

FCC TEST REPORT

(PART 22)

Applicant:	Shenzhen Jimi IoT Co., Ltd.
Address:	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China


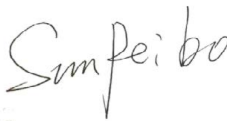
Manufacturer or Supplier:	Shenzhen Jimi IoT Co., Ltd.
Address:	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China
Product:	Positioning Fuel Level Sensor
Brand Name:	jimiiot
Model Name:	KL100
FCC ID	2AMLF-KL100
Date of tests	Jun. 05, 2025 ~ Jun. 12, 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: Jun. 12, 2025	Date: Jun. 12, 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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Test Report No.: PSU-QSZ2504270113RF01

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSZ2504270113RF01	Original release	Jun. 12, 2025



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 24			
STANDARD SECTION	TEST TYPE	RESULT	Test lab*
§2.1046	Conducted Output Power	See note	/
§22.913 (a)(5)	Equivalent Isotropic Radiated Power	Compliance	A
§2.1055 §22.355	Frequency Stability	See note	/
§2.1049	Occupied Bandwidth	See note	/
§22.913 (d)	Peak to average ratio*	See note	/
§2.1051 §22.917(a)	Band Edge Measurements	See note	/
§2.1051 §22.917(a)	Conducted Spurious Emissions	See note	/
§2.1053 §22.917(a)	Radiated Spurious Emissions	Compliance	A

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

NOTE: Please Refer to Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA

*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.

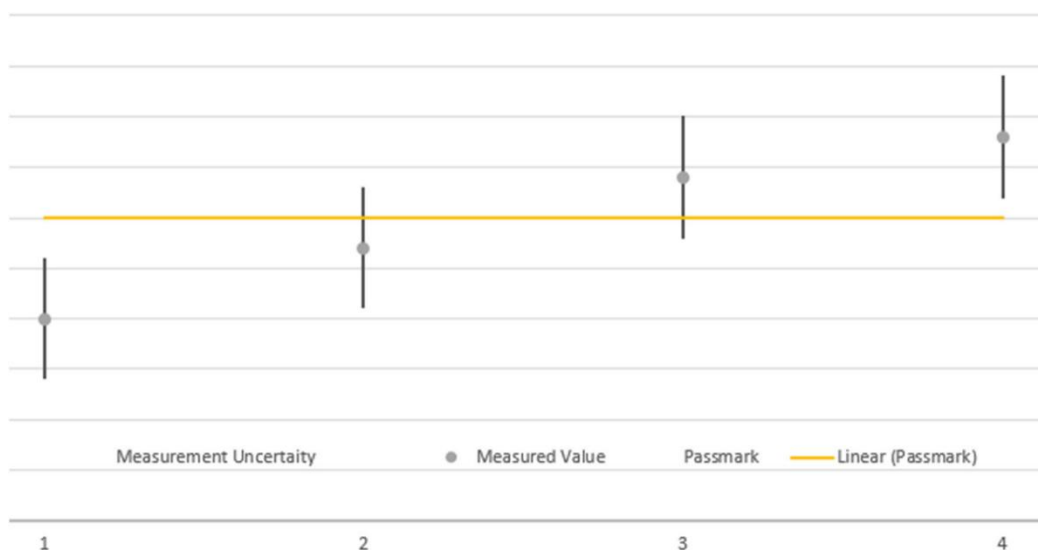


1.1 MEASUREMENT UNCERTAINTY

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

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,23	Aug.29,25
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.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	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	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,23	Aug.21,25
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	Aug.22,23	Aug.21,25
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.31,23	Aug.30,25
Hygrothermograph	DELI	20210528	SZ014	Sep.06,23	Sep.05,25
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



NOTE:

1. The calibration interval of the above test instruments is 12 months or 24 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Positioning Fuel Level Sensor	
BRAND NAME*	jimiiot	
MODEL NAME*	KL100	
NOMINAL VOLTAGE*	12 Vdc	
MODULATION TYPE	GPRS/EDGE	GMSK,8PSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	GPRS/EDGE	824.2MHz ~ 848.8MHz
	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
MAX. ERP POWER	GSM850	736.21mW
	EDGE850	343.56mW
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	125.89mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	129.12mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	127.64mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	129.42mW
EMISSION DESIGNATOR GOGN	GSM850	246KGXW
	EDGE850	247KG7W
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	QPSK: 1M09G7D 16QAM: 1M09W7D
	LTE Band 5 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D 16QAM: 2M69W7D
	LTE Band 5 (Channel Bandwidth: 5MHz)	QPSK: 4M50G7D 16QAM: 4M50W7D
	LTE Band 5 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D
ANTENNA GAIN*	GSM850	-0.4dBi
	LTE B5	-0.4dBi
ANTENNA TYPE*	PIFA Antenna	
HW VERSION*	KL100_MB_V1.1	



SW VERSION*	KL100_KL100_WEBI_V1.2_250318.2028
I/O PORTS*	Refer to user's manual
CABLE SUPPLIED*	N/A
EXTREME TEMPERATURE*	-20°C~70°C
EXTREME VOLTAGE*	9V~30V

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 one receivers.

MODULATION MODE	TX FUNCTION
GPRS/EDGE	1TX/1RX
LTE	1TX/1RX

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

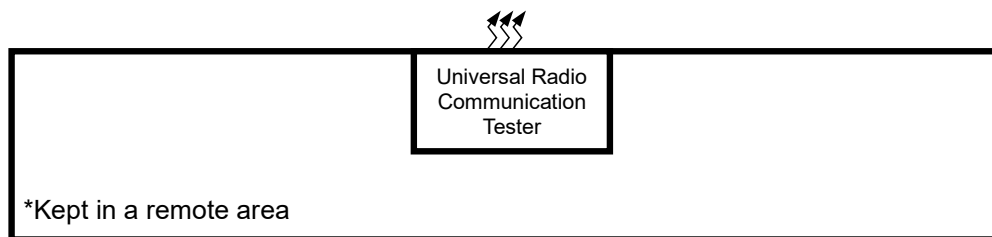
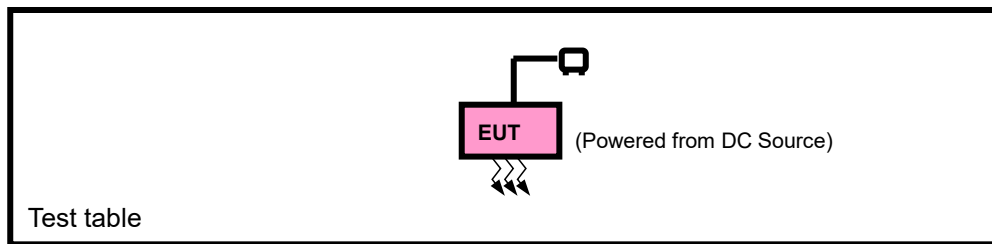
5. **List of Accessory:**

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	N/A	Huizhou SRE Technology Co., LTD.	432033	Capacity: 3.7Vdc, 270mAh



2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION





2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC Source	HYELEC	HY3010B	551016	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC 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 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 + DC Supply with GSM or LTE link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	MODE
A	ERP	128 to 251	128, 189, 251	GSM,EDGE
A	RADIATED EMISSION	128 to 251	128, 189, 251	GSM,EDGE

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	1 RB / 0 RB Offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
		20415 to 20635	20525	3MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20525	10MHz	QPSK	1 RB / 0 RB Offset

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



Test Report No.: PSU-QSZ2504270113RF01

TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 12V By DC Source	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 12V By DC Source	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:

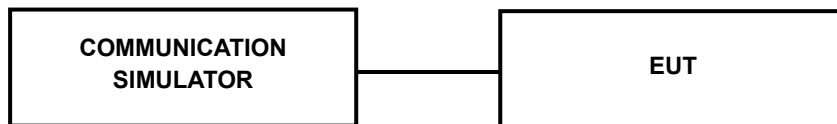
The EUT was set up for the maximum power with WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.



3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS



GSM850_Ant1					
Modulation	Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	FCC Limit (W)
GPRS	128	824.2	28.62	727.78	7
	189	836.4	28.61	726.11	7
	251	848.8	28.67	736.21	7
EDGE	128	824.2	25.36	343.56	7
	189	836.4	24.8	302	7
	251	848.8	24.81	302.69	7



CHANNEL BANDWIDTH: 1.4MHz QPSK				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	21.00	125.89	7
20525	836.5	20.85	121.62	7
20643	848.3	20.85	121.62	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	20.71	117.76	7
20525	836.5	20.48	111.69	7
20643	848.3	20.46	111.17	7

CHANNEL BANDWIDTH: 3MHz QPSK				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	21.11	129.12	7
20525	836.5	21.01	126.18	7
20643	848.3	20.95	124.45	7

CHANNEL BANDWIDTH: 3MHz 16QAM				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	20.17	103.99	7
20525	836.5	19.97	99.31	7
20643	848.3	19.90	97.72	7

CHANNEL BANDWIDTH: 5MHz QPSK				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	21.06	127.64	7
20525	836.5	20.94	124.17	7
20625	846.5	20.99	125.60	7



CHANNEL BANDWIDTH: 5MHz 16QAM				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	20.21	104.95	7
20525	836.5	19.95	98.86	7
20625	846.5	19.84	96.38	7

CHANNEL BANDWIDTH: 10MHz QPSK				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	21.12	129.42	7
20525	836.5	21.06	127.64	7
20600	844	21.00	125.89	7

CHANNEL BANDWIDTH: 10MHz 16QAM				
Channel	Frequency (MHz)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	20.23	105.44	7
20525	836.5	19.99	99.77	7
20600	844	19.95	98.86	7

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



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

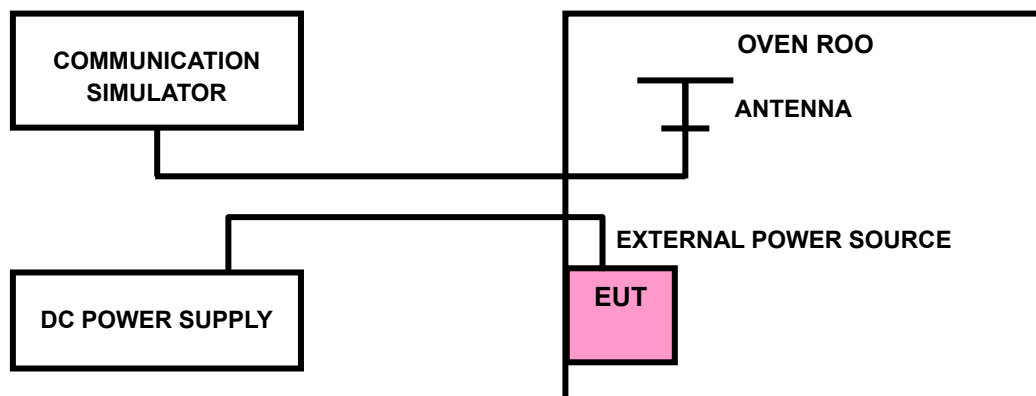
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

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

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Please Refer to Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA.

Note: VL = Low voltage(9V); VN/NV = Normal voltage(12V); VH = High voltage(30V);

NT = Normal temperature (25°C)

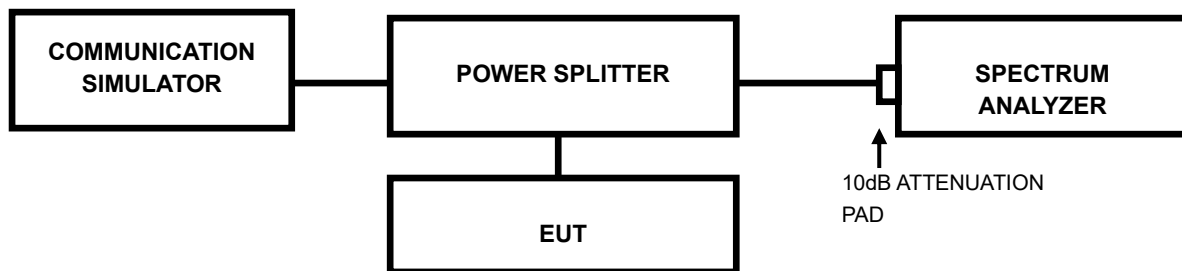


3.3 OCCUPIED BANDWIDTH MEASUREMENT

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 Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA

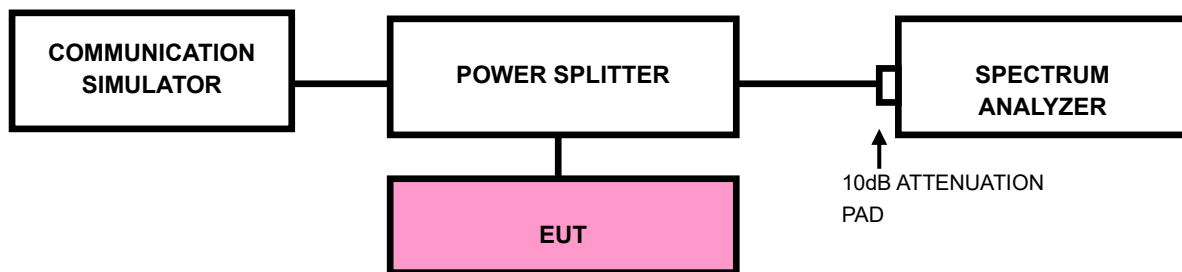


3.4 BAND EDGE MEASUREMENT

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 Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA



3.5 CONDUCTED SPURIOUS EMISSIONS

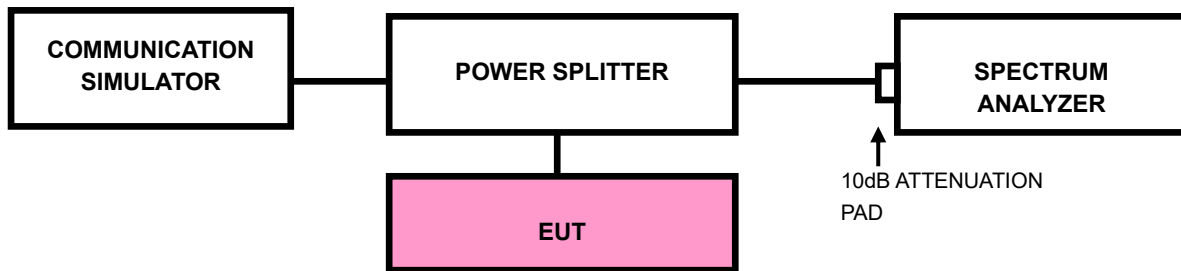
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA



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.

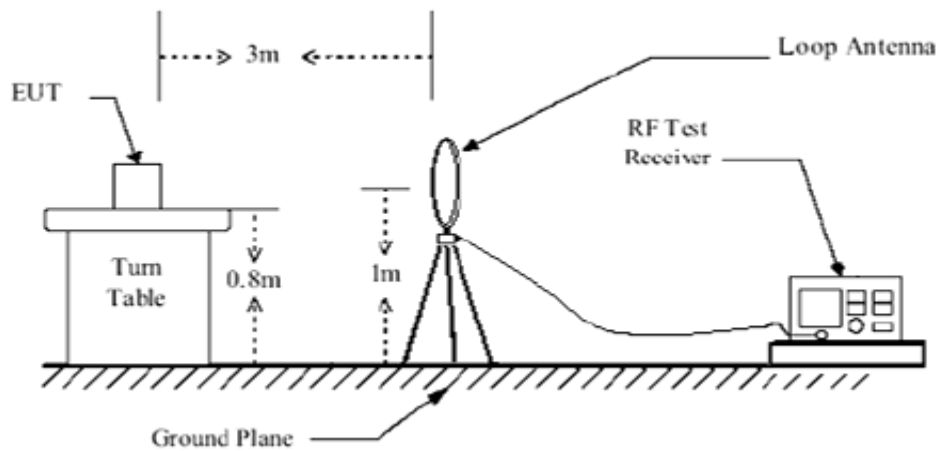
3.6.3 DEVIATION FROM TEST STANDARD

No deviation

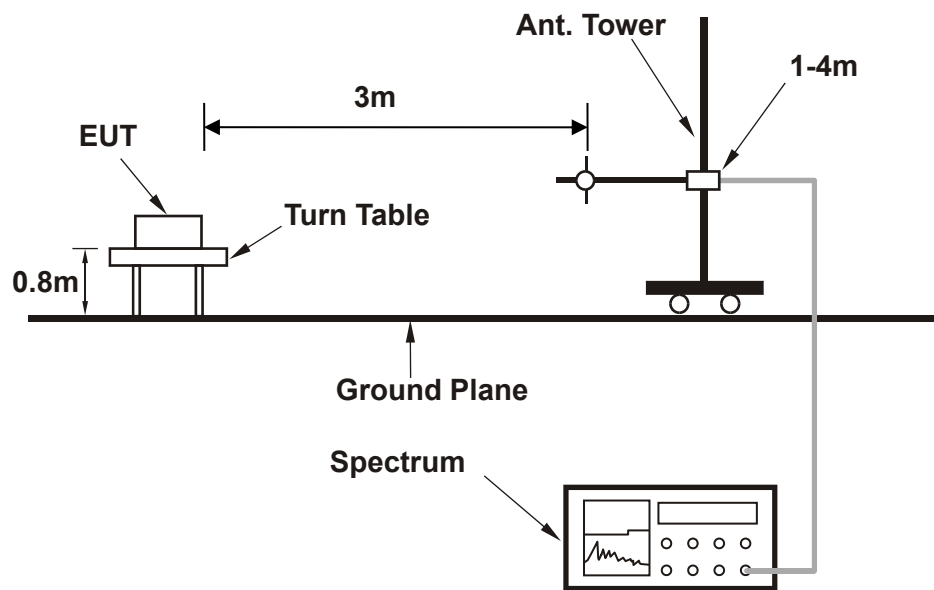


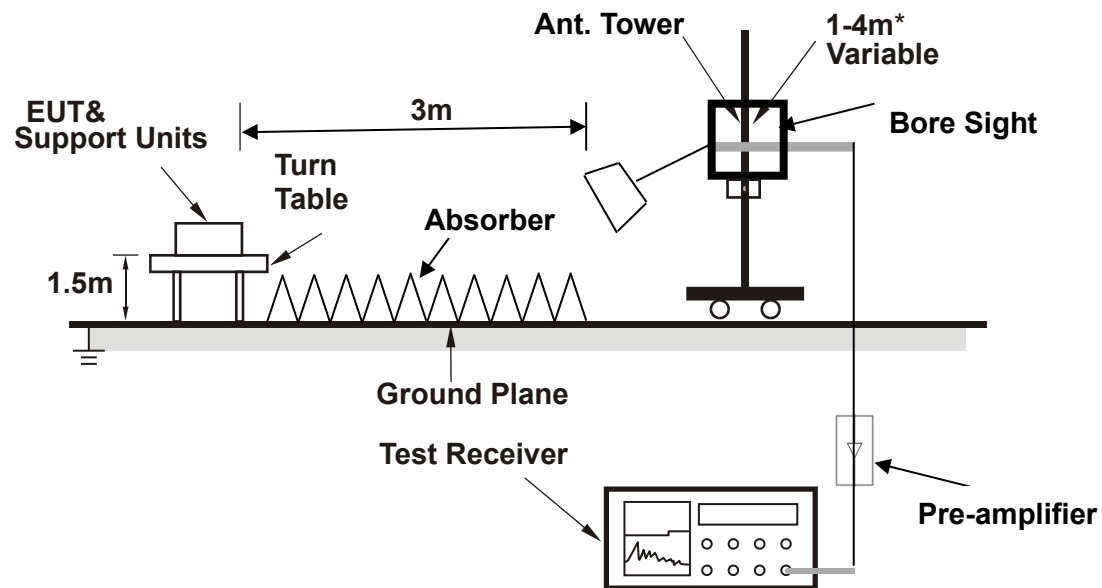
3.6.4 TEST SETUP

< 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

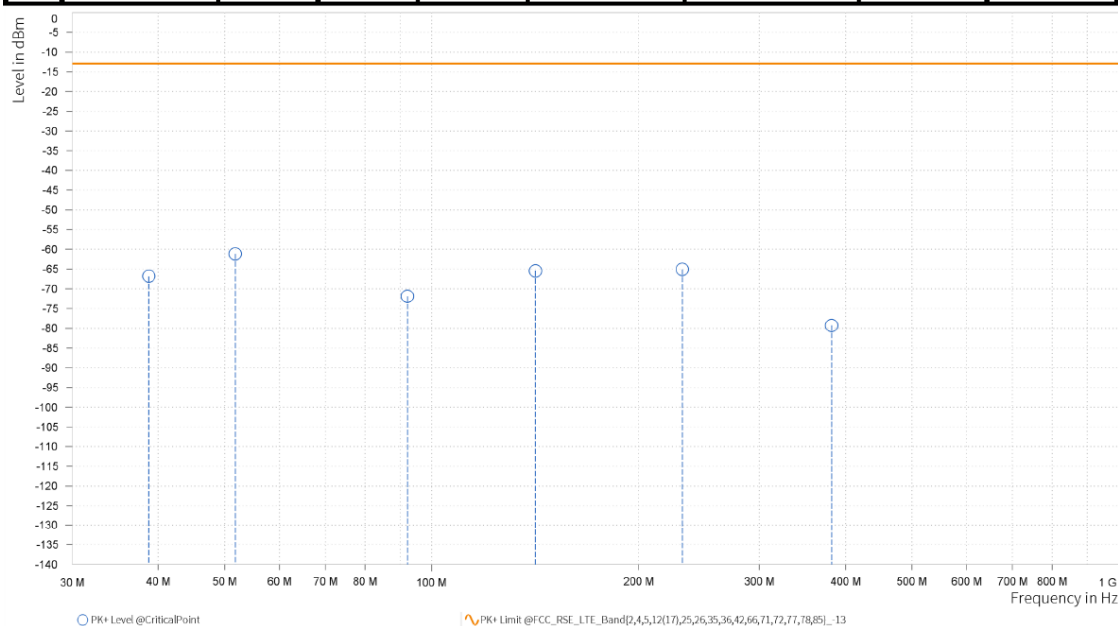
NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

LTE BAND 5			
MODE	TX channel 20525	FREQUENCY RANGE	Below 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]
1	38.750	-66.82	-13.00	53.82	-0.80	H	156.3	2.00
1	51.800	-61.16	-13.00	48.16	-2.71	H	355.8	2.00
1	92.200	-71.90	-13.00	58.90	-11.13	H	268.7	2.00
1	141.600	-65.45	-13.00	52.45	-14.45	H	268.7	2.00
1	231.550	-65.06	-13.00	52.06	1.40	H	210.8	1.00
1	381.900	-79.28	-13.00	66.28	0.37	H	268.7	2.00

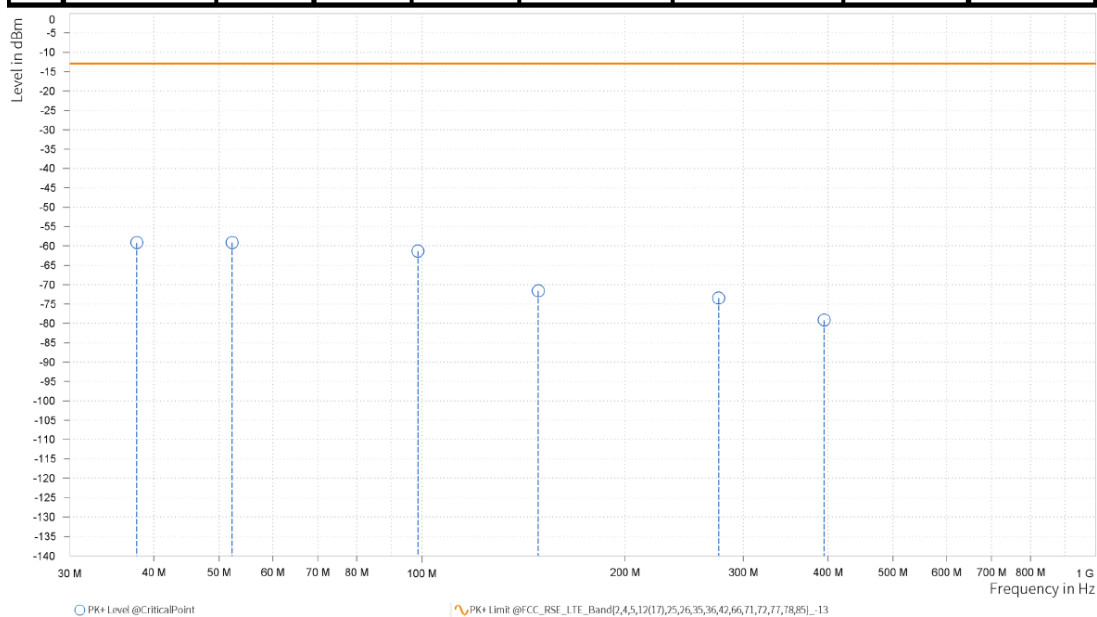




MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

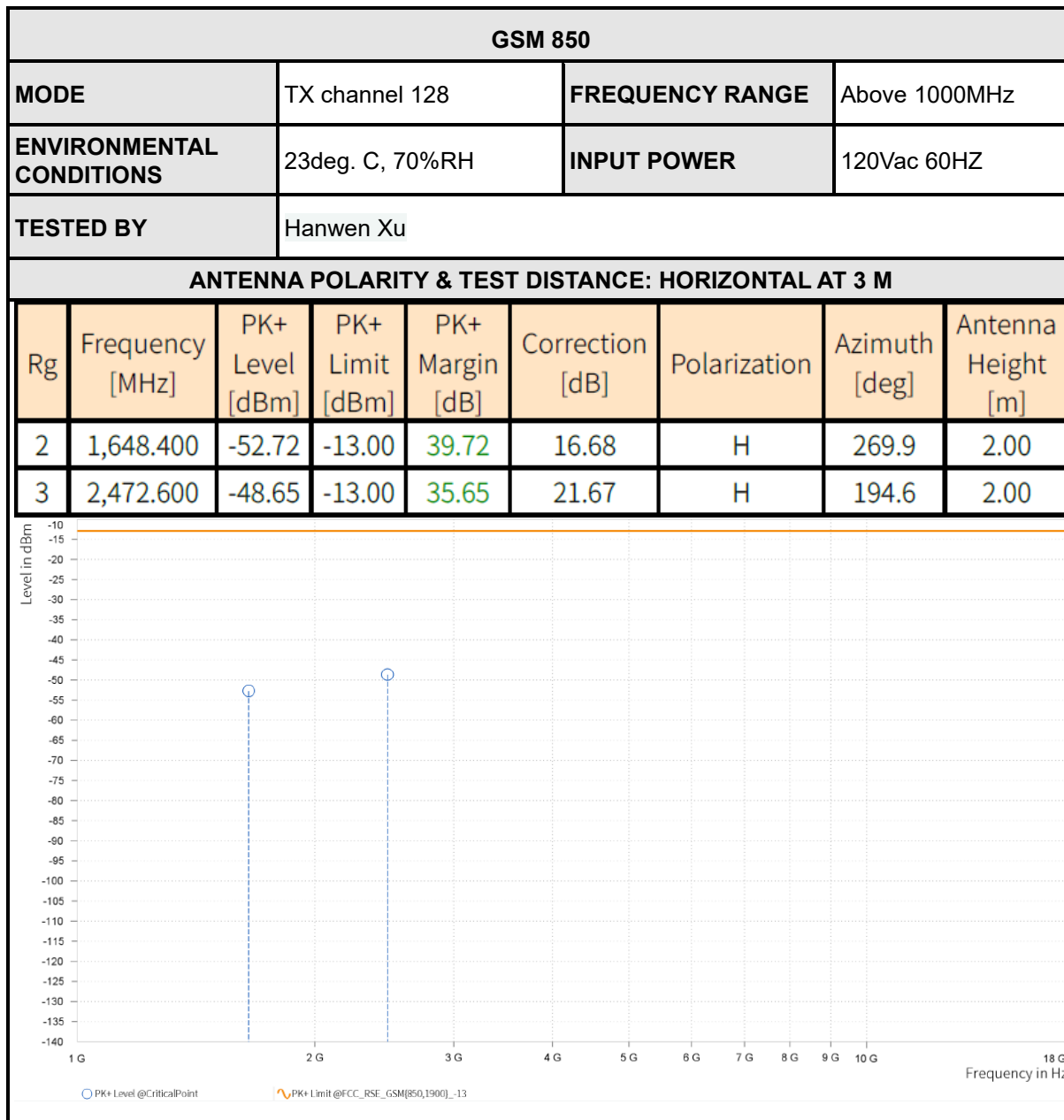
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.750	-59.15	-13.00	46.15	-8.12	V	134.3	1.00
1	52.250	-59.12	-13.00	46.12	-6.59	V	1	1.00
1	98.650	-61.29	-13.00	48.29	5.04	V	264.6	1.00
1	148.850	-71.60	-13.00	58.60	-12.14	V	134.3	1.00
1	275.600	-73.47	-13.00	60.47	-1.91	V	210.1	2.00
1	395.050	-79.17	-13.00	66.17	0.16	V	39.1	2.00





ABOVE 1GHz DATA

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

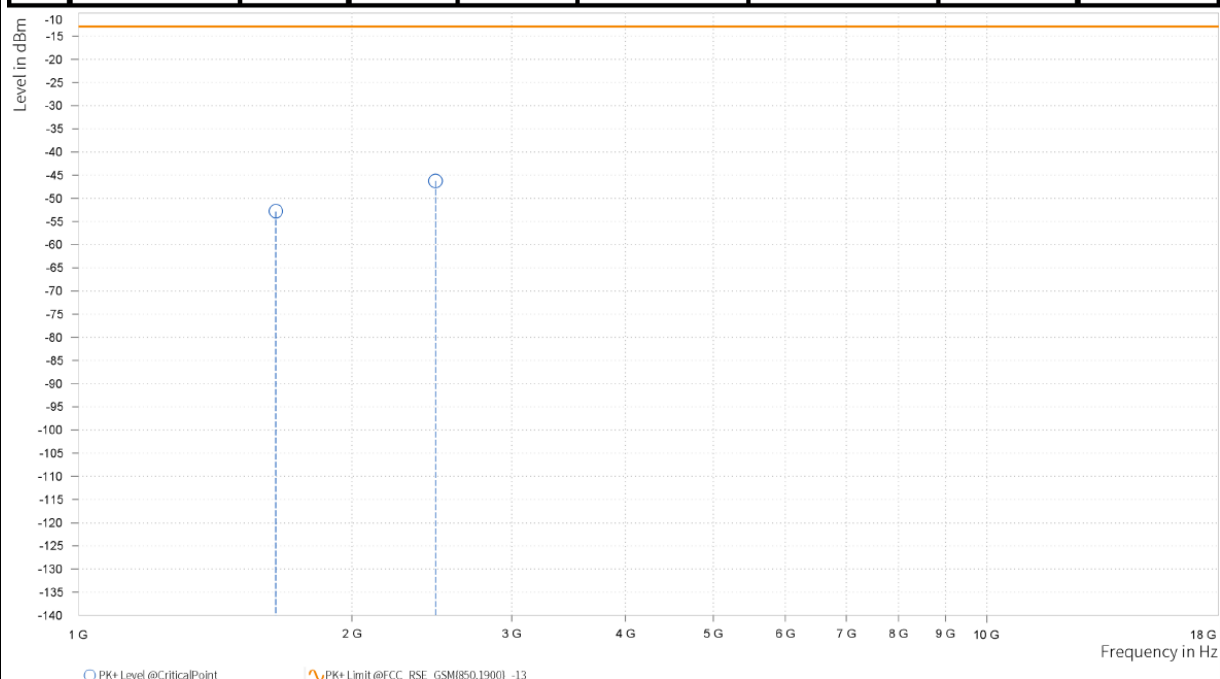




MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,648.400	-52.80	-13.00	39.80	16.26	V	359	2.00
3	2,472.600	-46.25	-13.00	33.25	21.92	V	1	1.00

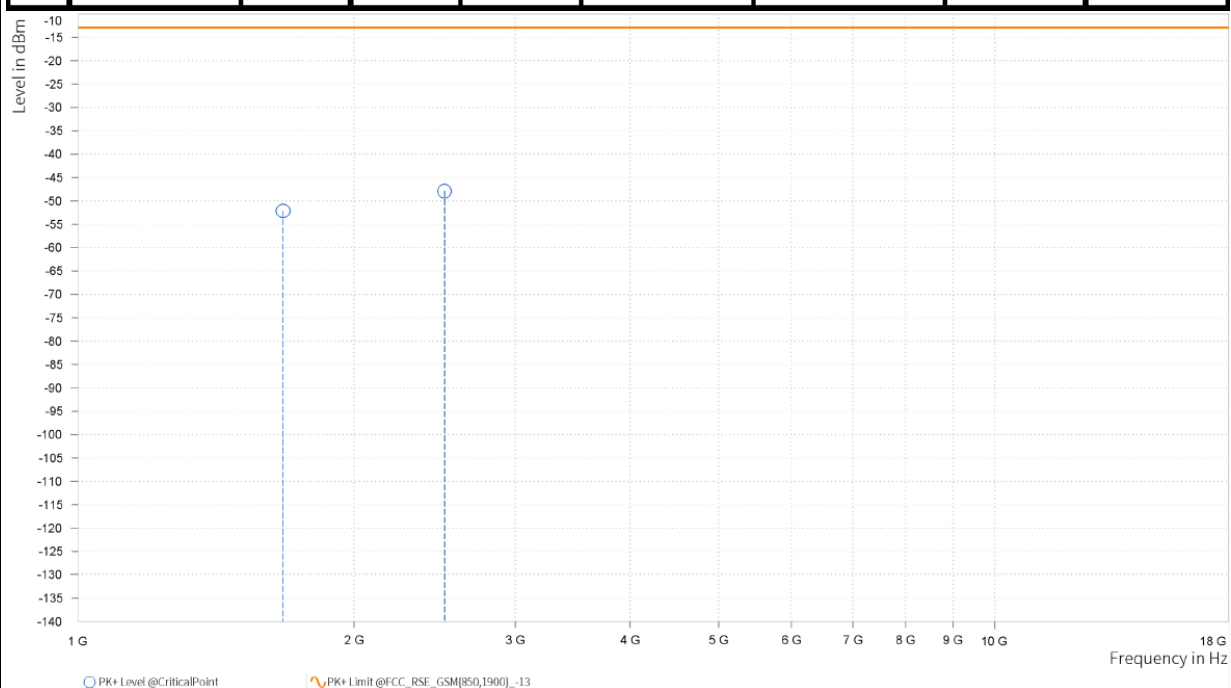




MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,672.800	-52.12	-13.00	39.12	17.47	H	359	1.00
3	2,509.200	-47.89	-13.00	34.89	21.81	H	1	2.00

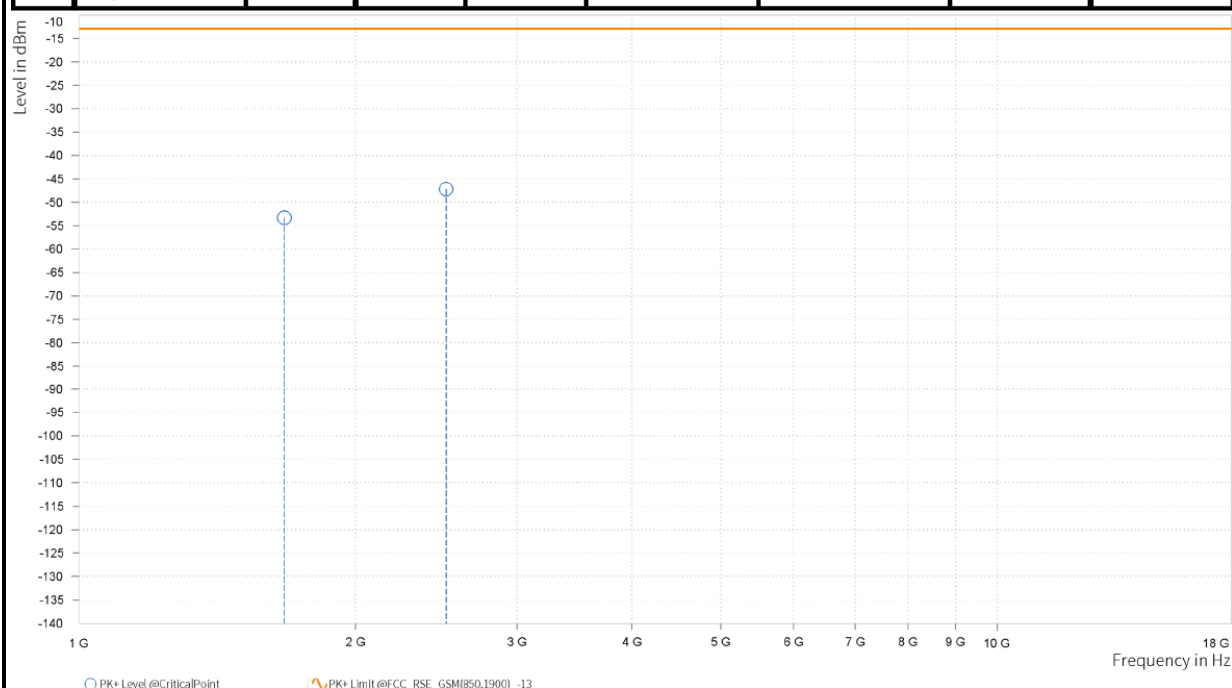


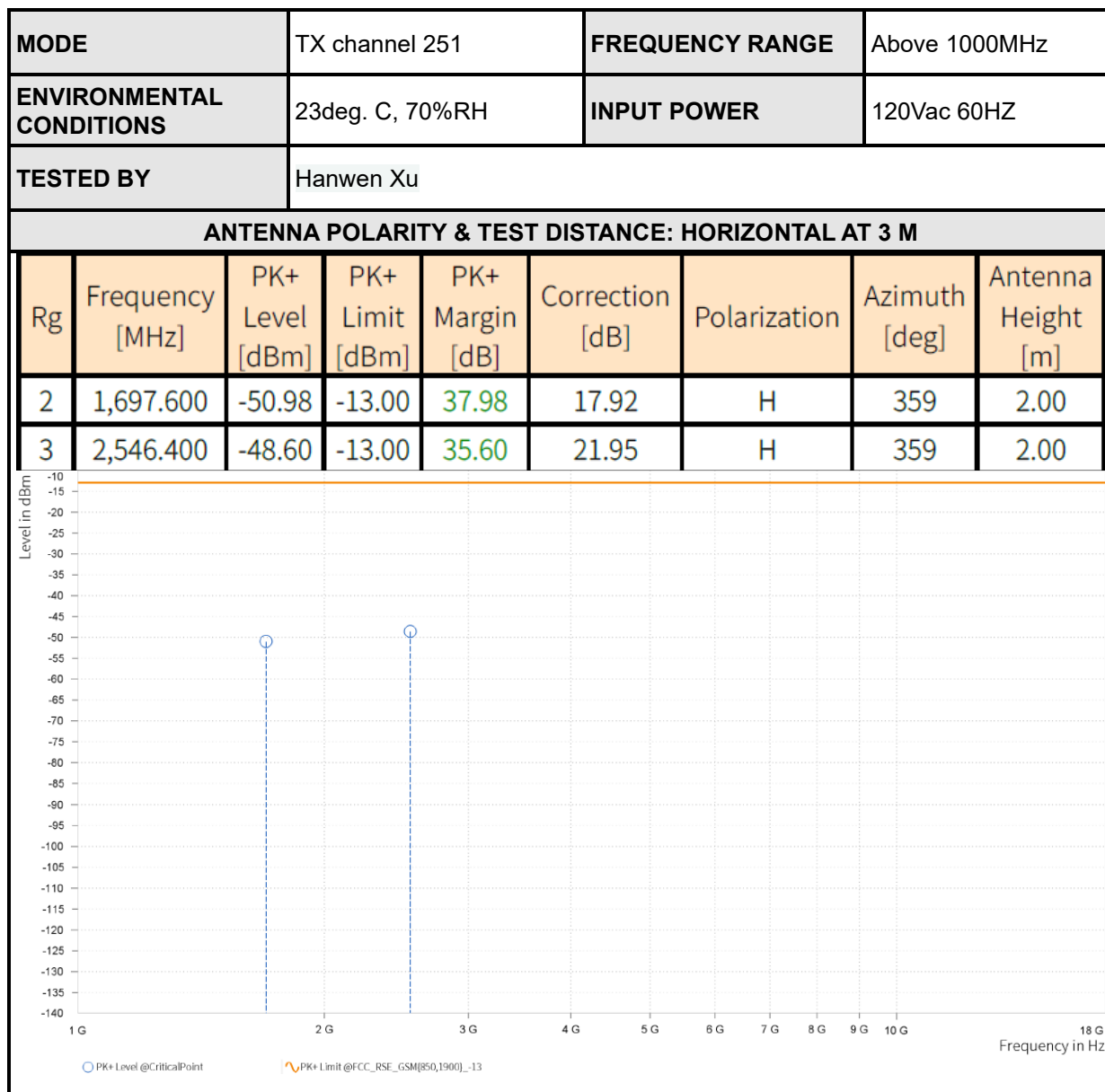


MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,672.800	-53.30	-13.00	40.30	16.36	V	271.1	2.00
3	2,509.200	-47.18	-13.00	34.18	22.42	V	359	1.00



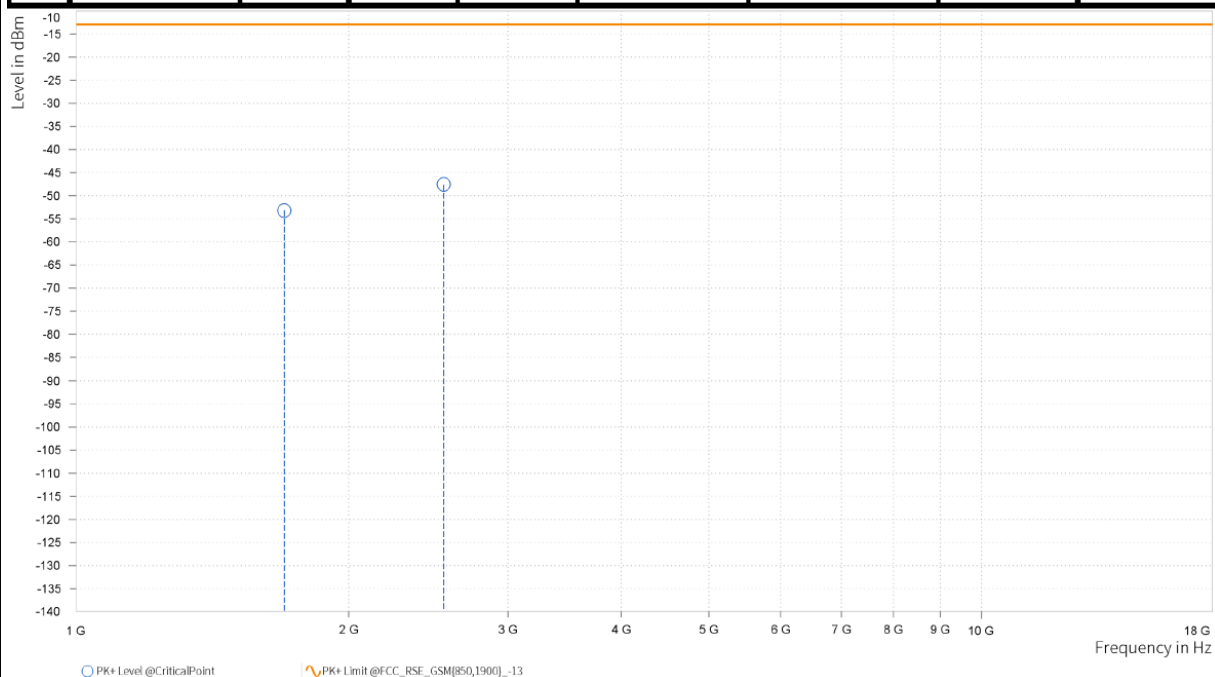


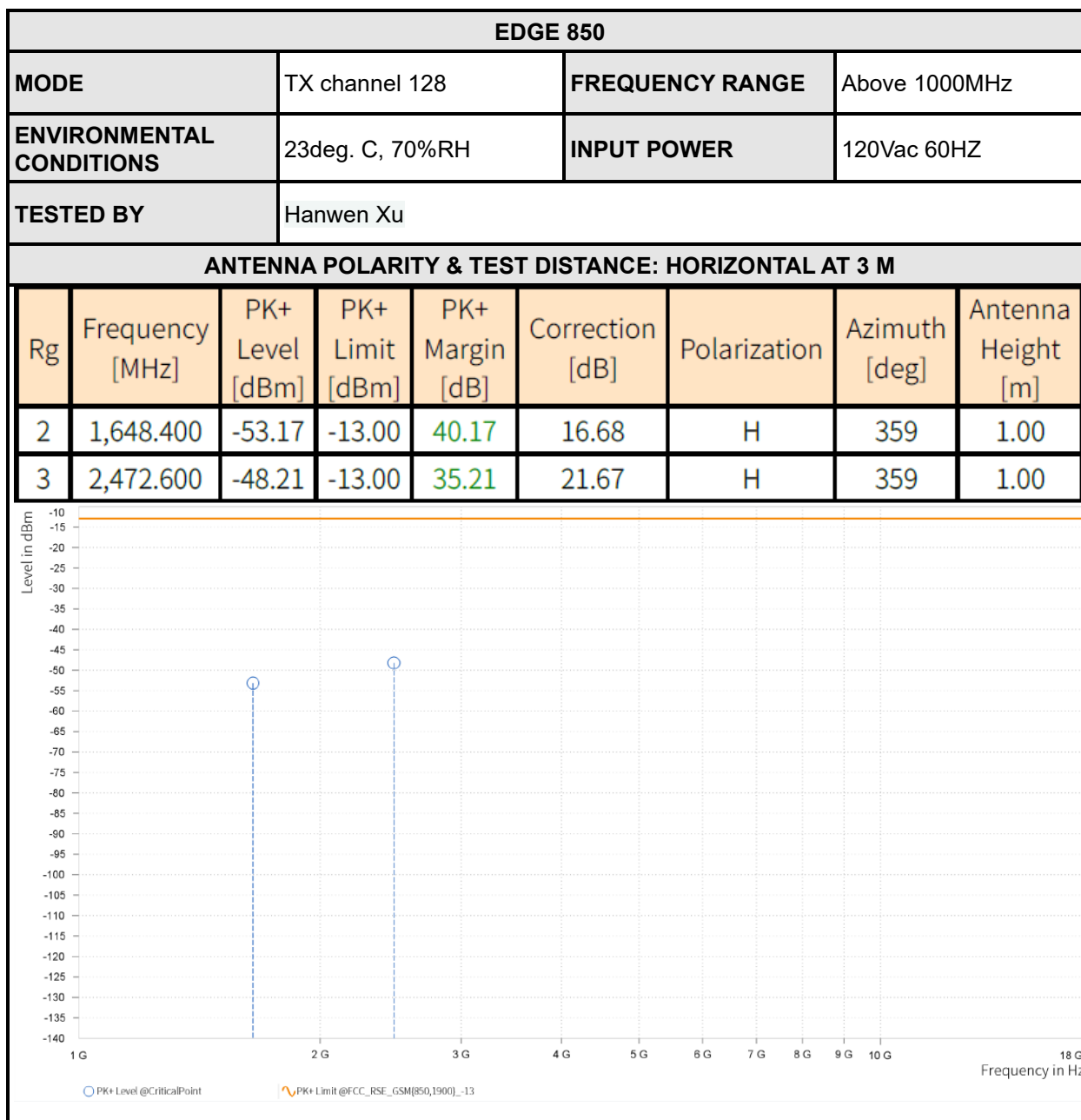


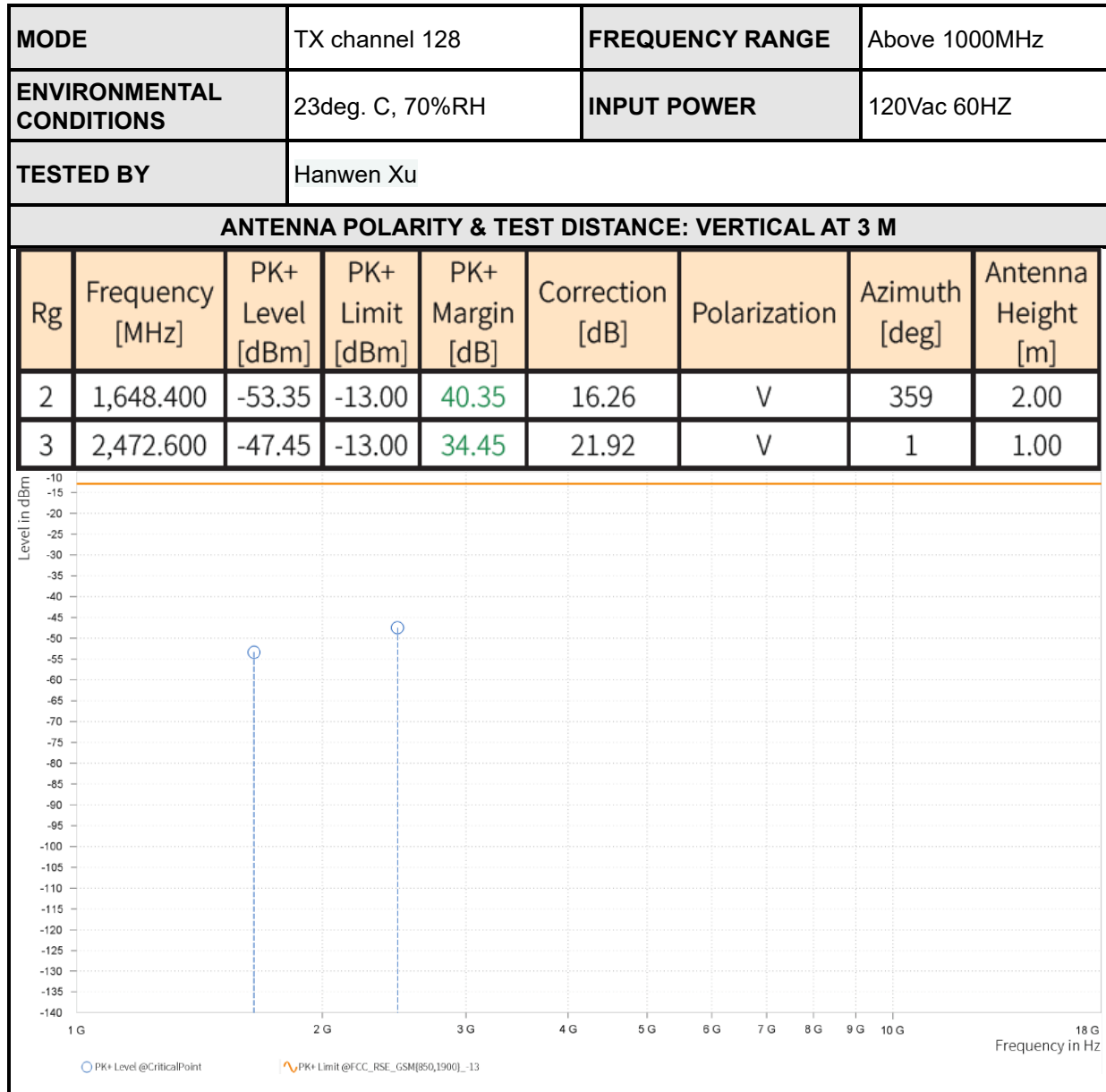
MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,697.600	-53.18	-13.00	40.18	17.14	V	359	2.00
3	2,546.400	-47.57	-13.00	34.57	22.57	V	190.5	1.00





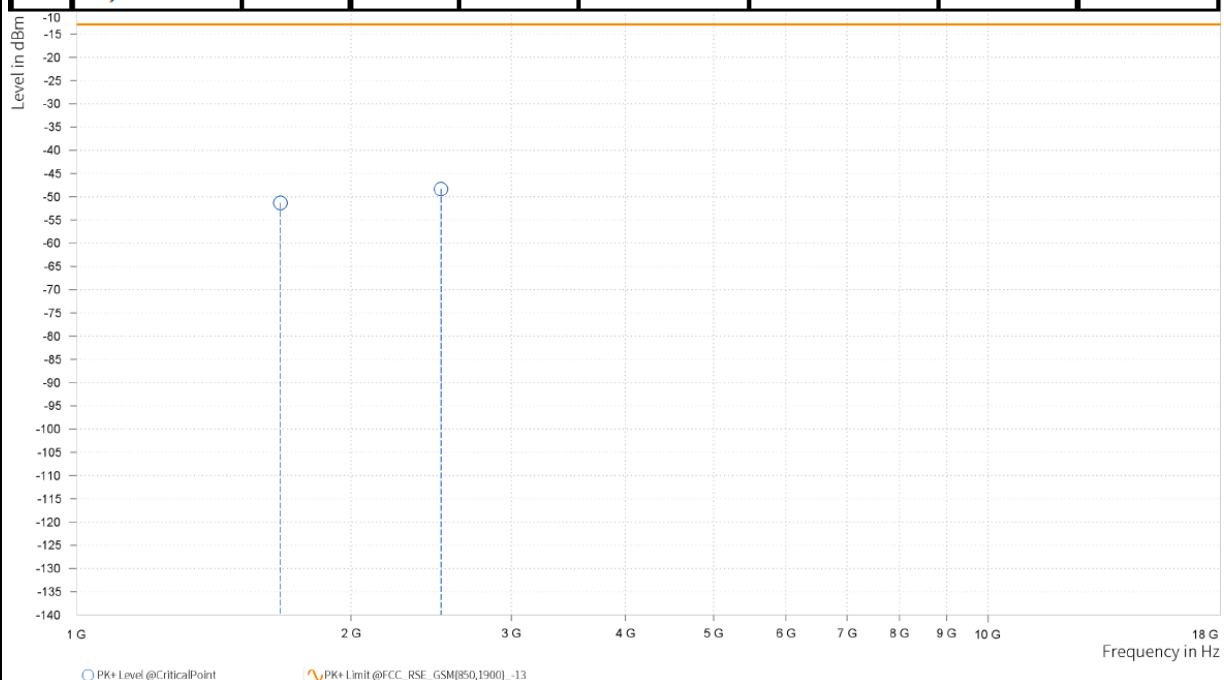




MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,672.800	-51.30	-13.00	38.30	17.47	H	271.1	2.00
3	2,509.200	-48.34	-13.00	35.34	21.81	H	359	2.00

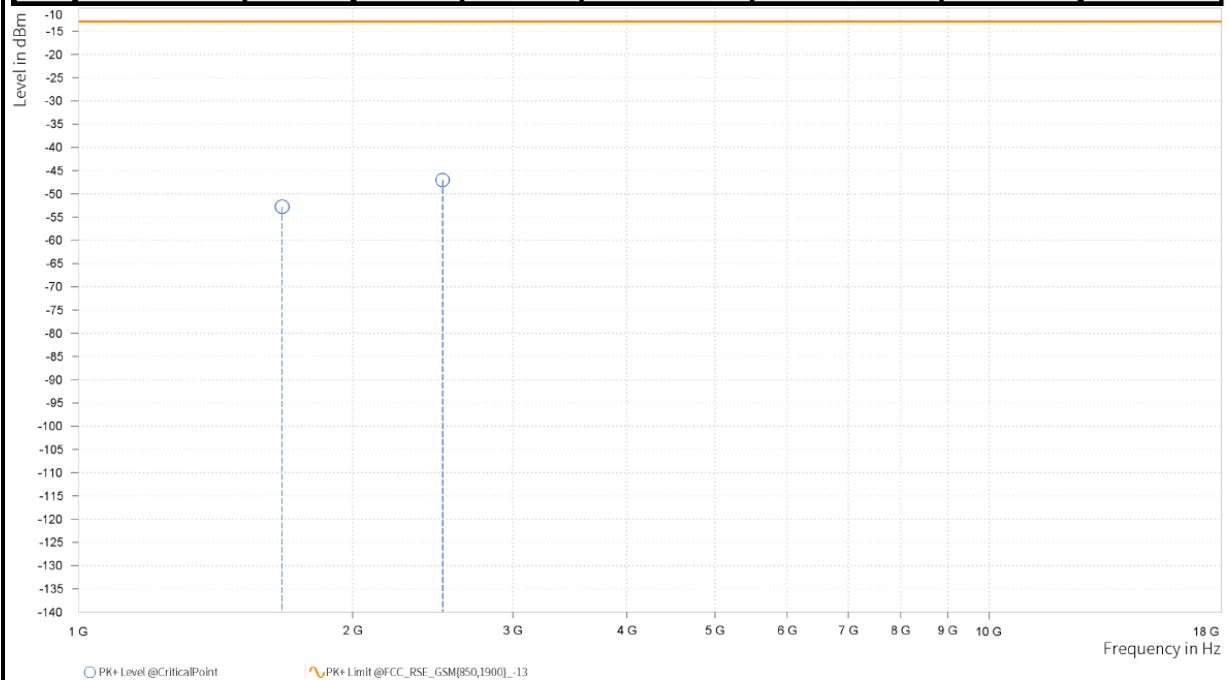


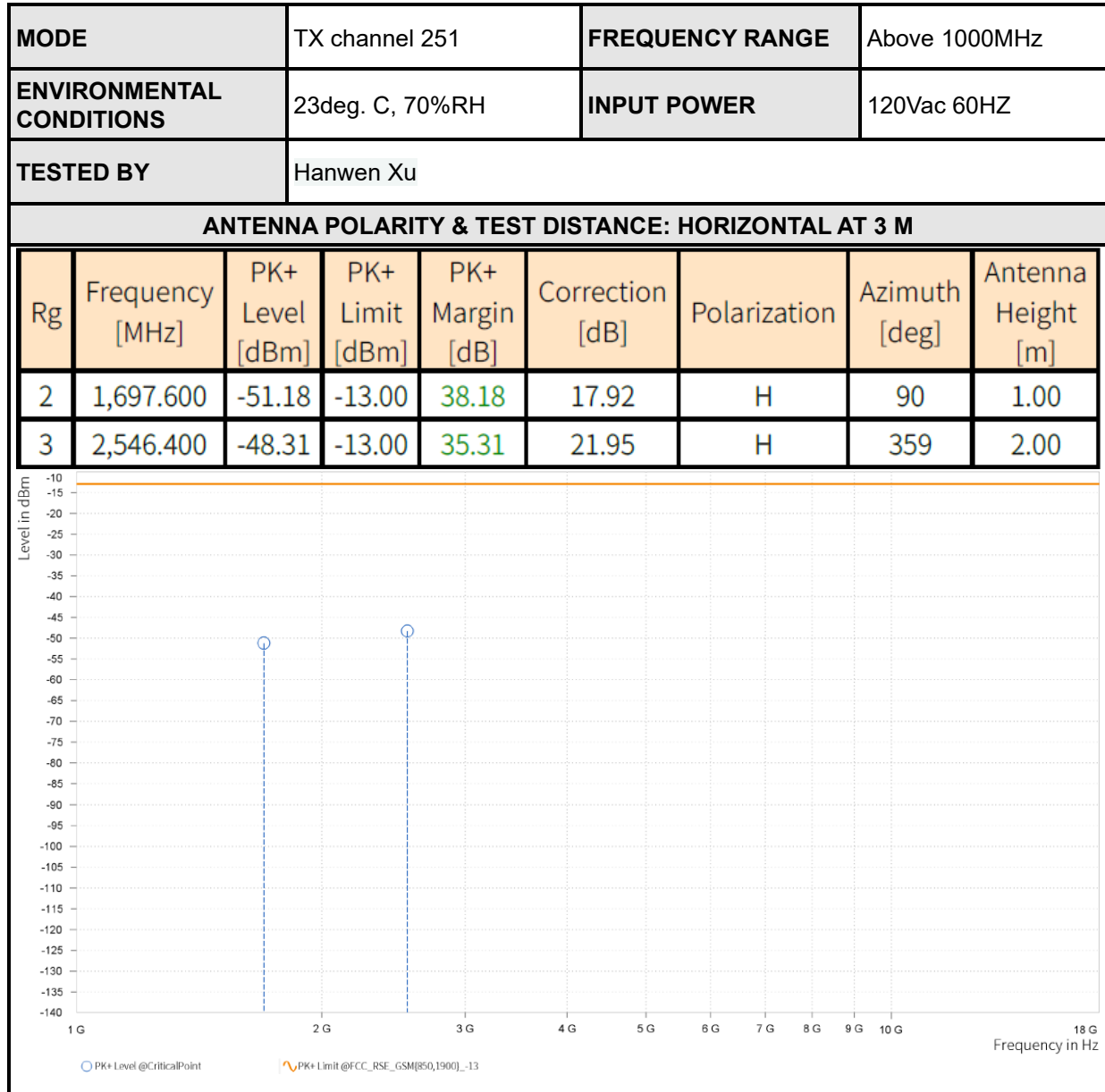


MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,672.800	-52.74	-13.00	39.74	16.36	V	93.7	1.00
3	2,509.200	-47.02	-13.00	34.02	22.42	V	0.9	2.00



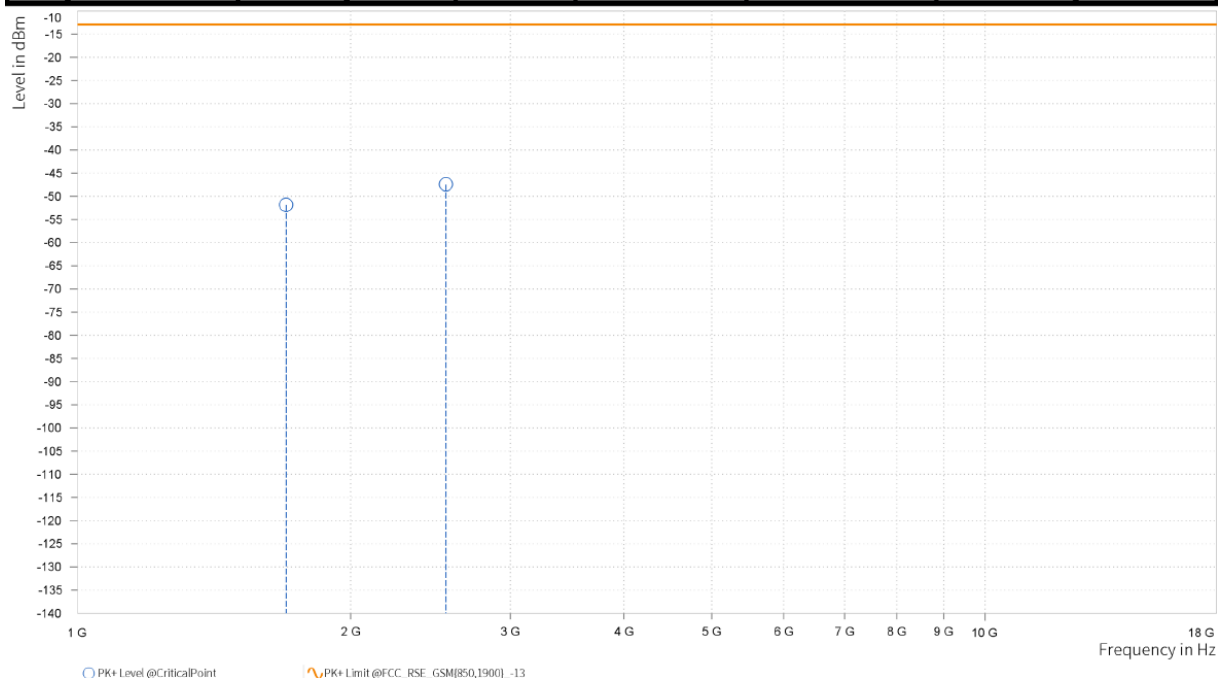


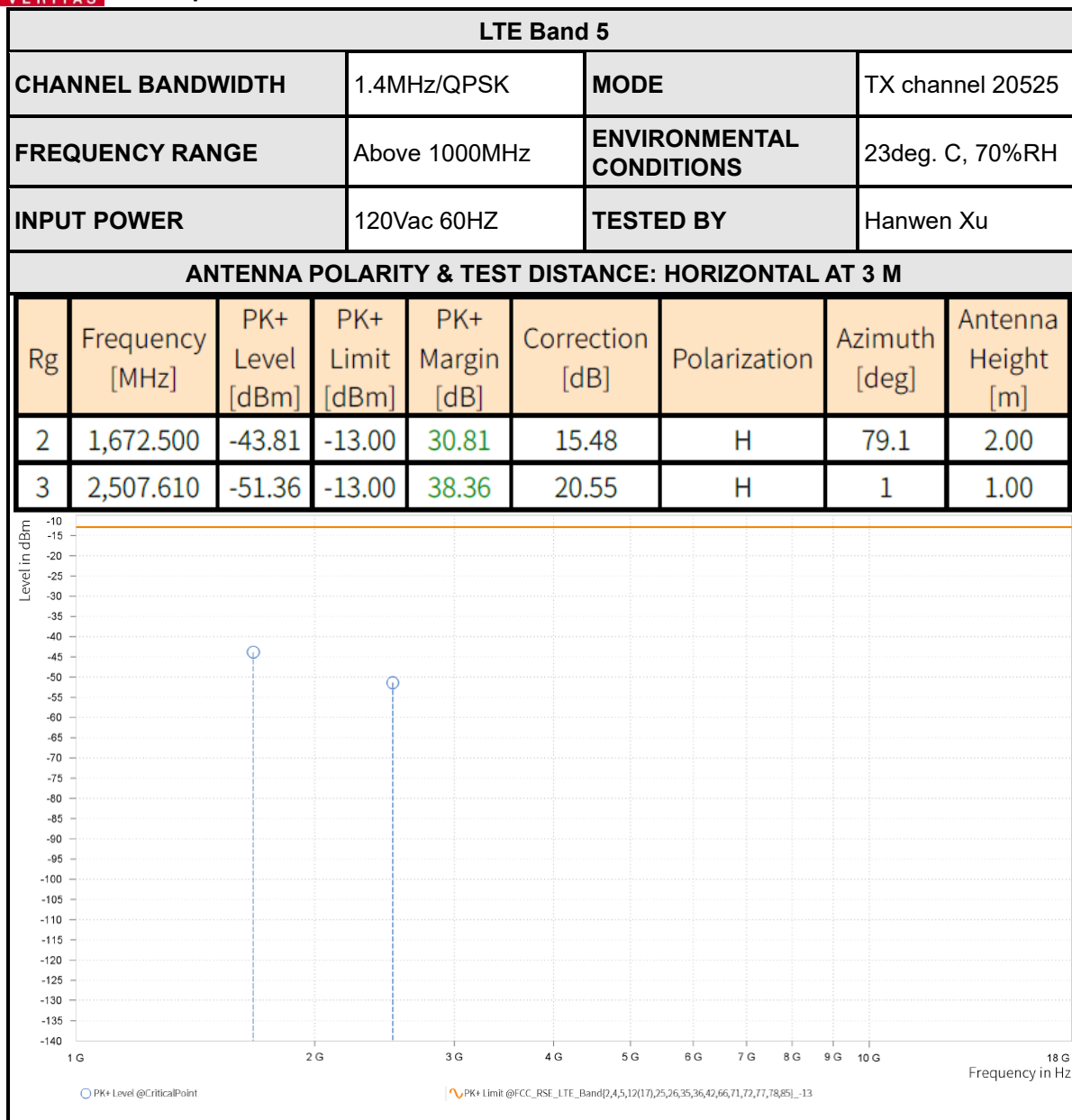


MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

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	1,697.600	-51.86	-13.00	38.86	17.14	V	0.9	2.00
3	2,546.400	-47.43	-13.00	34.43	22.57	V	359.1	1.00



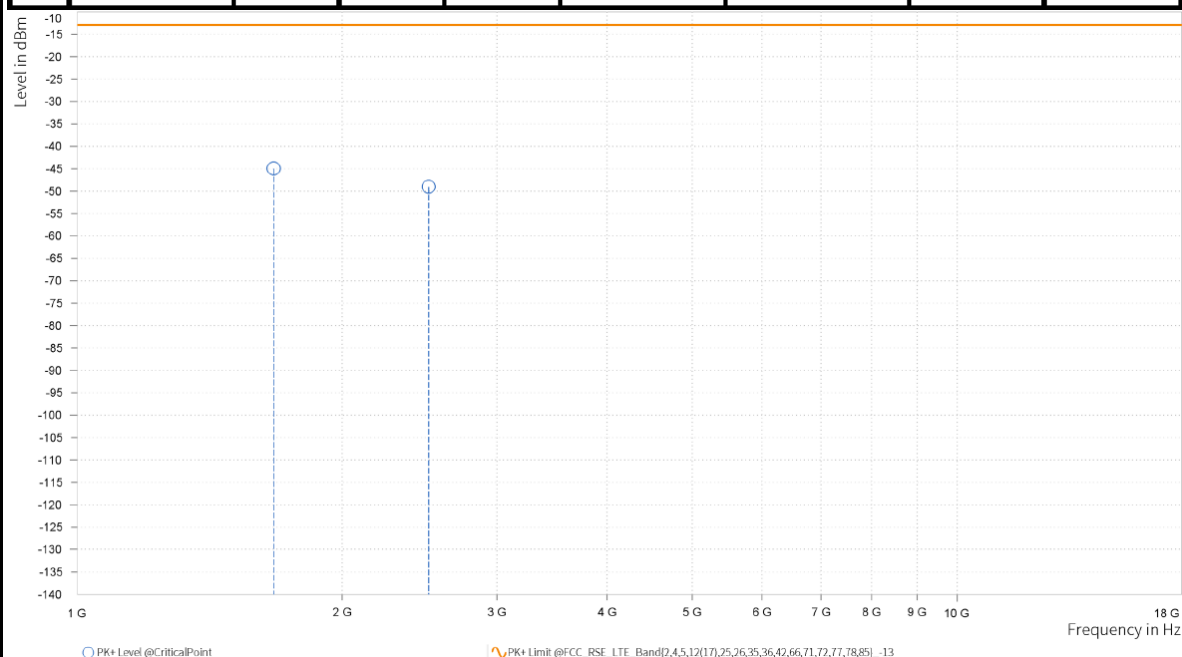




CHANNEL BANDWIDTH	1.4MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,672.000	-44.94	-13.00	31.94	14.36	V	185.3	2.00
3	2,507.610	-49.02	-13.00	36.02	21.12	V	192.3	1.00

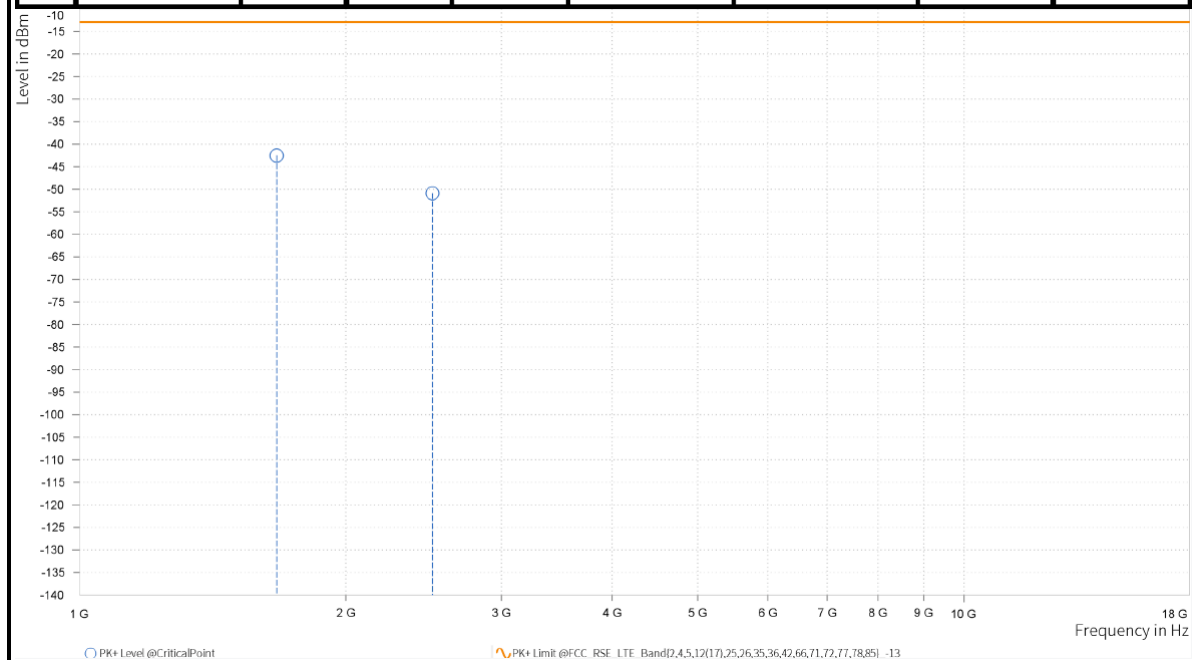




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	-42.52	-13.00	29.52	15.44	H	186.7	2.00
3	2,505.450	-50.88	-13.00	37.88	20.59	H	12.6	2.00

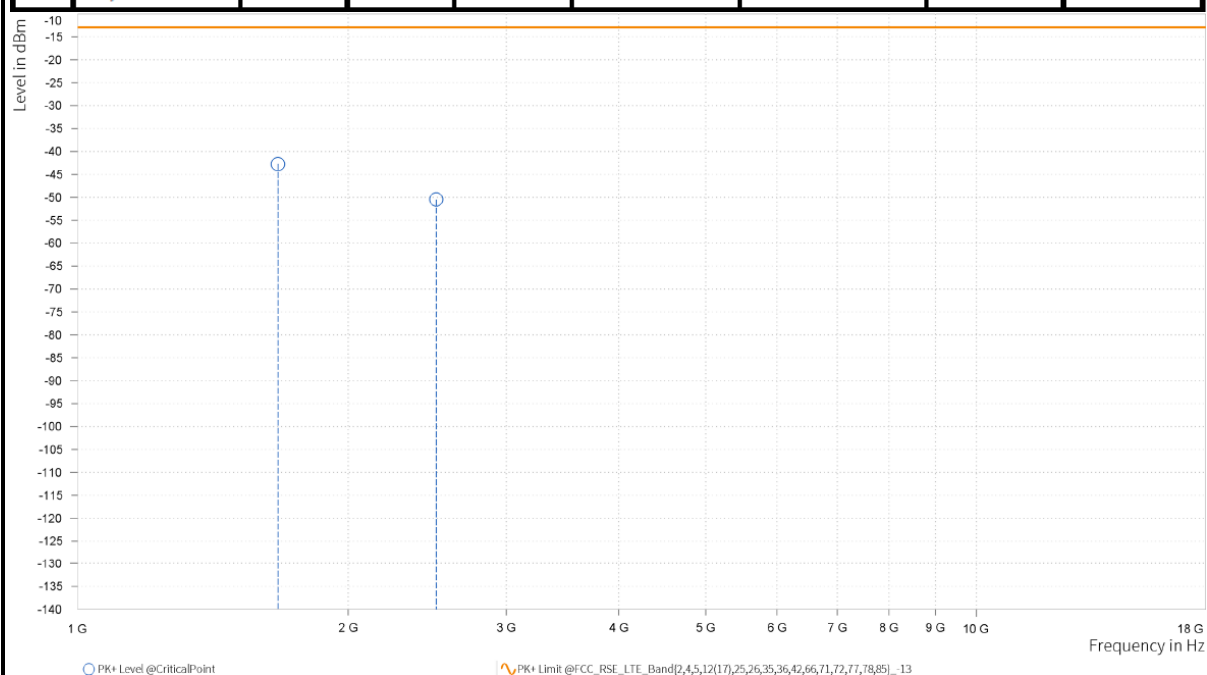




CHANNEL BANDWIDTH	3MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	-42.73	-13.00	29.73	14.33	V	186	2.00
3	2,505.450	-50.46	-13.00	37.46	21.10	V	296.4	2.00

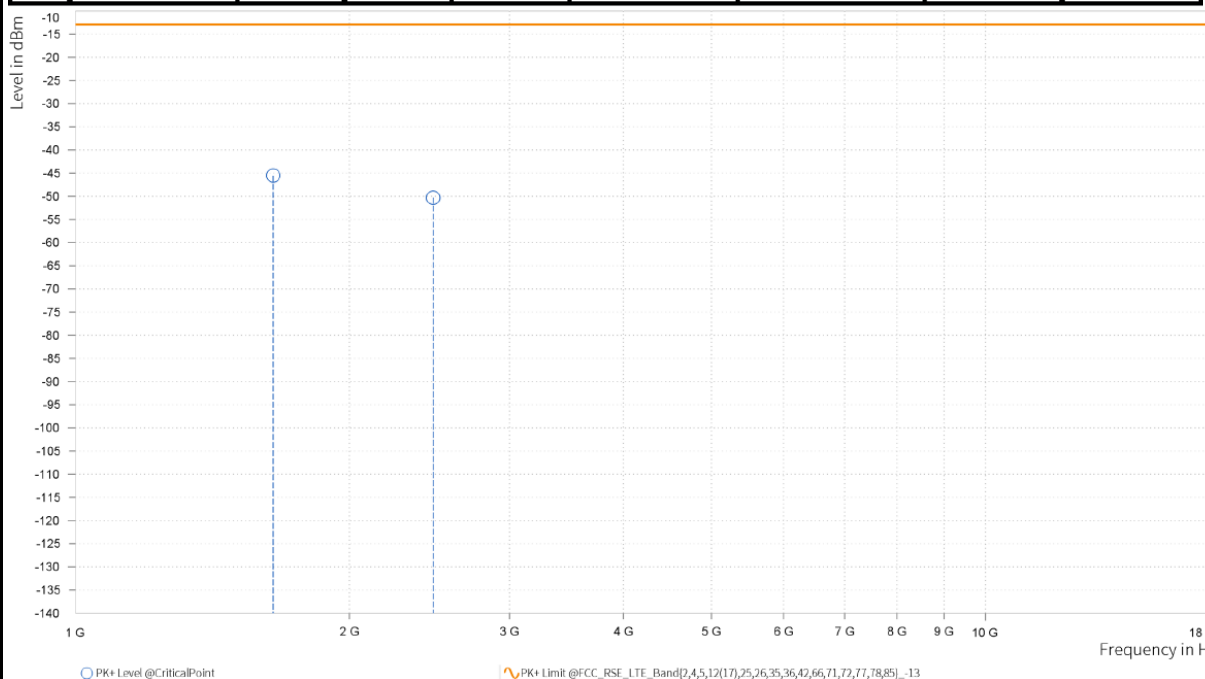




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20425
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,648.500	-45.54	-13.00	32.54	14.80	H	175.4	1.00
3	2,472.500	-50.29	-13.00	37.29	20.28	H	185.3	1.00

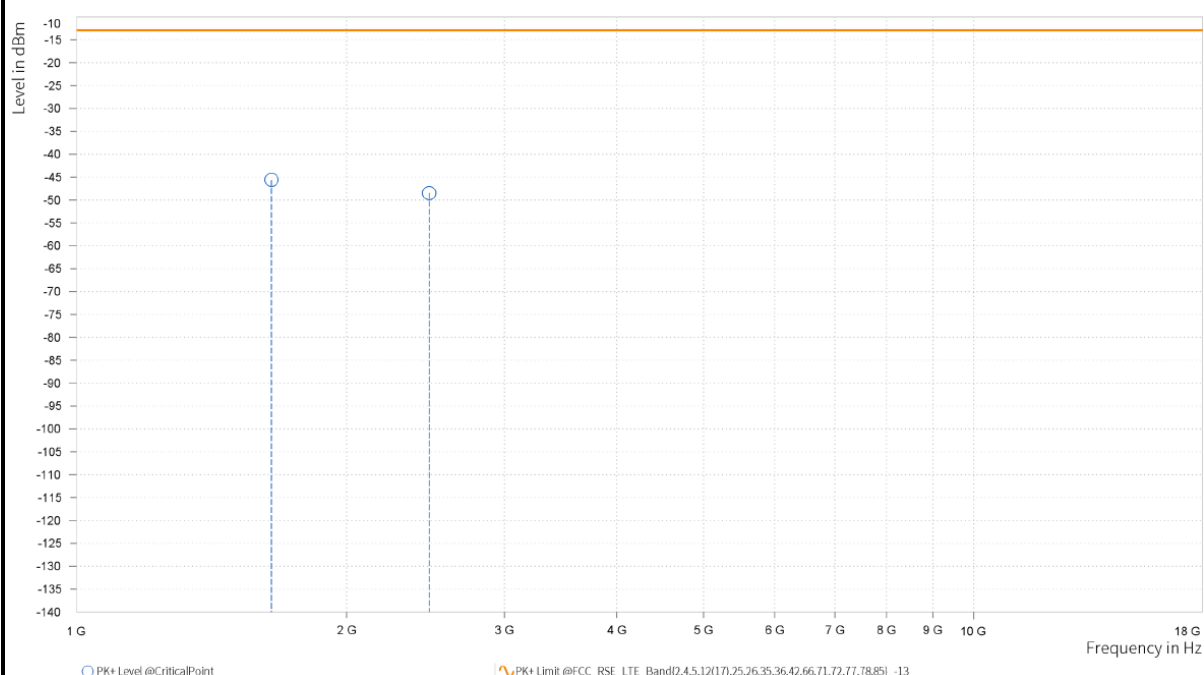




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20425
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,649.000	-45.60	-13.00	32.60	14.37	V	187.4	2.00
3	2,472.750	-48.46	-13.00	35.46	20.53	V	179	2.00

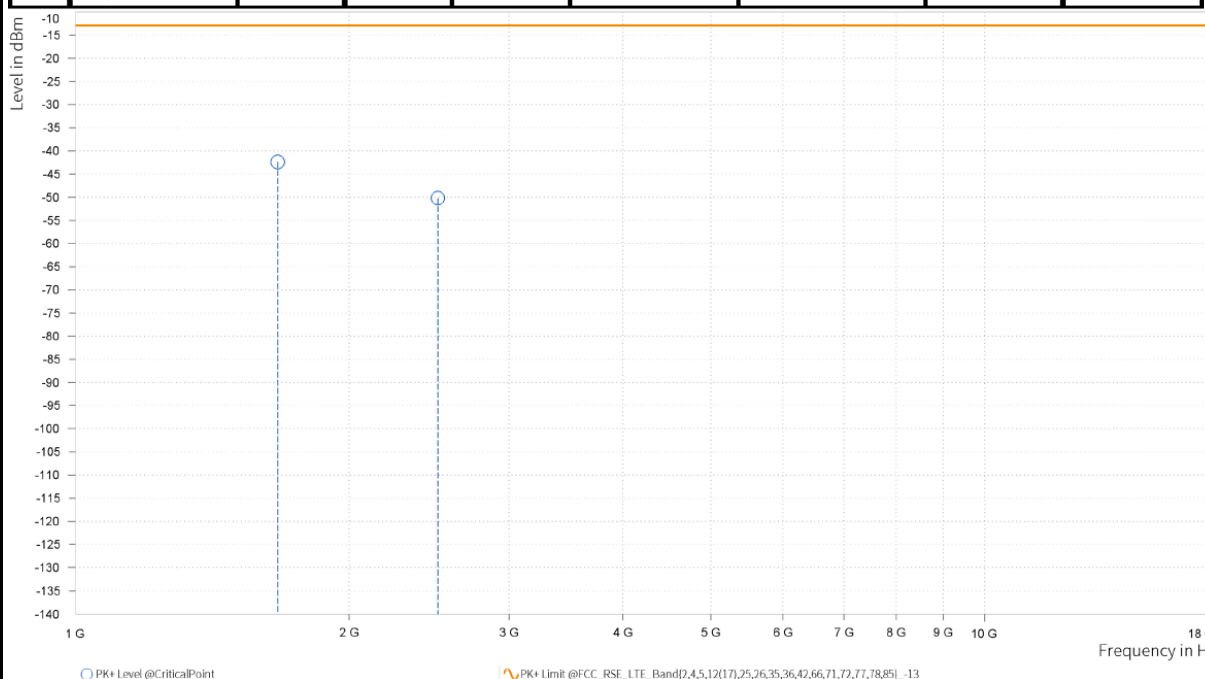




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,668.500	-42.37	-13.00	29.37	15.40	H	187.4	2.00
3	2,502.750	-50.20	-13.00	37.20	20.64	H	180.4	2.00

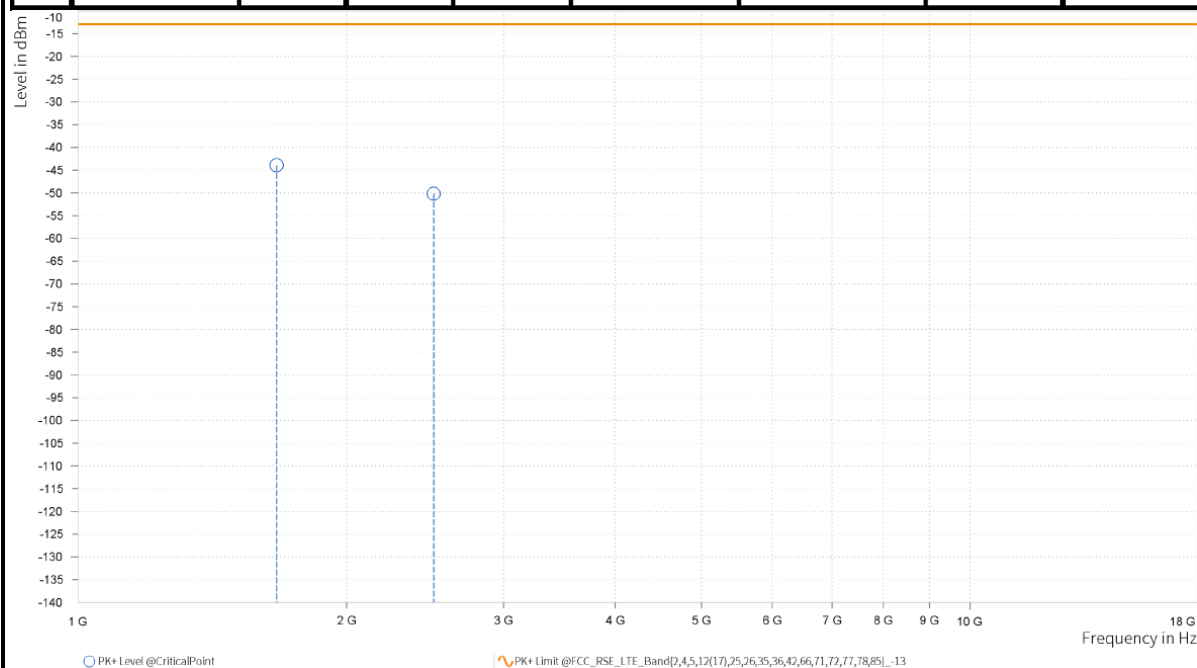




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,669.000	-43.92	-13.00	30.92	14.30	V	172.6	1.00
3	2,502.750	-50.18	-13.00	37.18	21.08	V	7.6	2.00



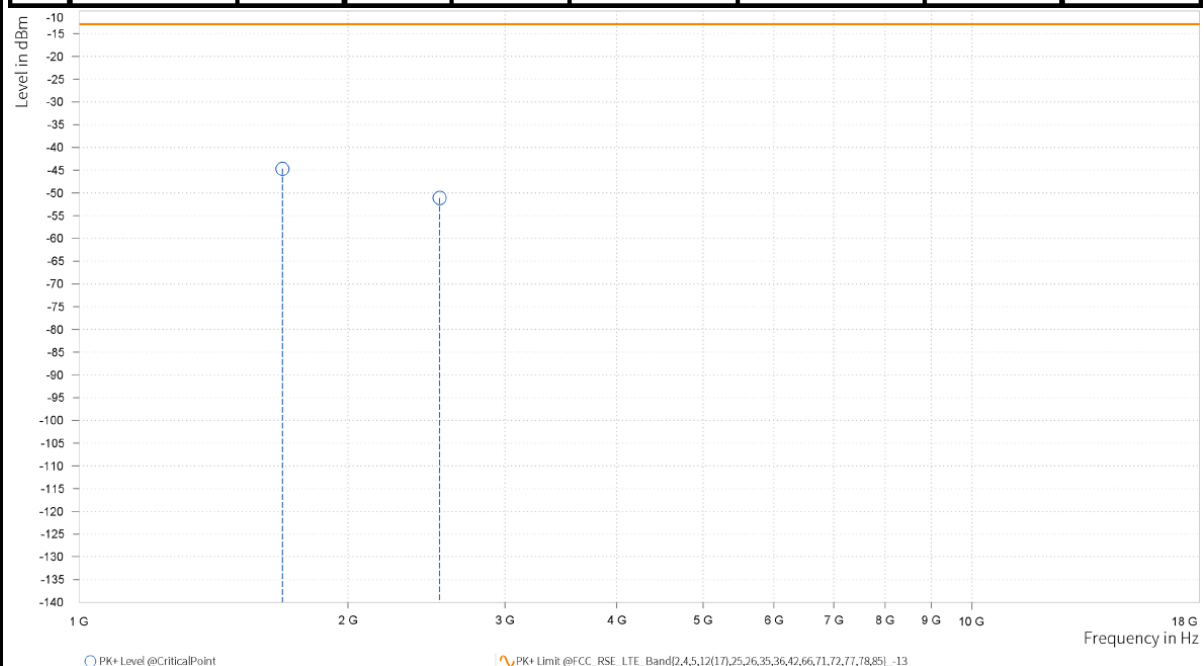


BUREAU VERITAS Test Report No.: PSU-QSZ2504270113RF01

CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20625
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	1,689.000	-44.68	-13.00	31.68	15.96	H	340.3	1.00
3	2,532.750	-51.09	-13.00	38.09	20.29	H	9.8	2.00

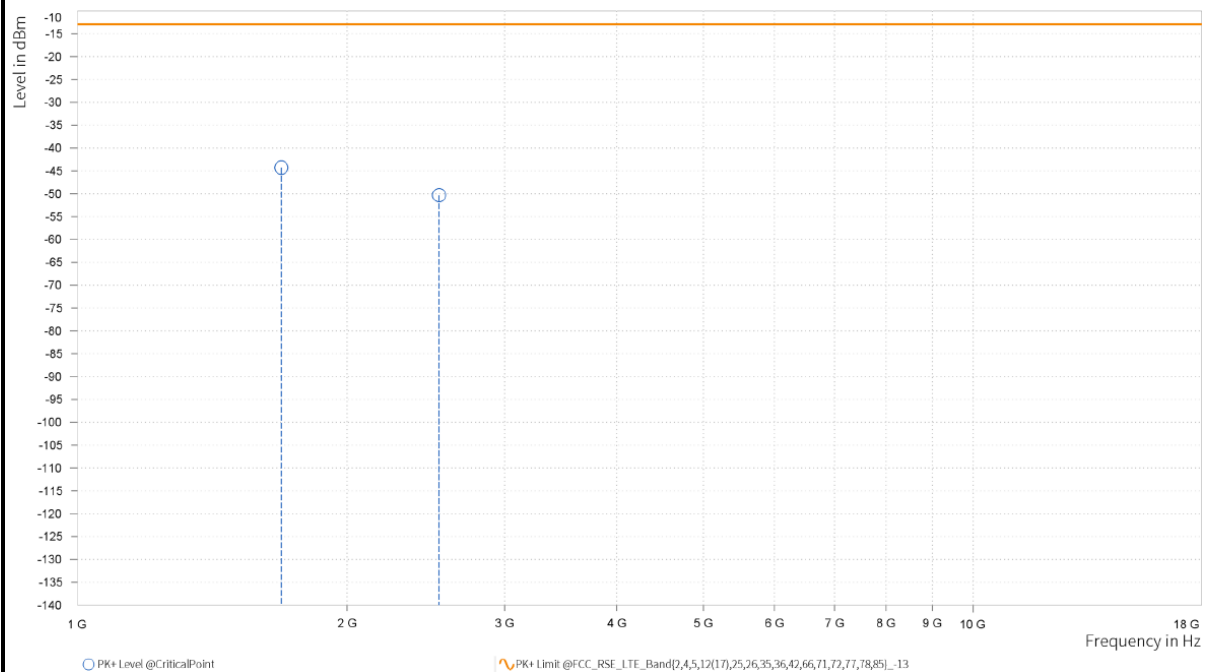




CHANNEL BANDWIDTH	5MHz/QPSK	MODE	TX channel 20625
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	-44.31	-13.00	31.31	14.93	V	176.8	1.00
3	2,532.750	-50.32	-13.00	37.32	21.03	V	161.2	2.00

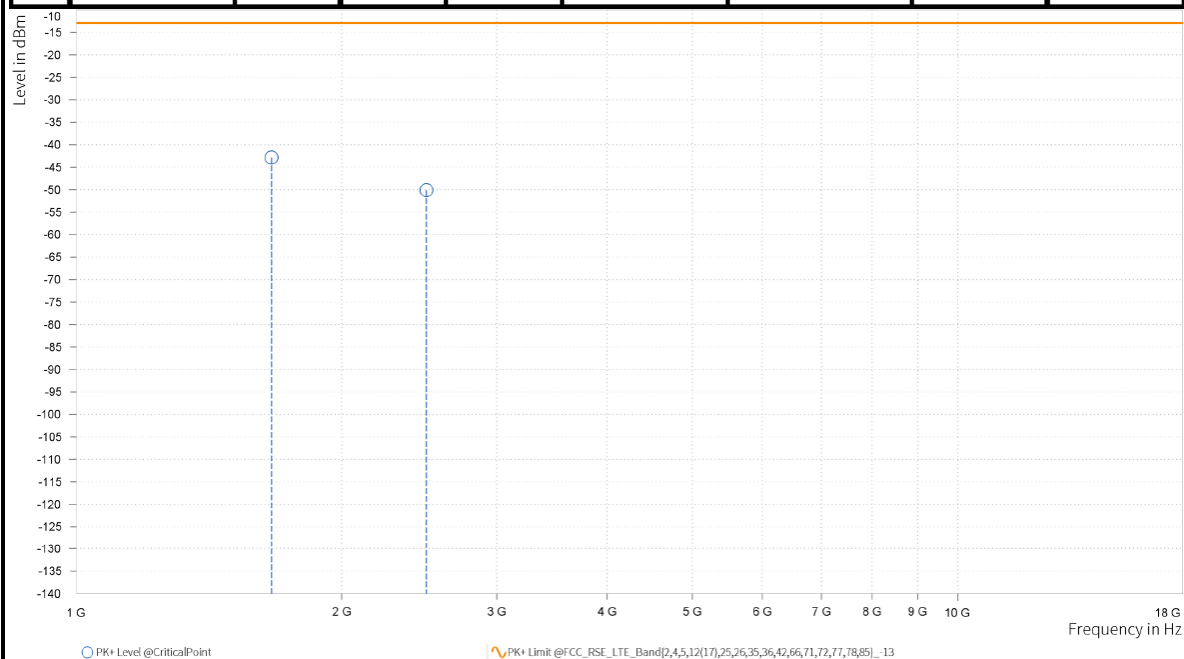




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	-42.85	-13.00	29.85	15.32	H	278.7	1.00
3	2,496.000	-50.11	-13.00	37.11	20.76	H	180.4	1.00

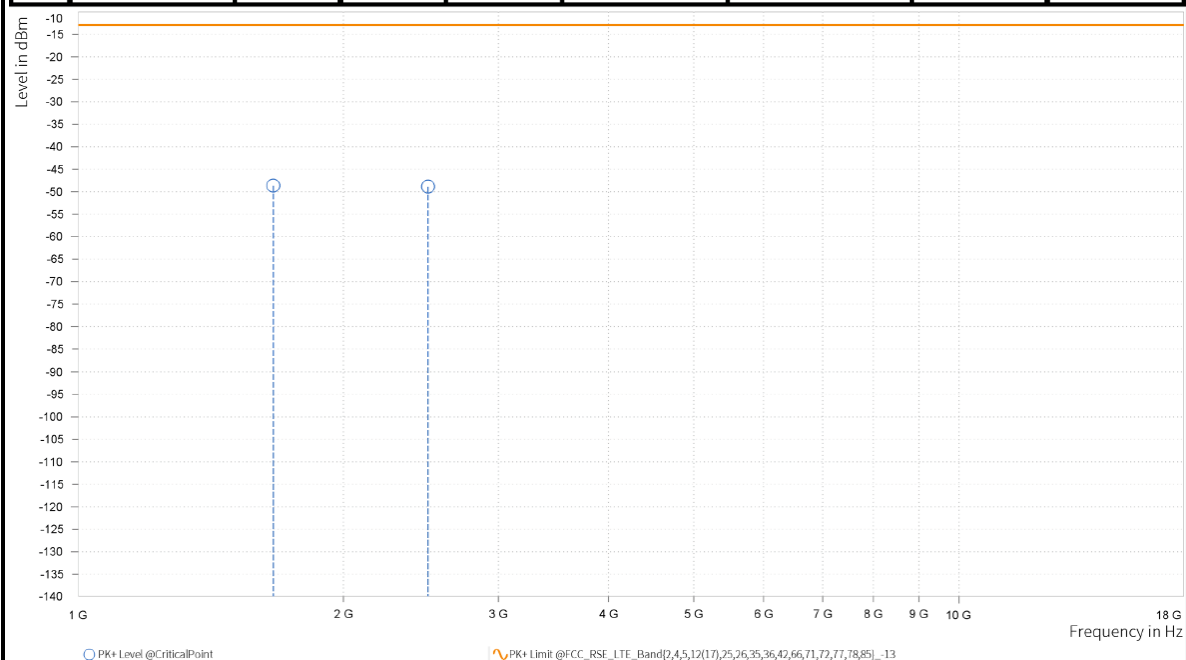




CHANNEL BANDWIDTH	10MHz/QPSK	MODE	TX channel 20525
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

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	1,664.500	-48.64	-13.00	35.64	14.21	V	188.2	2.00
3	2,496.000	-48.88	-13.00	35.88	21.03	V	180.3	1.00



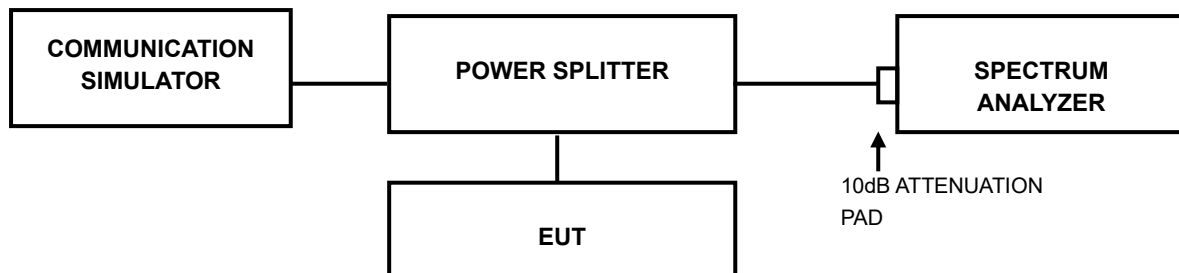


3.7 PEAK TO AVERAGE RATIO

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%.



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3.7.4 TEST RESULTS

Please Refer to Module report BL-SZ2270935-501, FCC ID: 2AMLFXQ600-LA



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.

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