15	19.94	38.45	18.51	H
		836.50	-20.24	2.26	45.66	0.82	2.15	21.83	38.45	16.62	H
		847.50	-20.26	2.27	45.56	0.81	2.15	21.72	38.45	16.73	H
	5	826.50	-22.21	2.25	45.77	0.93	2.15	20.09	38.45	18.36	H
		836.50	-20.28	2.26	45.66	0.82	2.15	21.79	38.45	16.66	H
		846.50	-20.56	2.26	45.56	0.82	2.15	21.41	38.45	17.04	H
	10	829.00	-21.79	2.25	45.77	0.90	2.15	20.48	38.45	17.97	H
		836.50	-20.32	2.26	45.66	0.82	2.15	21.75	38.45	16.70	H
		844.00	-20.47	2.26	45.59	0.82	2.15	21.53	38.45	16.92	H
	15	831.50	-21.44	2.12	45.71	0.87	2.15	20.87	38.45	17.58	H
		836.50	-20.46	2.26	45.66	0.82	2.15	21.61	38.45	16.84	H
		841.50	-20.49	2.26	45.61	0.82	2.15	21.53	38.45	16.92	H
16QAM	1.4	824.70	-23.25	2.26	45.79	0.95	2.15	19.08	38.45	19.37	H
		836.50	-20.92	2.26	45.66	0.82	2.15	21.15	38.45	17.30	H
		848.30	-20.59	2.27	45.55	0.80	2.15	21.34	38.45	17.11	H
	3	825.50	-22.93	2.26	45.79	0.94	2.15	19.39	38.45	19.06	H
		836.50	-20.85	2.26	45.66	0.82	2.15	21.22	38.45	17.23	H
		847.50	-20.63	2.27	45.56	0.81	2.15	21.32	38.45	17.13	H
	5	826.50	-22.81	2.25	45.77	0.93	2.15	19.49	38.45	18.96	H
		836.50	-20.82	2.26	45.66	0.82	2.15	21.25	38.45	17.20	H
		846.50	-20.99	2.26	45.56	0.82	2.15	20.98	38.45	17.47	H
	10	829.00	-22.49	2.25	45.77	0.90	2.15	19.78	38.45	18.67	H
		836.50	-20.96	2.26	45.66	0.82	2.15	21.11	38.45	17.34	H
		844.00	-20.98	2.26	45.59	0.82	2.15	21.02	38.45	17.43	H
	15	831.50	-22.13	2.12	45.71	0.87	2.15	20.18	38.45	18.27	H
		836.50	-21.10	2.26	45.66	0.82	2.15	20.97	38.45	17.48	H
		841.50	-21.62	2.26	45.61	0.82	2.15	20.40	38.45	18.05	H
16QAM	1.4	824.70	-24.33	2.26	45.79	0.95	2.15	18.00	38.45	20.45	H
		836.50	-22.15	2.26	45.66	0.82	2.15	19.92	38.45	18.53	H
		848.30	-22.26	2.27	45.55	0.80	2.15	19.67	38.45	18.78	H
	3	825.50	-24.14	2.26	45.79	0.94	2.15	18.18	38.45	20.27	H
		836.50	-22.02	2.26	45.66	0.82	2.15	20.05	38.45	18.40	H
		847.50	-21.32	2.27	45.56	0.81	2.15	20.63	38.45	17.82	H
5	826.50	-23.99	2.25	45.77	0.93	2.15	18.31	38.45	20.14	H	
	836.50	-22.02	2.26	45.66	0.82	2.15	20.05	38.45	18.40	H	

		846.50	-21.41	2.26	45.56	0.82	2.15	20.56	38.45	17.89	H
	10	829.00	-23.49	2.25	45.77	0.90	2.15	18.78	38.45	19.67	H
		836.50	-22.11	2.26	45.66	0.82	2.15	19.96	38.45	18.49	H
		844.00	-21.91	2.26	45.59	0.82	2.15	20.09	38.45	18.36	H
	15	831.50	-23.22	2.12	45.71	0.87	2.15	19.09	38.45	19.36	H
		836.50	-22.28	2.26	45.66	0.82	2.15	19.79	38.45	18.66	H
		841.50	-22.53	2.26	45.61	0.82	2.15	19.49	38.45	18.96	H
256QAM	1.4	848.30	-24.04	2.27	45.55	0.80	2.15	17.89	38.45	20.60	H
	3	847.50	-24.18	2.27	45.56	0.81	2.15	17.77	38.45	20.70	H
	5	846.50	-24.55	2.26	45.56	0.82	2.15	17.42	38.45	21.00	H
	10	844.00	-24.98	2.26	45.59	0.82	2.15	17.02	38.45	21.40	H
	15	841.50	-25.56	2.26	45.61	0.82	2.15	16.46	38.45	22.00	H

**LTE band38- EIRP**
**Limits: ≤33dBm (2W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	5	2572.50	-24.90	3.66	44.92	6.23	22.59	33.00	10.41	H
		2595.00	-23.86	3.69	44.91	6.27	23.63	33.00	9.37	H
		2617.50	-23.92	3.68	44.94	6.31	23.65	33.00	9.35	H
	10	2575.00	-24.93	3.66	44.92	6.23	22.56	33.00	10.44	H
		2595.00	-23.96	3.69	44.91	6.27	23.53	33.00	9.47	H
		2615.00	-24.09	3.68	44.94	6.31	23.48	33.00	9.52	H
	15	2577.50	-25.06	3.66	44.92	6.23	22.43	33.00	10.57	H
		2595.00	-24.38	3.69	44.91	6.27	23.11	33.00	9.89	H
		2612.50	-24.37	3.68	44.94	6.30	23.19	33.00	9.81	H
	20	2580.00	-24.96	3.67	44.92	6.24	22.53	33.00	10.47	H
		2595.00	-24.34	3.69	44.91	6.27	23.15	33.00	9.85	H
		2610.00	-24.46	3.68	44.94	6.30	23.10	33.00	9.90	H
16QAM	5	2572.50	-25.42	3.66	44.92	6.23	22.07	33.00	10.63	H
		2595.00	-24.59	3.69	44.91	6.27	22.90	33.00	9.88	H
		2617.50	-24.35	3.68	44.94	6.31	23.22	33.00	9.58	H
	10	2575.00	-25.39	3.66	44.92	6.23	22.10	33.00	10.76	H
		2595.00	-24.56	3.69	44.91	6.27	22.93	33.00	9.67	H
		2615.00	-24.74	3.68	44.94	6.31	22.83	33.00	10.00	H
	15	2577.50	-25.65	3.66	44.92	6.23	21.84	33.00	10.86	H
		2595.00	-24.82	3.69	44.91	6.27	22.67	33.00	9.93	H
		2612.50	-24.99	3.68	44.94	6.30	22.57	33.00	10.15	H
	20	2580.00	-25.61	3.67	44.92	6.24	21.88	33.00	10.82	H
		2595.00	-24.69	3.69	44.91	6.27	22.80	33.00	9.98	H
		2610.00	-24.93	3.68	44.94	6.30	22.63	33.00	10.15	H
64QAM	5	2572.50	-27.15	3.66	44.92	6.23	20.34	33.00	12.66	H
		2595.00	-26.27	3.69	44.91	6.27	21.22	33.00	11.78	H
		2617.50	-26.11	3.68	44.94	6.31	21.46	33.00	11.54	H
	10	2575.00	-27.06	3.66	44.92	6.23	20.43	33.00	12.57	H
		2595.00	-26.34	3.69	44.91	6.27	21.15	33.00	11.85	H
		2615.00	-26.55	3.68	44.94	6.31	21.02	33.00	11.98	H
	15	2577.50	-27.19	3.66	44.92	6.23	20.30	33.00	12.70	H
		2595.00	-26.44	3.69	44.91	6.27	21.05	33.00	11.95	H
		2612.50	-26.44	3.68	44.94	6.30	21.12	33.00	11.88	H
	20	2580.00	-27.45	3.67	44.92	6.24	20.04	33.00	12.96	H
		2595.00	-26.47	3.69	44.91	6.27	21.02	33.00	11.98	H
		2610.00	-26.41	3.68	44.94	6.30	21.15	33.00	11.85	H
256QAM	5	2617.50	-26.95	3.68	44.94	6.31	20.62	33.00	12.38	H
	10	2595.00	-27.08	3.69	44.91	6.27	20.41	33.00	12.59	H
	15	2612.50	-27.34	3.68	44.94	6.30	20.22	33.00	12.78	H
	20	2595.00	-27.33	3.69	44.91	6.27	20.16	33.00	12.84	H

**LTE band38C- EIRP**
**Limits: ≤33dBm (2W)**

Mod.	Bandwidth (MHz)	Frequency (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	15+15	2577.5	2592.5	-26.03	3.67	44.92	6.25	21.47	33.00	11.53	H
		2587.5	2602.5	-26.19	3.69	44.91	6.27	21.30	33.00	11.70	V
		2597.5	2612.5	-25.86	3.68	44.94	6.29	21.69	33.00	11.31	V
	20+20	2580	2599.8	-25.62	3.69	44.93	6.26	21.88	33.00	11.12	H
		2585.1	2604.9	-25.72	3.69	44.91	6.27	21.77	33.00	11.23	H
		2590.2	2610	-25.83	3.68	44.94	6.29	21.72	33.00	11.28	V
16QAM	15+15	2577.5	2592.5	-27.75	3.67	44.92	6.25	19.75	33.00	13.25	H
		2587.5	2602.5	-27.83	3.69	44.91	6.27	19.66	33.00	13.34	V
		2597.5	2612.5	-27.52	3.68	44.94	6.29	20.03	33.00	12.97	V
	20+20	2580	2599.8	-27.40	3.69	44.93	6.26	20.10	33.00	12.90	H
		2585.1	2604.9	-27.46	3.69	44.91	6.27	20.03	33.00	12.97	H
		2590.2	2610	-27.62	3.68	44.94	6.29	19.93	33.00	13.07	V
64QAM	15+15	2577.5	2592.5	-30.15	3.67	44.92	6.25	17.35	33.00	15.65	H
		2587.5	2602.5	-30.41	3.69	44.91	6.27	17.08	33.00	15.92	V
		2597.5	2612.5	-29.99	3.68	44.94	6.29	17.56	33.00	15.44	V
	20+20	2580	2599.8	-29.73	3.69	44.93	6.26	17.77	33.00	15.23	H
		2585.1	2604.9	-29.88	3.69	44.91	6.27	17.61	33.00	15.39	H
		2590.2	2610	-30.08	3.68	44.94	6.29	17.47	33.00	15.53	V
256QAM	15+15	2597.5	2612.5	-30.57	3.68	44.94	6.29	16.98	33.00	16.02	V
	20+20	2580	2599.8	-30.31	3.69	44.93	6.26	17.19	33.00	15.81	H

**LTE band 41- EIRP**
**Limits: ≤33dBm (2W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol
QPSK	5	2498.50	-23.29	3.58	45.59	6.10	24.82	33.00	8.18	H
		2593.00	-24.84	3.69	44.93	6.27	22.67	33.00	10.33	H
		2687.50	-22.76	3.73	44.98	6.44	24.93	33.00	8.07	H
	10	2501.00	-24.02	3.58	45.65	6.10	24.15	33.00	8.85	H
		2593.00	-24.60	3.69	44.93	6.27	22.91	33.00	10.09	H
		2685.00	-22.71	3.73	44.98	6.43	24.97	33.00	8.03	H
	15	2503.50	-24.32	3.58	45.65	6.11	23.86	33.00	9.14	H
		2593.00	-24.99	3.69	44.93	6.27	22.52	33.00	10.48	H
		2682.50	-23.07	3.73	44.98	6.43	24.61	33.00	8.39	H
	20	2506.00	-23.46	3.59	45.15	6.11	24.21	33.00	8.79	H
		2593.00	-24.75	3.69	44.93	6.27	22.76	33.00	10.24	H
		2680.00	-22.79	3.73	44.97	6.42	24.87	33.00	8.13	H
16QAM	5	2498.50	-25.25	3.58	45.59	6.10	22.86	33.00	10.14	H
		2593.00	-26.48	3.69	44.93	6.27	21.03	33.00	11.97	H
		2687.50	-24.47	3.73	44.98	6.44	23.22	33.00	9.78	H
	10	2501.00	-26.01	3.58	45.65	6.10	22.16	33.00	10.84	H
		2593.00	-26.57	3.69	44.93	6.27	20.94	33.00	12.06	H
		2685.00	-24.43	3.73	44.98	6.43	23.25	33.00	9.75	H
	15	2503.50	-26.22	3.58	45.65	6.11	21.96	33.00	11.04	H
		2593.00	-26.72	3.69	44.93	6.27	20.79	33.00	12.21	H
		2682.50	-24.71	3.73	44.98	6.43	22.97	33.00	10.03	H
	20	2506.00	-25.30	3.59	45.15	6.11	22.37	33.00	10.63	H
		2593.00	-26.41	3.69	44.93	6.27	21.10	33.00	11.90	H
		2680.00	-24.39	3.73	44.97	6.42	23.27	33.00	9.73	H
64QAM	5	2498.50	-26.09	3.58	45.59	6.10	22.02	33.00	10.98	H
		2593.00	-27.78	3.69	44.93	6.27	19.73	33.00	13.27	H
		2687.50	-25.73	3.73	44.98	6.44	21.96	33.00	11.04	H
	10	2501.00	-26.82	3.58	45.65	6.10	21.35	33.00	11.65	H
		2593.00	-27.47	3.69	44.93	6.27	20.04	33.00	12.96	H
		2685.00	-25.68	3.73	44.98	6.43	22.00	33.00	11.00	H
	15	2503.50	-27.22	3.58	45.65	6.11	20.96	33.00	12.04	H
		2593.00	-27.82	3.69	44.93	6.27	19.69	33.00	13.31	H
		2682.50	-25.87	3.73	44.98	6.43	21.81	33.00	11.19	H
	20	2506.00	-26.35	3.59	45.15	6.11	21.32	33.00	11.68	H
		2593.00	-27.55	3.69	44.93	6.27	19.96	33.00	13.04	H
		2680.00	-25.66	3.73	44.97	6.42	22.00	33.00	11.00	H
256QAM	5	2687.50	-26.43	3.73	44.98	6.44	21.26	33.00	11.74	H
	10	2685.00	-26.71	3.73	44.98	6.43	20.97	33.00	12.03	H
	15	2682.50	-26.96	3.73	44.98	6.43	20.72	33.00	12.28	H
	20	2680.00	-26.76	3.73	44.97	6.42	20.90	33.00	12.10	H

**LTE Band 66- EIRP**
**Limits: ≤30dBm (1W)**

Mod.	Bandwidth h (MHz)	Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Ant.Pol	
QPSK	1.4	1710.70	-23.65	3.17	44.10	5.12	22.40	30.00	7.60	V	
		1745.00	-23.71	3.68	44.16	5.06	21.83	30.00	8.17	V	
		1779.30	-23.59	3.04	44.03	5.01	22.42	30.00	7.58	V	
	3	1711.50	-23.53	3.40	44.10	5.12	22.29	30.00	7.71	V	
		1745.00	-23.48	3.68	44.16	5.06	22.06	30.00	7.94	V	
		1778.50	-23.67	3.04	44.03	5.01	22.34	30.00	7.66	V	
	5	1712.50	-23.26	3.66	44.10	5.12	22.30	30.00	7.70	V	
		1745.00	-23.62	3.68	44.16	5.06	21.92	30.00	8.08	V	
		1777.50	-23.61	3.04	44.04	5.01	22.40	30.00	7.60	V	
	10	1715.00	-23.24	3.56	44.10	5.11	22.41	30.00	7.59	V	
		1745.00	-23.58	3.68	44.16	5.06	21.96	30.00	8.04	V	
		1775.00	-23.84	3.05	44.05	5.01	22.17	30.00	7.83	V	
	15	1717.50	-23.35	3.47	44.11	5.11	22.40	30.00	7.60	V	
		1745.00	-23.52	3.68	44.16	5.06	22.02	30.00	7.98	V	
		1772.50	-23.93	3.05	44.06	5.01	22.09	30.00	7.91	V	
	20	1720.00	-23.57	3.37	44.11	5.10	22.27	30.00	7.73	V	
		1745.00	-23.69	3.68	44.16	5.06	21.85	30.00	8.15	V	
		1770.00	-24.01	3.05	44.07	5.01	22.03	30.00	7.97	V	
	16QAM	1.4	1710.70	-25.48	3.17	44.10	5.12	20.57	30.00	9.43	V
			1745.00	-25.50	3.68	44.16	5.06	20.04	30.00	9.96	V
			1779.30	-25.26	3.04	44.03	5.01	20.75	30.00	9.25	V
3		1711.50	-25.10	3.40	44.10	5.12	20.72	30.00	9.28	V	
		1745.00	-24.98	3.68	44.16	5.06	20.56	30.00	9.44	V	
		1778.50	-25.31	3.04	44.03	5.01	20.70	30.00	9.30	V	
5		1712.50	-24.81	3.66	44.10	5.12	20.75	30.00	9.25	V	
		1745.00	-25.13	3.68	44.16	5.06	20.41	30.00	9.59	V	
		1777.50	-25.43	3.04	44.04	5.01	20.58	30.00	9.42	V	
10		1715.00	-24.88	3.56	44.10	5.11	20.77	30.00	9.23	V	
		1745.00	-25.18	3.68	44.16	5.06	20.36	30.00	9.64	V	
		1775.00	-25.36	3.05	44.05	5.01	20.65	30.00	9.35	V	
15		1717.50	-25.08	3.47	44.11	5.11	20.67	30.00	9.33	V	
		1745.00	-25.07	3.68	44.16	5.06	20.47	30.00	9.53	V	
		1772.50	-25.59	3.05	44.06	5.01	20.43	30.00	9.57	V	
20		1720.00	-25.28	3.37	44.11	5.10	20.56	30.00	9.44	V	
		1745.00	-25.25	3.68	44.16	5.06	20.29	30.00	9.71	V	
		1770.00	-25.76	3.05	44.07	5.01	20.28	30.00	9.72	V	
64QAM		1.4	1710.70	-26.44	3.17	44.10	5.12	19.61	30.00	10.39	V
			1745.00	-26.25	3.68	44.16	5.06	19.29	30.00	10.71	V

		1779.30	-26.07	3.04	44.03	5.01	19.94	30.00	10.06	V
	3	1711.50	-26.29	3.40	44.10	5.12	19.53	30.00	10.47	V
		1745.00	-25.98	3.68	44.16	5.06	19.56	30.00	10.44	V
		1778.50	-26.16	3.04	44.03	5.01	19.85	30.00	10.15	V
	5	1712.50	-25.96	3.66	44.10	5.12	19.60	30.00	10.40	V
		1745.00	-26.37	3.68	44.16	5.06	19.17	30.00	10.83	V
		1777.50	-26.33	3.04	44.04	5.01	19.68	30.00	10.32	V
	10	1715.00	-25.71	3.56	44.10	5.11	19.94	30.00	10.06	V
		1745.00	-26.37	3.68	44.16	5.06	19.17	30.00	10.83	V
		1775.00	-26.55	3.05	44.05	5.01	19.46	30.00	10.54	V
	15	1717.50	-26.01	3.47	44.11	5.11	19.74	30.00	10.26	V
		1745.00	-26.04	3.68	44.16	5.06	19.50	30.00	10.50	V
		1772.50	-26.71	3.05	44.06	5.01	19.31	30.00	10.69	V
	20	1720.00	-26.28	3.37	44.11	5.10	19.56	30.00	10.44	V
		1745.00	-26.34	3.68	44.16	5.06	19.20	30.00	10.80	V
1770.00		-26.80	3.05	44.07	5.01	19.24	30.00	10.76	V	
256QAM	1.4	1779.30	-28.25	3.04	44.03	5.01	17.76	30.00	12.24	V
	3	1778.50	-28.53	3.04	44.03	5.01	17.48	30.00	12.52	V
	5	1777.50	-28.41	3.04	44.04	5.01	17.60	30.00	12.40	V
	10	1715.00	-27.91	3.56	44.10	5.11	17.74	30.00	12.26	V
	15	1717.50	-28.01	3.47	44.11	5.11	17.74	30.00	12.26	V
	20	1720.00	-28.28	3.37	44.11	5.10	17.56	30.00	12.44	V

Frequency: 1770.00MHz

Peak EIRP (dBm) = P<sub>Mea</sub> (-26.80dBm) + G<sub>a</sub> (5.01dBi) + P<sub>Ag</sub> (44.07dB) - P<sub>cl</sub> (3.05dB) = 19.24dBm

Note: Expanded measurement uncertainty is U = 0.578 dB, k = 2.

## **A.2 Emission Limit**

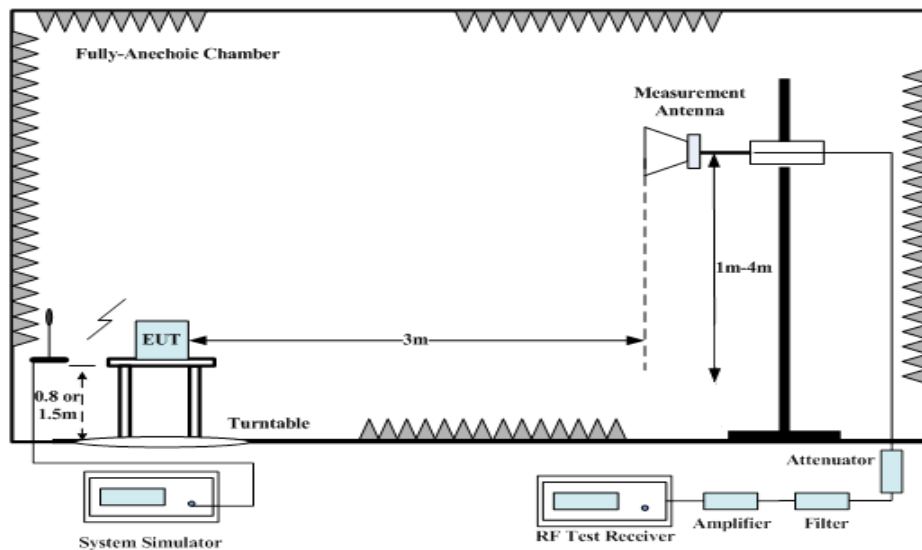
### **A.2.1 Measurement Method**

The measurement procedures in ANSI C63.26 are used.

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. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of each LTE Band.

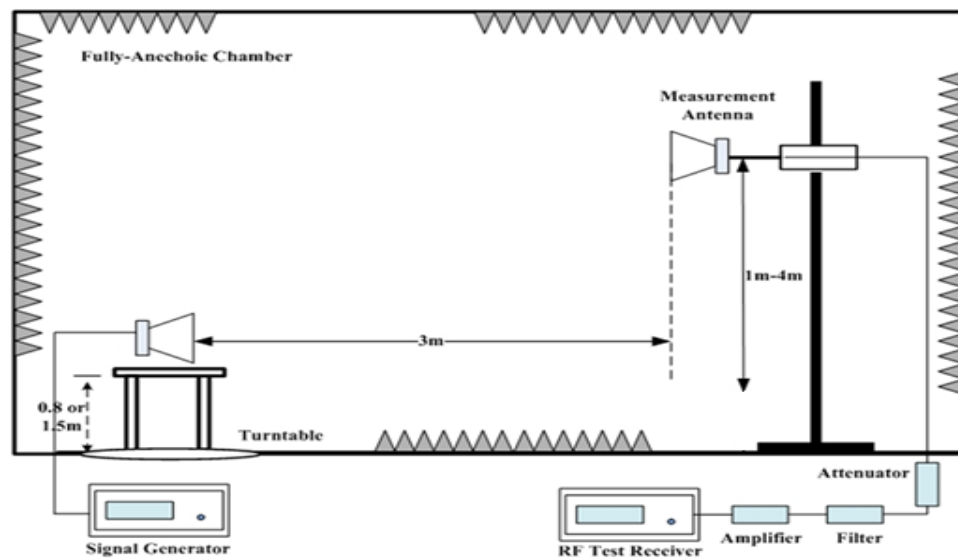
#### **The procedure of radiated spurious emissions is as follows:**

For measurements performed at frequencies less than or equal to 1 GHz, the EUT was placed on a 80cm-high non-conductive support; For measurements performed at frequencies above 1GHz,EUT was placed on a 1.5-meter-high non-conductive support. A measurement antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. In the initial test, the height of the measurement antenna was varied from 1 m to 4 m for the relative positioning that produces the maximum radiated signal level. 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.



1. 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).
2. 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. The height of measurement antenna varied between 1 m to 4 m to maximize the received signal amplitude for each emission that was detected and measured in the initial test. A power ( $P_{Mea}$ ) is applied to the input of the substitution antenna and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded ( $P_r$ ). The power of signal source ( $P_{Mea}$ ) is recorded. The test was performed with the measurement antenna in both vertical and horizontal polarization.

3. The Path loss ( $P_{pl}$ ) between the Signal Source and the Substitution Antenna and the Substitution Antenna Gain ( $G_a$ ) were recorded after test. A amplifier was connected in for the test. The Path loss ( $P_{pl}$ ) is the summation of the cable loss and the gain of the amplifier.
4. The measurement results are obtained as described below:

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

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

### A.2.2 Measurement Limit

**FDD Band 2:** Part 24.238 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power ( $P$ ) by a factor of at least  $43 + 10 \log(P)$  dB.

**FDD Band 4/ 66:** Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power ( $P$ ) by a factor of at least  $43 + 10 \log(P)$  dB.

**FDD Band 5/26(824MHz~849MHz):** Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power ( $P$ ) by a factor of at least  $43 + 10 \log(P)$  dB.

**FDD Band 7/TDD Band 38/41:** Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log(P)$  dB on all frequencies between the channel edge and 5

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

**FDD Band 12/13:** Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

**FDD Band 26(814MHz~824MHz):** Part 90.691 states that out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows: For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

### **A.2.3 Measurement Results**

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of each LTE Band. 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 each LTE Band 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 range of evaluated frequency is from 9 kHz to 26GHz.

Note 1: Both of Vertical and Horizontal polarizations are evaluated, but only the worst case is recorded in this report.

**A.2.4 Measurement Results Table**

Frequency	Channel	Frequency Range	Result
LTE Bands	Low	9kHz-26GHz	Pass
	Middle	9kHz-26GHz	Pass
	High	9kHz-26GHz	Pass

**A.2.5 Sweep Table**

Subrange	RBW	VBW
9~150 kHz	0.2kHz	0.6kHz
150kHz~30MHz	9kHz	27kHz
30MHz~1 GHz	100KHz	300KHz
1~26 GHz	1 MHz	3 MHz

### A.2.6 Measurement Result

#### LTE Band 2, 1.4MHz, QPSK, Channel 18607

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3702.02	-52.56	6.42	10.49	-48.49	-13.00	35.49	H
5554.02	-49.80	7.19	11.20	-45.79	-13.00	32.79	H
7405.01	-54.26	8.13	10.11	-52.28	-13.00	39.28	H
9214.01	-54.60	8.96	11.70	-51.86	-13.00	38.86	V
11132.01	-52.56	9.70	12.73	-49.53	-13.00	36.53	H
12997.01	-51.67	10.47	12.70	-49.44	-13.00	36.44	V

#### LTE Band 2, 1.4MHz, QPSK, Channel 18900

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3760.02	-47.59	6.26	10.30	-43.55	-13.00	30.55	H
5644.02	-48.96	7.27	11.20	-45.03	-13.00	32.03	H
7536.01	-54.60	8.24	10.30	-52.54	-13.00	39.54	H
9408.01	-53.27	9.08	11.62	-50.73	-13.00	37.73	V
11271.01	-51.39	9.82	12.80	-48.41	-13.00	35.41	H
13144.01	-51.26	10.74	12.66	-49.34	-13.00	36.34	H

#### LTE Band 2, 1.4MHz, QPSK, Channel 19193

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3819.02	-49.44	6.08	10.34	-45.18	-13.00	32.18	H
5729.02	-50.44	7.29	11.14	-46.59	-13.00	33.59	H
7650.01	-53.59	8.20	10.50	-51.29	-13.00	38.29	V
9559.01	-53.68	9.33	11.90	-51.11	-13.00	38.11	V
11425.01	-51.37	10.00	12.70	-48.67	-13.00	35.67	H
13326.01	-50.88	10.58	12.55	-48.91	-13.00	35.91	V

**LTE Band 4, 1.4MHz QPSK, Channel 19957**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3422.02	-69.66	5.38	10.46	-64.58	-13.00	51.58	H
5138.02	-52.74	6.86	11.58	-48.02	-13.00	35.02	H
6848.01	-67.45	7.83	10.40	-64.88	-13.00	51.88	H
8587.01	-65.35	8.52	11.37	-62.50	-13.00	49.50	V
10226.01	-64.09	9.39	12.00	-61.48	-13.00	48.48	H
11929.01	-63.43	10.38	13.13	-60.68	-13.00	47.68	H

**LTE Band 4, 1.4MHz, QPSK, Channel 20175**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3465.02	-73.34	5.46	10.46	-68.34	-13.00	55.34	H
5203.02	-53.04	6.96	11.70	-48.30	-13.00	35.30	H
6881.01	-67.82	7.78	10.34	-65.26	-13.00	52.26	V
8637.01	-65.26	8.44	11.33	-62.37	-13.00	49.37	V
10359.01	-63.68	9.74	12.06	-61.36	-13.00	48.36	V
12153.01	-63.60	10.19	13.26	-60.53	-13.00	47.53	H

**LTE Band 4, 1.4MHz, QPSK, Channel 20393**

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>pl</sub> (dB)	AntennaGain (dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polorization
3509.02	-74.88	5.54	10.60	-69.82	-13.00	56.82	H
5267.02	-59.43	6.99	11.67	-54.75	-13.00	41.75	H
7054.01	-67.64	8.22	10.50	-65.36	-13.00	52.36	H
8807.01	-65.03	8.67	11.31	-62.39	-13.00	49.39	H
10494.01	-63.70	9.66	12.19	-61.17	-13.00	48.17	H
12299.01	-64.33	10.00	13.70	-60.63	-13.00	47.63	V