

# FCC TEST REPORT (PART 27)

**Product:** LTE Digital Mobile Phone

**Model Name:** NX529J/nubia Z11 mini/BGH nubia Z11 mini

**FCC ID:** SRQ-NX529J-US

**Applicant:** ZTE Corporation

**Address:** ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

**Manufacturer:** ZTE Corporation

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**Report No.:** RF160801W004-9

**Received Date:** Aug. 01, 2016

**Test Date:** Aug. 02, 2016 ~ Aug. 11, 2016

**Issued Date:** Aug. 12, 2016

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF160801W004-9	Original release	Aug. 12, 2016

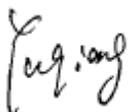


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## 1 CERTIFICATION

**PRODUCT:** LTE Digital Mobile Phone  
**BRAND NAME:** ZTE  
**MODEL NAME:** NX529J/nubia Z11 mini/BGH nubia Z11 mini  
**APPLICANT:** ZTE Corporation  
**TESTED:** Aug. 02, 2016 ~ Aug. 11, 2016  
**TEST SAMPLE:** Identical Prototype  
**STANDARDS:** **FCC Part 27, Subpart C**  
ANSI /TIA/EIA-603-D

The above equipment has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**PREPARED BY :** , **DATE:** Aug. 12, 2016  
( Yuqiang Yin / Engineer)

**APPROVED BY :** , **DATE:** Aug. 12, 2016  
( Bill Yao / Manager)

## 2 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	REMARK
2.1046 27.50(a)(3)	Equivalent Isotropically Radiated Power	PASS	Meet the requirement of limit.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
--	Peak to average ratio	PASS	Meet the requirement of limit.
2.1051 27.53(a)(4)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(a)(4)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(a)(4)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -27.47dB at 46.49MHz.

### 2.1 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	FREQUENCY	UNCERTAINTY
Conducted emissions	150 kHz ~ 30 MHz	2.44 dB
Radiated emissions	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

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

## 2.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Apr. 05,16	Apr. 04,17
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV7	102331	Nov. 09,15	Nov. 08,16
Bilog Antenna 1	Teseq	CBL 6111D	30643	Jul. 14, 16	Jul. 13, 17
Bilog Antenna 2	Teseq	CBL 6111D	27089	Jul. 14, 16	Jul. 13, 17
Horn Antenna (1GHz -18GHz)	ETS -Lindgren	3117	00062558	May 18,16	May 17,17
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 02, 15	Aug. 01, 17
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 12,16	Mar. 11,18
Test Software	ADT	ADT_Radiated V7.6.15.9.2	N/A	N/A	N/A
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170242	Mar. 12,16	Mar. 11,17
Amplifier (9kHz-1GHz)	SONOMA	310D	186955	Mar. 04,16	Mar. 03, 17
Pre-Amplifier(1-18G)	HP	8449B	3008A00409	Apr. 25,16	Apr. 24,17
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 20,15	Nov. 19,16
Test Software	ADT	ADT_Radiated V7.6.15.9.2	N/A	N/A	N/A
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Sep. 01,15	Aug. 31,16
Power Sensor	Keysight	U2021XA	MY55060016	May 04,16	May 03,17
Power Sensor	Keysight	U2021XA	MY55060018	May 04,16	May 03,17
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.07,15	Sep. 06,16
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 28,15	Nov. 27,16
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 09,15	Nov. 08,16
Signal Generator	Agilent	N5183A	MY50140980	Nov. 09,15	Nov. 08,16
ESG Vector Signal Generator	Agilent	E4438C	MY49072505	Apr. 22, 16	Apr. 21, 17
BLUETOOTH TESTER	Rohde&Schwarz	CBT32	100811	Sep. 01,15	Aug. 31,16

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
  2. The test was performed in Dongguan 966 Chamber.
  3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.
  4. The FCC Site Registration No. is 502831.



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### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	LTE Digital Mobile Phone	
<b>MODEL NAME</b>	NX529J/NUBIA Z11 MINI/BGH NUBIA Z11 MINI	
<b>POWER SUPPLY</b>	5.0Vdc (adapter or host equipment) 3.85Vdc (Li-ion, battery)	
<b>MODULATION TECHNOLOGY</b>	LTE Band 28	QPSK, 16QAM
<b>FREQUENCY RANGE</b>	LTE Band 28 Channel Bandwidth: 3MHz	704.5MHz ~ 746.5MHz
	LTE Band 28 Channel Bandwidth: 5MHz	705.5MHz ~ 745.5MHz
	LTE Band 28 Channel Bandwidth: 10MHz	708.0MHz ~ 743.0MHz
	LTE Band 28 Channel Bandwidth: 15MHz	710.5MHz ~ 740.5MHz
	LTE Band 28 Channel Bandwidth: 20MHz	713.0MHz ~ 738.0MHz
<b>EMISSION DESIGNATOR</b>	LTE Band 28 Channel Bandwidth: 3MHz	QPSK: 2M69G7D 16QAM: 2M68W7D
	LTE Band 28 Channel Bandwidth: 5MHz	QPSK: 4M47G7D 16QAM: 4M47W7D
	LTE Band 28 Channel Bandwidth: 10MHz	QPSK: 8M94G7D 16QAM: 8M94W7D
	LTE Band 28 Channel Bandwidth: 15MHz	QPSK: 13M4G7D 16QAM: 13M4W7D
	LTE Band 28 Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 17M8W7D
	<b>MAX. EIRP POWER</b>	LTE Band 28 Channel Bandwidth: 3MHz
LTE Band 28 Channel Bandwidth: 5MHz		260mW
LTE Band 28 Channel Bandwidth: 10MHz		268mW
LTE Band 28 Channel Bandwidth: 15MHz		277mW
LTE Band 28 Channel Bandwidth: 20MHz		228mW
<b>ANTENNA TYPE</b>	Fixed External antenna with -3.3dBi gain	
<b>HW VERSION</b>	MB_C	



<b>SW VERSION</b>	NX529J_ENCommon_V1.20
<b>I/O PORTS</b>	Refer to user's manual
<b>DATA CABLE</b>	USB cable: non-shielded, detachable, 1.0m

**NOTE:**

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT was powered by the following adapters:

<b>ADAPTER 1</b>	
<b>BRAND:</b>	RUIDE
<b>MODEL:</b>	STC-A515A-Z
<b>INPUT:</b>	AC 100-240V, 600mA
<b>OUTPUT:</b>	DC 5V, 1500mA

<b>ADAPTER 2</b>	
<b>BRAND:</b>	DOKOCOM
<b>MODEL:</b>	STC-A515A-Z
<b>INPUT:</b>	AC 100-240V, 600mA
<b>OUTPUT:</b>	DC 5V, 1500mA

<b>ADAPTER 3</b>	
<b>BRAND:</b>	Salcomp
<b>MODEL:</b>	STC-A515A-Z
<b>INPUT:</b>	AC 100-240V, 600mA
<b>OUTPUT:</b>	DC 5V, 1500mA

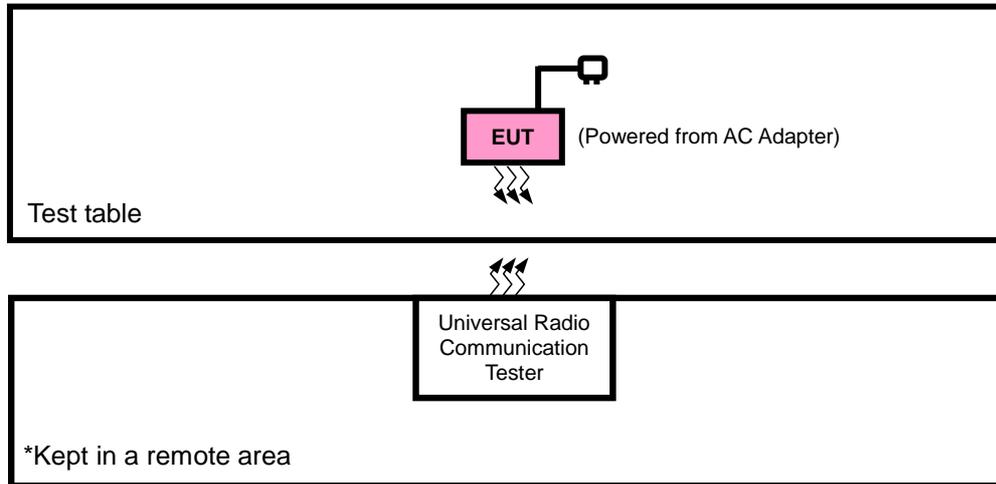
- The EUT matched the following USB cable:

<b>USB CABLE</b>	
<b>BRAND:</b>	LIXUN
<b>MODEL:</b>	ZXMT1511003
<b>SIGNAL LINE:</b>	1.0 METER

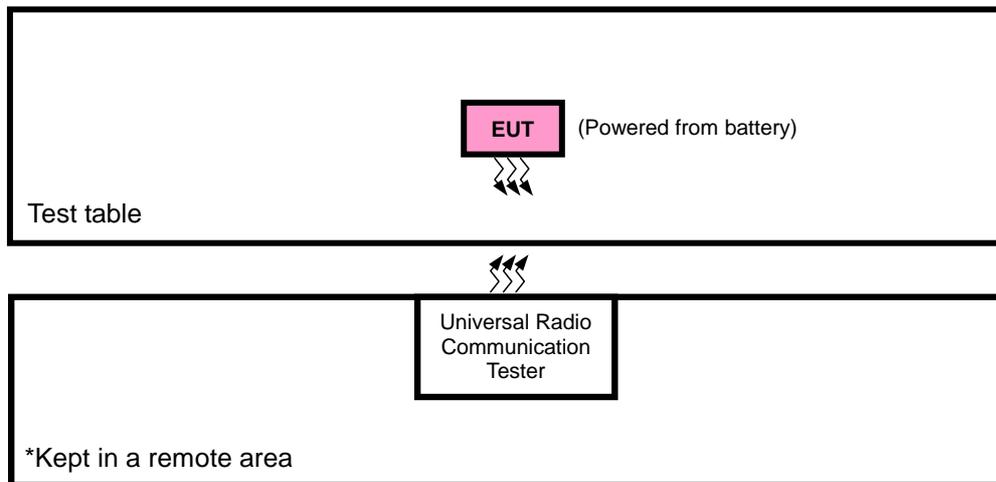
- The above models are identical except the model name for marketing purpose.
- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

### 3.2 CONFIGURATION OF SYSTEM UNDER TEST

#### FOR RADIATION EMISSION TEST



#### FOR E.I.R.P TEST



### 3.3 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
2	PC	HP	A6608CN	3CR83825X3	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	AC Line: Unshielded, Detachable 1.5m

**NOTE:** All power cords of the above support units are non shielded (1.8m).

### 3.4 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 + USB Cable with LTE link

**LTE BAND 28**

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
B	EIRP	27225 to 27645	27225, 27640, 27645	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27235 to 27635	27235, 27640, 27635	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27260 to 27610	27260, 27640, 27610	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27285 to 27585	27285, 27640, 27585	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27310 to 27560	27310, 27640, 27560	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	27225 to 27645	27640	3MHz	QPSK	1 RB / 0 RB Offset
		27235 to 27635	27640	5MHz	QPSK	1 RB / 0 RB Offset
		27260 to 27610	27640	10MHz	QPSK	1 RB / 0 RB Offset
		27285 to 27585	27640	15MHz	QPSK	1 RB / 0 RB Offset
		27310 to 27560	27640	20MHz	QPSK	1 RB / 0 RB Offset
B	OCCUPIED BANDWIDTH	27225 to 27645	27225, 27640, 27645	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		27235 to 27635	27235, 27640, 27635	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		27260 to 27610	27260, 27640, 27610	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		27285 to 27585	27285, 27640, 27585	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		27310 to 27560	27310, 27640, 27560	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
B	PEAK TO AVERAGE RATIO	27225 to 27645	27225, 27640, 27645	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27235 to 27635	27235, 27640, 27635	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27260 to 27610	27260, 27640, 27610	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27285 to 27585	27285, 27640, 27585	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		27310 to 27560	27310, 27640, 27560	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	BAND EDGE	27225 to 27645	27225	3MHz	QPSK	1 RB / 0 RB Offset
			27645	3MHz	QPSK	15 RB / 0 RB Offset
		27235 to 27635	27235	5MHz	QPSK	1 RB / 14 RB Offset
			27635	5MHz	QPSK	15 RB / 0 RB Offset
		27260 to 27610	27260	10MHz	QPSK	1 RB / 0 RB Offset
			27610	10MHz	QPSK	25 RB / 0 RB Offset
		27285 to 27585	27285	15MHz	QPSK	1 RB / 24 RB Offset
			27585	15MHz	QPSK	25 RB / 0 RB Offset
		27310 to 27560	27260	10MHz	QPSK	1 RB / 0 RB Offset
			27610	10MHz	QPSK	50 RB / 0 RB Offset
		27285 to 27585	27285	15MHz	QPSK	1 RB / 49 RB Offset
			27585	15MHz	QPSK	50 RB / 0 RB Offset
		27310 to 27560	27285	15MHz	QPSK	1 RB / 0 RB Offset
			27585	15MHz	QPSK	75 RB / 0 RB Offset
27310 to 27560	27310	20MHz	QPSK	1 RB / 74 RB Offset		
	27560	20MHz	QPSK	75 RB / 0 RB Offset		
27310 to 27560	27310	20MHz	QPSK	1 RB / 0 RB Offset		
	27560	20MHz	QPSK	100 RB / 0 RB Offset		
27310 to 27560	27310	20MHz	QPSK	1 RB / 0 RB Offset		
	27560	20MHz	QPSK	100 RB / 99 RB Offset		
27310 to 27560	27310	20MHz	QPSK	100 RB / 0 RB Offset		
	27560	20MHz	QPSK	100 RB / 0 RB Offset		

B	CONDCUDED EMISSION	27225 to 27645	27640	3MHz	QPSK	1 RB / 0 RB Offset
		27235 to 27635	27640	5MHz	QPSK	1 RB / 0 RB Offset
		27260 to 27610	27640	10MHz	QPSK	1 RB / 0 RB Offset
		27285 to 27585	27640	15MHz	QPSK	1 RB / 0 RB Offset
		27310 to 27560	27640	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	27225 to 27645	27640	3MHz	QPSK	1 RB / 0 RB Offset
		27235 to 27635	27640	5MHz	QPSK	1 RB / 0 RB Offset
		27260 to 27610	27640	10MHz	QPSK	1 RB / 0 RB Offset
		27285 to 27585	27640	15MHz	QPSK	1 RB / 0 RB Offset
		27310 to 27560	27640	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.



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**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	24deg. C, 60%RH	3.85Vdc from Battery	Alex Chen
FREQUENCY STABILITY	24deg. C, 61%RH	3.85Vdc from Battery	Yuqiang Yin
OCCUPIED BANDWIDTH	24deg. C, 61%RH	3.85Vdc from Battery	Yuqiang Yin
PEAK TO AVERAGE RATIO	24deg. C, 61%RH	3.85Vdc from Battery	Yuqiang Yin
BAND EDGE	24deg. C, 61%RH	3.85Vdc from Battery	Yuqiang Yin
CONDUCTED EMISSION	24deg. C, 61%RH	3.85Vdc from Battery	Yuqiang Yin
RADIATED EMISSION	24deg. C, 60%RH	5Vdc from adapter	Alex Chen

### 3.5 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 v02r02**

**ANSI/TIA/EIA-603-D**

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

## 4 TEST TYPES AND RESULTS

### 4.1 OUTPUT POWER MEASUREMENT

#### 4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Portable stations (hand-held devices) operating in the 703-748 MHz bands are limited to 3 watts ERP.

#### 4.1.2 TEST PROCEDURES

##### EIRP MEASUREMENT:

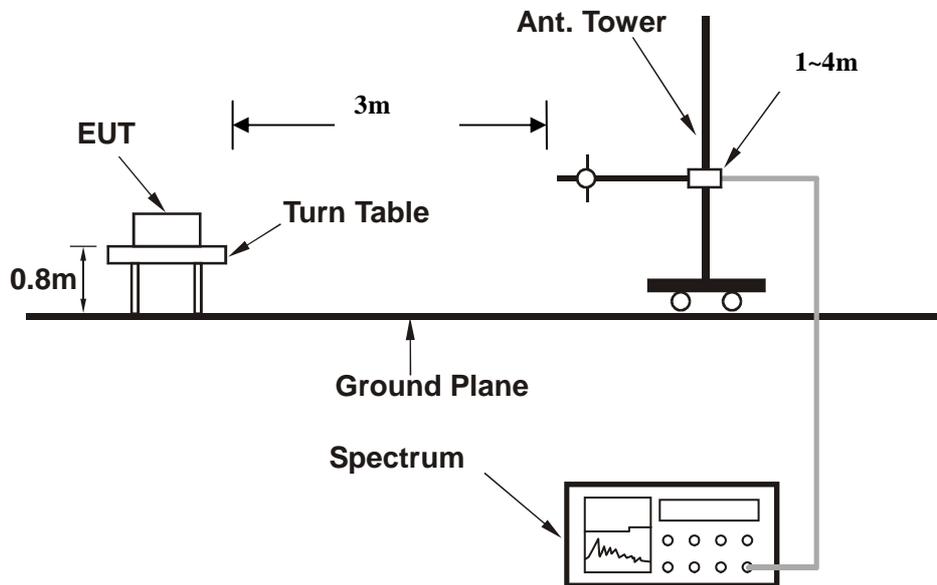
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10MHz for LTE mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the 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.
- c. 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 b. Record the power level of S.G.
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .

##### 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.

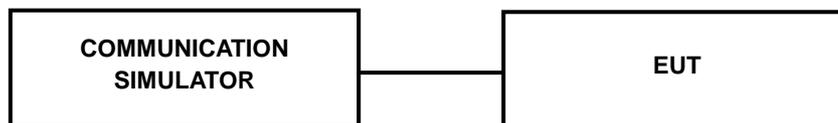
### 4.1.3 TEST SETUP

#### EIRP MEASUREMENT:



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

#### CONDUCTED POWER MEASUREMENT:



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

#### 4.1.4 TEST RESULTS

##### AVERAGE CONDUCTED OUTPUT POWER (dBm)

Band/BW	Modulation	RB Size	RB Offset	Low CH (27225)	Mid CH (27460)	High CH (27645)	MPR
				Frequency (704.5)MHz	Frequency (728)MHz	Frequency (746.5)MHz	
28/3	QPSK	1	0	23.14	23.11	23.12	0
		1	7	23.13	23.10	23.10	0
		1	14	23.01	22.96	23.00	0
		8	0	22.17	22.14	22.15	1
		8	3	22.04	22.01	22.01	1
		8	7	22.01	21.99	22.03	1
		15	0	21.99	21.96	21.97	1
	16QAM	1	0	21.93	21.89	21.89	1
		1	7	21.90	21.87	21.91	1
		1	14	21.88	21.85	21.86	1
		8	0	21.11	21.07	21.07	2
		8	3	20.94	20.91	20.95	2
		8	7	21.05	21.02	21.03	2
		15	0	20.96	20.92	20.92	2

Band/BW	Modulation	RB Size	RB Offset	Low CH (27235)	Mid CH (27460)	High CH (27635)	MPR
				Frequency (705.5)MHz	Frequency (728)MHz	Frequency (745.5)MHz	
28/5	QPSK	1	0	23.16	23.13	23.14	0
		1	12	23.15	23.12	23.12	0
		1	24	23.03	22.98	23.02	0
		12	0	22.19	22.16	22.17	1
		12	6	22.06	22.03	22.03	1
		12	13	22.03	22.01	22.05	1
		25	0	22.01	21.98	21.99	1
	16QAM	1	0	21.95	21.91	21.91	1
		1	12	21.92	21.89	21.93	1
		1	24	21.90	21.87	21.88	1
		12	0	21.13	21.09	21.09	2
		12	6	20.96	20.93	20.97	2
		12	13	21.07	21.04	21.05	2
		25	0	20.98	20.94	20.94	2

Band/BW	Modulation	RB Size	RB Offset	Low CH (27260)	Mid CH (27460)	High CH (27610)	MPR
				Frequency (708)MHz	Frequency (728)MHz	Frequency (743)MHz	
28/10	QPSK	1	0	23.18	23.15	23.16	0
		1	24	23.17	23.14	23.14	0
		1	49	23.05	23.00	23.04	0
		25	0	22.21	22.18	22.19	1
		25	12	22.08	22.05	22.05	1
		25	25	22.05	22.03	22.07	1
		50	0	22.03	22.00	22.01	1
	16QAM	1	0	21.97	21.93	21.93	1
		1	24	21.94	21.91	21.95	1
		1	49	21.92	21.89	21.90	1
		25	0	21.15	21.11	21.11	2
		25	12	20.98	20.95	20.99	2
		25	25	21.09	21.06	21.07	2
		50	0	21.00	20.96	20.96	2

Band/BW	Modulation	RB Size	RB Offset	Low CH (27285)	Mid CH (27460)	High CH (27585)	MPR
				Frequency (710.5)MHz	Frequency (728)MHz	Frequency (740.5)MHz	
28/15	QPSK	1	0	23.20	23.17	23.18	0
		1	37	23.19	23.16	23.16	0
		1	74	23.07	23.02	23.06	0
		36	0	22.23	22.20	22.21	1
		36	19	22.10	22.07	22.07	1
		36	39	22.07	22.05	22.09	1
		75	0	22.05	22.02	22.03	1
	16QAM	1	0	21.99	21.95	21.95	1
		1	37	21.96	21.93	21.97	1
		1	74	21.94	21.91	21.92	1
		36	0	21.17	21.13	21.13	2
		36	19	21.00	20.97	21.01	2
		36	39	21.11	21.08	21.09	2
		75	0	21.02	20.98	20.98	2

Band/BW	Modulation	RB Size	RB Offset	Low CH (27310)	Mid CH (27460)	High CH (27560)	MPR
				Frequency (713)MHz	Frequency (728)MHz	Frequency (738)MHz	
28/20	QPSK	1	0	<b>23.23</b>	23.20	23.21	0
		1	50	23.22	23.19	23.19	0
		1	99	23.10	23.05	23.09	0
		50	0	22.26	22.23	22.24	1
		50	25	22.13	22.10	22.10	1
		50	50	22.10	22.08	22.12	1
		100	0	22.08	22.05	22.06	1
	16QAM	1	0	22.02	21.98	21.98	1
		1	50	21.99	21.96	22.00	1
		1	99	21.97	21.94	21.95	1
		50	0	21.20	21.16	21.16	2
		50	25	21.03	21.00	21.04	2
		50	50	21.14	21.11	21.12	2
		100	0	21.05	21.01	21.01	2



EIRP

LTE BAND 28

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27225	704.5	-10.06	33.06	23.00	199.53	H	3
27460	728.0	-9.40	33.35	23.95	248.31	H	3
27645	746.5	-9.40	33.51	24.11	<b>257.63</b>	H	3
27225	704.5	-15.88	32.35	16.47	44.36	V	3
27460	728.0	-16.56	32.58	16.02	39.99	V	3
27645	746.5	-16.20	32.74	16.54	45.08	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27225	704.5	-11.13	33.06	21.93	155.96	H	3
27460	728.0	-10.29	33.35	23.06	202.30	H	3
27645	746.5	-10.39	33.51	23.12	205.12	H	3
27225	704.5	-16.95	32.35	15.40	34.67	V	3
27460	728.0	-17.45	32.58	15.13	32.58	V	3
27645	746.5	-17.19	32.74	15.55	35.89	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

LTE BAND 28

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27235	705.5	-10.12	33.08	22.96	197.70	H	3
27460	728.0	-9.35	33.35	24.00	251.19	H	3
27635	745.5	-9.35	33.50	24.15	<b>260.02</b>	H	3
27235	705.5	-15.94	32.42	16.48	44.46	V	3
27460	728.0	-16.51	32.58	16.07	40.46	V	3
27635	745.5	-16.15	32.72	16.57	45.39	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

**CHANNEL BANDWIDTH: 5MHz 16QAM**

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27235	705.5	-10.95	33.08	22.13	163.31	H	3
27460	728.0	-10.37	33.35	22.98	198.61	H	3
27635	745.5	-10.45	33.50	23.05	201.84	H	3
27235	705.5	-16.77	32.42	15.65	36.73	V	3
27460	728.0	-17.53	32.58	15.05	31.99	V	3
27635	745.5	-17.25	32.72	15.47	35.24	V	3

**NOTE:** EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

**LTE BAND 28**

**CHANNEL BANDWIDTH: 10MHz QPSK**

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27260	708.0	-9.93	33.19	23.26	211.74	H	3
27460	728.0	-9.29	33.35	24.06	254.68	H	3
27610	743.0	-9.22	33.50	24.28	<b>267.92</b>	H	3
27260	708.0	-15.75	32.56	16.81	47.97	V	3
27460	728.0	-16.45	32.58	16.13	41.02	V	3
27610	743.0	-16.02	32.91	16.89	48.87	V	3

**NOTE:** EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

**CHANNEL BANDWIDTH: 10MHz 16QAM**

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27260	708.0	-11.08	33.19	22.11	162.48	H	3
27460	728.0	-10.39	33.35	22.96	197.70	H	3
27610	743.0	-10.38	33.50	23.12	205.12	H	3
27260	708.0	-16.90	32.56	15.66	36.81	V	3
27460	728.0	-17.55	32.58	15.03	31.84	V	3
27610	743.0	-17.18	32.91	15.73	37.41	V	3

**NOTE:** EIRP (dBm) = LVL (dBm) + Correction Factor (dB)



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LTE BAND 28

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27285	710.5	-9.94	33.37	23.43	220.14	H	3
27460	728.0	-9.36	33.35	23.99	250.61	H	3
27585	740.5	-9.29	33.72	24.43	<b>277.33</b>	H	3
27285	710.5	-15.76	32.54	16.78	47.59	V	3
27460	728.0	-16.52	32.58	16.06	40.36	V	3
27585	740.5	-16.09	32.80	16.71	46.88	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27285	710.5	-10.80	33.37	22.57	180.59	H	3
27460	728.0	-10.23	33.35	23.12	205.12	H	3
27585	740.5	-10.14	33.72	23.58	228.03	H	3
27285	710.5	-16.62	32.54	15.92	39.04	V	3
27460	728.0	-17.39	32.58	15.19	33.04	V	3
27585	740.5	-16.94	32.80	15.86	38.55	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

LTE BAND 28

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27310	713.0	-10.52	33.26	22.74	187.76	H	3
27460	728.0	-9.81	33.35	23.54	225.94	H	3
27560	738.0	-9.87	33.44	23.57	<b>227.51</b>	H	3
27310	713.0	-16.34	32.39	16.05	40.23	V	3
27460	728.0	-16.97	32.58	15.61	36.39	V	3
27560	738.0	-16.67	32.79	16.12	40.93	V	3

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)



Test Report No.: RF160801W004-9

**CHANNEL BANDWIDTH: 20MHz 16QAM**

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	LIMIT (W)
27310	713.0	-11.45	33.26	21.81	151.57	H	3
27460	728.0	-10.88	33.35	22.47	176.60	H	3
27560	738.0	-10.70	33.44	22.74	187.93	H	3
27310	713.0	-17.27	32.39	15.12	32.48	V	3
27460	728.0	-18.04	32.58	14.54	28.44	V	3
27560	738.0	-17.50	32.79	15.29	33.81	V	3

**NOTE:** EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

## 4.2 FREQUENCY STABILITY MEASUREMENT

### 4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

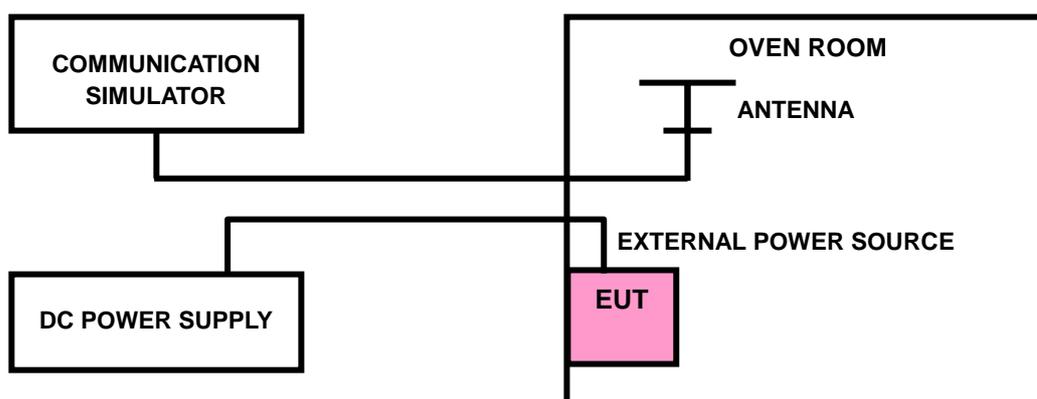
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

### 4.2.2 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  $\pm 0.5^{\circ}\text{C}$  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.

### 4.2.3 TEST SETUP



#### 4.2.4 TEST RESULTS

##### FREQUENCY ERROR vs. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)					LIMIT (ppm)
	LTE Band 28					
	3MHz	5MHz	10MHz	15MHz	20MHz	
3.85	0.0014	0.0014	0.0014	0.0014	0.0014	2.5
3.3	0.0014	0.0013	0.0013	0.0013	0.0013	2.5
4.4	0.0013	0.0012	0.0012	0.0012	0.0012	2.5

**NOTE:** The applicant defined the normal working voltage of the battery is from 3.3Vdc to 4.4Vdc.

##### FREQUENCY ERROR vs. TEMPERATURE

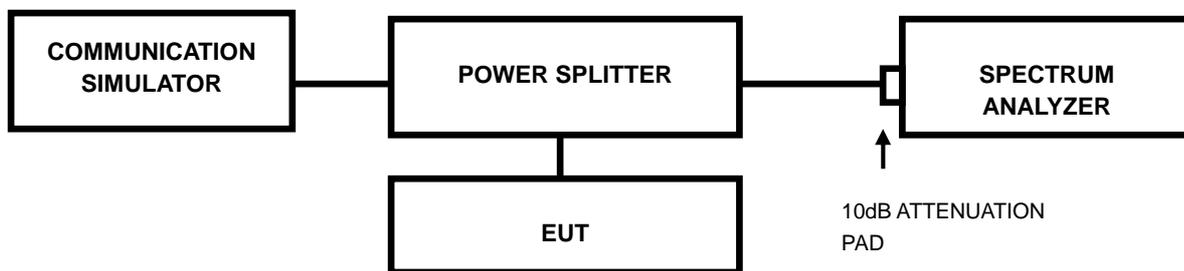
TEMP. (°C)	FREQUENCY ERROR (ppm)					LIMIT (ppm)
	LTE Band 28					
	3MHz	5MHz	10MHz	15MHz	20MHz	
-30	0.0054	0.0054	0.0056	0.0056	0.0057	2.5
-20	0.0049	0.0050	0.0049	0.0050	0.0053	2.5
-10	0.0042	0.0047	0.0047	0.0045	0.0048	2.5
0	0.0039	0.0044	0.0044	0.0042	0.0046	2.5
10	0.0034	0.0042	0.0042	0.0037	0.0044	2.5
20	0.0027	0.0040	0.0038	0.0035	0.0042	2.5
30	0.0020	0.0038	0.0036	0.0031	0.0039	2.5
40	0.0020	0.0031	0.0031	0.0029	0.0037	2.5
50	0.0017	0.0030	0.0030	0.0027	0.0031	2.5
60	0.0017	0.0025	0.0024	0.0025	0.0025	2.5

### 4.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 4.3.1 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.

#### 4.3.2 TEST SETUP



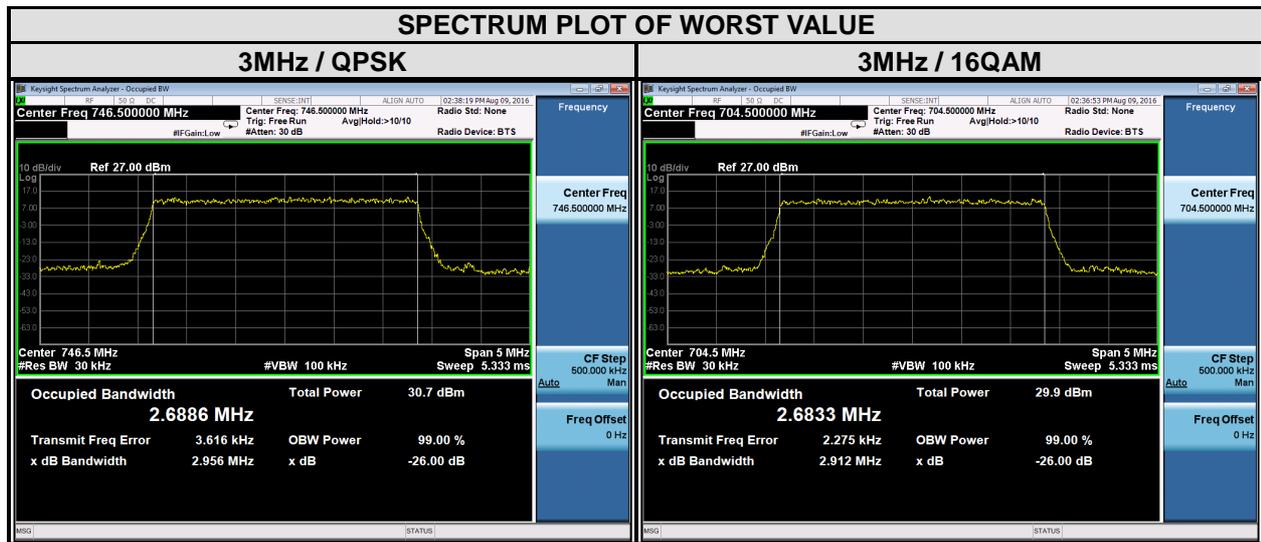
#### 4.3.3 TEST PROCEDURES

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

### 4.3.4 TEST RESULTS

#### LTE BAND 28

CHANNEL BANDWIDTH: 3MHz			
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)	
		QPSK	16QAM
27225	704.5	2.68	2.68
27460	728	2.69	2.68
27645	746.5	2.69	2.68



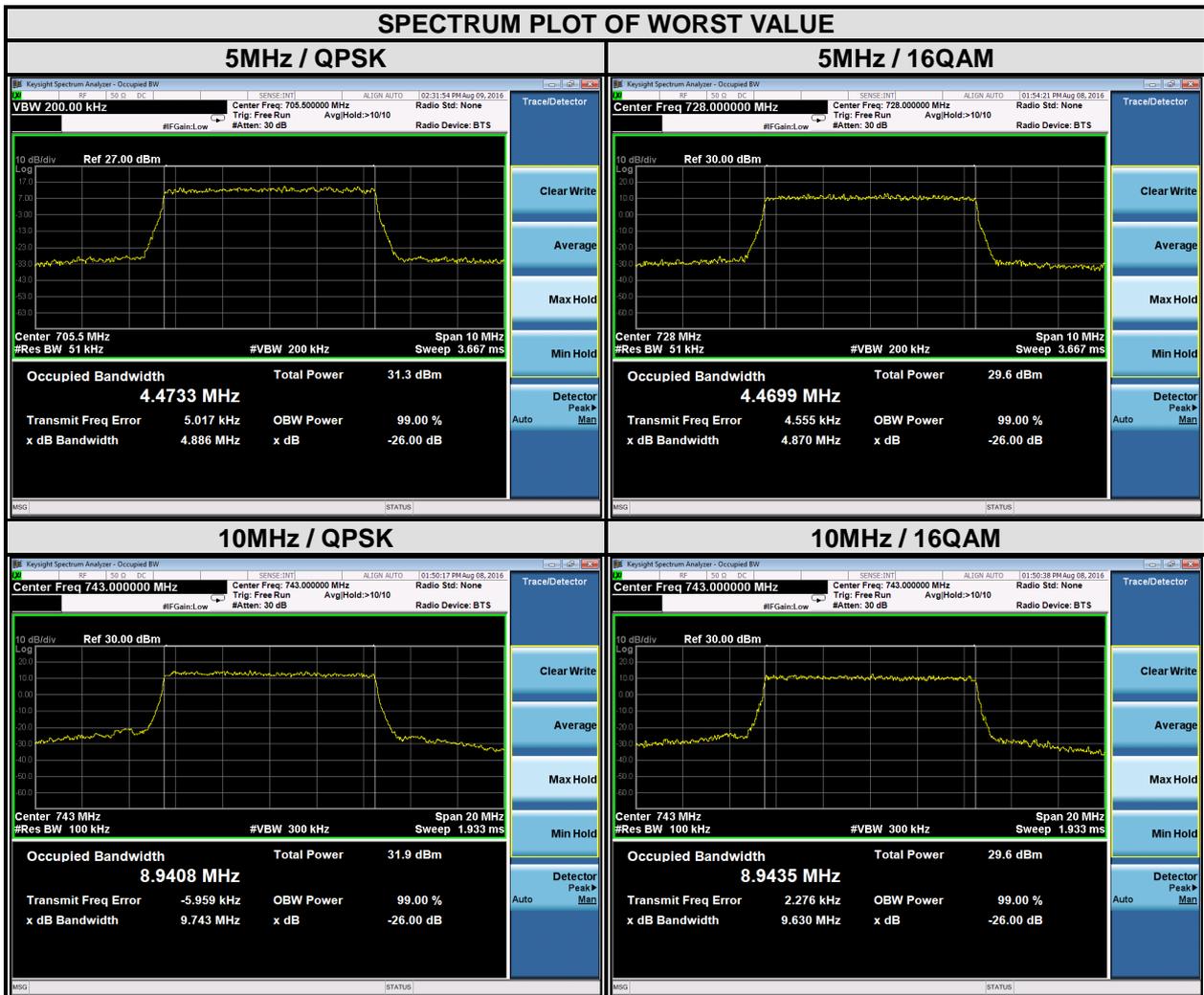


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**LTE BAND 28**

CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)		CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
27235	705.5	4.47	4.46	27260	708	8.93	8.94
27460	728	4.47	4.47	27460	728	8.94	8.94
27635	745.5	4.46	4.47	27610	743	8.94	8.94



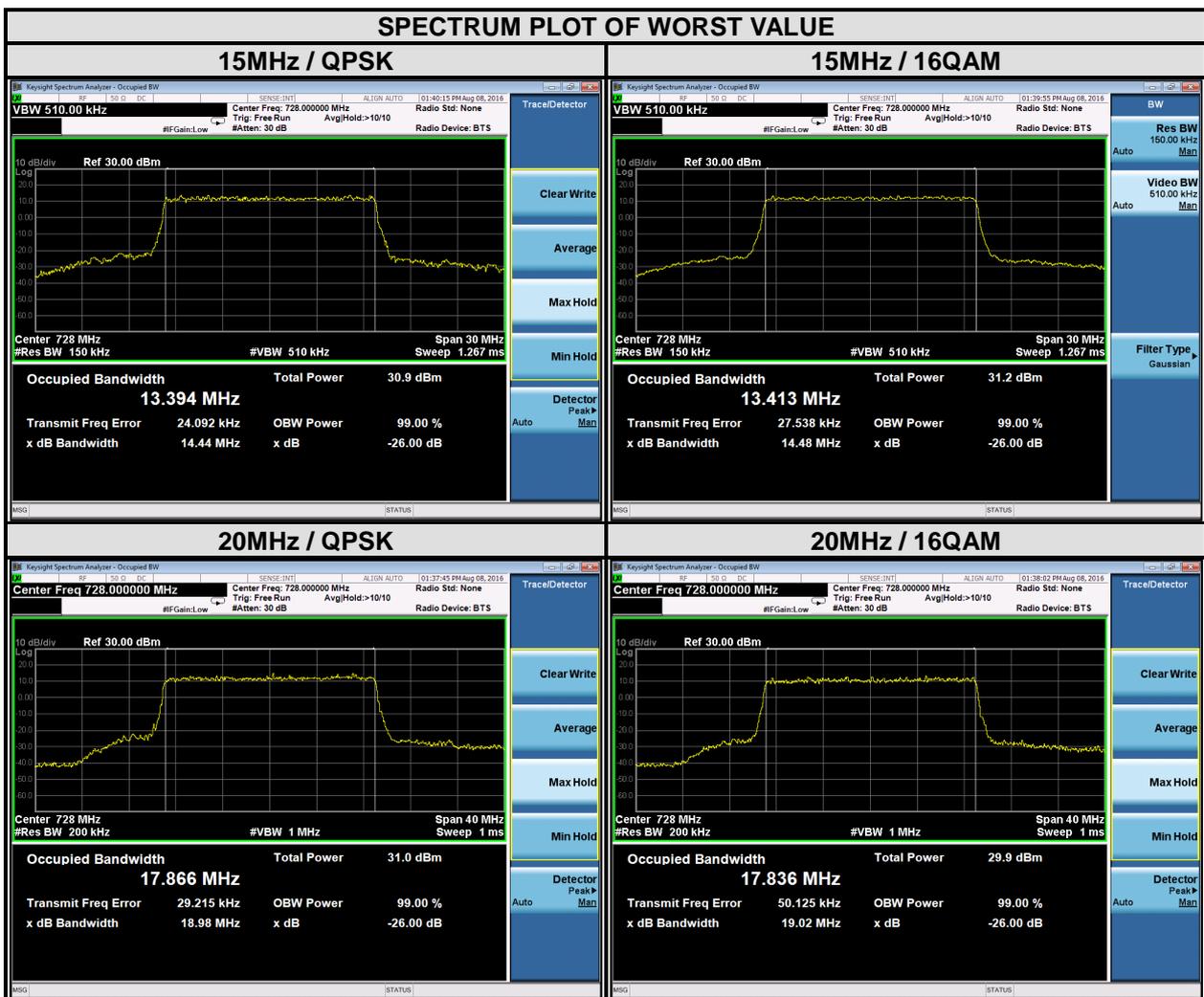
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**LTE BAND 28**

CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
27285	710.5	13.37	13.36	27310	713	17.86	17.82
27460	728	13.39	13.41	27460	728	17.87	17.84
27585	740.5	13.34	13.36	27560	738	17.79	17.73

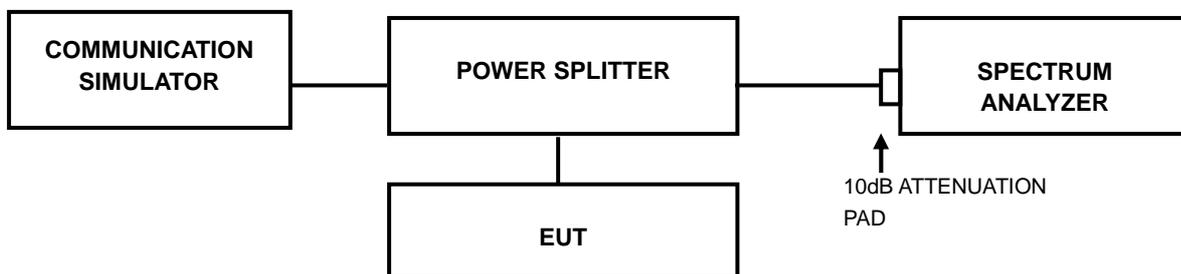


## 4.4 PEAK TO AVERAGE RATIO

### 4.4.1 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.

### 4.4.2 TEST SETUP



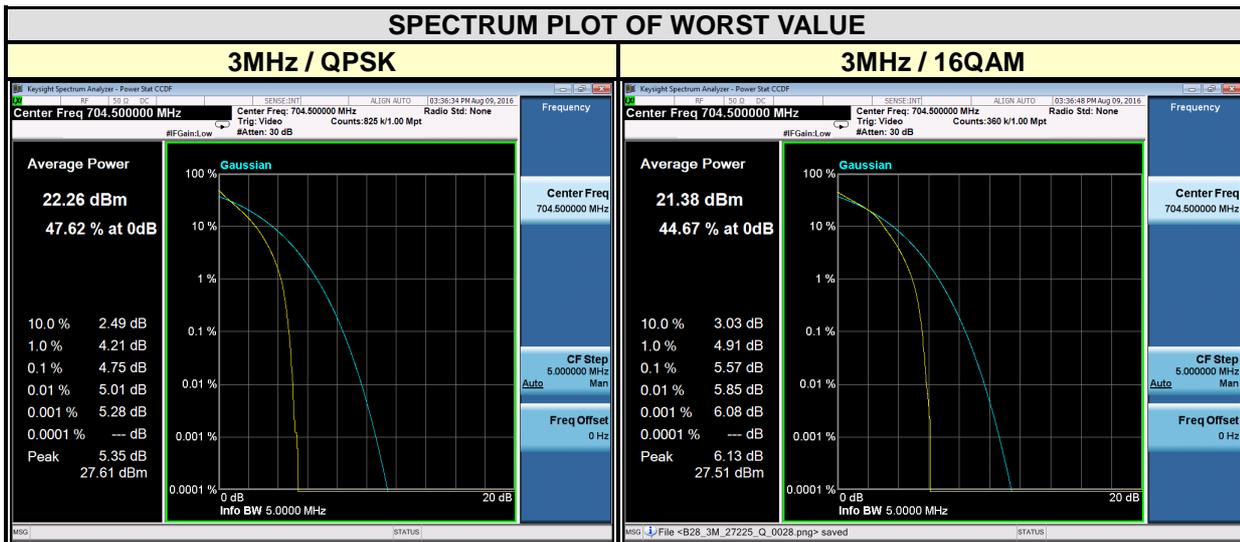
### 4.4.3 TEST PROCEDURES

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%.

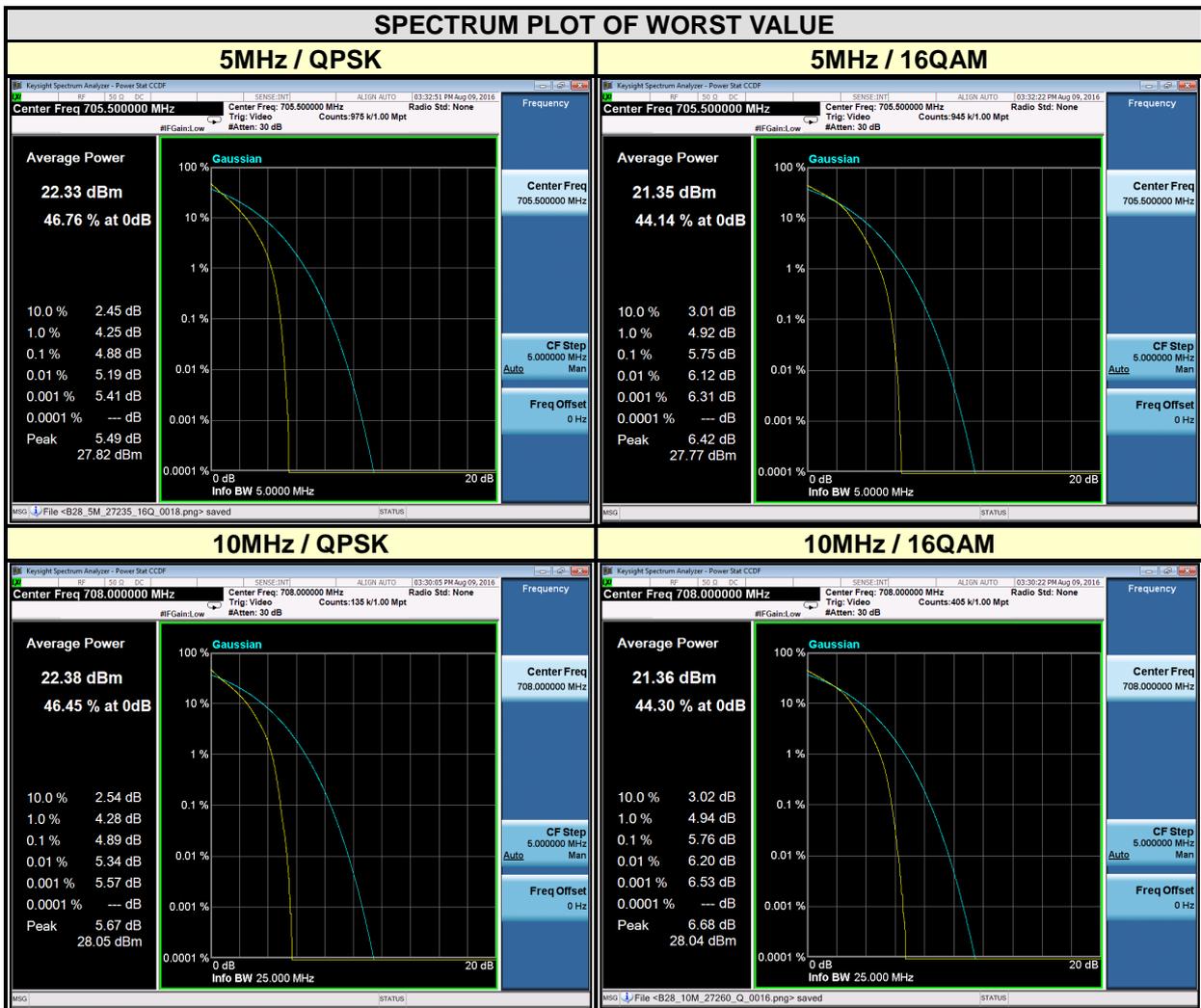
### 4.4.4 TEST RESULTS

#### LTE BAND 30

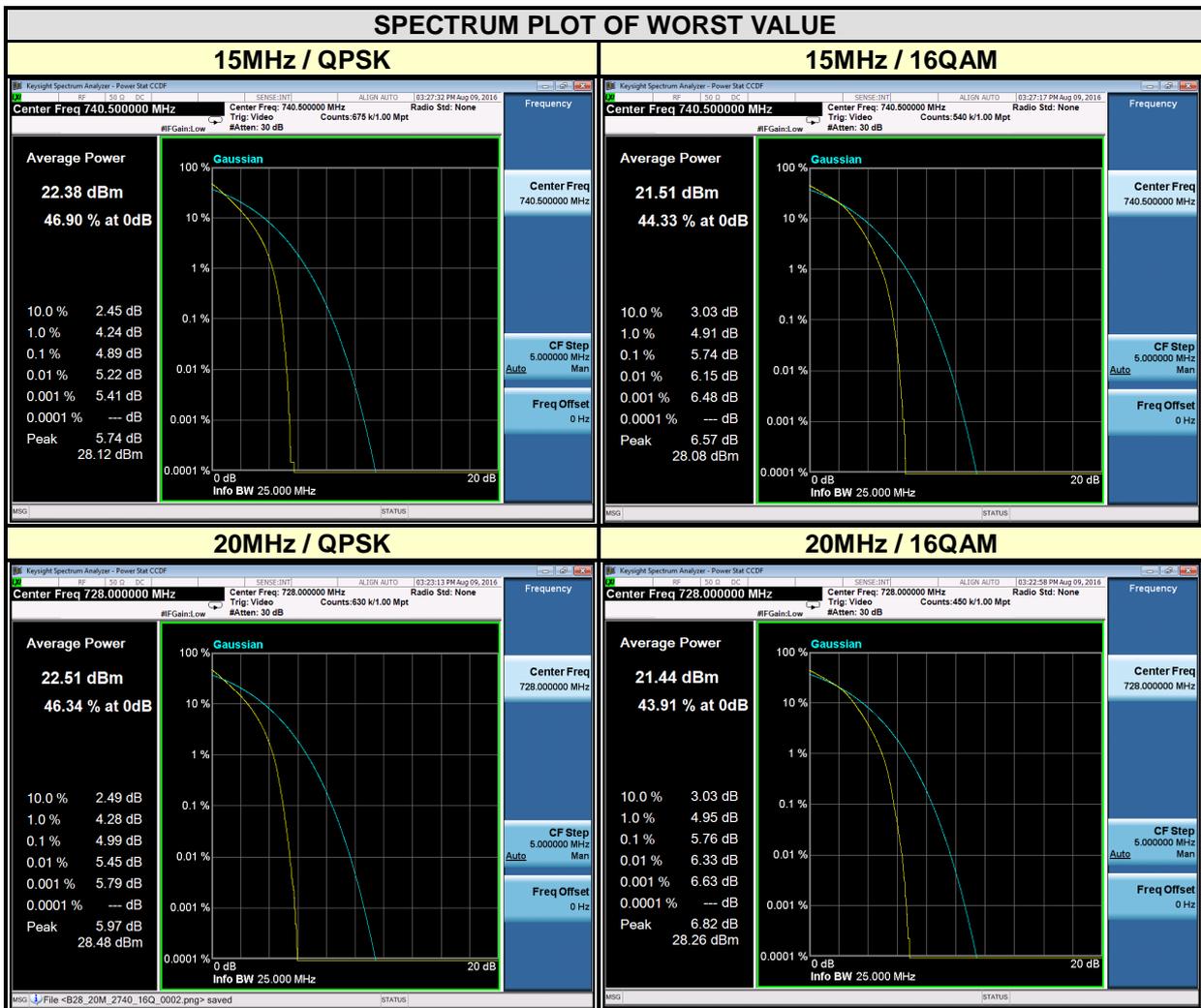
CHANNEL BANDWIDTH: 3MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
27225	704.5	4.75	5.57
27460	728	4.74	5.55
27645	746.5	4.73	5.53



CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
27235	705.5	4.88	5.75	27260	708	4.89	5.76
27460	728	4.85	5.69	27460	728	4.77	5.55
27635	745.5	4.81	5.68	27610	743	4.84	5.60



CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
27285	710.5	4.87	5.72	27310	713	4.93	5.76
27460	728	4.89	5.71	27460	728	4.99	5.76
27585	740.5	4.89	5.74	27560	738	4.75	5.65



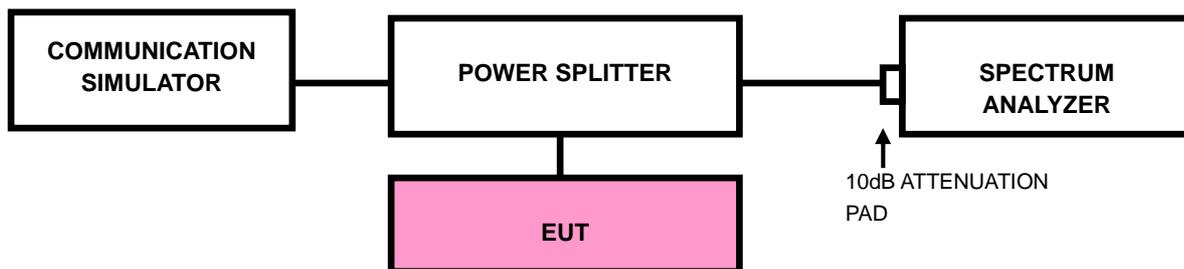
## 4.5 BAND EDGE MEASUREMENT

### 4.5.1 LIMITS OF BAND EDGE MEASUREMENT

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

### 4.5.2 TEST SETUP



#### 4.5.3 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 1~5 MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz. (LTE bandwidth 3MHz)
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RB of the spectrum is 50kHz and VB of the spectrum is 200kHz. (LTE bandwidth 5MHz)
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz. (LTE bandwidth 10MHz)
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RB of the spectrum is 200kHz and VB of the spectrum is 1MHz. (LTE bandwidth 15MHz)
- g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RB of the spectrum is 200kHz and VB of the spectrum is 1MHz. (LTE bandwidth 20MHz)
- h. Record the max trace plot into the test report.

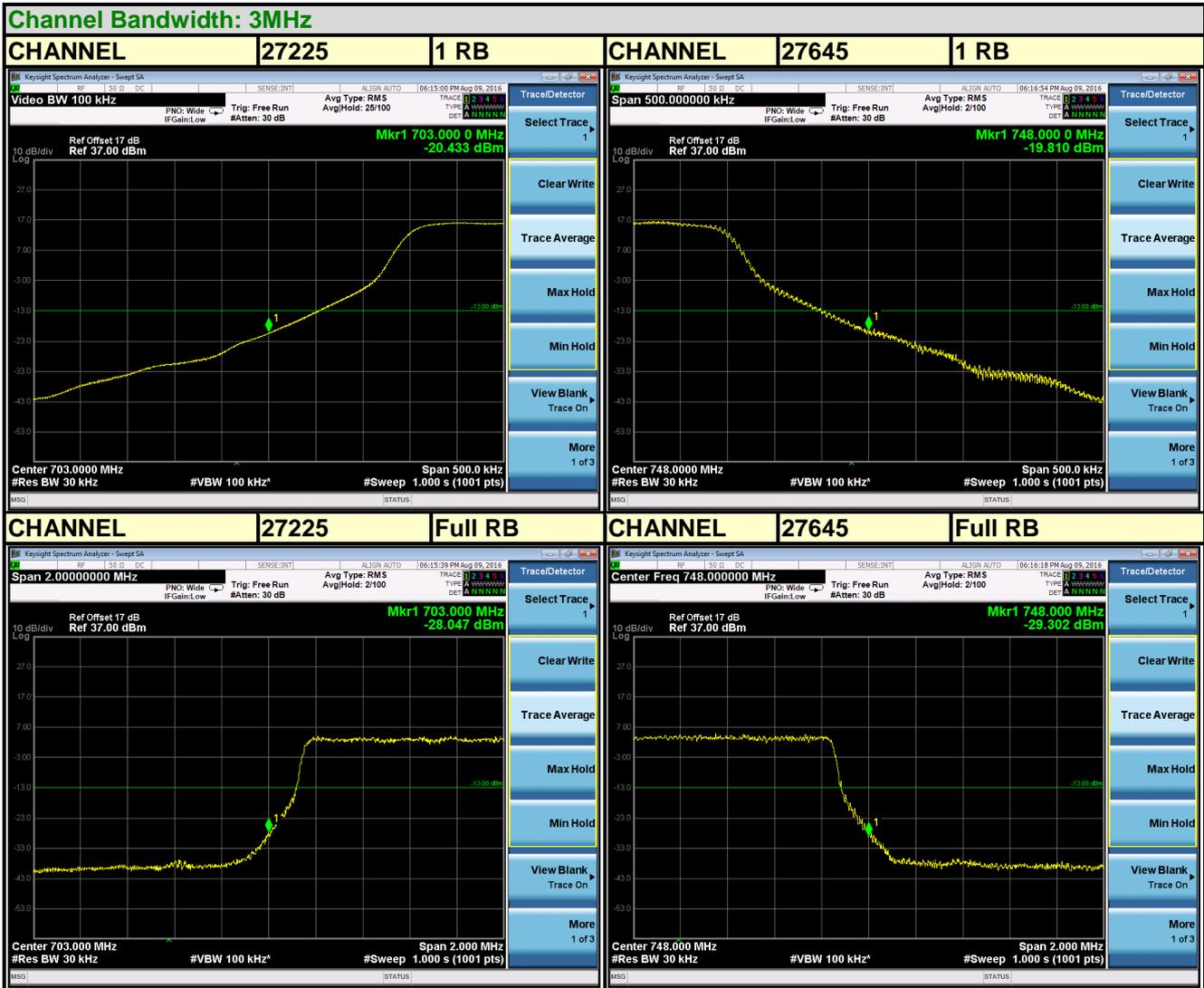


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Test Report No.: RF160801W004-9

### 4.5.4 TEST RESULTS

#### LTE BAND 28



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BUREAU VERITAS

Test Report No.: RF160801W004-9

LTE BAND 28

Channel Bandwidth: 5MHz



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LTE BAND 28



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Houjie Town, Dongguan City,  
Guangdong 523942, China

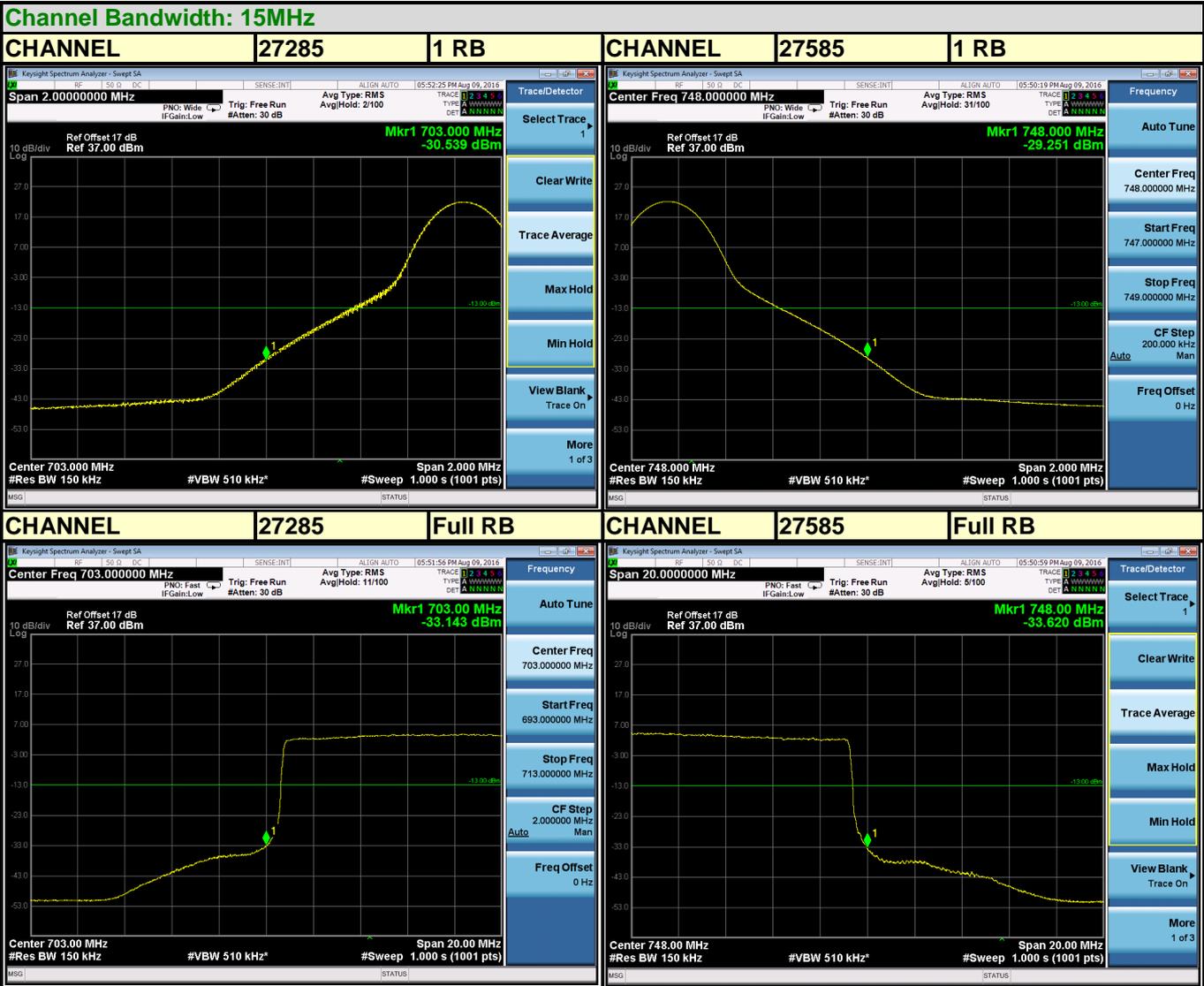
Tel: +86 769 8593 5656  
Fax: +86 769 8593 1080  
Email: [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)



BUREAU VERITAS

Test Report No.: RF160801W004-9

LTE BAND 28



Bureau Veritas Shenzhen Co., Ltd.  
Dongguan Branch

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BUREAU VERITAS

Test Report No.: RF160801W004-9

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## 4.6 CONDUCTED SPURIOUS EMISSIONS

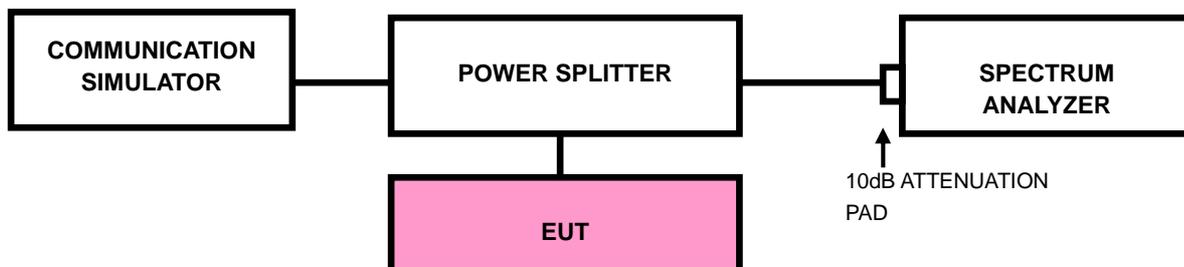
### 4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$

### 4.6.2 TEST PROCEDURE

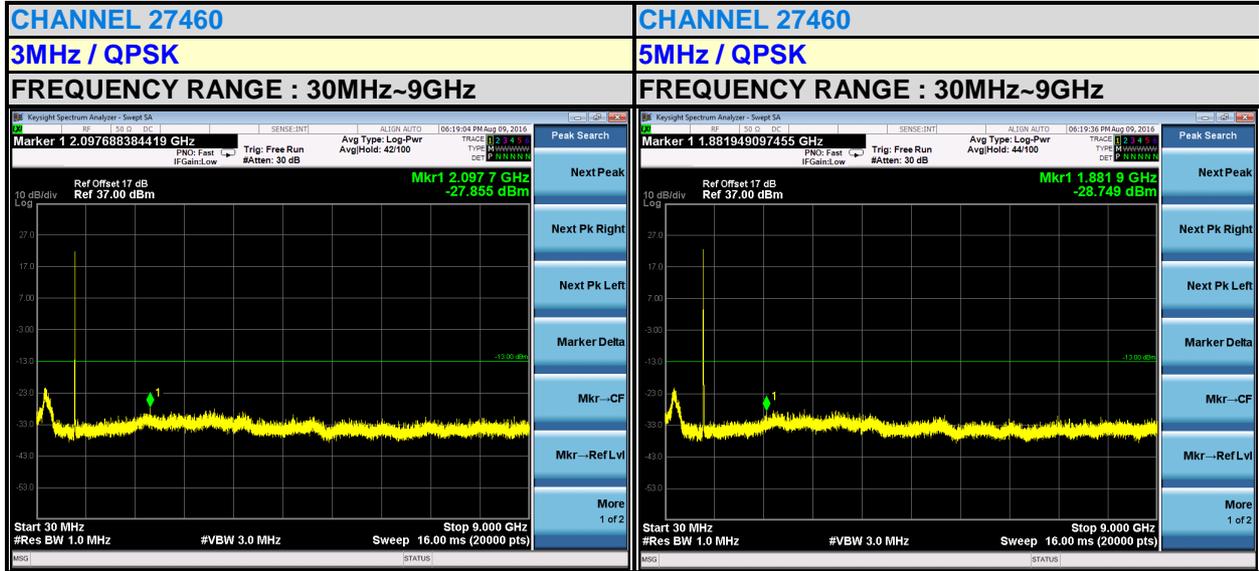
- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 30 MHz to 9GHz for LTE Band 28. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

### 4.6.3 TEST SETUP



### 4.6.4 TEST RESULTS

#### LTE BAND 28

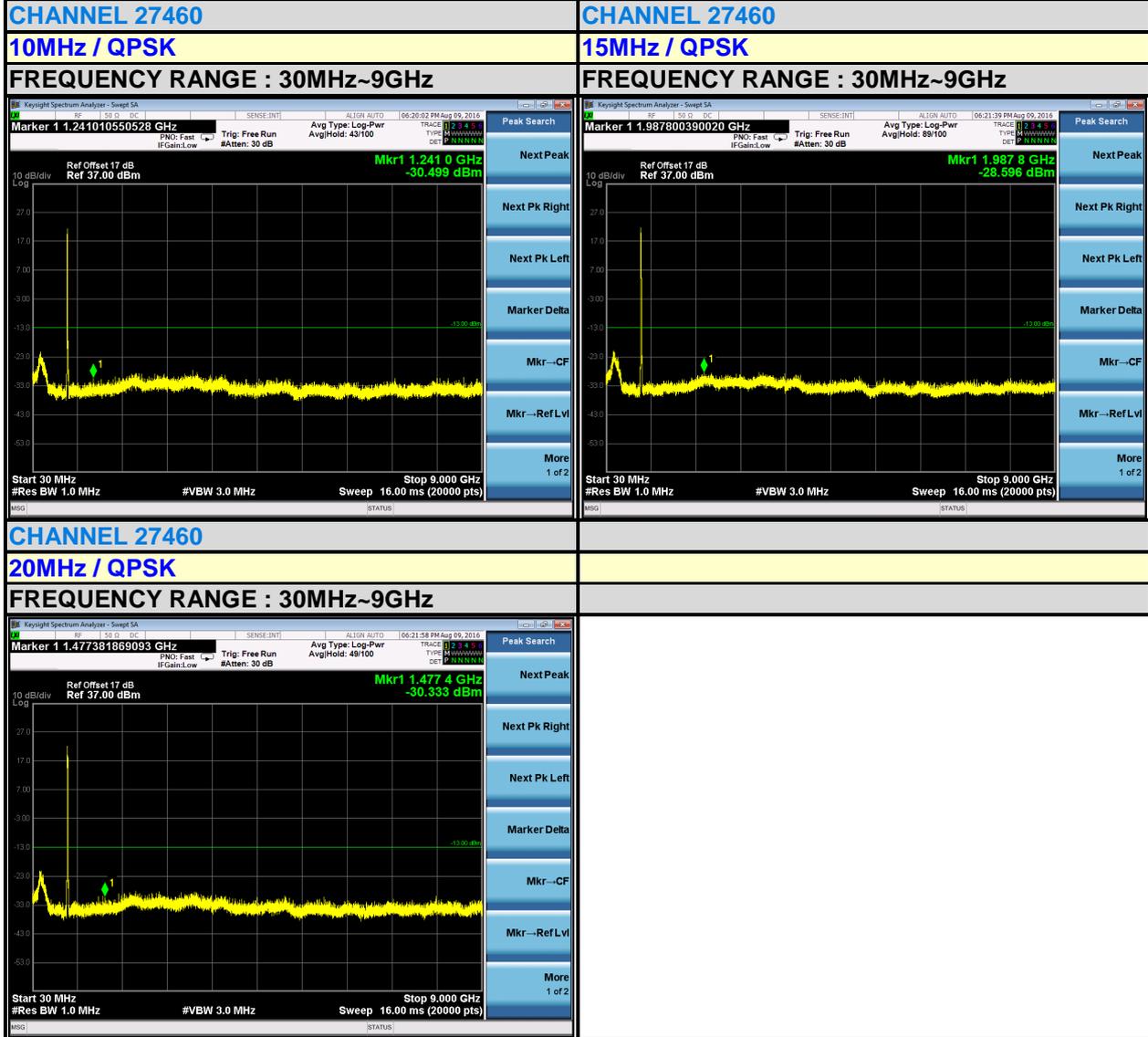




BUREAU VERITAS

Test Report No.: RF160801W004-9

LTE BAND 28



Bureau Veritas Shenzhen Co., Ltd.  
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Email: [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)

## 4.7 RADIATED EMISSION MEASUREMENT

### 4.7.1 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  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$

### 4.7.2 TEST PROCEDURES

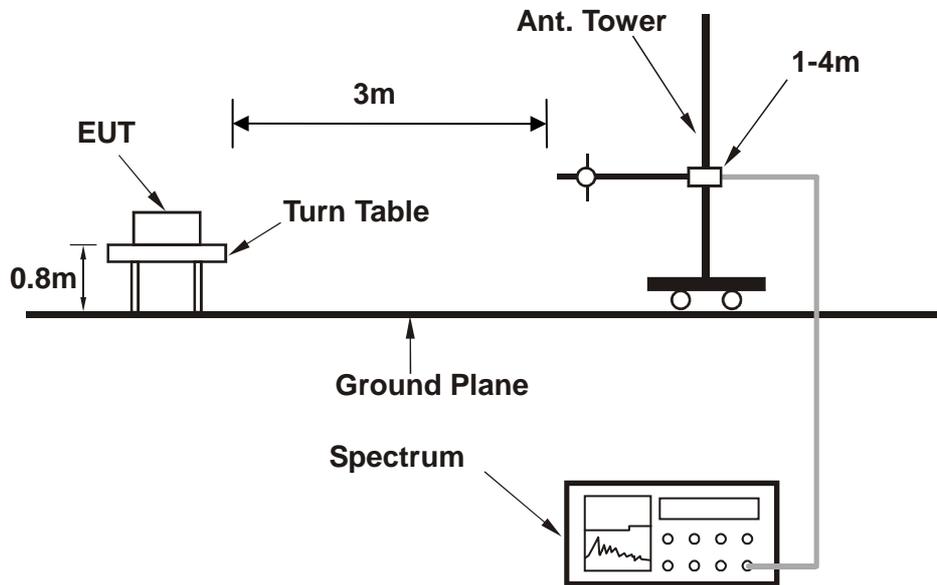
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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 of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

### 4.7.3 DEVIATION FROM TEST STANDARD

No deviation

#### 4.7.4 TEST SETUP



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

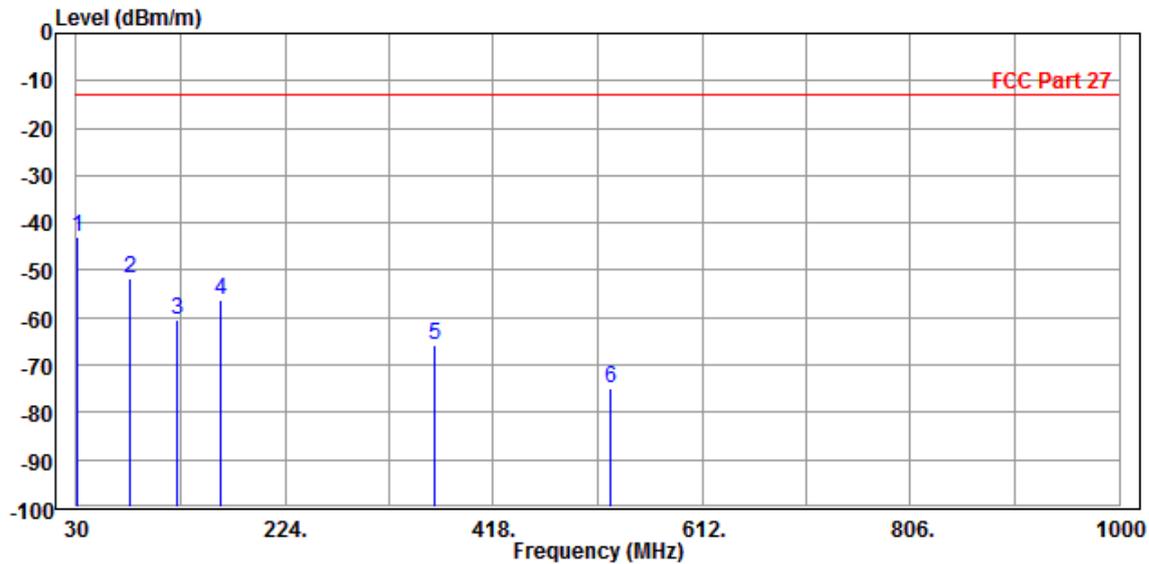
### 4.7.5 TEST RESULTS

#### BELOW 1GHz WORST-CASE DATA

##### LTE Band 28:

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	30.970	-42.93	-60.94	-13.00	-29.93	18.01 Peak	Horizontal
2		80.440	-51.85	-44.15	-13.00	-38.85	-7.70 Peak	Horizontal
3		123.120	-60.62	-44.99	-13.00	-47.62	-15.63 Peak	Horizontal
4		164.830	-56.22	-37.92	-13.00	-43.22	-18.30 Peak	Horizontal
5		362.710	-65.75	-54.04	-13.00	-52.75	-11.71 Peak	Horizontal
6		527.610	-74.81	-64.90	-13.00	-61.81	-9.91 Peak	Horizontal

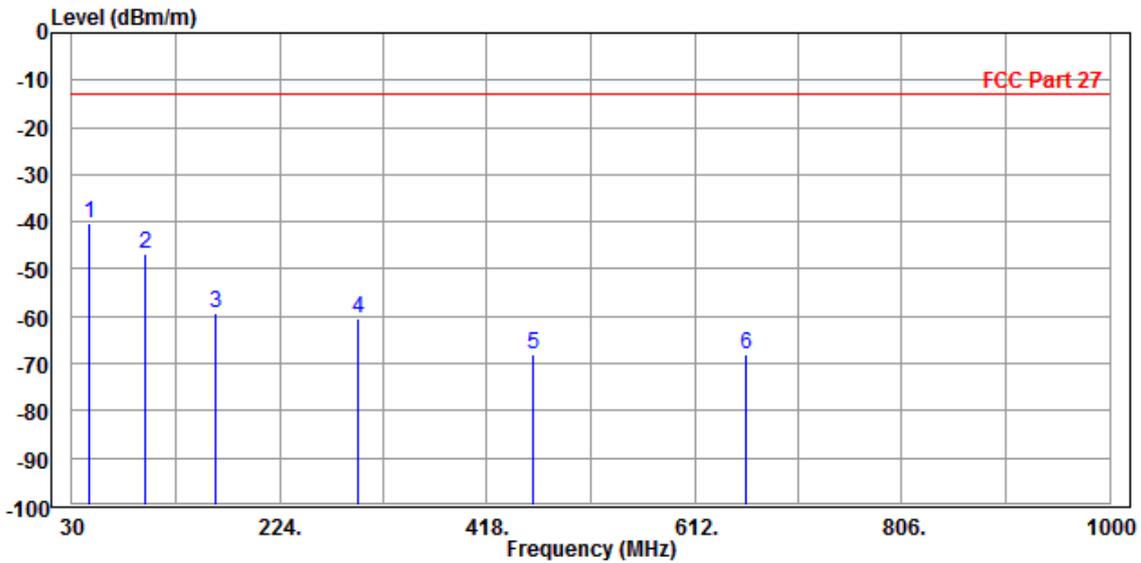




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase	
	MHz	dBm/m	dBm	dBm/m	dB	dB/m			
1	PP	46.490	-40.47	-36.83	-13.00	-27.47	-3.64	Peak	Vertical
2		98.870	-46.66	-36.00	-13.00	-33.66	-10.66	Peak	Vertical
3		164.830	-59.36	-44.60	-13.00	-46.36	-14.76	Peak	Vertical
4		296.750	-60.38	-49.07	-13.00	-47.38	-11.31	Peak	Vertical
5		460.680	-67.98	-59.28	-13.00	-54.98	-8.70	Peak	Vertical
6		659.530	-68.20	-61.53	-13.00	-55.20	-6.67	Peak	Vertical





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Test Report No.: RF160801W004-9

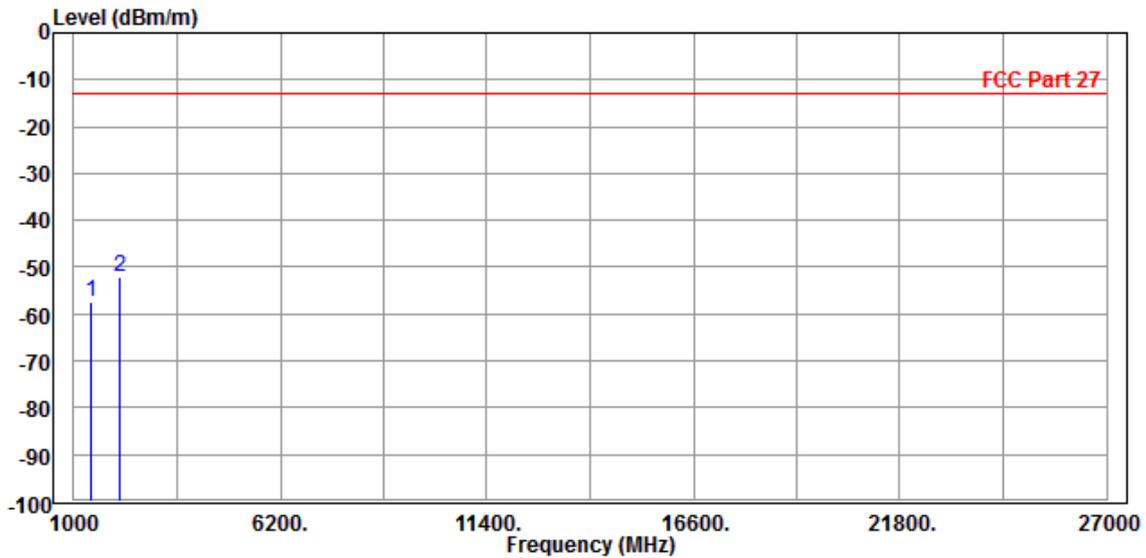
ABOVE 1GHz

LTE Band 28

CHANNEL BANDWIDTH: 3MHz / QPSK

MODE	TX channel 27460	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1442.000	-57.44	-50.88	-13.00	-44.44	-6.56	Peak	Horizontal
2 PP	2170.000	-51.99	-50.09	-13.00	-38.99	-1.90	Peak	Horizontal

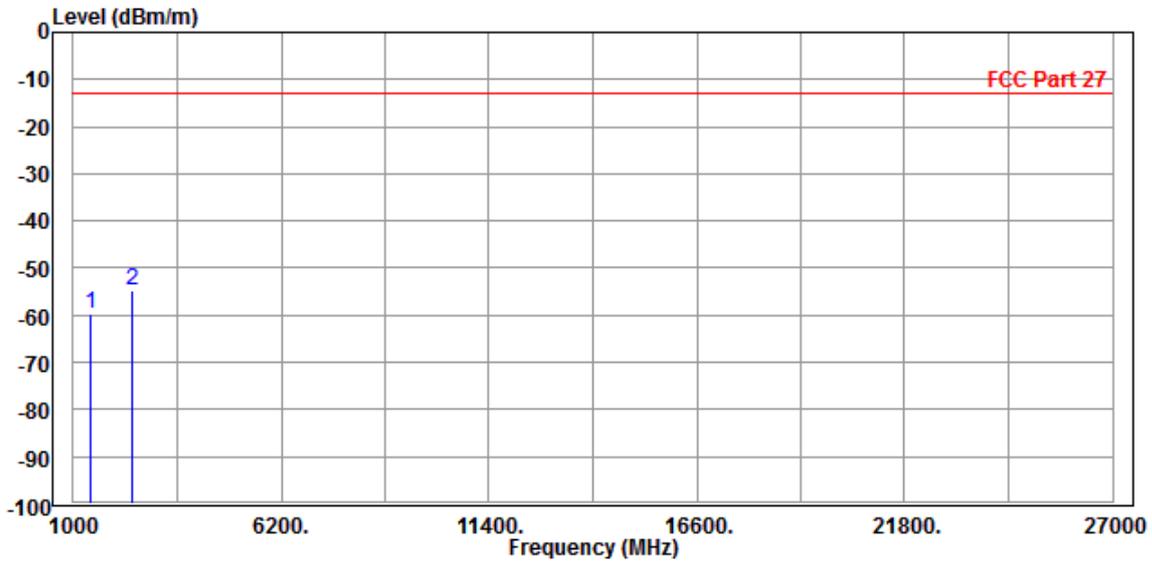




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1442.000	-59.81	-54.53	-13.00	-46.81	-5.28	Peak	Vertical
2	PP 2470.000	-54.73	-54.56	-13.00	-41.73	-0.17	Peak	Vertical





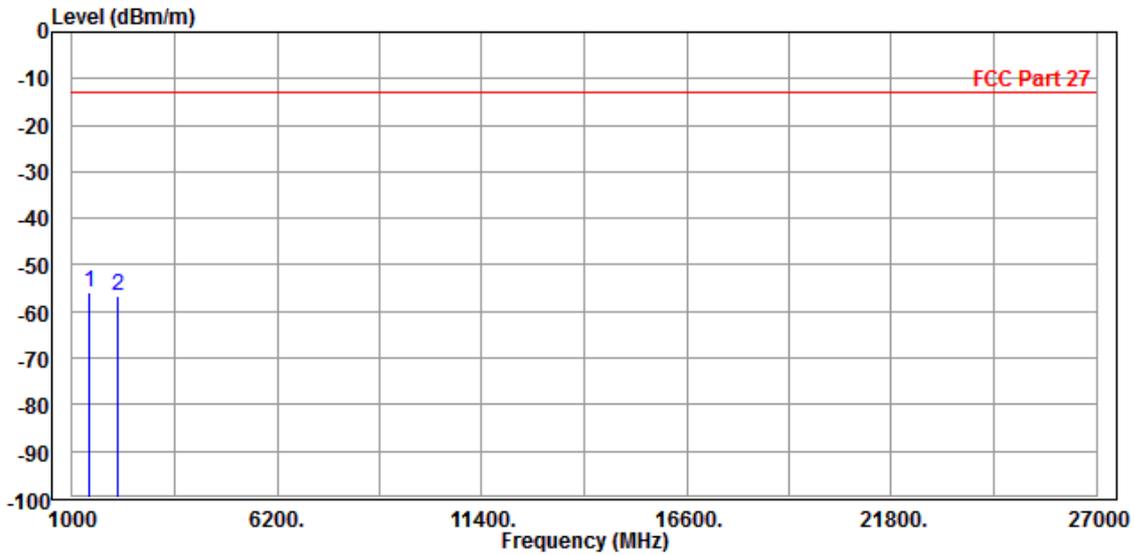
**BUREAU  
VERITAS**

Test Report No.: RF160801W004-9

**CHANNEL BANDWIDTH: 5MHz / QPSK**

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1442.000	-55.76	-49.20	-13.00	-42.76	-6.56	Peak	Horizontal
2	2170.000	-56.83	-54.93	-13.00	-43.83	-1.90	Peak	Horizontal

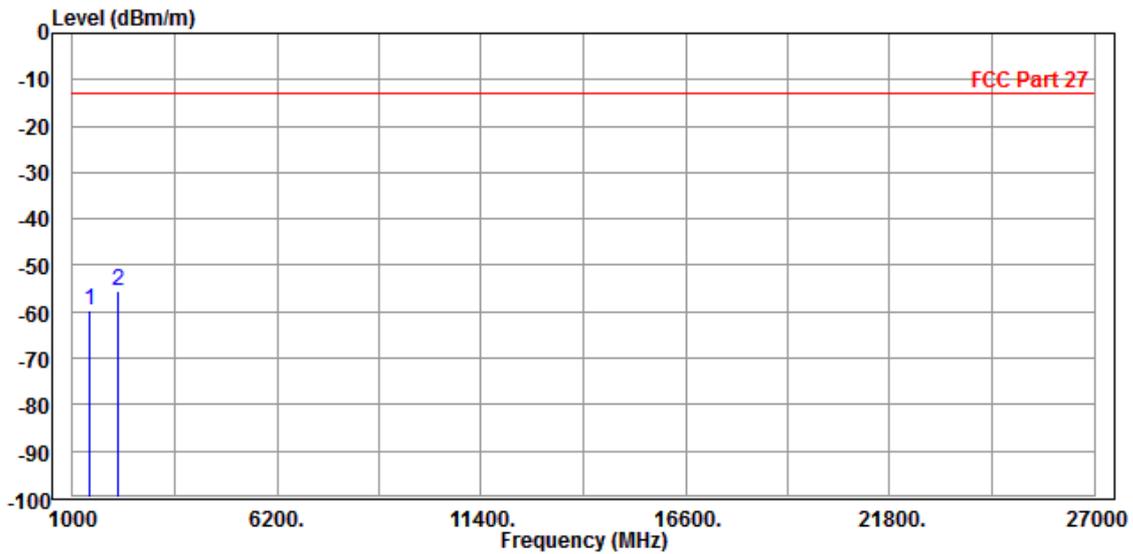




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1442.000	-59.71	-54.43	-13.00	-46.71	-5.28	Peak	Vertical
2 PP	2170.000	-55.51	-55.28	-13.00	-42.51	-0.23	Peak	Vertical





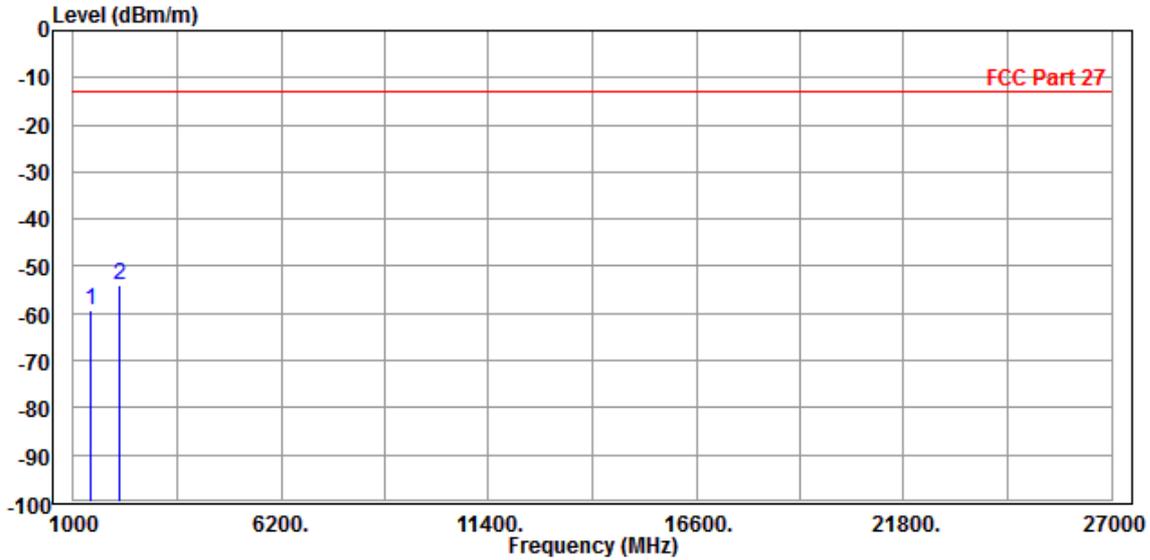
BUREAU VERITAS

Test Report No.: RF160801W004-9

CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 27460	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Alex Chen		
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	1442.000	-59.21	-52.65	-13.00	-46.21	-6.56	Peak	Horizontal
2	PP 2175.000	-54.11	-52.22	-13.00	-41.11	-1.89	Peak	Horizontal

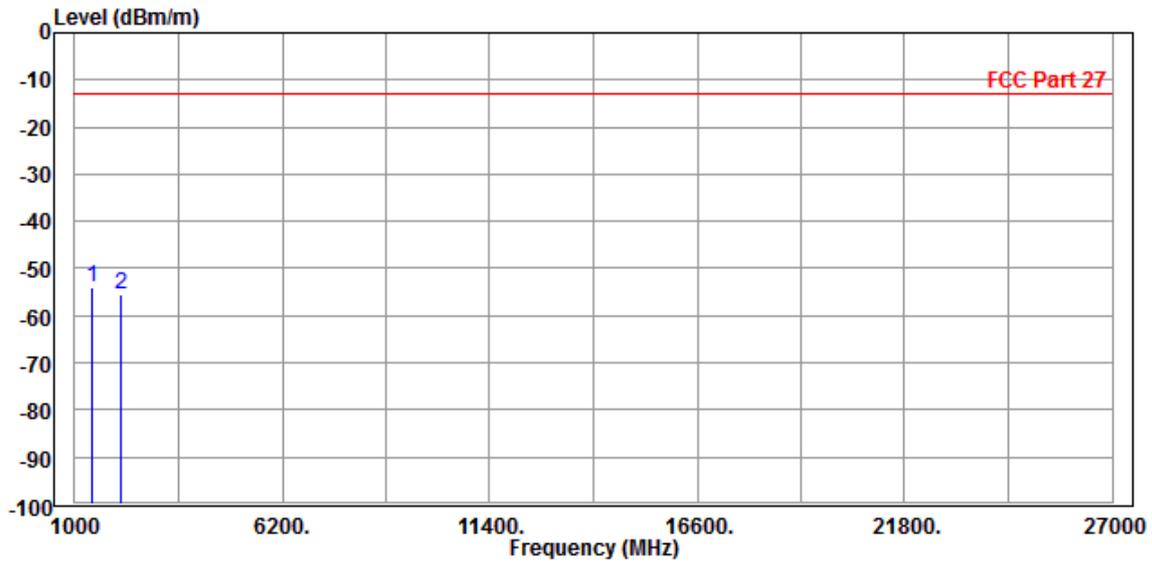




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1442.000	-54.07	-48.79	-13.00	-41.07	-5.28	Peak	Vertical
2	2175.000	-55.37	-55.14	-13.00	-42.37	-0.23	Peak	Vertical





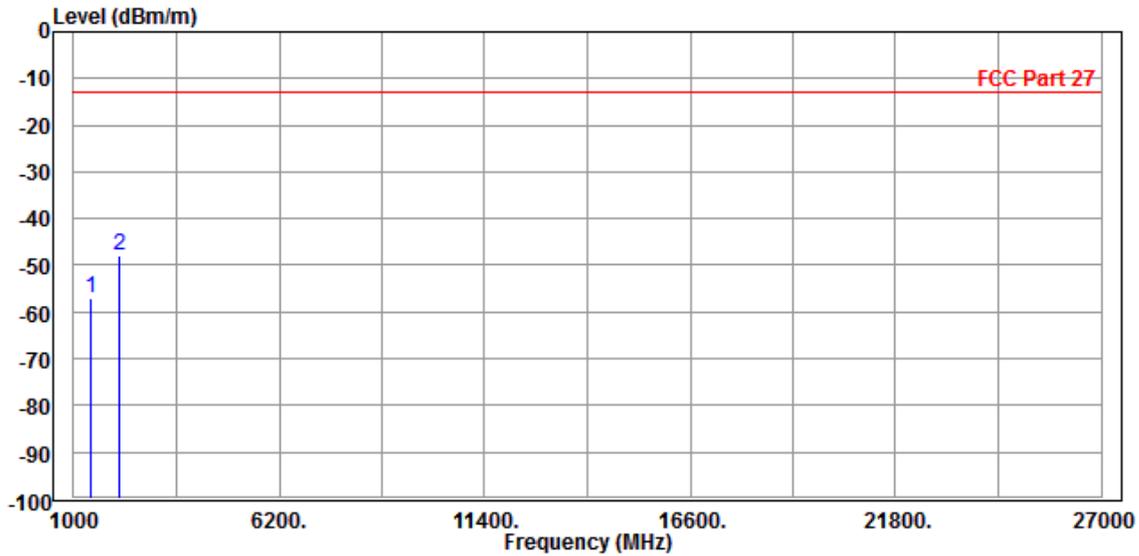
BUREAU VERITAS

Test Report No.: RF160801W004-9

CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 27460	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Alex Chen		
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	1442.000	-57.22	-50.66	-13.00	-44.22	-6.56	Peak	Horizontal
2 PP	2170.000	-47.93	-46.03	-13.00	-34.93	-1.90	Peak	Horizontal

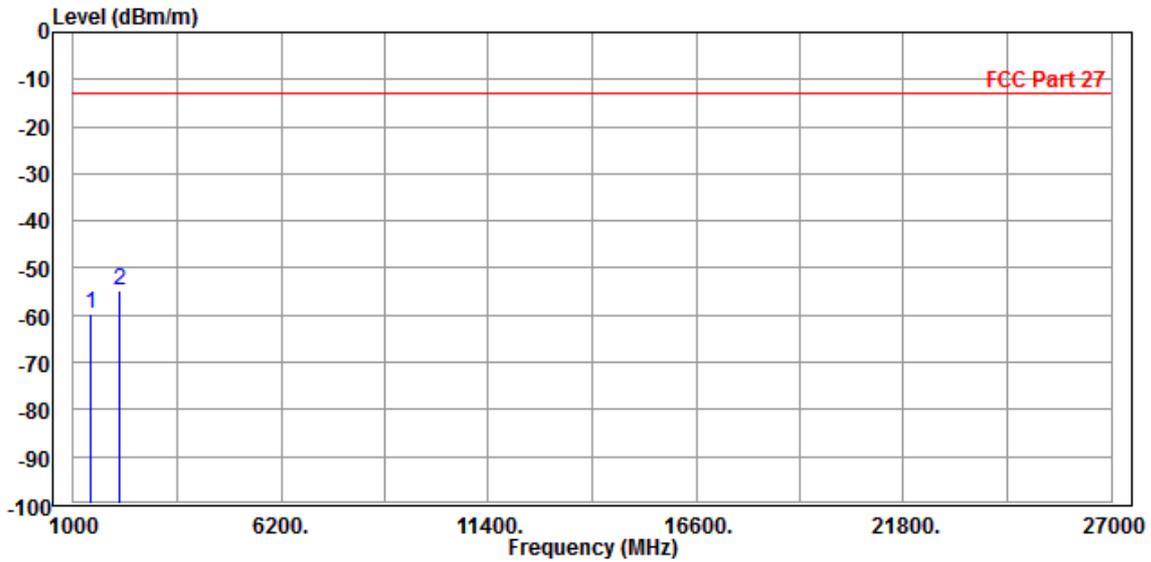




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1442.000	-59.76	-54.48	-13.00	-46.76	-5.28	Peak	Vertical
2	PP 2175.000	-54.90	-54.67	-13.00	-41.90	-0.23	Peak	Vertical



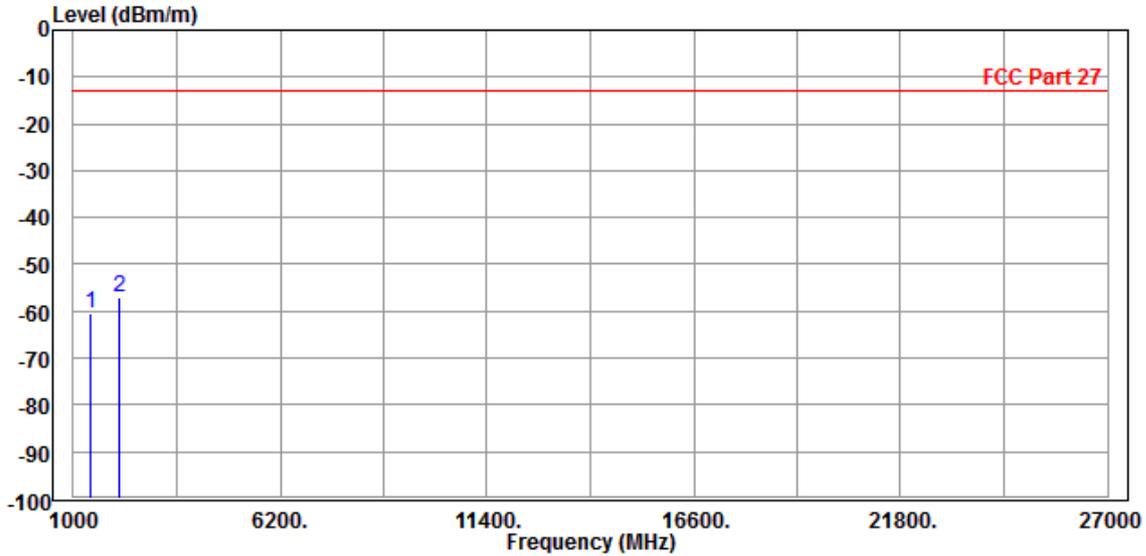


Test Report No.: RF160801W004-9

CHANNEL BANDWIDTH: 20MHz / QPSK

MODE	TX channel 27460	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 5V from adapter
TESTED BY	Alex Chen		
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	1442.000	-60.51	-53.95	-13.00	-47.51	-6.56	Peak	Horizontal
2 PP	2170.000	-56.85	-54.95	-13.00	-43.85	-1.90	Peak	Horizontal

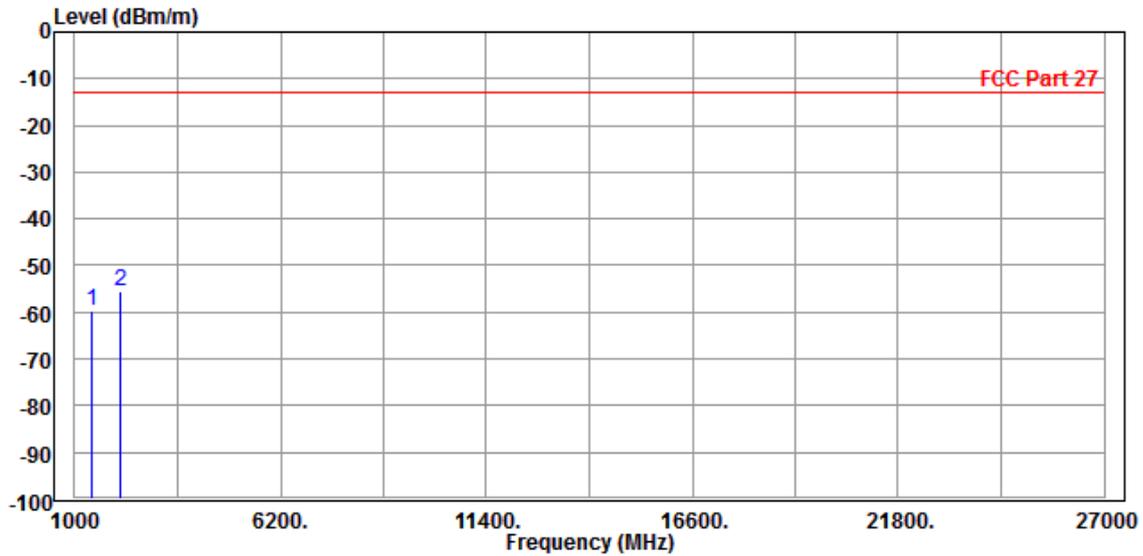




Test Report No.: RF160801W004-9

<b>MODE</b>	TX channel 27460	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	26deg. C, 56%RH	<b>INPUT POWER</b>	DC 5V from adapter
<b>TESTED BY</b>	Alex Chen		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1442.000	-59.53	-54.25	-13.00	-46.53	-5.28	Peak	Vertical
2	PP 2170.000	-55.55	-55.32	-13.00	-42.55	-0.23	Peak	Vertical





Test Report No.: RF160801W004-9

## 5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch, were founded in 2002 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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**Email:** [customerservice.dg@cn.bureauveritas.com](mailto:customerservice.dg@cn.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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



Test Report No.: RF160801W004-9

## 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---