

FCC TEST REPORT

(PART 22)



Applicant:	Cohda Wireless Pty Ltd.
Address:	27 Greenhill Road Wayville SA 5034 Australia

Manufacturer or Supplier:	Cohda Wireless Pty Ltd.
Address:	27 Greenhill Road Wayville SA 5034 Australia
Product:	On board (Transceiver) unit for Automotive.
Brand Name:	Cohda Wireless
Model Name:	MK6 OBU
Series Model	MK6 OBU
FCC ID	2AEGPMK6OBU
Date of tests	Jul. 03, 2023 ~ Sep. 01, 2023

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

- ☒ **FCC PART 22, Subpart H** ☒ **FCC Part 2**
☒ **ANSI/TIA/EIA-603-D** ☒ **ANSI C63.26-2015**
☒ **ANSI/TIA/EIA-603-E**

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

Prepared by Chao Wu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
 Date: Sep. 01, 2023	 Date: Sep. 01, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSU2307030110RF01	Original release	Sep. 01, 2023

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	Coducted Output Power	Compliance	A
§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

NOTE: Refer to the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).

*Test Lab Information Reference

Lab A:

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

Lab Address:

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

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 $k=2$.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Vector Signal Generator	R&S	SMBV100B	102176	Feb.16,22	Feb.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-E MC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-E MC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.25,22	Feb.24,24
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
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	Oct.01,22	Sep.30,24
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
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.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.28,23	Oct.27,23
Temperature Chamber	votsch	VT4002	58566078100050	May.31,22	May.30,24

- NOTE:** 1. The calibration interval of the above test instruments is 6 months or 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.



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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*	On board (Transceiver) unit for Automotive.	
BRAND NAME*	Cohda Wireless	
MODEL NAME*	MK6 OBU	
SERIES MODEL*	MK6 OBU	
NOMINAL VOLTAGE*	EUT 12Vdc	
MODULATION TYPE	WCDMA	BPSK, QPSK
	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	WCDMA	826.4MHz ~ 846.6MHz
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
MAX. ERP POWER	WCDMA	207.49mW
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	230.67mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	224.39mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	224.39mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	226.99mW
EMISSION DESIGNATOR GOGN	WCDMA	4M15F9W
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	QPSK: 1M08G7D
		16QAM: 1M09W7D
		64QAM: 1M10W7D
	LTE Band 5 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M69W7D
		64QAM: 2M69W7D
	LTE Band 5 (Channel Bandwidth: 5MHz)	QPSK: 4M48G7D
		16QAM: 4M47W7D
		64QAM: 4M47W7D
	LTE Band 5 (Channel Bandwidth: 10MHz)	QPSK: 8M93G7D
		16QAM: 8M91W7D
		64QAM: 8M92W7D

ANTENNA TYPE*	Monopole Antenna with 2.4dBi gain for WCDMA V/LTE B5
HW VERSION*	Rev 1.0
SW VERSION*	19.Release.134186
I/O PORTS*	Refer to user's manual
CABLE SUPPLIED*	N/A
EXTREME TEMPERATURE*	-20-75 °C
EXTREME VOLTAGE*	10.2V – 13.8V

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.

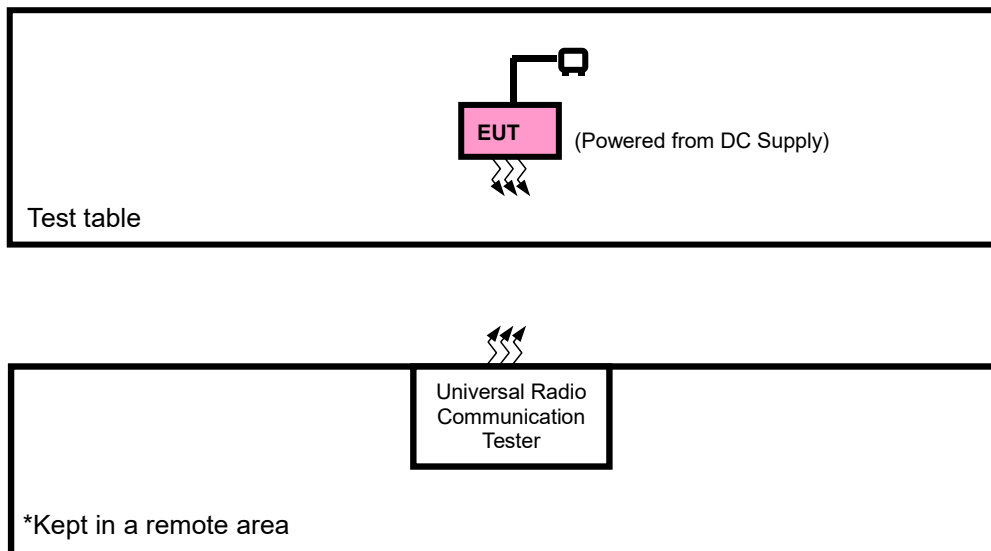
MODULATION MODE	TX FUNCTION
WCDMA	1TX/1RX
LTE	1TX/1RX

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

List of Accessory:

ACCESSORIES	MANUFACTURER	ANTENNA TYPE	MODEL
2x Antenna for LTE/2G/3G/CDMA	Taoglas	Monopole Antenna	TG.66.0723
1x Antenna for WLAN/BT	Taoglas	Monopole Antenna	GW.05.0E23
1x Antenna for WLAN	Taoglas	Monopole Antenna	GW.05.0E23
2x Antenna for C-V2X	MobileMark	DOM Antenna	MGWG-303
2x Antenna for DSRC	MobileMark	DOM Antenna	MGWG-303
1x Antenna for GNSS	MobileMark	DOM Antenna	MGWG-303

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
3	Ethernet	N/A	N/A	N/A	N/A
4	CAN Connector	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable, 1.0m;
2	PC USB Line: Unshielded, Detachable, 1.0m;
3	CAN Box: Unshielded, Detachable, 1.8m;
4	Ethernet: Unshielded, Detachable, 0.8m;

2.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + DC Supply with WCDMA or LTE link

WCDMA MODE

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

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	FREQUENCY STABILITY	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	Full RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	Full RB / 0 RB Offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	Full RB / 0 RB Offset
A	BAND EDGE	20407 to 20643	20407	1.4 MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
		20407 to 20643	20643	1.4 MHz	QPSK,16QAM	1 RB / 5 RB Offset
						Full RB / 0 RB Offset
		20415 to 20635	20415	3 MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
		20415 to 20635	20635	3 MHz	QPSK,16QAM	1 RB / 14 RB Offset
						Full RB / 0 RB Offset
		20425 to 20625	20425	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
		20425 to 20625	20625	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						Full RB / 0 RB Offset
		20450 to 20600	20450	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
		20450 to 20600	20600	10MHz	QPSK,16QAM	1 RB / 49 RB Offset
						Full RB / 0 RB Offset

A	CONDUCTED EMISSION	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	20525	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	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset Full RB / 0 RB Offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset Full RB / 0 RB Offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset Full RB / 0 RB Offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset Full RB / 0 RB Offset

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



TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 12V By DC Supply	Chao Wu
RADIATED EMISSION	23deg. C, 70%RH	DC 12V By DC Supply	Chao Wu

2.5 EUT OPERATING CONDITIONS

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



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2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

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

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

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.

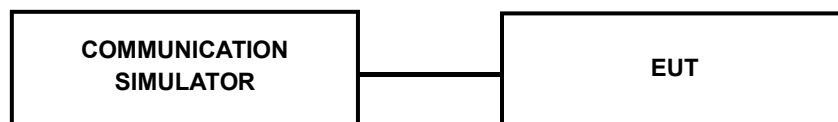
CONDUCTED POWER MEASUREMENT:

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):

Band	WCDMA V		
TX Channel	4132	4182	4233
Rx Channel	4357	4407	4458
Frequency(MHz)	826.4	836.4	846.6
RMC 12.2K	22.87	22.92	22.88
HSDPA Subtest-1	22.28	22.30	22.22
HSDPA Subtest-2	22.24	22.30	22.23
HSDPA Subtest-3	21.75	21.81	21.74
HSDPA Subtest-4	21.70	21.76	21.76
DC-HSDPA Subtest-1	22.20	22.24	22.14
DC-HSDPA Subtest-2	22.16	22.24	22.15
DC-HSDPA Subtest-3	21.76	21.75	21.68
DC-HSDPA Subtest-4	21.71	21.70	21.70
HSUPA Subtest-1	22.24	22.26	22.18
HSUPA Subtest-2	21.20	21.26	21.19
HSUPA Subtest-3	21.70	21.77	21.70
HSUPA Subtest-4	21.15	21.22	21.22
HSUPA Subtest-5	22.19	22.24	22.17

LTE Band 5

Band/BW	Modulation	RB Size	RB Offset	Low CH 20407	Mid CH 20525	High CH 20643
				Frequency 824.7 MHz	Frequency 836.5 MHz	Frequency 848.3 MHz
5/ 1.4	QPSK	1	0	23.23	23.23	23.19
		1	2	23.26	23.17	23.14
		1	5	23.10	23.12	23.06
		3	0	23.29	23.23	23.25
		3	1	23.38	23.33	23.28
		3	3	23.30	23.29	23.27
		6	0	22.35	22.27	22.25
	16QAM	1	0	22.57	22.54	22.46
		1	2	22.61	22.58	22.64
		1	5	22.66	22.46	22.52
		3	0	22.34	22.30	22.18
		3	1	22.38	22.35	22.29
		3	3	22.29	22.32	22.21
		6	0	21.30	21.28	21.25
	64QAM	1	0	21.46	21.57	21.62
		1	2	21.35	21.40	21.50
		1	5	21.49	21.47	21.48
		3	0	21.33	21.26	21.23
		3	1	21.43	21.36	21.26
		3	3	21.36	21.28	21.35
		6	0	20.41	20.31	20.27

Band/BW	Modulation	RB Size	RB Offset	Low CH 20415	Mid CH 20525	High CH 20635
				Frequency 825.5 MHz	Frequency 836.5 MHz	Frequency 847.5 MHz
5/ 3	QPSK	1	0	23.26	23.25	23.19
		1	7	23.19	23.18	23.14
		1	14	23.08	23.12	23.06
		8	0	22.27	22.26	22.25
		8	3	22.31	22.33	22.30
		8	7	22.29	22.35	22.31
		15	0	22.34	22.27	22.20
	16QAM	1	0	22.54	22.60	22.49
		1	7	22.58	22.61	22.62
		1	14	22.69	22.46	22.52
		8	0	21.30	21.31	21.18
		8	3	21.43	21.35	21.34
		8	7	21.33	21.28	21.22
		15	0	21.29	21.24	21.32
	64QAM	1	0	21.52	21.60	21.56
		1	7	21.39	21.34	21.49
		1	14	21.52	21.49	21.46
		8	0	20.36	20.30	20.24
		8	3	20.47	20.27	20.30
		8	7	20.31	20.34	20.37
		15	0	20.43	20.24	20.31

Band/BW	Modulation	RB Size	RB Offset	Low CH 20425	Mid CH 20525	High CH 20625
				Frequency 826.5 MHz	Frequency 836.5 MHz	Frequency 846.5 MHz
5 / 5	QPSK	1	0	23.26	23.20	23.19
		1	12	23.24	23.15	23.14
		1	24	23.07	23.11	23.10
		12	0	22.28	22.26	22.22
		12	6	22.29	22.34	22.31
		12	13	22.33	22.28	22.35
		25	0	22.32	22.30	22.23
	16QAM	1	0	22.57	22.56	22.49
		1	12	22.55	22.64	22.61
		1	24	22.69	22.46	22.51
		12	0	21.30	21.29	21.15
		12	6	21.40	21.36	21.28
		12	13	21.26	21.30	21.25
		25	0	21.30	21.25	21.29
	64QAM	1	0	21.45	21.57	21.62
		1	12	21.36	21.40	21.49
		1	24	21.43	21.54	21.46
		12	0	20.37	20.27	20.23
		12	6	20.41	20.37	20.30
		12	13	20.35	20.31	20.30
		25	0	20.39	20.30	20.29

Band/BW	Modulation	RB Size	RB Offset	Low CH 20450	Mid CH 20525	High CH 20600
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz
5/ 10	QPSK	1	0	23.31	23.27	23.24
		1	24	23.26	23.23	23.16
		1	49	23.12	23.19	23.11
		25	0	22.32	22.31	22.27
		25	12	22.39	22.35	22.36
		25	25	22.35	22.34	22.33
		50	0	22.38	22.32	22.28
	16QAM	1	0	22.62	22.61	22.51
		1	24	22.63	22.66	22.66
		1	49	22.71	22.54	22.53
		25	0	21.38	21.35	21.23
		25	12	21.46	21.38	21.34
		25	25	21.33	21.35	21.27
		50	0	21.36	21.32	21.34
	64QAM	1	0	21.53	21.62	21.64
		1	24	21.44	21.42	21.55
		1	49	21.51	21.55	21.48
		25	0	20.41	20.32	20.31
		25	12	20.49	20.38	20.32
		25	25	20.39	20.36	20.38
		50	0	20.45	20.32	20.32

ERP POWER (dBm)

WCDMA

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
4132	826.4	22.87	2.4	23.12	205.12	7
4182	836.4	22.92	2.4	23.17	207.49	7
4233	846.6	22.88	2.4	23.13	205.59	7

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

LTE BAND 5

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	23.38	2.4	23.63	230.67	7
20525	836.5	23.33	2.4	23.58	228.03	7
20643	848.3	23.28	2.4	23.53	225.42	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	22.66	2.4	22.91	195.43	7
20525	836.5	22.575	2.4	22.825	191.65	7
20643	848.3	22.64	2.4	22.89	194.54	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	21.49	2.4	21.74	149.28	7
20525	836.5	21.57	2.4	21.82	152.05	7
20643	848.3	21.62	2.4	21.87	153.82	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	23.26	2.4	23.51	224.39	7
20525	836.5	23.25	2.4	23.5	223.87	7
20635	847.5	23.19	2.4	23.44	220.8	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	22.69	2.4	22.94	196.79	7
20525	836.5	22.605	2.4	22.855	192.97	7
20635	847.5	22.62	2.4	22.87	193.64	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	21.52	2.4	21.77	150.31	7
20525	836.5	21.6	2.4	21.85	153.11	7
20635	847.5	21.56	2.4	21.81	151.71	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	23.26	2.4	23.51	224.39	7
20525	836.5	23.2	2.4	23.45	221.31	7
20625	846.5	23.19	2.4	23.44	220.8	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	22.69	2.4	22.94	196.79	7
20525	836.5	22.635	2.4	22.885	194.31	7
20625	846.5	22.61	2.4	22.86	193.2	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	21.45	2.4	21.7	147.91	7
20525	836.5	21.57	2.4	21.82	152.05	7
20625	846.5	21.62	2.4	21.87	153.82	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	23.31	2.4	23.56	226.99	7
20525	836.5	23.27	2.4	23.52	224.91	7
20600	844	23.24	2.4	23.49	223.36	7

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	22.71	2.4	22.96	197.7	7
20525	836.5	22.655	2.4	22.905	195.21	7
20600	844	22.66	2.4	22.91	195.43	7

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	21.53	2.4	21.78	150.66	7
20525	836.5	21.62	2.4	21.87	153.82	7
20600	844	21.64	2.4	21.89	154.53	7

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

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

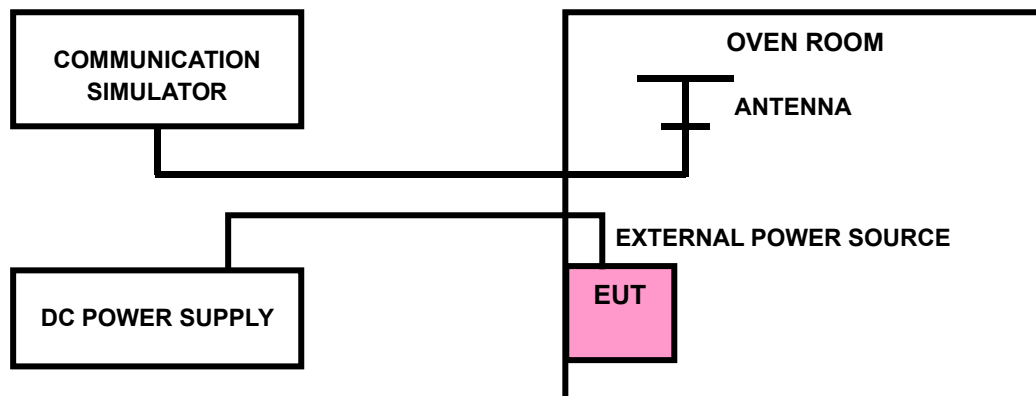
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

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





Test Report No.: PSU-QSU2307030110RF01

3.2.4 TEST RESULTS

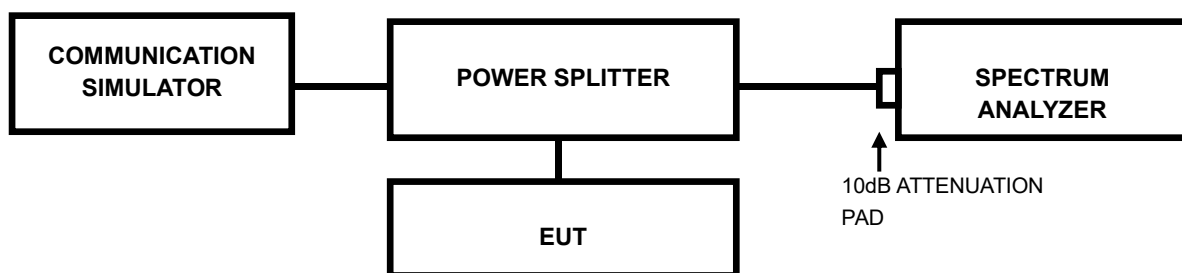
Please Refer to the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).

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.



Test Report No.: PSU-QSU2307030110RF01

3.3.4 TEST RESULTS

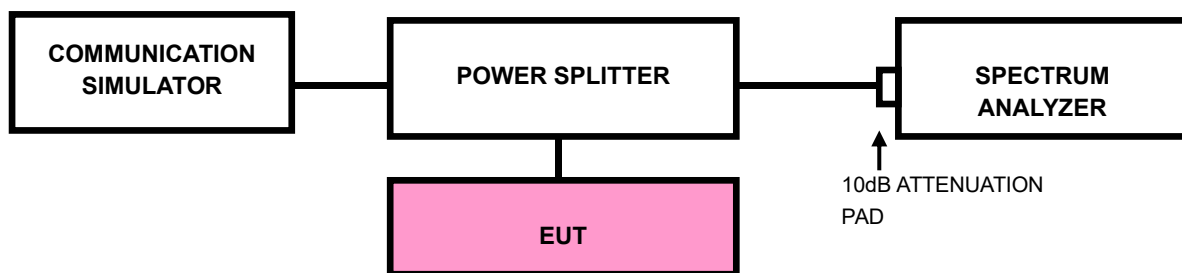
Please Refer to the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).

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.



Test Report No.: PSU-QSU2307030110RF01

3.4.4 TEST RESULTS

Please Refer to the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).

3.5 CONDUCTED SPURIOUS EMISSIONS

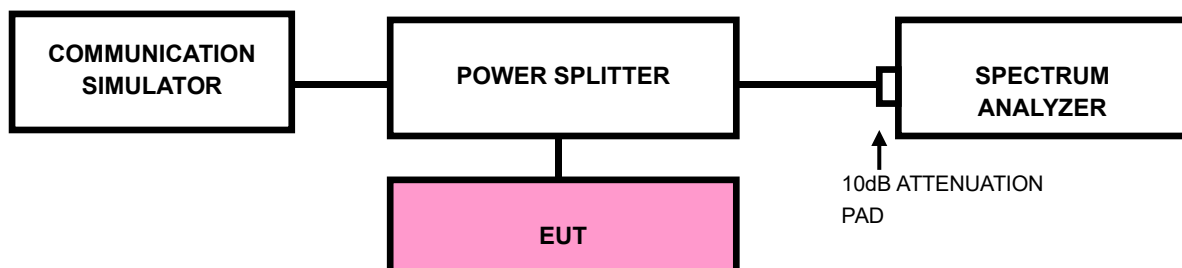
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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





Test Report No.: PSU-QSU2307030110RF01

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 the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).

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,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$.

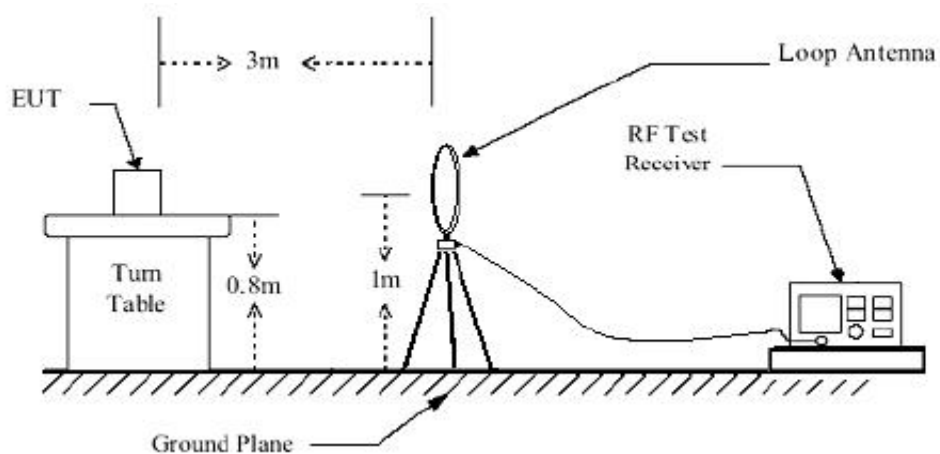
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

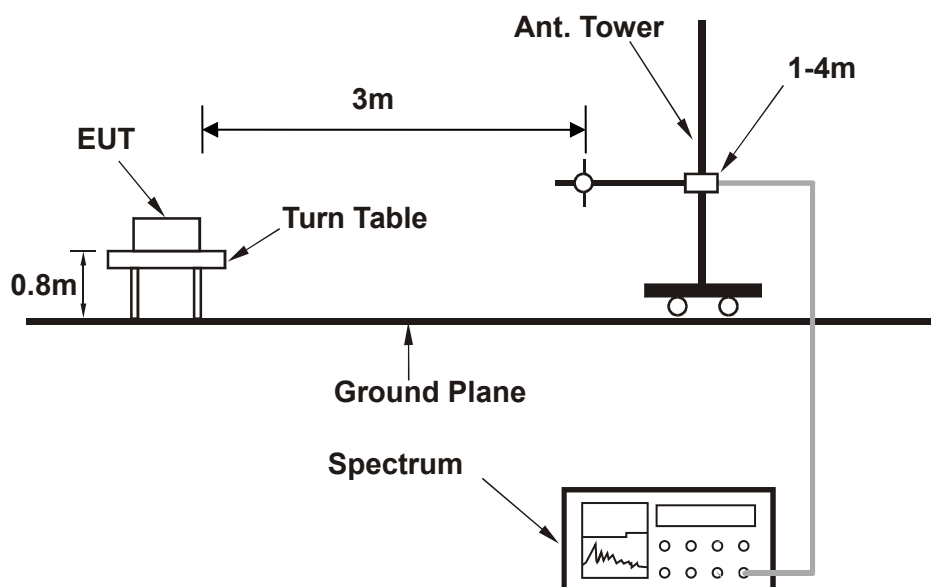
No deviation

3.6.4 TEST SETUP

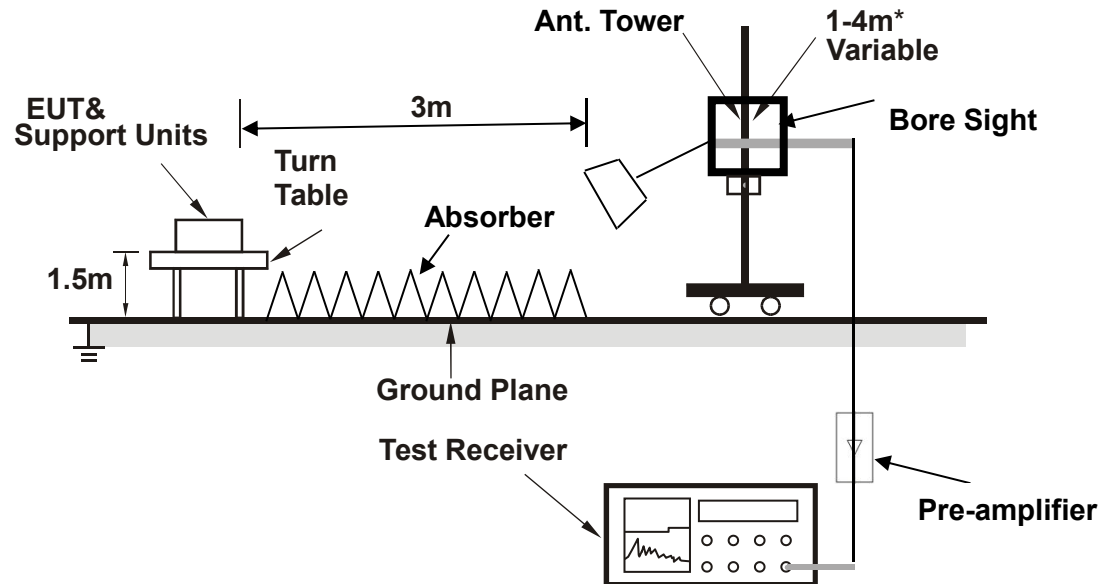
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

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

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

3.6.5 TEST RESULTS

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

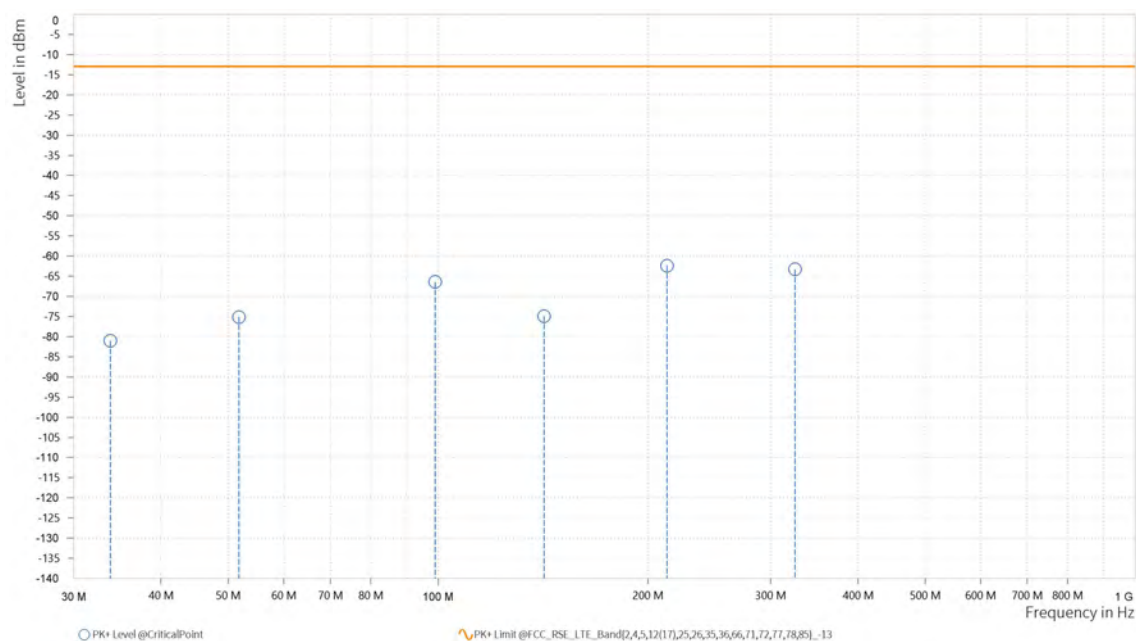
30 MHz – 1GHz data:

LTE Band5 :

CHANNEL BANDWIDTH: 10MHz

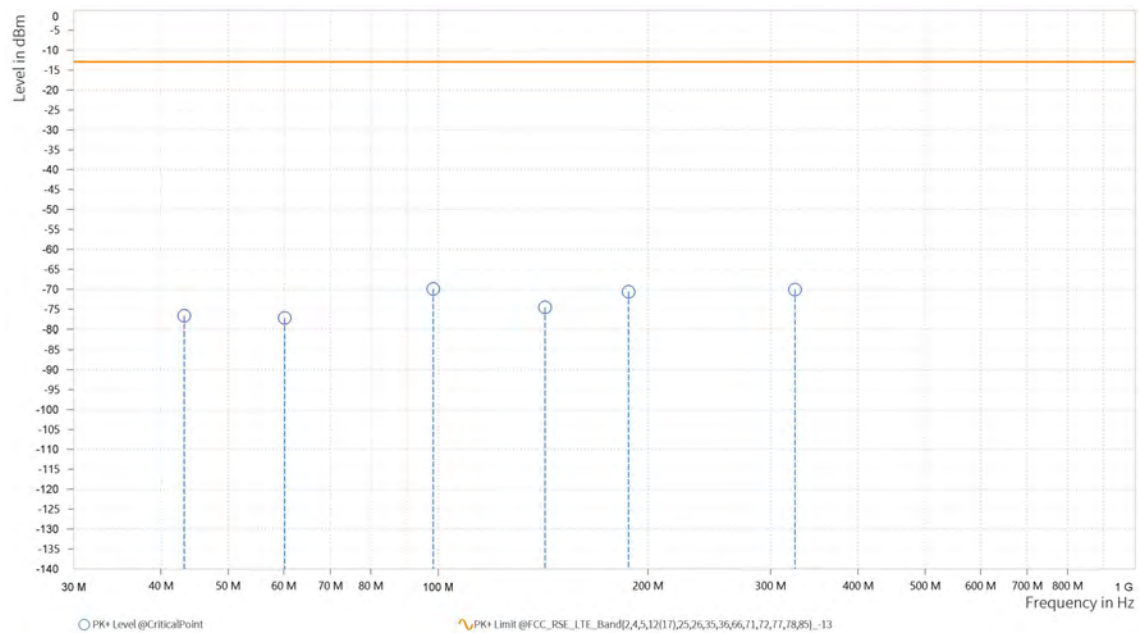
MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	33.850	-81.05	-13.00	68.05	-3.52	H	1	1
1	51.800	-75.12	-13.00	62.12	1.74	H	5.2	1
1	99.000	-66.41	-13.00	53.41	-2.64	H	181.2	2
1	141.850	-74.91	-13.00	61.91	-8.40	H	359.1	2
1	212.900	-62.38	-13.00	49.38	-4.33	H	181.2	2
1	325.000	-63.31	-13.00	50.31	1.40	H	181.2	2



MODE	TX channel 20525	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
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	43.200	-76.69	-13.00	63.69	2.00	V	1	1
1	60.200	-77.21	-13.00	64.21	1.31	V	359.1	2
1	98.400	-69.90	-13.00	56.90	0.87	V	197.8	2
1	142.300	-74.55	-13.00	61.55	-5.17	V	1	2
1	187.550	-70.59	-13.00	57.59	-4.38	V	9.8	1
1	324.950	-70.05	-13.00	57.05	0.92	V	9.8	1





Test Report No.: PSU-QSU2307030110RF01

ABOVE 1GHz DATA

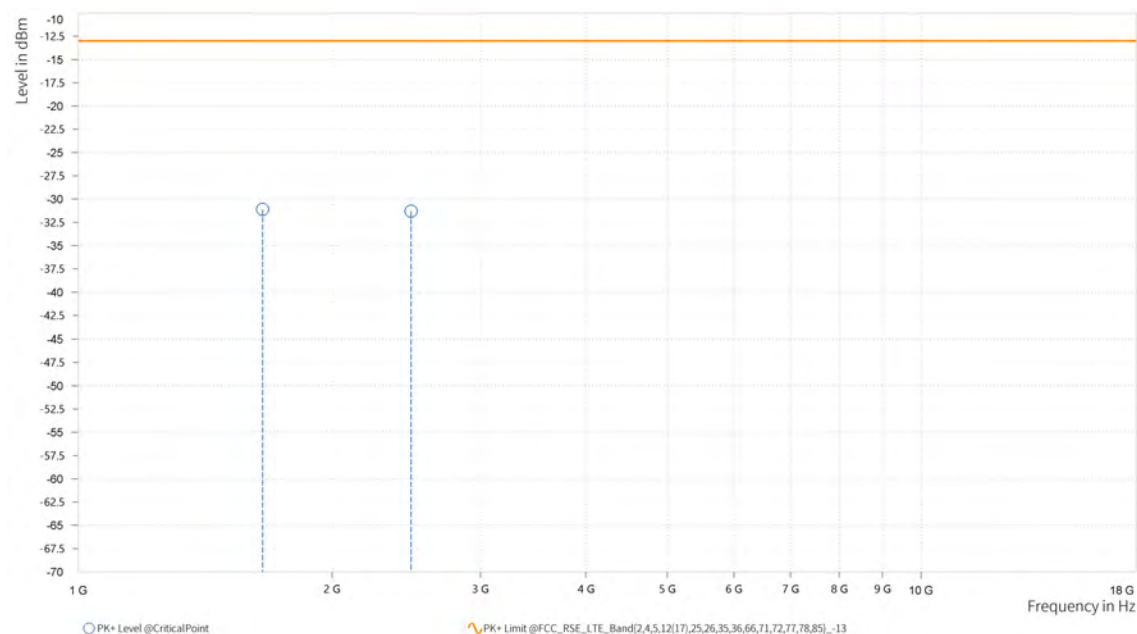
Note: For higher frequency, the emission is too low to be detected.

WCDMA Band V:

CH 4132:

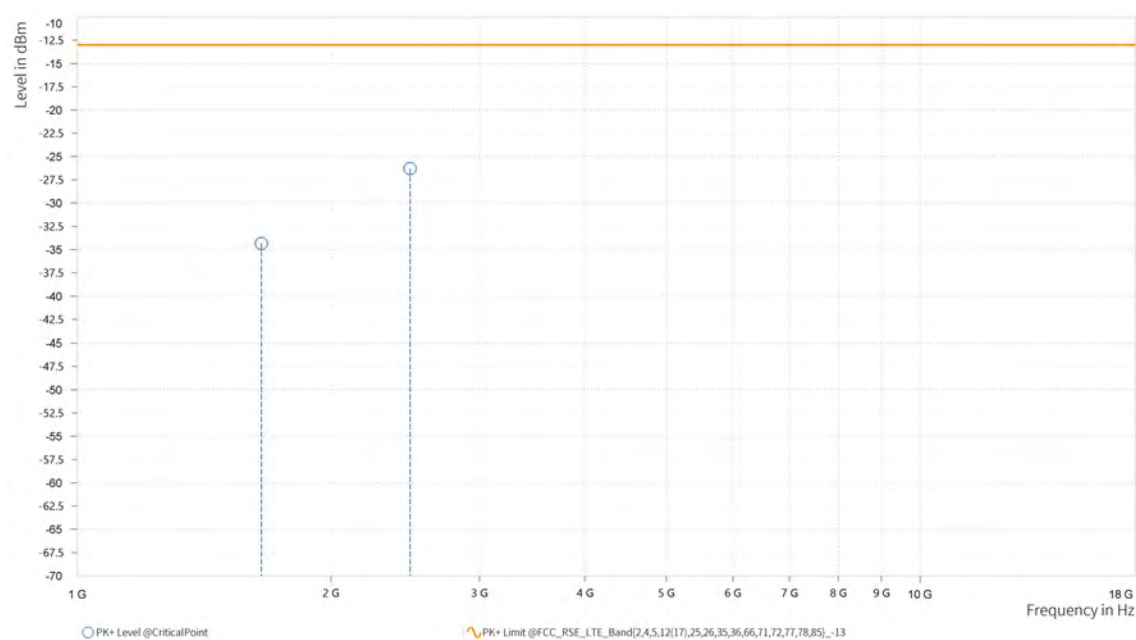
MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,654.500	-31.11	-13.00	18.11	22.12	H	294.8	2
3	2,482.500	-31.30	-13.00	18.30	24.70	H	1	1



MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

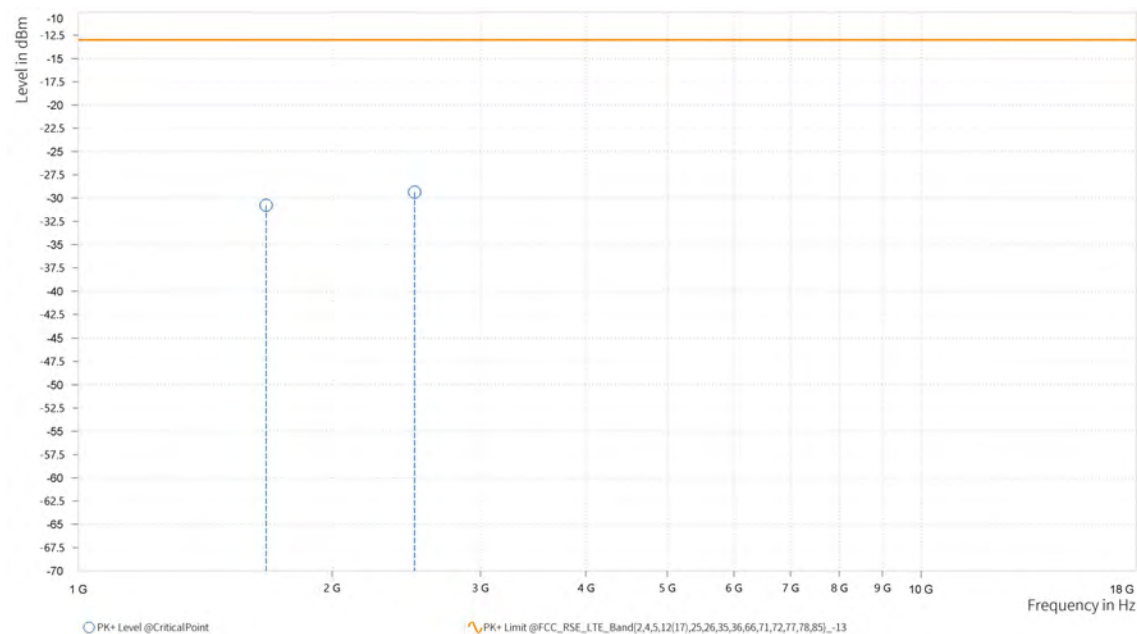
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,654.000	-34.34	-13.00	21.34	21.62	V	65.3	1
3	2,483.000	-26.30	-13.00	13.30	24.35	V	190.7	1



CH 4182:

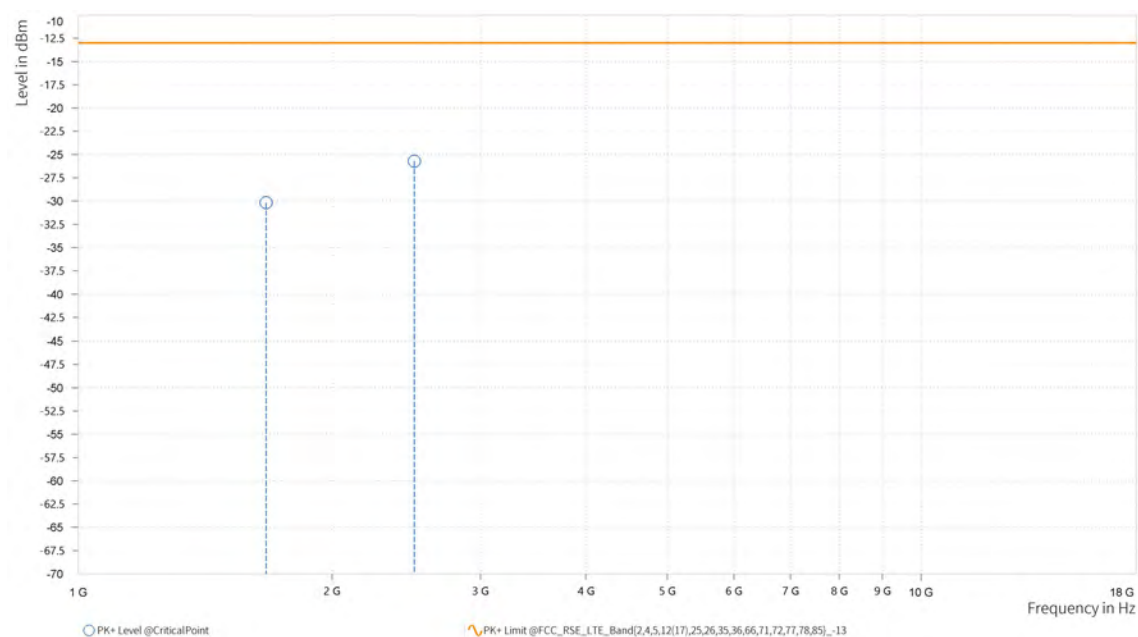
MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-30.77	-13.00	17.77	23.58	H	294.7	2
3	2,506.500	-29.36	-13.00	16.36	24.26	H	232.5	2



MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

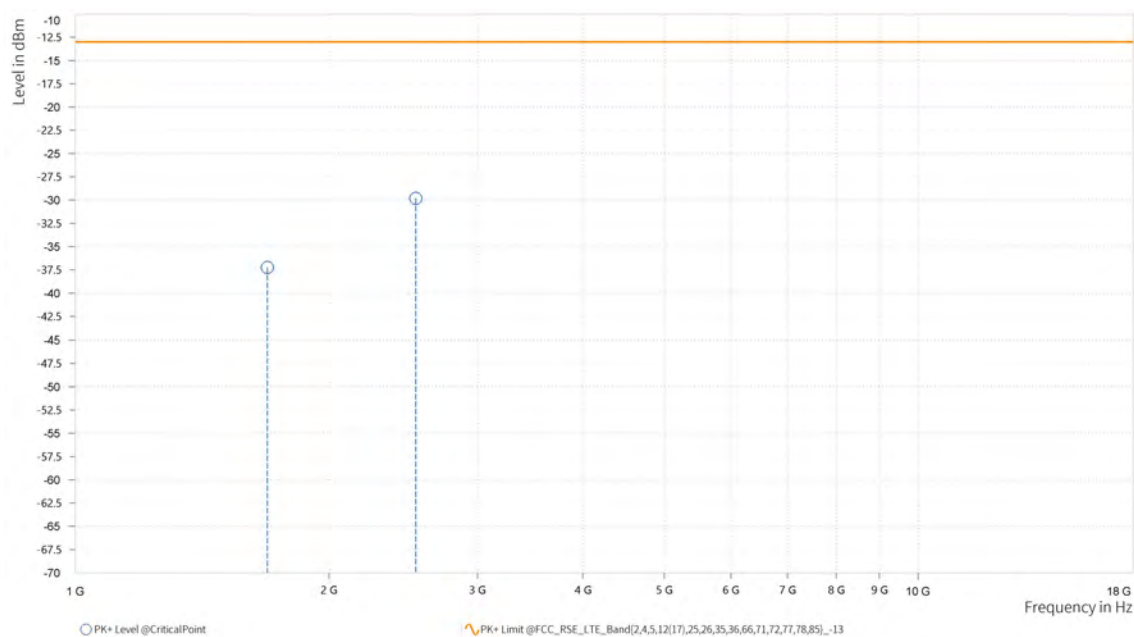
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-30.16	-13.00	17.16	23.35	V	74.9	1
3	2,505.500	-25.70	-13.00	12.70	23.92	V	193.1	1



CH 4233:

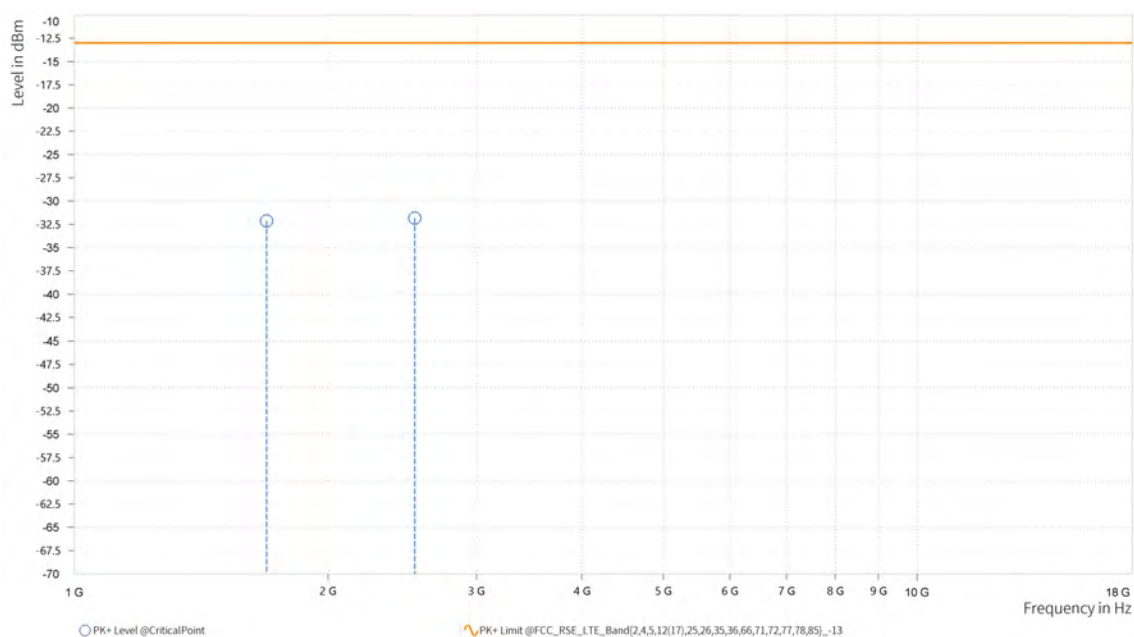
MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,690.500	-37.23	-13.00	24.23	23.26	H	294.7	2
3	2,536.000	-29.82	-13.00	16.82	24.68	H	232.6	2



MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
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	1,691.000	-32.12	-13.00	19.12	23.35	V	66.5	1
3	2,536.000	-31.83	-13.00	18.83	24.44	V	128.6	1

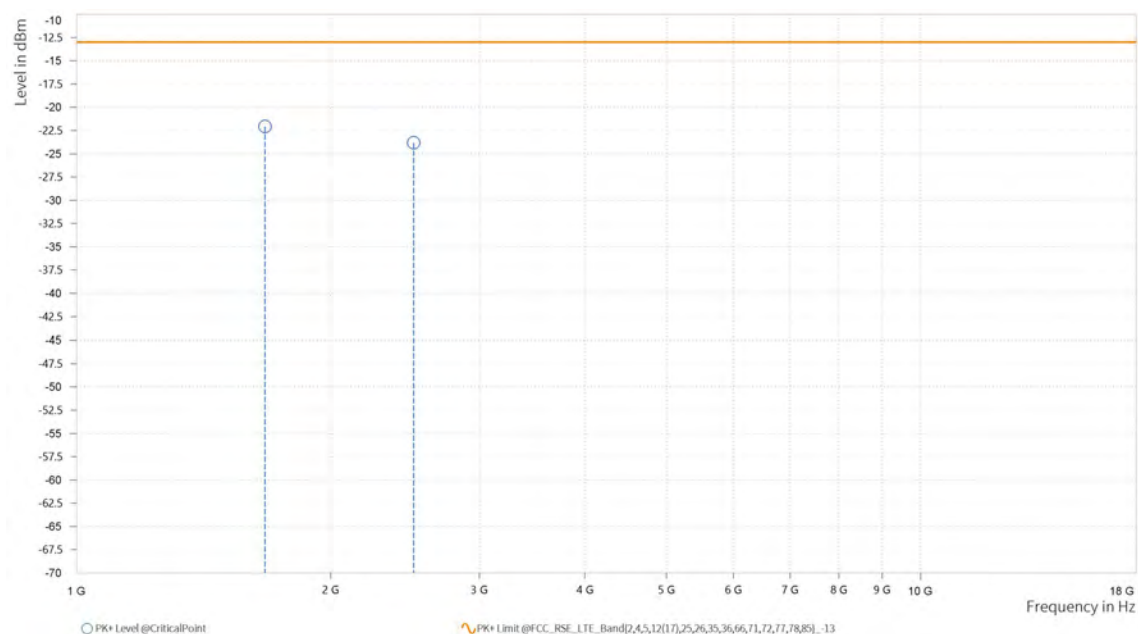


LTE Band 5

CHANNEL BANDWIDTH: 1.4MHz / QPSK

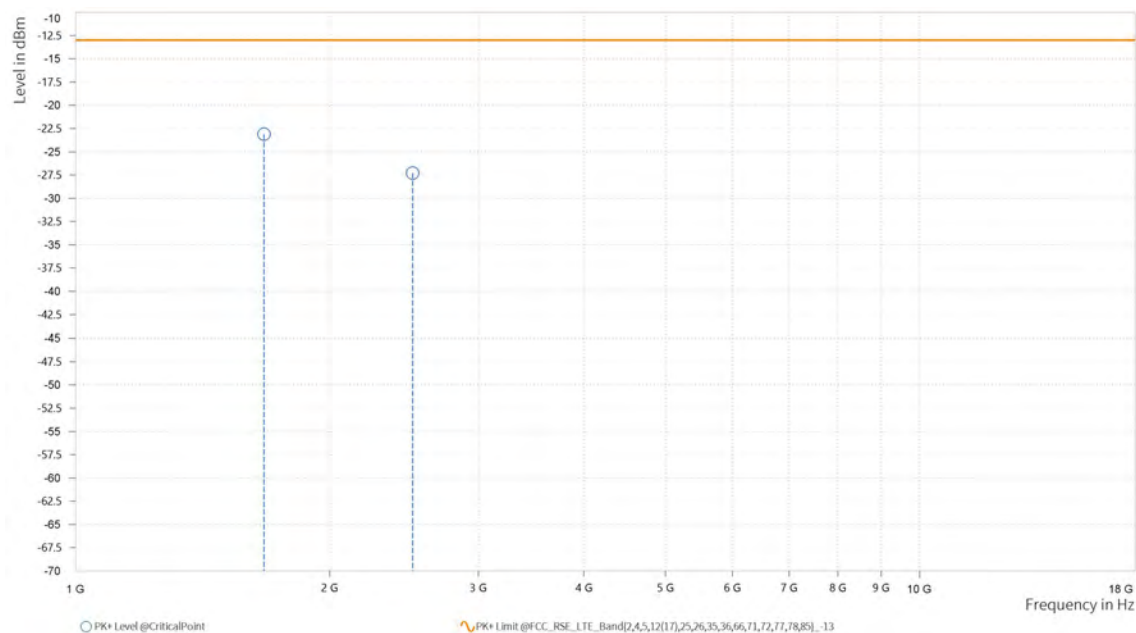
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.000	-22.08	-13.00	9.08	23.74	H	0.9	2
3	2,508.000	-23.82	-13.00	10.82	24.23	H	359	2



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

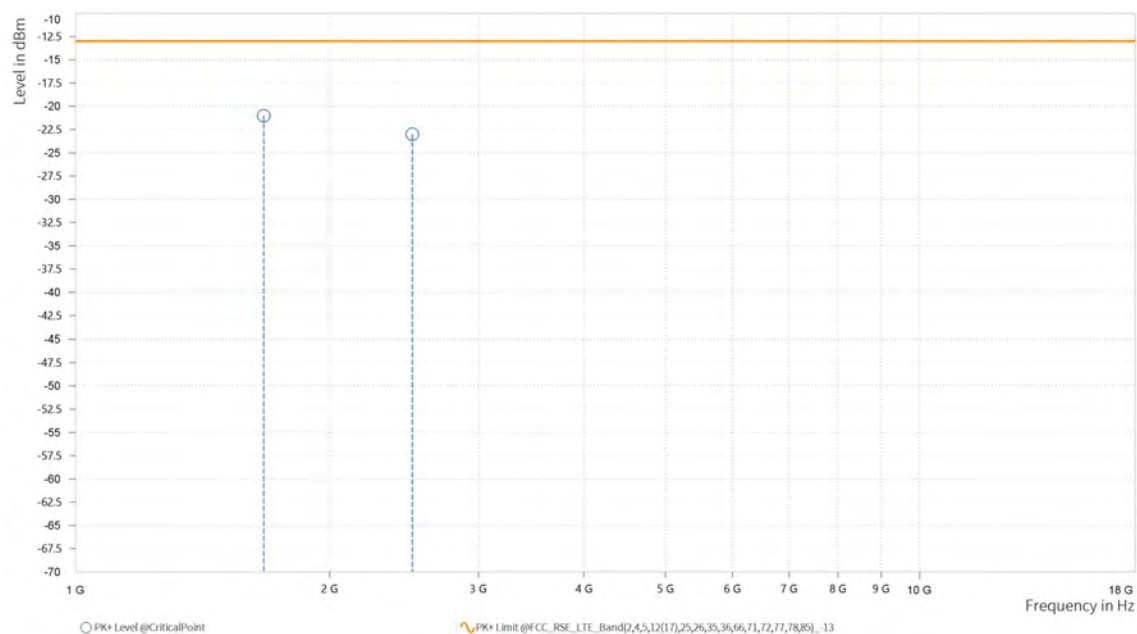
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.000	-23.12	-13.00	10.12	23.53	V	65.3	1
3	2,508.000	-27.29	-13.00	14.29	23.89	V	231.4	2



CHANNEL BANDWIDTH: 3MHz / QPSK

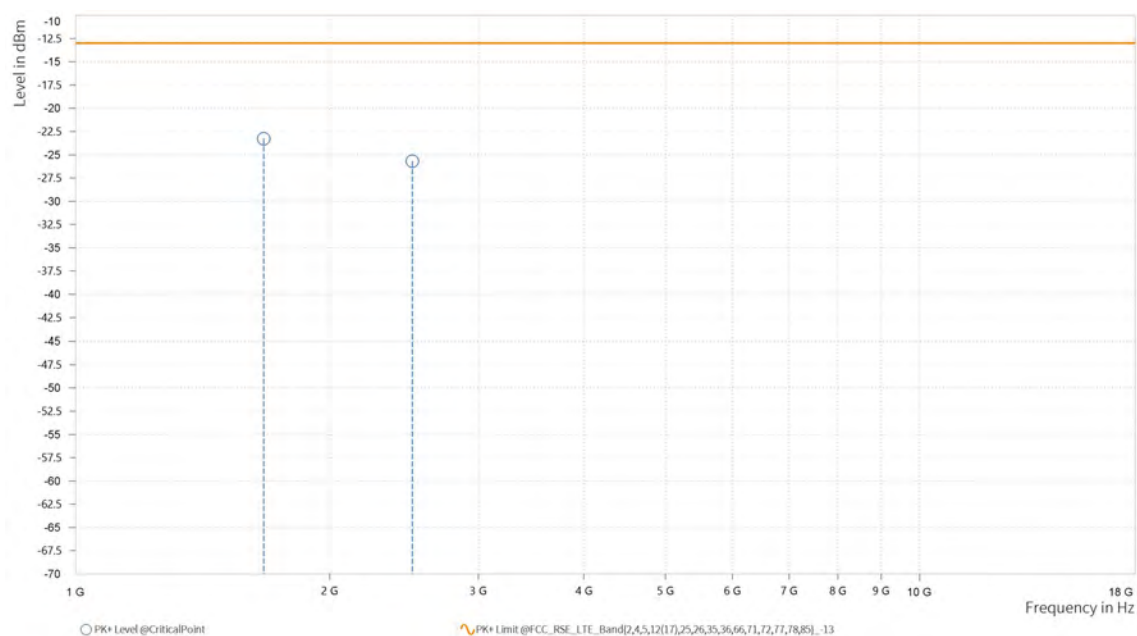
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-21.04	-13.00	8.04	23.58	H	65.2	1
3	2,505.500	-23.02	-13.00	10.02	24.28	H	128.5	1



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

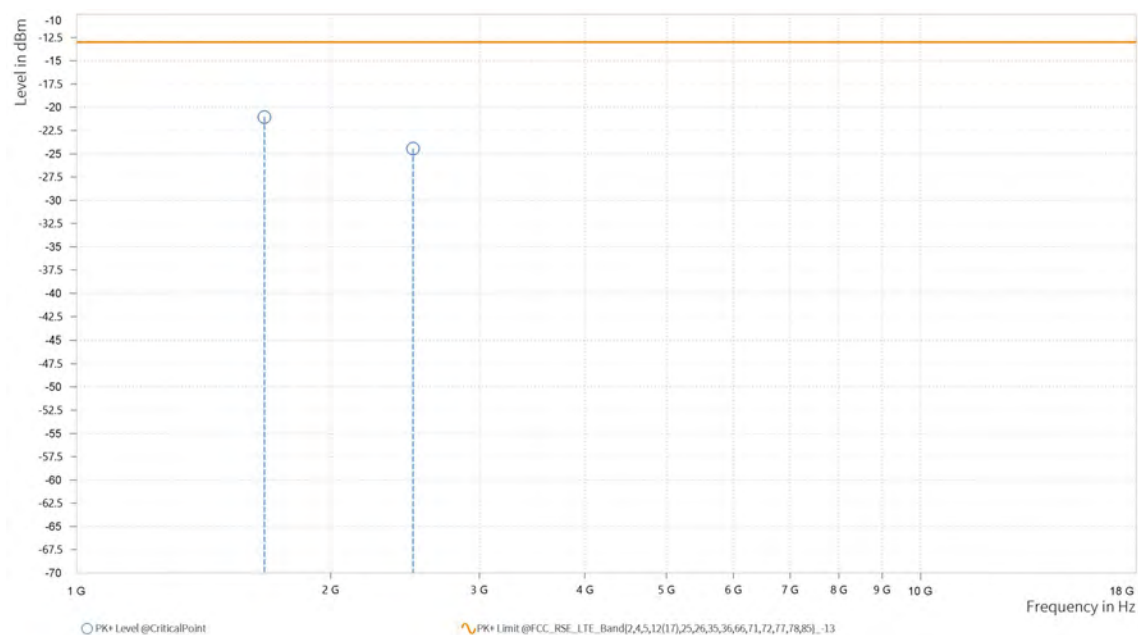
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.500	-23.27	-13.00	10.27	23.35	V	65.4	1
3	2,505.500	-25.69	-13.00	12.69	23.92	V	231.4	2



CHANNEL BANDWIDTH: 5MHz / QPSK

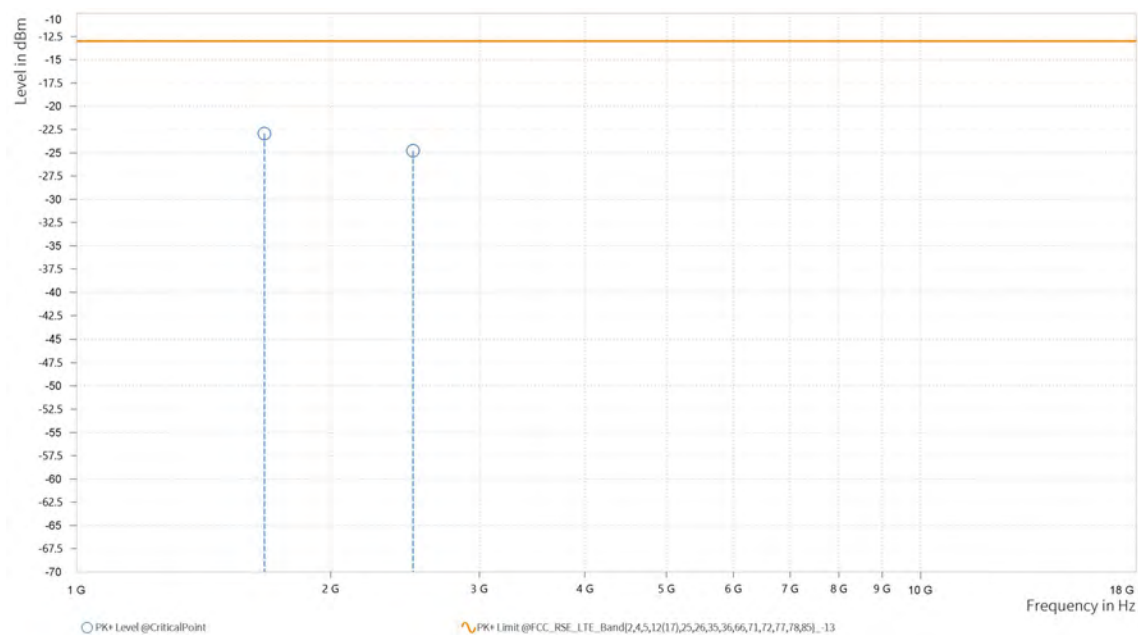
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,668.500	-21.06	-13.00	8.06	23.37	H	67.7	1
3	2,502.500	-24.45	-13.00	11.45	24.33	H	129.8	1



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

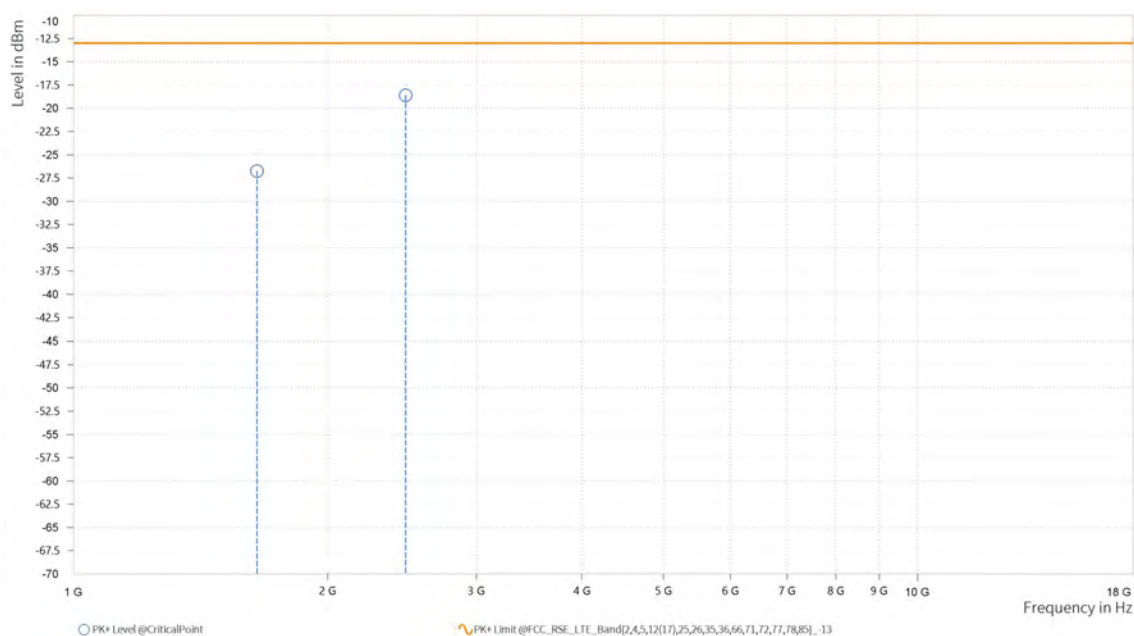
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,668.500	-22.96	-13.00	9.96	23.10	V	65.3	1
3	2,503.000	-24.79	-13.00	11.79	23.96	V	232.5	2



CHANNEL BANDWIDTH: 10MHz / QPSK
CH 20450

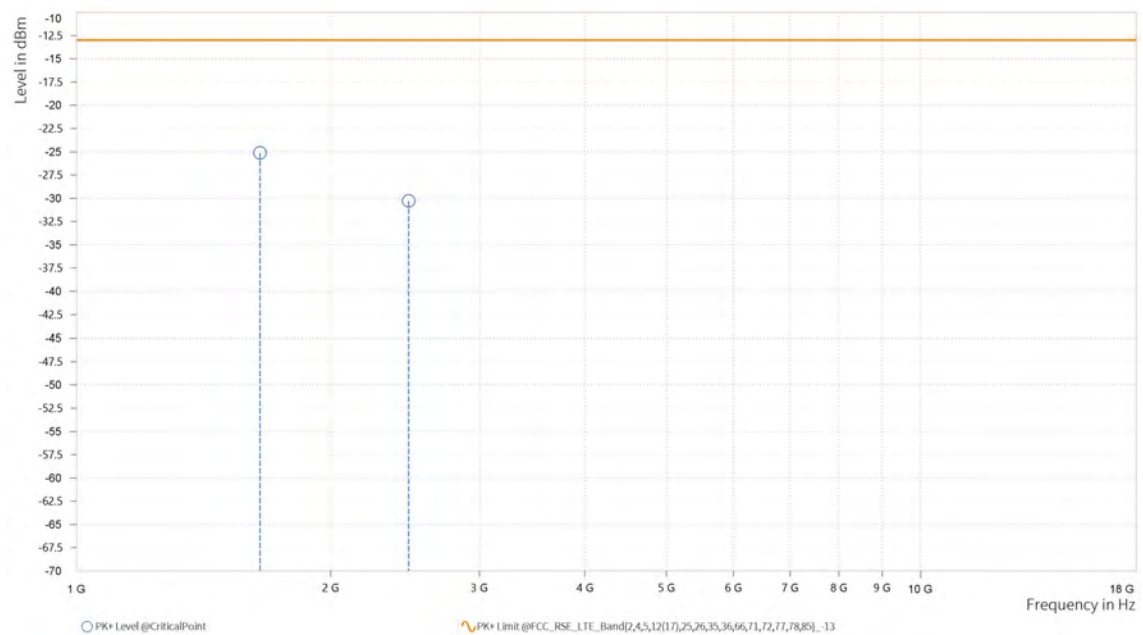
MODE	TX channel 20450	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,649.000	-26.75	-13.00	13.75	22.15	H	65.4	1
3	2,473.500	-18.61	-13.00	5.61	24.76	H	232.5	2



MODE	TX channel 20450	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

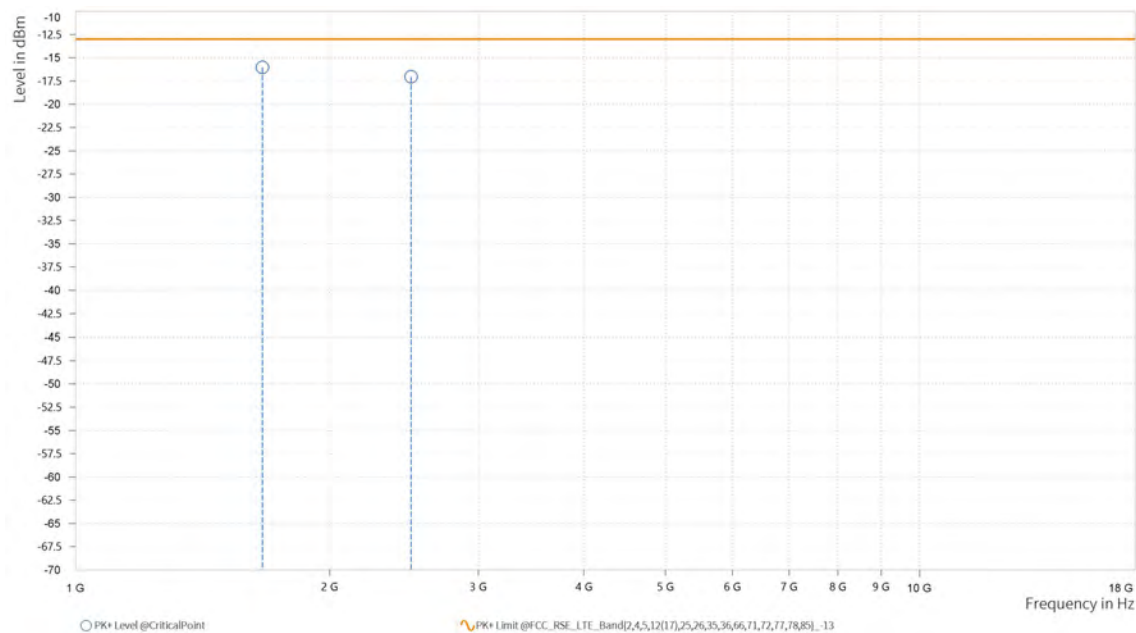
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,649.000	-25.13	-13.00	12.13	21.62	V	64.2	1
3	2,473.500	-30.28	-13.00	17.28	24.46	V	359.1	1



CH 20525

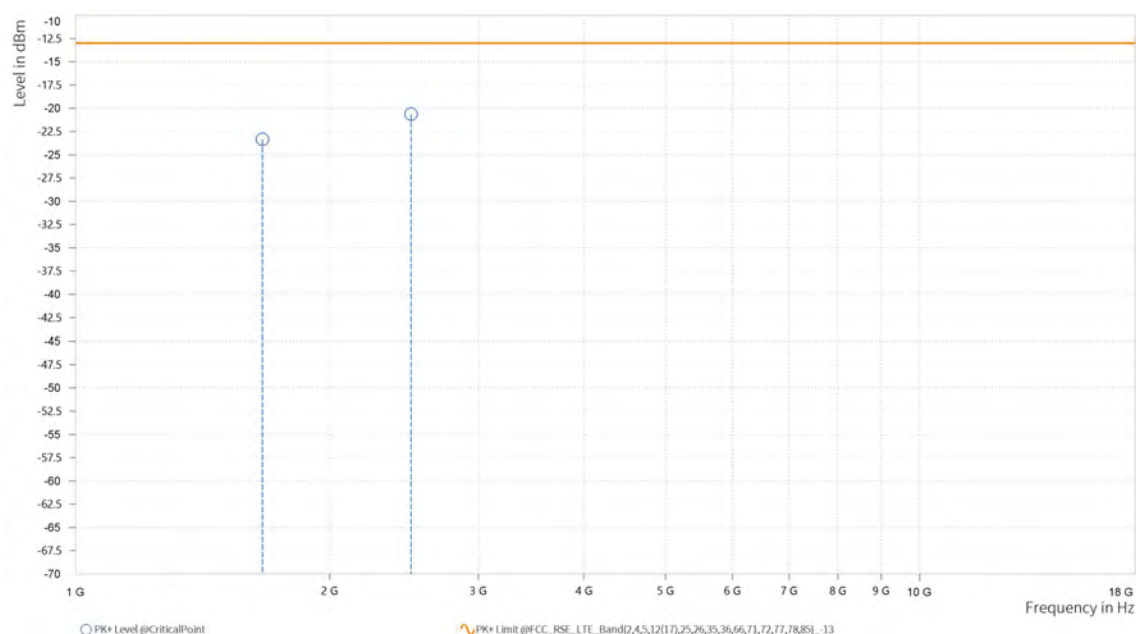
MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.000	-16.05	-13.00	3.05	22.89	H	294.7	2
3	2,496.000	-17.05	-13.00	4.05	24.45	H	232.6	2



MODE	TX channel 20525	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

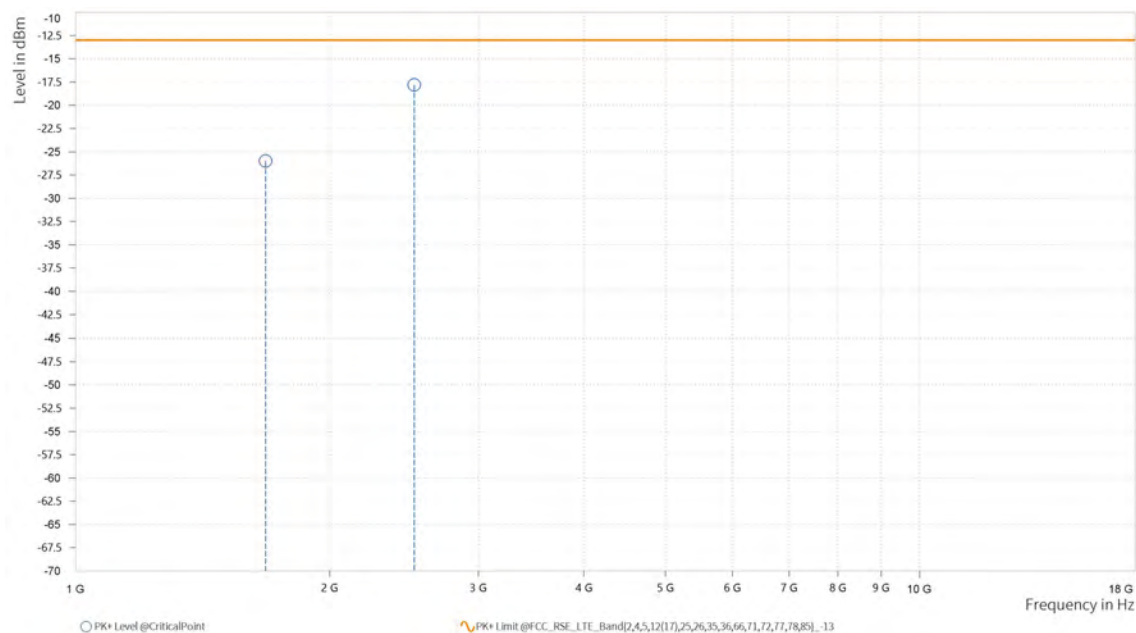
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.500	-23.34	-13.00	10.34	22.61	V	1	1
3	2,496.000	-20.63	-13.00	7.63	24.07	V	1	1



CH 20600

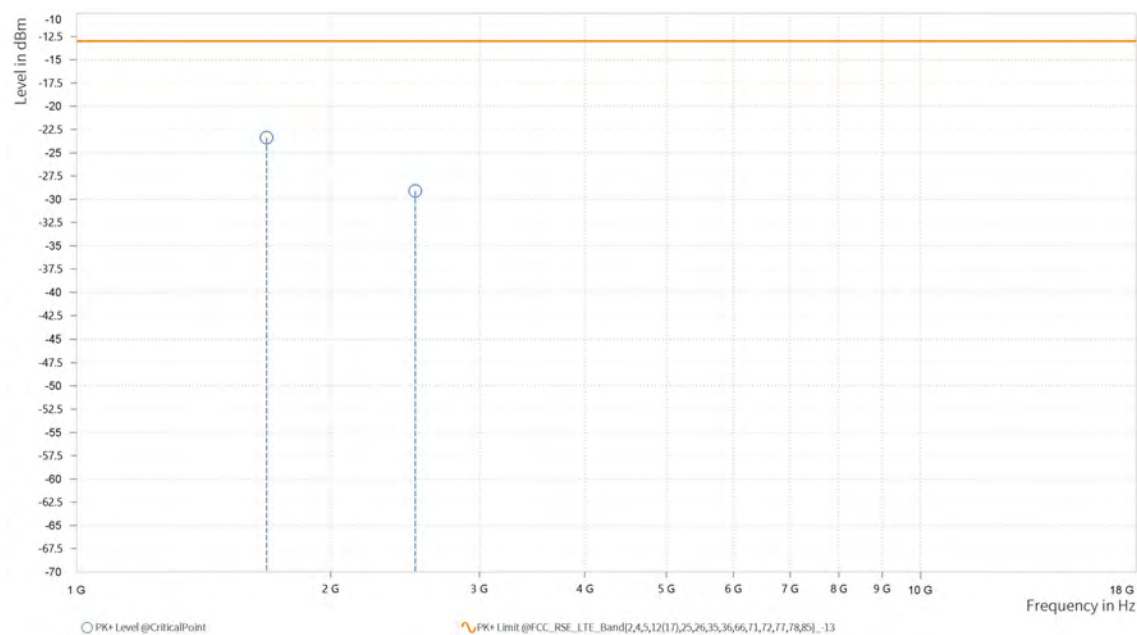
MODE	TX channel 20600	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,679.000	-26.00	-13.00	13.00	23.64	H	66.6	1
3	2,518.500	-17.82	-13.00	4.82	24.35	H	1	1



MODE	TX channel 20600	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 12V
TESTED BY	Chao Wu		
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	1,679.000	-23.38	-13.00	10.38	23.55	V	66.6	1
3	2,518.500	-29.10	-13.00	16.10	24.04	V	359.1	1

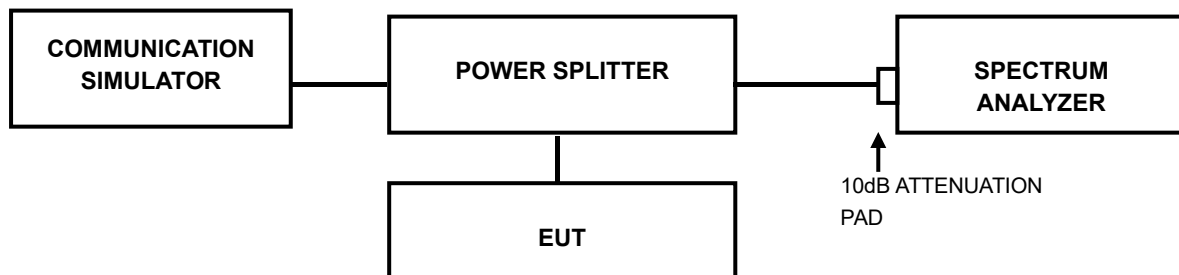


3.7 PEAK TO AVERAGE RATIO

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%.



Test Report No.: PSU-QSU2307030110RF01

3.7.4 TEST RESULTS

Please Refer to the module report (Report No.: SEWA2205000015RG01, Model Name: AG550Q-NA, FCC ID: XMR2022AG550QNA).



Test Report No.: PSU-QSU2307030110RF01

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



Test Report No.: PSU-QSU2307030110RF01

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.

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

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008



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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.

--END--