ACCREDITED
Certificate # 3939.01

FCC TEST REPORT

(PART 27)

Applicant:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
Address:	Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

Manufacturer or Supplier:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Product:	Portable Tablet Computer
Brand Name:	Lenovo
Model Name:	Lenovo TB-X605LC
FCC ID:	O57TBX605LC
Date of tests:	Sep. 19, 2020 ~ Oct. 22, 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: Oct. 28, 2020	Luke Lu Date: Oct. 28, 2020

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute you unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

TABLE OF CONTENTS

RELEASE CONTROL RECORD 3

1 SUMMARY OF TEST RESULTS 4

1.1 MEASREMENT UNCERTAINTY 4
1.2 TEST SITE AND INSTRUMENTS 5

2 GENERAL INFORMATION 6

2.1 GENERAL DESCRIPTION OF EUT 6
2.2 CONFIGURATION OF SYSTEM UNDER TEST 10
2.3 DESCRIPTION OF SUPPORT UNITS 11
2.4 TEST ITEM AND TEST CONFIGURATION 11
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS 15

3 TEST TYPES AND RESULTS 16

3.1 OUTPUT POWER MEASUREMENT 16
3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT 16
3.1.2 TEST PROCEDURES 16
3.1.3 TEST SETUP 17
3.1.4 TEST RESULTS 18
3.2 FREQUENCY STABILITY MEASUREMENT 31
3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT 31
3.2.2 TEST PROCEDURE 31
3.2.3 TEST SETUP 31
3.2.4 TEST RESULTS 32
3.3 OCCUPIED BANDWIDTH MEASUREMENT 44
3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT 44
3.3.2 TEST SETUP 44
3.3.3 TEST PROCEDURES 44
3.3.4 TEST RESULTS 45
3.4 BAND EDGE MEASUREMENT 57
3.4.1 LIMITS OF BAND EDGE MEASUREMENT 57
3.4.2 TEST SETUP 57
3.4.3 TEST PROCEDURES 58
3.4.4 TEST RESULTS 59
3.5 CONDUCTED SPURIOUS EMISSIONS 83
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT 83
3.5.2 TEST PROCEDURE 83
3.5.3 TEST SETUP 83
3.5.4 TEST RESULTS 84
3.6 RADIATED EMISSION MEASUREMENT 96
3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT 96
3.6.2 TEST PROCEDURES 96
3.6.3 DEVIATION FROM TEST STANDARD 96
3.6.4 TEST SETUP 97
3.6.5 TEST RESULTS 98

4 INFORMATION ON THE TESTING LABORATORIES 136

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB 137

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200918W001-6	Original release	Oct. 28, 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	Apr. 27,20	Apr. 26,21
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 26,20	Feb. 25,21
Signal Analyzer	Rohde&Schwarz	FSV7	101561	Mar. 31,20	Mar. 30,21
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 27,20	Mar. 26,21
Horn Antenna (1GHz-18GHz)	ETS-LINDGREN	3117	00168692	Mar. 27,20	Mar. 26,21
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Nov. 24, 19	Nov. 23, 20
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 27,20	Feb. 26,21
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,20	Jun. 01,21
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 02,20	Jun. 01,21
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 30,20	Apr. 29,21
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
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	Jun. 03,20	Jun. 02,21
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	Jun. 02,20	Jun. 01,21
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 11,20	Mar. 10,21
Power Divider	MCLI/USA	PS2-15	24880	N/A	N/A

NOTE:
1. The calibration interval of the above test instruments is 12 months or 36 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	Portable Tablet Computer	
BRAND NAME	Lenovo	
MODEL NAME	Lenovo TB-X605LC	
NOMINAL VOLTAGE	5.0Vdc (adapter or host equipment) 3.85Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY	**LTE**	QPSK, 16QAM
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	2557.5MHz ~ 2652.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2560MHz ~ 2650MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2562.5MHz ~ 2647.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2565MHz ~ 2645MHz

EMISSION DESIGNATOR	LTE Band 7 Channel Bandwidth: 5MHz	QPSK: 4M48G7D
		16QAM: 4M48W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M94G7D
		16QAM: 8M95W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 17M8G7D
		16QAM: 17M9W7D
	LTE Band 38 Channel Bandwidth: 5MHz	QPSK: 4M47G7D
		16QAM: 4M46W7D
	LTE Band 38 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M95W7D
	LTE Band 38 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
	LTE Band 38 Channel Bandwidth: 20MHz	QPSK: 17M8G7D
		16QAM: 17M9W7D
	LTE Band 41 Channel Bandwidth: 5MHz	QPSK: 4M47G7D
		16QAM: 4M47W7D
	LTE Band 41 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M94W7D
	LTE Band 41 Channel Bandwidth: 15MHz	QPSK: 13M4G7D
		16QAM: 13M4W7D
	LTE Band 41 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M8W7D

MAX. EIRP POWER	LTE Band 7 Channel Bandwidth: 5MHz	275mW
	LTE Band 7 Channel Bandwidth: 10MHz	275mW
	LTE Band 7 Channel Bandwidth: 15MHz	274mW
	LTE Band 7 Channel Bandwidth: 20MHz	276mW
	LTE Band 38 Channel Bandwidth: 5MHz	270mW
	LTE Band 38 Channel Bandwidth: 10MHz	270mW
	LTE Band 38 Channel Bandwidth: 15MHz	269mW
	LTE Band 38 Channel Bandwidth: 20MHz	272mW
	LTE Band 41 Channel Bandwidth: 5MHz	295mW
	LTE Band 41 Channel Bandwidth: 10MHz	295mW
	LTE Band 41 Channel Bandwidth: 15MHz	294mW
	LTE Band 41 Channel Bandwidth: 20MHz	296mW
ANTENNA TYPE	Fixed Internal Antenna with 1.29dBi gain for LTE Band 7 Fixed Internal Antenna with 0.82dBi gain for LTE Band 38 Fixed Internal Antenna with 1.28dBi gain for LTE Band 41	
HW VERSION	Lenovo Tablet TB-X605LC	
SW VERSION	TB-X605LC_RF01_20190604	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	USB cable: shielded, detachable,1meter	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. There were Sample 1, 2, 3, 4, 5 and 6 for this project, the difference is as below:

SAMPLE	EUT CONFIGURATION INFORMATION
1	LCD Panel 1+Photo Camera 1+Photo Camera 3+CPU1+EMMC1+DDR1+speaker 1+speaker 2+motor1+Main Broad 1+BT/WLAN Module+ Battery 1
2	LCD Panel 2+Photo Camera 2+Photo Camera 4+CPU1+EMMC2+DDR2+speaker 1+speaker 2+motor2+Main Broad 2+BT/WLAN Module+ Battery 2
3	LCD Panel 1+Photo Camera 1+Photo Camera 3+CPU1+EMMC3+DDR3+speaker 1+speaker 2+motor1+Main Broad 1+BT/WLAN Module+ Battery 1
4	LCD Panel 2+Photo Camera 2+Photo Camera 4+CPU1+EMMC4+DDR4+speaker 1+speaker 2+motor2+Main Broad 2+BT/WLAN Module+ Battery 2
5	LCD Panel 1+Photo Camera 1+Photo Camera 3+CPU1+EMMC5+DDR5+speaker 1+speaker 2+motor1+Main Broad 1+BT/WLAN Module+ Battery 1
6	LCD Panel 2+Photo Camera 2+Photo Camera 4+CPU1+EMMC6+DDR6+speaker 1+speaker

	2+motor2+Main Broad 2+BT/WLAN Module+ Battery 2

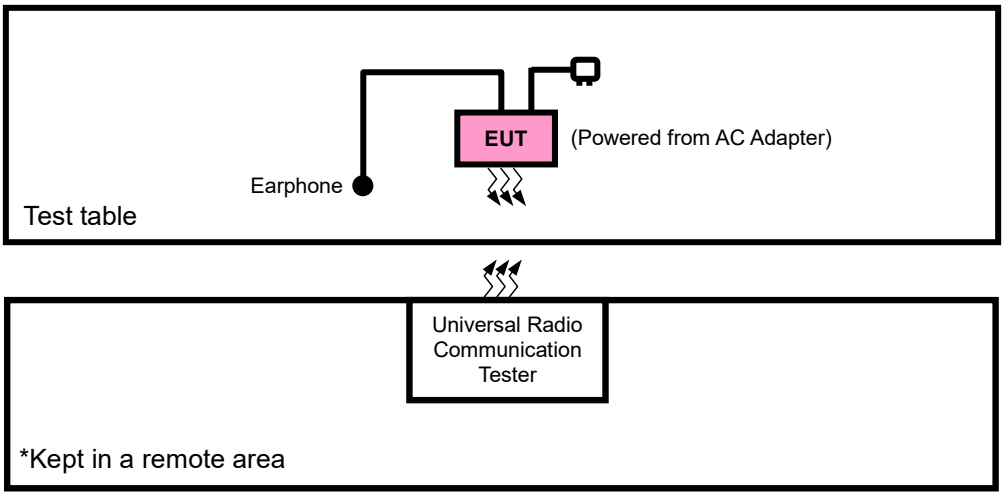
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

List of Accessory:

ACCESSORIES	BRAND	MODEL	SPECIFICATION
AC Adapter 1	Salom	SC-41	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
AC Adapter 2	AcBel	SC-41	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
Battery 1	SCUD	L16D2P31	Rating: 3.85Vdc, 7000mAh
Battery 2	Celxpert	L16D2P31	Rating: 3.85Vdc, 7000mAh
USB Cable 1	LiQi	L27B-052000100-TCCS	1.0m shielded cable w/o core
USB Cable 2	SaiBao	S27B-052000100-TCCS	1.0m shielded cable w/o core
LCD Panel1	BOE	TV101WUM-LL4	10.1 "
LCD Panel2	BOE	TV101WUM-LL5	10.1 "
Photo Camera 1	O-film	L4H7A00	8M AF
Photo Camera 2	Q-tech	F4H7YAZ	8M AF
Photo Camera 3	Lianyi	LE5220FM	5M FF
Photo Camera 4	Jinkang	G7B5-QL607XFF	5M FF
CPU	Qualcomm	SDA-450-A-792NSP-TR-01-0-AA	-
EMMC1+DDR1	SAMSUNG	KMRP60014M-B614(4+64)	64G
EMMC2+DDR2	HYNIX	H9TQ52ACLTMCUR-KUM(4+64)	64G
EMMC3+DDR3	SAMSUNG	KMGD6001BM-B421(3+32)	32G
EMMC4+DDR4	HYNIX	H9TQ27ADFTMCUR-KUM(3+32)	32G
EMMC5+DDR5	SAMSUNG	KMQE60013M-B318(2+16)	16G
EMMC6+DDR6	HYNIX	H9TQ17ABJTCCUR-KUM(2+16)	16G
Speaker 1	Xichun	KFSC1712SBC-S-B232-20J-GT	-
Speaker 2	Xichun	KFSC1712SBC-S-B233-20J-W	-
speaker 1	Haosheng	HB171219B08-13-B1F-RH	-
speaker 2	Haosheng	XHB171219B08-14-B1F-RH	-
motor1	Hongzhifa	HZF-Z04BE-RL67B25-90	-
Motor2	Kunwang	CY0408L-021HB-064	-
Main Broad 1	Hongban	Aae_MB_PCB_V3	-
Main Broad 2	Huashen	Aae_MB_PCB_V3	-
BT/WLAN Module	Qualcomm	WCN-3680B-0-79BWLNSP-TR-05-1	-

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	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	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	25 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	BAND EDGE	20775 to 21425	20775	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			21425	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20800 to 21400	20800	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			21400	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		20825 to 21375	20825	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			21375	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		20850 to 21350	20850	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			21350	20MHz	QPSK, 16QAM	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	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK, 16QAM	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	25 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	BAND EDGE	37775 to 38225	37775	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			38825	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		37800 to 38200	37800	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			38200	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		37825 to 38175	37825	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			38175	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		37850 to38150	37850	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			38150	20MHz	QPSK, 16QAM	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	38000	10MHz	QPSK	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	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 41 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	40265 to 41215	40265, 40740, 41215	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	40290 to 41190	40290, 40740, 41190	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
	40315 to 41165	40315, 40740, 41165	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	40340 to 41140	40340, 40740, 41140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	40265 to 41215	40265, 41215	5MHz	QPSK	1 RB / 0 RB Offset
	40290 to 41190	40290, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40315 to 41165	40315, 41165	15MHz	QPSK	1 RB / 0 RB Offset
	40340 to 41140	40340, 41140	20MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	40265 to 41215	40265, 40740, 41215	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	40290 to 41190	40290, 40740, 41190	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	40315 to 41165	40315, 40740, 41165	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	40340 to 41140	40340, 40740, 41140	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
BAND EDGE	40265 to 41215	40265	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		41215	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	40290 to 41190	40290	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		41190	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	40315 to 41165	40315	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		41165	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	40340 to 41140	40340	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		41140	20MHz	QPSK, 16QAM	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
CONDCUDETED EMISSION	40265 to 41215	40265, 40740, 41215	5MHz	QPSK	1 RB / 0 RB Offset
	40290 to 41190	40290, 40740, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40315 to 41165	40315, 40740, 41165	15MHz	QPSK	1 RB / 0 RB Offset
	40340 to 41140	40340, 40740, 41140	20MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	40265 to 41215	40740	5MHz	QPSK	1 RB / 0 RB Offset
	40290 to 41190	40290, 40740, 41190	10MHz	QPSK	1 RB / 0RB Offset
	40315 to 41165	40740	15MHz	QPSK	1 RB / 0 RB Offset
	40340 to 41140	40740	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
ERP	23deg. C, 70%RH	DC 5V By Adapter	Star Le
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.5V/3.8V/4.4V	Kevin Zhang
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.85V By Battery	Kevin Zhang
BAND EDGE	23deg. C, 70%RH	DC 3.85V By Battery	Kevin Zhang
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 3.85V By Battery	Kevin Zhang
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Star Le

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);

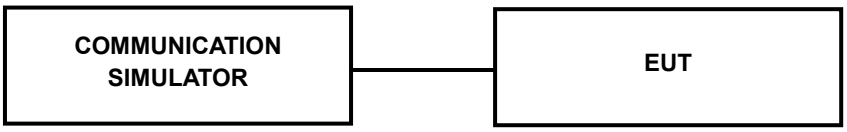
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

Band/BW	Modulation	RB Size	RB Offset	Low CH 20775 Frequency 2502.5 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21425 Frequency 2567.5 MHz	MPR
7/ 5	QPSK	1	0	22.90	22.67	22.73	0
		1	12	23.10	22.83	22.93	0
		1	24	22.70	22.46	22.57	0
		12	0	22.09	21.87	21.91	1
		12	6	22.29	22.15	22.15	1
		12	13	21.87	21.65	21.73	1
		25	0	21.82	21.65	21.66	1
	16QAM	1	0	21.65	21.46	21.53	1
		1	12	22.71	22.56	22.57	1
		1	24	21.22	20.95	21.05	1
		12	0	20.92	20.73	20.75	2
		12	6	21.08	20.91	20.91	2
		12	13	20.91	20.72	20.79	2
		25	0	20.84	20.62	20.68	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20800 Frequency 2505 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21400 Frequency 2565 MHz	MPR
7/ 10	QPSK	1	0	22.87	22.70	22.73	0
		1	24	23.10	22.83	22.94	0
		1	49	22.67	22.50	22.53	0
		25	0	22.10	21.86	21.94	1
		25	12	22.35	22.09	22.15	1
		25	25	21.85	21.62	21.72	1
		50	0	21.87	21.65	21.63	1
	16QAM	1	0	21.65	21.43	21.49	1
		1	24	22.76	22.52	22.60	1
		1	49	21.22	20.96	21.02	1
		25	0	20.94	20.71	20.81	2
		25	12	21.12	20.85	20.96	2
		25	25	20.90	20.73	20.76	2
		50	0	20.88	20.61	20.72	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20825 Frequency 2507.5 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21375 Frequency 2562.5 MHz	MPR
7/ 15	QPSK	1	0	22.94	22.70	22.70	0
		1	37	23.08	22.88	22.89	0
		1	74	22.73	22.53	22.54	0
		36	0	22.07	21.87	21.95	1
		36	19	22.36	22.14	22.15	1
		36	39	21.83	21.63	21.72	1
		75	0	21.87	21.63	21.68	1
	16QAM	1	0	21.69	21.50	21.49	1
		1	37	22.75	22.53	22.60	1
		1	74	21.18	21.01	21.04	1
		36	0	20.98	20.71	20.82	2
		36	19	21.06	20.89	20.92	2
		36	39	20.95	20.71	20.79	2
		75	0	20.89	20.64	20.65	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20850 Frequency 2510 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21350 Frequency 2560 MHz	MPR
7/ 20	QPSK	1	0	22.95	22.74	22.78	0
		1	50	**23.12**	22.91	22.95	0
		1	99	22.75	22.54	22.58	0
		50	0	22.13	21.92	21.96	1
		50	25	22.37	22.16	22.20	1
		50	50	21.91	21.70	21.74	1
		100	0	21.88	21.67	21.71	1
	16QAM	1	0	21.72	21.51	21.55	1
		1	50	22.79	22.58	22.62	1
		1	99	21.24	21.03	21.07	1
		50	0	21.00	20.79	20.83	2
		50	25	21.14	20.93	20.97	2
		50	50	20.98	20.77	20.81	2
		100	0	20.90	20.69	20.73	2

LTE Band 38

Band/BW	Modulation	RB Size	RB Offset	Low CH 37775 Frequency 2572.5 MHz	Mid CH 38000 Frequency 2595 MHz	High CH 38225 Frequency 2617.5MHz	MPR
38/ 5	QPSK	1	0	23.40	23.08	23.26	0
		1	12	23.50	23.14	23.36	0
		1	24	23.30	22.97	23.20	0
		12	0	22.40	22.09	22.25	1
		12	6	22.40	22.17	22.29	1
		12	13	22.30	21.99	22.19	1
		25	0	22.33	22.07	22.20	1
	16QAM	1	0	22.46	22.18	22.37	1
		1	12	21.98	21.74	21.87	1
		1	24	21.81	21.45	21.67	1
		12	0	21.33	21.05	21.19	2
		12	6	21.37	21.11	21.23	2
		12	13	21.27	20.99	21.18	2
		25	0	21.34	21.03	21.21	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 37800 Frequency 2575 MHz	Mid CH 38000 Frequency 2595 MHz	High CH 38200 Frequency 2615 MHz	MPR
38/ 10	QPSK	1	0	23.37	23.11	23.26	0
		1	24	23.50	23.14	23.37	0
		1	49	23.27	23.01	23.16	0
		25	0	22.41	22.08	22.28	1
		25	12	22.46	22.11	22.29	1
		25	25	22.28	21.96	22.18	1
		50	0	22.38	22.07	22.17	1
	16QAM	1	0	22.46	22.15	22.33	1
		1	24	22.03	21.70	21.90	1
		1	49	21.81	21.46	21.64	1
		25	0	21.35	21.03	21.25	2
		25	12	21.41	21.05	21.28	2
		25	25	21.26	21.00	21.15	2
		50	0	21.38	21.02	21.25	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 37825 Frequency 2577.5 MHz	Mid CH 38000 Frequency 2595 MHz	High CH 38175 Frequency 2612.5MHz	MPR
38/ 15	QPSK	1	0	23.44	23.11	23.23	0
		1	37	23.48	23.19	23.32	0
		1	74	23.33	23.04	23.17	0
		36	0	22.38	22.09	22.29	1
		36	19	22.47	22.16	22.29	1
		36	39	22.26	21.97	22.18	1
		75	0	22.38	22.05	22.22	1
	16QAM	1	0	22.50	22.22	22.33	1
		1	37	22.02	21.71	21.90	1
		1	74	21.77	21.51	21.66	1
		36	0	21.39	21.03	21.26	2
		36	19	21.35	21.09	21.24	2
		36	39	21.31	20.98	21.18	2
		75	0	21.39	21.05	21.18	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 37850 Frequency 2580 MHz	Mid CH 38000 Frequency 2595 MHz	High CH 38150 Frequency 2610 MHz	MPR
38/ 20	QPSK	1	0	23.45	23.15	23.31	0
		1	50	**23.52**	23.22	23.38	0
		1	99	23.35	23.05	23.21	0
		50	0	22.44	22.14	22.30	1
		50	25	22.48	22.18	22.34	1
		50	50	22.34	22.04	22.20	1
		100	0	22.39	22.09	22.25	1
	16QAM	1	0	22.53	22.23	22.39	1
		1	50	22.06	21.76	21.92	1
		1	99	21.83	21.53	21.69	1
		50	0	21.41	21.11	21.27	2
		50	25	21.43	21.13	21.29	2
		50	50	21.34	21.04	21.20	2
		100	0	21.40	21.10	21.26	2

LTE Band 41

Band/BW	Modulation	RB Size	RB Offset	Low CH 40265	Mid CH 40740	High CH 41215	MPR
				2557.5 MHz	2605 MHz	2652.5 MHz	
41/ 5	QPSK	1	0	23.30	22.91	22.97	0
		1	12	23.42	22.99	23.09	0
		1	24	23.29	22.89	23.00	0
		12	0	22.42	22.04	22.08	1
		12	6	22.41	22.11	22.11	1
		12	13	22.39	22.01	22.09	1
		25	0	22.45	22.12	22.13	1
	16QAM	1	0	22.16	21.81	21.88	1
		1	12	22.01	21.70	21.71	1
		1	24	22.43	22.00	22.10	1
		12	0	21.36	21.01	21.03	2
		12	6	21.30	20.97	20.97	2
		12	13	21.26	20.91	20.98	2
		25	0	21.29	20.91	20.97	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 40290	Mid CH 40740	High CH 41190	MPR
				2560 MHz	2605 MHz	2650 MHz	
41/ 10	QPSK	1	0	23.27	22.94	22.97	0
		1	24	23.42	22.99	23.10	0
		1	49	23.26	22.93	22.96	0
		25	0	22.43	22.03	22.11	1
		25	12	22.47	22.05	22.11	1
		25	25	22.37	21.98	22.08	1
		50	0	22.50	22.12	22.10	1
	16QAM	1	0	22.16	21.78	21.84	1
		1	24	22.06	21.66	21.74	1
		1	49	22.43	22.01	22.07	1
		25	0	21.38	20.99	21.09	2
		25	12	21.34	20.91	21.02	2
		25	25	21.25	20.92	20.95	2
		50	0	21.33	20.90	21.01	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 40315 2562.5 MHz	Mid CH 40740 2605 MHz	High CH 41165 2647.5 MHz	MPR
41/ 15	QPSK	1	0	23.34	22.94	22.94	0
		1	37	23.40	23.04	23.05	0
		1	74	23.32	22.96	22.97	0
		36	0	22.40	22.04	22.12	1
		36	19	22.48	22.10	22.11	1
		36	39	22.35	21.99	22.08	1
		75	0	22.50	22.10	22.15	1
	16QAM	1	0	22.20	21.85	21.84	1
		1	37	22.05	21.67	21.74	1
		1	74	22.39	22.06	22.09	1
		36	0	21.42	20.99	21.10	2
		36	19	21.28	20.95	20.98	2
		36	39	21.30	20.90	20.98	2
		75	0	21.34	20.93	20.94	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 40340 2565 MHz	Mid CH 40740 2605 MHz	High CH 41140 2645 MHz	MPR
41/ 20	QPSK	1	0	23.35	22.98	23.02	0
		1	50	**23.44**	23.07	23.11	0
		1	99	23.34	22.97	23.01	0
		50	0	22.46	22.09	22.13	1
		50	25	22.49	22.12	22.16	1
		50	50	22.43	22.06	22.10	1
		100	0	22.51	22.14	22.18	1
	16QAM	1	0	22.23	21.86	21.90	1
		1	50	22.09	21.72	21.76	1
		1	99	22.45	22.08	22.12	1
		50	0	21.44	21.07	21.11	2
		50	25	21.36	20.99	21.03	2
		50	50	21.33	20.96	21.00	2
		100	0	21.35	20.98	21.02	2

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	23.10	1.29	24.39	**274.79**	1
21100	2535.0	22.83	1.29	24.12	258.23	1
21425	2567.5	22.93	1.29	24.22	264.24	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	22.71	1.29	24.00	251.19	1
21100	2535.0	22.56	1.29	23.85	242.66	1
21425	2567.5	22.57	1.29	23.86	243.22	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	23.10	1.29	24.39	**274.79**	1
21100	2535.0	22.83	1.29	24.12	258.23	1
21400	2565.0	22.94	1.29	24.23	264.85	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	22.76	1.29	24.05	254.10	1
21100	2535.0	22.52	1.29	23.81	240.44	1
21400	2565.0	22.60	1.29	23.89	244.91	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	23.08	1.29	24.37	**273.53**	1
21100	2535.0	22.88	1.29	24.17	261.22	1
21375	2562.5	22.89	1.29	24.18	261.82	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	22.75	1.29	24.04	253.51	1
21100	2535.0	22.53	1.29	23.82	240.99	1
21375	2562.5	22.60	1.29	23.89	244.91	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	23.12	1.29	24.41	**276.06**	1
21100	2535.0	22.91	1.29	24.20	263.03	1
21350	2560.0	22.95	1.29	24.24	265.46	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	22.79	1.29	24.08	255.86	1
21100	2535.0	22.58	1.29	23.87	243.78	1
21350	2560.0	22.62	1.29	23.91	246.04	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

LTE BAND 38

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	23.50	0.82	24.32	**270.40**	2
38000	2595.0	23.14	0.82	23.96	248.89	2
38225	2617.5	23.36	0.82	24.18	261.82	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	22.46	0.82	23.28	212.81	2
38000	2595.0	22.18	0.82	23.00	199.53	2
38225	2617.5	22.37	0.82	23.19	208.45	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	23.50	0.82	24.32	**270.40**	2
38000	2595.0	23.14	0.82	23.96	248.89	2
38200	2615.0	23.37	0.82	24.19	262.42	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	22.46	0.82	23.28	212.81	2
38000	2595.0	22.15	0.82	22.97	198.15	2
38200	2615.0	22.33	0.82	23.15	206.54	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	23.48	0.82	24.30	**269.15**	2
38000	2595.0	23.19	0.82	24.01	251.77	2
38175	2612.5	23.32	0.82	24.14	259.42	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	22.50	0.82	23.32	214.78	2
38000	2595.0	22.22	0.82	23.04	201.37	2
38175	2612.5	22.33	0.82	23.15	206.54	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	23.52	0.82	24.34	**271.64**	2
38000	2595.0	23.22	0.82	24.04	253.51	2
38150	2610.0	23.38	0.82	24.20	263.03	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	22.53	0.82	23.35	216.27	2
38000	2595.0	22.23	0.82	23.05	201.84	2
38150	2610.0	22.39	0.82	23.21	209.41	2

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

LTE BAND 41

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40265	2557.5	23.42	1.28	24.70	**295.12**	2
40740	2605.0	22.99	1.28	24.27	267.30	2
41215	2652.5	23.09	1.28	24.37	273.53	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40265	2557.5	22.43	1.28	23.71	234.96	2
40740	2605.0	22.00	1.28	23.28	212.81	2
41215	2652.5	22.10	1.28	23.38	217.77	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40290	2560.0	23.42	1.28	24.70	**295.12**	2
40740	2605.0	22.99	1.28	24.27	267.30	2
41190	2650.0	23.10	1.28	24.38	274.16	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40290	2560.0	22.43	1.28	23.71	234.96	2
40740	2605.0	22.01	1.28	23.29	213.30	2
41190	2650.0	22.07	1.28	23.35	216.27	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40315	2562.5	23.40	1.28	24.68	**293.76**	2
40740	2605.0	23.04	1.28	24.32	270.40	2
41165	2647.5	23.05	1.28	24.33	271.02	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40315	2562.5	22.39	1.28	23.67	232.81	2
40740	2605.0	22.06	1.28	23.34	215.77	2
41165	2647.5	22.09	1.28	23.37	217.27	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40340	2565.0	23.44	1.28	24.72	**296.48**	2
40740	2605.0	23.07	1.28	24.35	272.27	2
41140	2645.0	23.11	1.28	24.39	274.79	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40340	2565.0	22.45	1.28	23.73	236.05	2
40740	2605.0	22.08	1.28	23.36	216.77	2
41140	2645.0	22.12	1.28	23.40	218.78	2

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

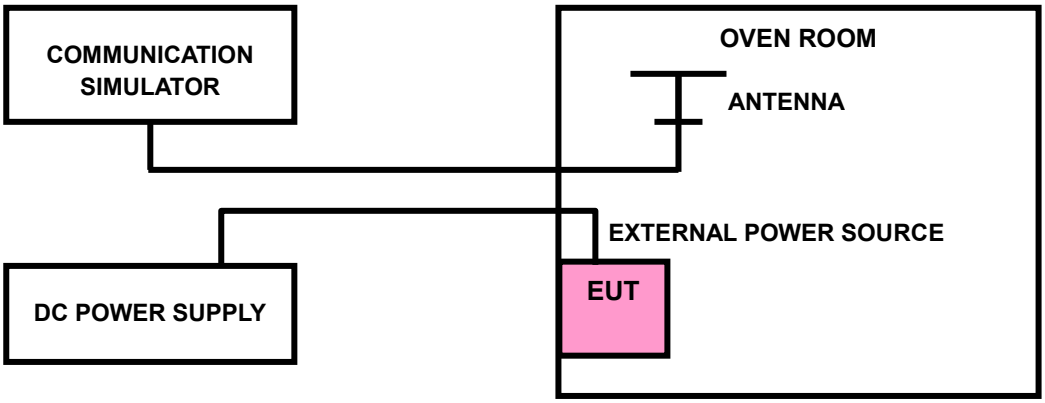
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

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}	-0.0023	-0.0030	2.5
V_{max}	0.0022	0.0020	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	-0.0122	-0.0115	2.5
-20	-0.0108	-0.0106	2.5
-10	-0.0086	-0.0086	2.5
0	-0.0078	-0.0075	2.5
10	-0.0077	-0.0045	2.5
20	-0.0039	-0.0044	2.5
30	-0.0037	-0.0038	2.5
40	-0.0023	-0.0015	2.5
50	-0.0002	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0025	2.5
V_{min}	-0.0031	-0.0031	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. (℃)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0118	2.5
-20	-0.0112	-0.0110	2.5
-10	-0.0086	-0.0086	2.5
0	-0.0076	-0.0077	2.5
10	-0.0055	-0.0048	2.5
20	-0.0040	-0.0038	2.5
30	-0.0037	-0.0042	2.5
40	-0.0021	-0.0018	2.5
50	-0.0001	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0026	2.5
V_{min}	-0.0031	-0.0031	2.5
V_{max}	0.0025	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	-0.0118	-0.0122	2.5
-20	-0.0109	-0.0109	2.5
-10	-0.0085	-0.0083	2.5
0	-0.0077	-0.0074	2.5
10	-0.0053	-0.0049	2.5
20	-0.0039	-0.0040	2.5
30	-0.0042	-0.0035	2.5
40	-0.0019	-0.0021	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	0.0026	2.5
V_{min}	-0.0031	-0.0031	2.5
V_{max}	0.0025	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. (℃)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0115	-0.0124	2.5
-20	-0.0103	-0.0107	2.5
-10	-0.0083	-0.0081	2.5
0	-0.0078	-0.0075	2.5
10	-0.0050	-0.0055	2.5
20	-0.0038	-0.0042	2.5
30	-0.0030	-0.0032	2.5
40	-0.0015	-0.0023	2.5
50	-0.0004	-0.0004	2.5

LTE BAND 38

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0021	0.0025	2.5
V_{min}	-0.0023	-0.0031	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	-0.0122	-0.0113	2.5
-20	-0.0106	-0.0112	2.5
-10	-0.0083	-0.0081	2.5
0	-0.0074	-0.0077	2.5
10	-0.0076	-0.0055	2.5
20	-0.0044	-0.0045	2.5
30	-0.0038	-0.0025	2.5
40	-0.0022	-0.0022	2.5
50	-0.0002	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0025	2.5
V_{min}	-0.0030	-0.0031	2.5
V_{max}	0.0026	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	-0.0123	-0.0122	2.5
-20	-0.0100	-0.0105	2.5
-10	-0.0085	-0.0083	2.5
0	-0.0077	-0.0073	2.5
10	-0.0055	-0.0047	2.5
20	-0.0038	-0.0041	2.5
30	-0.0027	-0.0034	2.5
40	-0.0020	-0.0020	2.5
50	-0.0006	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	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. (℃)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0118	-0.0115	2.5
-20	-0.0103	-0.0101	2.5
-10	-0.0084	-0.0083	2.5
0	-0.0075	-0.0074	2.5
10	-0.0047	-0.0053	2.5
20	-0.0038	-0.0044	2.5
30	-0.0041	-0.0042	2.5
40	-0.0018	-0.0021	2.5
50	-0.0004	-0.0002	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0026	0.0025	2.5
V_{min}	-0.0030	-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	-0.0114	-0.0121	2.5
-20	-0.0110	-0.0108	2.5
-10	-0.0085	-0.0081	2.5
0	-0.0075	-0.0076	2.5
10	-0.0054	-0.0049	2.5
20	-0.0039	-0.0041	2.5
30	-0.0037	-0.0036	2.5
40	-0.0023	-0.0018	2.5
50	-0.0004	-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	0.0025	2.5
V_{min}	-0.0024	-0.0031	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	-0.0120	2.5
-20	-0.0099	-0.0110	2.5
-10	-0.0085	-0.0081	2.5
0	-0.0075	-0.0076	2.5
10	-0.0053	-0.0050	2.5
20	-0.0042	-0.0040	2.5
30	-0.0026	-0.0038	2.5
40	-0.0018	-0.0018	2.5
50	-0.0004	-0.0005	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0027	0.0026	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	-0.0116	-0.0112	2.5
-20	-0.0096	-0.0101	2.5
-10	-0.0084	-0.0081	2.5
0	-0.0075	-0.0075	2.5
10	-0.0049	-0.0054	2.5
20	-0.0044	-0.0040	2.5
30	-0.0037	-0.0034	2.5
40	-0.0023	-0.0016	2.5
50	-0.0005	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V_{nor}	0.0024	0.0026	2.5
V_{min}	-0.0031	-0.0031	2.5
V_{max}	0.0025	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	-0.0113	-0.0114	2.5
-20	-0.0096	-0.0105	2.5
-10	-0.0079	-0.0081	2.5
0	-0.0074	-0.0073	2.5
10	-0.0053	-0.0053	2.5
20	-0.0043	-0.0039	2.5
30	-0.0042	-0.0027	2.5
40	-0.0016	-0.0017	2.5
50	-0.0005	-0.0002	2.5

FREQUENCY ERROR VS. VOLTAGE

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

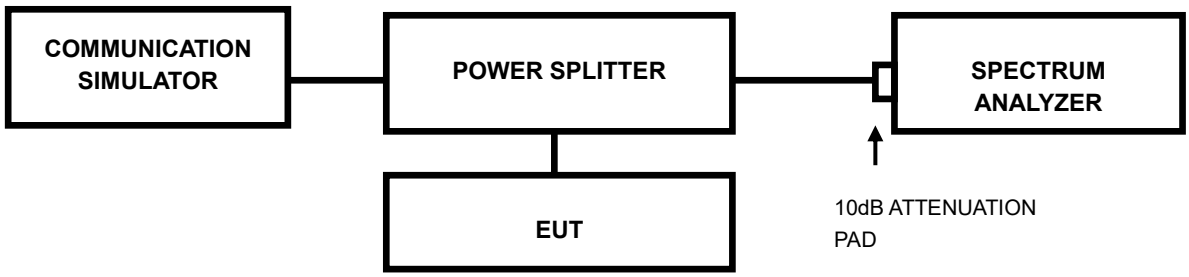
TEMP. (℃)	20MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0116	-0.0114	2.5
-20	-0.0105	-0.0097	2.5
-10	-0.0084	-0.0080	2.5
0	-0.0075	-0.0073	2.5
10	-0.0053	-0.0051	2.5
20	-0.0043	-0.0039	2.5
30	-0.0028	-0.0027	2.5
40	-0.0020	-0.0018	2.5
50	-0.0005	-0.0002	2.5

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



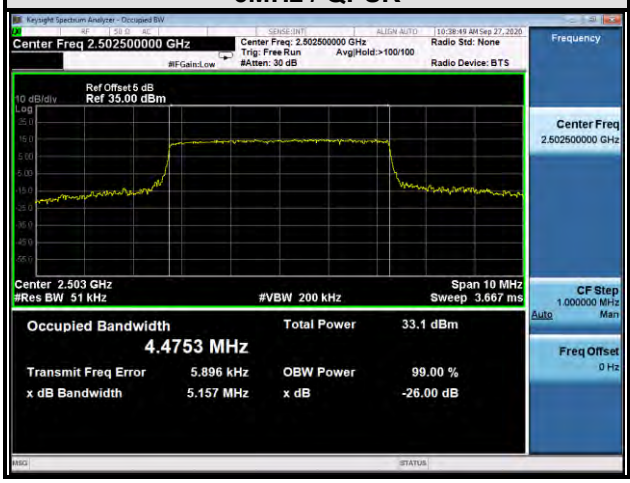
3.3.3 TEST PROCEDURES

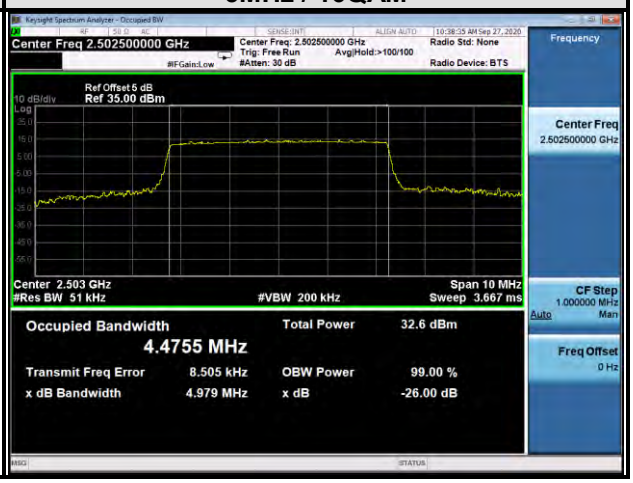
a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

LTE BAND 7					
CHANNEL BANDWIDTH: 5MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
20775	2502.5	4.48	4.48	5.16	4.98
21100	2535	4.48	4.46	4.93	4.86
21425	2567.5	4.46	4.46	4.87	4.92

SPECTRUM PLOT OF WORST VALUE	
5MHz / QPSK	5MHz / 16QAM



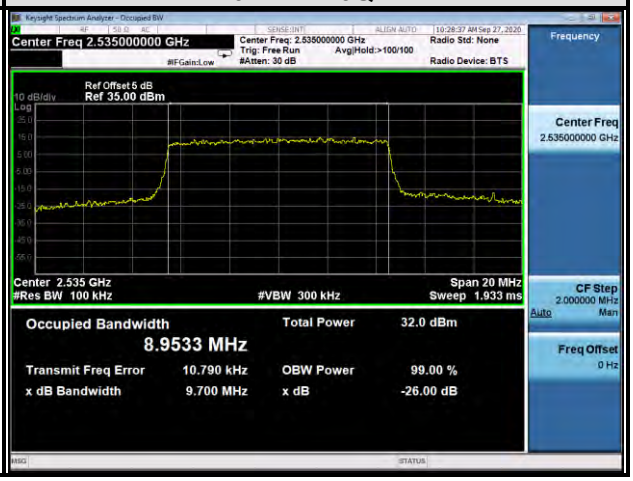


LTE BAND 7					
CHANNEL BANDWIDTH: 10MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
20800	2505	8.94	8.93	9.81	9.69
21100	2535	8.94	8.95	9.77	9.70
21400	2565	8.93	8.92	9.63	9.54

SPECTRUM PLOT OF WORST VALUE

10MHz / QPSK

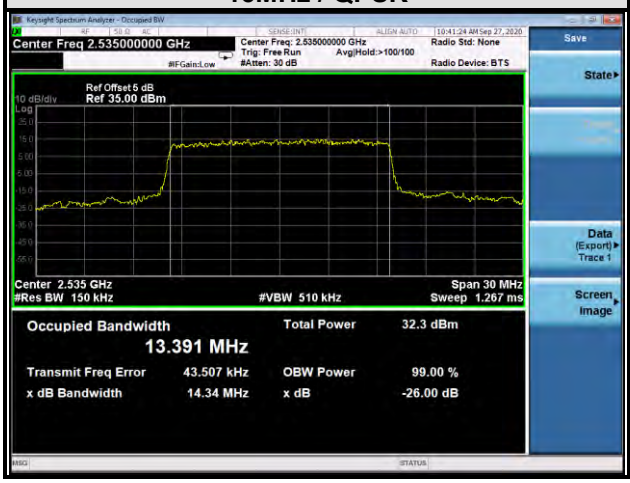
10MHz / 16QAM



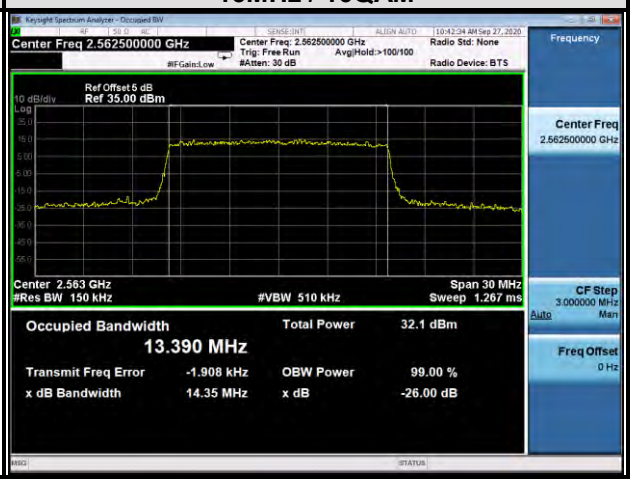
LTE BAND 7					
CHANNEL BANDWIDTH: 15MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
20825	2507.5	13.33	13.35	14.28	14.27
21100	2535	13.39	13.39	14.34	14.49
21375	2562.5	13.38	13.39	14.23	14.35

SPECTRUM PLOT OF WORST VALUE

15MHz / QPSK



15MHz / 16QAM

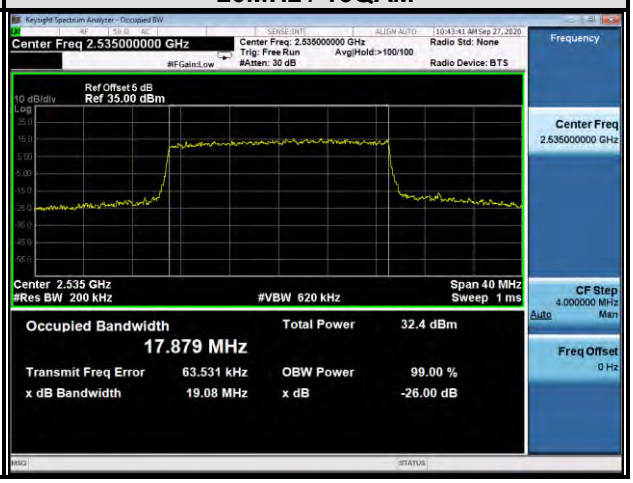


LTE BAND 7					
CHANNEL BANDWIDTH: 20MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
20850	2510	17.75	17.83	18.96	18.95
21100	2535	17.84	17.88	18.96	19.08
21350	2560	17.83	17.85	18.97	19.14

SPECTRUM PLOT OF WORST VALUE

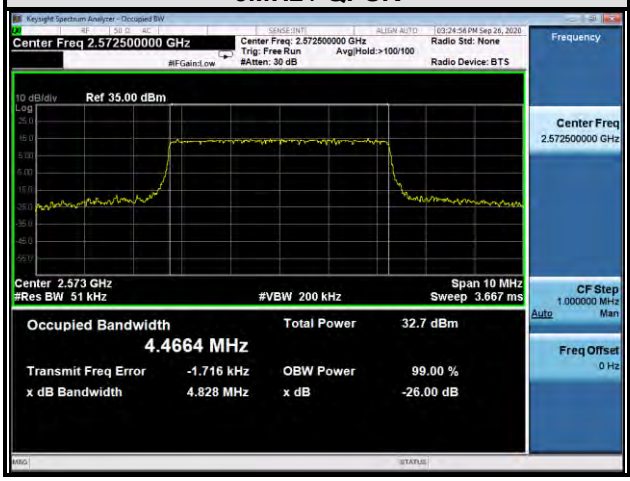
20MHz / QPSK

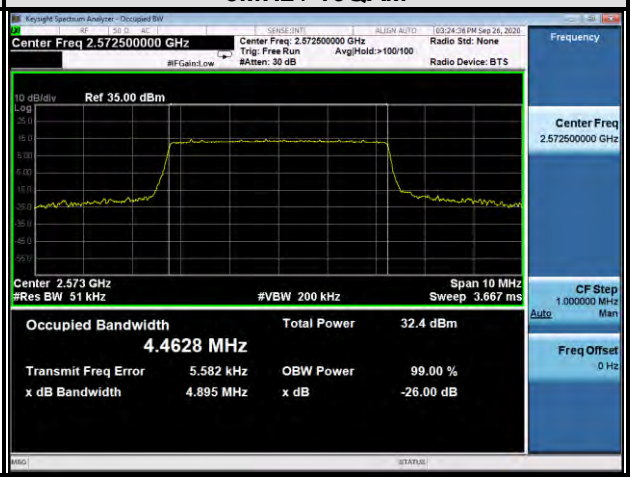
20MHz / 16QAM



LTE BAND 38					
CHANNEL BANDWIDTH:5MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
37775	2572.5	4.47	4.46	4.83	4.90
38000	2595	4.46	4.45	4.89	4.89
38225	2617.5	4.46	4.46	4.80	4.87

SPECTRUM PLOT OF WORST VALUE	
5MHz / QPSK	5MHz / 16QAM





LTE BAND 38					
CHANNEL BANDWIDTH: 10MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
37800	2575	8.94	8.93	9.72	9.57
38000	2595	8.95	8.95	9.68	9.81
38200	2615	8.93	8.93	9.56	9.57

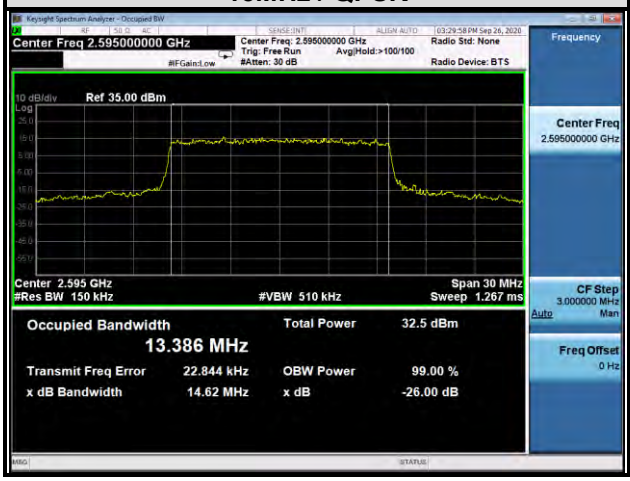
SPECTRUM PLOT OF WORST VALUE

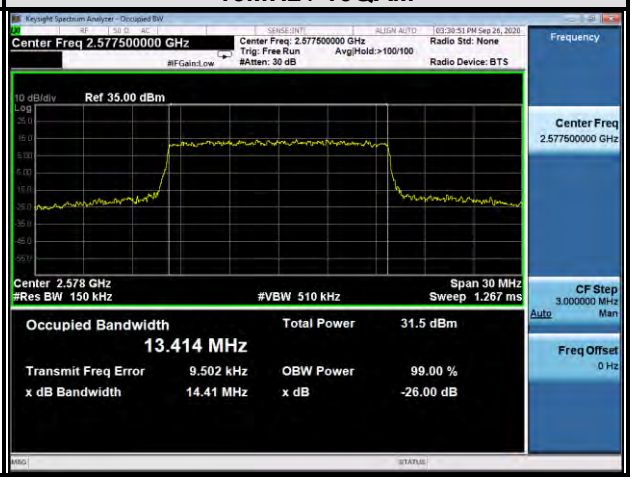
10MHz / QPSK

10MHz / 16QAM

LTE BAND 38					
CHANNEL BANDWIDTH: 15MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
37825	2577.5	13.37	13.41	14.32	14.41
38000	2595	13.39	13.38	14.62	14.45
38175	2612.5	13.37	13.39	14.52	14.40

SPECTRUM PLOT OF WORST VALUE	
15MHz / QPSK	15MHz / 16QAM

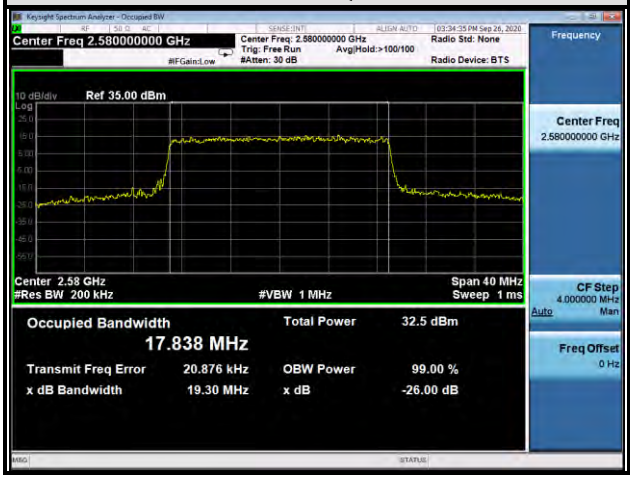




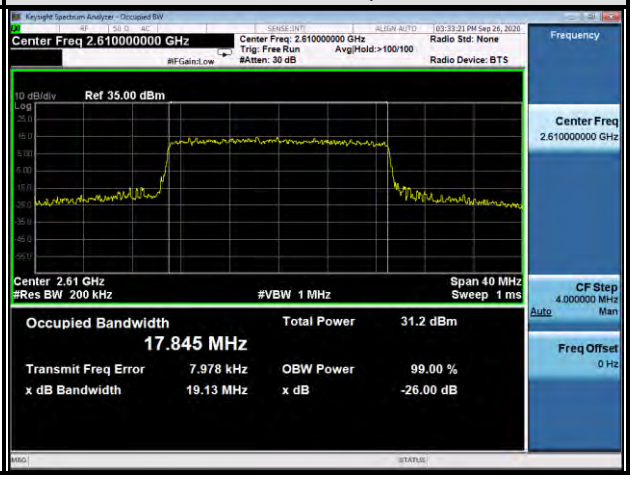
LTE BAND 38					
CHANNEL BANDWIDTH: 20MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
37850	2580	17.84	17.84	19.30	19.00
38000	2595	17.80	17.84	19.07	19.10
38150	2610	17.83	17.85	19.07	19.13

SPECTRUM PLOT OF WORST VALUE

20MHz / QPSK



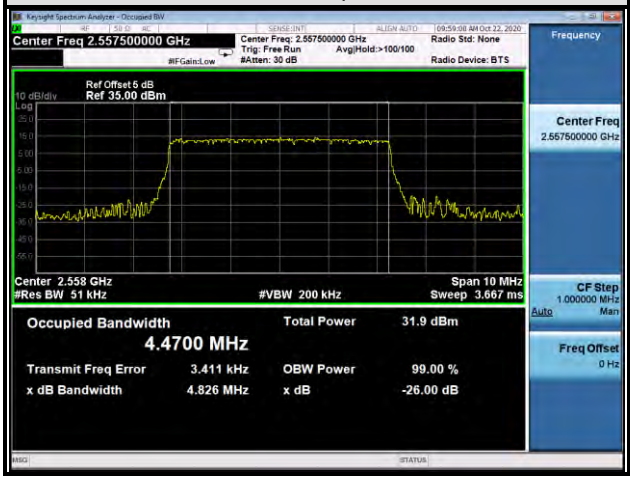
20MHz / 16QAM



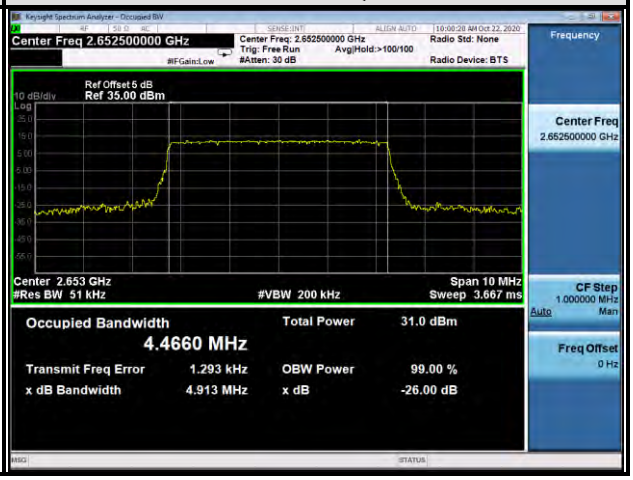
LTE BAND 41					
CHANNEL BANDWIDTH:5MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
40265	2557.5	4.47	4.46	4.83	4.89
40740	2605	4.46	4.46	4.93	4.81
41215	2652.5	4.46	4.47	4.79	4.91

SPECTRUM PLOT OF WORST VALUE

5MHz / QPSK



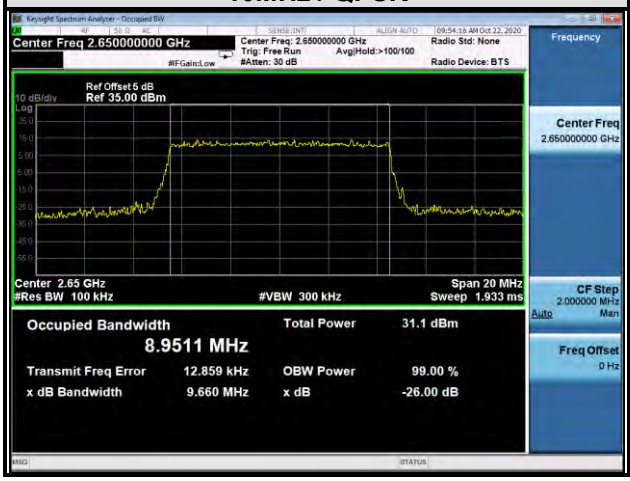
5MHz / 16QAM



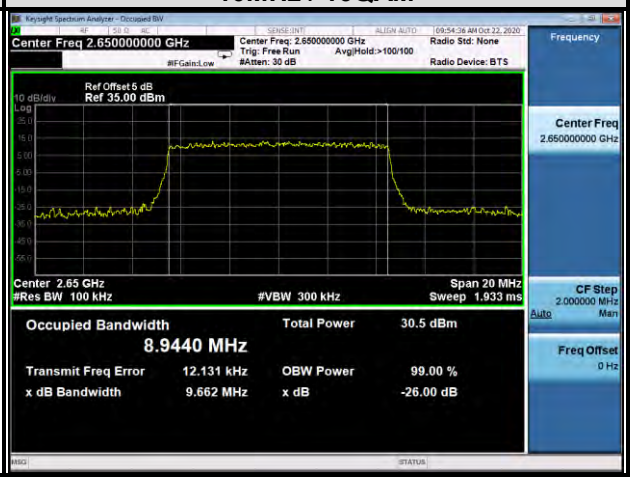
LTE BAND 41					
CHANNEL BANDWIDTH:10MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
40290	2560	8.93	8.93	9.60	9.64
40740	2605	8.93	8.92	9.78	9.59
41190	2650	8.95	8.94	9.66	9.66

SPECTRUM PLOT OF WORST VALUE

10MHz / QPSK



10MHz / 16QAM

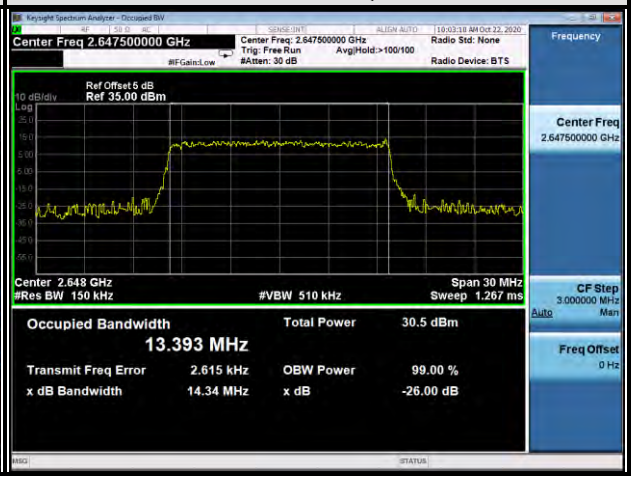


LTE BAND 41					
CHANNEL BANDWIDTH:15MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
40315	2562.5	13.35	13.38	14.33	14.46
40740	2605	13.38	13.39	14.90	14.44
41165	2647.5	13.37	13.39	14.59	14.34

SPECTRUM PLOT OF WORST VALUE

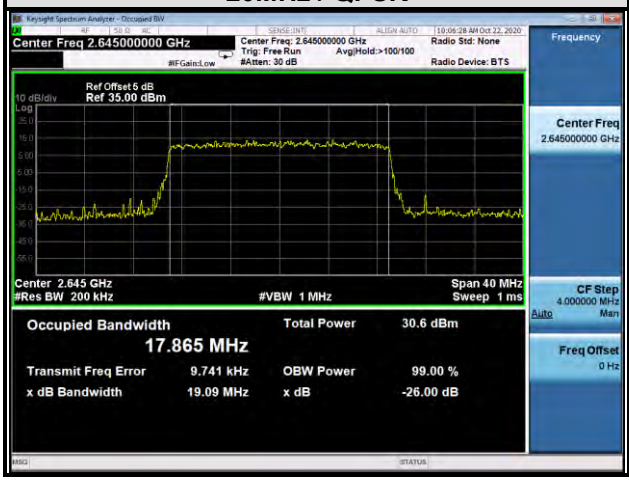
15MHz / QPSK

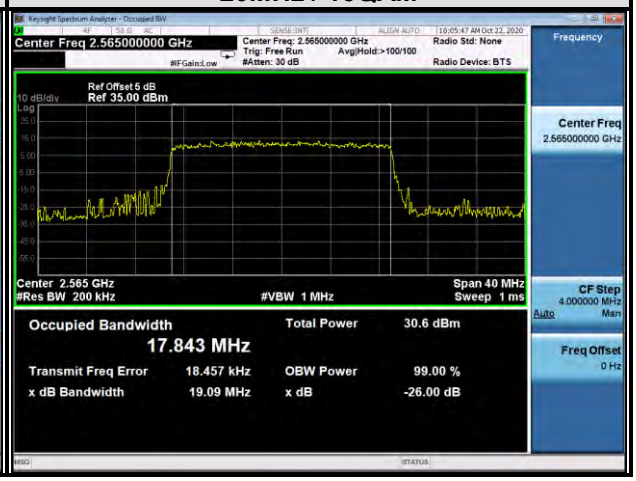
15MHz / 16QAM



LTE BAND 41					
CHANNEL BANDWIDTH:20MHz					
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		26dB BANDWIDTH (MHz)	
		QPSK	16QAM	QPSK	16QAM
40340	2565	17.84	17.84	18.93	19.09
40740	2605	17.84	17.83	19.12	19.08
41140	2645	17.87	17.83	19.09	18.93

SPECTRUM PLOT OF WORST VALUE	
20MHz / QPSK	20MHz / 16QAM



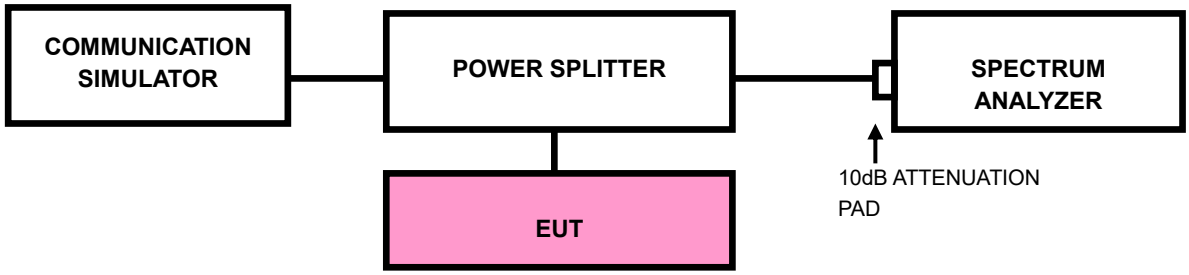


3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(m)(4) specified that 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 that 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. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

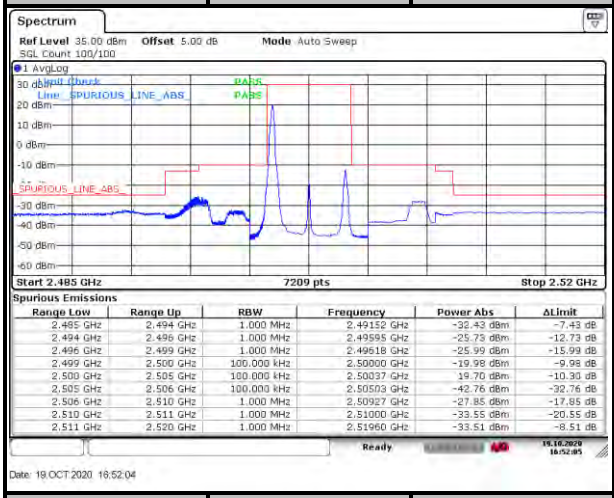
a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).
b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
c. The center frequency of spectrum is the band edge frequency and span is 35MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (Channel bandwidth 5MHz).
d. The center frequency of spectrum is the band edge frequency and span is 50MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz (Channel bandwidth 10MHz).
e. The center frequency of spectrum is the band edge frequency and span is 60MHz. RBW of the spectrum is 300kHz and VBW of the spectrum is 1MHz (Channel bandwidth 15MHz).
f. The center frequency of spectrum is the band edge frequency and span is 80MHz. RBW of the spectrum is 500kHz and VBW of the spectrum is 2MHz (Channel bandwidth 20MHz).
g. Record the max trace plot into the test report.

3.4.4 TEST RESULTS

LTE BAND 7

Channel Bandwidth: 5MHz / QPSK

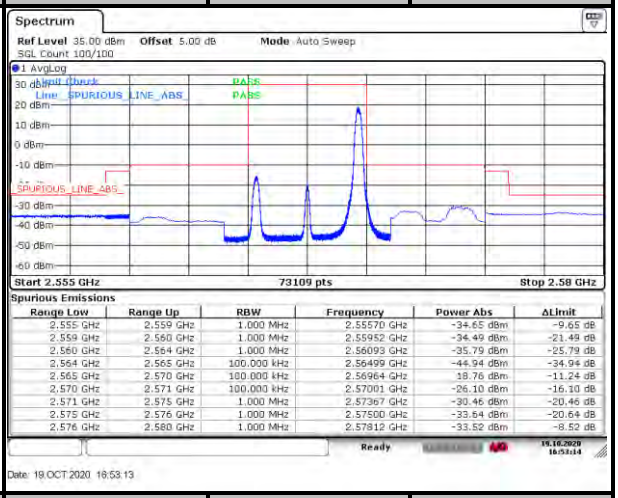
CHANNEL	20775	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.485 GHz	2.494 GHz	1.000 MHz	2.49152 GHz	-32.43 dBm	-7.43 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49595 GHz	-25.73 dBm	-12.73 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49518 GHz	-25.99 dBm	-15.99 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-19.98 dBm	-9.98 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50037 GHz	19.70 dBm	-10.30 dB
2.505 GHz	2.506 GHz	100.000 kHz	2.50503 GHz	-42.76 dBm	-32.76 dB
2.506 GHz	2.510 GHz	1.000 MHz	2.50927 GHz	-27.85 dBm	-17.85 dB
2.510 GHz	2.511 GHz	1.000 MHz	2.51000 GHz	-33.55 dBm	-20.55 dB
2.511 GHz	2.520 GHz	1.000 MHz	2.51960 GHz	-33.51 dBm	-8.51 dB

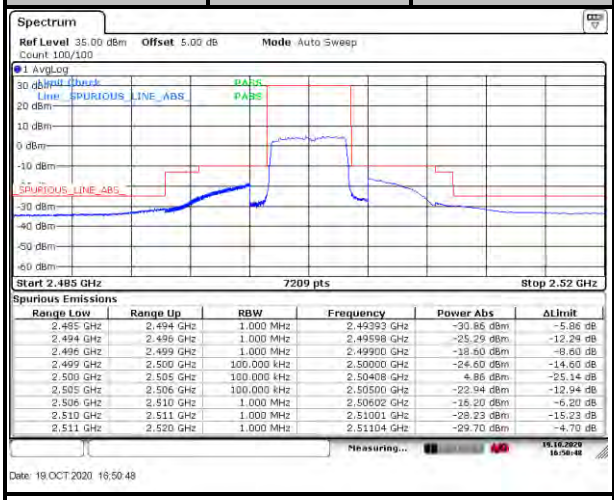
CHANNEL	21425	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.559 GHz	1.000 MHz	2.55570 GHz	-34.65 dBm	-9.65 dB
2.559 GHz	2.560 GHz	1.000 MHz	2.55952 GHz	-34.49 dBm	-21.49 dB
2.560 GHz	2.564 GHz	1.000 MHz	2.56093 GHz	-35.79 dBm	-25.79 dB
2.564 GHz	2.565 GHz	100.000 kHz	2.56499 GHz	-44.94 dBm	-34.94 dB
2.565 GHz	2.570 GHz	100.000 kHz	2.56964 GHz	18.76 dBm	-11.24 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57001 GHz	-26.10 dBm	-16.10 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57367 GHz	-30.46 dBm	-20.46 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57500 GHz	-33.64 dBm	-20.64 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57812 GHz	-33.52 dBm	-8.52 dB

CHANNEL	20775	Full RB

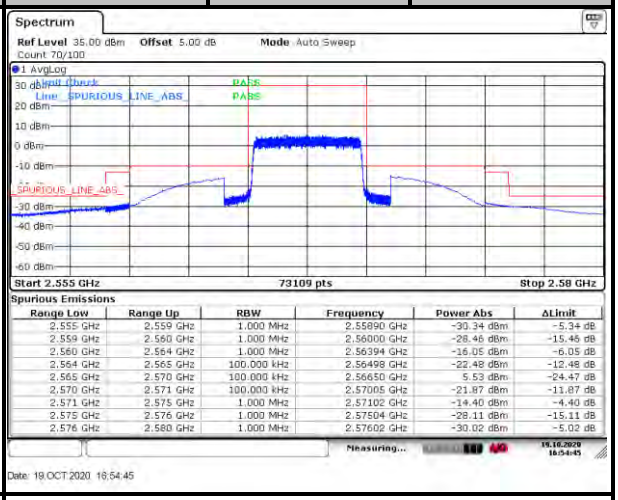


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.485 GHz	2.494 GHz	1.000 MHz	2.49393 GHz	-30.86 dBm	-5.86 dB
2.494 GHz	2.496 GHz	1.000 MHz	2.49598 GHz	-25.29 dBm	-12.29 dB
2.496 GHz	2.499 GHz	1.000 MHz	2.49900 GHz	-18.60 dBm	-8.60 dB
2.499 GHz	2.500 GHz	100.000 kHz	2.50000 GHz	-24.60 dBm	-14.60 dB
2.500 GHz	2.505 GHz	100.000 kHz	2.50408 GHz	4.86 dBm	-25.14 dB
2.505 GHz	2.506 GHz	100.000 kHz	2.50500 GHz	-22.94 dBm	-12.94 dB
2.506 GHz	2.510 GHz	1.000 MHz	2.50602 GHz	-16.20 dBm	-6.20 dB
2.510 GHz	2.511 GHz	1.000 MHz	2.51001 GHz	-28.23 dBm	-15.23 dB
2.511 GHz	2.520 GHz	1.000 MHz	2.51104 GHz	-29.70 dBm	-4.70 dB

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

CHANNEL	21425	Full RB



Spurious Emissions

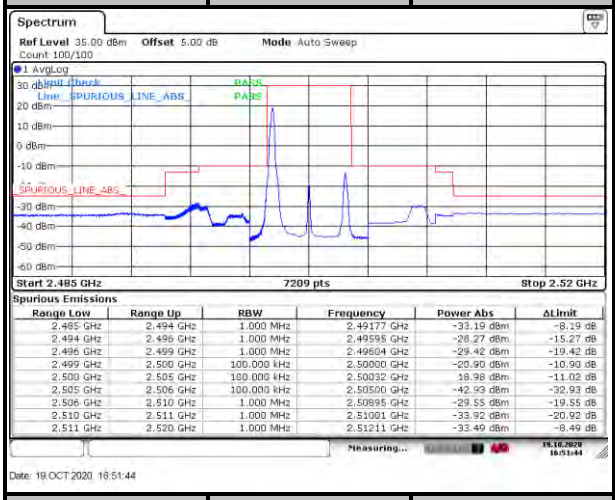
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.559 GHz	1.000 MHz	2.55890 GHz	-30.34 dBm	-5.34 dB
2.559 GHz	2.560 GHz	1.000 MHz	2.56000 GHz	-28.46 dBm	-15.46 dB
2.560 GHz	2.564 GHz	1.000 MHz	2.56394 GHz	-16.05 dBm	-6.05 dB
2.564 GHz	2.565 GHz	100.000 kHz	2.56498 GHz	-22.48 dBm	-12.48 dB
2.565 GHz	2.570 GHz	100.000 kHz	2.56650 GHz	5.53 dBm	-24.47 dB
2.570 GHz	2.571 GHz	100.000 kHz	2.57005 GHz	-21.87 dBm	-11.87 dB
2.571 GHz	2.575 GHz	1.000 MHz	2.57102 GHz	-14.40 dBm	-4.40 dB
2.575 GHz	2.576 GHz	1.000 MHz	2.57504 GHz	-28.11 dBm	-15.11 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57602 GHz	-30.02 dBm	-5.02 dB

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

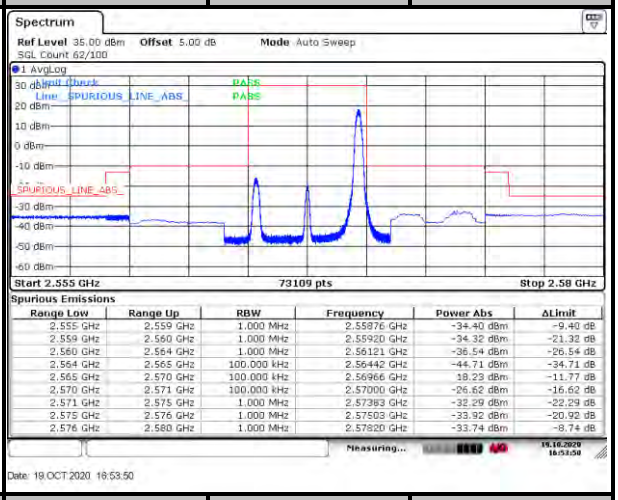
LTE BAND 7

Channel Bandwidth: 5MHz / 16QAM

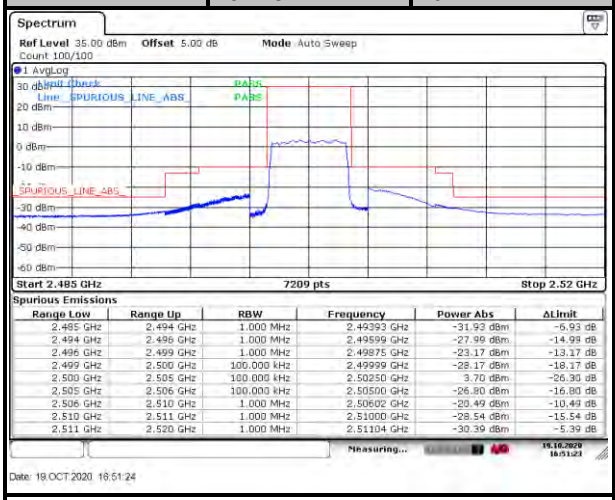
CHANNEL	20775	1 RB



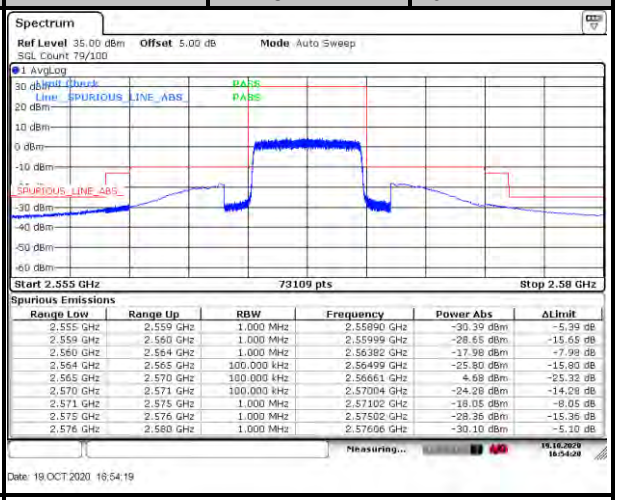
CHANNEL	21425	1 RB



CHANNEL	20775	Full RB

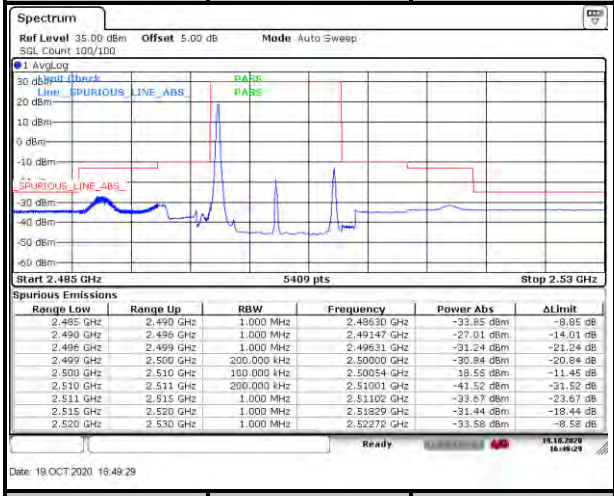
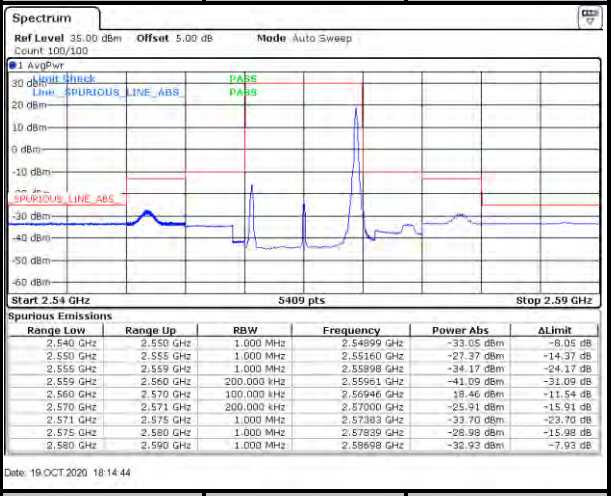
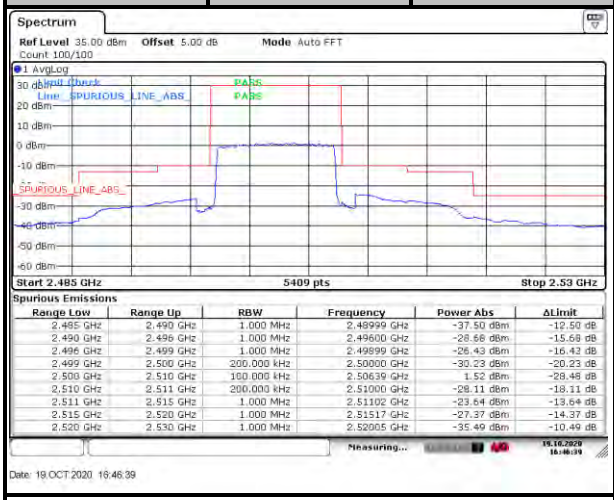
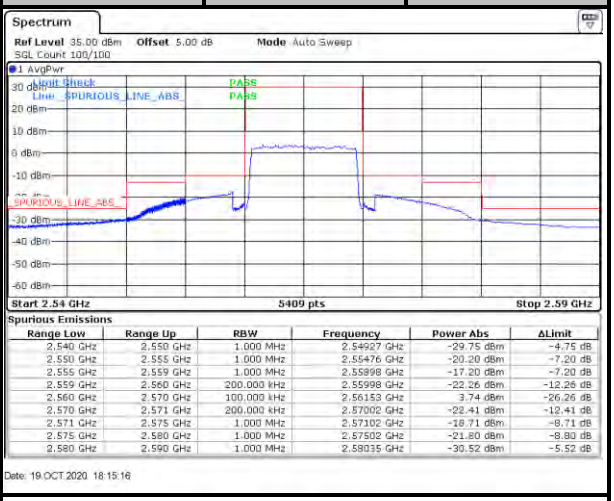


CHANNEL	21425	Full RB



Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

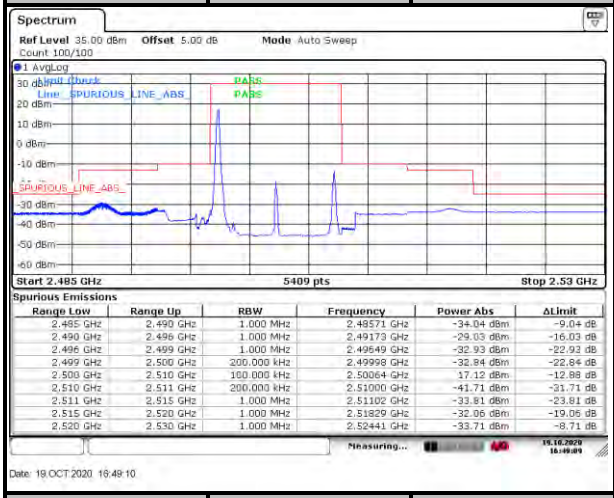
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

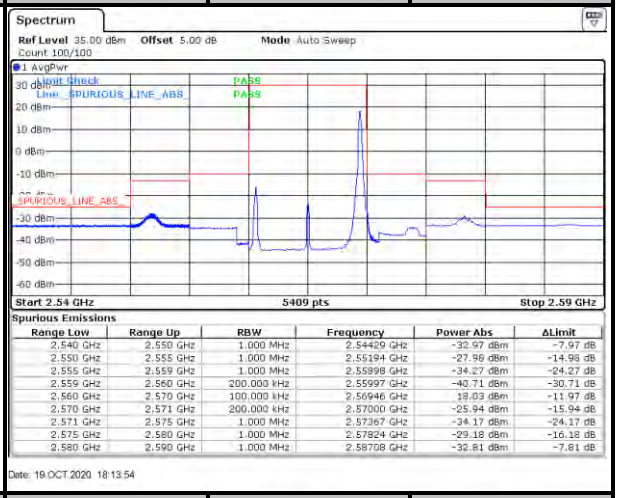
LTE BAND 7					
Channel Bandwidth: 10MHz / QPSK					
CHANNEL	20800	1 RB	CHANNEL	21400	1 RB
					
CHANNEL	20800	Full RB	CHANNEL	21400	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 7

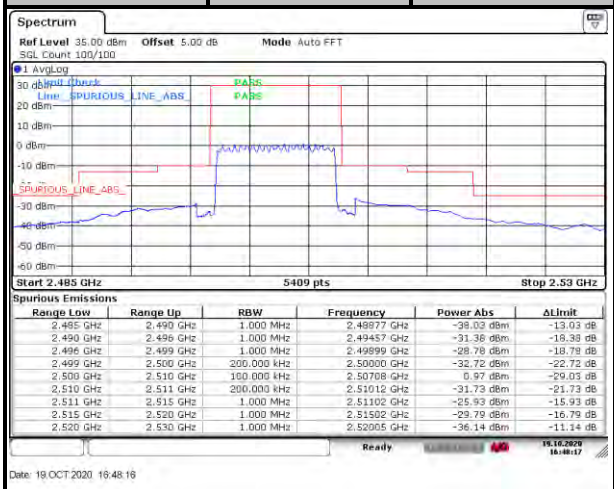
Channel Bandwidth: 10MHz / 16QAM

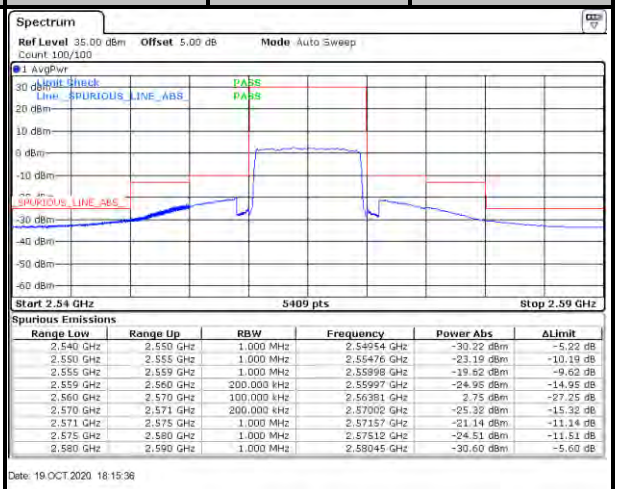
CHANNEL	20800	1 RB	CHANNEL	21400	1 RB





CHANNEL	20800	Full RB	CHANNEL	21400	Full RB





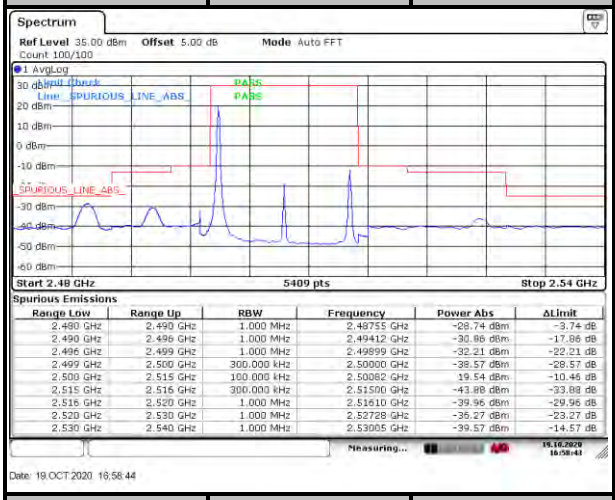
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

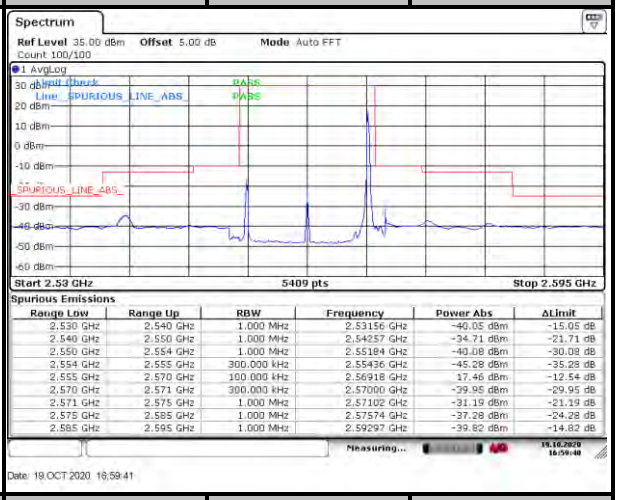
LTE BAND 7

Channel Bandwidth: 15MHz / QPSK

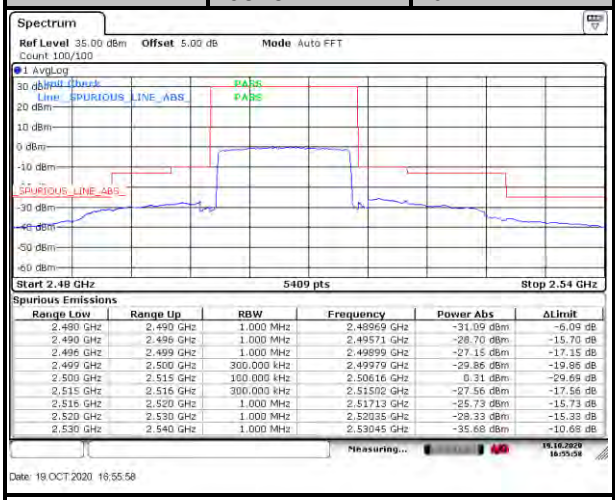
CHANNEL	20825	1 RB



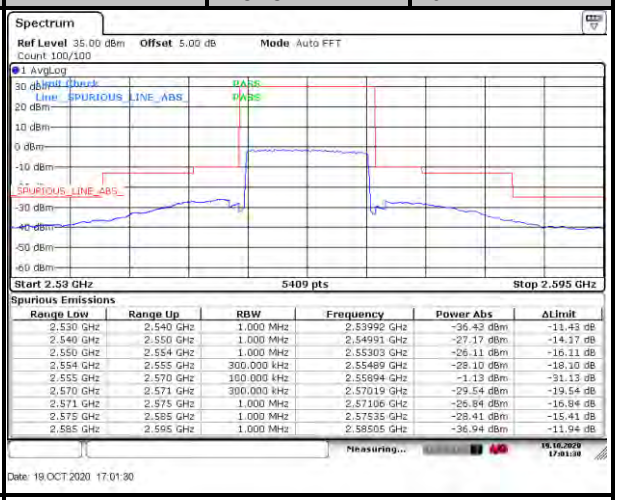
CHANNEL	21375	1 RB



CHANNEL	20825	Full RB



CHANNEL	21375	Full RB



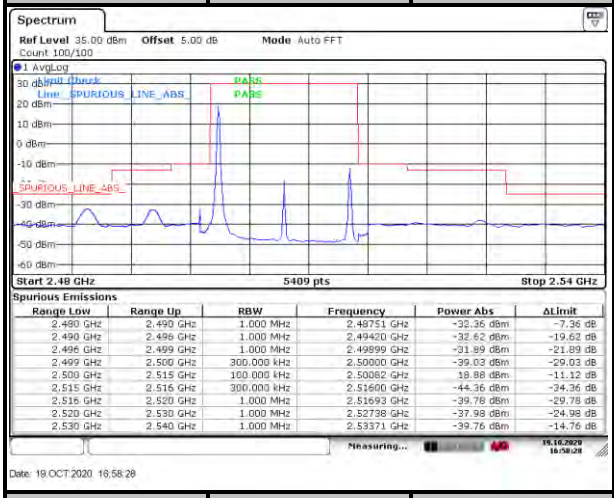
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

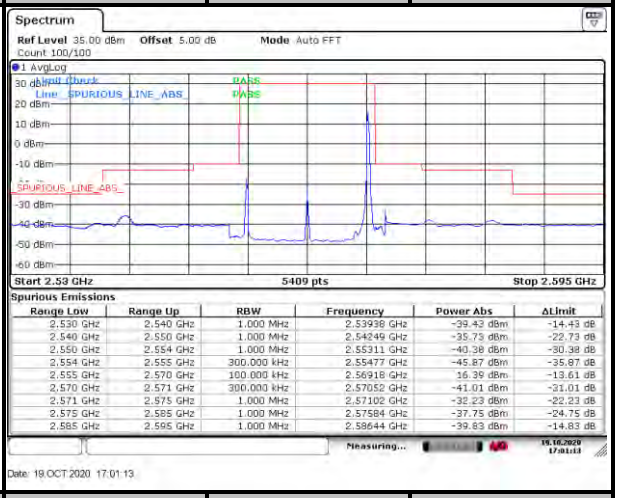
LTE BAND 7

Channel Bandwidth: 15MHz / 16QAM

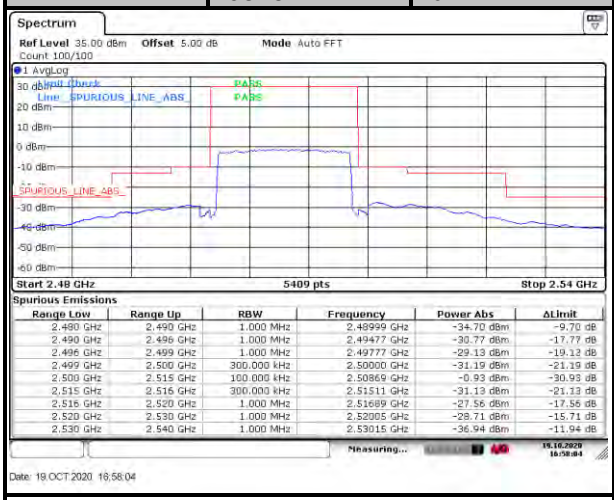
CHANNEL	20825	1 RB



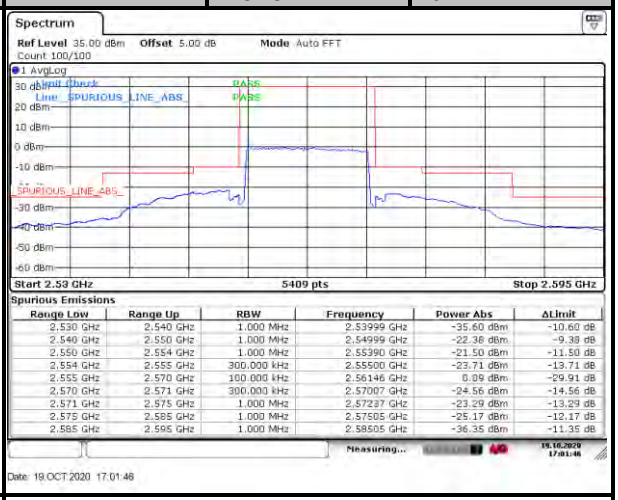
CHANNEL	21375	1 RB



CHANNEL	20825	Full RB



CHANNEL	21375	Full RB



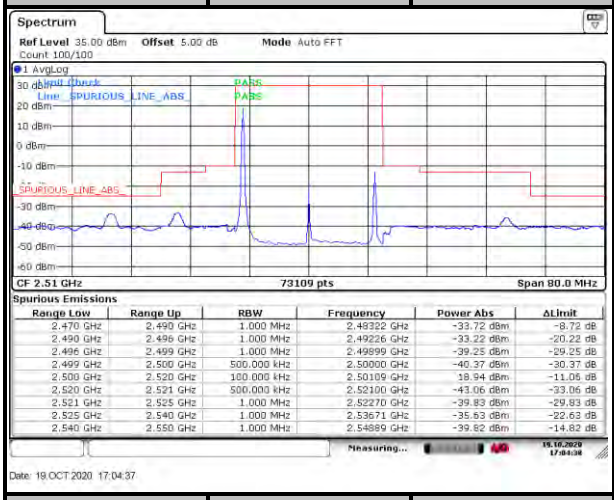
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

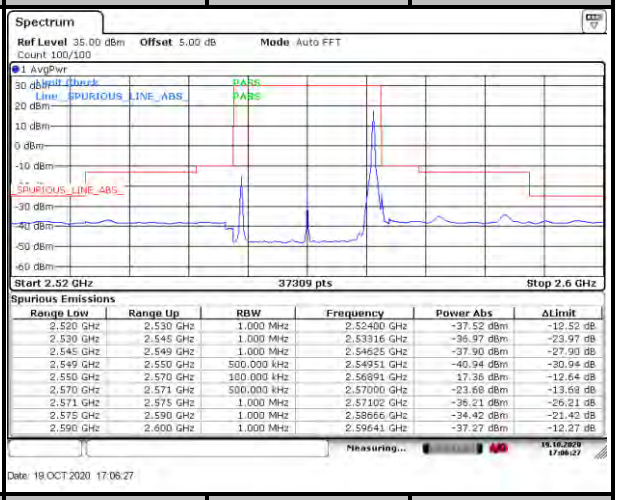
LTE BAND 7

Channel Bandwidth: 20MHz / QPSK

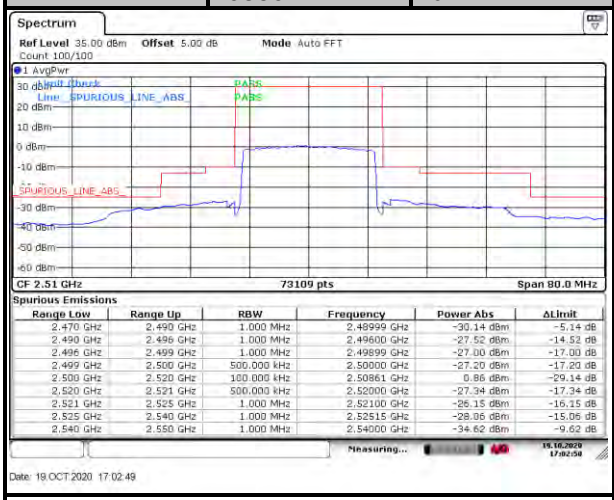
CHANNEL	20850	1 RB



CHANNEL	21350	1 RB

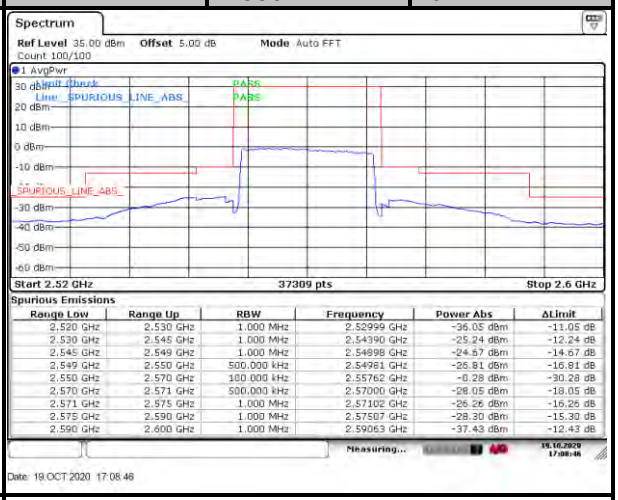


CHANNEL	20850	Full RB



Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

CHANNEL	21350	Full RB

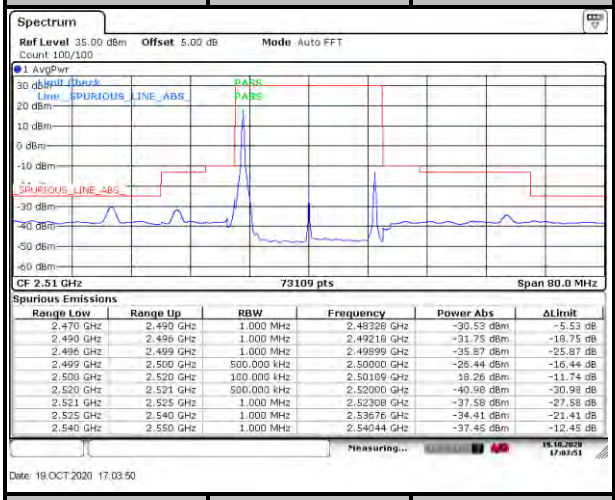


Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

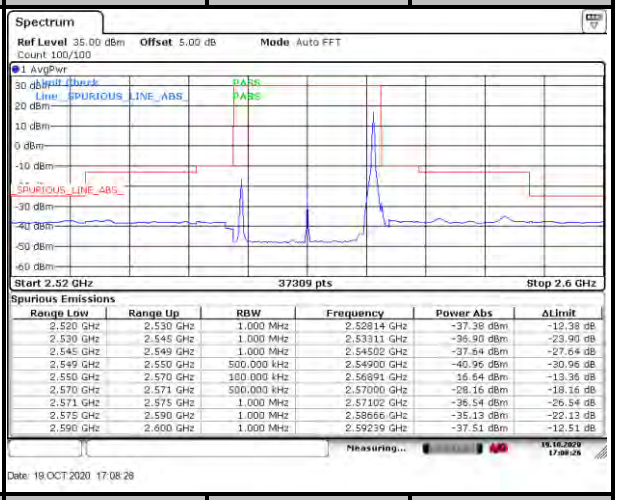
LTE BAND 7

Channel Bandwidth: 20MHz / 16QAM

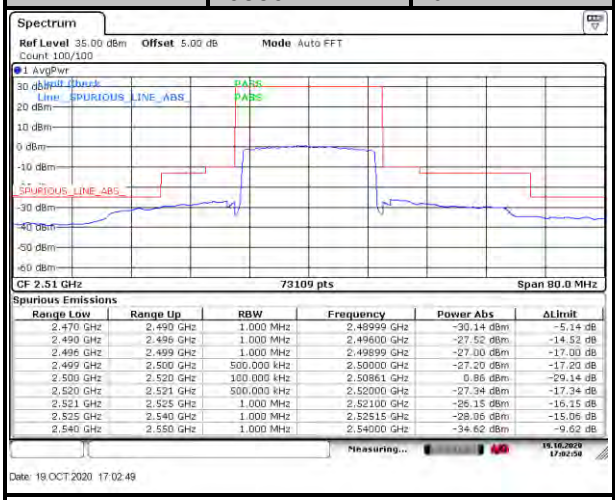
CHANNEL	20850	1 RB



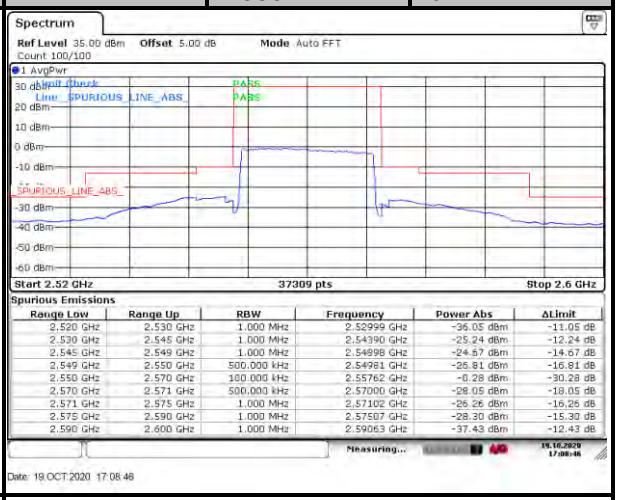
CHANNEL	21350	1 RB



CHANNEL	20850	Full RB



CHANNEL	21350	Full RB



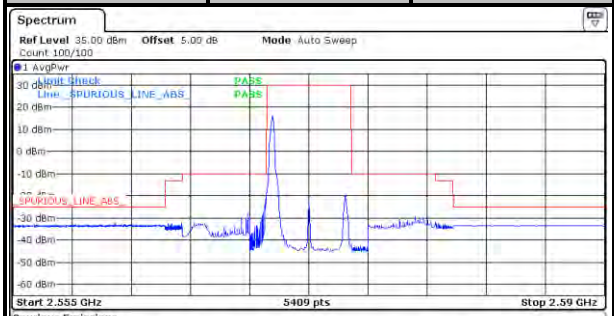
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 5MHz / QPSK

CHANNEL	37775	1 RB

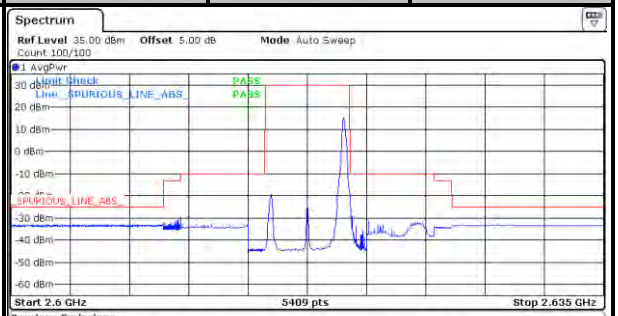


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.564 GHz	1.000 MHz	2.56104 GHz	-32.10 dBm	-7.10 dB
2.564 GHz	2.565 GHz	1.000 MHz	2.56499 GHz	-32.10 dBm	-19.10 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56890 GHz	-28.09 dBm	-18.09 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.56999 GHz	-18.82 dBm	-8.82 dB
2.570 GHz	2.575 GHz	100.000 kHz	2.57032 GHz	16.02 dBm	-13.98 dB
2.575 GHz	2.576 GHz	100.000 kHz	2.57503 GHz	-42.15 dBm	-32.15 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57879 GHz	-29.29 dBm	-19.29 dB
2.580 GHz	2.581 GHz	1.000 MHz	2.58004 GHz	-32.34 dBm	-19.34 dB
2.581 GHz	2.590 GHz	1.000 MHz	2.58194 GHz	-33.33 dBm	-8.33 dB

Date: 19.OCT.2020 17:40:19

CHANNEL	38225	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.609 GHz	1.000 MHz	2.60741 GHz	-32.97 dBm	-7.97 dB
2.609 GHz	2.610 GHz	1.000 MHz	2.61000 GHz	-29.85 dBm	-16.85 dB
2.610 GHz	2.614 GHz	1.000 MHz	2.61184 GHz	-32.88 dBm	-22.88 dB
2.614 GHz	2.615 GHz	100.000 kHz	2.61482 GHz	-43.83 dBm	-33.83 dB
2.615 GHz	2.620 GHz	100.000 kHz	2.61968 GHz	15.07 dBm	-14.93 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-18.81 dBm	-8.81 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62114 GHz	-31.50 dBm	-21.50 dB
2.625 GHz	2.626 GHz	1.000 MHz	2.62500 GHz	-33.97 dBm	-20.97 dB
2.626 GHz	2.635 GHz	1.000 MHz	2.63086 GHz	-33.14 dBm	-8.14 dB

Date: 19.OCT.2020 17:44:18

CHANNEL	37775	Full RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.564 GHz	1.000 MHz	2.56279 GHz	-35.78 dBm	-10.78 dB
2.564 GHz	2.565 GHz	1.000 MHz	2.56500 GHz	-34.72 dBm	-21.72 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-18.77 dBm	-8.77 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-30.13 dBm	-20.13 dB
2.570 GHz	2.575 GHz	100.000 kHz	2.57319 GHz	3.14 dBm	-26.86 dB
2.575 GHz	2.576 GHz	100.000 kHz	2.57500 GHz	-31.52 dBm	-21.52 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57602 GHz	-20.03 dBm	-10.03 dB
2.580 GHz	2.581 GHz	1.000 MHz	2.58000 GHz	-34.34 dBm	-21.34 dB
2.581 GHz	2.590 GHz	1.000 MHz	2.58104 GHz	-35.09 dBm	-10.09 dB

Date: 19.OCT.2020 17:38:10

CHANNEL	38225	Full RB

Spurious Emissions

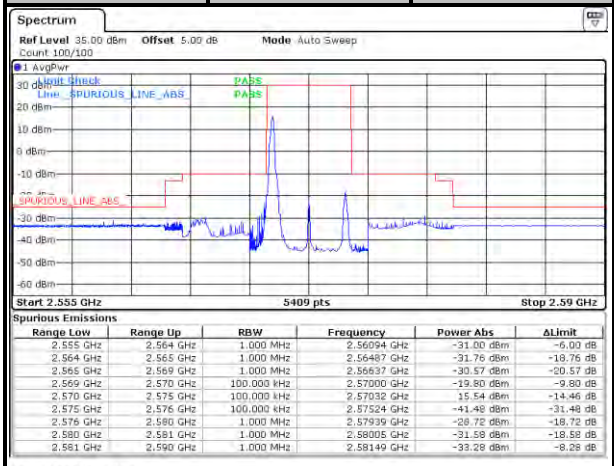
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.600 GHz	2.609 GHz	1.000 MHz	2.60880 GHz	-31.88 dBm	-6.88 dB
2.609 GHz	2.610 GHz	1.000 MHz	2.60992 GHz	-31.06 dBm	-18.06 dB
2.610 GHz	2.614 GHz	1.000 MHz	2.61398 GHz	-16.03 dBm	-6.03 dB
2.614 GHz	2.615 GHz	100.000 kHz	2.61500 GHz	-30.71 dBm	-20.71 dB
2.615 GHz	2.620 GHz	100.000 kHz	2.61790 GHz	3.28 dBm	-26.72 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62001 GHz	-29.33 dBm	-19.33 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62134 GHz	-26.64 dBm	-16.64 dB
2.625 GHz	2.626 GHz	1.000 MHz	2.62506 GHz	-31.27 dBm	-18.27 dB
2.626 GHz	2.635 GHz	1.000 MHz	2.62604 GHz	-32.36 dBm	-7.36 dB

Date: 19.OCT.2020 17:45:57

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

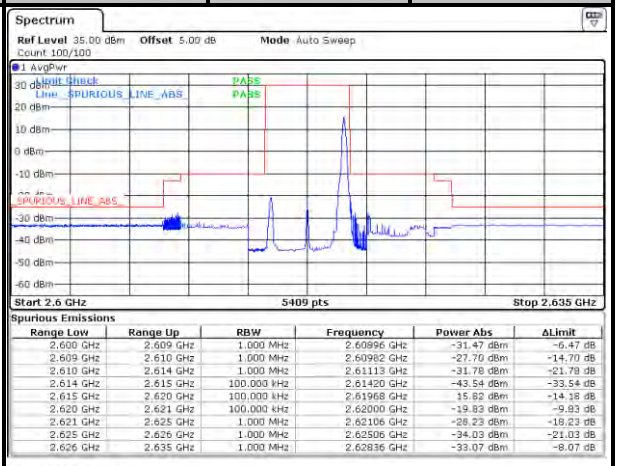
LTE BAND 38					
Channel Bandwidth: 5MHz / 16QAM					
CHANNEL	37775	1 RB	CHANNEL	38225	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.564 GHz	1.000 MHz	2.56094 GHz	-31.00 dBm	-6.00 dB
2.564 GHz	2.565 GHz	1.000 MHz	2.56487 GHz	-31.76 dBm	-18.76 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56637 GHz	-30.57 dBm	-20.57 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-19.80 dBm	-9.80 dB
2.570 GHz	2.575 GHz	100.000 kHz	2.57032 GHz	15.54 dBm	-14.46 dB
2.575 GHz	2.576 GHz	100.000 kHz	2.57524 GHz	-41.48 dBm	-31.48 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57939 GHz	-28.72 dBm	-18.72 dB
2.580 GHz	2.581 GHz	1.000 MHz	2.58005 GHz	-31.58 dBm	-18.58 dB
2.581 GHz	2.590 GHz	1.000 MHz	2.58149 GHz	-33.28 dBm	-8.28 dB

Date: 19.OCT.2020 17:39:57

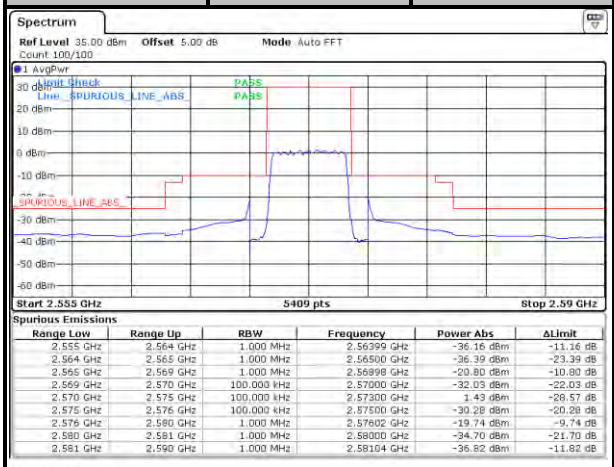


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.609 GHz	2.609 GHz	1.000 MHz	2.60896 GHz	-31.47 dBm	-6.47 dB
2.609 GHz	2.610 GHz	1.000 MHz	2.60982 GHz	-27.70 dBm	-14.70 dB
2.610 GHz	2.614 GHz	1.000 MHz	2.61113 GHz	-31.78 dBm	-21.78 dB
2.614 GHz	2.615 GHz	100.000 kHz	2.61420 GHz	-43.54 dBm	-33.54 dB
2.615 GHz	2.620 GHz	100.000 kHz	2.61968 GHz	15.82 dBm	-14.18 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-19.83 dBm	-9.83 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62106 GHz	-28.23 dBm	-18.23 dB
2.625 GHz	2.626 GHz	1.000 MHz	2.62506 GHz	-34.03 dBm	-21.03 dB
2.626 GHz	2.635 GHz	1.000 MHz	2.62836 GHz	-33.07 dBm	-8.07 dB

Date: 19.OCT.2020 17:45:09

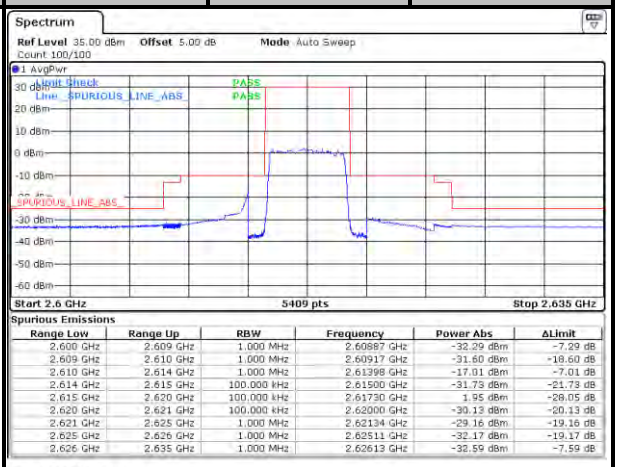
CHANNEL	37775	Full RB	CHANNEL	38225	Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.555 GHz	2.564 GHz	1.000 MHz	2.56399 GHz	-36.16 dBm	-11.16 dB
2.564 GHz	2.565 GHz	1.000 MHz	2.56500 GHz	-36.39 dBm	-23.39 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-20.80 dBm	-10.80 dB
2.569 GHz	2.570 GHz	100.000 kHz	2.57000 GHz	-32.03 dBm	-22.03 dB
2.570 GHz	2.575 GHz	100.000 kHz	2.57300 GHz	1.43 dBm	-28.57 dB
2.575 GHz	2.576 GHz	100.000 kHz	2.57500 GHz	-30.28 dBm	-20.28 dB
2.576 GHz	2.580 GHz	1.000 MHz	2.57602 GHz	-19.74 dBm	-9.74 dB
2.580 GHz	2.581 GHz	1.000 MHz	2.58000 GHz	-34.70 dBm	-21.70 dB
2.581 GHz	2.590 GHz	1.000 MHz	2.58104 GHz	-36.82 dBm	-11.82 dB

Date: 19.OCT.2020 17:39:15



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.609 GHz	2.609 GHz	1.000 MHz	2.60887 GHz	-32.29 dBm	-7.29 dB
2.609 GHz	2.610 GHz	1.000 MHz	2.60917 GHz	-31.60 dBm	-18.60 dB
2.610 GHz	2.614 GHz	1.000 MHz	2.61398 GHz	-17.01 dBm	-7.01 dB
2.614 GHz	2.615 GHz	100.000 kHz	2.61500 GHz	-31.73 dBm	-21.73 dB
2.615 GHz	2.620 GHz	100.000 kHz	2.61730 GHz	1.95 dBm	-28.05 dB
2.620 GHz	2.621 GHz	100.000 kHz	2.62000 GHz	-30.13 dBm	-20.13 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62134 GHz	-29.16 dBm	-19.16 dB
2.625 GHz	2.626 GHz	1.000 MHz	2.62511 GHz	-32.17 dBm	-19.17 dB
2.626 GHz	2.635 GHz	1.000 MHz	2.62613 GHz	-32.59 dBm	-7.59 dB

Date: 19.OCT.2020 17:45:31

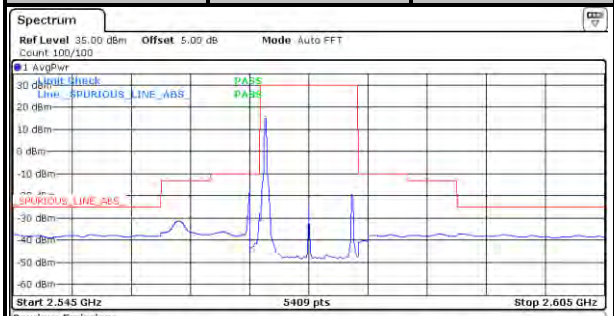
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 10MHz / QPSK

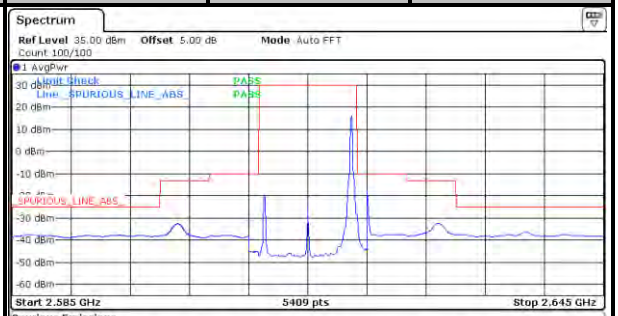
CHANNEL	37800	1 RB	CHANNEL	38200	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.560 GHz	1.000 MHz	2.55282 GHz	-37.50 dBm	-12.50 dB
2.560 GHz	2.565 GHz	1.000 MHz	2.56180 GHz	-31.34 dBm	-18.34 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-16.86 dBm	-6.86 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-28.08 dBm	-18.08 dB
2.570 GHz	2.580 GHz	100.000 kHz	2.57064 GHz	15.08 dBm	-14.92 dB
2.580 GHz	2.581 GHz	200.000 kHz	2.58050 GHz	-40.28 dBm	-30.28 dB
2.581 GHz	2.585 GHz	1.000 MHz	2.58336 GHz	-37.64 dBm	-27.64 dB
2.585 GHz	2.590 GHz	1.000 MHz	2.58824 GHz	-37.22 dBm	-24.22 dB
2.590 GHz	2.605 GHz	1.000 MHz	2.59007 GHz	-35.99 dBm	-11.99 dB

Date: 19.OCT.2020 17:32:13

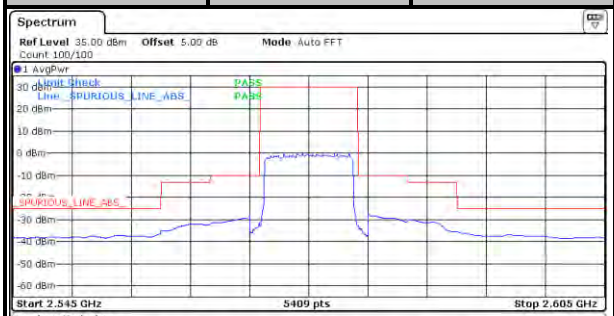


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.585 GHz	2.600 GHz	1.000 MHz	2.58679 GHz	-37.49 dBm	-12.49 dB
2.600 GHz	2.605 GHz	1.000 MHz	2.60179 GHz	-32.58 dBm	-19.58 dB
2.605 GHz	2.609 GHz	1.000 MHz	2.60502 GHz	-37.84 dBm	-27.84 dB
2.609 GHz	2.610 GHz	200.000 kHz	2.60909 GHz	-44.99 dBm	-34.99 dB
2.610 GHz	2.620 GHz	100.000 kHz	2.61946 GHz	15.87 dBm	-14.13 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62000 GHz	-28.40 dBm	-18.40 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-17.61 dBm	-7.61 dB
2.625 GHz	2.630 GHz	1.000 MHz	2.62824 GHz	-32.47 dBm	-19.47 dB
2.630 GHz	2.645 GHz	1.000 MHz	2.63705 GHz	-36.28 dBm	-11.28 dB

Date: 19.OCT.2020 17:36:49

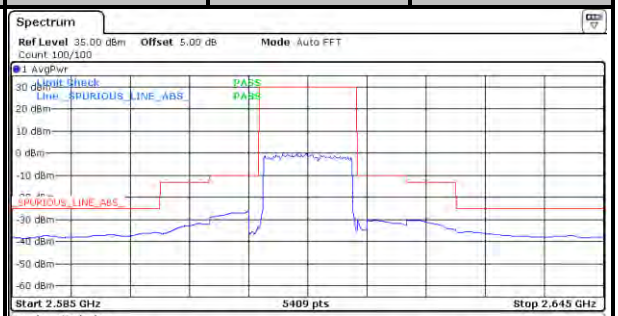
CHANNEL	37800	Full RB	CHANNEL	38200	Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.560 GHz	1.000 MHz	2.55999 GHz	-36.47 dBm	-11.47 dB
2.560 GHz	2.565 GHz	1.000 MHz	2.56388 GHz	-32.02 dBm	-19.02 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-28.24 dBm	-18.24 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-31.37 dBm	-21.37 dB
2.570 GHz	2.580 GHz	100.000 kHz	2.57906 GHz	-0.18 dBm	-30.18 dB
2.580 GHz	2.581 GHz	200.000 kHz	2.58000 GHz	-32.35 dBm	-22.35 dB
2.581 GHz	2.585 GHz	1.000 MHz	2.58102 GHz	-27.16 dBm	-17.16 dB
2.585 GHz	2.590 GHz	1.000 MHz	2.58512 GHz	-29.92 dBm	-16.92 dB
2.590 GHz	2.605 GHz	1.000 MHz	2.59007 GHz	-35.64 dBm	-10.64 dB

Date: 19.OCT.2020 17:33:47



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.585 GHz	2.600 GHz	1.000 MHz	2.59965 GHz	-35.69 dBm	-10.69 dB
2.600 GHz	2.605 GHz	1.000 MHz	2.60399 GHz	-31.87 dBm	-18.87 dB
2.605 GHz	2.609 GHz	1.000 MHz	2.60898 GHz	-25.48 dBm	-15.48 dB
2.609 GHz	2.610 GHz	200.000 kHz	2.61000 GHz	-33.17 dBm	-23.17 dB
2.610 GHz	2.620 GHz	100.000 kHz	2.61391 GHz	-0.35 dBm	-30.35 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62000 GHz	-30.19 dBm	-20.19 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-29.72 dBm	-19.72 dB
2.625 GHz	2.630 GHz	1.000 MHz	2.62502 GHz	-30.45 dBm	-17.45 dB
2.630 GHz	2.645 GHz	1.000 MHz	2.63126 GHz	-35.52 dBm	-10.52 dB

Date: 19.OCT.2020 17:36:02

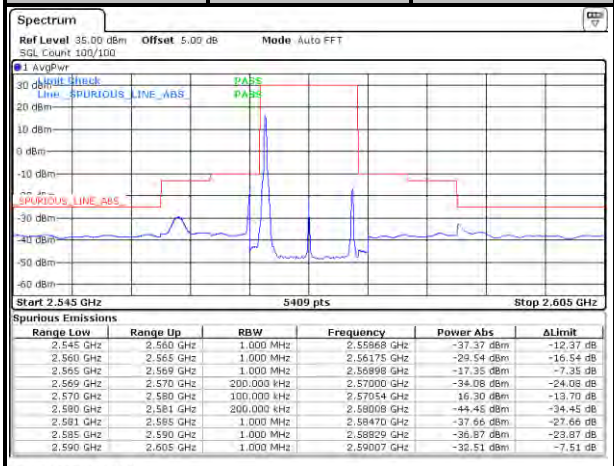
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 10MHz / 16QAM

CHANNEL	37800	1 RB

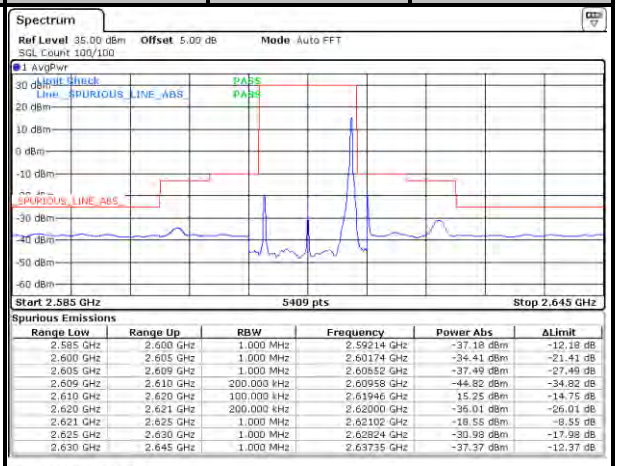


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.560 GHz	1.000 MHz	2.55868 GHz	-37.37 dBm	-12.37 dB
2.560 GHz	2.565 GHz	1.000 MHz	2.56175 GHz	-29.54 dBm	-16.54 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-17.35 dBm	-7.35 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-34.08 dBm	-24.08 dB
2.570 GHz	2.580 GHz	100.000 kHz	2.57054 GHz	16.30 dBm	-13.70 dB
2.580 GHz	2.581 GHz	200.000 kHz	2.58008 GHz	-44.45 dBm	-34.45 dB
2.581 GHz	2.585 GHz	1.000 MHz	2.58470 GHz	-37.66 dBm	-27.66 dB
2.585 GHz	2.590 GHz	1.000 MHz	2.58829 GHz	-36.87 dBm	-23.87 dB
2.590 GHz	2.605 GHz	1.000 MHz	2.59007 GHz	-32.51 dBm	-7.51 dB

Date: 19.OCT.2020 17:32:50

CHANNEL	38200	1 RB

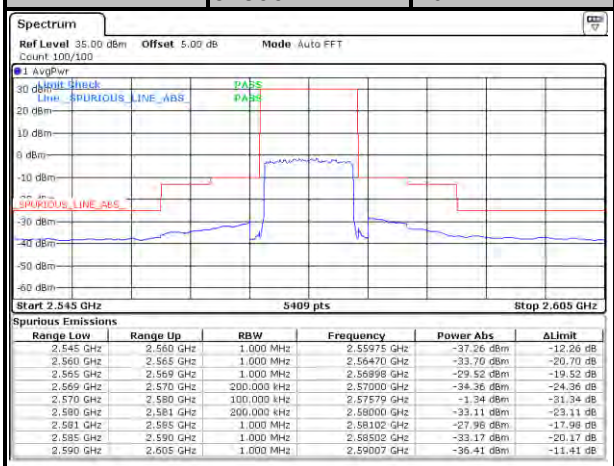


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.585 GHz	2.600 GHz	1.000 MHz	2.59214 GHz	-37.18 dBm	-12.18 dB
2.600 GHz	2.605 GHz	1.000 MHz	2.60174 GHz	-34.41 dBm	-21.41 dB
2.605 GHz	2.609 GHz	1.000 MHz	2.60652 GHz	-37.49 dBm	-27.49 dB
2.609 GHz	2.610 GHz	200.000 kHz	2.60958 GHz	-44.82 dBm	-34.82 dB
2.610 GHz	2.620 GHz	100.000 kHz	2.61946 GHz	15.25 dBm	-14.75 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62000 GHz	-36.01 dBm	-26.01 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-18.55 dBm	-8.55 dB
2.625 GHz	2.630 GHz	1.000 MHz	2.62824 GHz	-30.98 dBm	-17.98 dB
2.630 GHz	2.645 GHz	1.000 MHz	2.63735 GHz	-37.37 dBm	-12.37 dB

Date: 19.OCT.2020 17:37:05

CHANNEL	37800	Full RB



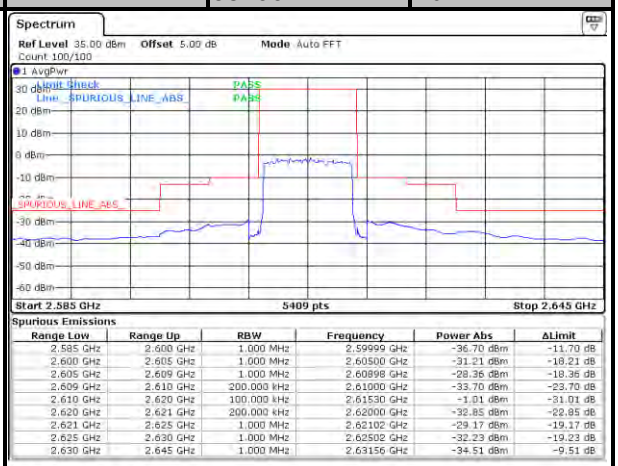
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.545 GHz	2.560 GHz	1.000 MHz	2.55975 GHz	-37.26 dBm	-12.26 dB
2.560 GHz	2.565 GHz	1.000 MHz	2.56470 GHz	-33.70 dBm	-20.70 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-29.52 dBm	-19.52 dB
2.569 GHz	2.570 GHz	200.000 kHz	2.57000 GHz	-34.36 dBm	-24.36 dB
2.570 GHz	2.580 GHz	100.000 kHz	2.57579 GHz	-1.34 dBm	-21.34 dB
2.580 GHz	2.581 GHz	200.000 kHz	2.58000 GHz	-33.11 dBm	-23.11 dB
2.581 GHz	2.585 GHz	1.000 MHz	2.58102 GHz	-27.98 dBm	-17.98 dB
2.585 GHz	2.590 GHz	1.000 MHz	2.58502 GHz	-33.17 dBm	-20.17 dB
2.590 GHz	2.605 GHz	1.000 MHz	2.59007 GHz	-36.41 dBm	-11.41 dB

Date: 19.OCT.2020 17:34:10

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

CHANNEL	38200	Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.585 GHz	2.600 GHz	1.000 MHz	2.59999 GHz	-36.70 dBm	-11.70 dB
2.600 GHz	2.605 GHz	1.000 MHz	2.60500 GHz	-31.21 dBm	-18.21 dB
2.605 GHz	2.609 GHz	1.000 MHz	2.60898 GHz	-28.36 dBm	-18.36 dB
2.609 GHz	2.610 GHz	200.000 kHz	2.61000 GHz	-33.70 dBm	-23.70 dB
2.610 GHz	2.620 GHz	100.000 kHz	2.61530 GHz	-1.01 dBm	-31.01 dB
2.620 GHz	2.621 GHz	200.000 kHz	2.62000 GHz	-32.85 dBm	-22.85 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-29.17 dBm	-19.17 dB
2.625 GHz	2.630 GHz	1.000 MHz	2.62502 GHz	-32.23 dBm	-19.23 dB
2.630 GHz	2.645 GHz	1.000 MHz	2.63156 GHz	-34.51 dBm	-9.51 dB

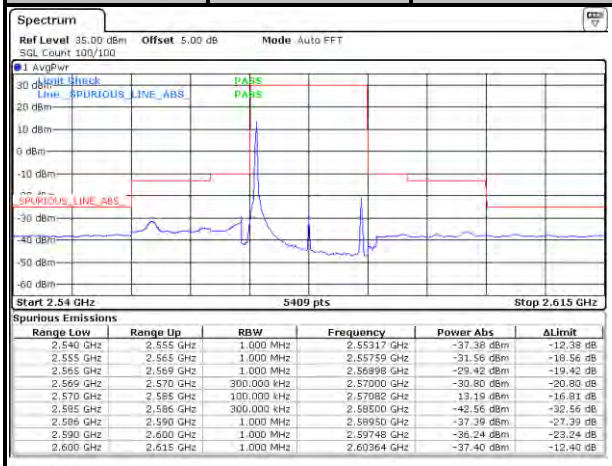
Date: 19.OCT.2020 17:35:09

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 15MHz / QPSK

CHANNEL	37825	1 RB

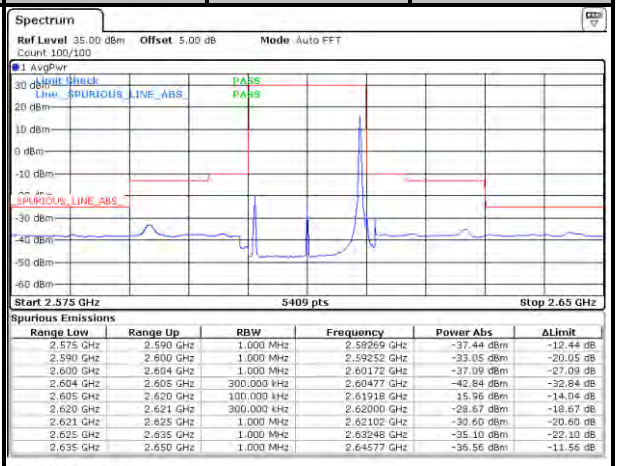


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.540 GHz	2.555 GHz	1.000 MHz	2.55317 GHz	-37.38 dBm	-12.38 dB
2.555 GHz	2.565 GHz	1.000 MHz	2.55759 GHz	-31.56 dBm	-18.56 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-29.42 dBm	-19.42 dB
2.569 GHz	2.570 GHz	300.000 kHz	2.57000 GHz	-30.80 dBm	-20.80 dB
2.570 GHz	2.585 GHz	100.000 kHz	2.57082 GHz	13.19 dBm	-16.81 dB
2.585 GHz	2.586 GHz	300.000 kHz	2.58500 GHz	-42.56 dBm	-32.56 dB
2.586 GHz	2.590 GHz	1.000 MHz	2.58950 GHz	-37.39 dBm	-27.39 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59748 GHz	-36.24 dBm	-23.24 dB
2.600 GHz	2.615 GHz	1.000 MHz	2.60364 GHz	-37.40 dBm	-12.40 dB

Date: 19.OCT.2020 17:28:10

CHANNEL	38175	1 RB

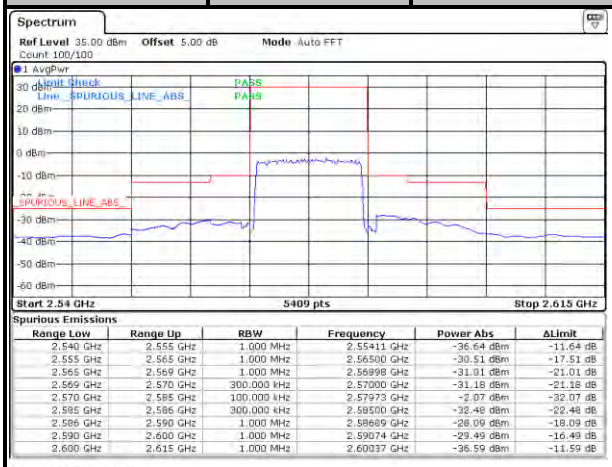


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.575 GHz	2.590 GHz	1.000 MHz	2.59269 GHz	-37.44 dBm	-12.44 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59252 GHz	-33.05 dBm	-20.05 dB
2.600 GHz	2.604 GHz	1.000 MHz	2.60172 GHz	-37.09 dBm	-27.09 dB
2.604 GHz	2.605 GHz	300.000 kHz	2.60477 GHz	-42.84 dBm	-32.84 dB
2.605 GHz	2.620 GHz	100.000 kHz	2.61918 GHz	15.96 dBm	-14.04 dB
2.620 GHz	2.621 GHz	300.000 kHz	2.62000 GHz	-28.67 dBm	-18.67 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-30.60 dBm	-20.60 dB
2.625 GHz	2.635 GHz	1.000 MHz	2.63248 GHz	-35.10 dBm	-22.10 dB
2.635 GHz	2.650 GHz	1.000 MHz	2.64577 GHz	-36.56 dBm	-11.56 dB

Date: 19.OCT.2020 17:28:51

CHANNEL	37825	Full RB

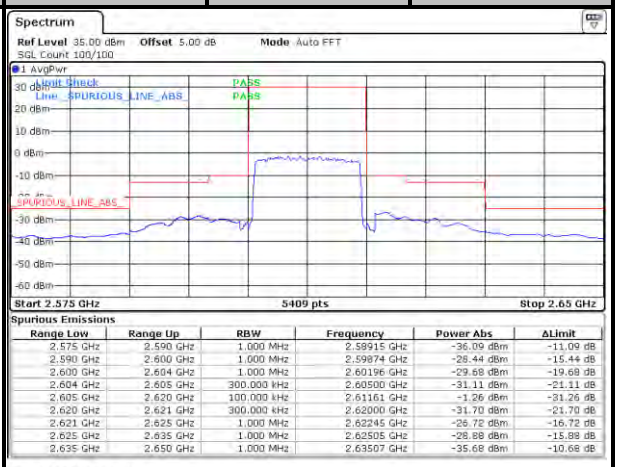


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.540 GHz	2.555 GHz	1.000 MHz	2.55411 GHz	-36.64 dBm	-11.64 dB
2.555 GHz	2.565 GHz	1.000 MHz	2.56500 GHz	-30.51 dBm	-17.51 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-31.01 dBm	-21.01 dB
2.569 GHz	2.570 GHz	300.000 kHz	2.57000 GHz	-31.18 dBm	-21.18 dB
2.570 GHz	2.585 GHz	100.000 kHz	2.57973 GHz	-2.07 dBm	-32.07 dB
2.585 GHz	2.586 GHz	300.000 kHz	2.58500 GHz	-32.48 dBm	-22.48 dB
2.586 GHz	2.590 GHz	1.000 MHz	2.58689 GHz	-28.09 dBm	-18.09 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59074 GHz	-29.49 dBm	-16.49 dB
2.600 GHz	2.615 GHz	1.000 MHz	2.60037 GHz	-36.59 dBm	-11.59 dB

Date: 19.OCT.2020 17:26:35

CHANNEL	38175	Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.575 GHz	2.590 GHz	1.000 MHz	2.58915 GHz	-36.09 dBm	-11.09 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59874 GHz	-28.44 dBm	-15.44 dB
2.600 GHz	2.604 GHz	1.000 MHz	2.60196 GHz	-29.68 dBm	-19.68 dB
2.604 GHz	2.605 GHz	300.000 kHz	2.60500 GHz	-31.11 dBm	-21.11 dB
2.605 GHz	2.620 GHz	100.000 kHz	2.61161 GHz	-1.26 dBm	-31.26 dB
2.620 GHz	2.621 GHz	300.000 kHz	2.62000 GHz	-31.70 dBm	-21.70 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62245 GHz	-26.72 dBm	-16.72 dB
2.625 GHz	2.635 GHz	1.000 MHz	2.62505 GHz	-28.88 dBm	-15.88 dB
2.635 GHz	2.650 GHz	1.000 MHz	2.63507 GHz	-35.68 dBm	-10.68 dB

Date: 19.OCT.2020 17:31:08

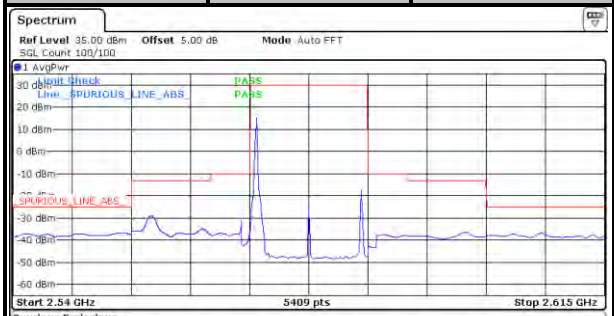
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 15MHz / 16QAM

CHANNEL	37825	1 RB

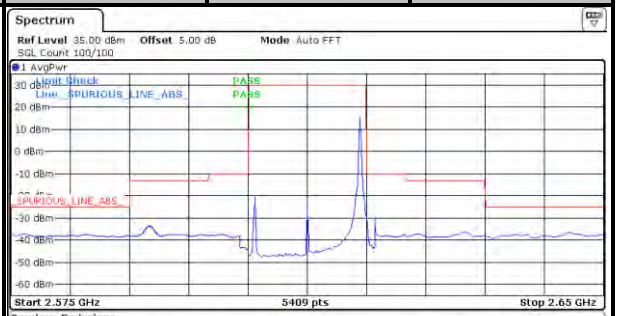


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.540 GHz	2.555 GHz	1.000 MHz	2.55405 GHz	-36.86 dBm	-11.86 dB
2.555 GHz	2.565 GHz	1.000 MHz	2.55752 GHz	-26.96 dBm	-15.96 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-30.94 dBm	-20.94 dB
2.569 GHz	2.570 GHz	300.000 kHz	2.57000 GHz	-36.32 dBm	-26.32 dB
2.570 GHz	2.585 GHz	100.000 kHz	2.57082 GHz	15.25 dBm	-14.75 dB
2.585 GHz	2.586 GHz	300.000 kHz	2.58500 GHz	-42.45 dBm	-32.45 dB
2.586 GHz	2.590 GHz	1.000 MHz	2.58689 GHz	-37.42 dBm	-27.42 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59738 GHz	-36.40 dBm	-23.40 dB
2.600 GHz	2.615 GHz	1.000 MHz	2.60705 GHz	-36.92 dBm	-11.92 dB

Date: 19.OCT.2020 17:27:44

CHANNEL	38175	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.575 GHz	2.590 GHz	1.000 MHz	2.57666 GHz	-37.25 dBm	-12.25 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59251 GHz	-33.61 dBm	-20.61 dB
2.600 GHz	2.604 GHz	1.000 MHz	2.60180 GHz	-37.43 dBm	-27.43 dB
2.604 GHz	2.605 GHz	300.000 kHz	2.60419 GHz	-43.21 dBm	-33.21 dB
2.605 GHz	2.620 GHz	100.000 kHz	2.61918 GHz	15.33 dBm	-14.67 dB
2.620 GHz	2.621 GHz	300.000 kHz	2.62000 GHz	-29.45 dBm	-19.45 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-30.51 dBm	-20.51 dB
2.625 GHz	2.635 GHz	1.000 MHz	2.63238 GHz	-36.30 dBm	-23.30 dB
2.635 GHz	2.650 GHz	1.000 MHz	2.64577 GHz	-36.58 dBm	-11.58 dB

Date: 19.OCT.2020 17:30:01

CHANNEL	37825	Full RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.540 GHz	2.555 GHz	1.000 MHz	2.55499 GHz	-37.30 dBm	-12.30 dB
2.555 GHz	2.565 GHz	1.000 MHz	2.56500 GHz	-32.59 dBm	-19.59 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56811 GHz	-31.54 dBm	-21.54 dB
2.569 GHz	2.570 GHz	300.000 kHz	2.57000 GHz	-35.35 dBm	-25.35 dB
2.570 GHz	2.585 GHz	100.000 kHz	2.57542 GHz	-3.07 dBm	-33.07 dB
2.585 GHz	2.586 GHz	300.000 kHz	2.58500 GHz	-34.08 dBm	-24.08 dB
2.586 GHz	2.590 GHz	1.000 MHz	2.58721 GHz	-30.80 dBm	-20.80 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.59025 GHz	-32.02 dBm	-19.02 dB
2.600 GHz	2.615 GHz	1.000 MHz	2.60007 GHz	-36.19 dBm	-11.19 dB

Date: 19.OCT.2020 17:27:20

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

CHANNEL	38175	Full RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.575 GHz	2.590 GHz	1.000 MHz	2.58918 GHz	-36.31 dBm	-11.31 dB
2.590 GHz	2.600 GHz	1.000 MHz	2.60000 GHz	-32.43 dBm	-19.43 dB
2.600 GHz	2.604 GHz	1.000 MHz	2.60398 GHz	-29.72 dBm	-19.72 dB
2.604 GHz	2.605 GHz	300.000 kHz	2.60500 GHz	-34.19 dBm	-24.19 dB
2.605 GHz	2.620 GHz	100.000 kHz	2.61488 GHz	-5.04 dBm	-35.04 dB
2.620 GHz	2.621 GHz	300.000 kHz	2.62000 GHz	-33.24 dBm	-23.24 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62197 GHz	-32.20 dBm	-22.20 dB
2.625 GHz	2.635 GHz	1.000 MHz	2.62505 GHz	-32.97 dBm	-19.97 dB
2.635 GHz	2.650 GHz	1.000 MHz	2.63522 GHz	-35.32 dBm	-10.32 dB

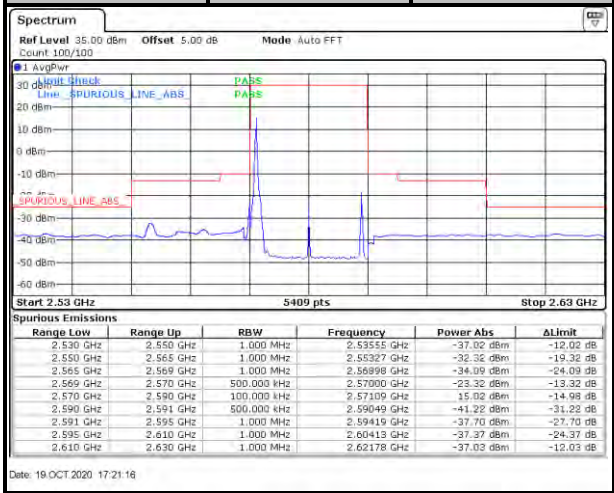
Date: 19.OCT.2020 17:30:48

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 20MHz / QPSK

CHANNEL	37850	1 RB

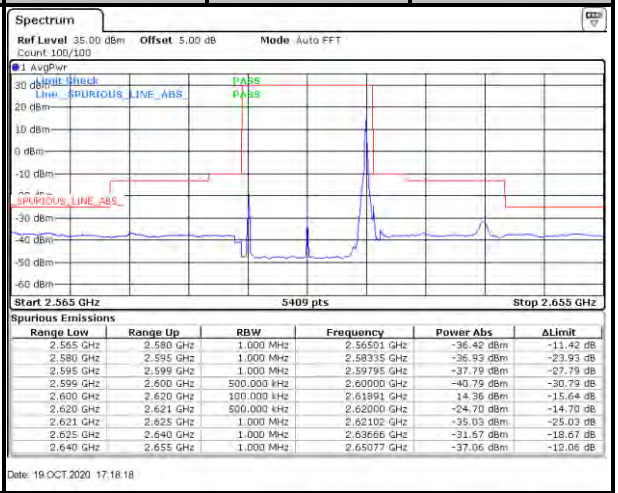


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.530 GHz	2.550 GHz	1.000 MHz	2.53555 GHz	-37.02 dBm	-12.02 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.55327 GHz	-32.32 dBm	-19.32 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-34.09 dBm	-24.09 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.57000 GHz	-23.32 dBm	-13.32 dB
2.570 GHz	2.590 GHz	100.000 kHz	2.57109 GHz	15.02 dBm	-14.98 dB
2.590 GHz	2.591 GHz	500.000 kHz	2.59049 GHz	-41.22 dBm	-31.22 dB
2.591 GHz	2.595 GHz	1.000 MHz	2.59419 GHz	-37.70 dBm	-27.70 dB
2.595 GHz	2.610 GHz	1.000 MHz	2.60413 GHz	-37.37 dBm	-24.37 dB
2.610 GHz	2.630 GHz	1.000 MHz	2.62178 GHz	-37.03 dBm	-12.03 dB

Date: 19.OCT.2020 17:21:16

CHANNEL	38150	1 RB

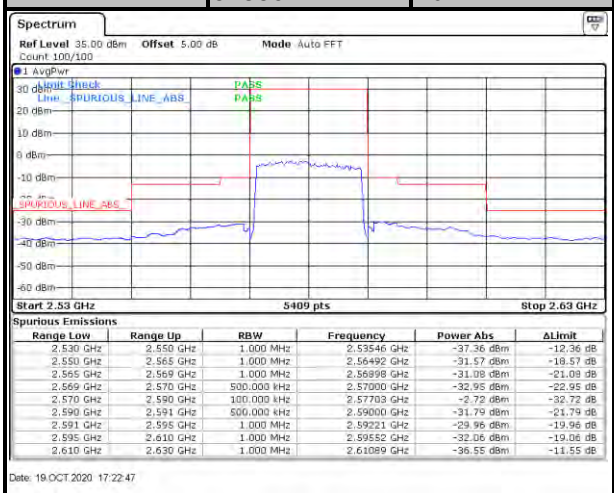


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.580 GHz	1.000 MHz	2.56501 GHz	-36.42 dBm	-11.42 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.58335 GHz	-36.93 dBm	-23.93 dB
2.595 GHz	2.599 GHz	1.000 MHz	2.59795 GHz	-37.79 dBm	-27.79 dB
2.599 GHz	2.600 GHz	500.000 kHz	2.60000 GHz	-40.79 dBm	-30.79 dB
2.600 GHz	2.620 GHz	100.000 kHz	2.61891 GHz	14.36 dBm	-15.64 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62000 GHz	-24.70 dBm	-14.70 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-35.03 dBm	-25.03 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.63666 GHz	-31.67 dBm	-18.67 dB
2.640 GHz	2.655 GHz	1.000 MHz	2.65077 GHz	-37.06 dBm	-12.06 dB

Date: 19.OCT.2020 17:18:18

CHANNEL	37850	Full RB

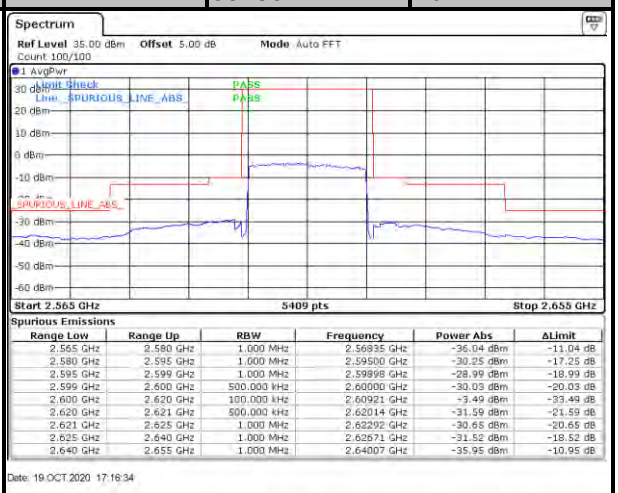


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.530 GHz	2.550 GHz	1.000 MHz	2.53546 GHz	-37.36 dBm	-12.36 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56492 GHz	-31.57 dBm	-18.57 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-31.08 dBm	-21.08 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.57000 GHz	-32.95 dBm	-22.95 dB
2.570 GHz	2.590 GHz	100.000 kHz	2.57703 GHz	-2.72 dBm	-32.72 dB
2.590 GHz	2.591 GHz	500.000 kHz	2.59000 GHz	-31.79 dBm	-21.79 dB
2.591 GHz	2.595 GHz	1.000 MHz	2.59221 GHz	-29.96 dBm	-19.96 dB
2.595 GHz	2.610 GHz	1.000 MHz	2.59552 GHz	-32.06 dBm	-19.06 dB
2.610 GHz	2.630 GHz	1.000 MHz	2.61089 GHz	-36.55 dBm	-11.55 dB

Date: 19.OCT.2020 17:22:47

CHANNEL	38150	Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.580 GHz	1.000 MHz	2.56835 GHz	-36.04 dBm	-11.04 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.59500 GHz	-30.25 dBm	-17.25 dB
2.595 GHz	2.599 GHz	1.000 MHz	2.59898 GHz	-28.99 dBm	-18.99 dB
2.599 GHz	2.600 GHz	500.000 kHz	2.60000 GHz	-30.03 dBm	-20.03 dB
2.600 GHz	2.620 GHz	100.000 kHz	2.60921 GHz	-3.49 dBm	-33.49 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62014 GHz	-31.59 dBm	-21.59 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62292 GHz	-30.65 dBm	-20.65 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.62671 GHz	-31.52 dBm	-18.52 dB
2.640 GHz	2.655 GHz	1.000 MHz	2.64007 GHz	-35.95 dBm	-10.95 dB

Date: 19.OCT.2020 17:16:34

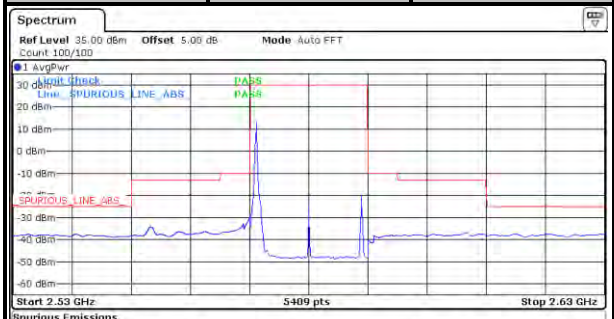
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

LTE BAND 38

Channel Bandwidth: 20MHz /16QAM

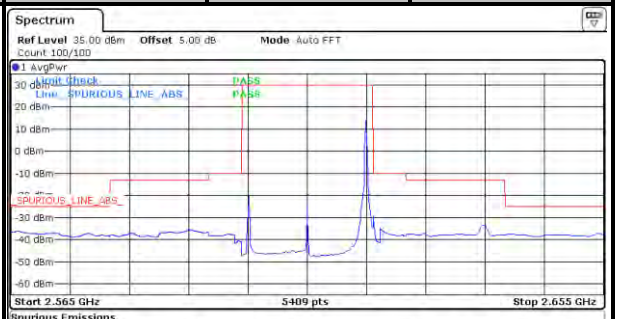
CHANNEL	37850	1 RB	CHANNEL	38150	1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.530 GHz	2.550 GHz	1.000 MHz	2.54066 GHz	-37.59 dBm	-12.59 dB
2.550 GHz	2.555 GHz	1.000 MHz	2.55329 GHz	-34.30 dBm	-21.30 dB
2.555 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-32.78 dBm	-22.78 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.57000 GHz	-29.46 dBm	-19.46 dB
2.570 GHz	2.590 GHz	100.000 kHz	2.57109 GHz	12.96 dBm	-17.04 dB
2.590 GHz	2.591 GHz	500.000 kHz	2.59000 GHz	-40.73 dBm	-30.73 dB
2.591 GHz	2.595 GHz	1.000 MHz	2.59498 GHz	-37.85 dBm	-27.85 dB
2.595 GHz	2.610 GHz	1.000 MHz	2.60651 GHz	-36.73 dBm	-23.73 dB
2.610 GHz	2.630 GHz	1.000 MHz	2.61505 GHz	-37.50 dBm	-12.50 dB

Date: 19.OCT.2020 17:21:45



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.580 GHz	1.000 MHz	2.56606 GHz	-36.24 dBm	-11.24 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.59219 GHz	-35.56 dBm	-22.56 dB
2.595 GHz	2.599 GHz	1.000 MHz	2.59795 GHz	-37.69 dBm	-27.69 dB
2.599 GHz	2.600 GHz	500.000 kHz	2.59957 GHz	-40.70 dBm	-30.70 dB
2.600 GHz	2.620 GHz	100.000 kHz	2.61891 GHz	13.86 dBm	-16.14 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62000 GHz	-29.50 dBm	-19.50 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62102 GHz	-34.94 dBm	-24.94 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.63681 GHz	-33.41 dBm	-20.41 dB
2.640 GHz	2.655 GHz	1.000 MHz	2.65418 GHz	-37.15 dBm	-12.15 dB

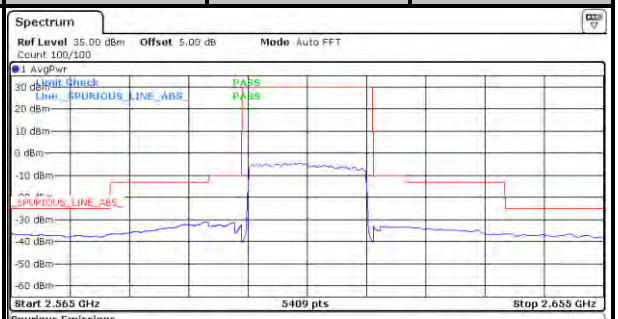
Date: 19.OCT.2020 17:17:55

CHANNEL	37850	Full RB	CHANNEL	38150	Full RB

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.530 GHz	2.550 GHz	1.000 MHz	2.54822 GHz	-36.84 dBm	-11.84 dB
2.550 GHz	2.565 GHz	1.000 MHz	2.56500 GHz	-34.52 dBm	-21.52 dB
2.565 GHz	2.569 GHz	1.000 MHz	2.56898 GHz	-32.52 dBm	-22.52 dB
2.569 GHz	2.570 GHz	500.000 kHz	2.57000 GHz	-34.52 dBm	-24.52 dB
2.570 GHz	2.590 GHz	100.000 kHz	2.57861 GHz	-4.31 dBm	-34.31 dB
2.590 GHz	2.591 GHz	500.000 kHz	2.59000 GHz	-34.53 dBm	-24.53 dB
2.591 GHz	2.595 GHz	1.000 MHz	2.59102 GHz	-30.95 dBm	-20.95 dB
2.595 GHz	2.610 GHz	1.000 MHz	2.59507 GHz	-33.53 dBm	-20.53 dB
2.610 GHz	2.630 GHz	1.000 MHz	2.61010 GHz	-36.86 dBm	-11.86 dB

Date: 19.OCT.2020 17:22:12



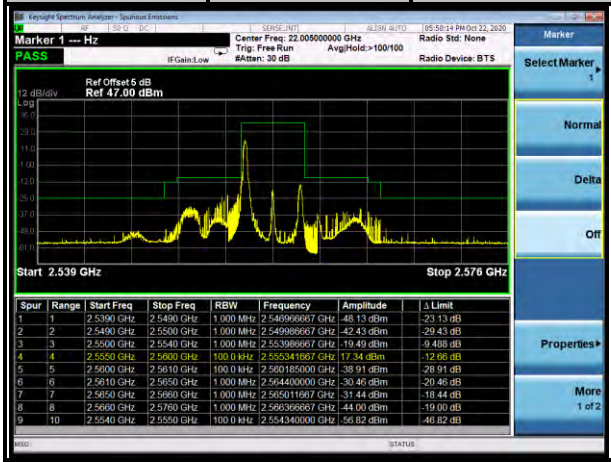
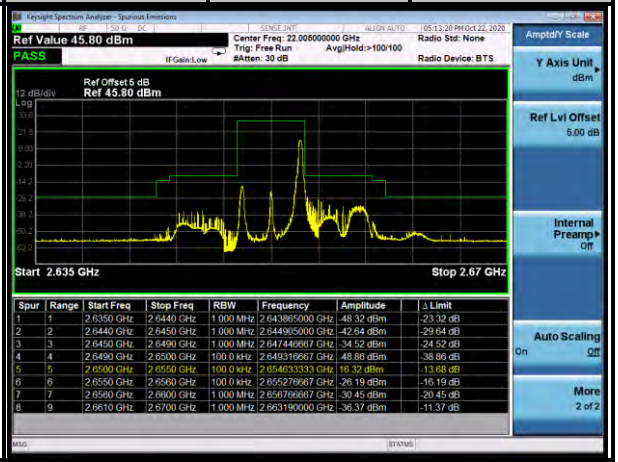
Spurious Emissions

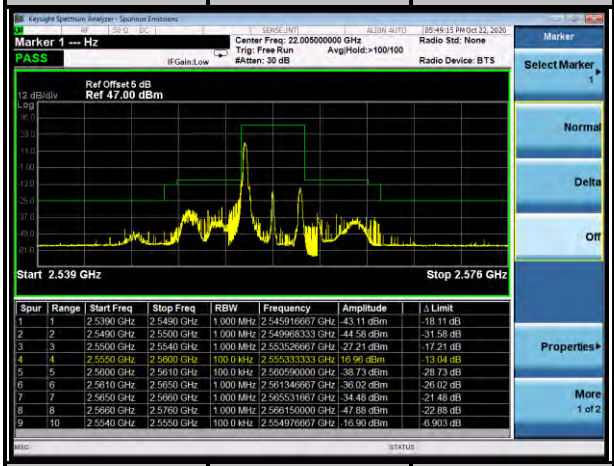
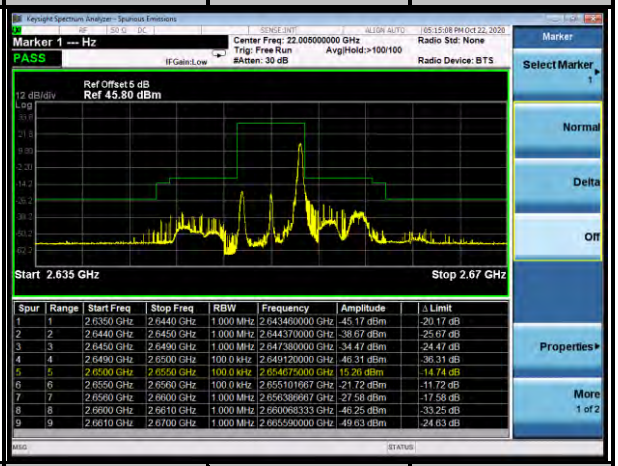
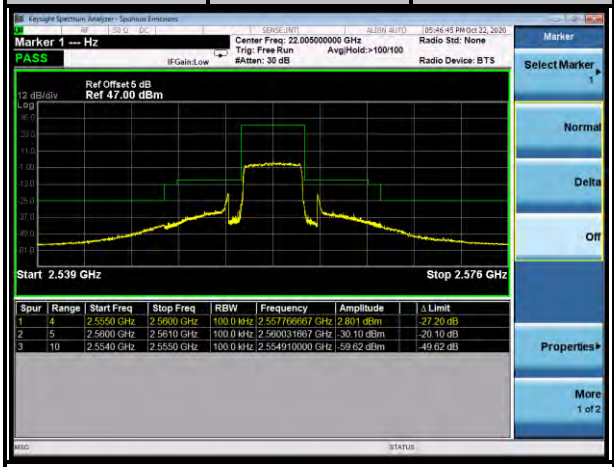
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.565 GHz	2.580 GHz	1.000 MHz	2.56501 GHz	-36.30 dBm	-11.30 dB
2.580 GHz	2.595 GHz	1.000 MHz	2.59474 GHz	-31.04 dBm	-18.04 dB
2.595 GHz	2.599 GHz	1.000 MHz	2.59898 GHz	-31.45 dBm	-21.45 dB
2.599 GHz	2.600 GHz	500.000 kHz	2.60000 GHz	-32.59 dBm	-22.59 dB
2.600 GHz	2.620 GHz	100.000 kHz	2.60762 GHz	-4.20 dBm	-34.20 dB
2.620 GHz	2.621 GHz	500.000 kHz	2.62000 GHz	-33.08 dBm	-23.08 dB
2.621 GHz	2.625 GHz	1.000 MHz	2.62130 GHz	-33.04 dBm	-23.04 dB
2.625 GHz	2.640 GHz	1.000 MHz	2.62522 GHz	-33.41 dBm	-20.41 dB
2.640 GHz	2.655 GHz	1.000 MHz	2.64007 GHz	-36.51 dBm	-11.51 dB

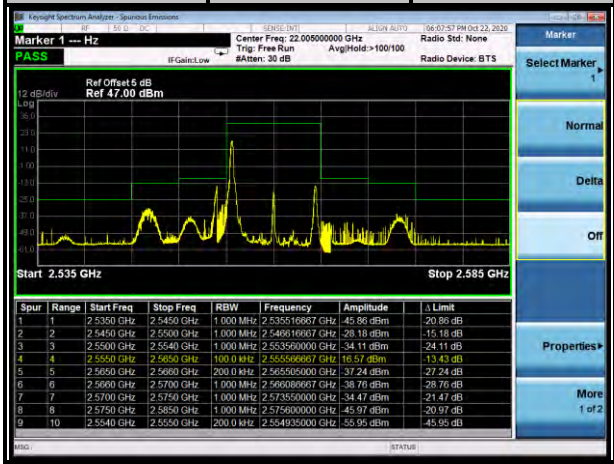
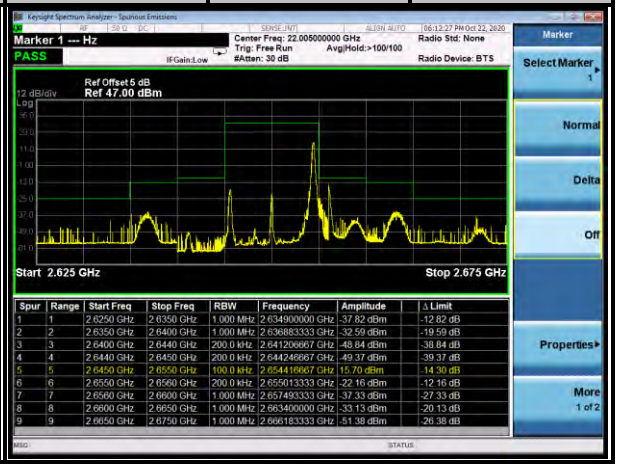
Date: 19.OCT.2020 17:17:23

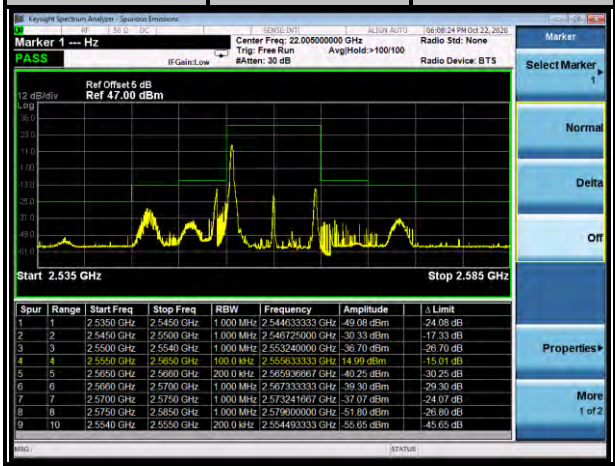
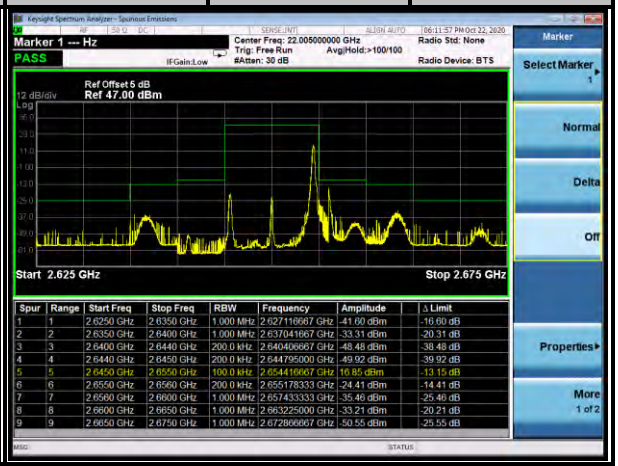
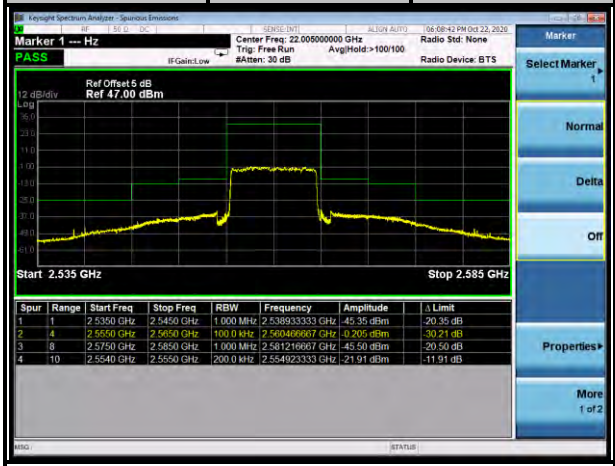
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

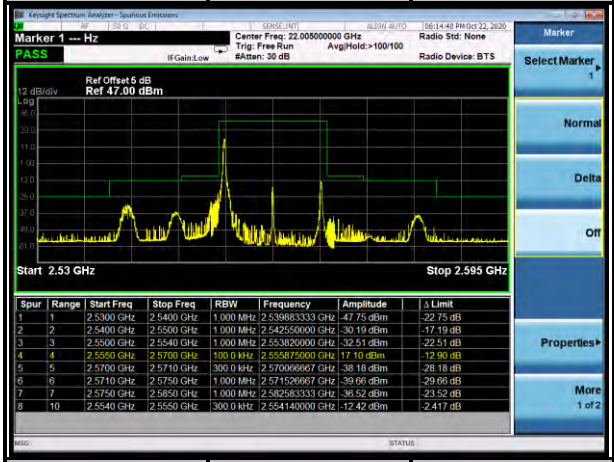
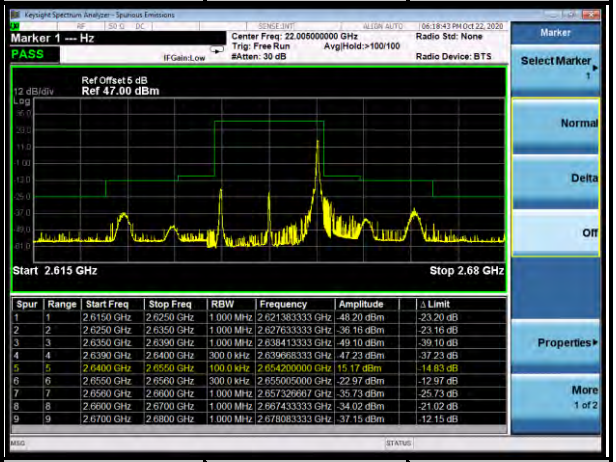
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

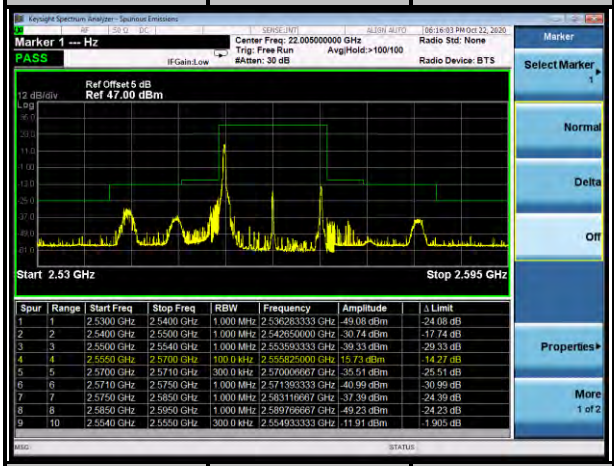
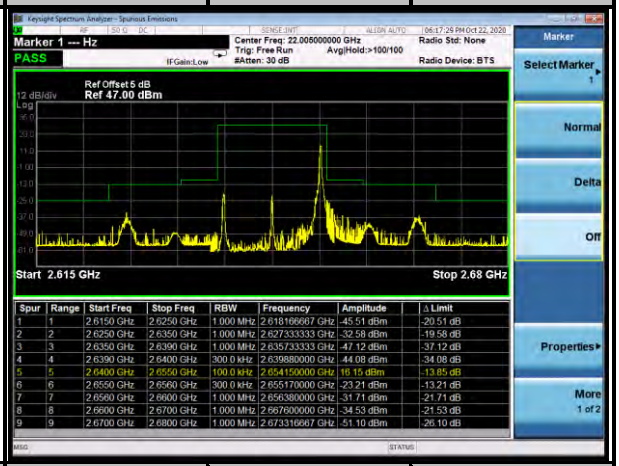
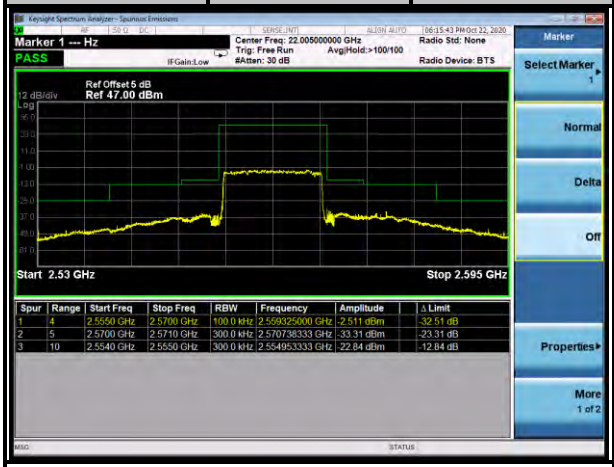
LTE BAND 41					
Channel Bandwidth: 5MHz / QPSK					
CHANNEL	40265	1 RB	CHANNEL	41215	1 RB
					
CHANNEL	40265	Full RB	CHANNEL	41215	Full RB
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

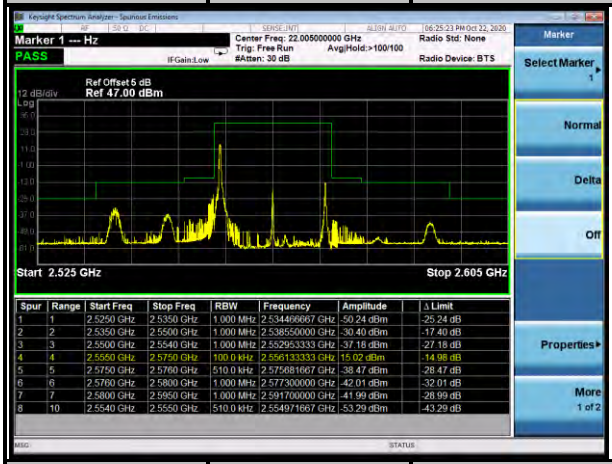
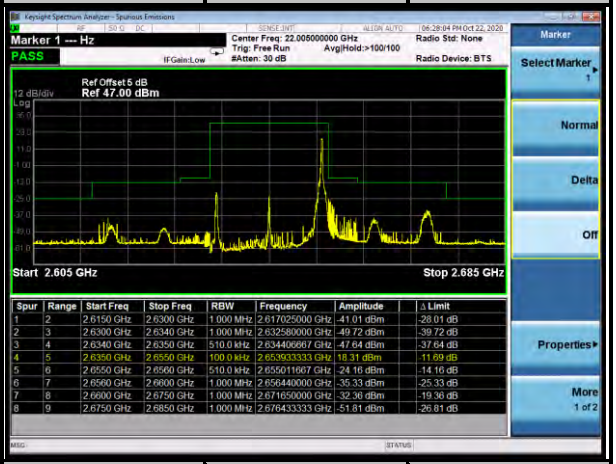
LTE BAND 41					
Channel Bandwidth: 5MHz / 16QAM					
CHANNEL	40265	1 RB	CHANNEL	41215	1 RB
					
CHANNEL	40265	Full RB	CHANNEL	41215	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

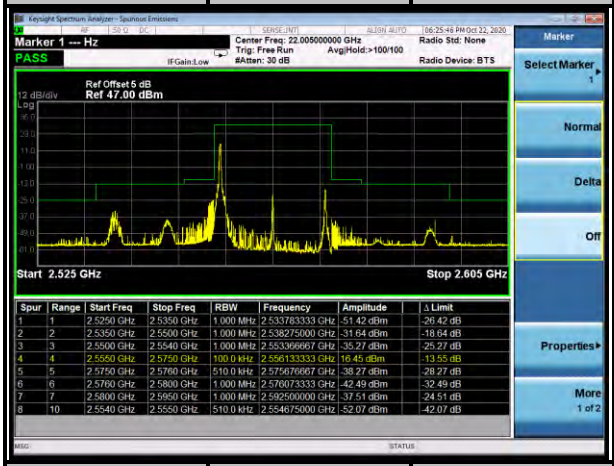
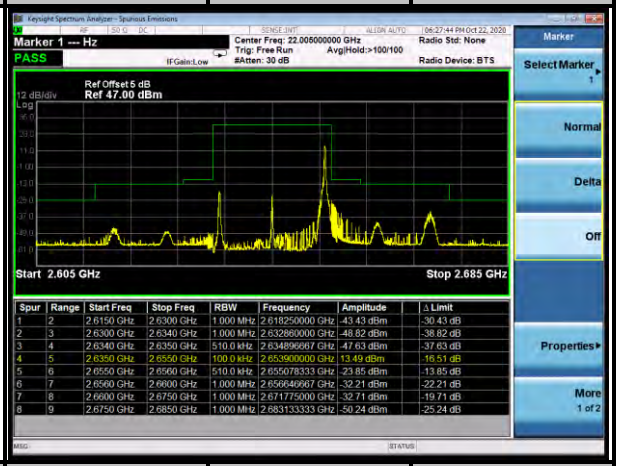
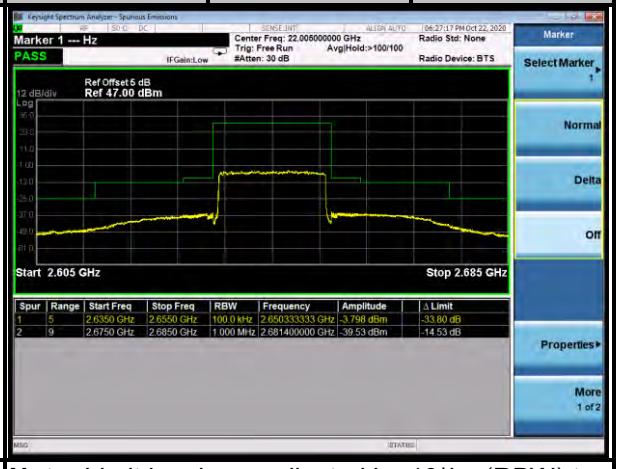
LTE BAND 41					
Channel Bandwidth: 10MHz / QPSK					
CHANNEL	40209	1 RB	CHANNEL	41190	1 RB
					
CHANNEL	40209	Full RB	CHANNEL	41190	Full RB
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 38					
Channel Bandwidth: 10MHz / 16QAM					
CHANNEL	40209	1 RB	CHANNEL	41190	1 RB
					
CHANNEL	40209	Full RB	CHANNEL	41190	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 41					
Channel Bandwidth: 15MHz / QPSK					
CHANNEL	40315	1 RB	CHANNEL	41165	1 RB
					
CHANNEL	40315	Full RB	CHANNEL	41165	Full RB
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 41					
Channel Bandwidth: 15MHz / 16QAM					
CHANNEL	40315	1 RB	CHANNEL	41165	1 RB
					
CHANNEL	40315	Full RB	CHANNEL	41165	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 41					
Channel Bandwidth: 20MHz / QPSK					
CHANNEL	40340	1 RB	CHANNEL	41140	1 RB
					
CHANNEL	40340	Full RB	CHANNEL	41140	Full RB
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 41					
Channel Bandwidth: 20MHz /16QAM					
CHANNEL	40340	1 RB	CHANNEL	41140	1 RB
					
CHANNEL	40340	Full RB	CHANNEL	41140	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

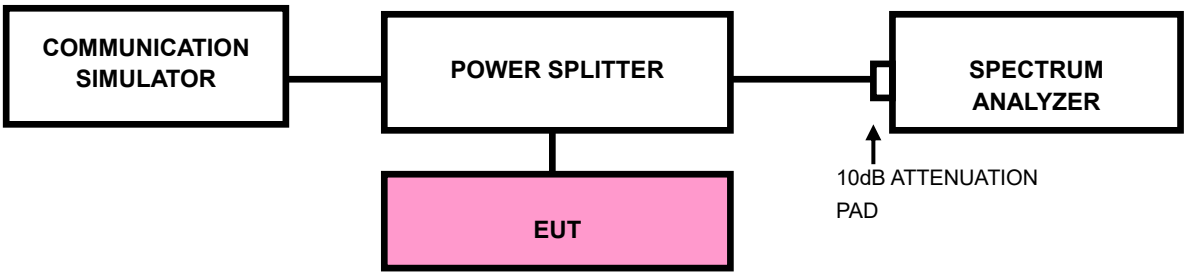
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

3.5.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

b. Measuring frequency range is from 30MHz~27GHz for LTE Band 7 & 30MHz~26.2GHz for LTE Band 38, 30MHz~27GHz for LTE Band 41. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

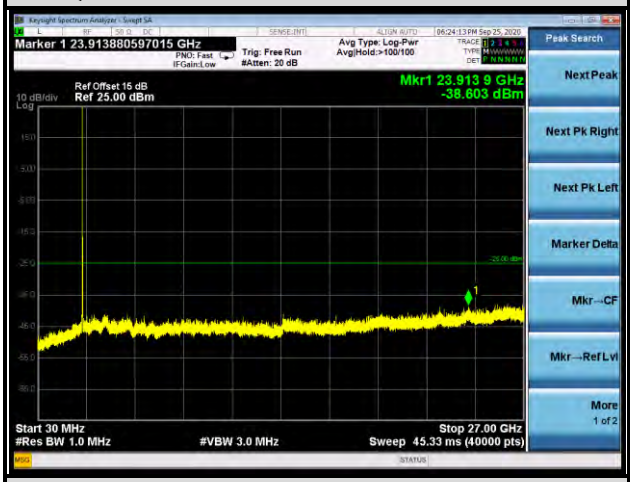
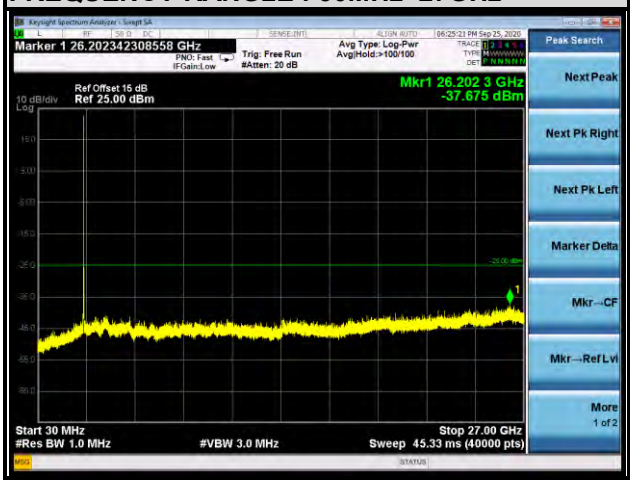
3.5.3 TEST SETUP



3.5.4 TEST RESULTS

LTE BAND 7

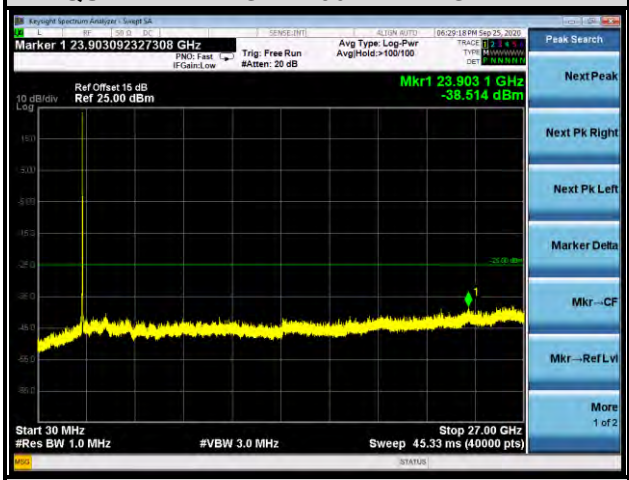
5MHz / QPSK

CHANNEL 20775	CHANNEL 21100
FREQUENCY RANG2E : 30MHz~27GHz	FREQUENCY RANG2E : 30MHz~27GHz
	
CHANNEL 21425	
FREQUENCY RANG2E : 30MHz~27GHz	
	

10MHz / QPSK

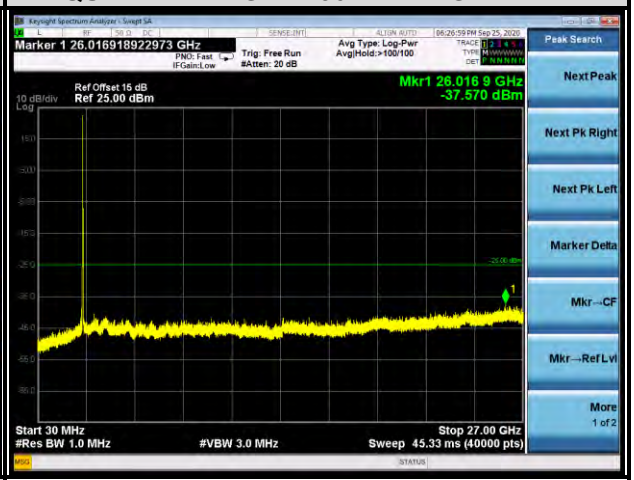
CHANNEL 20800

FREQUENCY RANG2E : 30MHz~27GHz



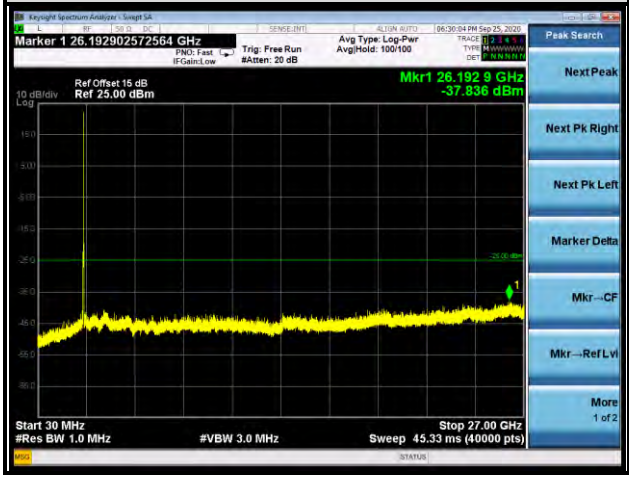
CHANNEL 21100

FREQUENCY RANG2E : 30MHz~27GHz



CHANNEL 21400

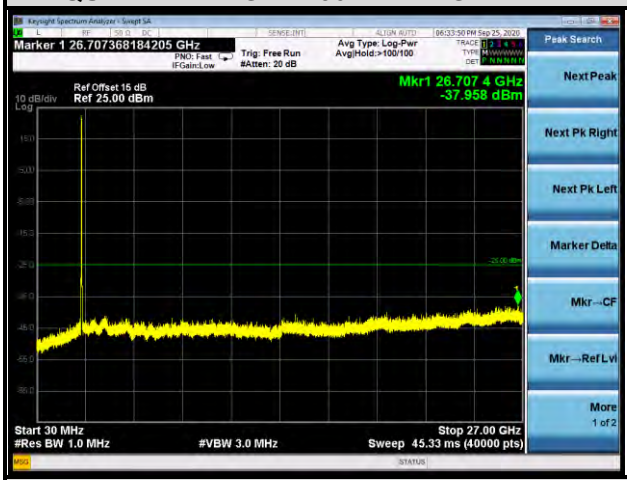
FREQUENCY RANG2E : 30MHz~27GHz



15MHz / QPSK

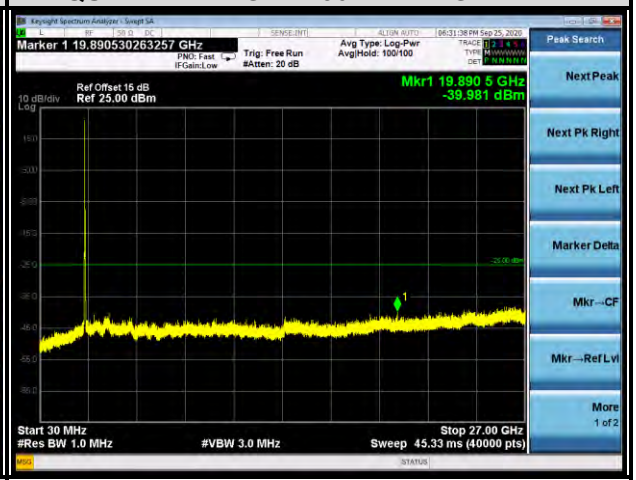
CHANNEL 20825

FREQUENCY RANG2E : 30MHz~27GHz



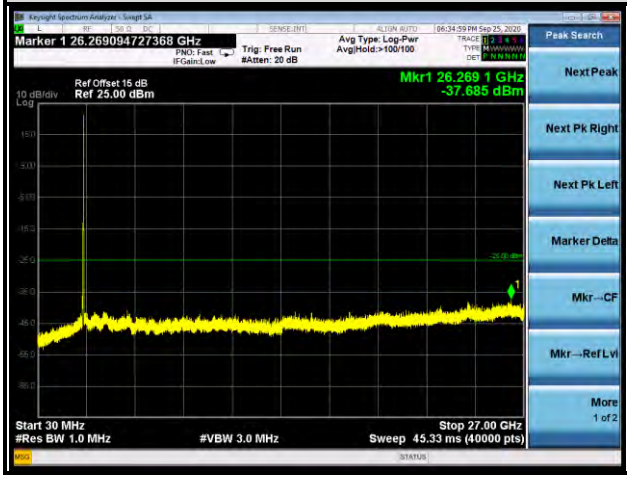
CHANNEL 21100

FREQUENCY RANG2E : 30MHz~27GHz



CHANNEL 21375

FREQUENCY RANG2E : 30MHz~27GHz



20MHz / QPSK

CHANNEL 20850

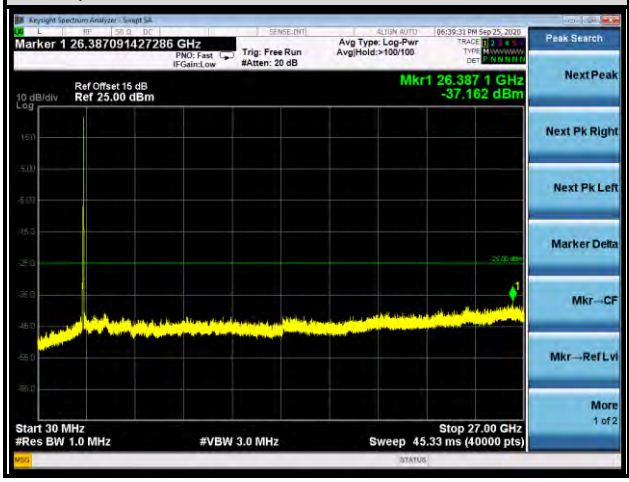
FREQUENCY RANG2E : 30MHz~27GHz

CHANNEL 21100

FREQUENCY RANG2E : 30MHz~27GHz

CHANNEL 21350

FREQUENCY RANG2E : 30MHz~27GHz

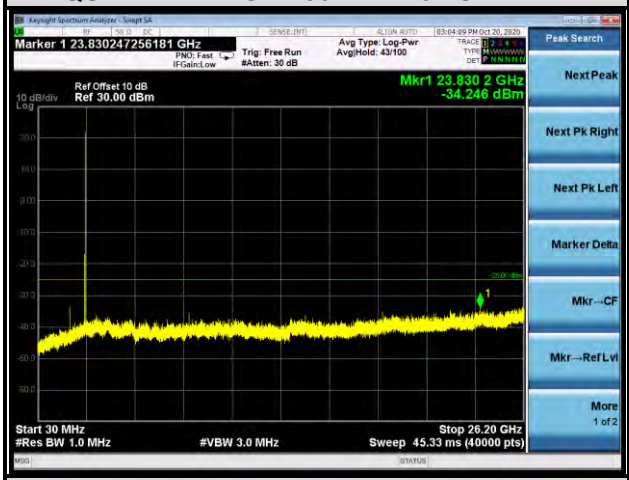


LTE BAND 38

5MHz / QPSK

CHANNEL 37775

FREQUENCY RANGE : 30MHz~26.2GHz



CHANNEL 38000

FREQUENCY RANGE : 30MHz~26.2GHz

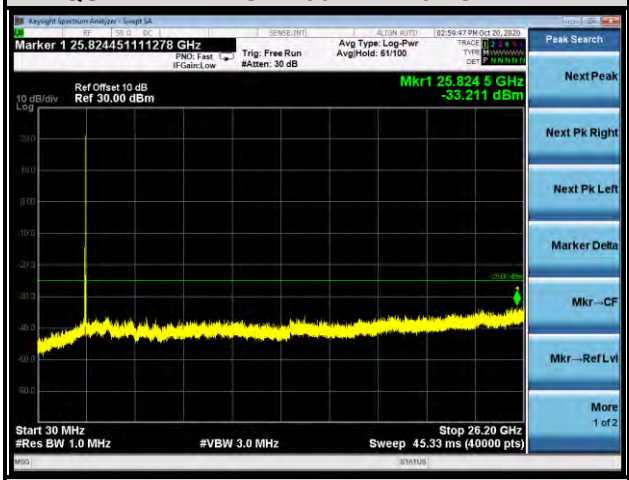
CHANNEL 38225

FREQUENCY RANGE : 30MHz~26.2GHz

10MHz / QPSK

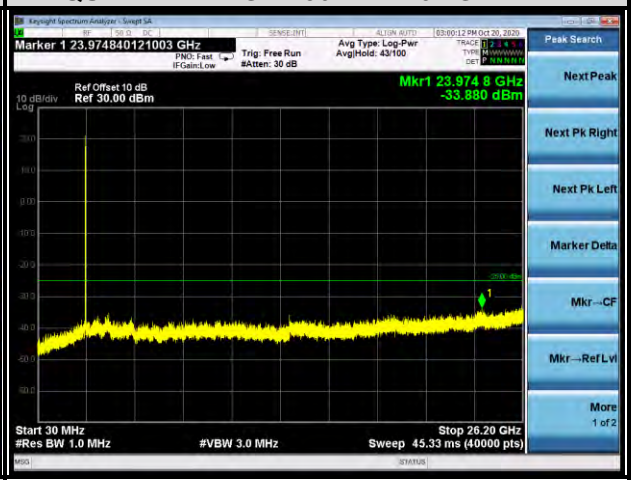
CHANNEL 37800

FREQUENCY RANGE : 30MHz~26.2GHz



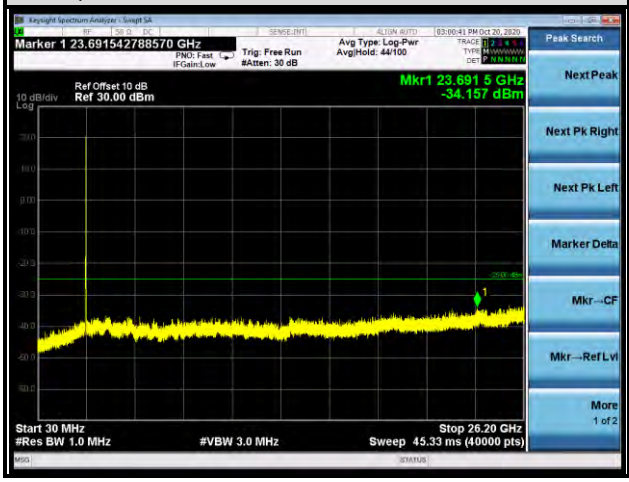
CHANNEL 38000

FREQUENCY RANGE : 30MHz~26.2GHz



CHANNEL 38200

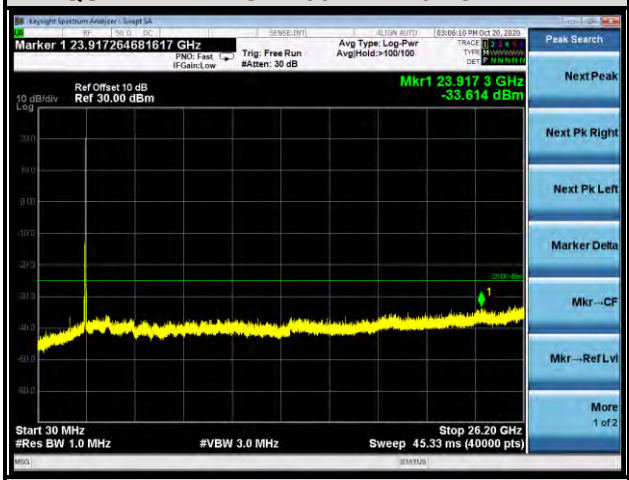
FREQUENCY RANGE : 30MHz~26.2GHz



15MHz / QPSK

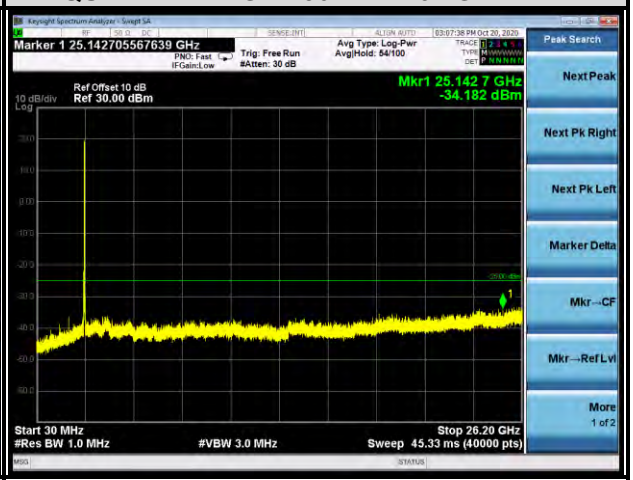
CHANNEL 37825

FREQUENCY RANGE : 30MHz~26.2GHz



CHANNEL 38000

FREQUENCY RANGE : 30MHz~26.2GHz



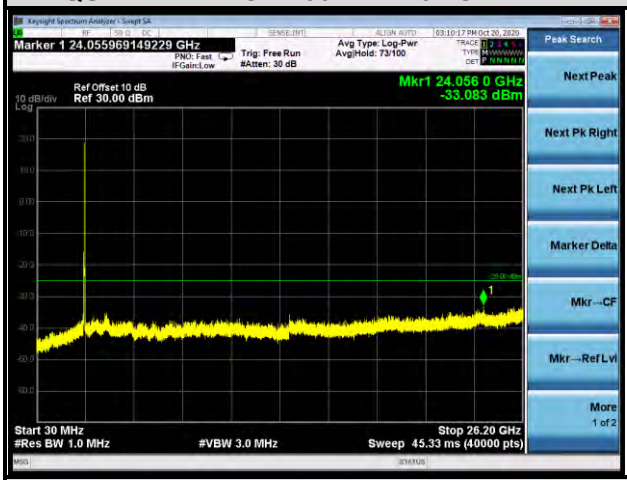
CHANNEL 38175

FREQUENCY RANGE : 30MHz~26.2GHz

20MHz / QPSK

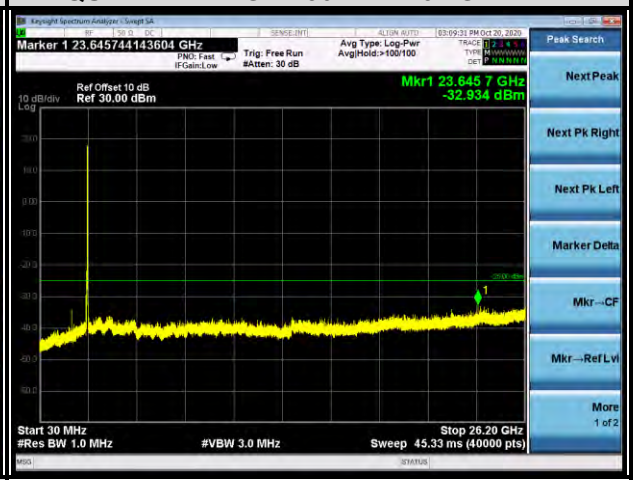
CHANNEL 37850

FREQUENCY RANGE : 30MHz~26.2GHz



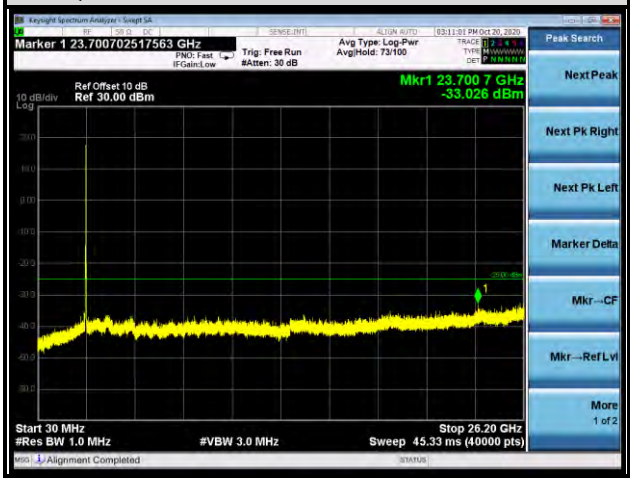
CHANNEL 38000

FREQUENCY RANGE : 30MHz~26.2GHz



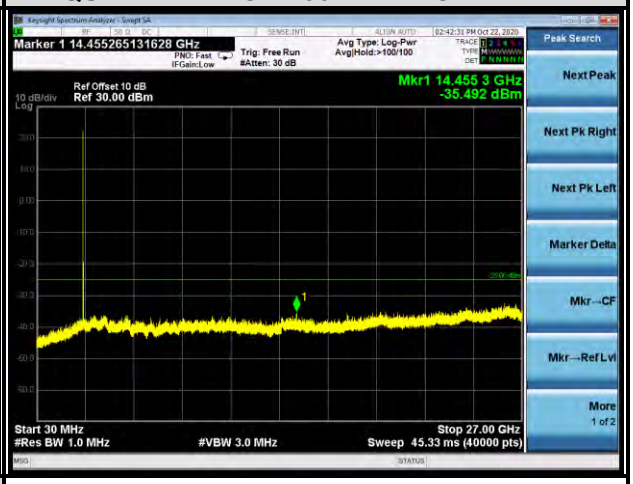
CHANNEL 38150

FREQUENCY RANGE : 30MHz~26.2GHz



LTE BAND 41

5MHz / QPSK

CHANNEL 40265	CHANNEL 40740
FREQUENCY RANGE : 30MHz~27GHz	FREQUENCY RANGE : 30MHz~27GHz
	
CHANNEL 41215	
FREQUENCY RANGE : 30MHz~27GHz	

10MHz / QPSK

CHANNEL 40290

FREQUENCY RANGE : 30MHz~27GHz

CHANNEL 40740

FREQUENCY RANGE : 30MHz~27GHz

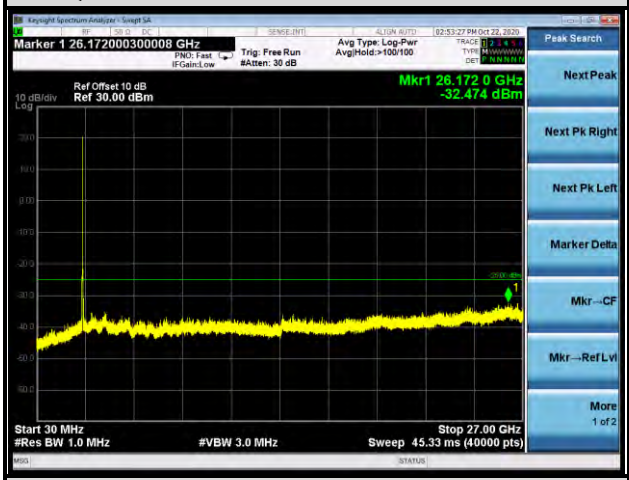
CHANNEL 41190

FREQUENCY RANGE : 30MHz~27GHz

15MHz / QPSK

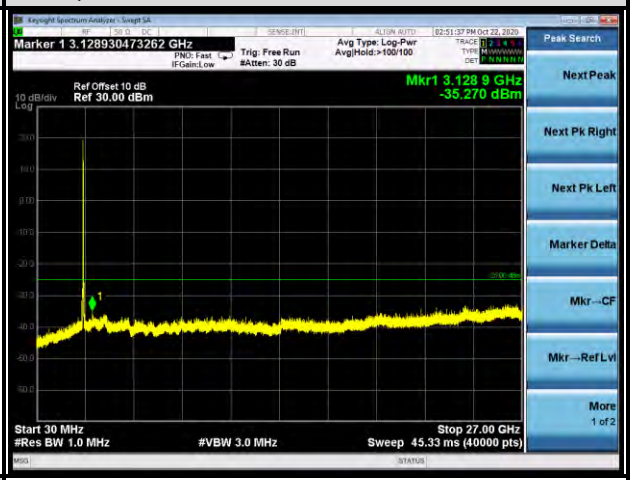
CHANNEL 40315

FREQUENCY RANGE : 30MHz~27GHz



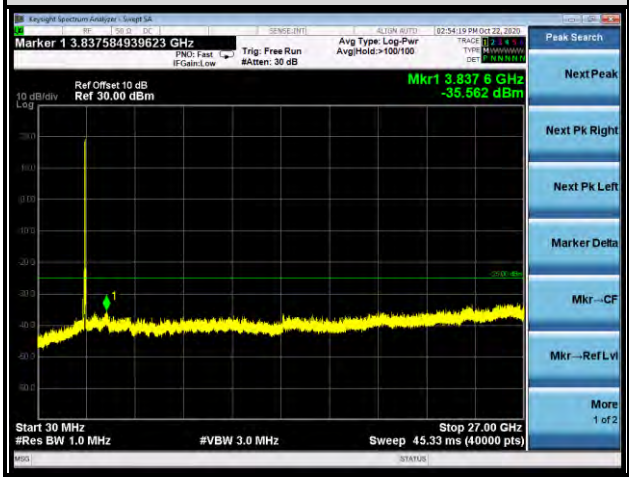
CHANNEL 40740

FREQUENCY RANGE : 30MHz~27GHz



CHANNEL 41165

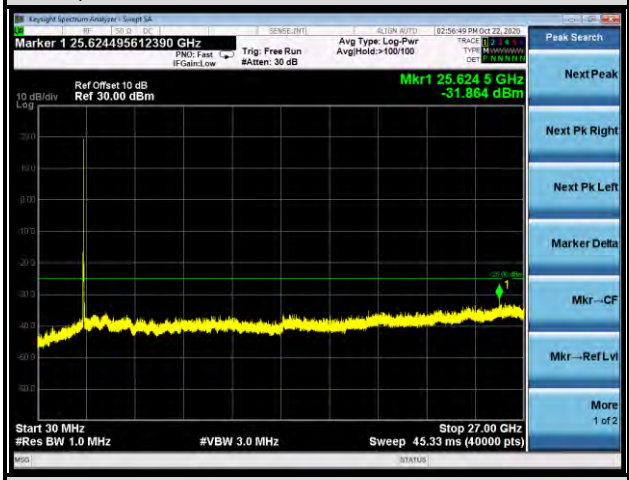
FREQUENCY RANGE : 30MHz~27GHz



20MHz / QPSK

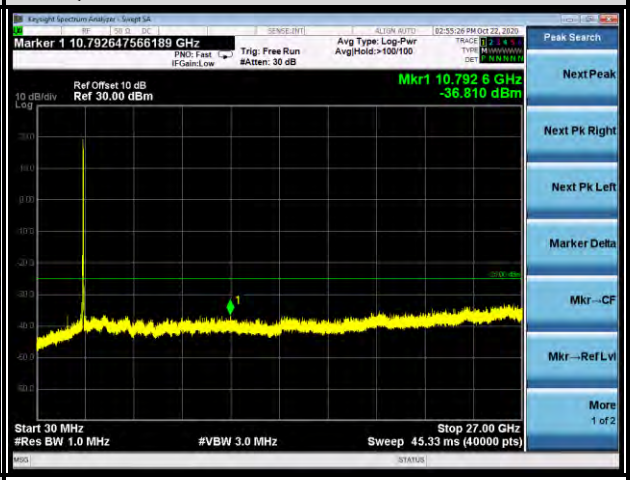
CHANNEL 40340

FREQUENCY RANGE : 30MHz~27GHz



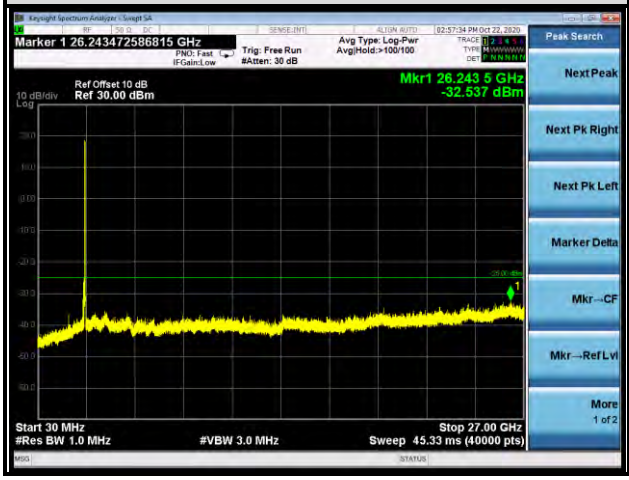
CHANNEL 40740

FREQUENCY RANGE : 30MHz~27GHz



CHANNEL 41140

FREQUENCY RANGE : 30MHz~27GHz



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. 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.
b. 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.
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

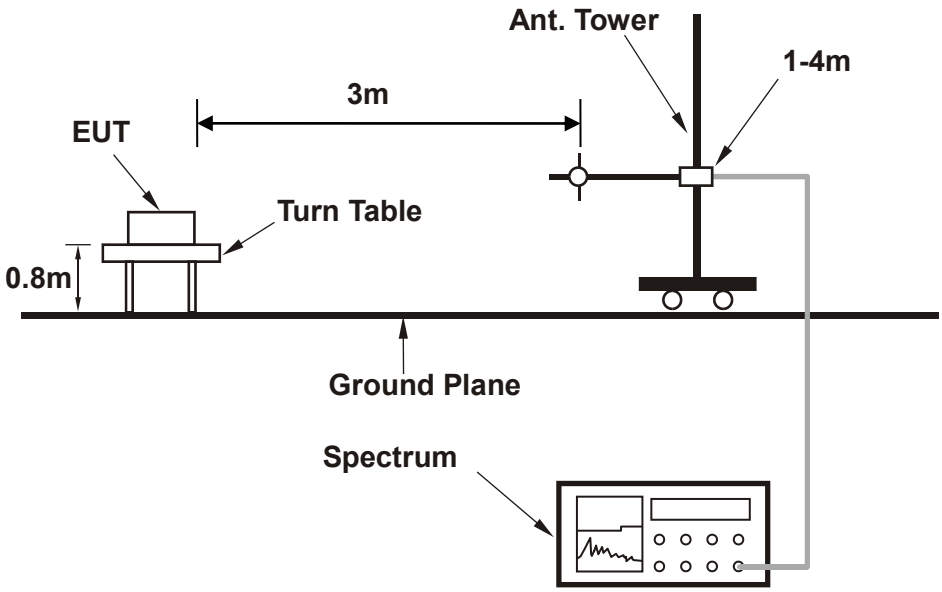
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

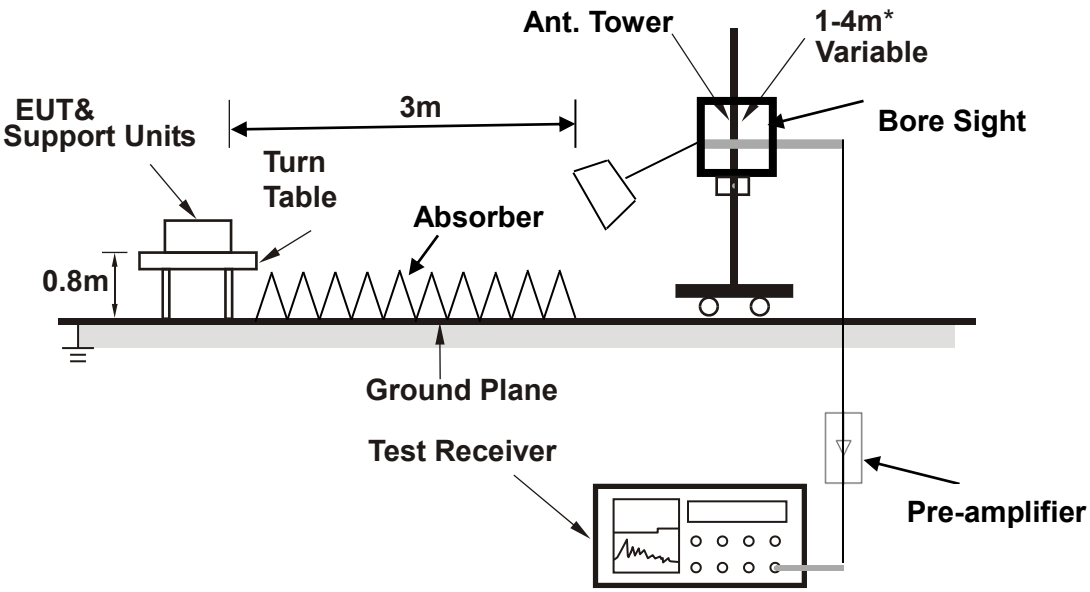
No deviation

3.6.4 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.6.5 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

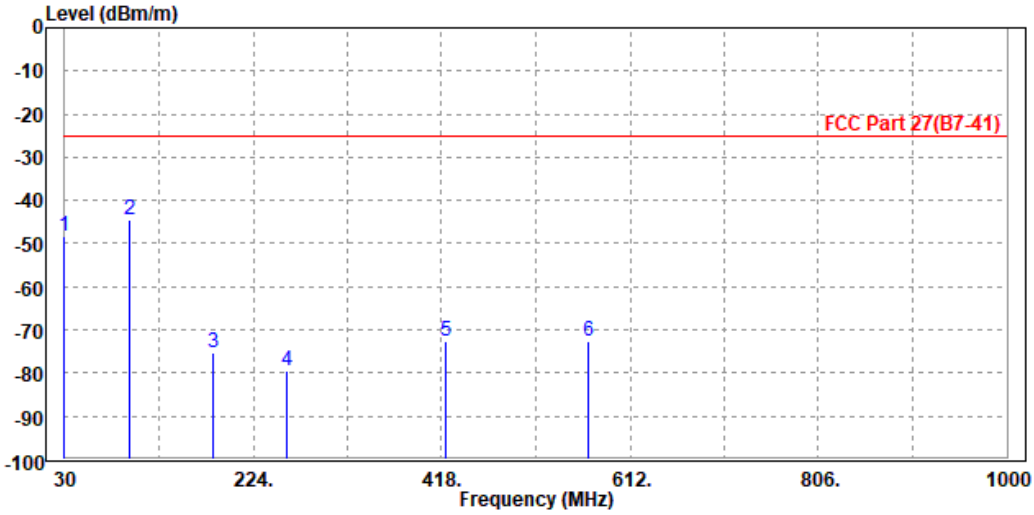
30 MHz – 1GHz data:

LTE Band 38

CHANNEL BANDWIDTH: 15MHz / QPSK

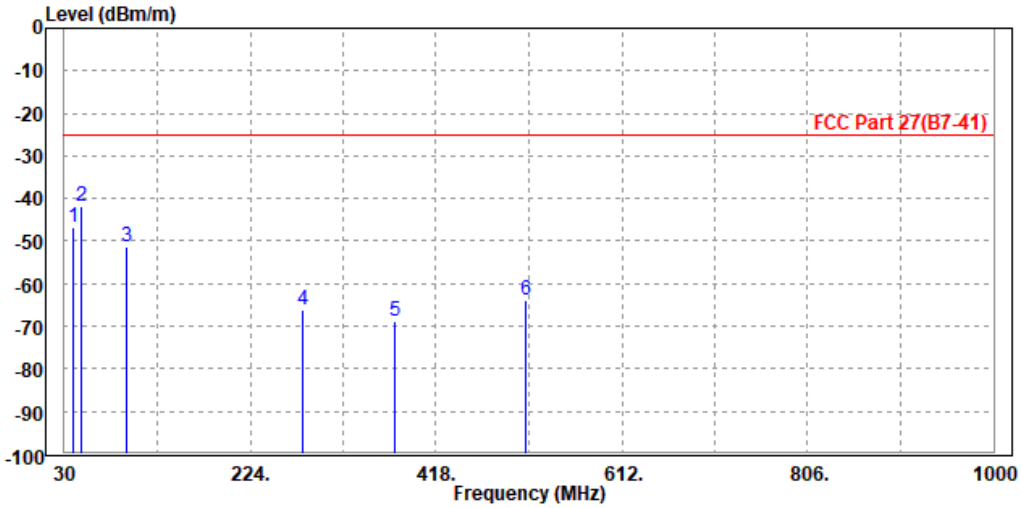
MODE	TX channel 38000	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		30.000	-48.27	-67.61	-25.00	-23.27	19.34	Peak	Horizontal
2	PP	96.930	-44.56	-34.05	-25.00	-19.56	-10.51	Peak	Horizontal
3		183.260	-75.31	-57.63	-25.00	-50.31	-17.68	Peak	Horizontal
4		257.950	-79.35	-63.46	-25.00	-54.35	-15.89	Peak	Horizontal
5		422.850	-72.81	-62.37	-25.00	-47.81	-10.44	Peak	Horizontal
6		568.350	-72.53	-63.30	-25.00	-47.53	-9.23	Peak	Horizontal



MODE	TX channel 38000	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		38.730	-46.79	-45.50	-25.00	-21.79	-1.29	Peak	Vertical
2	PP	48.430	-41.84	-37.61	-25.00	-16.84	-4.23	Peak	Vertical
3		94.990	-51.31	-40.70	-25.00	-26.31	-10.61	Peak	Vertical
4		279.290	-66.33	-54.94	-25.00	-41.33	-11.39	Peak	Vertical
5		374.350	-68.65	-57.62	-25.00	-43.65	-11.03	Peak	Vertical
6		512.090	-63.78	-56.52	-25.00	-38.78	-7.26	Peak	Vertical



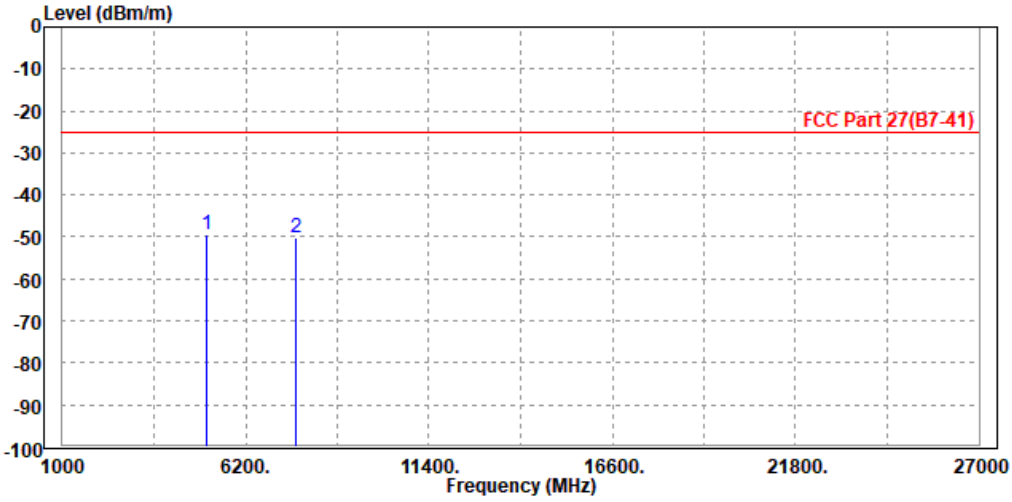
ABOVE 1GHz

Note: For higher frequency, the emission is too low to be detected.

LTE Band 7
CHANNEL BANDWIDTH: 5MHz / QPSK

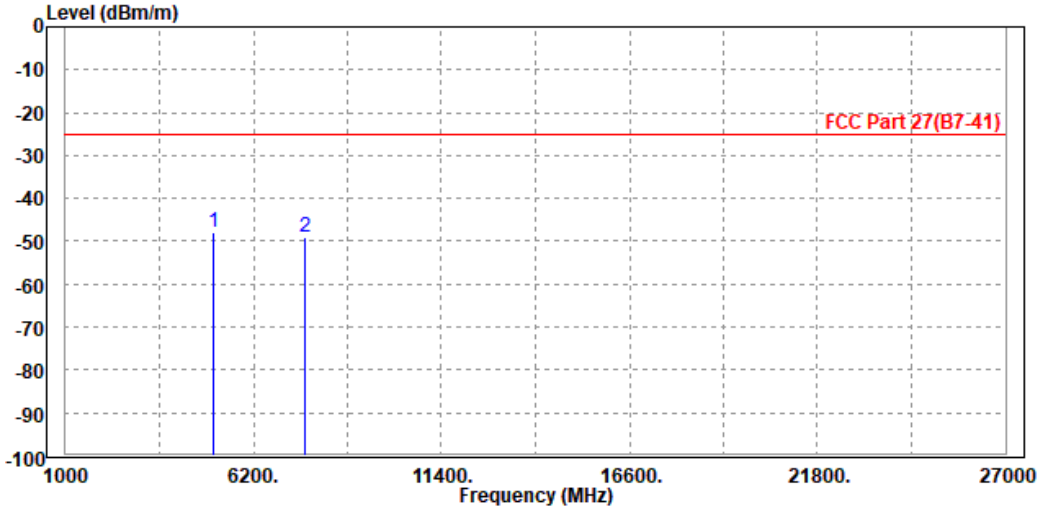
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5082.000	-49.25	-58.02	-25.00	-24.25	8.77	Peak	Horizontal
2		7605.000	-50.09	-61.49	-25.00	-25.09	11.40	Peak	Horizontal



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5082.000	-48.02	-57.89	-25.00	-23.02	9.87	Peak	Vertical
2		7605.000	-49.13	-61.91	-25.00	-24.13	12.78	Peak	Vertical

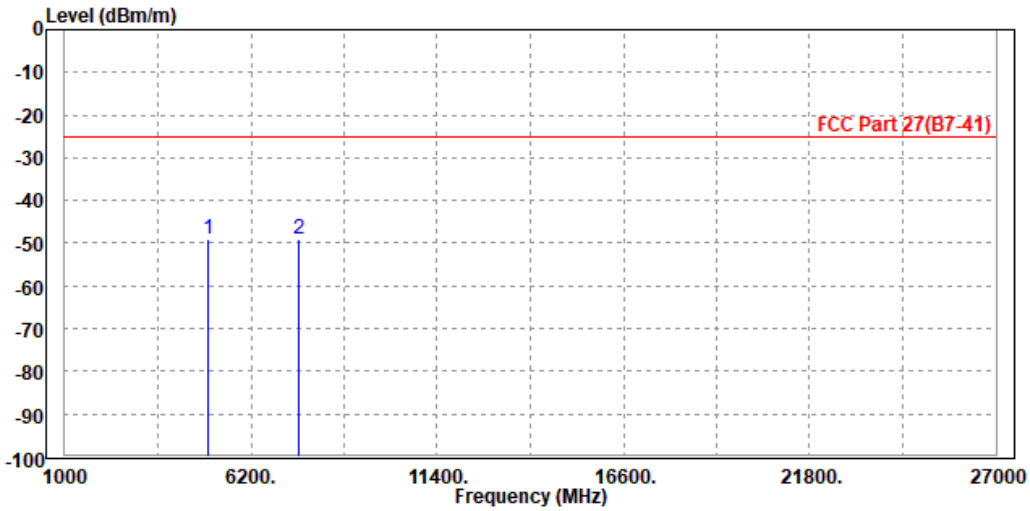


CHANNEL BANDWIDTH: 10MHz / QPSK

CH20800

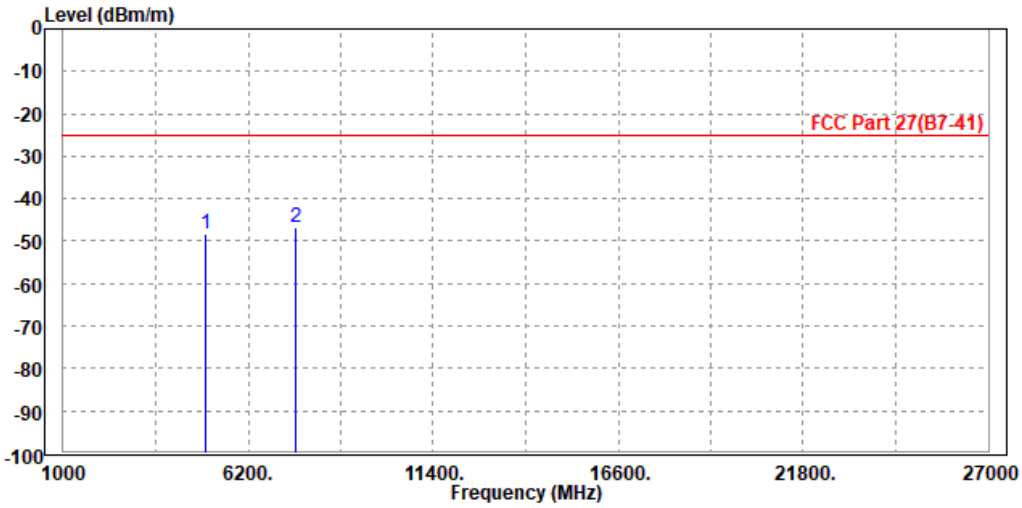
MODE	TX channel 20800	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5004.000	-49.20	-57.74	-25.00	-24.20	8.54	Peak	Horizontal
2 PP	7515.000	-48.96	-60.33	-25.00	-23.96	11.37	Peak	Horizontal



MODE	TX channel 20800	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

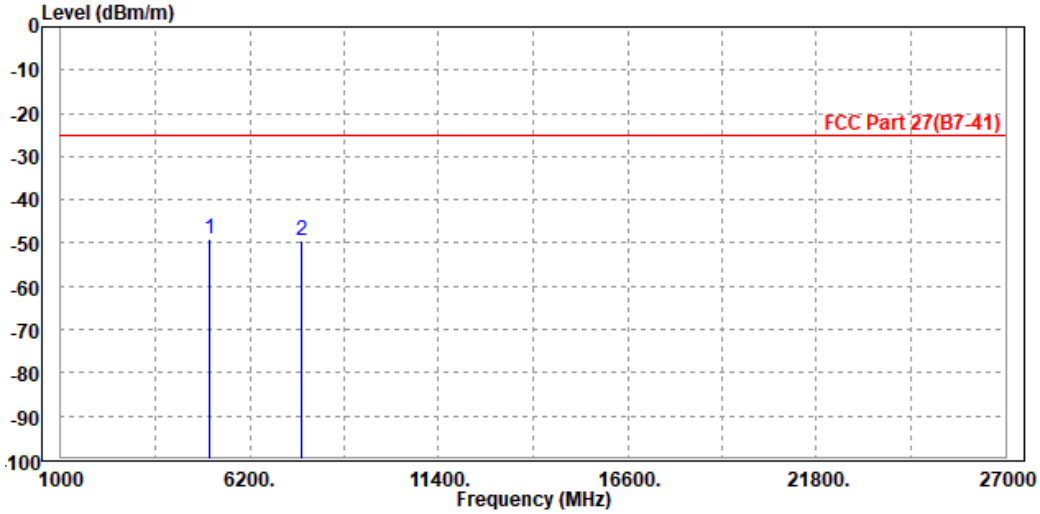
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5004.000	-48.18	-58.08	-25.00	-23.18	9.90	Peak	Vertical
2	PP	7515.000	-46.95	-59.69	-25.00	-21.95	12.74	Peak	Vertical



CH21100

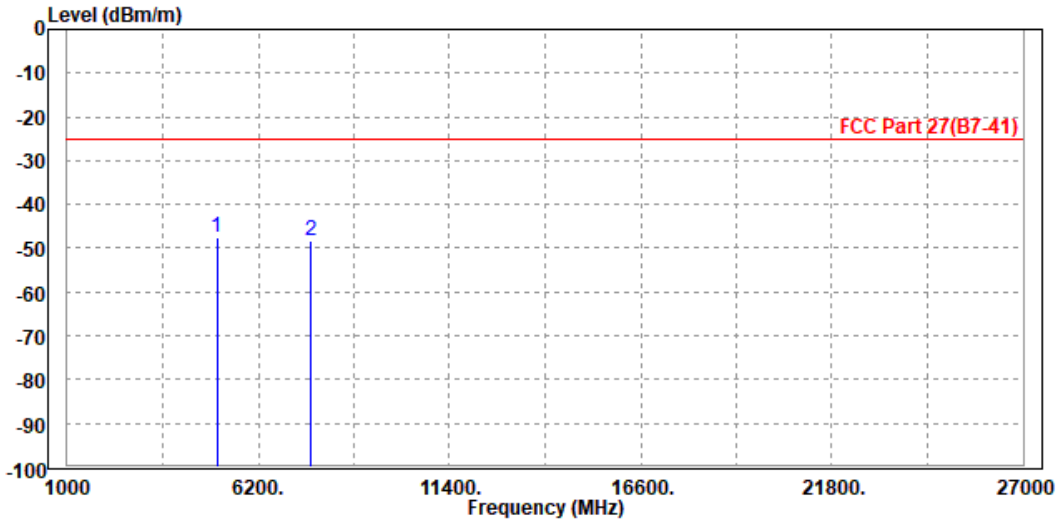
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	5082.000	-49.15	-57.92	-25.00	-24.15	8.77	Peak	Horizontal
2	7605.000	-49.32	-60.72	-25.00	-24.32	11.40	Peak	Horizontal



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

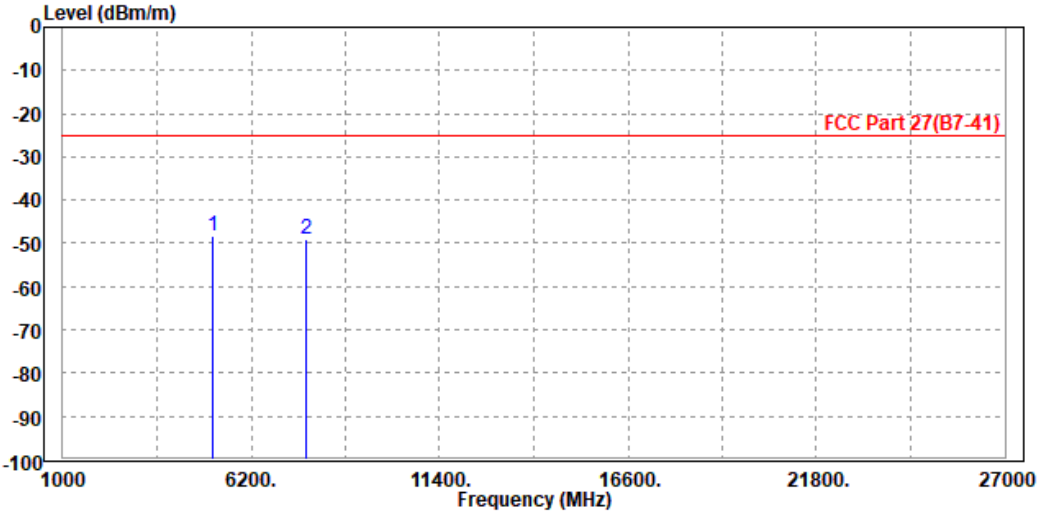
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5070.000	-47.39	-57.26	-25.00	-22.39	9.87	Peak	Vertical
2		7605.000	-48.23	-61.01	-25.00	-23.23	12.78	Peak	Vertical



CH21400

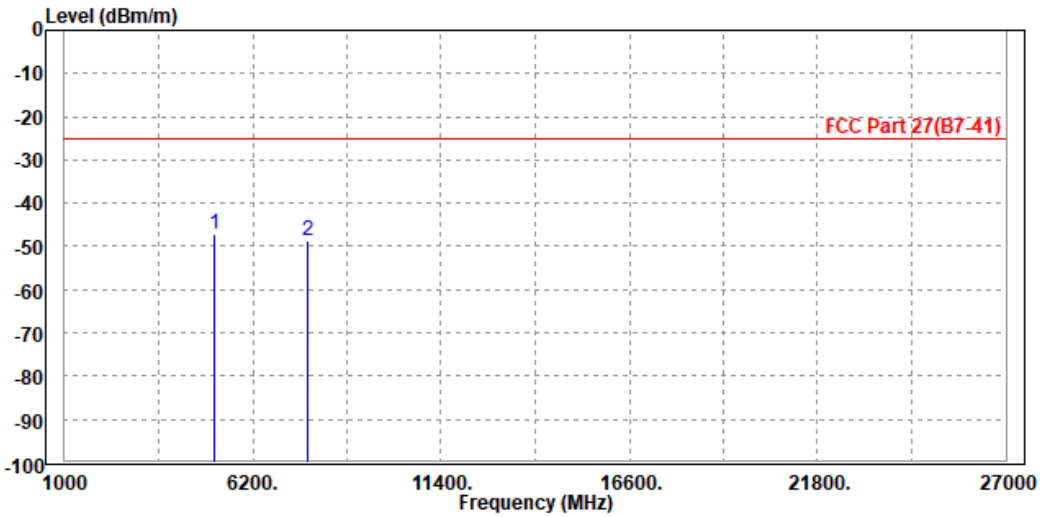
MODE	TX channel 21400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5134.000	-48.43	-57.36	-25.00	-23.43	8.93	Peak	Horizontal
2		7695.000	-48.91	-60.35	-25.00	-23.91	11.44	Peak	Horizontal



MODE	TX channel 21400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

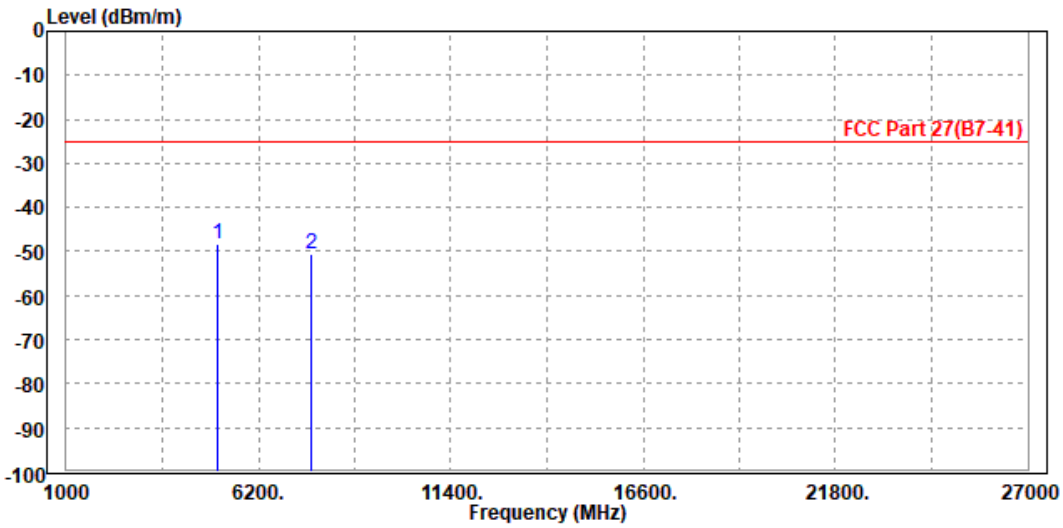
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5134.000	-47.32	-57.17	-25.00	-22.32	9.85	Peak	Vertical
2		7695.000	-48.63	-61.44	-25.00	-23.63	12.81	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

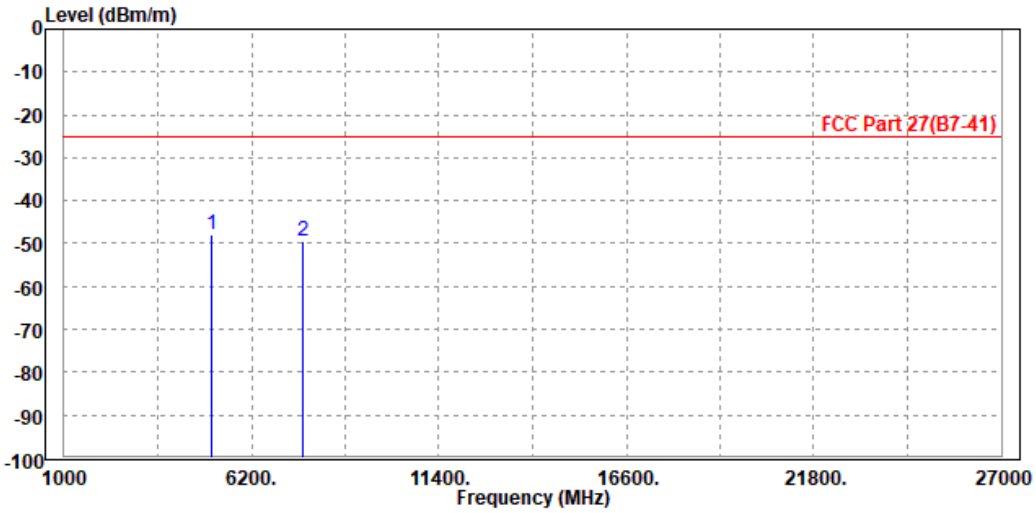
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	5082.000	-48.33	-57.10	-25.00	-23.33	8.77	Peak	Horizontal
2	7605.000	-50.64	-62.04	-25.00	-25.64	11.40	Peak	Horizontal



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

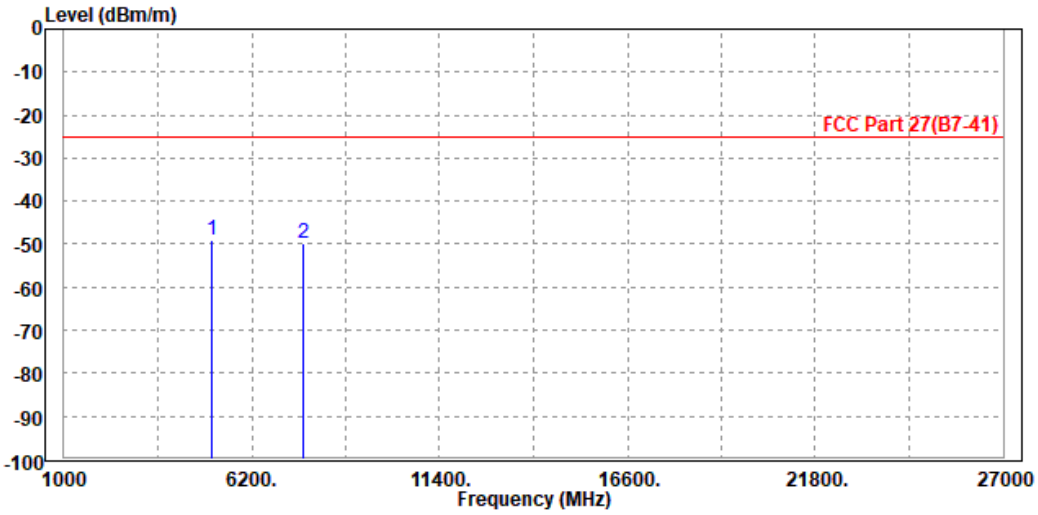
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5082.000	-48.00	-57.87	-25.00	-23.00	9.87	Peak	Vertical
2		7605.000	-49.41	-62.19	-25.00	-24.41	12.78	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

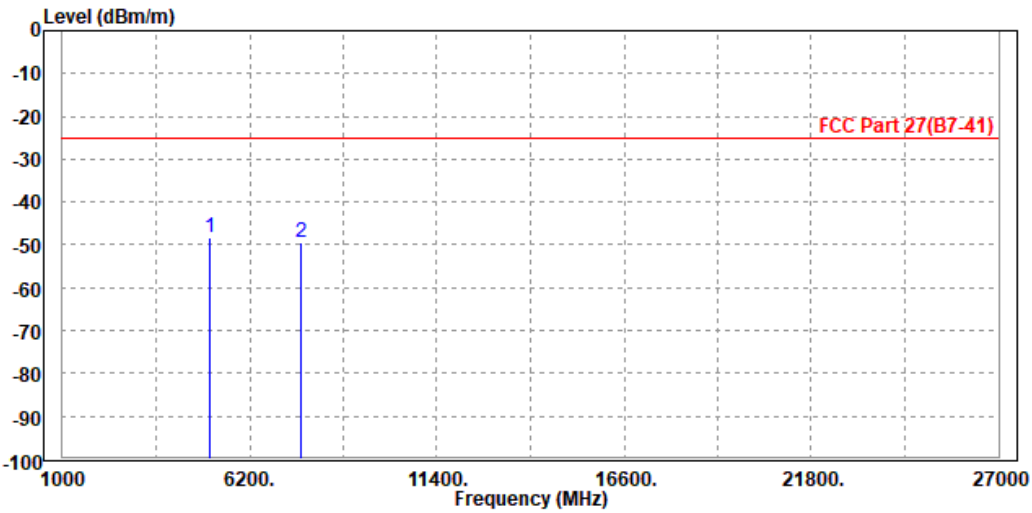
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5082.000	-49.06	-57.83	-25.00	-24.06	8.77	Peak	Horizontal
2		7605.000	-49.62	-61.02	-25.00	-24.62	11.40	Peak	Horizontal



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	5082.000	-48.24	-58.11	-25.00	-23.24	9.87	Peak	Vertical
2	7605.000	-49.44	-62.22	-25.00	-24.44	12.78	Peak	Vertical

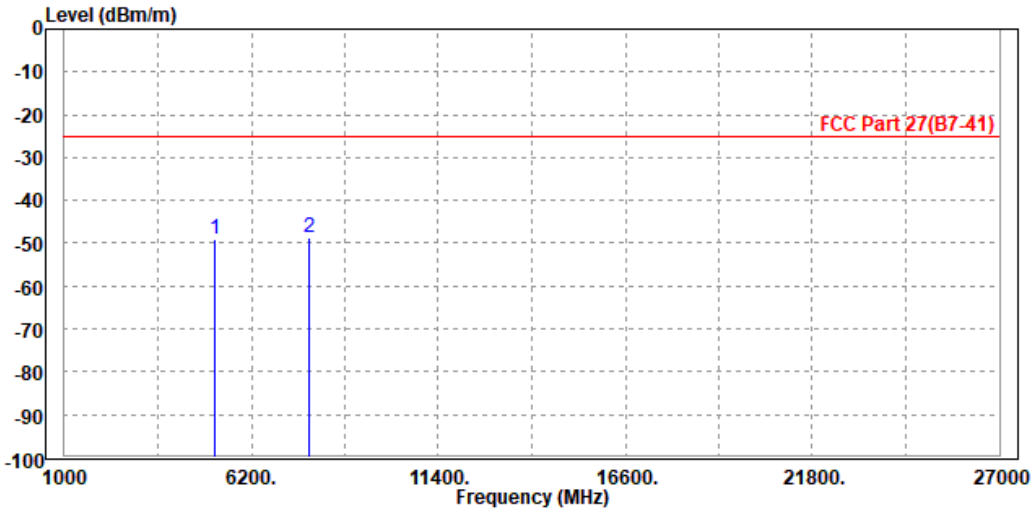


LTE Band 38

CHANNEL BANDWIDTH: 5MHz / QPSK

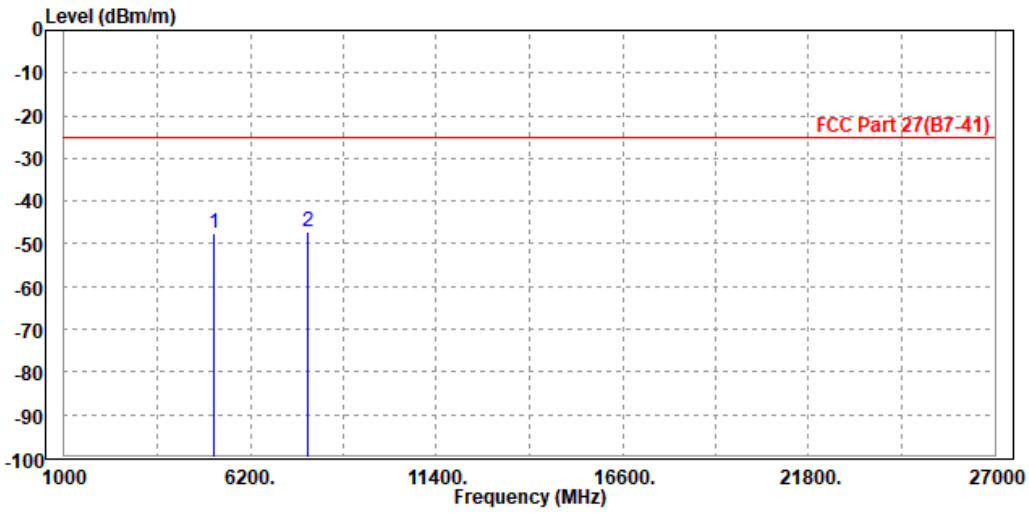
MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5186.000	-49.01	-58.09	-25.00	-24.01	9.08	Peak	Horizontal
2 PP	7785.000	-48.83	-60.31	-25.00	-23.83	11.48	Peak	Horizontal



MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

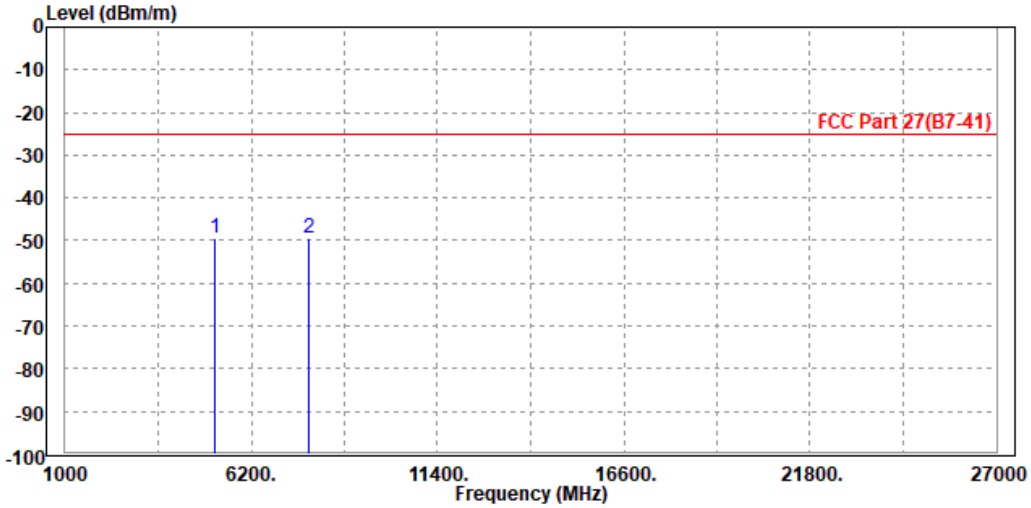
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5186.000	-47.55	-57.38	-25.00	-22.55	9.83	Peak	Vertical
2 PP	7785.000	-47.31	-60.16	-25.00	-22.31	12.85	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

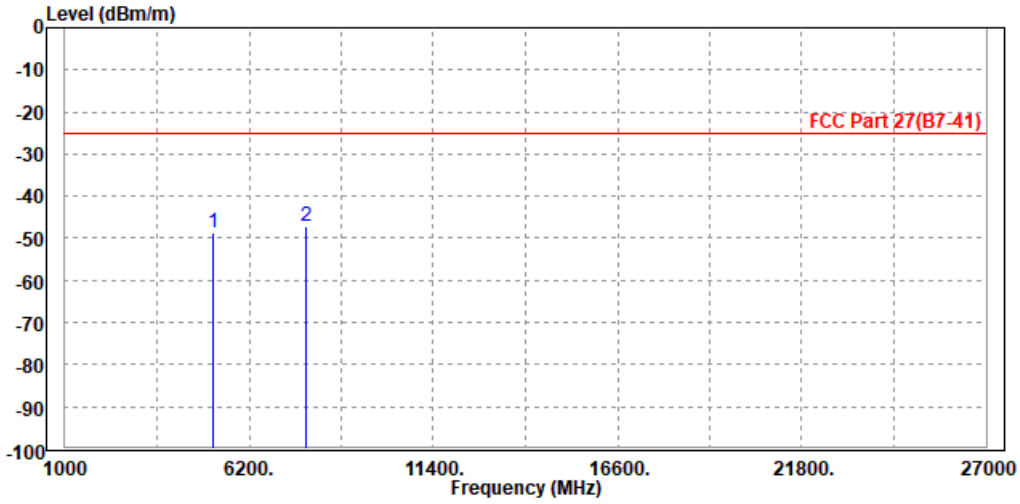
MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5186.000	-49.37	-58.45	-25.00	-24.37	9.08	Peak	Horizontal
2 PP	7785.000	-49.29	-60.77	-25.00	-24.29	11.48	Peak	Horizontal



MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-48.64	-58.47	-25.00	-23.64	9.83	Peak	Vertical
2	PP	7785.000	-47.04	-59.89	-25.00	-22.04	12.85	Peak	Vertical

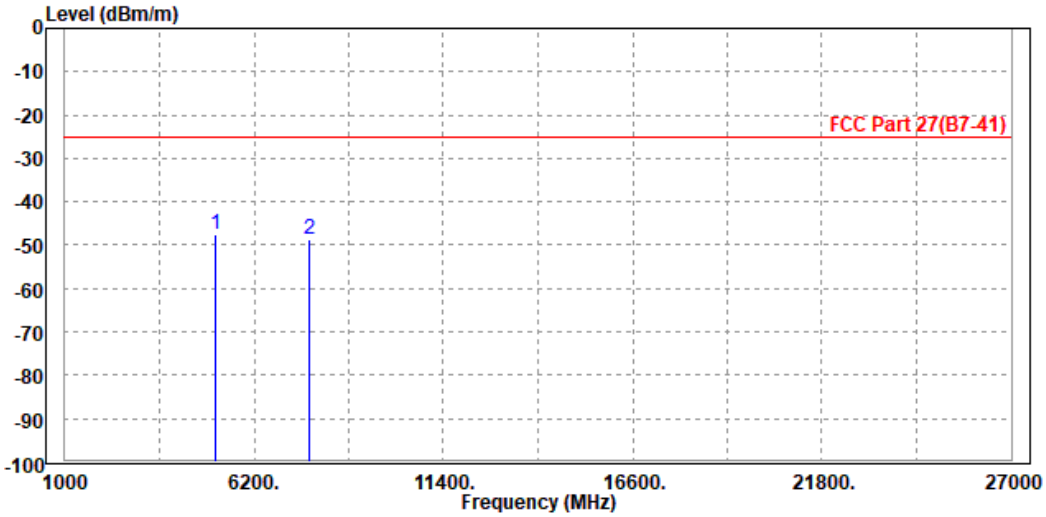


CHANNEL BANDWIDTH: 15MHz / QPSK

CH 37825

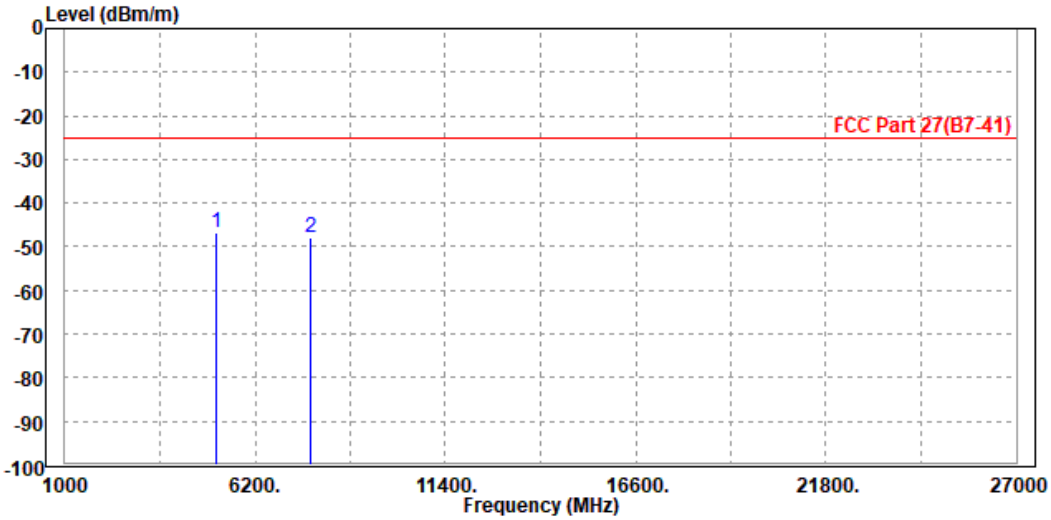
MODE	TX channel 37825	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5160.000	-47.70	-56.70	-25.00	-22.70	9.00	Peak	Horizontal
2		7732.500	-48.55	-60.00	-25.00	-23.55	11.45	Peak	Horizontal



MODE	TX channel 37825	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

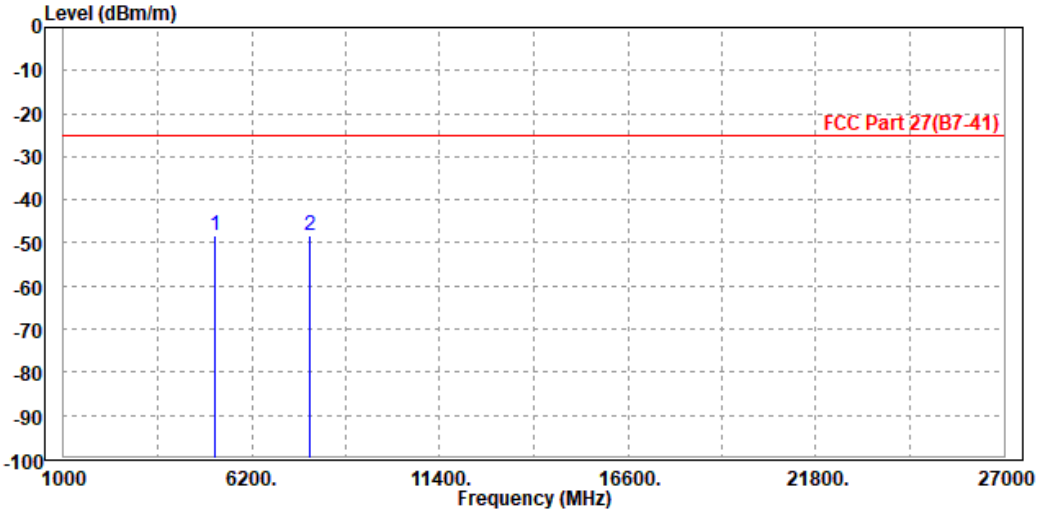
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5160.000	-46.82	-56.66	-25.00	-21.82	9.84	Peak	Vertical
2		7732.500	-47.84	-60.67	-25.00	-22.84	12.83	Peak	Vertical



CH 38000

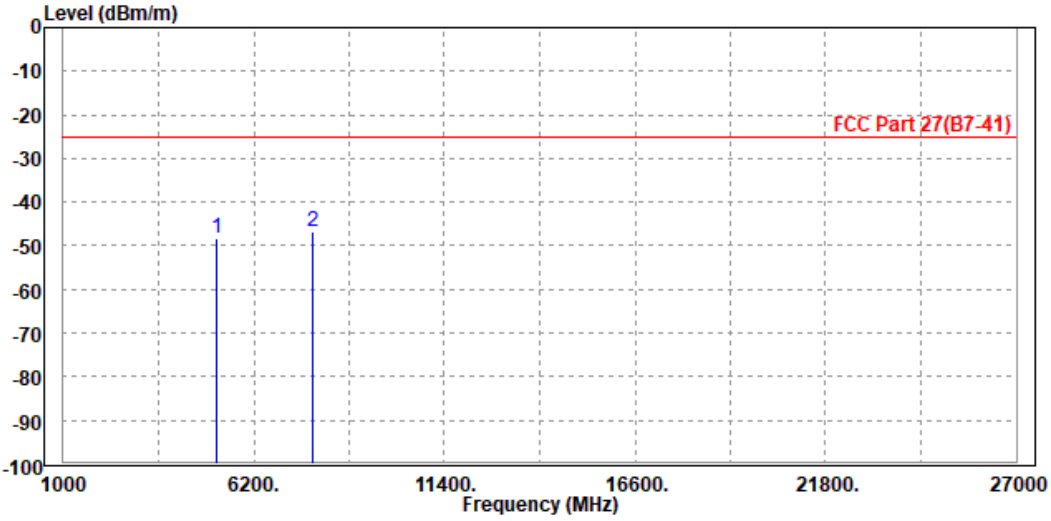
MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5186.000	-48.31	-57.39	-25.00	-23.31	9.08	Peak	Horizontal
2 PP	7785.000	-48.24	-59.72	-25.00	-23.24	11.48	Peak	Horizontal



MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

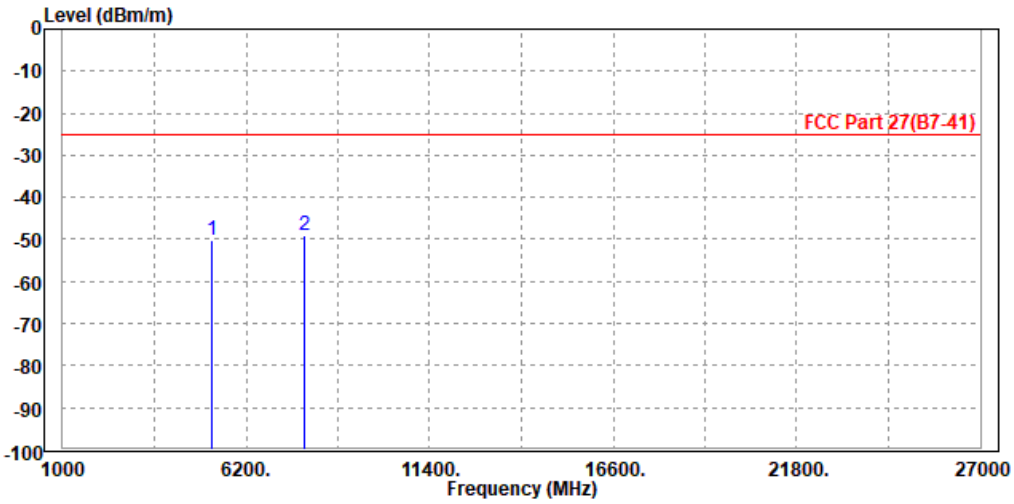
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-48.46	-58.29	-25.00	-23.46	9.83	Peak	Vertical
2	PP	7785.000	-46.92	-59.77	-25.00	-21.92	12.85	Peak	Vertical



CH 38175

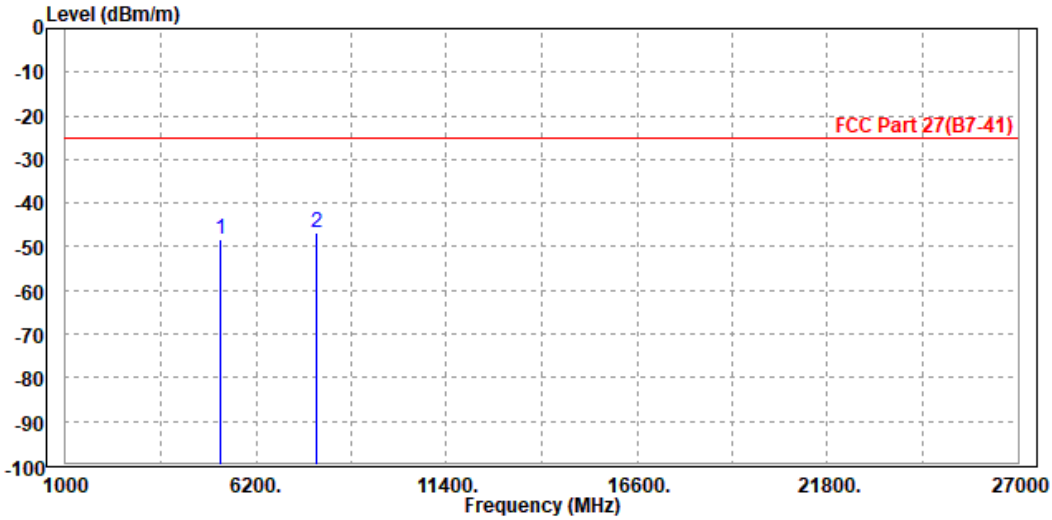
MODE	TX channel 38175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5212.000	-50.21	-59.37	-25.00	-25.21	9.16	Peak	Horizontal
2 PP	7837.500	-49.06	-60.56	-25.00	-24.06	11.50	Peak	Horizontal



MODE	TX channel 38175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

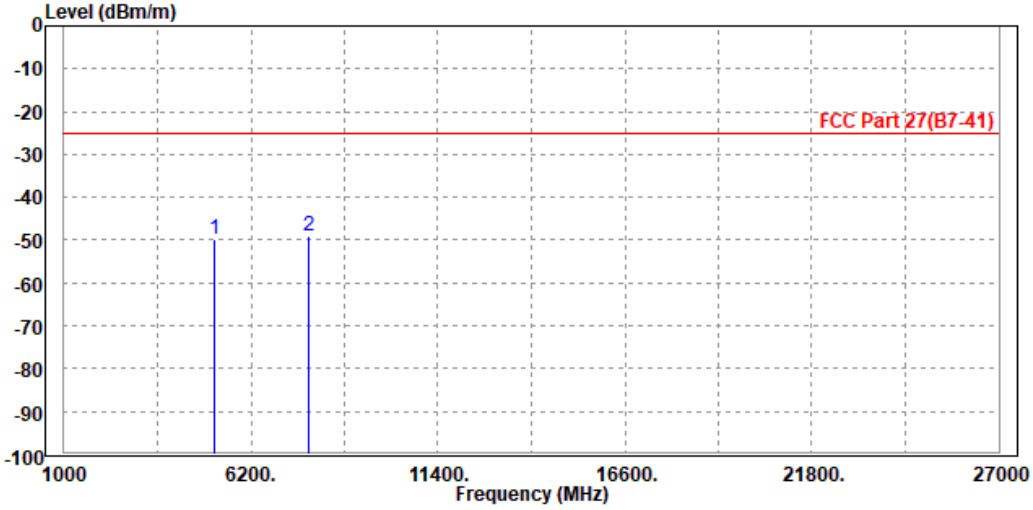
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5212.000	-48.25	-58.07	-25.00	-23.25	9.82	Peak	Vertical
2	PP	7837.500	-46.59	-59.46	-25.00	-21.59	12.87	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

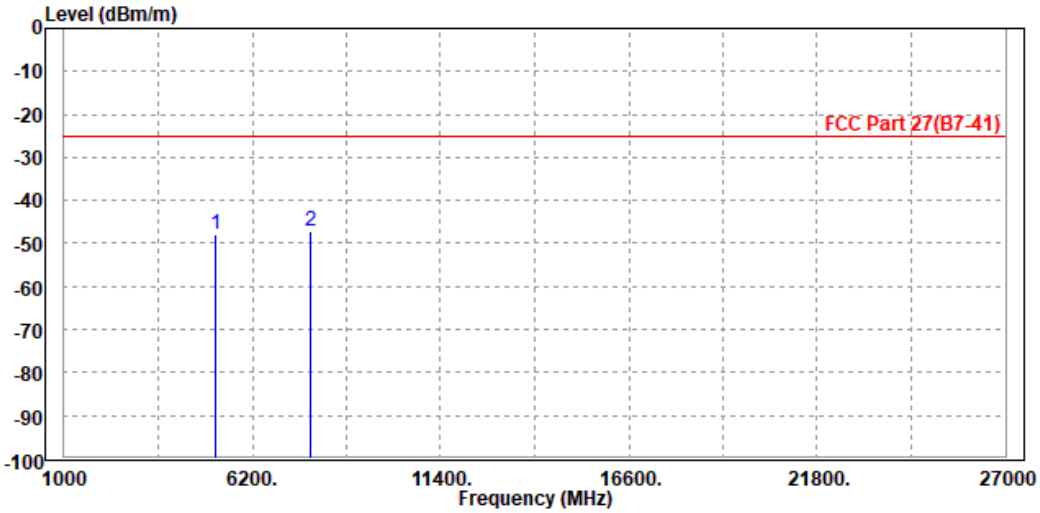
MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-49.80	-58.88	-25.00	-24.80	9.08	Peak	Horizontal
2	PP	7785.000	-49.06	-60.54	-25.00	-24.06	11.48	Peak	Horizontal



MODE	TX channel 38000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-47.88	-57.71	-25.00	-22.88	9.83	Peak	Vertical
2	PP	7785.000	-47.17	-60.02	-25.00	-22.17	12.85	Peak	Vertical

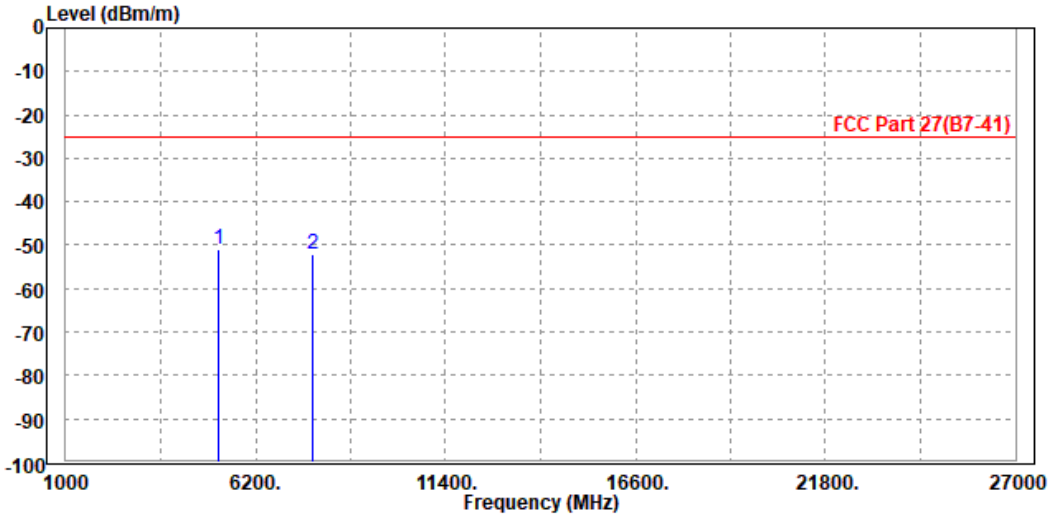


LTE BAND 41

CHANNEL BANDWIDTH: 5MHz / QPSK

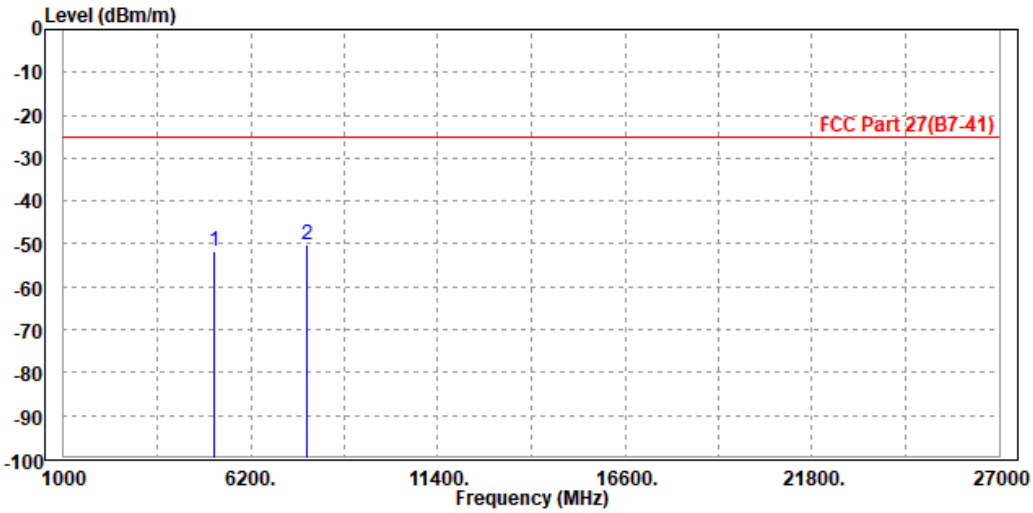
MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5186.000	-50.98	-60.06	-25.00	-25.98	9.08	Peak	Horizontal
2		7779.000	-51.99	-63.46	-25.00	-26.99	11.47	Peak	Horizontal



MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-51.73	-61.56	-25.00	-26.73	9.83	Peak	Vertical
2	PP	7779.000	-50.06	-62.91	-25.00	-25.06	12.85	Peak	Vertical

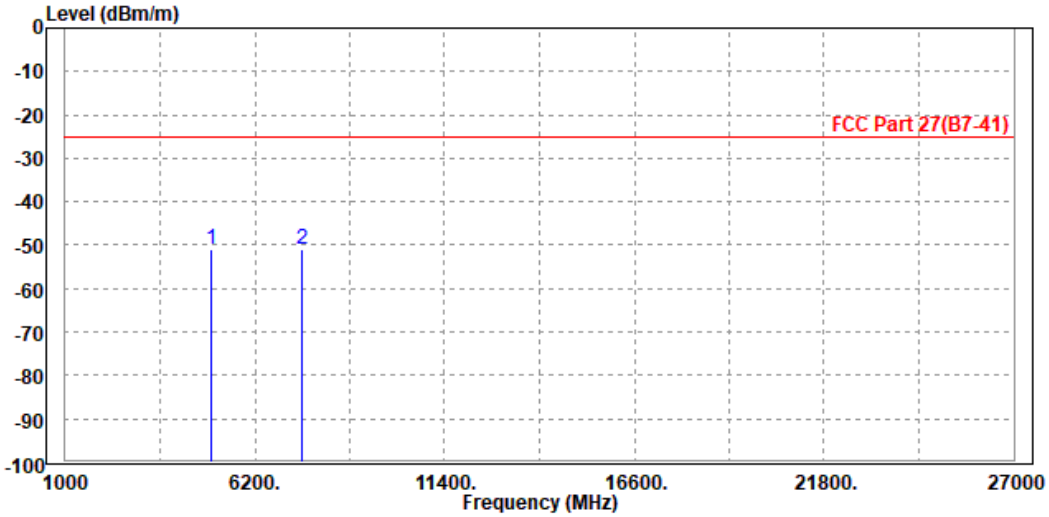


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 40290

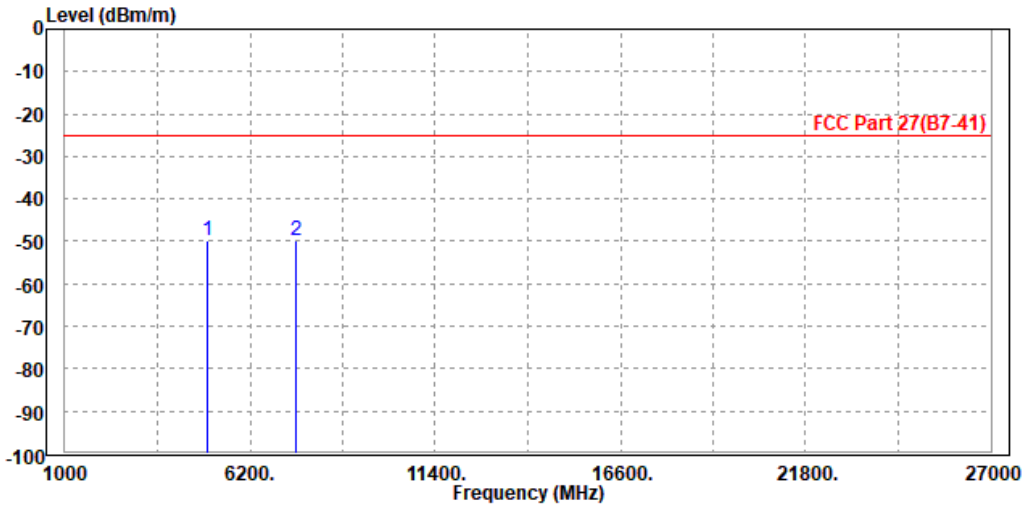
MODE	TX channel 40290	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5004.000	-51.07	-59.61	-25.00	-26.07	8.54	Peak	Horizontal
2 PP	7503.000	-50.99	-62.35	-25.00	-25.99	11.36	Peak	Horizontal



MODE	TX channel 40290	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

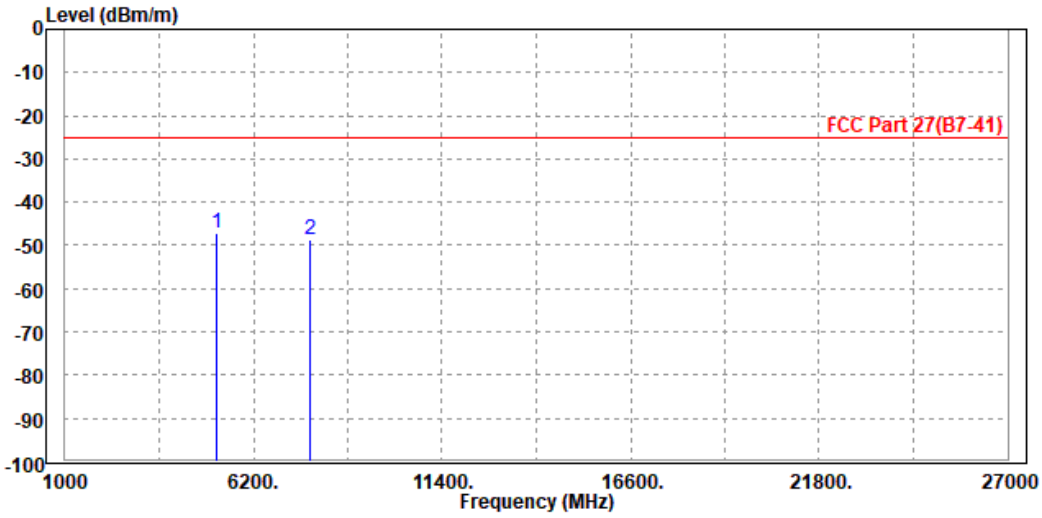
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5002.000	-49.82	-59.72	-25.00	-24.82	9.90	Peak	Vertical
2		7500.000	-49.86	-62.60	-25.00	-24.86	12.74	Peak	Vertical



CH 40740

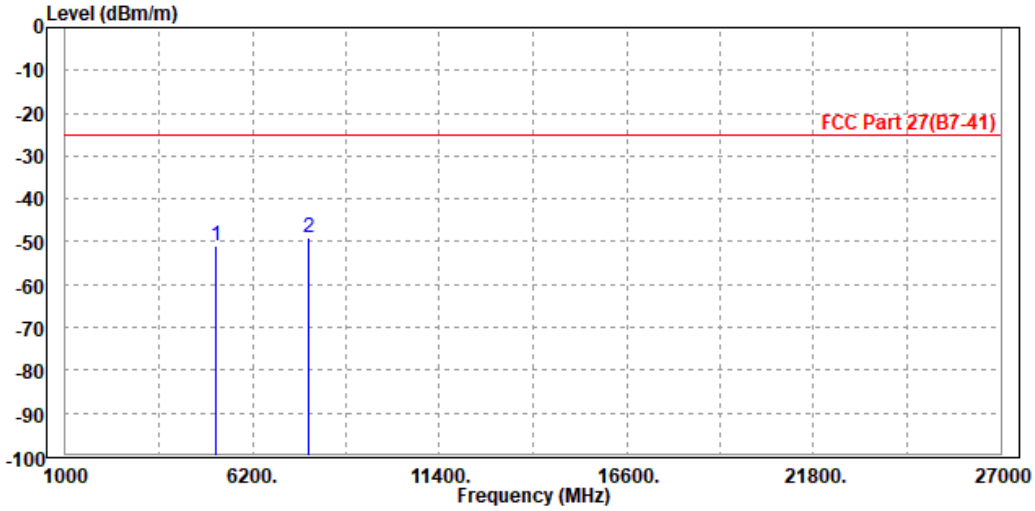
MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5186.000	-47.29	-56.37	-25.00	-22.29	9.08	Peak	Horizontal
2		7779.000	-48.82	-60.29	-25.00	-23.82	11.47	Peak	Horizontal



MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

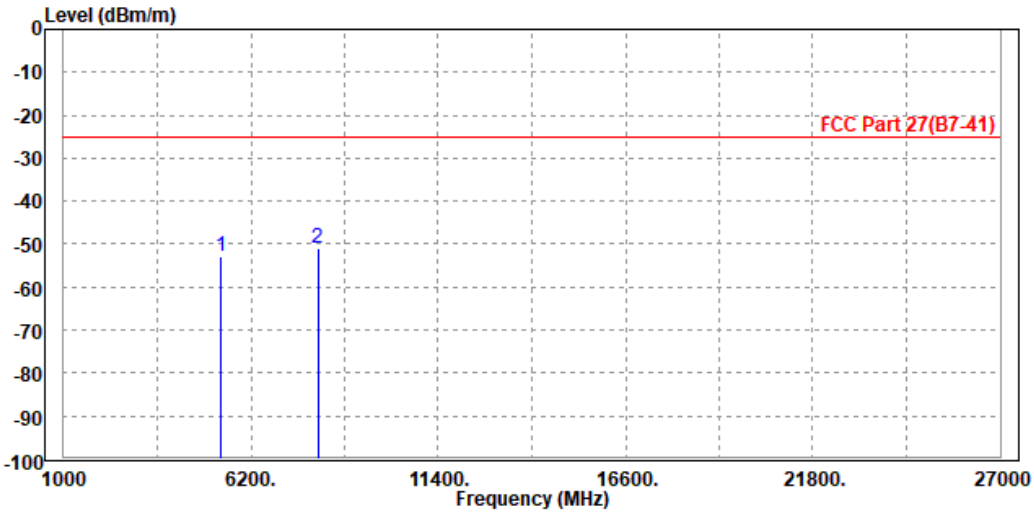
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-50.99	-60.82	-25.00	-25.99	9.83	Peak	Vertical
2	PP	7779.000	-49.15	-62.00	-25.00	-24.15	12.85	Peak	Vertical



CH 41190

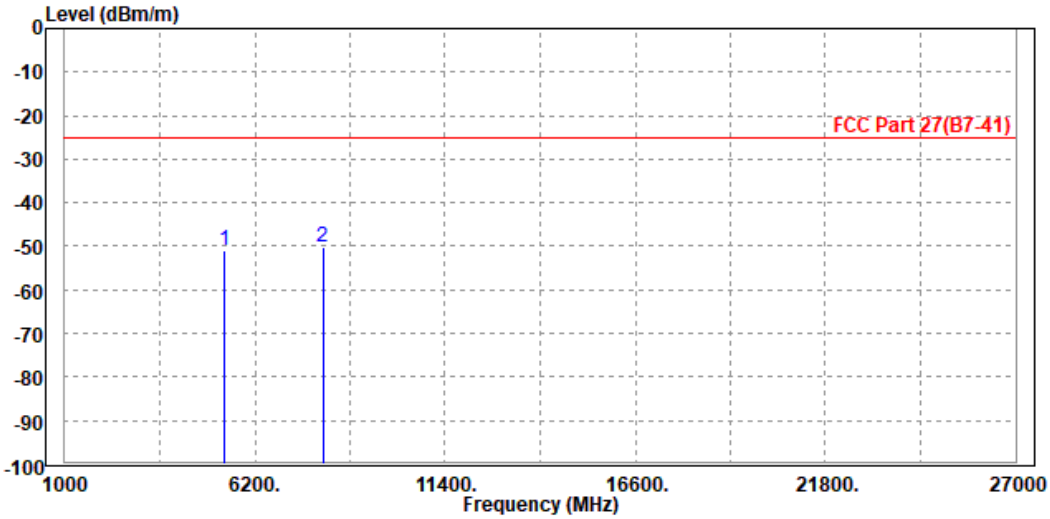
MODE	TX channel 41190	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5368.000	-52.85	-62.48	-25.00	-27.85	9.63	Peak	Horizontal
2 PP	8055.000	-51.03	-62.64	-25.00	-26.03	11.61	Peak	Horizontal



MODE	TX channel 41190	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

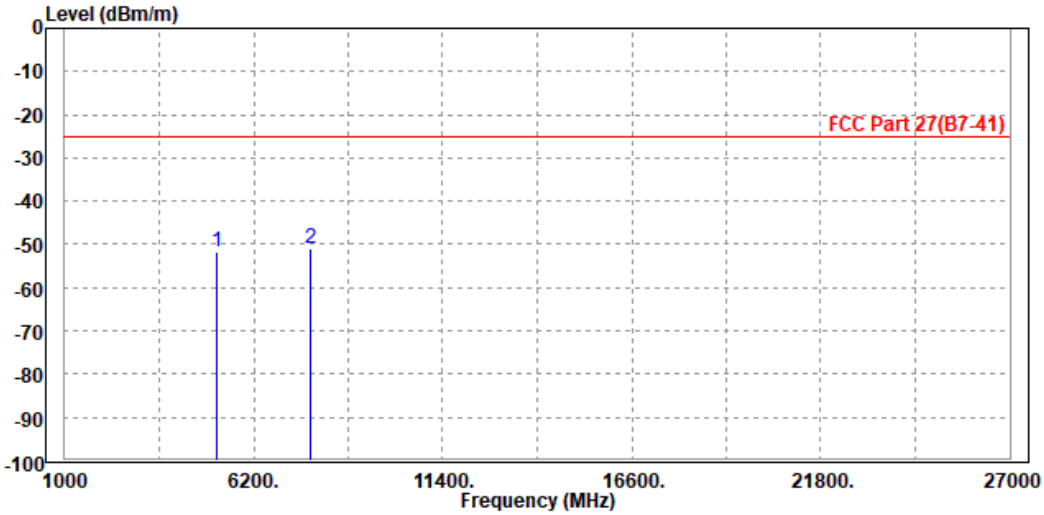
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5368.000	-50.82	-60.58	-25.00	-25.82	9.76	Peak	Vertical
2	PP	8055.000	-50.38	-63.44	-25.00	-25.38	13.06	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

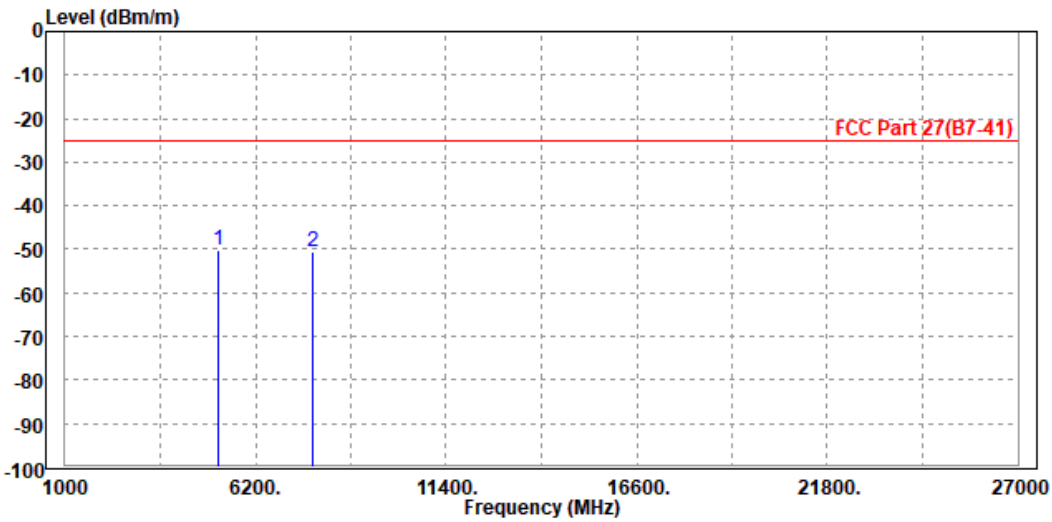
MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	5186.000	-51.86	-60.94	-25.00	-26.86	9.08	Peak	Horizontal
2 PP	7779.000	-51.09	-62.56	-25.00	-26.09	11.47	Peak	Horizontal



MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

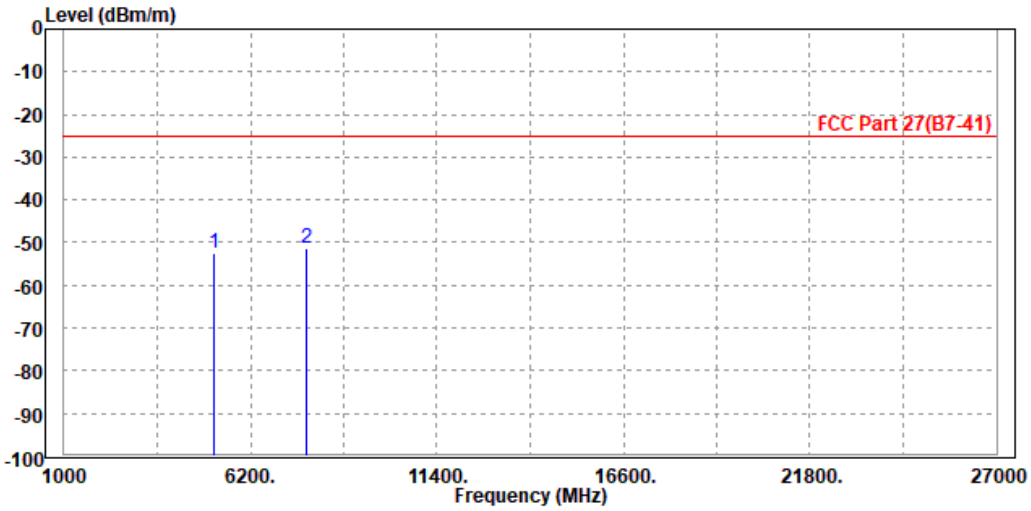
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	5186.000	-50.38	-60.21	-25.00	-25.38	9.83	Peak	Vertical
2	7779.000	-50.40	-63.25	-25.00	-25.40	12.85	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

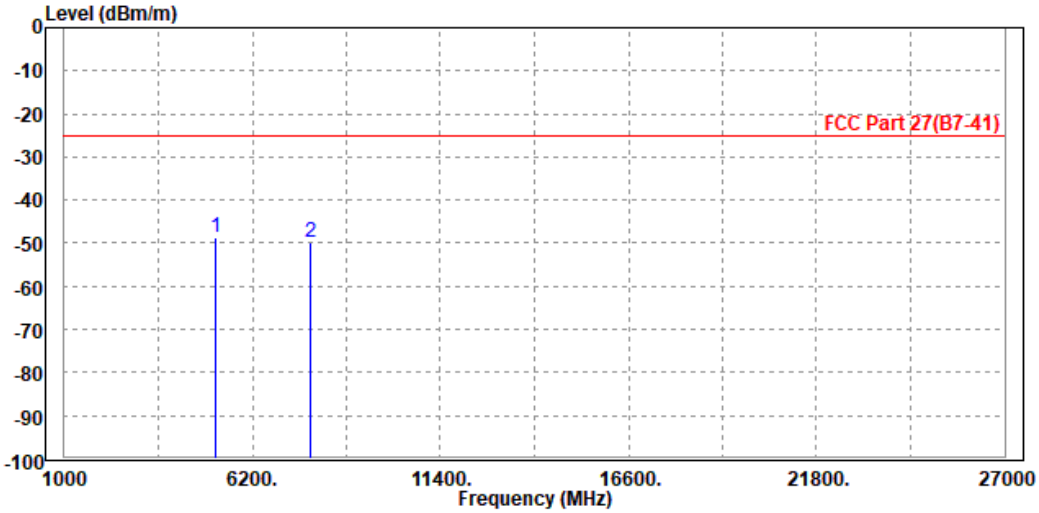
MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1		5186.000	-52.60	-61.68	-25.00	-27.60	9.08	Peak	Horizontal
2	PP	7779.000	-51.19	-62.66	-25.00	-26.19	11.47	Peak	Horizontal



MODE	TX channel 40740	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	5186.000	-48.69	-58.52	-25.00	-23.69	9.83	Peak	Vertical
2		7786.000	-49.80	-62.65	-25.00	-24.80	12.85	Peak	Vertical



4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Shenzhen EMC/RF Lab:
Tel: +86-755-88696566
Fax: +86-755-88696577

Email: customerservice.dg@cn.bureauveritas.com
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

5 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---