



# TEST REPORT

## No.23T04Z70506-03

for

**Samsung Electronics Co., Ltd.**

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

**Model Name: SM-X218U**

**FCC ID: ZCASM218U**

with

**Hardware Version: REV1.0**

**Software Version: X218U.001**

**Issued Date: 2023-11-16**

**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>
23T04Z70506-03	Rev.0	1 <sup>st</sup> edition	2023-11-06
23T04Z70506-03	Rev.1	Fixed some typo in A.1.3	2023-11-16

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°C  
Relative Humidity: 20-75%

### 1.4. Project Data

Testing Start Date: 2023-09-22  
Testing End Date: 2023-11-06

### 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**  
**(Approved this test report)**



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Samsung Electronics Co., Ltd.  
Address /Post: 9 Chapin Rd., Building D Pine Brook, NJ 07058  
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### **2.2. Manufacturer Information**

Company Name: Samsung Electronics Co., Ltd.  
Address /Post: Samsung R5, Maetan dong 129, Samsung ro  
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Contact: Sunghoon Cho  
Email: ggobi.cho@samsung.com  
Telephone: +82-10-2722-4159

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

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

Description	Multi-band WCDMA/LTE/5G NR Tablet with Bluetooth, WLAN
Model Name	SM-X218U
FCC ID	ZCASM X218U
Antenna	Embedded
Output power	25.77 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>SN</b>	<b>HW Version</b>	<b>SW Version</b>	<b>Date of receipt</b>
UT27a	2370506UT27a	REV1.0	X218U.001	2023-09-22
UT24a	2370506UT24a	REV1.0	X218U.001	2023-09-24
UT25a	2370506UT25a	REV1.0	X218U.001	2023-09-24
UT43a	2370506UT43a	REV1.0	X218U.001	2023-11-03
UT24a	2370506UT24a	REV1.0	X218U.001	2023-09-24

\*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	2.1051/24.238	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	2.1051/27.53	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 5

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	2.1051/22.917	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 7**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	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**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	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	2.1051/27.53	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 14**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	90.542	P
2	Emission Limit	2.1051/90.543	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	2.1049	P
6	Band Edge Compliance	90.543	P
7	Conducted Spurious Emission	90.543	P

**LTE Band 25**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	24.232	P
2	Emission Limit	2.1051/24.238	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 26(814MHz~824MHz)**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	90.635	P
2	Emission Limit	2.1051/90.691	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)**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	2.1051/22.917	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 30**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	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	2.1051/27.53	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	2.1051/27.53	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 71**

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	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 41 is tested by power class 2.

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	FSV30	101525	R&S	2024-02-11	1 year
EMI Antenna	VULB9163	9163-235	Schwarzbeck	2024-06-10	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	1 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	24.17	23.38	22.37	19.37
		1880.0	23.94	23.26	22.20	18.64
		1850.7	23.91	23.16	22.17	18.71
	1 RB low	1909.3	24.15	23.46	22.53	18.75
		1880.0	23.96	23.36	22.32	18.96
		1850.7	23.94	23.24	22.24	18.74
	50% RB mid	1909.3	24.26	23.38	22.39	19.06
		1880.0	24.07	23.12	22.22	19.17
		1850.7	23.96	23.18	22.28	18.96
	100% RB	1909.3	23.00	22.32	21.18	18.30
		1880.0	23.06	22.09	21.06	18.36
		1850.7	23.05	22.07	21.04	18.05
3MHz	1 RB high	1908.5	24.15	23.36	22.19	18.95
		1880.0	24.05	23.27	22.24	18.75
		1851.5	23.94	23.17	22.20	18.84
	1 RB low	1908.5	24.27	23.61	22.57	19.17
		1880.0	24.06	23.49	22.29	18.86
		1851.5	24.19	23.36	22.41	19.29
	50% RB mid	1908.5	23.33	22.38	21.49	18.23
		1880.0	23.10	22.20	21.11	18.30
		1851.5	23.11	22.17	21.22	18.21
	100% RB	1908.5	23.36	22.29	21.34	18.66

		1880.0	23.23	22.30	21.20	18.33
		1851.5	23.13	22.20	21.13	17.73
5MHz	1 RB high	1907.5	24.23	23.56	22.40	19.53
		1880.0	24.02	23.45	22.16	19.02
		1852.5	23.97	23.30	22.27	19.17
	1 RB low	1907.5	24.33	23.70	22.48	19.03
		1880.0	24.22	23.40	22.27	19.42
		1852.5	24.11	23.41	22.33	19.41
	50% RB mid	1907.5	23.37	22.45	21.43	18.07
		1880.0	23.21	22.25	21.29	18.51
		1852.5	23.17	22.17	21.10	18.47
	100% RB	1907.5	23.29	22.32	21.33	18.09
		1880.0	23.21	22.13	21.19	18.01
		1852.5	23.13	22.08	21.22	18.03
10MHz	1 RB high	1905.0	24.34	23.80	22.40	19.24
		1880.0	23.95	23.48	22.32	18.65
		1855.0	24.03	23.41	22.37	18.93
	1 RB low	1905.0	24.31	23.73	22.52	19.21
		1880.0	24.08	23.54	22.28	19.08
		1855.0	24.07	23.55	22.30	19.17
	50% RB mid	1905.0	23.34	22.32	21.26	18.24
		1880.0	23.22	22.25	21.22	17.92
		1855.0	23.11	22.16	21.18	17.91
	100% RB	1905.0	23.30	22.21	21.30	18.10
		1880.0	23.15	22.21	21.21	18.05
		1855.0	23.16	22.20	21.19	18.26
15MHz	1 RB high	1902.5	24.12	23.45	22.29	19.22
		1880.0	24.03	23.42	22.19	18.63
		1857.5	23.99	23.19	22.21	18.59
	1 RB low	1902.5	24.17	23.50	22.23	19.07
		1880.0	24.03	23.35	22.25	18.83
		1857.5	23.90	23.28	22.11	18.80
	50% RB mid	1902.5	23.27	22.23	21.18	17.97
		1880.0	23.08	22.06	21.17	17.68
		1857.5	23.13	22.04	21.12	18.43
	100% RB	1902.5	23.25	22.30	21.00	17.95
		1880.0	23.18	22.08	21.11	18.38
		1857.5	23.09	22.11	21.05	18.09
20MHz	1 RB high	1900.0	24.21	23.50	22.34	19.01
		1880.0	24.09	23.32	22.26	19.09
		1860.0	24.02	23.35	22.25	19.32
	1 RB low	1900.0	24.24	23.42	22.24	18.84
		1880.0	24.02	23.45	22.15	19.02





		1860.0	23.99	23.36	22.06	19.29
	50% RB mid	1900.0	23.27	22.31	21.33	18.47
		1880.0	23.44	22.18	21.16	18.23
		1860.0	23.09	22.11	21.13	17.69
	100% RB	1900.0	23.23	22.31	21.15	18.33
		1880.0	23.14	22.18	21.11	17.84
		1860.0	23.12	22.10	21.11	18.12

**LTE band 4**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1754.3	23.95	23.24	22.06	18.75
		1732.5	24.16	23.49	22.50	19.06
		1710.7	24.12	23.43	22.36	18.92
	1 RB low	1754.3	23.96	23.15	22.39	19.16
		1732.5	24.18	23.43	22.58	18.98
		1710.7	24.14	23.45	22.37	18.94
	50% RB mid	1754.3	24.13	23.21	22.24	19.13
		1732.5	24.24	23.45	22.48	18.94
		1710.7	24.19	23.40	22.42	19.49
	100% RB	1754.3	23.08	22.31	21.14	18.18
		1732.5	23.30	22.33	21.39	18.50
		1710.7	22.39	22.50	21.35	17.79
3MHz	1 RB high	1753.5	24.07	23.31	22.69	18.77
		1732.5	24.35	23.70	22.51	19.15
		1711.5	24.25	23.66	22.51	19.35
	1 RB low	1753.5	24.19	23.44	22.51	19.59
		1732.5	24.35	23.57	22.58	18.95
		1711.5	24.48	23.64	22.51	19.18
	50% RB mid	1753.5	23.28	22.35	21.36	17.98
		1732.5	23.42	22.43	21.51	18.82
		1711.5	23.42	22.43	21.54	18.82
	100% RB	1753.5	23.24	22.36	21.45	18.54
		1732.5	23.22	22.39	21.46	18.02
		1711.5	23.41	22.42	21.41	18.71
5MHz	1 RB high	1752.5	24.16	23.53	22.48	18.86
		1732.5	24.20	23.66	22.51	19.50
		1712.5	24.42	23.70	22.50	19.02
	1 RB low	1752.5	24.13	23.44	22.56	19.43
		1732.5	24.40	23.75	22.49	19.50
		1712.5	24.29	23.71	22.57	19.39
	50% RB mid	1752.5	23.26	22.37	21.50	18.36
		1732.5	23.32	22.34	21.48	18.32
		1712.5	23.44	22.51	21.47	18.34
	100% RB	1752.5	23.21	22.25	21.37	18.61
		1732.5	23.36	22.33	21.35	17.96
		1712.5	23.37	22.41	21.52	18.57
10MHz	1 RB high	1750.0	24.02	23.66	22.36	18.82
		1732.5	24.22	23.65	22.42	19.52
		1715.0	24.21	23.62	22.52	18.91
	1 RB low	1750.0	24.25	23.70	22.67	18.95

		1732.5	24.28	23.75	22.69	18.88	
		1715.0	24.24	23.81	22.43	19.24	
		1750.0	23.36	22.37	21.44	18.16	
	50% RB mid	1732.5	23.49	22.38	21.40	18.79	
		1715.0	23.35	22.48	21.54	17.95	
		1750.0	23.29	22.34	21.41	18.69	
	100% RB	1732.5	23.38	22.42	21.49	18.68	
		1715.0	23.39	22.52	21.47	18.79	
		1750.0	23.29	22.34	21.41	18.69	
15MHz	1 RB high	1747.5	23.99	23.39	22.28	19.39	
		1732.5	24.10	23.52	22.43	19.50	
		1717.5	24.05	23.53	22.59	19.35	
	1 RB low	1747.5	24.15	23.56	22.60	18.75	
		1732.5	24.28	23.77	22.59	19.58	
		1717.5	24.18	23.78	22.42	19.38	
	50% RB mid	1747.5	23.26	22.22	21.31	18.46	
		1732.5	23.31	22.32	21.37	17.91	
		1717.5	23.38	22.31	21.41	18.48	
	100% RB	1747.5	23.18	22.25	21.26	18.08	
		1732.5	23.27	22.25	21.25	18.17	
		1717.5	23.34	22.38	21.37	18.14	
	20MHz	1 RB high	1745.0	23.99	23.52	22.24	19.09
			1732.5	24.20	23.49	22.57	19.30
			1720.0	24.25	23.52	22.50	19.25
1 RB low		1745.0	24.24	23.60	22.64	19.14	
		1732.5	24.19	23.65	22.66	18.89	
		1720.0	24.15	23.75	22.39	18.75	
50% RB mid		1745.0	23.26	22.28	21.34	17.86	
		1732.5	23.39	22.30	21.28	18.69	
		1720.0	23.35	22.40	21.39	17.95	
100% RB		1745.0	23.29	22.29	21.24	18.19	
		1732.5	23.24	22.31	21.26	18.64	
		1720.0	23.34	22.40	21.38	18.54	

**LTE band 5**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	848.3	24.09	23.34	22.57	19.39
		836.5	24.14	23.55	22.49	19.44
		824.7	24.04	23.47	22.40	18.94
	1 RB low	848.3	24.12	23.33	22.39	19.02
		836.5	24.05	23.37	22.40	19.15
		824.7	24.14	23.32	22.37	18.94
	50% RB mid	848.3	24.15	23.26	22.33	18.95
		836.5	24.24	23.25	22.33	18.94
		824.7	24.10	22.84	22.34	18.70
	100% RB	848.3	23.17	22.31	21.17	18.57
		836.5	23.15	22.16	21.28	18.45
		824.7	22.72	22.40	21.29	17.72
3MHz	1 RB high	847.5	24.31	23.48	22.65	19.41
		836.5	24.29	23.56	22.54	19.39
		825.5	24.20	23.55	22.33	19.00
	1 RB low	847.5	24.22	23.65	22.45	19.22
		836.5	24.21	23.73	22.52	18.81
		825.5	24.27	23.51	22.44	18.87
	50% RB mid	847.5	23.25	22.33	21.47	18.35
		836.5	23.25	22.43	21.37	18.65
		825.5	23.29	22.35	21.45	18.59
	100% RB	847.5	23.23	22.37	21.38	18.53
		836.5	23.27	22.35	21.31	18.47
		825.5	23.28	22.30	21.39	18.18
5MHz	1 RB high	846.5	24.19	23.51	22.47	18.99
		836.5	24.30	23.58	22.51	19.10
		826.5	24.19	23.37	22.39	18.99
	1 RB low	846.5	24.24	23.58	22.43	19.54
		836.5	24.39	23.64	22.51	19.19
		826.5	24.24	23.60	22.41	19.24
	50% RB mid	846.5	23.29	22.27	21.34	18.69
		836.5	23.27	22.32	21.41	17.97
		826.5	23.27	22.31	21.37	18.67
	100% RB	846.5	23.21	22.24	21.34	18.51
		836.5	23.24	22.34	21.38	18.44
		826.5	23.29	22.32	21.35	18.69
10MHz	1 RB high	844.0	24.19	23.79	22.47	19.19
		836.5	24.25	23.64	22.35	19.25
		829.0	24.12	23.48	22.48	19.42
	1 RB low	844.0	24.40	23.63	22.57	19.00



		836.5	24.31	23.59	22.32	19.31
		829.0	24.30	23.59	22.40	19.50
	50% RB mid	844.0	22.72	22.38	21.40	17.92
		836.5	23.39	22.36	21.42	18.49
		829.0	23.30	22.32	21.40	17.90
	100% RB	844.0	22.38	22.26	21.38	17.68
		836.5	23.29	22.35	21.41	17.99
		829.0	23.25	22.38	21.37	17.95

**LTE band 7**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2567.5	24.15	23.42	22.36	18.85
		2535.0	24.31	23.49	22.47	19.21
		2502.5	23.86	23.34	22.08	18.86
	1 RB low	2567.5	24.17	23.26	22.34	19.07
		2535.0	24.21	23.59	22.49	18.81
		2502.5	23.85	23.29	22.07	18.65
	50% RB mid	2567.5	23.19	22.26	21.21	17.79
		2535.0	23.23	22.31	21.26	17.83
		2502.5	23.03	22.04	21.04	18.43
	100% RB	2567.5	23.14	22.20	21.17	18.24
		2535.0	23.18	22.24	21.16	18.38
		2502.5	22.94	21.87	21.02	17.64
10MHz	1 RB high	2565.0	24.02	23.67	22.15	19.22
		2535.0	24.31	23.70	22.61	19.51
		2505.0	24.07	23.60	22.22	19.37
	1 RB low	2565.0	24.13	23.66	22.40	19.33
		2535.0	24.26	23.63	22.53	19.16
		2505.0	23.84	23.30	22.04	18.64
	50% RB mid	2565.0	23.28	22.26	21.34	18.68
		2535.0	23.28	22.27	21.31	18.68
		2505.0	23.16	22.17	21.02	18.26
	100% RB	2565.0	23.24	22.25	21.21	18.14
		2535.0	23.28	22.32	21.26	17.98
		2505.0	23.12	22.15	21.20	18.02
15MHz	1 RB high	2562.5	23.98	23.33	22.05	19.28
		2535.0	24.02	23.47	22.51	19.22
		2507.5	23.91	23.23	22.09	19.21
	1 RB low	2562.5	23.86	23.31	22.45	19.26
		2535.0	23.96	23.41	22.22	19.06
		2507.5	23.81	23.06	22.10	18.51
	50% RB mid	2562.5	23.12	22.12	21.19	17.92
		2535.0	23.13	22.18	21.10	17.73
		2507.5	22.99	21.96	21.06	17.69
	100% RB	2562.5	23.03	22.20	21.11	18.23
		2535.0	23.06	22.18	21.03	18.06
		2507.5	23.02	22.04	21.02	17.82
20MHz	1 RB high	2560.0	23.88	23.30	22.15	18.48
		2535.0	24.04	23.45	22.28	19.44
		2510.0	23.95	23.35	22.24	19.25
	1 RB low	2560.0	23.93	23.27	22.28	19.13



		2535.0	23.98	23.40	22.32	19.28
		2510.0	23.71	22.96	22.02	18.41
	50% RB mid	2560.0	23.13	22.14	21.15	18.23
		2535.0	23.29	22.16	21.13	18.59
		2510.0	23.03	22.01	21.02	18.13
	100% RB	2560.0	23.13	22.10	21.08	18.03
		2535.0	23.11	22.09	21.15	17.81
		2510.0	23.06	21.99	20.94	17.86

**LTE band 12**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	715.3	23.91	23.06	22.08	18.71
		707.5	23.87	23.16	22.22	18.47
		699.7	23.95	23.29	22.31	19.35
	1 RB low	715.3	23.91	23.20	22.28	18.51
		707.5	23.95	23.21	22.30	18.85
		699.7	24.06	23.29	22.34	18.86
	50% RB mid	715.3	23.96	23.12	22.30	18.66
		707.5	24.02	23.07	22.11	18.62
		699.7	24.08	23.14	22.26	18.88
	100% RB	715.3	23.03	22.09	21.11	18.23
		707.5	22.94	22.07	21.10	17.74
		699.7	23.15	22.13	21.13	17.85
3MHz	1 RB high	714.5	23.99	23.32	22.21	19.19
		707.5	24.04	23.30	22.22	19.34
		700.5	24.06	23.48	22.22	19.46
	1 RB low	714.5	24.11	23.39	22.22	18.71
		707.5	23.93	23.38	22.23	18.93
		700.5	24.20	23.36	22.27	19.50
	50% RB mid	714.5	23.12	22.13	21.13	17.72
		707.5	23.11	22.22	21.24	17.71
		700.5	23.20	22.29	21.12	18.40
	100% RB	714.5	23.10	22.00	21.07	18.20
		707.5	23.11	22.13	21.13	18.51
		700.5	23.20	22.24	21.32	18.50
5MHz	1 RB high	713.5	23.88	23.27	22.34	18.68
		707.5	24.04	23.22	22.13	18.84
		701.5	24.13	23.36	22.20	19.33
	1 RB low	713.5	24.07	23.43	22.25	19.37
		707.5	23.97	23.37	22.18	18.67
		701.5	24.03	23.48	22.30	18.83
	50% RB mid	713.5	23.15	22.23	21.22	18.45
		707.5	23.15	22.16	21.16	17.75
		701.5	23.15	22.18	21.24	18.25
	100% RB	713.5	23.06	22.04	21.19	17.76
		707.5	23.13	22.14	21.18	18.23
		701.5	23.17	22.20	21.25	18.57
10MHz	1 RB high	711.0	23.89	23.57	22.21	19.29
		707.5	24.09	23.29	22.21	18.79
		704.0	23.99	23.22	22.09	18.99
	1 RB low	711.0	24.03	23.33	22.11	18.73





		707.5	24.07	23.51	22.35	19.27
		704.0	24.05	23.68	22.49	18.75
	50% RB mid	711.0	23.12	21.21	21.14	18.52
		707.5	23.17	22.16	21.29	17.87
		704.0	23.15	22.18	21.20	17.75
	100% RB	711.0	23.11	21.93	21.16	17.71
		707.5	23.17	22.19	21.26	17.77
		704.0	23.19	22.22	21.26	18.19

**LTE band 13**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	784.5	24.14	23.37	22.41	19.54
		782.0	24.17	23.56	22.50	19.37
		779.5	24.20	23.41	22.44	19.30
	1 RB low	784.5	24.22	23.53	22.37	19.42
		782.0	24.16	23.48	22.45	19.46
		779.5	24.11	23.55	22.31	19.21
	50% RB mid	784.5	23.26	22.21	21.36	17.86
		782.0	23.30	22.22	21.29	18.10
		779.5	23.29	22.30	21.35	18.39
	100% RB	784.5	23.20	22.18	21.36	18.30
		782.0	23.26	22.24	21.29	18.26
		779.5	23.22	22.32	21.17	18.02
10MHz	1 RB high	782.0	23.97	23.50	22.38	18.57
	1 RB low	782.0	24.07	23.30	22.44	18.97
	50% RB mid	782.0	23.29	22.26	21.26	18.49
	100% RB	782.0	23.20	22.27	21.36	18.00

**LTE band 14**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	795.5	24.13	23.41	22.32	19.53
		793.0	24.20	23.53	22.41	19.30
		790.5	24.07	23.44	22.52	19.37
	1 RB low	795.5	24.27	23.55	22.49	19.57
		793.0	24.25	23.58	22.55	19.15
		790.5	24.23	23.66	22.40	19.33
	50% RB mid	795.5	23.26	22.22	21.36	18.16
		793.0	23.30	22.33	21.32	18.70
		790.5	23.39	22.41	21.26	18.19
	100% RB	795.5	23.18	22.16	21.26	18.48
		793.0	23.15	22.15	21.25	17.85
		790.5	23.27	22.29	21.39	18.67
10MHz	1 RB high	793.0	24.10	23.45	22.38	19.50
	1 RB low	793.0	24.14	23.51	23.09	18.94
	50% RB mid	793.0	24.19	23.14	22.35	19.19
	100% RB	793.0	24.14	23.18	22.40	19.24

**LTE band 25**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1914.3	24.05	23.11	22.16	18.95
		1882.5	23.94	23.21	22.22	18.54
		1850.7	23.82	23.21	22.25	18.72
	1 RB low	1914.3	23.98	23.23	22.32	18.98
		1882.5	23.93	23.12	22.25	18.73
		1850.7	23.79	23.14	22.19	18.99
	50% RB mid	1914.3	23.93	23.20	22.32	19.33
		1882.5	24.01	23.05	22.18	19.11
		1850.7	23.90	22.83	22.11	18.80
	100% RB	1914.3	23.17	22.29	21.15	18.27
		1882.5	23.05	22.00	21.08	17.85
		1850.7	22.89	22.02	21.03	17.59
3MHz	1 RB high	1913.5	24.13	23.49	22.65	19.23
		1882.5	24.05	23.50	22.28	19.15
		1851.5	23.94	23.25	21.21	18.94
	1 RB low	1913.5	24.22	23.52	22.32	18.82
		1882.5	23.99	23.39	22.29	19.29
		1851.5	23.98	23.21	21.30	18.58
	50% RB mid	1913.5	23.21	22.35	21.36	18.51
		1882.5	23.14	22.13	21.26	18.44
		1851.5	23.01	22.00	21.13	17.61
	100% RB	1913.5	23.20	22.23	21.29	18.30
		1882.5	23.17	22.15	21.18	18.17
		1851.5	23.04	22.12	21.12	18.14
5MHz	1 RB high	1912.5	24.23	23.52	22.33	18.93
		1882.5	24.07	23.40	22.36	18.87
		1852.5	23.90	23.38	22.11	19.20
	1 RB low	1912.5	24.13	23.42	22.30	18.73
		1882.5	24.01	23.44	22.24	19.41
		1852.5	23.95	23.28	21.45	19.25
	50% RB mid	1912.5	23.26	22.25	21.16	17.96
		1882.5	23.10	22.15	21.12	18.20
		1852.5	23.06	22.01	21.08	17.66
	100% RB	1912.5	23.26	22.25	21.19	17.86
		1882.5	23.14	22.11	21.19	18.34
		1852.5	22.97	22.05	21.08	17.77
10MHz	1 RB high	1910.0	24.14	23.77	22.36	19.54
		1882.5	23.96	23.52	22.18	18.76
		1855.0	23.95	23.28	22.13	18.95
	1 RB low	1910.0	24.12	23.53	22.32	19.52

		1882.5	24.06	23.41	22.14	19.36
		1855.0	23.95	23.19	21.50	19.35
	50% RB mid	1910.0	23.25	22.25	21.18	18.65
		1882.5	23.14	22.14	21.15	17.74
		1855.0	23.10	22.06	20.59	18.10
	100% RB	1910.0	23.14	22.27	21.19	17.74
		1882.5	23.11	22.18	21.20	18.31
1855.0		23.06	22.11	20.65	18.16	
15MHz	1 RB high	1907.5	24.23	23.45	22.29	19.63
		1882.5	23.88	23.43	22.11	19.08
		1857.5	23.81	23.27	22.16	19.01
	1 RB low	1907.5	24.08	23.36	22.19	19.38
		1882.5	23.82	23.14	22.18	18.82
		1857.5	23.82	23.14	21.31	18.92
	50% RB mid	1907.5	23.27	22.16	21.20	18.37
		1882.5	23.11	22.07	21.16	17.81
		1857.5	23.00	22.02	20.63	17.60
	100% RB	1907.5	23.21	22.13	21.12	18.01
		1882.5	23.11	22.06	21.03	18.41
		1857.5	22.99	22.01	20.77	18.39
20MHz	1 RB high	1905.0	24.06	23.54	22.36	19.46
		1882.5	23.92	23.24	22.17	18.82
		1860.0	23.80	23.17	21.99	19.00
	1 RB low	1905.0	24.12	23.35	22.19	19.22
		1882.5	23.82	23.18	22.16	18.82
		1860.0	23.84	23.23	21.78	18.74
	50% RB mid	1905.0	23.26	22.22	21.33	17.96
		1882.5	23.31	22.14	21.19	18.11
		1860.0	23.06	22.01	21.12	17.66
	100% RB	1905.0	23.25	22.18	21.28	18.15
		1882.5	23.04	22.05	21.06	17.84
		1860.0	23.03	21.95	21.09	17.83

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

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	823.3	23.97	23.10	22.00	19.14
		819.0	23.96	23.14	22.18	18.92
		814.7	23.96	23.02	22.05	19.22
	1 RB low	823.3	23.95	23.11	21.95	19.13
		819.0	23.97	23.17	22.11	18.91
		814.7	24.00	23.02	21.98	19.32
	50% RB mid	823.3	23.95	23.28	21.95	19.09
		819.0	23.98	23.28	21.93	19.22
		814.7	24.05	23.24	22.10	19.20
	100% RB	823.3	23.06	21.96	21.09	19.16
		819.0	23.08	22.00	21.08	19.11
		814.7	23.14	22.04	21.16	19.26
3MHz	1 RB high	822.5	24.06	23.11	22.01	19.13
		819.0	24.03	23.17	21.99	19.13
		815.5	24.09	23.27	22.07	19.21
	1 RB low	822.5	24.06	23.13	21.96	19.09
		819.0	24.07	23.21	21.92	19.14
		815.5	24.16	23.33	22.02	19.25
	50% RB mid	822.5	23.11	22.22	21.25	19.23
		819.0	23.10	22.19	21.20	19.22
		815.5	23.16	22.26	21.14	19.26
	100% RB	822.5	23.12	22.10	21.17	19.20
		819.0	23.10	22.09	21.17	19.18
		815.5	23.15	22.14	21.24	19.20
5MHz	1 RB high	821.5	24.06	23.15	22.27	19.22
		819.0	24.04	23.14	22.23	19.25
		816.5	24.09	23.17	22.29	19.28
	1 RB low	821.5	24.07	23.15	22.51	19.20
		819.0	24.08	23.16	22.48	19.30
		816.5	24.15	23.27	22.58	19.36
	50% RB mid	821.5	23.18	22.24	21.33	19.33
		819.0	23.17	22.24	21.34	19.35
		816.5	23.17	22.29	21.29	19.25
	100% RB	821.5	23.16	22.11	21.28	19.21
		819.0	23.18	22.18	21.23	19.24
		816.5	23.21	22.21	21.28	19.26
10MHz	1 RB high	819.0	24.01	23.13	21.99	19.15
	1 RB low	819.0	24.12	23.34	21.84	19.32
	50% RB mid	819.0	23.18	22.36	21.31	19.34
	100% RB	819.0	23.22	22.29	21.29	19.28

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

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	848.3	23.88	23.09	22.11	19.17
		836.5	23.98	23.20	22.07	19.15
		824.7	23.96	23.14	22.39	19.15
	1 RB low	848.3	23.90	23.09	22.20	19.12
		836.5	23.98	23.23	22.00	19.27
		824.7	23.97	23.15	22.29	18.92
	50% RB mid	848.3	23.90	23.22	22.17	19.08
		836.5	23.96	23.28	22.00	19.13
		824.7	23.97	23.18	22.10	19.14
	100% RB	848.3	23.01	22.15	21.13	19.02
		836.5	23.03	22.23	21.00	19.18
		824.7	23.09	21.98	21.07	19.15
3MHz	1 RB high	847.5	23.97	23.07	21.96	19.08
		836.5	24.05	23.11	22.07	19.53
		825.5	24.01	23.55	22.39	19.58
	1 RB low	847.5	24.06	23.17	21.97	19.13
		836.5	24.07	23.18	22.20	19.50
		825.5	24.04	23.59	22.78	19.46
	50% RB mid	847.5	23.06	22.13	21.16	19.16
		836.5	23.11	22.22	21.21	19.24
		825.5	23.14	22.21	21.08	19.23
	100% RB	847.5	23.06	22.04	21.06	19.14
		836.5	23.13	22.13	21.15	19.19
		825.5	23.11	22.09	21.16	19.15
5MHz	1 RB high	846.5	24.00	23.09	22.21	19.16
		836.5	24.08	23.41	22.29	19.32
		826.5	24.11	23.20	22.31	19.24
	1 RB low	846.5	24.06	23.15	22.45	19.24
		836.5	24.12	23.41	22.36	19.29
		826.5	24.16	23.23	22.55	19.22
	50% RB mid	846.5	23.14	22.20	21.26	19.25
		836.5	23.15	22.25	21.12	19.21
		826.5	23.14	22.23	21.24	19.34
	100% RB	846.5	23.10	22.08	21.18	19.18
		836.5	23.16	22.14	21.18	19.16
		826.5	23.17	22.14	21.28	19.25
10MHz	1 RB high	844.0	24.02	23.11	22.00	19.17
		836.5	24.08	23.20	22.07	19.20
		829.0	24.06	23.17	22.05	19.16
	1 RB low	844.0	24.15	23.16	21.88	19.19

		836.5	24.14	23.31	21.94	19.21
		829.0	24.12	23.21	21.86	19.17
	50% RB mid	844.0	23.17	22.22	21.29	19.26
		836.5	23.17	22.32	21.28	19.33
		829.0	23.17	22.32	21.32	19.33
	100% RB	844.0	23.12	22.15	21.13	19.18
		836.5	23.20	22.26	21.23	19.23
		829.0	23.22	22.31	21.28	19.26
	15MHz	1 RB high	841.5	23.85	23.29	22.27
836.5			23.92	23.34	22.35	19.36
831.5			23.90	23.37	22.41	19.35
1 RB low		841.5	23.92	23.40	22.24	19.32
		836.5	23.93	23.39	22.35	19.29
		831.5	23.95	23.39	22.34	19.26
50% RB mid		841.5	23.03	21.97	21.04	19.02
		836.5	23.04	21.95	21.05	18.99
		831.5	23.04	22.00	21.08	19.03
100% RB		841.5	23.02	21.97	21.01	19.04
		836.5	23.04	22.03	21.10	19.07
		831.5	22.96	21.99	21.00	19.00



**LTE band 30**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2312.5	24.10	23.52	22.38	19.00
		2310.0	24.13	23.57	22.29	18.73
		2307.5	24.19	23.59	22.47	18.89
	1 RB low	2312.5	24.25	23.63	22.40	19.05
		2310.0	24.12	23.52	22.48	19.32
		2307.5	24.02	23.64	22.27	19.12
	50% RB mid	2312.5	23.33	22.39	21.31	18.13
		2310.0	23.33	22.32	21.16	18.03
		2307.5	23.35	22.34	21.39	18.75
	100% RB	2312.5	23.29	22.30	21.37	18.59
		2310.0	23.26	22.32	21.26	18.36
		2307.5	23.31	22.27	21.28	18.01
10MHz	1 RB high	2310.0	24.29	23.70	22.45	19.29
	1 RB low	2310.0	24.12	23.84	22.46	18.82
	50% RB mid	2310.0	23.29	22.34	21.34	17.99
	100% RB	2310.0	23.27	22.27	21.23	18.17

**LTE band 41**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	2687.5	26.36	24.68	23.54	21.36
		2593.0	27.14	26.43	24.73	22.24
		2498.5	26.69	26.04	24.25	21.59
	1 RB low	2687.5	25.67	24.99	23.53	20.57
		2593.0	27.05	26.40	24.64	21.75
		2498.5	26.36	25.72	23.89	21.16
	50% RB mid	2687.5	24.78	23.92	22.51	19.88
		2593.0	25.80	25.26	23.83	21.20
		2498.5	25.72	24.89	23.23	20.72
	100% RB	2687.5	24.77	23.91	23.45	19.57
		2593.0	26.17	25.20	23.36	21.07
		2498.5	25.72	24.86	23.21	20.72
10MHz	1 RB high	2685.0	26.28	24.69	23.58	21.58
		2593.0	27.08	26.36	24.74	22.08
		2501.0	26.81	26.11	24.43	22.01
	1 RB low	2685.0	25.85	25.26	23.77	20.65
		2593.0	27.01	26.41	24.62	22.01
		2501.0	26.34	25.74	23.88	20.94
	50% RB mid	2685.0	24.88	24.06	22.70	20.28
		2593.0	26.18	25.20	23.85	21.18
		2501.0	25.86	24.91	23.40	20.56
	100% RB	2685.0	24.88	24.09	22.59	19.58
		2593.0	26.20	25.40	23.80	21.10
		2501.0	25.74	24.85	23.34	20.74
15MHz	1 RB high	2682.5	26.28	24.65	23.93	21.38
		2593.0	26.98	26.28	24.52	21.78
		2503.5	26.64	25.98	24.43	21.54
	1 RB low	2682.5	26.00	25.37	23.52	21.10
		2593.0	26.89	26.30	24.42	21.59
		2503.5	26.34	25.73	23.81	21.44
	50% RB mid	2682.5	24.97	24.10	22.73	20.07
		2593.0	26.05	25.30	24.12	21.05
		2503.5	25.68	24.69	23.35	20.48
	100% RB	2682.5	24.97	24.14	22.83	20.37
		2593.0	26.07	25.10	23.66	20.87
		2503.5	25.70	24.73	23.34	20.90
20MHz	1 RB high	2680.0	25.66	24.65	23.89	20.56
		2593.0	26.94	26.30	24.46	21.64
		2506.0	26.67	26.05	24.48	21.57
	1 RB low	2680.0	26.37	25.53	23.68	21.67



		2593.0	26.90	26.29	24.47	22.20
		2506.0	26.38	25.77	23.94	21.58
	50% RB mid	2680.0	25.26	24.32	22.56	20.26
		2593.0	26.17	25.13	23.67	21.07
		2506.0	25.79	24.88	23.50	20.79
	100% RB	2680.0	25.18	24.28	22.50	19.98
		2593.0	26.07	25.12	23.61	21.37
		2506.0	25.82	24.85	23.41	21.12

**LTE band 66**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
1.4MHz	1 RB high	1779.3	23.88	23.10	22.10	18.98
		1745.0	23.89	23.13	22.22	19.29
		1710.7	23.99	23.25	22.20	18.69
	1 RB low	1779.3	23.85	23.23	22.16	18.65
		1745.0	23.87	23.21	21.22	18.97
		1710.7	24.05	23.30	22.32	19.45
	50% RB mid	1779.3	23.95	22.76	21.99	19.25
		1745.0	24.05	23.16	22.13	18.95
		1710.7	24.23	23.20	22.37	18.83
	100% RB	1779.3	22.96	22.13	21.02	17.86
		1745.0	22.84	22.11	21.05	17.94
		1710.7	22.45	22.37	21.17	17.25
3MHz	1 RB high	1778.5	23.93	23.38	22.15	19.03
		1745.0	24.04	23.34	22.36	19.24
		1711.5	24.09	23.56	22.43	18.89
	1 RB low	1778.5	23.98	23.31	22.25	18.78
		1745.0	24.07	23.41	22.26	18.97
		1711.5	24.20	23.58	22.38	19.60
	50% RB mid	1778.5	23.08	22.12	21.18	17.88
		1745.0	23.08	22.20	21.08	18.38
		1711.5	23.28	22.38	21.19	18.28
	100% RB	1778.5	23.12	22.12	21.17	18.22
		1745.0	23.14	22.17	21.27	18.04
		1711.5	23.27	22.36	21.30	18.27
5MHz	1 RB high	1777.5	24.00	23.30	22.23	18.60
		1745.0	23.99	23.29	22.24	18.69
		1712.5	24.15	23.58	22.28	19.05
	1 RB low	1777.5	24.05	23.29	22.28	18.65
		1745.0	23.96	23.43	22.34	19.06
		1712.5	24.18	23.59	22.48	18.78
	50% RB mid	1777.5	23.08	22.18	21.18	17.98
		1745.0	23.22	22.19	21.22	17.92
		1712.5	23.31	22.32	21.30	18.21
	100% RB	1777.5	23.03	22.11	21.14	18.03
		1745.0	23.11	22.02	21.16	18.41
		1712.5	23.22	22.29	21.37	18.42
10MHz	1 RB high	1775.0	23.95	23.49	22.10	18.75
		1745.0	23.91	23.36	22.31	18.91
		1715.0	24.06	23.59	22.27	18.96
	1 RB low	1775.0	23.98	23.43	22.32	19.28

		1745.0	24.03	23.53	22.07	19.43
		1715.0	24.25	23.77	22.25	19.25
	50% RB mid	1775.0	23.11	22.18	21.22	18.21
		1745.0	23.06	22.17	21.24	18.26
		1715.0	23.31	22.36	21.34	18.31
	100% RB	1775.0	23.15	22.11	21.15	18.45
		1745.0	23.05	22.09	21.15	18.05
1715.0		23.33	22.31	21.30	17.93	
15MHz	1 RB high	1772.5	23.86	23.19	22.14	18.96
		1745.0	23.78	23.20	22.18	18.68
		1717.5	24.02	23.50	22.33	18.92
	1 RB low	1772.5	23.95	23.30	22.21	19.05
		1745.0	23.97	23.41	22.16	19.37
		1717.5	23.98	23.51	22.35	19.28
	50% RB mid	1772.5	23.05	22.07	21.07	18.15
		1745.0	23.03	21.90	21.05	18.33
		1717.5	23.26	22.22	21.28	18.26
	100% RB	1772.5	22.99	21.99	21.03	18.29
		1745.0	22.98	21.98	20.93	17.98
		1717.5	23.21	22.18	21.11	18.31
20MHz	1 RB high	1770.0	23.87	23.38	21.36	19.07
		1745.0	23.93	23.33	21.28	18.83
		1720.0	24.05	23.29	21.52	18.65
	1 RB low	1770.0	23.87	23.33	21.76	19.07
		1745.0	23.88	23.20	21.54	18.68
		1720.0	24.10	23.49	21.42	18.80
	50% RB mid	1770.0	23.07	22.02	21.57	18.27
		1745.0	23.29	21.96	20.26	18.29
		1720.0	23.28	22.27	20.49	18.68
	100% RB	1770.0	23.03	22.03	21.47	17.73
		1745.0	22.99	22.05	20.23	17.89
		1720.0	23.21	22.15	20.38	18.61

**LTE band 71**

Bandwidth	RB size/offset	Frequency (MHz)	Power (dBm)			
			QPSK	16QAM	64QAM	256QAM
5MHz	1 RB high	695.5	24.06	23.52	22.42	18.86
		680.5	24.38	23.59	22.31	19.68
		665.5	24.12	23.37	22.34	19.32
	1 RB low	695.5	24.47	23.64	22.61	19.47
		680.5	24.16	23.59	22.26	19.26
		665.5	24.55	23.86	22.50	19.85
	50% RB mid	695.5	23.28	22.46	21.21	18.48
		680.5	23.27	22.32	21.18	17.97
		665.5	23.31	22.30	21.36	17.91
	100% RB	695.5	23.47	22.16	21.34	18.17
		680.5	23.38	22.48	21.19	18.48
		665.5	23.62	22.24	21.31	18.82
10MHz	1 RB high	693.0	24.04	23.40	22.31	18.74
		680.5	24.17	23.53	22.29	18.87
		668.0	24.22	23.38	22.47	19.22
	1 RB low	693.0	24.47	23.55	22.59	19.77
		680.5	24.17	23.58	22.28	18.87
		668.0	24.41	23.90	22.54	19.01
	50% RB mid	693.0	23.37	22.27	21.24	17.97
		680.5	23.37	22.31	21.30	18.27
		668.0	23.35	22.38	21.31	18.55
	100% RB	693.0	23.46	22.16	21.15	18.16
		680.5	23.40	22.30	21.25	18.50
		668.0	23.47	22.41	21.19	18.77
15MHz	1 RB high	690.5	24.07	23.48	22.33	19.07
		680.5	24.29	23.52	22.30	18.99
		670.5	24.06	23.44	22.29	19.46
	1 RB low	690.5	24.38	23.70	22.69	19.68
		680.5	24.23	23.69	22.31	18.83
		670.5	24.48	23.82	22.41	19.48
	50% RB mid	690.5	23.34	22.39	21.22	17.94
		680.5	23.37	22.40	21.25	18.57
		670.5	23.35	22.39	21.35	18.75
	100% RB	690.5	23.37	22.21	21.27	18.67
		680.5	23.47	22.38	21.27	18.67
		670.5	23.54	22.30	21.27	18.54
20MHz	1 RB high	688.0	24.02	23.39	22.32	19.32
		680.5	24.23	23.48	22.29	19.43
		673.0	24.14	23.47	22.37	19.04
	1 RB low	688.0	24.47	23.65	22.63	19.17



		680.5	24.26	23.61	22.34	18.96
		673.0	24.45	23.82	22.47	19.15
	50% RB mid	688.0	23.37	22.33	21.30	18.77
		680.5	23.45	22.35	21.31	18.65
		673.0	23.41	22.38	21.35	18.81
	100% RB	688.0	23.36	22.25	21.17	18.46
		680.5	23.45	22.39	21.31	18.65
		673.0	23.45	22.32	21.27	18.45

**LTE CA band 41C**

Bandwidth	Frequency (MHz)	Frequency (MHz)	Modulation	PCC RB		SCC RB		Conducted Power(dBm)
				Size	Offset	Size	Offset	
5MHz/ 20MHz	2583.8	2595.5	QPSK	1	24	1	0	23.84
				25	0	100	0	21.95
			16QAM	1	24	1	0	22.90
				25	0	100	0	20.94
			64QAM	1	24	1	0	21.82
				25	0	100	0	20.91
256QAM	1	24	1	0	18.93			
	25	0	100	0	18.97			
10MHz/ 15MHz	2585.9	2597.9	QPSK	1	49	1	0	23.84
				50	0	75	0	21.94
			16QAM	1	49	1	0	22.90
				50	0	75	0	20.98
			64QAM	1	49	1	0	21.70
				50	0	75	0	20.94
256QAM	1	49	1	0	18.86			
	50	0	75	0	18.98			
10MHz/ 20MHz	2583.6	2598.0	QPSK	1	49	1	0	23.85
				50	0	100	0	21.97
			16QAM	1	49	1	0	22.94
				50	0	100	0	21.01
			64QAM	1	49	1	0	21.73
				50	0	100	0	20.99
256QAM	1	49	1	0	18.95			
	50	0	100	0	19.03			
15MHz/ 10MHz	2588.1	2600.1	QPSK	1	74	1	0	23.85
				75	0	50	0	21.96
			16QAM	1	74	1	0	22.92
				75	0	50	0	20.98
			64QAM	1	74	1	0	21.77
				75	0	50	0	21.02
256QAM	1	74	1	0	18.95			
	75	0	50	0	19.03			
15MHz/ 15MHz	2585.5	2600.5	QPSK	1	74	1	0	23.79
				75	0	75	0	22.03
			16QAM	1	74	1	0	22.93
				75	0	75	0	20.97
			64QAM	1	74	1	0	22.03
				75	0	75	0	21.01
256QAM	1	74	1	0	19.08			
	75	0	75	0	19.00			



15MHz/ 20MHz	2583.3	2600.4	QPSK	1	74	1	0	23.78
				75	0	100	0	22.02
			16QAM	1	74	1	0	22.99
				75	0	100	0	21.03
			64QAM	1	74	1	0	21.75
				75	0	100	0	21.06
			256QAM	1	74	1	0	18.88
				75	0	100	0	19.01
20MHz/ 5MHz	2590.5	2602.2	QPSK	1	99	1	0	24.00
				100	0	25	0	21.97
			16QAM	1	99	1	0	22.94
				100	0	25	0	21.06
			64QAM	1	99	1	0	22.24
				100	0	25	0	20.99
			256QAM	1	99	1	0	18.97
				100	0	25	0	19.03
20MHz/ 10MHz	2588.1	2602.5	QPSK	1	99	1	0	24.02
				100	0	50	0	22.00
			16QAM	1	99	1	0	23.16
				100	0	50	0	21.09
			64QAM	1	99	1	0	22.20
				100	0	50	0	21.09
			256QAM	1	99	1	0	19.29
				100	0	50	0	19.08
20MHz/ 15MHz	2585.6	2602.7	QPSK	1	99	1	0	23.94
				100	0	75	0	22.04
			16QAM	1	99	1	0	23.15
				100	0	75	0	21.07
			64QAM	1	99	1	0	22.07
				100	0	75	0	21.11
			256QAM	1	99	1	0	19.15
				100	0	75	0	19.09
20MHz/ 20MHz	2583.1	2602.9	QPSK	1	99	1	0	23.93
				100	0	100	0	22.07
			16QAM	1	99	1	0	22.93
				100	0	100	0	21.06
			64QAM	1	99	1	0	21.79
				100	0	100	0	21.06
			256QAM	1	99	1	0	18.99
				100	0	100	0	19.06

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

### A.1.3 Radiated

#### A.1.3.1 Description

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

**FDD Band 2/25:** 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 41:** Part 27.50(h)(2) specifies "Mobile stations are limited to 2.0 watts EIRP".

**FDD Band 12/71:** 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".

**FDD Band 14:** Rule Part 90.542(a) (7) Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

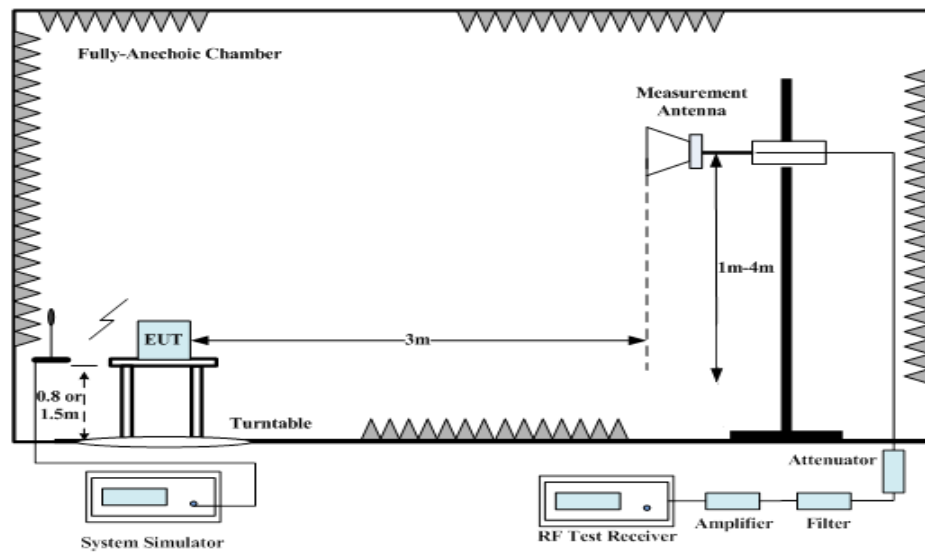
**LTE Band 26(814MHz~824MHz):** Part 90.635(b) specifies "The maximum output power of the transmitter for mobile stations is 100 watts (50dBm)".

**FDD Band 30:** Rule Part 27.50(a)(3) specifies "For mobile and portable stations transmitting in the 2305–2315 MHz band or the 2350–2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth."

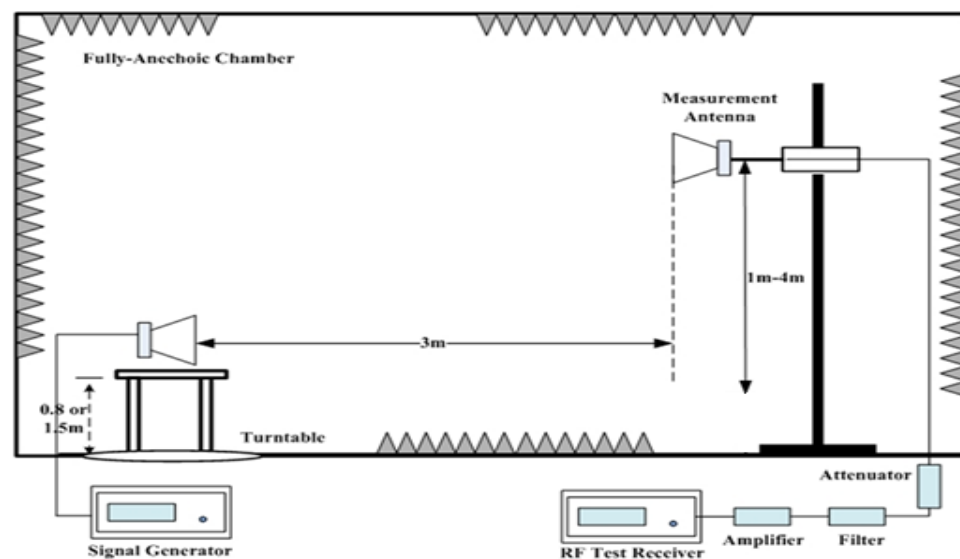
#### A.1.3.2 Method of Measurement

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

The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

**A.1.3.3 Measurement result**
**LTE Band 2-EIRP**
**Limits:** ≤33dBm (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	-21.82	2.92	43.75	4.87	23.88	33.00	9.12	H
		1880.00	-21.13	2.85	43.75	4.82	24.59	33.00	8.41	H
		1909.30	-21.59	2.87	43.77	4.76	24.07	33.00	8.93	H
	3	1851.50	-21.88	2.87	43.75	4.87	23.87	33.00	9.13	H
		1880.00	-21.15	2.85	43.75	4.82	24.57	33.00	8.43	H
		1908.50	-21.25	2.89	43.78	4.76	24.40	33.00	8.60	H
	5	1852.50	-21.48	2.87	43.75	4.87	24.27	33.00	8.73	H
		1880.00	-20.95	2.85	43.75	4.82	24.77	33.00	8.23	H
		1907.50	-21.40	2.84	43.77	4.77	24.30	33.00	8.70	H
	10	1855.00	-21.82	2.88	43.74	4.86	23.90	33.00	9.10	H
		1880.00	-21.37	2.85	43.75	4.82	24.35	33.00	8.65	H
		1905.00	-21.34	2.87	43.77	4.77	24.33	33.00	8.67	H
	15	1857.50	-21.84	2.87	43.75	4.86	23.90	33.00	9.10	H
		1880.00	-21.33	2.85	43.75	4.82	24.39	33.00	8.61	H
		1902.50	-21.53	2.86	43.77	4.78	24.16	33.00	8.84	H
20	1860.00	-21.58	2.86	43.75	4.85	24.16	33.00	8.84	H	
	1880.00	-21.33	2.85	43.75	4.82	24.39	33.00	8.61	H	
	1900.00	-21.03	2.87	43.77	4.78	24.65	33.00	8.35	H	
16QAM	1.4	1850.70	-22.53	2.92	43.75	4.87	23.17	33.00	9.83	H
		1880.00	-21.70	2.85	43.75	4.82	24.02	33.00	8.98	H
		1909.30	-25.44	2.87	43.77	4.76	20.22	33.00	12.78	H
	3	1851.50	-22.54	2.87	43.75	4.87	23.21	33.00	9.79	H
		1880.00	-21.70	2.85	43.75	4.82	24.02	33.00	8.98	H
		1908.50	-21.97	2.89	43.78	4.76	23.68	33.00	9.32	H
	5	1852.50	-22.61	2.87	43.75	4.87	23.14	33.00	9.86	H
		1880.00	-21.75	2.85	43.75	4.82	23.97	33.00	9.03	H
		1907.50	-21.99	2.84	43.77	4.77	23.71	33.00	9.29	H
	10	1855.00	-21.82	2.88	43.74	4.86	23.90	33.00	9.10	H
		1880.00	-21.25	2.85	43.75	4.82	24.47	33.00	8.53	H
		1905.00	-21.39	2.87	43.77	4.77	24.28	33.00	8.72	H
	15	1857.50	-22.75	2.87	43.75	4.86	22.99	33.00	10.01	H
		1880.00	-23.00	2.85	43.75	4.82	22.72	33.00	10.28	H
		1902.50	-22.29	2.86	43.77	4.78	23.40	33.00	9.60	H
20	1860.00	-22.47	2.86	43.75	4.85	23.27	33.00	9.73	H	
	1880.00	-22.04	2.85	43.75	4.82	23.68	33.00	9.32	H	
	1900.00	-21.70	2.87	43.77	4.78	23.98	33.00	9.02	H	
64QAM	1.4	1850.70	-23.67	2.92	43.75	4.87	22.03	33.00	10.97	H

		1880.00	-22.68	2.85	43.75	4.82	23.04	33.00	9.96	H
		1909.30	-23.13	2.87	43.77	4.76	22.53	33.00	10.47	H
	3	1851.50	-23.74	2.87	43.75	4.87	22.01	33.00	10.99	H
		1880.00	-22.88	2.85	43.75	4.82	22.84	33.00	10.16	H
		1908.50	-23.15	2.89	43.78	4.76	22.50	33.00	10.50	H
	5	1852.50	-23.82	2.87	43.75	4.87	21.93	33.00	11.07	H
		1880.00	-22.93	2.85	43.75	4.82	22.79	33.00	10.21	H
		1907.50	-23.25	2.84	43.77	4.77	22.45	33.00	10.55	H
	10	1855.00	-23.60	2.88	43.74	4.86	22.12	33.00	10.88	H
		1880.00	-22.87	2.85	43.75	4.82	22.85	33.00	10.15	H
		1905.00	-22.04	2.87	43.77	4.77	23.63	33.00	9.37	H
	15	1857.50	-23.64	2.87	43.75	4.86	22.10	33.00	10.90	H
		1880.00	-23.12	2.85	43.75	4.82	22.60	33.00	10.40	H
		1902.50	-23.35	2.86	43.77	4.78	22.34	33.00	10.66	H
	20	1860.00	-23.49	2.86	43.75	4.85	22.25	33.00	10.75	H
		1880.00	-23.16	2.85	43.75	4.82	22.56	33.00	10.44	H
		1900.00	-22.83	2.87	43.77	4.78	22.85	33.00	10.15	H
	256QAM	1.4	1880.00	-25.65	2.85	43.75	4.82	20.07	33.00	12.93
3		1880.00	-25.94	2.85	43.75	4.82	19.78	33.00	13.22	H
5		1880.00	-25.98	2.85	43.75	4.82	19.74	33.00	13.26	H
10		1880.00	-26.06	2.85	43.75	4.82	19.66	33.00	13.34	H
15		1880.00	-26.17	2.85	43.75	4.82	19.55	33.00	13.45	H
20		1900.00	-25.87	2.87	43.77	4.78	19.81	33.00	13.19	H

**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	-22.01	3.17	44.10	5.12	24.04	30.00	5.96	H	
		1732.50	-22.73	3.33	44.14	5.08	23.16	30.00	6.84	H	
		1754.30	-22.60	3.76	44.14	5.04	22.82	30.00	7.18	H	
	3	1711.50	-22.00	3.40	44.10	5.12	23.82	30.00	6.18	H	
		1732.50	-22.60	3.33	44.14	5.08	23.29	30.00	6.71	H	
		1753.50	-22.37	3.80	44.13	5.04	23.00	30.00	7.00	H	
	5	1712.50	-21.61	3.66	44.10	5.12	23.95	30.00	6.05	H	
		1732.50	-22.78	3.33	44.14	5.08	23.11	30.00	6.89	H	
		1752.50	-22.72	3.82	44.14	5.05	22.65	30.00	7.35	H	
	10	1715.00	-21.80	3.56	44.10	5.11	23.85	30.00	6.15	H	
		1732.50	-22.78	3.33	44.14	5.08	23.11	30.00	6.89	H	
		1750.00	-23.61	3.00	44.15	5.05	22.59	30.00	7.41	H	
	15	1717.50	-22.00	3.47	44.11	5.11	23.75	30.00	6.25	H	
		1732.50	-22.89	3.33	44.14	5.08	23.00	30.00	7.00	H	
		1747.50	-23.42	3.34	44.15	5.05	22.44	30.00	7.56	H	
	20	1720.00	-22.12	3.37	44.11	5.10	23.72	30.00	6.28	H	
		1732.50	-22.92	3.33	44.14	5.08	22.97	30.00	7.03	H	
		1745.00	-23.21	3.68	44.16	5.06	22.33	30.00	7.67	H	
	16QAM	1.4	1710.70	-22.56	3.17	44.10	5.12	23.49	30.00	6.51	H
			1732.50	-23.33	3.33	44.14	5.08	22.56	30.00	7.44	H
			1754.30	-23.20	3.76	44.14	5.04	22.22	30.00	7.78	H
		3	1711.50	-22.32	3.40	44.10	5.12	23.50	30.00	6.50	H
			1732.50	-23.29	3.33	44.14	5.08	22.60	30.00	7.40	H
			1753.50	-22.94	3.80	44.13	5.04	22.43	30.00	7.57	H
		5	1712.50	-22.85	3.66	44.10	5.12	22.71	30.00	7.29	H
			1732.50	-23.40	3.33	44.14	5.08	22.49	30.00	7.51	H
			1752.50	-23.18	3.82	44.14	5.05	22.19	30.00	7.81	H
10		1715.00	-22.09	3.56	44.10	5.11	23.56	30.00	6.44	H	
		1732.50	-23.21	3.33	44.14	5.08	22.68	30.00	7.32	H	
		1750.00	-23.78	3.00	44.15	5.05	22.42	30.00	7.58	H	
15		1717.50	-22.40	3.47	44.11	5.11	23.35	30.00	6.65	H	
		1732.50	-23.50	3.33	44.14	5.08	22.39	30.00	7.61	H	
		1747.50	-23.80	3.34	44.15	5.05	22.06	30.00	7.94	H	
20		1720.00	-22.31	3.37	44.11	5.10	23.53	30.00	6.47	H	
		1732.50	-23.38	3.33	44.14	5.08	22.51	30.00	7.49	H	
		1745.00	-23.29	3.68	44.16	5.06	22.25	30.00	7.75	H	
64QAM		1.4	1710.70	-23.64	3.17	44.10	5.12	22.41	30.00	7.59	H
			1732.50	-24.35	3.33	44.14	5.08	21.54	30.00	8.46	H

		1754.30	-24.12	3.76	44.14	5.04	21.30	30.00	8.70	H	
	3	1711.50	-23.44	3.40	44.10	5.12	22.38	30.00	7.62	H	
		1732.50	-25.43	3.33	44.14	5.08	20.46	30.00	9.54	V	
		1753.50	-24.01	3.80	44.13	5.04	21.36	30.00	8.64	H	
	5	1712.50	-23.07	3.66	44.10	5.12	22.49	30.00	7.51	H	
		1732.50	-24.36	3.33	44.14	5.08	21.53	30.00	8.47	H	
		1752.50	-23.92	3.82	44.14	5.05	21.45	30.00	8.55	H	
	10	1715.00	-23.15	3.56	44.10	5.11	22.50	30.00	7.50	H	
		1732.50	-24.38	3.33	44.14	5.08	21.51	30.00	8.49	H	
		1750.00	-24.94	3.00	44.15	5.05	21.26	30.00	8.74	H	
	15	1717.50	-23.52	3.47	44.11	5.11	22.23	30.00	7.77	H	
		1732.50	-24.59	3.33	44.14	5.08	21.30	30.00	8.70	H	
		1747.50	-24.89	3.34	44.15	5.05	20.97	30.00	9.03	H	
	20	1720.00	-23.49	3.37	44.11	5.10	22.35	30.00	7.65	H	
		1732.50	-24.52	3.33	44.14	5.08	21.37	30.00	8.63	H	
		1745.00	-24.45	3.68	44.16	5.06	21.09	30.00	8.91	H	
	256QAM	1.4	1710.70	-26.43	3.17	44.10	5.12	19.62	30.00	10.38	H
		3	1711.50	-26.49	3.40	44.10	5.12	19.33	30.00	10.67	H
5		1712.50	-26.11	3.66	44.10	5.12	19.45	30.00	10.55	H	
10		1715.00	-26.74	3.56	44.10	5.11	18.91	30.00	11.09	H	
15		1717.50	-26.90	3.47	44.11	5.11	18.85	30.00	11.15	H	
20		1720.00	-26.94	3.37	44.11	5.10	18.90	30.00	11.10	H	



**LTE Band 5-ERP**
**Limits:** ≤38.45dBm (7W)

Mod.	Band width (MHz)	Freque ncy (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	P <sub>Ag</sub> (dB)	G <sub>a</sub> (dBi)	Corr ectio n (dB)	ERP (dBm)	Limit (dBm)	Margi n (dB)	An t.P ol
QPSK	1.4	824.70	-23.12	2.26	45.79	0.95	2.15	19.21	38.45	19.24	H
		836.50	-22.72	2.26	45.66	0.82	2.15	19.35	38.45	19.10	H
		848.30	-22.36	2.27	45.55	0.80	2.15	19.57	38.45	18.88	H
	3	825.50	-23.03	2.26	45.79	0.94	2.15	19.29	38.45	19.16	H
		836.50	-22.70	2.26	45.66	0.82	2.15	19.37	38.45	19.08	H
		847.50	-22.28	2.27	45.56	0.81	2.15	19.67	38.45	18.78	H
	5	826.50	-23.02	2.25	45.77	0.93	2.15	19.28	38.45	19.17	H
		836.50	-22.69	2.26	45.66	0.82	2.15	19.38	38.45	19.07	H
		846.50	-22.32	2.26	45.56	0.82	2.15	19.65	38.45	18.80	H
	10	829.00	-22.84	2.25	45.77	0.90	2.15	19.43	38.45	19.02	H
		836.50	-22.80	2.26	45.66	0.82	2.15	19.27	38.45	19.18	H
		844.00	-22.52	2.26	45.59	0.82	2.15	19.48	38.45	18.97	H
16QAM	1.4	824.70	-23.76	2.26	45.79	0.95	2.15	18.57	38.45	19.88	H
		836.50	-23.39	2.26	45.66	0.82	2.15	18.68	38.45	19.77	H
		848.30	-22.97	2.27	45.55	0.80	2.15	18.96	38.45	19.49	H
	3	825.50	-23.69	2.26	45.79	0.94	2.15	18.63	38.45	19.82	H
		836.50	-23.37	2.26	45.66	0.82	2.15	18.70	38.45	19.75	H
		847.50	-22.89	2.27	45.56	0.81	2.15	19.06	38.45	19.39	H
	5	826.50	-23.57	2.25	45.77	0.93	2.15	18.73	38.45	19.72	H
		836.50	-23.35	2.26	45.66	0.82	2.15	18.72	38.45	19.73	H
		846.50	-22.98	2.26	45.56	0.82	2.15	18.99	38.45	19.46	H
	10	829.00	-23.36	2.25	45.77	0.90	2.15	18.91	38.45	19.54	H
		836.50	-23.44	2.26	45.66	0.82	2.15	18.63	38.45	19.82	H
		844.00	-23.14	2.26	45.59	0.82	2.15	18.86	38.45	19.59	H
64QAM	1.4	824.70	-24.17	2.26	45.79	0.95	2.15	18.16	38.45	20.29	H
		836.50	-23.98	2.26	45.66	0.82	2.15	18.09	38.45	20.36	H
		848.30	-23.86	2.27	45.55	0.80	2.15	18.07	38.45	20.38	H
	3	825.50	-24.65	2.26	45.79	0.94	2.15	17.67	38.45	20.78	H
		836.50	-23.99	2.26	45.66	0.82	2.15	18.08	38.45	20.37	H
		847.50	-23.62	2.27	45.56	0.81	2.15	18.33	38.45	20.12	H
	5	826.50	-24.57	2.25	45.77	0.93	2.15	17.73	38.45	20.72	H
		836.50	-23.89	2.26	45.66	0.82	2.15	18.18	38.45	20.27	H
		846.50	-23.65	2.26	45.56	0.82	2.15	18.32	38.45	20.13	H
	10	829.00	-24.62	2.25	45.77	0.90	2.15	17.65	38.45	20.80	H
		836.50	-24.10	2.26	45.66	0.82	2.15	17.97	38.45	20.48	H
		844.00	-23.95	2.26	45.59	0.82	2.15	18.05	38.45	20.40	H
256QA M	1.4	848.30	-27.04	2.27	45.55	0.80	2.15	14.89	38.45	23.56	H
	3	825.50	-27.54	2.26	45.79	0.94	2.15	14.78	38.45	23.67	H
	5	826.50	-27.02	2.25	45.77	0.93	2.15	15.28	38.45	23.17	H
	10	829.00	-27.46	2.25	45.77	0.90	2.15	14.81	38.45	23.64	H

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

Mod.	Band width (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.Po l
QPSK	5	2502.50	-24.98	3.58	45.6	6.10	23.22	33.00	9.78	V
		2535.00	-25.28	3.63	44.8	6.16	22.07	33.00	10.93	H
		2567.50	-24.73	3.65	44.9	6.22	22.76	33.00	10.24	H
	10	2505.00	-25.37	3.59	45.6	6.11	22.79	33.00	10.21	V
		2535.00	-25.44	3.63	44.8	6.16	21.91	33.00	11.09	H
		2565.00	-24.86	3.65	44.9	6.22	22.68	33.00	10.32	H
	15	2507.50	-25.16	3.59	44.9	6.11	22.28	33.00	10.72	V
		2535.00	-25.63	3.63	44.8	6.16	21.72	33.00	11.28	H
		2562.50	-25.33	3.65	45.6	6.21	22.90	33.00	10.10	H
	20	2510.00	-26.10	3.58	45.3	6.12	21.80	33.00	11.20	V
		2535.00	-25.70	3.63	44.8	6.16	21.65	33.00	11.35	H
		2560.00	-25.56	3.63	45.9	6.21	23.00	33.00	10.00	H
16QAM	5	2502.50	-25.61	3.58	45.6	6.10	22.59	33.00	10.41	V
		2535.00	-25.85	3.63	44.8	6.16	21.50	33.00	11.50	H
		2567.50	-25.39	3.65	44.9	6.22	22.10	33.00	10.90	H
	10	2505.00	-26.13	3.59	45.6	6.11	22.03	33.00	10.97	V
		2535.00	-26.09	3.63	44.8	6.16	21.26	33.00	11.74	H
		2565.00	-25.50	3.65	44.9	6.22	22.04	33.00	10.96	H
	15	2507.50	-25.86	3.59	44.9	6.11	21.58	33.00	11.42	V
		2535.00	-26.33	3.63	44.8	6.16	21.02	33.00	11.98	H
		2562.50	-26.11	3.65	45.6	6.21	22.12	33.00	10.88	H
	20	2510.00	-26.75	3.58	45.3	6.12	21.15	33.00	11.85	V
		2535.00	-26.39	3.63	44.8	6.16	20.96	33.00	12.04	H
		2560.00	-26.24	3.63	45.9	6.21	22.32	33.00	10.68	H
64QAM	5	2502.50	-26.78	3.58	45.6	6.10	21.42	33.00	11.58	V
		2535.00	-27.00	3.63	44.8	6.16	20.35	33.00	12.65	H
		2567.50	-26.54	3.65	44.9	6.22	20.95	33.00	12.05	H
	10	2505.00	-27.17	3.59	45.6	6.11	20.99	33.00	12.01	V
		2535.00	-27.22	3.63	44.8	6.16	20.13	33.00	12.87	H
		2565.00	-26.70	3.65	44.9	6.22	20.84	33.00	12.16	H
	15	2507.50	-26.91	3.59	44.9	6.11	20.53	33.00	12.47	V
		2535.00	-26.96	3.63	44.8	6.16	20.39	33.00	12.61	H
		2562.50	-27.19	3.65	45.6	6.21	21.04	33.00	11.96	H
	20	2510.00	-27.81	3.58	45.3	6.12	20.09	33.00	12.91	V
		2535.00	-27.44	3.63	44.8	6.16	19.91	33.00	13.09	H
		2560.00	-27.34	3.63	45.9	6.21	21.22	33.00	11.78	H
256QAM	5	2502.50	-31.52	3.58	45.6	6.10	16.68	33.00	16.32	V
	10	2505.00	-31.73	3.59	45.6	6.11	16.43	33.00	16.57	V
	15	2562.50	-31.79	3.65	45.6	6.21	16.44	33.00	16.56	H
	20	2560.00	-31.58	3.63	45.9	6.21	16.98	33.00	16.02	H

**LTE Band 12 - ERP**
**Limits:** ≤34.77dBm (3W)

Mod.	Band width (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)	ERP (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol
QPSK	1.4	699.70	-22.57	1.90	44.66	0.77	2.15	18.81	34.77	15.96	H
		707.50	-22.12	1.91	44.94	0.62	2.15	19.38	34.77	15.39	H
		715.30	-21.73	1.92	45.26	0.50	2.15	19.96	34.77	14.81	H
	3	700.50	-22.60	1.90	44.68	0.76	2.15	18.79	34.77	15.98	H
		707.50	-22.14	1.91	44.94	0.62	2.15	19.36	34.77	15.41	H
		714.50	-21.83	1.92	45.26	0.50	2.15	19.86	34.77	14.91	H
	5	701.50	-22.63	1.90	44.81	0.74	2.15	18.87	34.77	15.90	H
		707.50	-22.13	1.91	44.94	0.62	2.15	19.37	34.77	15.40	H
		713.50	-21.88	1.92	45.22	0.50	2.15	19.77	34.77	15.00	H
	10	704.00	-22.56	1.91	44.93	0.70	2.15	19.01	34.77	15.76	H
		707.50	-22.22	1.91	44.94	0.62	2.15	19.28	34.77	15.49	H
		711.00	-22.15	1.92	45.19	0.53	2.15	19.50	34.77	15.27	H
16QAM	1.4	699.70	-23.29	1.90	44.66	0.77	2.15	18.09	34.77	16.68	H
		707.50	-22.77	1.91	44.94	0.62	2.15	18.73	34.77	16.04	H
		715.30	-22.23	1.92	45.26	0.50	2.15	19.46	34.77	15.31	H
	3	700.50	-23.13	1.90	44.68	0.76	2.15	18.26	34.77	16.51	H
		707.50	-22.79	1.91	44.94	0.62	2.15	18.71	34.77	16.06	H
		714.50	-22.17	1.92	45.26	0.50	2.15	19.52	34.77	15.25	H
	5	701.50	-23.26	1.90	44.81	0.74	2.15	18.24	34.77	16.53	H
		707.50	-22.71	1.91	44.94	0.62	2.15	18.79	34.77	15.98	H
		713.50	-22.32	1.92	45.22	0.50	2.15	19.33	34.77	15.44	H
	10	704.00	-23.17	1.91	44.93	0.70	2.15	18.40	34.77	16.37	H
		707.50	-22.87	1.91	44.94	0.62	2.15	18.63	34.77	16.14	H
		711.00	-22.79	1.92	45.19	0.53	2.15	18.86	34.77	15.91	H
64QAM	1.4	699.70	-24.31	1.90	44.66	0.77	2.15	17.07	34.77	17.70	H
		707.50	-23.84	1.91	44.94	0.62	2.15	17.66	34.77	17.11	H
		715.30	-23.34	1.92	45.26	0.50	2.15	18.35	34.77	16.42	H
	3	700.50	-24.34	1.90	44.68	0.76	2.15	17.05	34.77	17.72	H
		707.50	-23.88	1.91	44.94	0.62	2.15	17.62	34.77	17.15	H
		714.50	-23.41	1.92	45.26	0.50	2.15	18.28	34.77	16.49	H
	5	701.50	-24.41	1.90	44.81	0.74	2.15	17.09	34.77	17.68	H
		707.50	-23.87	1.91	44.94	0.62	2.15	17.63	34.77	17.14	H
		713.50	-23.60	1.92	45.22	0.50	2.15	18.05	34.77	16.72	H
	10	704.00	-24.20	1.91	44.93	0.70	2.15	17.37	34.77	17.40	H
		707.50	-23.91	1.91	44.94	0.62	2.15	17.59	34.77	17.18	H
		711.00	-23.83	1.92	45.19	0.53	2.15	17.82	34.77	16.95	H
256QAM	1.4	715.30	-27.18	1.92	45.26	0.50	2.15	14.51	34.77	20.26	H
	3	714.50	-27.34	1.92	45.26	0.50	2.15	14.35	34.77	20.42	H
	5	713.50	-27.50	1.92	45.22	0.50	2.15	14.15	34.77	20.62	H
	10	711.00	-27.73	1.92	45.19	0.53	2.15	13.92	34.77	20.85	H

**LTE Band 13 - ERP**
**Limits:** ≤34.77dBm (3W)

Mod.	Band width (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)	ERP (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol
QPSK	5	779.50	-23.53	2.01	45.64	0.04	2.15	17.99	34.77	16.78	H
		782.00	-23.54	2.01	45.65	0.09	2.15	18.04	34.77	16.73	H
		784.50	-23.61	2.01	45.67	0.16	2.15	18.06	34.77	16.71	H
	10	782.00	-23.63	2.01	45.65	0.09	2.15	17.95	34.77	16.82	H
16QAM	5	779.50	-24.14	2.01	45.64	0.04	2.15	17.38	34.77	17.39	H
		782.00	-24.25	2.01	45.65	0.09	2.15	17.33	34.77	17.44	H
		784.50	-24.32	2.01	45.67	0.16	2.15	17.35	34.77	17.42	H
	10	782.00	-24.03	2.01	45.65	0.09	2.15	17.55	34.77	17.22	H
64QAM	5	779.50	-25.23	2.01	45.64	0.04	2.15	16.29	34.77	18.48	H
		782.00	-25.13	2.01	45.65	0.09	2.15	16.45	34.77	18.32	H
		784.50	-25.28	2.01	45.67	0.16	2.15	16.39	34.77	18.38	H
	10	782.00	-25.31	2.01	45.65	0.09	2.15	16.27	34.77	18.50	H
256QAM	5	782.00	-28.89	2.01	45.65	0.09	2.15	12.69	34.77	22.08	H
	10	782.00	-29.56	2.01	45.65	0.09	2.15	12.02	34.77	22.75	H

**LTE Band 14- ERP**
**Limits:** ≤34.77 dBm (3W)

Mod.	Band width (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)	ERP (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol
QPSK	5	790.50	-20.28	2.02	45.71	0.18	2.15	21.44	34.77	13.33	H
		793.00	-20.06	2.03	45.72	0.19	2.15	21.67	34.77	13.10	H
		795.50	-20.15	2.03	45.74	0.20	2.15	21.61	34.77	13.16	H
	10	793.00	-20.18	2.03	45.72	0.19	2.15	21.55	34.77	13.22	H
16QAM	5	790.50	-20.97	2.02	45.71	0.18	2.15	20.75	34.77	14.02	H
		793.00	-20.84	2.03	45.72	0.19	2.15	20.89	34.77	13.88	H
		795.50	-20.82	2.03	45.74	0.20	2.15	20.94	34.77	13.83	H
	10	793.00	-20.88	2.03	45.72	0.19	2.15	20.85	34.77	13.92	H
64QAM	5	790.50	-22.02	2.02	45.71	0.18	2.15	19.70	34.77	15.07	H
		793.00	-21.77	2.03	45.72	0.19	2.15	19.96	34.77	14.81	H
		795.50	-21.86	2.03	45.74	0.20	2.15	19.90	34.77	14.87	H
	10	793.00	-21.92	2.03	45.72	0.19	2.15	19.81	34.77	14.96	H
256QAM	5	793.00	-24.71	2.03	45.72	0.19	2.15	17.02	34.77	17.75	H
	10	793.00	-24.74	2.03	45.72	0.19	2.15	16.99	34.77	17.78	H

**LTE Band 25- EIRP**
**Limits:** ≤33dBm (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.Po l	
QPSK	1.4	1850.70	-21.44	2.92	43.75	4.87	24.26	33.00	8.74	H	
		1882.50	-20.58	3.13	43.75	4.81	24.85	33.00	8.15	H	
		1914.30	-21.30	2.89	43.78	4.75	24.34	33.00	8.66	H	
	3	1851.50	-22.45	2.87	43.75	4.87	23.30	33.00	9.70	H	
		1882.50	-20.50	3.13	43.75	4.81	24.93	33.00	8.07	H	
		1913.50	-21.18	2.88	43.78	4.76	24.48	33.00	8.52	H	
	5	1852.50	-21.49	2.87	43.75	4.87	24.26	33.00	8.74	H	
		1882.50	-20.57	3.13	43.75	4.81	24.86	33.00	8.14	H	
		1912.50	-21.26	2.86	43.77	4.76	24.41	33.00	8.59	H	
	10	1855.00	-21.59	2.88	43.74	4.86	24.13	33.00	8.87	H	
		1882.50	-20.76	3.13	43.75	4.81	24.67	33.00	8.33	H	
		1910.00	-21.23	2.88	43.77	4.76	24.42	33.00	8.58	H	
	15	1857.50	-21.53	2.87	43.75	4.86	24.21	33.00	8.79	H	
		1882.50	-20.66	3.13	43.75	4.81	24.77	33.00	8.23	H	
		1907.50	-21.25	2.84	43.77	4.77	24.45	33.00	8.55	H	
	20	1860.00	-21.65	2.86	43.75	4.85	24.09	33.00	8.91	H	
		1882.50	-21.67	3.13	43.75	4.81	23.76	33.00	9.24	H	
		1905.00	-21.04	2.87	43.77	4.77	24.63	33.00	8.37	H	
	16QAM	1.4	1850.70	-22.18	2.92	43.75	4.87	23.52	33.00	9.48	H
			1882.50	-21.22	3.13	43.75	4.81	24.21	33.00	8.79	H
			1914.30	-21.89	2.89	43.78	4.75	23.75	33.00	9.25	H
		3	1851.50	-22.05	2.87	43.75	4.87	23.70	33.00	9.30	H
			1882.50	-21.10	3.13	43.75	4.81	24.33	33.00	8.67	H
			1913.50	-21.78	2.88	43.78	4.76	23.88	33.00	9.12	H
		5	1852.50	-22.13	2.87	43.75	4.87	23.62	33.00	9.38	H
			1882.50	-21.24	3.13	43.75	4.81	24.19	33.00	8.81	H
			1912.50	-21.90	2.86	43.77	4.76	23.77	33.00	9.23	H
10		1855.00	-22.18	2.88	43.74	4.86	23.54	33.00	9.46	H	
		1882.50	-21.25	3.13	43.75	4.81	24.18	33.00	8.82	H	
		1910.00	-21.82	2.88	43.77	4.76	23.83	33.00	9.17	H	
15		1857.50	-22.24	2.87	43.75	4.86	23.50	33.00	9.50	H	
		1882.50	-21.36	3.13	43.75	4.81	24.07	33.00	8.93	H	
		1907.50	-21.91	2.84	43.77	4.77	23.79	33.00	9.21	H	
20		1860.00	-22.28	2.86	43.75	4.85	23.46	33.00	9.54	H	
		1882.50	-21.50	3.13	43.75	4.81	23.93	33.00	9.07	H	
		1905.00	-21.70	2.87	43.77	4.77	23.97	33.00	9.03	H	
64QAM		1.4	1850.70	-23.03	2.92	43.75	4.87	22.67	33.00	10.33	H
			1882.50	-22.30	3.13	43.75	4.81	23.13	33.00	9.87	H

		1914.30	-23.00	2.89	43.78	4.75	22.64	33.00	10.36	H
	3	1851.50	-23.18	2.87	43.75	4.87	22.57	33.00	10.43	H
		1882.50	-22.31	3.13	43.75	4.81	23.12	33.00	9.88	H
		1913.50	-22.91	2.88	43.78	4.76	22.75	33.00	10.25	H
	5	1852.50	-23.30	2.87	43.75	4.87	22.45	33.00	10.55	H
		1882.50	-22.43	3.13	43.75	4.81	23.00	33.00	10.00	H
		1912.50	-23.01	2.86	43.77	4.76	22.66	33.00	10.34	H
	10	1855.00	-23.35	2.88	43.74	4.86	22.37	33.00	10.63	H
		1882.50	-22.45	3.13	43.75	4.81	22.98	33.00	10.02	H
		1910.00	-23.02	2.88	43.77	4.76	22.63	33.00	10.37	H
	15	1857.50	-23.30	2.87	43.75	4.86	22.44	33.00	10.56	H
		1882.50	-22.47	3.13	43.75	4.81	22.96	33.00	10.04	H
		1907.50	-23.03	2.84	43.77	4.77	22.67	33.00	10.33	H
	20	1860.00	-23.36	2.86	43.75	4.85	22.38	33.00	10.62	H
		1882.50	-22.53	3.13	43.75	4.81	22.90	33.00	10.10	H
1905.00		-22.83	2.87	43.77	4.77	22.84	33.00	10.16	H	
256QAM	1.4	1882.50	-25.42	3.13	43.75	4.81	20.01	33.00	12.99	H
	3	1882.50	-25.11	3.13	43.75	4.81	20.32	33.00	12.68	H
	5	1882.50	-25.37	3.13	43.75	4.81	20.06	33.00	12.94	H
	10	1882.50	-25.53	3.13	43.75	4.81	19.90	33.00	13.10	H
	15	1882.50	-25.52	3.13	43.75	4.81	19.91	33.00	13.09	H
	20	1882.50	-25.70	3.13	43.75	4.81	19.73	33.00	13.27	H