

FCC TEST REPORT

(PART 22)

Applicant:	PepperlFuchs SE
Address:	Lilienthalstrasse 200, 68307, Mannheim, Germany

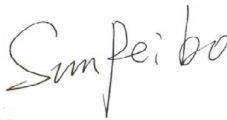
Manufacturer or Supplier:	PepperlFuchs SE
Address:	Lilienthalstrasse 200, 68307, Mannheim, Germany
Product:	Smart-Ex 203
Brand Name:	PEPPERL+FUCHS
Model Name:	Smart-Ex 203
FCC ID	2AXZAS203GR01
Date of tests	Nov. 22, 2024 ~ Jul. 31, 2025

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

☒ **FCC PART 22, Subpart H**
☒ **ANSI/TIA/EIA-603-D**
☒ **ANSI/TIA/EIA-603-E**

☒ **FCC Part 2**
☒ **ANSI C63.26-2015**

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

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
	
Date: Jul. 31, 2025	Date: Jul. 31, 2025

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.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSU2411180418RF02	Original release	Jul. 31, 2025



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	TEST TYPE	RESULT	Test lab*
§2.1046	Conducted Output Power	Compliance	A
§22.913 (a)(5)	Equivalent Isotropic Radiated Power	Compliance	A
§2.1055 §22.355	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§22.913 (d)	Peak to average ratio*	Compliance	A
§2.1051 §22.917(a)	Band Edge Measurements	Compliance	A
§2.1051 §22.917(a)	Conducted Spurious Emissions	Compliance	A
§2.1053 §22.917(a)	Radiated Spurious Emissions	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.

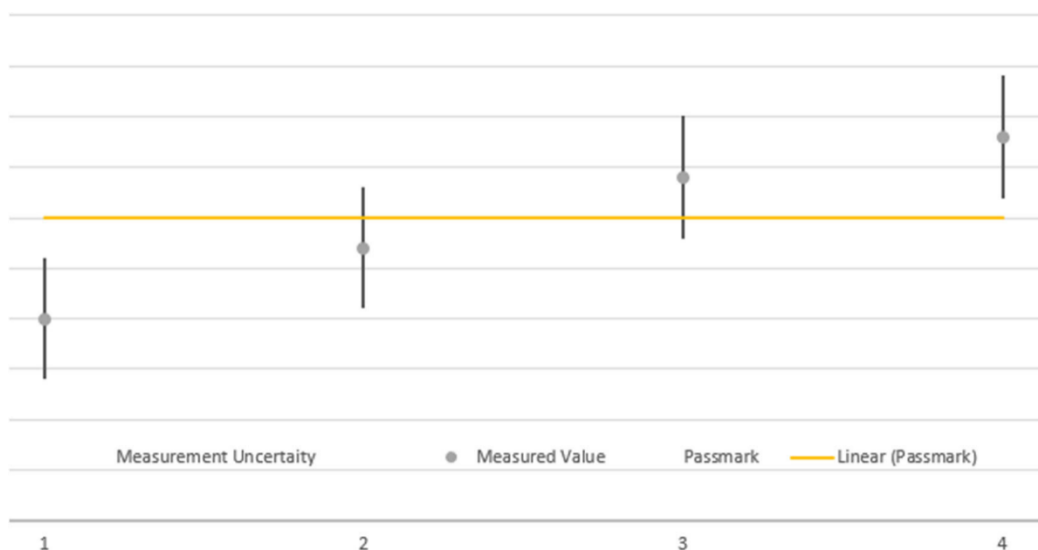


1.1 MEASUREMENT UNCERTAINTY

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
Maximum Peak Output Power	$\pm 2.06\text{dB}$
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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



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

#1

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Vector Signal Generator	R&S	SMBV100B	102176	Feb.15,24	Feb.14,26
Signal Generator	R&S	SMB100A	182185	Feb.15,24	Feb.14,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.24,24	Feb.23,26
EMI TEST Receiver	R&S	ESW44	101973	Feb.24,24	Feb.23,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.27,24	Feb.26,26
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.22,24	Feb.21,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.26,24	Jun.25,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Sep.30,24	Sep.29,26
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
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	Oct.25,24	Apr.24,25
CABLE	R&S	W13.02	N/A	Apr.24,25	Oct.23,25
CABLE	R&S	W12.14	N/A	Oct.25,24	Apr.24,25
CABLE	R&S	W12.14	N/A	Apr.24,25	Oct.23,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.25,24	Apr.24,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.24,25	Oct.23,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.25,24	Apr.24,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.24,25	Oct.23,25
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26

#2

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 19,24	Feb. 18,25
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 18,25	Feb. 17,26

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BUREAU VERITAS Test Report No.: PSU-QSU2411180418RF02

EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.13,24	May.12,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.12,25	May.11,26
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.02,24	Sep.01,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 04,24	Mar. 03,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 03,25	Mar. 02,26
Horn Antenna	ETS-LINDGREN	3117	00168692	Mar. 04,24	Mar. 03,25
Horn Antenna	ETS-LINDGREN	3117	00168692	Mar. 03,25	Mar. 02,26
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40- K-SG/QMS- 00361	15433	Aug. 22, 24	Aug. 21, 25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 13,24	Feb. 12,25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 12,25	Feb. 11,26
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.10,24	May.09,25
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May.09,25	May.08,26
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.10,24	May.09,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.09,25	May.08,26
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 19,24	Feb.18,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 18,25	Feb.17,26
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn- CT0001143- 1216	May. 18,23	May. 17,26
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 05,24	May. 04,25
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	May. 04,25	May. 03,26
Power Meter	Anritsu	ML2495A	1506002	Feb. 20,24	Feb. 19,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 19,25	Feb. 18,26
Power Sensor	Anritsu	MA2411B	1339352	May. 05,24	May. 04,25
Power Sensor	Anritsu	MA2411B	1339352	May. 04,25	May. 03,26
Temperature Chamber	ESPEC	SH-242	93000855	May. 10,24	May. 09,25
Temperature Chamber	ESPEC	SH-242	93000855	May. 09,25	May. 08,26
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 16,24	Feb. 15,25
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 15,25	Feb. 14,26
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.10,24	May.09,25
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.09,25	May.08,26
DC Source	Kikusui/JP	PMX18-5A	0000001	Aug. 22,24	Aug. 21,25

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.

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2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Smart-Ex 203	
BRAND NAME*	PEPPERL+FUCHS	
MODEL NAME*	Smart-Ex 203	
NOMINAL VOLTAGE*	3.8Vdc	
MODULATION TYPE	LTE	QPSK, 16QAM, 64QAM, 256QAM
FREQUENCY RANGE	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 15MHz)	831.5MHz ~ 841.5MHz
	LTE Band CA_5B (Channel Bandwidth: 3MHz+5MHz)	825.6MHz ~ 824.6MHz
	LTE Band CA_5B (Channel Bandwidth: 5MHz+3MHz)	826.5MHz ~ 843.5MHz
	LTE Band CA_5B (Channel Bandwidth: 5MHz+10MHz)	826.8MHz ~ 836.8MHz
	LTE Band CA_5B (Channel Bandwidth: 10MHz+5MHz)	829MHz ~ 839MHz
	LTE Band CA_5B (Channel Bandwidth: 10MHz+10MHz)	829MHz ~ 834.1MHz
	CA	CA UL&DL:CA_5B
MAX. ERP POWER	LTE Band 5 (Channel Bandwidth: 1.4MHz)	84.72mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	86.10mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	86.30mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	87.10mW



	LTE Band 26 (Channel Bandwidth: 1.4MHz)	78.89mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	79.25mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	78.52mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	78.89mW
	LTE Band 26 (Channel Bandwidth: 15MHz)	79.43mW
	LTE Band CA_5B (Channel Bandwidth:3MHz+5MHz)	88.92mW
	LTE Band CA_5B (Channel Bandwidth:5MHz+3MHz)	89.74mW
	LTE Band CA_5B (Channel Bandwidth:5MHz+10MHz)	88.51mW
	LTE Band CA_5B (Channel Bandwidth:10MHz+5MHz)	88.72mW
	LTE Band CA_5B (Channel Bandwidth:10MHz+10MHz)	90.57mW
EMISSION DESIGNATOR	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M10G7D
		16QAM: 1M10W7D
		64QAM: 1M10W7D
		256QAM:1M11W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M69W7D
		64QAM: 2M69W7D
		256QAM:2M69W7D
	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M53G7D
		16QAM: 4M52W7D
		64QAM: 4M52W7D
		256QAM:4M52W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 9M02G7D
		16QAM: 9M01W7D
		64QAM: 9M01W7D
		256QAM:8M99W7D
	LTE Band 26 (Channel Bandwidth: 15MHz)	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
		256QAM:13M5W7D
	LTE Band CA_5B (Channel Bandwidth: 3MHz+ 5MHz)	QPSK: 7M51G7D
		16QAM: 7M51W7D
	LTE Band CA_5B (Channel Bandwidth: 5MHz+ 3MHz)	QPSK: 7M51G7D
		16QAM: 7M51W7D
	LTE Band CA_5B (Channel Bandwidth: 5MHz+ 10MHz)	QPSK: 13M9G7D
		16QAM: 13M9W7D
	LTE Band CA_5B (Channel Bandwidth: 10MHz+ 5MHz)	QPSK: 13M9G7D
		16QAM: 13M9W7D
	LTE Band CA_5B (Channel Bandwidth:10MHz+10MHz)	QPSK: 18M9G7D
		16QAM: 18M8W7D
ANTENNA GAIN*	LTE B5	Ant 0: -2.16dBi
	LTE B26	Ant 0: -2.16dBi



	LTE CA_5B	Ant 0: -2.16dBi
ANTENNA TYPE*	Main Ant: PIFA Antenna Div Ant: Coupling type (LDS)	
HW VERSION*	DVT2	
SW VERSION*	S203.14.00.00.056.4_USERDEBUG	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	USB cable: non-shielded cable, with w/o ferrite core, 1.2 meter	
EXTREME TEMPERATURE*	Tmin=-20 °C Tmax=+55 °C	
• EXTREME VOLTAGE*	Vmin= 3.4V Vmax= 4.35V	

NOTE:

- *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.
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

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

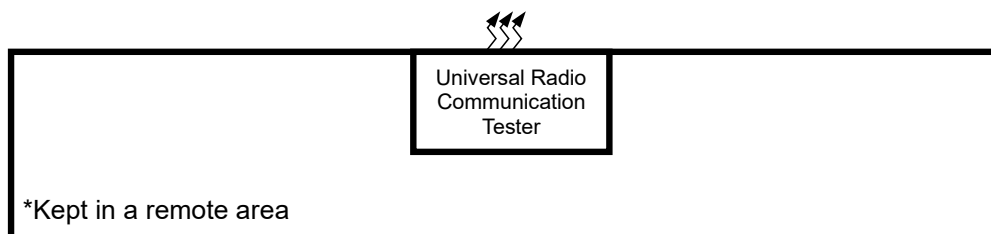
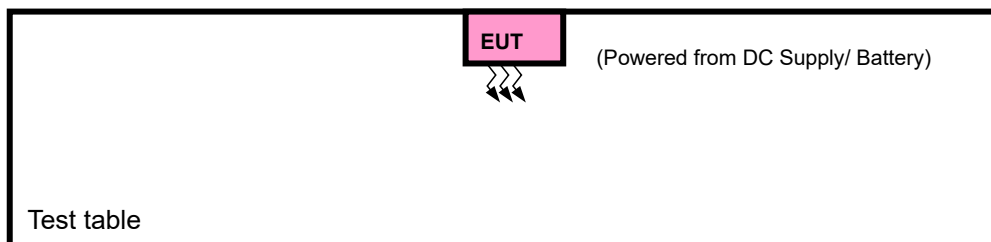
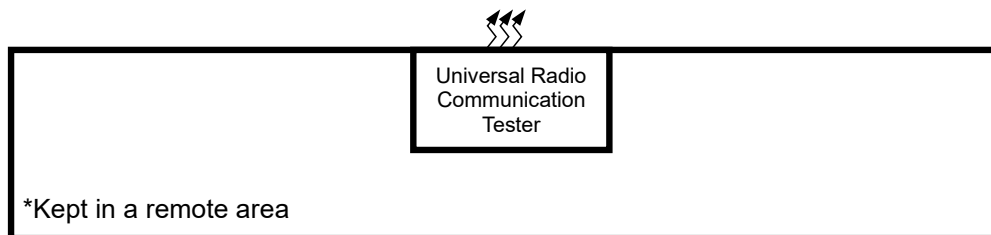
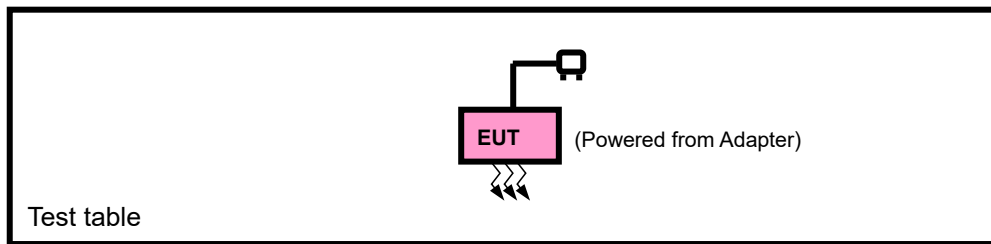
5. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter	N/A	Shenzhen ABP Technology Co., Ltd.	NFC05B5403C	I/P: 100-240Vac, 0.5A, O/P: 5.4Vdc, 3A, 16.2W
Battery	Pepper+Fuchs	Shenzhen Cholipower Technology Co., Ltd.	Ex-BP S203	Capacity: 3.8Vdc, 4500mAh
USB Cable	Delock	TRAGANT Handels- und Beteiligungs GmbH	35156	Signal Line, 1.2meter



2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION



2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	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	USB Line: Unshielded, Detachable, 1.2m;

2.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with LTE link
B	EUT + DC Supply/ Battery with LTE link

LTE BAND 5 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM, 64QAM, 256QAM	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 5 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same output power and supported bandwidths, So the test data please refer to LTE Band 26



LTE BAND 26 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	26865 to 26965	26865, 26965	15MHz	QPSK	75 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM,256QAM	6 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM,256QAM	15 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM,256QAM	25 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM,256QAM	50 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM,256QAM	75 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 6 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 15 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 75 RB / 0 RB offset
A	BAND EDGE	26797 to 27033	26797	1.4 MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 6 RB / 0 RB offset
						1 RB / 5 RB offset 6 RB / 0 RB offset
		26797 to 27033	27033	1.4 MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 5 RB offset 6 RB / 0 RB offset
						1 RB / 0 RB offset 15 RB / 0 RB offset
		26805 to 27025	26805	3 MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 15 RB / 0 RB offset
						1 RB / 14 RB offset 15 RB / 0 RB offset
		26805 to 27025	27025	3 MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
						1 RB / 0 RB offset 25 RB / 0 RB offset
		26815 to 27015	26815	5MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
						1 RB / 24 RB offset 25 RB / 0 RB offset
		26815 to 27015	27015	5MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 24 RB offset 25 RB / 0 RB offset
						1 RB / 24 RB offset 25 RB / 0 RB offset



		26840 to 26990	26840	10MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
		26840 to 26990	26990	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 49 RB offset 50 RB / 0 RB offset
		26865 to 26965	26865	15MHz	QPSK,16QAM,64QAM,256QAM QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset 75 RB / 0 RB offset
		26865 to 26965	26965	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 74 RB offset 75 RB / 0 RB offset
	A	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
	A	26797 to 27033	26915	1.4MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26805 to 27025	26915	3MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26815 to 27015	26915	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26840 to 26990	26915	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB offset

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



LTE BAND CA_5B MODE								
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	20416 to 20586	20455 to 20625	Low, Middle, High	3MHz+5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 14RB Offset	1RB/ 0RB Offset
		20425 to 20595	20464 to 20634	Low, Middle, High	5MHz+3MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20428 to 20528	20500 to 20600	Low, Middle, High	5MHz+10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20450 to 20550	20522 to 20622	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		20450 to 20501	20549 to 20600	Low, Middle, High	10MHz +10MHz	QPSK, 16QAM, 64QAM, 256QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	20416 to 20586	20455 to 20625	Low, Middle, High	3MHz+5MHz	QPSK, 16QAM	1RB/ 14RB Offset	1RB/ 0RB Offset
		20425 to 20595	20464 to 20634	Low, Middle, High	5MHz+3MHz	QPSK, 16QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20428 to 20528	20500 to 20600	Low, Middle, High	5MHz+10MHz	QPSK, 16QAM	1RB/ 24RB Offset	1RB/ 0RB Offset
		20450 to 20550	20522 to 20622	Low, Middle, High	10MHz+5MHz	QPSK, 16QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		20450 to 20501	20549 to 20600	Low, Middle, High	10MHz +10MHz	QPSK, 16QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
A	BAND EDGE	20450 to 20501	20549 to 20600	Low	10MHz +10MHz	QPSK, 16QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
							1RB/ 74RB Offset	1RB/ 0RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
				High	10MHz +10MHz		1RB/ 49RB Offset	1RB/ 0RB Offset
							1RB/ 74RB Offset	1RB/ 0RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
A	CONDUCTED EMISSION	20450 to 20501	20549 to 20600	Low, Middle, High	10MHz +10MHz	QPSK, 16QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	20450 to 20501	20549 to 20600	Low, Middle, High	10MHz +10MHz	QPSK	1RB/ 49RB Offset	1RB/ 0RB Offset

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



TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.4/3.8/4,35V By Battery	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5.4V By Adapter	Hanwen Xu



2.5 EUT OPERATING CONDITIONS

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

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

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

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

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



3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm):

LTE Band 5(Ant 0)						
Band/BW	Modulation	RB Size	RB offset	Low CH18625	Mid CH18900	High CH19175
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz
5/ 1.4	QPSK	1	0	23.18	23.31	23.55
		1	2	23.30	23.44	23.59
		1	5	23.42	23.53	23.58
		3	0	22.29	22.36	22.62
		3	1	22.48	22.47	22.57
		3	3	22.54	22.63	22.60
		6	0	22.29	22.42	22.59
	16QAM	1	0	22.47	22.50	22.82
		1	2	22.31	22.77	22.82
		1	5	22.50	22.83	22.79
		3	0	21.24	21.34	21.66
		3	1	21.25	21.51	21.64
		3	3	21.31	21.56	21.81
		6	0	21.27	21.55	21.64
	64QAM	1	0	21.25	21.41	21.74
		1	2	21.30	21.70	21.80
		1	5	21.52	21.71	21.75
		3	0	20.10	20.45	20.70
		3	1	20.31	20.61	20.74
		3	3	20.31	20.63	20.76
		6	0	20.28	20.57	20.62
	256QAM	1	0	18.19	18.50	18.67
		1	2	18.46	18.71	18.71
		1	5	18.59	18.70	18.76
		3	0	18.15	18.43	18.69
		3	1	18.29	18.69	18.77
		3	3	18.39	18.63	18.81
		6	0	18.30	18.57	18.74
Band/BW	Modulation	RB Size	RB offset	Low CH20415	Mid CH20525	High CH20635
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz



5/ 3	QPSK	1	0	23.25	23.32	23.43
		1	7	23.29	23.49	23.56
		1	14	23.42	23.60	23.66
		8	0	22.24	22.35	22.60
		8	3	22.45	22.59	22.63
		8	7	22.50	22.57	22.64
		15	0	22.36	22.46	22.56
	16QAM	1	0	22.48	22.52	22.82
		1	7	22.43	22.68	22.81
		1	14	22.44	22.81	22.78
		8	0	21.21	21.40	21.66
		8	3	21.29	21.48	21.60
		8	7	21.26	21.50	21.77
		15	0	21.18	21.53	21.62
	64QAM	1	0	21.33	21.40	21.70
		1	7	21.39	21.63	21.88
		1	14	21.44	21.68	21.68
		8	0	20.11	20.50	20.63
		8	3	20.23	20.69	20.70
		8	7	20.28	20.55	20.80
		15	0	20.20	20.49	20.69
	256QAM	1	0	18.22	18.60	18.65
		1	7	18.47	18.69	18.72
		1	14	18.63	18.74	18.69
		8	0	18.21	18.55	18.58
		8	3	18.32	18.65	18.71
		8	7	18.40	18.73	18.75
		15	0	18.23	18.57	18.71

LTE Band 5(Ant 0)

Band/BW	Modulation	RB Size	RB offset	Low CH18650	Mid CH18900	High CH19150
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905MHz
5/ 5	QPSK	1	0	23.16	23.41	23.54
		1	12	23.34	23.43	23.67
		1	24	23.38	23.51	23.62
		12	0	22.22	22.35	22.54
		12	6	22.38	22.50	22.52
		12	13	22.44	22.58	22.65
		25	0	22.31	22.53	22.59
		25	0	22.31	22.53	22.59
	16QAM	1	0	22.42	22.45	22.79
		1	12	22.42	22.72	22.77
		1	24	22.49	22.75	22.90
		12	0	21.15	21.39	21.64
		12	6	21.29	21.50	21.68
		12	13	21.25	21.50	21.72
		25	0	21.19	21.49	21.71
		25	0	21.19	21.49	21.71
	64QAM	1	0	21.24	21.44	21.77
		1	12	21.40	21.72	21.78
		1	24	21.44	21.71	21.70
		12	0	20.11	20.48	20.67



		12	6	20.33	20.67	20.76	
		12	13	20.33	20.56	20.79	
		25	0	20.18	20.61	20.58	
	256QAM	1	0	18.17	18.60	18.62	
		1	12	18.40	18.79	18.67	
		1	24	18.57	18.82	18.71	
		12	0	18.21	18.43	18.64	
		12	6	18.31	18.71	18.68	
		12	13	18.28	18.65	18.74	
		25	0	18.20	18.67	18.73	
Band/BW	Modulation	RB Size	RB offset	Low CH20425	Mid CH20525	High CH20625	
				Frequency 826.5 MHz	Frequency 836.5 MHz	Frequency 846.5 MHz	
5/ 10	QPSK	1	0	23.31	23.42	23.56	
		1	24	23.38	23.58	23.68	
		1	49	23.43	23.61	23.71	
		25	0	22.37	22.45	22.63	
		25	12	22.52	22.61	22.66	
		25	25	22.59	22.70	22.75	
		50	0	22.44	22.55	22.65	
	16QAM	1	0	22.51	22.56	22.84	
		1	24	22.45	22.78	22.89	
		1	49	22.57	22.86	22.93	
		25	0	21.25	21.46	21.78	
		25	12	21.34	21.59	21.73	
		25	25	21.39	21.61	21.83	
		50	0	21.32	21.57	21.74	
	64QAM	1	0	21.39	21.55	21.85	
		1	24	21.43	21.73	21.89	
		1	49	21.53	21.80	21.82	
		25	0	20.24	20.58	20.75	
		25	12	20.36	20.73	20.82	
		25	25	20.40	20.70	20.88	
		50	0	20.33	20.63	20.72	
	256QAM	1	0	18.31	18.62	18.71	
		1	24	18.49	18.81	18.77	
		1	49	18.65	18.84	18.82	
		25	0	18.22	18.58	18.73	
		25	12	18.39	18.77	18.82	
		25	25	18.42	18.75	18.84	
		50	0	18.32	18.69	18.81	
	LTE BAND 26						
	Band/BW	Modulation	RB Size	RB offset	Low CH18615	Mid CH18900	High CH19185
					Frequency 1851.5 MHz	Frequency 1880 MHz	Frequency 1908.5 MHz
	26/ 1.4	QPSK	1	0	22.84	22.88	22.99
1			2	23.00	23.06	23.21	
1			5	23.07	23.19	23.28	
3			0	21.86	22.03	22.21	
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		



		3	1	22.03	22.13	22.35
		3	3	22.09	22.29	22.36
		6	0	22.03	22.27	22.38
	16QAM	1	0	22.07	22.16	22.25
		1	2	22.21	22.24	22.41
		1	5	22.15	22.28	22.54
		3	0	21.01	21.04	21.18
		3	1	21.13	21.06	21.27
		3	3	21.16	21.22	21.40
		6	0	21.16	21.03	21.24
		1	0	21.06	21.10	21.15
	64QAM	1	2	21.01	21.15	21.37
		1	5	21.15	21.23	21.35
		3	0	20.03	20.00	20.25
		3	1	20.06	20.21	20.27
		3	3	20.13	20.32	20.44
		6	0	20.06	20.16	20.28
		1	0	18.04	18.03	18.07
		1	2	18.09	18.22	18.27
	256QAM	1	5	18.32	18.43	18.45
		3	0	17.94	17.97	18.27
		3	1	17.97	18.13	18.24
		3	3	18.01	18.33	18.36
		6	0	18.08	18.24	18.31
Band/BW	Modulation	RB Size	RB offset	Low CH18625	Mid CH18900	High CH19175
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz
26/ 3	QPSK	1	0	22.90	22.81	23.03
		1	7	22.91	23.01	23.22
		1	14	23.05	23.17	23.30
		8	0	21.86	22.04	22.10
		8	3	22.01	22.19	22.24
		8	7	22.10	22.15	22.41
		15	0	22.00	22.21	22.28
		1	0	22.15	22.09	22.34
	16QAM	1	7	22.22	22.24	22.50
		1	14	22.22	22.36	22.47
		8	0	21.02	21.12	21.18
		8	3	21.05	21.04	21.28
		8	7	21.22	21.32	21.33
		15	0	21.15	21.03	21.28
		1	0	21.05	21.16	21.19
		1	7	21.05	21.11	21.32
	64QAM	1	14	21.06	21.29	21.33
		8	0	19.99	20.06	20.26
		8	3	20.10	20.24	20.29
		8	7	20.07	20.24	20.44
		15	0	20.02	20.10	20.34
		1	0	18.10	18.03	18.15
		1	7	18.07	18.15	18.31
		1	7	18.07	18.15	18.31



		1	14	18.37	18.40	18.40
		8	0	18.07	18.03	18.29
		8	3	17.97	18.10	18.33
		8	7	18.09	18.28	18.37
		15	0	18.16	18.21	18.32

LTE BAND 26(Ant 0)

Band/BW	Modulation	RB Size	RB offset	Low CH18650	Mid CH18900	High CH19150
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905 MHz
26/ 5	QPSK	1	0	22.81	22.83	23.11
		1	12	22.92	23.02	23.24
		1	24	23.12	23.23	23.26
		12	0	21.91	22.01	22.20
		12	6	22.03	22.21	22.28
		12	13	22.12	22.24	22.33
		25	0	22.01	22.19	22.33
	16QAM	1	0	22.02	22.15	22.34
		1	12	22.25	22.26	22.49
		1	24	22.28	22.26	22.54
		12	0	20.92	20.99	21.17
		12	6	21.11	21.04	21.37
		12	13	21.09	21.24	21.37
		25	0	21.10	21.07	21.29
	64QAM	1	0	21.00	21.05	21.11
		1	12	21.01	21.18	21.30
		1	24	21.07	21.20	21.37
		12	0	20.00	20.01	20.22
		12	6	20.05	20.23	20.38
		12	13	20.10	20.25	20.34
		25	0	20.10	20.11	20.22
	256QAM	1	0	18.10	18.02	18.12
		1	12	18.05	18.10	18.24
		1	24	18.33	18.52	18.35
		12	0	17.98	17.98	18.23
		12	6	17.99	18.19	18.25
		12	13	17.99	18.28	18.31
		25	0	18.17	18.16	18.26
Band/BW	Modulation	RB Size	RB offset	Low CH26840	Mid CH26915	High CH26990
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz
26/10	QPSK	1	0	22.89	22.92	23.10
		1	24	22.94	22.98	23.25
		1	49	23.01	23.14	23.28
		25	0	21.92	22.08	22.17
		25	12	22.09	22.23	22.33
		25	25	22.05	22.18	22.37
		50	0	22.12	22.31	22.36
	16QAM	1	0	22.07	22.14	22.30
		1	24	22.25	22.30	22.44



		1	49	22.18	22.35	22.57
		25	0	20.99	21.08	21.16
		25	12	21.10	21.15	21.31
		25	25	21.22	21.29	21.36
		50	0	21.06	21.13	21.34
	64QAM	1	0	20.97	21.08	21.13
		1	24	21.03	21.11	21.42
		1	49	21.08	21.22	21.34
		25	0	19.97	19.97	20.26
		25	12	20.07	20.14	20.27
		25	25	20.03	20.27	20.41
		50	0	19.98	20.08	20.30
	256QAM	1	0	18.00	18.09	18.10
		1	24	17.99	18.21	18.31
		1	49	18.33	18.40	18.48
		25	0	17.95	17.98	18.17
		25	12	17.93	18.12	18.29
		25	25	18.01	18.33	18.33
		50	0	18.16	18.23	18.31



LTE BAND 26(Ant 0)

Band/BW	Modulation	RB Size	RB offset	Low CH26865	Mid CH26915	High CH26965
				Frequency 831.5 MHz	Frequency 836.5 MHz	Frequency 841.5 MHz
26/ 15	QPSK	1	0	22.94	22.93	23.13
		1	37	23.02	23.13	23.27
		1	74	23.15	23.26	23.31
		36	0	22.01	22.11	22.25
		36	19	22.13	22.26	22.36
		36	39	22.18	22.30	22.42
		75	0	22.15	22.33	22.39
	16QAM	1	0	22.17	22.21	22.35
		1	37	22.27	22.35	22.52
		1	74	22.29	22.38	22.58
		36	0	21.05	21.13	21.26
		36	19	21.14	21.16	21.38
		36	39	21.23	21.33	21.48
		75	0	21.19	21.15	21.37
	64QAM	1	0	21.08	21.17	21.24
		1	37	21.15	21.20	21.44
		1	74	21.17	21.32	21.45
		36	0	20.08	20.11	20.33
		36	19	20.13	20.29	20.39
		36	39	20.14	20.33	20.46
		75	0	20.12	20.21	20.37
	256QAM	1	0	18.11	18.10	18.21
		1	37	18.13	18.25	18.37
		1	74	18.43	18.54	18.50
		36	0	18.08	18.10	18.31
		36	19	18.01	18.24	18.37
		36	39	18.10	18.39	18.46
		75	0	18.20	18.26	18.35



Combination 3MHz+5MHz (15RB+25RB)										
PCC Channel	PCC Frequency	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Max Tune-up (dBm)
					RB Size	RB offset	RB Size	RB offset		
20416	825.6	20455	829.5	QPSK	1	14	1	0	23.58	24
				16QAM	1	14	1	0	22.80	23
				64QAM	1	14	1	0	19.75	22
				256QAM	1	14	1	0	18.92	19
20501	834.1	20540	838	QPSK	1	14	1	0	23.80	24
				16QAM	1	14	1	0	22.83	23
				64QAM	1	14	1	0	21.72	22
				256QAM	1	14	1	0	18.75	19
20586	842.6	20625	846.5	QPSK	1	14	1	0	23.78	24
				16QAM	1	14	1	0	22.82	23
				64QAM	1	14	1	0	21.74	22
				256QAM	1	14	1	0	18.67	19

Combination 5MHz+3MHz (25RB+15RB)										
PCC Channel	PCC Frequency	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Max Tune-up (dBm)
					RB Size	RB offset	RB Size	RB offset		
20425	826.5	20464	830.4	QPSK	1	24	1	0	23.61	24
				16QAM	1	24	1	0	22.76	23
				64QAM	1	24	1	0	19.85	22
				256QAM	1	24	1	0	18.90	19
20510	835	20549	838.9	QPSK	1	24	1	0	23.75	24
				16QAM	1	24	1	0	22.71	23
				64QAM	1	24	1	0	21.82	22
				256QAM	1	24	1	0	18.86	19
20595	843.5	20634	847.4	QPSK	1	24	1	0	23.84	24
				16QAM	1	24	1	0	22.74	23
				64QAM	1	24	1	0	21.70	22
				256QAM	1	24	1	0	18.69	19

Combination 5MHz+10MHz (25RB+50RB)										
PCC Channel	PCC Frequency	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Max Tune-up (dBm)
					RB Size	RB offset	RB Size	RB offset		
20428	826.8	20500	834	QPSK	1	24	1	0	23.62	24
				16QAM	1	24	1	0	22.76	23
				64QAM	1	24	1	0	19.85	22
				256QAM	1	24	1	0	18.84	19
20478	831.8	20550	839	QPSK	1	24	1	0	23.77	24
				16QAM	1	24	1	0	22.77	23
				64QAM	1	24	1	0	21.77	22
				256QAM	1	24	1	0	18.80	19
20528	836.8	20600	844	QPSK	1	24	1	0	23.78	24
				16QAM	1	24	1	0	22.78	23
				64QAM	1	24	1	0	21.79	22
				256QAM	1	24	1	0	18.79	19



Combination 10MHz+5MHz (50RB+25RB)										
PCC Channel	PCC Frequency	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		measured Power (dBm)	I _{max} Tune-up (dBm)
					RB Size	RB offset	RB Size	RB offset		
20450	829	20522	836.2	QPSK	1	49	1	0	23.60	24
				16QAM	1	49	1	0	22.83	23
				64QAM	1	49	1	0	19.87	22
				256QAM	1	49	1	0	18.94	19
20500	834	20572	841.2	QPSK	1	49	1	0	23.70	24
				16QAM	1	49	1	0	22.75	23
				64QAM	1	49	1	0	21.86	22
				256QAM	1	49	1	0	18.72	19
20550	839	20622	846.2	QPSK	1	49	1	0	23.79	24
				16QAM	1	49	1	0	22.77	23
				64QAM	1	49	1	0	21.71	22
				256QAM	1	49	1	0	18.67	19

Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	PCC Frequency	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Max Tune-up (dBm)
					RB Size	RB offset	RB Size	RB offset		
20450	829	20549	838.9	QPSK	1	49	1	0	23.73	24
				16QAM	1	49	1	0	22.91	23
				64QAM	1	49	1	0	19.88	22
				256QAM	1	49	1	0	18.96	19
20476	831.6	20575	841.5	QPSK	1	49	1	0	23.83	24
				16QAM	1	49	1	0	22.84	23
				64QAM	1	49	1	0	21.87	22
				256QAM	1	49	1	0	18.87	19
20501	834.1	20600	844	QPSK	1	49	1	0	23.88	24
				16QAM	1	49	1	0	22.85	23
				64QAM	1	49	1	0	21.83	22
				256QAM	1	49	1	0	18.81	19



CHANNEL BANDWIDTH: 1.4MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	23.42	-2.16	19.11	81.47	7
20525	836.5	23.53	-2.16	19.22	83.56	7
20643	848.3	23.59	-2.16	19.28	84.72	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	22.50	-2.16	18.19	65.92	7
20525	836.5	22.83	-2.16	18.52	71.12	7
20643	848.3	22.82	-2.16	18.51	70.96	7

CHANNEL BANDWIDTH: 1.4MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	21.52	-2.16	17.21	52.60	7
20525	836.5	21.71	-2.16	17.40	54.95	7
20643	848.3	21.80	-2.16	17.49	56.10	7

CHANNEL BANDWIDTH: 1.4MHz 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	18.59	-2.16	14.28	26.79	7
20525	836.5	18.71	-2.16	14.40	27.54	7
20643	848.3	18.81	-2.16	14.50	28.18	7

CHANNEL BANDWIDTH: 3MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	23.42	-2.16	19.11	81.47	7
20525	836.5	23.60	-2.16	19.29	84.92	7
20635	847.5	23.66	-2.16	19.35	86.10	7



CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	22.48	-2.16	18.17	65.61	7
20525	836.5	22.81	-2.16	18.50	70.79	7
20635	847.5	22.82	-2.16	18.51	70.96	7

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	21.44	-2.16	17.13	51.64	7
20525	836.5	21.68	-2.16	17.37	54.58	7
20635	847.5	21.88	-2.16	17.57	57.15	7

CHANNEL BANDWIDTH: 3MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	18.63	-2.16	14.32	27.04	7
20525	836.5	18.74	-2.16	14.43	27.73	7
20635	847.5	18.75	-2.16	14.44	27.80	7

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	23.38	-2.16	19.07	80.72	7
20525	836.5	23.51	-2.16	19.20	83.18	7
20625	846.5	23.67	-2.16	19.36	86.30	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	22.49	-2.16	18.18	65.77	7
20525	836.5	22.75	-2.16	18.44	69.82	7
20625	846.5	22.90	-2.16	18.59	72.28	7

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	21.44	-2.16	17.13	51.64	7
20525	836.5	21.72	-2.16	17.41	55.08	7
20625	846.5	21.78	-2.16	17.47	55.85	7



CHANNEL BANDWIDTH: 5MHz 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	18.57	-2.16	14.26	26.67	7
20525	836.5	18.82	-2.16	14.51	28.25	7
20625	846.5	18.74	-2.16	14.43	27.73	7

CHANNEL BANDWIDTH: 10MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	23.43	-2.16	19.12	81.66	7
20525	836.5	23.61	-2.16	19.30	85.11	7
20600	844	23.71	-2.16	19.40	87.10	7

CHANNEL BANDWIDTH: 10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	22.57	-2.16	18.26	66.99	7
20525	836.5	22.86	-2.16	18.55	71.61	7
20600	844	22.93	-2.16	18.62	72.78	7

CHANNEL BANDWIDTH: 10MHz 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	21.53	-2.16	17.22	52.72	7
20525	836.5	21.80	-2.16	17.49	56.10	7
20600	844	21.89	-2.16	17.58	57.28	7

CHANNEL BANDWIDTH: 10MHz 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	18.65	-2.16	14.34	27.16	7
20525	836.5	18.84	-2.16	14.53	28.38	7
20600	844	18.84	-2.16	14.53	28.38	7

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CHANNEL BANDWIDTH: 1.4MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	23.07	-2.16	18.76	75.16	7
26915	836.5	23.19	-2.16	18.88	77.27	7
27033	848.3	23.28	-2.16	18.97	78.89	7



CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	22.21	-2.16	17.90	61.66	7
26915	836.5	22.28	-2.16	17.97	62.66	7
27033	848.3	22.54	-2.16	18.23	66.53	7

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	21.15	-2.16	16.84	48.31	7
26915	836.5	21.23	-2.16	16.92	49.20	7
27033	848.3	21.37	-2.16	17.06	50.82	7

CHANNEL BANDWIDTH: 1.4MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	18.32	-2.16	14.01	25.18	7
26915	836.5	18.43	-2.16	14.12	25.82	7
27033	848.3	18.45	-2.16	14.14	25.94	7

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	23.05	-2.16	18.74	74.82	7
26915	836.5	23.17	-2.16	18.86	76.91	7
27025	847.5	23.30	-2.16	18.99	79.25	7

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	22.22	-2.16	17.91	61.80	7
26915	836.5	22.36	-2.16	18.05	63.83	7
27025	847.5	22.50	-2.16	18.19	65.92	7

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	21.06	-2.16	16.75	47.32	7
26915	836.5	21.29	-2.16	16.98	49.89	7
27025	847.5	21.33	-2.16	17.02	50.35	7



CHANNEL BANDWIDTH: 3MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	18.37	-2.16	14.06	25.47	7
26915	836.5	18.40	-2.16	14.09	25.64	7
27025	847.5	18.40	-2.16	14.09	25.64	7

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	23.12	-2.16	18.81	76.03	7
26915	836.5	23.23	-2.16	18.92	77.98	7
27015	846.5	23.26	-2.16	18.95	78.52	7

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	22.28	-2.16	17.97	62.66	7
26915	836.5	22.26	-2.16	17.95	62.37	7
27015	846.5	22.54	-2.16	18.23	66.53	7

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	21.07	-2.16	16.76	47.42	7
26915	836.5	21.20	-2.16	16.89	48.87	7
27015	846.5	21.37	-2.16	17.06	50.82	7

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	18.33	-2.16	14.02	25.23	7
26915	836.5	18.52	-2.16	14.21	26.36	7
27015	846.5	18.35	-2.16	14.04	25.35	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	23.01	-2.16	18.70	74.13	7
26915	836.5	23.14	-2.16	18.83	76.38	7
26990	844	23.28	-2.16	18.97	78.89	7



CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	22.25	-2.16	17.94	62.23	7
26915	836.5	22.35	-2.16	18.04	63.68	7
26990	844	22.57	-2.16	18.26	66.99	7

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	21.08	-2.16	16.77	47.53	7
26915	836.5	21.22	-2.16	16.91	49.09	7
26990	844	21.42	-2.16	17.11	51.40	7

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	18.33	-2.16	14.02	25.23	7
26915	836.5	18.40	-2.16	14.09	25.64	7
26990	844	18.48	-2.16	14.17	26.12	7

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	23.15	-2.16	18.84	76.56	7
26915	836.5	23.26	-2.16	18.95	78.52	7
26965	841.5	23.31	-2.16	19.00	79.43	7

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	22.29	-2.16	17.98	62.81	7
26915	836.5	22.38	-2.16	18.07	64.12	7
26965	841.5	22.58	-2.16	18.27	67.14	7

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	21.17	-2.16	16.86	48.53	7
26915	836.5	21.32	-2.16	17.01	50.23	7
26965	841.5	21.45	-2.16	17.14	51.76	7



CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	18.43	-2.16	14.12	25.82	7
26915	836.5	18.54	-2.16	14.23	26.49	7
26965	841.5	18.50	-2.16	14.19	26.24	7

CA_5B

Combination 3MHz+5MHz (15RB+25RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	FCC Limit (W)	IC Limit (W)
20416	825.6	20455	829.5	QPSK	23.58	-2.16	19.27	84.53	7	3
				16QAM	22.80	-2.16	18.49	70.63	7	3
				64QAM	19.75	-2.16	15.44	34.99	7	3
				256QAM	18.92	-2.16	14.61	28.91	7	3
20501	834.1	20540	838	QPSK	23.80	-2.16	19.49	88.92	7	3
				16QAM	22.83	-2.16	18.52	71.12	7	3
				64QAM	21.72	-2.16	17.41	55.08	7	3
				256QAM	18.75	-2.16	14.44	27.80	7	3
20586	842.6	20625	846.5	QPSK	23.78	-2.16	19.47	88.51	7	3
				16QAM	22.82	-2.16	18.51	70.96	7	3
				64QAM	21.74	-2.16	17.43	55.34	7	3
				256QAM	18.67	-2.16	14.36	27.29	7	3

Combination 5MHz+3MHz (25RB+15RB)

PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	FCC Limit (W)	IC Limit (W)
20425	826.5	20464	830.4	QPSK	23.61	-2.16	19.30	85.11	7	3
				16QAM	22.76	-2.16	18.45	69.98	7	3
				64QAM	19.85	-2.16	15.54	35.81	7	3
				256QAM	18.90	-2.16	14.59	28.77	7	3
20510	835	20549	838.9	QPSK	23.75	-2.16	19.44	87.90	7	3
				16QAM	22.71	-2.16	18.40	69.18	7	3
				64QAM	21.82	-2.16	17.51	56.36	7	3
				256QAM	18.86	-2.16	14.55	28.51	7	3
20595	843.5	20634	847.4	QPSK	23.84	-2.16	19.53	89.74	7	3
				16QAM	22.74	-2.16	18.43	69.66	7	3
				64QAM	21.70	-2.16	17.39	54.83	7	3
				256QAM	18.69	-2.16	14.38	27.42	7	3



Combination 5MHz+10MHz (25RB+50RB)										
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	FCC Limit (W)	IC Limit (W)
20428	826.8	20500	834	QPSK	23.62	-2.16	19.31	85.31	7	3
				16QAM	22.76	-2.16	18.45	69.98	7	3
				64QAM	19.85	-2.16	15.54	35.81	7	3
				256QAM	18.84	-2.16	14.53	28.38	7	3
20478	831.8	20550	839	QPSK	23.77	-2.16	19.46	88.31	7	3
				16QAM	22.77	-2.16	18.46	70.15	7	3
				64QAM	21.77	-2.16	17.46	55.72	7	3
				256QAM	18.80	-2.16	14.49	28.12	7	3
20528	836.8	20600	844	QPSK	23.78	-2.16	19.47	88.51	7	3
				16QAM	22.78	-2.16	18.47	70.31	7	3
				64QAM	21.79	-2.16	17.48	55.98	7	3
				256QAM	18.79	-2.16	14.48	28.05	7	3

Combination 10MHz+5MHz (50RB+25RB)										
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	FCC Limit (W)	IC Limit (W)
20450	829	20522	836.2	QPSK	23.60	-2.16	19.29	84.92	7	3
				16QAM	22.83	-2.16	18.52	71.12	7	3
				64QAM	19.87	-2.16	15.56	35.97	7	3
				256QAM	18.94	-2.16	14.63	29.04	7	3
20500	834	20572	841.2	QPSK	23.70	-2.16	19.39	86.90	7	3
				16QAM	22.75	-2.16	18.44	69.82	7	3
				64QAM	21.86	-2.16	17.55	56.89	7	3
				256QAM	18.72	-2.16	14.41	27.61	7	3
20550	839	20622	846.2	QPSK	23.79	-2.16	19.48	88.72	7	3
				16QAM	22.77	-2.16	18.46	70.15	7	3
				64QAM	21.71	-2.16	17.40	54.95	7	3
				256QAM	18.67	-2.16	14.36	27.29	7	3

Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	Measured Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	FCC Limit (W)	IC Limit (W)
20450	829	20549	838.9	QPSK	23.73	-2.16	19.42	87.50	7	3
				16QAM	22.91	-2.16	18.60	72.44	7	3
				64QAM	19.88	-2.16	15.57	36.06	7	3
				256QAM	18.96	-2.16	14.65	29.17	7	3
20476	831.6	20575	841.5	QPSK	23.83	-2.16	19.52	89.54	7	3
				16QAM	22.84	-2.16	18.53	71.29	7	3
				64QAM	21.87	-2.16	17.56	57.02	7	3
				256QAM	18.87	-2.16	14.56	28.58	7	3
20501	834.1	20600	844	QPSK	23.88	-2.16	19.57	90.57	7	3
				16QAM	22.85	-2.16	18.54	71.45	7	3
				64QAM	21.83	-2.16	17.52	56.49	7	3
				256QAM	18.81	-2.16	14.50	28.18	7	3

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



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

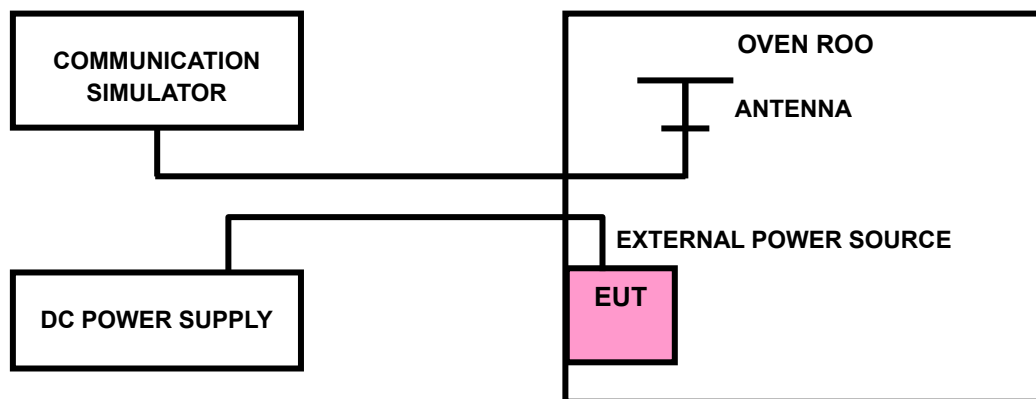
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

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

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Please Refer to Appendix of this test report.

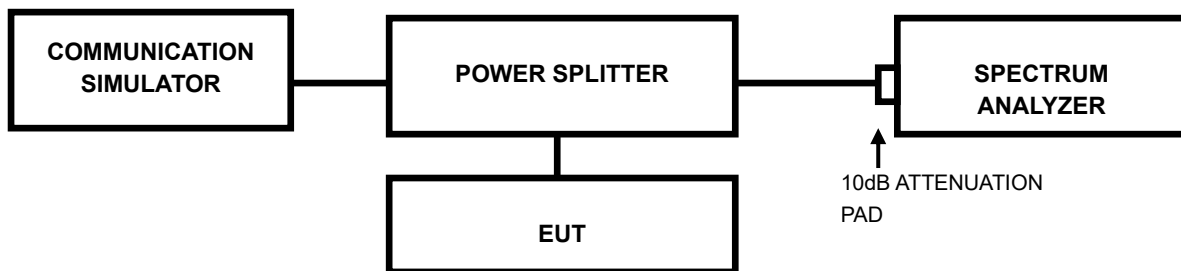


3.3 OCCUPIED BANDWIDTH MEASUREMENT

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.

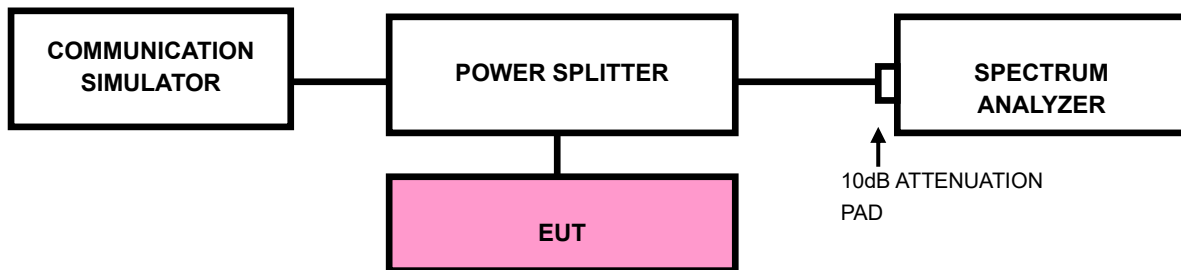


3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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

3.4.2 TEST SETUP





3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) 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 CONDUCTED SPURIOUS EMISSIONS

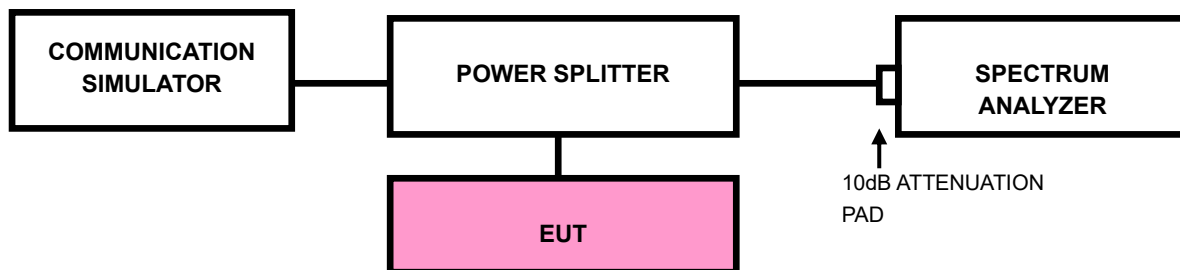
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

3.5.2 TEST PROCEDURE

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

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

3.6.2 TEST PROCEDURES

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

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

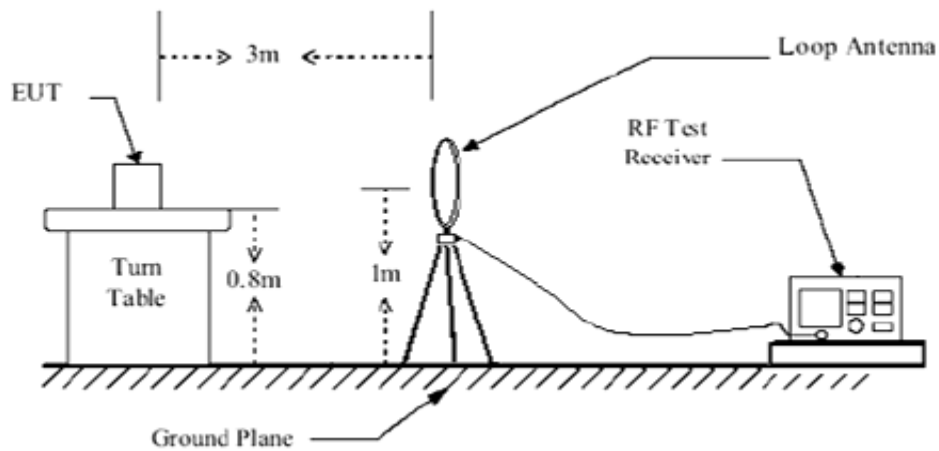
3.6.3 DEVIATION FROM TEST STANDARD

No deviation

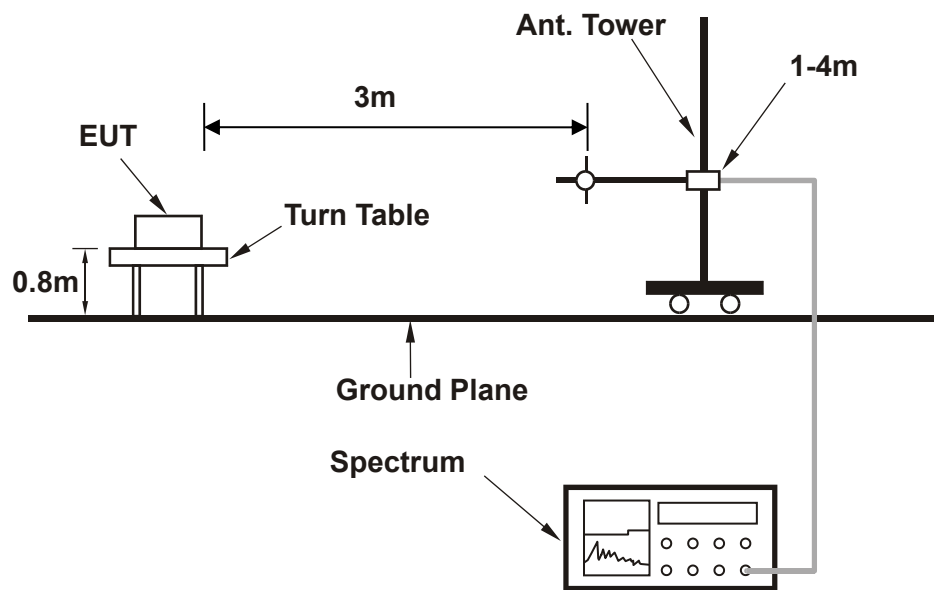


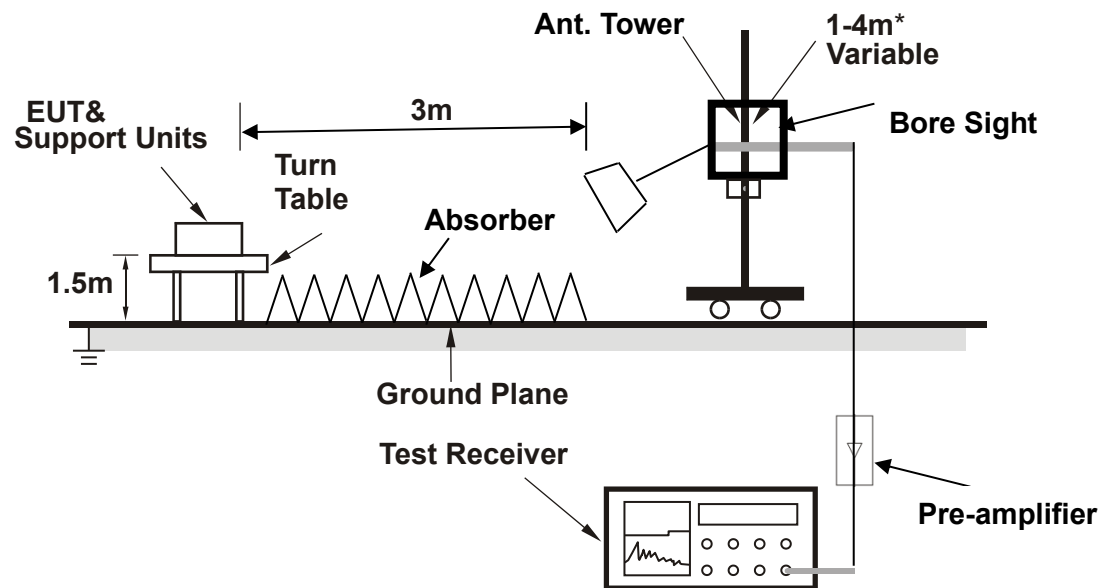
3.6.4 TEST SETUP

< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >





Note: Above 1G is a directional antenna

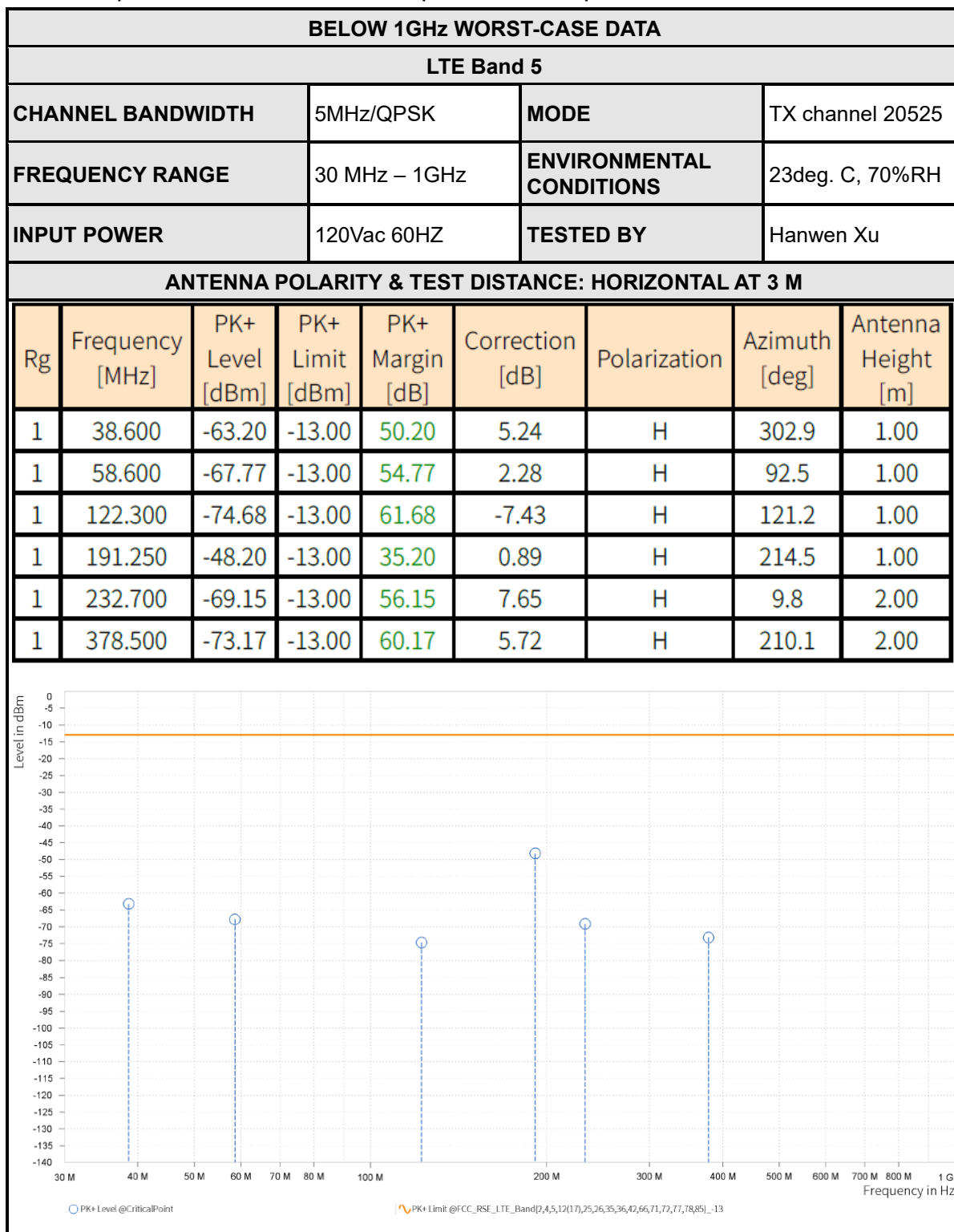
Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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.

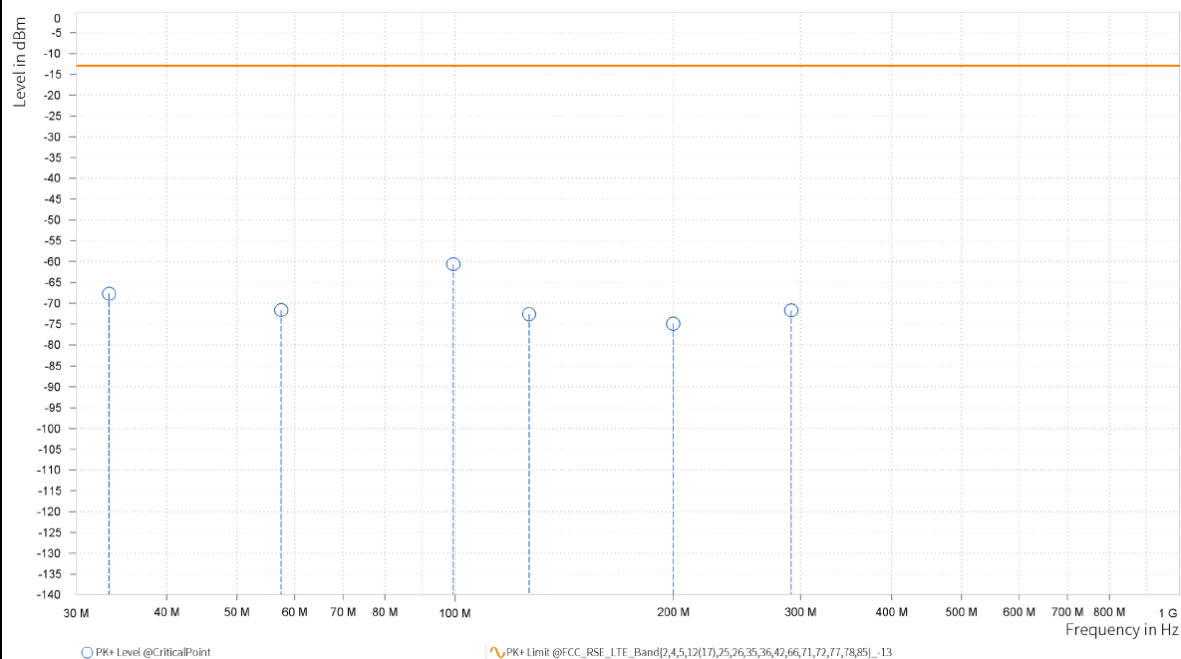


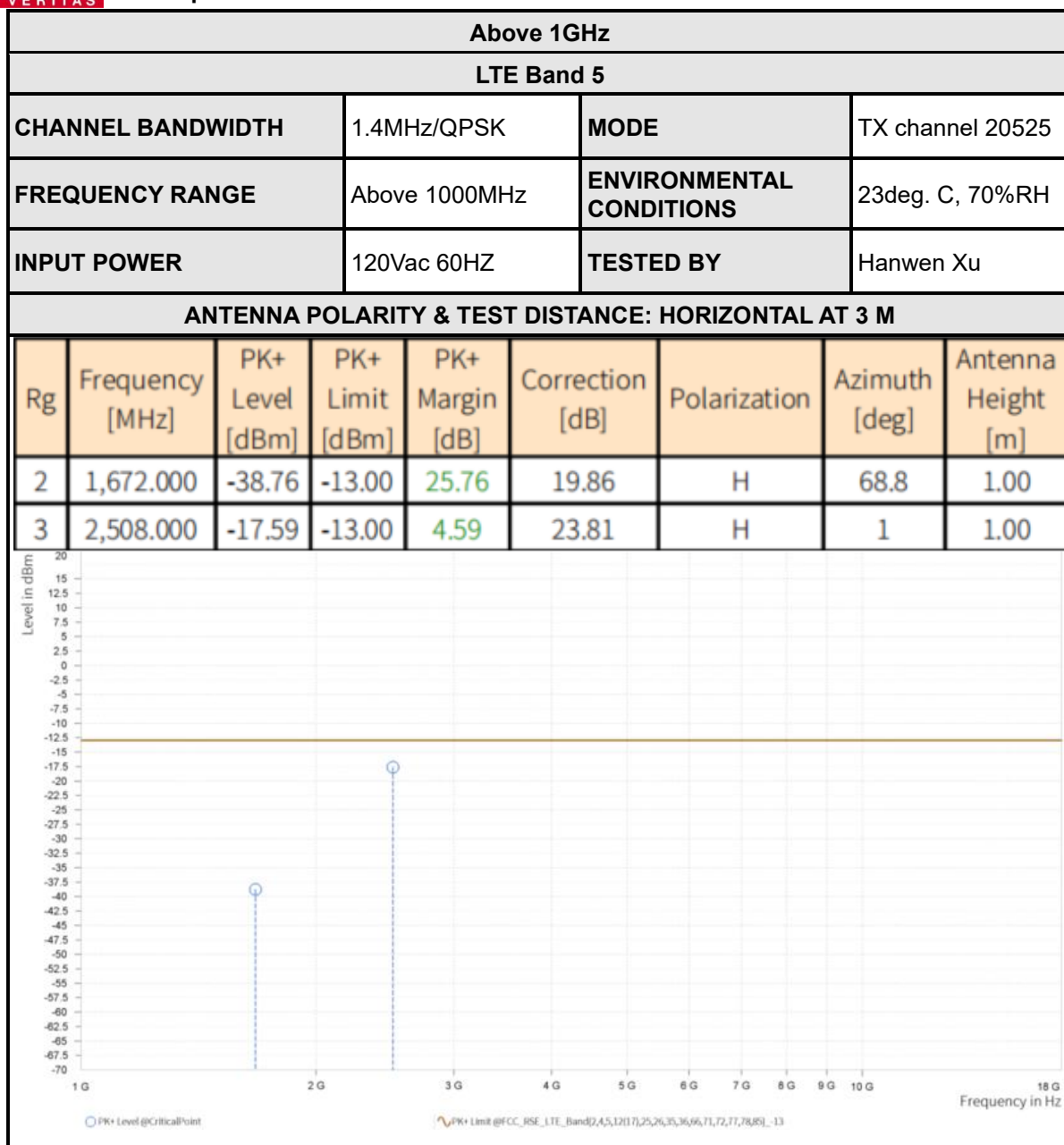


CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	33.300	-67.72	-13.00	54.72	-1.53	V	1	1.00
1	57.550	-71.66	-13.00	58.66	0.13	V	357.7	1.00
1	99.450	-60.64	-13.00	47.64	10.99	V	60.2	1.00
1	126.500	-72.63	-13.00	59.63	-1.56	V	115.2	1.00
1	199.950	-74.92	-13.00	61.92	-0.64	V	115.2	1.00
1	291.050	-71.75	-13.00	58.75	4.71	V	357.7	1.00



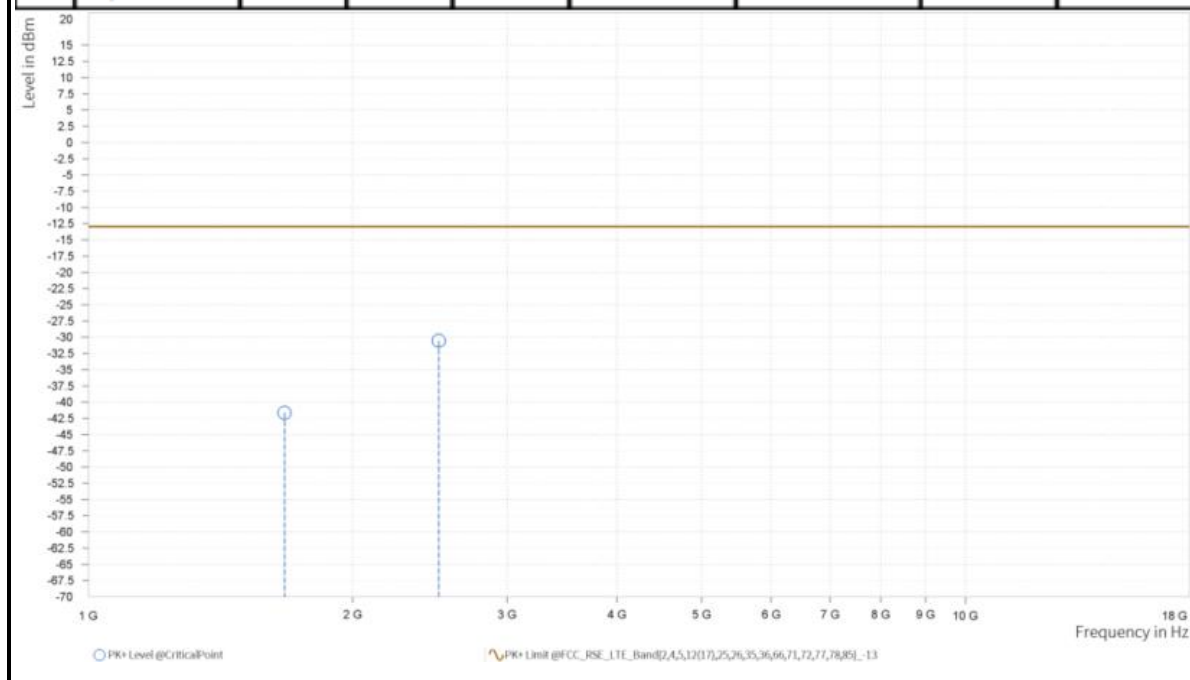




CHANNEL BANDWIDTH	1.4MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.500	-41.62	-13.00	28.62	19.68	V	1	1.00
3	2,508.500	-30.53	-13.00	17.53	23.47	V	131	1.00

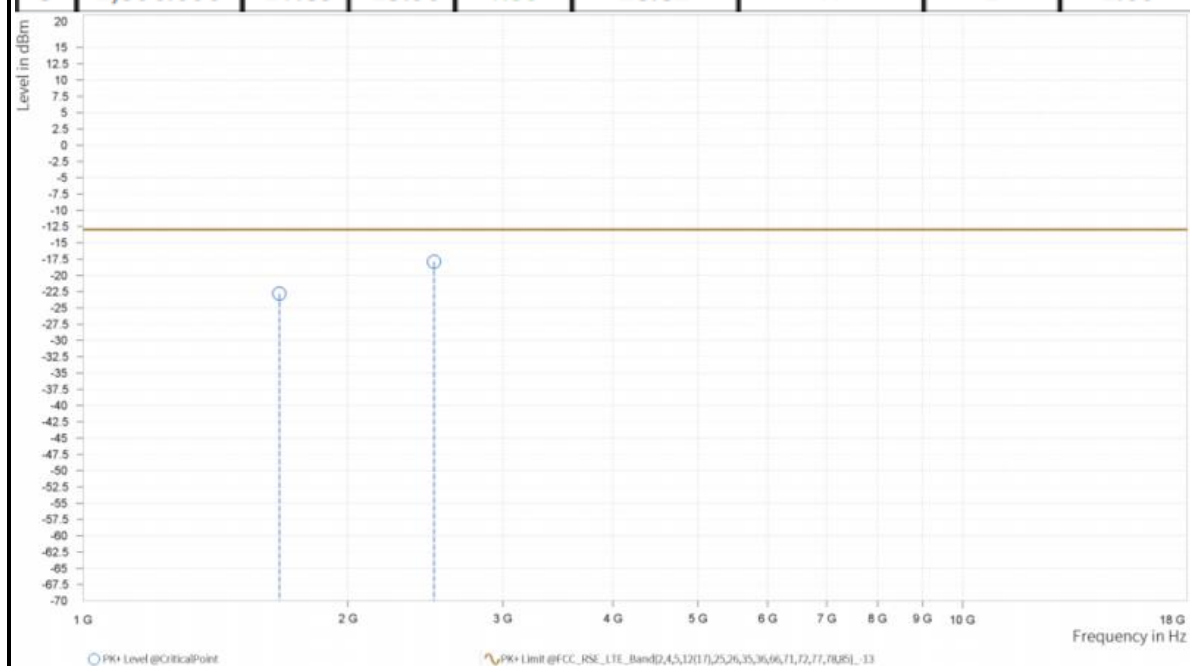




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-22.80	-13.00	9.80	19.79	H	79.6	1.00
3	2,506.000	-17.89	-13.00	4.89	23.82	H	1	1.00

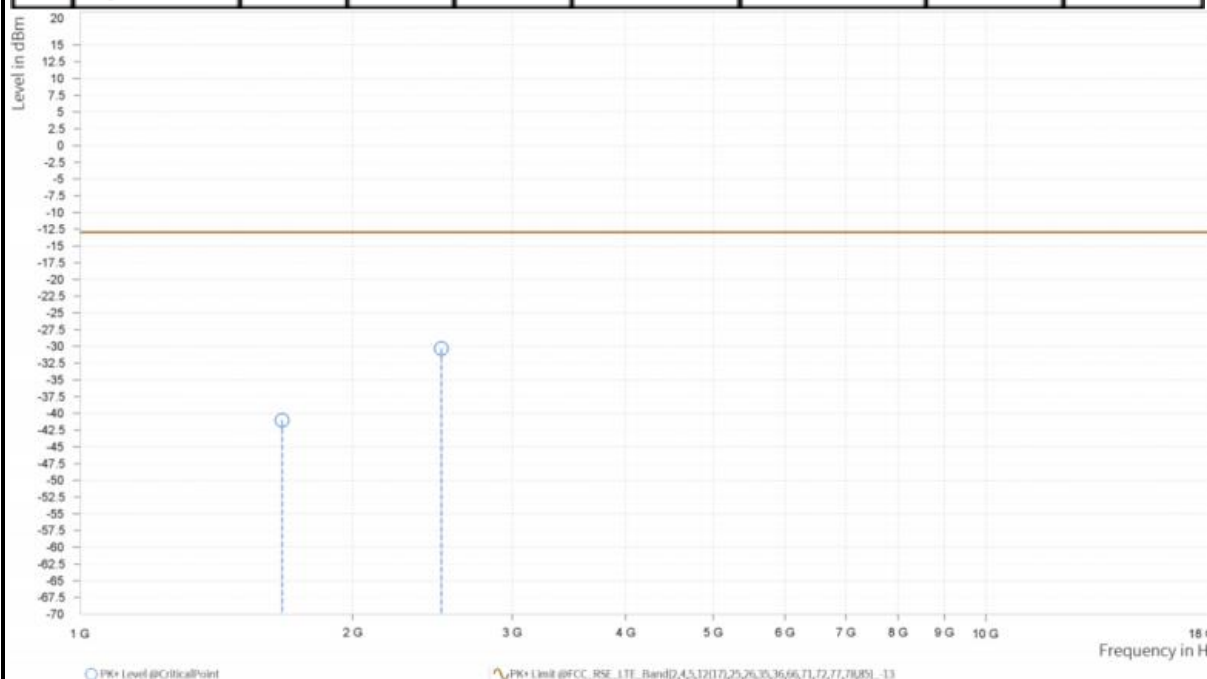




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-41.02	-13.00	28.02	19.56	V	1	1.00
3	2,505.500	-30.32	-13.00	17.32	23.47	V	359	2.00

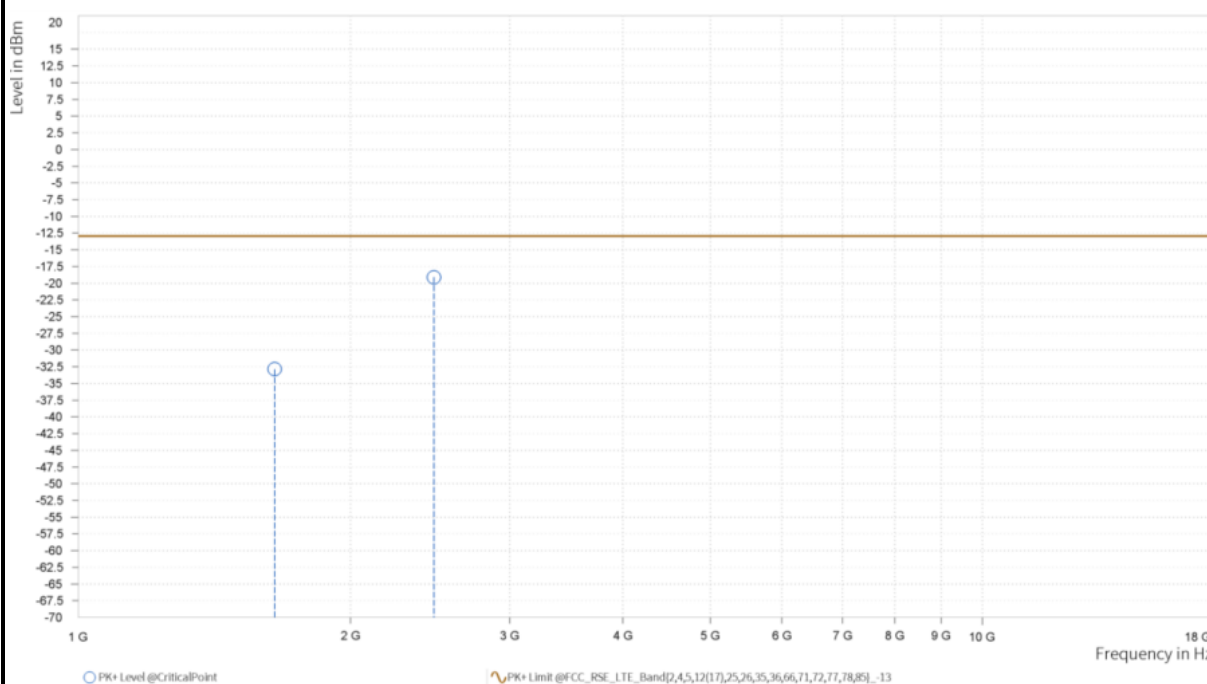




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,649.000	-32.87	-13.00	19.87	18.65	H	67.7	1.00
3	2,473.000	-19.11	-13.00	6.11	24.40	H	359	2.00

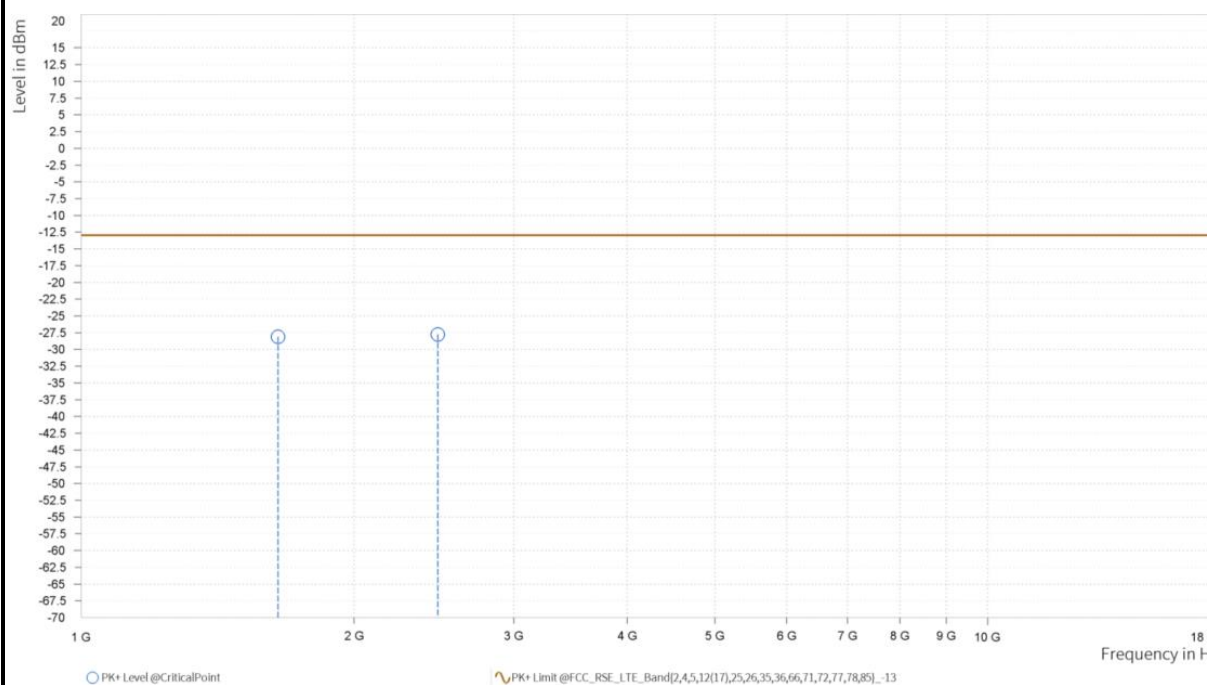




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.500	-28.10	-13.00	15.10	18.11	V	67.7	1.00
3	2,473.000	-27.76	-13.00	14.76	24.10	V	135.8	1.00

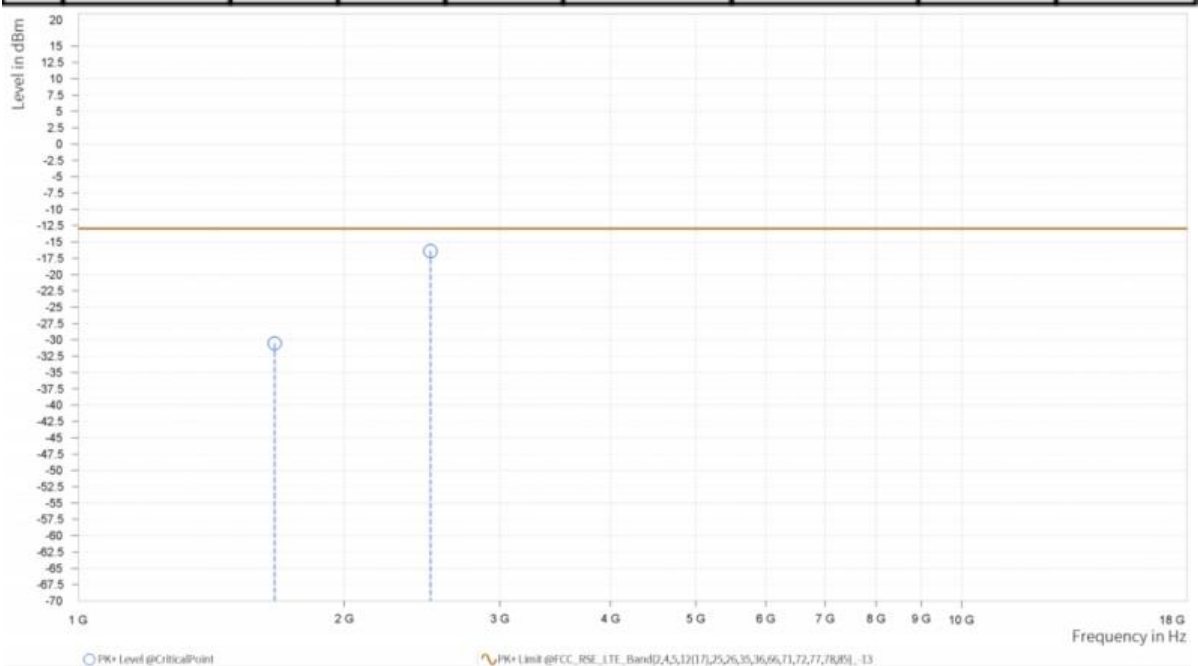




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,668.000	-30.51	-13.00	17.51	19.69	H	291.2	2.00
3	2,503.000	-16.40	-13.00	3.40	23.84	H	1	1.00

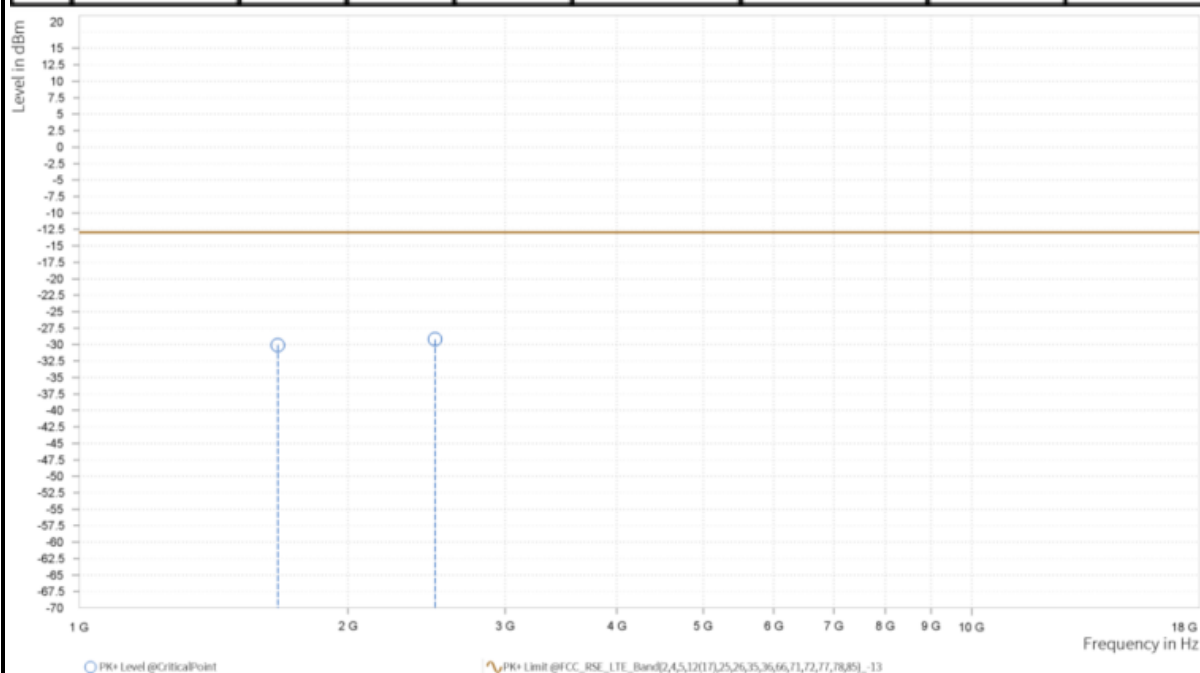




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,668.500	-30.07	-13.00	17.07	19.44	V	67.6	1.00
3	2,503.000	-29.18	-13.00	16.18	23.48	V	359	2.00

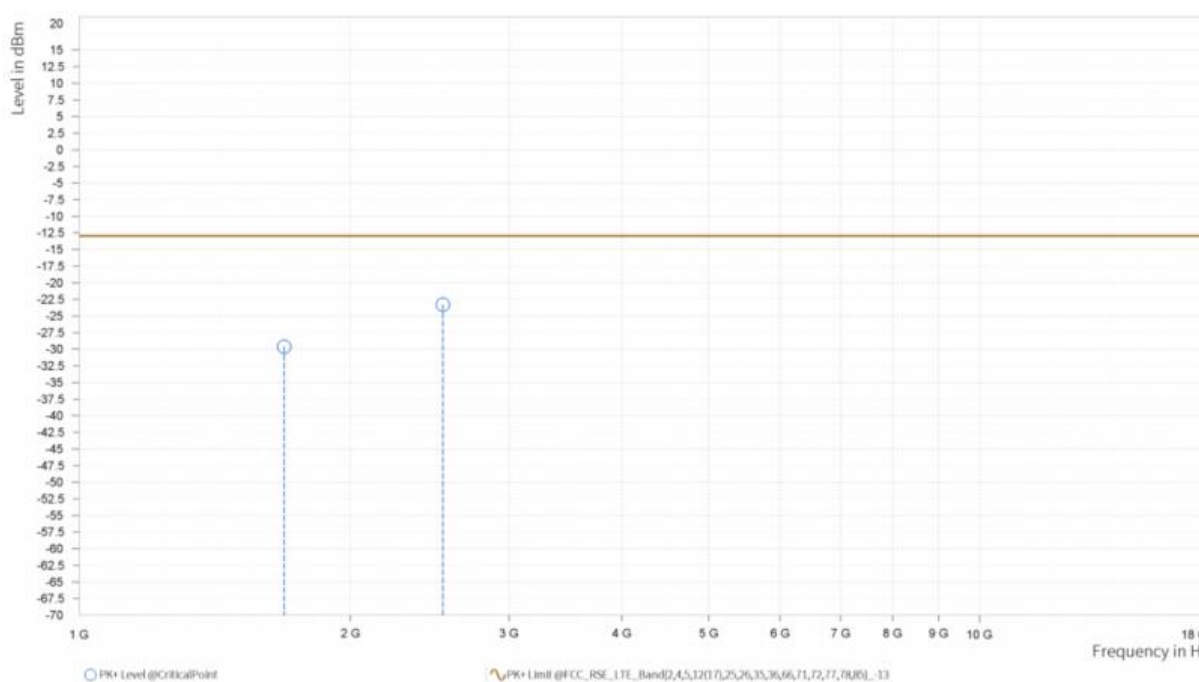




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,688.500	-29.61	-13.00	16.61	20.30	H	292.4	2.00
3	2,533.000	-23.28	-13.00	10.28	23.57	H	359	1.00

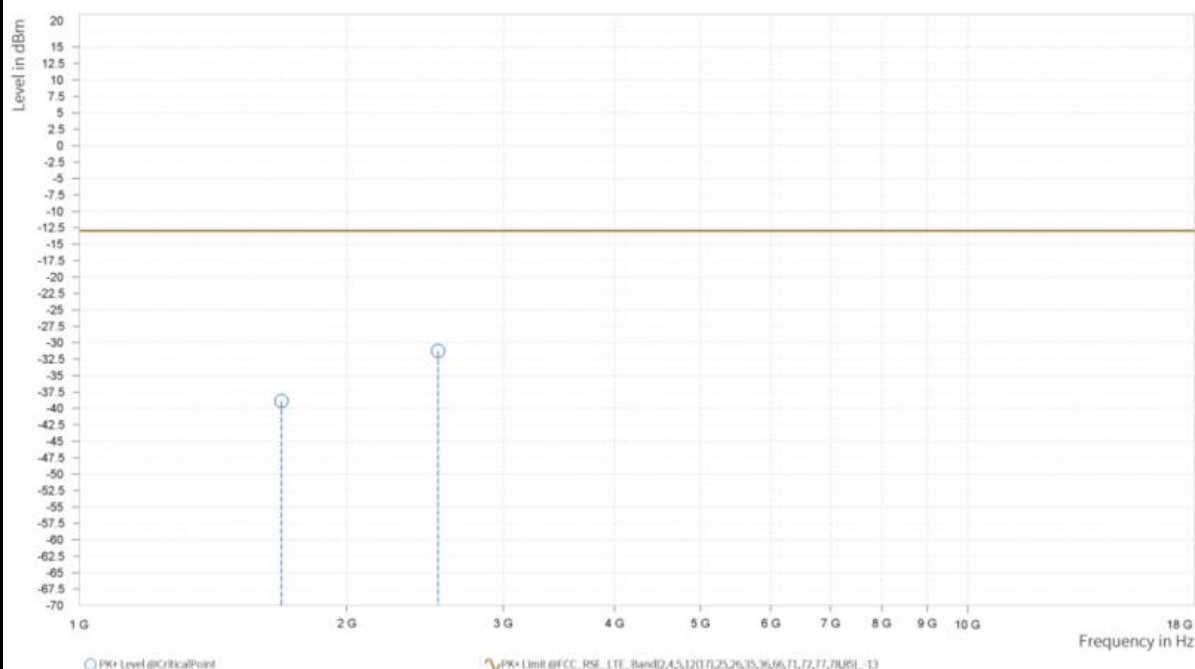




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,688.500	-38.89	-13.00	25.89	20.36	V	359	2.00
3	2,533.000	-31.25	-13.00	18.25	23.31	V	359	2.00

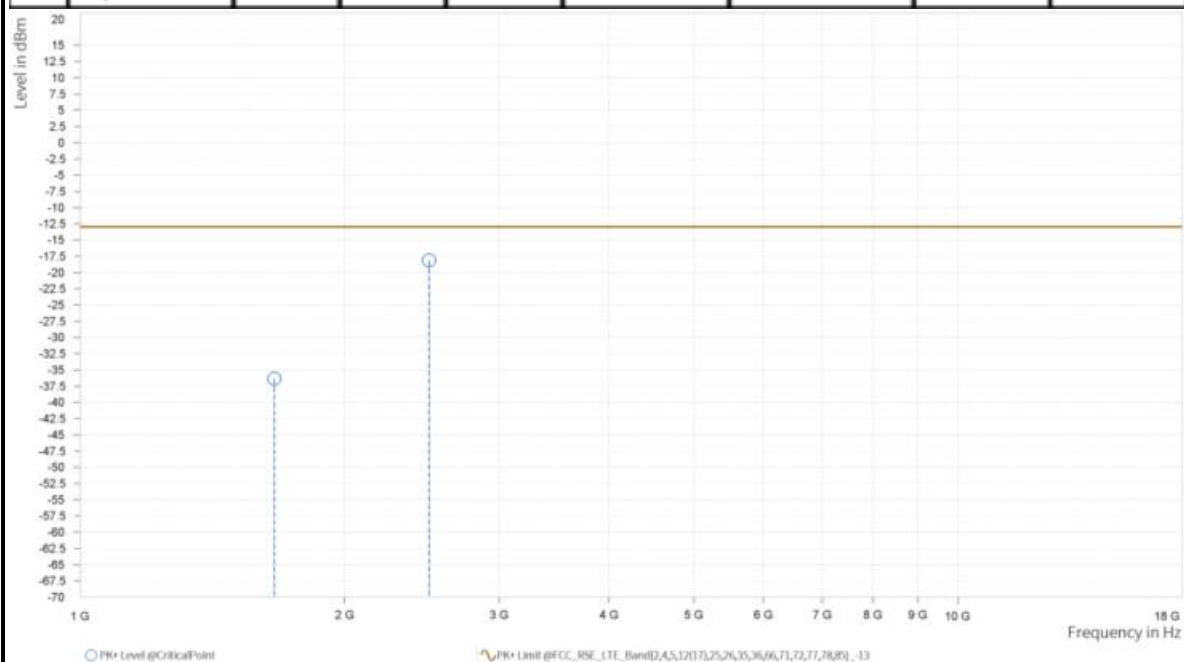




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.000	-36.36	-13.00	23.36	19.52	H	74.8	1.00
3	2,496.000	-18.13	-13.00	5.13	23.86	H	0.9	2.00

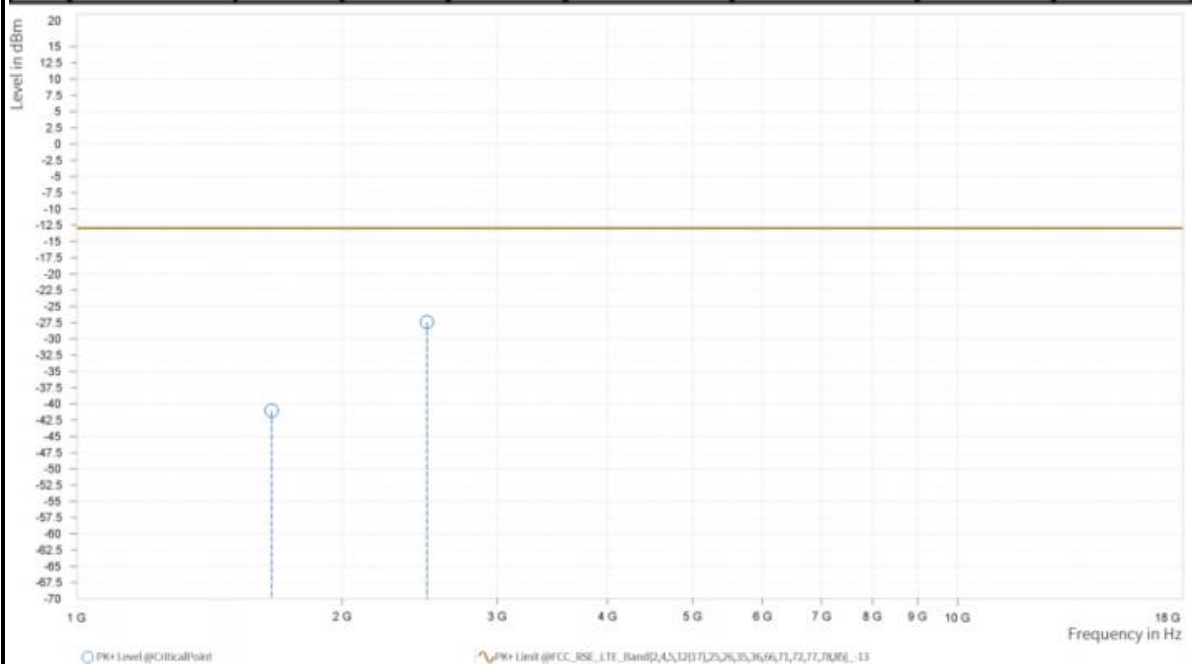


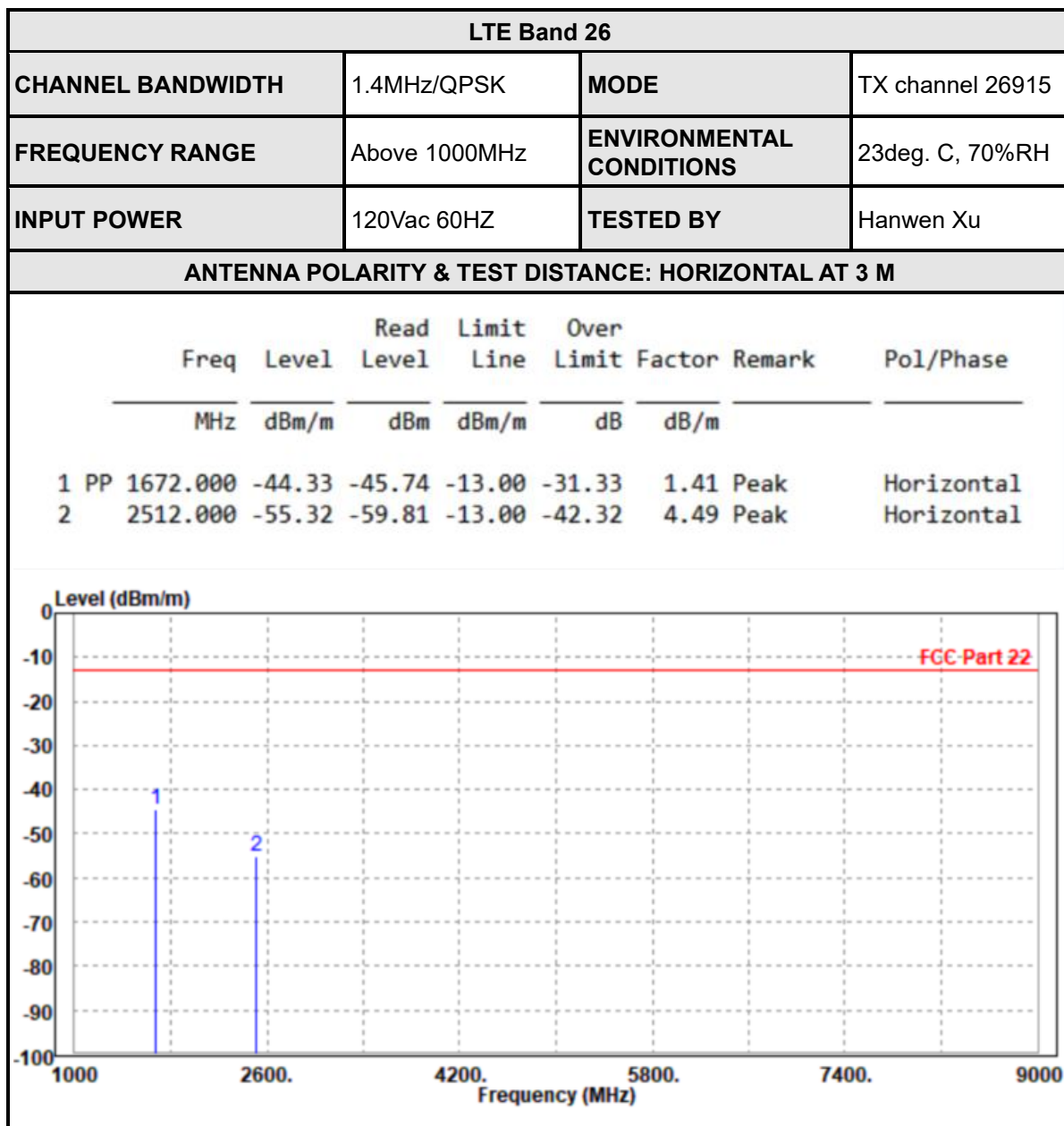


CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.000	-41.04	-13.00	28.04	19.18	V	359	2.00
3	2,496.000	-27.42	-13.00	14.42	23.47	V	359.1	1.00



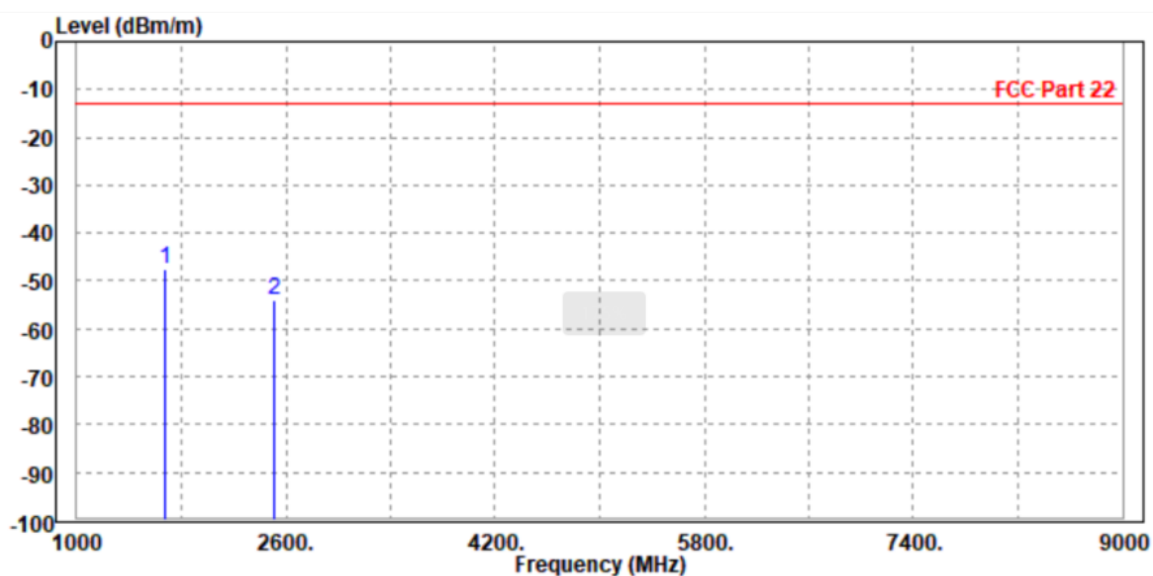




CHANNEL BANDWIDTH	1.4MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1672.000	-47.46	-49.48	-13.00	-34.46	2.02	Peak	Vertical
2	2509.500	-53.86	-59.38	-13.00	-40.86	5.52	Peak	Vertical

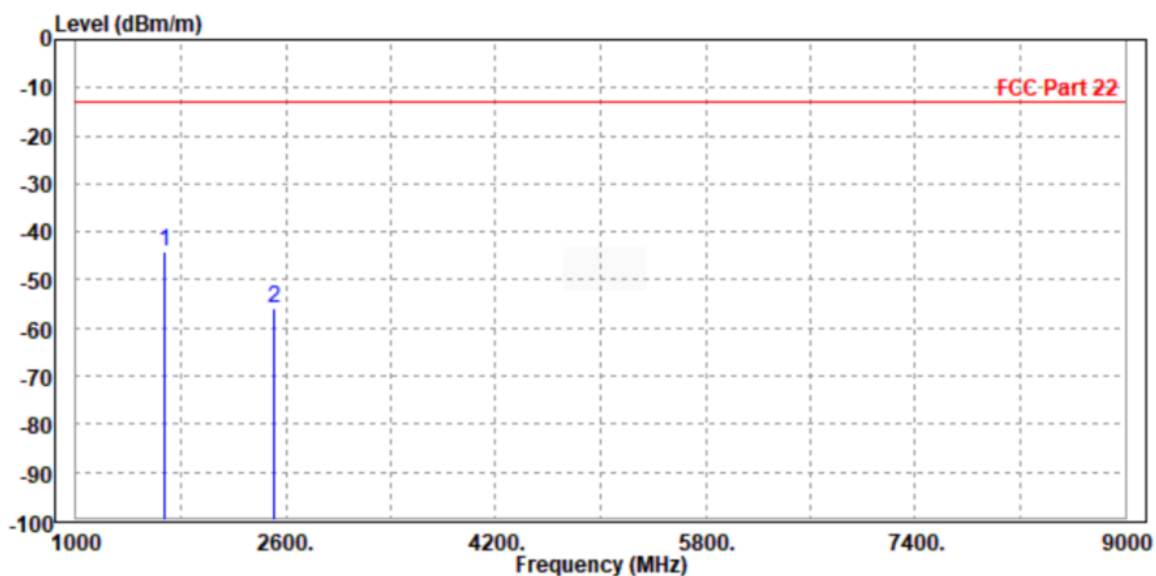




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1672.000	-44.10	-45.51	-13.00	-31.10	1.41	Peak	Horizontal
2		2509.500	-55.84	-60.33	-13.00	-42.84	4.49	Peak	Horizontal

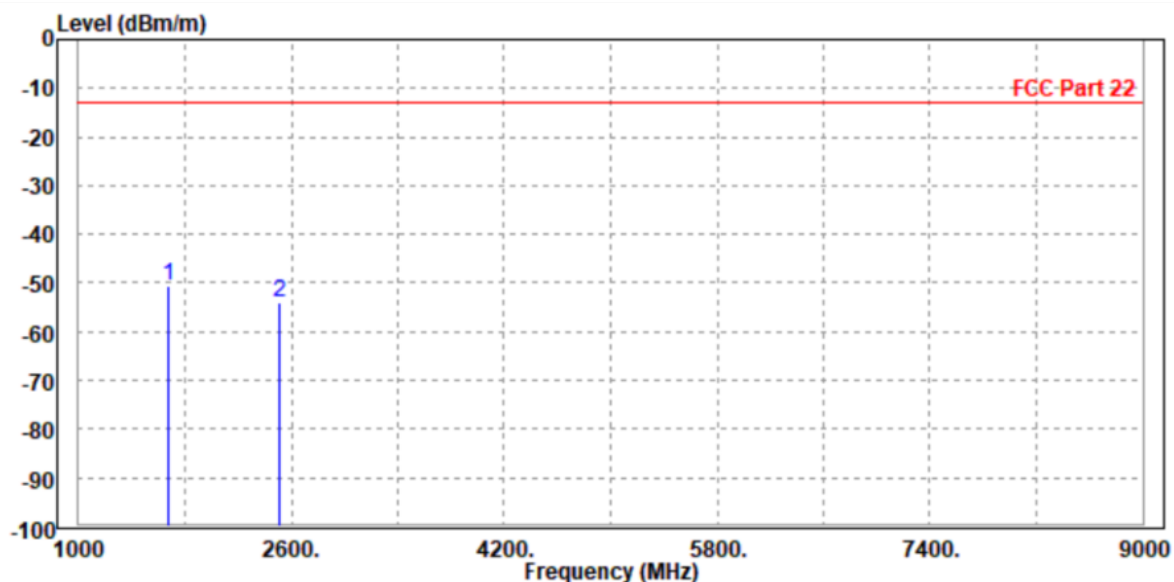




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1672.000	-50.43	-52.45	-13.00	-37.43	2.02	Peak	Vertical
2	2512.000	-54.13	-59.66	-13.00	-41.13	5.53	Peak	Vertical

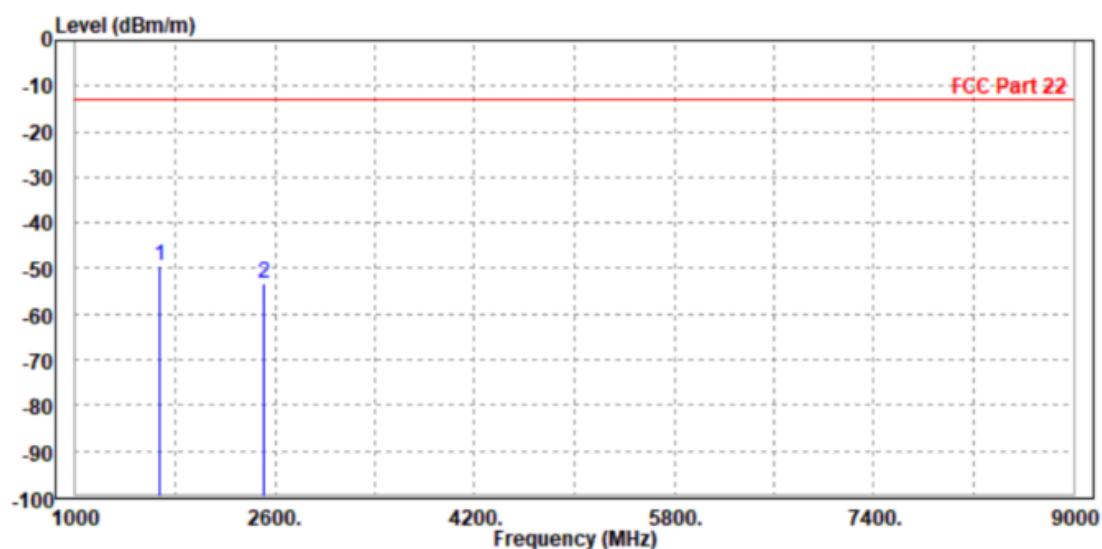




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1673.000	-49.45	-50.87	-13.00	-36.45	1.42	Peak	Horizontal
2	2512.000	-53.26	-57.75	-13.00	-40.26	4.49	Peak	Horizontal

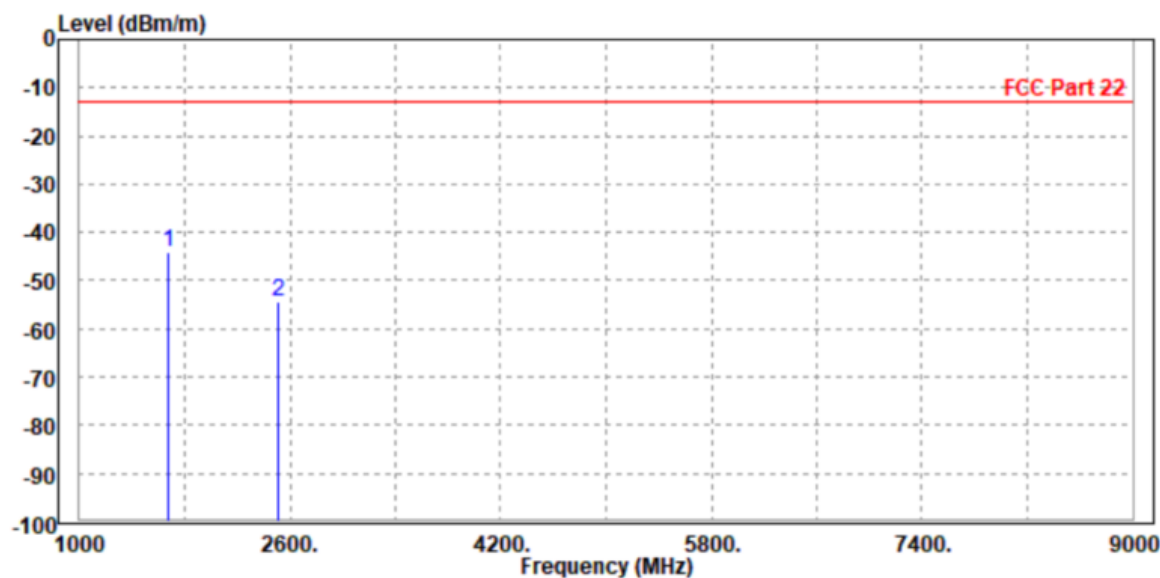




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1672.000	-44.02	-46.04	-13.00	-31.02	2.02	Peak	Vertical
2		2509.500	-54.26	-59.78	-13.00	-41.26	5.52	Peak	Vertical

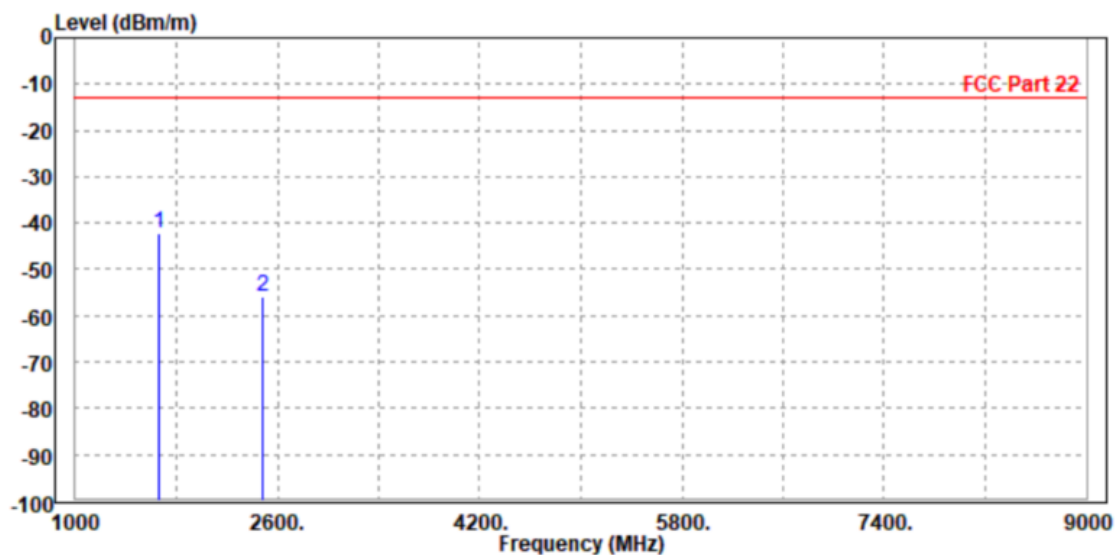




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1658.000	-42.21	-43.46	-13.00	-29.21	1.25	Peak	Horizontal
2	2487.000	-55.76	-60.23	-13.00	-42.76	4.47	Peak	Horizontal

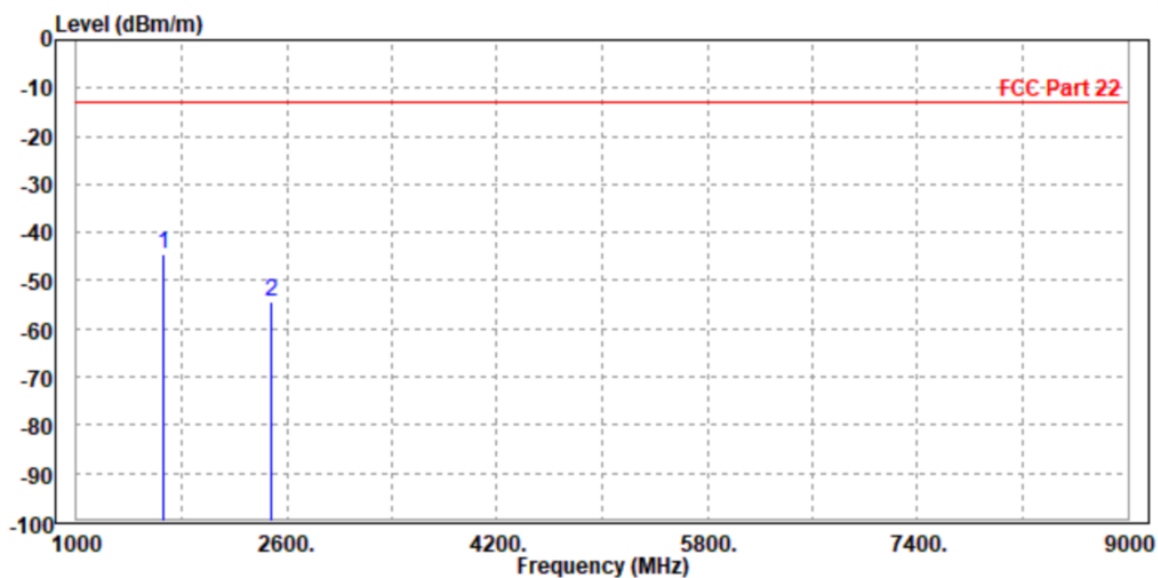




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1656.000	-44.52	-46.42	-13.00	-31.52	1.90	Peak	Vertical
2	2487.000	-54.24	-59.69	-13.00	-41.24	5.45	Peak	Vertical

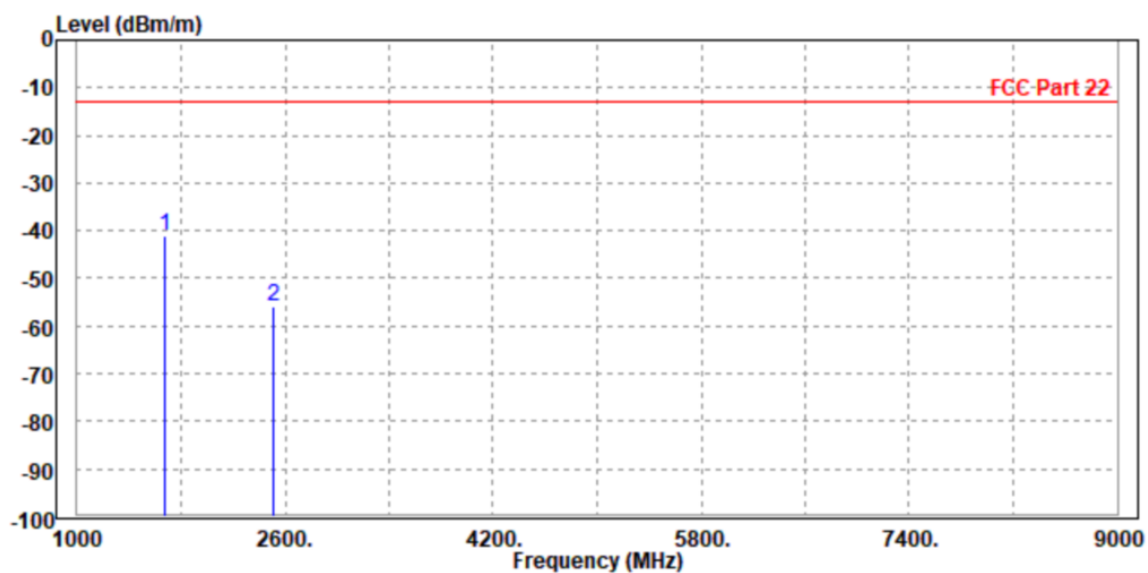




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1672.000	-41.03	-42.44	-13.00	-28.03	1.41	Peak	Horizontal
2	2509.500	-55.74	-60.23	-13.00	-42.74	4.49	Peak	Horizontal

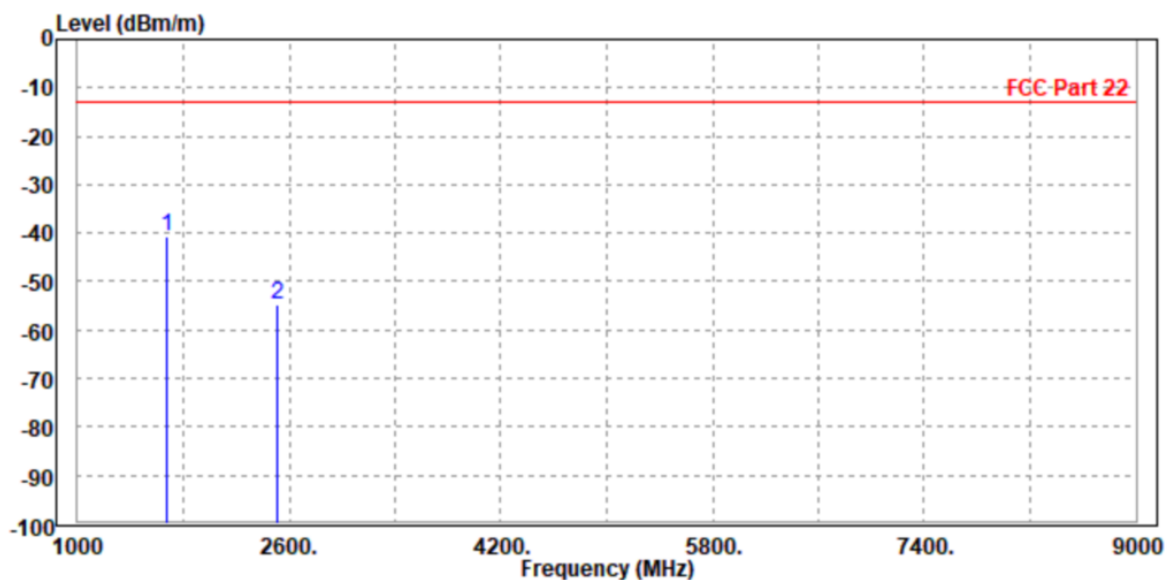




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1672.000	-40.54	-42.56	-13.00	-27.54	2.02	Peak	Vertical
2	2512.000	-54.83	-60.36	-13.00	-41.83	5.53	Peak	Vertical

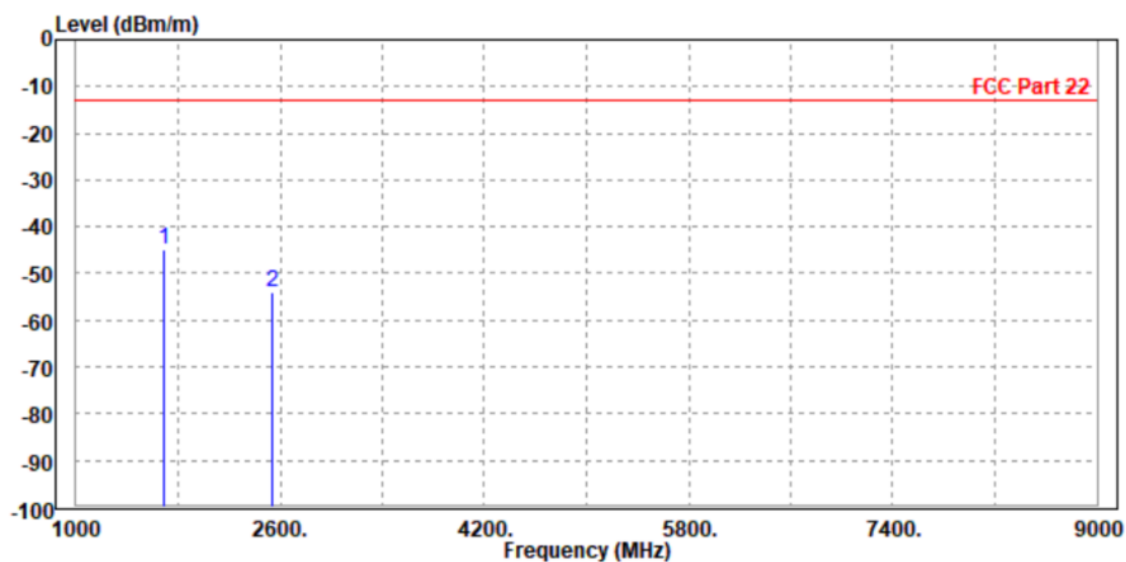




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1688.000	-44.68	-46.82	-13.00	-31.68	2.14	Peak	Vertical
2		2536.000	-53.86	-59.51	-13.00	-40.86	5.65	Peak	Vertical

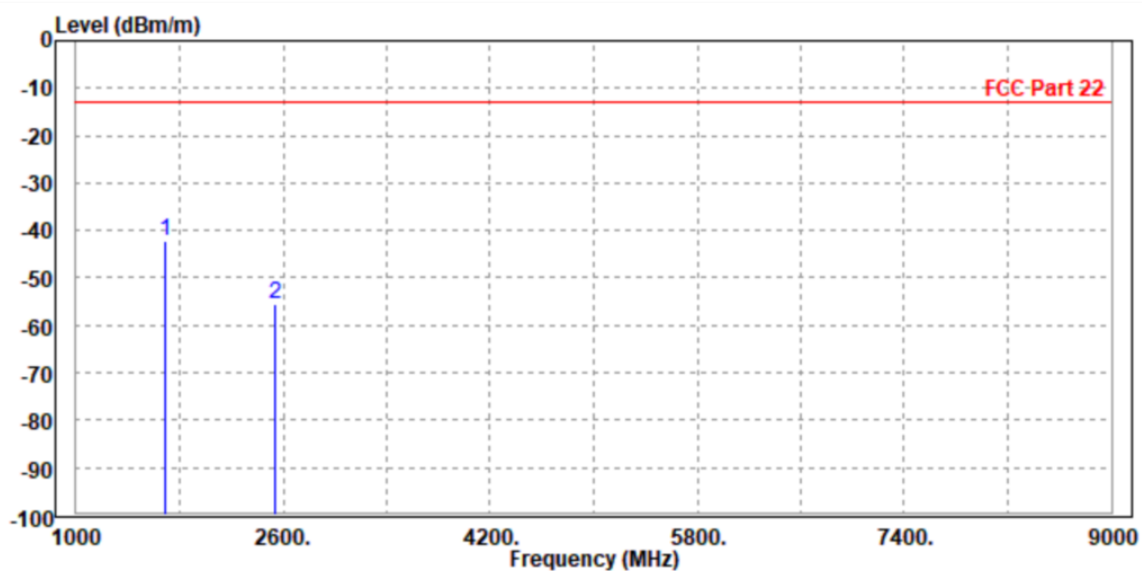




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read	Limit	Over	Factor	Remark	Pol/Phase
			Level	Line	Limit			
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1688.000	-42.05	-43.64	-13.00	-29.05	1.59	Peak	Horizontal
2	2535.000	-55.37	-59.94	-13.00	-42.37	4.57	Peak	Horizontal

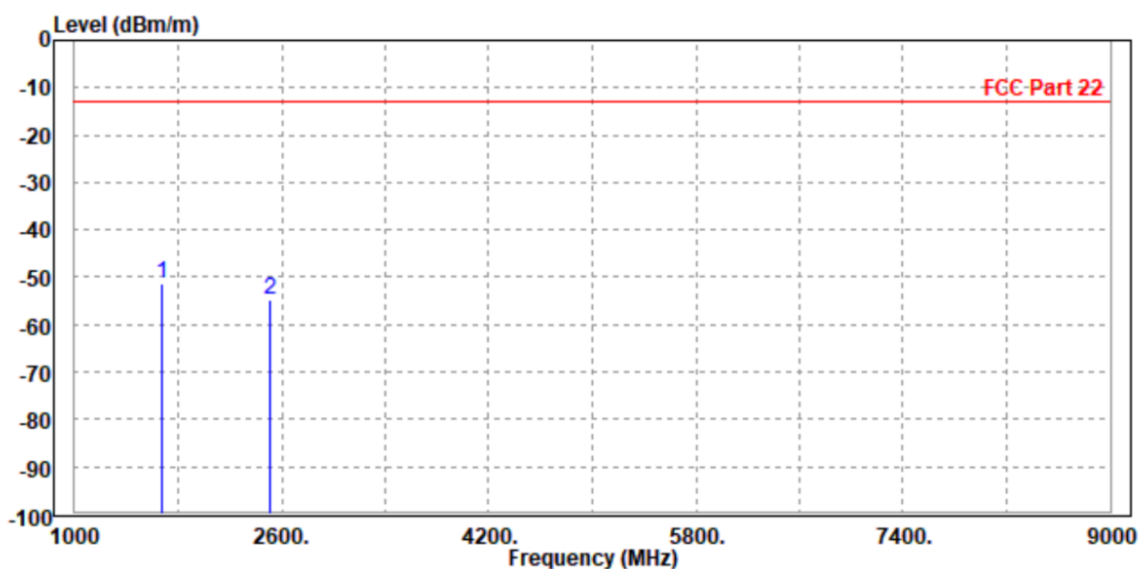




CHANNEL BANDWIDTH	15MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read	Limit	Over	Factor	Remark	Pol/Phase
			Level	Line	Limit			
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1680.000	-51.15	-52.65	-13.00	-38.15	1.50	Peak	Horizontal
2	2509.500	-54.70	-59.19	-13.00	-41.70	4.49	Peak	Horizontal

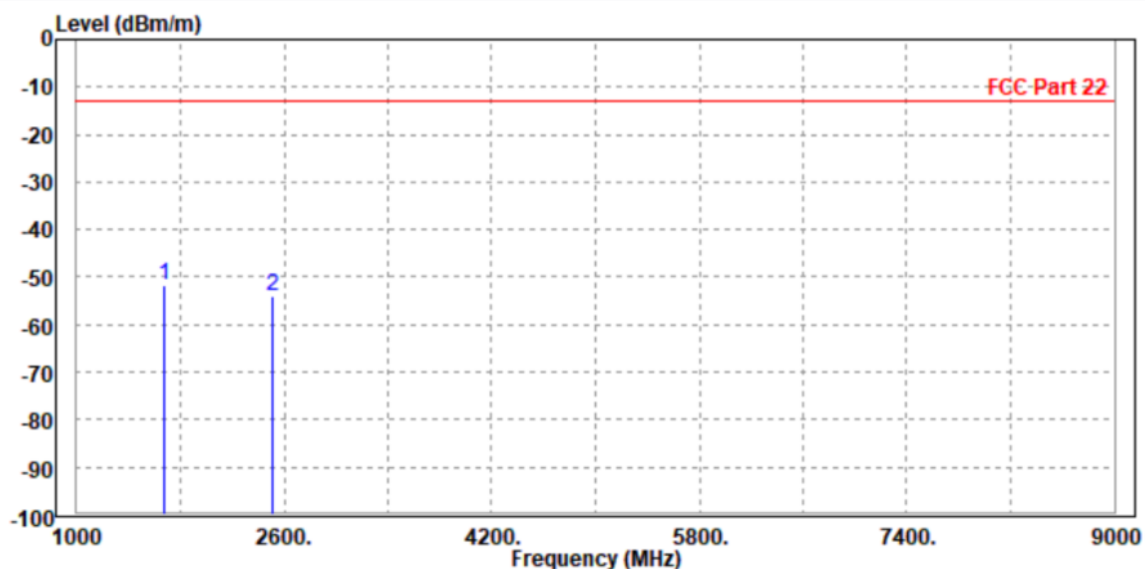




CHANNEL BANDWIDTH	15MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1672.000	-51.79	-53.81	-13.00	-38.79	2.02	Peak	Vertical
2	2512.000	-54.05	-59.58	-13.00	-41.05	5.53	Peak	Vertical

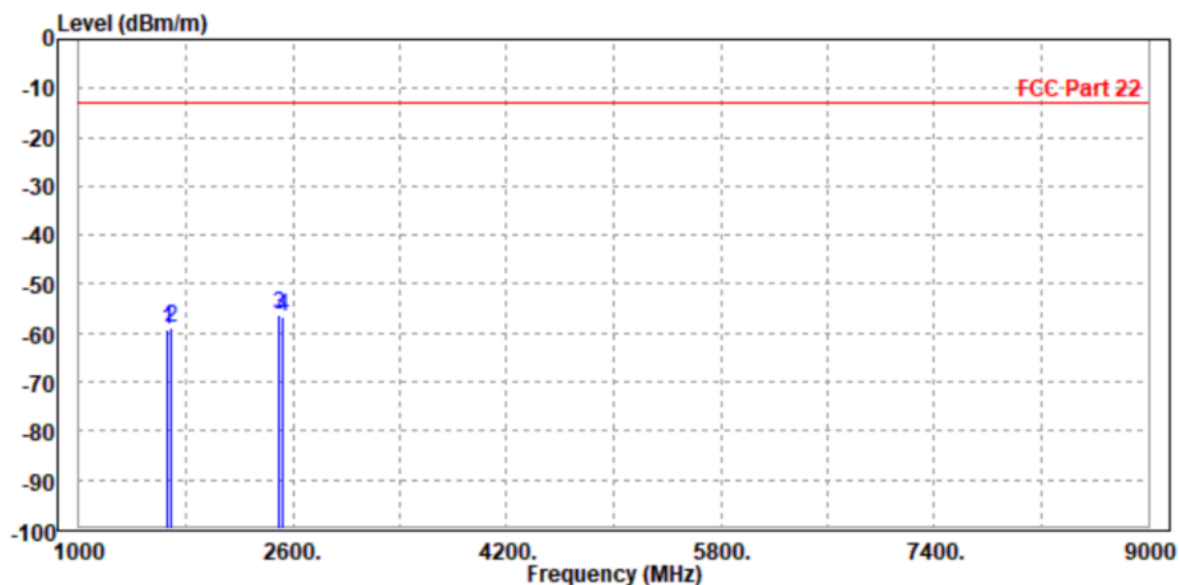




CA-5B(10M+10M)			
CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 165300
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1664.000	-59.49	-60.80	-13.00	-46.49	1.31	Peak	Horizontal
2	1683.000	-58.80	-60.33	-13.00	-45.80	1.53	Peak	Horizontal
3 PP	2494.800	-56.40	-60.86	-13.00	-43.40	4.46	Peak	Horizontal
4	2524.500	-56.79	-61.33	-13.00	-43.79	4.54	Peak	Horizontal

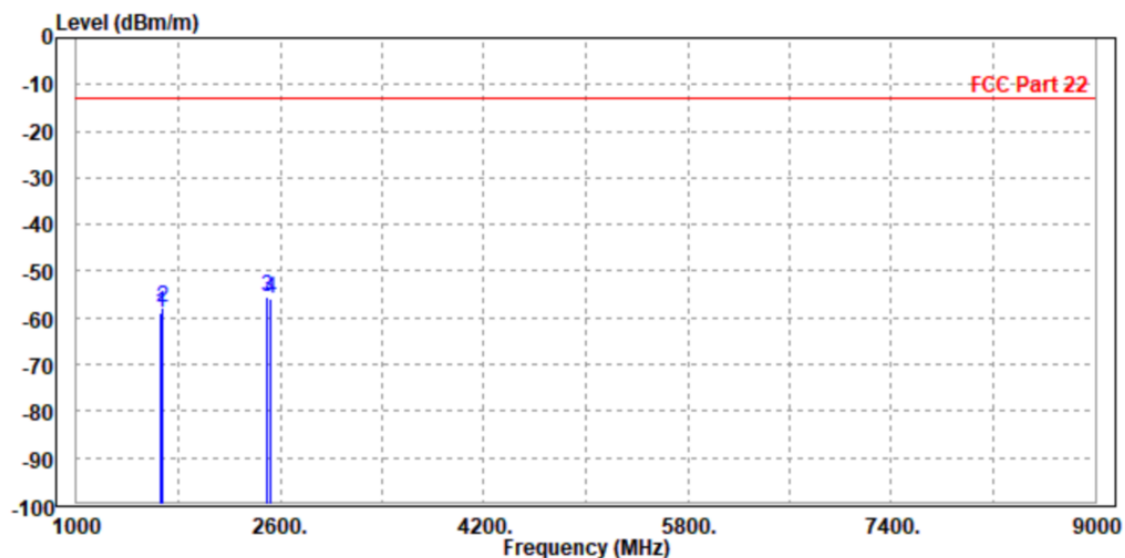




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 165300
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1663.200	-58.99	-60.94	-13.00	-45.99	1.95	Peak	Vertical
2	1680.000	-57.88	-59.96	-13.00	-44.88	2.08	Peak	Vertical
3 PP	2494.800	-55.50	-60.96	-13.00	-42.50	5.46	Peak	Vertical
4	2524.500	-56.00	-61.59	-13.00	-43.00	5.59	Peak	Vertical

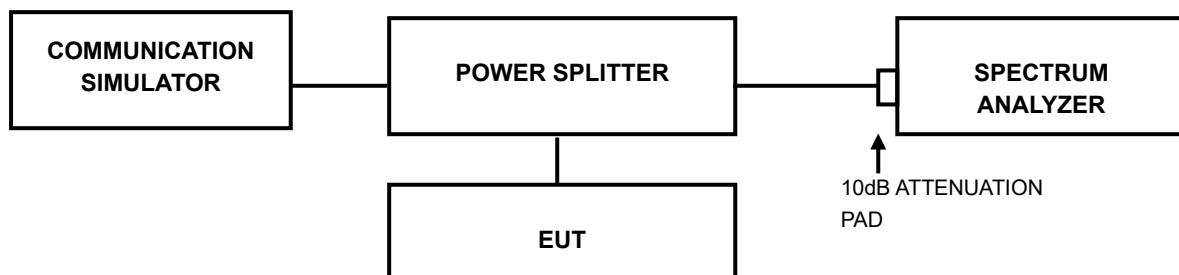


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

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



BUREAU VERITAS Test Report No.: PSU-QSU2411180418RF02

3.7.4 TEST RESULTS

Please Refer to Appendix of this test report.



4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



5 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

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

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008



6 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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



7 APPENDIX:

LTE BAND 26 (INCLUDING LTE BAND 5)

PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
26(824-849)	1.4MHz	QPSK	26797	1RB#0	5.07	13	PASS
26(824-849)	1.4MHz	QPSK	26797	6RB#0	5.42	13	PASS
26(824-849)	1.4MHz	QPSK	26915	1RB#0	5.34	13	PASS
26(824-849)	1.4MHz	QPSK	26915	6RB#0	5.67	13	PASS
26(824-849)	1.4MHz	QPSK	27033	1RB#0	5.34	13	PASS
26(824-849)	1.4MHz	QPSK	27033	6RB#0	5.58	13	PASS
26(824-849)	1.4MHz	64QAM	26797	1RB#0	6.40	13	PASS
26(824-849)	1.4MHz	64QAM	26797	6RB#0	6.56	13	PASS
26(824-849)	1.4MHz	64QAM	26915	1RB#0	6.38	13	PASS
26(824-849)	1.4MHz	64QAM	26915	6RB#0	6.66	13	PASS
26(824-849)	1.4MHz	64QAM	27033	1RB#0	6.45	13	PASS
26(824-849)	1.4MHz	64QAM	27033	6RB#0	6.56	13	PASS
26(824-849)	1.4MHz	256QAM	26797	1RB#0	6.80	13	PASS
26(824-849)	1.4MHz	256QAM	26797	6RB#0	6.79	13	PASS
26(824-849)	1.4MHz	256QAM	26915	1RB#0	6.84	13	PASS
26(824-849)	1.4MHz	256QAM	26915	6RB#0	6.84	13	PASS
26(824-849)	1.4MHz	256QAM	27033	1RB#0	6.94	13	PASS
26(824-849)	1.4MHz	256QAM	27033	6RB#0	6.88	13	PASS
26(824-849)	1.4MHz	16QAM	26797	1RB#0	5.94	13	PASS
26(824-849)	1.4MHz	16QAM	26797	6RB#0	6.24	13	PASS
26(824-849)	1.4MHz	16QAM	26915	1RB#0	6.12	13	PASS
26(824-849)	1.4MHz	16QAM	26915	6RB#0	6.39	13	PASS
26(824-849)	1.4MHz	16QAM	27033	1RB#0	6.08	13	PASS



849)							
26(824-849)	1.4MHz	16QAM	27033	6RB#0	6.37	13	PASS
26(824-849)	3MHz	QPSK	26805	1RB#0	5.12	13	PASS
26(824-849)	3MHz	QPSK	26805	15RB#0	5.39	13	PASS
26(824-849)	3MHz	QPSK	26915	1RB#0	5.34	13	PASS
26(824-849)	3MHz	QPSK	26915	15RB#0	5.61	13	PASS
26(824-849)	3MHz	QPSK	27025	1RB#0	5.41	13	PASS
26(824-849)	3MHz	QPSK	27025	15RB#0	5.63	13	PASS
26(824-849)	3MHz	64QAM	26805	1RB#0	6.30	13	PASS
26(824-849)	3MHz	64QAM	26805	15RB#0	6.56	13	PASS
26(824-849)	3MHz	64QAM	26915	1RB#0	6.49	13	PASS
26(824-849)	3MHz	64QAM	26915	15RB#0	6.62	13	PASS
26(824-849)	3MHz	64QAM	27025	1RB#0	6.45	13	PASS
26(824-849)	3MHz	64QAM	27025	15RB#0	6.54	13	PASS
26(824-849)	3MHz	256QAM	26805	1RB#0	6.80	13	PASS
26(824-849)	3MHz	256QAM	26805	15RB#0	6.79	13	PASS
26(824-849)	3MHz	256QAM	26915	1RB#0	6.95	13	PASS
26(824-849)	3MHz	256QAM	26915	15RB#0	6.84	13	PASS
26(824-849)	3MHz	256QAM	27025	1RB#0	6.97	13	PASS
26(824-849)	3MHz	256QAM	27025	15RB#0	6.86	13	PASS
26(824-849)	3MHz	16QAM	26805	1RB#0	5.89	13	PASS
26(824-849)	3MHz	16QAM	26805	15RB#0	6.21	13	PASS
26(824-849)	3MHz	16QAM	26915	1RB#0	6.24	13	PASS
26(824-849)	3MHz	16QAM	26915	15RB#0	6.37	13	PASS
26(824-849)	3MHz	16QAM	27025	1RB#0	6.18	13	PASS
26(824-849)	3MHz	16QAM	27025	15RB#0	6.38	13	PASS
26(824-849)	5MHz	QPSK	26815	1RB#0	5.08	13	PASS
26(824-849)	5MHz	QPSK	26815	25RB#0	5.41	13	PASS
26(824-849)	5MHz	QPSK	26915	1RB#0	5.35	13	PASS



849)							
26(824-849)	5MHz	QPSK	26915	25RB#0	5.60	13	PASS
26(824-849)	5MHz	QPSK	27015	1RB#0	5.26	13	PASS
26(824-849)	5MHz	QPSK	27015	25RB#0	5.61	13	PASS
26(824-849)	5MHz	64QAM	26815	1RB#0	6.32	13	PASS
26(824-849)	5MHz	64QAM	26815	25RB#0	6.57	13	PASS
26(824-849)	5MHz	64QAM	26915	1RB#0	6.58	13	PASS
26(824-849)	5MHz	64QAM	26915	25RB#0	6.59	13	PASS
26(824-849)	5MHz	64QAM	27015	1RB#0	6.38	13	PASS
26(824-849)	5MHz	64QAM	27015	25RB#0	6.58	13	PASS
26(824-849)	5MHz	256QAM	26815	1RB#0	6.85	13	PASS
26(824-849)	5MHz	256QAM	26815	25RB#0	6.78	13	PASS
26(824-849)	5MHz	256QAM	26915	1RB#0	6.87	13	PASS
26(824-849)	5MHz	256QAM	26915	25RB#0	6.81	13	PASS
26(824-849)	5MHz	256QAM	27015	1RB#0	6.83	13	PASS
26(824-849)	5MHz	256QAM	27015	25RB#0	6.84	13	PASS
26(824-849)	5MHz	16QAM	26815	1RB#0	5.89	13	PASS
26(824-849)	5MHz	16QAM	26815	25RB#0	6.21	13	PASS
26(824-849)	5MHz	16QAM	26915	1RB#0	6.14	13	PASS
26(824-849)	5MHz	16QAM	26915	25RB#0	6.38	13	PASS
26(824-849)	5MHz	16QAM	27015	1RB#0	6.07	13	PASS
26(824-849)	5MHz	16QAM	27015	25RB#0	6.38	13	PASS
26(824-849)	10MHz	QPSK	26840	1RB#0	5.01	13	PASS
26(824-849)	10MHz	QPSK	26840	50RB#0	5.54	13	PASS
26(824-849)	10MHz	QPSK	26915	1RB#0	5.19	13	PASS
26(824-849)	10MHz	QPSK	26915	50RB#0	5.60	13	PASS
26(824-849)	10MHz	QPSK	26990	1RB#0	5.10	13	PASS
26(824-849)	10MHz	QPSK	26990	50RB#0	5.63	13	PASS
26(824-849)	10MHz	64QAM	26840	1RB#0	6.40	13	PASS



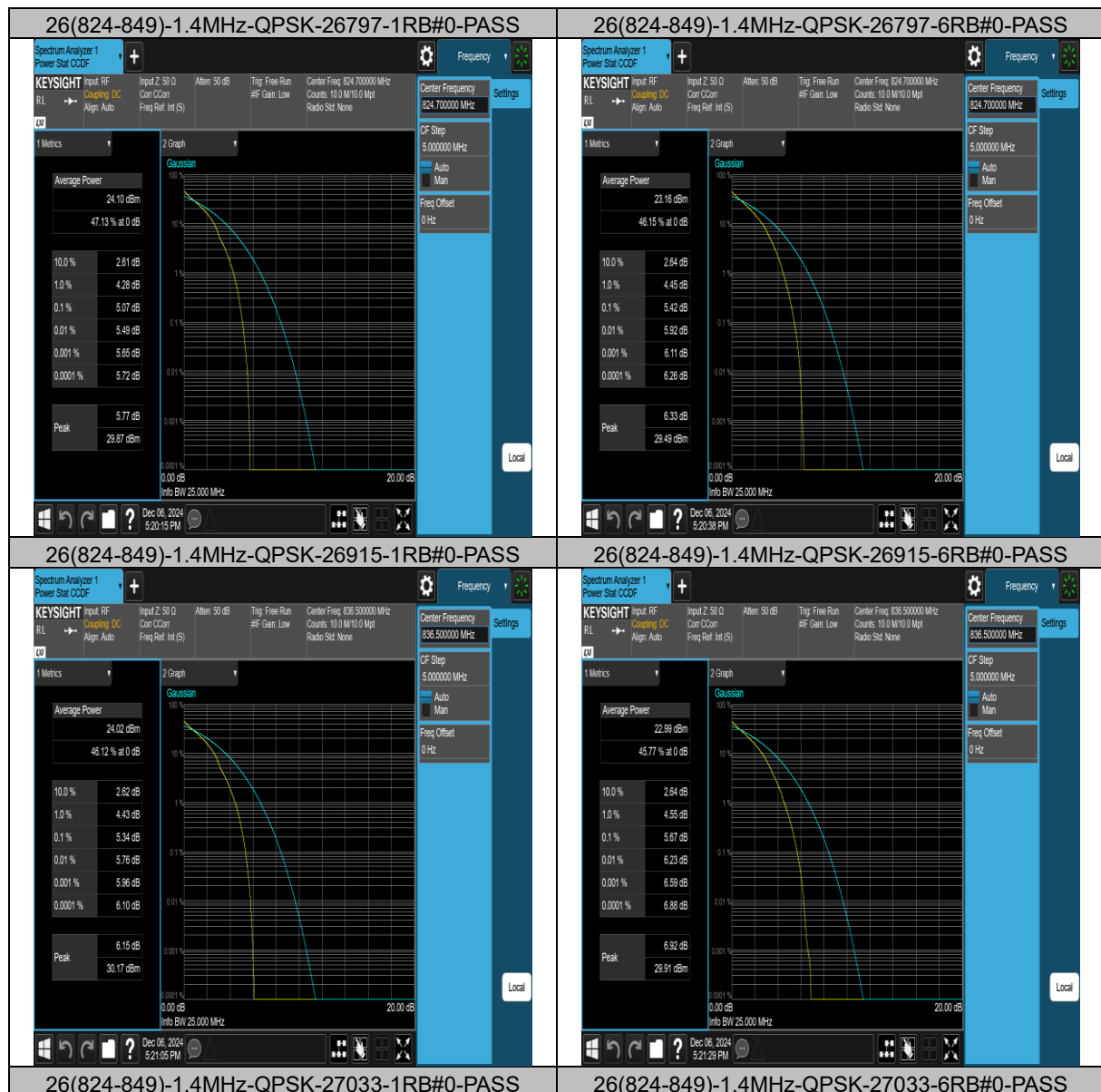
849)							
26(824-849)	10MHz	64QAM	26840	50RB#0	6.64	13	PASS
26(824-849)	10MHz	64QAM	26915	1RB#0	6.47	13	PASS
26(824-849)	10MHz	64QAM	26915	50RB#0	6.57	13	PASS
26(824-849)	10MHz	64QAM	26990	1RB#0	6.23	13	PASS
26(824-849)	10MHz	64QAM	26990	50RB#0	6.56	13	PASS
26(824-849)	10MHz	256QAM	26840	1RB#0	6.77	13	PASS
26(824-849)	10MHz	256QAM	26840	50RB#0	6.79	13	PASS
26(824-849)	10MHz	256QAM	26915	1RB#0	6.94	13	PASS
26(824-849)	10MHz	256QAM	26915	50RB#0	6.78	13	PASS
26(824-849)	10MHz	256QAM	26990	1RB#0	6.75	13	PASS
26(824-849)	10MHz	256QAM	26990	50RB#0	6.78	13	PASS
26(824-849)	10MHz	16QAM	26840	1RB#0	5.90	13	PASS
26(824-849)	10MHz	16QAM	26840	50RB#0	6.31	13	PASS
26(824-849)	10MHz	16QAM	26915	1RB#0	6.11	13	PASS
26(824-849)	10MHz	16QAM	26915	50RB#0	6.35	13	PASS
26(824-849)	10MHz	16QAM	26990	1RB#0	6.00	13	PASS
26(824-849)	10MHz	16QAM	26990	50RB#0	6.39	13	PASS
26(824-849)	15MHz	QPSK	26865	1RB#0	5.11	13	PASS
26(824-849)	15MHz	QPSK	26865	75RB#0	5.92	13	PASS
26(824-849)	15MHz	QPSK	26915	1RB#0	5.20	13	PASS
26(824-849)	15MHz	QPSK	26915	75RB#0	5.92	13	PASS
26(824-849)	15MHz	QPSK	26965	1RB#0	5.40	13	PASS
26(824-849)	15MHz	QPSK	26965	75RB#0	5.97	13	PASS
26(824-849)	15MHz	64QAM	26865	1RB#0	6.34	13	PASS
26(824-849)	15MHz	64QAM	26865	75RB#0	6.67	13	PASS
26(824-849)	15MHz	64QAM	26915	1RB#0	6.33	13	PASS
26(824-849)	15MHz	64QAM	26915	75RB#0	6.64	13	PASS
26(824-849)	15MHz	64QAM	26965	1RB#0	6.57	13	PASS

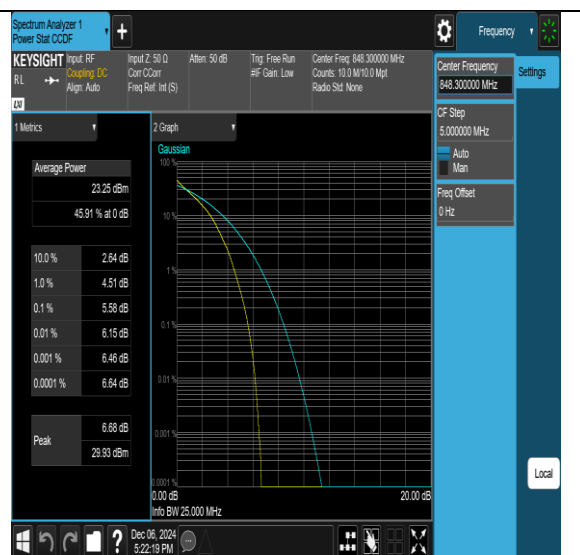
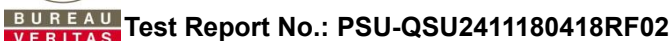


849)							
26(824-849)	15MHz	64QAM	26965	75RB#0	6.60	13	PASS
26(824-849)	15MHz	256QAM	26865	1RB#0	6.75	13	PASS
26(824-849)	15MHz	256QAM	26865	75RB#0	6.79	13	PASS
26(824-849)	15MHz	256QAM	26915	1RB#0	6.83	13	PASS
26(824-849)	15MHz	256QAM	26915	75RB#0	6.75	13	PASS
26(824-849)	15MHz	256QAM	26965	1RB#0	6.78	13	PASS
26(824-849)	15MHz	256QAM	26965	75RB#0	6.74	13	PASS
26(824-849)	15MHz	16QAM	26865	1RB#0	5.95	13	PASS
26(824-849)	15MHz	16QAM	26865	75RB#0	6.45	13	PASS
26(824-849)	15MHz	16QAM	26915	1RB#0	6.02	13	PASS
26(824-849)	15MHz	16QAM	26915	75RB#0	6.44	13	PASS
26(824-849)	15MHz	16QAM	26965	1RB#0	6.19	13	PASS
26(824-849)	15MHz	16QAM	26965	75RB#0	6.45	13	PASS



Test Graphs



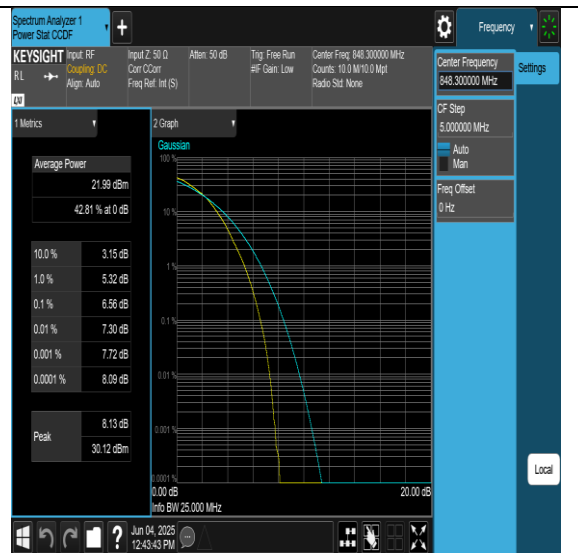




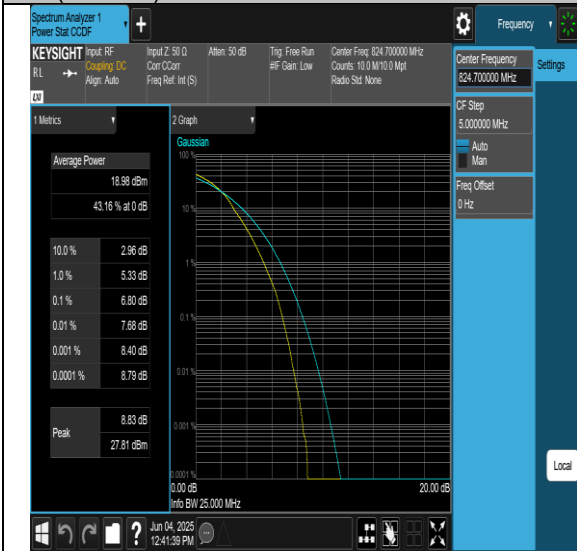
BUREAU VERITAS Test Report No.: PSU-QSU2411180418RF02



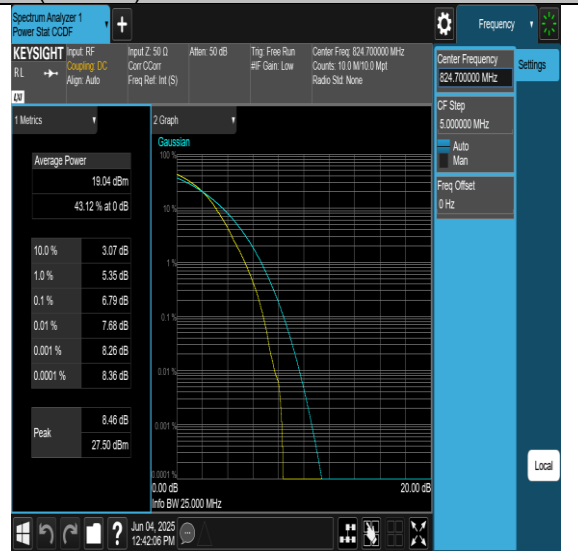
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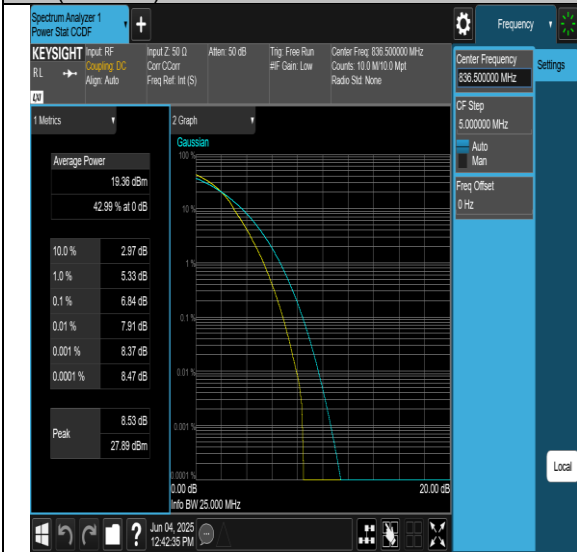
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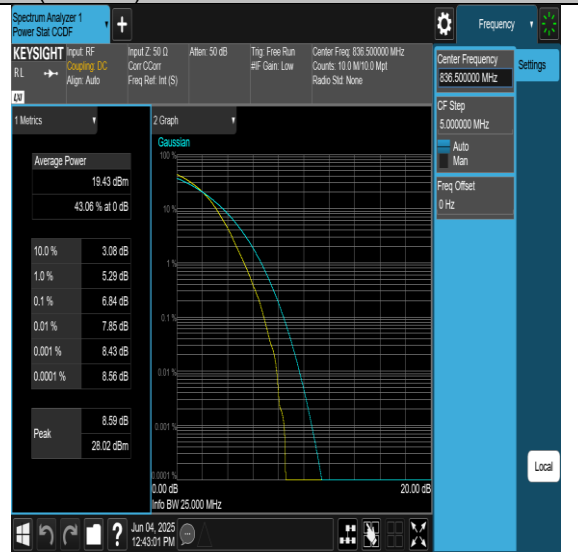
26(824-849)-1.4MHz-256QAM-26915-1RB#0-PASS



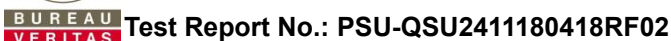
26(824-849)-1.4MHz-256QAM-26915-6RB#0-PASS



26(824-849)-1.4MHz-256QAM-27033-1RB#0-PASS

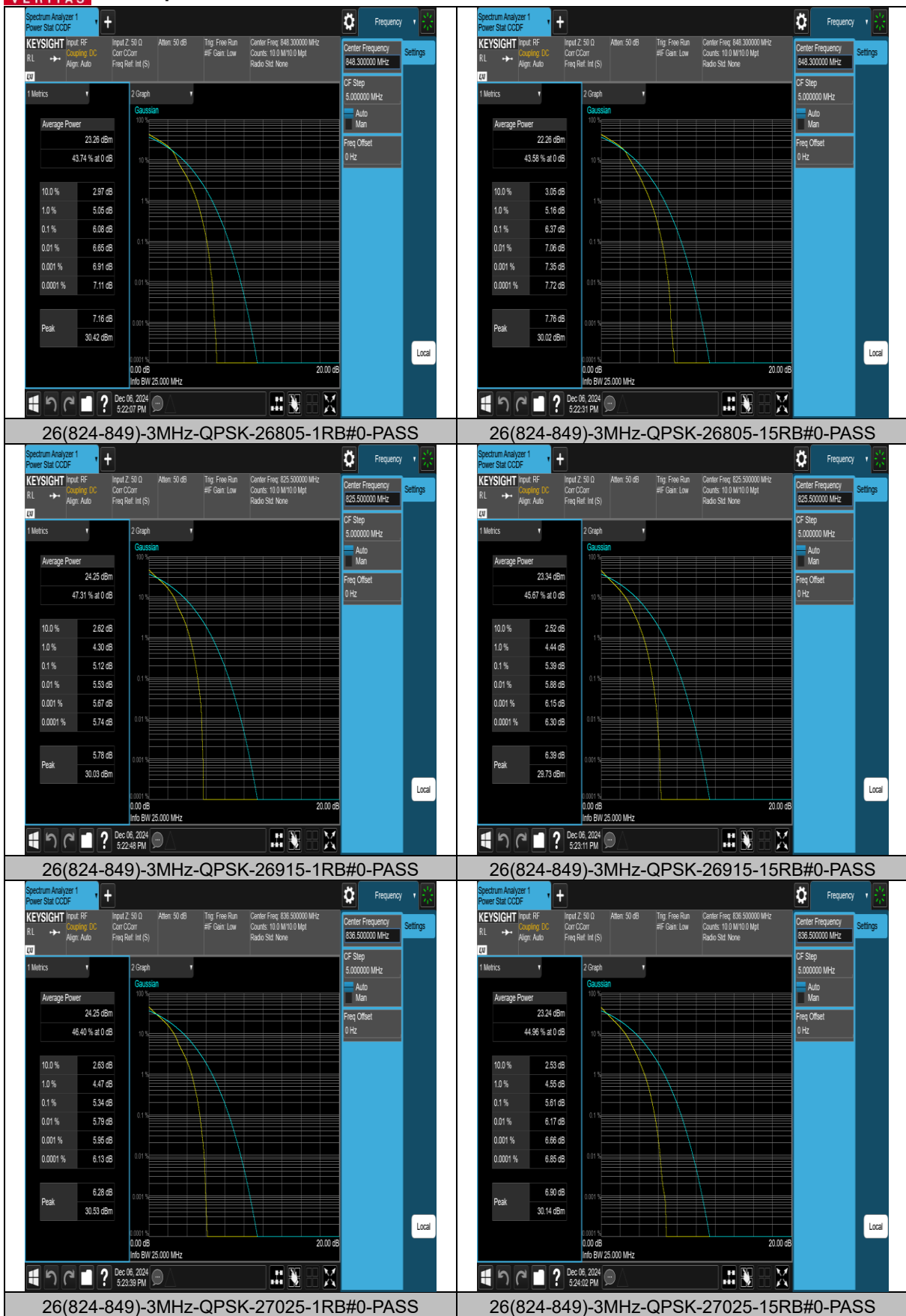


26(824-849)-1.4MHz-256QAM-27033-6RB#0-PASS





BUREAU VERITAS Test Report No.: PSU-QSU2411180418RF02

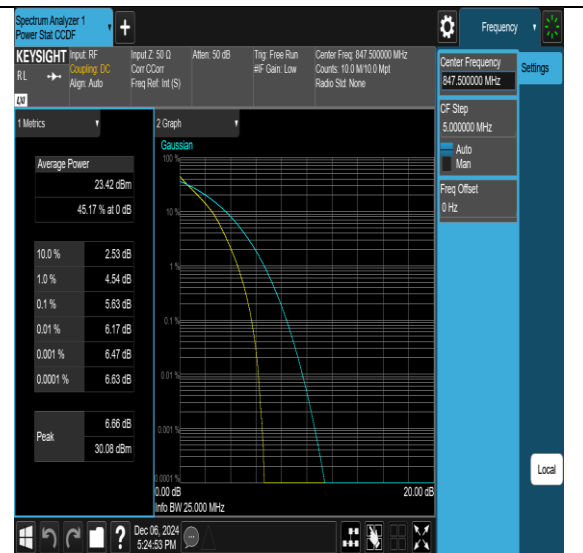




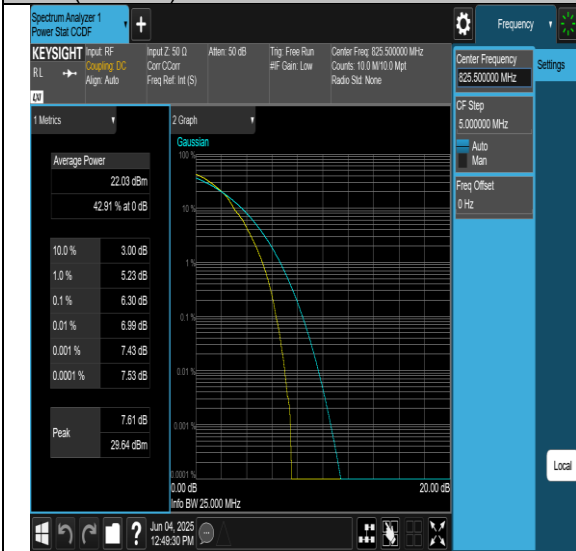
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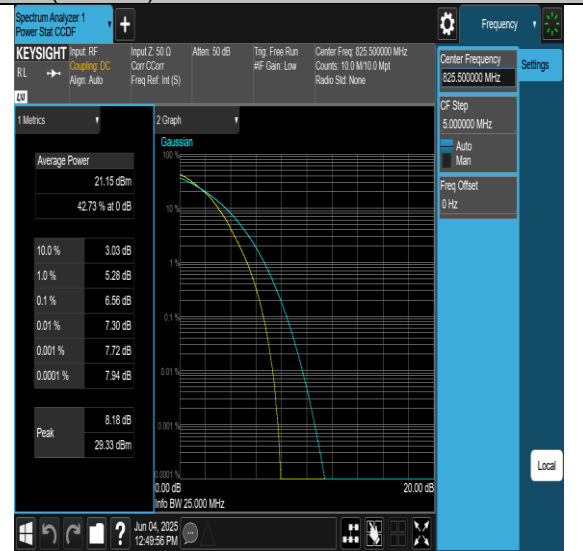
26(824-849)-3MHz-64QAM-26805-1RB#0-PASS



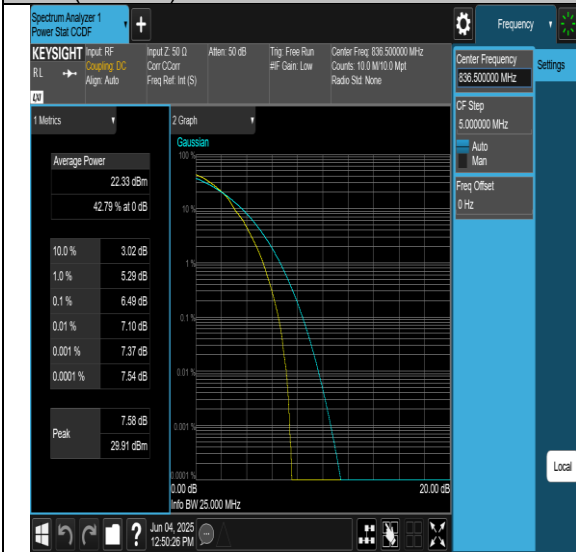
26(824-849)-3MHz-64QAM-26805-15RB#0-PASS



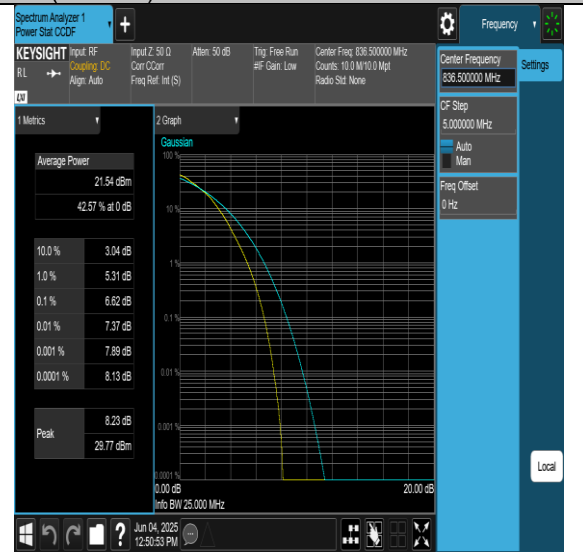
26(824-849)-3MHz-64QAM-26915-1RB#0-PASS



26(824-849)-3MHz-64QAM-26915-15RB#0-PASS



26(824-849)-3MHz-64QAM-27025-1RB#0-PASS



26(824-849)-3MHz-64QAM-27025-15RB#0-PASS