FCC TEST REPORT

(PART 27)

Applicant:	Thundercomm Technology Co., Ltd.
Address:	No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122

Manufacturer or Supplier:	Thundercomm Technology Co., Ltd.
Address:	No. 107, Middle Datagu Road, Xiantao Street, Yubei District, Chongqing, China, 401122
Product:	Edge AI Station
Brand Name:	Thundercomm
Model Name:	EB5S
FCC ID:	2AOHHEB5S
Date of tests:	Sep. 09, 2023 ~ Oct. 31, 2023

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

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

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
Simon Wang Date: Oct. 31, 2023	Luke Lu Date: Oct. 31, 2023

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23070010RF03	Original release	Oct. 31, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**
§2.1046	Conducted Output Power	See Note1
§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17) (Band 71)	Compliance
§27.50(d)(4) §27.50(h)(2) §27.50(a)(3)	Equivalent Isotropically Radiated Power (WCMDA Band 4) (Band 7) (Band 30)	Compliance
§2.1055 §27.54	Frequency Stability	See Note1
§2.1049	Occupied Bandwidth	See Note1
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Conducted Band Edge Measurements (WCMDA Band 4) (Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	See Note1
§2.1051 §27.53(c)(2)(4) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Conducted Spurious Emissions (WCMDA Band 4) (Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	See Note1
§2.1053 §27.53(c)(2)(4) §27.53(f) §27.53(g) §27.53(h) §27.53(m)(4)(6) §27.53(a)(4)	Radiated Spurious Emissions (WCMDA Band 4) (Band 7) (Band 12) (Band 13) (Band 17) (Band 30) (Band 71)	Compliance See Note2
NA	Peak to average ratio	See Note1

Note:

1. Please refer to the module report SEWA2204000008RG01(FCC ID: XMR2022RM520NGL)
2. For Inter-CA band, the EUT had been tested with all combinations, the report only shows the worst case RSE mode data.

1.1 MEASREMENT 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
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted Output power	±2.06dB

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-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.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
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	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	W13.02	N/A	Oct.27,23	Apr.26,24
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Oct.27,23	Apr.26,24
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.27,23	Apr.26,24

CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.27,23	Apr.26,24
Temperature Chamber	votsch	VT4002	585660781 00050	May.31,22	May.30,24

NOTE: 1. The calibration interval of the above test instruments is 6 months or 24months 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	Edge AI Station	
BRAND NAME	Thundercomm	
MODEL NAME	EB5S	
NOMINAL VOLTAGE	19Vdc(adapter)	
MODULATION TECHNOLOGY	**WCDMA IV**	BPSK, QPSK
	LTE	QPSK, 16QAM, 64QAM, 256QAM
FREQUENCY RANGE	**WCDMA IV**	1712.4MHz ~ 1752.6MHz
	LTE Band 7 Channel Bandwidth: 5MHz	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 12 Channel Bandwidth: 1.4MHz	699.7MHz ~ 715.3MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 17 Channel Bandwidth: 5MHz	706.5MHz ~ 713.5MHz
	LTE Band 17 Channel Bandwidth: 10MHz	709MHz ~ 711 MHz
	LTE Band 30 Channel Bandwidth: 5MHz	2307.5MHz ~ 2312.5MHz
	LTE Band 30 Channel Bandwidth: 10MHz	2310MHz
	LTE Band 71 Channel Bandwidth: 5MHz	665.5MHz ~ 695.5MHz
	LTE Band 71 Channel Bandwidth: 10MHz	668MHz ~ 693MHz

FREQUENCY RANGE	**LTE Band 71 Channel Bandwidth: 15MHz**	670.5MHz ~ 690.5MHz
	LTE Band 71 Channel Bandwidth: 20MHz	673MHz ~ 688MHz
MAX. EIRP POWER	**WCDMA IV**	212.81mW
	LTE Band 7 Channel Bandwidth: 5MHz	258.82mW
	LTE Band 7 Channel Bandwidth: 10MHz	262.42mW
	LTE Band 7 Channel Bandwidth: 15MHz	268.53mW
	LTE Band 7 Channel Bandwidth: 20MHz	248.31mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	47.1mW
	LTE Band 12 Channel Bandwidth: 3MHz	50.00mW
	LTE Band 12 Channel Bandwidth: 5MHz	47.75mW
	LTE Band 12 Channel Bandwidth: 10MHz	46.99mW
	LTE Band 13 Channel Bandwidth: 5MHz	56.75mW
	LTE Band 13 Channel Bandwidth: 10MHz	55.59mW
	LTE Band 17 Channel Bandwidth: 5MHz	50.93mW
	LTE Band 17 Channel Bandwidth: 10MHz	47.1mW
	LTE Band 30 Channel Bandwidth: 5MHz	180.3mW
	LTE Band 30 Channel Bandwidth: 10MHz	172.58mW
	LTE Band 71 Channel Bandwidth: 5MHz	49.55mW
	LTE Band 71 Channel Bandwidth: 10MHz	49.66mW
	LTE Band 71 Channel Bandwidth: 15MHz	49.66mW
	LTE Band 71 Channel Bandwidth: 20MHz	49.09mW
EMISSION DESIGNATOR	**WCDMA IV**	4M21F9W

EMISSION DESIGNATOR	**LTE Band 7 Channel Bandwidth: 5MHz**	QPSK: 4M48G7D
		16QAM: 4M48W7D
		64QAM: 4M48W7D
		256QAM: 4M48W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M95W7D
		64QAM: 8M94W7D
		256QAM: 8M95W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
		64QAM: 13M5W7D
		256QAM: 13M5W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
		256QAM: 17M9W7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	QPSK: 1M11G7D
		16QAM: 1M11W7D
		64QAM: 1M11W7D
		256QAM: 1M11W7D
	LTE Band 12 Channel Bandwidth: 3MHz	QPSK: 2M70G7D
		16QAM: 2M70W7D
		64QAM: 2M70W7D
		256QAM: 2M70W7D
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M48G7D
		16QAM: 4M48W7D
		64QAM: 4M49W7D
		256QAM: 4M48W7D
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 8M94G7D
		16QAM: 8M96W7D
		64QAM: 8M94W7D
		256QAM: 8M96W7D

EMISSION DESIGNATOR	**LTE Band 13 Channel Bandwidth: 5MHz**	QPSK: 4M48G7D
		16QAM: 4M49W7D
		64QAM: 4M48W7D
		256QAM: 4M49W7D
	LTE Band 13 Channel Bandwidth: 10MHz	QPSK: 8M92G7D
		16QAM: 8M93W7D
		64QAM: 8M92W7D
		256QAM: 8M92W7D
	LTE Band 17 Channel Bandwidth: 5MHz	QPSK: 4M48G7D
		16QAM: 4M48W7D
		64QAM: 4M48W7D
		256QAM: 4M48W7D
	LTE Band 17 Channel Bandwidth: 10MHz	QPSK: 8M96G7D
		16QAM: 8M96W7D
		64QAM: 8M95W7D
		256QAM: 8M96W7D
	LTE Band 30 Channel Bandwidth: 5MHz	QPSK: 4M51G7D
		16QAM: 4M52W7D
		64QAM: 4M51W7D
		256QAM: 4M51W7D
	LTE Band 30 Channel Bandwidth: 10MHz	QPSK: 9M01G7D
		16QAM: 9M00W7D
		64QAM: 8M99W7D
		256QAM: 9M00W7D
	LTE Band 71 Channel Bandwidth: 5MHz	QPSK: 4M49G7D
		16QAM: 4M49W7D
		64QAM: 4M49W7D
		256QAM: 4M49W7D
	LTE Band 71 Channel Bandwidth: 10MHz	QPSK: 8M95G7D
		16QAM: 8M95W7D
		64QAM: 8M95W7D
		256QAM: 8M94W7D
	LTE Band 71 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D

		64QAM: 13M5W7D
		256QAM: 13M5W7D
	LTE Band 71 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
		64QAM: 17M9W7D
		256QAM: 17M8W7D
ANTENNA TYPE	Fixed External Antenna with -1.45 dBi gain for WCDMA IV Fixed External Antenna with -0.56dBi gain for LTE B7 Fixed External Antenna with -5.75 dBi gain for LTE B12 Fixed External Antenna with -4.92 dBi gain for LTE B13 Fixed External Antenna with -5.75 dBi gain for LTE B17 Fixed External Antenna with -1.95dBi gain for LTE B30 Fixed External Antenna with -5.87dBi gain for LTE B71	
HW VERSION	Turbox EB5S-IO-BOARD V03	
SW VERSION	R.5S.LA.2.20231030	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	
EXTREME TEMPERATURE	-20-60 ℃	
EXTREME VOLTAGE	12V - 24V	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. 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

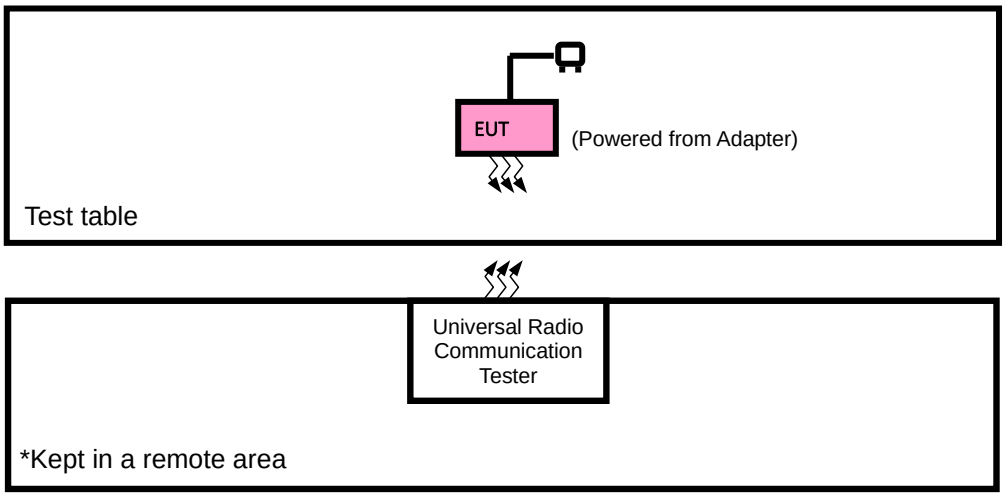
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

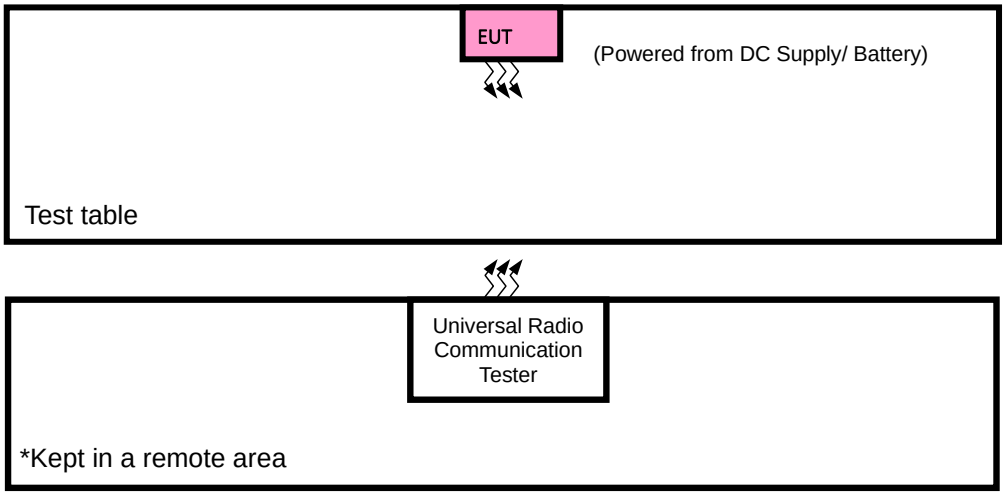
4 **List of Accessory:**

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
AC Adapter	Huntkey	Shenzhen Huntkey Electric Co. Ltd.	HKA09019047-6U	I/P: 100-240Vac, 1.5A, O/P: 19Vdc, 3.15A

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST





2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.8m

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 was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	**EUT + Adapter with WCDMA or LTE link**

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
A	RADIATED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA

LTE BAND 7 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0RB Offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB / 0 RB Offset
		20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
		20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 12 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23095	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 13 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23205 to 23255	23205, 23230, 23255	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		23230	23230	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB / 0 RB Offset
		23230	23230	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 17 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	23755 to 23825	23755, 23790, 23825	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		23780 to 23800	23780, 23790, 23800	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 17 are covered by LTE Band 12, Because it is a subset of LTE Band 12 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 12

LTE BAND 30

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	27685 to 27735	27685, 27710, 27735	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		27710	27710	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	27710	27710	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710	10MHz	QPSK	1 RB / 0 RB Offset

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

LTE BAND 71

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	ERP	133147 to 133447	133147, 133297, 133447	5MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		133172 to 133422	133172, 133297 133422	10MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		133197 to 133397	133197, 133297, 133397	15MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
		133222 to 133372	133222, 133322, 133372	20MHz	QPSK,16QAM,64QAM,256QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	133147 to 133447	133147, 133297, 133447	5MHz	QPSK	1 RB / 0 RB Offset
		133172 to 133422	133297	10MHz	QPSK	1 RB / 0 RB Offset
		133197 to 133397	133297	15MHz	QPSK	1 RB / 0 RB Offset
		133222 to 133372	133322	20MHz	QPSK	1 RB / 0 RB Offset

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

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 19V By Adapter	Jace Hu
RADIATED EMISSION	23deg. C, 70%RH	DC19V By Adapter	Jace Hu

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

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

According to the specific rule Part 27.50(b)(10) and 27.50(c)(10) Fixed, mobile, and Portable stations (hand-held devices) transmitting in the 698-746 MHz, 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth.For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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

ERP or EIRP = $P_{Meas} + G_T – L_C$

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);

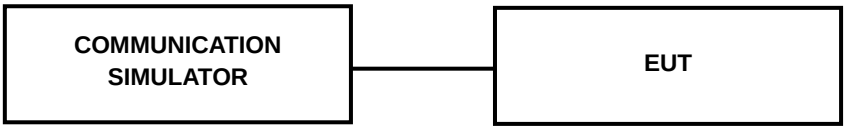
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.4 TEST RESULTS

EIRP

WCDMA IV

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
1312	1712.4	23.98	-1.45	22.53	179.06	1
1413	1732.6	24.73	-1.45	23.28	212.81	1
1513	1752.6	23.66	-1.45	22.21	166.34	1

LTE BAND 7
CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	24.69	-0.56	24.13	258.82	2
21100	2535.0	24.56	-0.56	24	251.19	2
21425	2567.5	24.63	-0.56	24.07	255.27	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	24.37	-0.56	23.81	240.44	2
21100	2535.0	24.45	-0.56	23.89	244.91	2
21425	2567.5	24.41	-0.56	23.85	242.66	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	23.55	-0.56	22.99	199.07	2
21100	2535	23.58	-0.56	23.02	200.45	2
21425	2567.5	23.52	-0.56	22.96	197.7	2

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20775	2502.5	20.41	-0.56	19.85	96.61	2
21100	2535	20.5	-0.56	19.94	98.63	2
21425	2567.5	20.44	-0.56	19.88	97.27	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505.0	24.75	-0.56	24.19	262.42	2
21100	2535.0	24.56	-0.56	24	251.19	2
21400	2565.0	24.63	-0.56	24.07	255.27	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505.0	24.52	-0.56	23.96	248.89	2
21100	2535.0	24.49	-0.56	23.93	247.17	2
21400	2565.0	24.46	-0.56	23.9	245.47	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	23.66	-0.56	23.1	204.17	2
21100	2535	23.57	-0.56	23.01	199.99	2
21400	2565	23.57	-0.56	23.01	199.99	2

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	20.54	-0.56	19.98	99.54	2
21100	2535	20.5	-0.56	19.94	98.63	2
21400	2565	20.41	-0.56	19.85	96.61	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	24.85	-0.56	24.29	268.53	2
21100	2535.0	24.75	-0.56	24.19	262.42	2
21375	2562.5	24.66	-0.56	24.1	257.04	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	24.31	-0.56	23.75	237.14	2
21100	2535.0	24.32	-0.56	23.76	237.68	2
21375	2562.5	24.35	-0.56	23.79	239.33	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	23.42	-0.56	22.86	193.2	2
21100	2535	23.33	-0.56	22.77	189.23	2
21375	2562.5	23.18	-0.56	22.62	182.81	2

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20825	2507.5	20.41	-0.56	19.85	96.61	2
21100	2535	20.39	-0.56	19.83	96.16	2
21375	2562.5	20.5	-0.56	19.94	98.63	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	24.51	-0.56	23.95	248.31	2
21100	2535.0	24.51	-0.56	23.95	248.31	2
21350	2560.0	24.51	-0.56	23.95	248.31	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510.0	24.23	-0.56	23.67	232.81	2
21100	2535.0	24.24	-0.56	23.68	233.35	2
21350	2560.0	24.11	-0.56	23.55	226.46	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	23.41	-0.56	22.85	192.75	2
21100	2535	23.21	-0.56	22.65	184.08	2
21350	2560	23.22	-0.56	22.66	184.5	2

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	20.53	-0.56	19.97	99.31	2
21100	2535	20.41	-0.56	19.85	96.61	2
21350	2560	20.29	-0.56	19.73	93.97	2

LTE BAND 12
CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	24.63	-5.75	16.73	47.1	3
23095	707.5	24.45	-5.75	16.55	45.19	3
23173	715.3	24.63	-5.75	16.73	47.1	3

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	24.42	-5.75	16.52	44.87	3
23095	707.5	24.31	-5.75	16.41	43.75	3
23173	715.3	24.38	-5.75	16.48	44.46	3

CHANNEL BANDWIDTH: 1.4MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	23.28	-5.75	15.38	34.51	3
23095	707.5	23.4	-5.75	15.5	35.48	3
23173	715.3	23.47	-5.75	15.57	36.06	3

CHANNEL BANDWIDTH: 1.4MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23017	699.7	20.23	-5.75	12.33	17.1	3
23095	707.5	20.15	-5.75	12.25	16.79	3
23173	715.3	20.16	-5.75	12.26	16.83	3

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	24.55	-5.75	16.65	46.24	3
23095	707.5	24.52	-5.75	16.62	45.92	3
23165	714.5	24.89	-5.75	16.99	50	3

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	24.29	-5.75	16.39	43.55	3
23095	707.5	24.23	-5.75	16.33	42.95	3
23165	714.5	24.28	-5.75	16.38	43.45	3

CHANNEL BANDWIDTH: 3MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	23.39	-5.75	15.49	35.4	3
23095	707.5	23.36	-5.75	15.46	35.16	3
23165	714.5	23.49	-5.75	15.59	36.22	3

CHANNEL BANDWIDTH: 3MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23025	700.5	20.25	-5.75	12.35	17.18	3
23095	707.5	20.22	-5.75	12.32	17.06	3
23165	714.5	20.2	-5.75	12.3	16.98	3

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	24.33	-5.75	16.43	43.95	3
23095	707.5	24.63	-5.75	16.73	47.1	3
23155	713.5	24.69	-5.75	16.79	47.75	3

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	24.47	-5.75	16.57	45.39	3
23095	707.5	24.35	-5.75	16.45	44.16	3
23155	713.5	24.29	-5.75	16.39	43.55	3

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	23.4	-5.75	15.5	35.48	3
23095	707.5	23.52	-5.75	15.62	36.48	3
23155	713.5	23.47	-5.75	15.57	36.06	3

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23035	701.5	20.25	-5.75	12.35	17.18	3
23095	707.5	20.21	-5.75	12.31	17.02	3
23155	713.5	20.27	-5.75	12.37	17.26	3

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	24.56	-5.75	16.66	46.34	3
23095	707.5	24.51	-5.75	16.61	45.81	3
23130	711	24.62	-5.75	16.72	46.99	3

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	24.28	-5.75	16.38	43.45	3
23095	707.5	24.22	-5.75	16.32	42.85	3
23130	711	24.41	-5.75	16.51	44.77	3

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	23.33	-5.75	15.43	34.91	3
23095	707.5	23.4	-5.75	15.5	35.48	3
23130	711	23.7	-5.75	15.8	38.02	3

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23060	704	20.17	-5.75	12.27	16.87	3
23095	707.5	20.29	-5.75	12.39	17.34	3
23130	711	20.29	-5.75	12.39	17.34	3

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

LTE BAND 13

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	24.51	-4.92	17.44	55.46	3
23230	782	24.51	-4.92	17.44	55.46	3
23255	784.5	24.61	-4.92	17.54	56.75	3

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	24.15	-4.92	17.08	51.05	3
23230	782	24.17	-4.92	17.1	51.29	3
23255	784.5	24.23	-4.92	17.16	52	3

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	23.39	-4.92	16.32	42.85	3
23230	782	23.32	-4.92	16.25	42.17	3
23255	784.5	23.32	-4.92	16.25	42.17	3

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23205	779.5	20.28	-4.92	13.21	20.94	3
23230	782	20.11	-4.92	13.04	20.14	3
23255	784.5	20.1	-4.92	13.03	20.09	3

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
23230	782	24.52	-4.92	17.45	55.59	3
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
23230	782	24.18	-4.92	17.11	51.4	3
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
23230	782	23.28	-4.92	16.21	41.78	3
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
-	-	-	-	-	-	-
23230	782	20.17	-4.92	13.1	20.42	3
-	-	-	-	-	-	-

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

LTE BAND 17

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	24.97	-5.75	17.07	50.93	3
23790	710	24.63	-5.75	16.73	47.1	3
23825	713.5	24.55	-5.75	16.65	46.24	3

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	24.35	-5.75	16.45	44.16	3
23790	710	24.38	-5.75	16.48	44.46	3
23825	713.5	24.3	-5.75	16.4	43.65	3

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	23.4	-5.75	15.5	35.48	3
23790	710	23.66	-5.75	15.76	37.67	3
23825	713.5	23.5	-5.75	15.6	36.31	3

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23755	706.5	20.22	-5.75	12.32	17.06	3
23790	710	20.36	-5.75	12.46	17.62	3
23825	713.5	20.34	-5.75	12.44	17.54	3

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	24.63	-5.75	16.73	47.1	3
23790	710	24.56	-5.75	16.66	46.34	3
23800	711	24.58	-5.75	16.68	46.56	3

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	24.24	-5.75	16.34	43.05	3
23790	710	24.31	-5.75	16.41	43.75	3
23800	711	24.34	-5.75	16.44	44.06	3

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	23.43	-5.75	15.53	35.73	3
23790	710	23.58	-5.75	15.68	36.98	3
23800	711	23.43	-5.75	15.53	35.73	3

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23780	709	20.28	-5.75	12.38	17.3	3
23790	710	20.3	-5.75	12.4	17.38	3
23800	711	20.33	-5.75	12.43	17.5	3

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

LTE BAND 30

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
27685	2307.5	24.51	-1.95	22.56	180.3	0.25
27710	2310	24.32	-1.95	22.37	172.58	0.25
27735	2312.5	24.51	-1.95	22.56	180.3	0.25

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
27685	2307.5	23.8	-1.95	21.85	153.11	0.25
27710	2310	23.87	-1.95	21.92	155.6	0.25
27735	2312.5	23.83	-1.95	21.88	154.17	0.25

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
27685	2307.5	22.91	-1.95	20.96	124.74	0.25
27710	2310	22.93	-1.95	20.98	125.31	0.25
27735	2312.5	22.9	-1.95	20.95	124.45	0.25

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
27685	2307.5	19.62	-1.95	17.67	58.48	0.25
27710	2310	23.45	-1.95	21.5	141.25	0.25
27735	2312.5	23.52	-1.95	21.57	143.55	0.25

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
-	-	-	-	-	-	-
27710	2310	24.32	-1.95	22.37	172.58	0.25
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
-	-	-	-	-	-	-
27710	2310	23.91	-1.95	21.96	157.04	0.25
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
-	-	-	-	-	-	-
27710	2310	23.02	-1.95	21.07	127.94	0.25
-	-	-	-	-	-	-

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W/5MHz)
-	-	-	-	-	-	-
27710	2310	19.62	-1.95	17.67	58.48	0.25
-	-	-	-	-	-	-

LTE BAND 71

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	24.68	-5.87	16.66	46.34	3
133297	680.5	24.97	-5.87	16.95	49.55	3
133447	695.5	24.89	-5.87	16.87	48.64	3

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	23.92	-5.87	15.9	38.9	3
133297	680.5	24.16	-5.87	16.14	41.11	3
133447	695.5	24.15	-5.87	16.13	41.02	3

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	22.85	-5.87	14.83	30.41	3
133297	680.5	23.29	-5.87	15.27	33.65	3
133447	695.5	23.08	-5.87	15.06	32.06	3

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133147	665.5	19.9	-5.87	11.88	15.42	3
133297	680.5	20.24	-5.87	12.22	16.67	3
133447	695.5	20.32	-5.87	12.3	16.98	3

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	24.86	-5.87	16.84	48.31	3
133297	680.5	24.98	-5.87	16.96	49.66	3
133422	693	24.79	-5.87	16.77	47.53	3

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	24.17	-5.87	16.15	41.21	3
133297	680.5	24.23	-5.87	16.21	41.78	3
133422	693	24.25	-5.87	16.23	41.98	3

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	23.2	-5.87	15.18	32.96	3
133297	680.5	23.3	-5.87	15.28	33.73	3
133422	693	23.28	-5.87	15.26	33.57	3

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133172	668	20.05	-5.87	12.03	15.96	3
133297	680.5	20.03	-5.87	12.01	15.89	3
133422	693	20.24	-5.87	12.22	16.67	3

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	24.78	-5.87	16.76	47.42	3
133297	680.5	24.89	-5.87	16.87	48.64	3
133397	690.5	24.98	-5.87	16.96	49.66	3

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	23.93	-5.87	15.91	38.99	3
133297	680.5	23.99	-5.87	15.97	39.54	3
133397	690.5	24.21	-5.87	16.19	41.59	3

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	23.15	-5.87	15.13	32.58	3
133297	680.5	23.27	-5.87	15.25	33.5	3
133397	690.5	23.16	-5.87	15.14	32.66	3

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133197	670.5	19.94	-5.87	11.92	15.56	3
133297	680.5	20.05	-5.87	12.03	15.96	3
133397	690.5	20.12	-5.87	12.1	16.22	3

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	24.87	-5.87	16.85	48.42	3
133322	683	24.93	-5.87	16.91	49.09	3
133372	688	24.93	-5.87	16.91	49.09	3

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	23.96	-5.87	15.94	39.26	3
133322	683	24.35	-5.87	16.33	42.95	3
133372	688	24.42	-5.87	16.4	43.65	3

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	23.16	-5.87	15.14	32.66	3
133322	683	23.38	-5.87	15.36	34.36	3
133372	688	23.02	-5.87	15	31.62	3

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
133222	673	20.1	-5.87	12.08	16.14	3
133322	683	20.11	-5.87	12.09	16.18	3
133372	688	19.99	-5.87	11.97	15.74	3

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

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 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.

For: LTE Band7/ Band41
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

For mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands:

a) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
b) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
c) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

3.2.2 TEST PROCEDURES

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

E.R.P power = E.I.P.R power - 2.15dBi.

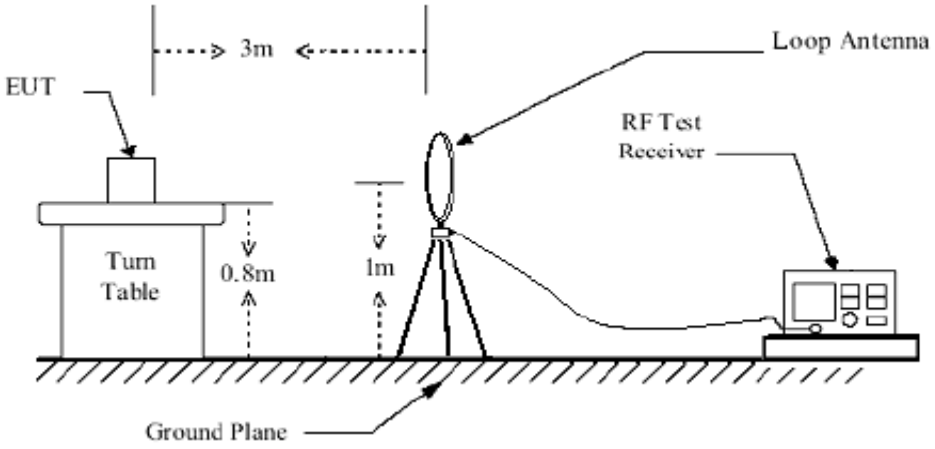
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.2.3 DEVIATION FROM TEST STANDARD

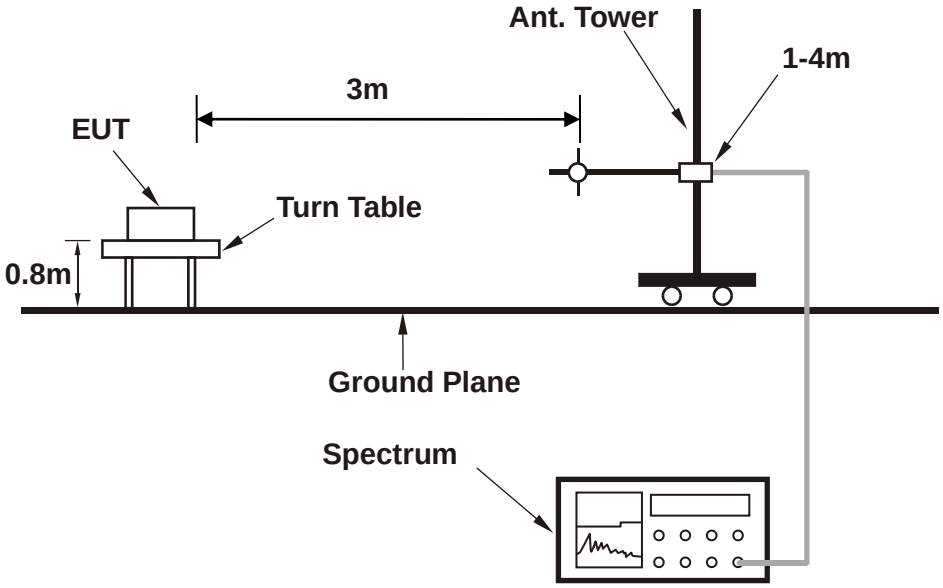
No deviation

3.2.4 TEST SETUP

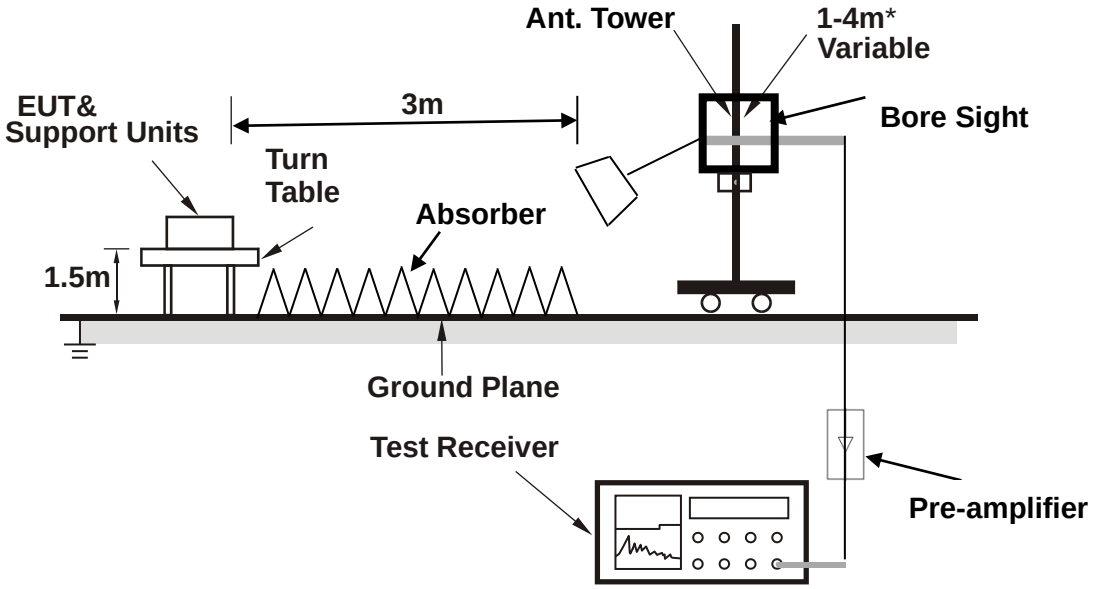
< Frequency Range below 30MHz >



< 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).

3.2.5 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.

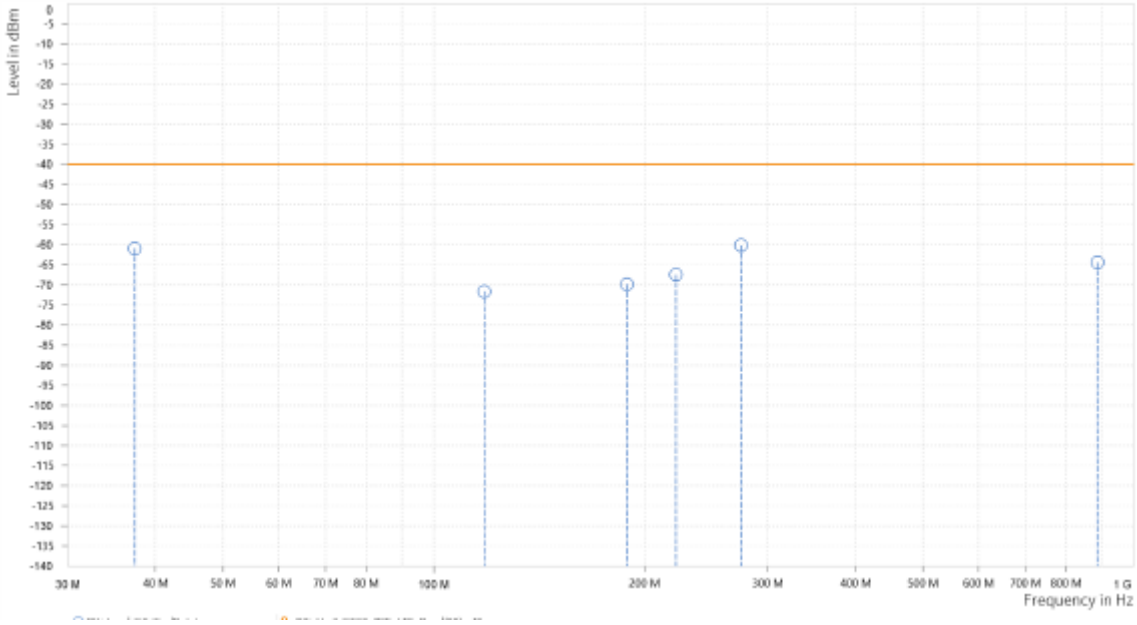
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 30
CHANNEL BANDWIDTH: 10MHz / QPSK

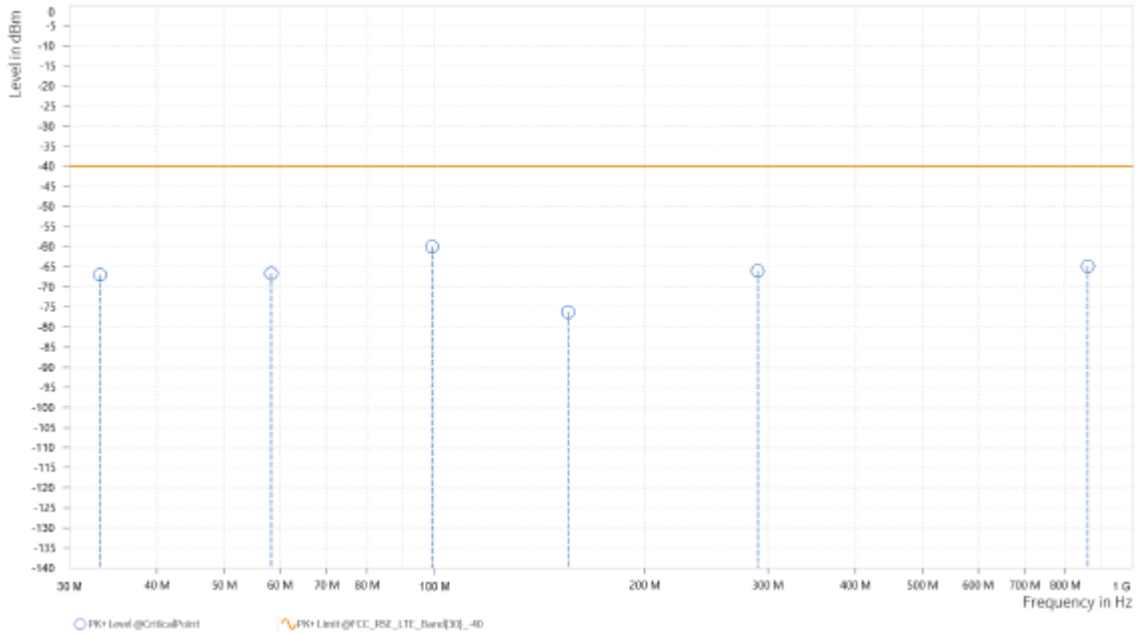
MODE	TX channel 27710	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.400	-60.89	-40.00	20.89	6.74	H	250.4	1
1	118.050	-71.62	-40.00	31.62	-5.03	H	359.1	1
1	188.800	-69.84	-40.00	29.84	1.24	H	5	2
1	221.750	-67.43	-40.00	27.43	4.04	H	5	2
1	274.750	-60.17	-40.00	20.17	5.15	H	140.4	1
2	886.563	-64.39	-40.00	24.39	10.79	H	87.8	2



MODE	TX channel 27710	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	33.150	-66.98	-40.00	26.98	-0.22	V	261.1	2
1	58.300	-66.60	-40.00	26.60	3.11	V	359.1	2
1	99.150	-59.96	-40.00	19.96	11.69	V	359.1	2
1	155.200	-76.23	-40.00	36.23	-4.79	V	147.5	2
1	290.250	-66.00	-40.00	26.00	5.19	V	147.5	2
2	862.088	-64.81	-40.00	24.81	11.67	V	197.8	2



ABOVE 1GHz

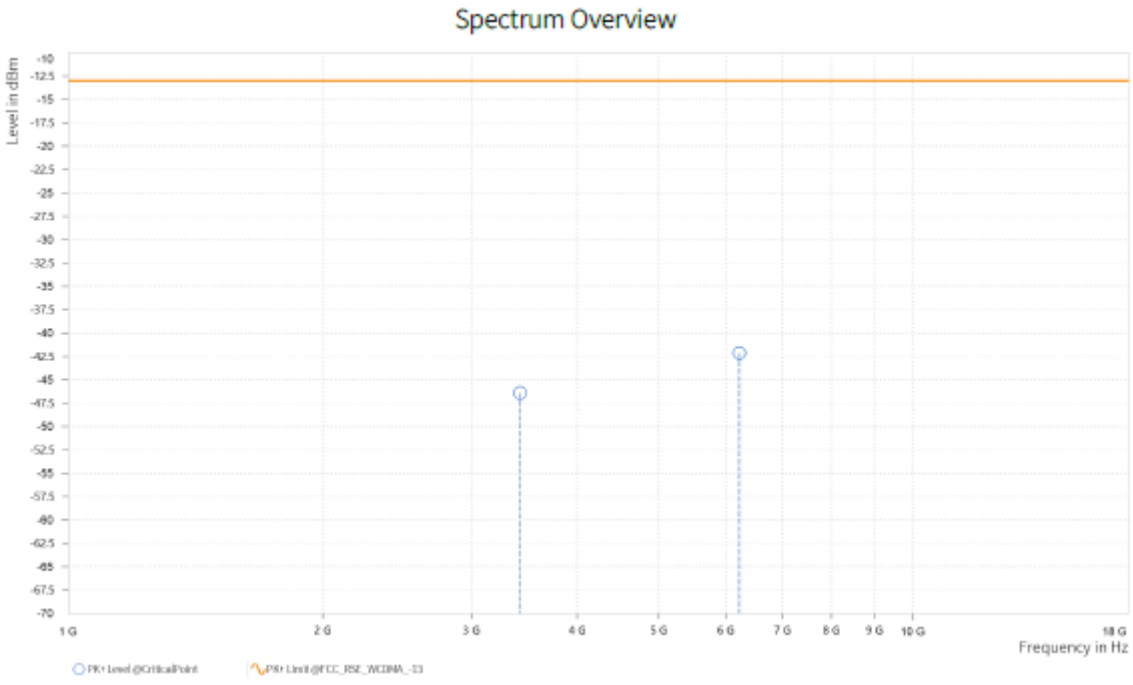
Note: For higher frequency, the emission is too low to be detected.

WCDMA Band IV:

CH 1312

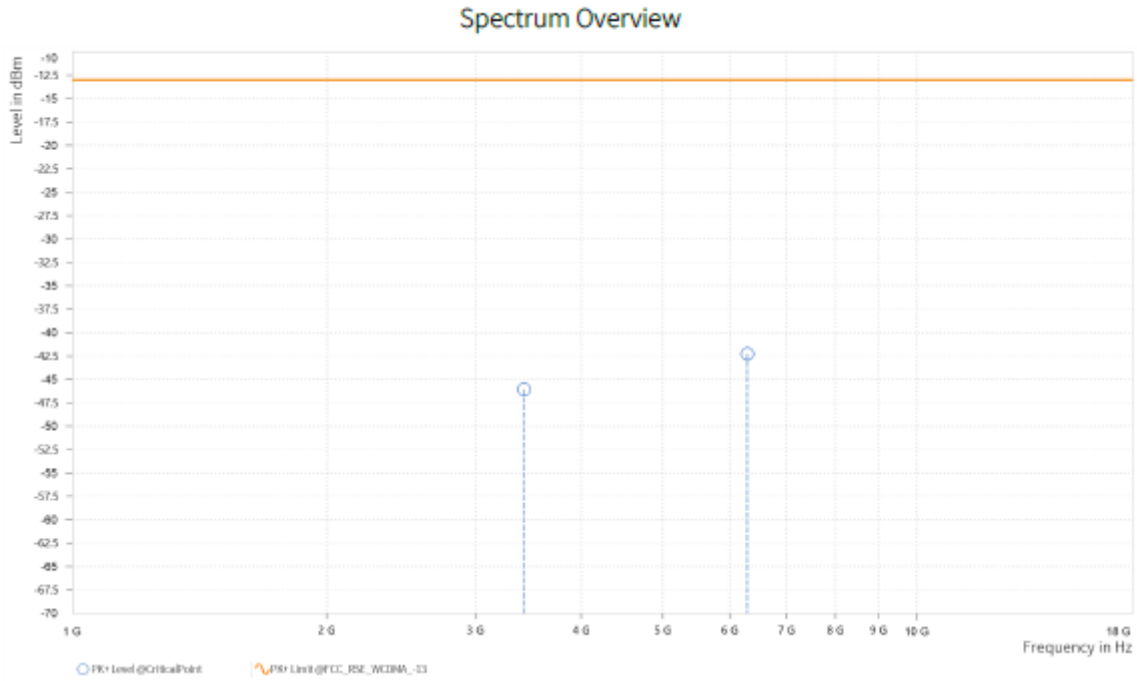
MODE	TX channel 1312	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,425.000	-46.41	-13.00	33.41	25.13	H	189.6	1
4	6,226.000	-42.16	-13.00	29.16	30.15	H	359	2



MODE	TX channel 1312	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

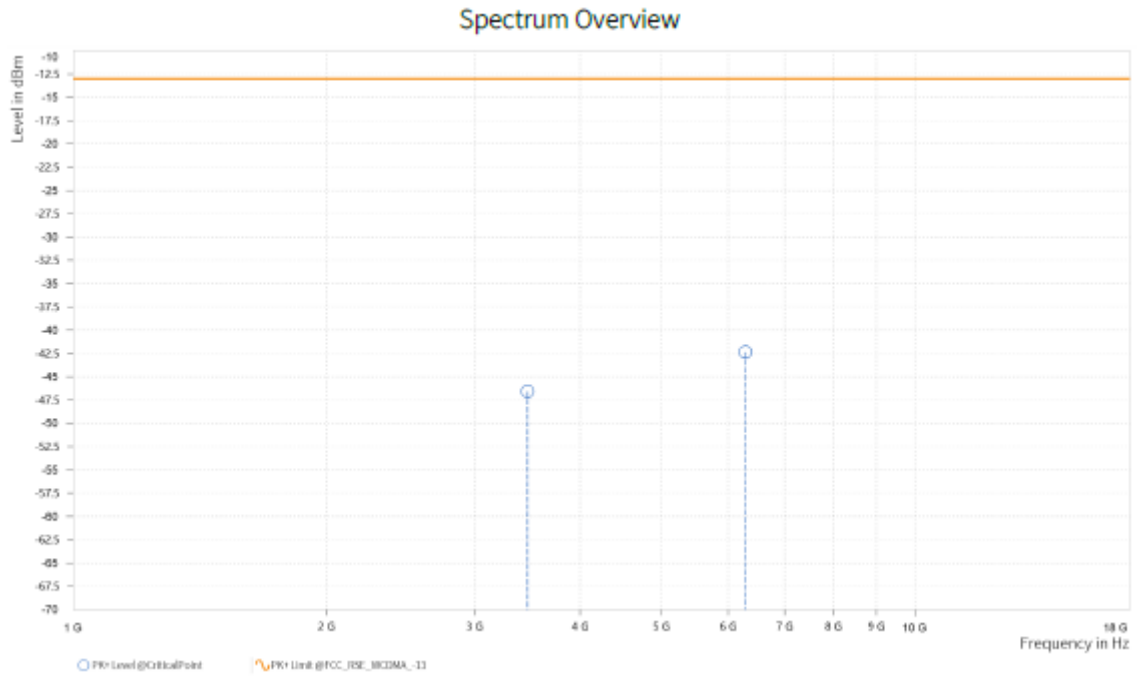
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,425.000	-46.08	-13.00	33.08	24.91	V	192	1
4	6,294.000	-42.28	-13.00	29.28	30.34	V	1	1



CH 1413

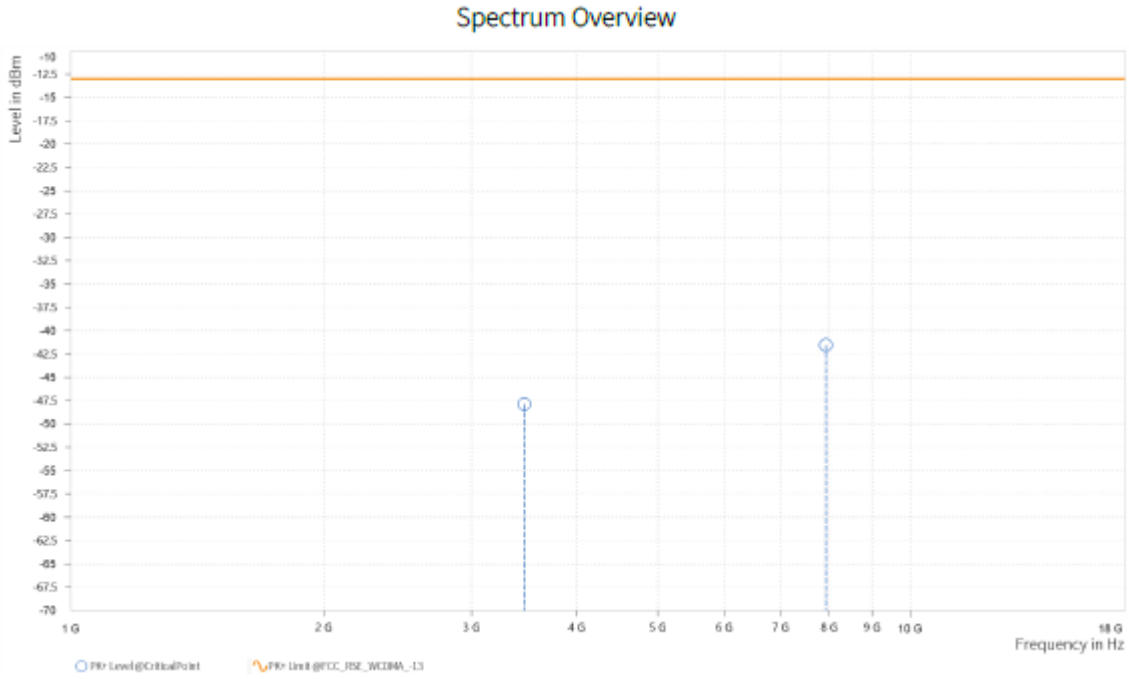
MODE	TX channel 1413	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,465.000	-46.57	-13.00	33.57	25.03	H	359	2
4	6,286.500	-42.36	-13.00	29.36	30.34	H	190.7	1



MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

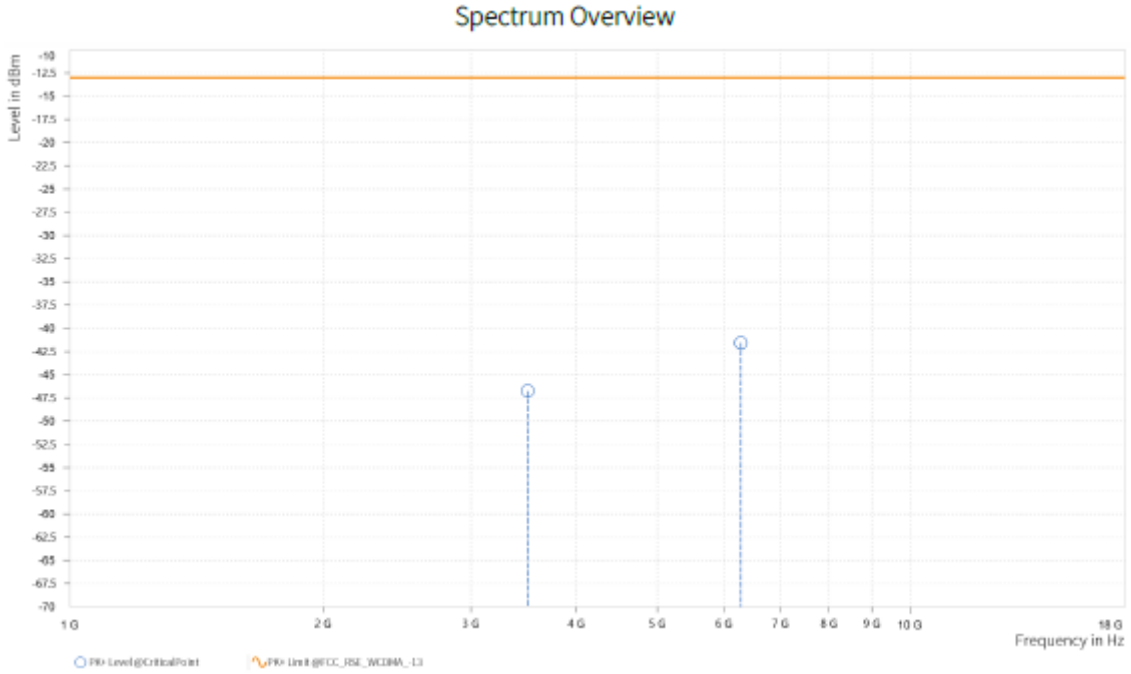
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,465.000	-47.88	-13.00	34.88	24.75	V	169.3	2
5	7,927.106	-41.56	-13.00	28.56	32.50	V	359	2



CH 1513

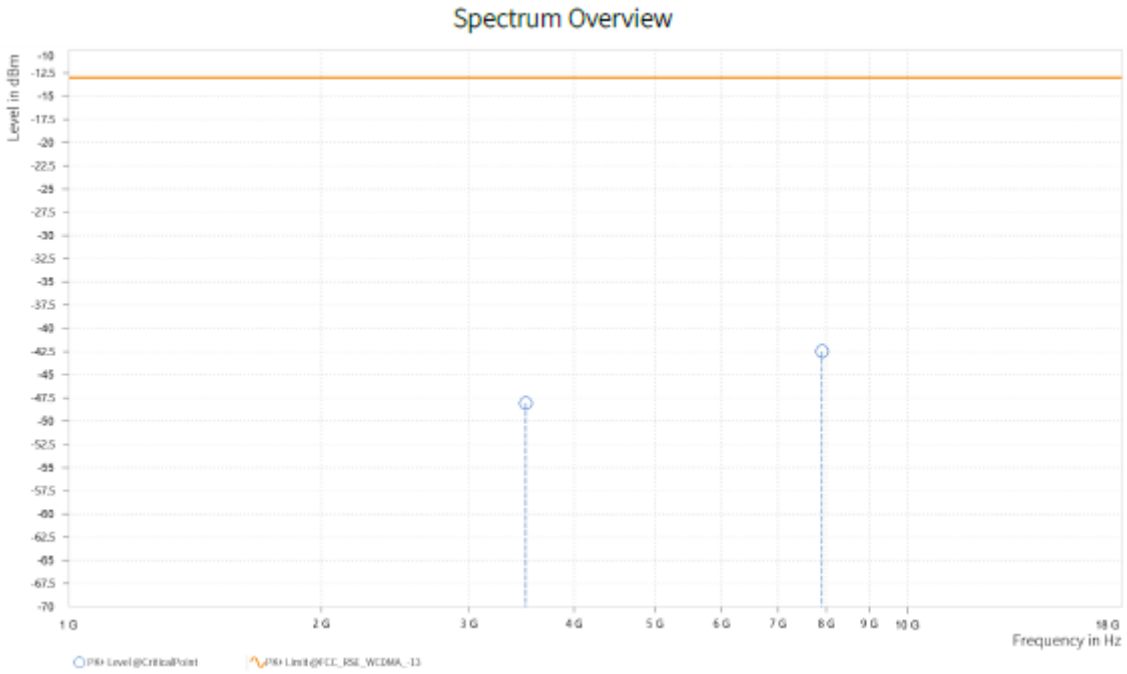
MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,505.000	-46.74	-13.00	33.74	25.06	H	359	2
4	6,285.500	-41.57	-13.00	28.57	30.34	H	359.1	1



MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

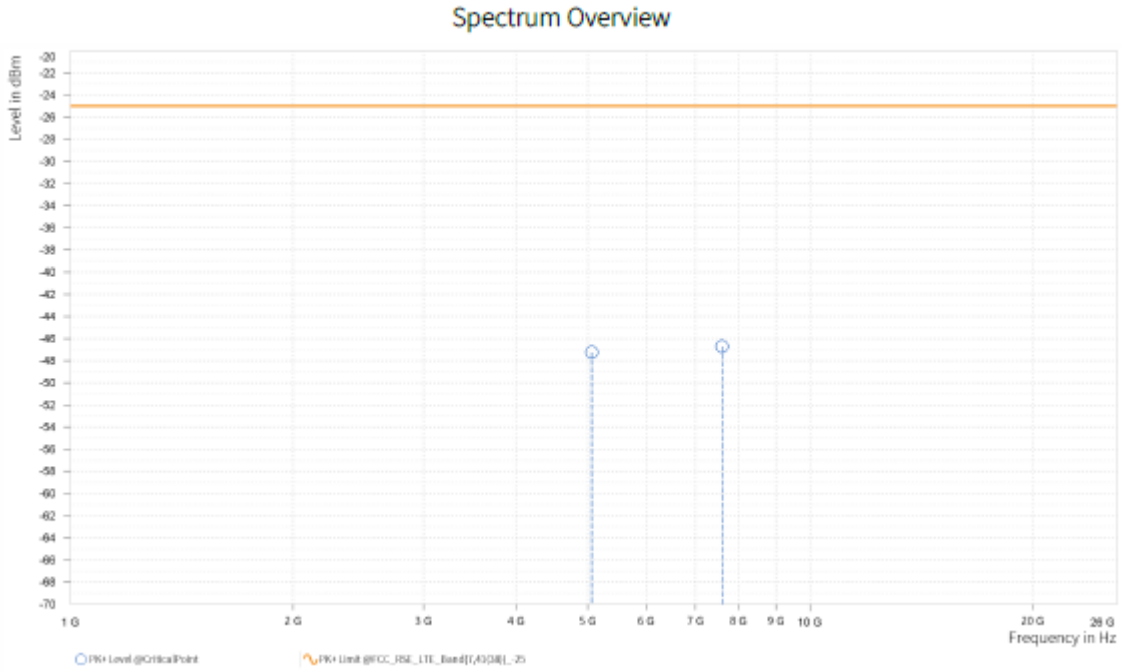
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,505.000	-48.07	-13.00	35.07	24.88	V	359	2
5	7,907.788	-42.49	-13.00	29.49	32.47	V	359	1



LTE Band 7
CHANNEL BANDWIDTH: 5MHz / QPSK

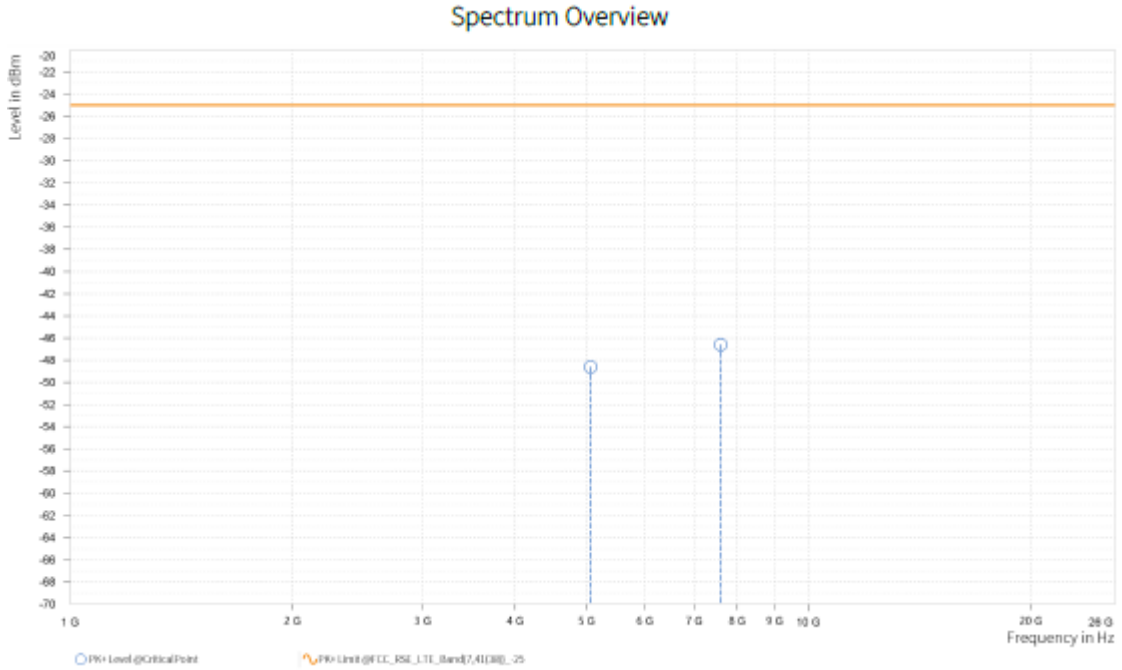
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-47.25	-25.00	22.25	26.91	H	1	1
5	7,598.250	-46.71	-25.00	21.71	31.48	H	1	2



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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]
4	5,065.500	-48.59	-25.00	23.59	26.68	V	359	2
5	7,598.250	-46.58	-25.00	21.58	31.49	V	359	1

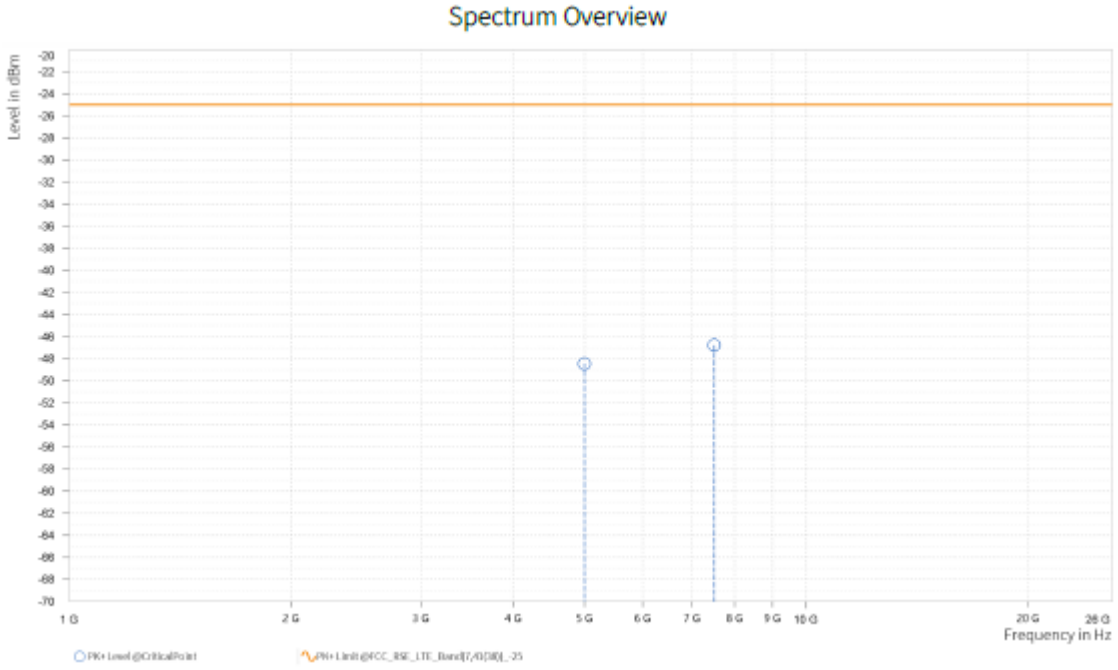


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 20800

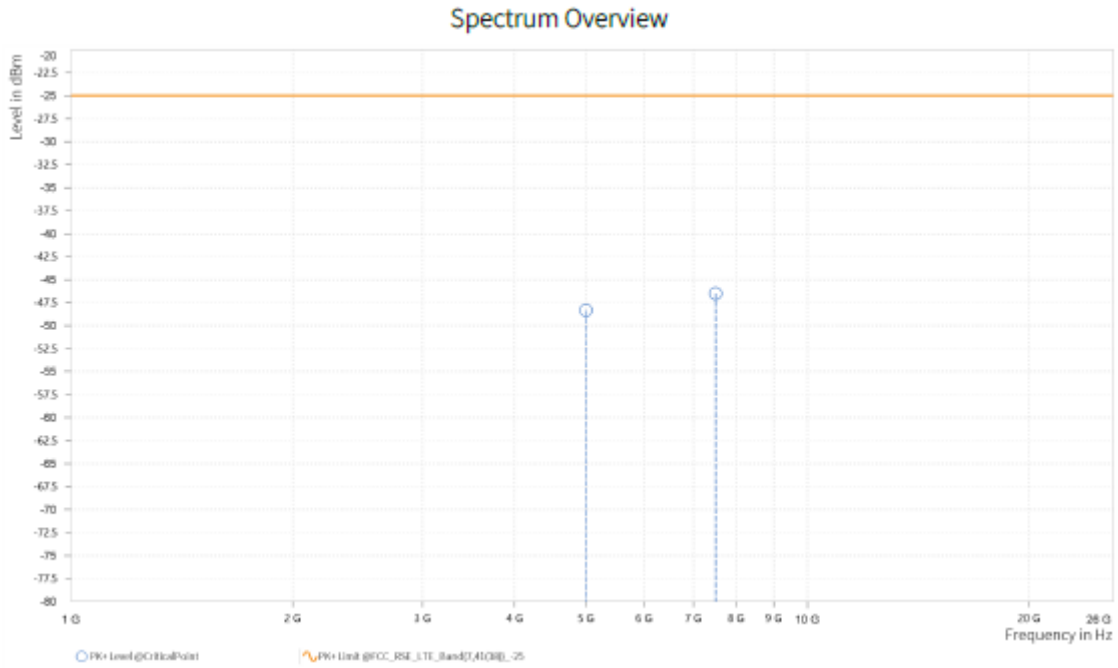
MODE	TX channel 20800	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.000	-48.46	-25.00	23.46	26.87	H	359	2
5	7,501.500	-46.77	-25.00	21.77	31.49	H	88	2



MODE	TX channel 20800	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

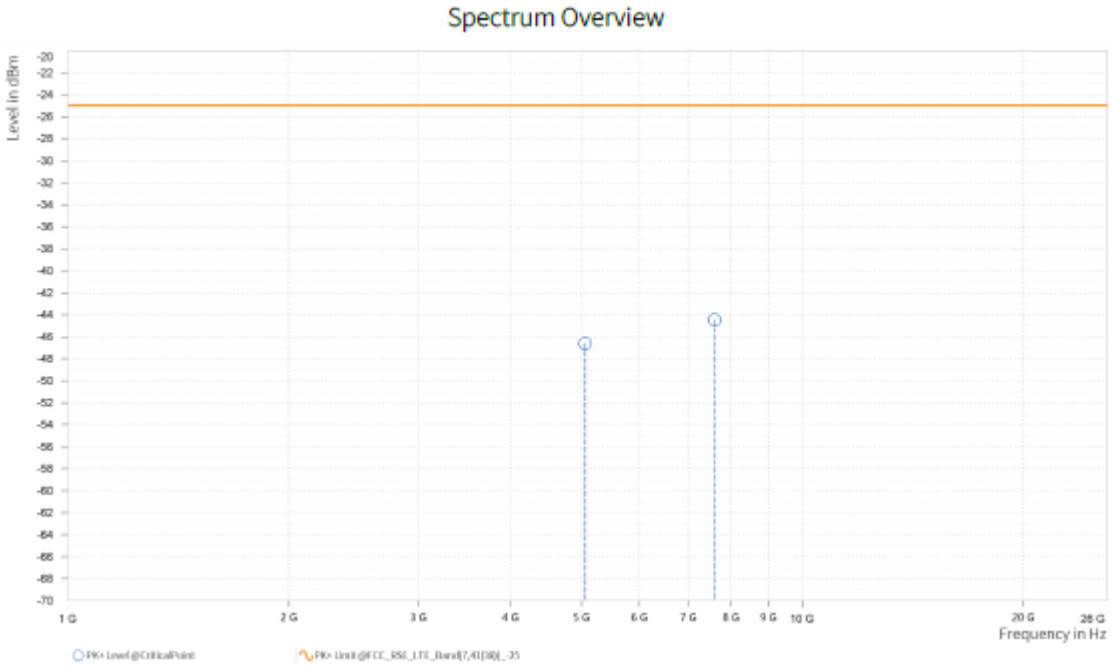
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.000	-48.33	-25.00	23.33	26.73	V	359	2
5	7,501.500	-46.52	-25.00	21.52	31.66	V	273.3	1



CH 21100

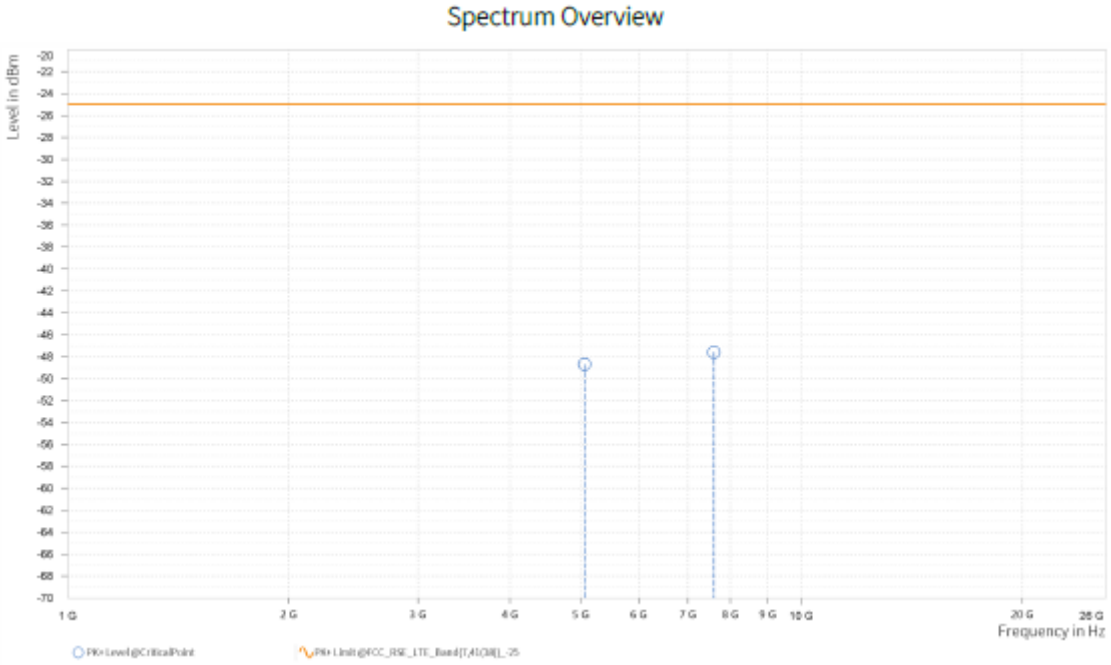
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-46.62	-25.00	21.62	27.68	H	359	2
5	7,591.500	-44.46	-25.00	19.46	31.82	H	1	2



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

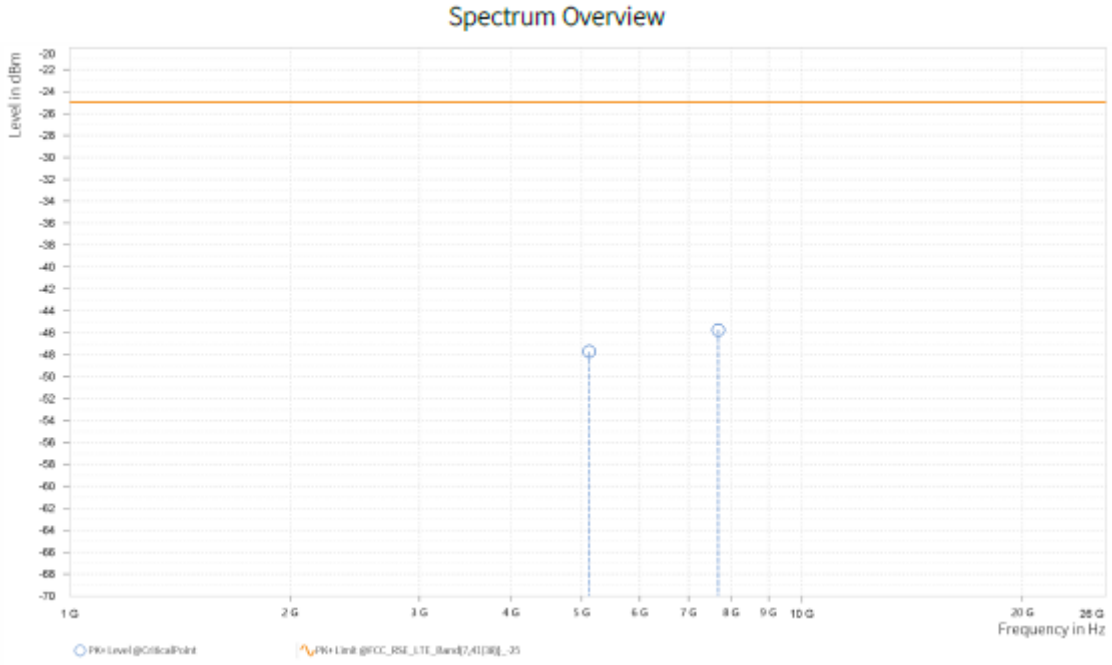
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-48.69	-25.00	23.69	25.58	V	194.4	1
5	7,591.500	-47.60	-25.00	22.60	31.41	V	75.9	2



CH 21400

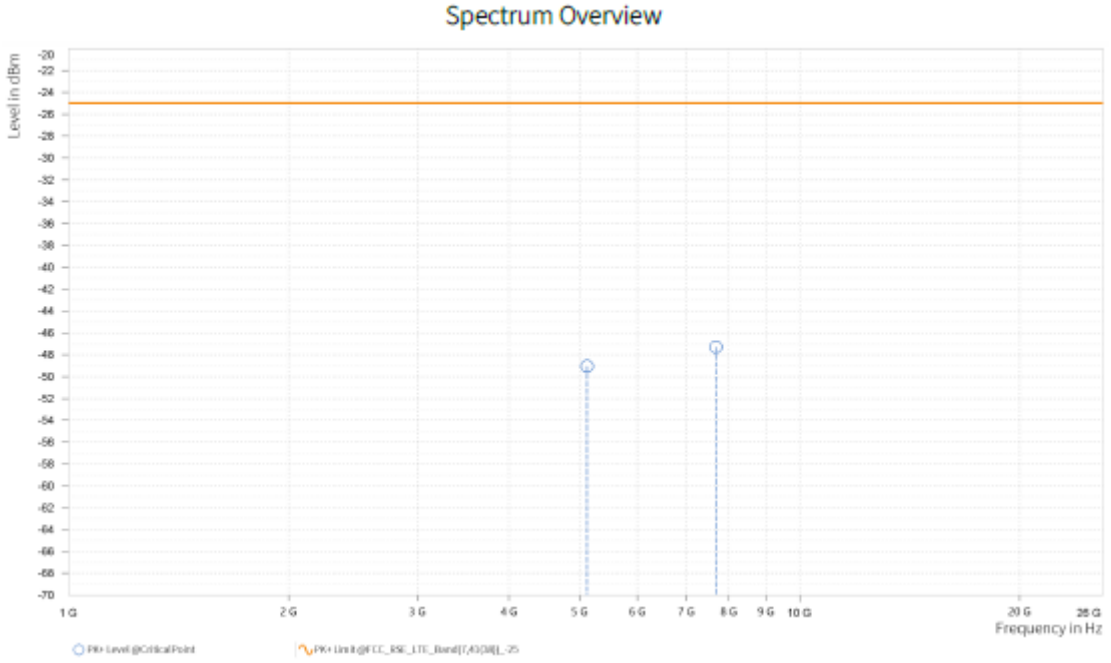
MODE	TX channel 21400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,121.000	-47.72	-25.00	22.72	27.16	H	160.9	2
5	7,681.500	-45.74	-25.00	20.74	31.41	H	83.2	2



MODE	TX channel 21400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

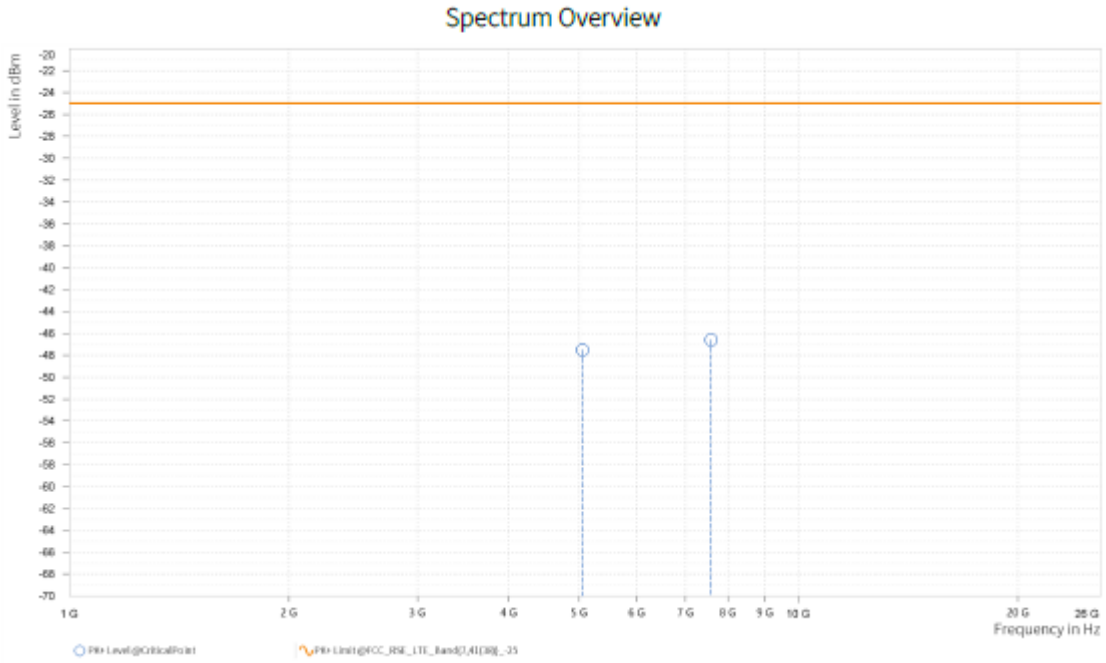
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,121.000	-49.06	-25.00	24.06	27.18	V	0.9	2
5	7,681.500	-47.30	-25.00	22.30	31.41	V	0.9	2



CHANNEL BANDWIDTH: 15MHz / QPSK

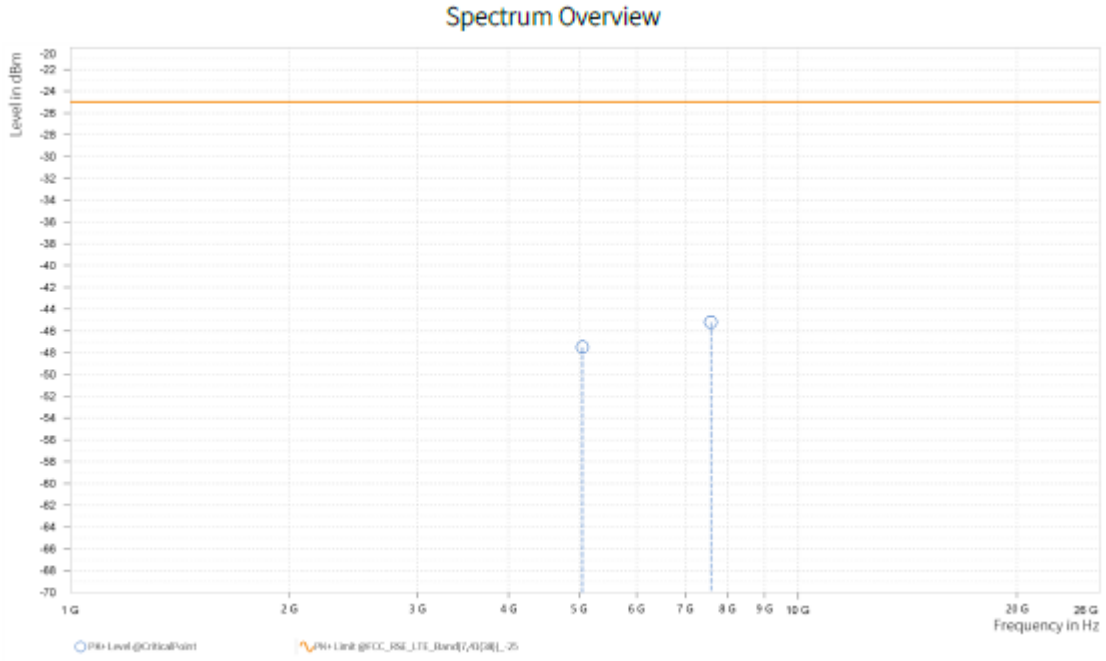
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-47.50	-25.00	22.50	26.90	H	359	1
5	7,584.750	-46.59	-25.00	21.59	31.48	H	359	2



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

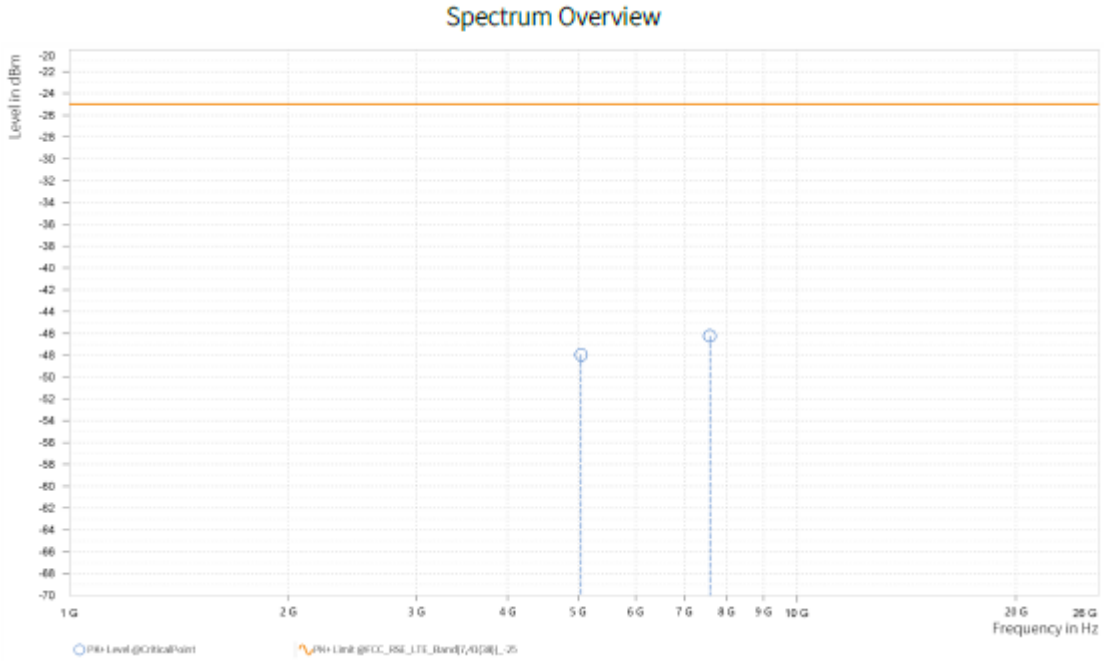
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-47.49	-25.00	22.49	26.72	V	159.7	2
5	7,584.750	-45.20	-25.00	20.20	31.61	V	84.4	2



CHANNEL BANDWIDTH: 20MHz / QPSK

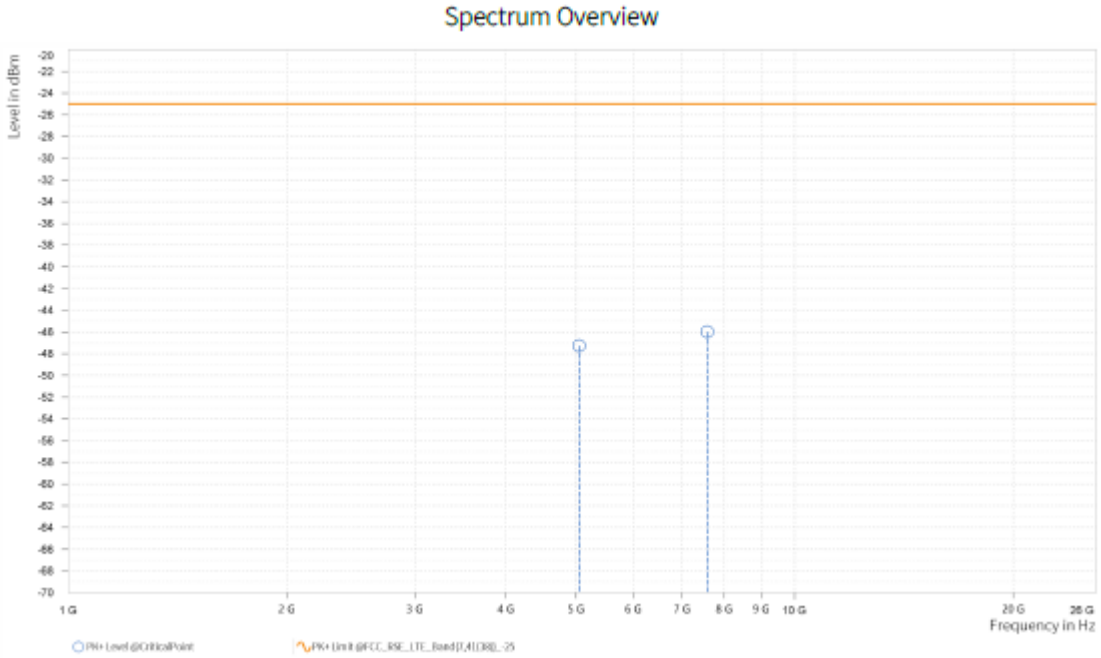
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-47.95	-25.00	22.95	26.90	H	1	2
5	7,584.000	-46.22	-25.00	21.22	31.49	H	359	1



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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]
4	5,052.000	-47.27	-25.00	22.27	26.89	V	359	1
5	7,578.000	-45.99	-25.00	20.99	31.61	V	84.4	2

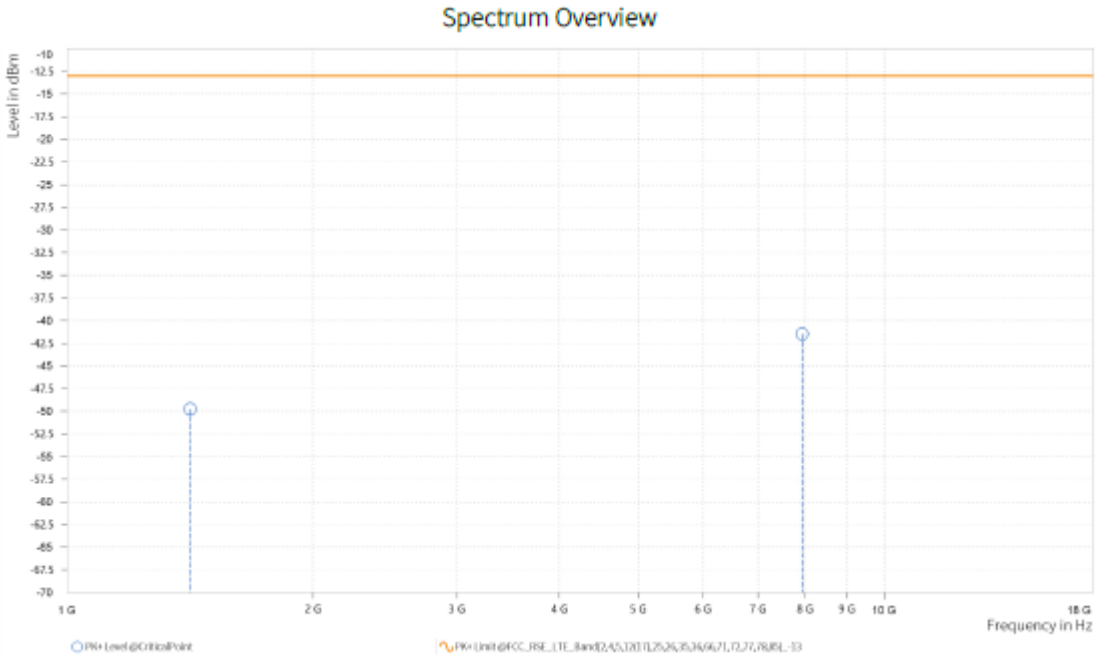


LTE BAND 12

CHANNEL BANDWIDTH: 1.4MHz / QPSK

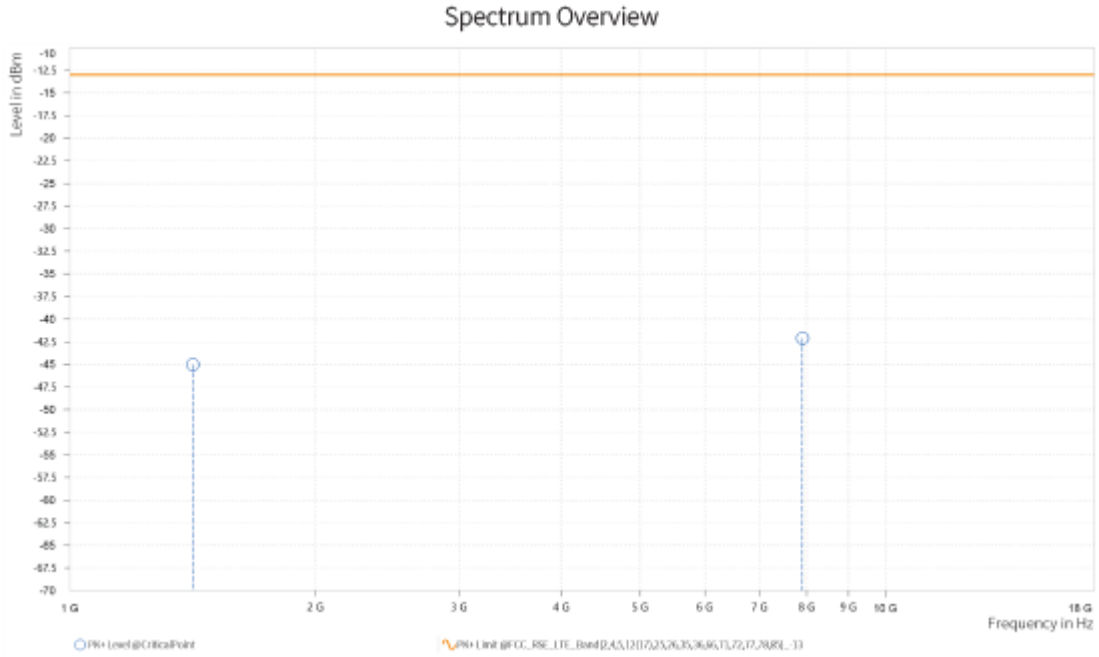
MODE	TX channel 23095	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,414.000	-49.77	-13.00	36.77	13.33	H	293.5	2
5	7,928.909	-41.46	-13.00	28.46	32.42	H	359.1	1



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

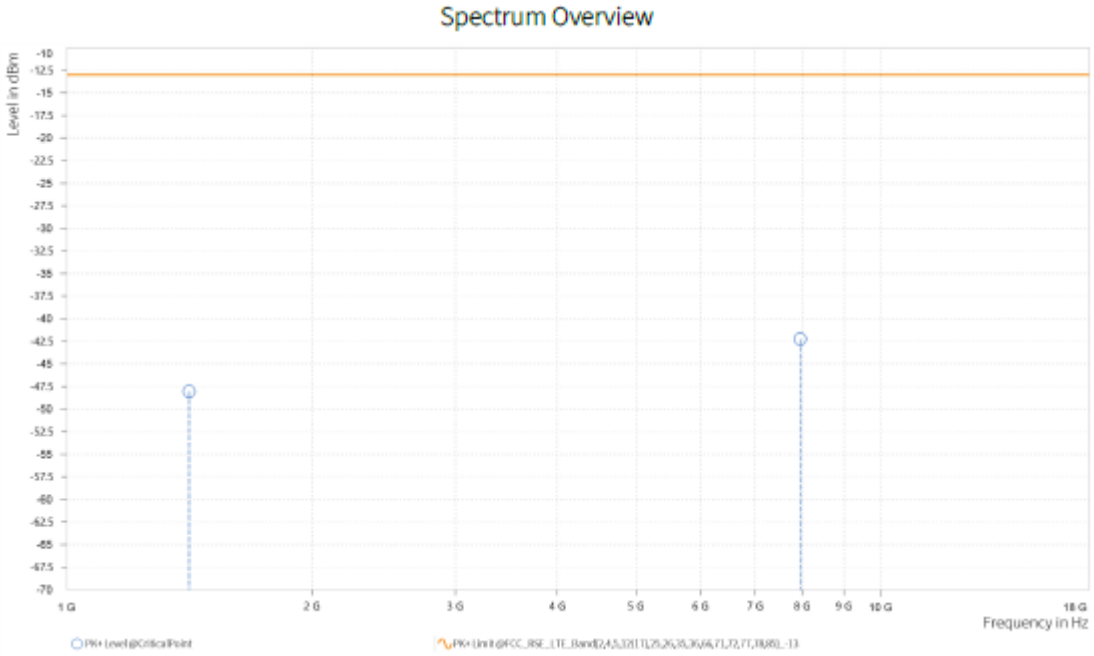
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,414.000	-45.04	-13.00	32.04	13.23	V	65.4	1
5	7,908.045	-42.12	-13.00	29.12	32.47	V	1	1



CHANNEL BANDWIDTH: 3MHz / QPSK

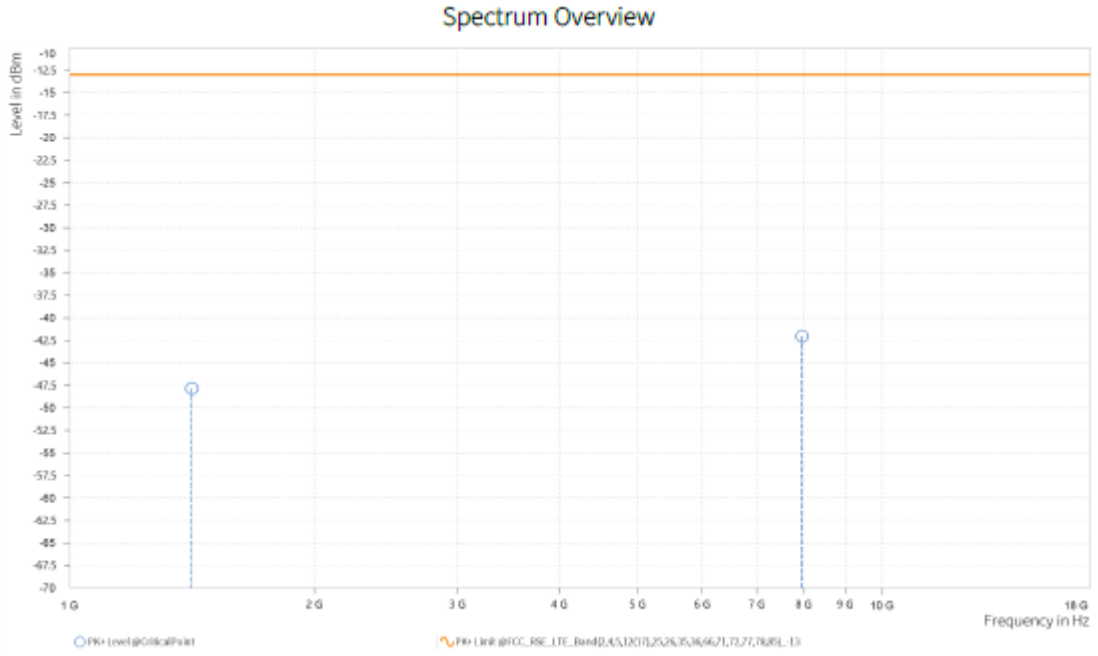
MODE	TX channel 23095	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.000	-48.04	-13.00	35.04	13.48	H	296	2
5	7,950.545	-42.26	-13.00	29.26	32.48	H	274.5	1



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

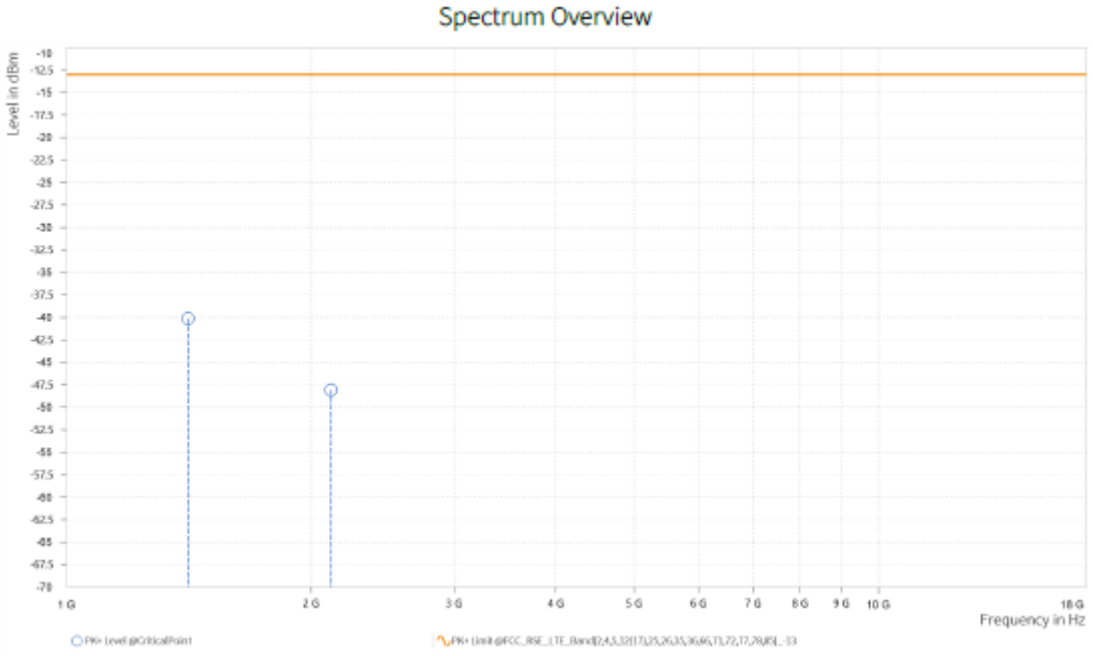
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,412.500	-47.84	-13.00	34.84	13.46	V	294.7	2
5	7,960.848	-42.05	-13.00	29.05	32.56	V	276.8	1



CHANNEL BANDWIDTH: 5MHz / QPSK

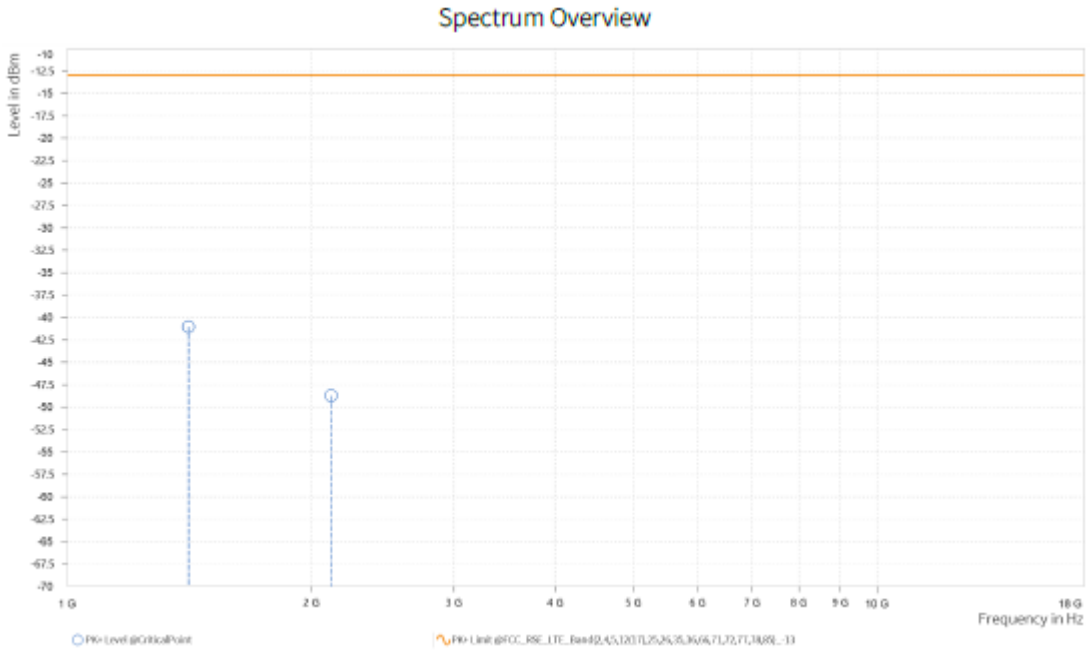
MODE	TX channel 23095	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,410.500	-40.14	-13.00	27.14	13.84	H	294.7	2
2	2,116.000	-48.07	-13.00	35.07	20.40	H	294.7	2



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	1,410.500	-41.05	-13.00	28.05	13.76	V	76.1	1
2	2,116.500	-48.72	-13.00	35.72	20.11	V	76.1	1

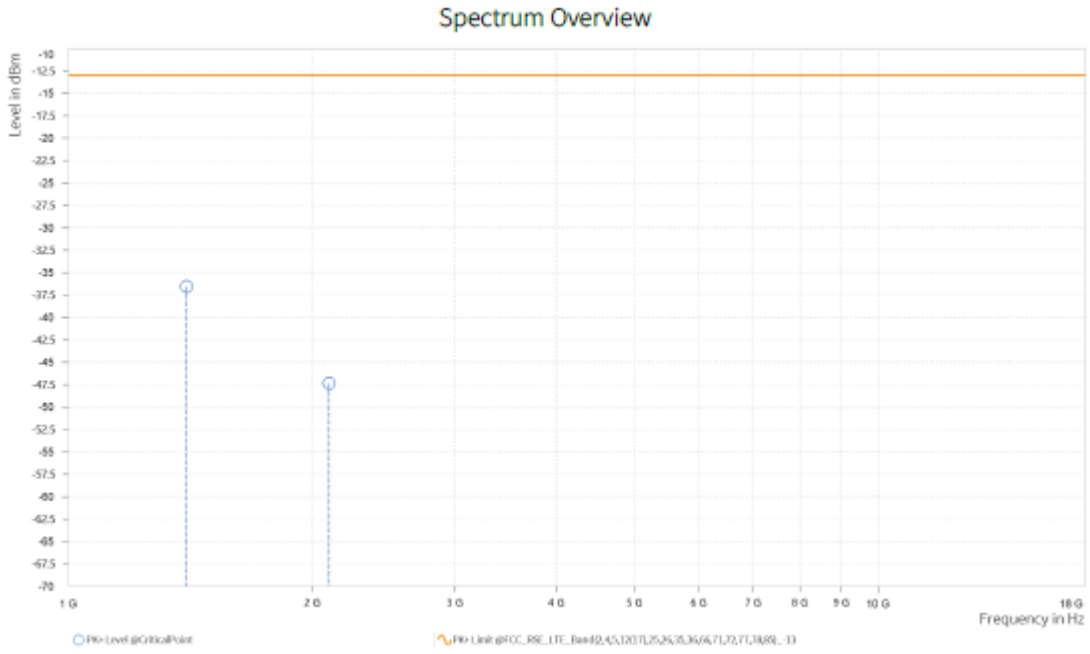


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 23060

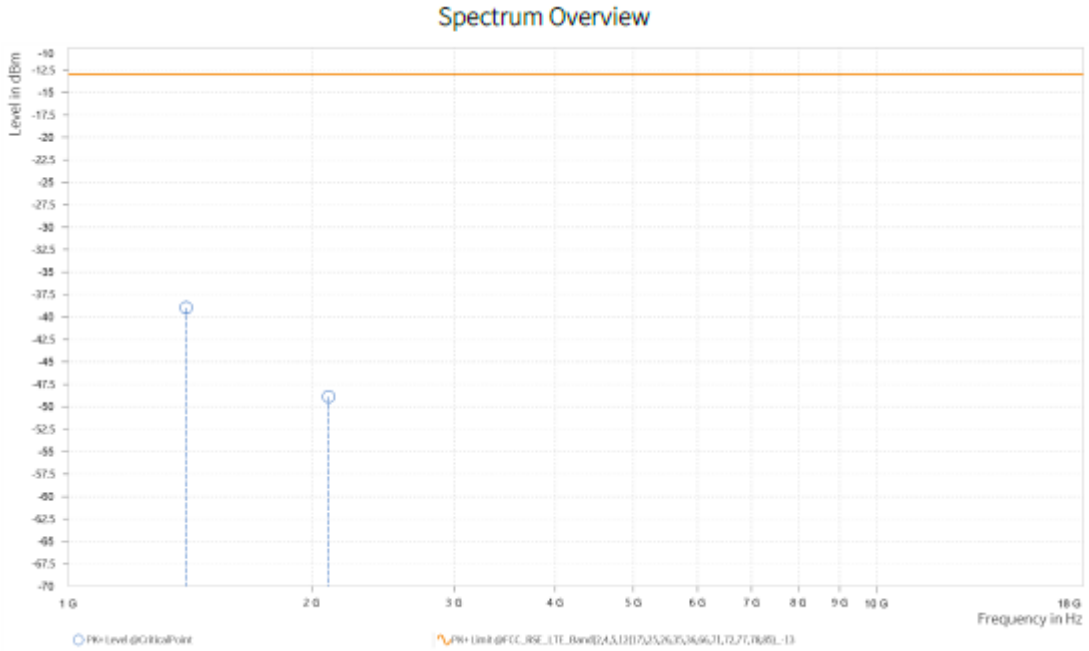
MODE	TX channel 23060	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,399.000	-36.56	-13.00	23.56	15.53	H	293.5	2
2	2,098.500	-47.35	-13.00	34.35	19.77	H	293.5	2



MODE	TX channel 23060	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

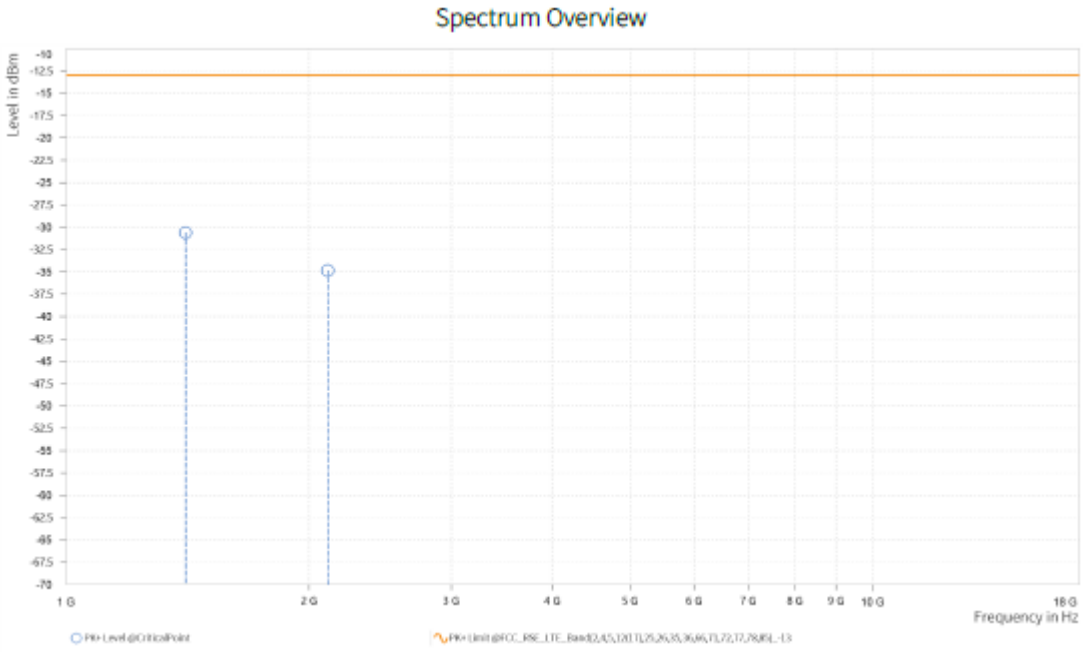
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,399.000	-38.98	-13.00	25.98	15.52	V	65.4	1
2	2,098.500	-48.88	-13.00	35.88	19.67	V	1	2



CH 23095

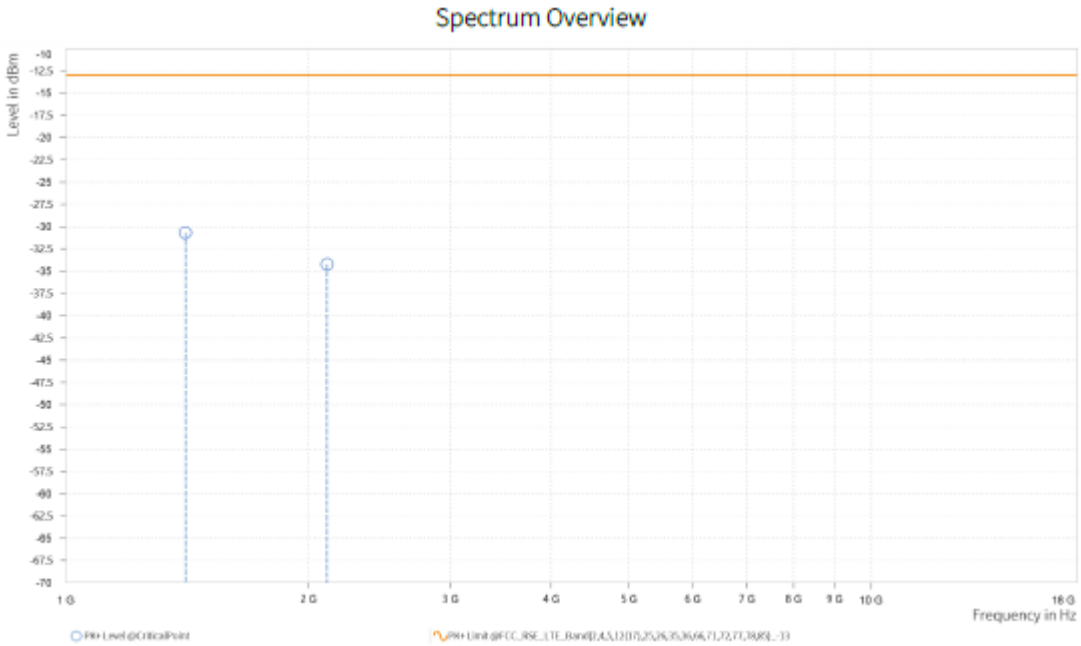
MODE	TX channel 23095	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,406.000	-30.60	-13.00	17.60	14.50	H	65.3	1
2	2,109.500	-34.84	-13.00	21.84	20.16	H	359.1	1



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

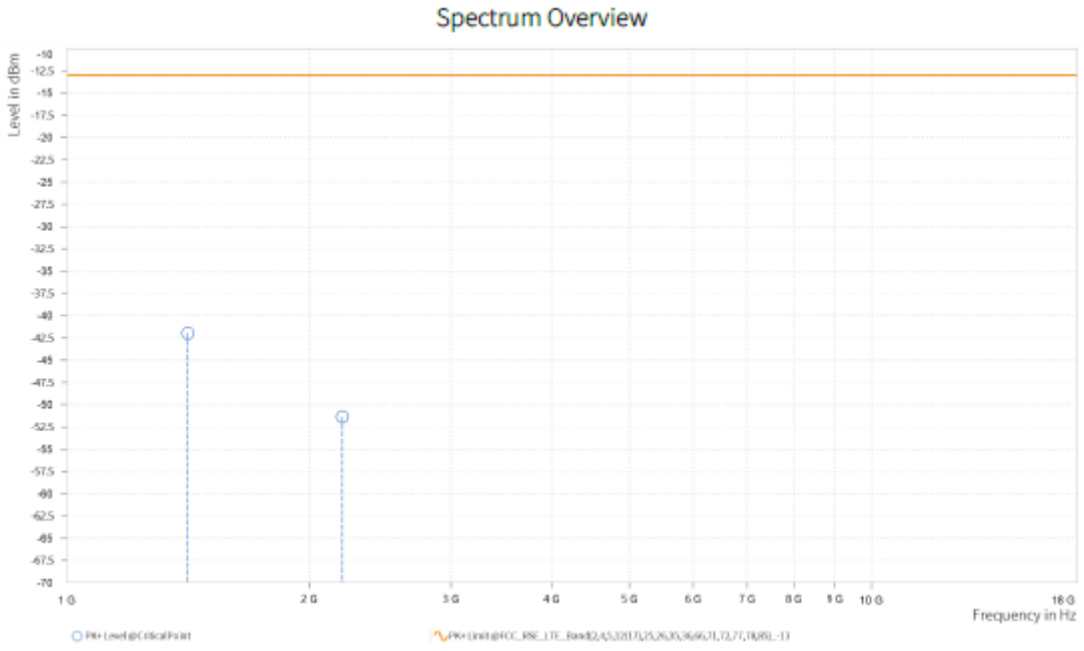
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,406.000	-30.69	-13.00	17.69	14.45	V	294.7	1
2	2,109.500	-34.22	-13.00	21.22	19.94	V	1	1



CH 23130

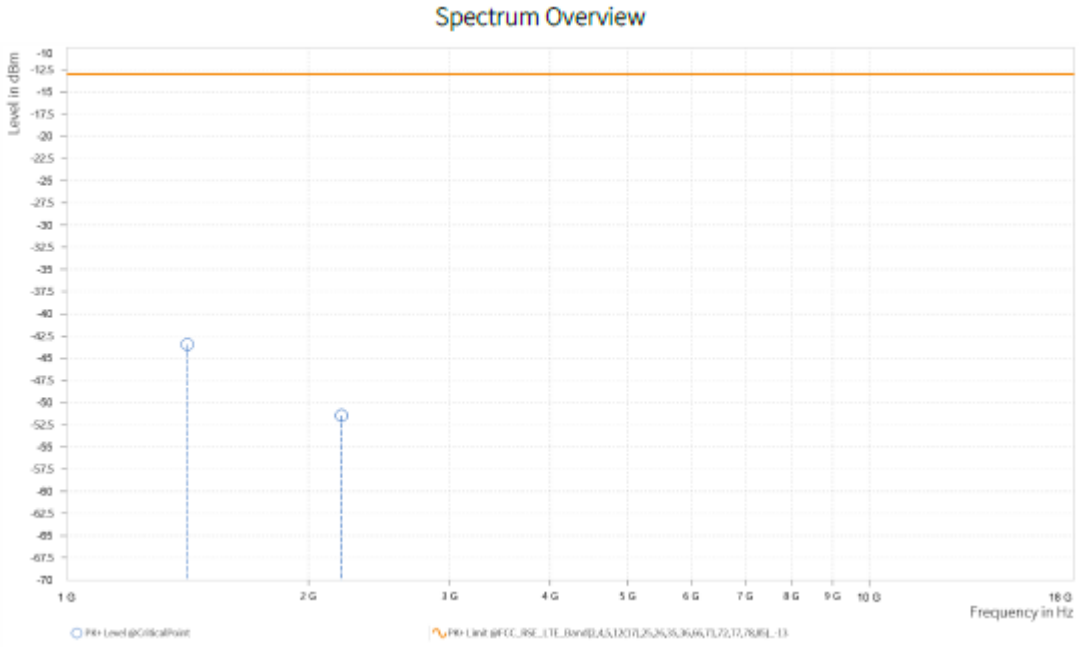
MODE	TX channel 23130	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.000	-41.97	-13.00	28.97	13.48	H	294.7	2
2	2,199.000	-51.37	-13.00	38.37	20.91	H	359.1	1



MODE	TX channel 23130	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	1,413.000	-43.45	-13.00	30.45	13.38	V	82.1	1
2	2,199.500	-51.48	-13.00	38.48	20.66	V	82.1	1



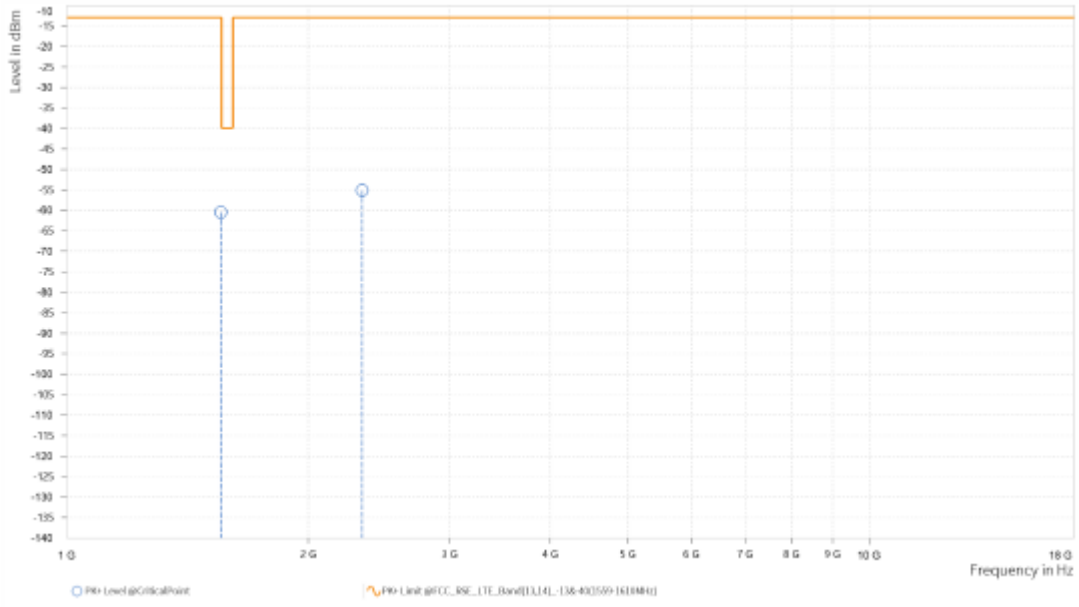
LTE B13

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 23205

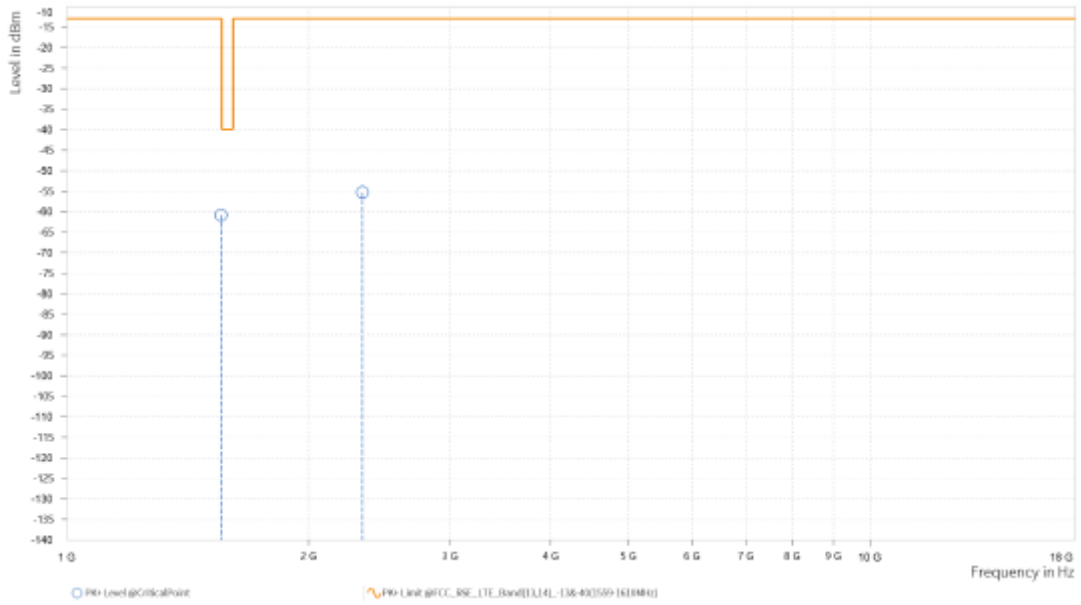
MODE	TX channel 23205	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-60.50	-13.00	47.50	13.36	H	85.8	2
3	2,331.750	-55.11	-13.00	42.11	20.14	H	1	1



MODE	TX channel 23205	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

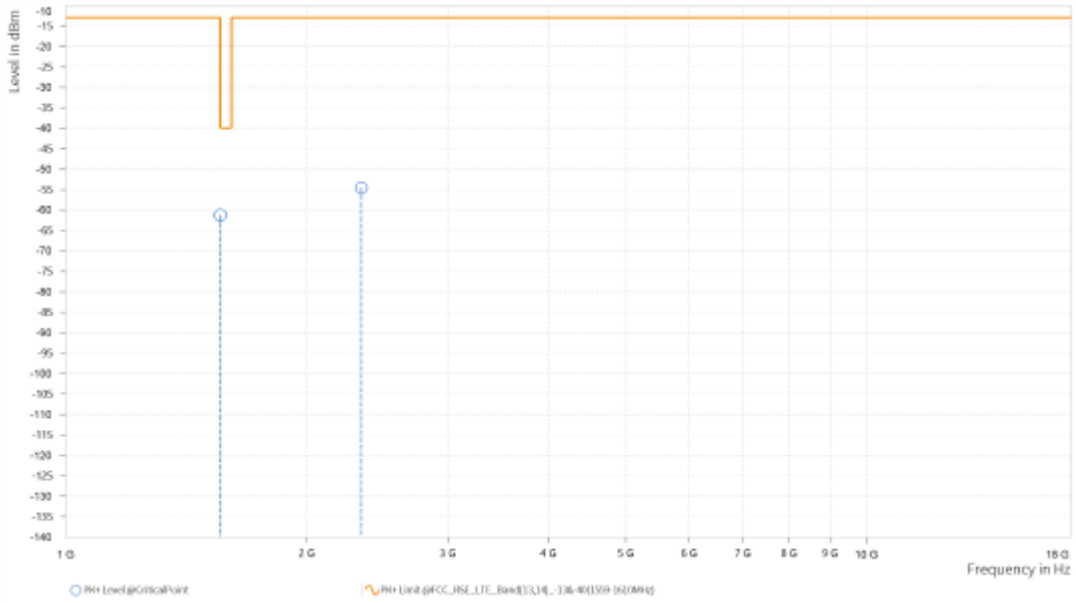
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-60.87	-13.00	47.87	14.69	V	359.1	1
3	2,331.750	-55.28	-13.00	42.28	20.75	V	359	2



CH 23230

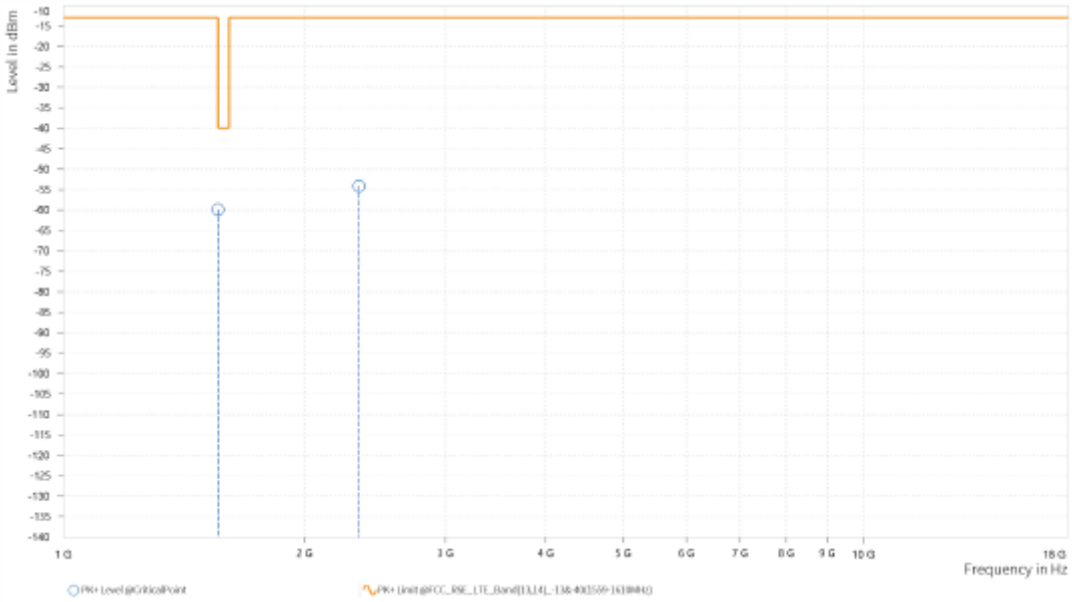
MODE	TX channel 23230	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-61.26	-40.00	21.26	13.33	H	1	1
3	2,339.250	-54.58	-13.00	41.58	20.38	H	289.8	1



MODE	TX channel 23230	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

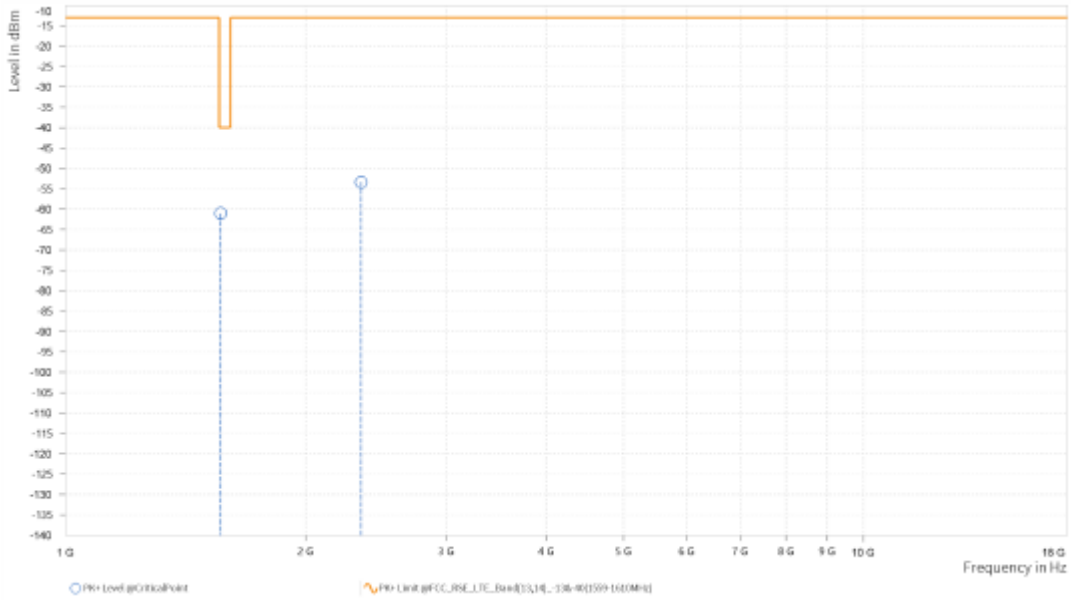
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-59.89	-40.00	19.89	14.72	V	1	1
3	2,339.250	-54.14	-13.00	41.14	20.79	V	259.1	2



CH 23255

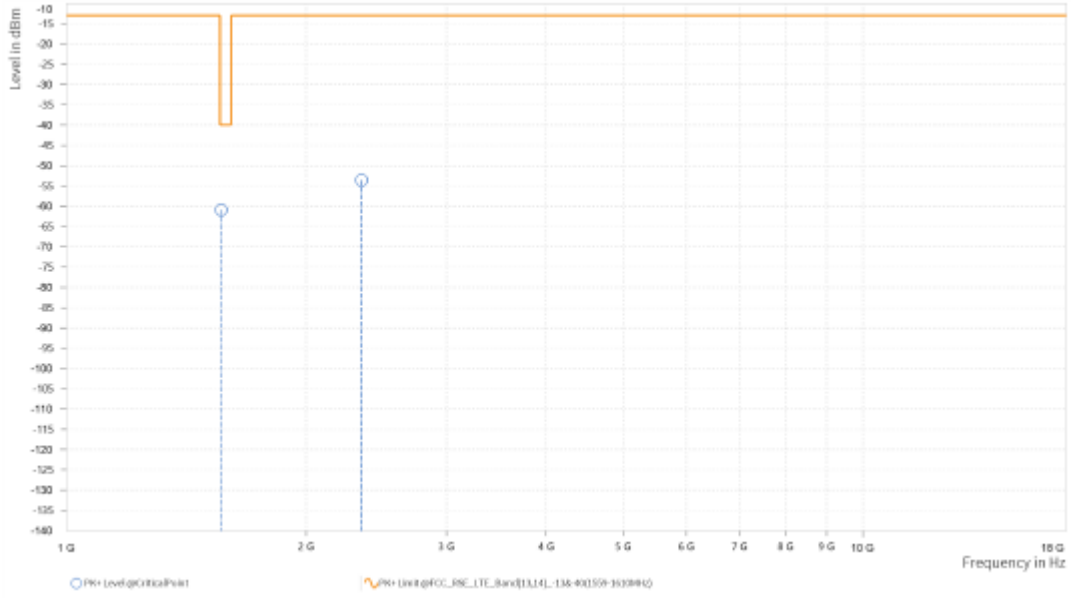
MODE	TX channel 23255	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-61.00	-40.00	21.00	13.31	H	359	1
3	2,346.750	-53.36	-13.00	40.36	20.68	H	1	1



MODE	TX channel 23255	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

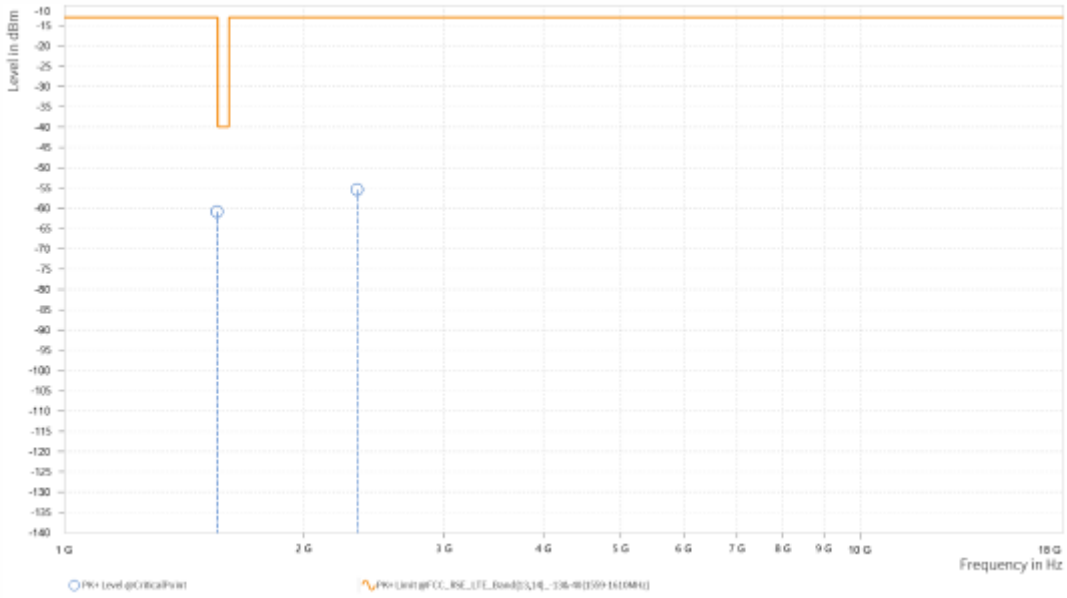
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-60.90	-40.00	20.90	14.73	V	308	2
3	2,346.750	-53.56	-13.00	40.56	20.88	V	359	2



CHANNEL BANDWIDTH: 10MHz /QPSK

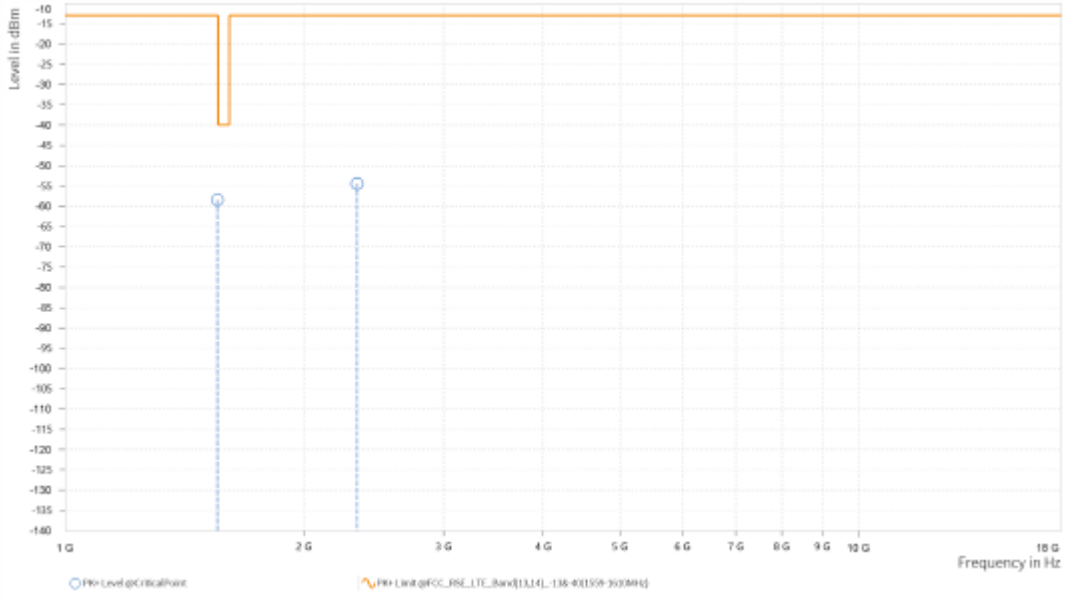
MODE	TX channel 23230	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,555.000	-60.84	-13.00	47.84	13.36	H	51.8	1
3	2,332.500	-55.41	-13.00	42.41	20.17	H	359	2



MODE	TX channel 23230	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	1,555.000	-58.47	-13.00	45.47	14.70	V	283.8	1
3	2,332.500	-54.45	-13.00	41.45	20.76	V	1	1



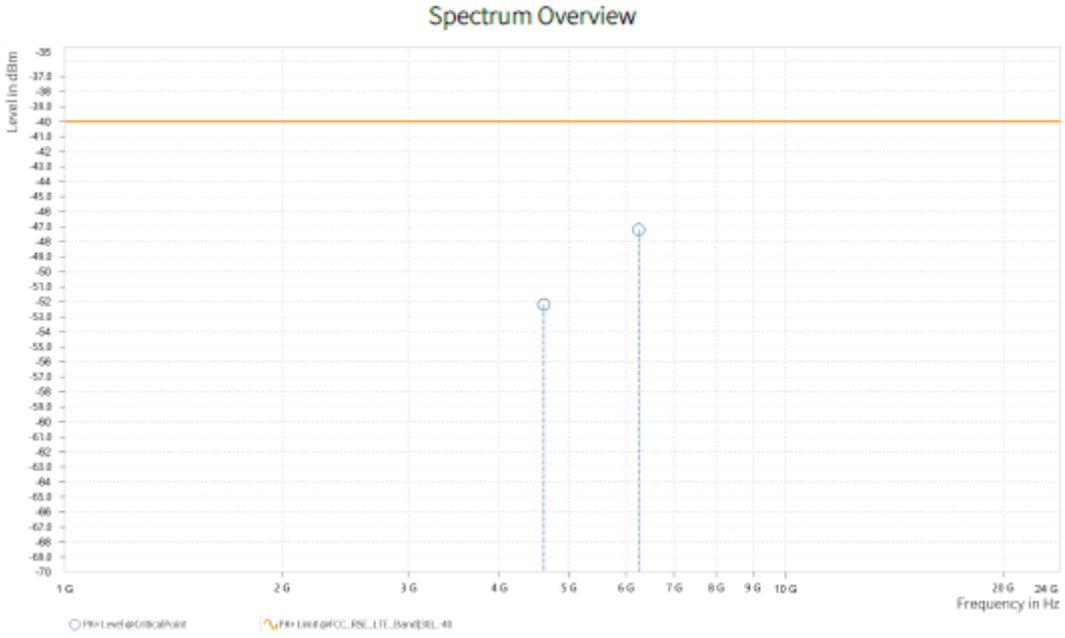
LTE B30

CHANNEL BANDWIDTH: 5MHz / QPSK

CH27710

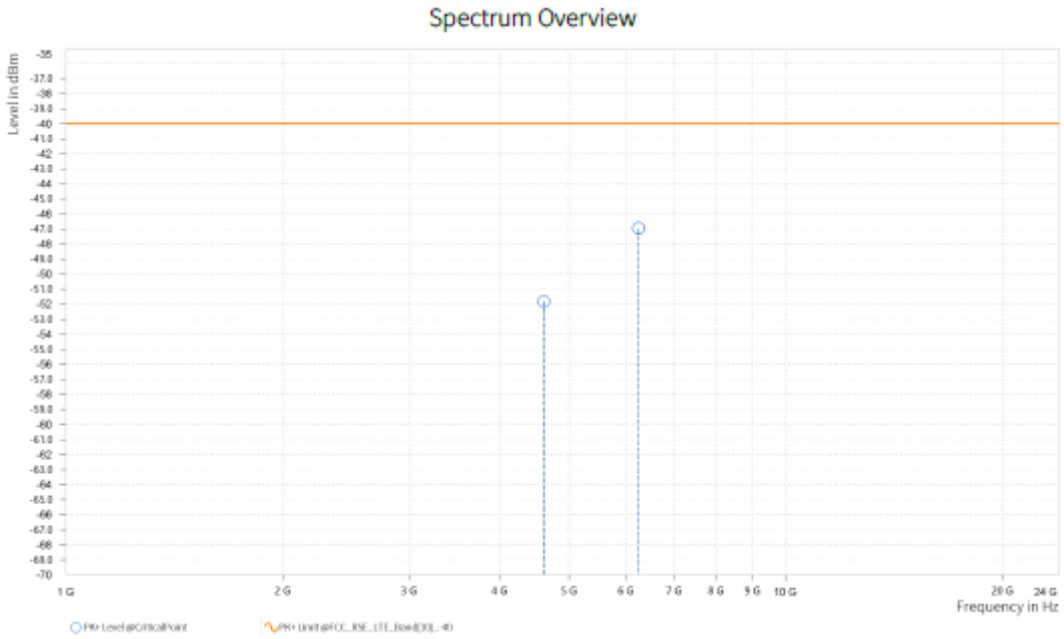
MODE	TX channel 27710	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,615.500	-52.19	-40.00	12.19	21.09	H	1	1
4	6,245.000	-47.20	-40.00	7.20	24.85	H	192	1



MODE	TX channel 27710	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

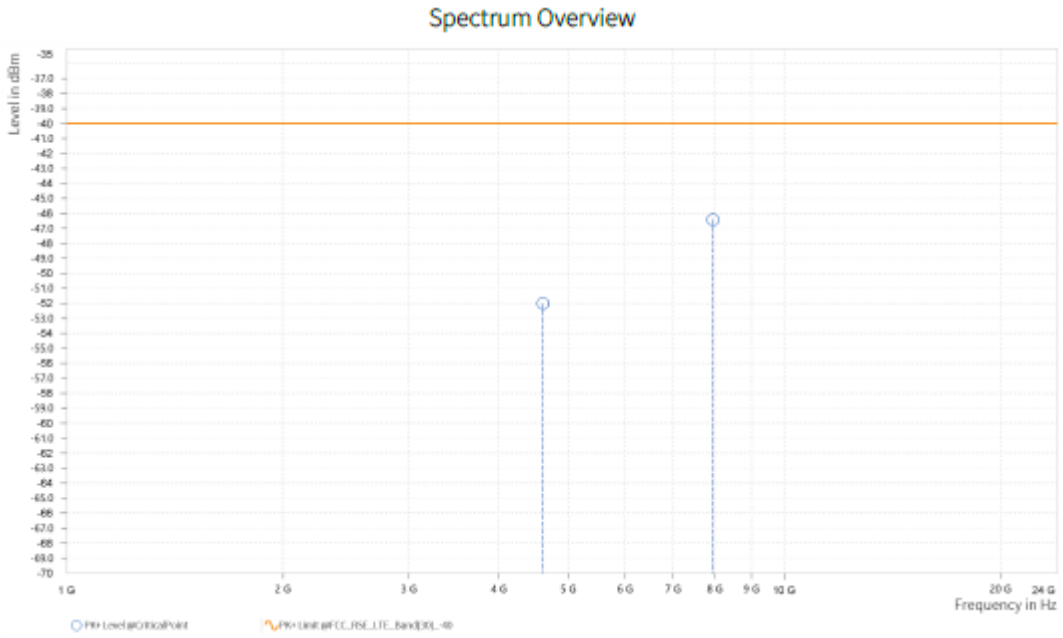
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,615.500	-51.82	-40.00	11.82	21.22	V	359	2
4	6,246.500	-46.95	-40.00	6.95	24.93	V	1	2



CHANNEL BANDWIDTH: 10MHz / QPSK

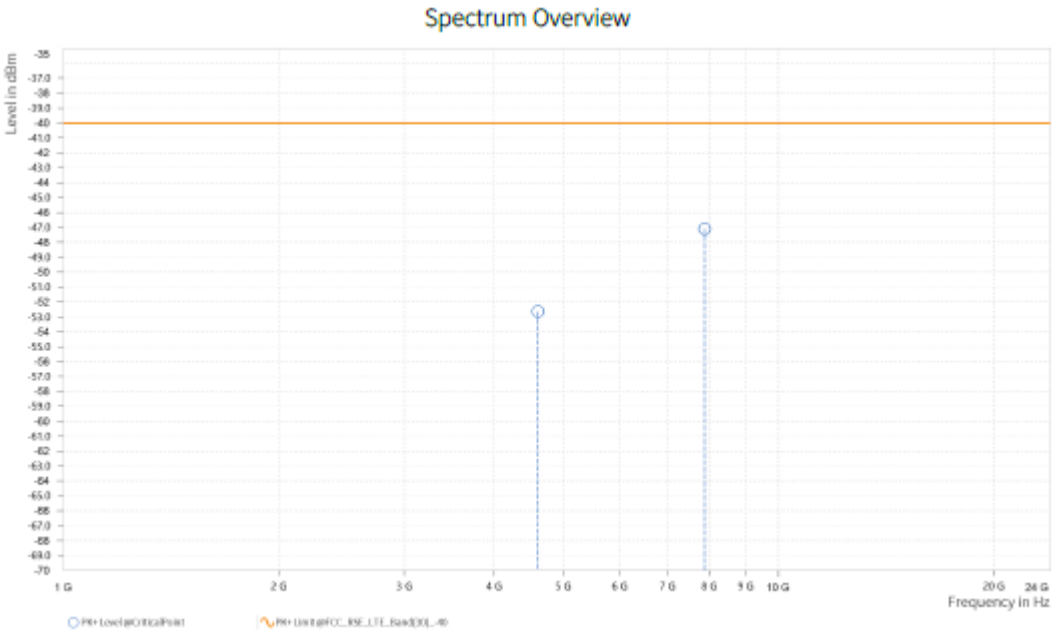
MODE	TX channel 27710	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,611.000	-52.01	-40.00	12.01	21.12	H	359	2
5	7,949.000	-46.41	-40.00	6.41	27.70	H	359.1	1



MODE	TX channel 27710	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
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]
4	4,611.000	-52.64	-40.00	12.64	21.25	V	0.9	2
5	7,887.955	-47.11	-40.00	7.11	27.69	V	1	1



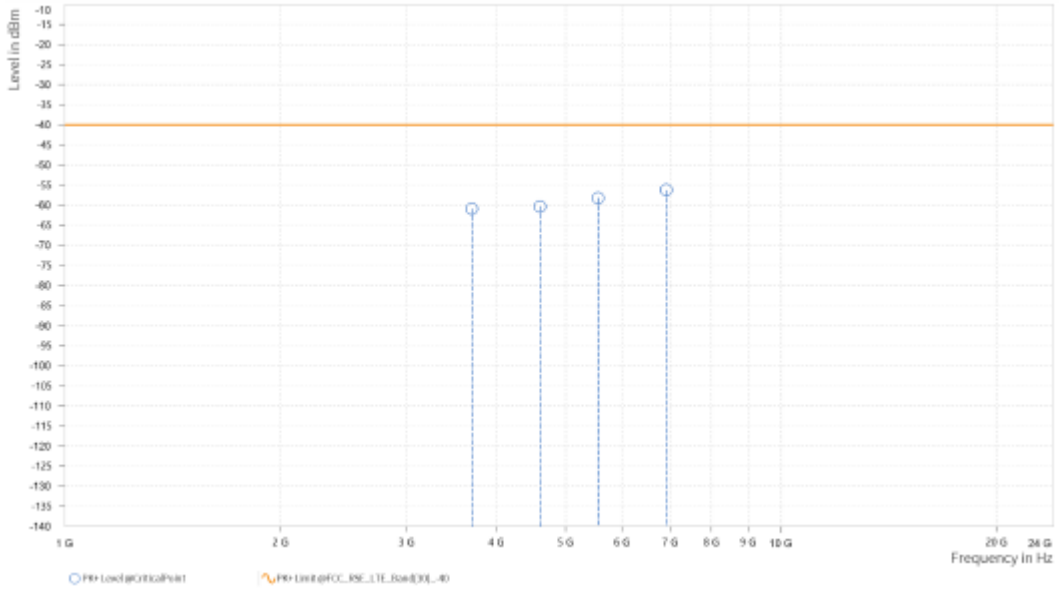
LTE B2A-30A

CHANNEL BANDWIDTH: 20+10MHz / QPSK

CH18700/27685

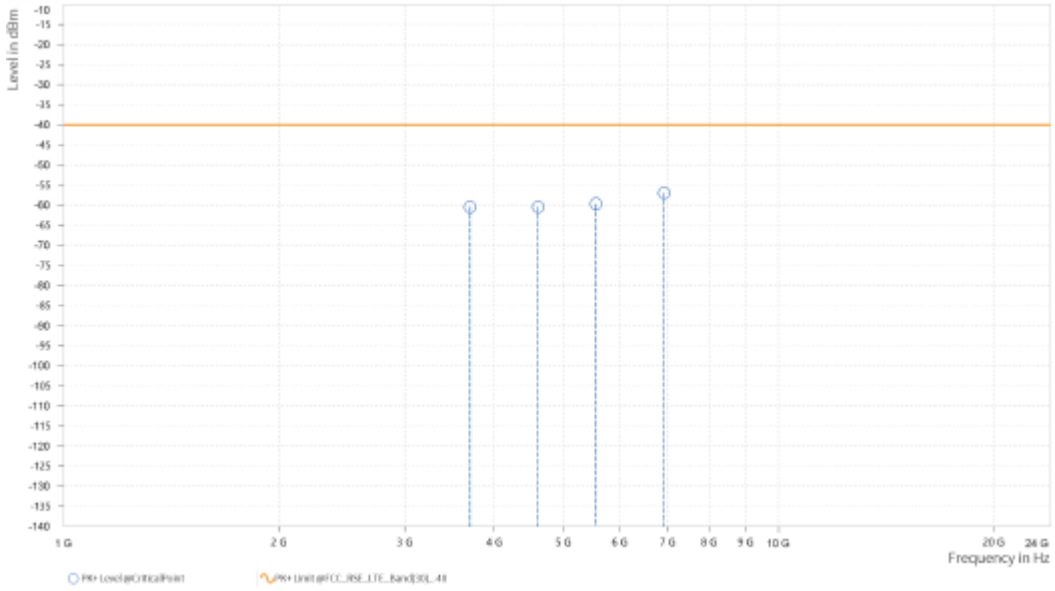
MODE	TX channel 18700/27685	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,702.000	-60.89	-40.00	20.89	14.37	H	2.4	2
4	4,611.000	-60.32	-40.00	20.32	16.06	H	359	2
4	5,553.000	-58.22	-40.00	18.22	18.34	H	359.1	1
5	6,916.500	-56.19	-40.00	16.19	20.39	H	358.7	1



MODE	TX channel 18700/27685	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

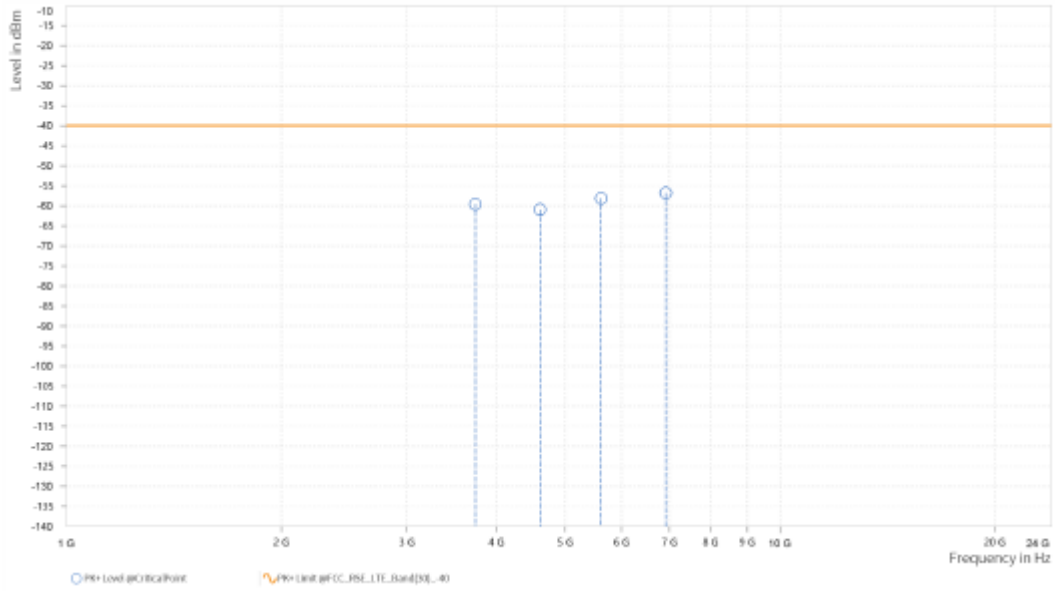
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,702.000	-60.45	-40.00	20.45	14.37	V	2.2	2
4	4,611.000	-60.47	-40.00	20.47	16.06	V	357.9	1
4	5,553.000	-59.70	-40.00	19.70	18.34	V	357.9	1
5	6,916.500	-56.97	-40.00	16.97	20.39	V	322.2	1



CH 18900/27710

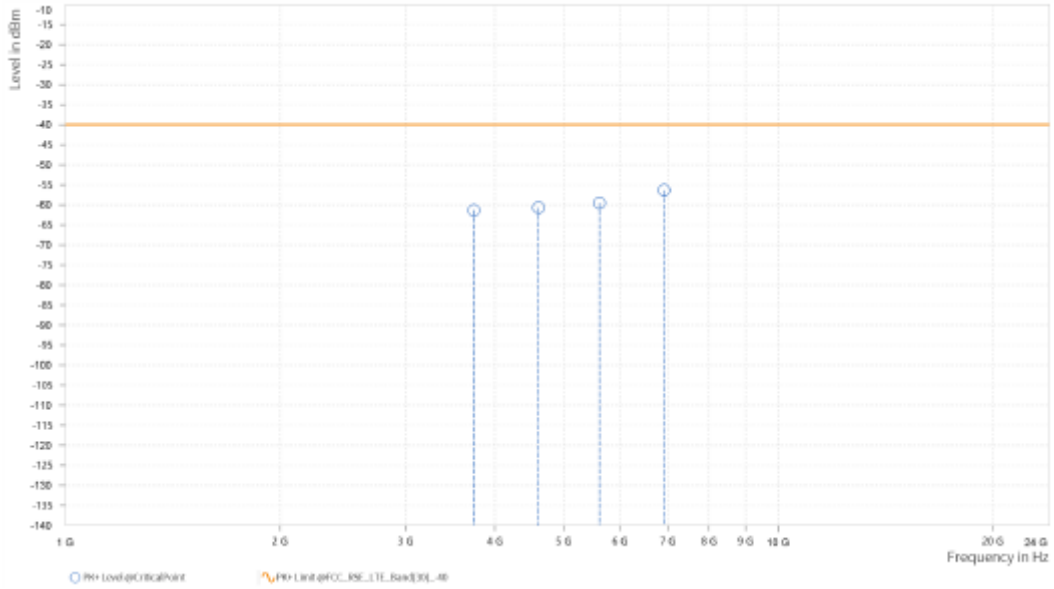
MODE	TX channel 18900/27710	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,742.000	-59.58	-40.00	19.58	14.75	H	359	2
4	4,611.000	-60.91	-40.00	20.91	16.06	H	359	2
4	5,613.000	-58.15	-40.00	18.15	18.34	H	152.2	1
5	6,916.500	-56.80	-40.00	16.80	20.39	H	202.5	1



MODE	TX channel 18900/27710	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

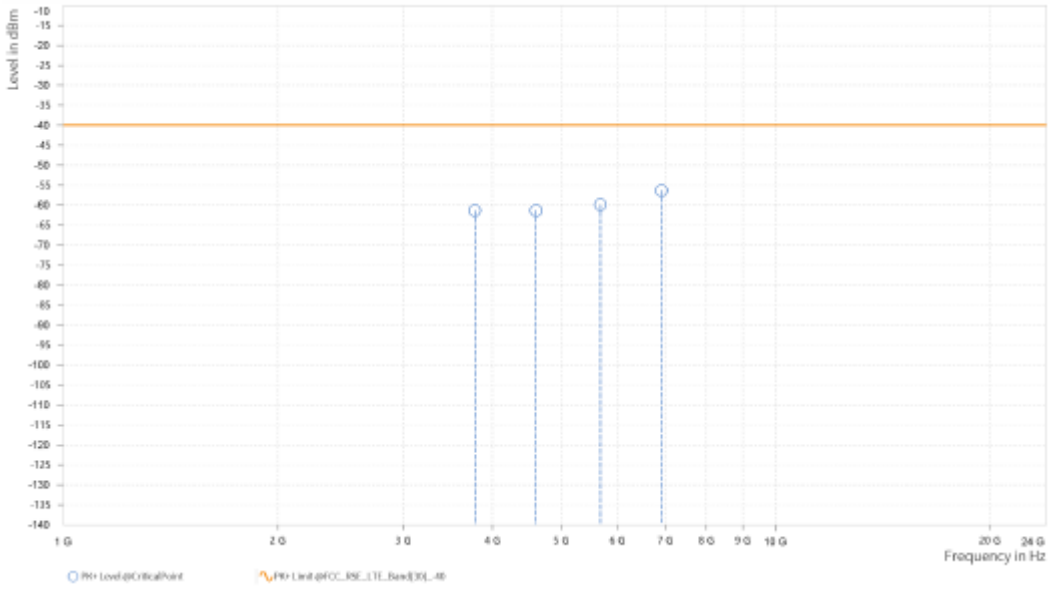
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,742.000	-61.34	-40.00	21.34	14.75	V	159.4	1
4	4,611.000	-60.73	-40.00	20.73	16.06	V	51.1	2
4	5,613.000	-59.53	-40.00	19.53	18.34	V	358.4	1
5	6,916.500	-56.36	-40.00	16.36	20.39	V	209.7	1



CH 19100/27735

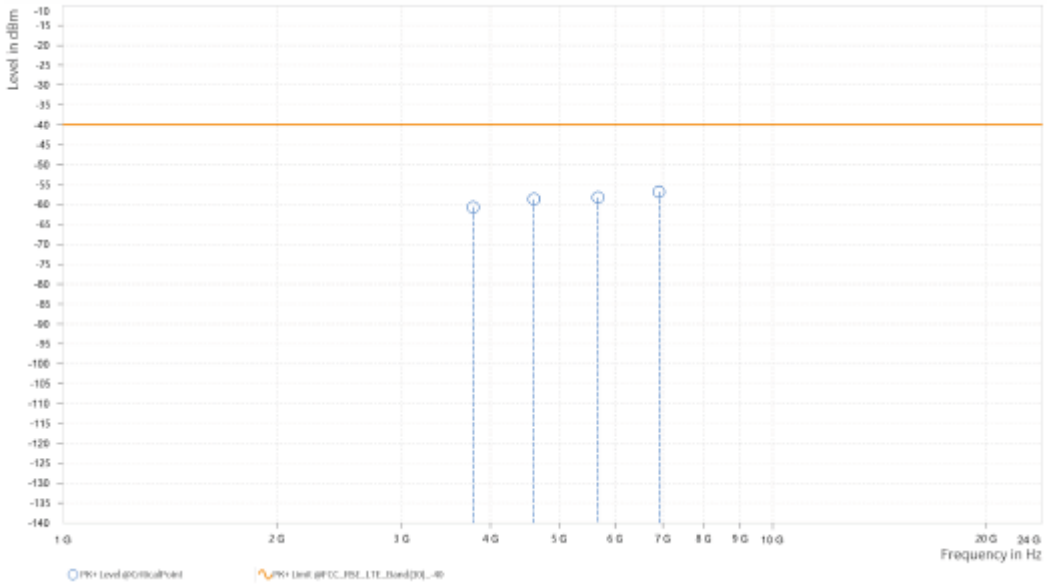
MODE	TX channel 19100/27735	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,782.000	-61.35	-40.00	21.35	15.34	H	207.7	2
4	4,611.000	-61.32	-40.00	21.32	16.06	H	2.2	2
4	5,673.000	-59.91	-40.00	19.91	18.71	H	1	1
5	6,916.500	-56.33	-40.00	16.33	20.39	H	359.1	1



MODE	TX channel 19100/27735	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
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]
4	3,782.000	-60.68	-40.00	20.68	15.34	V	305.4	1
4	4,611.000	-58.66	-40.00	18.66	16.06	V	2.1	2
4	5,673.000	-58.26	-40.00	18.26	18.71	V	153.5	1
5	6,916.500	-56.81	-40.00	16.81	20.39	V	1.4	2



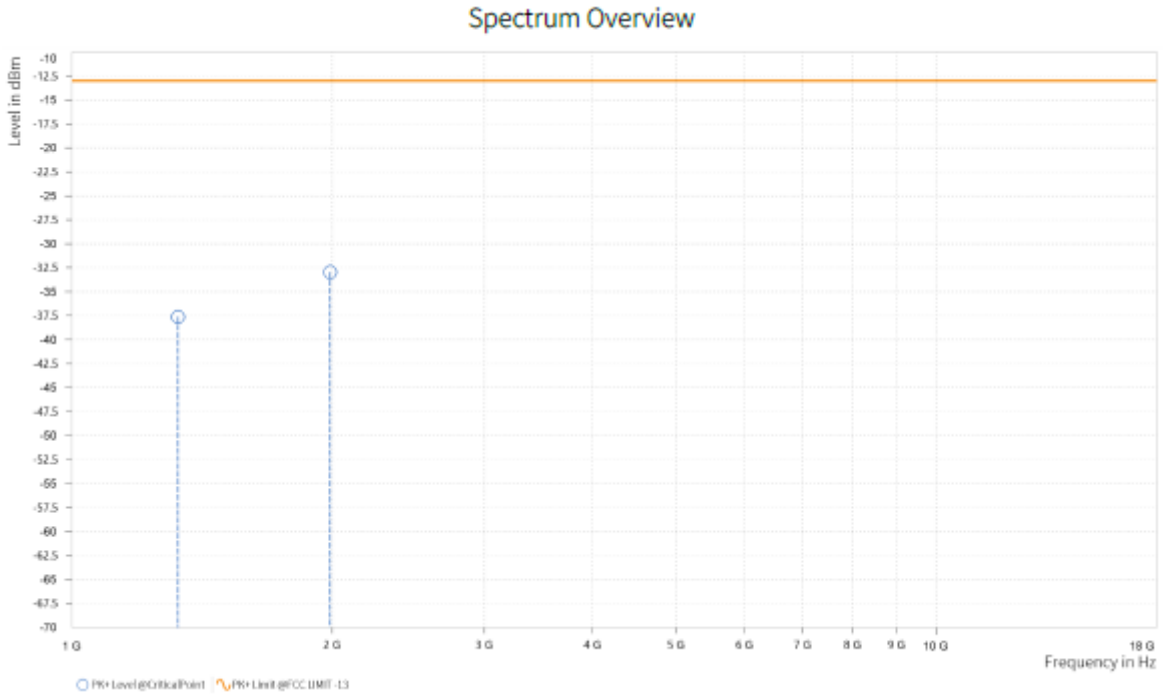
LTE B71

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 133147

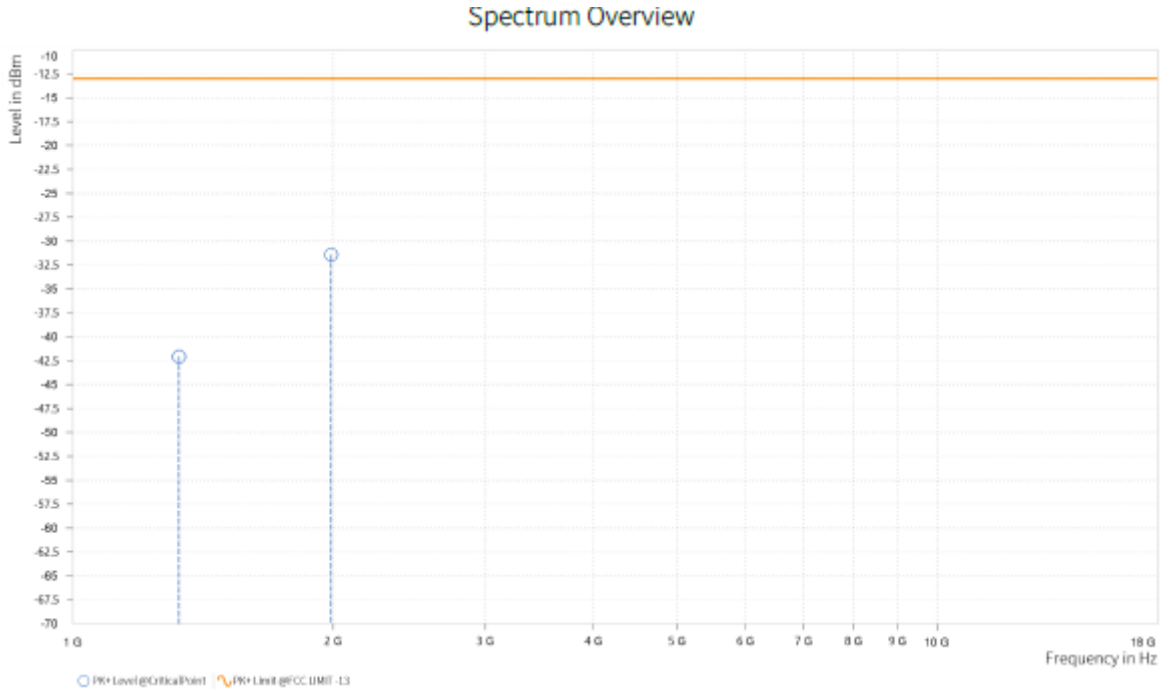
MODE	TX channel 133147	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,327.000	-37.61	-13.00	24.61	15.09	H	66.5	1
2	1,990.000	-32.97	-13.00	19.97	19.41	H	294.8	2



MODE	TX channel 133147	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

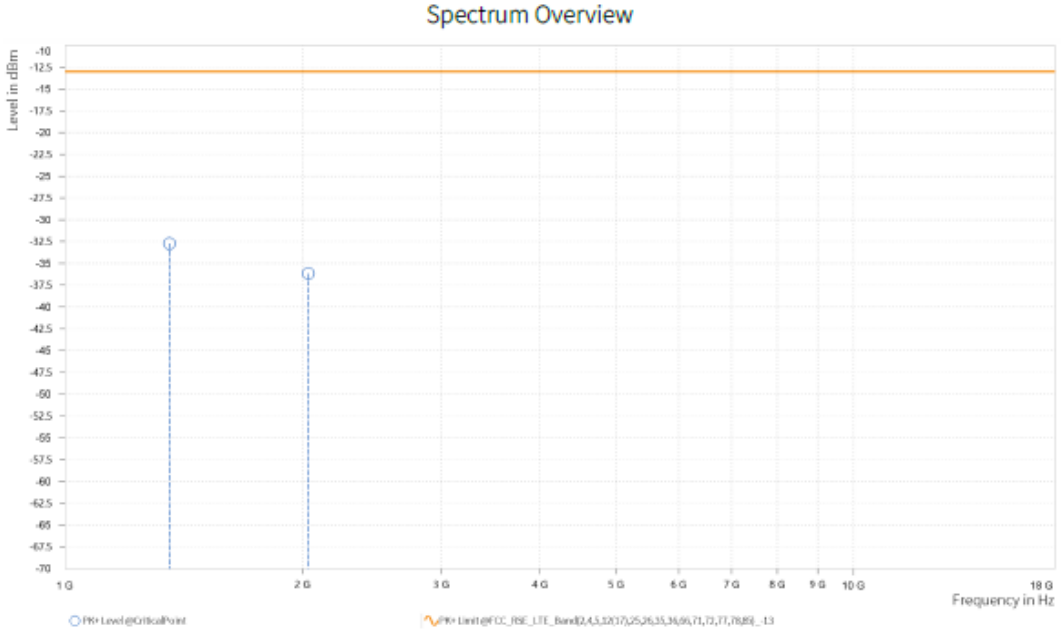
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,326.500	-42.07	-13.00	29.07	15.07	V	0.9	2
2	1,990.500	-31.42	-13.00	18.42	19.40	V	293.5	2



CH 133297

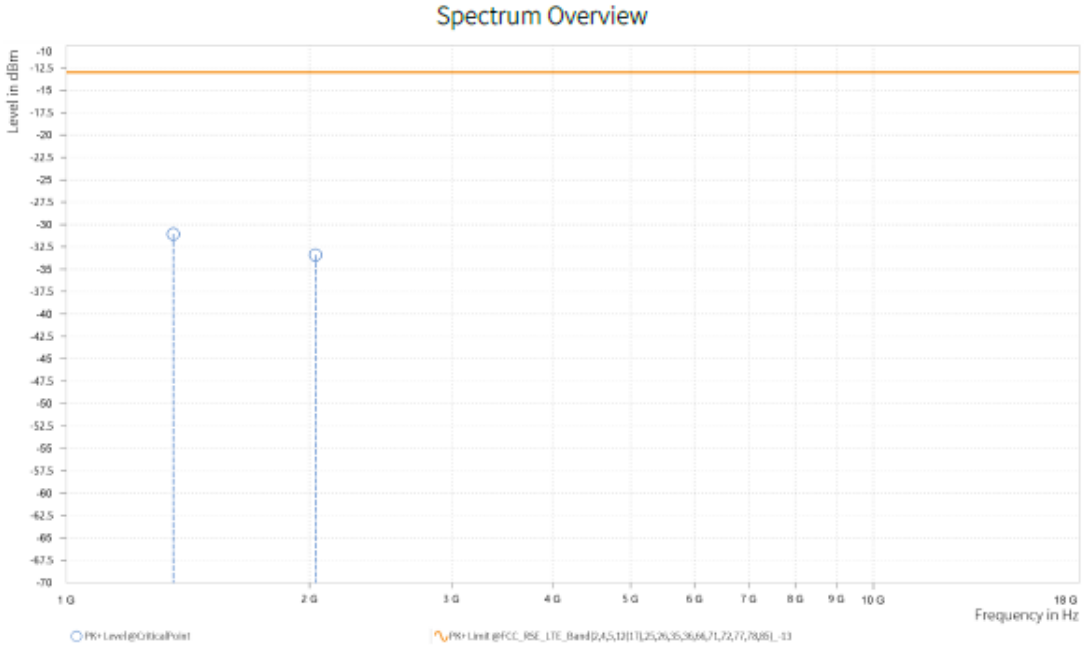
MODE	TX channel 133297	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,356.500	-32.71	-13.00	19.71	17.71	H	293.6	2
2	2,035.000	-36.15	-13.00	23.15	21.26	H	293.6	2



MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

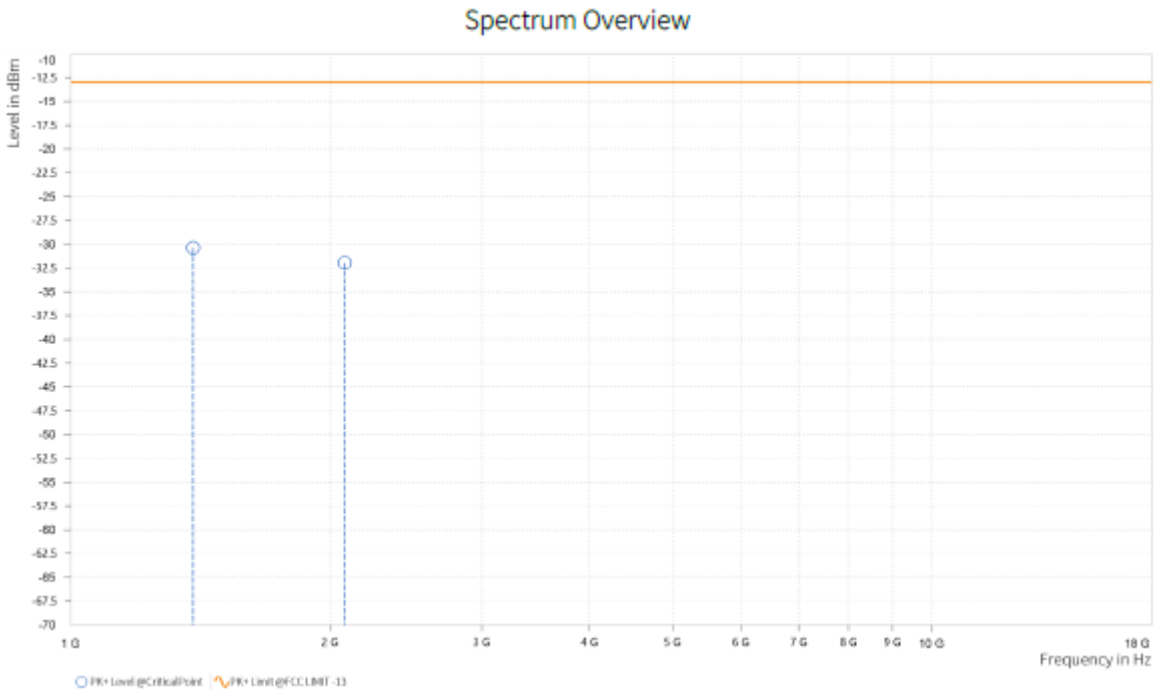
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,356.500	-31.08	-13.00	18.08	17.78	V	0.9	2
2	2,035.000	-33.40	-13.00	20.40	21.80	V	0.9	2



CH 133447

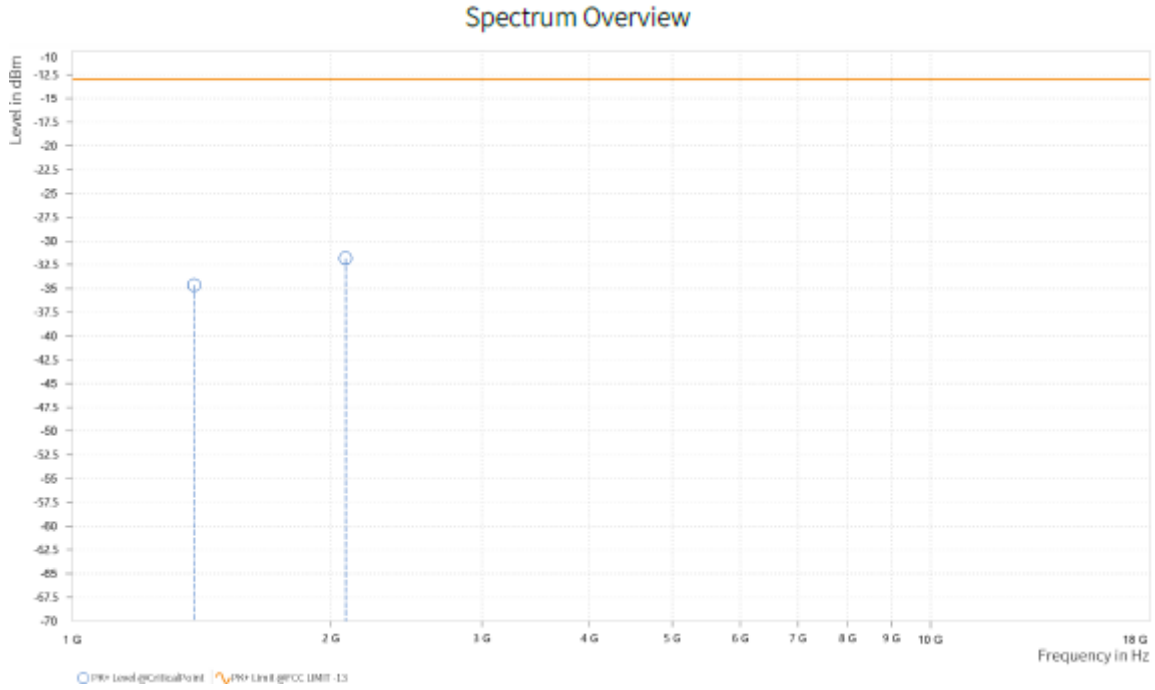
MODE	TX channel 133447	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,386.500	-30.39	-13.00	17.39	17.35	H	294.7	2
2	2,080.000	-31.97	-13.00	18.97	19.87	H	65.3	1



MODE	TX channel 133447	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

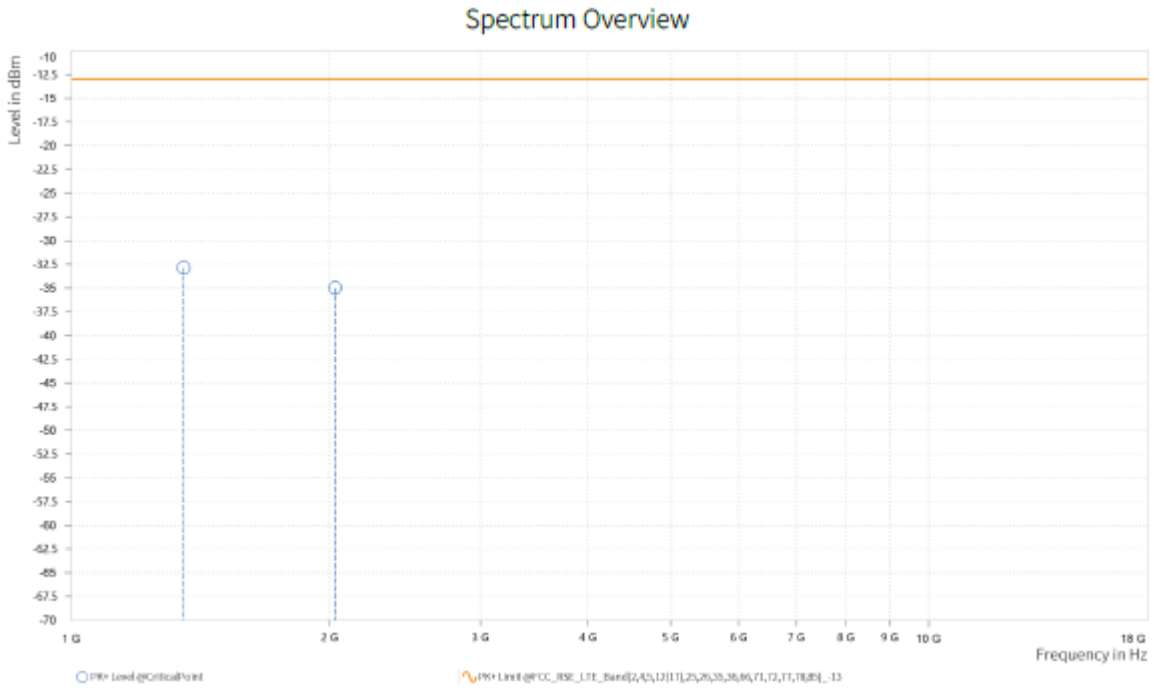
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,386.000	-34.65	-13.00	21.65	17.51	V	296	2
2	2,080.000	-31.82	-13.00	18.82	19.96	V	296	2



CHANNEL BANDWIDTH: 10MHz / QPSK

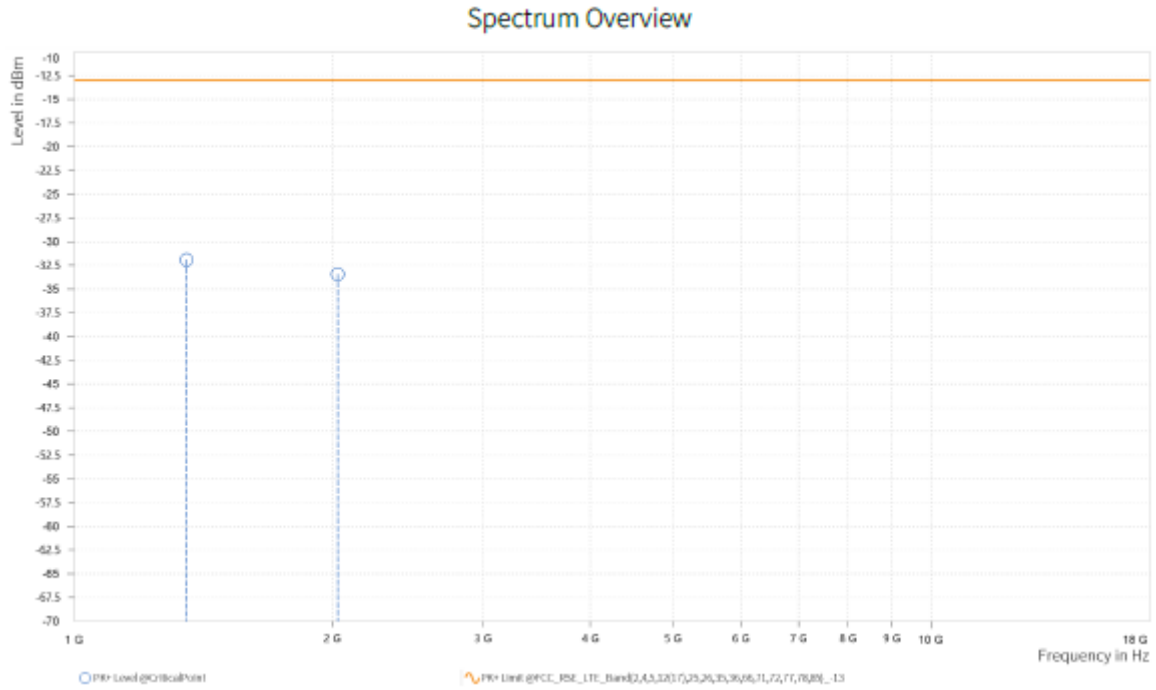
MODE	TX channel 133297	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,352.000	-32.88	-13.00	19.88	17.52	H	293.5	2
2	2,028.500	-34.98	-13.00	21.98	21.35	H	113.1	1



MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

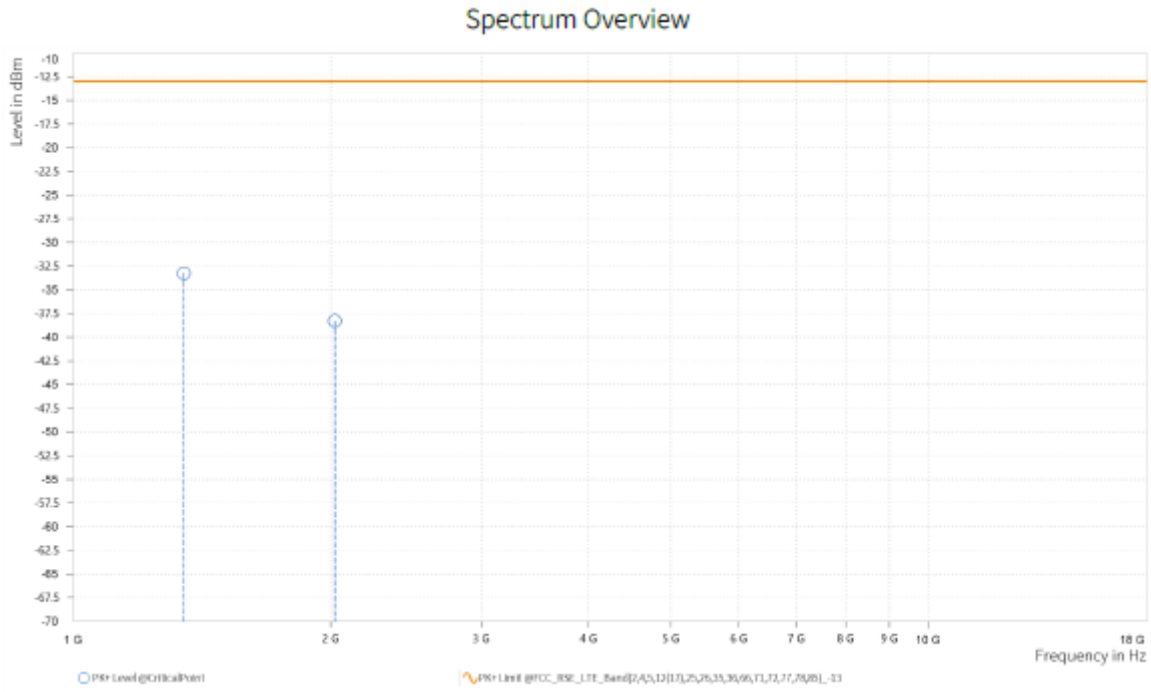
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,352.000	-31.92	-13.00	18.92	17.58	V	0.9	2
2	2,028.500	-33.41	-13.00	20.41	21.92	V	359	2



CHANNEL BANDWIDTH: 15MHz / QPSK

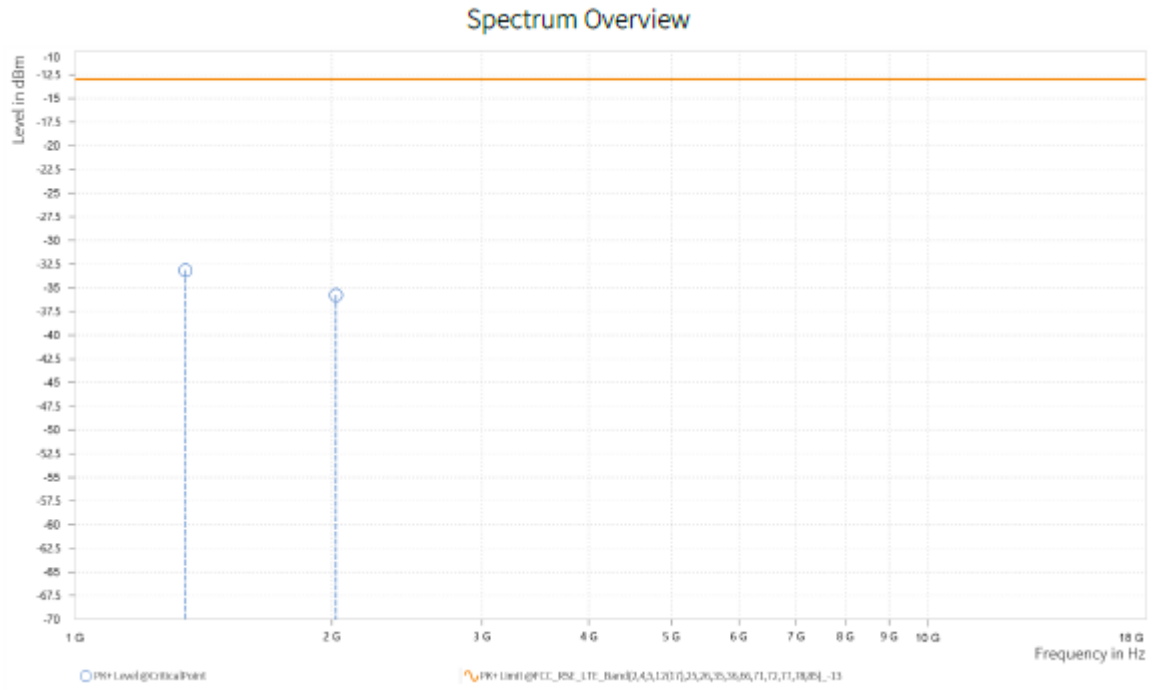
MODE	TX channel 133297	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,347.500	-33.26	-13.00	20.26	17.32	H	296	2
2	2,022.000	-38.30	-13.00	25.30	20.98	H	296	2



MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

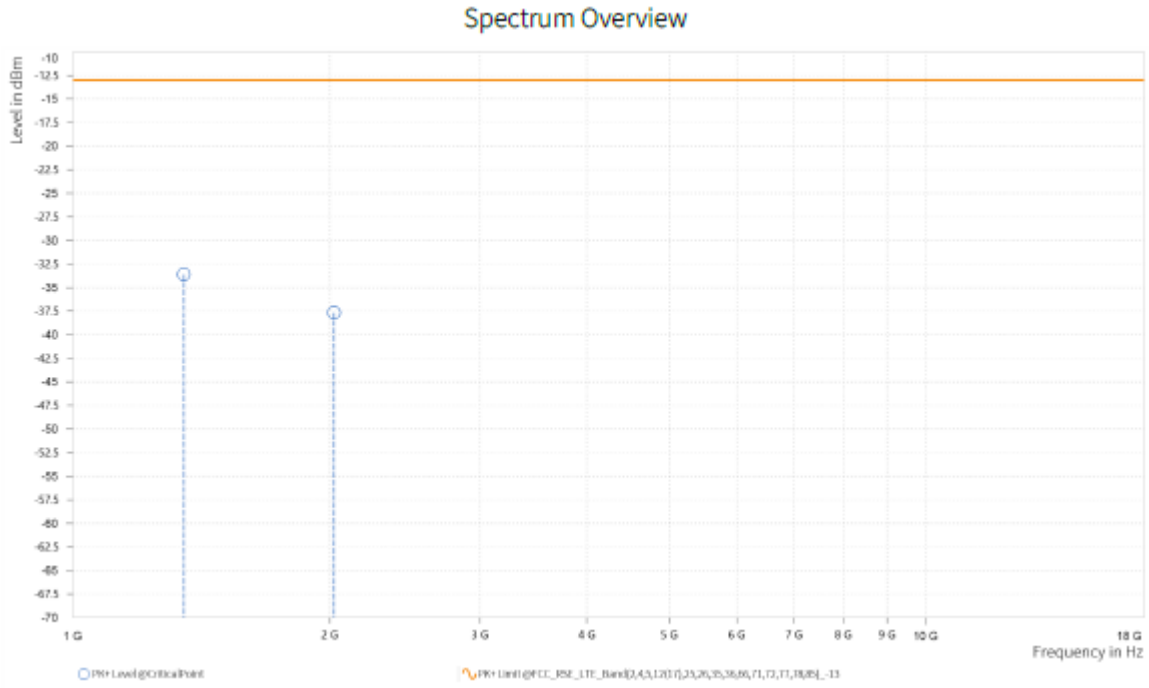
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,347.500	-33.15	-13.00	20.15	17.38	V	359	2
2	2,022.000	-35.78	-13.00	22.78	21.45	V	0.9	2



CHANNEL BANDWIDTH: 20MHz / QPSK

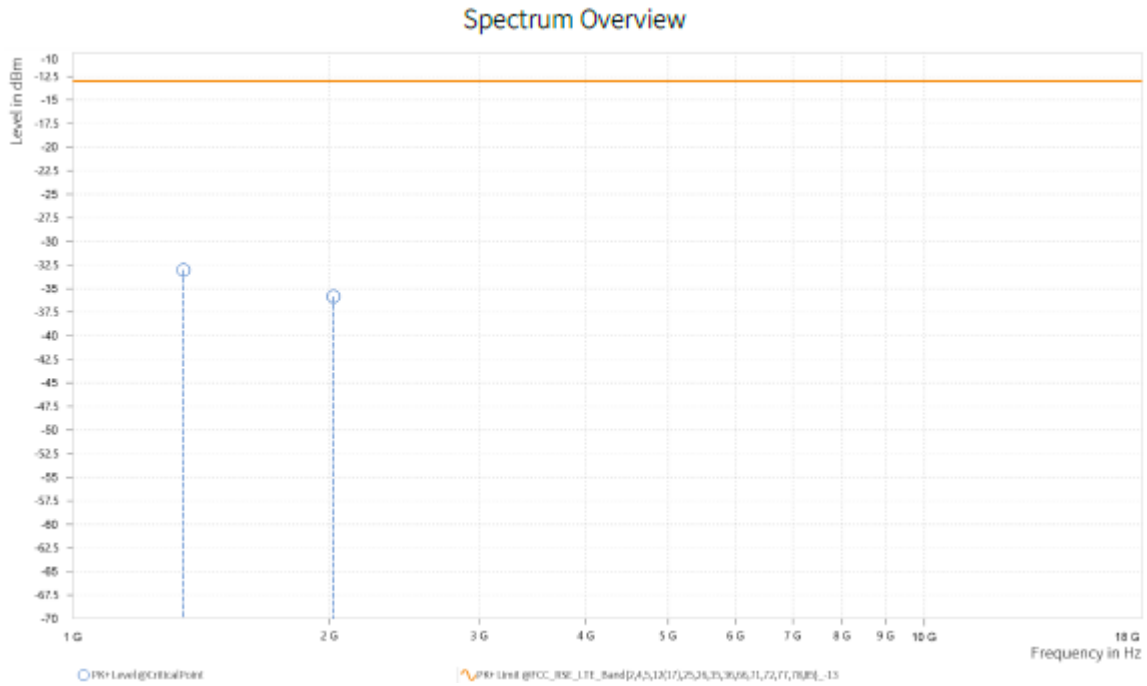
MODE	TX channel 133322	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,348.000	-33.61	-13.00	20.61	17.34	H	293.5	2
2	2,022.500	-37.67	-13.00	24.67	21.01	H	293.5	2



MODE	TX channel 133322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
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	1,348.000	-33.01	-13.00	20.01	17.40	V	0.9	2
2	2,022.500	-35.85	-13.00	22.85	21.49	V	0.9	2



4 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

5 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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