

FCC TEST REPORT

(PART 22)

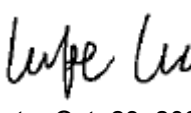
Applicant:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
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Manufacturer or Supplier:	Lenovo PC HK Limited
Address:	23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong
Product:	Portable Tablet Computer
Brand Name:	Lenovo
Model 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 22, Subpart H** ☒ **FCC Part 2**
☒ **ANSI/TIA/EIA-603-D** ☒ **ANSI C63.26-2015**
☒ **ANSI/TIA/EIA-603-E**

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
 Date: Oct. 23, 2020	 Date: Oct. 23, 2020

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200918W001-4	Original release	Oct. 23, 2020

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2		
STANDARD SECTION	TEST TYPE	RESULT
2.1046 22.913 (a)	Effective Radiated Power	Compliance
2.1055 22.355	Frequency Stability	Compliance
2.1049 22.917 (b)	Occupied Bandwidth	Compliance
22.913 (d)	Peak to average ratio*	Compliance
22.917	Band Edge Measurements	Compliance
2.1051 22.917	Conducted Spurious Emissions	Compliance
2.1053 22.917	Radiated Spurious Emissions	Compliance

* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

1.1 MEASUREMENT 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
Maximum Peak Output Power	$\pm 2.06\text{dB}$
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (30MHz~1GMHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GMHz ~6GMHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GMHz ~18GMHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GMHz ~40GMHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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-00 361	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-SM A	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 Microwave 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 TYPE	WCDMA	BPSK, QPSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	WCDMA	826.4MHz ~ 846.6MHz
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 15MHz)	821.5MHz ~ 841.5MHz
MAX. ERP POWER	WCDMA	96mW
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	90mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	90mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	89mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	91mW

MAX. ERP POWER	LTE Band 26 (Channel Bandwidth: 1.4MHz)	91mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	89mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	89mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	89mW
	LTE Band 26 (Channel Bandwidth: 15MHz)	89mW
EMISSION DESIGNATOR GOGN	WCDMA	4M12F9W
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	QPSK: 1M09G7D
		16QAM: 1M09W7D
	LTE Band 5 (Channel Bandwidth: 3MHz)	QPSK: 2M69G7D
		16QAM: 2M68W7D
	LTE Band 5 (Channel Bandwidth: 5MHz)	QPSK: 4M48G7D
		16QAM: 4M48W7D
	LTE Band 5 (Channel Bandwidth: 10MHz)	QPSK: 8M94G7D
		16QAM: 8M95W7D
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M09G7D
		16QAM: 1M09W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M69G7D
		16QAM: 2M68W7D
LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M48G7D	
	16QAM: 4M48W7D	
LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D	
	16QAM: 8M94W7D	
LTE Band 26 (Channel Bandwidth: 15MHz)	QPSK: 13M4G7D	
	16QAM: 13M4W7D	
ANTENNA TYPE	Fixed Internal Antenna with -1.23dBi gain for WCDMA B5/LTE Band 5/ LTE Band 26	
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. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
WCDMA	1TX/1RX
LTE	1TX/1RX

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

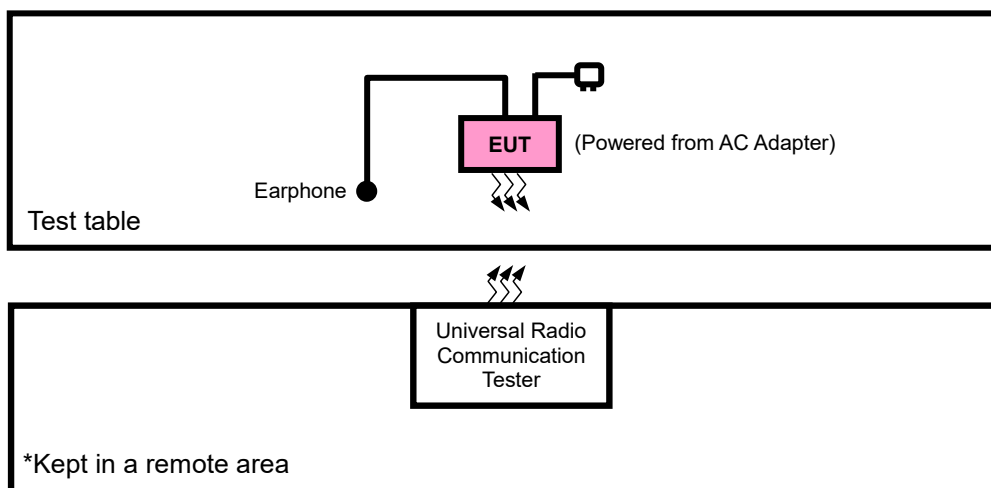


List of Accessory:

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



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 in ERP and radiated emission was found when positioned on X-plane for WCDMA/LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable+ Earphone with WCDMA or LTE link
B	EUT + Battery with WCDMA or LTE link

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
B	ERP	4132 to 4233	4132, 4182, 4233	WCDMA
B	FREQUENCY STABILITY	4132 to 4233	4132, 4233	WCDMA
B	OCCUPIED BANDWIDTH	4132 to 4233	4132, 4182, 4233	WCDMA
B	BAND EDGE	4132 to 4233	4132, 4233	WCDMA
B	CONDCUDED EMISSION	4132 to 4233	4132, 4182, 4233	WCDMA
A	RADIATED EMISSION	4132 to 4233	4132, 4182, 4233	WCDMA
B	PEAK TO AVERAGE RATIO	4132 to 4233	4132, 4182, 4233	WCDMA

LTE BAND 5 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	20407 to 20643	20407, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20600	10MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
BAND EDGE	20407 to 20643	20407	1.4 MHz	QPSK,16QAM	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	20407 to 20643	20643	1.4 MHz	QPSK,16QAM	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	20415 to 20635	20415	3 MHz	QPSK,16QAM	1 RB / 0 RB Offset
					15 RB / 0 RB Offset



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	20415 to 20635	20635	3 MHz	QPSK, 16QAM	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	20425 to 20625	20425	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	20425 to 20625	20625	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20450 to 20600	20450	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	20450 to 20600	20600	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
CONDCUDED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20525	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20525	10MHz	QPSK	1 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	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.



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LTE BAND 26 MODE

TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
ERP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	6 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	15 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	75 RB / 0 RB Offset

BAND EDGE	26797 to 27033	26797	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	26797 to 27033	27033	1.4 MHz	QPSK, 16QAM	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	26805 to 27025	26805	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	26805 to 27025	27025	3 MHz	QPSK, 16QAM	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	26815 to 27015	26815	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
CONDCUDED EMISSION	26815 to 27015	27015	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	26840 to 26990	26840	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	26840 to 26990	26990	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	26865 to 26965	26865	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	26865 to 26965	26965	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
RADIATED EMISSION	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB / 0 RB Offset

PEAK TO AVERAGE RATIO	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	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 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
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.85V By Battery	Kevin Zhang
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Star Le
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.85V By Battery	Kevin Zhang

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency



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2.6 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 22

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

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

EIRP / ERP 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 determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

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:

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

3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Band	WCDMA V			Max. Tune-up Power
Channel	4132	4182	4233	
Rx Channel	4357	4407	4458	
Frequency	826.4	836.4	846.6	
AMR	-	-	-	-
RMC 12.2K	22.90	22.82	22.95	24.5
HSDPA Subtest-1	21.87	21.87	22.00	23.5
HSDPA Subtest-2	21.85	21.79	21.92	23.5
HSDPA Subtest-3	21.40	21.40	21.53	23.0
HSDPA Subtest-4	21.43	21.38	21.51	23.0
HSUPA Subtest-1	21.92	21.86	21.99	23.5
HSUPA Subtest-2	19.91	19.89	20.02	21.5
HSUPA Subtest-3	20.91	20.84	20.97	22.5
HSUPA Subtest-4	19.90	19.89	20.02	21.5
HSUPA Subtest-5	21.98	21.93	22.06	23.5

LTE Band 5

Band/BW	Modulation	RB Size	RB Offset	Low CH 20407	Mid CH 20525	High CH 20643	MPR
				Frequency 824.7 MHz	Frequency 836.5 MHz	Frequency 848.3 MHz	
5/ 1.4	QPSK	1	0	22.58	22.80	22.53	0
		1	2	22.75	22.90	22.68	0
		1	5	22.65	22.78	22.54	0
		3	0	22.63	22.79	22.59	0
		3	1	22.63	22.80	22.52	0
		3	3	22.56	22.71	22.57	0
		6	0	21.65	21.78	21.66	1
	16QAM	1	0	21.61	21.67	21.61	1
		1	2	21.59	21.61	21.61	1
		1	5	21.55	21.60	21.61	1
		3	0	21.82	21.99	21.73	1
		3	1	21.57	21.82	21.52	1
		3	3	21.66	21.83	21.61	1
		6	0	20.67	20.69	20.60	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20415	Mid CH 20525	High CH 20635	MPR
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz	
5/ 3	QPSK	1	0	22.60	22.82	22.52	0
		1	7	22.71	22.91	22.68	0
		1	14	22.61	22.78	22.54	0
		8	0	21.62	21.82	21.59	1
		8	3	21.56	21.80	21.54	1
		8	7	21.53	21.78	21.61	1
		15	0	21.62	21.79	21.60	1
	16QAM	1	0	21.58	21.73	21.64	1
		1	7	21.56	21.64	21.59	1
		1	14	21.58	21.60	21.61	1
		8	0	20.78	21.00	20.73	2
		8	3	20.62	20.77	20.55	2
		8	7	20.68	20.81	20.57	2
		15	0	20.67	20.63	20.63	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20425	Mid CH 20525	High CH 20625	MPR
				Frequency 826.5 MHz	Frequency 836.5 MHz	Frequency 846.5 MHz	
5/ 5	QPSK	1	0	22.61	22.77	22.53	0
		1	12	22.76	22.88	22.68	0
		1	24	22.62	22.77	22.58	0
		12	0	21.65	21.82	21.56	1
		12	6	21.56	21.81	21.55	1
		12	13	21.57	21.74	21.62	1
		25	0	21.60	21.82	21.63	1
	16QAM	1	0	21.59	21.69	21.64	1
		1	12	21.53	21.67	21.58	1
		1	24	21.58	21.60	21.60	1
		12	0	20.78	20.98	20.70	2
		12	6	20.59	20.81	20.51	2
		12	13	20.63	20.83	20.60	2
		25	0	20.67	20.64	20.60	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 20450	Mid CH 20525	High CH 20600	MPR
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz	
5/ 10	QPSK	1	0	22.66	22.84	22.58	0
		1	24	22.78	22.96	22.70	0
		1	49	22.67	22.85	22.59	0
		25	0	21.69	21.87	21.61	1
		25	12	21.64	21.82	21.60	1
		25	25	21.61	21.79	21.63	1
		50	0	21.66	21.84	21.68	1
	16QAM	1	0	21.66	21.74	21.66	1
		1	24	21.61	21.69	21.63	1
		1	49	21.60	21.68	21.62	1
		25	0	20.86	21.04	20.78	2
		25	12	20.65	20.83	20.57	2
		25	25	20.70	20.88	20.62	2
		50	0	20.73	20.71	20.65	2



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LTE Band 26

Band/BW	Modulation	RB Size	RB Offset	Low CH 26797	Mid CH 26915	High CH 27033	MPR
				Frequency 824.7 MHz	Frequency 836.5 MHz	Frequency 848.3 MHz	
26/ 1.4	QPSK	1	0	22.57	22.57	22.68	0
		1	2	22.77	22.69	22.86	0
		1	5	22.58	22.50	22.63	0
		3	0	22.84	22.81	22.96	0
		3	1	22.80	22.78	22.81	0
		3	3	22.81	22.74	22.88	0
		6	0	21.84	21.74	21.91	1
	16QAM	1	0	21.65	21.58	21.73	1
		1	2	21.65	21.54	21.63	1
		1	5	21.56	21.58	21.66	1
		3	0	21.81	21.76	21.88	1
		3	1	21.69	21.75	21.80	1
		3	3	21.71	21.69	21.82	1
		6	0	20.79	20.82	20.88	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 26805	Mid CH 26915	High CH 27025	MPR
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz	
26/ 3	QPSK	1	0	22.59	22.59	22.67	0
		1	7	22.73	22.70	22.86	0
		1	14	22.54	22.50	22.63	0
		8	0	21.83	21.84	21.96	1
		8	3	21.73	21.78	21.83	1
		8	7	21.78	21.81	21.92	1
		15	0	21.81	21.75	21.85	1
	16QAM	1	0	21.62	21.64	21.76	1
		1	7	21.62	21.57	21.61	1
		1	14	21.59	21.58	21.66	1
		8	0	20.77	20.77	20.88	2
		8	3	20.74	20.70	20.83	2
		8	7	20.73	20.67	20.78	2
		15	0	20.79	20.76	20.91	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 26815	Mid CH 26915	High CH 27015	MPR
				Frequency 826.5 MHz	Frequency 836.5MHz	Frequency 846.5 MHz	
26/ 5	QPSK	1	0	22.60	22.54	22.68	0
		1	12	22.78	22.67	22.86	0
		1	24	22.55	22.49	22.67	0
		12	0	21.86	21.84	21.93	1
		12	6	21.73	21.79	21.84	1
		12	13	21.82	21.77	21.93	1
		25	0	21.79	21.78	21.88	1
	16QAM	1	0	21.63	21.60	21.76	1
		1	12	21.59	21.60	21.60	1
		1	24	21.59	21.58	21.65	1
		12	0	20.77	20.75	20.85	2
		12	6	20.71	20.74	20.79	2
		12	13	20.68	20.69	20.81	2
		25	0	20.79	20.77	20.88	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 26840	Mid CH 26915	High CH 26990	MPR
				Frequency 829MHz	Frequency 836.5MHz	Frequency 844MHz	
26/ 10	QPSK	1	0	22.57	22.57	22.68	0
		1	24	22.78	22.67	22.87	0
		1	49	22.52	22.53	22.63	0
		25	0	21.87	21.83	21.96	1
		25	12	21.79	21.73	21.84	1
		25	25	21.80	21.74	21.92	1
		50	0	21.84	21.78	21.85	1
	16QAM	1	0	21.63	21.57	21.72	1
		1	24	21.64	21.56	21.63	1
		1	49	21.59	21.59	21.62	1
		25	0	20.79	20.73	20.91	2
		25	12	20.75	20.68	20.84	2
		25	25	20.67	20.70	20.78	2
		50	0	20.83	20.76	20.92	2

Band/BW	Modulation	RB Size	RB Offset	Low CH 26865	Mid CH 26915	High CH 26965	MPR
				Frequency 831.5 MHz	Frequency 836.5 MHz	Frequency 841.5 MHz	
26/ 15	QPSK	1	0	22.65	22.61	22.73	0
		1	37	22.80	22.75	22.88	0
		1	74	22.60	22.57	22.68	0
		36	0	21.90	21.89	21.98	1
		36	19	21.81	21.80	21.89	1
		36	39	21.86	21.82	21.94	1
		75	0	21.85	21.80	21.93	1
	16QAM	1	0	21.70	21.65	21.78	1
		1	37	21.67	21.62	21.65	1
		1	74	21.61	21.66	21.67	1
		36	0	20.85	20.81	20.93	2
		36	19	20.77	20.76	20.85	2
		36	39	20.75	20.74	20.83	2
		75	0	20.85	20.84	20.93	2



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ERP POWER (dBm)

WCDMA

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
4132	826.4	22.90	-0.97	19.78	95.06	7
4182	836.4	22.82	-0.97	19.70	93.33	7
4233	846.6	22.95	-0.97	19.83	96.16	7

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

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	22.75	-1.23	19.37	86.5	7
20525	836.5	22.90	-1.23	19.52	89.54	7
20643	848.3	22.68	-1.23	19.30	85.11	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	21.82	-1.23	18.44	69.82	7
20525	836.5	21.99	-1.23	18.61	72.61	7
20643	848.3	21.73	-1.23	18.35	68.39	7

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	22.71	-1.23	19.33	85.7	7
20525	836.5	22.91	-1.23	19.53	89.74	7
20635	847.5	22.68	-1.23	19.30	85.11	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	21.58	-1.23	18.20	66.07	7
20525	836.5	21.73	-1.23	18.35	68.39	7
20635	847.5	21.64	-1.23	18.26	66.99	7



LTE BAND 5

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	22.76	-1.23	19.38	86.7	7
20525	836.5	22.88	-1.23	19.50	89.13	7
20625	846.5	22.68	-1.23	19.30	85.11	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	21.59	-1.23	18.21	66.22	7
20525	836.5	21.69	-1.23	18.31	67.76	7
20625	846.5	21.64	-1.23	18.26	66.99	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829.0	22.78	-1.23	19.40	87.1	7
20525	836.5	22.96	-1.23	19.58	90.78	7
20600	844.0	22.70	-1.23	19.32	85.51	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829.0	21.66	-1.23	18.28	67.3	7
20525	836.5	21.74	-1.23	18.36	68.55	7
20600	844.0	21.66	-1.23	18.28	67.3	7

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



LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	22.84	-1.23	19.46	88.31	7
26915	836.5	22.81	-1.23	19.43	87.7	7
27033	848.3	22.96	-1.23	19.58	90.78	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	21.81	-1.23	18.43	69.66	7
26915	836.5	21.76	-1.23	18.38	68.87	7
27033	848.3	21.88	-1.23	18.50	70.79	7

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	22.73	-1.23	19.35	86.1	7
26915	836.5	22.70	-1.23	19.32	85.51	7
27015	847.5	22.86	-1.23	19.48	88.72	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	21.62	-1.23	18.24	66.68	7
26915	836.5	21.64	-1.23	18.26	66.99	7
27015	847.5	21.76	-1.23	18.38	68.87	7



LTE BAND 26

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	22.78	-1.23	19.40	87.1	7
26915	836.5	22.67	-1.23	19.29	84.92	7
27015	846.5	22.86	-1.23	19.48	88.72	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	21.63	-1.23	18.25	66.83	7
26915	836.5	21.60	-1.23	18.22	66.37	7
27015	846.5	21.76	-1.23	18.38	68.87	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829.0	22.78	-1.23	19.40	87.1	7
26915	836.5	22.67	-1.23	19.29	84.92	7
26990	844.0	22.87	-1.23	19.49	88.92	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829.0	21.64	-1.23	18.26	66.99	7
26915	836.5	21.59	-1.23	18.21	66.22	7
26990	844.0	21.72	-1.23	18.34	68.23	7

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	22.80	-1.23	19.42	87.5	7
26915	836.5	22.75	-1.23	19.37	86.5	7
26965	841.5	22.88	-1.23	19.50	89.13	7

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	21.70	-1.23	18.32	67.92	7
26915	836.5	21.66	-1.23	18.28	67.3	7
26965	841.5	21.78	-1.23	18.40	69.18	7

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

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

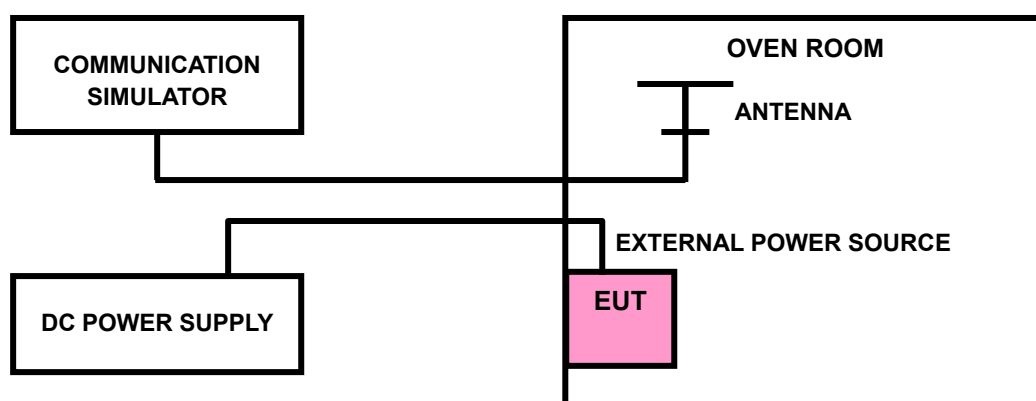
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ 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

WCDMA Band V

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)		LIMIT (ppm)
	Low Channel	High Channel	
V_{nor}	0.0021	0.0023	2.5
V_{min}	-0.0025	-0.0021	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. (°C)	FREQUENCY ERROR (ppm)		LIMIT (ppm)
	Low Channel	High Channel	
-30	-0.0115	-0.0119	2.5
-20	-0.0103	-0.0101	2.5
-10	-0.0086	-0.0079	2.5
0	-0.0074	-0.0075	2.5
10	-0.0055	-0.0045	2.5
20	-0.0041	-0.0040	2.5
30	-0.0035	-0.0038	2.5
40	-0.0016	-0.0016	2.5
50	-0.0002	-0.0004	2.5



LTE Band 5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0020	0.0025	2.5
V _{min}	-0.0031	-0.0030	2.5
V _{max}	0.0021	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. (°C)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0115	-0.0123	2.5
-20	-0.0100	-0.0108	2.5
-10	-0.0084	-0.0083	2.5
0	-0.0078	-0.0074	2.5
10	-0.0052	-0.0056	2.5
20	-0.0043	-0.0042	2.5
30	-0.0035	-0.0033	2.5
40	-0.0021	-0.0017	2.5
50	-0.0003	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0021	0.0021	2.5
V _{min}	-0.0021	-0.0026	2.5
V _{max}	0.0018	0.0018	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. (°C)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0116	2.5
-20	-0.0109	-0.0111	2.5
-10	-0.0084	-0.0082	2.5
0	-0.0076	-0.0076	2.5
10	-0.0056	-0.0048	2.5
20	-0.0040	-0.0040	2.5
30	-0.0041	-0.0036	2.5
40	-0.0020	-0.0021	2.5
50	-0.0005	-0.0004	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0021	0.0021	2.5
V _{min}	0.0021	0.0021	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. (°C)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0113	-0.0121	2.5
-20	-0.0101	-0.0110	2.5
-10	-0.0086	-0.0082	2.5
0	-0.0074	-0.0078	2.5
10	-0.0050	-0.0051	2.5
20	-0.0044	-0.0042	2.5
30	-0.0039	-0.0032	2.5
40	-0.0019	-0.0021	2.5
50	-0.0005	-0.0002	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}	-0.0031	-0.0031	2.5
V _{max}	0.0025	0.0024	2.5

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

FREQUENCY ERROR vs. TEMPERATURE.

TEMP. (°C)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0121	-0.0113	2.5
-20	-0.0111	-0.0107	2.5
-10	-0.0085	-0.0081	2.5
0	-0.0074	-0.0075	2.5
10	-0.0046	-0.0046	2.5
20	-0.0038	-0.0041	2.5
30	-0.0029	-0.0027	2.5
40	-0.0022	-0.0022	2.5
50	-0.0004	-0.0004	2.5



LTE Band 26

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0022	0.0024	2.5
V _{min}	-0.0031	-0.0030	2.5
V _{max}	0.0021	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. (°C)	1.4MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0114	-0.0113	2.5
-20	-0.0113	-0.0103	2.5
-10	-0.0086	-0.0081	2.5
0	-0.0077	-0.0078	2.5
10	-0.0049	-0.0046	2.5
20	-0.0040	-0.0039	2.5
30	-0.0038	-0.0038	2.5
40	-0.0023	-0.0020	2.5
50	-0.0005	-0.0002	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0021	0.0021	2.5
V _{min}	-0.0021	-0.0025	2.5
V _{max}	0.0018	0.0018	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. (°C)	3MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0123	-0.0115	2.5
-20	-0.0107	-0.0110	2.5
-10	-0.0082	-0.0084	2.5
0	-0.0077	-0.0077	2.5
10	-0.0050	-0.0053	2.5
20	-0.0041	-0.0044	2.5
30	-0.0027	-0.0038	2.5
40	-0.0016	-0.0016	2.5
50	-0.0004	-0.0004	2.5

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. (°C)	5MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0122	-0.0118	2.5
-20	-0.0099	-0.0100	2.5
-10	-0.0086	-0.0082	2.5
0	-0.0075	-0.0078	2.5
10	-0.0050	-0.0053	2.5
20	-0.0042	-0.0040	2.5
30	-0.0033	-0.0025	2.5
40	-0.0016	-0.0020	2.5
50	-0.0003	-0.0003	2.5

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0025	0.0025	2.5
V _{min}	-0.0031	-0.0031	2.5
V _{max}	0.0026	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. (°C)	10MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0120	-0.0117	2.5
-20	-0.0108	-0.0106	2.5
-10	-0.0081	-0.0085	2.5
0	-0.0075	-0.0076	2.5
10	-0.0053	-0.0045	2.5
20	-0.0038	-0.0043	2.5
30	-0.0035	-0.0031	2.5
40	-0.0021	-0.0019	2.5
50	-0.0002	-0.0003	2.5



FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
V _{nor}	0.0025	0.0024	2.5
V _{min}	-0.0031	-0.0031	2.5
V _{max}	0.0026	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.

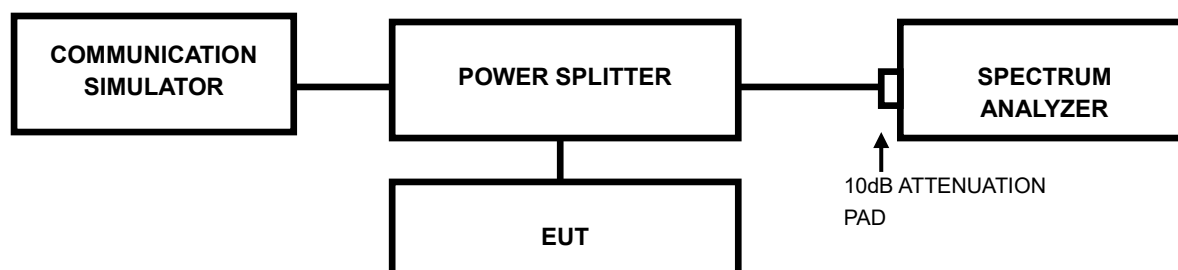
TEMP. (°C)	15MHz		LIMIT (ppm)
	FREQUENCY ERROR (ppm)		
	Low Channel	High Channel	
-30	-0.0116	-0.0115	2.5
-20	-0.0107	-0.0099	2.5
-10	-0.0082	-0.0081	2.5
0	-0.0076	-0.0074	2.5
10	-0.0054	-0.0046	2.5
20	-0.0040	-0.0043	2.5
30	-0.0038	-0.0042	2.5
40	-0.0022	-0.0017	2.5
50	-0.0004	-0.0003	2.5

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 TEST PROCEDURES

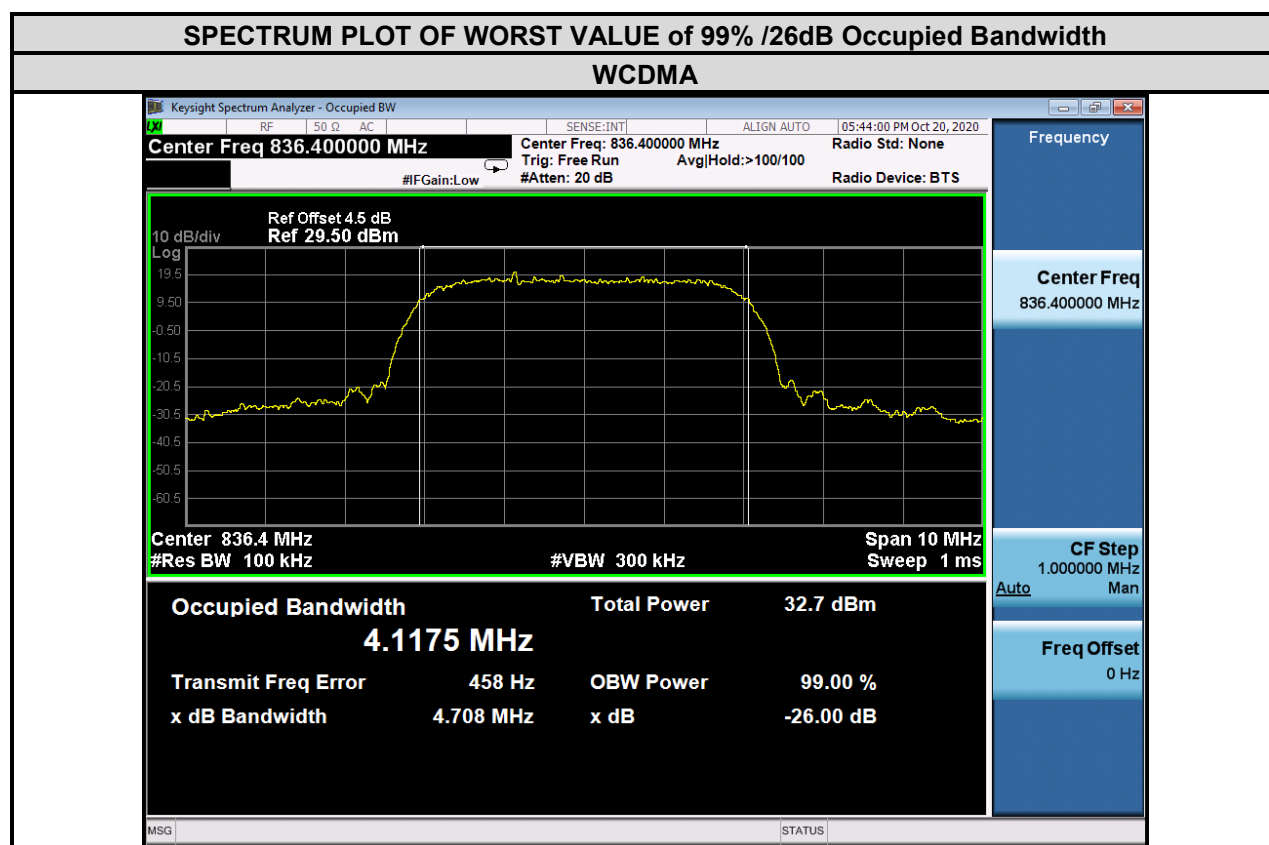
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.2 TEST SETUP



3.3.3 TEST RESULTS

CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)	CHANNEL	Frequency (MHz)	26dB Bandwidth (MHz)
		WCDMA			WCDMA
4132	826.4	4.108	4132	826.4	4.726
4182	836.4	4.118	4182	836.4	4.708
4233	846.6	4.100	4233	846.6	4.711



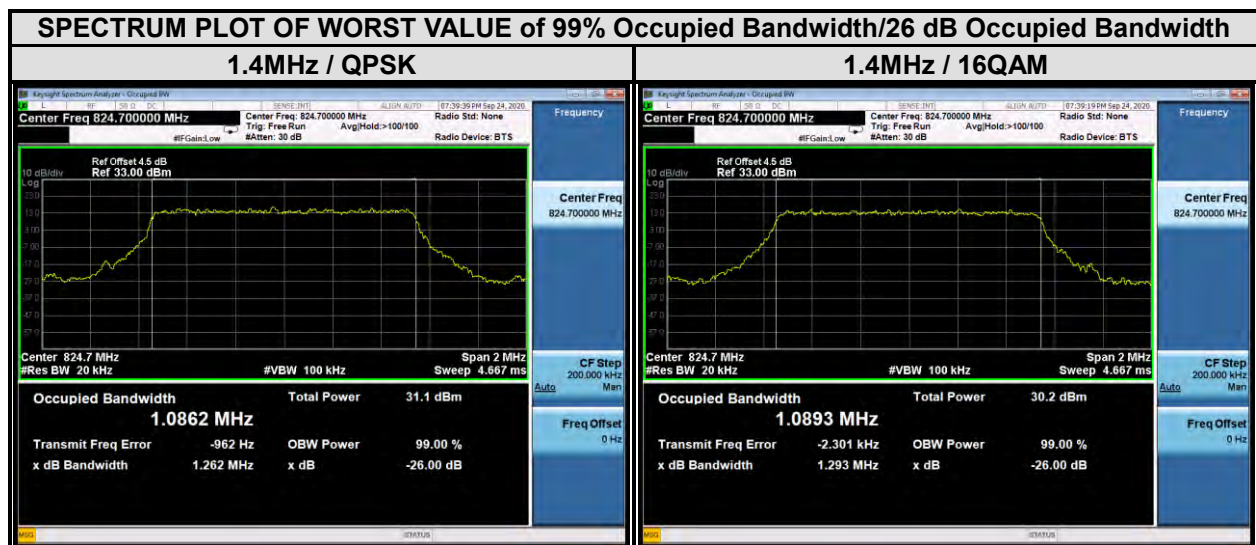


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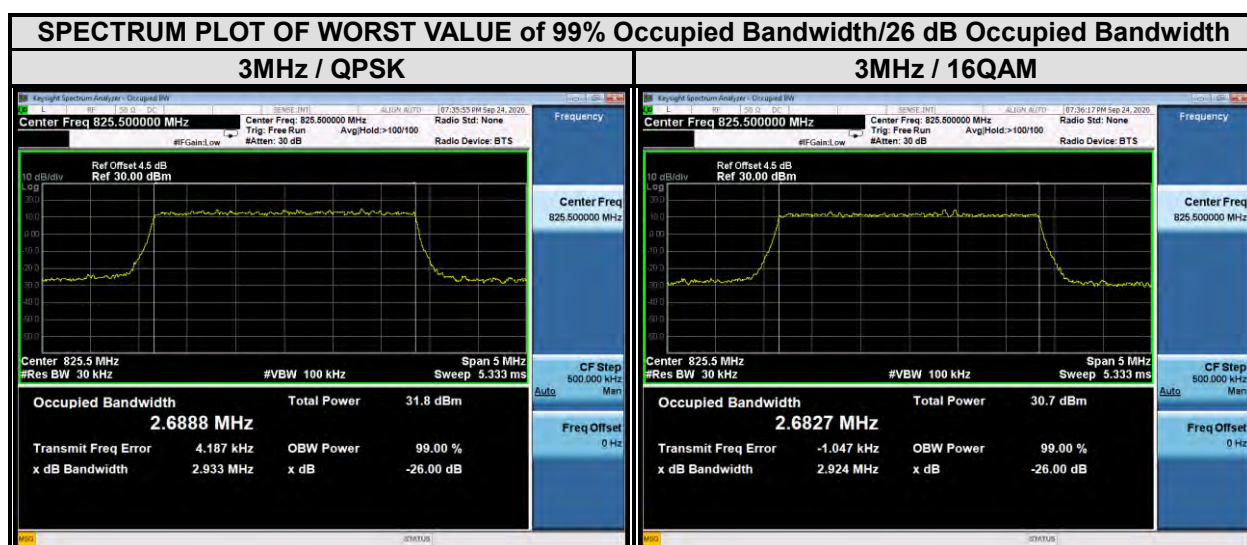
Test Report No.: RF200918W001-4

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20407	824.7	1.09	1.09	1.26	1.29
20525	836.5	1.09	1.09	1.27	1.27
20643	848.3	1.09	1.08	1.29	1.24



CHANNEL BANDWIDTH: 3MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20415	825.5	2.69	2.68	2.93	2.92
20525	836.5	2.68	2.68	2.94	2.93
20635	847.5	2.68	2.68	2.90	2.90

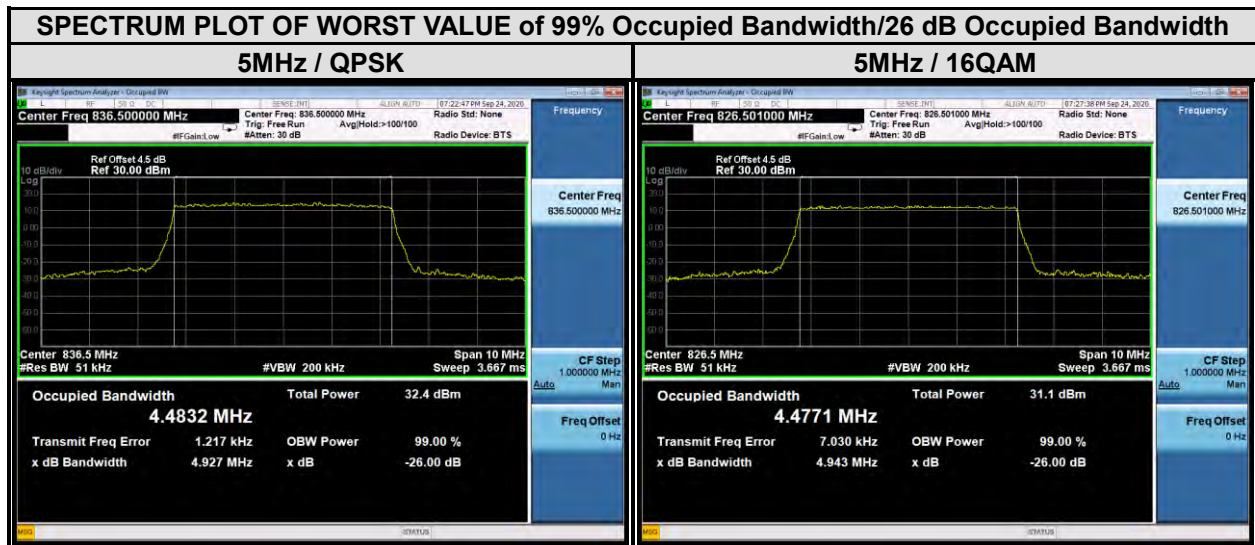




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CHANNEL BANDWIDTH: 5MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20425	826.5	4.47	4.48	4.86	4.94
20525	836.5	4.48	4.46	4.93	4.86
20625	846.5	4.45	4.45	4.89	4.86

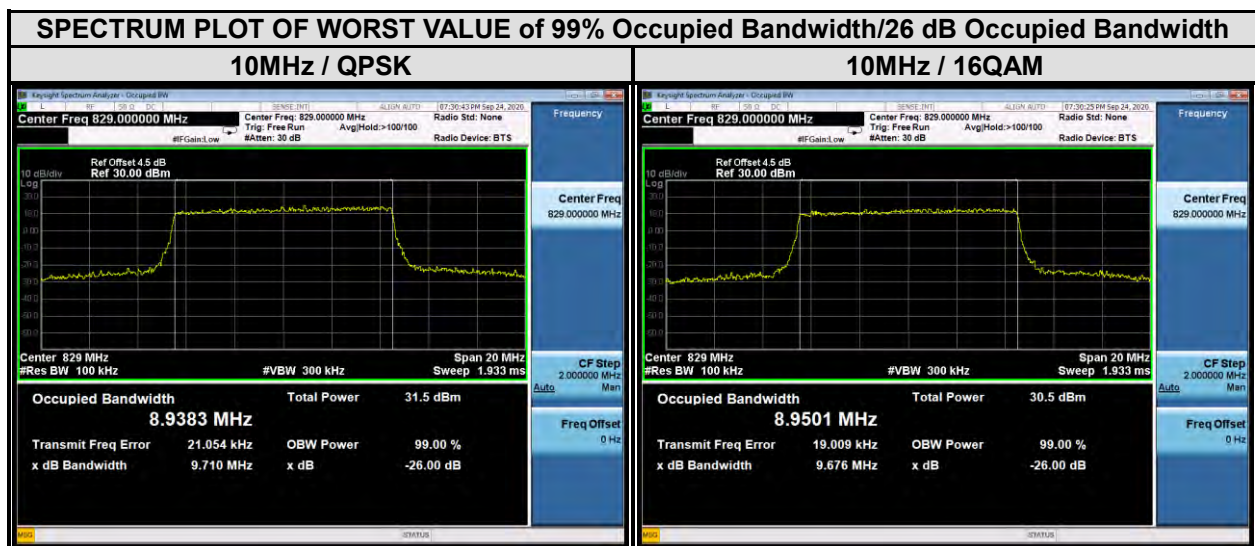




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Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 10MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20450	829	8.94	8.95	9.71	9.68
20525	836.5	8.92	8.92	9.72	9.65
20600	844	8.93	8.93	9.71	9.64



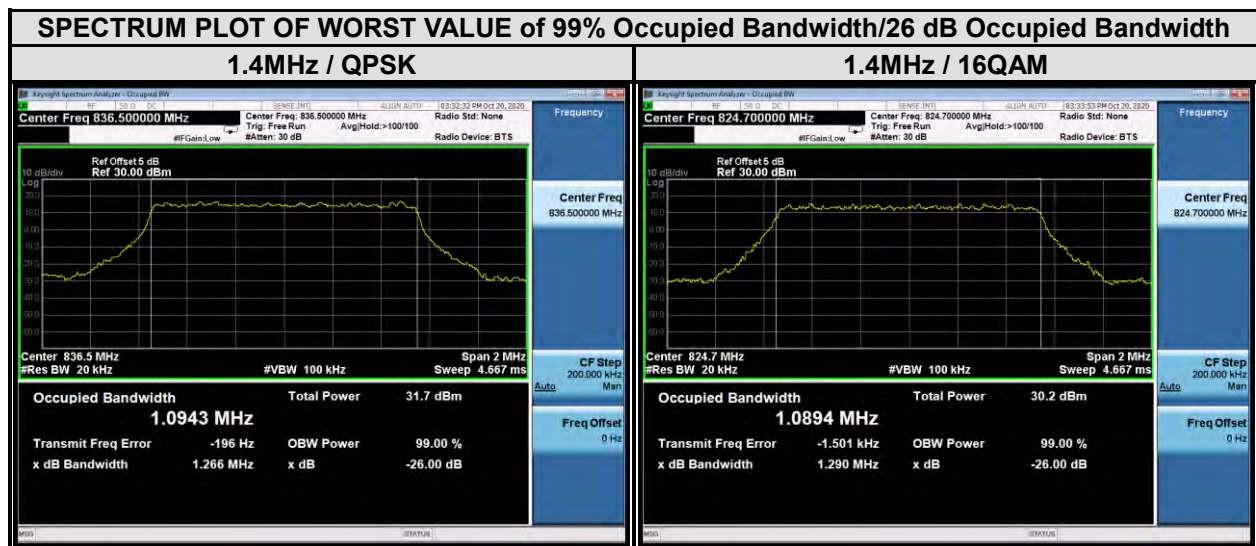


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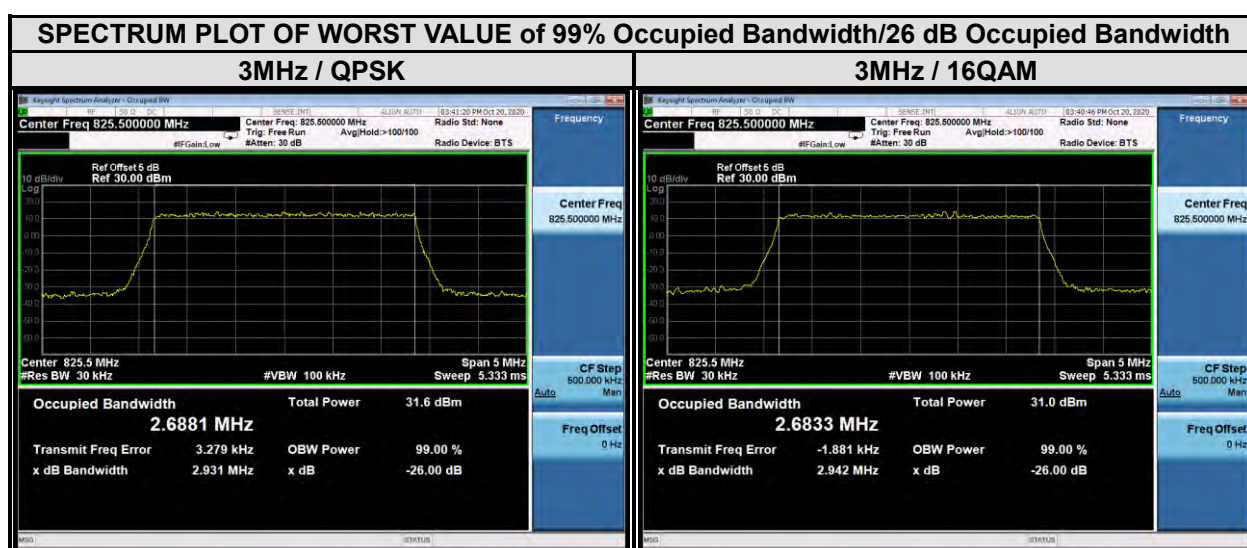
Test Report No.: RF200918W001-4

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
26797	824.7	1.09	1.09	1.27	1.29
26915	836.5	1.09	1.09	1.27	1.28
27033	848.3	1.08	1.08	1.28	1.26



CHANNEL BANDWIDTH: 3MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
26805	825.5	2.69	2.68	2.93	2.94
26915	836.5	2.68	2.68	2.91	2.94
27025	847.5	2.68	2.68	2.94	2.93

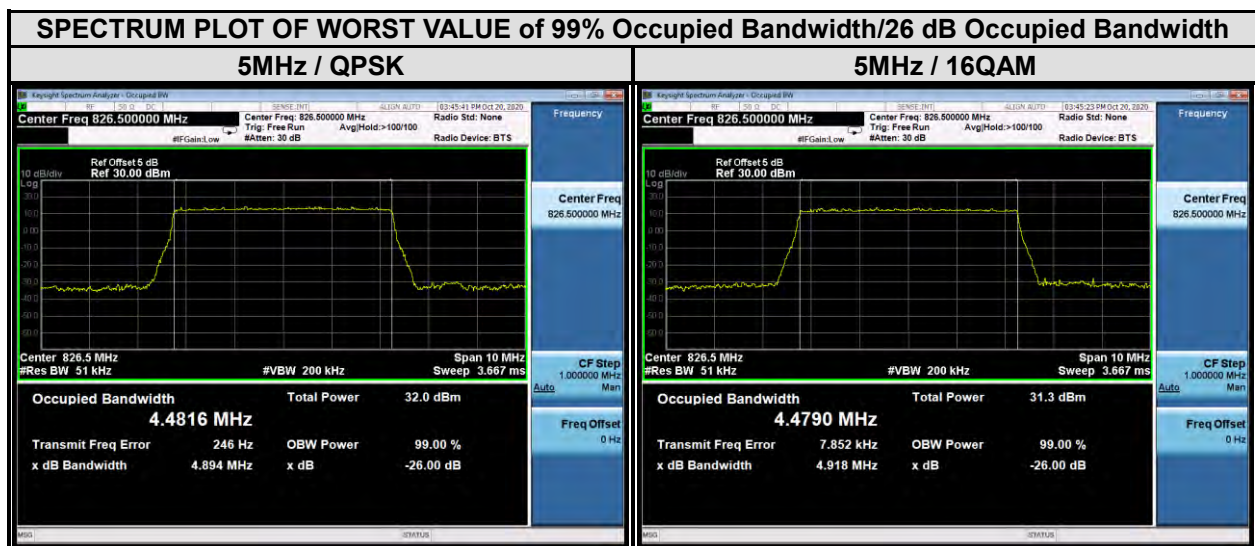




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Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 5MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
26815	826.5	4.48	4.48	4.89	4.92
26915	836.5	4.48	4.46	4.92	4.84
27015	846.5	4.45	4.46	4.84	4.91

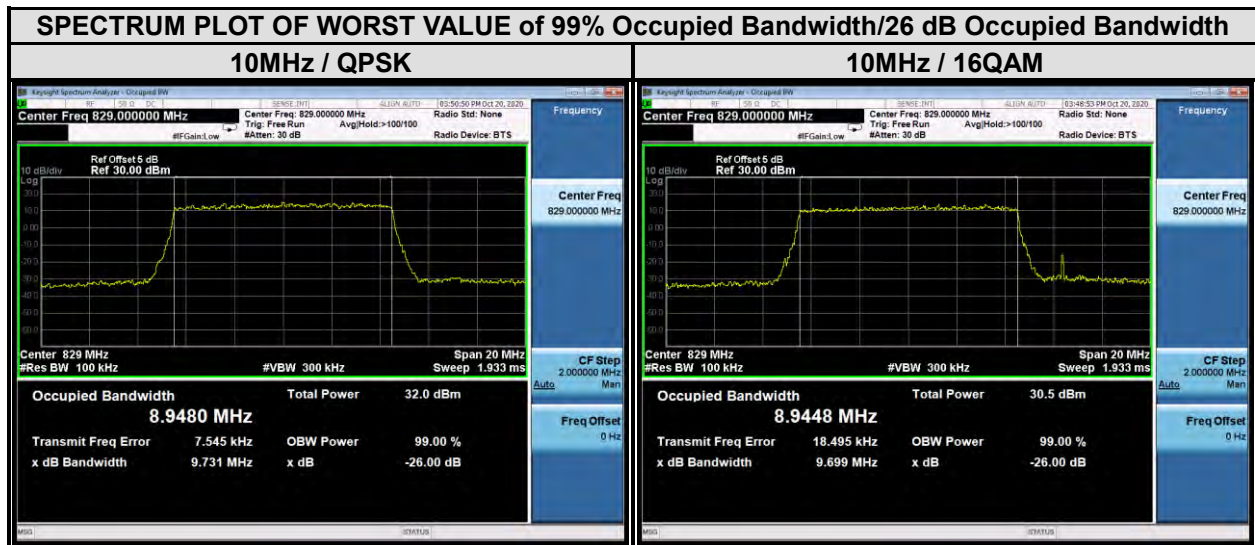




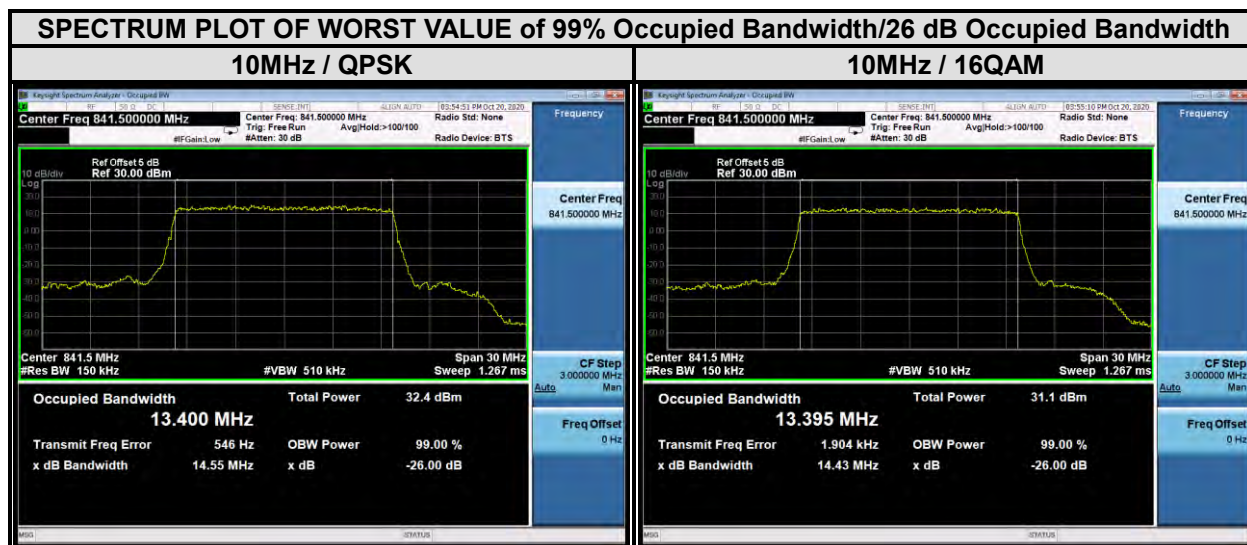
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Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 10MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
26840	829	8.95	8.94	9.73	9.70
26915	836.5	8.93	8.91	9.77	9.61
26990	844	8.92	8.94	9.64	9.61



CHANNEL BANDWIDTH: 15MHz					
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		26 dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
26865	831.5	13.37	13.38	14.41	14.34
26915	836.5	13.38	13.37	14.50	14.38
26965	841.5	13.40	13.40	14.55	14.43

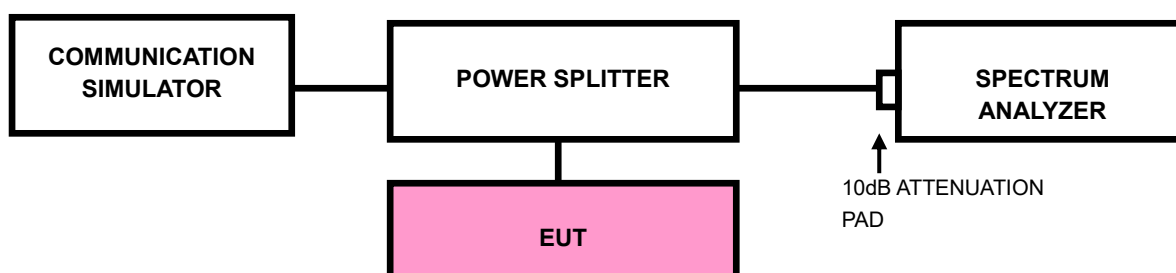


3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

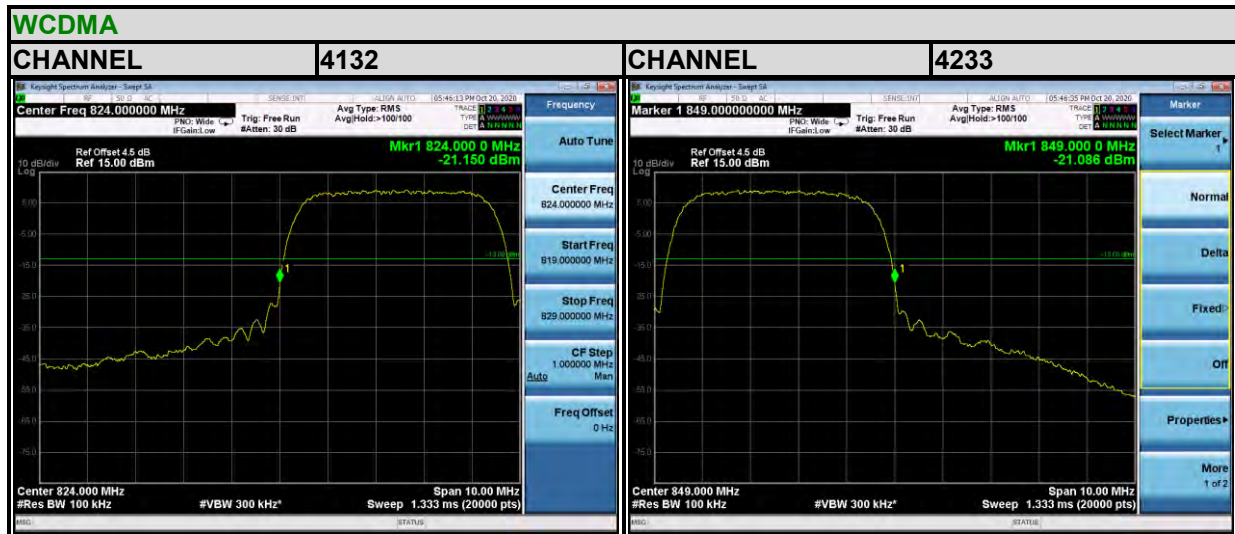
- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 10MHz.
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- c. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz)
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 5MHz)
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)
- g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)
- h. Record the max trace plot into the test report.



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3.4.4 TEST RESULTS





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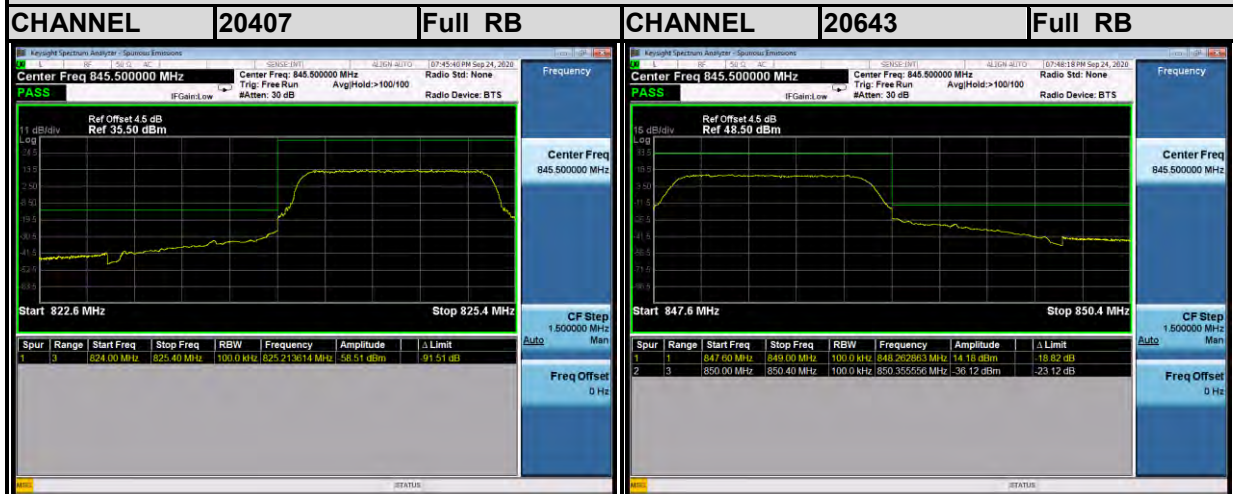
LTE Band5

Channel Bandwidth: 1.4MHz QPSK



LTE Band5

Channel Bandwidth: 1.4MHz QPSK



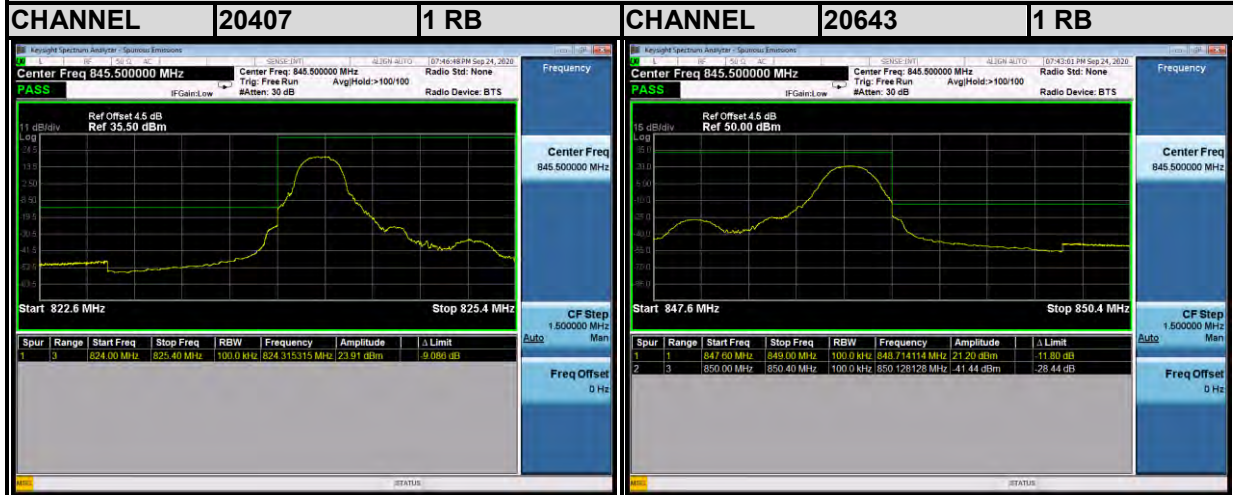


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Test Report No.: RF200918W001-4

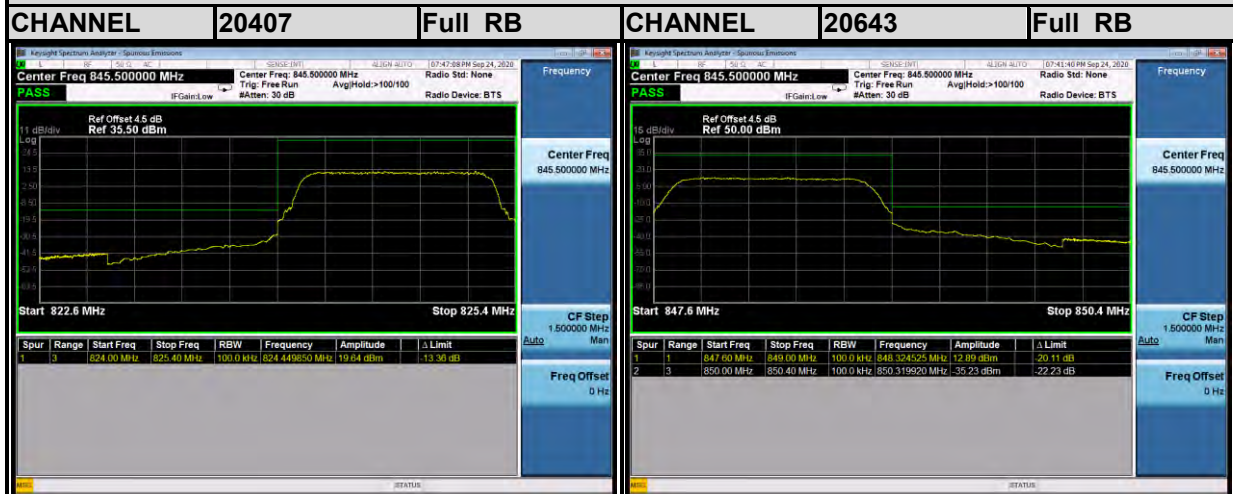
LTE Band5

Channel Bandwidth: 1.4MHz 16QAM



LTE Band5

Channel Bandwidth: 1.4MHz 16QAM



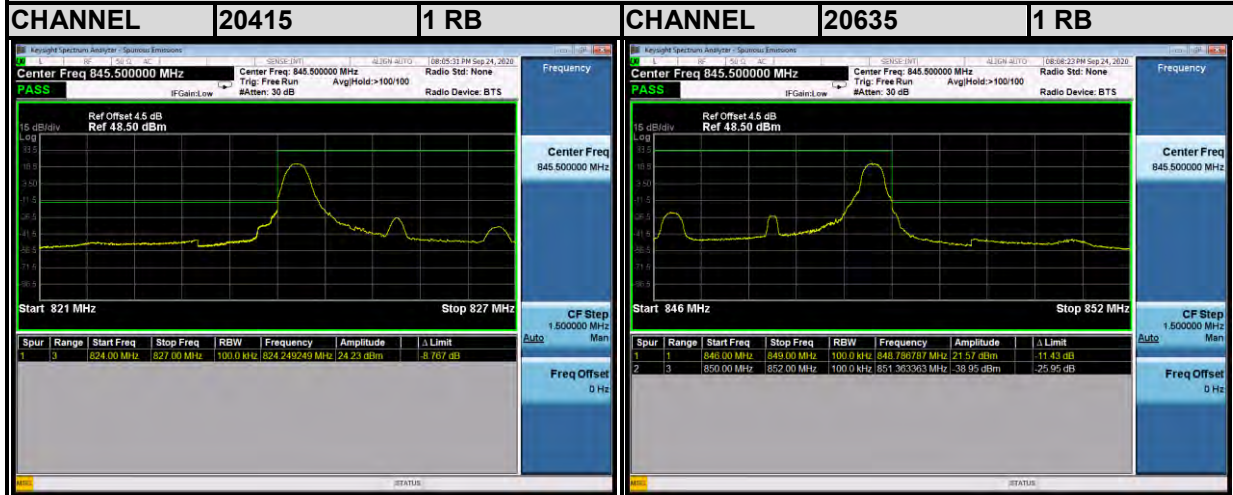


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Test Report No.: RF200918W001-4

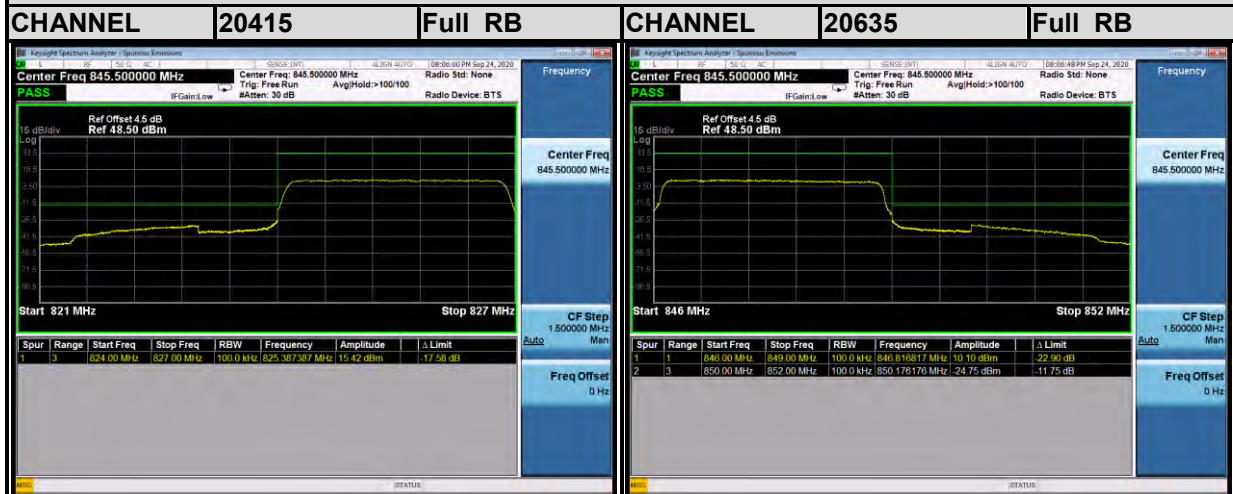
LTE Band5

Channel Bandwidth: 3MHz QPSK



LTE Band5

Channel Bandwidth: 3MHz QPSK





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Test Report No.: RF200918W001-4



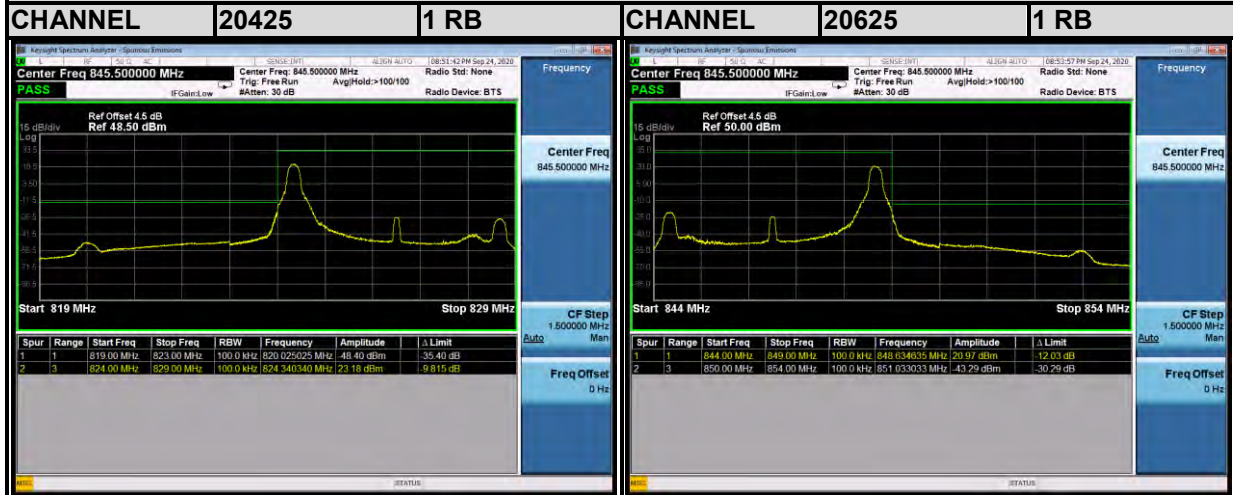


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Test Report No.: RF200918W001-4

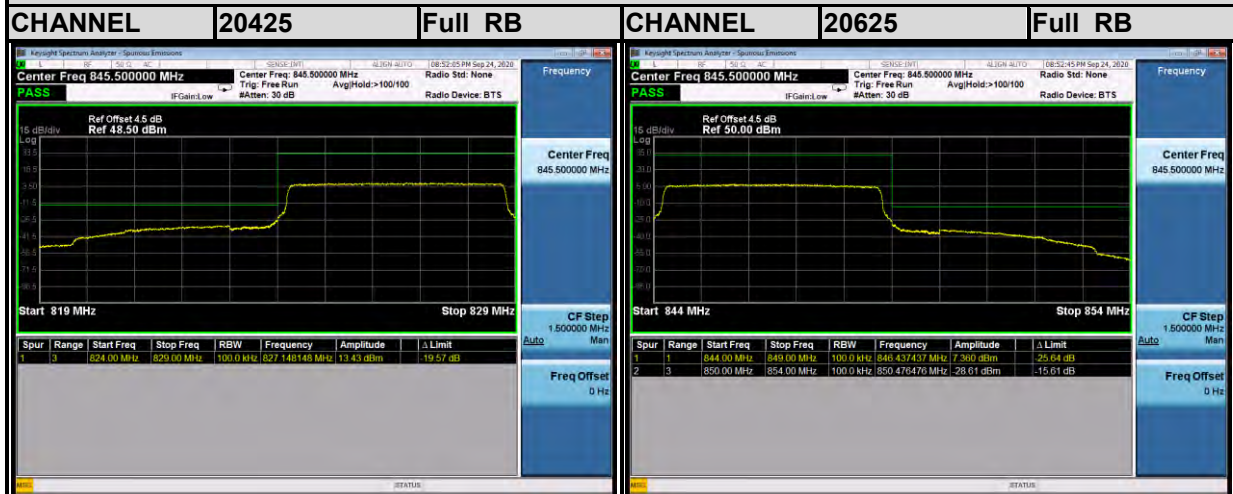
LTE Band5

Channel Bandwidth: 5MHz QPSK



LTE Band5

Channel Bandwidth: 5MHz QPSK



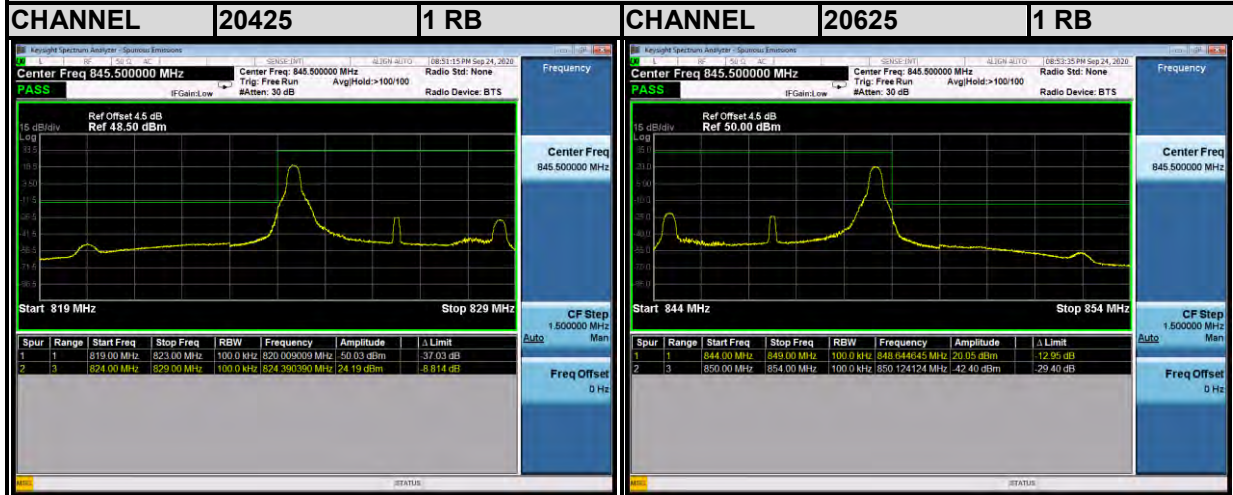


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Test Report No.: RF200918W001-4

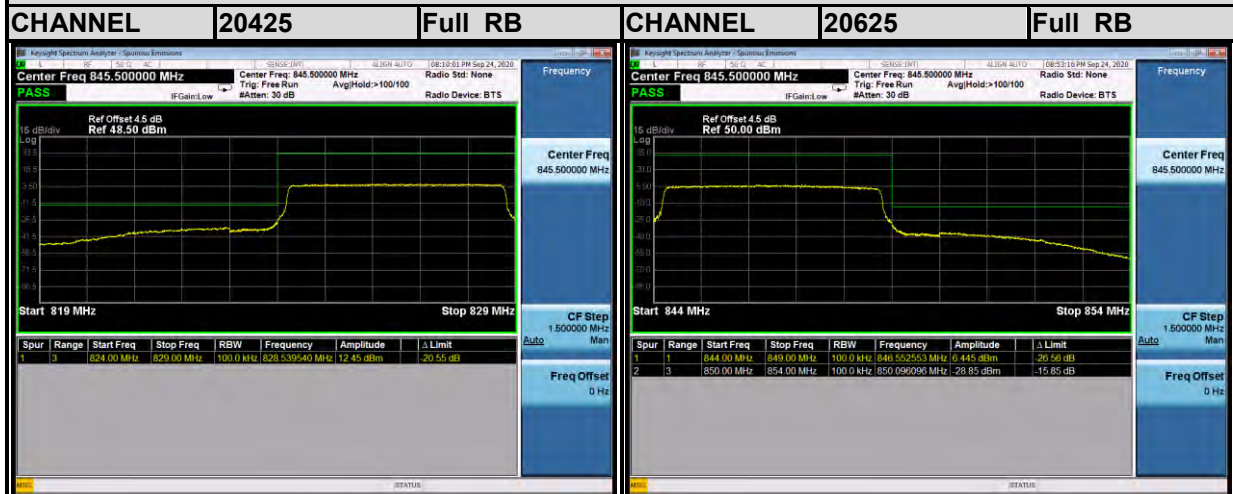
LTE Band5

Channel Bandwidth: 5MHz 16QAM



LTE Band5

Channel Bandwidth: 5MHz 16QAM



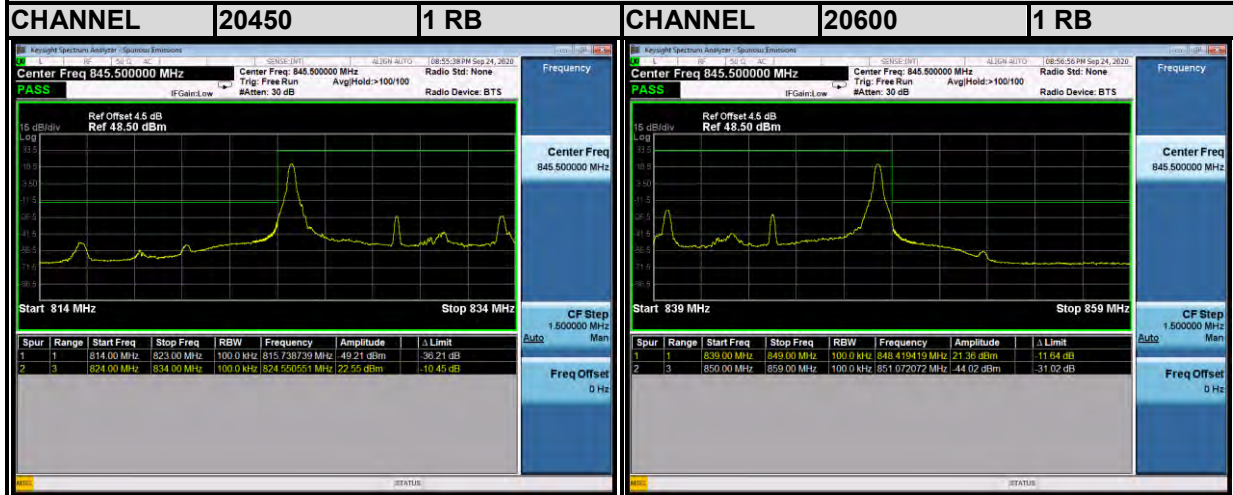


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Test Report No.: RF200918W001-4

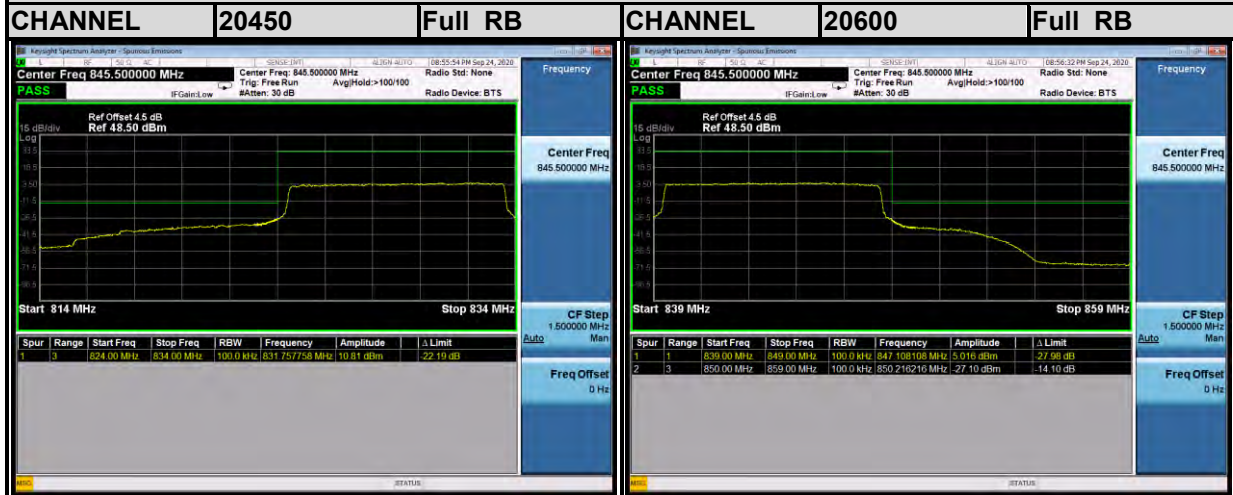
LTE Band5

Channel Bandwidth: 10MHz QPSK



LTE Band5

Channel Bandwidth: 10MHz QPSK



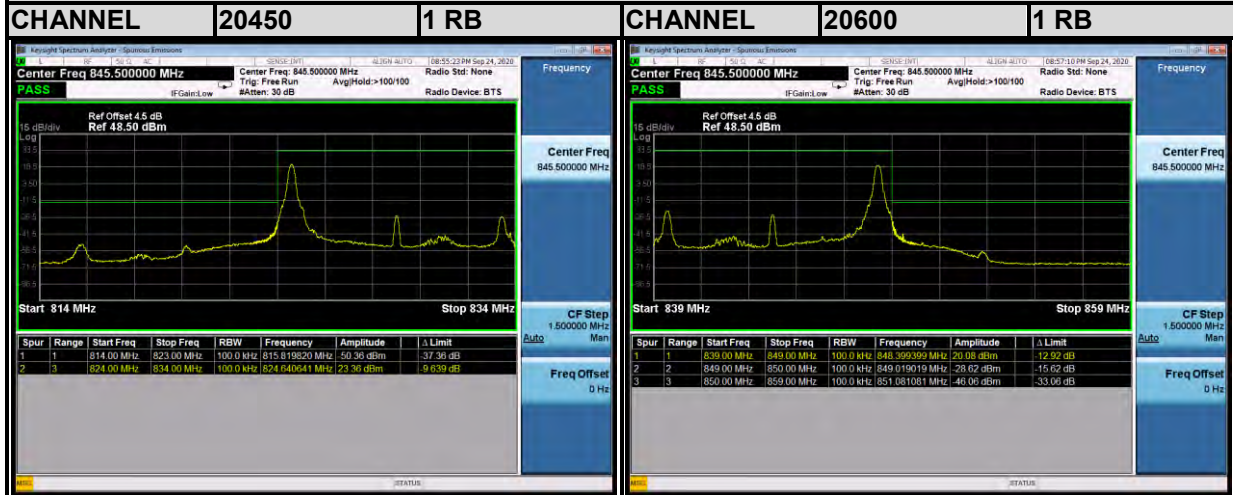


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Test Report No.: RF200918W001-4

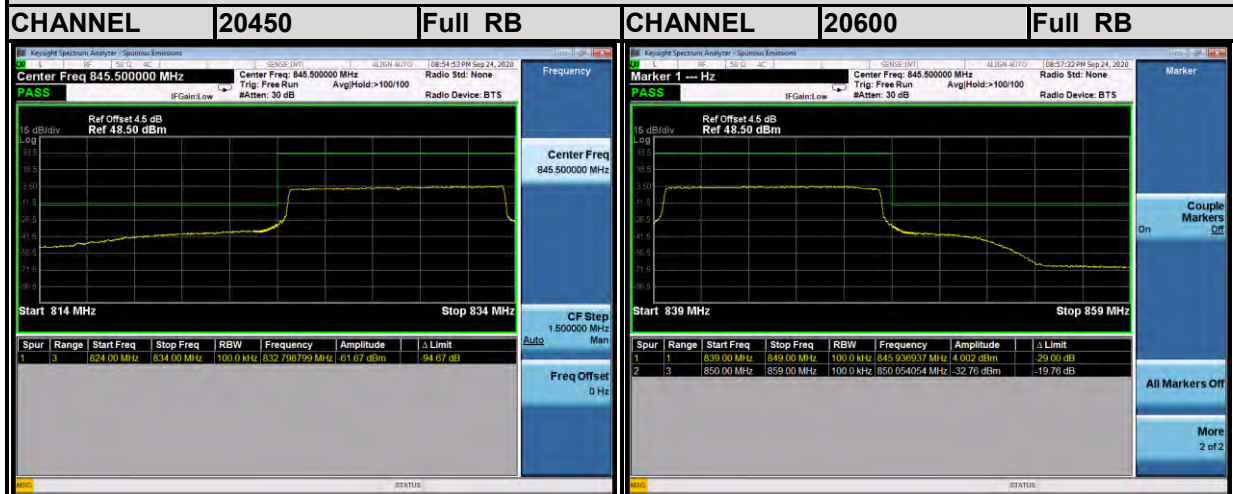
LTE Band5

Channel Bandwidth: 10MHz 16QAM



LTE Band5

Channel Bandwidth: 10MHz 16QAM



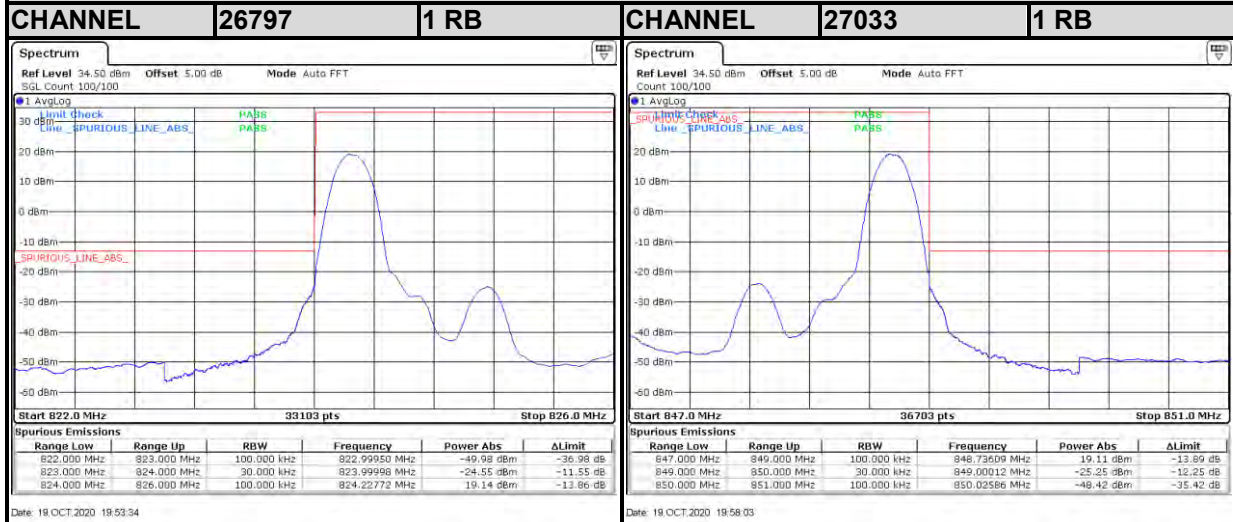


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VERITAS

Test Report No.: RF200918W001-4

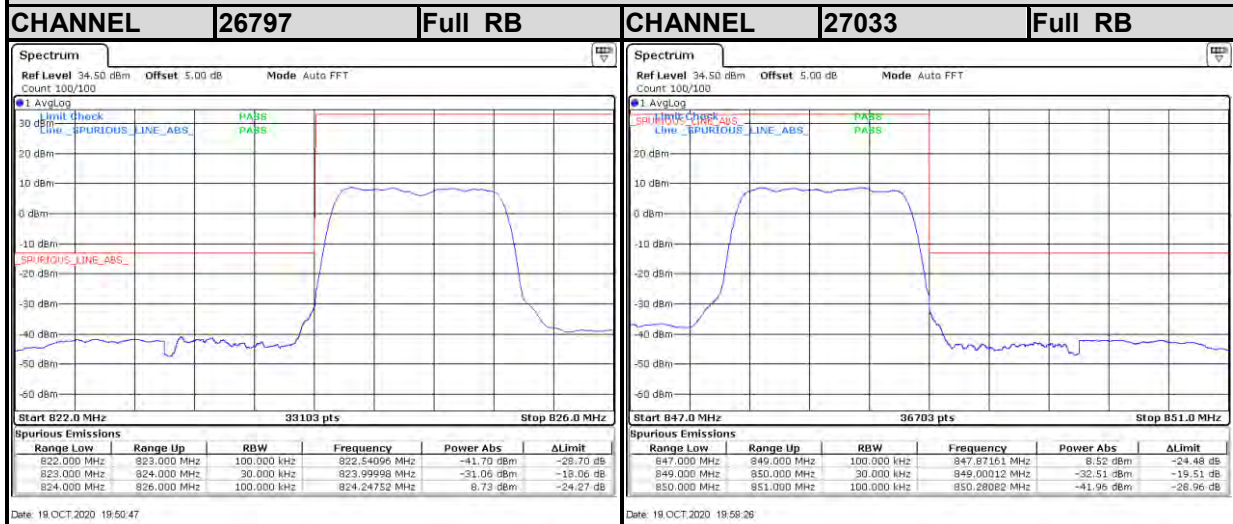
LTE Band26

Channel Bandwidth: 1.4MHz QPSK



LTE Band26

Channel Bandwidth: 1.4MHz QPSK



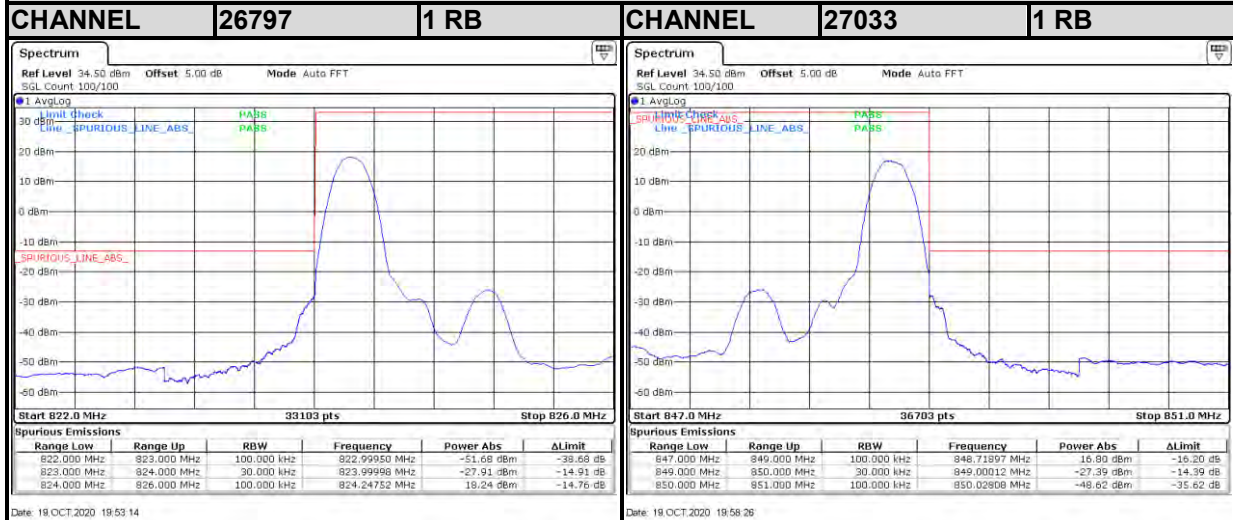


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Test Report No.: RF200918W001-4

LTE Band26

Channel Bandwidth: 1.4MHz 16QAM



LTE Band26

Channel Bandwidth: 1.4MHz 16QAM



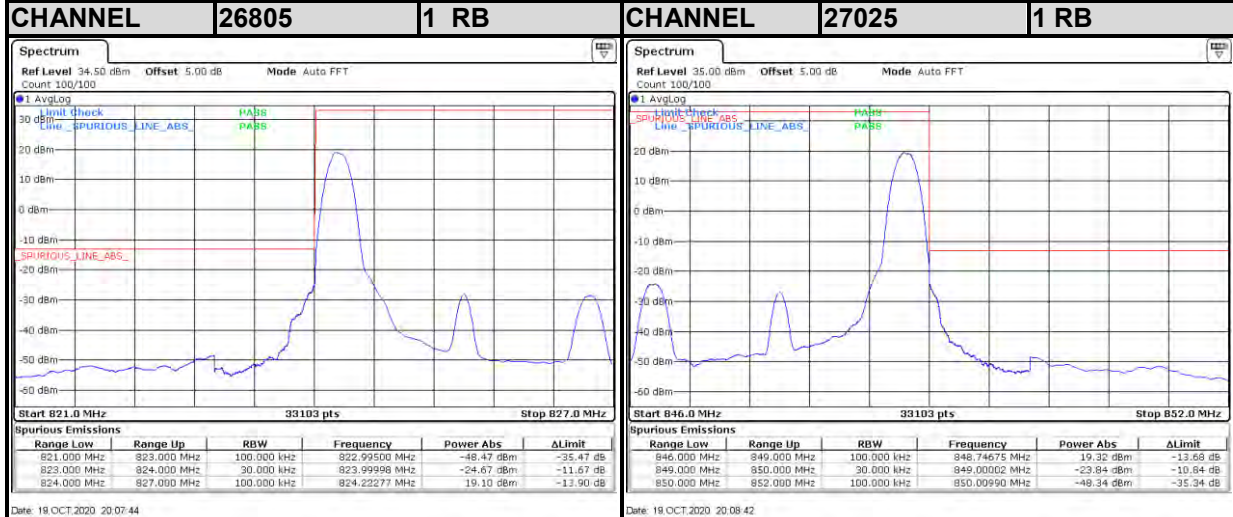


BUREAU
VERITAS

Test Report No.: RF200918W001-4

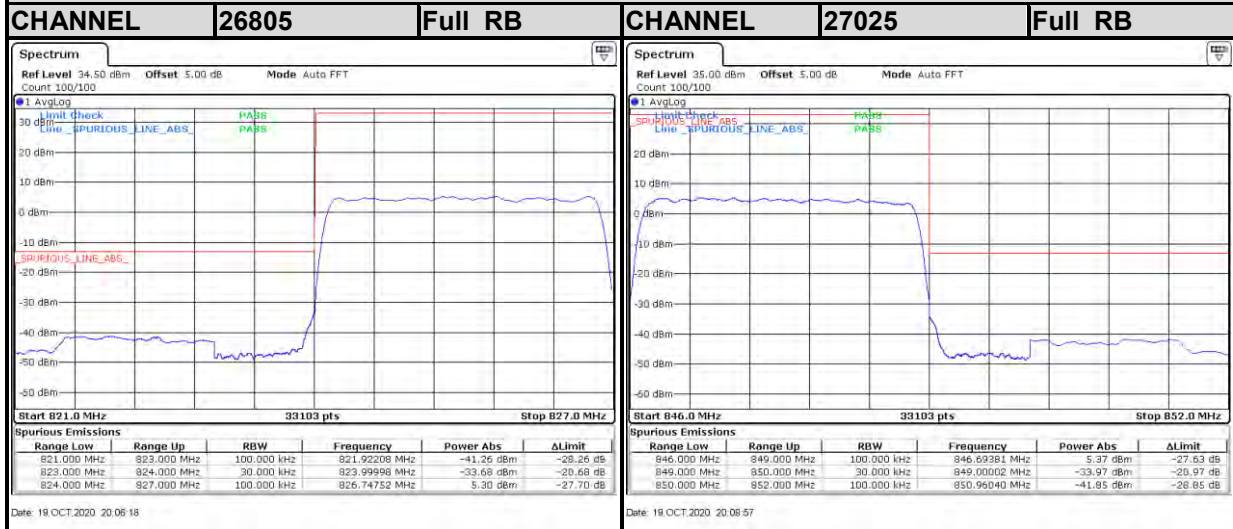
LTE Band26

Channel Bandwidth: 3MHz QPSK



LTE Band26

Channel Bandwidth: 3MHz QPSK



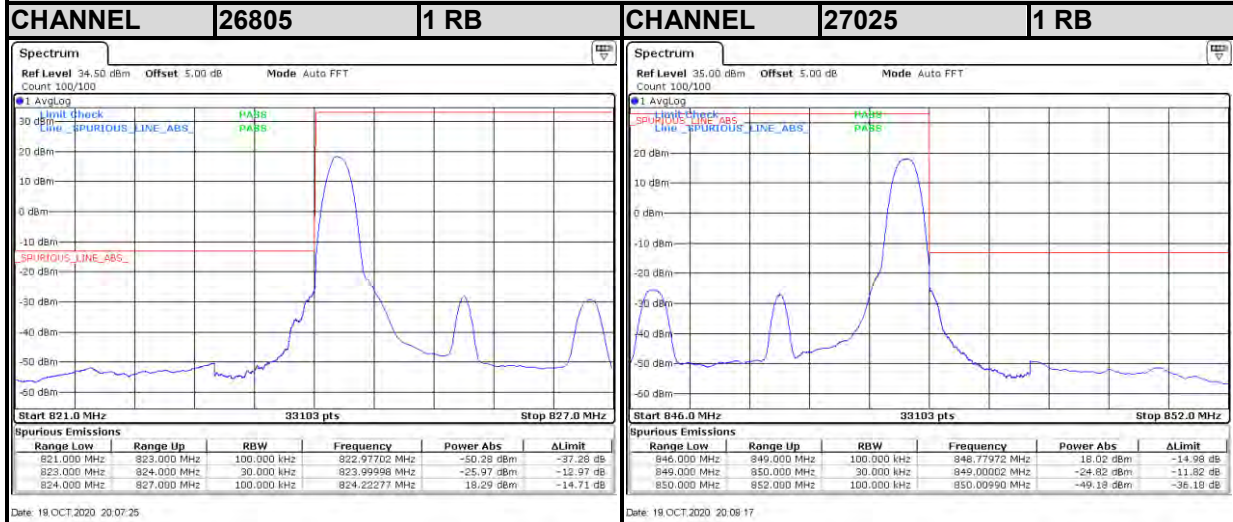


BUREAU
VERITAS

Test Report No.: RF200918W001-4

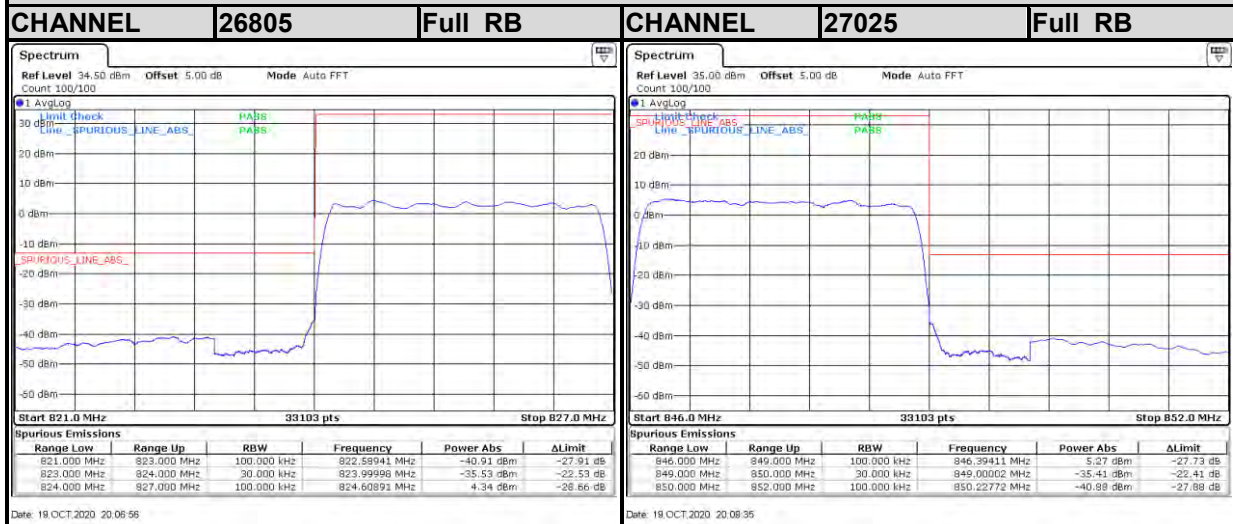
LTE Band26

Channel Bandwidth: 3MHz 16QAM



LTE Band26

Channel Bandwidth: 3MHz 16QAM



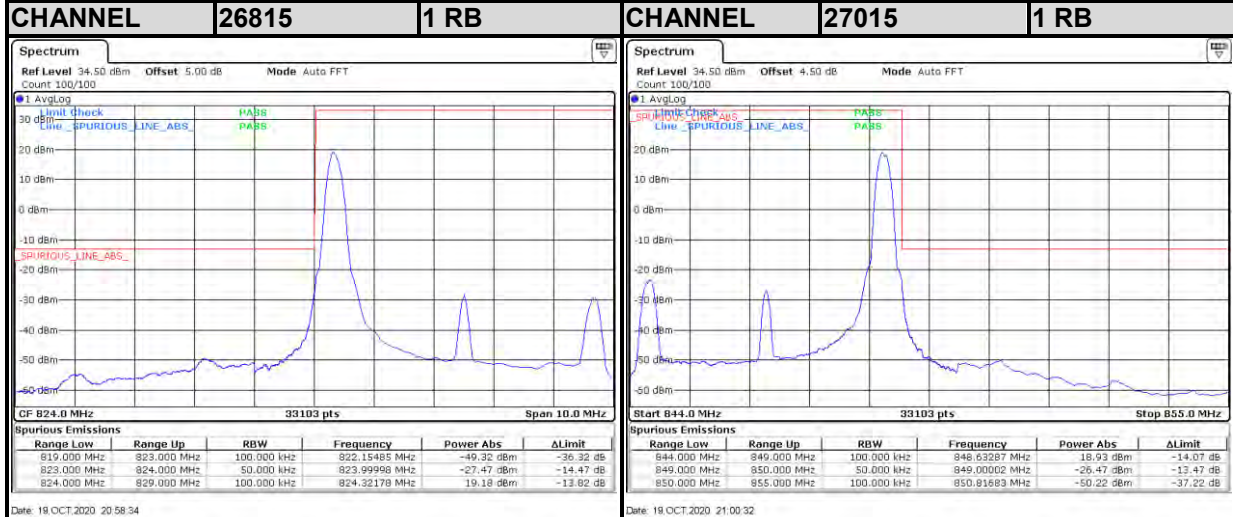


BUREAU
VERITAS

Test Report No.: RF200918W001-4

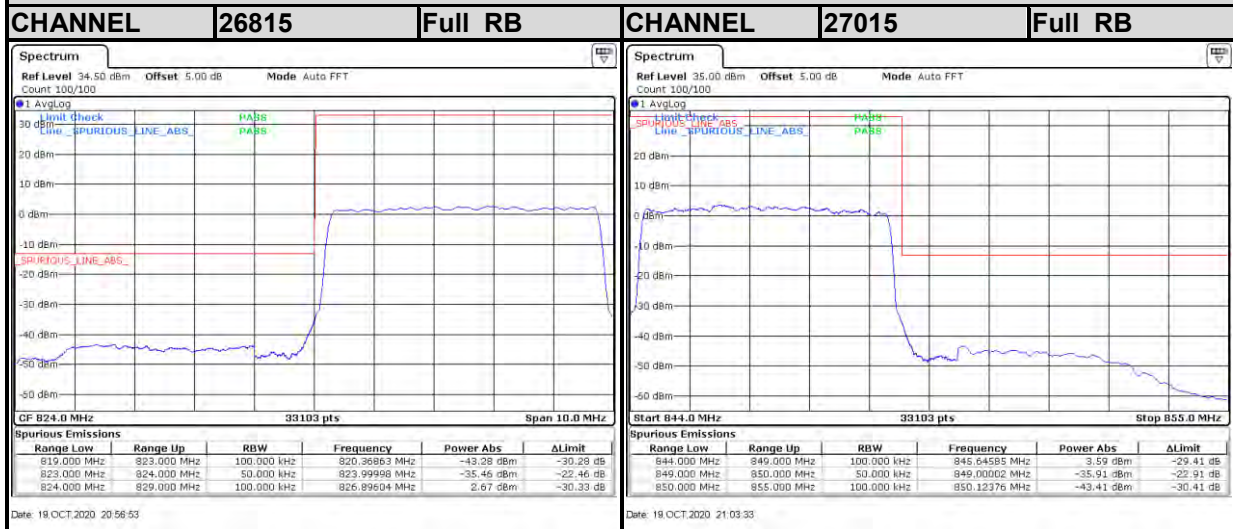
LTE Band26

Channel Bandwidth: 5MHz QPSK



LTE Band26

Channel Bandwidth: 5MHz QPSK



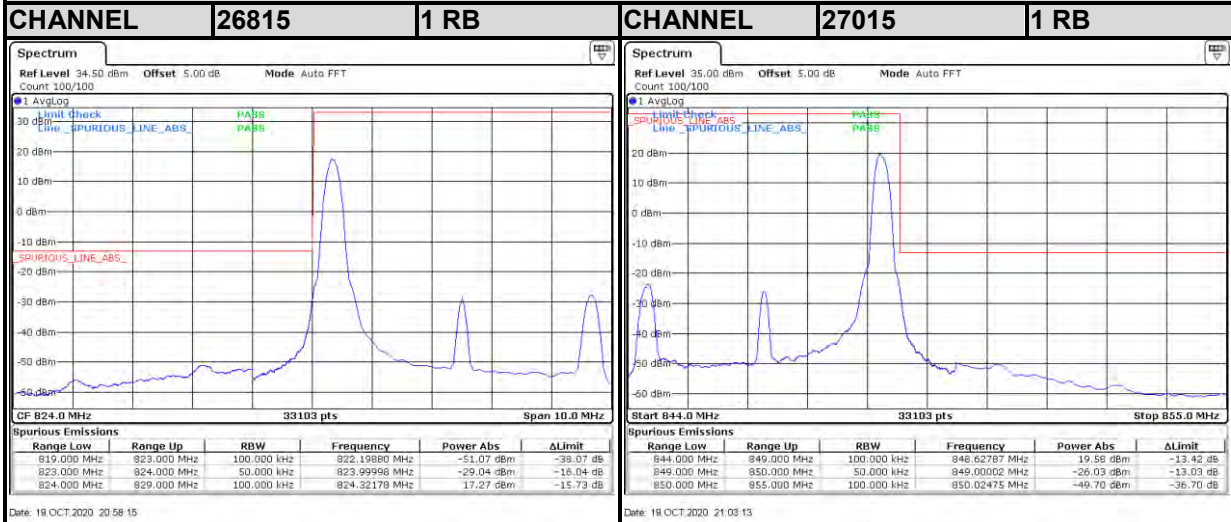


BUREAU
VERITAS

Test Report No.: RF200918W001-4

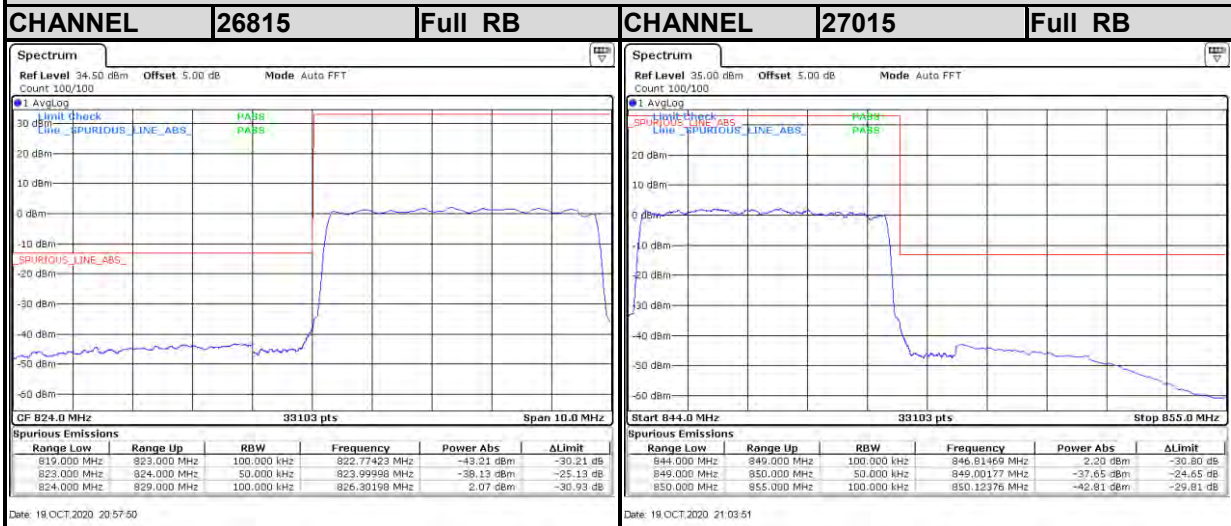
LTE Band26

Channel Bandwidth: 5MHz 16QAM



LTE Band26

Channel Bandwidth: 5MHz 16QAM



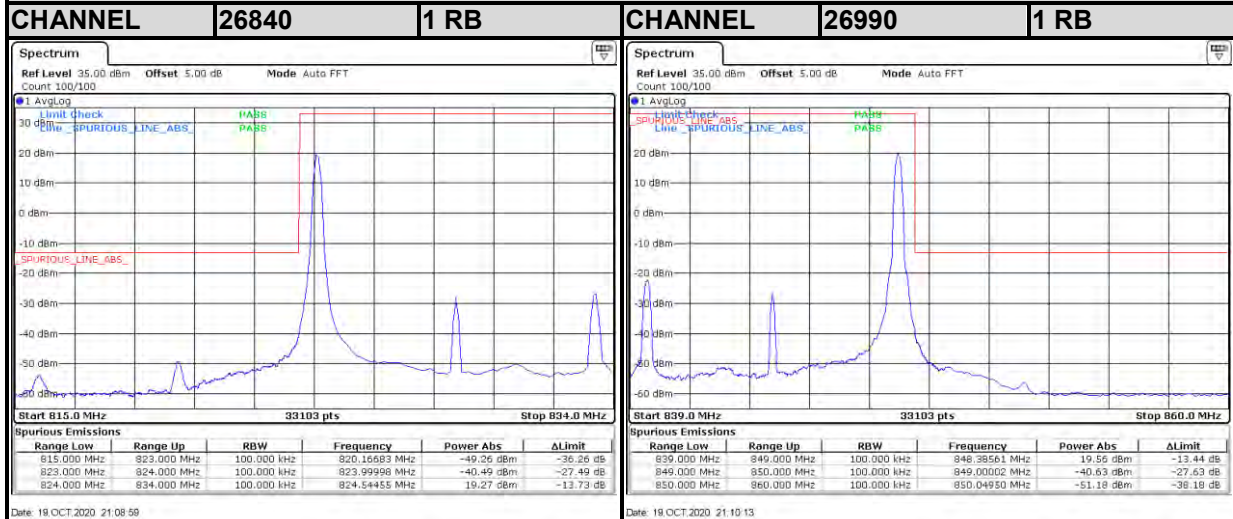


BUREAU
VERITAS

Test Report No.: RF200918W001-4

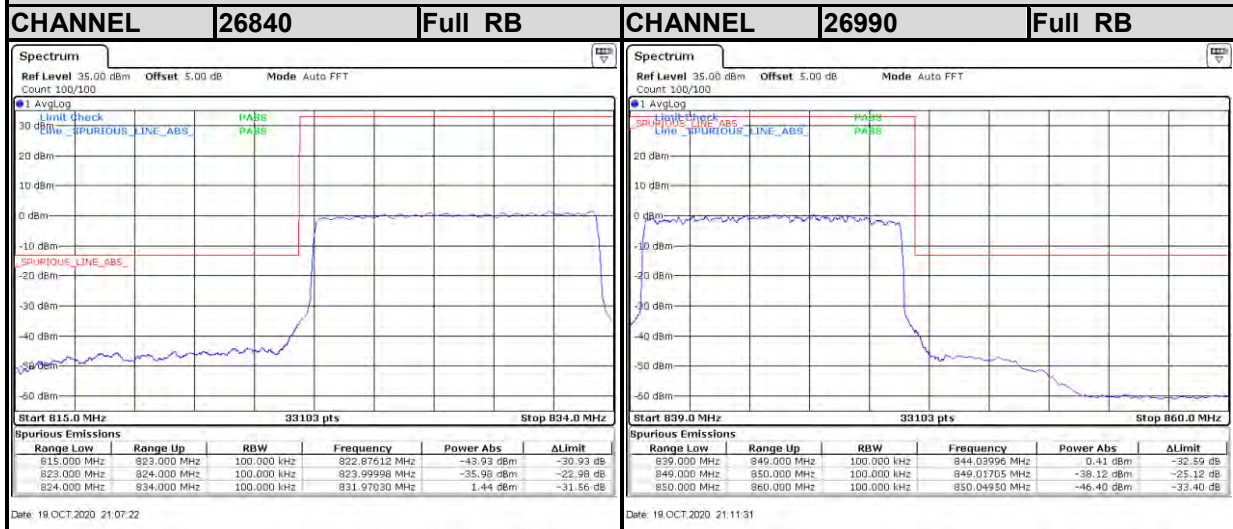
LTE Band26

Channel Bandwidth: 10MHz QPSK



LTE Band26

Channel Bandwidth: 10MHz QPSK



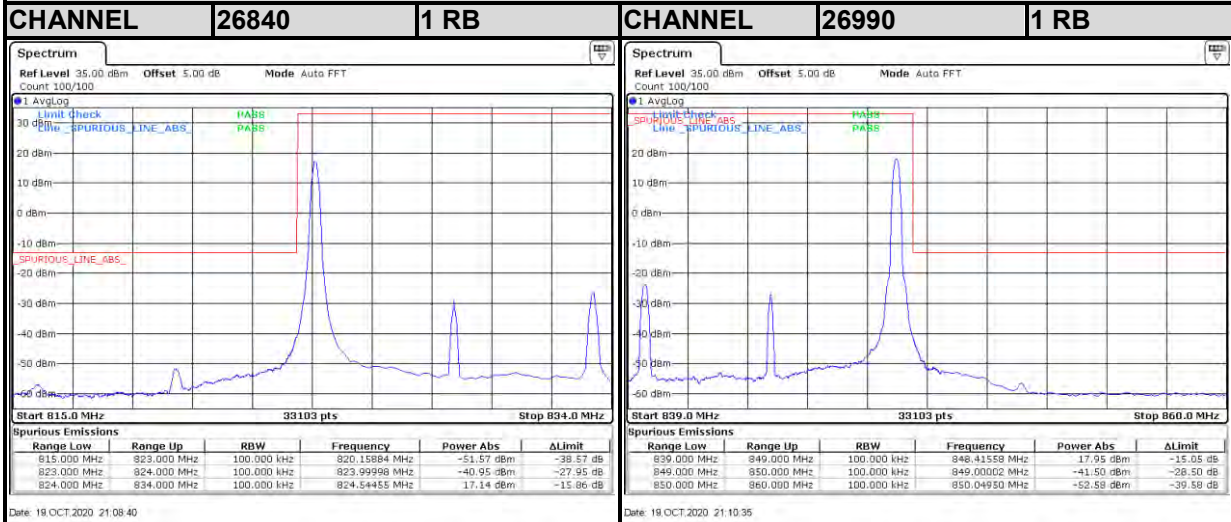


BUREAU
VERITAS

Test Report No.: RF200918W001-4

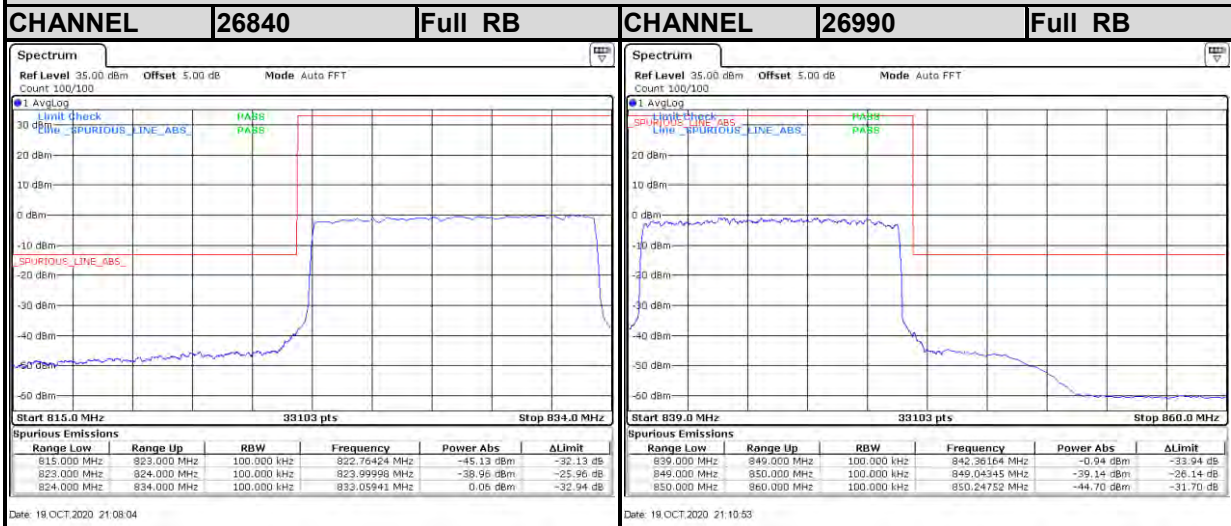
LTE Band26

Channel Bandwidth: 10MHz 16QAM



LTE Band26

Channel Bandwidth: 10MHz 16QAM



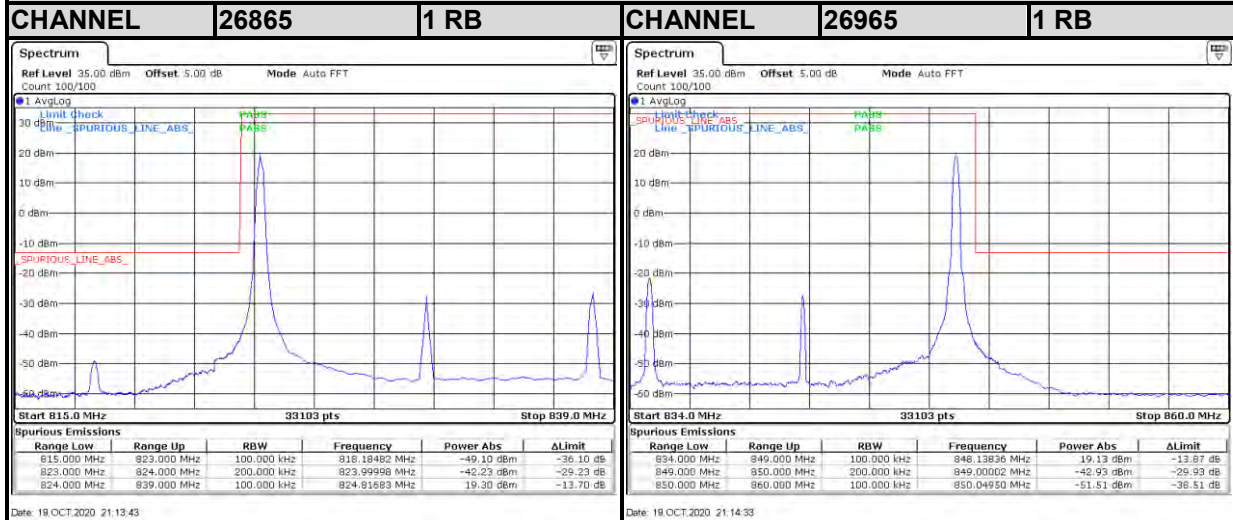


BUREAU
VERITAS

Test Report No.: RF200918W001-4

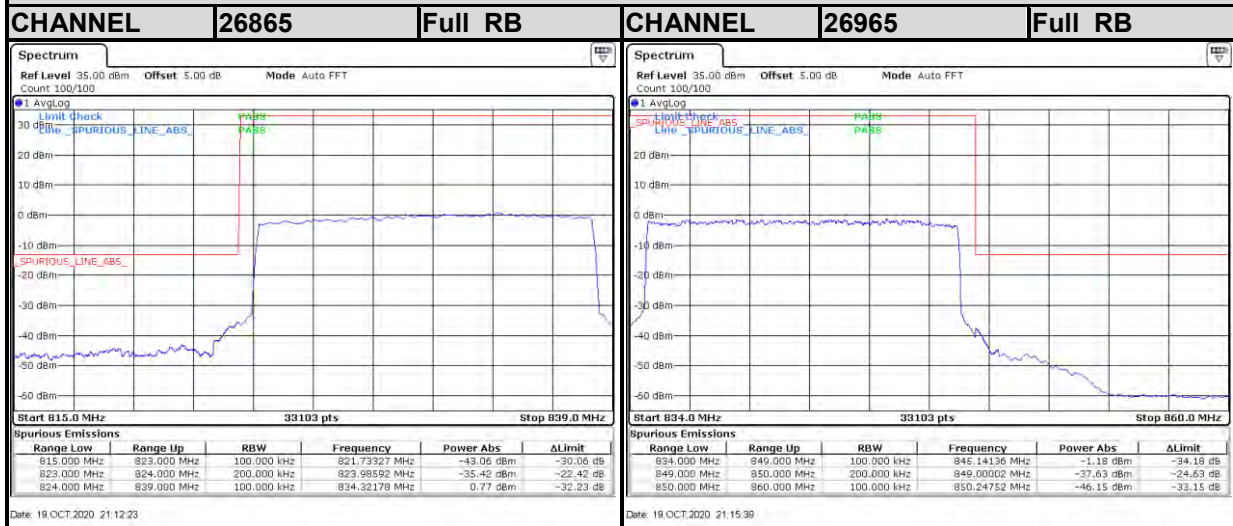
LTE Band26

Channel Bandwidth: 15MHz QPSK



LTE Band26

Channel Bandwidth: 15MHz QPSK



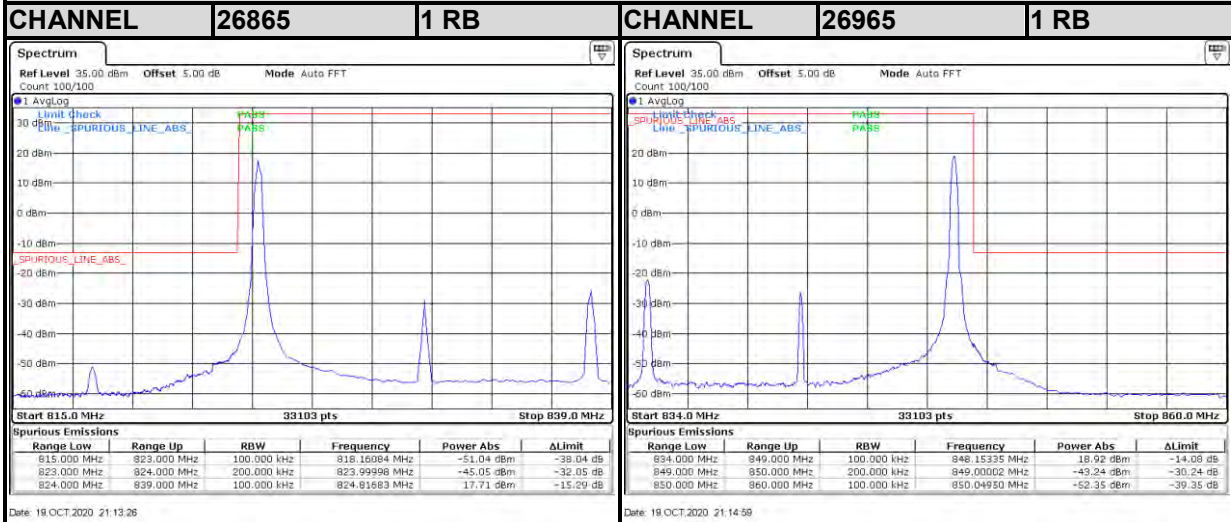


BUREAU
VERITAS

Test Report No.: RF200918W001-4

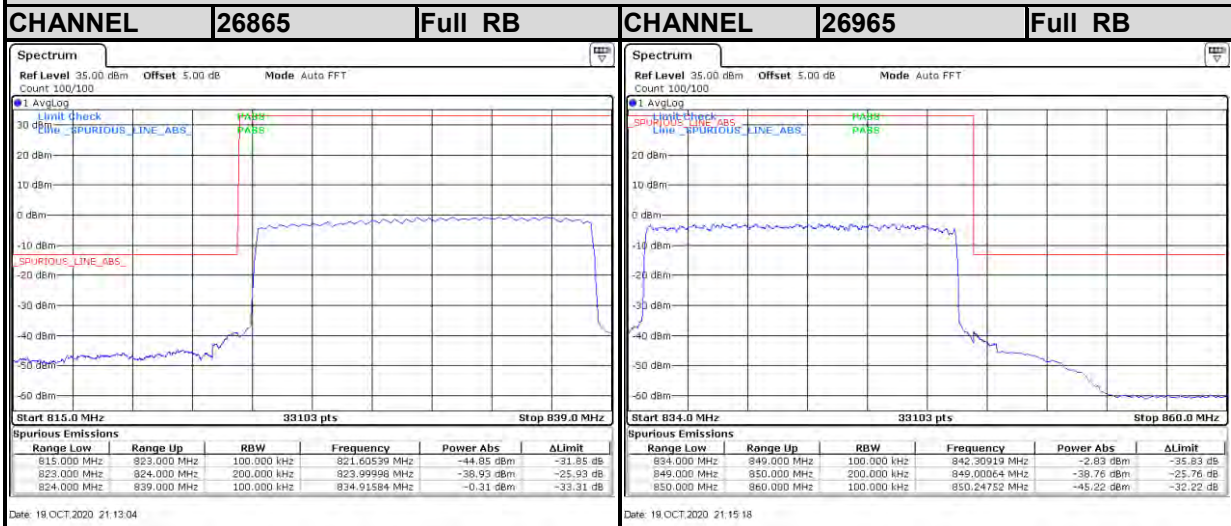
LTE Band26

Channel Bandwidth: 15MHz 16QAM



LTE Band26

Channel Bandwidth: 15MHz 16QAM



3.5 CONDUCTED SPURIOUS EMISSIONS

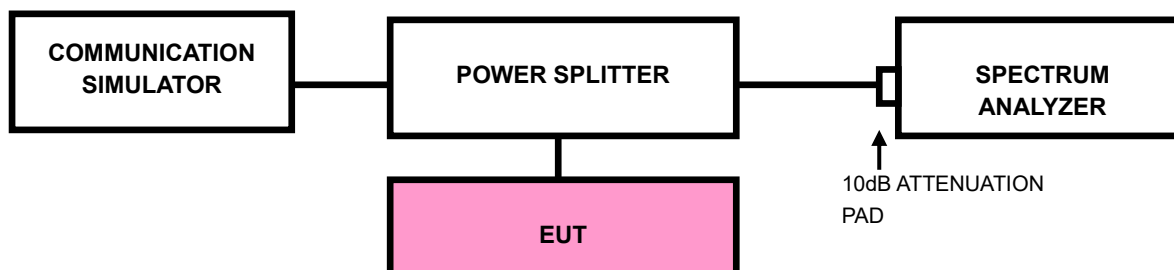
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

3.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9 kHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP

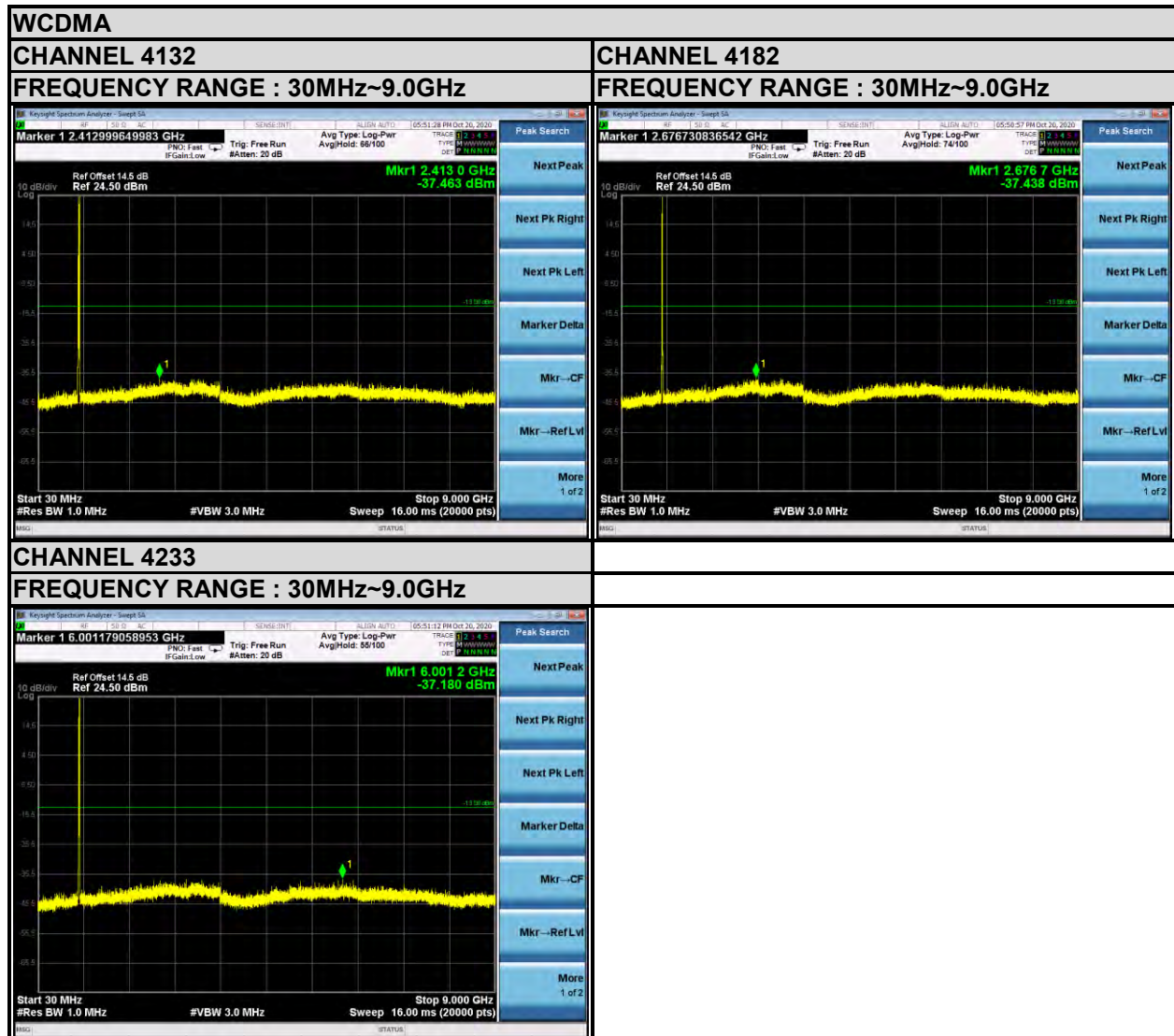




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Test Report No.: RF200918W001-4

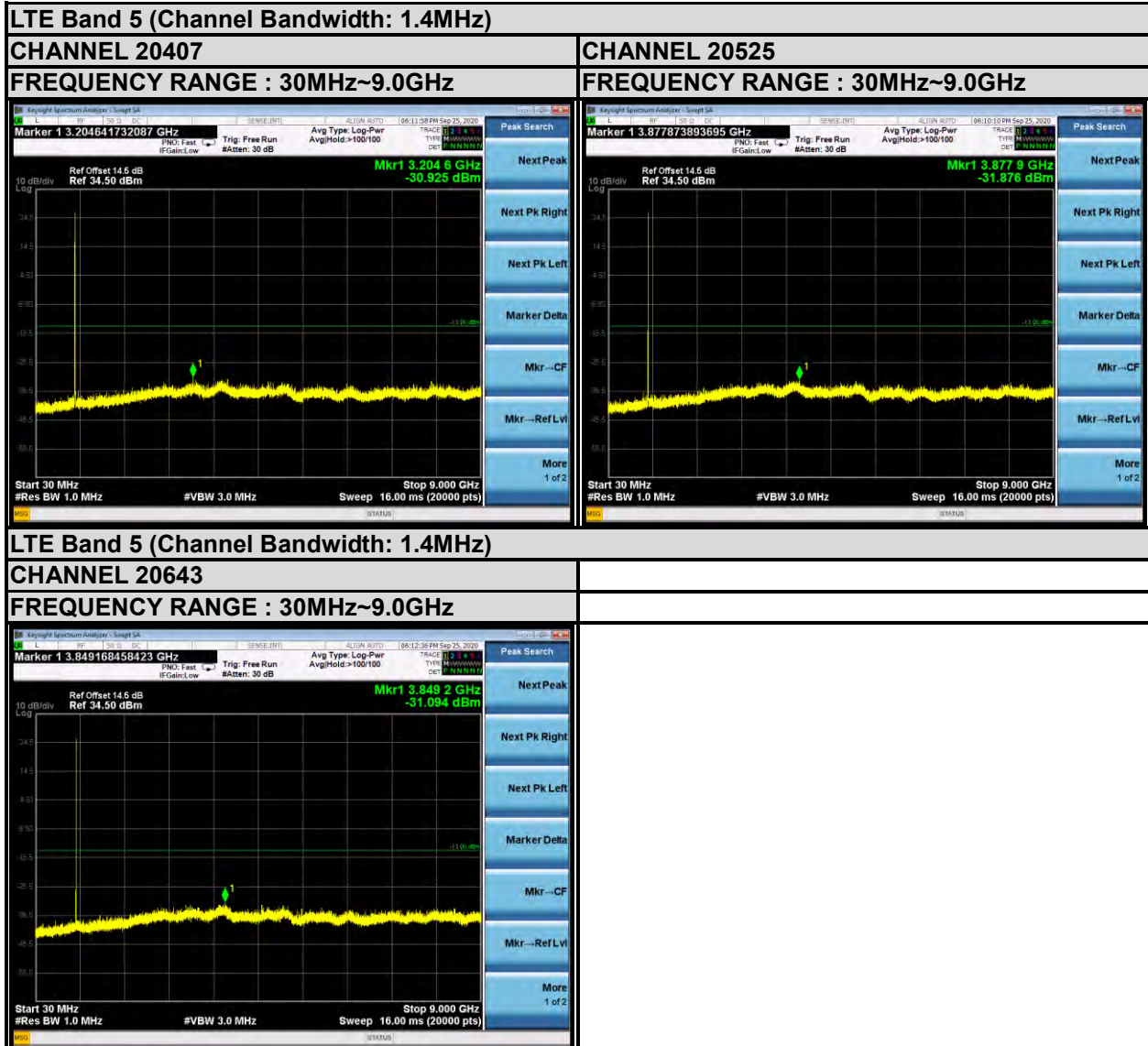
3.5.4 TEST RESULTS





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Test Report No.: RF200918W001-4





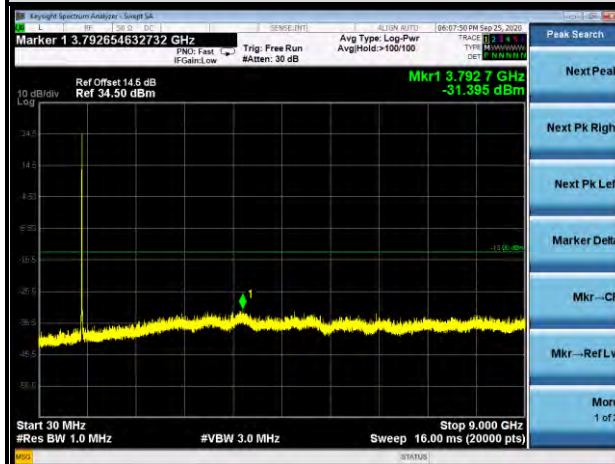
BUREAU
VERITAS

Test Report No.: RF200918W001-4

LTE Band 5 (Channel Bandwidth: 3MHz)

CHANNEL 20415

FREQUENCY RANGE : 30MHz~9.0GHz



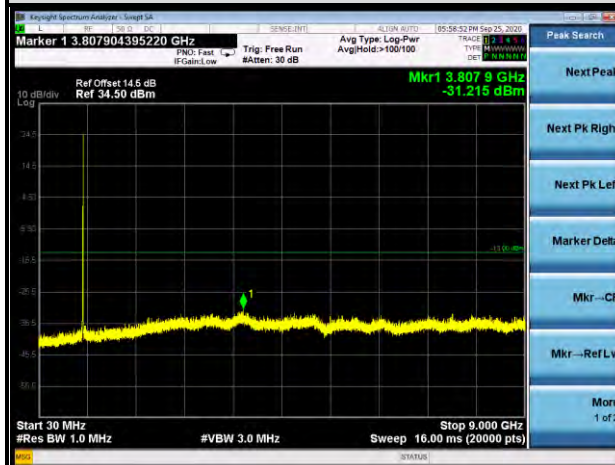
CHANNEL 20525

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 20635

FREQUENCY RANGE : 30MHz~9.0GHz





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Test Report No.: RF200918W001-4





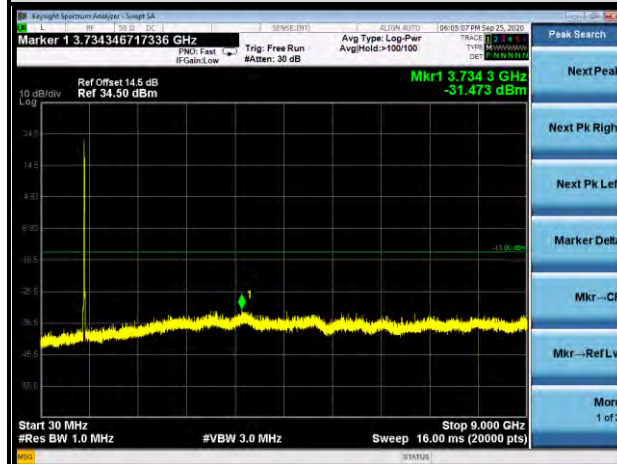
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Test Report No.: RF200918W001-4

LTE Band 5 (Channel Bandwidth: 10MHz)

CHANNEL 20450

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 20525

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 20600

FREQUENCY RANGE : 30MHz~9.0GHz





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Test Report No.: RF200918W001-4





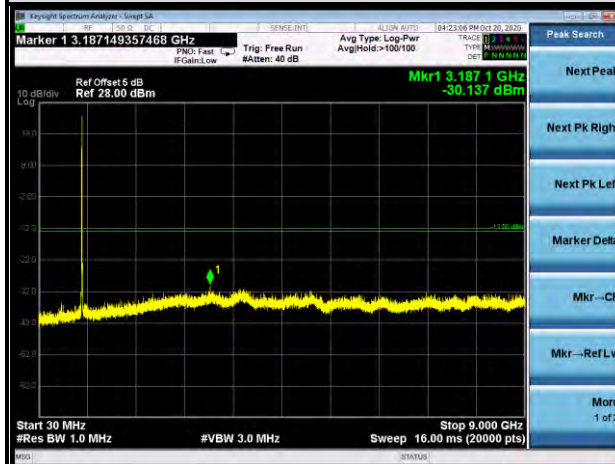
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Test Report No.: RF200918W001-4

LTE Band26 (Channel Bandwidth: 3MHz)

CHANNEL 26805

FREQUENCY RANGE : 30MHz~9.0GHz



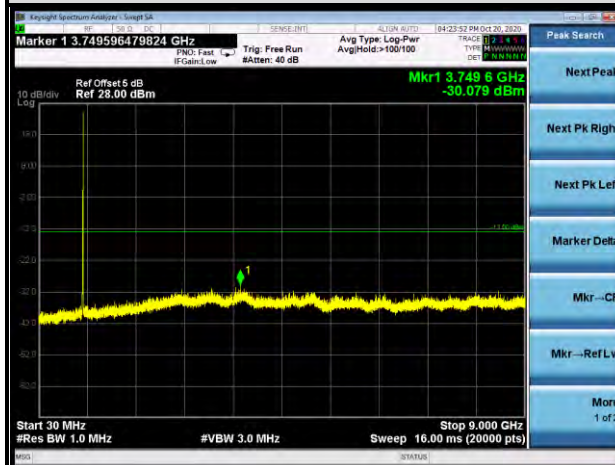
CHANNEL 26915

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 27025

FREQUENCY RANGE : 30MHz~9.0GHz





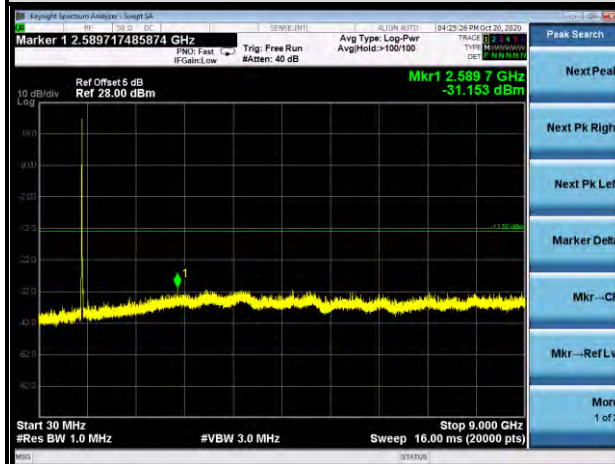
BUREAU
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Test Report No.: RF200918W001-4

LTE Band26 (Channel Bandwidth: 5MHz)

CHANNEL 26815

FREQUENCY RANGE : 30MHz~9.0GHz



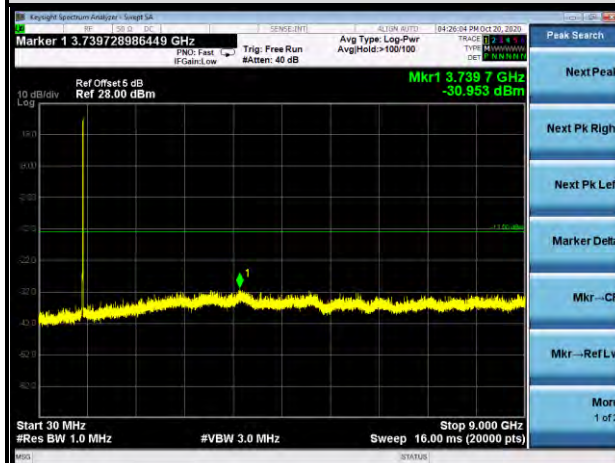
CHANNEL 26915

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 27015

FREQUENCY RANGE : 30MHz~9.0GHz





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Test Report No.: RF200918W001-4

LTE Band26 (Channel Bandwidth: 10MHz)

CHANNEL 26840

FREQUENCY RANGE : 30MHz~9.0GHz



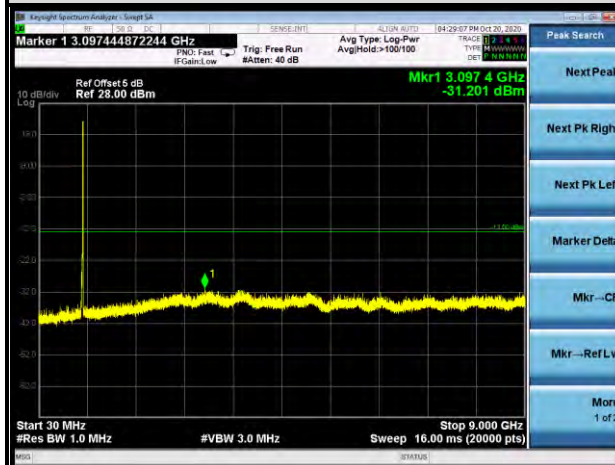
CHANNEL 26915

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 26990

FREQUENCY RANGE : 30MHz~9.0GHz





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Test Report No.: RF200918W001-4

LTE Band26 (Channel Bandwidth: 15MHz)

CHANNEL 26865

FREQUENCY RANGE : 30MHz~9.0GHz



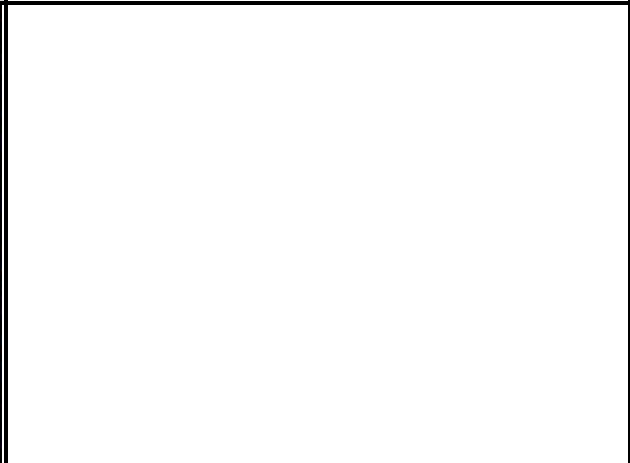
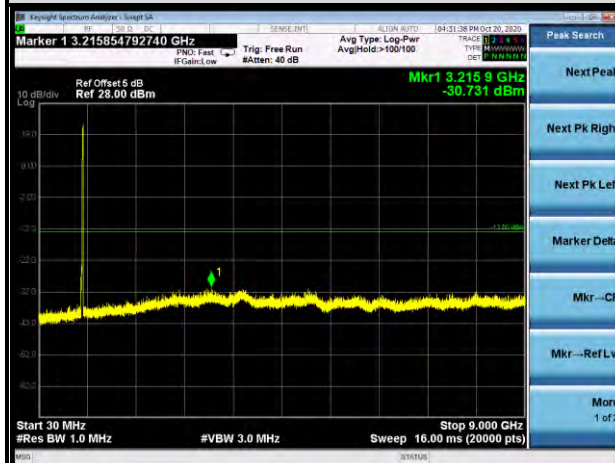
CHANNEL 26915

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 26965

FREQUENCY RANGE : 30MHz~9.0GHz



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm .

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. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$.

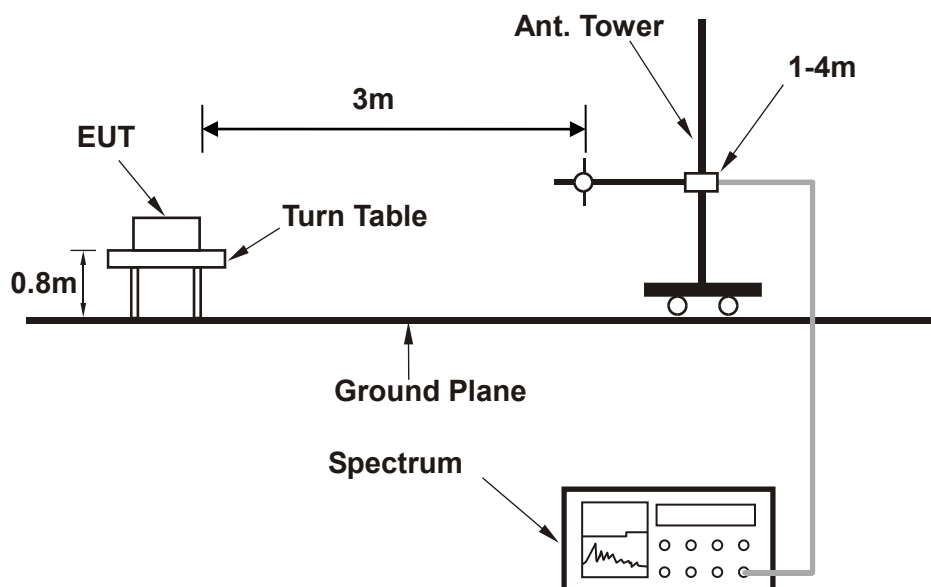
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

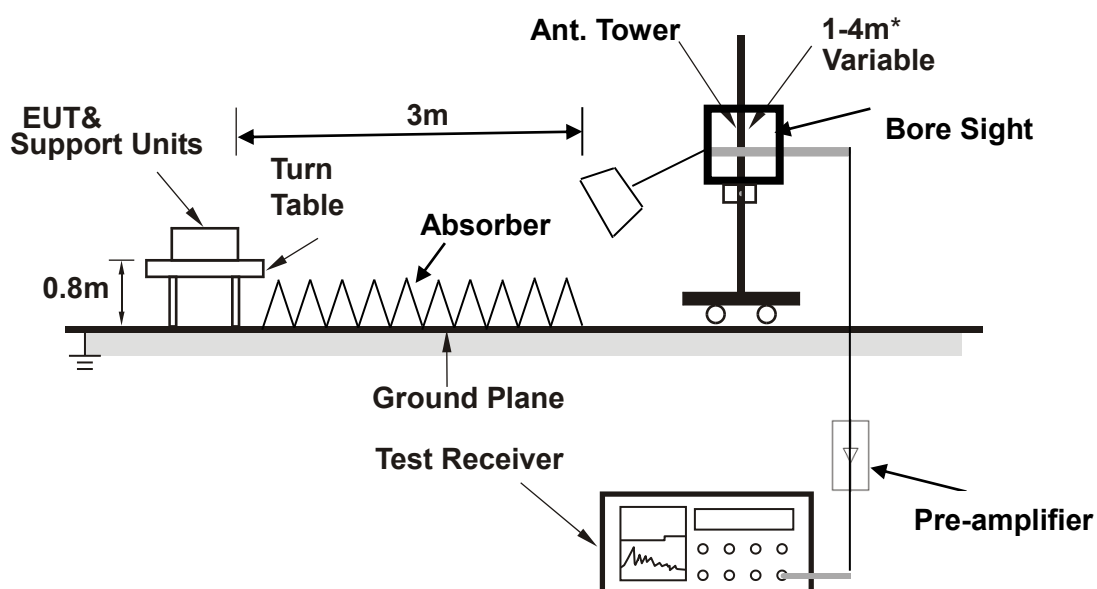
No deviation

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

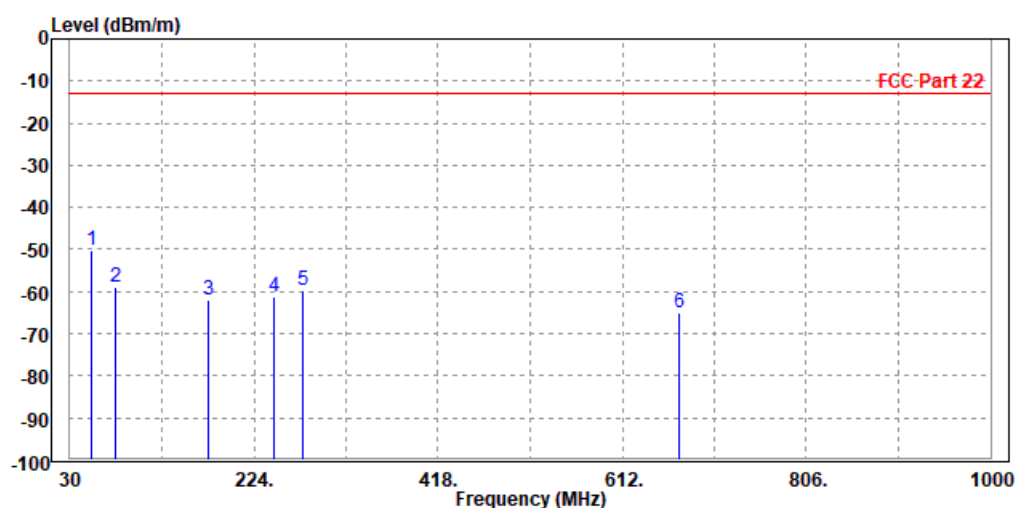
30 MHz – 1GHz data:

LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

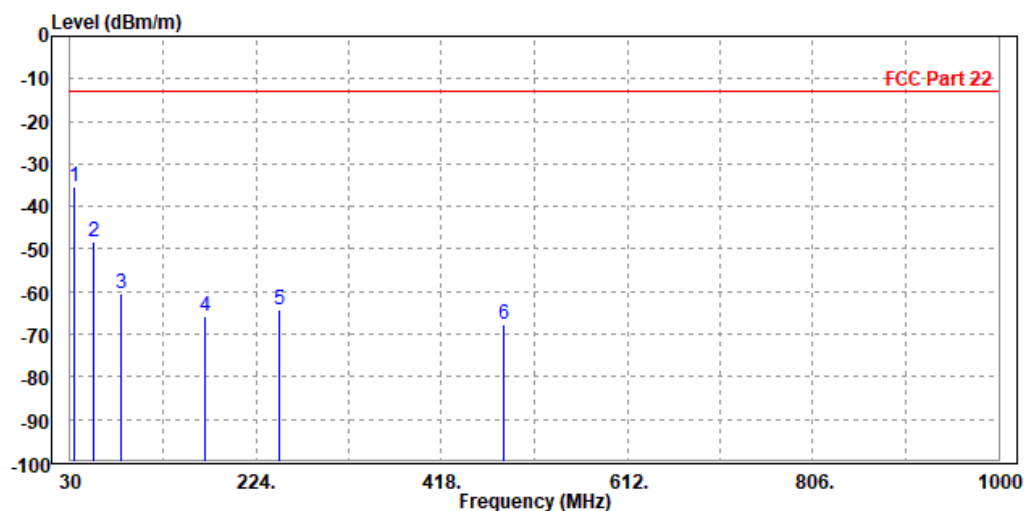
MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	53.280	-50.30	-50.04	-13.00	-37.30	-0.26	Peak	Horizontal
2		78.500	-58.94	-50.59	-13.00	-45.94	-8.35	Peak	Horizontal
3		176.470	-62.09	-44.20	-13.00	-49.09	-17.89	Peak	Horizontal
4		244.370	-61.16	-44.77	-13.00	-48.16	-16.39	Peak	Horizontal
5		275.410	-59.60	-44.58	-13.00	-46.60	-15.02	Peak	Horizontal
6		671.170	-65.10	-58.77	-13.00	-52.10	-6.33	Peak	Horizontal



MODE	TX channel 20525	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 PP	34.850	-35.28	-34.16	-13.00	-22.28	-1.12	Peak	Vertical
2	55.220	-48.37	-39.66	-13.00	-35.37	-8.71	Peak	Vertical
3	83.350	-60.34	-50.00	-13.00	-47.34	-10.34	Peak	Vertical
4	171.620	-65.59	-51.54	-13.00	-52.59	-14.05	Peak	Vertical
5	249.220	-64.12	-52.61	-13.00	-51.12	-11.51	Peak	Vertical
6	482.990	-67.83	-59.96	-13.00	-54.83	-7.87	Peak	Vertical





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Test Report No.: RF200918W001-4

ABOVE 1GHz DATA

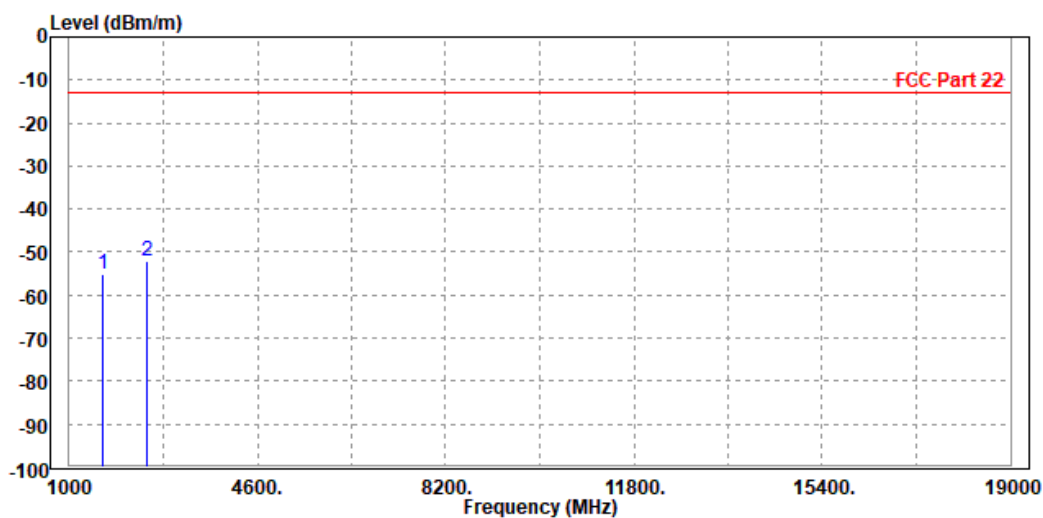
Note: For higher frequency, the emission is too low to be detected.

WCDMA Band V:

CH 4132:

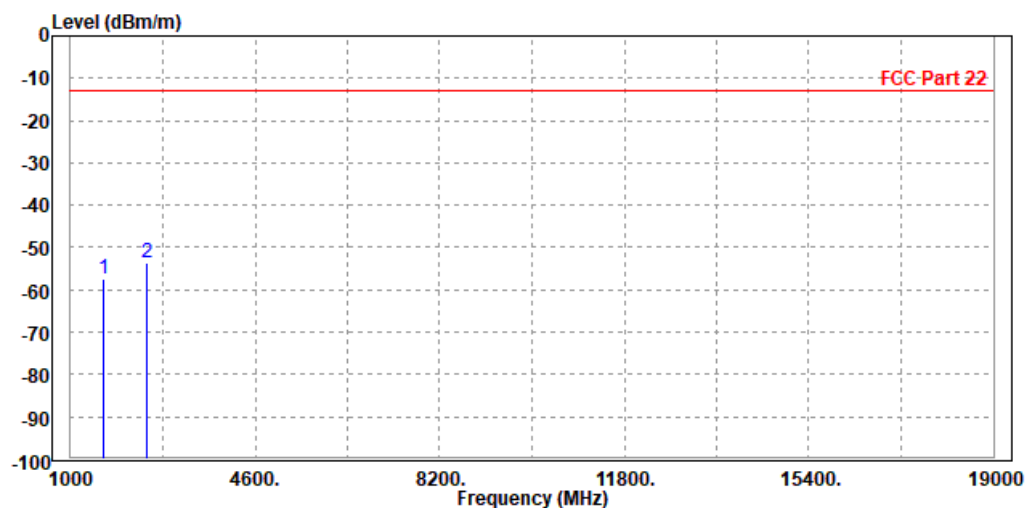
MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-55.22	-58.47	-13.00	-42.22	3.25	Peak	Horizontal
2 PP	2480.000	-52.21	-60.24	-13.00	-39.21	8.03	Peak	Horizontal



MODE	TX channel 4132	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			

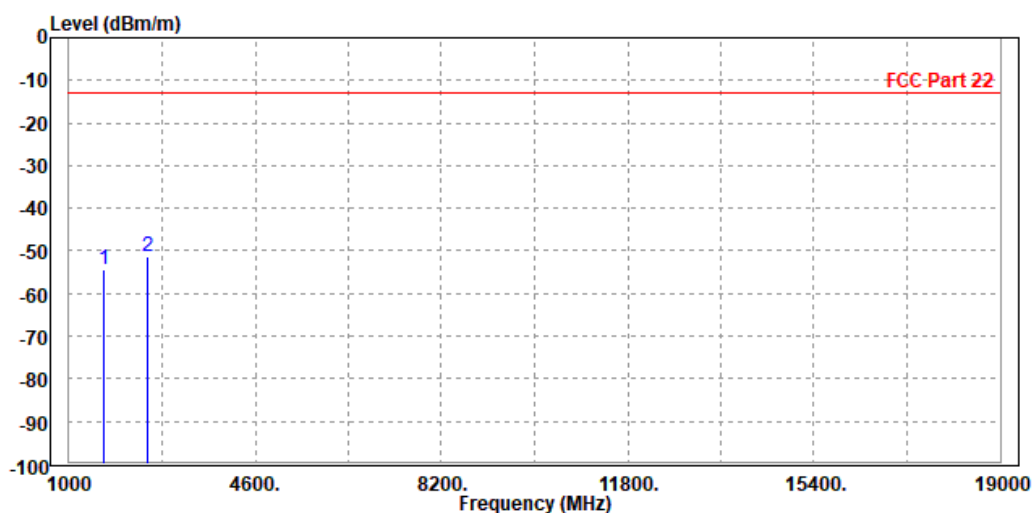
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1648.000	-57.34	-60.72	-13.00	-44.34	3.38	Peak	Vertical
2 PP	2480.000	-53.54	-60.59	-13.00	-40.54	7.05	Peak	Vertical



CH 4182:

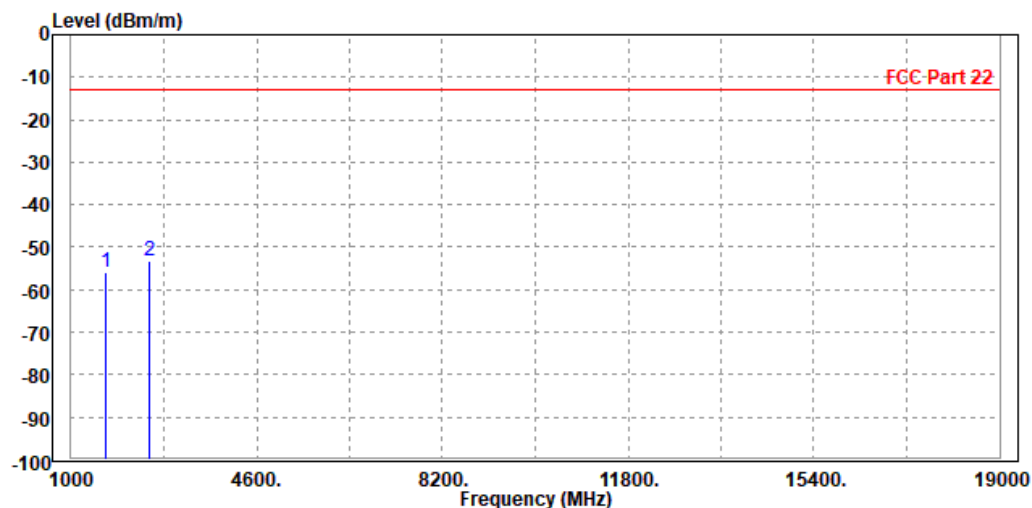
MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-54.56	-58.03	-13.00	-41.56	3.47	Peak	Horizontal
2 PP	2512.000	-51.14	-59.20	-13.00	-38.14	8.06	Peak	Horizontal



MODE	TX channel 4182	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			

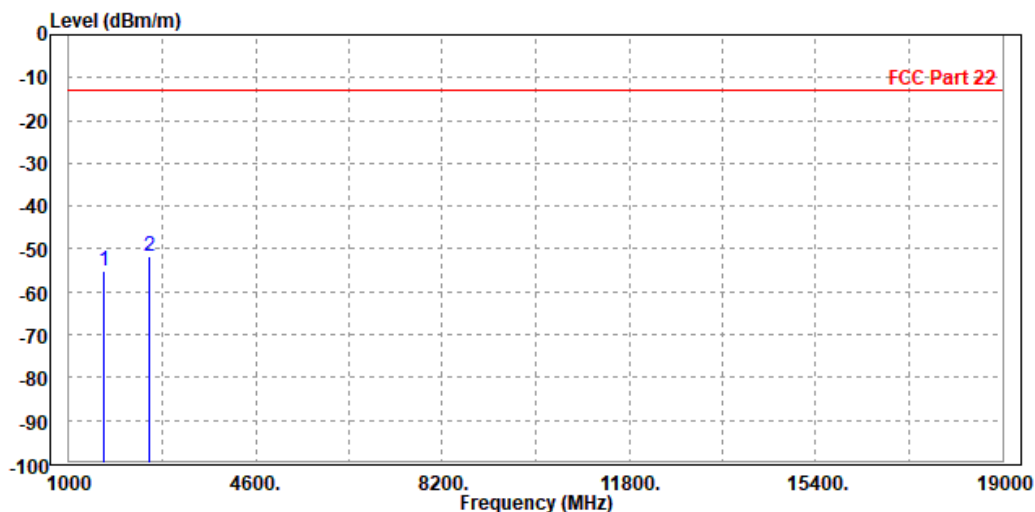
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-56.01	-59.55	-13.00	-43.01	3.54	Peak	Vertical
2 PP	2512.000	-53.32	-60.43	-13.00	-40.32	7.11	Peak	Vertical



CH 4233:

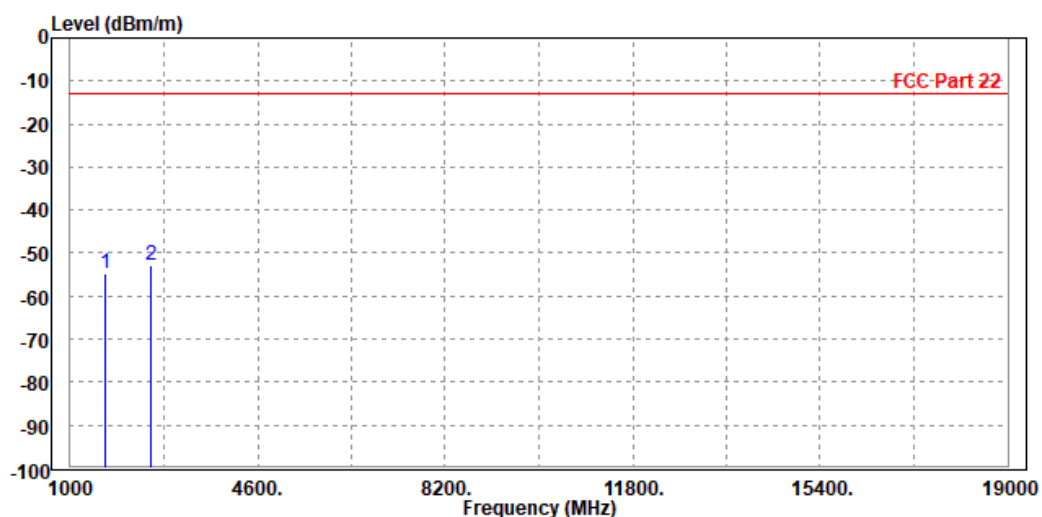
MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1684.000	-55.11	-58.80	-13.00	-42.11	3.69	Peak	Horizontal
2 PP	2540.000	-51.63	-59.73	-13.00	-38.63	8.10	Peak	Horizontal



MODE	TX channel 4233	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	1684.000	-54.73	-58.44	-13.00	-41.73	3.71	Peak	Vertical
2 PP	2540.000	-52.89	-60.09	-13.00	-39.89	7.20	Peak	Vertical



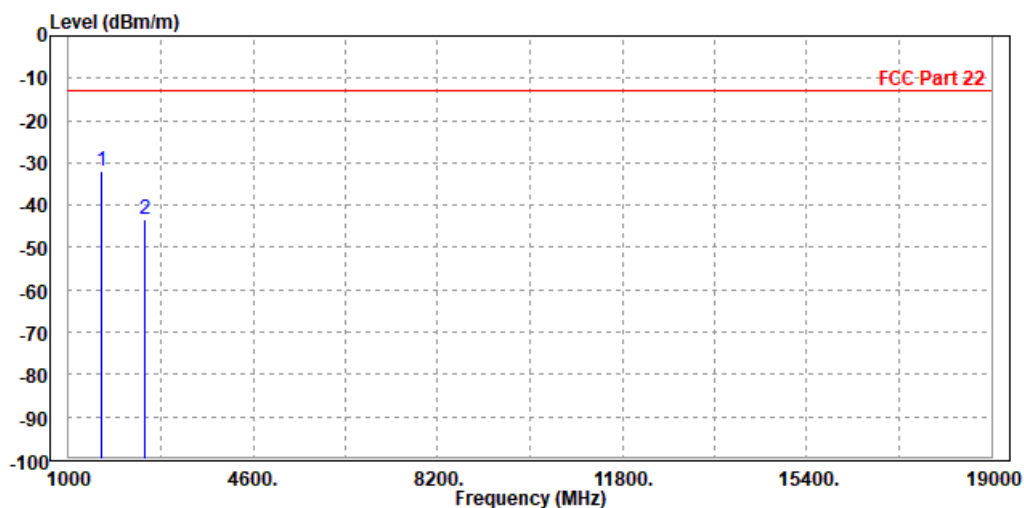
LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH 20407

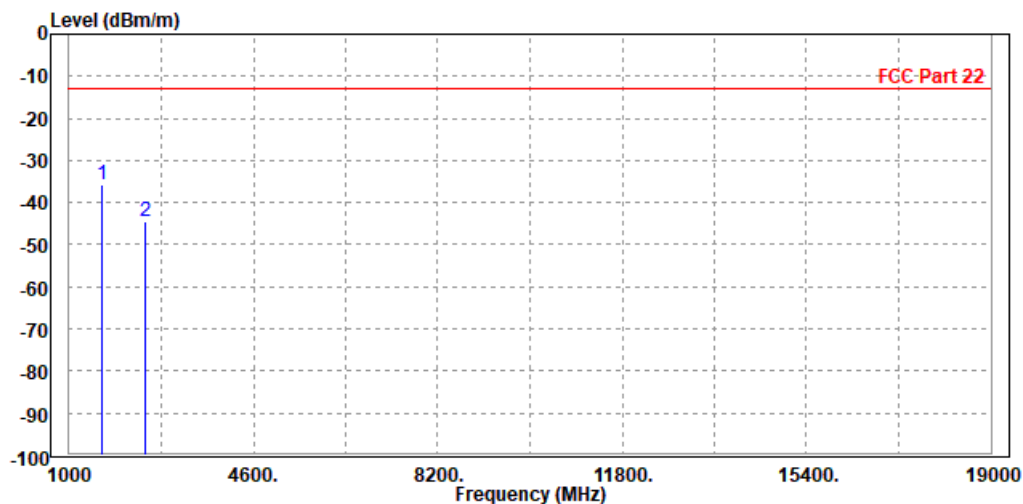
MODE	TX channel 20407	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-31.90	-35.15	-13.00	-18.90	3.25	Peak	Horizontal
2		2474.100	-43.17	-51.19	-13.00	-30.17	8.02	Peak	Horizontal



MODE	TX channel 20407	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			

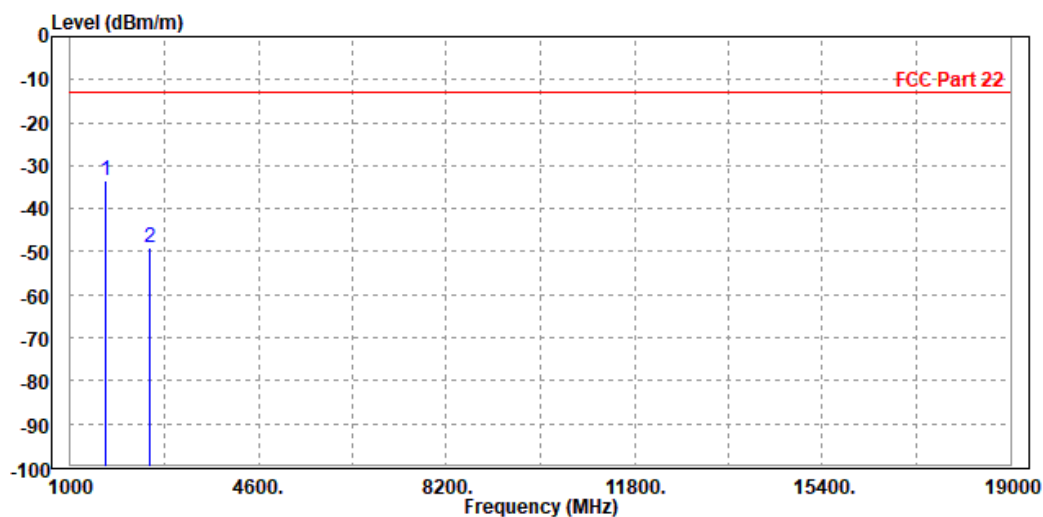
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-35.76	-39.14	-13.00	-22.76	3.38	Peak	Vertical
2		2474.100	-44.41	-51.45	-13.00	-31.41	7.04	Peak	Vertical



CH 20525

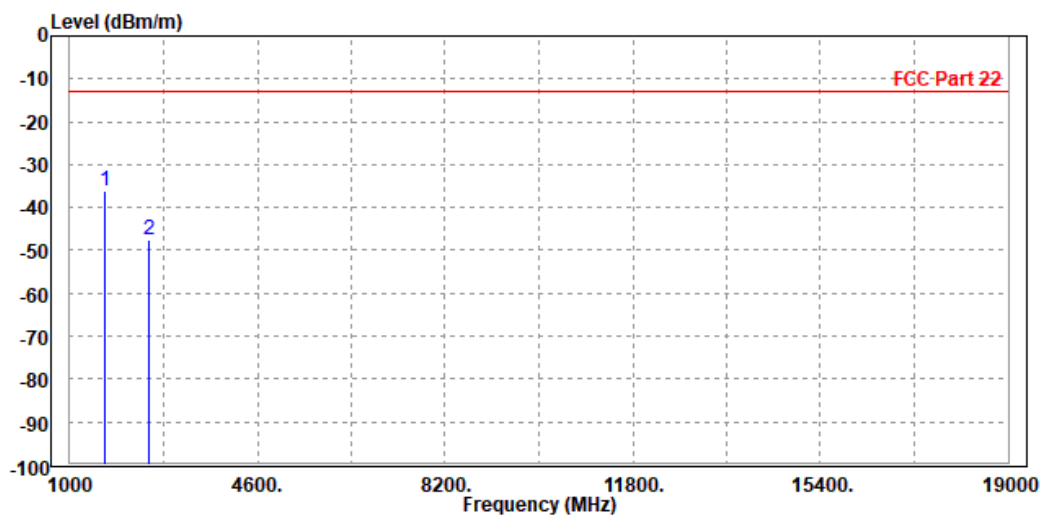
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-33.38	-36.85	-13.00	-20.38	3.47	Peak	Horizontal
2		2509.500	-48.90	-56.96	-13.00	-35.90	8.06	Peak	Horizontal



MODE	TX channel 20525	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			

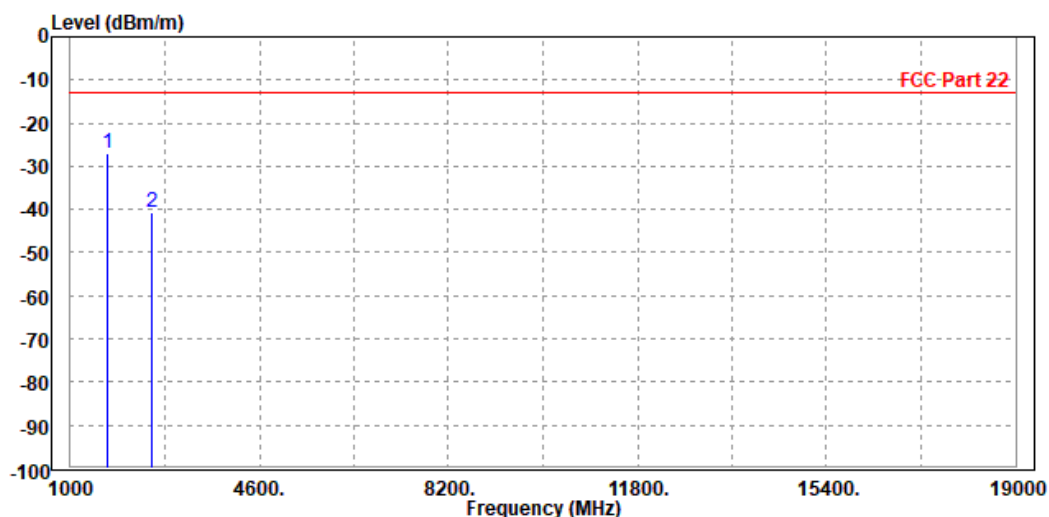
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1666.000	-36.26	-39.80	-13.00	-23.26	3.54	Peak	Vertical
2		2509.500	-47.57	-54.67	-13.00	-34.57	7.10	Peak	Vertical



CH 20643

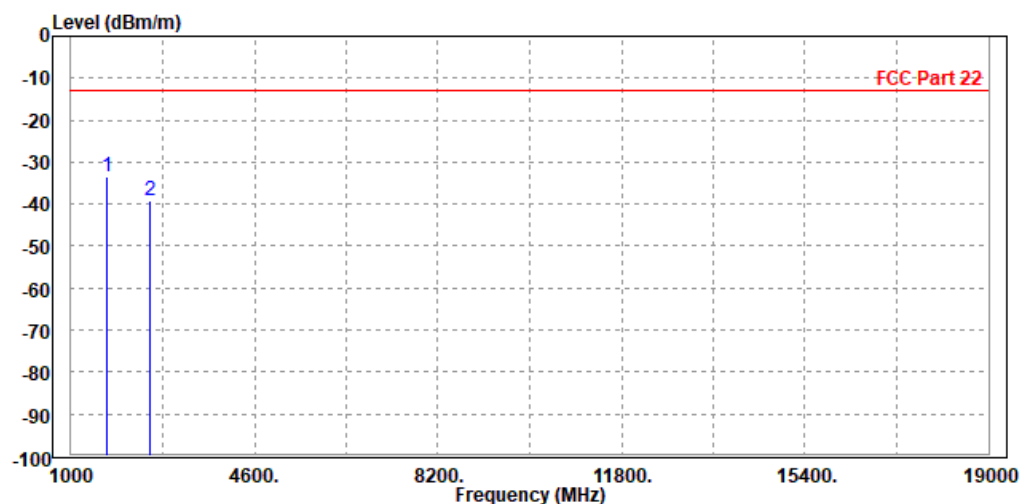
MODE	TX channel 20643	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1696.600	-27.02	-30.86	-13.00	-14.02	3.84	Peak	Horizontal
2		2544.900	-40.67	-48.78	-13.00	-27.67	8.11	Peak	Horizontal



MODE	TX channel 20643	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			

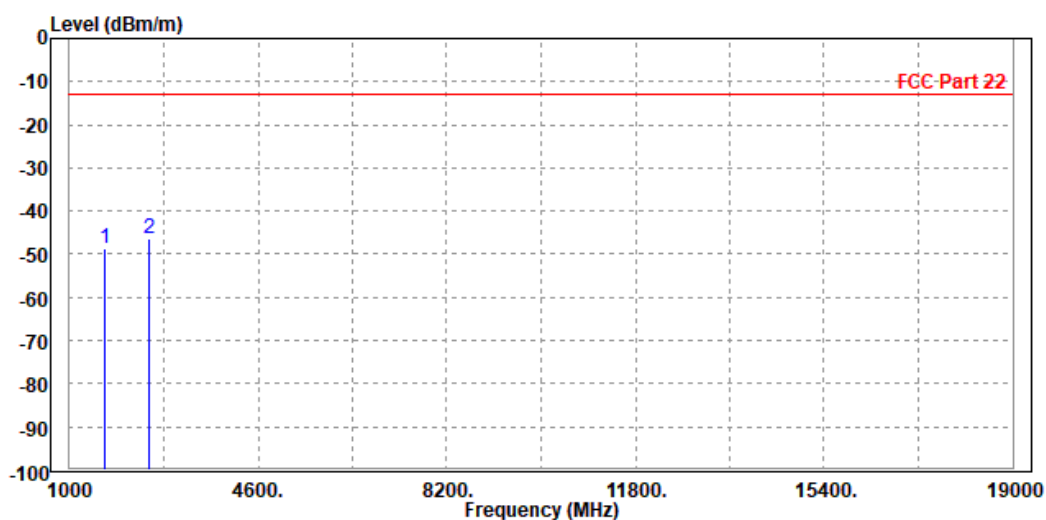
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1696.600	-33.44	-37.26	-13.00	-20.44	3.82	Peak	Vertical
2		2544.900	-39.33	-46.54	-13.00	-26.33	7.21	Peak	Vertical



CHANNEL BANDWIDTH: 3MHz / QPSK

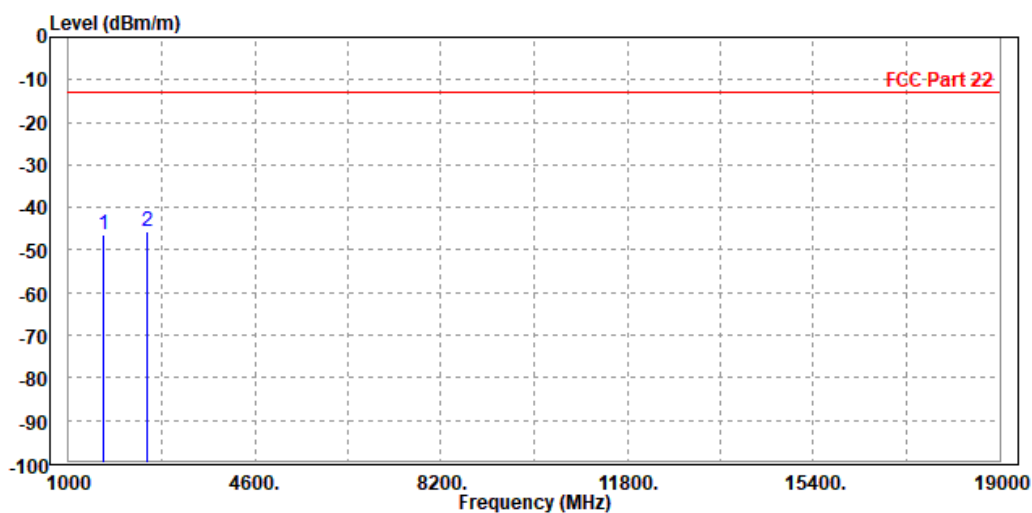
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-48.76	-52.23	-13.00	-35.76	3.47	Peak	Horizontal
2 PP	2509.500	-46.50	-54.56	-13.00	-33.50	8.06	Peak	Horizontal



MODE	TX channel 20525	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			

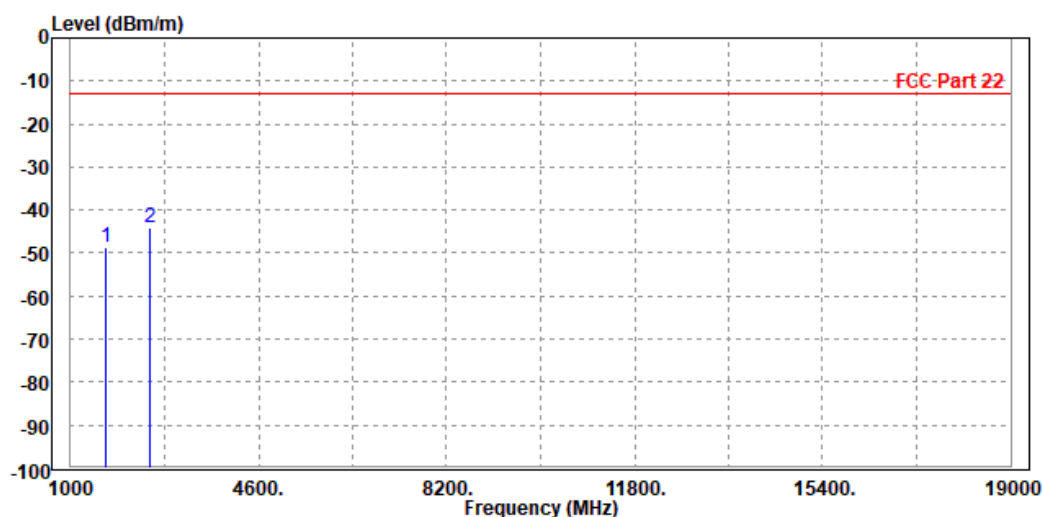
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-46.54	-50.08	-13.00	-33.54	3.54	Peak	Vertical
2 PP	2509.500	-45.62	-52.72	-13.00	-32.62	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

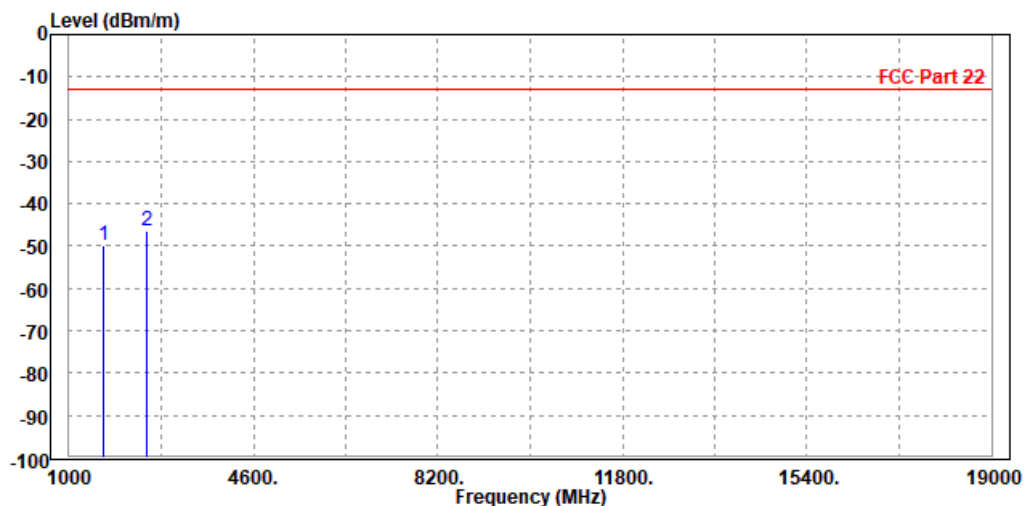
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-48.58	-52.05	-13.00	-35.58	3.47	Peak	Horizontal
2 PP	2509.500	-44.15	-52.21	-13.00	-31.15	8.06	Peak	Horizontal



MODE	TX channel 20525	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			

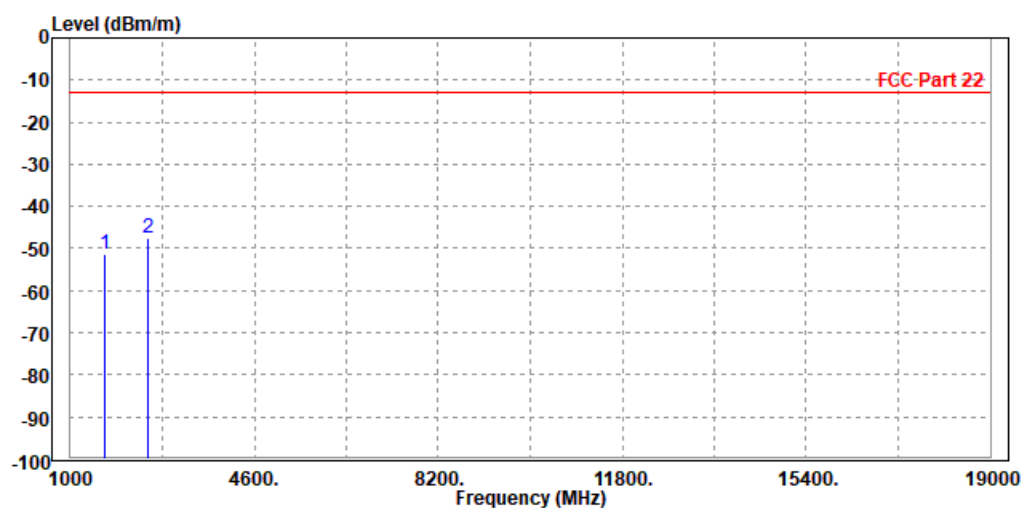
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-49.80	-53.34	-13.00	-36.80	3.54	Peak	Vertical
2	PP 2509.500	-46.40	-53.50	-13.00	-33.40	7.10	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

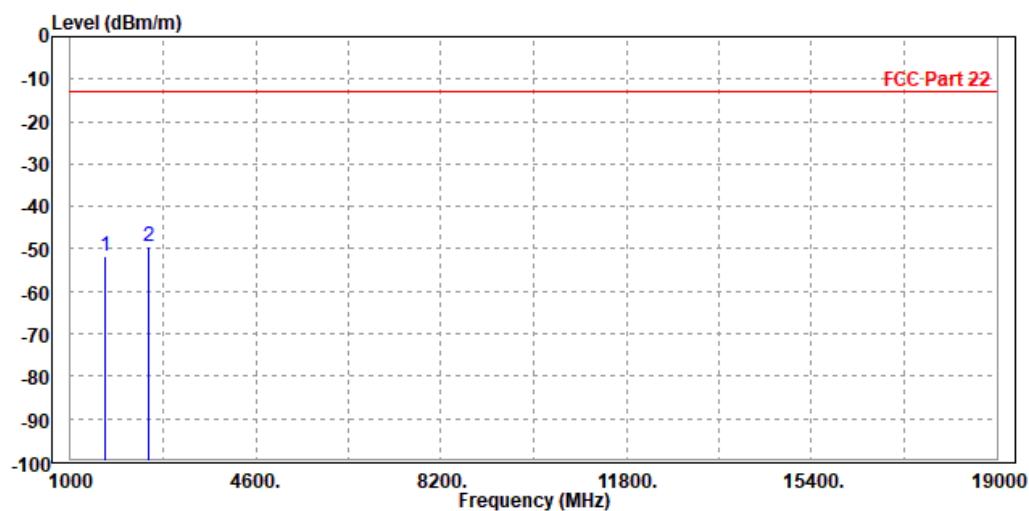
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1666.000	-51.50	-54.97	-13.00	-38.50	3.47	Peak	Horizontal
2 PP	2509.500	-47.58	-55.64	-13.00	-34.58	8.06	Peak	Horizontal



MODE	TX channel 20525	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	1666.000	-51.53	-55.07	-13.00	-38.53	3.54	Peak	Vertical
2	PP 2509.500	-49.33	-56.43	-13.00	-36.33	7.10	Peak	Vertical

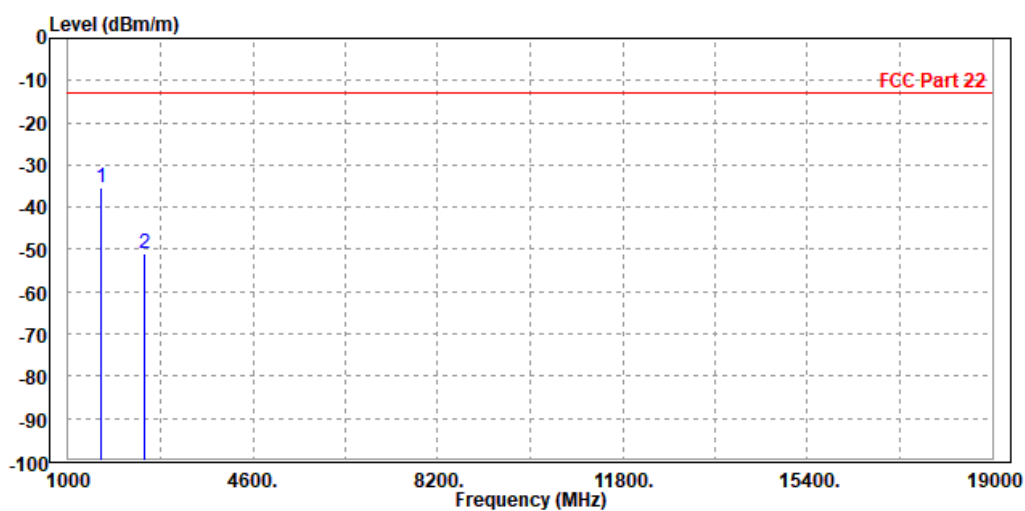


LTE Band 26

CHANNEL BANDWIDTH: 1.4MHz / QPSK

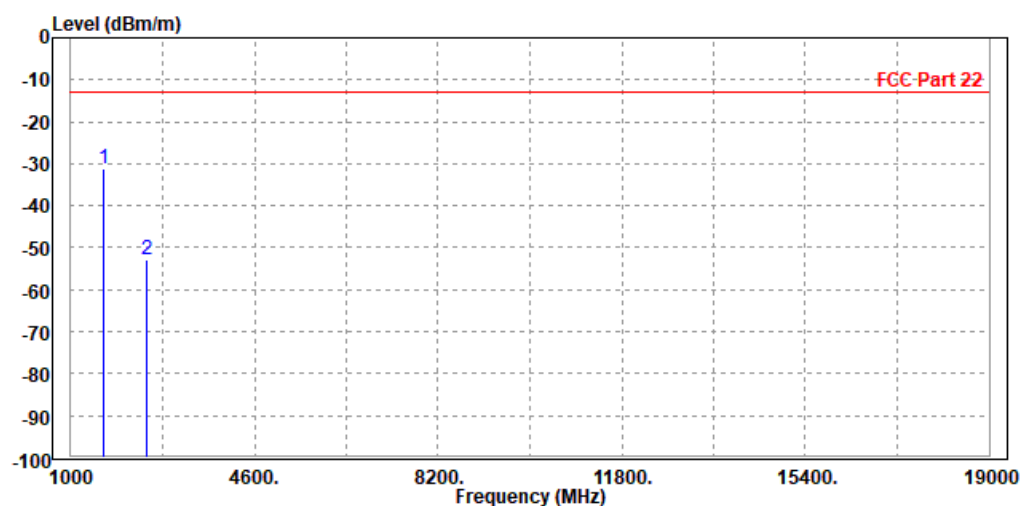
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1648.000	-35.43	-38.68	-13.00	-22.43	3.25	Peak	Horizontal
2	2495.000	-50.96	-59.00	-13.00	-37.96	8.04	Peak	Horizontal



MODE	TX channel 26915	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 1648.000	-31.24	-34.62	-13.00	-18.24	3.38	Peak	Vertical
2	2495.000	-52.95	-60.01	-13.00	-39.95	7.06	Peak	Vertical

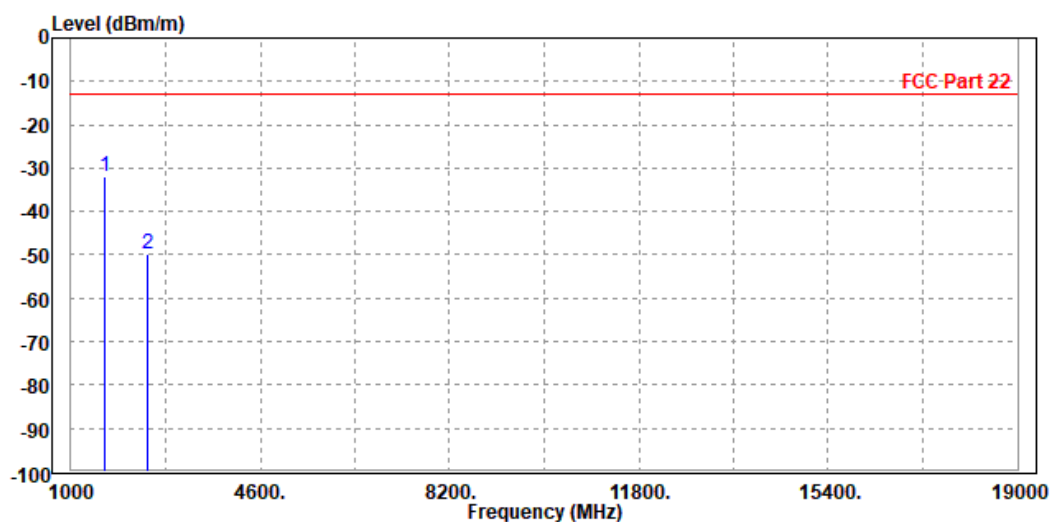


CHANNEL BANDWIDTH: 3MHz / QPSK

CH 26805

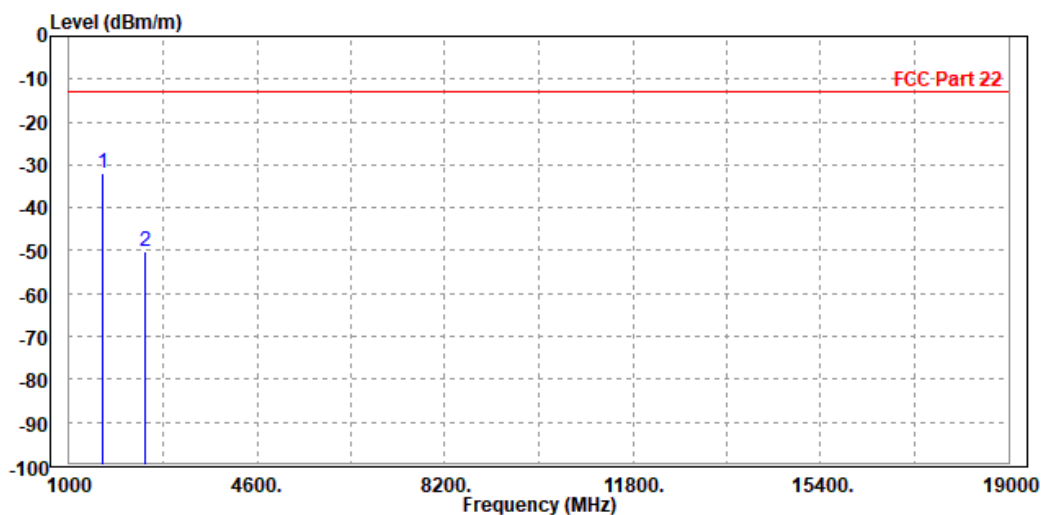
MODE	TX channel 26805	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1630.000	-31.85	-34.88	-13.00	-18.85	3.03	Peak	Horizontal
2	2446.000	-49.88	-57.88	-13.00	-36.88	8.00	Peak	Horizontal



MODE	TX channel 26805	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	1630.000	-32.11	-35.33	-13.00	-19.11	3.22	Peak	Vertical
2		2446.000	-50.01	-57.02	-13.00	-37.01	7.01	Peak	Vertical





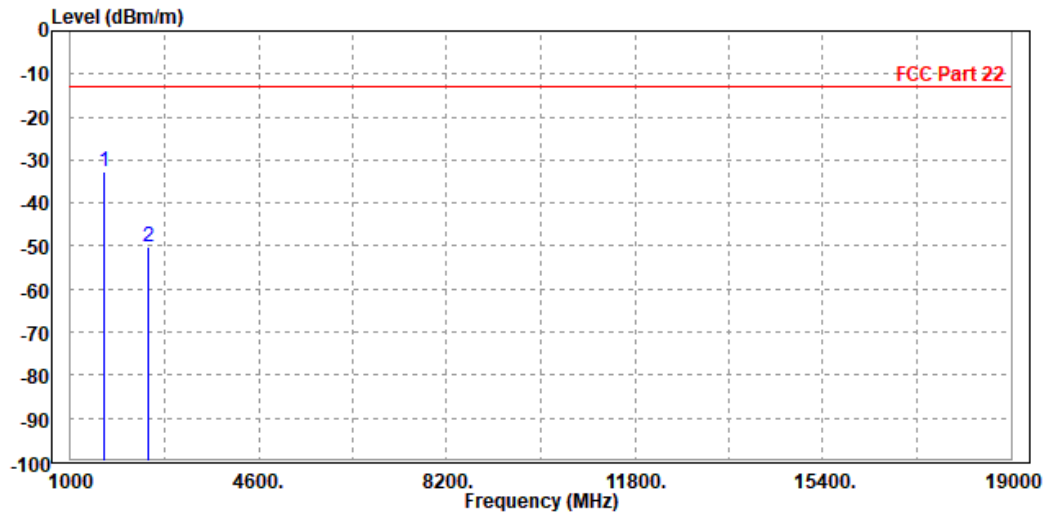
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Test Report No.: RF200918W001-4

CH 26915

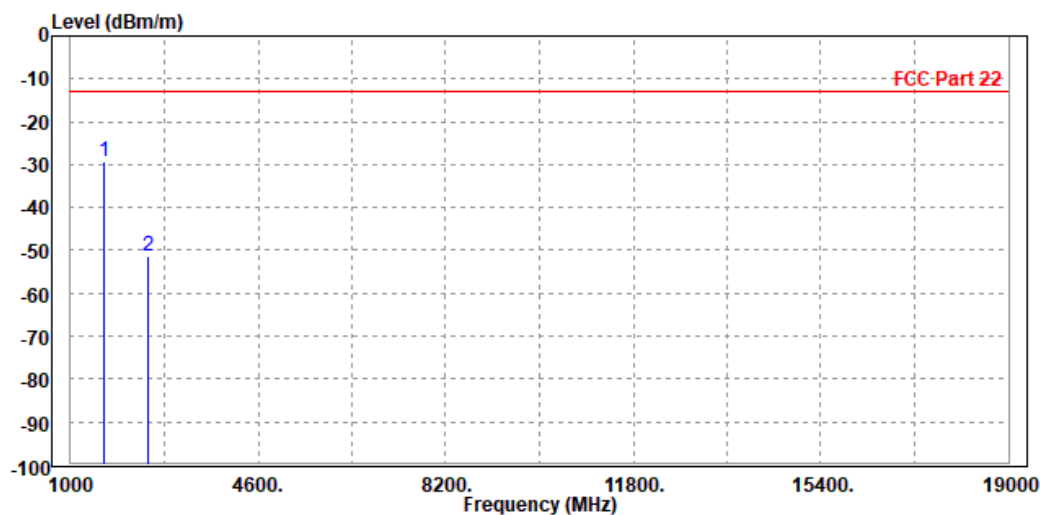
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-32.78	-36.03	-13.00	-19.78	3.25	Peak	Horizontal
2		2495.000	-50.18	-58.22	-13.00	-37.18	8.04	Peak	Horizontal



MODE	TX channel 26915	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			

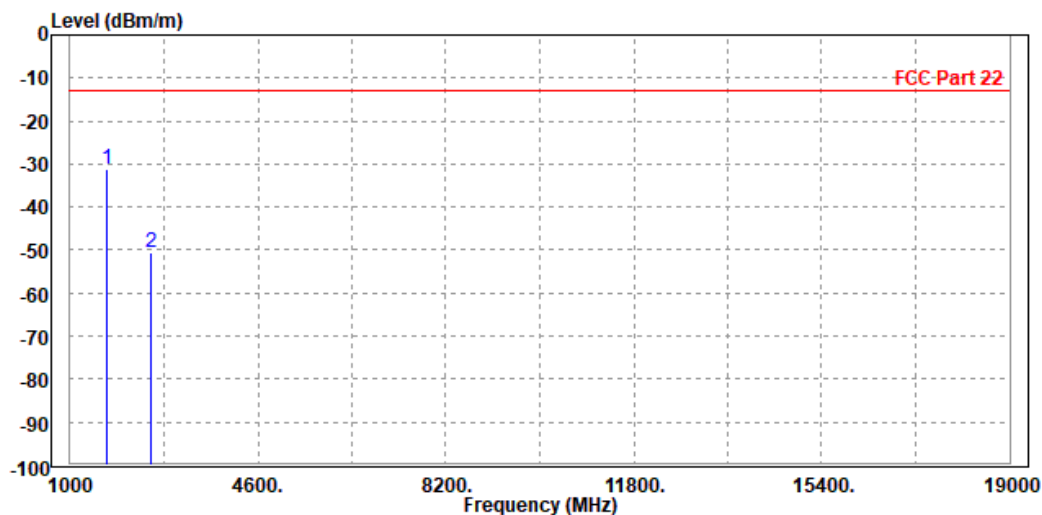
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-29.46	-32.84	-13.00	-16.46	3.38	Peak	Vertical
2		2495.000	-51.47	-58.53	-13.00	-38.47	7.06	Peak	Vertical



CH 27025

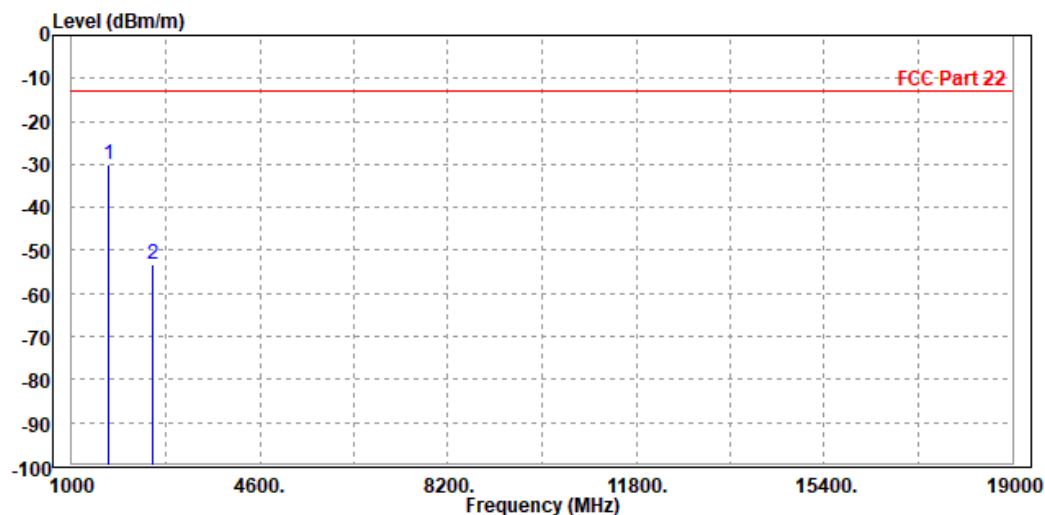
MODE	TX channel 27025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-31.11	-35.02	-13.00	-18.11	3.91	Peak	Horizontal
2	2542.000	-50.59	-58.69	-13.00	-37.59	8.10	Peak	Horizontal



MODE	TX channel 27025	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			

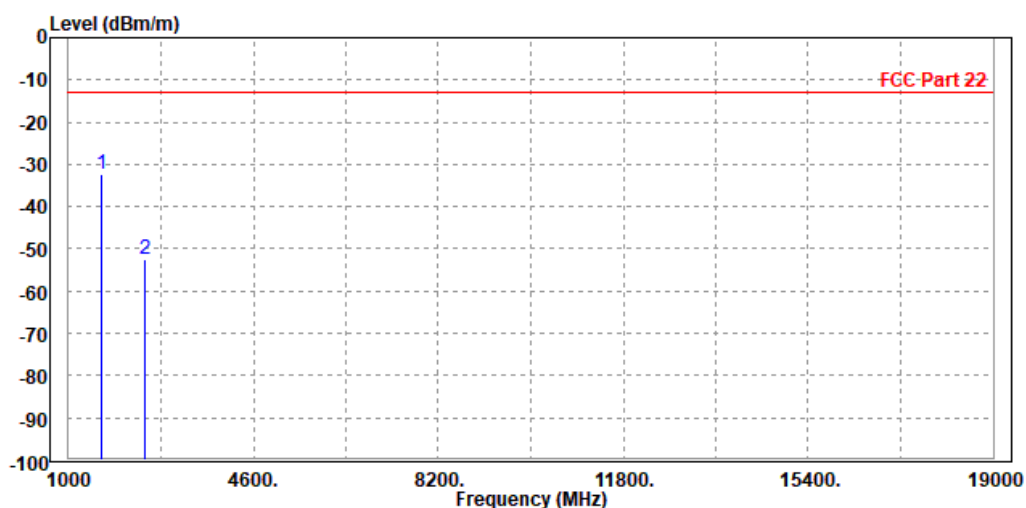
			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1702.000	-30.12	-33.99	-13.00	-17.12	3.87	Peak	Vertical
2	2542.000	-53.24	-60.44	-13.00	-40.24	7.20	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

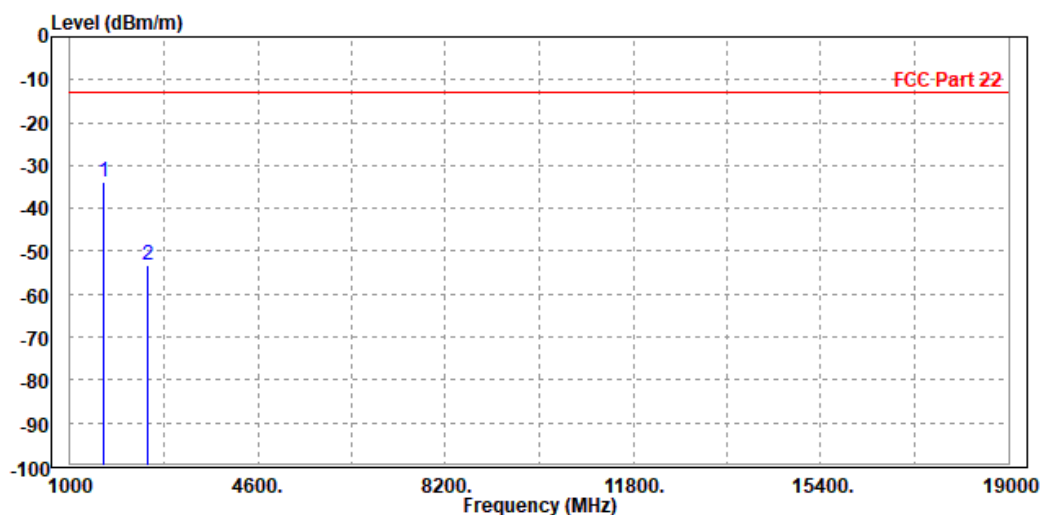
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1648.000	-32.16	-35.41	-13.00	-19.16	3.25	Peak	Horizontal
2	2495.000	-52.29	-60.33	-13.00	-39.29	8.04	Peak	Horizontal



MODE	TX channel 26915	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			

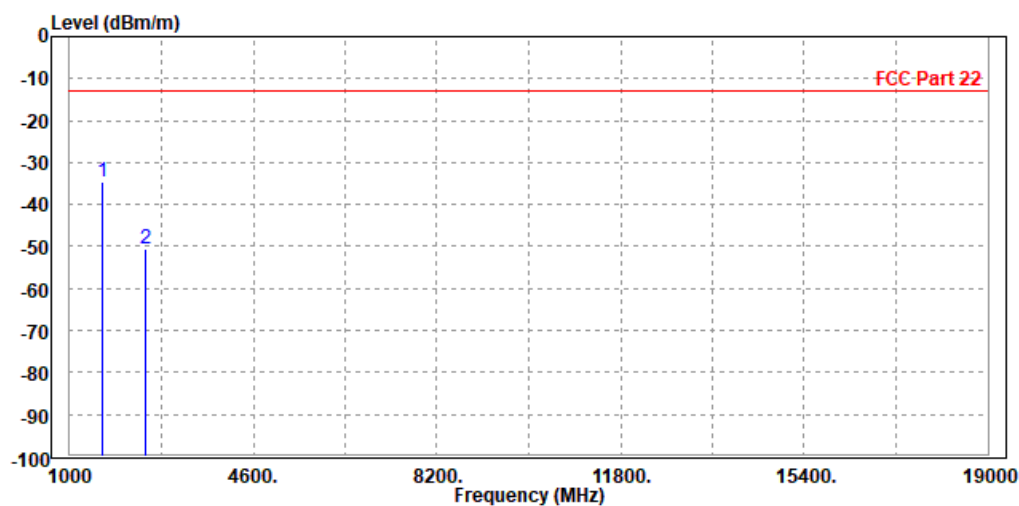
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-33.87	-37.25	-13.00	-20.87	3.38	Peak	Vertical
2		2494.000	-53.25	-60.31	-13.00	-40.25	7.06	Peak	Vertical



CHANNEL BANDWIDTH: 10MHz / QPSK

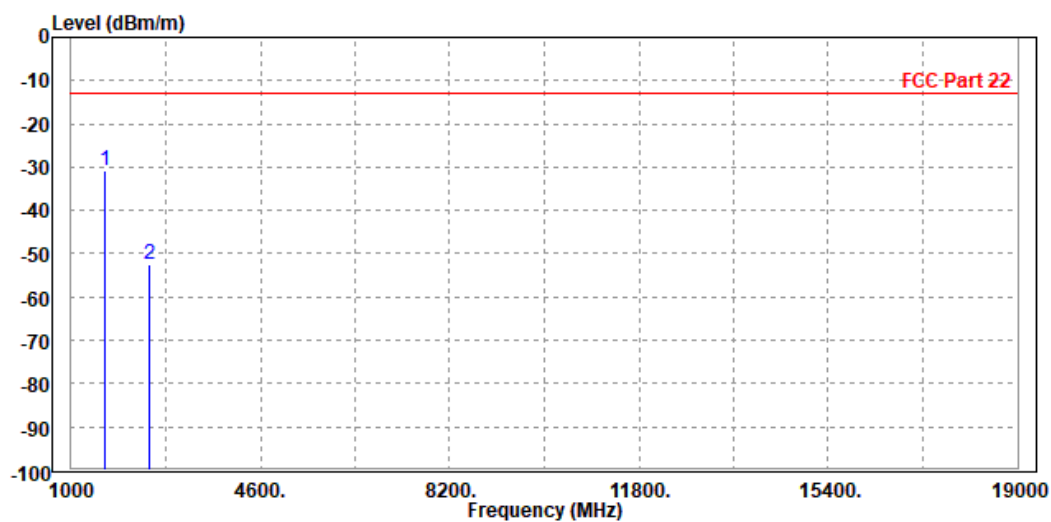
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1648.000	-34.76	-38.01	-13.00	-21.76	3.25	Peak	Horizontal
2	2495.000	-50.60	-58.64	-13.00	-37.60	8.04	Peak	Horizontal



MODE	TX channel 26915	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 1648.000	-30.79	-34.17	-13.00	-17.79	3.38	Peak	Vertical
2	2495.000	-52.51	-59.57	-13.00	-39.51	7.06	Peak	Vertical





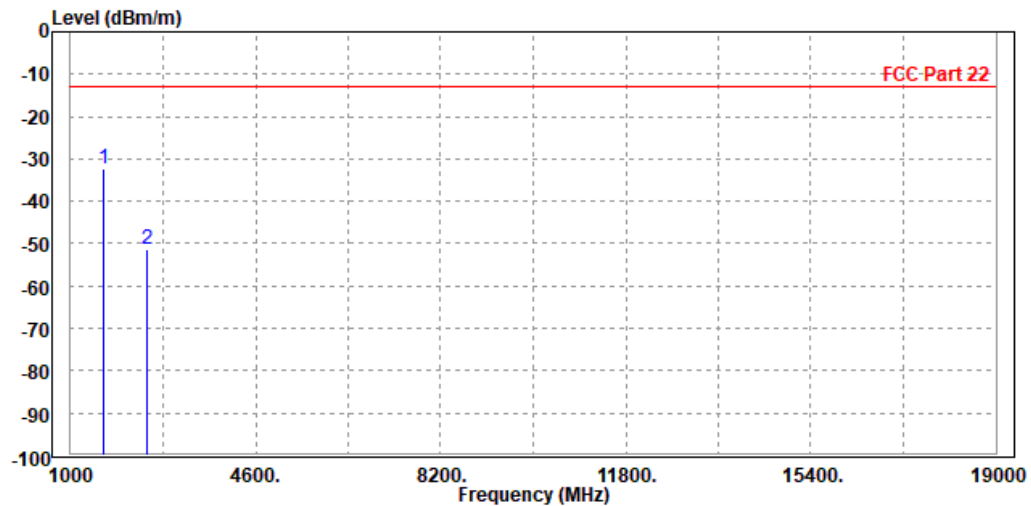
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Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 15MHz / QPSK

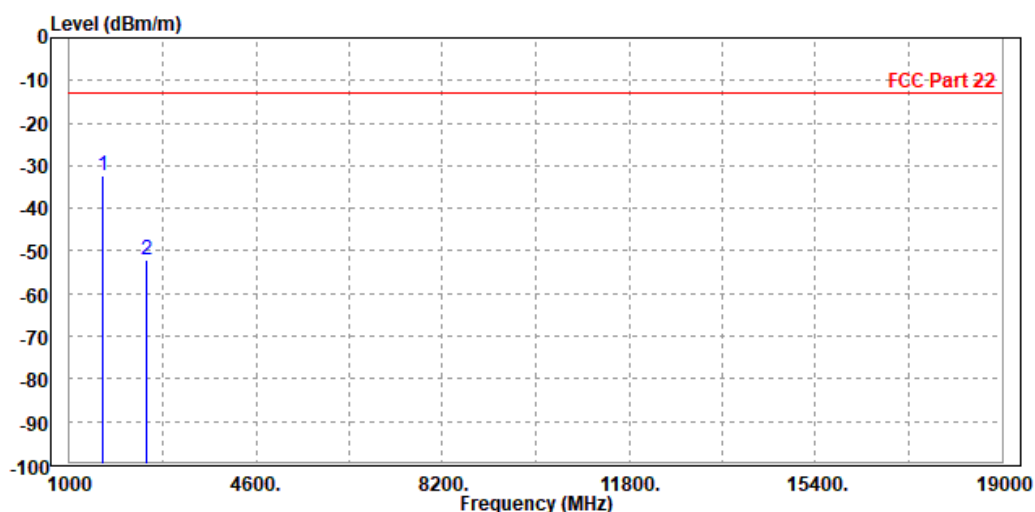
MODE	TX channel 26915	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Star Le		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1648.000	-32.42	-35.67	-13.00	-19.42	3.25	Peak	Horizontal
2		2495.000	-51.15	-59.19	-13.00	-38.15	8.04	Peak	Horizontal



MODE	TX channel 26915	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	1648.000	-32.13	-35.51	-13.00	-19.13	3.38	Peak	Vertical
2	2495.000	-52.27	-59.33	-13.00	-39.27	7.06	Peak	Vertical

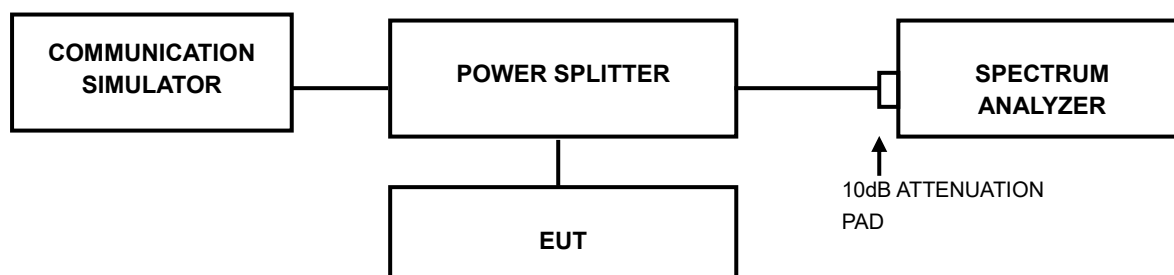


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

3.7.2 TEST SETUP



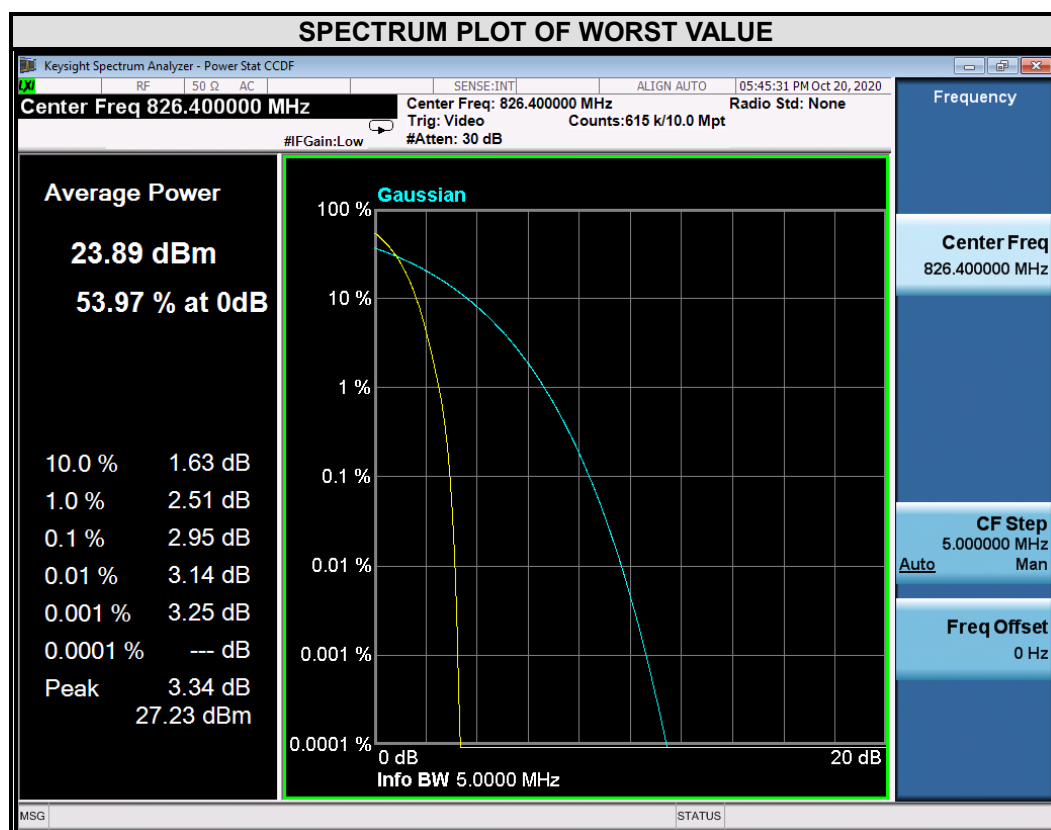
3.7.3 TEST PROCEDURES

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

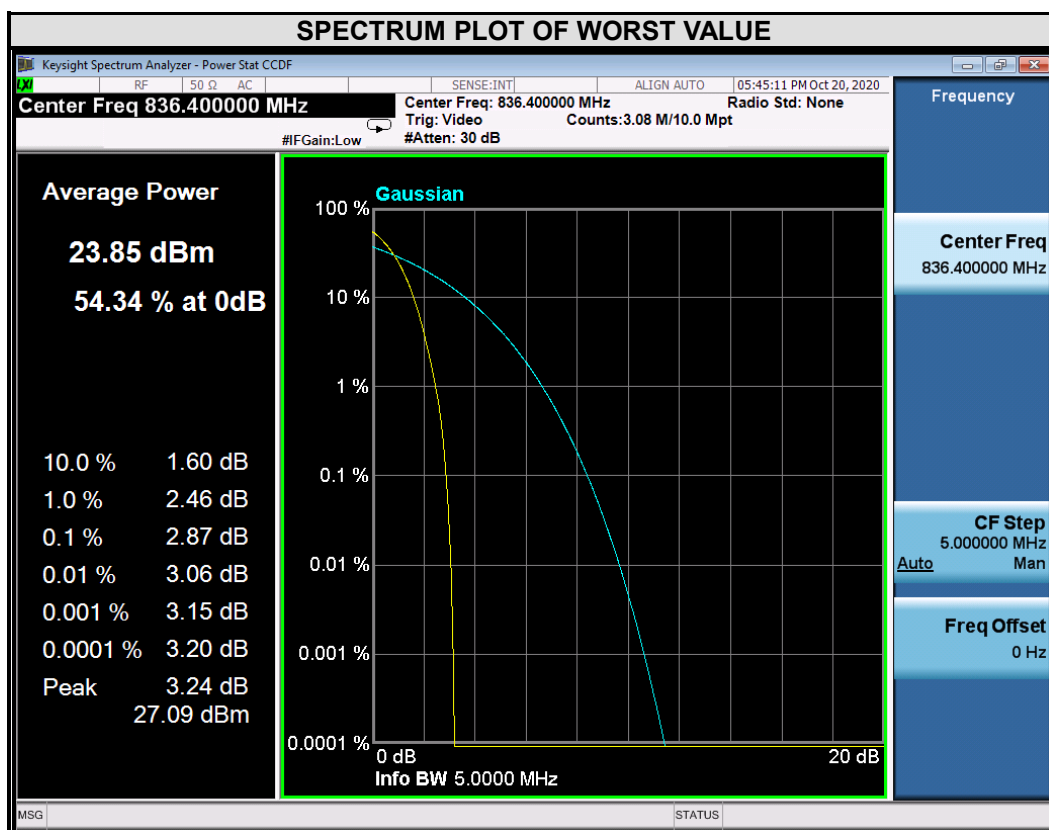
3.7.4 TEST RESULTS

WCDMA

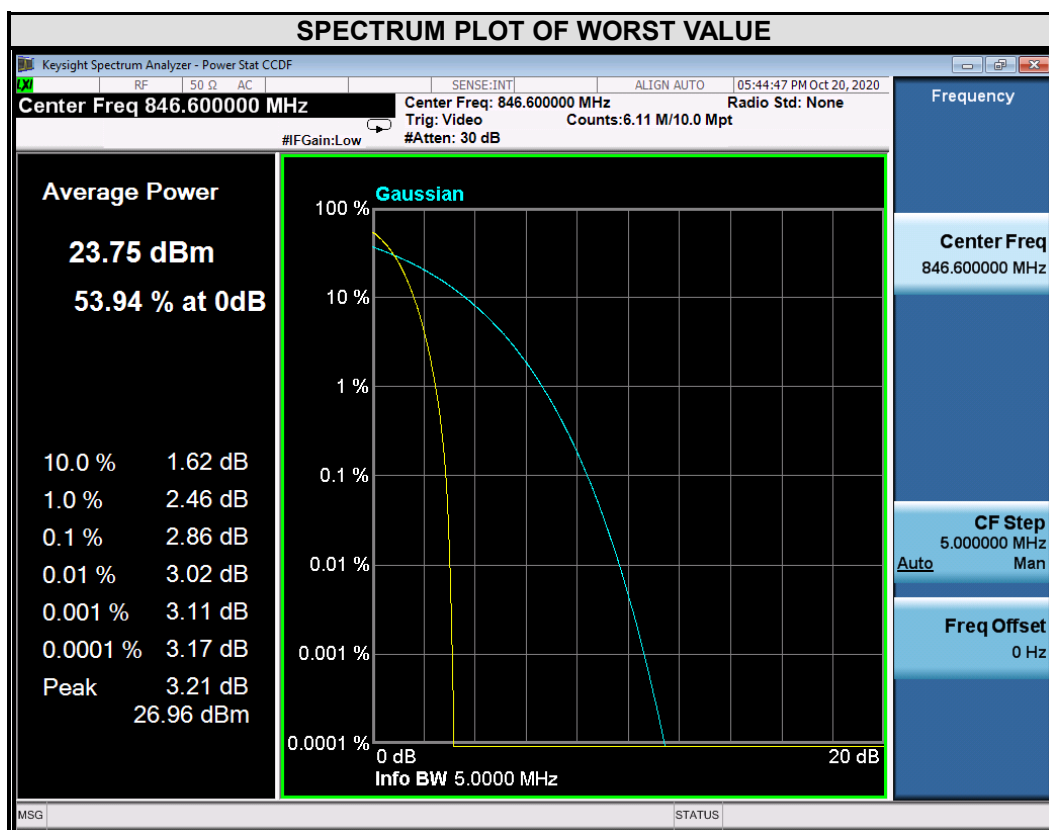
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
4132	826.4	2.95



CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
4182	836.4	2.87

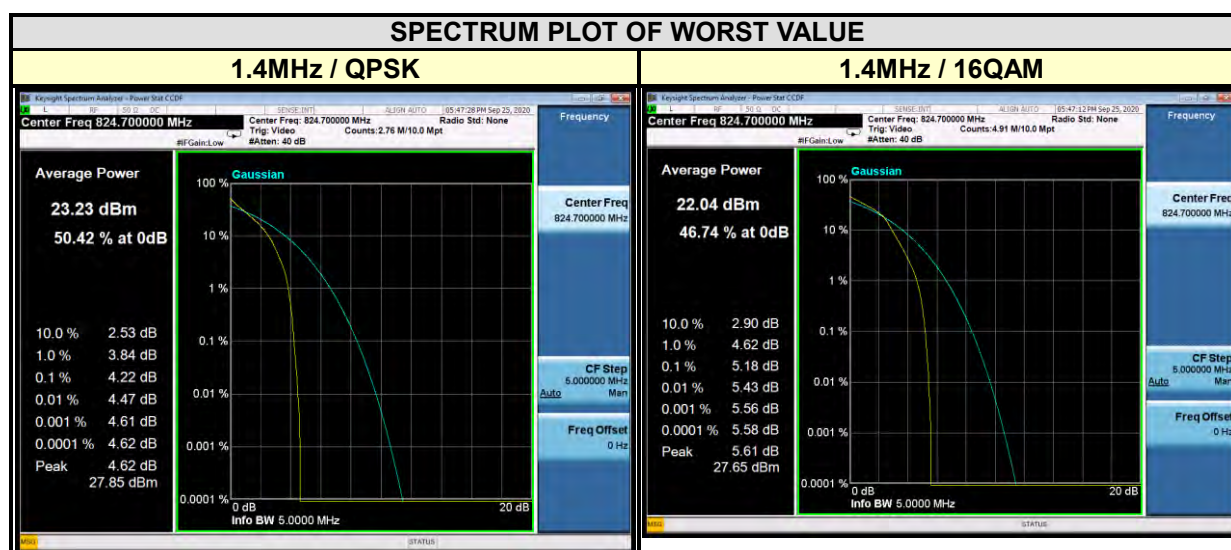


CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
4233	846.6	2.86



LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
20407	824.7	4.22	5.18
20525	836.5	4.12	5.00
20643	848.3	3.85	4.71



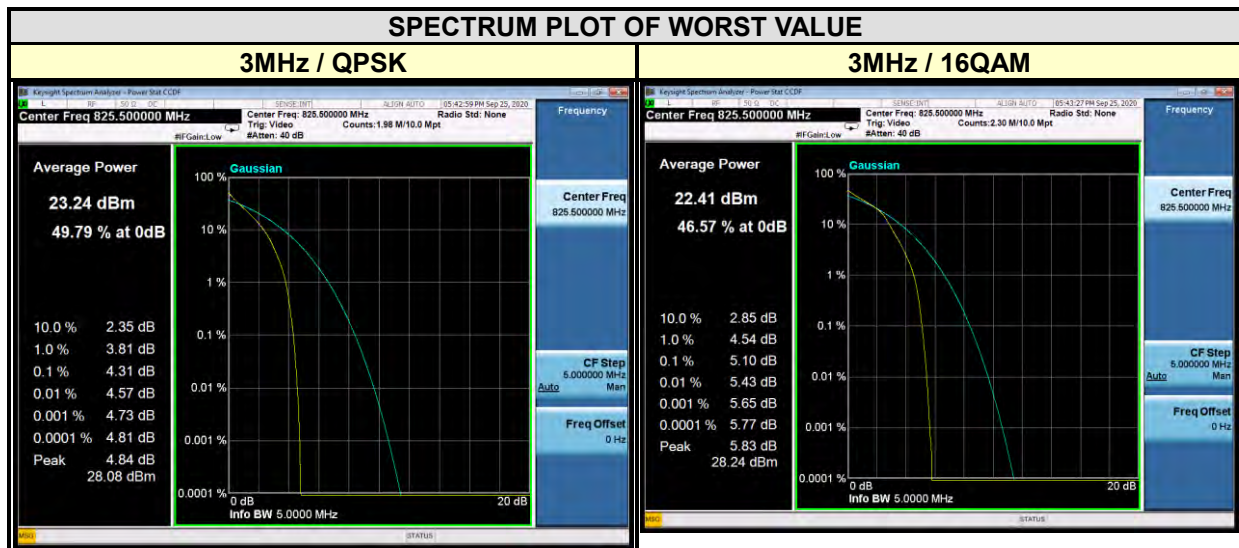


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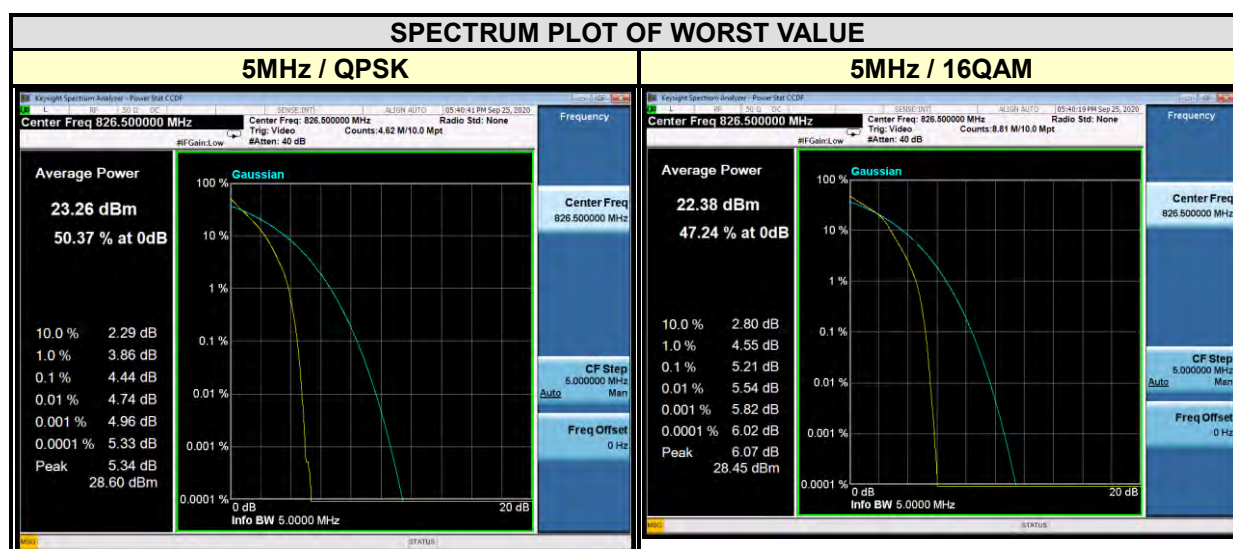
Test Report No.: RF200918W001-4

LTE BAND 5

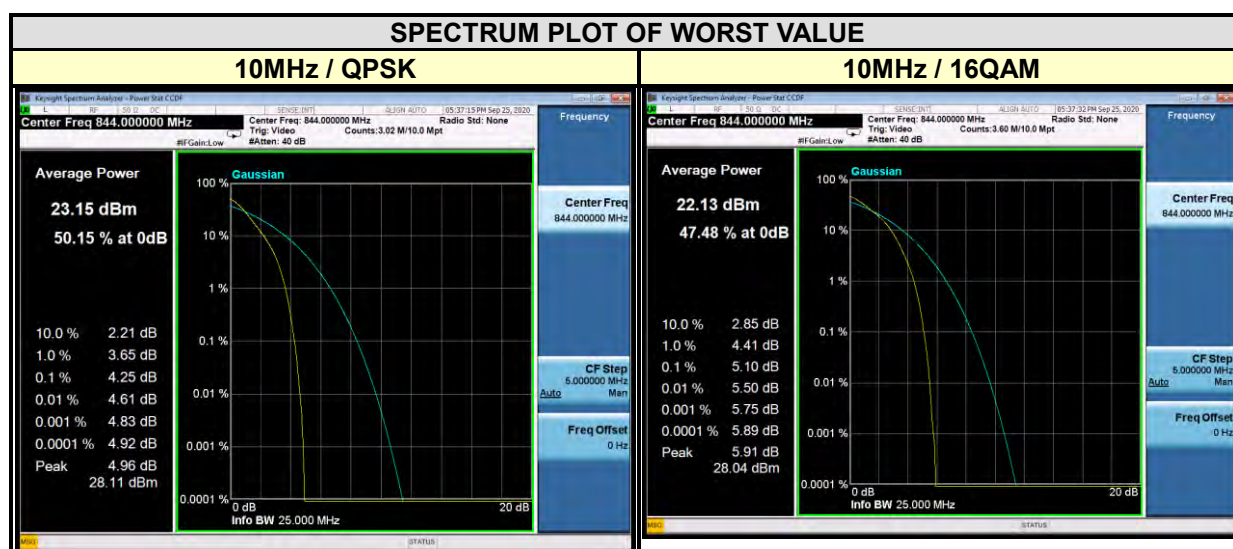
CHANNEL BANDWIDTH: 3MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
20415	825.5	4.31	5.10
20525	836.5	4.21	4.96
20635	847.5	3.98	4.92



CHANNEL BANDWIDTH: 5MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
20425	826.5	4.44	5.21
20525	836.5	4.37	5.21
20625	846.5	4.18	4.95



CHANNEL BANDWIDTH: 10MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
20450	829	4.05	4.96
20525	836.5	4.15	5.06
20600	844	4.25	5.10



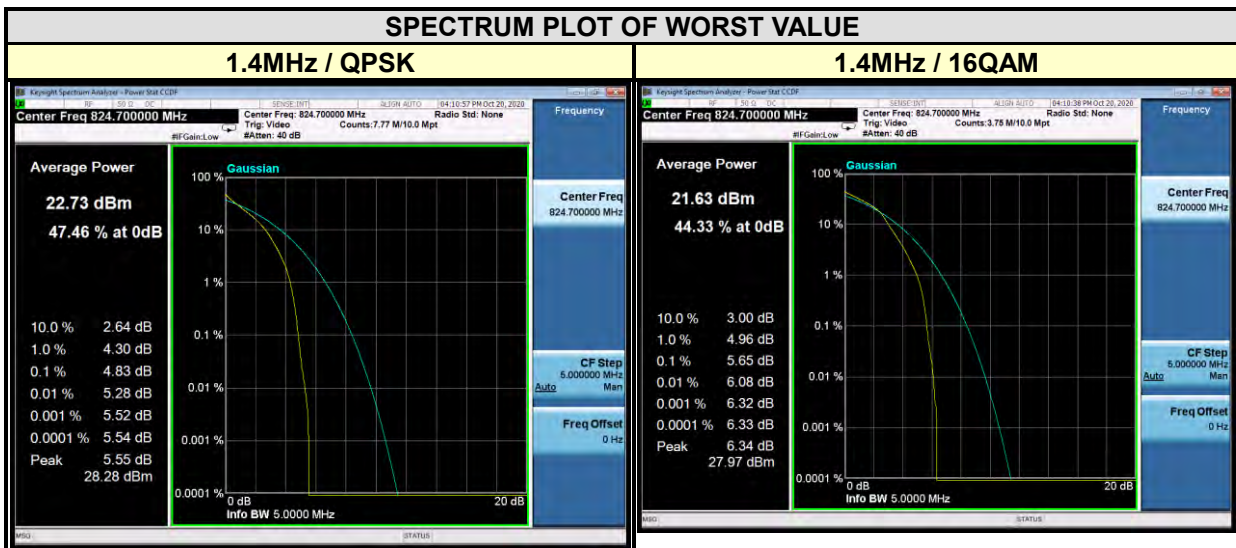


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LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
26797	824.7	4.83	5.65
26915	836.5	4.41	5.21
27033	848.3	4.54	5.40

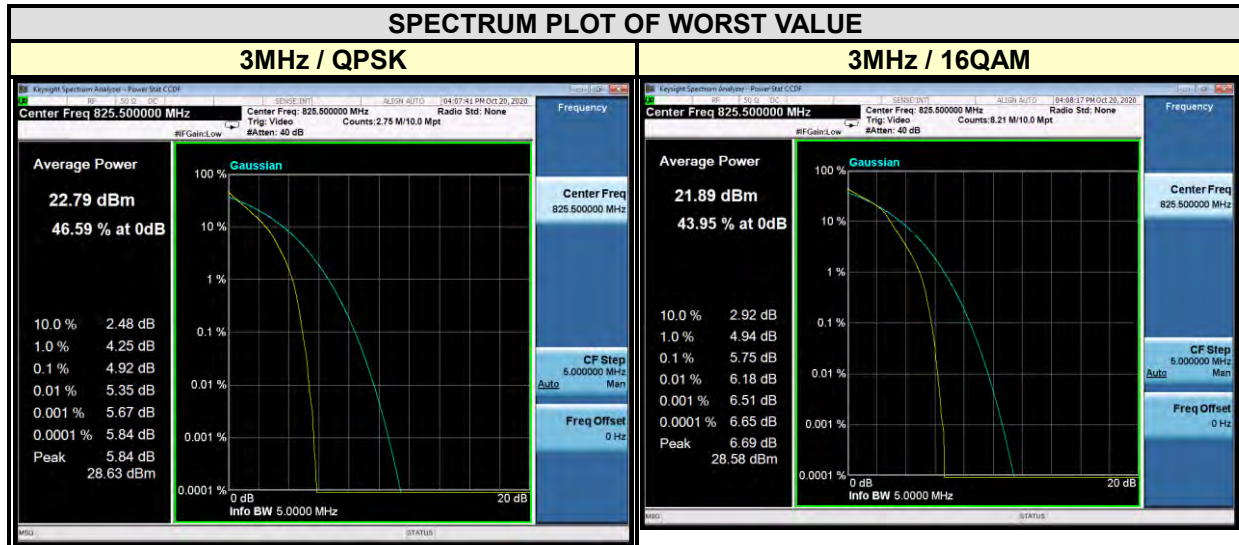




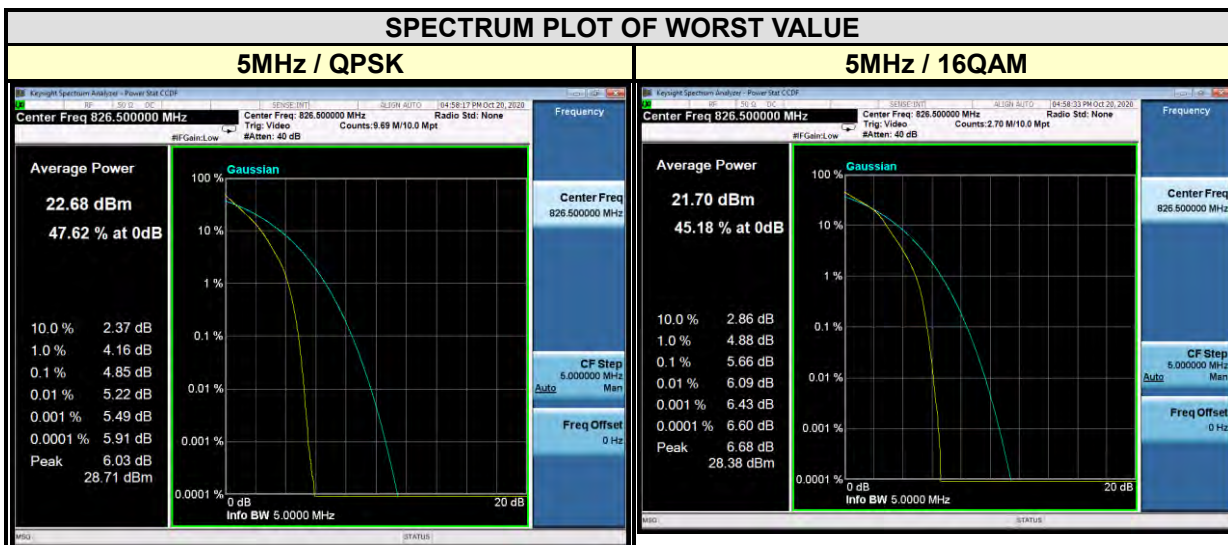
**BUREAU
VERITAS**

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CHANNEL BANDWIDTH: 3MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
26805	825.5	4.92	5.75
26915	836.5	4.52	5.38
27025	847.5	4.63	5.56



CHANNEL BANDWIDTH: 5MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
26815	826.5	4.85	5.66
26915	836.5	4.59	5.37
27015	846.5	4.64	5.51

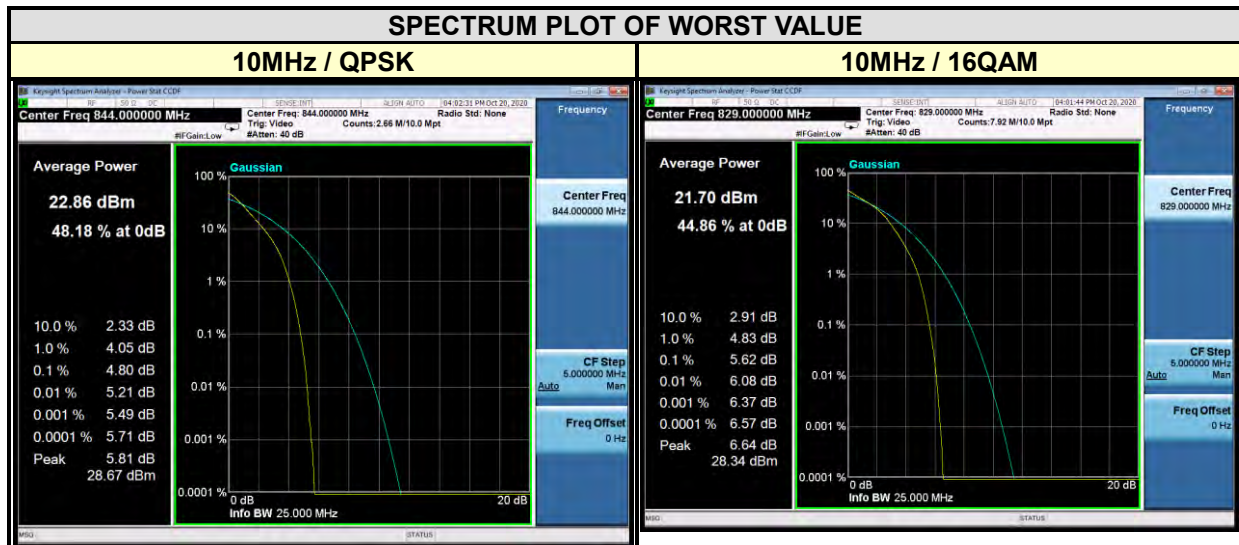




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Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 10MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
26840	829	4.77	5.62
26915	836.5	4.47	5.47
26990	844	4.80	5.60

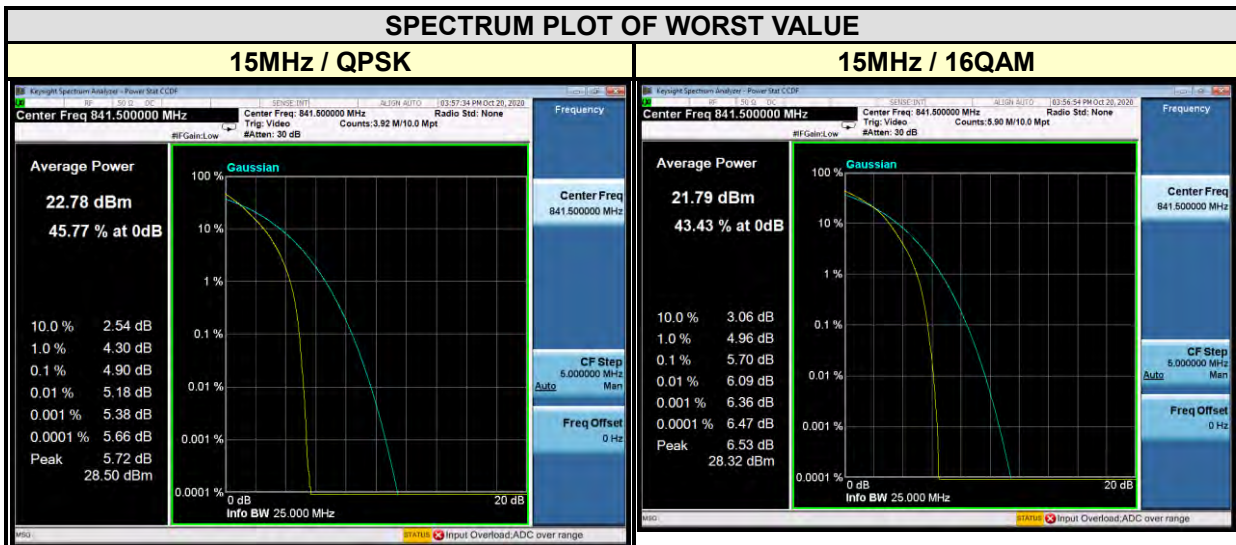




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VERITAS**

Test Report No.: RF200918W001-4

CHANNEL BANDWIDTH: 15MHz			
CHANNEL	Frequency (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
26865	831.5	4.84	5.64
26915	836.5	4.68	5.50
26965	841.5	4.90	5.70





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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).



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5 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:

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

6 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---