ACCREDITED
Certificate # 3939.01

FCC TEST REPORT

(PART 27)

Applicant:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

Manufacturer or Supplier:	Xiaomi Communications Co., Ltd.
Address:	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Product:	Mobile Phone
Brand Name:	Redmi
Model Name:	M2003J6B2G
FCC ID:	2AFZZJ6B2G
Date of tests:	Mar. 05, 2020 ~ Apr. 21, 2020

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 27, Subpart C, M** ☒ **ANSI/TIA/EIA-603-D**
☒ **FCC Part 2** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Alex Chen Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Alex Date: Apr. 21, 2020	Luke Lu Date: Apr. 21, 2020

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200304W004-7	Original release	Apr. 21, 2020

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 27 & Part 2		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**
2.1046 27.50(h)(2)	Equivalent Isotropically Radiated Power	Compliance
2.1055 27.54	Frequency Stability	Compliance
2.1049 27.53(m)(6)	Occupied Bandwidth	Compliance
2.1051 27.53(m)(4)(6)	Band Edge Measurements	Compliance
2.1051 27.53(m)(4)(6)	Conducted Spurious Emissions	Compliance
2.1053 27.53(m)(4)(6)	Radiated Spurious Emissions	Compliance

1.1 MEASREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Frequency Stability	±76.97Hz
Radiated emissions & Radiated Power (30MHz~1GMHz)	±4.98dB
Radiated emissions & Radiated Power (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 26,20	Feb. 25,21
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 26,20	Feb. 25,21
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 26,20	Feb. 25,21
Horn Antenna (1GHz-18GHz)	ETS-LINDGREN	3117	00168692	Nov. 30, 19	Nov. 29, 20
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Nov. 21, 19	Nov. 20, 20
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 26,20	Feb. 25,21
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jul. 08,19	Jul. 09,20
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jul. 08,19	Jul. 09,20
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Jul. 08,19	Jul. 09,20
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Feb. 26,20	Feb. 25,21
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jul. 08,19	Jul. 09,20
Power Meter	Anritsu	ML2495A	1506002	Feb. 26,20	Feb. 25,21
Power Sensor	Anritsu	MA2411B	1339352	Feb. 26,20	Feb. 25,21
Humid & Temp Programmable Tester	Juyi	ITH-120-45-CP-AR	IAA1504-001	Jul. 08,19	Jul. 09,20
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 26,20	Feb. 25,21
Power Divider	MCLI/USA	PS2-15	24880	Jul. 09,19	Jul. 08,20

NOTE: 1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Phone	
BRAND NAME	Redmi	
MODEL NAME	M2003J6B2G	
POWER SUPPLY	5V/9V/11V/12/20Vdc (adapter or host equipment) 3.87Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY	**LTE**	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	**LTE Band 7 Channel Bandwidth: 5MHz**	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 38 Channel Bandwidth: 5MHz	2572.5MHz ~ 2617.5MHz
	LTE Band 38 Channel Bandwidth: 10MHz	2575MHz ~ 2615MHz
	LTE Band 38 Channel Bandwidth: 15MHz	2577.5MHz ~ 2612.5MHz
	LTE Band 38 Channel Bandwidth: 20MHz	2580MHz ~ 2610MHz
	LTE Band 41 Channel Bandwidth: 5MHz	2437.5MHz ~ 2652.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2540MHz ~ 2650MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2542.5MHz ~ 2647.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2545MHz ~ 2645MHz
	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	2505.5MHz ~ 2545.6MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	2507.5MHz ~ 2552.7MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	2507.5MHz ~ 2547.5MHz
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	2507.8MHz ~ 2542.9MHz

	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	2510MHz ~ 2550.1MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	2510MHz ~ 2545.1MHz
	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	2510MHz ~ 2540.2MHz
	LTE Band CA_38C Channel Bandwidth: 15MHz+15MHz	2577.5MHz ~ 2597.5MHz
	LTE Band CA_38C Channel Bandwidth: 20MHz+20MHz	2580MHz ~ 2590.2MHz
EMISSION DESIGNATOR	**LTE Band 7 Channel Bandwidth: 5MHz**	QPSK: 4M49G7D
		16QAM: 4M48W7D
		64QAM: 4M47W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M96G7D
		16QAM: 8M96W7D
		64QAM: 8M96W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
		64QAM: 13M4W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	QPSK: 28M1G7D
		16QAM: 28M1W7D
		64QAM: 28M0W7D
	LTE Band CA_7C Channel Bandwidth: 15MHz +10MHz	QPSK: 23M5G7D
		16QAM: 23M5W7D
		64QAM: 23M4W7D
	LTE Band CA_7C Channel Bandwidth: 15MHz +15MHz	QPSK: 28M6G7D
		16QAM: 28M6W7D
		64QAM: 28M7W7D
	LTE Band CA_7C Channel Bandwidth: 15MHz +20MHz	QPSK: 32M9G7D
		16QAM: 32M8W7D
		64QAM: 32M8W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +10MHz	QPSK: 28M1G7D
		16QAM: 28M1W7D
		64QAM: 28M0W7D
	LTE Band CA_7C Channel Bandwidth: 20MHz +15MHz	QPSK: 32M8G7D
		16QAM: 32M8W7D
		64QAM: 32M8W7D

EMISSION DESIGNATOR	**LTE Band CA_7C Channel Bandwidth: 20MHz +20MHz**	QPSK: 37M6G7D
		16QAM: 37M6W7D
		64QAM: 37M6W7D
	LTE Band 38 Channel Bandwidth: 5MHz	QPSK: 4M48G7D
		16QAM: 4M47W7D
		64QAM: 4M47W7D
	LTE Band 38 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M96W7D
		64QAM: 8M95W7D
	LTE Band 38 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
		64QAM: 13M4W7D
	LTE Band 38 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
	LTE Band CA_38C Channel Bandwidth: 15MHz+15MHz	QPSK: 28M4G7D
		16QAM: 28M4W7D
		64QAM: 28M4W7D
	LTE Band CA_38C Channel Bandwidth: 20MHz+20MHz	QPSK: 37M5G7D
		16QAM: 37M4W7D
		64QAM: 37M3W7D
	LTE Band 41 Channel Bandwidth: 5MHz	QPSK: 4M47G7D
		16QAM: 4M47W7D
		64QAM: 4M47W7D
	LTE Band 41 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M96W7D
		64QAM: 8M96W7D
	LTE Band 41 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
		64QAM: 13M4W7D
	LTE Band 41 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D

MAX. EIRP POWER	**LTE Band 7 Channel Bandwidth: 5MHz**	242mW
	LTE Band 7 Channel Bandwidth: 10MHz	243mW
	LTE Band 7 Channel Bandwidth: 15MHz	242mW
	LTE Band 7 Channel Bandwidth: 20MHz	245mW
	LTE Band CA_7C Channel Bandwidth: 10MHz+20MHz	250mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+10MHz	248mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+15MHz	241mW
	LTE Band CA_7C Channel Bandwidth: 15MHz+20MHz	249mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+10MHz	250mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+15MHz	251mW
	LTE Band CA_7C Channel Bandwidth: 20MHz+20MHz	254mW
	LTE Band 38 Channel Bandwidth: 5MHz	242mW
	LTE Band 38 Channel Bandwidth: 10MHz	239mW
	LTE Band 38 Channel Bandwidth: 15MHz	240mW
	LTE Band 38 Channel Bandwidth: 20MHz	242mW
	LTE Band CA_38C Channel Bandwidth: 15MHz+15MHz	244mW
	LTE Band CA_38C Channel Bandwidth: 20MHz+20MHz	248mW
	LTE Band 41 Channel Bandwidth: 5MHz	253mW
	LTE Band 41 Channel Bandwidth: 10MHz	253mW
	LTE Band 41 Channel Bandwidth: 15MHz	251mW

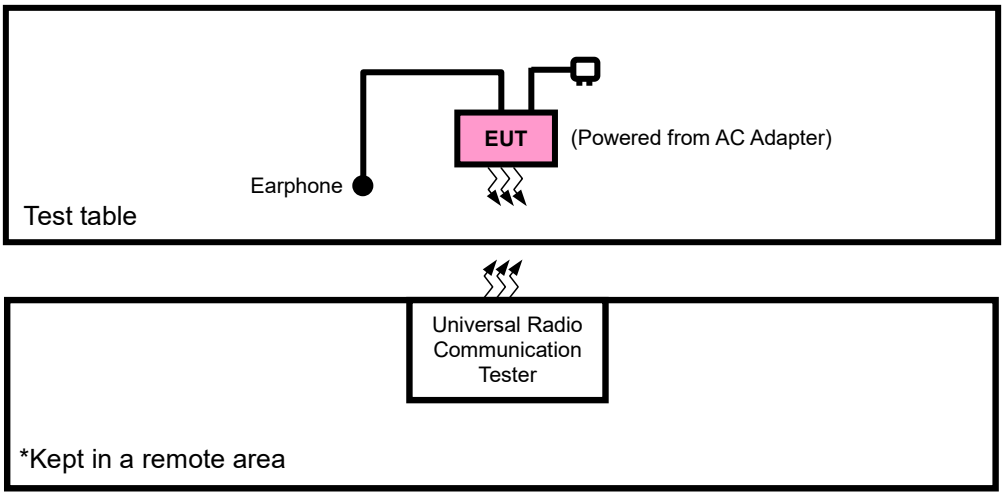
	LTE Band 41 Channel Bandwidth: 20MHz	256mW
ANTENNA TYPE	Main Antenna: Fixed Internal Antenna with 0.7dBi gain for LTE Band 7/ LTE Band 38/ LTE Band 41	
IMEI CODE	86531204	
HW VERSION	P2.1	
SW VERSION	MIUI 11	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable: 1.0 meter, non-shielded cable, with w/o ferrite core	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. The "List of Accessory" was recorded in Report NO: FV200304W004.

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	**EUT + Adapter + USB Cable with LTE link**
B	EUT + Battery with **LTE link**

LTE BAND 7 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	20775 to 21425	20775, 21425	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	20800, 21400	10MHz	QPSK	1 RB / 0RB Offset
		20825 to 21375	20825, 21375	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	20850, 21350	20MHz	QPSK	1 RB / 0 RB Offset
B	OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
B	BAND EDGE	20775 to 21425	20775	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20800 to 21400	20800	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		20825 to 21375	20825	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		20850 to 21350	20850	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
B	CONDCUDETED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB / 0 RB Offset
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND 38 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	37775 to 38225	37775, 38225	5MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	37800, 38200	10MHz	QPSK	1 RB / 0RB Offset
		37825 to 38175	37825, 38175	15MHz	QPSK	1 RB / 0 RB Offset
		37850 to38150	37850, 38150	20MHz	QPSK	1 RB / 0 RB Offset
B	OCCUPIED BANDWIDTH	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
B	BAND EDGE	37775 to 38225	37775	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			38825	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		37800 to 38200	37800	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			38200	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		37825 to 38175	37825	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			38175	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		37850 to38150	37850	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			38150	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
B	CONDCUDETED EMISSION	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	37775 to 38225	38000	5MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK	1 RB / 0RB Offset
		37825 to 38175	38000	15MHz	QPSK	1 RB / 0 RB Offset
		37850 to38150	38000	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND CA_7C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	20805 to 21206	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 49RB&1RB/ 0RB Offset
		20825 to 21277	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB&1RB/ 0RB Offset
		20825 to 21225	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB&1RB/ 0RB Offset
		20828 to 21179	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB&1RB/ 0RB Offset
		20850 to 21251	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB&1RB/ 0RB Offset
		20850 to 21201	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB&1RB/ 0RB Offset
		20850 to 21152	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB&1RB/ 0RB Offset
B	OCCUPIED BANDWIDTH	20805 to 21206	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM	50RB/ 0RB&100RB/ 0RB Offset
		20825 to 21277	Low, Middle, High	15MHz+10MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB&50RB/ 0RB Offset
		20825 to 21225	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB&75RB/ 0RB Offset
		20828 to 21179	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB&100RB/ 0RB Offset
		20850 to 21251	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB&50RB/ 0RB Offset
		20850 to 21201	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB&75RB/ 0RB Offset
		20850 to 21152	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB&100RB/ 0RB Offset
B	BAND EDGE	20805 to 21206	Low	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 49RB&1RB/ 0RB Offset
						50RB/ 0RB&100RB/ 0RB Offset
			High	10MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 49RB&1RB/ 0RB Offset
						50RB/ 0RB&100RB/ 0RB Offset
		20825 to 21277	Low	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&50RB/ 0RB Offset
			High	15MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&50RB/ 0RB Offset
		20825 to 21225	Low	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&75RB/ 0RB Offset
			High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&75RB/ 0RB Offset
		20828 to 21179	Low	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&100RB/ 0RB Offset
			High	15MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&100RB/ 0RB Offset
		20850 to 21251	Low	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&50RB/ 0RB Offset
			High	20MHz+10MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&50RB/ 0RB Offset
		20850 to 21201	Low	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 99RB&1RB/ 0RB Offset

						100RB/ 0RB&75RB/ 0RB Offset
			High	20MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&75RB/ 0RB Offset
		20850 to 21152	Low	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
			High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
B	CONDCUDETED EMISSION	20805 to 21206	Low, Middle, High	10MHz+20MHz	QPSK	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 49RB&1RB/ 0RB Offset
						50RB/ 0RB&100RB/ 0RB Offset
		20825 to 21277	Low, Middle, High	15MHz+10MHz	QPSK	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&50RB/ 0RB Offset
		20825 to 21225	Low, Middle, High	15MHz+15MHz	QPSK	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&75RB/ 0RB Offset
		20828 to 21179	Low, Middle, High	15MHz+20MHz	QPSK	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&100RB/ 0RB Offset
		20850 to 21251	Low, Middle, High	20MHz+10MHz	QPSK	1RB/ 0RB&1RB/ 49RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&50RB/ 0RB Offset
		20850 to 21201	Low, Middle, High	20MHz+15MHz	QPSK	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&75RB/ 0RB Offset
		20850 to 21152	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
A	RADIATED EMISSION	20805 to 21206	Low, Middle, High	10MHz+20MHz	QPSK	1RB/ 49RB&1RB/ 0RB Offset
		20825 to 21277	Low, Middle, High	15MHz+10MHz	QPSK	1RB/ 74RB&1RB/ 0RB Offset
		20825 to 21225	Low, Middle, High	15MHz+15MHz	QPSK	1RB/ 74RB&1RB/ 0RB Offset
		20828 to 21179	Low, Middle, High	15MHz+20MHz	QPSK	1RB/ 74RB&1RB/ 0RB Offset
		20850 to 21251	Low, Middle, High	20MHz+10MHz	QPSK	1RB/ 99RB&1RB/ 0RB Offset
		20850 to 21201	Low, Middle, High	20MHz+15MHz	QPSK	1RB/ 99RB&1RB/ 0RB Offset
		20850 to 21152	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 99RB&1RB/ 0RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND CA_38C MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	37825 to 38025	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 74RB&1RB/ 0RB Offset
		37850 to 37952	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 99RB&1RB/ 0RB Offset
B	OCCUPIED BANDWIDTH	37825 to 38025	Low, Middle, High	15MHz+15MHz	QPSK, 16QAM, 64QAM	75RB/ 0RB&75RB/ 0RB Offset
		37850 to 37952	Low, Middle, High	20MHz+20MHz	QPSK, 16QAM, 64QAM	100RB/ 0RB&100RB/ 0RB Offset
B	BAND EDGE	37825 to 38025	Low	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&75RB/ 0RB Offset
			High	15MHz+15MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 74RB Offset
						1RB/ 74RB&1RB/ 0RB Offset
						75RB/ 0RB&75RB/ 0RB Offset
		37850 to 37952	Low	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
			High	20MHz+20MHz	QPSK, 16QAM, 64QAM	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
B	CONDCUDETED EMISSION	37825 to 38025	Low, Middle, High	15MHz+15MHz	QPSK	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
		37850 to 37952	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 0RB&1RB/ 99RB Offset
						1RB/ 99RB&1RB/ 0RB Offset
						100RB/ 0RB&100RB/ 0RB Offset
A	RADIATED EMISSION	37825 to 38025	Low, Middle, High	15MHz+15MHz	QPSK	1RB/ 74RB&1RB/ 0RB Offset
		37850 to 37952	Low, Middle, High	20MHz+20MHz	QPSK	1RB/ 99RB&1RB/ 0RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

LTE BAND 41 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	40065 to 41215	40065, 40640, 41215	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
	40090 to 41190	40090, 40640, 41190	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB Offset
	40115 to 41165	40115, 40640, 41165	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
	40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	40065 to 41215	40065, 41215	5MHz	QPSK	1 RB / 0 RB Offset
	40090 to 41190	40090, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40115 to 41165	40115, 41165	15MHz	QPSK	1 RB / 0 RB Offset
	40140 to 41140	40140, 41140	20MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	40065 to 41215	40065, 40640, 41215	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
	40090 to 41190	40090, 40640, 41190	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
	40115 to 41165	40115, 40640, 41165	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB Offset
	40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB Offset
BAND EDGE	40065 to 41215	40065	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		41215	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	40090 to 41190	40090	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		41190	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	40115 to 41165	40115	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		41165	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	40140 to 41140	40140	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		41140	20MHz	QPSK, 16QAM, 64QAM	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
CONDCUDETED EMISSION	40065 to 41215	40065, 40640, 41215	5MHz	QPSK	1 RB / 0 RB Offset
	40090 to 41190	40090, 40640, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40115 to 41165	40115, 40640, 41165	15MHz	QPSK	1 RB / 0 RB Offset
	40140 to 41140	40140, 40640, 41140	20MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	40065 to 41215	40640	5MHz	QPSK	1 RB / 0 RB Offset
	40090 to 41190	40090, 40640, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40115 to 41165	40640	15MHz	QPSK	1 RB / 0 RB Offset
	40140 to 41140	40640	20MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	23deg. C, 70%RH	DC 3.87V By Battery	Tony Xiong
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.6V/3.87V/4.45V	Harris Wang
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.87V By Battery	Harris Wang
BAND EDGE	23deg. C, 70%RH	DC 3.87V By Battery	Harris Wang
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 3.87V By Battery	Harris Wang
RADIATED EMISSION	23deg. C, 70%RH	DC 5V/9V/11V/12/20V By Adapter	Tony Xiong

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

The radiated peak output power shall be according to the specific rule Part 27.50(h)(2) that “User stations are limited to 2 watts” and 27.50(i) specific that “Peak transmit power must be measure over any interval of continuous transmission using instrumentation calibration in terms of rms-equivalent voltage.”

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

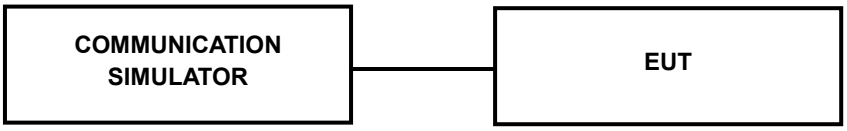
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band 7								
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		Low CH 20850	Mid CH 21100	High CH 21350		
		Frequence (MHz)		Frequency 2510 MHz	Frequency 2535 MHz	Frequency 2560 MHz		
20M	QPSK	**1**	**0**	**23.08**	**23.17**	**23.19**	**0**	**24**
		1	50	23.05	23.14	23.16	0	24
		1	99	22.95	23.04	23.06	0	24
		50	0	22.15	22.24	22.26	1	23
		50	25	22.10	22.19	22.21	1	23
		50	50	22.16	22.25	22.27	1	23
		100	0	22.09	22.18	22.20	1	23
	16QAM	1	0	22.37	22.46	22.48	1	23
		1	50	22.30	22.39	22.41	1	23
		1	99	22.18	22.27	22.29	1	23
		50	0	21.21	21.30	21.32	2	22
		50	25	21.19	21.28	21.30	2	22
		50	50	21.20	21.29	21.31	2	22
		100	0	21.15	21.24	21.26	2	22
	64QAM	1	0	21.25	21.34	21.36	2	22
		1	50	21.17	21.26	21.28	2	22
		1	99	21.13	21.22	21.24	2	22
		50	0	20.20	20.29	20.31	3	21
		50	25	20.16	20.25	20.27	3	21
		50	50	20.19	20.28	20.30	3	21
		100	0	20.14	20.23	20.25	3	21

BW	MCS Index	Channel		Low CH 20825	Mid CH 21100	High CH 21375	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2507.5 MHz	Frequency 2535 MHz	Frequency 2562.5 MHz		
15M	QPSK	1	0	23.07	**23.13**	23.11	0	24
		1	37	23.01	23.11	23.10	0	24
		1	74	22.93	23.03	23.02	0	24
		36	0	22.09	22.19	22.25	1	23
		36	19	22.09	22.17	22.16	1	23
		36	39	22.08	22.18	22.25	1	23
		75	0	22.08	22.14	22.17	1	23
	16QAM	1	0	22.34	22.45	22.42	1	23
		1	37	22.26	22.34	22.39	1	23
		1	74	22.12	22.25	22.26	1	23
		36	0	21.19	21.22	21.31	2	22
		36	19	21.11	21.24	21.25	2	22
		36	39	21.17	21.23	21.29	2	22
		75	0	21.14	21.19	21.18	2	22
	64QAM	1	0	21.19	21.31	21.32	2	22
		1	37	21.15	21.19	21.23	2	22
		1	74	21.07	21.14	21.22	2	22
		36	0	20.19	20.27	20.23	3	21
		36	19	20.09	20.17	20.21	3	21
		36	39	20.17	20.27	20.26	3	21
		75	0	20.12	20.15	20.24	3	21

BW	MCS Index	Channel		Low CH 20800	Mid CH 21100	High CH 21400	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2505 MHz	Frequency 2535 MHz	Frequency 2565 MHz		
10M	QPSK	1	0	23.00	23.13	23.14	0	24
		1	24	23.03	23.06	**23.15**	0	24
		1	49	22.87	23.00	23.01	0	24
		25	0	22.12	22.18	22.24	1	23
		25	12	22.08	22.12	22.16	1	23
		25	25	22.10	22.17	22.25	1	23
		50	0	22.08	22.16	22.12	1	23
	16QAM	1	0	22.30	22.38	22.42	1	23
		1	24	22.27	22.33	22.39	1	23
		1	49	22.16	22.20	22.24	1	23
		25	0	21.15	21.22	21.30	2	22
		25	12	21.17	21.20	21.29	2	22
		25	25	21.12	21.25	21.26	2	22
		50	0	21.13	21.16	21.25	2	22
	64QAM	1	0	21.17	21.30	21.31	2	22
		1	24	21.14	21.20	21.26	2	22
		1	49	21.11	21.15	21.19	2	22
		25	0	20.14	20.21	20.29	3	21
		25	12	20.15	20.23	20.19	3	21
		25	25	20.14	20.20	20.24	3	21
		50	0	20.13	20.17	20.23	3	21

BW	MCS Index	Channel		Low CH 20775	Mid CH 21100	High CH 21425	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2502.5 MHz	Frequency 2535 MHz	Frequency 2567.5 MHz		
5M	QPSK	1	0	23.03	23.10	**23.14**	0	24
		1	12	23.03	23.06	**23.14**	0	24
		1	24	22.90	22.96	23.05	0	24
		12	0	22.11	22.19	22.21	1	23
		12	6	22.02	22.18	22.16	1	23
		12	13	22.12	22.20	22.26	1	23
		25	0	22.03	22.16	22.15	1	23
	16QAM	1	0	22.30	22.41	22.46	1	23
		1	12	22.22	22.37	22.36	1	23
		1	24	22.16	22.19	22.27	1	23
		12	0	21.13	21.24	21.24	2	22
		12	6	21.13	21.26	21.24	2	22
		12	13	21.13	21.24	21.29	2	22
		25	0	21.09	21.17	21.21	2	22
	64QAM	1	0	21.18	21.29	21.34	2	22
		1	12	21.09	21.24	21.22	2	22
		1	24	21.05	21.21	21.22	2	22
		12	0	20.16	20.24	20.23	3	21
		12	6	20.08	20.24	20.25	3	21
		12	13	20.15	20.23	20.22	3	21
		25	0	20.08	20.21	20.22	3	21

LTE Band 38								
BW	MCS Index	RB Size	RB Offset	Low	Mid	Mid	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		Low CH 37850	Mid CH 38000	High CH 38150		
		Frequence (MHz)		Frequency 2580 MHz	Frequency 2595 MHz	Frequency 2610 MHz		
20M	QPSK	**1**	**0**	23.01	23.03	23.08	**0**	**24**
		1	50	23.00	23.02	23.07	0	24
		1	99	23.07	23.09	**23.14**	0	24
		50	0	22.20	22.22	22.27	1	23
		50	25	22.17	22.19	22.24	1	23
		50	50	22.18	22.20	22.25	1	23
		100	0	22.21	22.23	22.28	1	23
	16QAM	1	0	22.12	22.14	22.19	1	23
		1	50	22.13	22.15	22.20	1	23
		1	99	22.27	22.29	22.34	1	23
		50	0	21.28	21.30	21.35	2	22
		50	25	21.27	21.29	21.34	2	22
		50	50	21.26	21.28	21.33	2	22
		100	0	21.28	21.30	21.35	2	22
	64QAM	1	0	20.78	20.80	20.85	2	22
		1	50	20.76	20.78	20.83	2	22
		1	99	20.88	20.90	20.95	2	22
		50	0	20.27	20.29	20.34	3	21
		50	25	20.30	20.32	20.37	3	21
		50	50	20.29	20.31	20.36	3	21
		100	0	20.27	20.29	20.34	3	21

BW	MCS Index	Channel		Low CH 37825	Mid CH 38000	High CH 38175	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2577.5 MHz	Frequency 2595 MHz	Frequency 2612.5MHz		
15M	QPSK	1	0	23.00	22.99	23.00	0	24
		1	37	22.96	22.99	23.01	0	24
		1	74	23.05	23.08	**23.10**	0	24
		36	0	22.14	22.17	22.26	1	23
		36	19	22.16	22.17	22.19	1	23
		36	39	22.10	22.13	22.23	1	23
		75	0	22.20	22.19	22.25	1	23
	16QAM	1	0	22.09	22.13	22.13	1	23
		1	37	22.09	22.10	22.18	1	23
		1	74	22.21	22.27	22.31	1	23
		36	0	21.26	21.22	21.34	2	22
		36	19	21.19	21.25	21.29	2	22
		36	39	21.23	21.22	21.31	2	22
		75	0	21.27	21.25	21.27	2	22
	64QAM	1	0	20.72	20.77	20.81	2	22
		1	37	20.74	20.71	20.78	2	22
		1	74	20.82	20.82	20.93	2	22
		36	0	20.26	20.27	20.26	3	21
		36	19	20.23	20.24	20.31	3	21
		36	39	20.27	20.30	20.32	3	21
		75	0	20.25	20.21	20.33	3	21

BW	MCS Index	Channel		Low CH 37800	Mid CH 38000	High CH 38200	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2575 MHz	Frequency 2595 MHz	Frequency 2615 MHz		
10M	QPSK	1	0	22.93	22.99	23.03	0	24
		1	24	22.98	22.94	23.06	0	24
		1	49	22.99	23.05	**23.09**	0	24
		25	0	22.17	22.16	22.25	1	23
		25	12	22.15	22.12	22.19	1	23
		25	25	22.12	22.12	22.23	1	23
		50	0	22.20	22.21	22.20	1	23
	16QAM	1	0	22.05	22.06	22.13	1	23
		1	24	22.10	22.09	22.18	1	23
		1	49	22.25	22.22	22.29	1	23
		25	0	21.22	21.22	21.33	2	22
		25	12	21.25	21.21	21.33	2	22
		25	25	21.18	21.24	21.28	2	22
		50	0	21.26	21.22	21.34	2	22
	64QAM	1	0	20.70	20.76	20.80	2	22
		1	24	20.73	20.72	20.81	2	22
		1	49	20.86	20.83	20.90	2	22
		25	0	20.21	20.21	20.32	3	21
		25	12	20.29	20.30	20.29	3	21
		25	25	20.24	20.23	20.30	3	21
		50	0	20.26	20.23	20.32	3	21

BW	MCS Index	Channel		Low CH 37775	Mid CH 38000	High CH 38225	3GPP MPR	Max. Tune-up
		Frequence (MHz)		Frequency 2572.5 MHz	Frequency 2595 MHz	Frequency 2617.5MHz		
5M	QPSK	1	0	22.96	22.96	23.03	0	24
		1	12	22.98	22.94	23.05	0	24
		1	24	23.02	23.01	**23.13**	0	24
		12	0	22.16	22.17	22.22	1	23
		12	6	22.09	22.18	22.19	1	23
		12	13	22.14	22.15	22.24	1	23
		25	0	22.15	22.21	22.23	1	23
	16QAM	1	0	22.05	22.09	22.17	1	23
		1	12	22.05	22.13	22.15	1	23
		1	24	22.25	22.21	22.32	1	23
		12	0	21.20	21.24	21.27	2	22
		12	6	21.21	21.27	21.28	2	22
		12	13	21.19	21.23	21.31	2	22
		25	0	21.22	21.23	21.30	2	22
	64QAM	1	0	20.71	20.75	20.83	2	22
		1	12	20.68	20.76	20.77	2	22
		1	24	20.80	20.89	20.93	2	22
		12	0	20.23	20.24	20.26	3	21
		12	6	20.22	20.31	20.35	3	21
		12	13	20.25	20.26	20.28	3	21
		25	0	20.21	20.27	20.31	3	21

CA_7C								
Combination 10MHz+20MHz (50RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20828	20999	QPSK	1	74	1	0	2	23.19
		16QAM	1	74	1	0	2	22.25
		64QAM	1	74	1	0	2	21.05
21003	21174	QPSK	1	74	1	0	2	23.27
		16QAM	1	74	1	0	2	22.36
		64QAM	1	74	1	0	2	21.21
21179	21350	QPSK	1	74	1	0	2	23.22
		16QAM	1	74	1	0	2	22.35
		64QAM	1	74	1	0	2	21.25
Combination 15MHz+10MHz (75RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20825	20975	QPSK	1	74	1	0	2	23.12
		16QAM	1	74	1	0	2	21.96
		64QAM	1	74	1	0	2	20.65
21051	21171	QPSK	1	74	1	0	2	23.08
		16QAM	1	74	1	0	2	21.93
		64QAM	1	74	1	0	2	20.64
21277	21397	QPSK	1	74	1	0	2	23.13
		16QAM	1	74	1	0	2	22.02
		64QAM	1	74	1	0	2	20.70

CA_7C								
Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20825	20975	QPSK	1	74	1	0	2	23.19
		16QAM	1	74	1	0	2	22.21
		64QAM	1	74	1	0	2	21.11
21025	21175	QPSK	1	74	1	0	2	23.25
		16QAM	1	74	1	0	2	22.36
		64QAM	1	74	1	0	2	21.22
21225	21375	QPSK	1	74	1	0	2	23.19
		16QAM	1	74	1	0	2	22.32
		64QAM	1	74	1	0	2	21.22
Combination 15MHz+20MHz (75RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20828	20999	QPSK	1	74	1	0	2	23.19
		16QAM	1	74	1	0	2	22.25
		64QAM	1	74	1	0	2	21.05
21003	21174	QPSK	1	74	1	0	2	23.27
		16QAM	1	74	1	0	2	22.36
		64QAM	1	74	1	0	2	21.21
21179	21350	QPSK	1	74	1	0	2	23.22
		16QAM	1	74	1	0	2	22.35
		64QAM	1	74	1	0	2	21.25

CA_7C								
Combination 20MHz+10MHz (100RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20850	20994	QPSK	1	99	1	0	2	23.21
		16QAM	1	99	1	0	2	22.20
		64QAM	1	99	1	0	2	21.05
21051	21195	QPSK	1	99	1	0	2	23.28
		16QAM	1	99	1	0	2	22.30
		64QAM	1	99	1	0	2	21.21
21251	21395	QPSK	1	99	1	0	2	23.16
		16QAM	1	99	1	0	2	22.32
		64QAM	1	99	1	0	2	21.18
Combination 20MHz+15MHz (100RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20850	21021	QPSK	1	99	1	0	2	23.27
		16QAM	1	99	1	0	2	22.27
		64QAM	1	99	1	0	2	21.13
21026	21197	QPSK	1	99	1	0	2	23.30
		16QAM	1	99	1	0	2	22.38
		64QAM	1	99	1	0	2	21.27
21201	21372	QPSK	1	99	1	0	2	23.23
		16QAM	1	99	1	0	2	22.40
		64QAM	1	99	1	0	2	21.26

CA_7C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	0	0	1	99	1	23.34
			1	0	0	0	1	23.31
			1	99	1	0	2	23.35
		16QAM	0	0	1	99	1	22.31
			1	0	0	0	1	22.36
			1	99	1	0	2	22.29
		64QAM	0	0	1	99	1	21.24
			1	0	0	0	1	21.22
			1	99	1	0	2	21.21
21001	21199	QPSK	0	0	1	99	1	23.27
			1	0	0	0	1	23.31
			1	99	1	0	2	23.33
		16QAM	0	0	1	99	1	22.43
			1	0	0	0	1	22.45
			1	99	1	0	2	22.4
		64QAM	0	0	1	99	1	21.32
			1	0	0	0	1	21.28
			1	99	1	0	2	21.33
21152	21350	QPSK	0	0	1	99	1	23.17
			1	0	0	0	1	23.22
			1	99	1	0	2	23.24
		16QAM	0	0	1	99	1	22.44
			1	0	0	0	1	22.45
			1	99	1	0	2	22.47
		64QAM	0	0	1	99	1	21.31
			1	0	0	0	1	21.34
			1	99	1	0	2	21.29

CA_38C								
Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
37825	37975	QPSK	1	74	1	0	2	23.17
		16QAM	1	74	1	0	2	21.98
		64QAM	1	74	1	0	2	20.70
37925	38075	QPSK	1	74	1	0	2	23.10
		16QAM	1	74	1	0	2	22.01
		64QAM	1	74	1	0	2	20.70
38025	38175	QPSK	1	74	1	0	2	23.15
		16QAM	1	74	1	0	2	22.07
		64QAM	1	74	1	0	2	20.77

CA_38C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	0	0	1	99	1	23.20
			1	0	0	0	1	23.18
			1	99	1	0	2	23.24
		16QAM	0	0	1	99	1	22.09
			1	0	0	0	1	22.05
			1	99	1	0	2	22.04
		64QAM	0	0	1	99	1	20.76
			1	0	0	0	1	20.70
			1	99	1	0	2	20.77
37901	38099	QPSK	0	0	1	99	1	23.10
			1	0	0	0	1	23.10
			1	99	1	0	2	23.18
		16QAM	0	0	1	99	1	22.10
			1	0	0	0	1	22.13
			1	99	1	0	2	22.09
		64QAM	0	0	1	99	1	20.78
			1	0	0	0	1	20.77
			1	99	1	0	2	20.74
37952	38150	QPSK	0	0	1	99	1	23.21
			1	0	0	0	1	23.20
			1	99	1	0	2	23.23
		16QAM	0	0	1	99	1	22.14
			1	0	0	0	1	22.17
			1	99	1	0	2	22.11
		64QAM	0	0	1	99	1	20.81
			1	0	0	0	1	20.80
			1	99	1	0	2	20.83

LTE Band 41								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		40140	40640	41140		
		Frequence (MHz)		2545	2595	2645		
20M	QPSK	**1**	**0**	**23.03**	**23.11**	**23.38**	**0**	**24**
		1	50	22.96	23.04	23.31	0	24
		1	99	22.87	22.95	23.22	0	24
		50	0	22.12	22.20	22.47	1	23
		50	25	22.09	22.17	22.44	1	23
		50	50	22.07	22.15	22.42	1	23
		100	0	22.08	22.16	22.43	1	23
	16QAM	1	0	22.16	22.24	22.51	1	23
		1	50	22.05	22.13	22.40	1	23
		1	99	22.00	22.08	22.35	1	23
		50	0	21.21	21.29	21.56	2	22
		50	25	21.16	21.24	21.51	2	22
		50	50	21.13	21.21	21.48	2	22
		100	0	21.17	21.25	21.52	2	22
	64QAM	1	0	20.81	20.89	21.16	2	22
		1	50	20.70	20.78	21.05	2	22
		1	99	20.68	20.76	21.03	2	22
		50	0	20.21	20.29	20.56	3	21
		50	25	20.19	20.27	20.54	3	21
		50	50	20.13	20.21	20.48	3	21
		100	0	20.15	20.23	20.50	3	21

LTE Band 41								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		40115	40640	41165		
		Frequence (MHz)		2542.5	2595	2647.5		
15M	QPSK	1	0	23.02	23.07	23.30	0	24
		1	37	22.92	23.01	23.25	0	24
		1	74	22.85	22.94	23.18	0	24
		36	0	22.06	22.15	22.46	1	23
		36	19	22.08	22.15	22.39	1	23
		36	39	21.99	22.08	22.40	1	23
		75	0	22.07	22.12	22.40	1	23
	16QAM	1	0	22.13	22.23	22.45	1	23
		1	37	22.01	22.08	22.38	1	23
		1	74	21.94	22.06	22.32	1	23
		36	0	21.19	21.21	21.55	2	22
		36	19	21.08	21.20	21.46	2	22
		36	39	21.10	21.15	21.46	2	22
		75	0	21.16	21.20	21.44	2	22
	64QAM	1	0	20.75	20.86	21.12	2	22
		1	37	20.68	20.71	21.00	2	22
		1	74	20.62	20.68	21.01	2	22
		36	0	20.20	20.27	20.48	3	21
		36	19	20.12	20.19	20.48	3	21
		36	39	20.11	20.20	20.44	3	21
		75	0	20.13	20.15	20.49	3	21

LTE Band 41								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		40090	40640	41190		
		Frequence (MHz)		2540	2595	2650		
10M	QPSK	1	0	22.95	23.07	23.33	0	24
		1	24	22.94	22.96	23.30	0	24
		1	49	22.79	22.91	23.17	0	24
		25	0	22.09	22.14	22.45	1	23
		25	12	22.07	22.10	22.39	1	23
		25	25	22.01	22.07	22.40	1	23
		50	0	22.07	22.14	22.35	1	23
	16QAM	1	0	22.09	22.16	22.45	1	23
		1	24	22.02	22.07	22.38	1	23
		1	49	21.98	22.01	22.30	1	23
		25	0	21.15	21.21	21.54	2	22
		25	12	21.14	21.16	21.50	2	22
		25	25	21.05	21.17	21.43	2	22
		50	0	21.15	21.17	21.51	2	22
	64QAM	1	0	20.73	20.85	21.11	2	22
		1	24	20.67	20.72	21.03	2	22
		1	49	20.66	20.69	20.98	2	22
		25	0	20.15	20.21	20.54	3	21
		25	12	20.18	20.25	20.46	3	21
		25	25	20.08	20.13	20.42	3	21
		50	0	20.14	20.17	20.48	3	21

LTE Band 41								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		40065	40640	41215		
		Frequence (MHz)		2537.5	2595	2652.5		
5M	QPSK	1	0	22.98	23.04	23.33	0	24
		1	12	22.94	22.96	23.29	0	24
		1	24	22.82	22.87	23.21	0	24
		12	0	22.08	22.15	22.42	1	23
		12	6	22.01	22.16	22.39	1	23
		12	13	22.03	22.10	22.41	1	23
		25	0	22.02	22.14	22.38	1	23
	16QAM	1	0	22.09	22.19	22.49	1	23
		1	12	21.97	22.11	22.35	1	23
		1	24	21.98	22.00	22.33	1	23
		12	0	21.13	21.23	21.48	2	22
		12	6	21.10	21.22	21.45	2	22
		12	13	21.06	21.16	21.46	2	22
		25	0	21.11	21.18	21.47	2	22
	64QAM	1	0	20.74	20.84	21.14	2	22
		1	12	20.62	20.76	20.99	2	22
		1	24	20.60	20.75	21.01	2	22
		12	0	20.17	20.24	20.48	3	21
		12	6	20.11	20.26	20.52	3	21
		12	13	20.09	20.16	20.40	3	21
		25	0	20.09	20.21	20.47	3	21

EIRP

LTE BAND 7
CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	23.03	0.70	23.73	236.05	1
21100	2535.0	23.10	0.70	23.80	239.88	1
21425	2567.5	23.14	0.70	23.84	**242.10**	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	22.30	0.70	23.00	199.53	1
21100	2535.0	22.41	0.70	23.11	204.64	1
21425	2567.5	22.46	0.70	23.16	207.01	1

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	21.18	0.70	21.88	154.17	1
21100	2535.0	21.29	0.70	21.99	158.12	1
21425	2567.5	21.34	0.70	22.04	159.96	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505.0	23.03	0.70	23.73	236.05	1
21100	2535.0	23.13	0.70	23.83	241.55	1
21400	2565.0	23.15	0.70	23.85	**242.66**	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505.0	22.30	0.70	23.00	199.53	1
21100	2535.0	22.38	0.70	23.08	203.24	1
21400	2565.0	22.42	0.70	23.12	205.12	1

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505.0	21.17	0.70	21.87	153.82	1
21100	2535.0	21.30	0.70	22.00	158.49	1
21400	2565.0	21.31	0.70	22.01	158.85	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	23.07	0.70	23.77	238.23	1
21100	2535.0	23.13	0.70	23.83	**241.55**	1
21375	2562.5	23.11	0.70	23.81	240.44	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	22.34	0.70	23.04	201.37	1
21100	2535.0	22.45	0.70	23.15	206.54	1
21375	2562.5	22.42	0.70	23.12	205.12	1

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	21.19	0.70	21.89	154.53	1
21100	2535.0	21.31	0.70	22.01	158.85	1
21375	2562.5	21.32	0.70	22.02	159.22	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	23.08	0.70	23.78	238.78	1
21100	2535.0	23.17	0.70	23.87	243.78	1
21350	2560.0	23.19	0.70	23.89	**244.91**	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	22.37	0.70	23.07	202.77	1
21100	2535.0	22.46	0.70	23.16	207.01	1
21350	2560.0	22.48	0.70	23.18	207.97	1

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21.25	0.70	21.95	156.68	1
21100	2535.0	21.34	0.70	22.04	159.96	1
21350	2560.0	21.36	0.70	22.06	160.69	1

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	23.02	0.70	23.72	235.50	2
38000	2595.0	23.01	0.70	23.71	234.96	2
38225	2617.5	23.13	0.70	23.83	**241.55**	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	22.25	0.70	22.95	197.24	2
38000	2595.0	22.21	0.70	22.91	195.43	2
38225	2617.5	22.32	0.70	23.02	200.45	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	20.80	0.70	21.50	141.25	2
38000	2595.0	20.89	0.70	21.59	144.21	2
38225	2617.5	20.93	0.70	21.63	145.55	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	22.99	0.70	23.69	233.88	2
38000	2595.0	23.05	0.70	23.75	237.14	2
38200	2615.0	23.09	0.70	23.79	**239.33**	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	22.22	0.70	22.92	195.88	2
38000	2595.0	22.25	0.70	22.95	197.24	2
38200	2615.0	22.29	0.70	22.99	199.07	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	20.86	0.70	21.56	143.22	2
38000	2595.0	20.89	0.70	21.59	144.21	2
38200	2615.0	20.90	0.70	21.60	144.54	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	23.05	0.70	23.75	237.14	2
38000	2595.0	23.08	0.70	23.78	238.78	2
38175	2612.5	23.10	0.70	23.80	**239.88**	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	22.21	0.70	22.91	195.43	2
38000	2595.0	22.27	0.70	22.97	198.15	2
38175	2612.5	22.31	0.70	23.01	199.99	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	20.82	0.70	21.52	141.91	2
38000	2595.0	20.82	0.70	21.52	141.91	2
38175	2612.5	20.93	0.70	21.63	145.55	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	23.07	0.70	23.77	238.23	2
38000	2595.0	23.09	0.70	23.79	239.33	2
38150	2610.0	23.14	0.70	23.84	**242.10**	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	22.27	0.70	22.97	198.15	2
38000	2595.0	22.29	0.70	22.99	199.07	2
38150	2610.0	22.34	0.70	23.04	201.37	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	20.88	0.70	21.58	143.88	2
38000	2595.0	20.90	0.70	21.60	144.54	2
38150	2610.0	20.95	0.70	21.65	146.22	2

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CHANNEL BANDWIDTH: 10MHz+20MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20805	2505.5	20949	2519.9	23.21	0.70	23.91	246.04	2
21006	2525.6	21150	2540.0	23.28	0.70	23.98	**250.03**	2
21206	2545.6	21350	2560.0	23.18	0.70	23.88	244.34	2

CHANNEL BANDWIDTH: 10MHz+20MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20805	2505.5	20949	2519.9	22.20	0.70	22.90	194.98	2
21006	2525.6	21150	2540.0	22.30	0.70	23.00	199.53	2
21206	2545.6	21350	2560.0	22.39	0.70	23.09	203.70	2

CHANNEL BANDWIDTH: 10MHz+20MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20975	2522.5	21.05	0.70	21.75	149.62	2
21003	2525.3	21175	2542.5	21.21	0.70	21.91	155.24	2
21179	2542.9	21375	2562.5	21.25	0.70	21.95	156.68	2

CHANNEL BANDWIDTH: 15MHz+10MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	23.19	0.70	23.89	244.91	2
21051	2530.1	21171	2542.1	23.25	0.70	23.95	**248.31**	2
21227	2552.7	21397	2564.7	23.19	0.70	23.89	244.91	2

CHANNEL BANDWIDTH: 15MHz+10MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	21.96	0.70	22.66	184.50	2
21051	2530.1	21171	2542.1	21.93	0.70	22.63	183.23	2
21227	2552.7	21397	2564.7	22.02	0.70	22.72	187.07	2

CHANNEL BANDWIDTH: 15MHz+10MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20945	2519.5	20.65	0.70	21.35	136.46	2
21051	2530.1	21171	2542.1	20.64	0.70	21.34	136.14	2
21227	2552.7	21397	2564.7	20.70	0.70	21.40	138.04	2

CHANNEL BANDWIDTH: 15MHz+15MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	2522.5	2502.5	23.12	0.70	23.82	**240.99**	2
21025	2527.5	2542.5	2535.0	23.08	0.70	23.78	238.78	2
21225	2547.5	2562.5	2567.5	23.13	0.70	23.83	241.55	2

CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	2522.5	2502.5	22.21	0.70	22.91	195.43	2
21025	2527.5	2542.5	2535.0	22.36	0.70	23.06	202.30	2
21225	2547.5	2562.5	2567.5	22.32	0.70	23.02	200.45	2

CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	2522.5	2502.5	21.11	0.70	21.81	151.71	2
21025	2527.5	2542.5	2535.0	21.22	0.70	21.92	155.60	2
21225	2547.5	2562.5	2567.5	21.22	0.70	21.92	155.60	2

CHANNEL BANDWIDTH: 15MHz+20MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20975	2522.5	23.19	0.70	23.89	244.91	2
21003	2525.3	21175	2542.5	23.27	0.70	23.97	**249.46**	2
21179	2542.9	21375	2562.5	23.22	0.70	23.92	246.60	2

CHANNEL BANDWIDTH: 15MHz+20MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20975	2522.5	22.25	0.70	22.95	197.24	2
21003	2525.3	21175	2542.5	22.36	0.70	23.06	202.30	2
21179	2542.9	21375	2562.5	22.35	0.70	23.05	201.84	2

CHANNEL BANDWIDTH: 15MHz+20MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20828	2507.8	20975	2522.5	21.05	0.70	21.75	149.62	2
21003	2525.3	21175	2542.5	21.21	0.70	21.91	155.24	2
21179	2542.9	21375	2562.5	21.25	0.70	21.95	156.68	2

CHANNEL BANDWIDTH: 20MHz+10MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	23.21	0.70	23.91	246.04	2
21051	2530.1	21195	2544.5	23.28	0.70	23.98	**250.03**	2
21251	2550.1	21395	2564.5	23.16	0.70	23.86	243.22	2

CHANNEL BANDWIDTH: 20MHz+10MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	22.20	0.70	22.90	194.98	2
21051	2530.1	21195	2544.5	22.30	0.70	23.00	199.53	2
21251	2550.1	21395	2564.5	22.32	0.70	23.02	200.45	2

CHANNEL BANDWIDTH: 20MHz+10MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	20994	2524.4	21.05	0.70	21.75	149.62	2
21051	2530.1	21195	2544.5	21.21	0.70	21.91	155.24	2
21251	2550.1	21395	2564.5	21.18	0.70	21.88	154.17	2

CHANNEL BANDWIDTH: 20MHz+15MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	23.27	0.70	23.97	249.46	2
21026	2527.6	21197	2544.7	23.30	0.70	24.00	**251.19**	2
21201	2545.1	21372	2562.2	23.23	0.70	23.93	247.17	2

CHANNEL BANDWIDTH: 20MHz+15MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	22.27	0.70	22.97	198.15	2
21026	2527.6	21197	2544.7	22.38	0.70	23.08	203.24	2
21201	2545.1	21372	2562.2	22.40	0.70	23.10	204.17	2

CHANNEL BANDWIDTH: 20MHz+15MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21021	2527.1	21.13	0.70	21.83	152.41	2
21026	2527.6	21197	2544.7	21.27	0.70	21.97	157.40	2
21201	2545.1	21372	2562.2	21.26	0.70	21.96	157.04	2

CHANNEL BANDWIDTH: 20MHz+20MHz QPSK

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	23.35	0.70	24.05	**254.10**	2
21001	2525.1	21199	2544.9	23.33	0.70	24.03	252.93	2
21206	2540.2	21350	2560.0	23.24	0.70	23.94	247.74	2

CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	22.36	0.70	23.06	202.30	2
21001	2525.1	21199	2544.9	22.45	0.70	23.15	206.54	2
21206	2540.2	21350	2560.0	22.47	0.70	23.17	207.49	2

CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	21048	2529.8	21.24	0.70	21.94	156.31	2
21001	2525.1	21199	2544.9	21.33	0.70	22.03	159.59	2
21206	2540.2	21350	2560.0	21.34	0.70	22.04	159.96	2

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CHANNEL BANDWIDTH: 15MHz+15MHz QPSK

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	23.17	0.70	23.87	**243.78**	2
37901	2587.5	38075	2602.5	23.10	0.70	23.80	239.88	2
38025	2597.5	38150	2612.5	23.15	0.70	23.85	242.66	2

CHANNEL BANDWIDTH: 15MHz+15MHz 16QAM

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	21.98	0.70	22.68	185.35	2
37901	2587.5	38075	2602.5	22.01	0.70	22.71	186.64	2
38025	2597.5	38150	2612.5	22.07	0.70	22.77	189.23	2

CHANNEL BANDWIDTH: 15MHz+15MHz 64QAM

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	37975	2592.5	20.70	0.70	21.40	138.04	2
37901	2587.5	38075	2602.5	20.70	0.70	21.40	138.04	2
38025	2597.5	38150	2612.5	20.70	0.70	21.40	138.04	2

CHANNEL BANDWIDTH: 20MHz+20MHz QPSK

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	38048	2599.8	23.24	0.70	23.94	**247.74**	2
38000	2595.0	38099	2604.9	23.18	0.70	23.88	244.34	2
38225	2617.5	38150	2610.0	23.23	0.70	23.93	247.17	2

CHANNEL BANDWIDTH: 20MHz+20MHz 16QAM

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	38048	2599.8	22.09	0.70	22.79	190.11	2
38000	2595.0	38099	2604.9	22.13	0.70	22.83	191.87	2
38225	2617.5	38150	2610.0	22.17	0.70	22.87	193.64	2

CHANNEL BANDWIDTH: 20MHz+20MHz 64QAM

Channel (CC1)	Frequency (CC1) (MHz)	Channel (CC2)	Frequency (CC2) (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	38048	2599.8	20.76	0.70	21.46	139.96	2
38000	2595.0	38099	2604.9	20.78	0.70	21.48	140.60	2
38225	2617.5	38150	2610.0	20.83	0.70	21.53	142.23	2

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40065	2537.5	22.98	0.70	23.68	233.35	2
40640	2595.0	23.04	0.70	23.74	236.59	2
41215	2652.5	23.33	0.70	24.03	**252.93**	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40065	2537.5	22.09	0.70	22.79	190.11	2
40640	2595.0	22.19	0.70	22.89	194.54	2
41215	2652.5	22.49	0.70	23.19	208.45	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40065	2537.5	20.74	0.70	21.44	139.32	2
40640	2595.0	20.84	0.70	21.54	142.56	2
41215	2652.5	21.14	0.70	21.84	152.76	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40090	2540.0	22.95	0.70	23.65	231.74	2
40640	2595.0	23.07	0.70	23.77	238.23	2
41190	2650.0	23.33	0.70	24.03	**252.93**	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40090	2540.0	22.09	0.70	22.79	190.11	2
40640	2595.0	22.16	0.70	22.86	193.20	2
41190	2650.0	22.45	0.70	23.15	206.54	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40090	2540.0	20.73	0.70	21.43	139.00	2
40640	2595.0	20.85	0.70	21.55	142.89	2
41190	2650.0	21.11	0.70	21.81	151.71	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40115	2542.5	23.02	0.70	23.72	235.50	2
40640	2595.0	23.07	0.70	23.77	238.23	2
41165	2647.5	23.30	0.70	24.00	**251.19**	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40115	2542.5	22.13	0.70	22.83	191.87	2
40640	2595.0	22.23	0.70	22.93	196.34	2
41165	2647.5	22.45	0.70	23.15	206.54	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40115	2542.5	20.75	0.70	21.45	139.64	2
40640	2595.0	20.86	0.70	21.56	143.22	2
41165	2647.5	21.12	0.70	21.82	152.05	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40140	2545.0	23.03	0.70	23.73	236.05	2
40640	2595.0	23.11	0.70	23.81	240.44	2
41140	2645.0	23.38	0.70	24.08	**255.86**	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40140	2545.0	22.16	0.70	22.86	193.20	2
40640	2595.0	22.24	0.70	22.94	196.79	2
41140	2645.0	22.51	0.70	23.21	209.41	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40140	2545.0	20.81	0.70	21.51	141.58	2
40640	2595.0	20.89	0.70	21.59	144.21	2
41140	2645.0	21.16	0.70	21.86	153.46	2

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

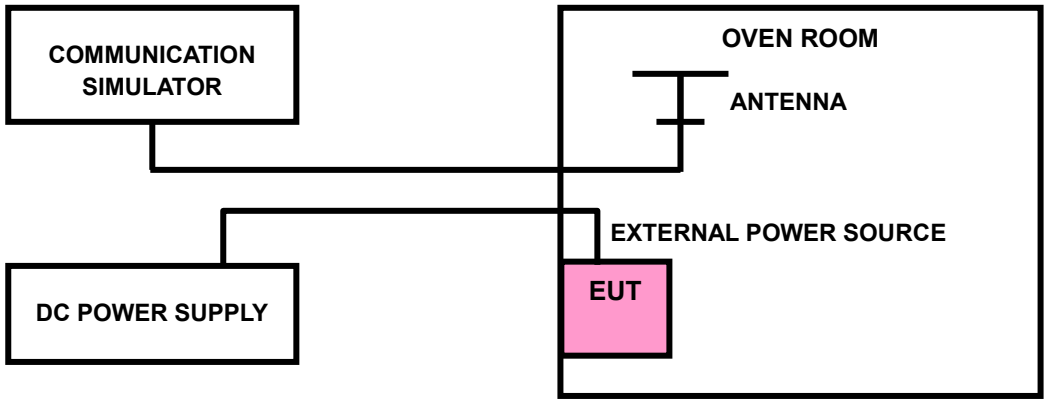
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

LTE BAND 7

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0021	0.0023	2.5
V_{min}	-0.0024	-0.0030	2.5
V_{max}	0.0021	0.0021	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0113	-0.0110	2.5
-20	-0.0109	-0.0105	2.5
-10	-0.0081	-0.0081	2.5
0	-0.0076	-0.0073	2.5
10	-0.0056	-0.0048	2.5
20	-0.0038	-0.0040	2.5
30	-0.0036	-0.0025	2.5
40	-0.0017	-0.0021	2.5
50	-0.0003	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0026	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0026	0.0025	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0122	-0.0113	2.5
-20	-0.0105	-0.0105	2.5
-10	-0.0083	-0.0082	2.5
0	-0.0077	-0.0075	2.5
10	-0.0052	-0.0046	2.5
20	-0.0041	-0.0037	2.5
30	-0.0038	-0.0040	2.5
40	-0.0023	-0.0016	2.5
50	-0.0003	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0024	2.5
V_{min}	-0.0031	-0.0031	2.5
V_{max}	0.0025	0.0024	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0113	-0.0114	2.5
-20	-0.0110	-0.0108	2.5
-10	-0.0086	-0.0084	2.5
0	-0.0077	-0.0075	2.5
10	-0.0046	-0.0048	2.5
20	-0.0040	-0.0041	2.5
30	-0.0034	-0.0029	2.5
40	-0.0019	-0.0015	2.5
50	-0.0002	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0024	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0024	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0118	-0.0114	2.5
-20	-0.0099	-0.0102	2.5
-10	-0.0083	-0.0084	2.5
0	-0.0077	-0.0075	2.5
10	-0.0054	-0.0052	2.5
20	-0.0044	-0.0041	2.5
30	-0.0036	-0.0028	2.5
40	-0.0022	-0.0017	2.5
50	-0.0002	-0.0002	2.5

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FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0022	0.0026	2.5
V_{min}	-0.0023	-0.0030	2.5
V_{max}	0.0021	0.0021	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0119	-0.0119	2.5
-20	-0.0099	-0.0099	2.5
-10	-0.0081	-0.0084	2.5
0	-0.0076	-0.0072	2.5
10	-0.0052	-0.0052	2.5
20	-0.0044	-0.0042	2.5
30	-0.0040	-0.0039	2.5
40	-0.0020	-0.0020	2.5
50	-0.0003	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0026	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0024	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0117	-0.0116	2.5
-20	-0.0104	-0.0098	2.5
-10	-0.0084	-0.0083	2.5
0	-0.0075	-0.0076	2.5
10	-0.0052	-0.0049	2.5
20	-0.0040	-0.0041	2.5
30	-0.0027	-0.0031	2.5
40	-0.0015	-0.0021	2.5
50	-0.0002	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0024	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0026	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0112	2.5
-20	-0.0107	-0.0104	2.5
-10	-0.0083	-0.0081	2.5
0	-0.0076	-0.0073	2.5
10	-0.0053	-0.0052	2.5
20	-0.0041	-0.0042	2.5
30	-0.0037	-0.0042	2.5
40	-0.0017	-0.0020	2.5
50	-0.0005	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0024	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0024	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0118	-0.0111	2.5
-20	-0.0112	-0.0107	2.5
-10	-0.0083	-0.0080	2.5
0	-0.0076	-0.0075	2.5
10	-0.0045	-0.0055	2.5
20	-0.0044	-0.0042	2.5
30	-0.0040	-0.0038	2.5
40	-0.0021	-0.0020	2.5
50	-0.0002	-0.0002	2.5

LTE BAND 41

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0021	0.0026	2.5
V_{min}	-0.0023	-0.0030	2.5
V_{max}	0.0021	0.0021	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0116	2.5
-20	-0.0112	-0.0100	2.5
-10	-0.0082	-0.0081	2.5
0	-0.0077	-0.0073	2.5
10	-0.0045	-0.0050	2.5
20	-0.0043	-0.0043	2.5
30	-0.0028	-0.0038	2.5
40	-0.0015	-0.0020	2.5
50	-0.0005	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0025	0.0024	2.5
V_{min}	-0.0031	-0.0031	2.5
V_{max}	0.0026	0.0025	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0122	-0.0118	2.5
-20	-0.0104	-0.0102	2.5
-10	-0.0081	-0.0081	2.5
0	-0.0076	-0.0074	2.5
10	-0.0047	-0.0054	2.5
20	-0.0044	-0.0042	2.5
30	-0.0033	-0.0024	2.5
40	-0.0023	-0.0018	2.5
50	-0.0002	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0025	0.0024	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0025	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (℃)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0112	2.5
-20	-0.0109	-0.0106	2.5
-10	-0.0084	-0.0083	2.5
0	-0.0075	-0.0073	2.5
10	-0.0045	-0.0053	2.5
20	-0.0040	-0.0039	2.5
30	-0.0025	-0.0042	2.5
40	-0.0022	-0.0019	2.5
50	-0.0004	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0025	2.5
V_{min}	-0.0031	-0.0030	2.5
V_{max}	0.0024	0.0024	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} Vdc to V_{max} Vdc.

FREQUENCY ERROR vs. TEMPERATURE.

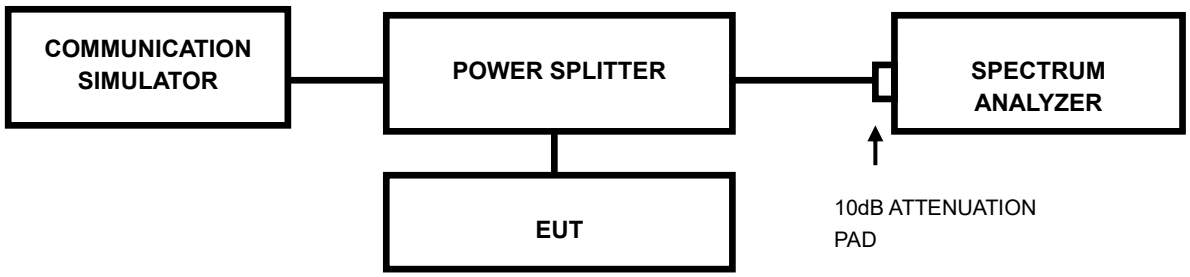
TEMP. (℃)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0116	-0.0117	2.5
-20	-0.0100	-0.0107	2.5
-10	-0.0086	-0.0084	2.5
0	-0.0075	-0.0073	2.5
10	-0.0049	-0.0049	2.5
20	-0.0042	-0.0039	2.5
30	-0.0026	-0.0036	2.5
40	-0.0018	-0.0015	2.5
50	-0.0004	-0.0005	2.5

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

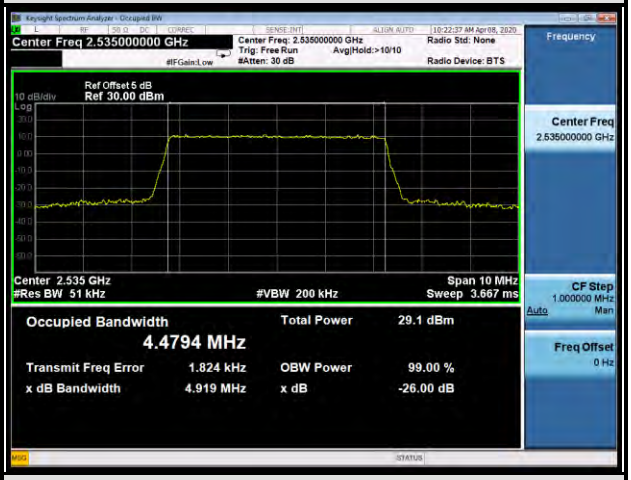
3.3.4 TEST RESULTS

LTE BAND 7							
CHANNEL BANDWIDTH: 5MHz							
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20775	2502.5	4.49	4.47	4.47	4.90	4.86	4.86
21100	2535	4.47	4.48	4.47	4.92	4.92	4.90
21425	2567.5	4.49	4.47	4.46	4.91	4.89	4.83

SPECTRUM PLOT OF WORST VALUE

5MHz / QPSK

5MHz / 16QAM



5MHz / 64QAM

LTE BAND 7							
CHANNEL BANDWIDTH: 10MHz							
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20800	2505	8.94	8.95	8.95	9.76	9.60	9.61
21100	2535	8.94	8.95	8.96	9.68	9.63	9.55
21400	2565	8.96	8.96	8.95	9.68	9.64	9.58

SPECTRUM PLOT OF WORST VALUE

10MHz / QPSK

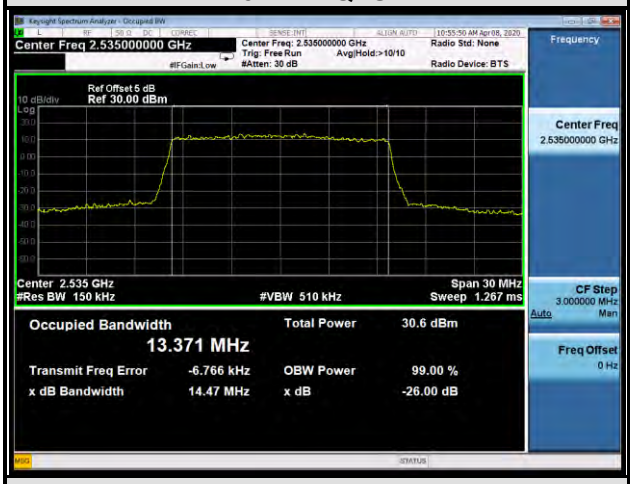
10MHz / 16QAM

10MHz / 64QAM

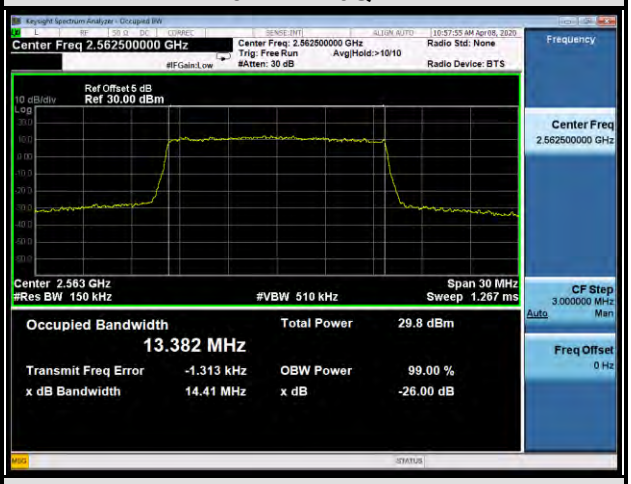
LTE BAND 7							
CHANNEL BANDWIDTH: 15MHz							
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20825	2507.5	13.34	13.36	13.38	14.18	14.40	14.28
21100	2535	13.37	13.37	13.37	14.47	14.36	14.28
21375	2562.5	13.37	13.38	13.37	14.29	14.41	14.27

SPECTRUM PLOT OF WORST VALUE

15MHz / QPSK



15MHz / 16QAM

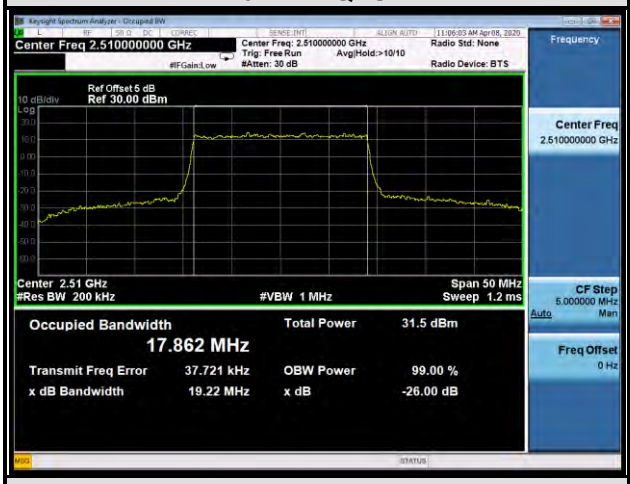


15MHz / 64QAM

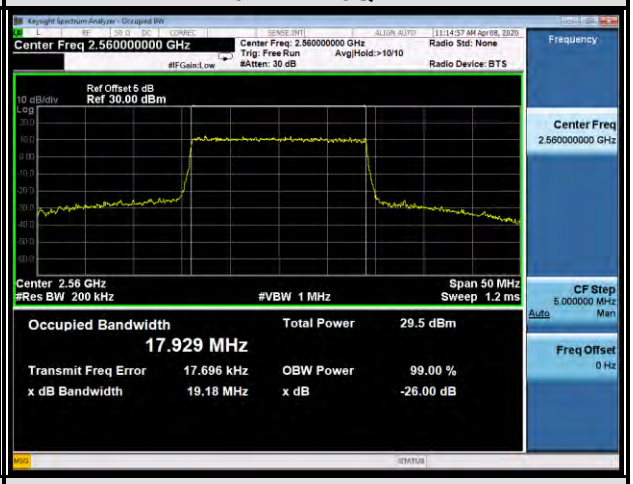
LTE BAND 7							
CHANNEL BANDWIDTH: 20MHz							
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20850	2510	17.86	17.87	17.87	19.22	19.30	19.18
21100	2535	17.86	17.89	17.84	19.12	19.23	18.94
21350	2560	17.85	17.93	17.86	19.23	19.18	19.09

SPECTRUM PLOT OF WORST VALUE

20MHz / QPSK



20MHz / 16QAM



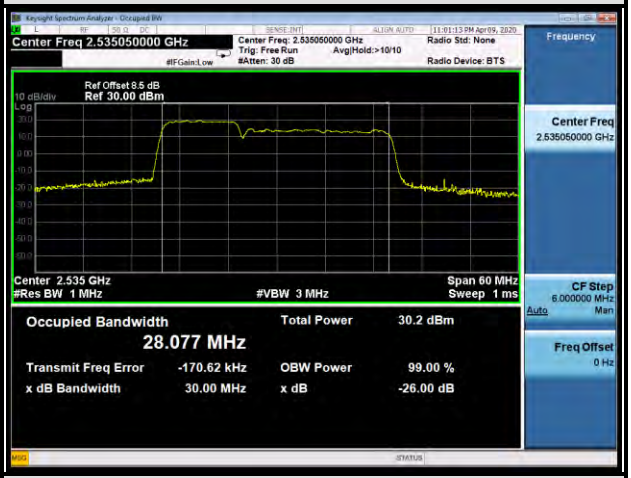
20MHz / 64QAM

LTE BAND 7 CA							
CHANNEL BANDWIDTH: 10MHz+20MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20805	20949	28.122	27.928	27.916	30.15	29.99	29.97
21006	21150	28.089	28.077	27.899	30.10	30.00	29.93
21206	21350	28.097	27.984	27.971	30.08	29.96	29.93

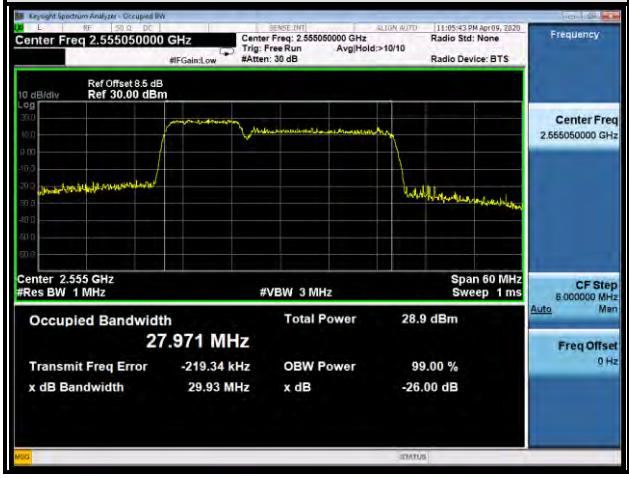
SPECTRUM PLOT OF WORST VALUE

10MHz+20MHz / QPSK

10MHz+20MHz / 16QAM



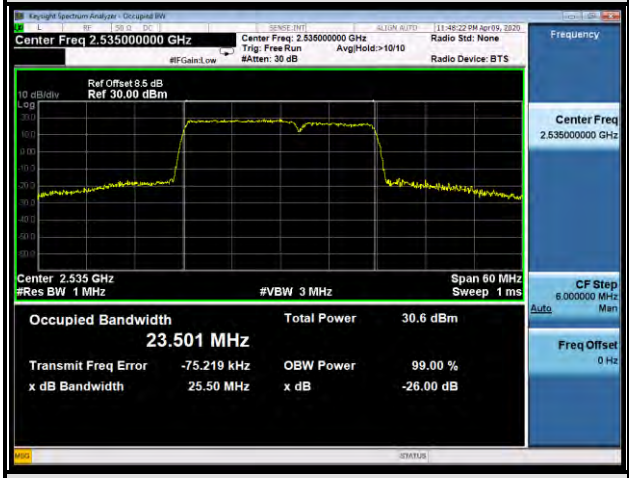
10MHz+20MHz / 64QA



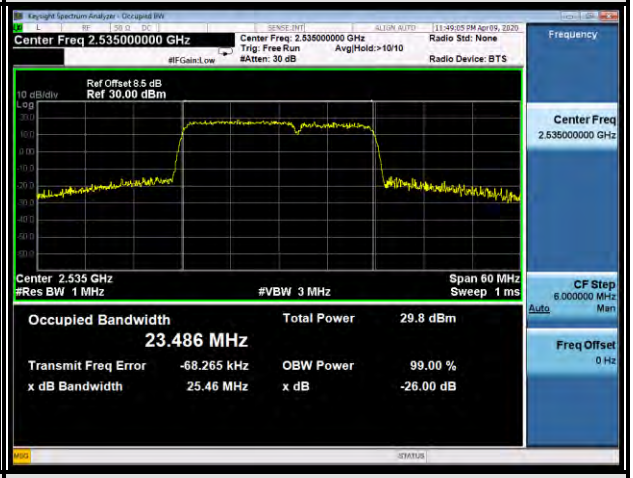
LTE BAND 7 CA							
CHANNEL BANDWIDTH: 15MHz +10MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20825	20975	23.395	23.394	23.365	25.46	25.50	25.39
21051	21171	23.501	23.486	23.423	25.50	25.46	25.32
21277	21397	23.482	23.414	23.416	25.56	25.53	25.45

SPECTRUM PLOT OF WORST VALUE

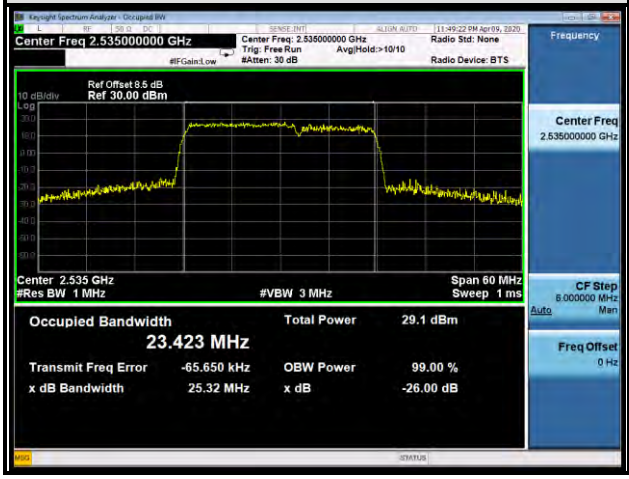
15MHz +10MHz / QPSK



15MHz +10MHz / 16QAM



15MHz +10MHz / 64QAM



LTE BAND 7 CA							
CHANNEL BANDWIDTH: 15MHz +15MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20825	20975	28.614	28.578	28.517	30.73	30.86	30.57
21025	21175	28.579	28.636	28.624	30.71	30.92	30.59
21225	21375	28.592	28.553	28.668	30.75	30.66	30.72

SPECTRUM PLOT OF WORST VALUE

15MHz +15MHz / QPSK

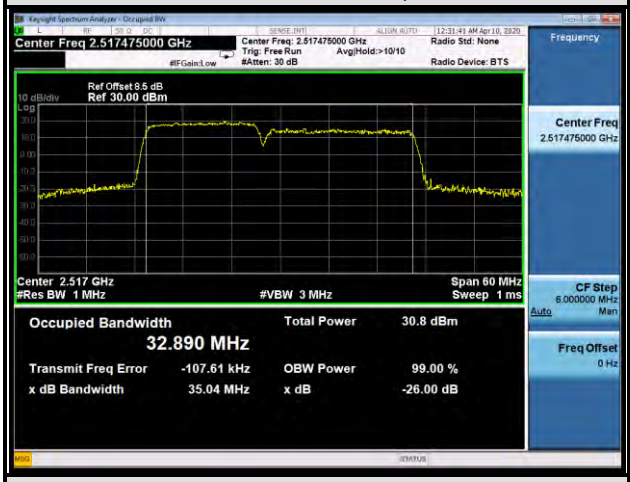
15MHz +15MHz / 16QAM

15MHz +15MHz / 64QAM

LTE BAND 7 CA							
CHANNEL BANDWIDTH: 15MHz +20MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20828	20999	32.890	32.796	32.781	35.04	35.12	34.94
21003	21174	32.869	32.771	32.703	35.10	35.06	34.89
21179	21350	32.820	32.727	32.763	35.07	35.02	34.94

SPECTRUM PLOT OF WORST VALUE

15MHz +20MHz / QPSK



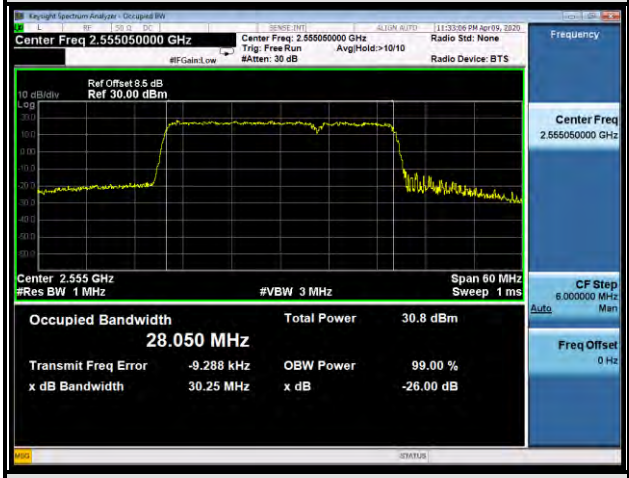
15MHz +20MHz / 16QAM

15MHz +20MHz / 64QAM

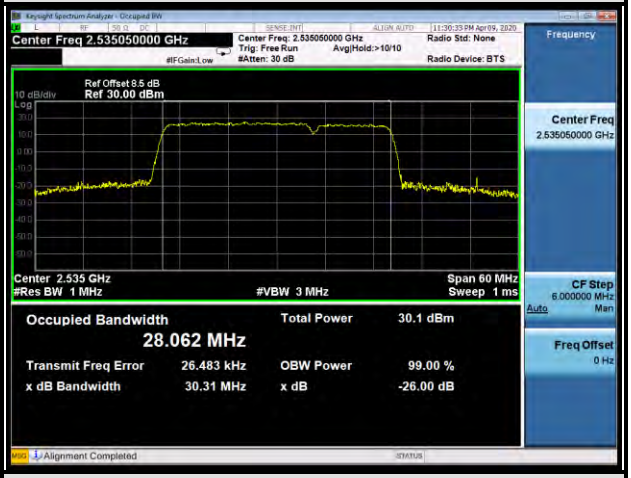
LTE BAND 7 CA							
CHANNEL BANDWIDTH: 20MHz +10MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20850	20994	28.014	28.039	27.988	30.27	30.23	30.15
21051	21195	28.011	28.062	27.958	30.22	30.31	30.15
21251	21395	28.050	27.999	27.976	30.25	30.31	30.13

SPECTRUM PLOT OF WORST VALUE

20MHz +10MHz / QPSK



20MHz +10MHz / 16QAM

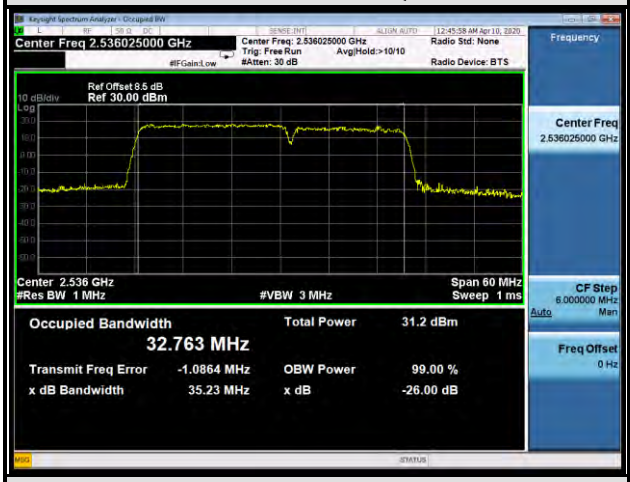


20MHz +10MHz / 64QAM

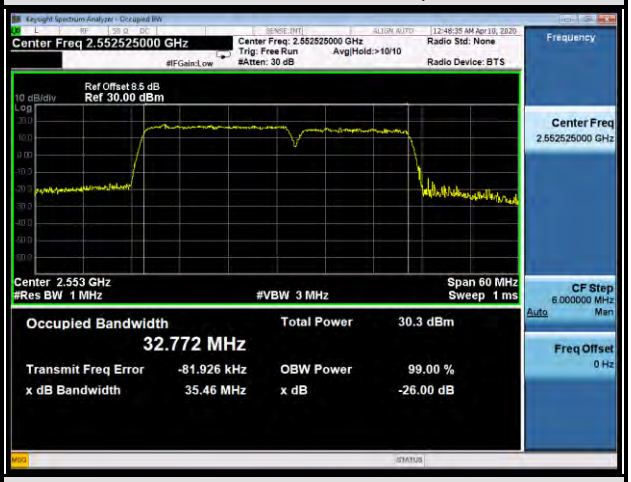
LTE BAND 7 CA							
CHANNEL BANDWIDTH: 20MHz +15MHz							
CHANNEL		99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
PCC	SCC	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20850	21021	32.734	32.755	32.783	34.95	35.31	35.09
21026	21197	32.763	32.769	32.79	35.23	35.54	35.06
21201	21372	32.747	32.772	32.819	35.08	35.46	34.90

SPECTRUM PLOT OF WORST VALUE

20MHz +15MHz / QPSK



20MHz +15MHz / 16QAM



20MHz +15MHz / 64QAM