

# FCC Radio Test Report

## FCC ID: ZMONL668LA05

This report concerns: Original Grant

**Project No.** : 2111C171  
**Equipment** : LTE Module  
**Brand Name** : Fibocom  
**Test Model** : NL668-LA  
**Series Model** : NL668-LA-05, NL668-LA-10, NL668-LA-30  
**Applicant** : Fibocom Wireless Inc.  
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**Manufacturer** : Fibocom Wireless Inc.  
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**Factory** : Huizhou HYE Technology Co., Ltd.  
**Address** : No. 237, Sanhe group, Sanhe village, Tonghu Town, Zhongkai hi tech Zone, Huizhou  
**Date of Receipt** : Nov. 29, 2021  
**Date of Test** : Dec. 03, 2021 ~ Dec. 31, 2021  
**Issued Date** : Feb. 14, 2022  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG20211201108 for conducted, DG20211201110 for radiated.  
**Standard(s)** : 47 CFR FCC Part 27 Subpart L  
47 CFR FCC Part 27 Subpart M  
47 CFR FCC Part 27 Subpart H  
47 CFR FCC Part 2  
ANSI C63.26-2015  
ANSI/TIA/EIA-603-E-2016  
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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TESTING CERT #5123.02

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**Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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**BTL's** laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

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**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Feb. 14, 2022

## 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 27 Subpart L, M, N, H, F & Part 2			
Standard(s) Section	Test Item	Judgment	Remark
2.1046	Output Power	PASS	-----
27.50(d)(4) 27.50(c)(10) 27.50(h)(2)	Equivalent Isotropic Radiated Power & Equivalent Radiated Power	PASS	-----
2.1049	Occupied Bandwidth	PASS	-----
2.1051 27.53(h) 27.53(g) 27.53(m)(4)&(m)(6)	Conducted Spurious Emissions	PASS	-----
2.1053 27.53(h) 27.53(m)(4)	Radiated Spurious Emissions	PASS	-----
2.1051 27.53(h) 27.53(g) 27.53(m)(4)&(m)(6)	Band Edge Measurements	PASS	-----
-	Peak To Average Ratio	PASS	Record Only
2.1055 27.54	Frequency Stability	PASS	-----

Note:

(1) "N/A" denotes test is not applicable in this test report.

### 1.1 TEST FACILITY

The test facilities used to collect the test data of radiated in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town Dongguan City, Guangdong 523792 People's Republic of China.

The test facilities used to collect the test data of conducted in this report is at the location of Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

### 1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor)  $k=1.96$  or  $k=2$  (which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2xUc(y)$ .

The BTL measurement uncertainty as below table:

#### A. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03	CISPR	30MHz ~ 200MHz	V	4.36
		30MHz ~ 200MHz	H	3.32
		200MHz ~ 1,000MHz	V	4.08
		200MHz ~ 1,000MHz	H	3.96
		1GHz ~ 6GHz	-	3.80
		6GHz ~ 18GHz	-	4.82
		18 GHz ~ 26.5 GHz	-	3.62

#### B. Other Measurement:

Parameter	Uncertainty
Spectrum Bandwidth	$\pm 3.8$ %
Maximum Output Power	$\pm 0.95$ dB
Power Spectral Density	$\pm 0.86$ dB
Frequency Stability	$\pm 0.16$ dB
Temperature	$\pm 0.08$ °C
Time	$\pm 0.58$ %
Supply voltages	$\pm 0.3$ %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

**1.3 TEST ENVIRONMENT CONDITIONS**

Test Item	Temperature	Humidity	Test Voltage	Tested By
Output Power & ERP	23°C	44%	DC 3.8V	Rick Liao
Occupied Bandwidth	23°C	44%	DC 3.8V	Rick Liao
Conducted Spurious Emissions	23°C	44%	DC 3.8V	Rick Liao
Radiated Spurious Emissions (9 kHz to 30 MHz)	22°C	50%	DC 3.8V	Kwok Guo
Radiated Spurious Emissions (30 MHz to 1000 MHz)	22°C	50%	DC 3.8V	Kwok Guo
Radiated Spurious Emissions (Above 1000 MHz)	22°C	50%	DC 3.8V	Kwok Guo
Band Edge	23°C	44%	DC 3.8V	Rick Liao
Peak to Average Ratio	23°C	44%	DC 3.8V	Rick Liao
Frequency Stability	Normal & Extreme	44%	Normal & Extreme	Rick Liao



**2. GENERAL INFORMATION**
**2.1 GENERAL DESCRIPTION OF EUT**

Equipment	LTE Module			
Brand Name	Fibocom			
Test Model	NL668-LA			
Series Model	NL668-LA-05, NL668-LA-10, NL668-LA-30			
Model Difference(s)	Only differ in memory.			
Hardware Version	V1.0.0			
Software Version	19005.1000.15.02.00.05			
Power Source	DC voltage supplied from external power supply.			
Power Rating	DC 3.3V~4.3V			
IEMI No.	Radiated	860333050418759		
	Conducted	860333050419385		
Modulation Type	WCDMA/HSDPA/HSUPA	UL: QPSK DL: QPSK,16QAM		
	LTE	UL: QPSK,16QAM DL: QPSK,16QAM,64QAM		
Max. EIRP	WCDMA Band IV	QPSK	25.04	dBm
	HSDPA Band IV	QPSK	23.79	dBm
	HSUPA Band IV	QPSK	23.74	dBm
	LTE	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)
	Band 4	1.4	23.52	22.76
		3	23.60	22.84
		5	23.48	22.30
		10	23.77	23.37
		15	23.81	23.13
		20	23.58	22.48
	Band 7	5	25.02	23.90
		10	25.49	24.76
		15	25.49	25.33
		20	25.23	24.18
	Band 38	5	23.55	22.32
		10	23.58	23.18
		15	23.45	23.16
		20	23.81	22.67
	Band 66	1.4	24.15	23.69
		3	24.36	23.26
5		23.91	22.98	
10		24.26	23.18	
15		24.55	23.85	
Band 12	1.4	19.22	18.52	
	3	19.36	18.68	
Band 17	5	19.11	18.42	
	10	19.34	18.66	
	5	20.38	19.34	
	10	20.50	19.42	
Max. ERP				

**Note:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

**2. Channel List:**

WCDMA Band IV				
Test Frequency ID	UARFCN	Frequency of Uplink (MHz)	UARFCN	Frequency of Downlink (MHz)
Low Range	1312	1712.4	1537	2112.4
Mid Range	1413	1732.6	1638	2132.6
High Range	1513	1752.6	1738	2152.6

LTE Band 4					
Test Frequency ID	Bandwidth (MHz)	N <sub>UL</sub>	Frequency of Uplink (MHz)	N <sub>DL</sub>	Frequency of Downlink (MHz)
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1740	2300	2145

LTE Band 7					
Test Frequency ID	Bandwidth (MHz)	N <sub>UL</sub>	Frequency of Uplink (MHz)	N <sub>DL</sub>	Frequency of Downlink (MHz)
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20	20850	2510	2850	2630
Mid Range	5/10/15/20	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20	21350	2560	3350	2680

LTE Band 12					
Test Frequency ID	Bandwidth (MHz)	N <sub>UL</sub>	Frequency of Uplink (MHz)	N <sub>DL</sub>	Frequency of Downlink (MHz)
Low Range	1.4	23017	699.7	5017	729.7
	3	23025	700.5	5025	730.5
	5	23035	701.5	5035	731.5
	10	23060	704.0	5060	734
Mid Range	1.4/3/5/10	23095	707.5	5095	737.5
High Range	1.4	23173	715.3	5173	745.3
	3	23165	714.5	5165	744.5
	5	23155	713.5	5155	743.5
	10	23130	711.0	5130	741

LTE Band 17					
Test Frequency ID	Bandwidth (MHz)	N <sub>UL</sub>	Frequency of Uplink (MHz)	N <sub>DL</sub>	Frequency of Downlink (MHz)
Low Range	5	23755	706.5	5755	736.5
	10	23780	709	5780	739
Mid Range	5/10	23790	710	5790	740
High Range	5	23825	713.5	5825	743.5
	10	23800	711	5800	741

LTE Band 38			
Test Frequency ID	Bandwidth (MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	37775	2572.5
	10	37800	2575
	15	37825	2577.5
	20	37850	2580
Mid Range	5/10/15/20	38000	2595
High Range	5	38225	2617.5
	10	38200	2615
	15	38175	2612.5
	20	38150	2610

LTE Band 66					
Test Frequency ID	Bandwidth (MHz)	N <sub>UL</sub>	Frequency of Uplink (MHz)	N <sub>DL</sub>	Frequency of Downlink (MHz)
Low Range	1.4	131979	1710.7	66443	2110.7
	3	131987	1711.5	66451	2111.5
	5	131997	1712.5	66461	2112.5
	10	132022	1715	66486	2115
	15	132047	1717.5	66511	2117.5
	20	132072	1720	66536	2120
Mid Range	1.4/3/5/10/15/20	132322	1745	66786	2145
High Range	1.4	132665	1779.3	67129	2179.3
	3	132657	1778.5	67121	2178.5
	5	132647	1777.5	67111	2177.5
	10	132622	1775	67086	2175
	15	132597	1772.5	67061	2172.5
	20	132572	1770	67036	2170

## 3. Table for Filed Antenna:

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
N/A	N/A	Dipole	SMA	1.4	WCDMA Band IV
N/A	N/A	Dipole	SMA	1.4	LTE Band 4
N/A	N/A	Dipole	SMA	2.6	LTE Band 7
N/A	N/A	Dipole	SMA	-1.4	LTE Band 12
N/A	N/A	Dipole	SMA	-0.7	LTE Band 17
N/A	N/A	Dipole	SMA	1.8	LTE Band 38
N/A	N/A	Dipole	SMA	1.6	LTE Band 66

Note: The antenna gain is provided by the manufacturer.

**2.2 DESCRIPTION OF TEST MODES**

Following mode(s) is (were) found to be the worst case(s) and selected for the final test.

<b>WCDMA BAND IV MODE</b>			
<b>Test Item</b>	<b>Available Channel</b>	<b>Tested Channel</b>	<b>Mode</b>
Output Power & EIRP	1312 to 1513	1312, 1413, 1513	WCDMA, HSDPA, HSUPA
Occupied Bandwidth	1312 to 1513	1312, 1413, 1513	WCDMA
Conducted Spurious Emissions	1312 to 1513	1413	WCDMA
Radiated Spurious Emissions	1312 to 1513	1413	WCDMA
Band Edge	1312 to 1513	1312, 1513	WCDMA
Peak to Average Ratio	1312 to 1513	1312, 1413, 1513	WCDMA
Frequency Stability	1312 to 1513	1312, 1513	WCDMA

LTE BAND 4 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM,	1RB/3RB/6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM,	1RB/8RB/15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM,	1RB/12RB/25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM,	1RB/25RB/50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM,	1RB/36RB/75RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM,	1RB/50RB/100RB
Occupied Bandwidth	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB
Radiated Spurious Emissions	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB
Band Edge	19957 to 20393	19957, 20393	1.4MHz	QPSK	1RB/6RB
	19965 to 20385	19965, 20385	3MHz	QPSK	1RB/15RB
	19975 to 20375	19975, 20375	5MHz	QPSK	1RB/25RB
	20000 to 20350	20000, 20350	10MHz	QPSK	1RB/50RB
	20025 to 20325	20025, 20325	15MHz	QPSK	1RB/75RB
	20050 to 20300	20050, 20300	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB
Frequency Stability	20050 to 20300	20050, 20300	20MHz	QPSK	1RB

LTE BAND 7 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1RB/36RB/75RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1RB/50RB/100RB
Occupied Bandwidth	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	25RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	20775 to 21425	21100	5MHz	QPSK	1RB
	20850 to 21350	21100	20MHz	QPSK	1RB
Radiated Spurious Emissions	20775 to 21425	21100	5MHz	QPSK	1RB
	20850 to 21350	21100	20MHz	QPSK	1RB
Band Edge	20775 to 21425	20775, 21425	5MHz	QPSK	1RB/25RB
	20800 to 21400	20800, 21400	10MHz	QPSK	1RB/50RB
	20825 to 21375	20825, 21375	15MHz	QPSK	1RB/75RB
	20850 to 21350	20850, 21350	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1RB
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1RB
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1RB
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1RB
Frequency Stability	20850 to 21350	20850, 21350	20MHz	QPSK	1RB

LTE BAND 12 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & ERP	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM, 64QAM	1RB/3RB/6RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM, 64QAM	1RB/8RB/15RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
Frequency	23060 to 23130	23060,23130	10MHz	QPSK	1RB
Occupied Bandwidth	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	6RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	15RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	25RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	50RB
Peak to Average Ratio	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1RB
Band Edge	23017 to 23173	23017,23173	1.4MHz	QPSK	1RB/6RB
	23025 to 23165	23025,23165	3MHz	QPSK	1RB/15RB
	23035 to 23155	23035,23155	5MHz	QPSK	1RB/25RB
	23060 to 23130	23060,23130	10MHz	QPSK	1RB/50RB
Conducted Emission	23017 to 23173	23095	1.4MHz	QPSK	1RB
	23025 to 23165	23095	3MHz	QPSK	1RB
	23035 to 23155	23095	5MHz	QPSK	1RB
	23060 to 23130	23095	10MHz	QPSK	1RB
Radiated Emission	23017 to 23173	23095	1.4MHz	QPSK	1RB
	23017 to 23173	23095	5MHz	QPSK	1RB
	23060 to 23130	23095	10MHz	QPSK	1RB

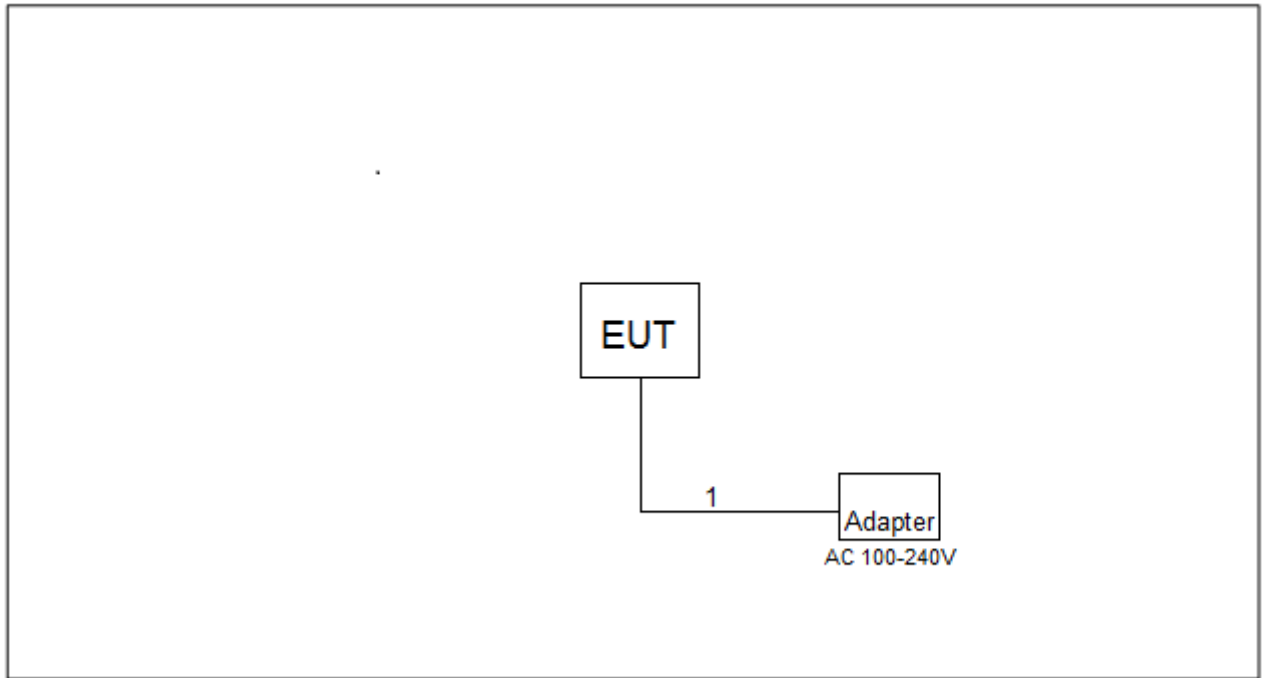


LTE BAND 17 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
Occupied Bandwidth	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM	25RB
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM	50RB
Conducted Spurious Emissions	23755 to 23825	23790	5MHz	QPSK	1RB
	23780 to 23800	23790	20MHz	QPSK	1RB
Radiated Spurious Emissions	23755 to 23825	23790	5MHz	QPSK	1RB
	23780 to 23800	23790	20MHz	QPSK	1RB
Band Edge	23755 to 23825	23755, 23825	5MHz	QPSK	1RB/25RB
	23780 to 23800	23780, 23800	10MHz	QPSK	1RB/50RB
Peak to Average Ratio	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM	1RB
	23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM	1RB
Frequency Stability	23780 to 23800	23780, 23800	10MHz	QPSK	1RB

LTE BAND 38 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
	37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1RB/36RB/75RB
	37850 to 38150	37850, 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	1RB/50RB/100RB
Occupied Bandwidth	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM	25RB
	37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM	50RB
	37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM	75RB
	37850 to 38150	37850, 38000, 38150	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	37850 to 38150	38000	5MHz	QPSK	1RB
	37850 to 38150	38000	20MHz	QPSK	1RB
Radiated Spurious Emissions	37850 to 38150	38000	5MHz	QPSK	1RB
	37850 to 38150	38000	20MHz	QPSK	1RB
Band Edge	37775 to 38225	37775, 38225	5MHz	QPSK	1RB/25RB
	37800 to 38200	37800, 38200	10MHz	QPSK	1RB/50RB
	37825 to 38175	37825, 38175	15MHz	QPSK	1RB/75RB
	37850 to 38150	37850, 38150	20MHz	QPSK	1RB/100RB
Peak to Average Ratio	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM	1RB
	37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM	1RB
	37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM	1RB
	37850 to 38150	37850, 38000, 38150	20MHz	QPSK, 16QAM	1RB
Frequency Stability	37850 to 38150	37850, 38150	20MHz	QPSK	1RB

LTE BAND 66 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & EIRP	131979 to 132665	131979, 132322, 132665	1.4MHz	QPSK, 16QAM, 64QAM	1RB/3RB/6RB
	131987 to 132657	131987, 132322, 132657	3MHz	QPSK, 16QAM, 64QAM	1RB/8RB/15RB
	131997 to 132647	131997, 132322, 132647	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	132022 to 132622	132022, 132322, 132622	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
	132047 to 132597	132047, 132322, 132597	15MHz	QPSK, 16QAM, 64QAM	1RB/36RB/75RB
	132072 to 132572	132072, 132322, 132572	20MHz	QPSK, 16QAM, 64QAM	1RB/50RB/100RB
Occupied Bandwidth	131979 to 132665	131979, 132322, 132665	1.4MHz	QPSK, 16QAM	6RB
	131987 to 132657	131987, 132322, 132657	3MHz	QPSK, 16QAM	15RB
	131997 to 132647	131997, 132322, 132647	5MHz	QPSK, 16QAM	25RB
	132022 to 132622	132022, 132322, 132622	10MHz	QPSK, 16QAM	50RB
	132047 to 132597	132047, 132322, 132597	15MHz	QPSK, 16QAM	75 RB
	132072 to 132572	132072, 132322, 132572	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	131979 to 132665	132322	1.4MHz	QPSK	1RB
	131997 to 132647	132322	5MHz	QPSK	1RB
	132072 to 132572	132322	20MHz	QPSK	1RB
Radiated Spurious Emissions	131979 to 132665	132322	1.4MHz	QPSK	1RB
	131997 to 132647	132322	5MHz	QPSK	1RB
	132072 to 132572	132322	20MHz	QPSK	1RB
Band Edge	131979 to 132665	131979, 132665	1.4MHz	QPSK	1RB/6RB
	131987 to 132657	131987, 132657	3MHz	QPSK	1RB/15RB
	131997 to 132647	131997, 132647	5MHz	QPSK	1RB/25RB
	132022 to 132622	132022, 132622	10MHz	QPSK	1RB/50RB
	132047 to 132597	132047, 132597	15MHz	QPSK	1RB/75RB
	132072 to 132572	132072, 132572	20MHz	QPSK	1RB/100RB
Peak to Average Ratio	131979 to 132665	131979, 132322, 132665	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	131987 to 132657	131987, 132322, 132657	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	131997 to 132647	131997, 132322, 132647	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	132022 to 132622	132022, 132322, 132622	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	132047 to 132597	132047, 132322, 132597	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	132072 to 132572	132072, 132322, 132572	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Frequency Stability	132072 to 132572	132072, 132572	20MHz	QPSK	1RB

### 2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



### 2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
-	Adapter	HUAWEI	HW-050100U01	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	USB Cable	YES	NO	1.2m

### 3. TEST RESULT

#### 3.1 OUTPUT POWER MEASUREMENT

##### 3.1.1 LIMIT

Mobile / Portable station are limited to 1 watts e.i.r.p. (Part 27 Subpart L)

Mobile / Portable station are limited to 2 watts e.i.r.p. (Part 27 Subpart M)

Mobile / Portable station are limited to 3 watts e.r.p (Part 27 Subpart H)

##### 3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

##### EIRP:

$EIRP = \text{Output Power} + \text{Antenan gain}$

##### ERP:

$ERP = EIRP - 2.15$

##### Output Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

##### 3.1.3 TEST SETUP LAYOUT

Output Power Measurement



##### 3.1.4 TEST DEVIATION

No deviation

##### 3.1.5 TEST RESULTS

Please refer to the APPENDIX A.

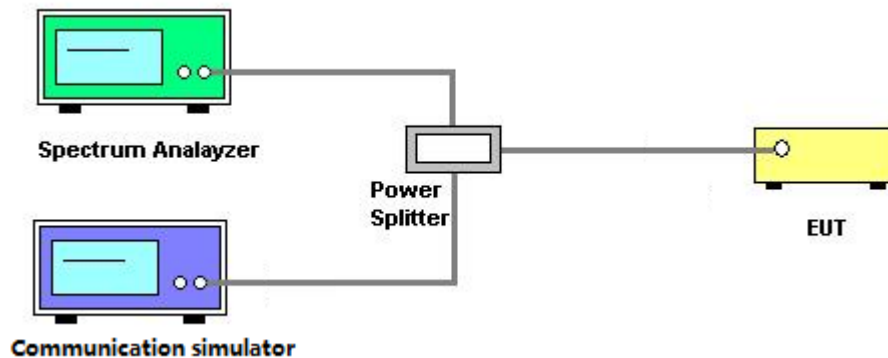
## 3.2 OCCUPIED BANDWIDTH MEASUREMENT

### 3.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4.

1. The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3.  $RBW=(1\% \sim 5\%)*EBW$   
 $VBW \geq 3* RBW$
4. Set spectrum analyzer with Peak detector.

### 3.2.2 TEST SETUP LAYOUT



### 3.2.3 TEST DEVIATION

No deviation

### 3.2.4 TEST RESULTS

Please refer to the APPENDIX B.

### 3.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

#### 3.3.1 LIMIT

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. The emission limit equal to -13dBm. (Part 27 Subpart L)

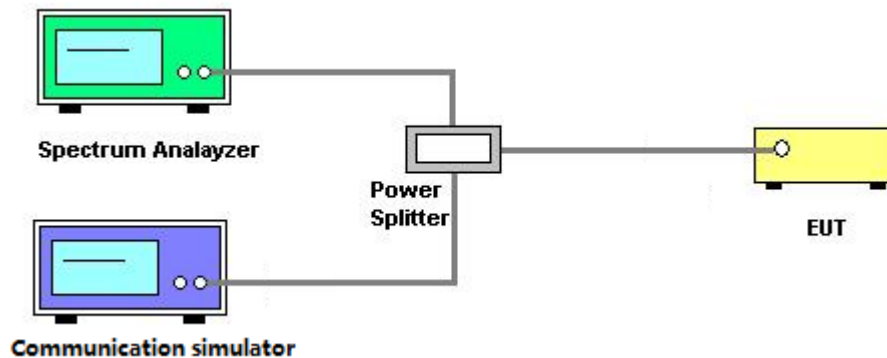
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $55 + 10 \log(P)$  dB. The emission limit equal to -25dBm. (Part 27 Subpart M)

#### 3.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW $\geq$ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with Peak detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

#### 3.3.3 TEST SETUP LAYOUT



#### 3.3.4 TEST DEVIATION

No deviation

#### 3.3.5 TEST RESULTS

Please refer to the APPENDIX C.

### **3.4 RADIATED SPURIOUS EMISSIONS MEASUREMENT**

#### **3.4.1 LIMIT**

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. The emission limit equal to -13dBm. (Part 27 Subpart L)

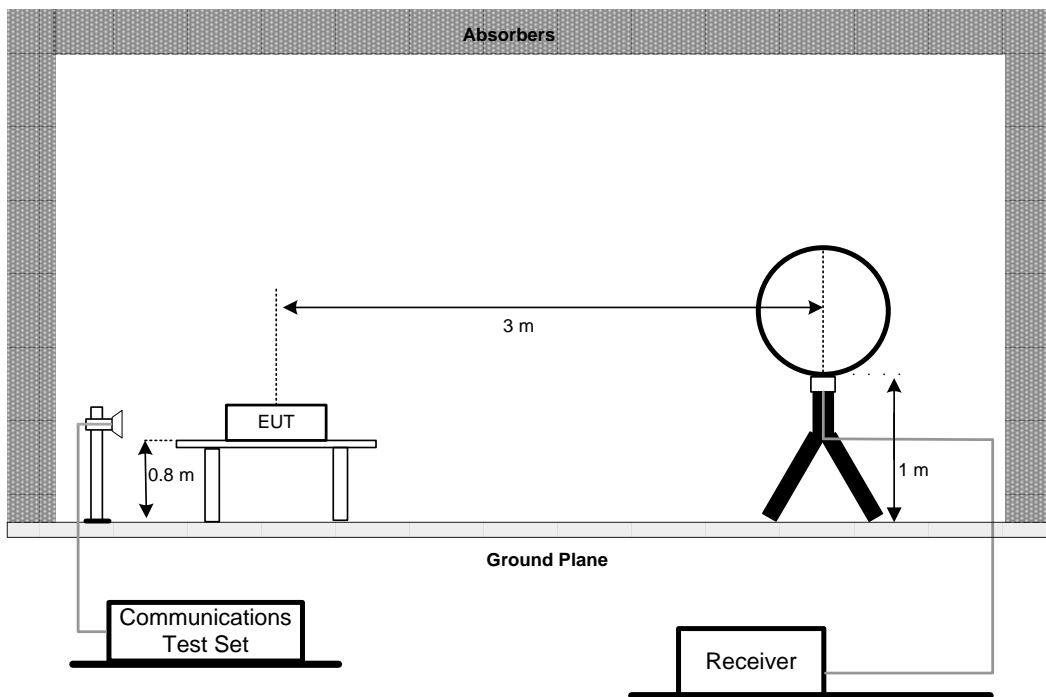
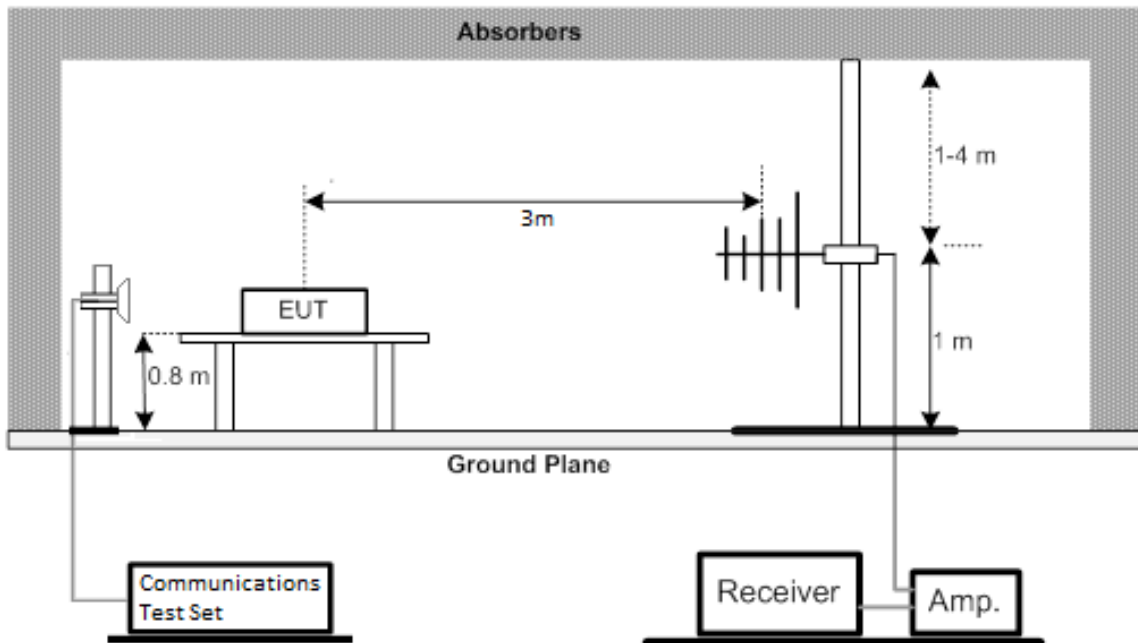
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $55 + 10 \log(P)$  dB. The emission limit equal to -25dBm. (Part 27 Subpart M)

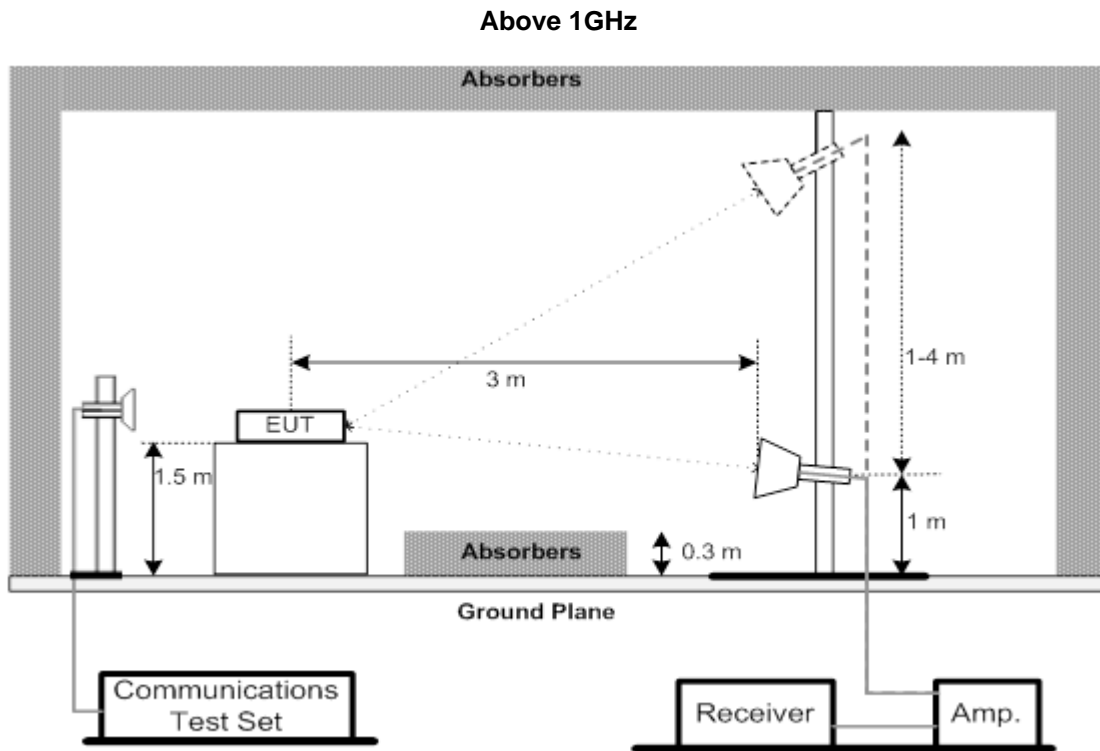
#### **3.4.2 TEST PROCEDURES**

The testing follows FCC KDB 971168 v03r01 Section 6.2.

1. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
2. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
3.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
4. ERP can be calculated form EIRP by subtracting the gain of dipole,  $ERP = EIPR - 2.15dBi.$
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.



**3.4.3 TEST SETUP LAYOUT****Below 30MHz****30MHz to 1GHz**



#### 3.4.4 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX D.

#### 3.4.5 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX E.

#### 3.4.6 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX F.

### 3.5 BAND EDGE MEASUREMENT

#### 3.5.1 LIMIT

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. (Part 27 Subpart L)

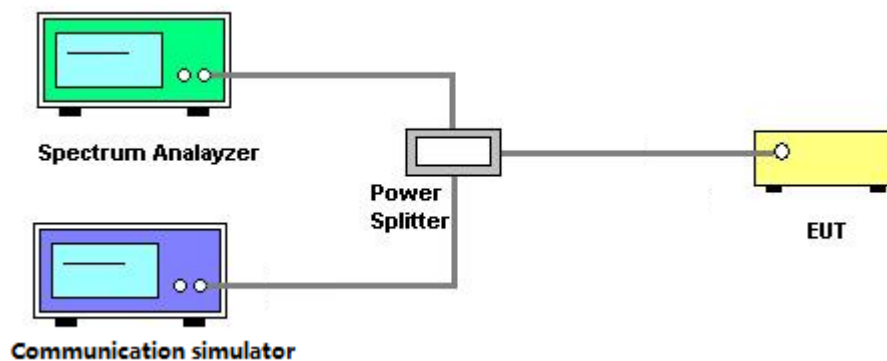
For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  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. (Part 27 Subpart M)

#### 3.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. All measurements were done at low and high operational frequency range.
2. Record the max trace plot into the test report.

#### 3.5.3 TEST SETUP LAYOUT



#### 3.5.4 TEST DEVIATION

No deviation

#### 3.5.5 TEST RESULTS

Please refer to the APPENDIX G.

### 3.6 PEAK TO AVERAGE RATIO MEASUREMENT

#### 3.6.1 LIMIT

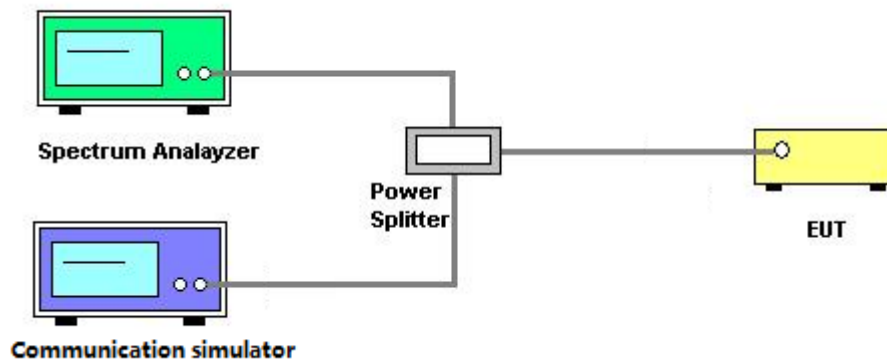
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

#### 3.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7.

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

#### 3.6.3 TEST SETUP LAYOUT



#### 3.6.4 TEST DEVIATION

No deviation

#### 3.6.5 TEST RESULTS

Please refer to the APPENDIX H.

### 3.7 FREQUENCY STABILITY MEASUREMENT

#### 3.7.1 LIMIT

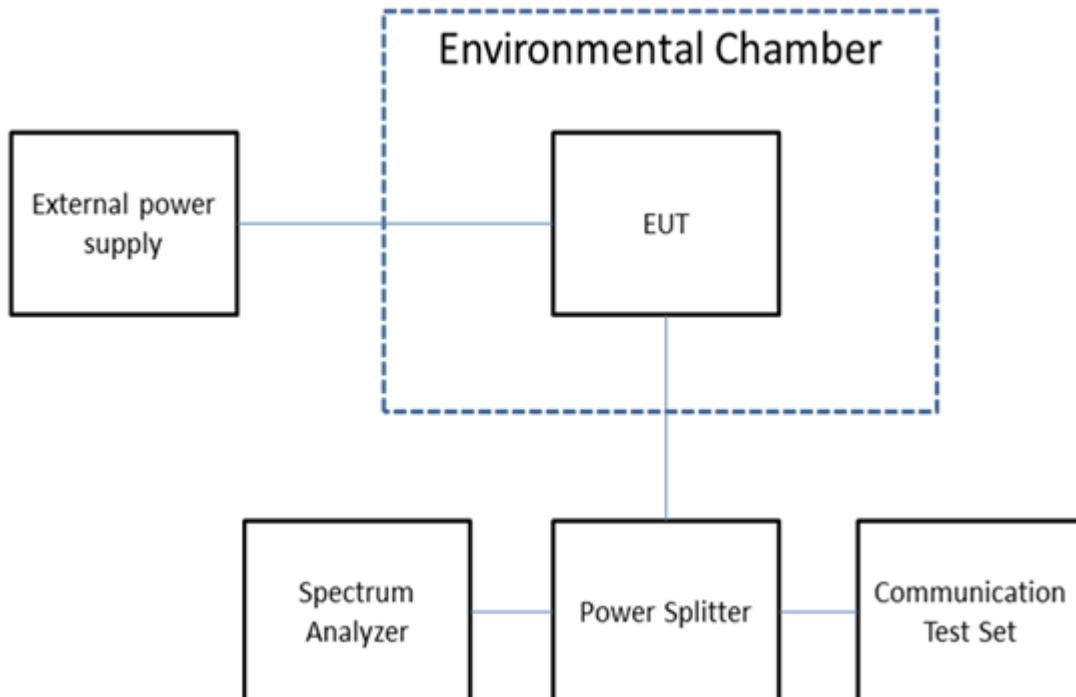
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### 3.7.2 TEST PROCEDURES

The testing follows ANSI C63.26-2015 Section 5.6.

1. A reference point shall be established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as  $f_L$  and  $f_H$  respectively. The worst-case frequency offset determined in the above methods shall be added or subtracted from the values of  $f_L$  and  $f_H$  and the resulting frequencies must remain within the band.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

#### 3.7.3 TEST SETUP LAYOUT



#### 3.7.4 TEST DEVIATION

No deviation

#### 3.7.5 TEST RESULTS

Please refer to the APPENDIX I.

**4. LIST OF MEASUREMENT EQUIPMENTS**

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	MXE EMI Receiver	Keysight	N9038A	MY56400091	Feb. 27, 2022
2*	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Aug. 23, 2024
3	Cable	N/A	RG 213/U (9kHz~1GHz)	N/A	May 27, 2022
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	wideband radio communication tester	R&S	CMW500	152372	Feb. 27, 2022
6	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Feb. 28, 2022
7	966 Chamber Room	ETS	9*6*6	N/A	Jul. 17, 2022

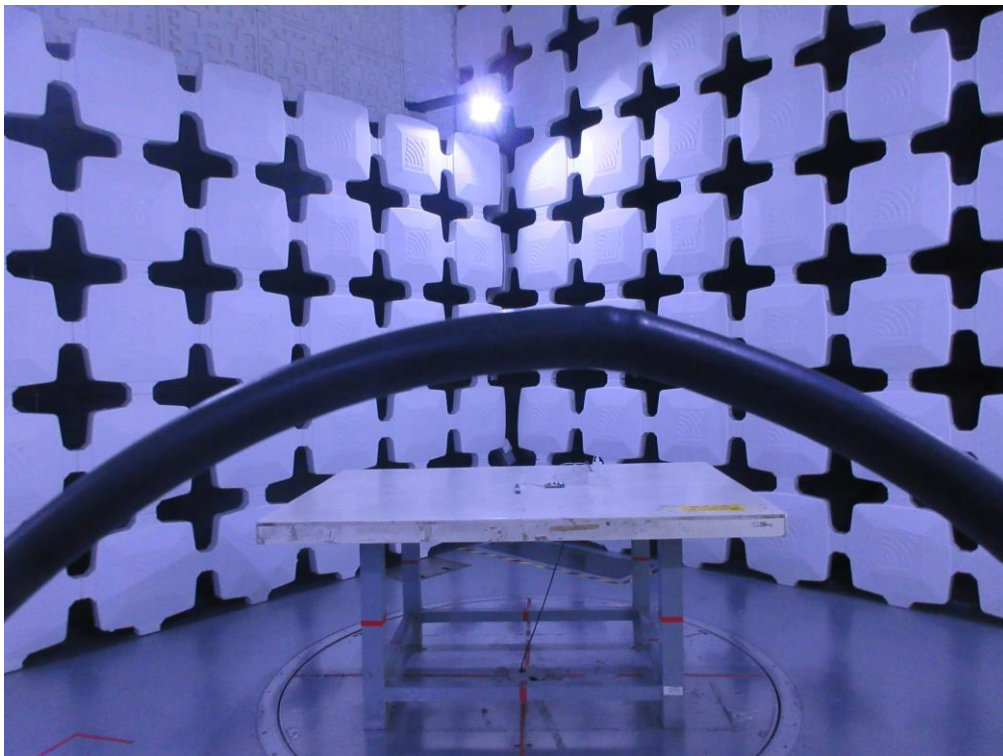
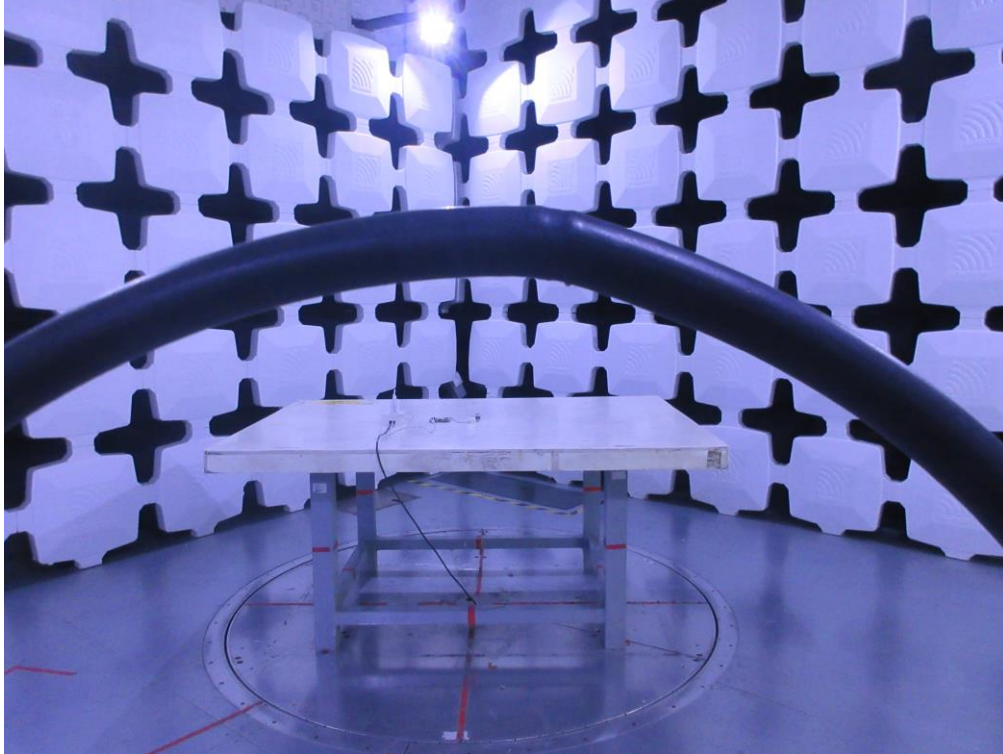
Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 15, 2022
2	Amplifier	HP	8447D	2944A08742	Feb. 28, 2022
3	Cable	emci	LMR-400	N/A	May 20, 2022
4	Controller	CT	SC100	N/A	N/A
5	Controller	MF	MF-7802	MF780208416	N/A
6	Receiver	Agilent	N9038A	MY52130039	Mar. 19, 2022
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	wideband radio communication tester	R&S	CMW500	152372	Feb. 27, 2022
9	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Feb. 28, 2022
10	966 Chamber Room	RM	9*6*6	N/A	Jul. 24, 2022

Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Horn Antenna	ARA	DRG-118A	16554	Apr. 21, 2022
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 30, 2022
3	Amplifier	Agilent	8449B	3008A02584	Jul. 10, 2022
4	Controller	CT	SC100	N/A	N/A
5	Controller	MF	MF-7802	MF780208416	N/A
6	Receiver	Agilent	N9038A	MY52130039	Mar. 19, 2022
7	EXA Spectrum Analyzer	Keysight	N9010A	MY56480488	Feb. 28, 2022
8	Low Noise Amplifier	CONNPHY	CLN-18G40G -4330-K	619413	Jul. 16, 2022
9	Cable	N/A	A81-SMAMSMAM -12.5M	N/A	Oct. 15, 2022
10	Cable	Talent microwave	A40-2.92M2.92M -2.5M	N/A	Nov. 30, 2022
11	Filter	STI	STI15-9912	N/A	Jul. 10, 2022
12	Measurement Software	Farad	EZ-EMC Ver.NB -03A1-01	N/A	N/A
13	wideband radio communication tester	R&S	CMW500	152372	Feb. 27, 2022
14	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Feb. 28, 2022
15	966 Chamber Room	RM	9*6*6	N/A	Jul. 24, 2022

Conducted Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	8960 Series 10 Wireless Com Test set	Agilent	E5515E	MY52112163	Jul. 24, 2022
2	MXA Signal Analyzer	Keysight	N9020A	MY49100060	Jul. 24, 2022
3	Power Splitter	Mini-Circuits	ZFRSC-183-S+	SF103501511S	Jul. 24, 2022
4	wideband radio communication tester	R&S	CMW500	104462	Jul. 24, 2022
5	Const Temp. & Humidity Chamber	Bell	BTH-50C	20170306001	Feb. 27, 2022
6*	Multi-output DC Power Supply	GW Instek	GPC-3030DN	EK880675	Jul. 25, 2023
7	Signal Analyzer	R&S	FSQ-26	200822	Feb. 27, 2022

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
 Except \* item, all calibration period of equipment list is one year.  
 "\*" calibration period of equipment list is three year.

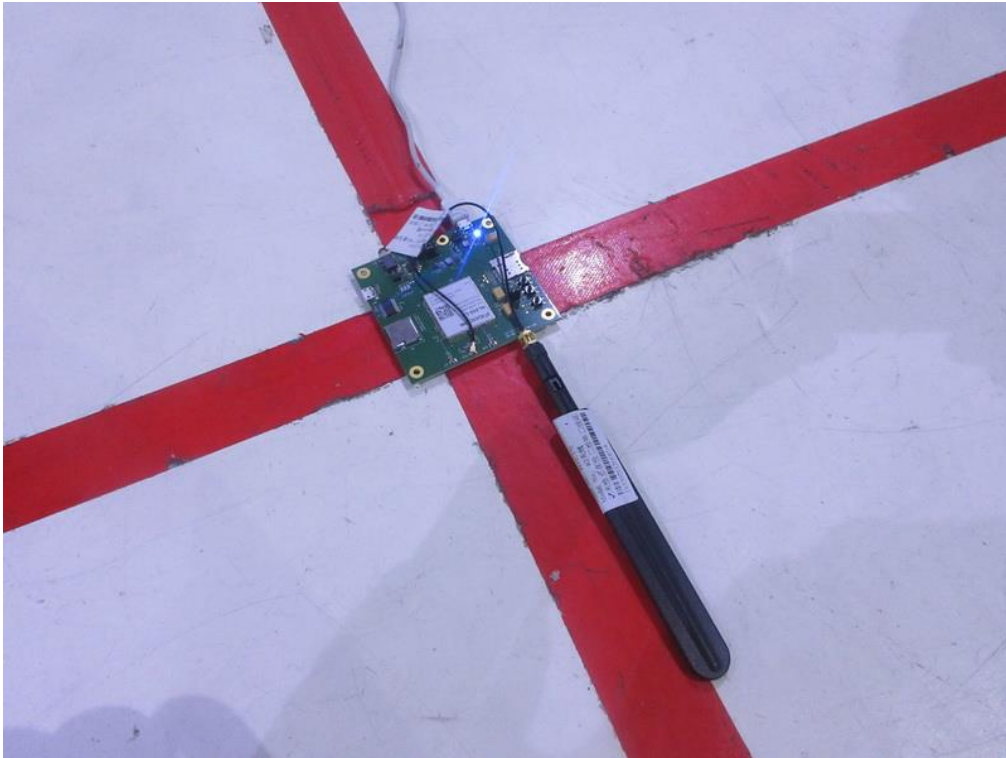


**5. EUT TEST PHOTO****Radiated Emissions Test Photos****9 kHz to 30 MHz**



**Radiated Emissions Test Photos****30 MHz to 1 GHz**

**Radiated Emissions Test Photos****Above 1 GHz**



## APPENDIX A - OUTPUT POWER

**Output Power (dBm):**

Modulation	Band	WCDMA Band IV		
	Tx Channel	1312CH	1413CH	1513CH
	Frequency	1712.4MHz	1732.6MHz	1752.6MHz
QPSK	RMC 12.2K	23.64	23.26	23.5
	RMC 64K	23.62	23.23	23.48
	RMC 144K	23.62	23.23	23.47
	RMC 384K	23.62	23.22	23.58
	HSDPA Subtest-1	22.39	22.08	22.28
	HSDPA Subtest-2	22.38	22.19	22.3
	HSDPA Subtest-3	21.86	21.69	21.81
	HSDPA Subtest-4	21.84	21.62	21.81
	HSUPA Subtest-1	21.55	22.16	22
	HSUPA Subtest-2	21.02	20.67	21.08
	HSUPA Subtest-3	21.22	20.28	21.26
	HSUPA Subtest-4	21.07	21.46	21.31
	HSUPA Subtest-5	22.34	22.11	22.26

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19957CH	20175CH	20393CH
				1710.7MHz	1732.5MHz	1754.3MHz
4 / 1.4MHz	QPSK	1	0	21.95	22.07	21.89
		1	2	21.98	22.07	22.07
		1	5	21.88	21.93	22.00
		3	0	21.92	22.12	22.01
		3	1	21.93	22.12	21.99
		3	2	21.96	22.07	22.04
		6	0	21.04	21.10	21.10
	16QAM	1	0	20.98	20.96	21.16
		1	2	21.36	20.40	21.02
		1	5	20.89	20.83	20.92
		3	0	21.11	20.75	20.63
		3	1	20.87	20.64	20.69
		3	2	20.97	20.98	20.69
		6	0	19.56	19.88	20.11

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19965CH	20175CH	20385CH
				1711.5MHz	1732.5MHz	1753.5MHz
4 / 3MHz	QPSK	1	0	22.14	21.90	21.90
		1	7	22.19	21.91	22.20
		1	14	21.96	21.98	22.15
		8	0	20.96	21.15	21.02
		8	4	20.97	21.04	21.03
		8	7	20.94	21.09	21.03
		15	0	20.85	21.16	20.99
	16QAM	1	0	21.35	20.78	21.35
		1	7	21.37	20.93	20.96
		1	14	21.44	20.86	21.41
		8	0	19.71	20.03	20.16
		8	4	19.74	20.08	20.19
		8	7	19.66	19.95	20.20
		15	0	19.84	19.98	20.13



LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19975CH	20175CH	20375CH
				1712.5MHz	1732.5MHz	1752.5MHz
4 / 5MHz	QPSK	1	0	21.93	21.70	21.73
		1	13	21.74	21.54	21.92
		1	24	21.87	21.76	22.08
		12	0	20.96	21.08	21.07
		12	6	20.87	21.01	21.00
		12	11	20.92	21.07	21.21
		25	0	20.96	21.12	21.09
	16QAM	1	0	20.90	20.69	20.73
		1	13	20.70	20.53	20.22
		1	24	20.85	20.59	20.85
		12	0	19.96	19.84	19.77
		12	6	19.87	19.81	20.05
		12	11	19.93	19.78	20.19
		25	0	20.08	20.20	20.05

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20000CH	20175CH	20350CH
				1715MHz	1732.5MHz	1750MHz
4 / 10MHz	QPSK	1	0	22.03	22.07	21.72
		1	25	22.31	22.08	22.27
		1	49	22.13	22.07	22.37
		25	0	20.93	21.24	20.99
		25	13	21.07	21.12	21.07
		25	25	21.16	21.12	21.09
		50	0	21.03	21.05	21.00
	16QAM	1	0	21.62	20.86	21.25
		1	25	21.97	20.94	21.19
		1	49	21.70	20.83	21.29
		25	0	19.87	20.25	19.81
		25	13	19.92	20.19	19.99
		25	25	20.00	20.28	19.92
		50	0	19.84	20.05	19.94

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20025CH	20175CH	20325CH
				1717.5MHz	1732.5MHz	1747.5MHz
4 / 15MHz	QPSK	1	0	22.41	22.08	21.79
		1	38	22.35	21.90	22.00
		1	74	22.19	21.90	22.20
		36	0	21.10	21.06	20.84
		36	18	21.07	20.96	20.85
		36	39	21.00	20.99	20.97
		75	0	21.05	20.91	20.87
	16QAM	1	0	21.29	20.78	21.73
		1	38	21.41	20.73	21.47
		1	74	21.18	20.48	21.70
		36	0	19.90	20.08	19.91
		36	18	19.91	20.13	19.98
		36	39	19.76	20.14	20.15
		75	0	19.98	20.05	20.03

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20050CH	20175CH	20300CH
				1720MHz	1732.5MHz	1740MHz
4 / 20MHz	QPSK	1	0	21.57	21.86	21.80
		1	50	21.75	21.94	21.91
		1	99	21.59	21.93	22.18
		50	0	20.97	21.05	21.08
		50	25	20.94	20.95	20.90
		50	50	21.15	21.06	20.93
		100	0	20.95	21.07	20.88
	16QAM	1	0	20.86	21.06	21.08
		1	50	20.74	21.03	20.78
		1	99	20.80	20.70	20.99
		50	0	20.14	20.08	20.05
		50	25	20.05	20.09	20.06
		50	50	20.21	20.06	20.07
		100	0	20.09	20.20	20.07



LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20775CH	21100CH	21425CH
				2502.5MHz	2535MHz	2567.5MHz
7 / 5MHz	QPSK	1	0	22.12	22.06	22.00
		1	13	22.10	22.06	21.92
		1	24	22.42	21.98	22.02
		12	0	21.56	21.33	21.16
		12	6	21.51	21.27	21.20
		12	11	21.48	21.27	21.14
		25	0	21.56	21.28	21.13
	16QAM	1	0	20.86	21.30	20.50
		1	13	20.92	21.19	20.83
		1	24	21.07	20.49	20.52
		12	0	20.45	20.15	19.81
		12	6	20.49	20.15	19.98
		12	11	20.32	20.20	20.02
		25	0	20.47	20.28	19.93

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20800CH	21100CH	21400CH
				2505MHz	2535MHz	2565MHz
7 / 10MHz	QPSK	1	0	22.89	22.43	22.26
		1	25	22.79	22.14	22.44
		1	49	22.51	22.21	22.06
		25	0	21.61	21.38	21.30
		25	13	21.49	21.33	21.15
		25	25	21.46	21.33	21.10
		50	0	21.59	21.30	21.26
	16QAM	1	0	21.94	21.11	21.34
		1	25	21.98	21.08	22.16
		1	49	21.82	20.23	21.01
		25	0	20.52	20.39	20.16
		25	13	20.44	20.39	20.20
		25	25	20.42	20.28	20.07
		50	0	20.56	20.16	20.06

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20825CH	21100CH	21375CH
				2507.5MHz	2535MHz	2562.5MHz
7 / 15MHz	QPSK	1	0	22.64	22.44	22.24
		1	38	22.69	21.98	22.29
		1	74	22.89	21.95	22.03
		36	0	21.38	21.25	21.21
		36	18	21.35	21.14	21.23
		36	39	21.57	21.12	21.07
		75	0	21.41	21.24	21.18
	16QAM	1	0	22.14	21.27	21.74
		1	38	21.63	20.04	21.99
		1	74	22.73	20.51	21.21
		36	0	20.34	20.22	20.20
		36	18	20.34	20.18	20.23
		36	39	20.40	20.08	20.00
		75	0	20.32	20.13	20.25

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20850CH	21100CH	21350CH
				2510MHz	2535MHz	2560MHz
7 / 20MHz	QPSK	1	0	21.98	22.36	22.17
		1	50	22.13	22.39	22.63
		1	99	22.24	21.94	21.94
		50	0	21.39	21.32	21.24
		50	25	21.51	21.20	21.22
		50	50	21.53	21.19	21.05
		100	0	21.41	21.32	21.19
	16QAM	1	0	21.58	21.43	20.80
		1	50	21.29	21.18	21.18
		1	99	21.37	20.53	20.75
		50	0	20.25	20.34	20.17
		50	25	20.56	20.05	20.06
		50	50	20.56	20.00	19.96
		100	0	20.30	20.23	20.07

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23017CH	23095CH	23173CH
				699.7MHz	707.5MHz	715.3MHz
12 / 1.4MHz	QPSK	1	0	22.49	22.61	22.33
		1	2	22.51	22.71	22.57
		1	5	22.33	22.46	22.50
		3	0	22.45	22.74	22.60
		3	1	22.66	22.77	22.77
		3	2	22.43	22.67	22.57
		6	0	21.42	21.67	21.58
	16QAM	1	0	21.37	21.59	21.58
		1	2	21.05	21.56	21.93
		1	5	20.76	21.49	21.44
		3	0	21.42	21.95	21.58
		3	1	21.59	22.07	21.52
		3	2	21.32	21.97	21.37
		6	0	20.49	20.61	20.51

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23025CH	23095CH	23165CH
				700.5MHz	707.5MHz	714.5MHz
12 / 3MHz	QPSK	1	0	22.47	22.72	22.91
		1	7	22.59	22.43	22.73
		1	14	22.40	22.60	22.63
		8	0	21.27	21.60	21.74
		8	4	21.37	21.57	21.70
		8	7	21.33	21.58	21.66
		15	0	21.25	21.63	21.65
	16QAM	1	0	21.89	21.66	22.11
		1	7	21.66	21.20	21.96
		1	14	22.23	21.54	21.66
		8	0	20.17	20.80	20.71
		8	4	20.20	20.70	20.62
		8	7	20.17	20.48	20.62
		15	0	20.34	20.66	20.39

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23035CH	23095CH	23155CH
				701.5MHz	707.5MHz	713.5MHz
12 / 5MHz	QPSK	1	0	22.16	22.56	22.30
		1	13	22.15	22.04	22.64
		1	24	22.66	22.35	22.39
		12	0	21.29	21.76	21.65
		12	6	21.35	21.58	21.69
		12	11	21.50	21.60	21.67
		25	0	21.49	21.69	21.65
	16QAM	1	0	21.36	21.87	21.51
		1	13	21.39	21.10	21.97
		1	24	21.36	21.47	21.89
		12	0	20.22	20.56	20.41
		12	6	20.25	20.34	20.60
		12	11	20.31	20.42	20.58
		25	0	20.59	20.65	20.63

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23060CH	23095CH	23130CH
				704MHz	707.5MHz	711MHz
12 / 10MHz	QPSK	1	0	22.34	22.47	22.46
		1	25	22.89	22.53	22.65
		1	49	22.68	22.78	22.74
		25	0	21.43	21.67	21.58
		25	13	21.62	21.62	21.67
		25	25	21.74	21.65	21.66
		50	0	21.64	21.67	21.60
	16QAM	1	0	21.65	21.39	21.37
		1	25	22.12	21.00	22.21
		1	49	22.08	21.29	21.54
		25	0	20.50	20.55	20.50
		25	13	20.62	20.54	20.64
		25	25	20.73	20.54	20.69
		50	0	20.55	20.50	20.49

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23755CH	23790CH	23825CH
				706.5MHz	710MHz	713.5MHz
17 / 5MHz	QPSK	1	0	23.23	22.53	22.60
		1	13	22.45	22.80	22.78
		1	24	22.41	22.90	22.33
		12	0	22.01	21.77	21.91
		12	6	21.89	21.74	21.92
		12	11	21.86	21.90	21.82
		25	0	21.88	21.90	21.89
	16QAM	1	0	22.19	21.72	21.63
		1	13	21.23	21.61	21.80
		1	24	21.41	22.16	21.19
		12	0	20.93	20.57	20.71
		12	6	20.88	20.77	20.83
		12	11	20.84	20.76	20.68
		25	0	20.81	20.82	20.89

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23780CH	23790CH	23800CH
				709MHz	710MHz	711MHz
17 / 10MHz	QPSK	1	0	23.11	22.93	22.68
		1	25	22.75	22.88	23.19
		1	49	23.35	22.71	22.86
		25	0	22.02	21.86	21.79
		25	13	21.91	21.85	22.06
		25	25	22.09	21.98	21.96
		50	0	22.13	21.96	21.77
	16QAM	1	0	22.24	21.71	21.79
		1	25	22.27	21.66	21.69
		1	49	22.23	21.78	22.04
		25	0	20.87	20.76	20.97
		25	13	20.81	20.77	20.91
		25	25	20.94	20.86	21.07
		50	0	20.71	20.69	20.60

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				37775CH	38000CH	38225CH
				2572.5MHz	2595MHz	2617.5MHz
38 / 5MHz	QPSK	1	0	21.33	21.58	21.18
		1	13	21.58	21.75	21.26
		1	24	21.29	21.63	20.96
		12	0	20.73	20.77	20.46
		12	6	20.84	20.82	20.44
		12	11	20.77	20.77	20.42
		25	0	20.81	20.84	20.46
	16QAM	1	0	20.13	20.13	20.07
		1	13	20.43	20.47	19.98
		1	24	20.17	20.52	19.73
		12	0	19.60	19.45	19.49
		12	6	19.90	19.72	19.50
		12	11	19.59	19.87	19.36
		25	0	19.51	19.70	19.25

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				37800CH	38000CH	38200CH
				2575MHz	2595MHz	2615MHz
38 / 10MHz	QPSK	1	0	21.64	21.42	21.38
		1	25	21.78	21.59	21.61
		1	49	21.64	21.66	21.41
		25	0	20.72	20.69	20.44
		25	13	20.75	20.79	20.63
		25	25	20.73	20.76	20.45
		50	0	20.76	20.66	20.40
	16QAM	1	0	21.11	19.78	20.71
		1	25	21.38	20.27	21.25
		1	49	21.10	20.28	20.91
		25	0	19.79	19.61	19.26
		25	13	19.81	19.62	19.43
		25	25	19.76	19.58	19.38
		50	0	19.54	19.66	19.33

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				37825CH	38000CH	38175CH
				2577.5MHz	2595MHz	2612.5MHz
38 / 15MHz	QPSK	1	0	21.52	21.42	21.48
		1	38	21.65	21.54	21.31
		1	74	21.60	21.56	21.21
		36	0	20.82	20.62	20.41
		36	18	20.86	20.75	20.44
		36	39	20.73	20.80	20.36
		75	0	20.60	20.72	20.49
	16QAM	1	0	21.33	19.93	20.36
		1	38	21.24	20.29	20.54
		1	74	21.36	20.01	20.07
		36	0	19.66	19.74	19.39
		36	18	19.63	19.73	19.17
		36	39	19.64	19.75	19.44
		75	0	19.88	19.68	19.38

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				37850CH	38000CH	38150CH
				2580MHz	2595MHz	2610MHz
38 / 20MHz	QPSK	1	0	21.28	21.53	21.57
		1	50	21.67	21.91	21.58
		1	99	21.37	21.61	21.48
		50	0	20.79	20.69	20.59
		50	25	20.75	20.88	20.44
		50	50	20.80	20.70	20.25
		100	0	20.81	20.74	20.54
	16QAM	1	0	20.14	19.42	20.87
		1	50	20.64	19.95	20.69
		1	99	20.15	19.79	20.09
		50	0	19.72	19.59	19.42
		50	25	19.76	19.70	19.30
		50	50	19.70	19.66	19.30
		100	0	19.64	19.64	19.49

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131979CH	132322CH	132665CH
				1710.7MHz	1745MHz	1779.3MHz
66 / 1.4MHz	QPSK	1	0	22.23	21.86	22.24
		1	2	22.26	21.91	22.55
		1	5	22.23	21.85	22.43
		3	0	22.31	22.02	22.36
		3	1	22.35	22.14	22.47
		3	2	22.46	22.08	22.41
		6	0	21.34	21.20	21.44
	16QAM	1	0	21.73	21.26	21.49
		1	2	22.09	21.34	21.60
		1	5	21.68	21.11	21.30
		3	0	21.59	20.91	21.36
		3	1	21.44	20.78	21.22
		3	2	21.75	20.88	21.14
		6	0	20.48	19.83	20.56

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131987CH	132322CH	132657CH
				1711.5MHz	1745MHz	1778.5MHz
66 / 3MHz	QPSK	1	0	22.51	22.08	22.63
		1	7	22.54	21.84	22.76
		1	14	22.71	21.92	22.34
		8	0	21.40	21.05	21.35
		8	4	21.47	21.07	21.47
		8	7	21.41	21.04	21.46
		15	0	21.34	21.03	21.49
	16QAM	1	0	21.45	21.24	21.12
		1	7	21.66	21.09	21.37
		1	14	21.56	21.27	21.54
		8	0	20.37	20.15	20.25
		8	4	20.23	20.20	20.32
		8	7	20.19	20.25	20.27
		15	0	20.37	20.19	20.21



LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131997CH	132322CH	132647CH
				1712.5MHz	1745MHz	1777.5MHz
66 / 5MHz	QPSK	1	0	22.11	21.90	22.18
		1	13	22.29	21.98	22.04
		1	24	22.31	22.10	22.12
		12	0	21.42	21.06	21.44
		12	6	21.42	21.15	21.49
		12	11	21.50	21.14	21.43
		25	0	21.41	21.07	21.49
	16QAM	1	0	21.31	21.25	21.36
		1	13	21.35	21.07	21.16
		1	24	21.38	21.20	20.91
		12	0	20.38	19.99	20.42
		12	6	20.37	20.02	20.56
		12	11	20.27	20.21	20.49
		25	0	20.54	20.13	20.64

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132022CH	132322CH	132622CH
				1715MHz	1745MHz	1775MHz
66 / 10MHz	QPSK	1	0	22.21	22.66	22.33
		1	25	22.64	22.38	22.40
		1	49	22.53	22.46	22.32
		25	0	21.38	21.23	21.48
		25	13	21.51	21.14	21.46
		25	25	21.47	21.19	21.45
		50	0	21.43	21.13	21.46
	16QAM	1	0	21.56	21.44	21.19
		1	25	21.58	20.92	21.16
		1	49	21.42	20.82	21.18
		25	0	20.36	20.41	20.55
		25	13	20.39	20.22	20.41
		25	25	20.44	20.22	20.51
		50	0	20.41	20.12	20.55

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132047CH	132322CH	132597CH
				1717.5MHz	1745MHz	1772.5MHz
66 / 15MHz	QPSK	1	0	22.85	22.23	22.24
		1	38	22.95	22.15	22.30
		1	74	22.56	22.34	22.34
		36	0	21.46	21.44	21.50
		36	18	21.40	21.23	21.36
		36	39	21.51	21.28	21.50
		75	0	21.51	21.29	21.47
	16QAM	1	0	21.47	21.22	22.25
		1	38	21.41	21.22	21.73
		1	74	21.08	21.42	21.70
		36	0	20.42	20.32	20.20
		36	18	20.38	20.34	20.21
		36	39	20.40	20.37	20.25
		75	0	20.40	20.27	20.46

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132072CH	132322CH	132572CH
				1720MHz	1745MHz	1770MHz
66 / 20MHz	QPSK	1	0	22.38	22.42	22.29
		1	50	22.36	22.60	22.44
		1	99	21.81	22.53	22.12
		50	0	21.34	21.39	21.49
		50	25	21.29	21.26	21.44
		50	50	21.38	21.30	21.52
		100	0	21.51	21.28	21.49
	16QAM	1	0	21.31	21.18	21.68
		1	50	21.84	21.11	21.56
		1	99	21.09	21.27	21.00
		50	0	20.44	20.20	20.35
		50	25	20.36	20.37	20.38
		50	50	20.27	20.41	20.26
		100	0	20.38	20.16	20.41

**EIRP (dBm):**

Modulation	Band	WCDMA Band IV		
	Tx Channel	1312CH	1413CH	1513CH
	Frequency	1712.4MHz	1732.6MHz	1752.6MHz
QPSK	RMC 12.2K	25.04	24.66	24.90
	RMC 64K	25.02	24.63	24.88
	RMC 144K	25.02	24.63	24.87
	RMC 384K	25.02	24.62	24.98
	HSDPA Subtest-1	23.79	23.48	23.68
	HSDPA Subtest-2	23.78	23.59	23.70
	HSDPA Subtest-3	23.26	23.09	23.21
	HSDPA Subtest-4	23.24	23.02	23.21
	HSUPA Subtest-1	22.95	23.56	23.40
	HSUPA Subtest-2	22.42	22.07	22.48
	HSUPA Subtest-3	22.62	21.68	22.66
	HSUPA Subtest-4	22.47	22.86	22.71
	HSUPA Subtest-5	23.74	23.51	23.66

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19957CH	20175CH	20393CH
				1710.7MHz	1732.5MHz	1754.3MHz
4 / 1.4MHz	QPSK	1	0	23.35	23.47	23.29
		1	2	23.38	23.47	23.47
		1	5	23.28	23.33	23.40
		3	0	23.32	23.52	23.41
		3	1	23.33	23.52	23.39
		3	2	23.36	23.47	23.44
	16QAM	6	0	22.44	22.50	22.50
		1	0	22.38	22.36	22.56
		1	2	22.76	21.80	22.42
		1	5	22.29	22.23	22.32
		3	0	22.51	22.15	22.03
		3	1	22.27	22.04	22.09
		3	2	22.37	22.38	22.09
		6	0	20.96	21.28	21.51

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19965CH	20175CH	20385CH
				1711.5MHz	1732.5MHz	1753.5MHz
4 / 3MHz	QPSK	1	0	23.54	23.30	23.30
		1	7	23.59	23.31	23.60
		1	14	23.36	23.38	23.55
		8	0	22.36	22.55	22.42
		8	4	22.37	22.44	22.43
		8	7	22.34	22.49	22.43
		15	0	22.25	22.56	22.39
	16QAM	1	0	22.75	22.18	22.75
		1	7	22.77	22.33	22.36
		1	14	22.84	22.26	22.81
		8	0	21.11	21.43	21.56
		8	4	21.14	21.48	21.59
		8	7	21.06	21.35	21.60
		15	0	21.24	21.38	21.53

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				19975CH	20175CH	20375CH
				1712.5MHz	1732.5MHz	1752.5MHz
4 / 5MHz	QPSK	1	0	23.33	23.10	23.13
		1	13	23.14	22.94	23.32
		1	24	23.27	23.16	23.48
		12	0	22.36	22.48	22.47
		12	6	22.27	22.41	22.40
		12	11	22.32	22.47	22.61
		25	0	22.36	22.52	22.49
	16QAM	1	0	22.30	22.09	22.13
		1	13	22.10	21.93	21.62
		1	24	22.25	21.99	22.25
		12	0	21.36	21.24	21.17
		12	6	21.27	21.21	21.45
		12	11	21.33	21.18	21.59
		25	0	21.48	21.60	21.45

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20000CH	20175CH	20350CH
				1715MHz	1732.5MHz	1750MHz
4 / 10MHz	QPSK	1	0	23.43	23.47	23.12
		1	25	23.71	23.48	23.67
		1	49	23.53	23.47	23.77
		25	0	22.33	22.64	22.39
		25	13	22.47	22.52	22.47
		25	25	22.56	22.52	22.49
		50	0	22.43	22.45	22.40
	16QAM	1	0	23.02	22.26	22.65
		1	25	23.37	22.34	22.59
		1	49	23.10	22.23	22.69
		25	0	21.27	21.65	21.21
		25	13	21.32	21.59	21.39
		25	25	21.40	21.68	21.32
		50	0	21.24	21.45	21.34

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20025CH	20175CH	20325CH
				1717.5MHz	1732.5MHz	1747.5MHz
4 / 15MHz	QPSK	1	0	23.81	23.48	23.19
		1	38	23.75	23.30	23.40
		1	74	23.59	23.30	23.60
		36	0	22.50	22.46	22.24
		36	18	22.47	22.36	22.25
		36	39	22.40	22.39	22.37
		75	0	22.45	22.31	22.27
	16QAM	1	0	22.69	22.18	23.13
		1	38	22.81	22.13	22.87
		1	74	22.58	21.88	23.10
		36	0	21.30	21.48	21.31
		36	18	21.31	21.53	21.38
		36	39	21.16	21.54	21.55
		75	0	21.38	21.45	21.43

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20050CH	20175CH	20300CH
				1720MHz	1732.5MHz	1740MHz
4 / 20MHz	QPSK	1	0	22.97	23.26	23.20
		1	50	23.15	23.34	23.31
		1	99	22.99	23.33	23.58
		50	0	22.37	22.45	22.48
		50	25	22.34	22.35	22.30
		50	50	22.55	22.46	22.33
		100	0	22.35	22.47	22.28
	16QAM	1	0	22.26	22.46	22.48
		1	50	22.14	22.43	22.18
		1	99	22.20	22.10	22.39
		50	0	21.54	21.48	21.45
		50	25	21.45	21.49	21.46
		50	50	21.61	21.46	21.47
		100	0	21.49	21.60	21.47

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20775CH	21100CH	21425CH
				2502.5MHz	2535MHz	2567.5MHz
7 / 5MHz	QPSK	1	0	24.72	24.66	24.60
		1	13	24.70	24.66	24.52
		1	24	25.02	24.58	24.62
		12	0	24.16	23.93	23.76
		12	6	24.11	23.87	23.80
		12	11	24.08	23.87	23.74
		25	0	24.16	23.88	23.73
	16QAM	1	0	23.46	23.90	23.10
		1	13	23.52	23.79	23.43
		1	24	23.67	23.09	23.12
		12	0	23.05	22.75	22.41
		12	6	23.09	22.75	22.58
		12	11	22.92	22.80	22.62
		25	0	23.07	22.88	22.53

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20800CH	21100CH	21400CH
				2505MHz	2535MHz	2565MHz
7 / 10MHz	QPSK	1	0	25.49	25.03	24.86
		1	25	25.39	24.74	25.04
		1	49	25.11	24.81	24.66
		25	0	24.21	23.98	23.90
		25	13	24.09	23.93	23.75
		25	25	24.06	23.93	23.70
		50	0	24.19	23.90	23.86
	16QAM	1	0	24.54	23.71	23.94
		1	25	24.58	23.68	24.76
		1	49	24.42	22.83	23.61
		25	0	23.12	22.99	22.76
		25	13	23.04	22.99	22.80
		25	25	23.02	22.88	22.67
		50	0	23.16	22.76	22.66

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20825CH	21100CH	21375CH
				2507.5MHz	2535MHz	2562.5MHz
7 / 15MHz	QPSK	1	0	25.24	25.04	24.84
		1	38	25.29	24.58	24.89
		1	74	25.49	24.55	24.63
		36	0	23.98	23.85	23.81
		36	18	23.95	23.74	23.83
		36	39	24.17	23.72	23.67
		75	0	24.01	23.84	23.78
	16QAM	1	0	24.74	23.87	24.34
		1	38	24.23	22.64	24.59
		1	74	25.33	23.11	23.81
		36	0	22.94	22.82	22.80
		36	18	22.94	22.78	22.83
		36	39	23.00	22.68	22.60
		75	0	22.92	22.73	22.85

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				20850CH	21100CH	21350CH
				2510MHz	2535MHz	2560MHz
7 / 20MHz	QPSK	1	0	24.58	24.96	24.77
		1	50	24.73	24.99	25.23
		1	99	24.84	24.54	24.54
		50	0	23.99	23.92	23.84
		50	25	24.11	23.80	23.82
		50	50	24.13	23.79	23.65
		100	0	24.01	23.92	23.79
	16QAM	1	0	24.18	24.03	23.40
		1	50	23.89	23.78	23.78
		1	99	23.97	23.13	23.35
		50	0	22.85	22.94	22.77
		50	25	23.16	22.65	22.66
		50	50	23.16	22.60	22.56
		100	0	22.90	22.83	22.67



LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				37775CH	38000CH	38225CH
				2572.5MHz	2595MHz	2617.5MHz
38 / 5MHz	QPSK	1	0	23.13	23.38	22.98
		1	13	23.38	23.55	23.06
		1	24	23.09	23.43	22.76
		12	0	22.53	22.57	22.26
		12	6	22.64	22.62	22.24
		12	11	22.57	22.57	22.22
		25	0	22.61	22.64	22.26
	16QAM	1	0	21.93	21.93	21.87
		1	13	22.23	22.27	21.78
		1	24	21.97	22.32	21.53
		12	0	21.40	21.25	21.29
		12	6	21.70	21.52	21.30
		12	11	21.39	21.67	21.16
		25	0	21.31	21.50	21.05

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				37800CH	38000CH	38200CH
				2575MHz	2595MHz	2615MHz
38 / 10MHz	QPSK	1	0	23.44	23.22	23.18
		1	25	23.58	23.39	23.41
		1	49	23.44	23.46	23.21
		25	0	22.52	22.49	22.24
		25	13	22.55	22.59	22.43
		25	25	22.53	22.56	22.25
		50	0	22.56	22.46	22.20
	16QAM	1	0	22.91	21.58	22.51
		1	25	23.18	22.07	23.05
		1	49	22.90	22.08	22.71
		25	0	21.59	21.41	21.06
		25	13	21.61	21.42	21.23
		25	25	21.56	21.38	21.18
		50	0	21.34	21.46	21.13

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				37825CH	38000CH	38175CH
				2577.5MHz	2595MHz	2612.5MHz
38 / 15MHz	QPSK	1	0	23.32	23.22	23.28
		1	38	23.45	23.34	23.11
		1	74	23.40	23.36	23.01
		36	0	22.62	22.42	22.21
		36	18	22.66	22.55	22.24
		36	39	22.53	22.60	22.16
		75	0	22.40	22.52	22.29
	16QAM	1	0	23.13	21.73	22.16
		1	38	23.04	22.09	22.34
		1	74	23.16	21.81	21.87
		36	0	21.46	21.54	21.19
		36	18	21.43	21.53	20.97
		36	39	21.44	21.55	21.24
		75	0	21.68	21.48	21.18

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				37850CH	38000CH	38150CH
				2580MHz	2595MHz	2610MHz
38 / 20MHz	QPSK	1	0	23.08	23.33	23.37
		1	50	23.47	23.71	23.38
		1	99	23.17	23.41	23.28
		50	0	22.59	22.49	22.39
		50	25	22.55	22.68	22.24
		50	50	22.60	22.50	22.05
		100	0	22.61	22.54	22.34
	16QAM	1	0	21.94	21.22	22.67
		1	50	22.44	21.75	22.49
		1	99	21.95	21.59	21.89
		50	0	21.52	21.39	21.22
		50	25	21.56	21.50	21.10
		50	50	21.50	21.46	21.10
		100	0	21.44	21.44	21.29

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131979CH	132322CH	132665CH
				1710.7MHz	1745MHz	1779.3MHz
66 / 1.4MHz	QPSK	1	0	23.83	23.46	23.84
		1	2	23.86	23.51	24.15
		1	5	23.83	23.45	24.03
		3	0	23.91	23.62	23.96
		3	1	23.95	23.74	24.07
		3	2	24.06	23.68	24.01
		6	0	22.94	22.80	23.04
	16QAM	1	0	23.33	22.86	23.09
		1	2	23.69	22.94	23.20
		1	5	23.28	22.71	22.90
		3	0	23.19	22.51	22.96
		3	1	23.04	22.38	22.82
		3	2	23.35	22.48	22.74
		6	0	22.08	21.43	22.16

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131987CH	132322CH	132657CH
				1711.5MHz	1745MHz	1778.5MHz
66 / 3MHz	QPSK	1	0	24.11	23.68	24.23
		1	7	24.14	23.44	24.36
		1	14	24.31	23.52	23.94
		8	0	23.00	22.65	22.95
		8	4	23.07	22.67	23.07
		8	7	23.01	22.64	23.06
		15	0	22.94	22.63	23.09
	16QAM	1	0	23.05	22.84	22.72
		1	7	23.26	22.69	22.97
		1	14	23.16	22.87	23.14
		8	0	21.97	21.75	21.85
		8	4	21.83	21.80	21.92
		8	7	21.79	21.85	21.87
		15	0	21.97	21.79	21.81

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				131997CH	132322CH	132647CH
				1712.5MHz	1745MHz	1777.5MHz
66 / 5MHz	QPSK	1	0	23.71	23.50	23.78
		1	13	23.89	23.58	23.64
		1	24	23.91	23.70	23.72
		12	0	23.02	22.66	23.04
		12	6	23.02	22.75	23.09
		12	11	23.10	22.74	23.03
		25	0	23.01	22.67	23.09
	16QAM	1	0	22.91	22.85	22.96
		1	13	22.95	22.67	22.76
		1	24	22.98	22.80	22.51
		12	0	21.98	21.59	22.02
		12	6	21.97	21.62	22.16
		12	11	21.87	21.81	22.09
		25	0	22.14	21.73	22.24

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132022CH	132322CH	132622CH
				1715MHz	1745MHz	1775MHz
66 / 10MHz	QPSK	1	0	23.81	24.26	23.93
		1	25	24.24	23.98	24.00
		1	49	24.13	24.06	23.92
		25	0	22.98	22.83	23.08
		25	13	23.11	22.74	23.06
		25	25	23.07	22.79	23.05
		50	0	23.03	22.73	23.06
	16QAM	1	0	23.16	23.04	22.79
		1	25	23.18	22.52	22.76
		1	49	23.02	22.42	22.78
		25	0	21.96	22.01	22.15
		25	13	21.99	21.82	22.01
		25	25	22.04	21.82	22.11
		50	0	22.01	21.72	22.15

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132047CH	132322CH	132597CH
				1717.5MHz	1745MHz	1772.5MHz
66 / 15MHz	QPSK	1	0	24.45	23.83	23.84
		1	38	24.55	23.75	23.90
		1	74	24.16	23.94	23.94
		36	0	23.06	23.04	23.10
		36	18	23.00	22.83	22.96
		36	39	23.11	22.88	23.10
		75	0	23.11	22.89	23.07
	16QAM	1	0	23.07	22.82	23.85
		1	38	23.01	22.82	23.33
		1	74	22.68	23.02	23.30
		36	0	22.02	21.92	21.80
		36	18	21.98	21.94	21.81
		36	39	22.00	21.97	21.85
		75	0	22.00	21.87	22.06

LTE Band / BW	Modulation	RB Sizer	RB Offset	Low CH	Mid CH	High CH
				132072CH	132322CH	132572CH
				1720MHz	1745MHz	1770MHz
66 / 20MHz	QPSK	1	0	23.98	24.02	23.89
		1	50	23.96	24.20	24.04
		1	99	23.41	24.13	23.72
		50	0	22.94	22.99	23.09
		50	25	22.89	22.86	23.04
		50	50	22.98	22.90	23.12
		100	0	23.11	22.88	23.09
	16QAM	1	0	22.91	22.78	23.28
		1	50	23.44	22.71	23.16
		1	99	22.69	22.87	22.60
		50	0	22.04	21.80	21.95
		50	25	21.96	21.97	21.98
		50	50	21.87	22.01	21.86
		100	0	21.98	21.76	22.01

**ERP (dBm):**

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23017CH	23095CH	23173CH
				699.7MHz	707.5MHz	715.3MHz
12 / 1.4MHz	QPSK	1	0	18.94	19.06	18.78
		1	2	18.96	19.16	19.02
		1	5	18.78	18.91	18.95
		3	0	18.90	19.19	19.05
		3	1	19.11	19.22	19.22
		3	2	18.88	19.12	19.02
		6	0	17.87	18.12	18.03
	16QAM	1	0	17.82	18.04	18.03
		1	2	17.50	18.01	18.38
		1	5	17.21	17.94	17.89
		3	0	17.87	18.40	18.03
		3	1	18.04	18.52	17.97
		3	2	17.77	18.42	17.82
		6	0	16.94	17.06	16.96

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23025CH	23095CH	23165CH
				700.5MHz	707.5MHz	714.5MHz
12 / 3MHz	QPSK	1	0	18.92	19.17	19.36
		1	7	19.04	18.88	19.18
		1	14	18.85	19.05	19.08
		8	0	17.72	18.05	18.19
		8	4	17.82	18.02	18.15
		8	7	17.78	18.03	18.11
		15	0	17.70	18.08	18.10
	16QAM	1	0	18.34	18.11	18.56
		1	7	18.11	17.65	18.41
		1	14	18.68	17.99	18.11
		8	0	16.62	17.25	17.16
		8	4	16.65	17.15	17.07
		8	7	16.62	16.93	17.07
		15	0	16.79	17.11	16.84

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23035CH	23095CH	23155CH
				701.5MHz	707.5MHz	713.5MHz
12 / 5MHz	QPSK	1	0	18.61	19.01	18.75
		1	13	18.60	18.49	19.09
		1	24	19.11	18.80	18.84
		12	0	17.74	18.21	18.10
		12	6	17.80	18.03	18.14
		12	11	17.95	18.05	18.12
		25	0	17.94	18.14	18.10
	16QAM	1	0	17.81	18.32	17.96
		1	13	17.84	17.55	18.42
		1	24	17.81	17.92	18.34
		12	0	16.67	17.01	16.86
		12	6	16.70	16.79	17.05
		12	11	16.76	16.87	17.03
		25	0	17.04	17.10	17.08

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23060CH	23095CH	23130CH
				704MHz	707.5MHz	711MHz
12 / 10MHz	QPSK	1	0	18.79	18.92	18.91
		1	25	19.34	18.98	19.10
		1	49	19.13	19.23	19.19
		25	0	17.88	18.12	18.03
		25	13	18.07	18.07	18.12
		25	25	18.19	18.10	18.11
		50	0	18.09	18.12	18.05
	16QAM	1	0	18.10	17.84	17.82
		1	25	18.57	17.45	18.66
		1	49	18.53	17.74	17.99
		25	0	16.95	17.00	16.95
		25	13	17.07	16.99	17.09
		25	25	17.18	16.99	17.14
		50	0	17.00	16.95	16.94

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23755CH	23790CH	23825CH
				706.5MHz	710MHz	713.5MHz
17 / 5MHz	QPSK	1	0	20.38	19.68	19.75
		1	13	19.60	19.95	19.93
		1	24	19.56	20.05	19.48
		12	0	19.16	18.92	19.06
		12	6	19.04	18.89	19.07
		12	11	19.01	19.05	18.97
		25	0	19.03	19.05	19.04
	16QAM	1	0	19.34	18.87	18.78
		1	13	18.38	18.76	18.95
		1	24	18.56	19.31	18.34
		12	0	18.08	17.72	17.86
		12	6	18.03	17.92	17.98
		12	11	17.99	17.91	17.83
		25	0	17.96	17.97	18.04

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				23780CH	23790CH	23800CH
				709MHz	710MHz	711MHz
17 / 10MHz	QPSK	1	0	20.26	20.08	19.83
		1	25	19.90	20.03	20.34
		1	49	20.50	19.86	20.01
		25	0	19.17	19.01	18.94
		25	13	19.06	19.00	19.21
		25	25	19.24	19.13	19.11
		50	0	19.28	19.11	18.92
	16QAM	1	0	19.39	18.86	18.94
		1	25	19.42	18.81	18.84
		1	49	19.38	18.93	19.19
		25	0	18.02	17.91	18.12
		25	13	17.96	17.92	18.06
		25	25	18.09	18.01	18.22
		50	0	17.86	17.84	17.75



## APPENDIX B - OCCUPIED BANDWIDTH