

FCC TEST REPORT

(PART 27)

Applicant:	FOXX Development Inc
Address:	3480 Preston Ridge Road Suite 500, Alpharetta, GA 30005

Manufacturer or Supplier:	FOXX Development Inc
Address:	3480 Preston Ridge Road Suite 500, Alpharetta, GA 30005
Product:	Redcap Module
Brand Name:	FOXX
Model Name:	IQ50
FCC ID	2AQRM-IQ50
Date of tests	Dec. 05, 2025 ~Dec. 31, 2025

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

☒ FCC Part 27	☒ ANSI/TIA/EIA-603-E
☒ ANSI/TIA/EIA-603-D	☒ ANSI C63.26-2015
☒ FCC Part 2	

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

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: Jan. 12, 2026	Date: Jan. 12, 2026

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

TABLE OF CONTENTS

1. SUMMARY OF TEST RESULTS	4
1.1 MEASUREMENT UNCERTAINTY.....	6
1.2 TEST SITE AND INSTRUMENTS.....	7
2. GENERAL INFORMATION.....	9
2.1 GENERAL DESCRIPTION OF EUT.....	9
2.2 CONFIGURATION OF SYSTEM UNDER TEST	16
2.3 DESCRIPTION OF SUPPORT UNITS	17
2.4 TEST ITEM AND TEST CONFIGURATION	18
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS.....	31
3. TEST TYPES AND RESULTS	32
3.1 OUTPUT POWER MEASUREMENT	32
3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT	32
3.1.2 TEST PROCEDURES	32
3.1.3 TEST SETUP	33
3.1.4 TEST RESULTS	34
3.2 FREQUENCY STABILITY MEASUREMENT	58
3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT	58
3.2.2 TEST PROCEDURE.....	58
3.2.3 TEST SETUP	58
3.2.3 TEST RESULTS	59
3.3 OCCUPIED BANDWIDTH MEASUREMENT	60
3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT	60
3.3.2 TEST SETUP	60
3.3.3 TEST PROCEDURES	60
3.3.4 TEST RESULTS	60
3.4 BAND EDGE MEASUREMENT	61
3.4.1 LIMITS OF BAND EDGE MEASUREMENT	61
3.4.2 TEST SETUP	62
3.4.3 TEST PROCEDURES	63
3.4.4 TEST RESULTS	63
3.5 CONDUCTED SPURIOUS EMISSIONS.....	64
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT	64
3.5.2 TEST PROCEDURE.....	65
3.5.3 TEST SETUP	65
3.5.4 TEST RESULTS	65
3.6 RADIATED EMISSION MEASUREMENT	66
3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT	66
3.6.2 TEST PROCEDURES	67
3.6.3 DEVIATION FROM TEST STANDARD	67
3.6.4 TEST SETUP	68
3.6.5 TEST RESULTS	70
3.7 PEAK TO AVERAGE RATIO	158
3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT	158
3.7.2 TEST SETUP	158
3.7.3 TEST PROCEDURES	158
3.7.4 TEST RESULTS	158
4 INFORMATION ON THE TESTING LABORATORIES	159
5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	160
6 APPENDIX	161



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QBJ2512030110RF01	Original release	Jan. 12, 2026



1. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
§2.1046	Conducted Output Power	Compliance	A
§27.50(c)(10) §27.50(b)(10)	Effective Radiated Power (Band 7) (Band 12) (Band 17) (Band 71) (Band 13) (NR BAND 7) (NR BAND 12) (NR BAND 13) (NR BAND 71)	Compliance	A
§27.50(d)(4) §27.50(h)(2)	Equivalent Isotropically Radiated Power (Band 7) (Band 12) (Band 17) (Band 71) (Band 13) (NR BAND 7) (NR BAND 12) (NR BAND 13) (NR BAND 71)	Compliance	A
§2.1055 §27.54	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§2.1051 §27.53(c)(2) §27.53(g) §27.53(h) §27.53(m)(4)	Conducted Band Edge Measurements (Band 7) (Band 12) (Band 17) (Band 71) (Band 13) (NR BAND 7) (NR BAND 12) (NR BAND 13) (NR BAND 71)	Compliance	A
§2.1051 §27.53(g) §27.53(c)(2) §27.53(f) §27.53(h) §27.53(m)(4)	Conducted Spurious Emissions (Band 7) (Band 12) (Band 17) (Band 71) (Band 13) (NR BAND 7) (NR BAND 12) (NR BAND 13) (NR BAND 71)	Compliance	A
§2.1053 §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4)	Radiated Spurious Emissions (Band 7) (Band 12) (Band 17) (Band 71) (Band 13) (NR BAND 7) (NR BAND 12) (NR BAND 13) (NR BAND 71)	Compliance	A
§27.50	Peak to average ratio*	Compliance	A

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



***Test Lab Information Reference**

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province, China

Accredited Test Lab Cert 6613.01

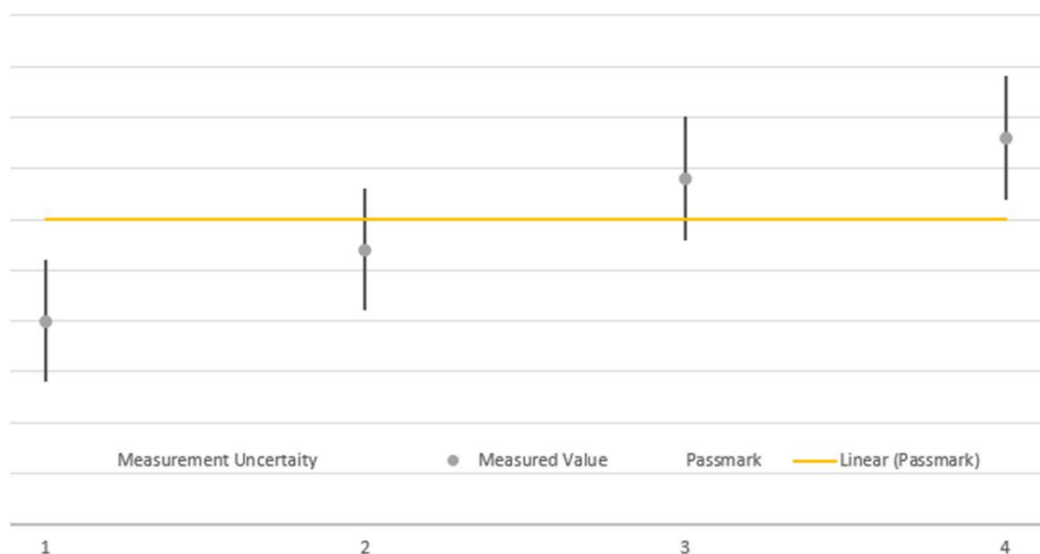
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

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
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

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



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.



1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,25	Aug.28,27
Pre-Amplifier	R&S	SCU08F1	101028	Jan.22,24	Jan.21,26
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.24,25	Nov.23,28
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Aug.20,25	Aug.19,28
EMI TEST Receiver	R&S	ESR26	101734	Mar.28,24	Mar.27,26
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Jul.04,25	Jul.03,27
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.20,25	Aug.19,27
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Mar.22,25	Mar.21,27
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,25	Feb.21,27
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Radio Communication Tester	Rohde&Schwarz	CMX500	101446	Mar.21,25	Mar.20,27
Test Software	EMC32	EMC32	N/A	N/A	N/A
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.30,25	Aug.29,27
Hygrothermograph	DELI	20210528	SZ014	Mar.18,25	Mar.17,27
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.26,25	Apr.25,26
CABLE	R&S	W12.14	N/A	Apr.26,25	Apr.25,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.26,25	Apr.25,26
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.26,25	Apr.25,26
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26



Test Report No.: PSU-QBJ2512030110RF03

NOTE:

1. The calibration interval of the above test instruments is 12/ 24/ 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 434559; The Designation No. is CN1325.



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Redcap Module	
BRAND NAME*	FOXX	
MODEL NAME*	IQ50	
NOMINAL VOLTAGE*	3.8Vdc	
MODULATION TECHNOLOGY	NR	DFT-s-OFDM(Pi/2BPSK,QPSK,16QAM,64QAM,256QAM); CP-OFDM(QPSK,16QAM,64QAM,256QAM);
	LTE	QPSK,16QAM, 64QAM
FREQUENCY RANGE	LTE Band 7 Channel Bandwidth: 5MHz	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 12 Channel Bandwidth: 1.4MHz	699.7MHz ~ 715.3MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 17 Channel Bandwidth: 5MHz	706.5MHz ~ 713.5MHz
	LTE Band 17 Channel Bandwidth: 10MHz	709MHz ~ 711 MHz
	LTE Band 71 Channel Bandwidth: 5MHz	665.5MHz ~ 695.5MHz
	LTE Band 71 Channel Bandwidth: 10MHz	668MHz ~ 693MHz
	LTE Band 71 Channel Bandwidth: 15MHz	670.5MHz ~ 690.5MHz
	LTE Band 71 Channel Bandwidth: 20MHz	673MHz ~ 688MHz



	NR Band N7 Channel Bandwidth: 5MHz	2502.5MHz ~ 2567.5MHz
	NR Band N7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	NR Band N7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	NR Band N7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	NR Band N12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	NR Band N12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	NR Band N12 Channel Bandwidth: 15MHz	706.5MHz ~ 708.5MHz
	NR Band N13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	NR Band N13 Channel Bandwidth: 10MHz	782MHz
	NR Band N71 Channel Bandwidth: 5MHz	665.5MHz ~ 695.5MHz
	NR Band N71 Channel Bandwidth: 10MHz	668MHz ~ 693MHz
	NR Band N71 Channel Bandwidth: 15MHz	670.5MHz ~ 690.5MHz
	NR Band N71 Channel Bandwidth: 20MHz	673MHz ~ 688MHz
MAX. EIRP/ERP POWER	LTE Band 7 Channel Bandwidth: 5MHz	220.80mW
	LTE Band 7 Channel Bandwidth: 10MHz	220.29mW
	LTE Band 7 Channel Bandwidth: 15MHz	220.80mW
	LTE Band 7 Channel Bandwidth: 20MHz	221.31mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	161.81mW
	LTE Band 12 Channel Bandwidth: 3MHz	159.96mW
	LTE Band 12 Channel Bandwidth: 5MHz	161.44mW
	LTE Band 12 Channel Bandwidth: 10MHz	163.31mW
	LTE Band 13 Channel Bandwidth: 5MHz	151.36mW
	LTE Band 13 Channel Bandwidth: 10MHz	151.71mW
	LTE Band 17 Channel Bandwidth: 5MHz	164.06mW



	LTE Band 17 Channel Bandwidth: 10MHz	169.43mW
	LTE Band 71 Channel Bandwidth: 5MHz	199.53mW
	LTE Band 71 Channel Bandwidth: 10MHz	196.79mW
	LTE Band 71 Channel Bandwidth: 15MHz	195.43mW
	LTE Band 71 Channel Bandwidth: 20MHz	199.99mW
MAX. EIRP/ERP POWER Redcap mode	NR Band N7 Channel Bandwidth: 5MHz	230.14 mW
	NR Band N7 Channel Bandwidth: 10MHz	227.51 mW
	NR Band N7 Channel Bandwidth: 15MHz	229.61 mW
	NR Band N7 Channel Bandwidth: 20MHz	231.21 mW
	NR Band N12 Channel Bandwidth: 5MHz	190.55 mW
	NR Band N12 Channel Bandwidth: 10MHz	194.09 mW
	NR Band N12 Channel Bandwidth: 15MHz	198.15 mW
	NR Band N13 Channel Bandwidth: 5MHz	167.49 mW
	NR Band N13 Channel Bandwidth: 10MHz	170.22mW
	NR Band N71 Channel Bandwidth: 5MHz	299.92 mW
	NR Band N71 Channel Bandwidth: 10MHz	297.17 mW
	NR Band N71 Channel Bandwidth: 15MHz	299.23 mW
	NR Band N71 Channel Bandwidth: 20MHz	299.23 mW
EMISSION DESIGNATOR	LTE Band 7 Channel Bandwidth: 5MHz	QPSK: 4M53G7D
		16QAM: 4M53W7D
		64QAM: 4M54W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK:9M02G7D
		16QAM: 9M03W7D
		64QAM: 9M00W7D
EMISSION DESIGNATOR	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D



		64QAM: 13M5W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 18M0W7D
		64QAM: 18M0W7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	QPSK: 1M11G7D
		16QAM: 1M11W7D
		64QAM: 1M10W7D
	LTE Band 12 Channel Bandwidth: 3MHz	QPSK: 2M71G7D
		16QAM: 2M70W7D
		64QAM: 2M71W7D
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M52G7D
		16QAM: 4M53W7D
		64QAM: 4M53W7D
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 9M00G7D
		16QAM: 9M01W7D
		64QAM: 9M00W7D
	LTE Band 13 Channel Bandwidth: 5MHz	QPSK: 4M52G7D
		16QAM: 4M52W7D
		64QAM: 4M53W7D
	LTE Band 13 Channel Bandwidth: 10MHz	QPSK: 8M99G7D
		16QAM: 9M00W7D
		64QAM: 8M97W7D
	LTE Band 71 Channel Bandwidth: 5MHz	QPSK: 4M52G7D
		16QAM: 4M52W7D
		64QAM: 4M53W7D
	LTE Band 71 Channel Bandwidth: 10MHz	QPSK: 9M01G7D
		16QAM: 9M03W7D
		64QAM: 9M00W7D
	LTE Band 71	QPSK: 13M5G7D



	Channel Bandwidth: 15MHz	16QAM: 13M5W7D
		64QAM: 13M5W7D
	CLTE Band 71 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 18M0W7D
		64QAM: 18M0W7D
EMISSION DESIGNATOR Redcap mode	NR Band N7 (Channel Bandwidth: 5MHz)	Pi/2BPSK: 4M55G7D QPSK: 4M55G7D 16QAM: 4M55W7D 64QAM: 4M55W7D 256QAM:4M55G7D
	NR Band N7 (Channel Bandwidth: 10MHz)	Pi/2BPSK: 8M99G7D QPSK: 8M99G7D 16QAM: 8M99W7D 64QAM: 8M99W7D 256QAM:8M99G7D
	NR Band N7 (Channel Bandwidth: 15MHz)	Pi/2BPSK: 13M5G7D QPSK: 13M5G7D 16QAM: 13M5W7D 64QAM: 13M4W7D 256QAM:13M4G7D
	NR Band N7 (Channel Bandwidth: 20MHz)	Pi/2BPSK: 17M9G7D QPSK: 17M9G7D 16QAM: 17M9W7D 64QAM: 17M9W7D 256QAM:17M9G7D
	NR Band N12 (Channel Bandwidth: 5MHz)	Pi/2BPSK: 4M53G7D QPSK: 4M53G7D 16QAM: 4M53W7D 64QAM: 4M53W7D 256QAM:4M53G7D
	NR Band N12 (Channel Bandwidth: 10MHz)	Pi/2BPSK: 8M92G7D QPSK: 8M92G7D 16QAM: 8M92W7D 64QAM: 8M92W7D 256QAM:8M92G7D
	NR Band N12 (Channel Bandwidth: 15MHz)	Pi/2BPSK: 13M4G7D QPSK: 13M4G7D 16QAM: 13M4W7D 64QAM: 13M4W7D 256QAM:13M4G7D
	NR Band N13 (Channel Bandwidth: 5MHz)	Pi/2BPSK: 4M55G7D QPSK: 4M55G7D 16QAM: 4M55W7D 64QAM: 4M55W7D 256QAM:4M55G7D



	NR Band N13 (Channel Bandwidth: 10MHz)	Pi/2BPSK: 8M98G7D QPSK: 8M98G7D 16QAM: 8M98W7D 64QAM: 8M98W7D 256QAM:8M98G7D
	NR Band N71 (Channel Bandwidth: 5MHz)	Pi/2BPSK: 4M54G7D QPSK: 4M54G7D 16QAM: 4M54W7D 64QAM: 4M54W7D 256QAM:4M54G7D
	NR Band N71 (Channel Bandwidth: 10MHz)	Pi/2BPSK: 8M98G7D QPSK: 8M98G7D 16QAM: 8M98W7D 64QAM: 8M97W7D 256QAM:8M97G7D
	NR Band N71 (Channel Bandwidth: 15MHz)	Pi/2BPSK: 13M4G7D QPSK: 13M4G7D 16QAM: 13M4W7D 64QAM: 13M4W7D 256QAM:13M4G7D
	NR Band N71 (Channel Bandwidth: 20MHz)	Pi/2BPSK: 17M9G7D QPSK: 17M9G7D 16QAM: 17M9W7D 64QAM: 17M8W7D 256QAM:17M8G7D
ANTENNA GAIN*	☒ Provided by client	
	LTE BAND7	0.88dBi
	LTE BAND12	1.23dBi
	LTE BAND13	1.18dBi
	LTE BAND17	1.42dBi
	LTE BAND71	1.86dBi
	NR BAND N7	0.97dBi
	NR BAND N12	1.89dBi
	NR BAND N13	1.5dBi
	NR BAND N71	2.2dBi
ANTENNA TYPE*	External Antenna	
HW VERSION*	SRM813Q-NA_MB_V1.00	
SW VERSION*	SRM813Q-NA_2.0.2_EQ100	
I/O PORTS*	Refer to user's manual	



CABLE SUPPLIED*	N/A
EXTREME TEMPERATURE *	-40°C~85°C
EXTREME VOLTAGE*	3.3V~4.35V

NOTE:

1. *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and two receivers.

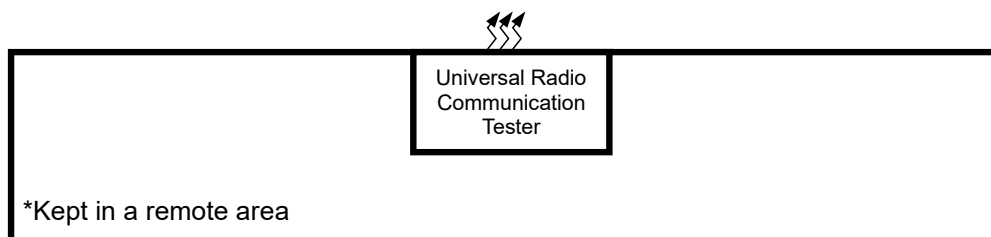
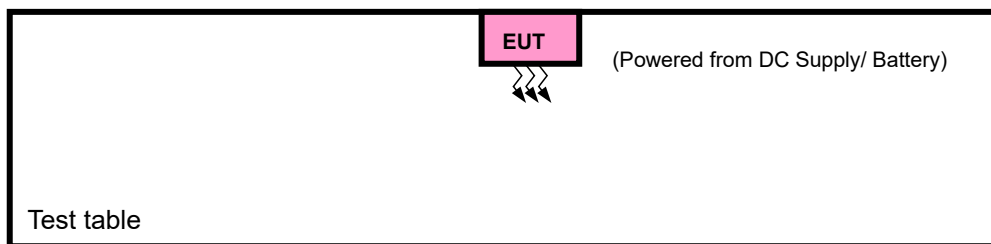
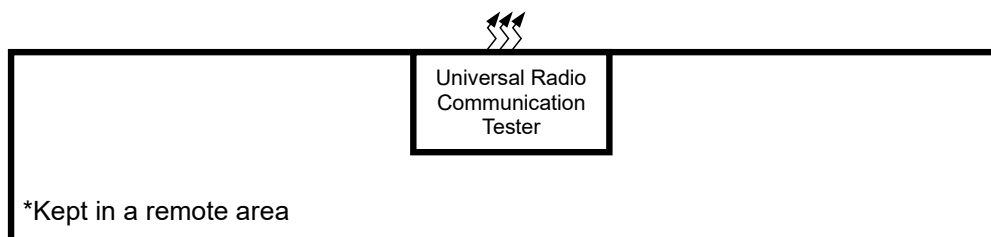
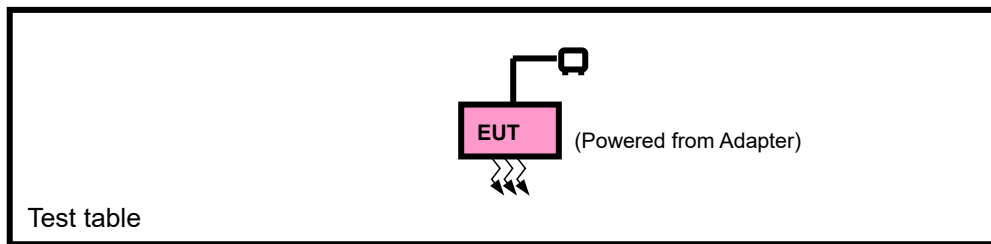
MODULATION MODE	TX FUNCTION
5G NR	1TX/2RX
LTE	1TX/2RX

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



2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST





2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Laptop	Lenovo	ThinkPad E14	HRSW00024	N/A
2	DC Source	HYELEC	HY3010B	551016	N/A

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



2.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with LTE or NR link
B	EUT + DC Supply with LTE or NR link

LTE BAND 7 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	20850 to 21350	20800, 21400	10MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM, 64QAM	1RB / 0RB 25 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM, 64QAM	1RB / 0RB 50 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM, 64QAM	1RB / 0RB 75 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM, 64QAM	1RB / 0RB 100 RB / 0 RB offset
A	BAND EDGE	20775 to 21425	20775	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
			21425	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB offset 25 RB / 0 RB offset
		20800 to				
			20800	10MHz	QPSK, 16QAM,	1 RB / 0 RB offset



		21400			64QAM	50 RB / 0 RB offset
			21400	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB offset
						50 RB / 0 RB offset
		20825 to 21375	20825	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
			21375	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB offset
						1 RB / 74 RB offset
		20850 to 21350	20850	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
			21350	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB offset
						1 RB / 99 RB offset
A	CONDCUETED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK	1 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB / 0 RB offset
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB offset
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK	1 RB / 0 RB offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB offset

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

LTE BAND 12 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	23060 to 23130	23060 , 23130	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 6 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 15 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 25 RB / 0 RB offset



		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
A	BAND EDGE	23017 to 23173	23017	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 6 RB / 0 RB offset
			23173	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 5 RB offset 6 RB / 0 RB offset
		23025 to 23165	23025	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 15 RB / 0 RB offset
			23165	3MHz	QPSK, 16QAM, 64QAM	1 RB / 14 RB offset 15 RB / 0 RB offset
		23035 to 23155	23035	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
			23155	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB offset 25 RB / 0 RB offset
		23060 to 23130	23060	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
			23130	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB offset 50 RB / 0 RB offset
A	CONDCUETED EMISSION	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK	1 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK	1 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK	1 RB / 0 RB offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK	1 RB / 0 RB offset
A	RADIATED EMISSION	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB offset
		23025 to 23165	23095	3MHz	QPSK	1 RB / 0 RB offset
		23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB offset
		23060 to 23130	23060,23095,23130	10MHz	QPSK	1 RB / 0 RB offset

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



LTE BAND 13 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
A	BAND EDGE	23205 to 23255	23205	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
			23255	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB offset 25 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
						1 RB / 49 RB offset
						50 RB / 0 RB offset
A	CONDCUETED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
A	RADIATED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK	1 RB / 0 RB offset

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

LTE BAND 17 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		23780 to 23800	23780, 23790, 23800	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
A	RADIATED EMISSION	23755 to 23825	23755, 23790, 23825	5MHz	QPSK	1 RB / 0 RB offset
		23780 to 23800	23790	10MHz	QPSK	1 RB / 0 RB offset

Note:

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



2. LTE Band 17 are covered by LTE Band 12, Because it is a subset of LTE Band 12 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 12.

LTE BAND 71 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	133147 to 133447	133147, 133297, 133447	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	133172 to 133422	133172, 133297 133422	10MHz	QPSK	100 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	133147 to 133447	133147, 133297, 133447	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK, 16QAM, 64QAM	75 RB / 0 RB offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK, 16QAM, 64QAM	100 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	133147 to 133447	133147, 133297, 133447	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offsett 25 RB / 0 RB offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offsett 50 RB / 0 RB offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offsett 75 RB / 0 RB offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offsett 100 RB / 0 RB offset
A	BAND EDGE	133147 to 133447	133147	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
			133447	5MHz	QPSK, 16QAM, 64QAM	1 RB / 24 RB offset 25 RB / 0 RB offset
		133172 to 133422	133172	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
			133422	10MHz	QPSK, 16QAM, 64QAM	1 RB / 49 RB offset 50 RB / 0 RB offset
		133197 to 133397	133197	15MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB offset 75 RB / 0 RB offset
			133397	15MHz	QPSK, 16QAM, 64QAM	1 RB / 74 RB offset 75 RB / 0 RB offset



		133222 to 133372	133222	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB offset
						100 RB / 0 RB offset
		133372	133372	20MHz	QPSK,16QAM, 64QAM	1 RB / 99 RB offset
						100 RB / 0 RB offset
A	CONDCUDED EMISSION	133147 to 133447	133147, 133297, 133447	5MHz	QPSK	1 RB / 0 RB offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK	1 RB / 0 RB offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK	1 RB / 0 RB offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK	1 RB / 0 RB offset
A	RADIATED EMISSION	133147 to 133447	133297	5MHz	QPSK	1 RB / 0 RB offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK	1 RB / 0 RB offset
		133197 to 133397	133297	15MHz	QPSK	1 RB / 0 RB offset
		133222 to 133372	133322	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.



NR BAND N7 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CP-OFDM CHANNEL	AVAILABLE DFT-S-OFDM CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(DFT-S-OFDM) (INCLUDE CP-OFDM)
A	ERP	500500 to 513500	500500,507000, 513500	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
		501000 to 513000	501000,507000, 513000	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		501500 to 512500	501500,507000, 512500	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
		502000 to 512000	502000,507000, 512000	Low, Middle, High	20MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	1RB/ 0RB Offset
A	FREQUENCY STABILITY	501000 to 513000	501000, 513000	Low, High	10MHz	QPSK	Outer_ Full
A	PEAK TO AVERAGE RATIO	500500 to 513500	500500,507000, 513500	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		501000 to 513000	501000,507000, 513000	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		501500 to 512500	501500,507000, 512500	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		502000 to 512000	502000,507000, 512000	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
A	OCCUPIED BANDWIDTH	500500 to 513500	507000	Middle	5MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		501000 to 513000	507000	Middle	10MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		501500 to 512500	507000	Middle	15MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		502000 to 512000	507000	Middle	20MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
A	BAND EDGE	500500 to 513500	500500 to 513500	Low	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		501000 to 513000	501000 to 513000	Low	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		501500 to 512500	501500 to 512500	Low	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full



		502000 to 512000	502000 to 512000	High	15MHz	QPSK	1RB/ 0RB Offset
				Outer Full			
		502000 to 512000	502000 to 512000	Low	20MHz	QPSK	1RB/ 0RB Offset
				High	20MHz	QPSK	1RB/ 0RB Offset
						Outer Full	
A	CONDUCTED EMISSION	500500 to 513500	500500,507000, 513500	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
		501000 to 513000	501000,507000, 513000	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		501500 to 512500	501500,507000, 512500	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
		502000 to 512000	502000,507000, 512000	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset
A	RADIATED EMISSION	500500 to 513500	507000	Middle	5MHz	QPSK	1RB/ 0RB Offset
		501000 to 513000	507000	Middle	10MHz	QPSK	1RB/ 0RB Offset
		501500 to 512500	507000	Middle	15MHz	QPSK	1RB/ 0RB Offset
		502000 to 512000	502000,507000, 512000	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. The test data presented in the report from worst SA_n7



NR BAND N12 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CP-OFDM CHANNEL	AVAILABLE DFT-S-OFDM CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(DFT-S-OFDM) (INCLUDE CP-OFDM)
A	ERP	140300 to 142700	140300,141500, 142700	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
		140800 to 142200	140800,141500, 142200	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		141300 to 141700	141300,141500, 141700	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
A	FREQUENCY STABILITY	140300 to 142700	140300, 142700	Low, High	5MHz	QPSK	Outer_ Full
A	PEAK TO AVERAGE RATIO	140300 to 142700	140300,141500, 142700	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		140800 to 142200	140800,141500, 142200	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		141300 to 141700	141300,141500, 141700	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
A	OCCUPIED BANDWIDTH	140300 to 142700	141500	Middle	5MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		140800 to 142200	141500	Middle	10MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		141300 to 141700	141500	Middle	15MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
A	BAND EDGE	140300 to 142700	140300 to 142700	Low	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		140800 to 142200	140800 to 142200	Low	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		141300 to 141700	141300 to 141700	Low	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
A	CONDUCTED EMISSION	140300 to 142700	140300,141500, 142700	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset



		140800 to 142200	140800,141500, 142200	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		141300 to 141700	141300,141500, 141700	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
A	RADIATED EMISSION	500500 to 513500	140300,141500, 142700	Middle	5MHz	QPSK	1RB/ 0RB Offset
		501000 to 513000	507000	Middle	10MHz	QPSK	1RB/ 0RB Offset
		501500 to 512500	507000	Middle	15MHz	QPSK	1RB/ 0RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

3. The test data presented in the report from worst SA_n12



NR BAND N71 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CP-OFDM CHANNEL	AVAILABLE DFT-S-OFDM CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(DFT-S-OFDM) (INCLUDE CP-OFDM)
A	ERP	133100 to 139100	133100,136100, 139100	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
		133600 to 138600	133600,136100, 138600	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		134100 to 138100	134100,136100, 138100	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
		134600 to 137600	134600,136100, 137600	Low, Middle, High	20MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	1RB/ 0RB Offset
A	FREQUENCY STABILITY	133100 to 139100	133100, 139100	Low, High	5MHz	QPSK	Outer_ Full
A	PEAK TO AVERAGE RATIO	133100 to 139100	133100,136100, 139100	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		133600 to 138600	133600,136100, 138600	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		134100 to 138100	134100,136100, 138100	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		134600 to 137600	134600,136100, 137600	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
A	OCCUPIED BANDWIDTH	133100 to 139100	133100,136100, 139100	Low, Middle, High	5MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		133600 to 138600	133600,136100, 138600	Low, Middle, High	10MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		134100 to 138100	134100,136100, 138100	Low, Middle, High	15MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
		134600 to 137600	134600,136100, 137600	Low, Middle, High	20MHz	Pi/2BPSK,QPSK,16QAM, 64QAM, 256QAM	Outer_ Full
A	BAND EDGE	133100 to 139100	133100,136100, 139100	Low	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	5MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		133600 to 138600	133600,136100, 138600	Low	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
				High	10MHz	QPSK	1RB/ 0RB Offset
							Outer_ Full
		134100 to 138100	134100,136100, 138100	Low	15MHz	QPSK	1RB/ 0RB Offset



							Outer Full
				High	15MHz	QPSK	1RB/ 0RB Offset
		134600 to 137600	134600,136100, 137600	Low	20MHz	QPSK	Outer Full 1RB/ 0RB Offset
				High	20MHz	QPSK	Outer Full 1RB/ 0RB Offset
							Outer Full
							Outer Full
A	CONDUCTED EMISSION	133100 to 139100	133100,136100, 139100	Low, Middle, High	5MHz	QPSK	1RB/ 0RB Offset
		133600 to 138600	133600,136100, 138600	Low, Middle, High	10MHz	QPSK	1RB/ 0RB Offset
		134100 to 138100	134100,136100, 138100	Low, Middle, High	15MHz	QPSK	1RB/ 0RB Offset
		134600 to 137600	134600,136100, 137600	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset
A	RADIATED EMISSION	133100 to 139100	136100	Middle	5MHz	QPSK	1RB/ 0RB Offset
		133600 to 138600	136100	Middle	10MHz	QPSK	1RB/ 0RB Offset
		134100 to 138100	136100	Middle	15MHz	QPSK	1RB/ 0RB Offset
		134600 to 137600	136100	Low, Middle, High	20MHz	QPSK	1RB/ 0RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. The test data presented in the report from worst SA_n71.



TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 3.8V By Battery	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.3V/ 3.8V/ 4.35V By DC Source	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.8V By Battery	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 3.8V By Battery	Hanwen Xu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.8V By Battery	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	AC 120V/60Hz	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.8V By Battery	Hanwen Xu



2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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



3. TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1-watt EIRP.

According to the specific rule Part 27.50(c)(10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698–746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

Part 27.50(b)(10): Portable stations (hand-held devices) transmitting in the 746–757 MHz, 776–788 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

Where:

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

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

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

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

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

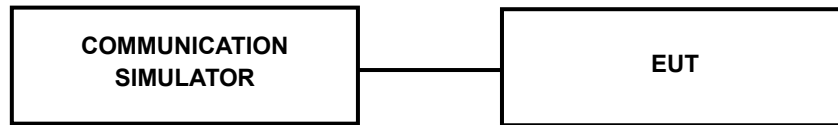
CONDUCTED POWER MEASUREMENT:

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



3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 7						
Band/BW	Modulation	RB Size	RB offset	Low CH 20775	Mid CH 21100	High CH 21425
				Frequency 2502.5 MHz	Frequency 2535 MHz	Frequency 2567.5 MHz
7/ 5	QPSK	1	0	22.49	22.53	22.47
		1	12	22.48	22.29	22.22
		1	24	22.25	22.47	22.56
		12	0	21.40	21.28	21.16
		12	6	21.24	21.48	21.46
		12	13	21.23	21.21	21.23
		25	0	21.41	21.39	21.43
	16QAM	1	0	21.60	21.56	21.24
		1	12	21.47	21.34	21.47
		1	24	21.45	21.45	21.49
		12	0	20.53	20.23	20.18
		12	6	20.40	20.38	20.51
		12	13	20.45	20.43	20.24
		25	0	20.61	20.37	20.63
	64QAM	1	0	20.65	20.57	20.52
		1	12	20.55	20.34	20.45
		1	24	20.21	20.47	20.72
		12	0	19.41	19.33	19.08
		12	6	19.39	19.35	19.44
		12	13	19.50	19.06	19.50
		25	0	19.64	19.17	19.44
Band/BW	Modulation	RB Size	RB offset	Low CH 20800	Mid CH 21100	High CH 21400
				Frequency 2505 MHz	Frequency 2535 MHz	Frequency 2565 MHz
7/ 10	QPSK	1	0	22.43	22.50	22.55
		1	24	22.31	22.36	22.36
		1	49	22.32	22.48	22.35
		25	0	21.27	21.13	21.19
		25	12	21.31	21.29	21.39
		25	25	21.23	21.14	21.25
		50	0	21.40	21.30	21.51
	16QAM	1	0	21.62	21.67	21.42
		1	24	21.42	21.37	21.60
		1	49	21.54	21.53	21.55
		25	0	20.60	20.14	20.09
		25	12	20.50	20.31	20.46
		25	25	20.37	20.34	20.36
		50	0	20.59	20.23	20.53
	64QAM	1	0	20.51	20.43	20.59
		1	24	20.56	20.44	20.25
		1	49	20.24	20.59	20.61
		25	0	19.49	19.24	19.28
		25	12	19.45	19.40	19.36



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		25	25	19.46	19.25	19.38
		50	0	19.72	19.35	19.35

LTE Band 7						
Band/BW	Modulation	RB Size	RB offset	Low CH 20825	Mid CH 21100	High CH 21375
				Frequency 2507.5 MHz	Frequency 2535 MHz	Frequency 2562.5 MHz
7/ 15	QPSK	1	0	22.37	22.49	22.56
		1	37	22.38	22.20	22.24
		1	74	22.37	22.33	22.46
		36	0	21.23	21.08	21.07
		36	19	21.40	21.28	21.42
		36	39	21.28	21.04	21.41
		75	0	21.29	21.39	21.41
	16QAM	1	0	21.57	21.64	21.27
		1	37	21.53	21.42	21.57
		1	74	21.41	21.45	21.56
		36	0	20.60	20.18	20.20
		36	19	20.43	20.29	20.48
		36	39	20.46	20.42	20.24
		75	0	20.57	20.45	20.61
	64QAM	1	0	20.61	20.51	20.66
		1	37	20.55	20.48	20.44
		1	74	20.34	20.49	20.59
		36	0	19.60	19.21	19.25
		36	19	19.45	19.38	19.43
		36	39	19.31	19.08	19.46
		75	0	19.58	19.33	19.49
Band/BW	Modulation	RB Size	RB offset	Low CH 20850	Mid CH 21100	High CH 21350
				Frequency 2510 MHz	Frequency 2535 MHz	Frequency 2560 MHz
7/ 20	QPSK	1	0	22.51	22.55	22.57
		1	50	22.50	22.39	22.42
		1	99	22.38	22.53	22.56
		50	0	21.43	21.16	21.28
		50	25	21.45	21.49	21.53
		50	50	21.44	21.24	21.43
		100	0	21.42	21.47	21.54
	16QAM	1	0	21.63	21.66	21.45
		1	50	21.54	21.42	21.60
		1	99	21.53	21.62	21.60
		50	0	20.60	20.26	20.29
		50	25	20.55	20.38	20.53
		50	50	20.53	20.45	20.44
		100	0	20.75	20.44	20.71
	64QAM	1	0	20.64	20.63	20.65
		1	50	20.63	20.55	20.44
		1	99	20.38	20.60	20.72
		50	0	19.59	19.36	19.27



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		50	25	19.59	19.53	19.57
		50	50	19.51	19.26	19.49
		100	0	19.71	19.37	19.55
LTE Band 12						
Band/BW	Modulation	RB Size	RB offset	Low CH 23017	Mid CH 23095	High CH 23173
				Frequency 699.7 MHz	Frequency 707.5 MHz	Frequency 715.3 MHz
12/ 1.4	QPSK	1	0	22.82	22.72	22.87
		1	2	22.93	23.01	22.86
		1	5	22.79	22.77	22.88
		3	0	22.87	22.94	22.70
		3	1	22.83	22.89	22.92
		3	3	22.95	22.93	22.95
		6	0	21.85	21.89	21.84
	16QAM	1	0	21.97	21.94	21.92
		1	2	22.06	22.03	21.92
		1	5	21.80	21.88	22.05
		3	0	21.91	22.13	21.75
		3	1	22.00	21.86	21.98
		3	3	21.89	21.94	21.95
		6	0	21.03	21.08	21.11
	64QAM	1	0	20.90	21.05	21.00
		1	2	21.02	21.20	21.00
		1	5	20.89	20.98	20.94
		3	0	21.01	20.98	20.75
		3	1	21.02	21.02	20.75
		3	3	21.00	21.02	20.75
		6	0	20.01	20.16	19.99
Band/BW	Modulation	RB Size	RB offset	Low CH 23025	Mid CH 23095	High CH 23165
				Frequency 700.5 MHz	Frequency 707.5 MHz	Frequency 714.5 MHz
12/ 3	QPSK	1	0	22.88	22.82	22.87
		1	7	22.96	22.89	22.87
		1	14	22.81	22.88	22.78
		8	0	21.79	21.86	21.87
		8	3	22.00	21.93	21.86
		8	7	21.96	21.79	21.79
		15	0	21.89	21.90	21.83
	16QAM	1	0	21.99	21.93	21.93
		1	7	21.99	22.06	21.83
		1	14	22.00	21.78	22.06
		8	0	21.00	21.07	20.75
		8	3	21.02	20.94	20.95
		8	7	20.91	21.09	20.88
		15	0	21.04	21.22	21.15
	64QAM	1	0	20.96	21.07	20.94
		1	7	20.95	21.05	20.89
		1	14	20.79	21.04	21.00
		8	0	19.96	19.91	19.86



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		8	3	19.89	19.92	19.89
		8	7	19.96	19.96	19.74
		15	0	20.06	20.19	20.04
LTE Band 12						
Band/BW	Modulation	RB Size	RB offset	Low CH 23035	Mid CH 23095	High CH 23155
				Frequency 701.5 MHz	Frequency 707.5 MHz	Frequency 713.5 MHz
12/ 5	QPSK	1	0	22.90	22.71	22.71
		1	12	23.00	22.91	23.00
		1	24	22.71	22.93	22.83
		12	0	21.83	21.94	21.89
		12	6	22.00	21.86	21.86
		12	13	21.84	21.94	21.81
		25	0	21.93	21.97	21.86
	16QAM	1	0	21.93	21.86	21.85
		1	12	22.04	22.19	22.02
		1	24	21.98	21.90	21.88
		12	0	21.05	21.05	20.91
		12	6	21.00	21.08	21.01
		12	13	20.90	21.03	20.98
		25	0	21.03	21.16	21.20
	64QAM	1	0	20.95	21.06	20.99
		1	12	20.95	21.00	20.90
		1	24	20.91	21.07	20.96
		12	0	20.04	19.88	19.76
		12	6	19.87	19.88	19.83
		12	13	19.90	19.94	19.89
		25	0	20.22	20.13	19.92
Band/BW	Modulation	RB Size	RB offset	Low CH 23060	Mid CH 23095	High CH 23130
				Frequency 704 MHz	Frequency 707.5 MHz	Frequency 711 MHz
12/ 10	QPSK	1	0	22.94	22.91	22.92
		1	24	23.00	23.05	22.99
		1	49	22.86	22.95	22.94
		25	0	21.92	21.97	21.89
		25	12	21.98	21.99	21.95
		25	25	21.97	21.95	21.94
		50	0	22.03	22.06	22.00
	16QAM	1	0	22.14	21.99	22.01
		1	24	22.11	22.22	22.01
		1	49	22.01	21.97	22.09
		25	0	21.11	21.15	20.92
		25	12	21.06	21.07	21.03
		25	25	21.02	21.08	20.98
		50	0	21.06	21.24	21.20
	64QAM	1	0	21.01	21.10	21.00
		1	24	21.11	21.21	21.10
		1	49	20.95	21.06	21.00
		25	0	20.09	20.09	19.88



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		25	12	20.02	20.05	19.96
		25	25	20.09	20.06	19.95
		50	0	20.22	20.22	20.09
LTE Band 13						
Band/BW	Modulation	RB Size	RB offset	Low CH 23205	Mid CH 23230	High CH 23255
				Frequency 779.5 MHz	Frequency 782.0 MHz	Frequency 784.5 MHz
13/ 5	QPSK	1	0	22.52	22.55	22.55
		1	12	22.69	22.76	22.77
		1	24	22.56	22.68	22.73
		12	0	21.64	21.55	21.55
		12	6	21.63	21.57	21.61
		12	13	21.73	21.71	21.53
		25	0	21.56	21.67	21.66
	16QAM	1	0	21.88	21.75	21.72
		1	12	22.03	22.04	21.87
		1	24	21.82	21.85	21.74
		12	0	20.64	20.59	20.52
		12	6	20.59	20.59	20.59
		12	13	20.67	20.71	20.63
		25	0	20.55	20.71	20.59
	64QAM	1	0	20.56	20.63	20.62
		1	12	20.71	20.79	20.66
		1	24	20.60	20.58	20.51
		12	0	19.52	19.56	19.72
		12	6	19.66	19.57	19.56
		12	13	19.70	19.65	19.60
		25	0	19.65	19.75	19.69
Band/BW	Modulation	RB Size	RB offset	/	Mid CH 23230	/
				/	Frequency 782.0 MHz	/
13/ 10	QPSK	1	0	/	22.57	/
		1	24	/	22.78	/
		1	49	/	22.63	/
		25	0	/	21.56	/
		25	12	/	21.52	/
		25	25	/	21.63	/
		50	0	/	21.60	/
	16QAM	1	0	/	21.81	/
		1	24	/	21.93	/
		1	49	/	21.85	/
		25	0	/	20.59	/
		25	12	/	20.66	/
		25	25	/	20.61	/
		50	0	/	20.66	/
	64QAM	1	0	/	20.66	/
		1	24	/	20.69	/
		1	49	/	20.57	/
		25	0	/	19.62	/

Huarui 7layers High Technology
(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province, China

Tel: +86 (0557) 368 1008



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		25	12	/	19.57	/
		25	25	/	19.59	/
		50	0	/	19.67	/
LTE Band 17						
Band/BW	Modulation	RB Size	RB offset	Low CH 23755	Mid CH 23790	High CH 23825
				Frequency 706.5 MHz	Frequency 710 MHz	Frequency 713.5 MHz
17/ 5	QPSK	1	0	22.78	22.79	22.73
		1	12	22.83	22.87	22.82
		1	24	22.88	22.74	22.88
		12	0	21.82	21.69	21.81
		12	6	21.91	21.72	21.80
		12	13	21.84	21.92	21.76
		25	0	21.90	21.92	21.82
	16QAM	1	0	21.82	22.08	22.05
		1	12	21.96	22.09	22.08
		1	24	21.77	21.85	22.11
		12	0	20.74	20.92	20.86
		12	6	20.82	21.05	21.02
		12	13	21.00	20.79	20.83
		25	0	21.04	20.95	21.01
	64QAM	1	0	20.97	20.89	21.07
		1	12	21.08	20.85	21.02
		1	24	21.04	20.83	20.79
		12	0	19.79	19.89	19.79
		12	6	19.95	20.04	19.79
		12	13	19.79	19.91	19.83
		25	0	20.03	19.92	19.86
Band/BW	Modulation	RB Size	RB offset	Low CH 23780	Mid CH 23790	High CH 23800
				Frequency 709 MHz	Frequency 710 MHz	Frequency 711 MHz
17/ 10	QPSK	1	0	22.98	22.95	22.93
		1	24	23.02	22.96	23.00
		1	49	22.96	22.88	22.99
		25	0	21.88	21.90	21.81
		25	12	21.97	21.92	21.95
		25	25	21.85	21.91	21.91
		50	0	22.00	21.95	21.97
	16QAM	1	0	22.01	22.08	22.12
		1	24	22.04	22.16	22.15
		1	49	21.95	21.98	22.20
		25	0	20.95	20.99	20.94
		25	12	21.00	21.09	21.16
		25	25	21.04	20.94	21.02
		50	0	21.20	21.06	21.01
	64QAM	1	0	21.07	21.09	21.13
		1	24	21.08	21.03	21.16
		1	49	21.14	20.87	20.98
		25	0	19.99	19.97	19.88



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		25	12	20.16	20.11	19.99
		25	25	19.94	20.06	19.94
		50	0	20.02	20.05	20.00
LTE Band 71						
Band/BW	Modulation	RB Size	RB offset	Low CH 133147	Mid CH 133297	High CH 133447
				Frequency 665.5MHz	Frequency 680.5MHz	Frequency 695.5MHz
71/ 5	QPSK	1	0	23.09	23.29	23.26
		1	12	23.06	23.03	23.14
		1	24	23.18	23.00	22.85
		12	0	22.00	21.89	21.86
		12	6	22.12	22.10	22.13
		12	13	22.05	21.88	22.12
		25	0	21.99	22.11	22.19
	16QAM	1	0	22.27	22.09	22.25
		1	12	22.37	22.04	22.24
		1	24	22.21	21.95	22.01
		12	0	21.08	20.97	21.01
		12	6	21.10	21.11	21.29
		12	13	21.17	20.89	21.21
		25	0	21.35	21.29	21.21
	64QAM	1	0	21.16	21.21	21.18
		1	12	21.17	20.97	21.35
		1	24	21.24	21.16	21.07
		12	0	20.09	20.04	19.86
		12	6	20.13	20.25	20.08
		12	13	20.10	20.23	20.16
		25	0	20.30	19.99	20.26
Band/BW	Modulation	RB Size	RB offset	Low CH 133172	Mid CH 133297	High CH 133172
				Frequency 668MHz	Frequency 680.5MHz	Frequency 693MHz
71/ 10	QPSK	1	0	23.23	23.21	23.18
		1	24	23.15	23.03	23.11
		1	49	23.16	23.09	23.05
		25	0	21.98	22.02	21.91
		25	12	22.21	22.16	22.21
		25	25	22.09	21.89	22.10
		50	0	22.21	22.10	22.04
	16QAM	1	0	22.32	22.08	22.24
		1	24	22.32	22.11	22.28
		1	49	22.17	22.01	21.85
		25	0	21.15	21.09	21.17
		25	12	21.28	21.04	21.29
		25	25	21.10	21.09	21.15
		50	0	21.15	21.13	21.30
	64QAM	1	0	21.13	21.22	21.28
		1	24	20.99	21.15	21.27
		1	49	21.31	21.02	21.13
		25	0	20.08	20.11	19.92

Huarui 7layers High Technology
(Suzhou) Co., Ltd.

Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province, China

Tel: +86 (0557) 368 1008



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		25	12	20.22	20.34	20.07
		25	25	20.31	20.06	20.20
		50	0	20.25	20.02	20.43
LTE Band 71						
Band/BW	Modulation	RB Size	RB offset	Low CH 133197	Mid CH 133297	High CH 133397
				Frequency 670.5MHz	Frequency 680.5MHz	Frequency 690.5MHz
71/ 15	QPSK	1	0	23.02	23.07	23.20
		1	37	23.10	23.11	23.04
		1	74	23.15	23.10	23.00
		36	0	21.89	22.08	22.05
		36	19	22.04	22.01	22.28
		36	39	21.96	22.05	21.94
		75	0	22.07	22.03	22.25
	16QAM	1	0	22.27	22.23	22.32
		1	37	22.33	22.09	22.34
		1	74	22.32	21.97	21.88
		36	0	21.14	21.14	20.98
		36	19	21.13	21.19	21.13
		36	39	21.18	21.09	21.23
		75	0	21.18	21.27	21.18
	64QAM	1	0	21.31	21.37	21.16
		1	37	21.08	21.15	21.35
		1	74	21.27	21.20	21.19
		36	0	20.05	20.19	19.87
		36	19	20.23	20.20	20.28
		36	39	20.15	20.12	20.30
		75	0	20.29	20.13	20.41
Band/BW	Modulation	RB Size	RB offset	Low CH 133222	Mid CH 133322	High CH 133372
				Frequency 673MHz	Frequency 683MHz	Frequency 688MHz
71/ 20	QPSK	1	0	23.23	23.28	23.30
		1	50	23.20	23.16	23.25
		1	99	23.17	23.12	23.06
		50	0	22.08	22.08	22.04
		50	25	22.21	22.22	22.27
		50	50	22.13	22.06	22.11
		100	0	22.20	22.19	22.24
	16QAM	1	0	22.42	22.29	22.38
		1	50	22.37	22.21	22.44
		1	99	22.34	22.11	22.05
		50	0	21.18	21.15	21.16
		50	25	21.31	21.24	21.29
		50	50	21.19	21.08	21.31
		100	0	21.36	21.33	21.35
	64QAM	1	0	21.30	21.42	21.35
		1	50	21.20	21.18	21.38
		1	99	21.37	21.21	21.22
		50	0	20.19	20.25	20.06



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

		50	25	20.22	20.36	20.27
		50	50	20.31	20.23	20.29
		100	0	20.37	20.18	20.43

**Redcap Mode
NR BAND N7**

n7 (SCS 15kHz)								
BW [MHz]	DFT-s-OFDM	RB Size	RB Offset	Low	Mid	High	MPR (dB)	Max. Tune-up (dBm)
		Channel		502000	507000	512000		
		Frequency (MHz)		2510	2535	2560		
20	Pi/2 BPSK	1	1	22.62	22.53	22.33	0	25.7
		1	53	22.43	22.41	22.25	0	25.7
		1	104	22.66	22.47	22.30	0	25.7
		50	0	21.96	21.96	21.79	0.5	25.2
		50	28	22.57	22.44	22.23	0	25.7
		50	56	22.09	21.90	21.65	0.5	25.2
		100	0	22.14	21.97	21.90	0.5	25.2
	QPSK	1	1	22.67	22.57	22.39	0	25.7
		1	53	22.58	22.49	22.36	0	25.7
		1	104	22.65	22.55	22.38	0	25.7
		50	0	21.50	21.51	21.37	1	24.7
		50	28	22.64	22.47	22.35	0	25.7
		50	56	21.60	21.42	21.22	1	24.7
		100	0	21.70	21.59	21.51	1	24.7
	16QAM	1	1	21.61	21.57	21.43	1	24.7
	64QAM	1	1	19.96	19.95	19.88	2.5	23.2
	256QAM	1	1	18.49	18.34	18.31	4.5	21.2
BW [MHz]	DFT-s-OFDM	Channel		501500	507000	512500	MPR (dB)	Max. Tune-up
		Frequency (MHz)		2507.5	2535	2562.5		
15	QPSK	1	1	22.64	22.46	22.19	0	25.7
BW [MHz]	DFT-s-OFDM	Channel		501000	507000	513000	MPR (dB)	Max. Tune-up
		Frequency (MHz)		2505	2535	2565		
10	QPSK	1	1	22.60	22.37	22.35	0	25.7
BW [MHz]	DFT-s-OFDM	Channel		500500	507000	513500	MPR (dB)	Max. Tune-up
		Frequency (MHz)		2502.5	2535	2567.5		
5	QPSK	1	1	22.65	22.57	22.37	0	25.7



n12 (SCS 15kHz)								
BW [MHz]	DFT-s-OFDM	RB Size	RB Offset	Low	Mid	High	MPR (dB)	Max. Tune-up (dBm)
		Channel		141300	141500	141700		
		Frequency (MHz)		706.5	707.5	708.5		
15	Pi/2 BPSK	1	1	23.20	23.09	23.12	0	25.7
		1	40	22.85	23.06	22.88	0	25.7
		1	77	22.99	22.94	23.07	0	25.7
		36	0	22.70	22.70	22.64	0.5	25.2
		36	22	23.05	23.07	22.79	0	25.7
		36	43	22.51	22.56	22.64	0.5	25.2
		75	0	22.80	22.77	22.52	0.5	25.2
	QPSK	1	1	23.23	23.13	23.15	0	25.7
		1	40	23.06	23.09	23.08	0	25.7
		1	77	23.15	23.10	23.06	0	25.7
		36	0	22.19	22.24	22.17	1	24.7
		36	22	23.17	23.09	22.98	0	25.7
		36	43	22.21	22.25	22.20	1	24.7
		75	0	22.29	22.27	22.07	1	24.7
	16QAM	1	1	22.36	22.26	22.27	1	24.7
	64QAM	1	1	20.67	20.76	20.61	2.5	23.2
	256QAM	1	1	18.98	18.95	18.85	4.5	21.2
BW [MHz]	DFT-s-OFDM	Channel		140800	141500	142200	MPR (dB)	Max. Tune-up
		Frequency (MHz)		704	707.5	711		
10	QPSK	1	1	23.11	23.03	23.14	0	25.7
BW [MHz]	DFT-s-OFDM	Channel		140300	141500	142700	MPR (dB)	Max. Tune-up
		Frequency (MHz)		701.5	707.5	713.5		
5	QPSK	1	1	23.06	22.92	23.03	0	25.7



n13 (SCS 15kHz)								
BW [MHz]	DFT-s-OFDM	RB Size	RB Offset	Low	Mid	High	MPR (dB)	Max. Tune-up (dBm)
		Channel			156400			
		Frequency (MHz)			782			
10	Pi/2 BPSK	1	1		22.93		0	25.7
		1	26		22.85		0	25.7
		1	50		22.92		0	25.7
		25	0		22.42		0.5	25.2
		25	14		22.89		0	25.7
		25	27		22.37		0.5	25.2
		50	0		22.40		0.5	25.2
	QPSK	1	1		22.96		0	25.7
		1	26		22.95		0	25.7
		1	50		22.92		0	25.7
		25	0		21.93		1	24.7
		25	14		22.94		0	25.7
		25	27		21.88		1	24.7
		50	0		21.95		1	24.7
	16QAM	1	1		22.00		1	24.7
	64QAM	1	1		20.50		2.5	23.2
	256QAM	1	1		18.56		4.5	21.2
BW [MHz]	DFT-s-OFDM	Channel		155900	156400	156900	MPR (dB)	Max. Tune-up
		Frequency (MHz)		779.5	782	784.5		
5	QPSK	1	1	22.78	22.89	22.72	0	25.7



n71 (SCS 15kHz)								
BW [MHz]	DFT-s-OFDM	RB Size	RB Offset	Low	Mid	High	MPR (dB)	Max. Tune-up (dBm)
		Channel		134600	136100	137600		
		Frequency (MHz)		673	680.5	688		
20	Pi/2 BPSK	1	1	24.71	24.50	24.61	0	25.7
		1	53	24.65	24.46	24.54	0	25.7
		1	104	24.70	24.40	24.38	0	25.7
		50	0	24.22	24.12	24.19	0.5	25.2
		50	28	24.50	24.35	24.48	0	25.7
		50	56	23.99	23.94	24.10	0.5	25.2
		100	0	24.27	24.15	24.30	0.5	25.2
	QPSK	1	1	24.74	24.55	24.62	0	25.7
		1	53	24.67	24.53	24.60	0	25.7
		1	104	24.70	24.50	24.54	0	25.7
		50	0	23.86	23.63	23.68	1	24.7
		50	28	24.71	24.52	24.60	0	25.7
		50	56	23.63	23.56	23.63	1	24.7
		100	0	23.88	23.72	23.79	1	24.7
	16QAM	1	1	23.63	23.42	23.49	1	24.7
	64QAM	1	1	22.53	22.29	22.44	2.5	23.2
	256QAM	1	1	20.77	20.57	20.57	4.5	21.2
BW [MHz]	DFT-s-OFDM	Channel		134100	136100	138100	MPR (dB)	Max. Tune-up
		Frequency (MHz)		670.5	680.5	690.5		
15	QPSK	1	1	24.71	24.48	24.46	0	25.7
BW [MHz]	DFT-s-OFDM	Channel		133600	136100	138600	MPR (dB)	Max. Tune-up
		Frequency (MHz)		668	680.5	693		
10	QPSK	1	1	24.68	24.55	24.62	0	25.7
BW [MHz]	DFT-s-OFDM	Channel		133100	136100	139100	MPR (dB)	Max. Tune-up
		Frequency (MHz)		665.5	680.5	695.5		
5	QPSK	1	1	24.72	24.53	24.49	0	25.7



EIRP						
LTE BAND 7						
5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	22.49	0.88	23.37	217.27	2
21100	2535	22.53	0.88	23.41	219.28	2
21425	2567.5	22.56	0.88	23.44	220.80	2

5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	21.60	0.88	22.48	177.01	2
21100	2535	21.56	0.88	22.44	175.39	2
21425	2567.5	21.49	0.88	22.37	172.58	2

5MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	20.65	0.88	21.53	142.23	2
21100	2535	20.57	0.88	21.45	139.64	2
21425	2567.5	20.72	0.88	21.60	144.54	2

10MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	22.43	0.88	23.31	214.29	2
21100	2535	22.50	0.88	23.38	217.77	2
21400	2565	22.55	0.88	23.43	220.29	2

10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	21.62	0.88	22.50	177.83	2
21100	2535	21.67	0.88	22.55	179.89	2
21400	2565	21.60	0.88	22.48	177.01	2

10MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	20.56	0.88	21.44	139.32	2
21100	2535	20.59	0.88	21.47	140.28	2
21400	2565	20.61	0.88	21.49	140.93	2



15MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	22.38	0.88	23.26	211.84	2
21100	2535	22.49	0.88	23.37	217.27	2
21375	2562.5	22.56	0.88	23.44	220.80	2

15MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	21.57	0.88	22.45	175.79	2
21100	2535	21.64	0.88	22.52	178.65	2
21375	2562.5	21.57	0.88	22.45	175.79	2

15MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20.61	0.88	21.49	140.93	2
21100	2535	20.51	0.88	21.39	137.72	2
21375	2562.5	20.66	0.88	21.54	142.56	2

20MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	22.51	0.88	23.39	218.27	2
21100	2535	22.55	0.88	23.43	220.29	2
21350	2560	22.57	0.88	23.45	221.31	2

20MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	21.63	0.88	22.51	178.24	2
21100	2535	21.66	0.88	22.54	179.47	2
21350	2560	21.60	0.88	22.48	177.01	2

20MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	20.64	0.88	21.52	141.91	2
21100	2535	20.63	0.88	21.51	141.58	2
21350	2560	20.72	0.88	21.60	144.54	2



LTE BAND 12

1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	22.95	1.23	22.03	159.59	3
23095	707.5	23.01	1.23	22.09	161.81	3
23173	715.3	22.95	1.23	22.03	159.59	3

1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	22.06	1.23	21.14	130.02	3
23095	707.5	22.13	1.23	21.21	132.13	3
23173	715.3	22.05	1.23	21.13	129.72	3

1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	21.02	1.23	20.10	102.33	3
23095	707.5	21.20	1.23	20.28	106.66	3
23173	715.3	21.00	1.23	20.08	101.86	3

3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	22.96	1.23	22.04	159.96	3
23095	707.5	22.89	1.23	21.97	157.40	3
23165	714.5	22.87	1.23	21.95	156.68	3

3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	22.00	1.23	21.08	128.23	3
23095	707.5	22.06	1.23	21.14	130.02	3
23165	714.5	22.06	1.23	21.14	130.02	3

3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	20.96	1.23	20.04	100.93	3
23095	707.5	21.07	1.23	20.15	103.51	3
23165	714.5	21.00	1.23	20.08	101.86	3



5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	23.00	1.23	22.08	161.44	3
23095	707.5	22.93	1.23	22.01	158.85	3
23155	713.5	23.00	1.23	22.08	161.44	3

5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	22.04	1.23	21.12	129.42	3
23095	707.5	22.19	1.23	21.27	133.97	3
23155	713.5	22.02	1.23	21.10	128.82	3

5MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	20.95	1.23	20.03	100.69	3
23095	707.5	21.07	1.23	20.15	103.51	3
23155	713.5	20.99	1.23	20.07	101.62	3

10MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	23.00	1.23	22.08	161.44	3
23095	707.5	23.05	1.23	22.13	163.31	3
23130	711	22.99	1.23	22.07	161.06	3

10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	22.14	1.23	21.22	132.43	3
23095	707.5	22.22	1.23	21.30	134.90	3
23130	711	22.09	1.23	21.17	130.92	3

10MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	21.11	1.23	20.19	104.47	3
23095	707.5	21.21	1.23	20.29	106.91	3
23130	711	21.10	1.23	20.18	104.23	3

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



LTE BAND 13

5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	22.69	1.18	21.72	148.59	3
23230	782	22.76	1.18	21.79	151.01	3
23255	784.5	22.77	1.18	21.80	151.36	3

5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	22.03	1.18	21.06	127.64	3
23230	782	22.04	1.18	21.07	127.94	3
23255	784.5	21.87	1.18	20.90	123.03	3

CHANNEL BANDWIDTH:

5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	20.71	1.18	19.74	94.19	3
23230	782	20.79	1.18	19.82	95.94	3
23255	784.5	20.66	1.18	19.69	93.11	3

10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23230	782	22.78	1.18	21.81	151.71	3

10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23230	782	21.93	1.18	20.96	124.74	3

10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23230	782	20.69	1.18	19.72	93.76	3

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



LTE BAND 17

5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	22.88	1.42	22.15	164.06	3
23790	710	22.87	1.42	22.14	163.68	3
23825	713.5	22.88	1.42	22.15	164.06	3

5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	21.96	1.42	21.23	132.74	3
23790	710	22.09	1.42	21.36	136.77	3
23825	713.5	22.11	1.42	21.38	137.40	3

5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	21.08	1.42	20.35	108.39	3
23790	710	20.89	1.42	20.16	103.75	3
23825	713.5	21.07	1.42	20.34	108.14	3

10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	23.02	1.42	22.29	169.43	3
23790	710	22.96	1.42	22.23	167.11	3
23800	711	23.00	1.42	22.27	168.66	3

10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	22.04	1.42	21.31	135.21	3
23790	710	22.16	1.42	21.43	139.00	3
23800	711	22.20	1.42	21.47	140.28	3

10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	21.14	1.42	20.41	109.90	3
23790	710	21.09	1.42	20.36	108.64	3
23800	711	21.16	1.42	20.43	110.41	3

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).Huarui 7layers High Technology
(Suzhou) Co., Ltd.Tower N, Innovation Center, 88 Zuyi Road, High-tech
District, Suzhou City, Anhui Province, China

Tel: +86 (0557) 368 1008



LTE BAND 71

5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	23.18	1.86	22.89	194.54	3
133297	680.5	23.29	1.86	23.00	199.53	3
133447	695.5	23.26	1.86	22.97	198.15	3

5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	22.37	1.86	22.08	161.44	3
133297	680.5	22.09	1.86	21.80	151.36	3
133447	695.5	22.25	1.86	21.96	157.04	3

5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	21.24	1.86	20.95	124.45	3
133297	680.5	21.21	1.86	20.92	123.59	3
133447	695.5	21.35	1.86	21.06	127.64	3

10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	23.23	1.86	22.94	196.79	3
133297	680.5	23.21	1.86	22.92	195.88	3
133422	693	23.18	1.86	22.89	194.54	3

10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	22.32	1.86	22.03	159.59	3
133297	680.5	22.11	1.86	21.82	152.05	3
133422	693	22.28	1.86	21.99	158.12	3

10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	21.31	1.86	21.02	126.47	3
133297	680.5	21.22	1.86	20.93	123.88	3
133422	693	21.28	1.86	20.99	125.60	3



15MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	23.15	1.86	22.86	193.20	3
133297	680.5	23.11	1.86	22.82	191.43	3
133397	690.5	23.20	1.86	22.91	195.43	3

15MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	22.33	1.86	22.04	159.96	3
133297	680.5	22.23	1.86	21.94	156.31	3
133397	690.5	22.34	1.86	22.05	160.32	3

15MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	21.31	1.86	21.02	126.47	3
133297	680.5	21.37	1.86	21.08	128.23	3
133397	690.5	21.35	1.86	21.06	127.64	3

20MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	23.23	1.86	22.94	196.79	3
133322	683	23.28	1.86	22.99	199.07	3
133372	688	23.30	1.86	23.01	199.99	3

20MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	22.42	1.86	22.13	163.31	3
133322	683	22.29	1.86	22.00	158.49	3
133372	688	22.44	1.86	22.15	164.06	3

20MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	21.37	1.86	21.08	128.23	3
133322	683	21.42	1.86	21.13	129.72	3
133372	688	21.38	1.86	21.09	128.53	3

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



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

Redcap mode
NR BAND N7

n7 (SCS 15kHz)							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-Pi/2 BPSK	502000	2510	22.66	0.97	23.63	230.67	2
	507000	2535	22.53	0.97	23.50	223.87	2
	512000	2560	22.33	0.97	23.30	213.80	2
20M-QPSK	502000	2510	22.67	0.97	23.64	231.21	2
	507000	2535	22.57	0.97	23.54	225.94	2
	512000	2560	22.39	0.97	23.36	216.77	2
20M- 16QAM	502000	2510	21.61	0.97	22.58	181.13	2
	507000	2535	21.57	0.97	22.54	179.47	2
	512000	2560	21.43	0.97	22.40	173.78	2
20M- 64QAM	502000	2510	19.96	0.97	20.93	123.88	2
	507000	2535	19.95	0.97	20.92	123.59	2
	512000	2560	19.88	0.97	20.85	121.62	2
20M- 256QAM	502000	2510	18.49	0.97	19.46	88.31	2
	507000	2535	18.34	0.97	19.31	85.31	2
	512000	2560	18.31	0.97	19.28	84.72	2
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	501500	2507.5	22.64	0.97	23.61	229.61	2
	507000	2535	22.46	0.97	23.43	220.29	2
	512500	2562.5	22.19	0.97	23.16	207.01	2
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
10M-QPSK	501000	2505	22.60	0.97	23.57	227.51	2
	507000	2535	22.37	0.97	23.34	215.77	2
	513000	2565	22.35	0.97	23.32	214.78	2
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
5M-QPSK	500500	2502.5	22.65	0.97	23.62	230.14	2
	507000	2535	22.57	0.97	23.54	225.94	2
	513500	2567.5	22.37	0.97	23.34	215.77	2



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03
NR BAND N12

n12 (SCS 15kHz)							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
15M-Pi/2 BPSK	141300	706.5	23.20	1.89	22.94	196.79	3
	141500	707.5	23.09	1.89	22.83	191.87	3
	141700	708.5	23.12	1.89	22.86	193.20	3
15M-QPSK	141300	706.5	23.23	1.89	22.97	198.15	3
	141500	707.5	23.13	1.89	22.87	193.64	3
	141700	708.5	23.15	1.89	22.89	194.54	3
15M- 16QAM	141300	706.5	22.36	1.89	22.10	162.18	3
	141500	707.5	22.26	1.89	22.00	158.49	3
	141700	708.5	22.27	1.89	22.01	158.85	3
15M- 64QAM	141300	706.5	20.67	1.89	20.41	109.90	3
	141500	707.5	20.76	1.89	20.50	112.20	3
	141700	708.5	20.61	1.89	20.35	108.39	3
15M- 256QAM	141300	706.5	18.98	1.89	18.72	74.47	3
	141500	707.5	18.95	1.89	18.69	73.96	3
	141700	708.5	18.85	1.89	18.59	72.28	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
10M-QPSK	140800	704	23.11	1.89	22.85	192.75	3
	141500	707.5	23.03	1.89	22.77	189.23	3
	142200	711	23.14	1.89	22.88	194.09	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
5M-QPSK	140300	701.5	23.06	1.89	22.80	190.55	3
	141500	707.5	22.92	1.89	22.66	184.50	3
	142700	713.5	23.03	1.89	22.77	189.23	3



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03
NR BAND N13

n13 (SCS 15kHz)							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
10M-Pi/2 BPSK	156400	782	22.93	1.5	22.28	169.04	3
10M-QPSK	156400	782	22.96	1.5	22.31	170.22	3
10M- 16QAM	156400	782	22.00	1.5	21.35	136.46	3
10M- 64QAM	156400	782	20.50	1.5	19.85	96.61	3
10M- 256QAM	156400	782	18.56	1.5	17.91	61.80	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
5M-QPSK	155900	779.5	22.78	1.5	22.13	163.31	3
	156400	782	22.89	1.5	22.24	167.49	3
	156900	784.5	22.72	1.5	22.07	161.06	3



BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03
NR BAND N71

n71 (SCS 15kHz)							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20M-Pi/2 BPSK	134600	673	24.71	2.2	24.76	299.23	3
	136100	680.5	24.50	2.2	24.55	285.10	3
	137600	688	24.61	2.2	24.66	292.42	3
20M-QPSK	134600	673	24.74	2.2	24.79	301.30	3
	136100	680.5	24.55	2.2	24.60	288.40	3
	137600	688	24.62	2.2	24.67	293.09	3
20M- 16QAM	134600	673	23.63	2.2	23.68	233.35	3
	136100	680.5	23.42	2.2	23.47	222.33	3
	137600	688	23.49	2.2	23.54	225.94	3
20M- 64QAM	134600	673	22.53	2.2	22.58	181.13	3
	136100	680.5	22.29	2.2	22.34	171.40	3
	137600	688	22.44	2.2	22.49	177.42	3
20M- 256QAM	134600	673	20.77	2.2	20.82	120.78	3
	136100	680.5	20.57	2.2	20.62	115.35	3
	137600	688	20.57	2.2	20.62	115.35	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
15M-QPSK	134100	670.5	24.71	2.2	24.76	299.23	3
	136100	680.5	24.48	2.2	24.53	283.79	3
	138100	690.5	24.46	2.2	24.51	282.49	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
10M-QPSK	133600	668	24.68	2.2	24.73	297.17	3
	136100	680.5	24.55	2.2	24.60	288.40	3
	138600	693	24.62	2.2	24.67	293.09	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
5M-QPSK	133100	665.5	24.72	2.2	24.77	299.92	3
	136100	680.5	24.53	2.2	24.58	287.08	3
	139100	695.5	24.49	2.2	24.54	284.45	3



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

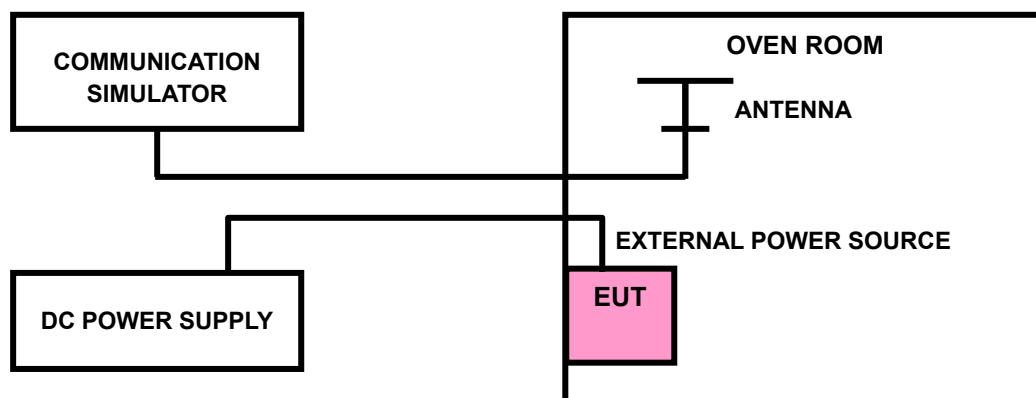
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

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.

3.3.3 TEST SETUP





3.2.3 TEST RESULTS

Please Refer to Appendix of this test report.

Note: VL = Low voltage(3.3V); VN/NV = Normal voltage(3.8V); VH = High voltage(4.35V); NT = Normal temperature (25°C)

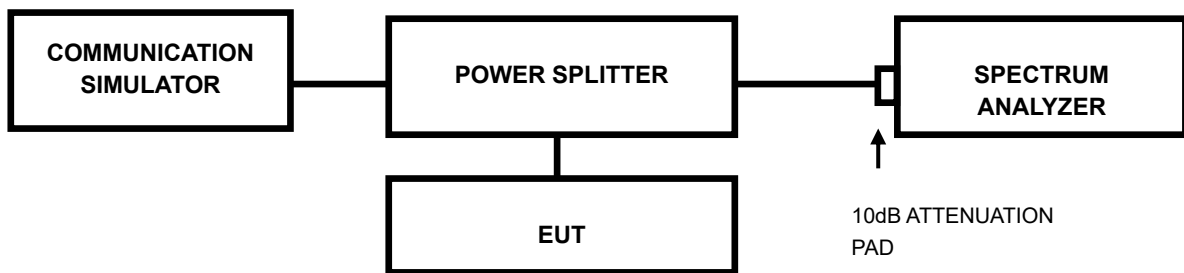


3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- 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.

3.3.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 MHz band, 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. 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.

According to FCC 27.53(h) specified that For operations in the 1710-1755 MHz band, 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. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

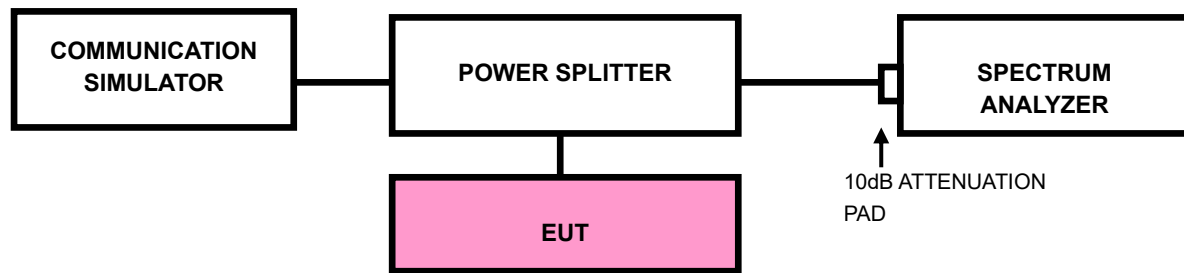
According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1-megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

47 CFR 27.53(c)(2) : On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

47 CFR 27.53(f) : For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



3.4.2 TEST SETUP





3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth
(EBW)
- d) .Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.5



3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 MHz band, 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. 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.

According to FCC 27.53(h) specified that For operations in the 1710-1755 MHz band, 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. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1-megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

47 CFR 27.53(c)(2) : On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

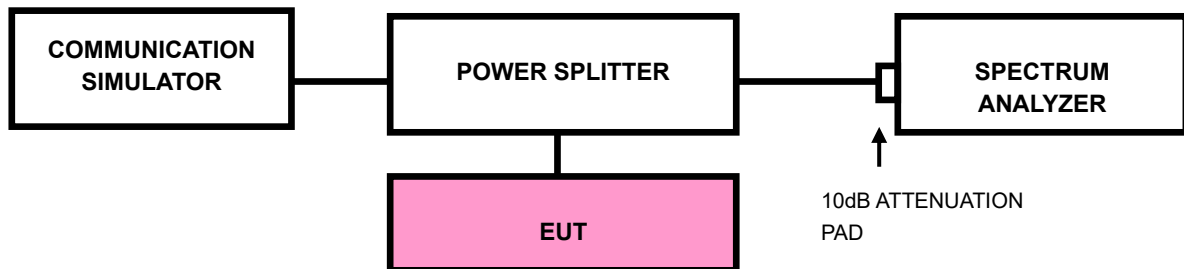
47 CFR 27.53(f) : For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



3.5.2 TEST PROCEDURE

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

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix of this test report.



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 MHz band, 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. 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.

According to FCC 27.53(h) specified that For operations in the 1710-1755 MHz band, 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. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1-megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

47 CFR 27.53(c)(2) : On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;

47 CFR 27.53(f) : For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.



3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G.
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
$$\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$$

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

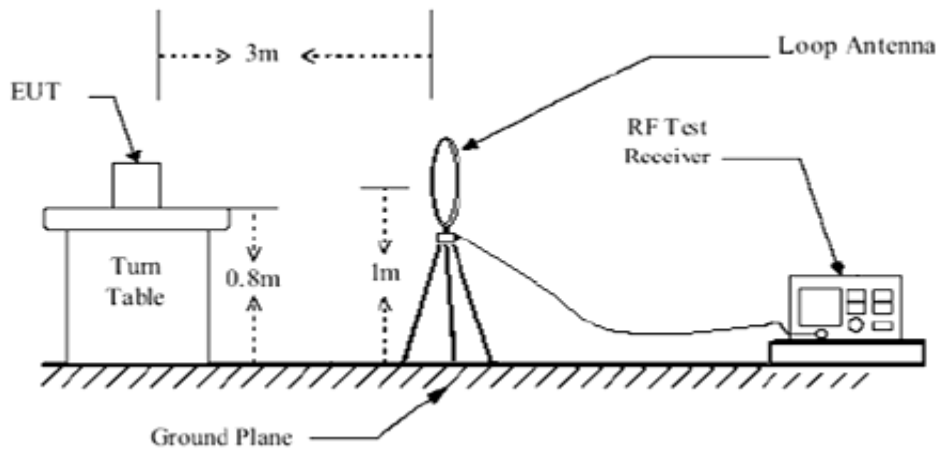
3.6.3 DEVIATION FROM TEST STANDARD

No deviation

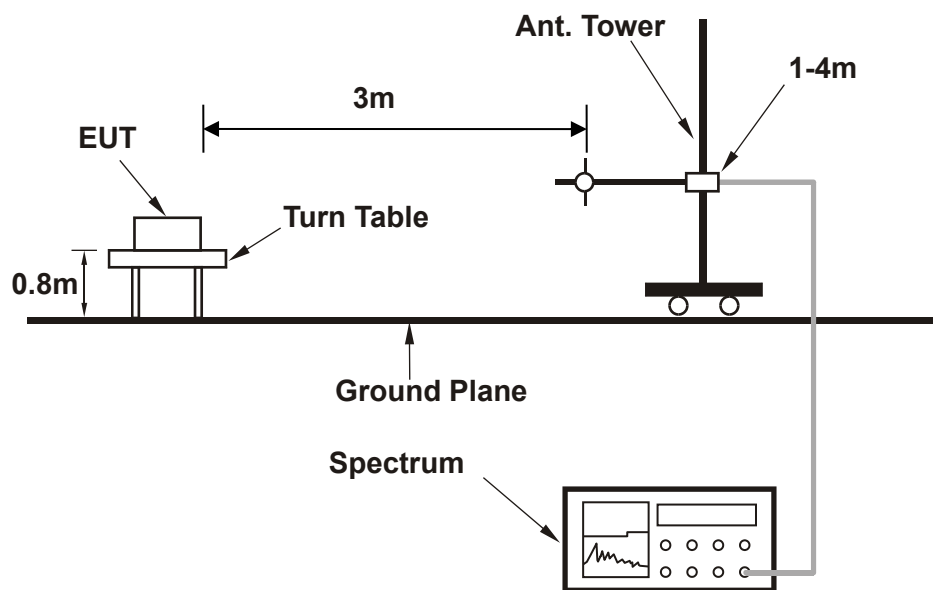


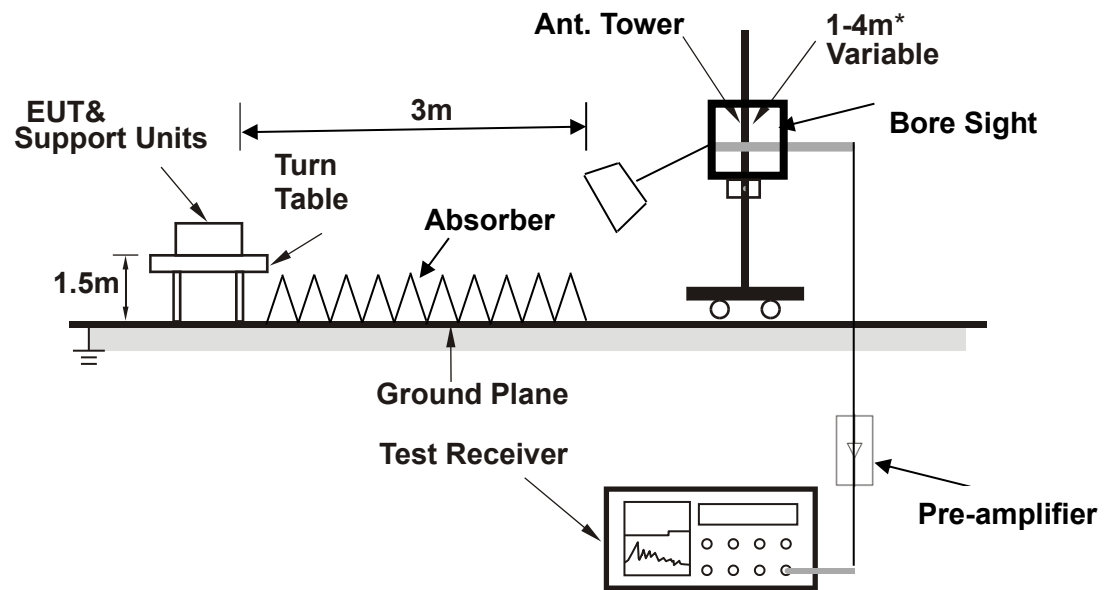
3.6.4 TEST SETUP

< Frequency Range below 30MHz >



< Frequency Range 30MHz~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

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

LTE Band 12 CHANNEL BANDWIDTH: 10MHz / QPSK									
MODE		TX channel 23095			FREQUENCY RANGE		30MHz~1GHz		
ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			INPUT POWER		120Vac 60HZ		
TESTED BY		Hanwen Xu							
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	32.9106	-56.78	-59.54	-2.76	-13.00	46.54	Horizontal	PK	PASS
2	53.8668	-47.04	-58.58	-11.54	-13.00	45.58	Horizontal	PK	PASS
3	112.6605	-50.07	-67.55	-17.48	-13.00	54.55	Horizontal	PK	PASS
4	249.2639	-56.57	-63.73	-7.16	-13.00	50.73	Horizontal	PK	PASS
5	394.987	-65.09	-67.71	-2.62	-13.00	54.71	Horizontal	PK	PASS
6	583.7868	-65.33	-66.74	-1.41	-13.00	53.74	Horizontal	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

Limit Final Test Horizontal

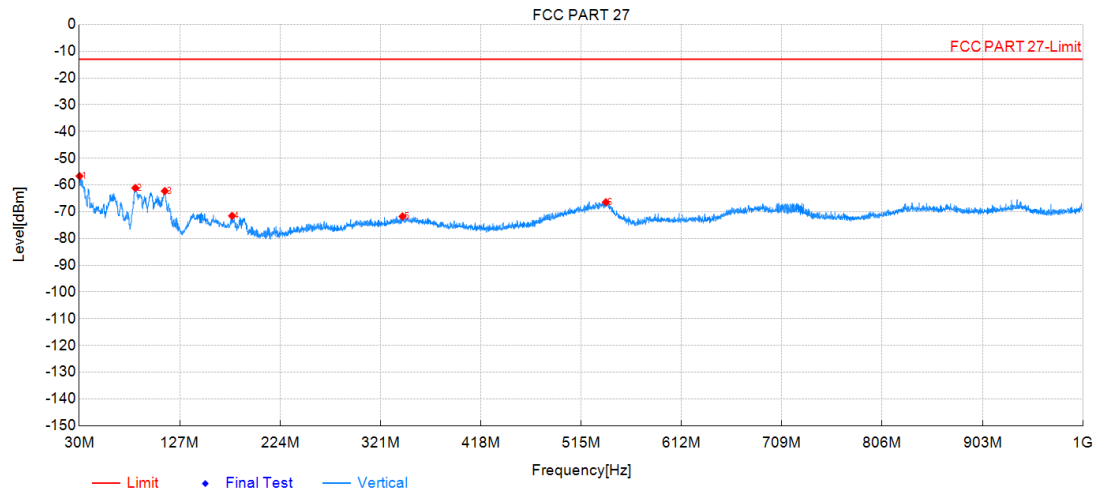
FCC PART 27-Limit



MODE	TX channel 23095	FREQUENCY RANGE	30MHz~1GHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	30.194	-48.54	-56.67	-8.13	-13.00	43.67	Vertical	PK	PASS
2	84.1368	-46.13	-61.12	-14.99	-13.00	48.12	Vertical	PK	PASS
3	112.6605	-51.02	-62.26	-11.24	-13.00	49.26	Vertical	PK	PASS
4	177.6635	-60.86	-71.55	-10.69	-13.00	58.55	Vertical	PK	PASS
5	342.4025	-64.44	-71.74	-7.30	-13.00	58.74	Vertical	PK	PASS
6	538.9638	-66.72	-66.42	0.30	-13.00	53.42	Vertical	PK	PASS





ABOVE 1GHz

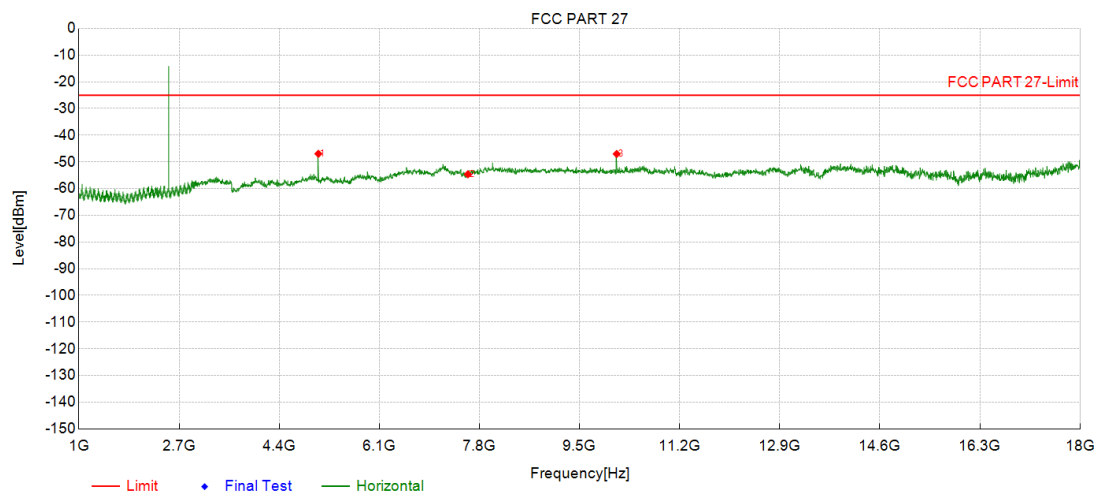
Note: For higher frequency, the emission is too low to be detected.

LTE Band 7

CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5065.8132	-50.74	-46.95	3.79	-25.00	21.95	Horizontal	PK	PASS
2	7605.5211	-63.30	-54.62	8.68	-25.00	29.62	Horizontal	PK	PASS
3	10131.4263	-60.19	-47.01	13.18	-25.00	22.01	Horizontal	PK	PASS





CHANNEL BANDWIDTH		5MHz / QPSK		MODE		TX channel 21100			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5065.8132	-54.90	-50.94	3.96	-25.00	25.94	Vertical	PK	PASS
2	7605.5211	-62.80	-54.20	8.60	-25.00	29.20	Vertical	PK	PASS
3	10131.4263	-56.35	-42.86	13.49	-25.00	17.86	Vertical	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

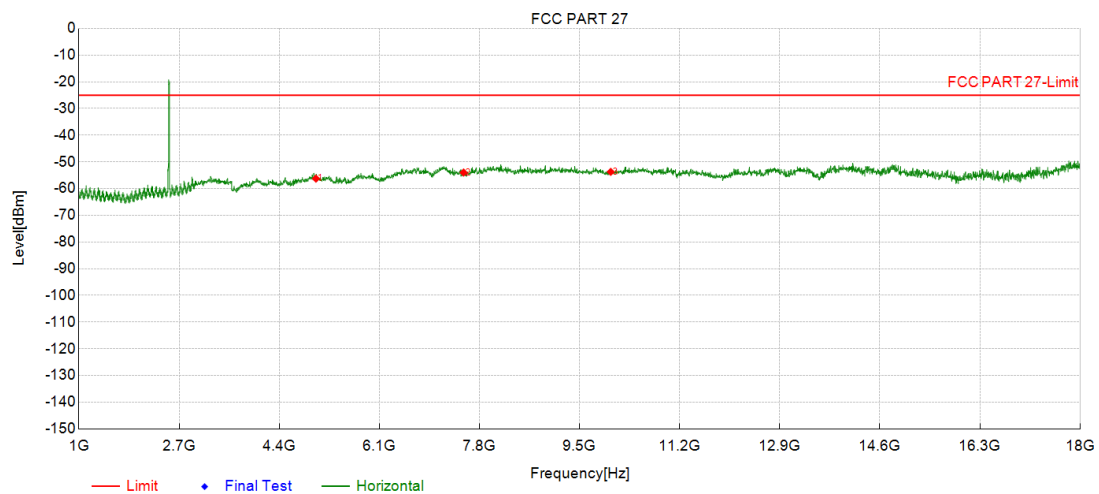
— Limit • Final Test — Vertical



CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5024.4049	-60.14	-56.25	3.89	-25.00	31.25	Horizontal	PK	PASS
2	7531.9064	-62.67	-53.96	8.71	-25.00	28.96	Horizontal	PK	PASS
3	10030.206	-66.42	-53.71	12.71	-25.00	28.71	Horizontal	PK	PASS

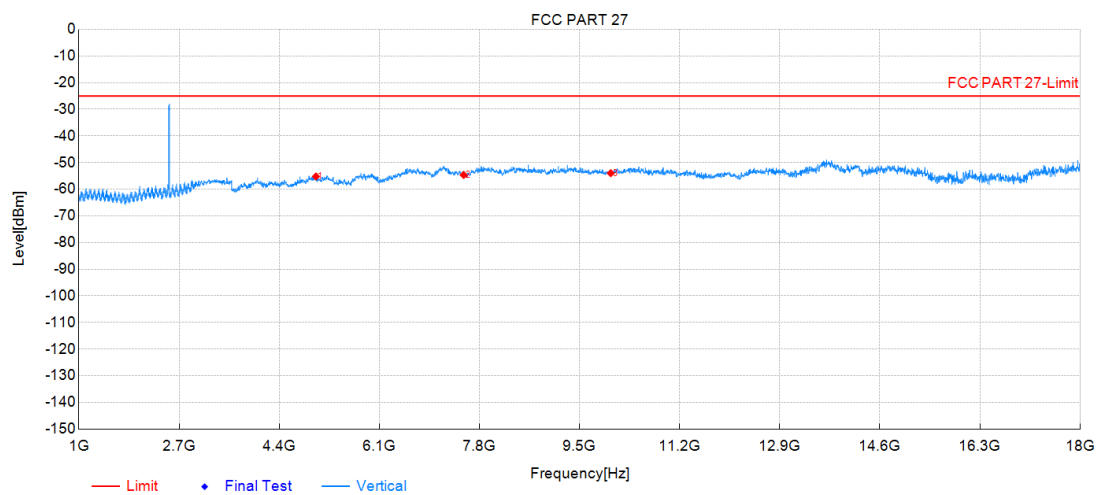




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5024.4049	-59.18	-55.21	3.97	-25.00	30.21	Vertical	PK	PASS
2	7531.9064	-63.32	-54.64	8.68	-25.00	29.64	Vertical	PK	PASS
3	10030.206	-67.04	-53.97	13.07	-25.00	28.97	Vertical	PK	PASS





CHANNEL BANDWIDTH		15MHz / QPSK		MODE		TX channel 20825			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5056.6113	-51.10	-47.29	3.81	-25.00	22.29	Horizontal	PK	PASS
2	7605.5211	-63.38	-54.70	8.68	-25.00	29.70	Horizontal	PK	PASS
3	10113.0226	-58.63	-45.53	13.10	-25.00	20.53	Horizontal	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

— Limit ♦ Final Test — Horizontal

FCC PART 27-Limit



CHANNEL BANDWIDTH		15MHz / QPSK		MODE		TX channel 20825			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5056.6113	-52.57	-48.61	3.96	-25.00	23.61	Vertical	PK	PASS
2	7605.5211	-62.81	-54.25	8.56	-25.00	29.25	Vertical	PK	PASS
3	10113.0226	-53.52	-40.10	13.42	-25.00	15.10	Vertical	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

— Limit ♦ Final Test — Vertical

FCC PART 27-Limit

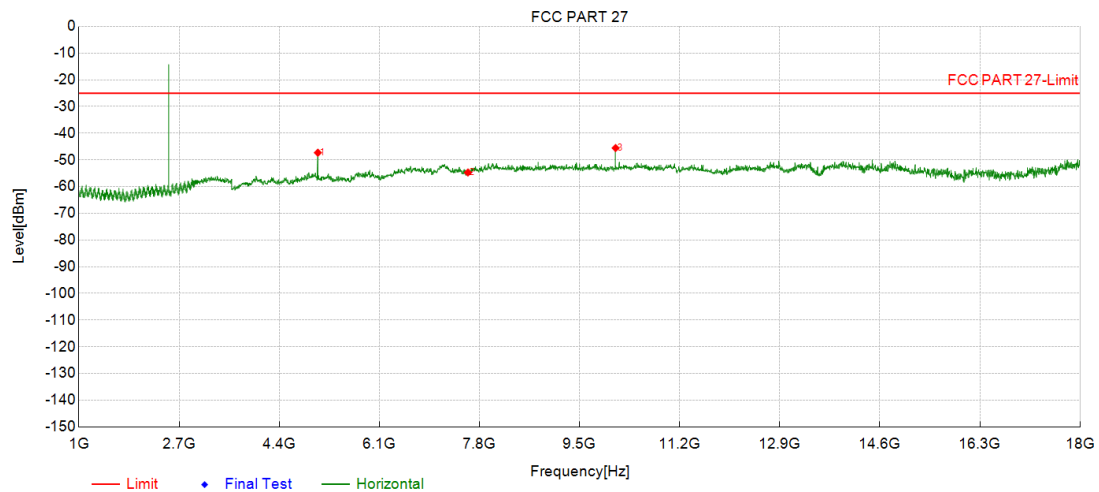


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5056.6113	-51.10	-47.29	3.81	-25.00	22.29	Horizontal	PK	PASS
2	7605.5211	-63.38	-54.70	8.68	-25.00	29.70	Horizontal	PK	PASS
3	10113.0226	-58.63	-45.53	13.10	-25.00	20.53	Horizontal	PK	PASS

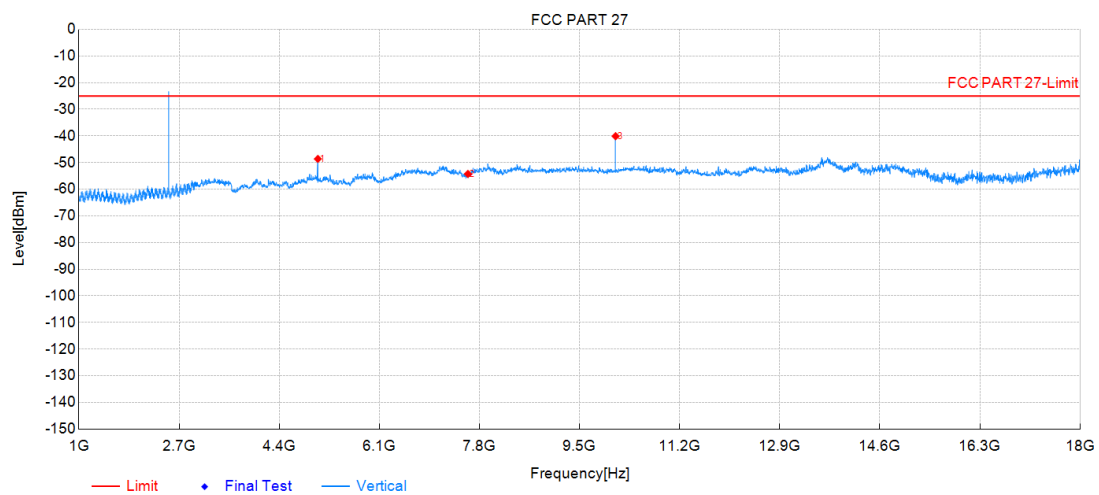




CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5056.6113	-52.57	-48.61	3.96	-25.00	23.61	Vertical	PK	PASS
2	7605.5211	-62.81	-54.25	8.56	-25.00	29.25	Vertical	PK	PASS
3	10113.0226	-53.52	-40.10	13.42	-25.00	15.10	Vertical	PK	PASS



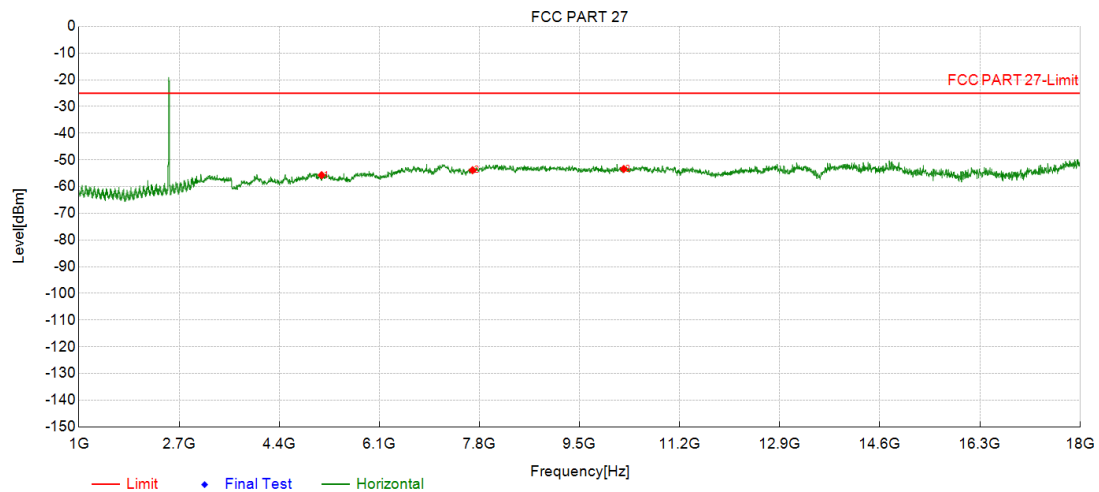


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 21375
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5121.0242	-59.35	-55.70	3.65	-25.00	30.70	Horizontal	PK	PASS
2	7683.7367	-62.70	-53.85	8.85	-25.00	28.85	Horizontal	PK	PASS
3	10251.0502	-66.78	-53.40	13.38	-25.00	28.40	Horizontal	PK	PASS





CHANNEL BANDWIDTH		15MHz / QPSK		MODE		TX channel 21375			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5121.0242	-60.65	-56.69	3.96	-25.00	31.69	Vertical	PK	PASS
2	7683.7367	-62.08	-52.89	9.19	-25.00	27.89	Vertical	PK	PASS
3	10251.0502	-66.31	-52.54	13.77	-25.00	27.54	Vertical	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

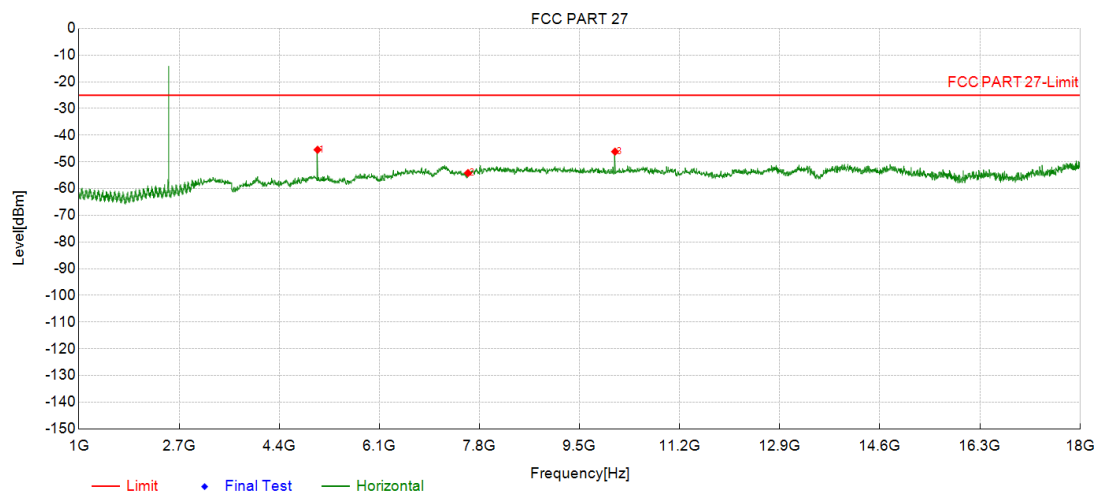
— Limit ◆ Final Test — Vertical



CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 21100
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5052.0104	-49.28	-45.45	3.83	-25.00	20.45	Horizontal	PK	PASS
2	7605.5211	-62.83	-54.16	8.67	-25.00	29.16	Horizontal	PK	PASS
3	10103.8208	-59.19	-46.14	13.05	-25.00	21.14	Horizontal	PK	PASS





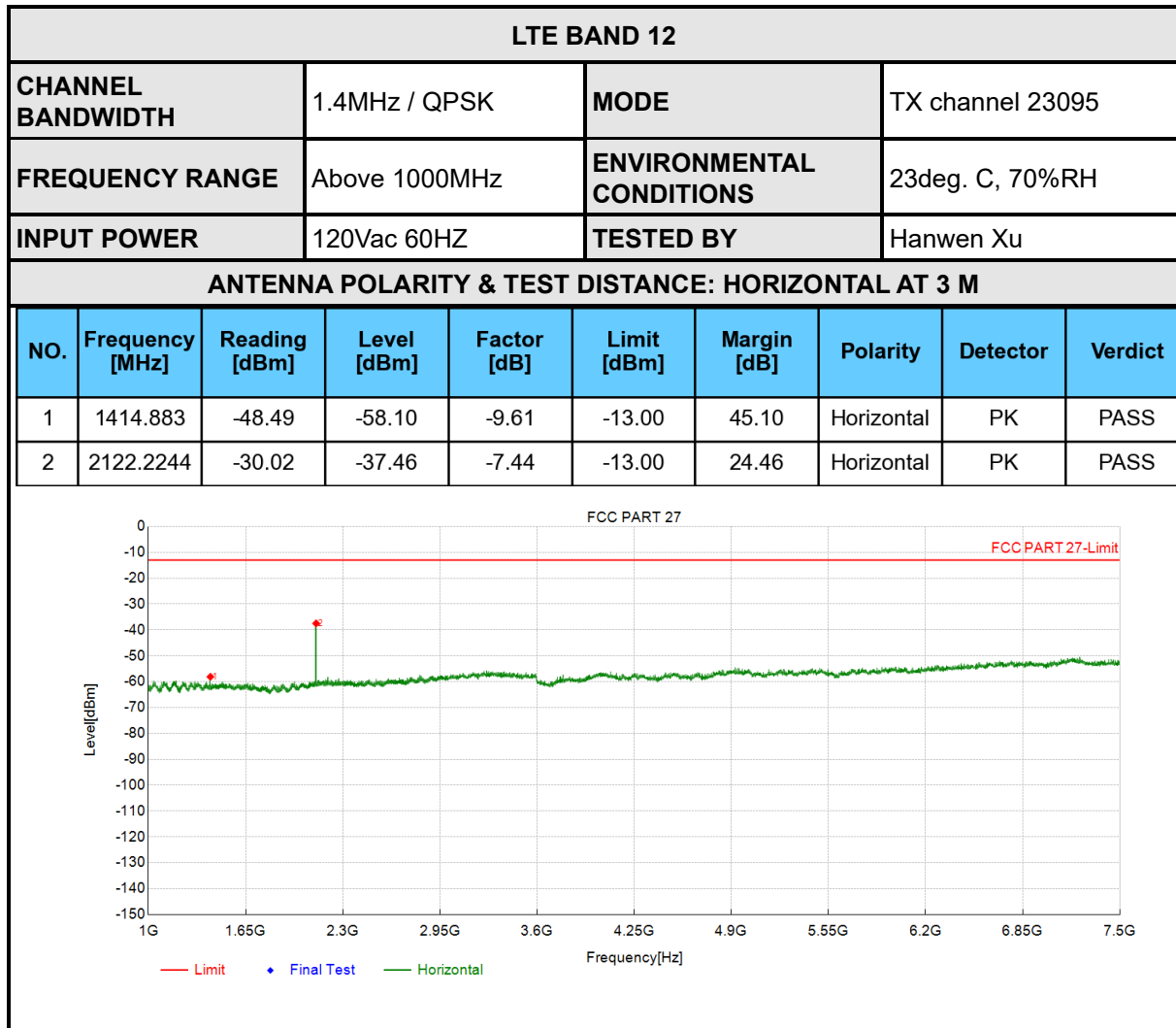
CHANNEL BANDWIDTH		20MHz / QPSK		MODE		TX channel 21100			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5052.0104	-48.97	-45.00	3.97	-25.00	20.00	Vertical	PK	PASS
2	7605.5211	-63.46	-54.86	8.60	-25.00	29.86	Vertical	PK	PASS
3	10103.8208	-55.69	-42.31	13.38	-25.00	17.31	Vertical	PK	PASS

FCC PART 27

Level[dBm]

Frequency[Hz]

— Limit • Final Test — Vertical

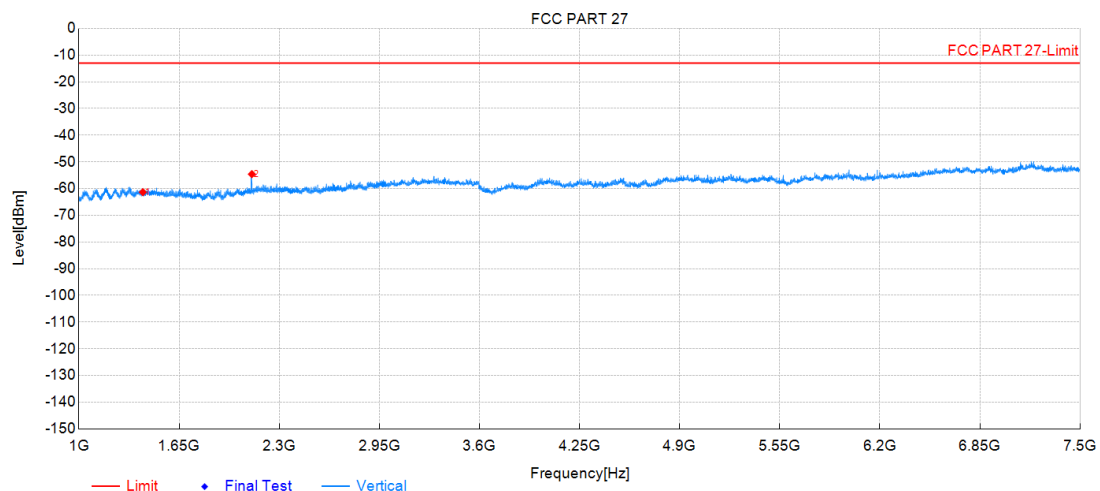


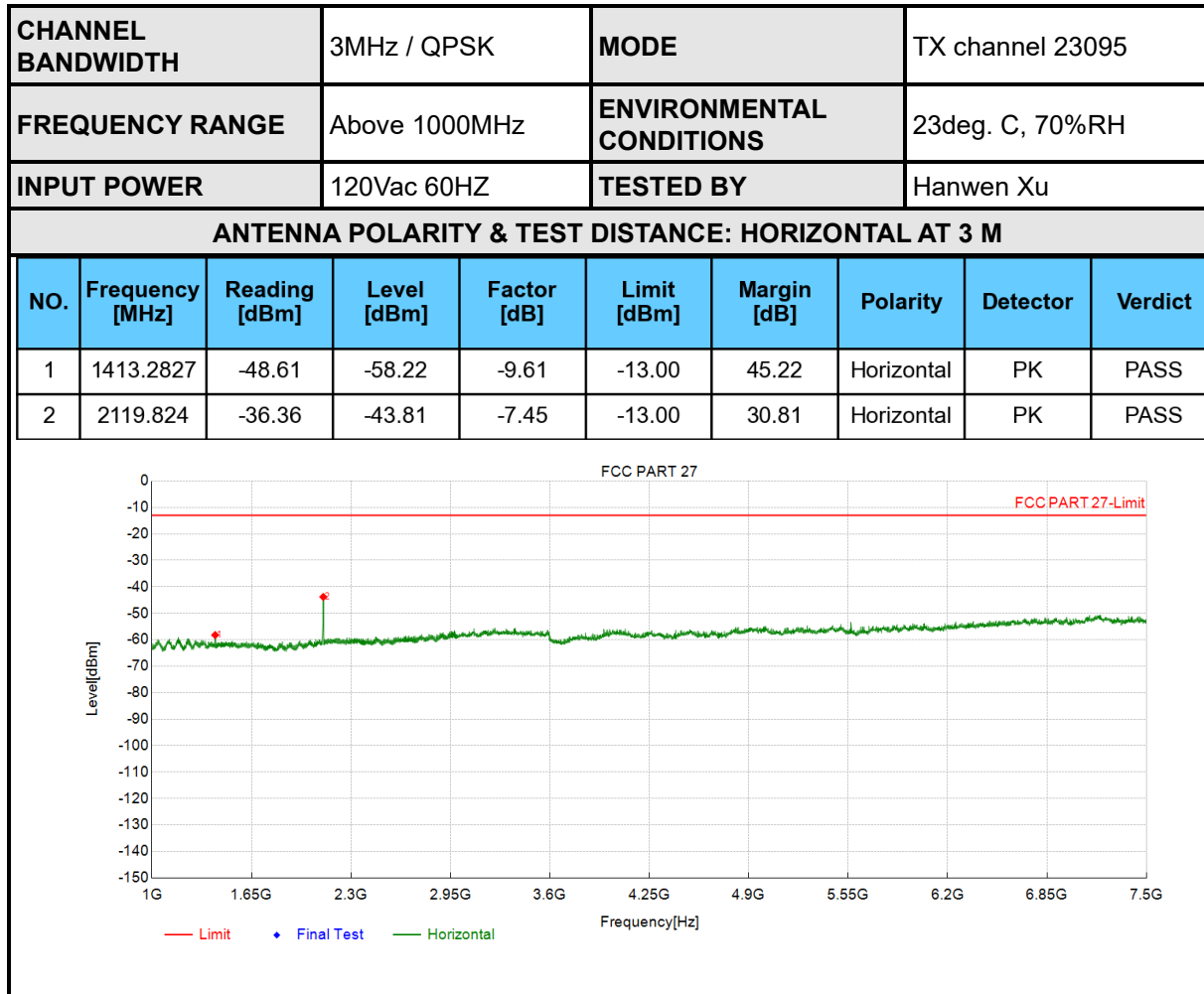


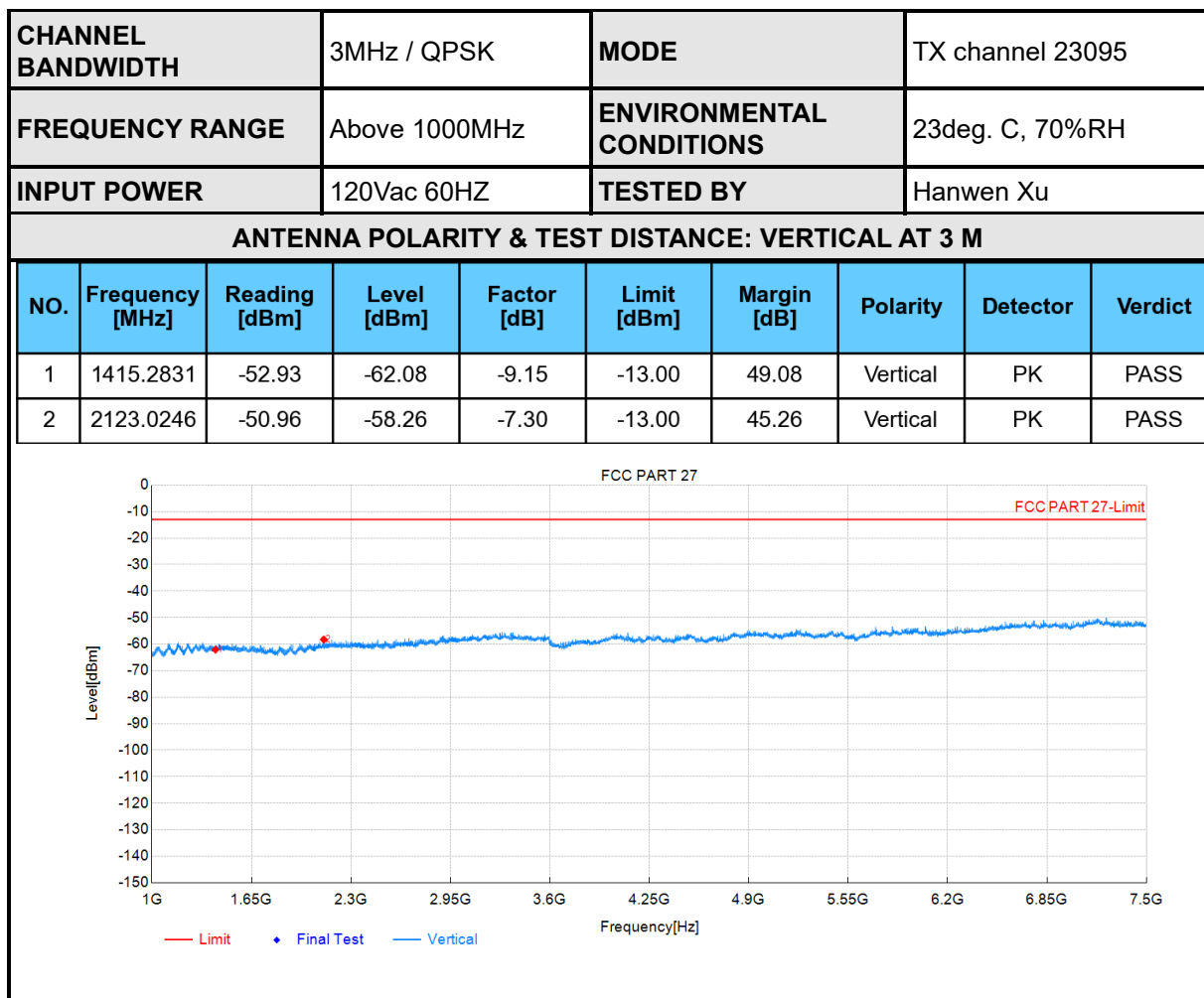
CHANNEL BANDWIDTH	1.4MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1415.2831	-52.17	-61.32	-9.15	-13.00	48.32	Vertical	PK	PASS
2	2122.6245	-47.27	-54.57	-7.30	-13.00	41.57	Vertical	PK	PASS





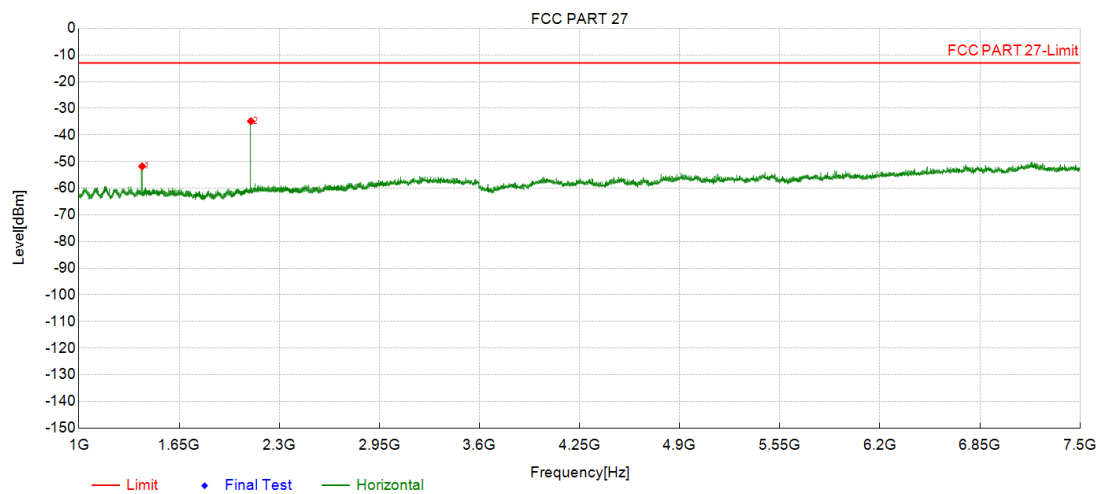




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1410.4821	-42.19	-51.80	-9.61	-13.00	38.80	Horizontal	PK	PASS
2	2116.2232	-27.36	-34.84	-7.48	-13.00	21.84	Horizontal	PK	PASS

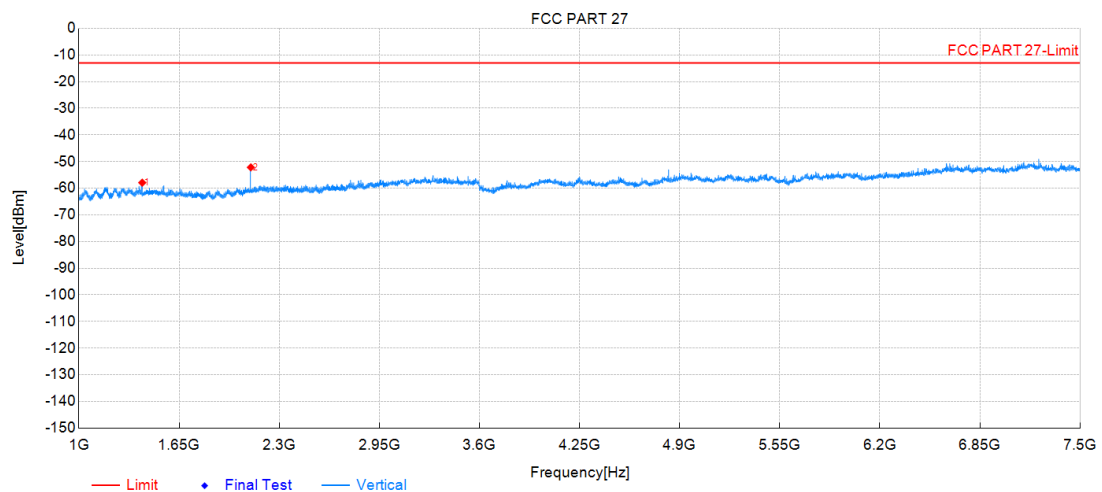




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1410.8822	-48.76	-57.90	-9.14	-13.00	44.90	Vertical	PK	PASS
2	2115.8232	-44.81	-52.16	-7.35	-13.00	39.16	Vertical	PK	PASS





CHANNEL BANDWIDTH		10MHz / QPSK		MODE		TX channel 23060			
FREQUENCY RANGE		Above 1000MHz		ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			
INPUT POWER		120Vac 60HZ		TESTED BY		Hanwen Xu			
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1398.8798	-38.93	-48.56	-9.63	-13.00	35.56	Horizontal	PK	PASS
2	2098.6197	-27.59	-35.22	-7.63	-13.00	22.22	Horizontal	PK	PASS

FCC PART 27

The spectrum plot displays the test results for FCC PART 27. The y-axis represents Level[dBm] from 0 to -150, and the x-axis represents Frequency[Hz] from 1G to 7.5G. A red line indicates the FCC PART 27 Limit at -13.00 dBm. The green line represents the Horizontal test results, which are consistently below the limit. Two specific test points are marked with red diamonds: one at 1398.8798 MHz with a level of -38.93 dBm, and another at 2098.6197 MHz with a level of -27.59 dBm. Both points are well below the limit.

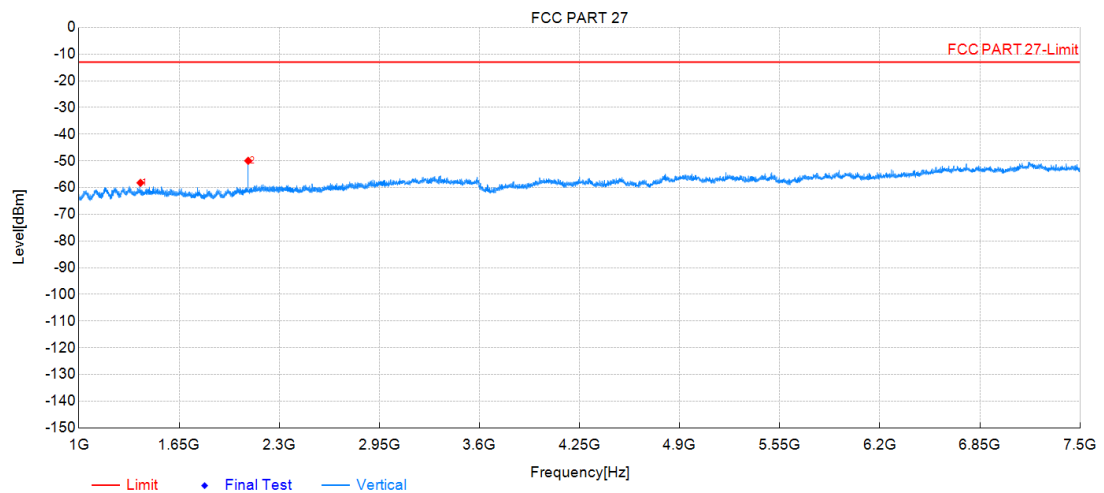
Legend: — Limit ◆ Final Test — Horizontal



CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23060
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1399.2799	-49.08	-58.20	-9.12	-13.00	45.20	Vertical	PK	PASS
2	2099.0198	-42.46	-49.95	-7.49	-13.00	36.95	Vertical	PK	PASS



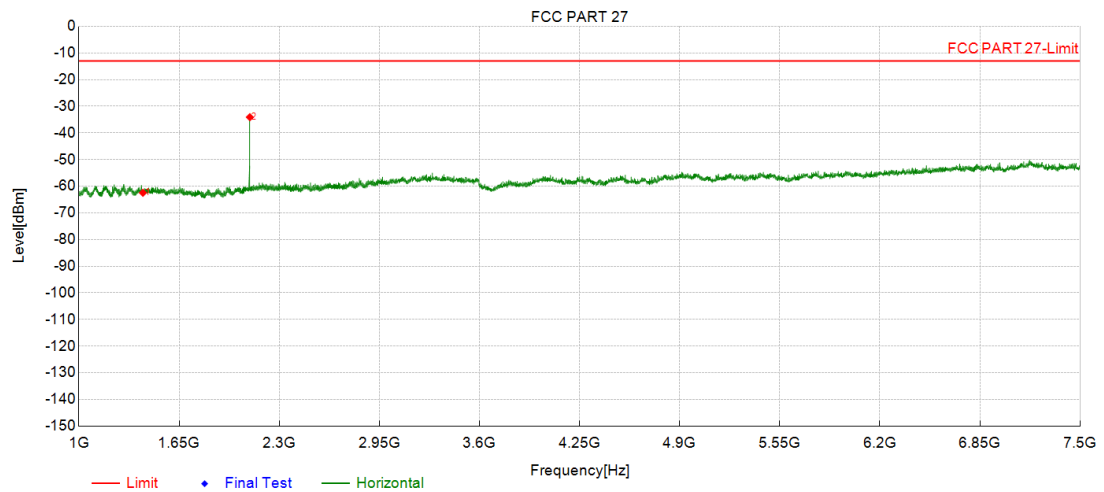


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1415.2831	-52.83	-62.44	-9.61	-13.00	49.44	Horizontal	PK	PASS
2	2109.4219	-26.54	-34.08	-7.54	-13.00	21.08	Horizontal	PK	PASS

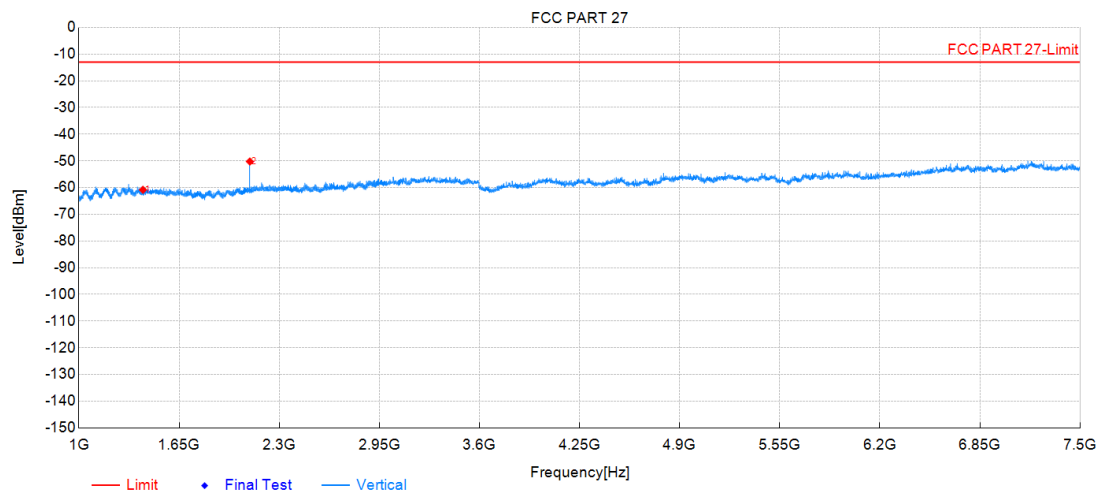




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1415.2831	-51.67	-60.82	-9.15	-13.00	47.82	Vertical	PK	PASS
2	2109.4219	-42.81	-50.22	-7.41	-13.00	37.22	Vertical	PK	PASS



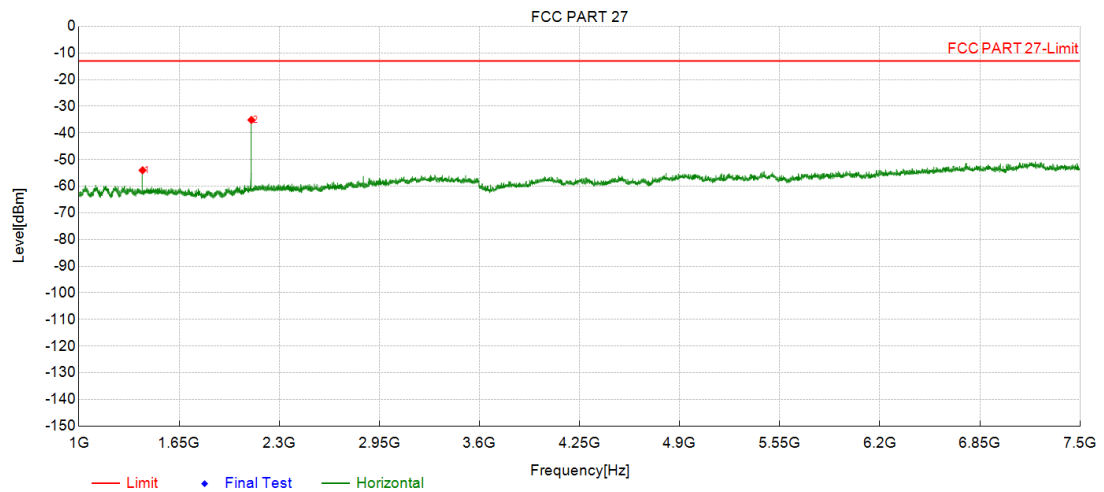


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23130
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1412.8826	-44.39	-54.00	-9.61	-13.00	41.00	Horizontal	PK	PASS
2	2119.4239	-27.65	-35.11	-7.46	-13.00	22.11	Horizontal	PK	PASS

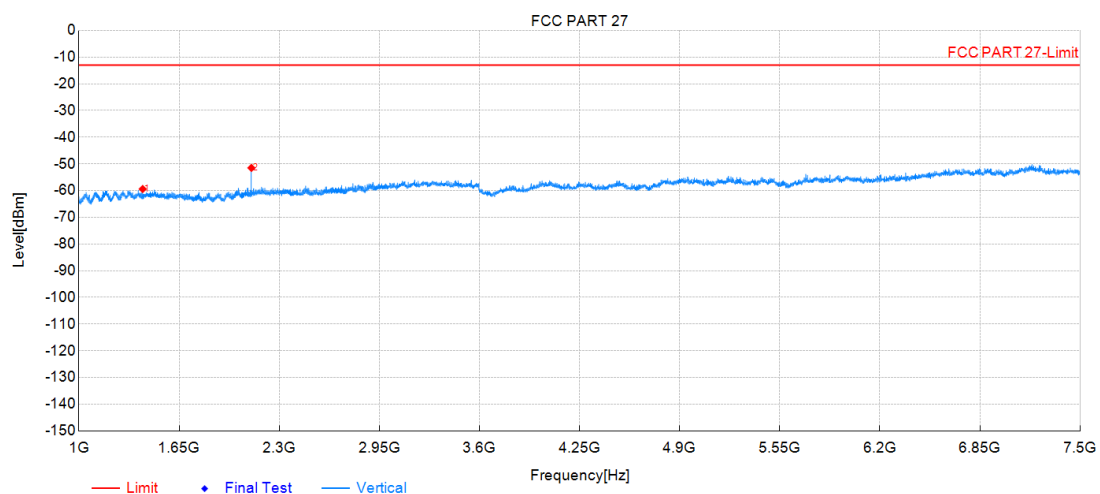


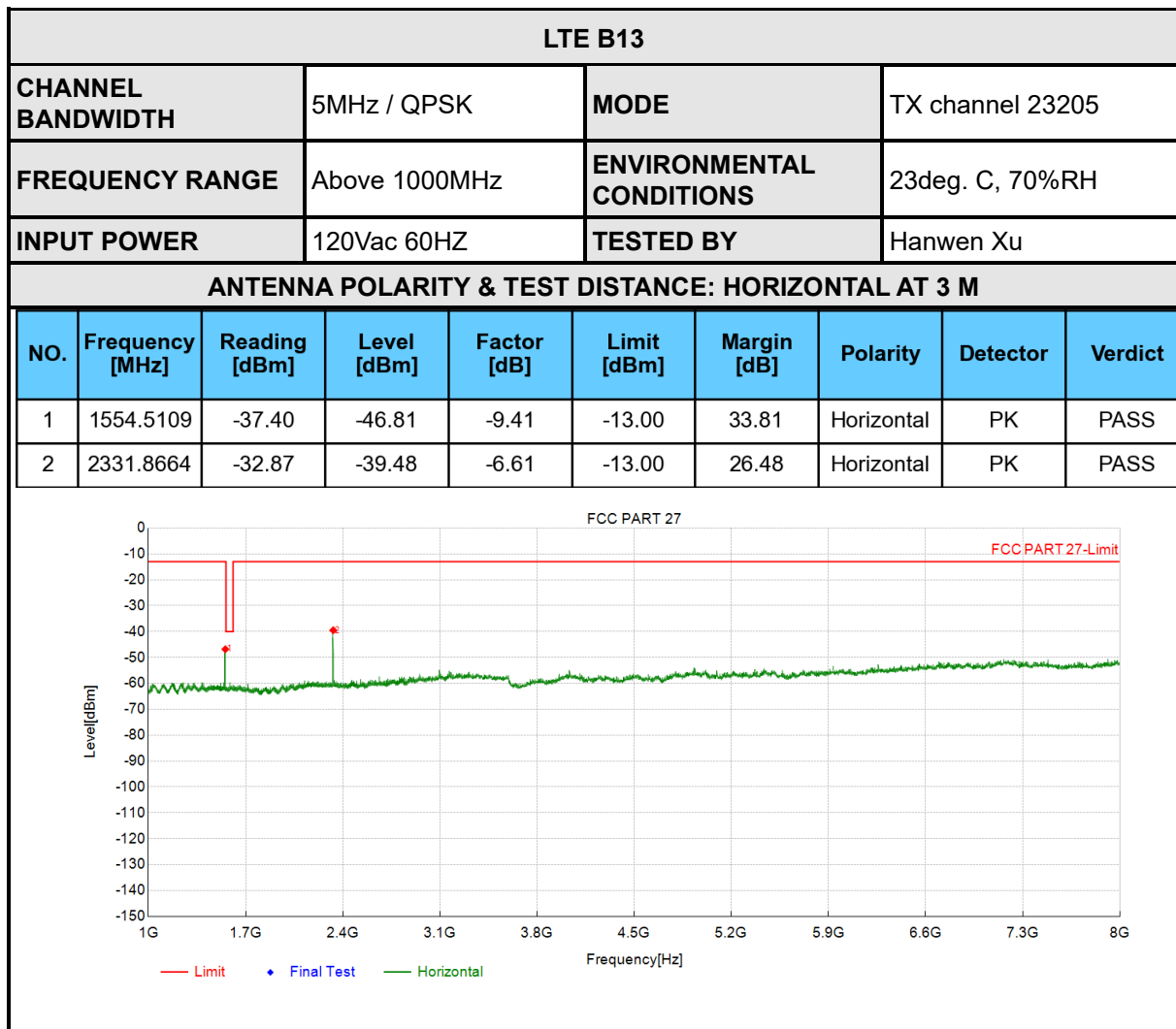


CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23130
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1413.6827	-50.27	-59.41	-9.14	-13.00	46.41	Vertical	PK	PASS
2	2119.4239	-44.15	-51.48	-7.33	-13.00	38.48	Vertical	PK	PASS



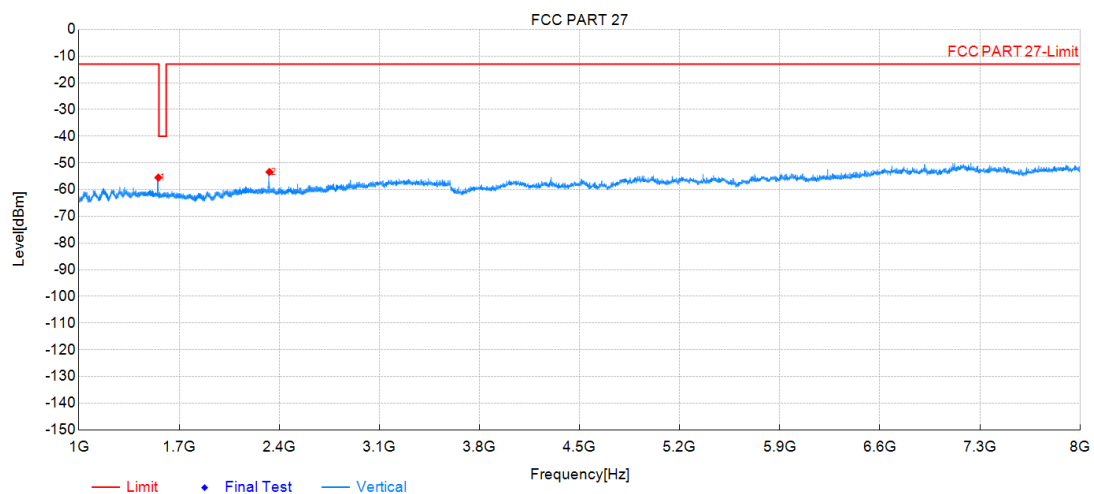




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23205
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1554.911	-46.09	-55.48	-9.39	-13.00	42.48	Vertical	PK	PASS
2	2331.8664	-46.92	-53.37	-6.45	-13.00	40.37	Vertical	PK	PASS



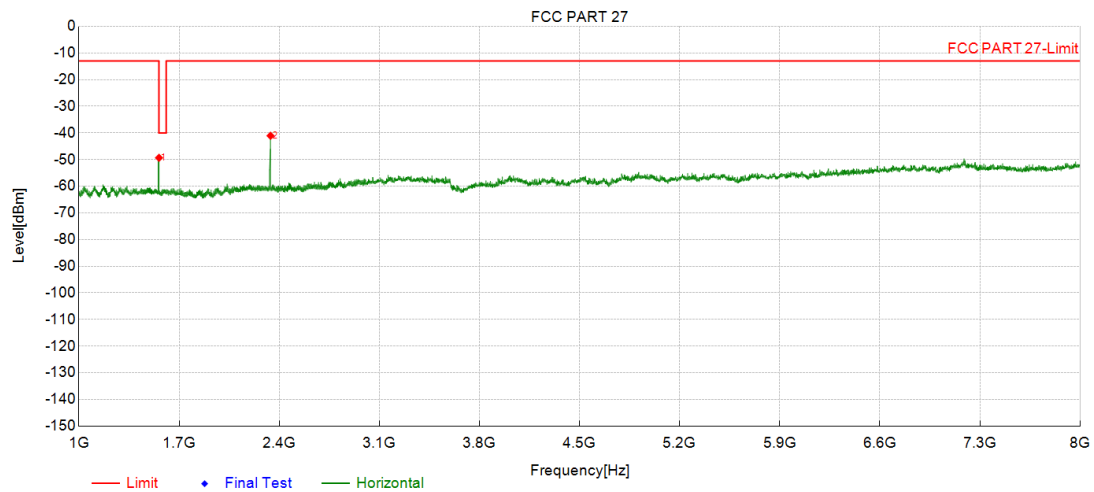


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23230
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1559.7119	-39.93	-49.33	-9.40	-40.00	9.33	Horizontal	PK	PASS
2	2339.4679	-34.45	-41.05	-6.60	-13.00	28.05	Horizontal	PK	PASS

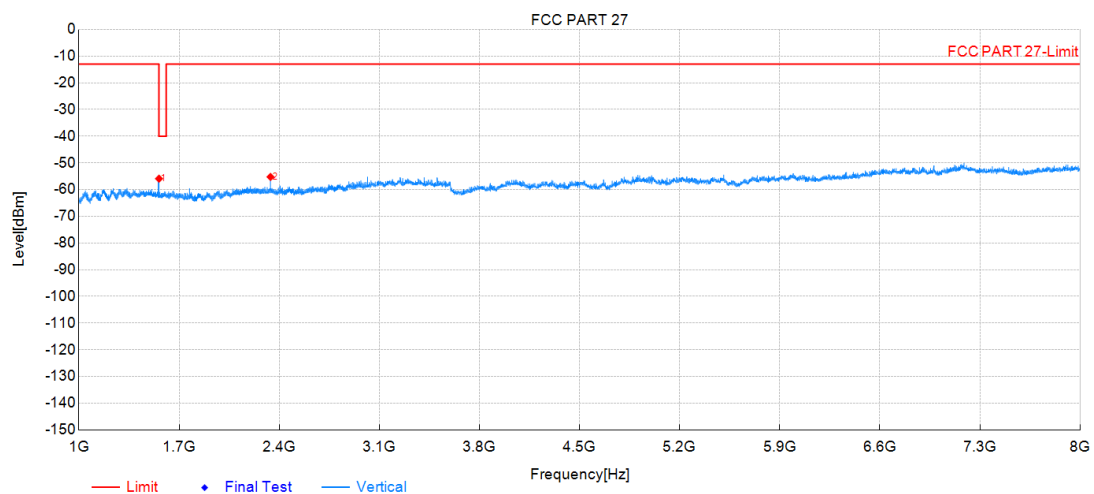




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23230
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1559.7119	-46.50	-55.89	-9.39	-40.00	15.89	Vertical	PK	PASS
2	2339.4679	-48.80	-55.24	-6.44	-13.00	42.24	Vertical	PK	PASS



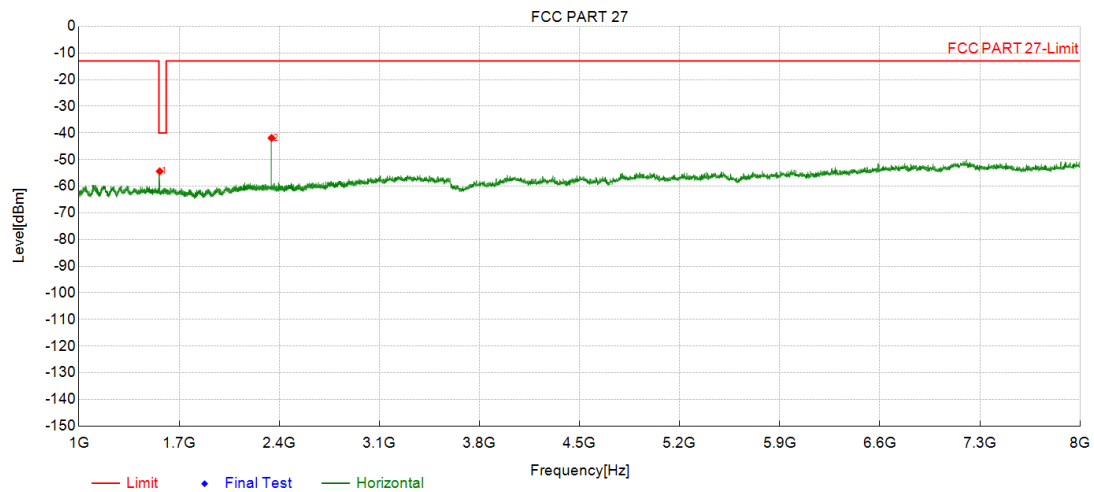


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23255
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1564.913	-45.02	-54.41	-9.39	-40.00	14.41	Horizontal	PK	PASS
2	2346.6693	-35.29	-41.87	-6.58	-13.00	28.87	Horizontal	PK	PASS

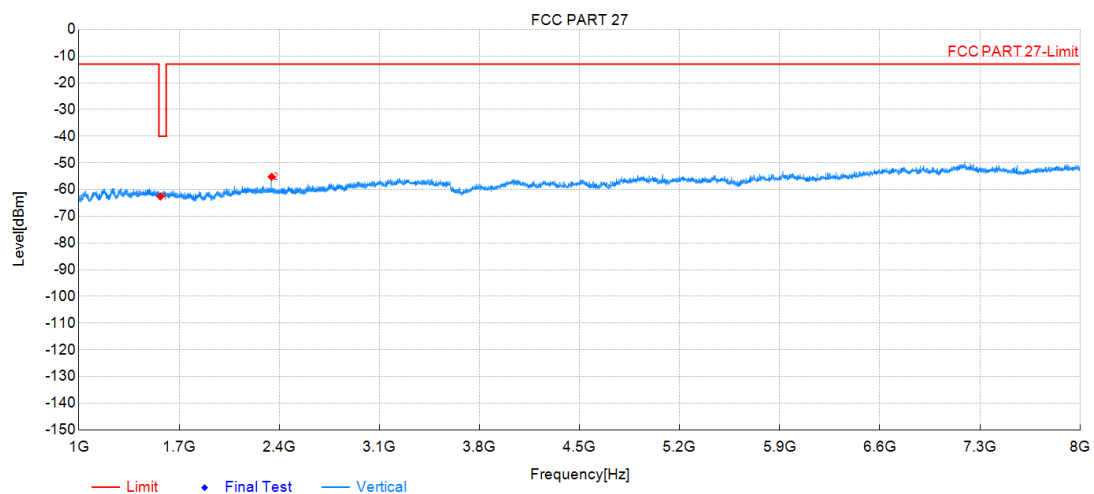




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23255
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1569.3139	-53.16	-62.57	-9.41	-40.00	22.57	Vertical	PK	PASS
2	2347.0694	-48.80	-55.22	-6.42	-13.00	42.22	Vertical	PK	PASS

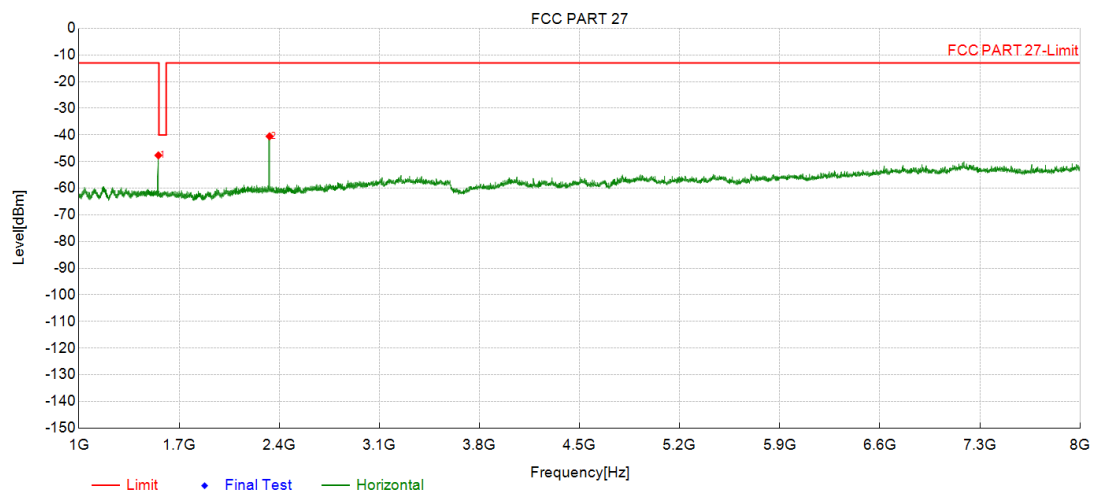




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23230
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1555.3111	-38.25	-47.66	-9.41	-13.00	34.66	Horizontal	PK	PASS
2	2332.6665	-33.90	-40.51	-6.61	-13.00	27.51	Horizontal	PK	PASS

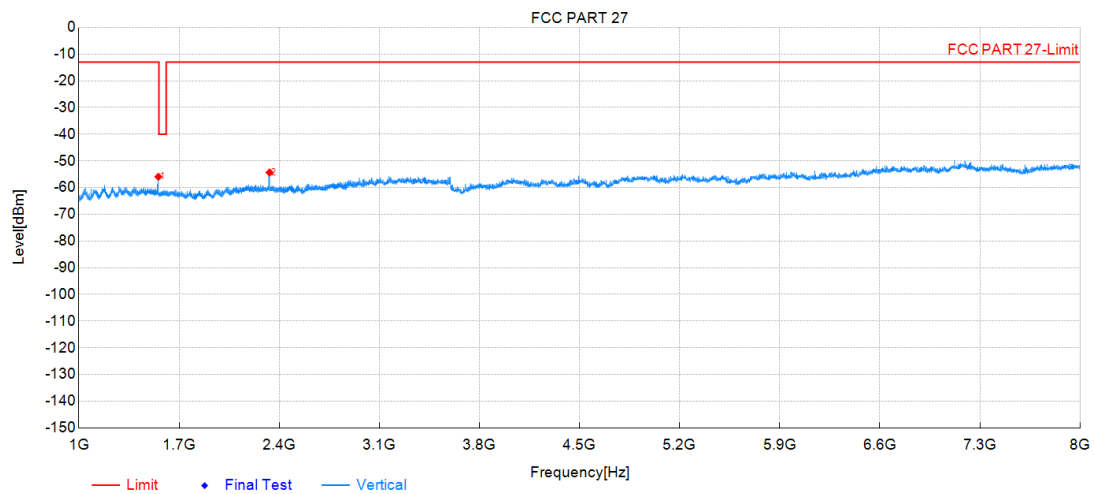


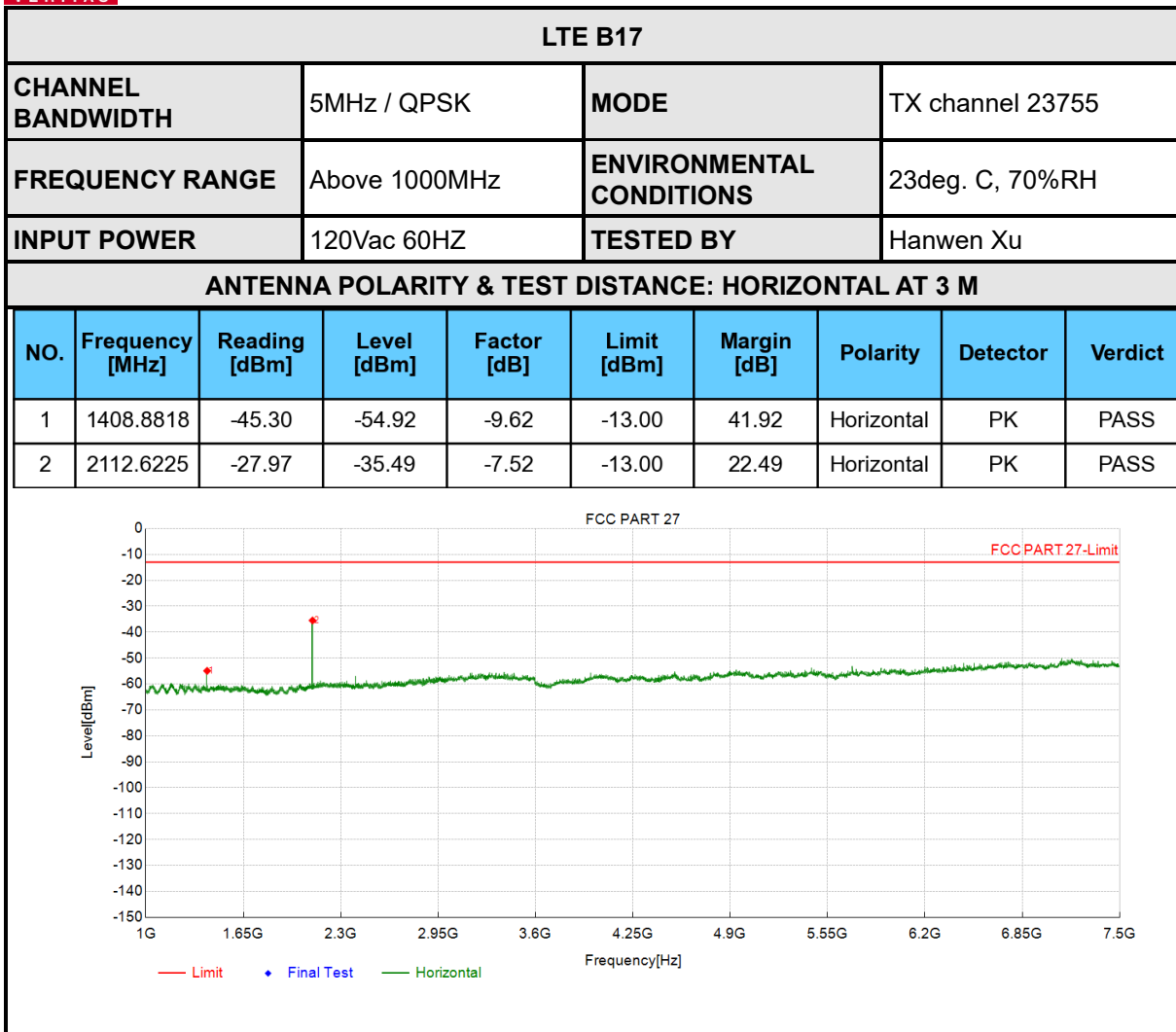


CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23230
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1555.3111	-46.55	-55.94	-9.39	-13.00	42.94	Vertical	PK	PASS
2	2332.6665	-47.89	-54.34	-6.45	-13.00	41.34	Vertical	PK	PASS



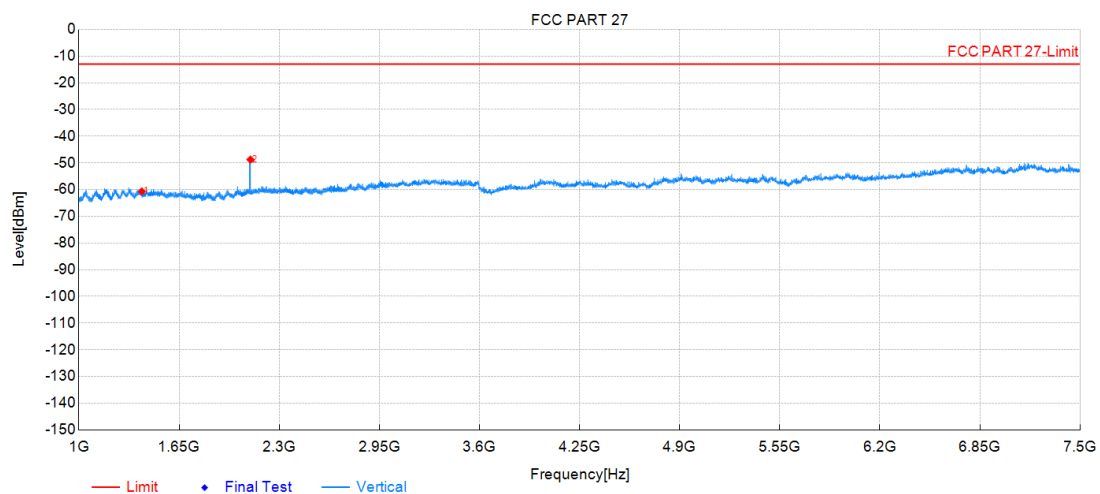




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23755
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1408.0816	-51.53	-60.66	-9.13	-13.00	47.66	Vertical	PK	PASS
2	2113.4227	-41.37	-48.75	-7.38	-13.00	35.75	Vertical	PK	PASS

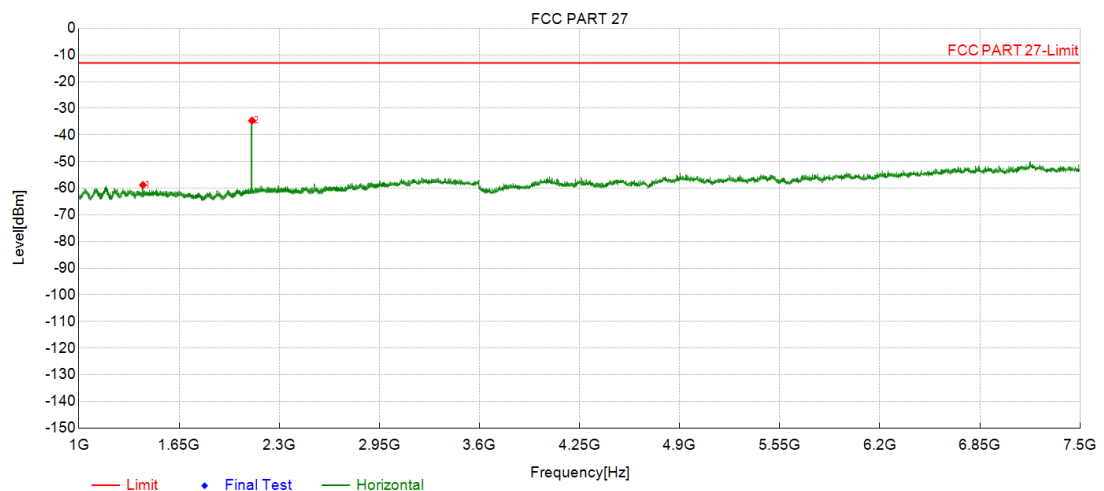




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23790
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1415.6831	-49.18	-58.79	-9.61	-13.00	45.79	Horizontal	PK	PASS
2	2123.4247	-27.18	-34.61	-7.43	-13.00	21.61	Horizontal	PK	PASS

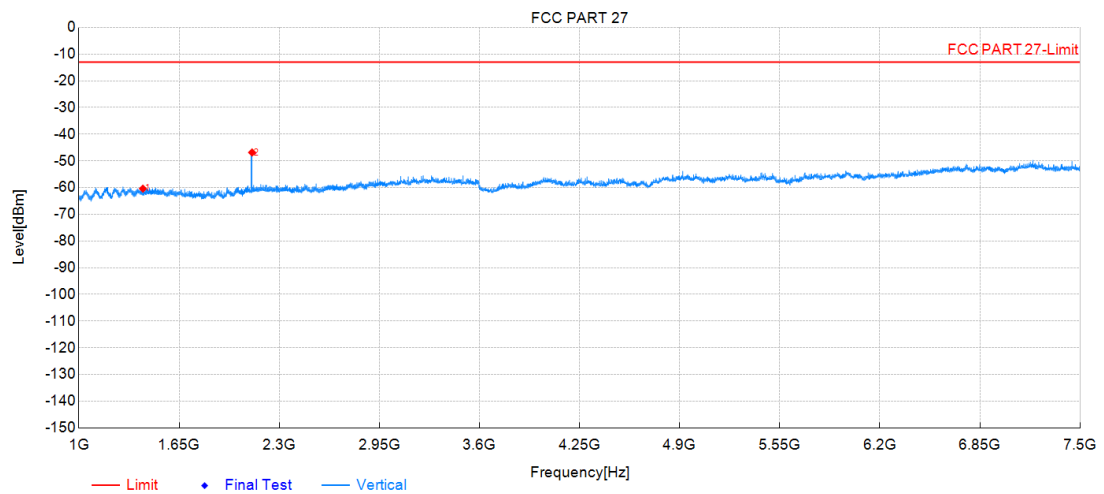




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23790
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1415.2831	-51.24	-60.39	-9.15	-13.00	47.39	Vertical	PK	PASS
2	2123.8248	-39.54	-46.83	-7.29	-13.00	33.83	Vertical	PK	PASS



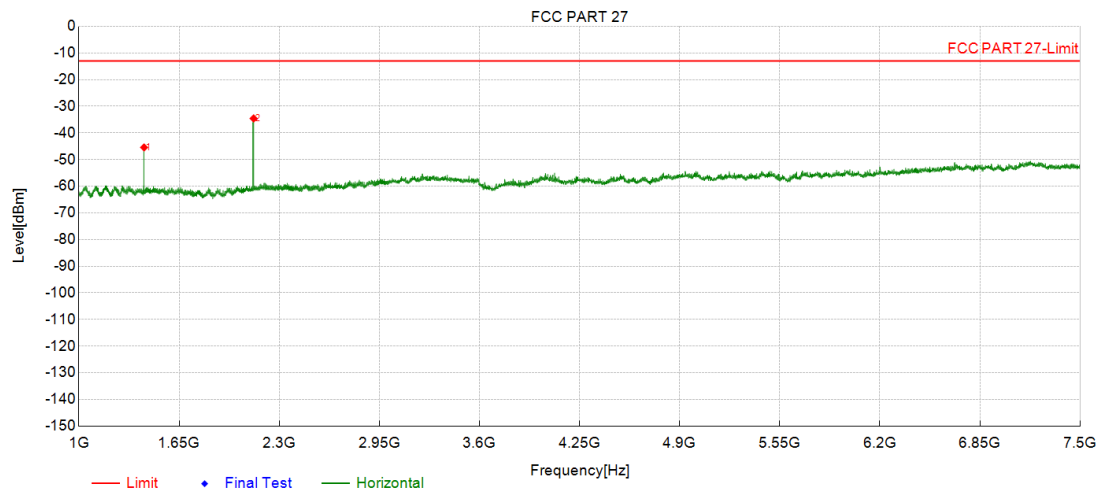


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23825
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1422.8846	-35.84	-45.44	-9.60	-13.00	32.44	Horizontal	PK	PASS
2	2133.8268	-27.21	-34.55	-7.34	-13.00	21.55	Horizontal	PK	PASS

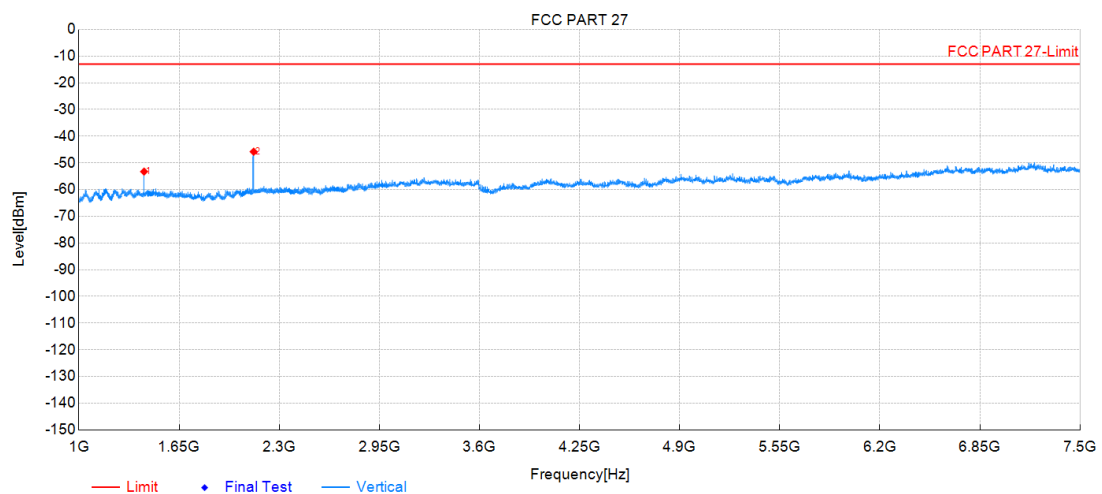




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 23825
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1422.8846	-44.08	-53.24	-9.16	-13.00	40.24	Vertical	PK	PASS
2	2134.2268	-38.58	-45.79	-7.21	-13.00	32.79	Vertical	PK	PASS

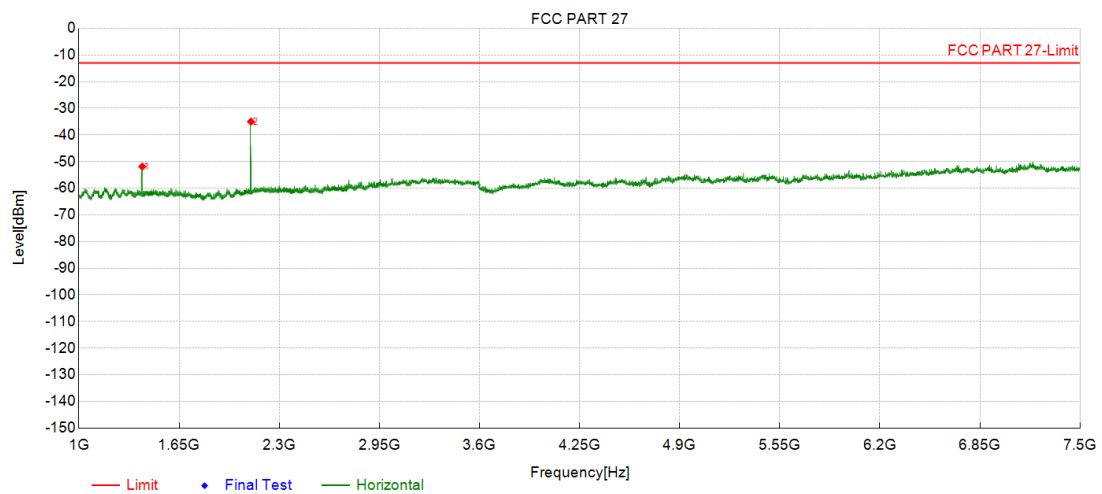




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23790
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1411.2823	-42.26	-51.87	-9.61	-13.00	38.87	Horizontal	PK	PASS
2	2116.6233	-27.52	-35.00	-7.48	-13.00	22.00	Horizontal	PK	PASS

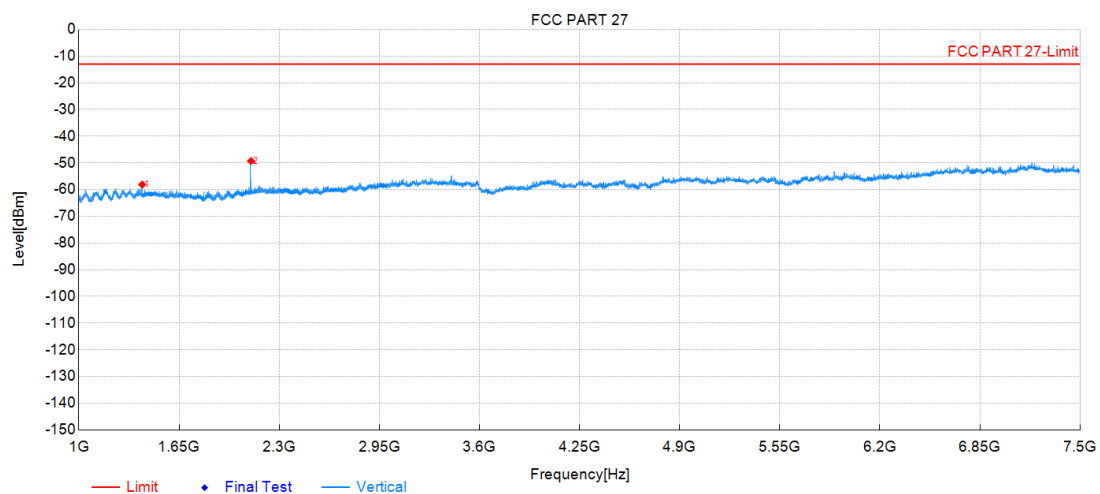


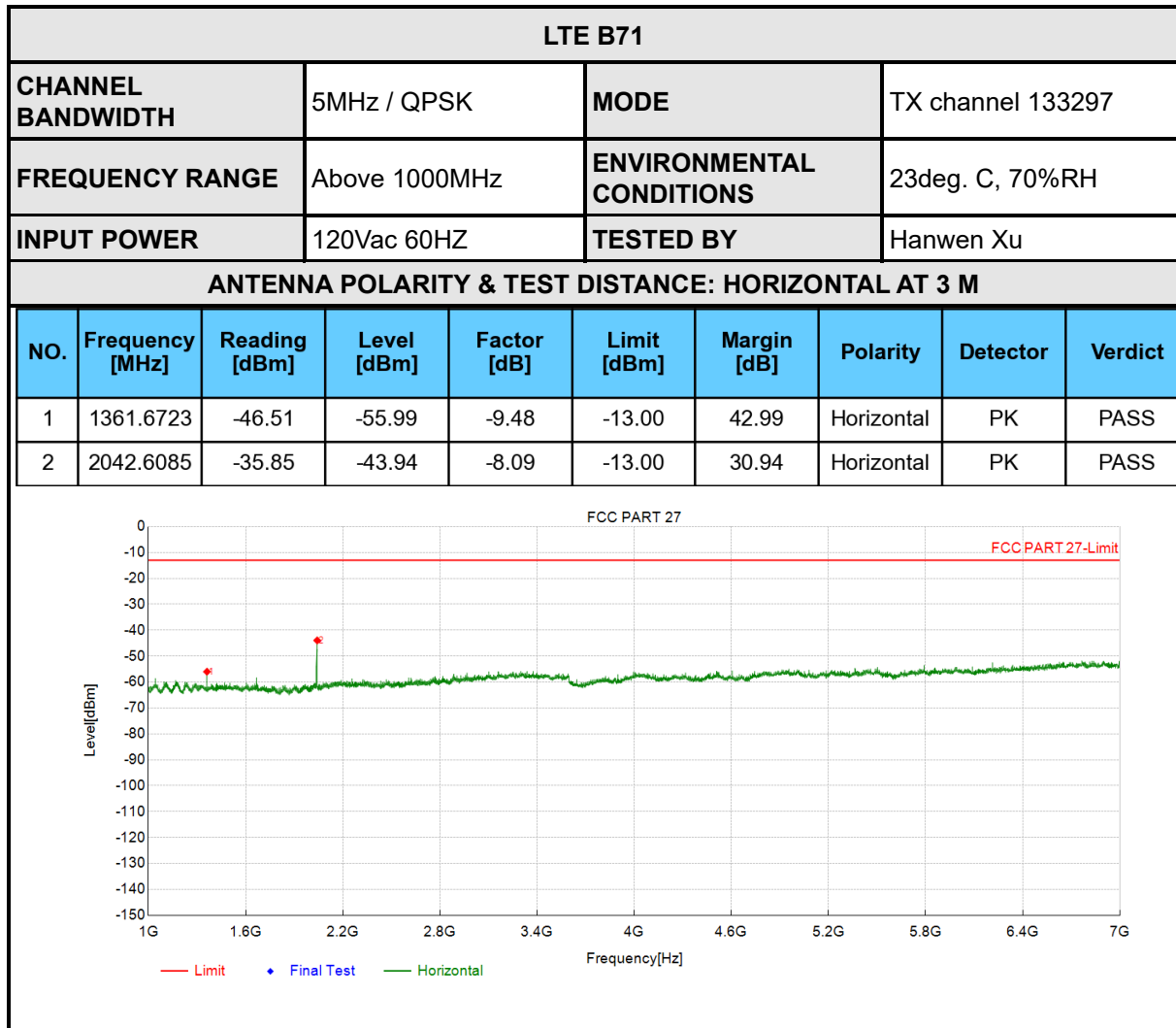


CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 23790
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1411.2823	-48.97	-58.11	-9.14	-13.00	45.11	Vertical	PK	PASS
2	2117.0234	-41.94	-49.29	-7.35	-13.00	36.29	Vertical	PK	PASS



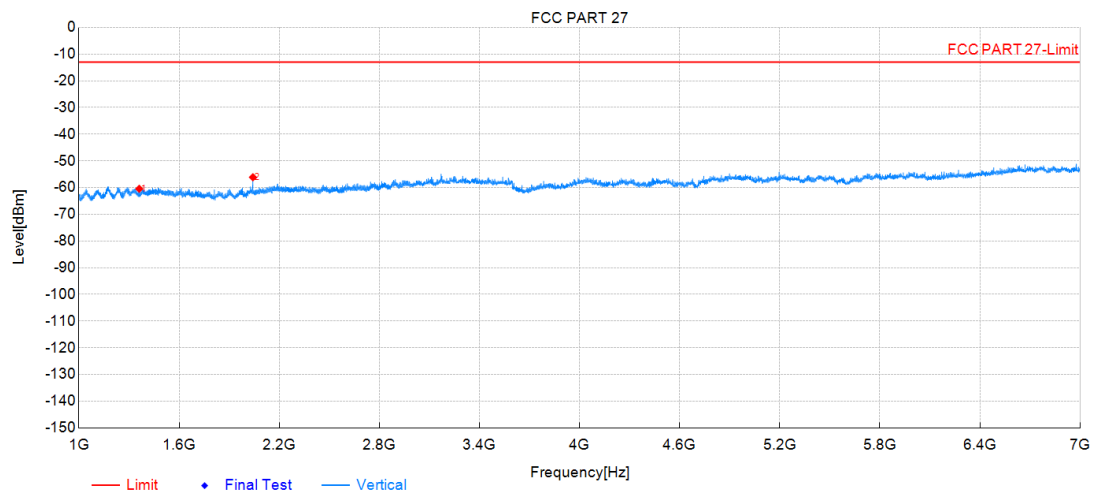




CHANNEL BANDWIDTH	5MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1361.2723	-51.38	-60.43	-9.05	-13.00	47.43	Vertical	PK	PASS
2	2042.6085	-48.16	-56.11	-7.95	-13.00	43.11	Vertical	PK	PASS

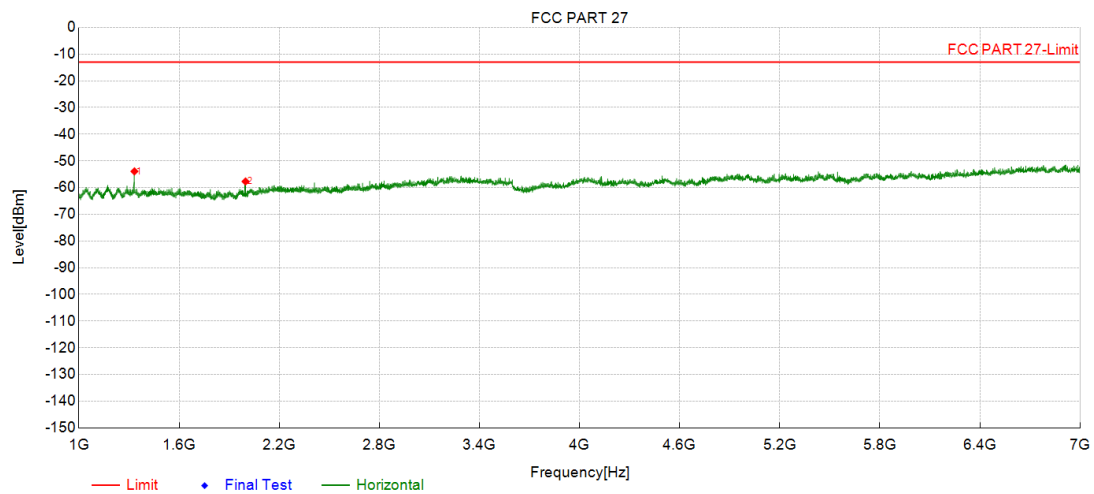




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133172
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1332.4665	-44.55	-53.91	-9.36	-13.00	40.91	Horizontal	PK	PASS
2	1998.1996	-49.24	-57.70	-8.46	-13.00	44.70	Horizontal	PK	PASS

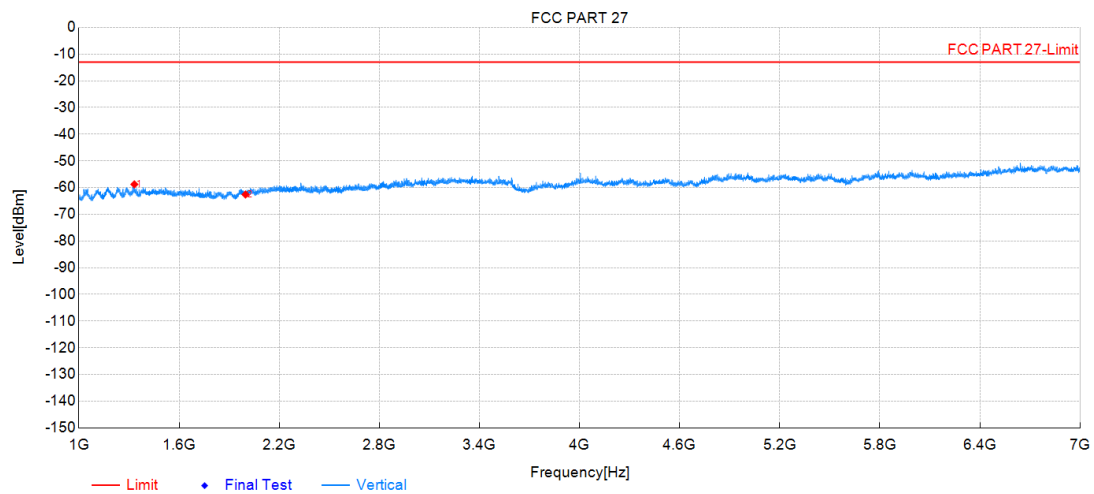




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133172
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1332.0664	-49.78	-58.77	-8.99	-13.00	45.77	Vertical	PK	PASS
2	1998.1996	-54.26	-62.57	-8.31	-13.00	49.57	Vertical	PK	PASS



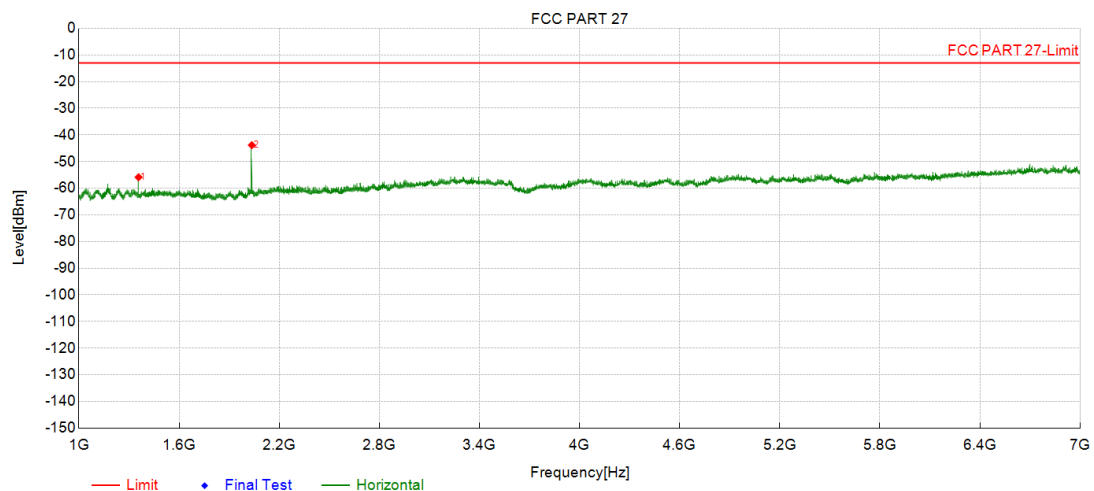


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1357.2715	-46.39	-55.86	-9.47	-13.00	42.86	Horizontal	PK	PASS
2	2035.8072	-35.66	-43.82	-8.16	-13.00	30.82	Horizontal	PK	PASS

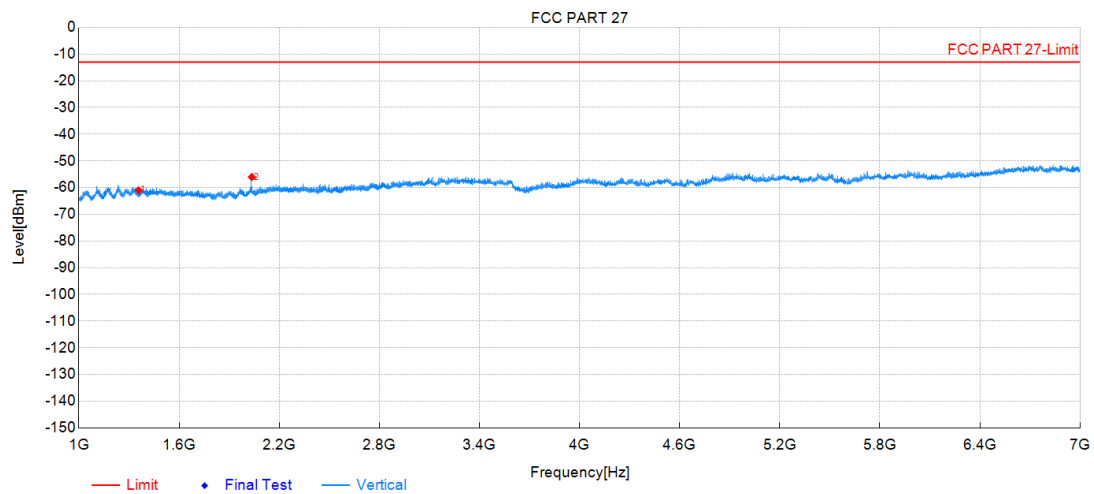




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1357.2715	-51.94	-60.99	-9.05	-13.00	47.99	Vertical	PK	PASS
2	2035.8072	-48.02	-56.03	-8.01	-13.00	43.03	Vertical	PK	PASS



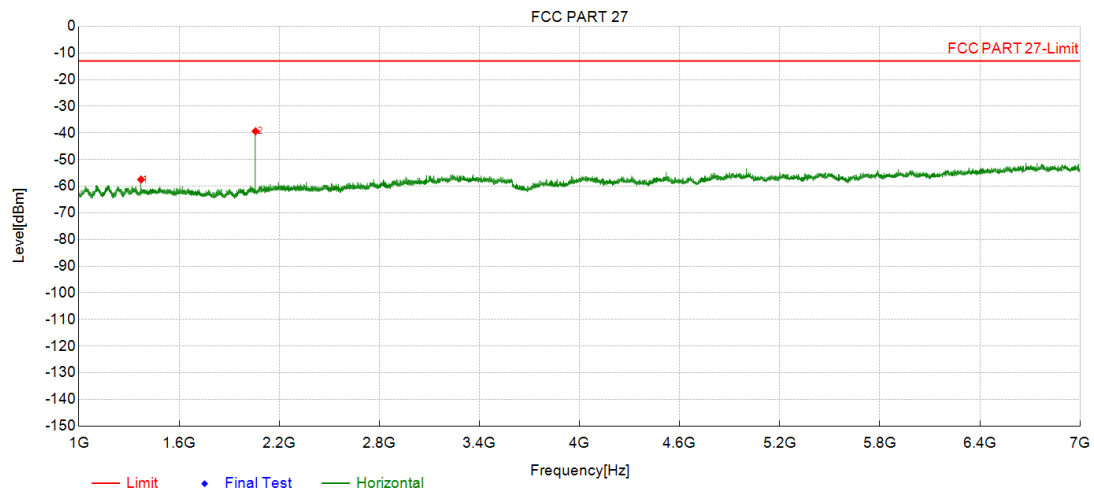


BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133422
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1372.4745	-47.95	-57.48	-9.53	-13.00	44.48	Horizontal	PK	PASS
2	2058.2116	-31.39	-39.36	-7.97	-13.00	26.36	Horizontal	PK	PASS

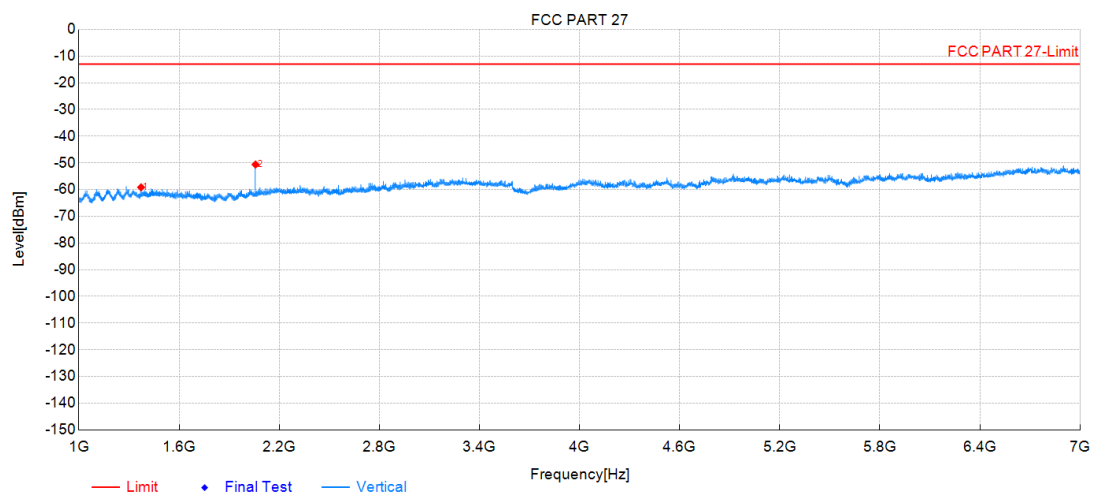




CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 133422
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1372.4745	-50.07	-59.14	-9.07	-13.00	46.14	Vertical	PK	PASS
2	2058.2116	-42.77	-50.60	-7.83	-13.00	37.60	Vertical	PK	PASS

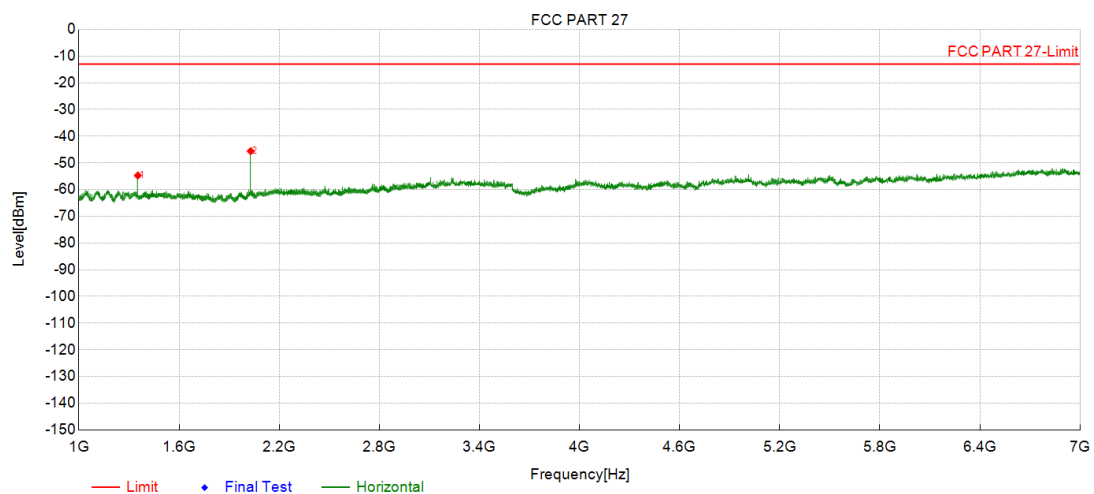




CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1352.8706	-45.26	-54.71	-9.45	-13.00	41.71	Horizontal	PK	PASS
2	2029.0058	-37.36	-45.57	-8.21	-13.00	32.57	Horizontal	PK	PASS

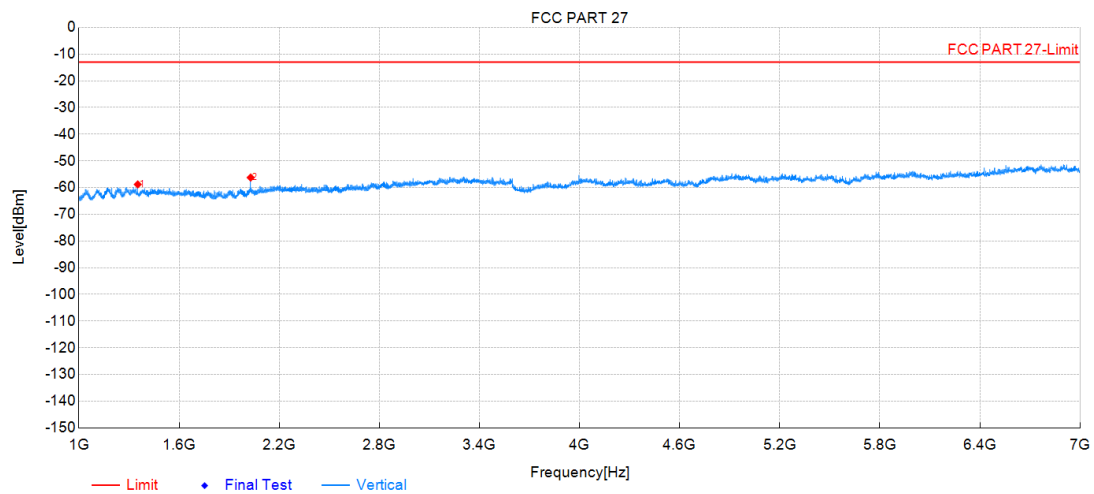




CHANNEL BANDWIDTH	15MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1352.4705	-49.75	-58.79	-9.04	-13.00	45.79	Vertical	PK	PASS
2	2029.0058	-48.15	-56.22	-8.07	-13.00	43.22	Vertical	PK	PASS

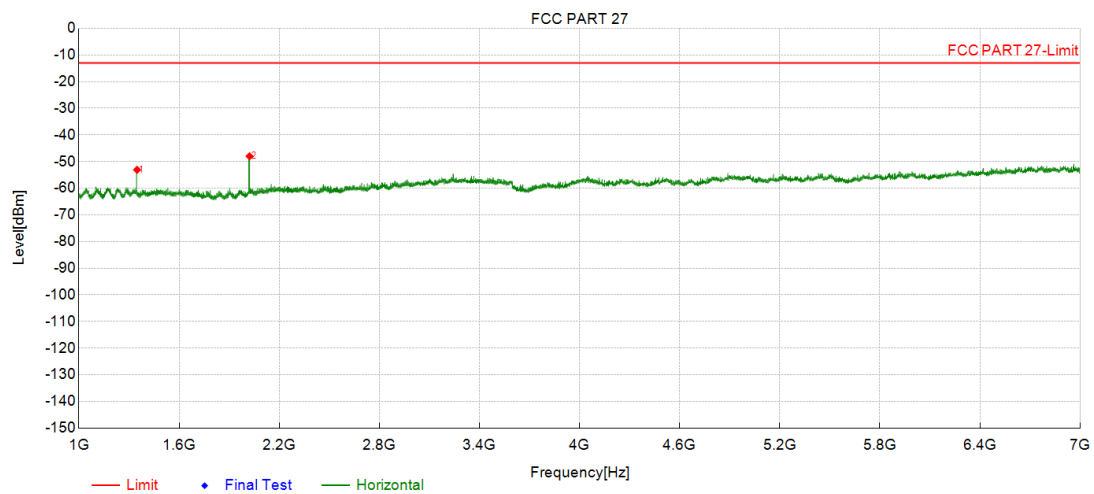




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1348.0696	-43.67	-53.09	-9.42	-13.00	40.09	Horizontal	PK	PASS
2	2022.2044	-39.72	-47.99	-8.27	-13.00	34.99	Horizontal	PK	PASS

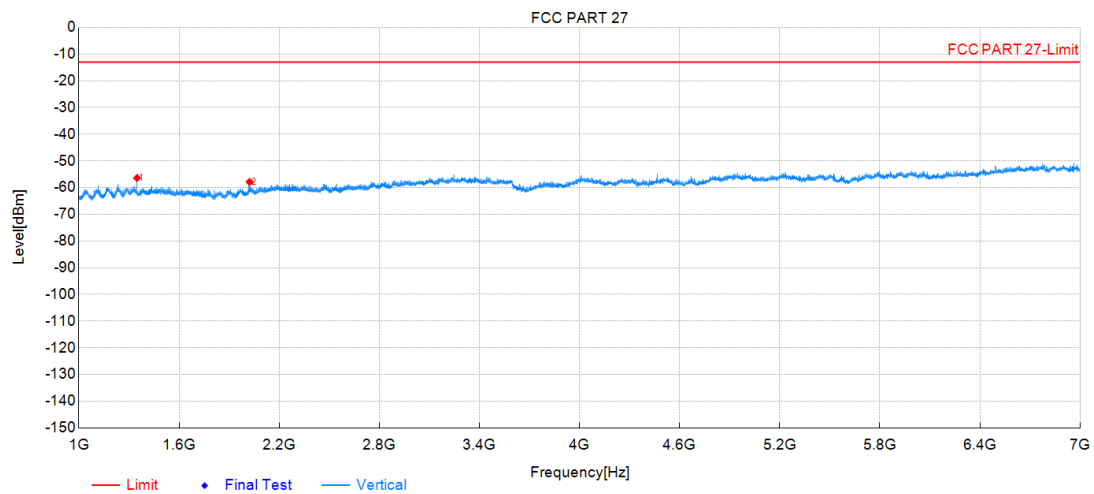




CHANNEL BANDWIDTH	20MHz / QPSK	MODE	TX channel 133297
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	1348.0696	-47.38	-56.40	-9.02	-13.00	43.40	Vertical	PK	PASS
2	2022.6045	-49.75	-57.87	-8.12	-13.00	44.87	Vertical	PK	PASS





BUREAU VERITAS Test Report No.: PSU-QBJ2512030110RF03

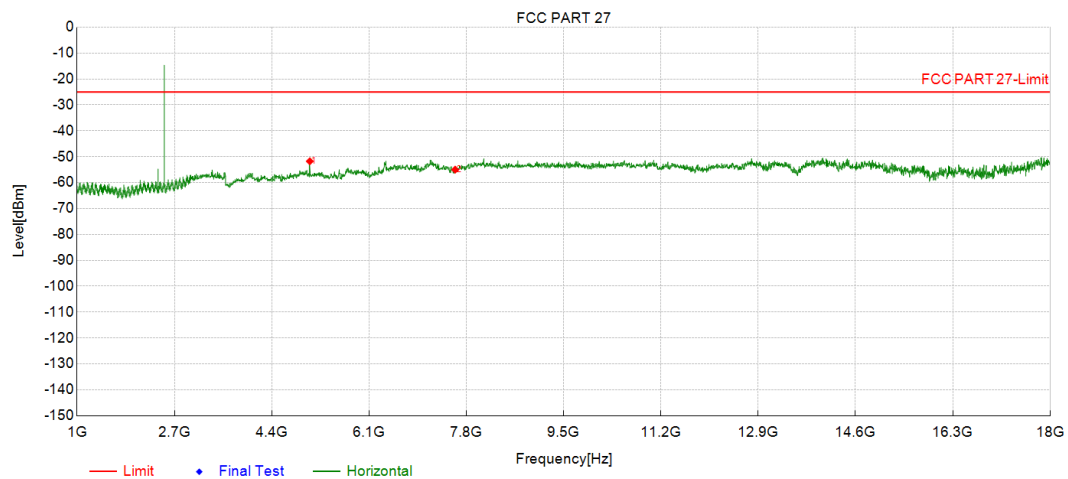
REDCAP MODE

NR BAND N7

N7			
CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 507000
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5065.8132	-55.55	-51.76	3.79	-25.00	26.76	Horizontal	PK	PASS
2	7605.5211	-63.66	-54.99	8.67	-25.00	29.99	Horizontal	PK	PASS

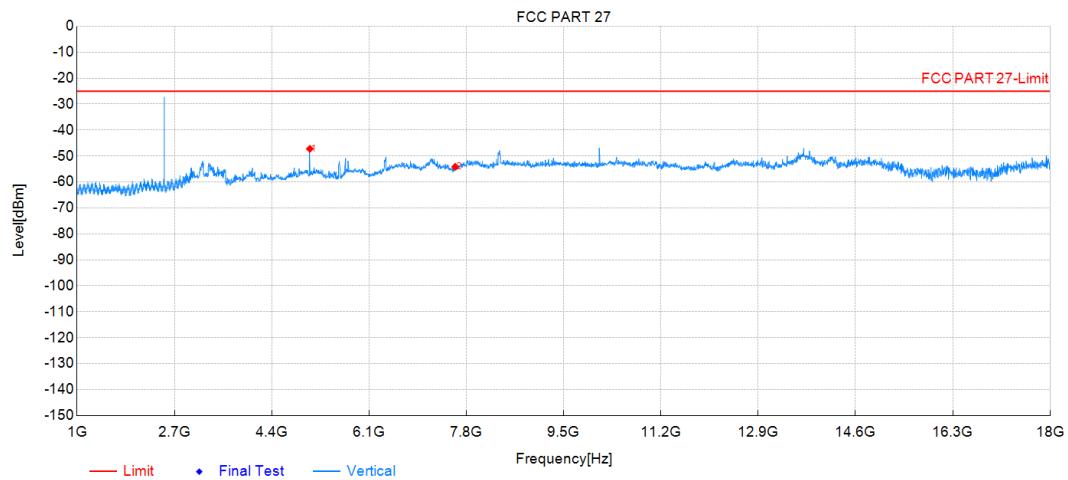




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 507000
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5065.8132	-51.18	-47.22	3.96	-25.00	22.22	Vertical	PK	PASS
2	7605.5211	-62.75	-54.15	8.60	-25.00	29.15	Vertical	PK	PASS





CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 507000
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	Frequency [MHz]	Reading [dBm]	Level [dBm]	Factor [dB]	Limit [dBm]	Margin [dB]	Polarity	Detector	Verdict
1	5061.2122	-54.33	-50.52	3.81	-25.00	25.52	Horizontal	PK	PASS
2	7605.5211	-63.16	-54.48	8.68	-25.00	29.48	Horizontal	PK	PASS

