

FCC TEST REPORT

(PART 27)

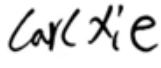
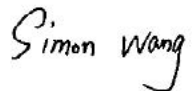
Applicant:	Telit Communications S.p.A
Address:	Via Stazione di Prosecco, 5/B Sgonico,34010 Italy

Manufacturer or Supplier:	Telit Communications S.p.A
Address:	Via Stazione di Prosecco, 5/B Sgonico,34010 Italy
Product:	LTE Cat 1 bis module
Brand Name:	Telit Cinterion or 
Model Name:	LE310X1-WW
FCC ID	RI7LE310X1WW
Date of tests	Jun. 02, 2026 ~ Jul. 17, 2026

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

- ☒ **FCC Part 27**
- ☒ **FCC Part 2**
- ☒ **ANSI C63.26-2015**

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

Prepared by Carl Xie Engineer / Mobile Department	Approved by Simon Wang Manager / Mobile Department
	
Date: Jul. 17, 2026	Date: Jul. 17, 2026

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Test Report No.: RF260714B003

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF260714B003	Original release	Jul. 17, 2026

1. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

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

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

*Test Lab Information Reference

Lab A:

BOOMWAVE TEST (SHENZHEN) CO., LTD.

Lab Address:

Room B38, Warehouse A5(Chiwan No.1), No.3 Chiwan 4th Road, Chiwan Community, Zhaoshang Street, Nanshan District, Shenzhen, Guangdong, P.R. CHINA

Accredited Test Lab Cert 7607.01

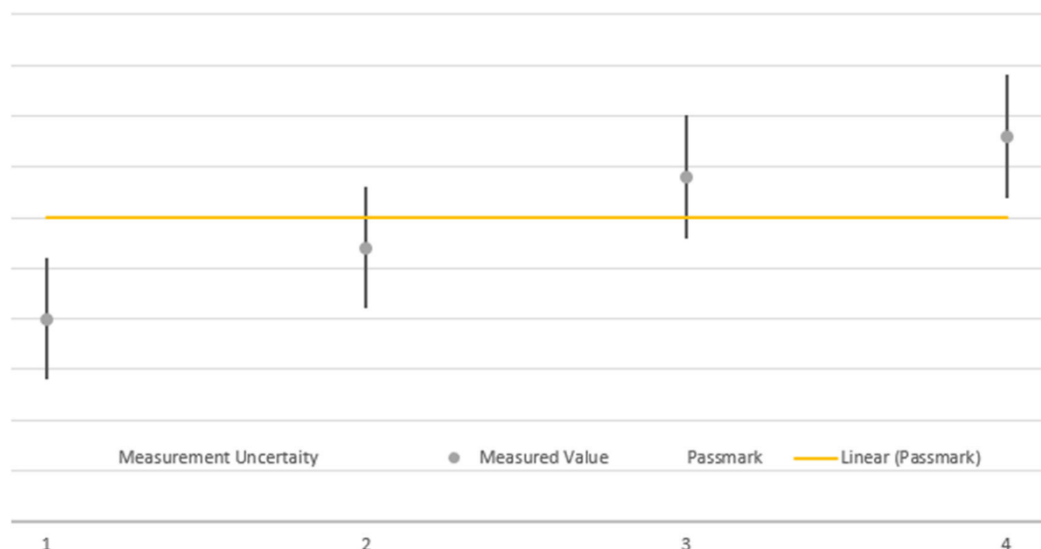
The FCC Site Registration No. is 646781; The Designation No. is CN1429.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions & Radiated Power (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (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	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Band Edge Measurements	$\pm 4.70\text{dB}$

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



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

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

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	2025/7/3	2027/7/2
BiConiLog Antenna	ETS-LINDGREN	3143B	161965	2025/7/17	2027/7/16
Horn Antenna	SCHWARZBECK	BBHA9120D	3297	2025/9/27	2027/9/26
Horn Antenna	STEATITE	QWH-SL-18-40-K-SG QMS-00361	15433	2025/7/19	2027/7/18
Preamplifier	Tonscend	TPA184045	AP24L8060388	2025/7/3	2027/7/2
MXE EMI Receiver	keysight	N9038B	MY50018017	2025/7/1	2027/6/30
MXG Vector Signal Generator	Keysight	N5183B	MY59100137	2025/6/30	2027/6/29
Preamplifier	Tonscend	TPA001330	806JSAPO40804251015	2025/6/30	2027/6/29
Preamplifier	Tonscend	TPA011845	AP24L8060392	2025/6/30	2027/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927166	2025/6/30	2027/6/29
Attenuator 6DB	SHX	TS2-6-6-A	230927165	2025/6/30	2027/6/29
Active Receive Loop Antenna	SCHWARZBECK	FMZB 1519 B	00173	2025/6/30	2027/6/29
Temp. & Humi. Recorder	Kejian	HTC-01	157246	2025/7/2	2027/7/1
HIGH pass FILTER_1-18	EWT	EWT-57-0222	EWT-57-0222	2025/6/30	2027/6/29
HIGH pass FILTER_7-18	EWT	EWT-57-0223	EWT-57-0223	2025/6/30	2027/6/29
HIGH pass FILTER_3-18	EWT	EWT-57-0221	EWT-57-0221	2025/6/30	2027/6/29
DC~1GHz Lowpass Filter	EWT	EWT-56-0649	EWT-56-0649	2025/7/3	2027/7/2
Cable 1	N/A	N/A	N/A	2025/9/28	2027/9/27
Cable 2	N/A	N/A	N/A	2025/9/28	2027/9/27
Cable 3	N/A	N/A	N/A	2025/9/28	2027/9/27
Wireless communication integrated tester	Rohde&Schwarz	CMW500	182016	2025/6/30	2027/6/29
EXA Signal Analyzer	KEYSIGHT	N9010B	MY62170156	2025/6/30	2027/6/29
RF Control Unit	Tonscend	JS0806-1	21K8060504	2025/6/16	2027/6/15
DC Power Supply	AGILENT	HMP2020	100598	2025/7/1	2027/6/30
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-1	2025/6/30	2027/6/29
10dB attenuator	JFW INDUSTRIES INC	50HF-010-SMA	50HF-010-SMA-2	2025/6/30	2027/6/29
hygrothermograph	Anymetrers	----	TH101B	2025/7/22	2027/7/21
Temperature Box	zhongkemeiqi	MA22040172	MQ-DTH50F-2	2025/7/1	2027/6/30



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power divider	WOKEN	71688	204-003180-01	2025/6/30	2027/6/29
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NOTE:

1. The calibration interval of the above test instruments is 24 months and the calibrations are traceable to CEPREI/CHINA, GREGT/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 646781; The Designation No. is CN1429.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LTE Cat 1 bis module	
BRAND NAME	Telit Cinterion or 	
MODEL NAME	LE310X1-WW	
NOMINAL VOLTAGE	3.8V dc	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM
FREQUENCY RANGE	LTE Band 7 Channel Bandwidth: 5MHz	2502.5MHz ~ 2567.5MHz
	LTE Band 7 Channel Bandwidth: 10MHz	2505MHz ~ 2565MHz
	LTE Band 7 Channel Bandwidth: 15MHz	2507.5MHz ~ 2562.5MHz
	LTE Band 7 Channel Bandwidth: 20MHz	2510MHz ~ 2560MHz
	LTE Band 12 Channel Bandwidth: 1.4MHz	699.7MHz ~ 715.3MHz
	LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
	LTE Band 13 Channel Bandwidth: 5MHz	779.5MHz ~ 784.5MHz
	LTE Band 13 Channel Bandwidth: 10MHz	782MHz
	LTE Band 7 Channel Bandwidth: 5MHz	299.92mW
MAX. EIRP/ERP POWER	LTE Band 7 Channel Bandwidth: 10MHz	297.85mW
	LTE Band 7 Channel Bandwidth: 15MHz	296.48mW

	LTE Band 7 Channel Bandwidth: 20MHz	306.90mW
	LTE Band 12 Channel Bandwidth: 1.4MHz	220.80mW
	LTE Band 12 Channel Bandwidth: 3MHz	220.29mW
	LTE Band 12 Channel Bandwidth: 5MHz	224.91mW
	LTE Band 12 Channel Bandwidth: 10MHz	226.99mW
	LTE Band 17 Channel Bandwidth: 5MHz	207.01mW
	LTE Band 17 Channel Bandwidth: 10MHz	210.38mW
EMISSION DESIGNATOR	LTE Band 7 Channel Bandwidth: 5MHz	QPSK: 4M50G7D 16QAM: 4M50W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK: 8M95G7D 16QAM: 4M99W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 5M41W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 5M77W7D
	LTE Band 12 Channel Bandwidth: 1.4MHz	QPSK: 0M09G7D 16QAM: 1M09W7D
	LTE Band 12 Channel Bandwidth: 3MHz	QPSK: 2M70G7D 16QAM: 2M69W7D
	LTE Band 12 Channel Bandwidth: 5MHz	QPSK: 4M50G7D 16QAM: 4M49W7D
	LTE Band 12 Channel Bandwidth: 10MHz	QPSK: 8M94G7D 16QAM: 4M98W7D

EMISSION DESIGNATOR	LTE Band 13		QPSK: 4M49G7D
	Channel Bandwidth: 5MHz		16QAM: 4M49W7D
	LTE Band 13		QPSK: 8M94G7D
	Channel Bandwidth: 10MHz		16QAM: 4M95W7D
ANTENNA GAIN	☒ Provided by client		
	LTE BAND7		1dBi
	LTE BAND12		2dBi
	LTE BAND13		2dBi
ANTENNA TYPE	Fixed External Antenna		
HW VERSION	0.0		
SW VERSION	M1C.300001		
I/O PORTS	Refer to user's manual		
CABLE SUPPLIED	N/A		
EXTREME TEMPERATURE	-40°C ~ + 80°C		
EXTREME VOLTAGE	3.2V dc ~ 4.5V dc		

NOTE:

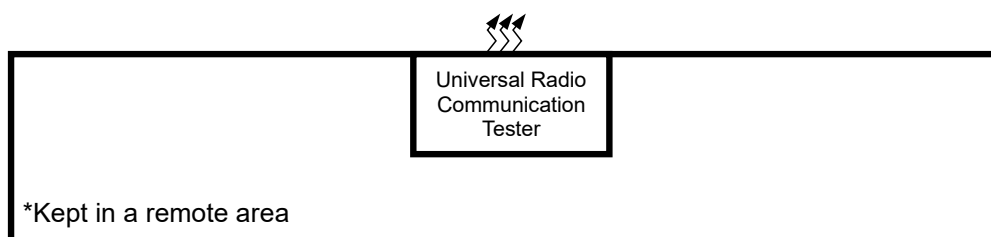
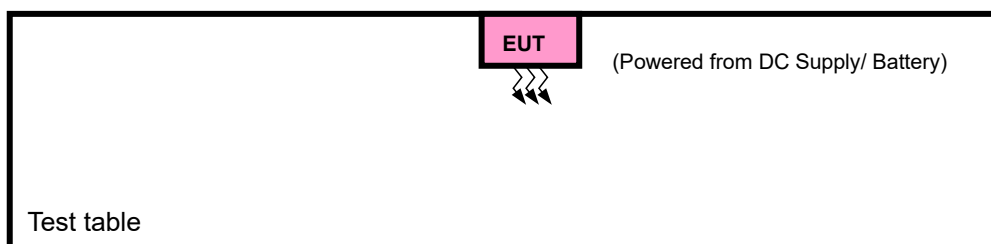
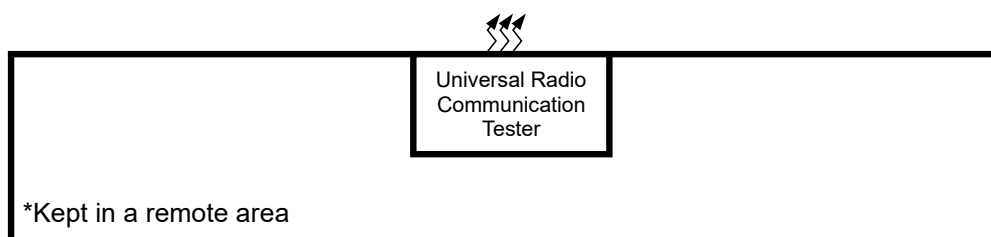
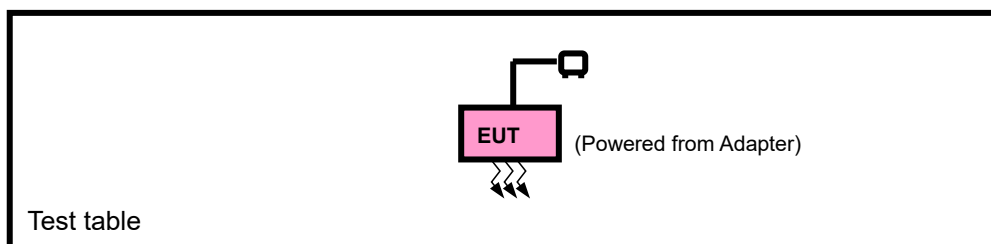
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

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

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	Adapter	XING YUAN ELECTRONICS CO., LTD	XY24SE-120125VQ- ZW	CLASS 2 POWER UNIT	N/A
2	Backplane	TELIT	TELIT EVB 2.0	N/A	N/A
3	SIM Card	N/A	N/A	N/A	N/A
4	Antenna	N/A	T-AT305	N/A	N/A
5	USB cable	N/A	UGREEN	N/A	N/A
6	DC Source	HYELEC	HY3010B	551016	N/A

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

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 Z-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

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

LTE BAND 7 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	20850 to 21350	20850, 21350	20MHz	QPSK, 16QAM	100 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	25 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50 RB / 0 RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	100 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB offset 100 RB / 0 RB offset
A	BAND EDGE	20775 to 21425	20775	5MHz	QPSK, 16QAM	1 RB / 0 RB offset 25 RB / 0 RB offset
						1 RB / 24 RB offset 25 RB / 0 RB offset
			21425	5MHz	QPSK, 16QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
						1 RB / 49 RB offset 50 RB / 0 RB offset
		20800 to 21400	20800	10MHz	QPSK, 16QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
						1 RB / 49 RB offset 50 RB / 0 RB offset
			21400	10MHz	QPSK, 16QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
						1 RB / 0 RB offset
		20825 to	20825	15MHz	QPSK, 16QAM	1 RB / 0 RB offset

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		21375				75 RB / 0 RB offset
			21375	15MHz	QPSK, 16QAM	1 RB / 74 RB offset
						75 RB / 0 RB offset
		20850 to 21350	20850	20MHz	QPSK, 16QAM	1 RB / 0 RB offset
						100 RB / 0 RB offset
			21350	20MHz	QPSK, 16QAM	1 RB / 99 RB offset
A	CONDCUDED EMISSION	20775 to 21425	20775, 21100, 21425	5MHz	QPSK	1 RB / 0 RB offset
		20800 to 21400	20800, 21100, 21400	10MHz	QPSK	1 RB / 0RB offset
		20825 to 21375	20825, 21100, 21375	15MHz	QPSK	1 RB / 0 RB offset
		20850 to 21350	20850, 21100, 21350	20MHz	QPSK	1 RB / 0 RB offset
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB offset
		20800 to 21400	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	1 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM	1 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM	1 RB / 0 RB offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	23060 to 23130	23060,23130	10MHz	QPSK, 16QAM	50 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	23017 to 23173	23017, 23095 , 23173	1.4MHz	QPSK, 16QAM	6 RB / 0 RB offset
		23025 to 23165	23025, 23095 ,23165	3MHz	QPSK, 16QAM	15 RB / 0 RB offset
		23035 to 23155	23035, 23095 ,23155	5MHz	QPSK, 16QAM	25 RB / 0 RB offset
		23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM	50 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	23060 to 23130	23060, 23095 ,23130	10MHz	QPSK, 16QAM	1 RB / 0 RB offset 50 RB / 0 RB offset
A	BAND EDGE	23017 to 23173	23017	1.4MHz	QPSK, 16QAM	1 RB / 0 RB offset 6 RB / 0 RB offset
			23173	1.4MHz	QPSK, 16QAM	1 RB / 5 RB offset 6 RB / 0 RB offset
		23025 to 23165	23025	3MHz	QPSK, 16QAM	1 RB / 0 RB offset 15 RB / 0 RB offset
			23165	3MHz	QPSK, 16QAM	1 RB / 14 RB offset 15 RB / 0 RB offset

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		23035 to 23155	23035	5MHz	QPSK, 16QAM	1 RB / 0 RB offset		
						25 RB / 0 RB offset		
		23060 to 23130	23155	5MHz	QPSK, 16QAM	1 RB / 24 RB offset		
						25 RB / 0 RB offset		
			23060	10MHz	QPSK, 16QAM	1 RB / 0 RB offset		
						50 RB / 0 RB offset		
		23130	23130	10MHz	QPSK, 16QAM	1 RB / 49 RB offset		
						50 RB / 0 RB offset		
		A	CONDCUDED EMISSION	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK	1 RB / 0 RB offset
				23025 to 23165	23025, 23095 ,23165	3MHz	QPSK	1 RB / 0 RB offset
23035 to 23155	23035, 23095 ,23155			5MHz	QPSK	1 RB / 0 RB offset		
23060 to 23130	23060, 23095 ,23130			10MHz	QPSK	1 RB / 0 RB offset		
A	RADIATED EMISSION	23017 to 23173	23017, 23095 , 23173	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	23095	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	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	23230	23230	10MHz	QPSK, 16QAM	50 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM	25 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM	50 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM	25 RB / 0 RB offset
A	BAND EDGE	23205 to 23255	23205	5MHz	QPSK, 16QAM	1 RB / 0 RB offset
						25 RB / 0 RB offset
		23255	23255	5MHz	QPSK, 16QAM	1 RB / 24 RB offset
						25 RB / 0 RB offset
		23230	23230	10MHz	QPSK, 16QAM	1 RB / 0 RB offset
						1 RB / 49 RB offset
						50 RB / 0 RB offset
A	CONDCUDED EMISSION	23205 to 23255	23205, 23230, 23255	5MHz	QPSK	1 RB / 0 RB offset
		23230	23230	10MHz	QPSK	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.

BOOMWAVE TEST (SHENZHEN)
CO., LTD.

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TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	23deg. C, 70%RH	DC 3.8V By Adapter	Carl Xie
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.2V/ 3.8V/ 4.5V By DC Source	Alan Yu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.8V By Adapter	Alan Yu
BAND EDGE	23deg. C, 70%RH	DC 3.8V By Adapter	Alan Yu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.8V By Adapter	Alan Yu
RADIATED EMISSION	23deg. C, 70%RH	DC 3.8V By Adapter	Carl Xie
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.8V By Adapter	Alan Yu

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 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

§27.50(h)(2) :

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.

§27.50(c)(10):

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

§27.50(b)(10):

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

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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

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

Where:

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

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

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

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

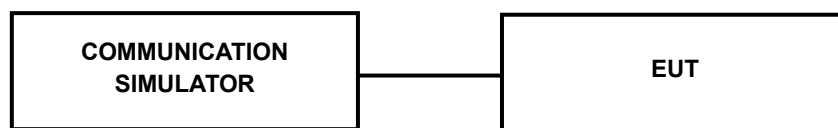
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 7						
BW	Modulation	RB Size	RB Offset	Low	Mid	High
		Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	23.21	23.39	23.87
		1	50	23.51	23.25	23.82
		1	99	23.36	23.17	23.30
		50	0	22.86	22.49	22.87
		50	25	22.50	22.37	22.86
		50	50	22.27	22.21	22.61
		100	0	22.15	22.24	22.56
	16QAM	1	0	22.75	22.57	22.83
		1	50	22.84	22.56	22.75
		1	99	22.78	22.46	22.81
		12	0	22.74	22.56	22.79
		12	43	22.73	22.51	22.84
		12	87	22.71	22.55	22.80
		27	0	21.91	21.75	21.88
BW	Modulation	Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	23.06	23.35	23.72
		1	37	23.47	23.19	23.72
		1	74	23.21	23.12	23.19
		36	0	22.85	22.45	22.85
		36	19	22.42	22.26	22.79
		36	39	22.12	22.12	22.46
		75	0	22.13	22.19	22.42
	16QAM	1	0	22.67	22.52	22.72
		1	12	22.79	22.44	22.67
		1	24	22.77	22.45	22.80
		12	0	22.73	22.45	22.76
		12	31	22.58	22.44	22.74
		12	62	22.58	22.47	22.68
		27	0	21.89	21.68	21.74

LTE Band 7						
BW	Modulation	Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	23.20	23.35	23.74
		1	24	23.40	23.22	23.74
		1	49	23.22	23.07	23.19
		25	0	22.83	22.42	22.72
		25	12	22.41	22.28	22.79
		25	25	22.21	22.13	22.60
		50	0	22.03	22.15	22.54
	16QAM	1	0	22.64	22.45	22.75
		1	12	22.75	22.48	22.71
		1	24	22.76	22.32	22.76
		12	0	22.64	22.41	22.69
		12	18	22.60	22.47	22.75
		12	37	22.61	22.40	22.72
		27	0	21.81	21.63	21.83
BW	Modulation	Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	23.16	23.34	23.77
		1	12	23.45	23.23	23.74
		1	24	23.26	23.10	23.19
		12	0	22.83	22.38	22.86
		12	6	22.41	22.27	22.80
		12	13	22.14	22.13	22.54
		25	0	22.00	22.23	22.42
	16QAM	1	0	22.68	22.46	22.76
		1	12	22.78	22.47	22.60
		1	24	22.72	22.43	22.66
		12	0	21.75	21.61	21.77
		12	6	21.68	21.64	21.72
		12	13	21.76	21.62	21.76
		25	0	21.81	21.72	21.85

LTE Band 12						
BW	Modulation	RB Size	RB Offset	Low	Mid	High
		Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	23.55	23.58	23.54
		1	24	23.56	23.71	23.58
		1	49	23.31	23.38	23.35
		25	0	22.62	22.77	22.65
		25	12	22.72	22.84	22.74
		25	25	22.73	22.81	22.68
		50	0	22.81	22.82	22.72
	16QAM	1	0	22.86	22.92	22.87
		1	12	23.14	23.24	23.16
		1	24	22.84	22.96	22.93
		12	0	22.82	22.90	22.81
		12	18	22.74	22.83	22.74
		12	36	22.56	22.65	22.54
		27	0	21.75	21.88	21.85
BW	Modulation	Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	23.46	23.48	23.48
		1	12	23.49	23.67	23.50
		1	24	23.27	23.37	23.34
		12	0	22.60	22.67	22.53
		12	6	22.58	22.71	22.67
		12	13	22.70	22.79	22.62
		25	0	22.76	22.75	22.58
	16QAM	1	0	22.85	22.79	22.76
		1	12	23.12	23.17	23.01
		1	24	22.73	22.90	22.82
		12	0	21.68	21.77	21.58
		12	7	21.57	21.84	21.62
		12	13	21.63	21.78	21.62
		25	0	21.70	21.85	21.73

LTE Band 12						
BW	Modulation	Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	23.40	23.51	23.39
		1	7	23.54	23.58	23.49
		1	14	23.20	23.31	23.22
		8	0	22.60	22.75	22.62
		8	3	22.59	22.80	22.59
		8	7	22.71	22.73	22.55
		15	0	22.66	22.68	22.71
	16QAM	1	0	22.76	22.90	22.82
		1	7	23.07	23.21	23.12
		1	14	22.77	22.89	22.87
		8	0	21.64	21.77	21.68
		8	4	21.63	21.77	21.65
		8	7	21.67	21.78	21.71
		15	0	21.60	21.87	21.74
BW	Modulation	Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	23.48	23.47	23.46
		1	2	23.45	23.59	23.46
		1	5	23.24	23.33	23.32
		3	0	23.31	23.46	23.44
		3	1	23.52	23.59	23.50
		3	3	23.51	23.53	23.44
		6	0	22.79	22.77	22.65
	16QAM	1	0	22.84	22.80	22.80
		1	2	23.07	23.18	23.03
		1	5	22.69	22.81	22.83
		3	0	22.70	22.72	22.71
		3	1	23.01	23.07	22.96
		3	3	22.62	22.79	22.68
		6	0	21.68	21.74	21.77

LTE Band 13						
BW	Modulation	RB Size	RB Offset	Mid		
		Channel		23230		
		Frequency (MHz)		782		
10M	QPSK	1	0	/	23.03	/
		1	24	/	23.38	/
		1	49	/	23.06	/
		25	0	/	22.53	/
		25	12	/	22.43	/
		25	25	/	22.38	/
		50	0	/	22.37	/
	16QAM	1	0	/	22.25	/
		1	12	/	22.89	/
		1	24	/	22.70	/
		12	0	/	22.45	/
		12	18	/	22.45	/
		12	36	/	22.25	/
		27	0	/	21.06	/
BW	Modulation	Channel		23205	23230	23255
		Frequency (MHz)		779.5	782	784.5
5M	QPSK	1	0	23.00	22.90	22.89
		1	12	23.31	23.24	23.30
		1	24	23.05	23.04	23.04
		12	0	22.49	22.44	22.41
		12	6	22.37	22.37	22.34
		12	13	22.30	22.24	22.23
		25	0	22.25	22.27	22.29
	16QAM	1	0	22.20	22.23	22.20
		1	12	22.78	22.78	22.86
		1	24	22.61	22.58	22.57
		12	0	22.35	22.39	22.37
		12	7	22.33	22.30	22.30
		12	13	22.24	22.19	22.12
		25	0	21.11	21.23	21.16

ERP/ EIRP

LTE Band 7							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20M-QPSK	20850	2510	23.51	1	24.51	282.49	2
	21100	2535	23.39	1	24.39	274.79	2
	21350	2560	23.87	1	24.87	306.90	2
20M- 16QAM	20850	2510	22.84	1	23.84	242.10	2
	21100	2535	22.57	1	23.57	227.51	2
	21350	2560	22.84	1	23.84	242.10	2
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
15M-QPSK	20825	2507.5	23.47	1	24.47	279.90	2
	21100	2535	23.35	1	24.35	272.27	2
	21375	2562.5	23.72	1	24.72	296.48	2
15M- 16QAM	20825	2507.5	22.79	1	23.79	239.33	2
	21100	2535	22.52	1	23.52	224.91	2
	21375	2562.5	22.80	1	23.80	239.88	2

LTE Band 7							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
10M-QPSK	20800	2505	23.40	1	24.40	275.42	2
	21100	2535	23.35	1	24.35	272.27	2
	21400	2565	23.74	1	24.74	297.85	2
10M- 16QAM	20800	2505	22.76	1	23.76	237.68	2
	21100	2535	22.48	1	23.48	222.84	2
	21400	2565	22.76	1	23.76	237.68	2
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
5M-QPSK	20775	2502.5	23.45	1	24.45	278.61	2
	21100	2535	23.34	1	24.34	271.64	2
	21425	2567.5	23.77	1	24.77	299.92	2
5M-16QAM	20775	2502.5	22.78	1	23.78	238.78	2
	21100	2535	22.47	1	23.47	222.33	2
	21425	2567.5	22.76	1	23.76	237.68	2

LTE Band 12							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
10M-QPSK	23060	704	23.56	2	23.41	219.28	3
	23095	707.5	23.71	2	23.56	226.99	3
	23130	711	23.58	2	23.43	220.29	3
10M- 16QAM	23060	704	23.14	2	22.99	199.07	3
	23095	707.5	23.24	2	23.09	203.70	3
	23130	711	23.16	2	23.01	199.99	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
5M-QPSK	23035	701.5	23.49	2	23.34	215.77	3
	23095	707.5	23.67	2	23.52	224.91	3
	23155	713.5	23.50	2	23.35	216.27	3
5M-16QAM	23035	701.5	23.12	2	22.97	198.15	3
	23095	707.5	23.17	2	23.02	200.45	3
	23155	713.5	23.01	2	22.86	193.20	3

LTE Band 12							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
3M-QPSK	23025	700.5	23.54	2	23.39	218.27	3
	23095	707.5	23.58	2	23.43	220.29	3
	23165	714.5	23.49	2	23.34	215.77	3
3M-16QAM	23025	700.5	23.07	2	22.92	195.88	3
	23095	707.5	23.21	2	23.06	202.30	3
	23165	714.5	23.12	2	22.97	198.15	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
1.4M-QPSK	23017	699.7	23.52	2	23.37	217.27	3
	23095	707.5	23.59	2	23.44	220.80	3
	23173	715.3	23.50	2	23.35	216.27	3
1.4M- 16QAM	23017	699.7	23.07	2	22.92	195.88	3
	23095	707.5	23.18	2	23.03	200.91	3
	23173	715.3	23.03	2	22.88	194.09	3

LTE Band 13							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
10M-QPSK	23230	782	23.38	2	23.23	210.38	3
10M- 16QAM	23230	782	22.89	2	22.74	187.93	3
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	ERP (dBm)	ERP (mW)	Limit (W)
5M-QPSK	23205	779.5	23.31	2	23.16	207.01	3
	23230	782	23.24	2	23.09	203.70	3
	23255	784.5	23.30	2	23.15	206.54	3
5M-16QAM	23205	779.5	22.78	2	22.63	183.23	3
	23230	782	22.78	2	22.63	183.23	3
	23255	784.5	22.86	2	22.71	186.64	3

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

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

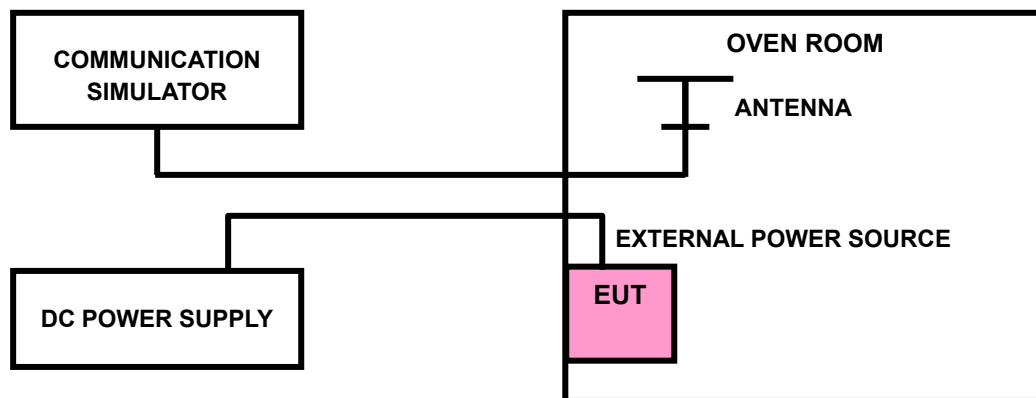
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

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

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

3.3.3 TEST SETUP



3.2.3 TEST RESULTS

Please Refer to Appendix of this test report.

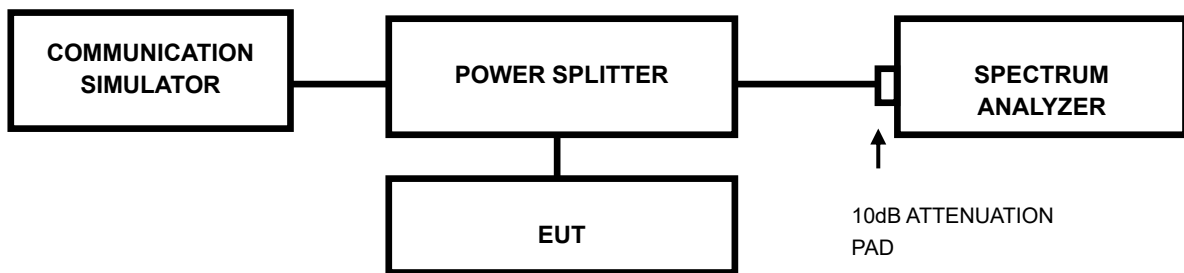
Note: VL = Low voltage(3.2V); VN/NV = Normal voltage(3.8V); VH = High voltage(4.5V); NT = Normal temperature (25°C)

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.4 BAND EDGE MEASUREMENT

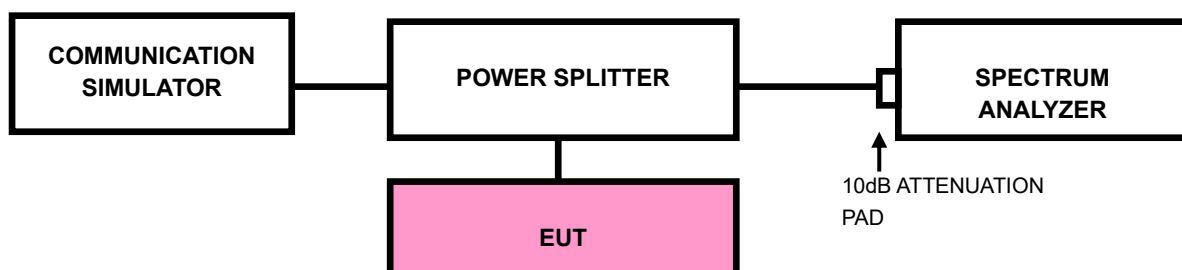
3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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

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

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth

(EBW)
- d) .Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.5

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 .

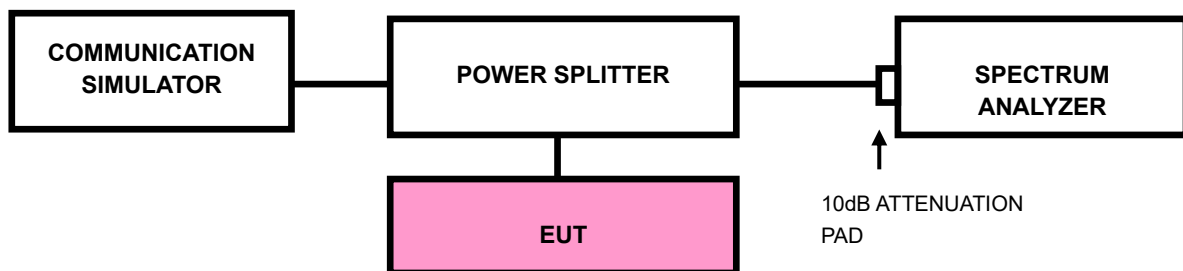
For: LTE Band7

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

3.5.2 TEST PROCEDURE

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

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

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

Please Refer to Appendix of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

For: LTE Band7

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm .

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

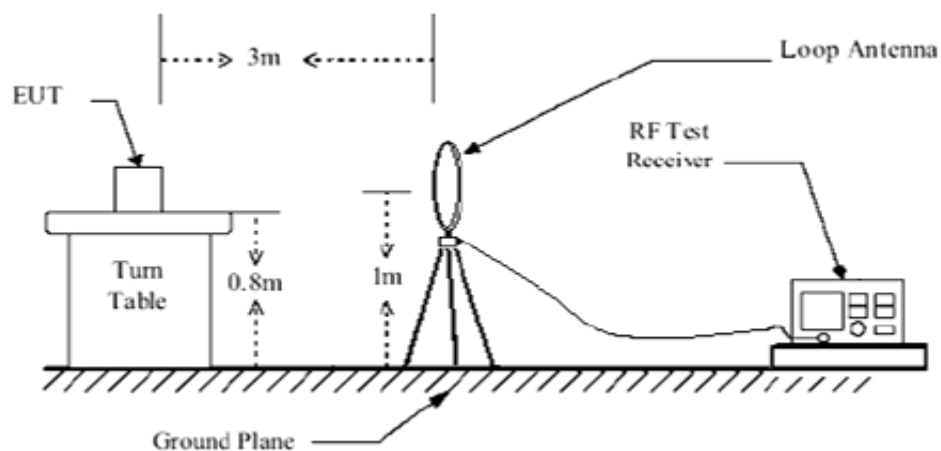
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

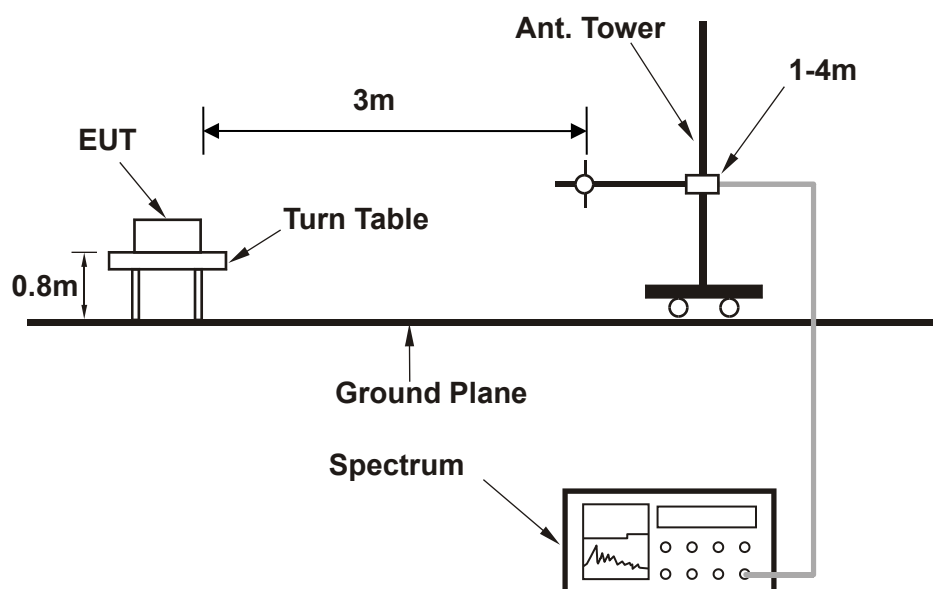
No deviation

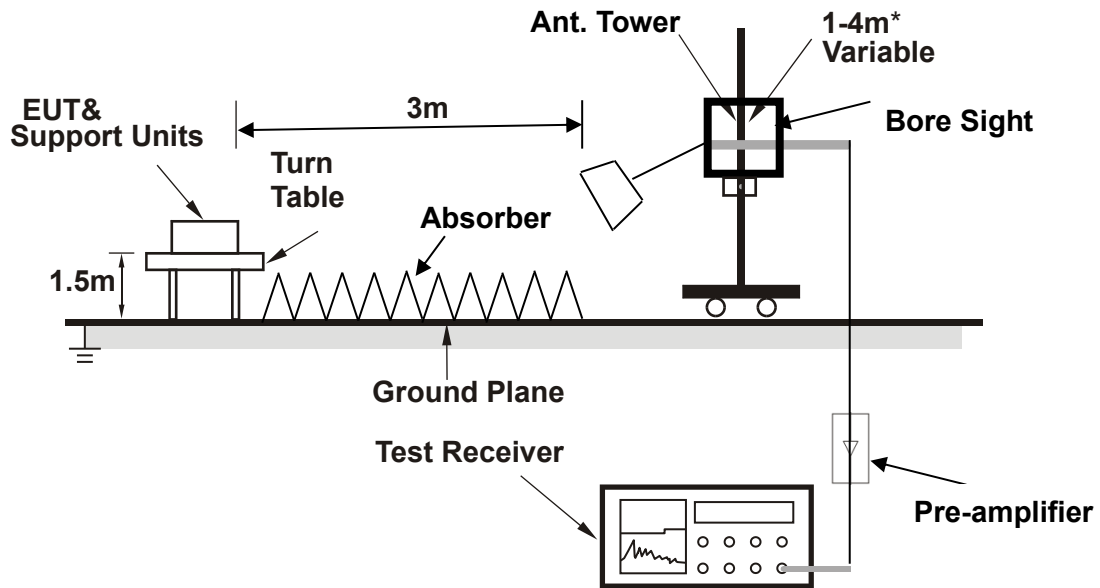
3.6.4 TEST SETUP

< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >





Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.6.5 TEST RESULTS

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

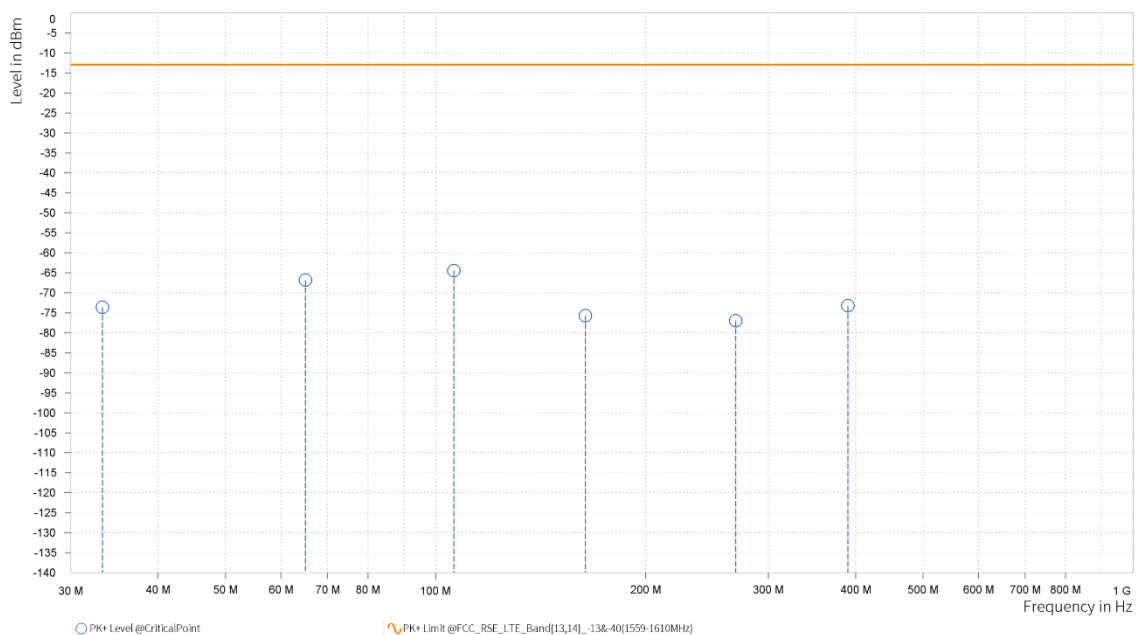
BELOW 1GHz WORST-CASE DATA

LTE Band 13								
CHANNEL BANDWIDTH: 5MHz / QPSK								
MODE		TX channel 23230			FREQUENCY RANGE		30MHz~1GHz	
ENVIRONMENTAL CONDITIONS		23deg. C, 70%RH			INPUT POWER		120Vac 60HZ	
TESTED BY		Carl Xie						
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	37.200	-71.18	-13.00	58.18	0.29	H	1	1.00
1	64.100	-76.17	-13.00	63.17	-6.45	H	232.3	1.00
1	105.550	-81.08	-13.00	68.08	-10.77	H	359	2.00
1	180.950	-68.63	-13.00	55.63	-7.64	H	111.6	1.00
1	266.100	-66.10	-13.00	53.10	-1.83	H	111.6	1.00
1	389.950	-64.84	-13.00	51.84	-0.04	H	1	1.00

Level in dBm

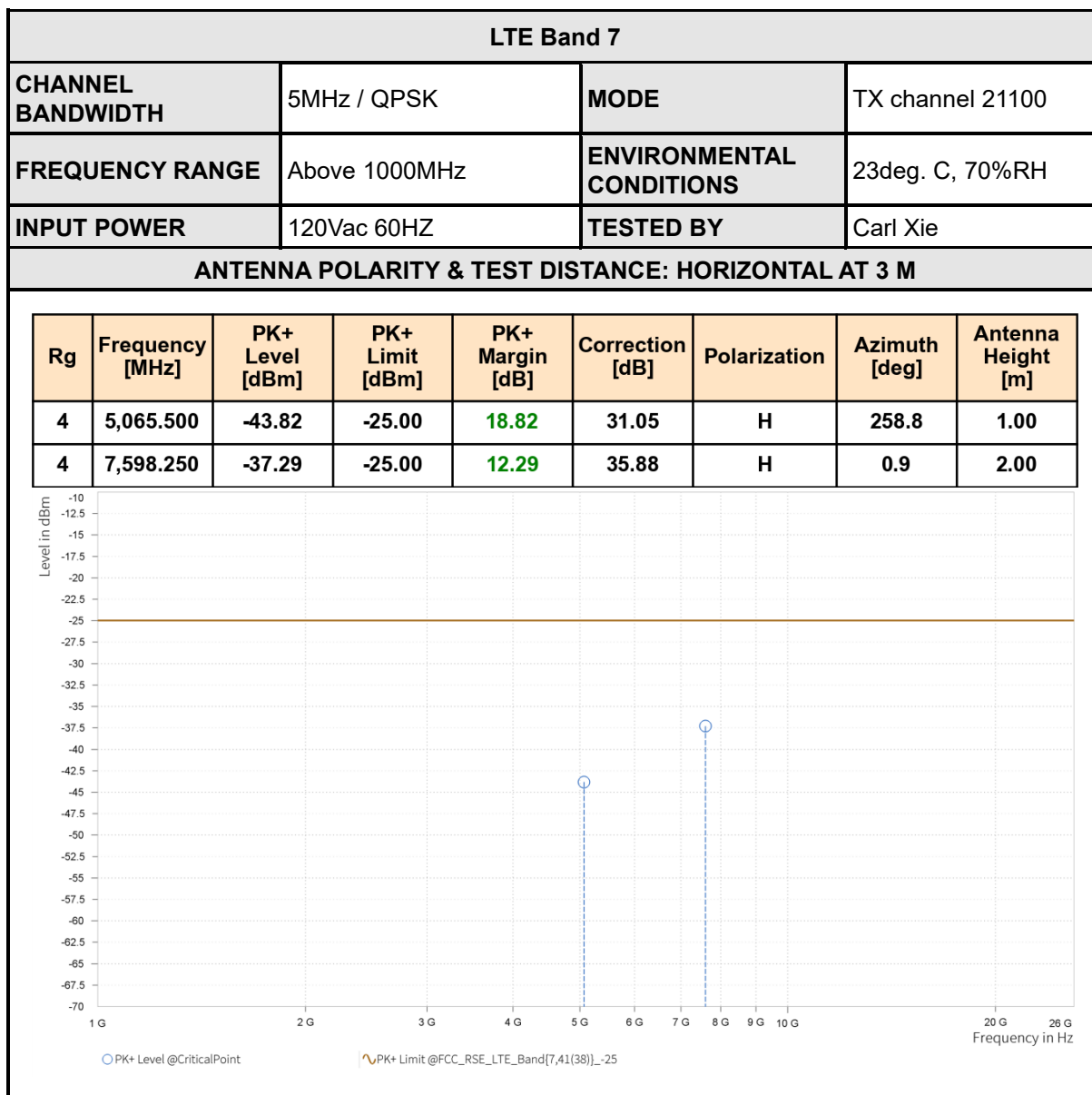
MODE	TX channel 23230	FREQUENCY RANGE	30MHz~1GHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Carl Xie		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	33.300	-73.61	-13.00	60.61	-7.36	V	1	1.00
1	65.100	-66.83	-13.00	53.83	-7.45	V	359.1	1.00
1	106.200	-64.48	-13.00	51.48	3.93	V	154.6	1.00
1	164.050	-75.75	-13.00	62.75	-10.88	V	0.9	2.00
1	269.350	-76.97	-13.00	63.97	-3.35	V	1	1.00
1	390.000	-73.23	-13.00	60.23	0.18	V	5.4	1.00



ABOVE 1GHz

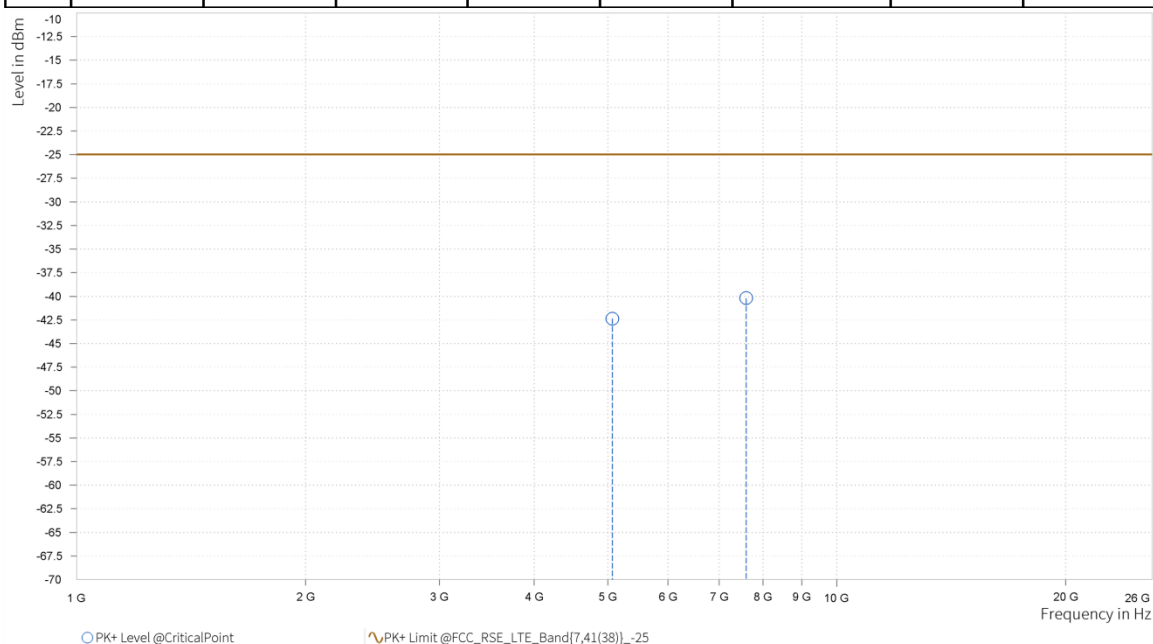
Note: For higher frequency, the emission is too low to be detected.



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

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	-42.36	-25.00	17.36	30.82	V	1	1.00
4	7,598.250	-40.19	-25.00	15.19	35.94	V	359	1.00

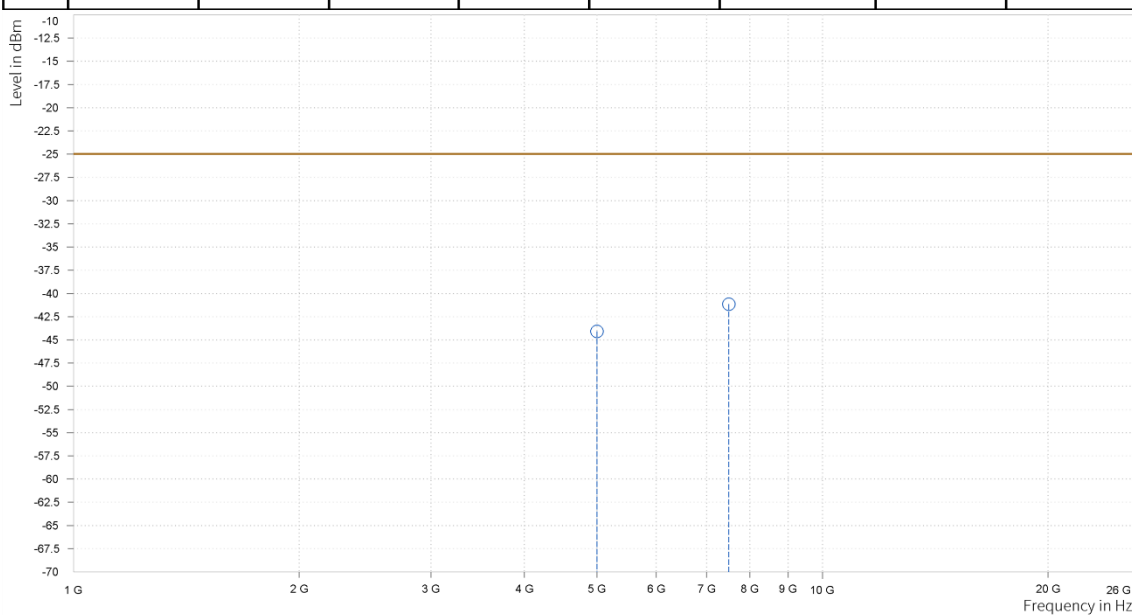


CH20800

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 20800
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

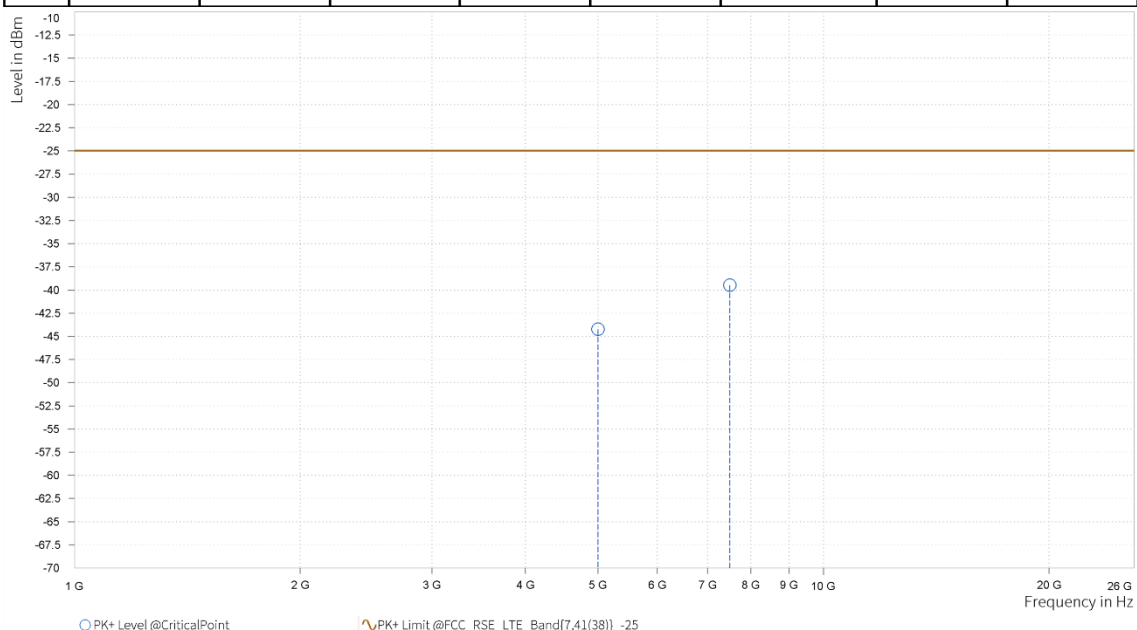
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.000	-44.08	-25.00	19.08	29.99	H	119	2.00
4	7,501.500	-41.15	-25.00	16.15	35.66	H	119	2.00



CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 20800
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

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	-44.24	-25.00	19.24	29.84	V	232.6	1.00
4	7,501.500	-39.49	-25.00	14.49	35.83	V	120.3	2.00

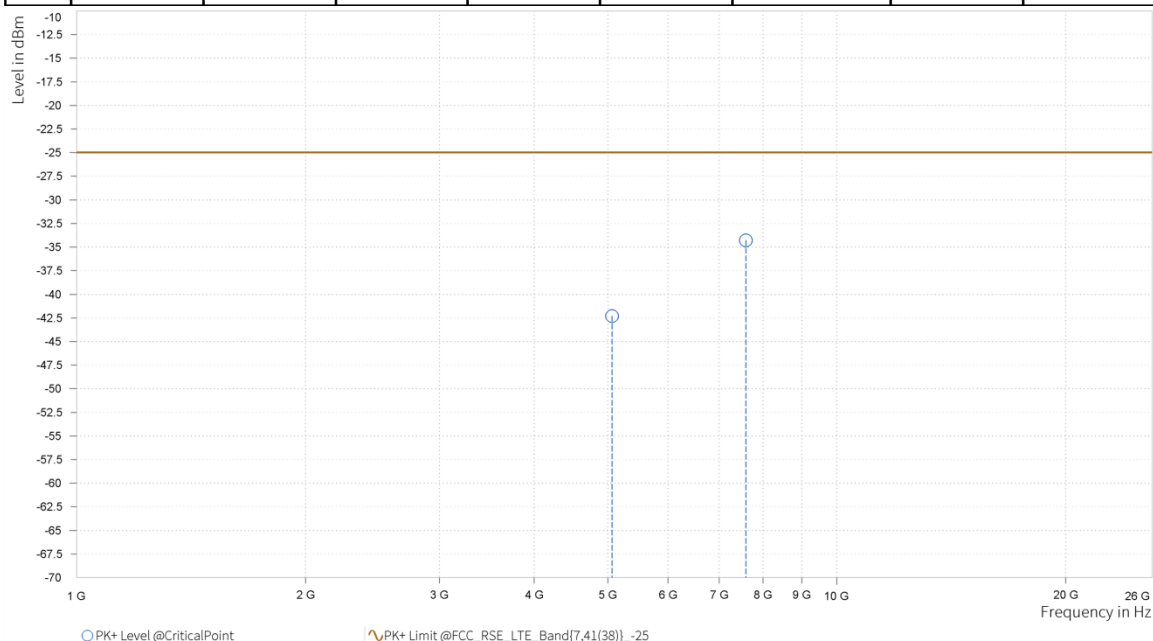


Test Report No.: RF260714B003
CH21100

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

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	-42.30	-25.00	17.30	31.50	H	1	1.00
4	7,591.500	-34.28	-25.00	9.28	36.41	H	268.4	1.00



BOOMWAVE TEST (SHENZHEN)
CO., LTD.

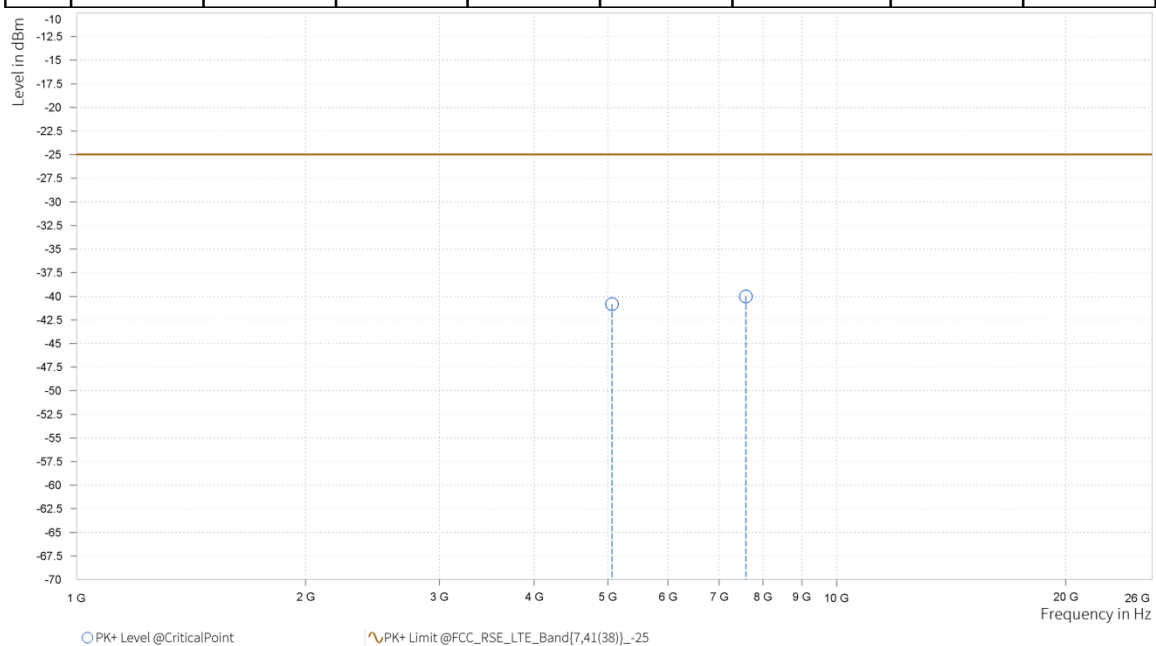
Room B38, Warehouse A5(Chiwan No.1), No.3 Chiwan
4th Road, Chiwan Community, Zhaoshang Street,
Nanshan District, Shenzhen, Guangdong, P.R. CHINA

Mobile: +86 15118052731
Email:shimin.wang@boomwavelab.com

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

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	-40.84	-25.00	15.84	31.27	V	1	1.00
4	7,591.500	-40.01	-25.00	15.01	36.48	V	359	2.00

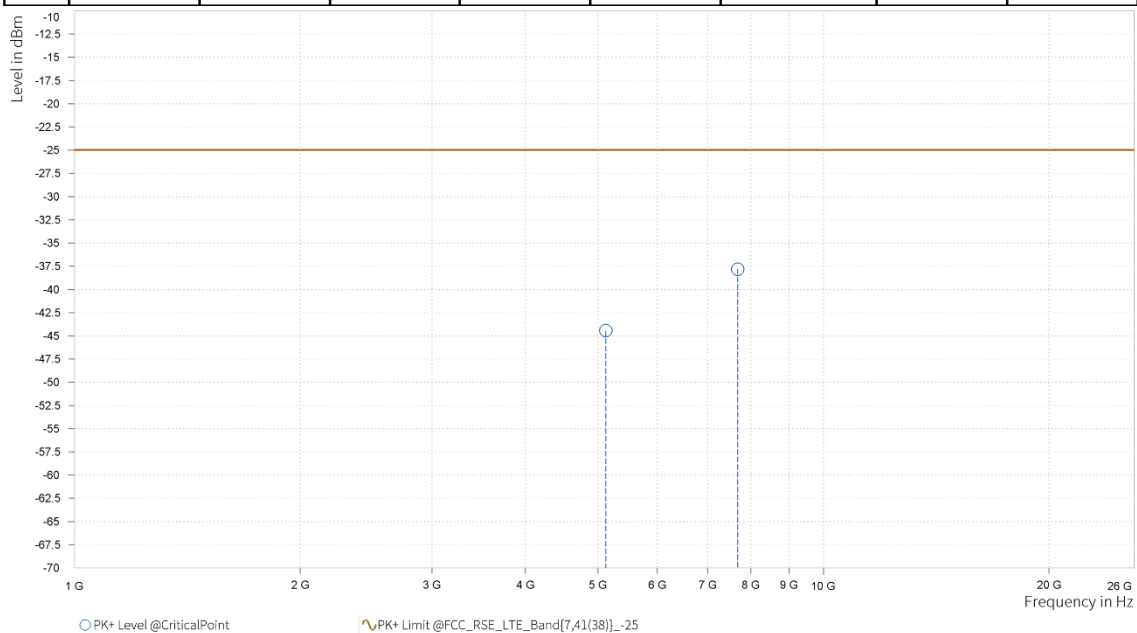


Test Report No.: RF260714B003
CH21400

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 21400
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

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	-44.43	-25.00	19.43	31.30	H	120.3	2.00
4	7,681.500	-37.83	-25.00	12.83	35.84	H	0.9	2.00



BOOMWAVE TEST (SHENZHEN)
CO., LTD.

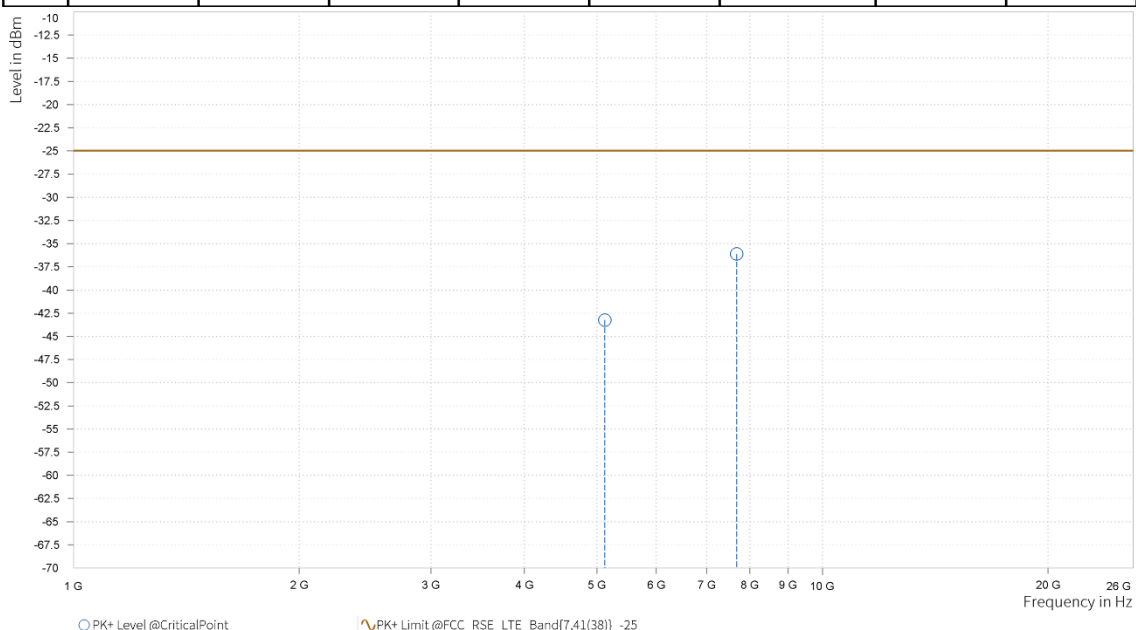
Room B38, Warehouse A5(Chiwan No.1), No.3 Chiwan
4th Road, Chiwan Community, Zhaoshang Street,
Nanshan District, Shenzhen, Guangdong, P.R. CHINA

Mobile: +86 15118052731
Email:shimin.wang@boomwavelab.com

CHANNEL BANDWIDTH	10MHz / QPSK	MODE	TX channel 21400
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

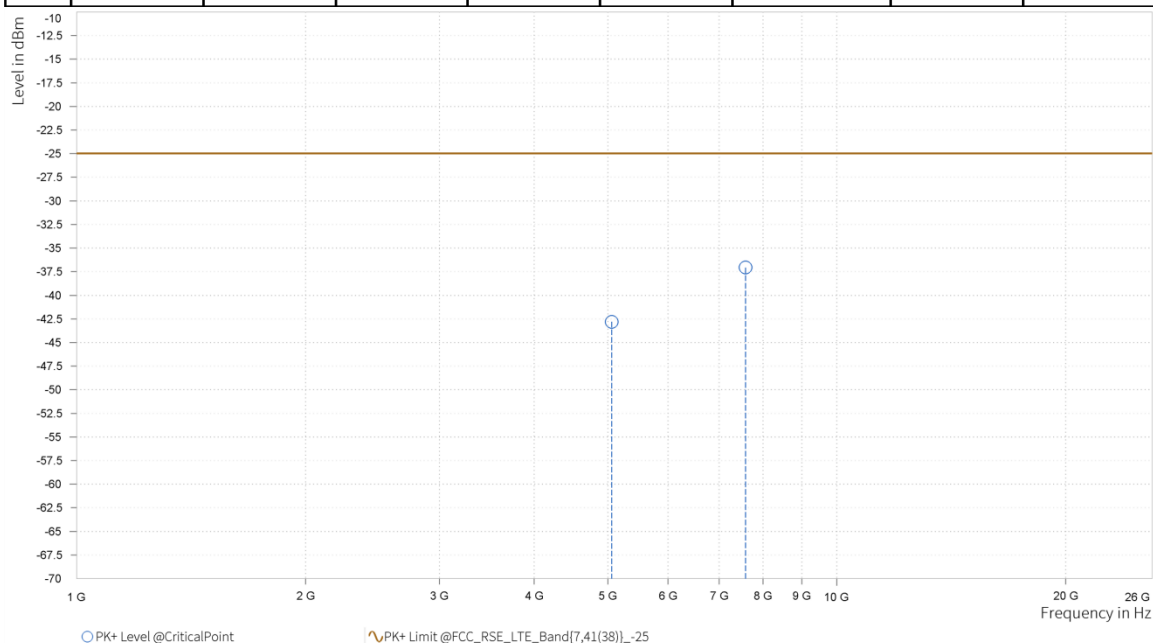
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,121.000	-43.24	-25.00	18.24	31.15	V	242.2	1.00
4	7,681.500	-36.12	-25.00	11.12	35.83	V	113.2	2.00



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

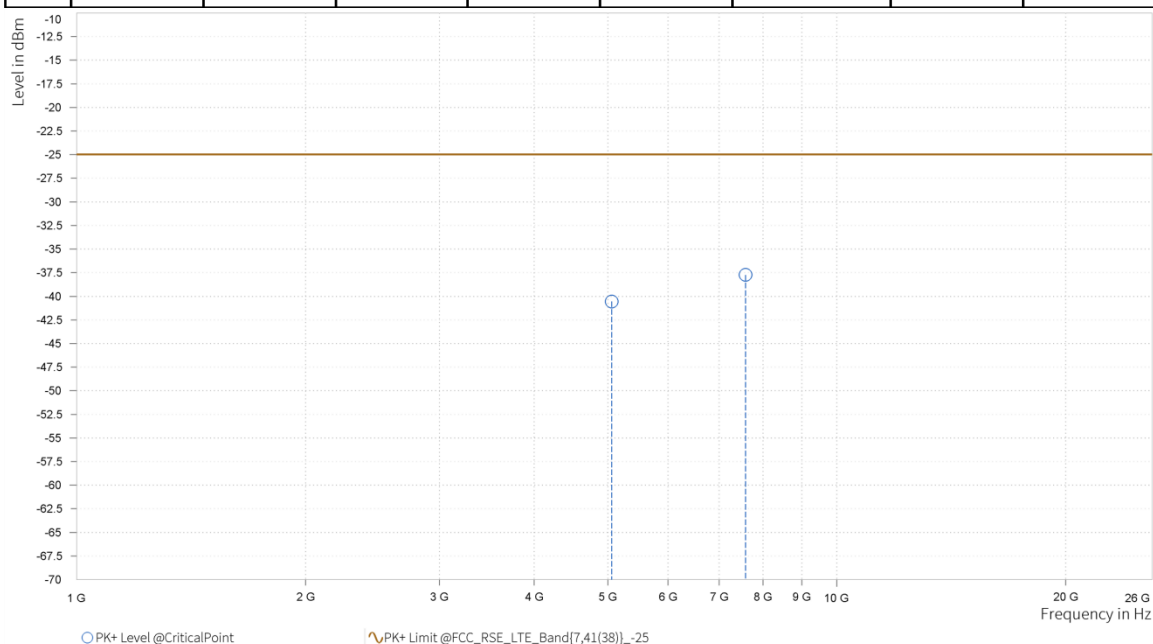
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-42.80	-25.00	17.80	31.91	H	359.1	1.00
4	7,584.750	-37.06	-25.00	12.06	36.73	H	83.3	2.00



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

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

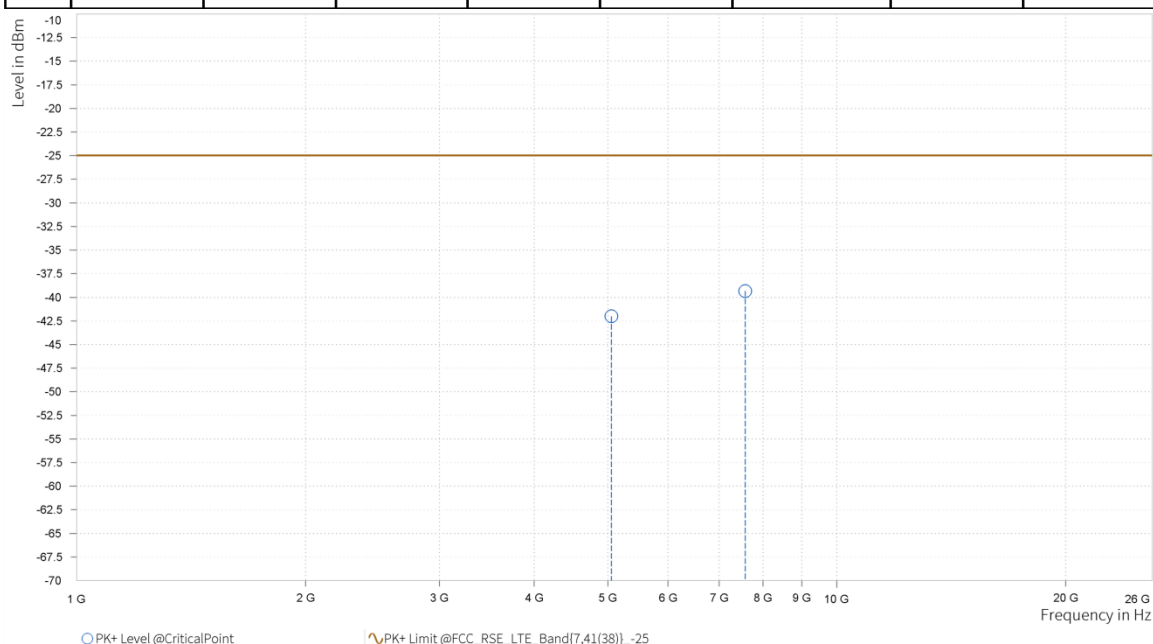
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-40.54	-25.00	15.54	31.69	V	359	1.00
4	7,584.750	-37.74	-25.00	12.74	36.79	V	95.2	2.00



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

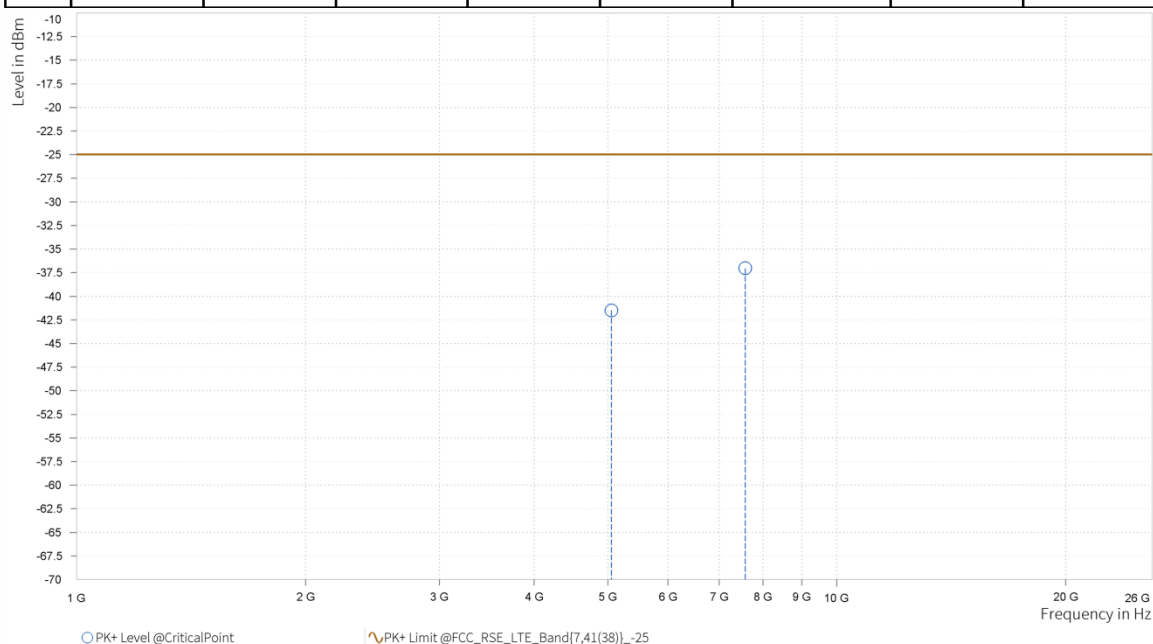
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-42.01	-25.00	17.01	32.31	H	128.6	2.00
4	7,578.000	-39.33	-25.00	14.33	36.69	H	231.4	1.00



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

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	-41.49	-25.00	16.49	32.10	V	1	1.00
4	7,578.000	-37.03	-25.00	12.03	36.74	V	125	2.00



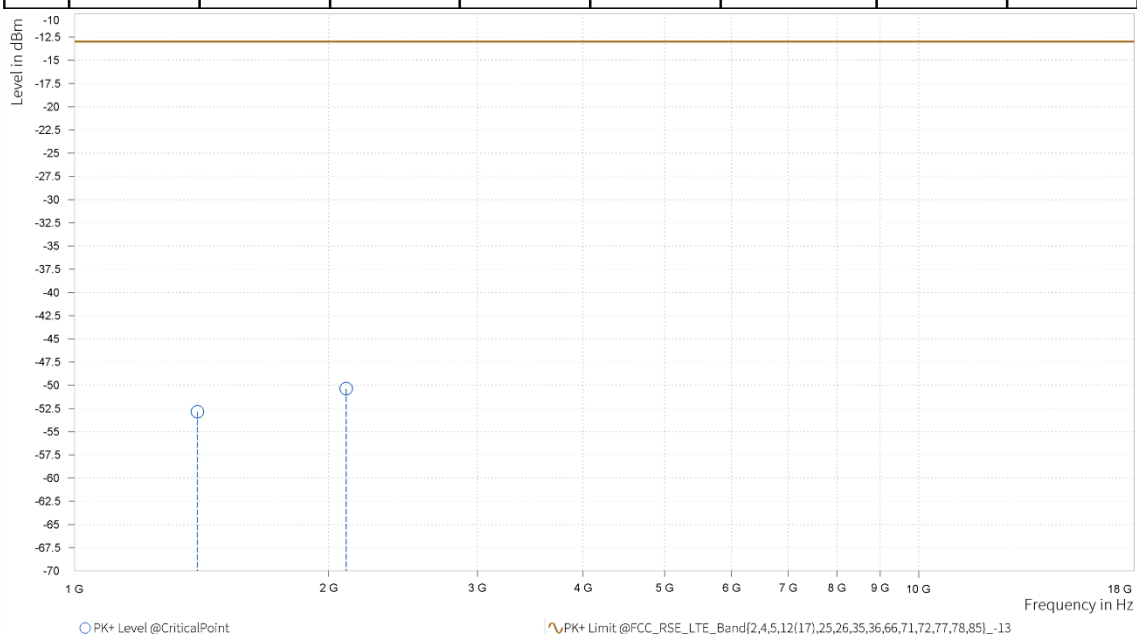
LTE BAND 12

CH23017

CHANNEL BANDWIDTH	1.4MHz / QPSK	MODE	TX channel 23017
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

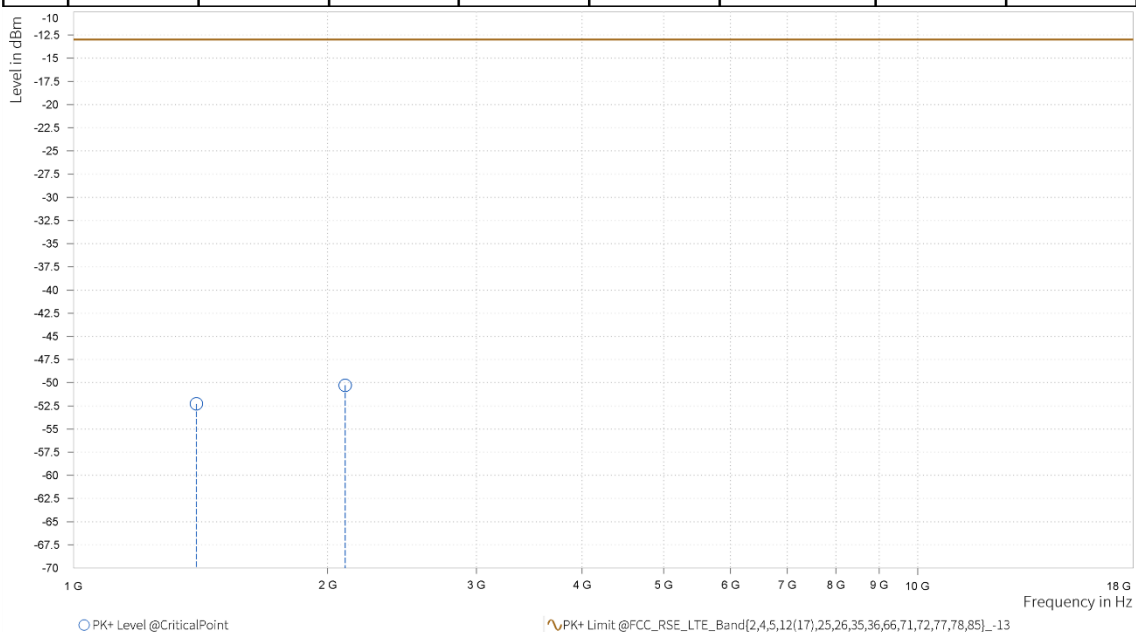
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,398.140	-52.86	-13.00	39.86	17.25	H	287.6	2.00
2	2,097.210	-50.37	-13.00	37.37	21.43	H	287.6	2.00



CHANNEL BANDWIDTH	1.4MHz / QPSK	MODE	TX channel 23017
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

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	1,398.140	-52.29	-13.00	39.29	17.25	V	359	1.00
2	2,097.210	-50.28	-13.00	37.28	21.35	V	68.8	1.00



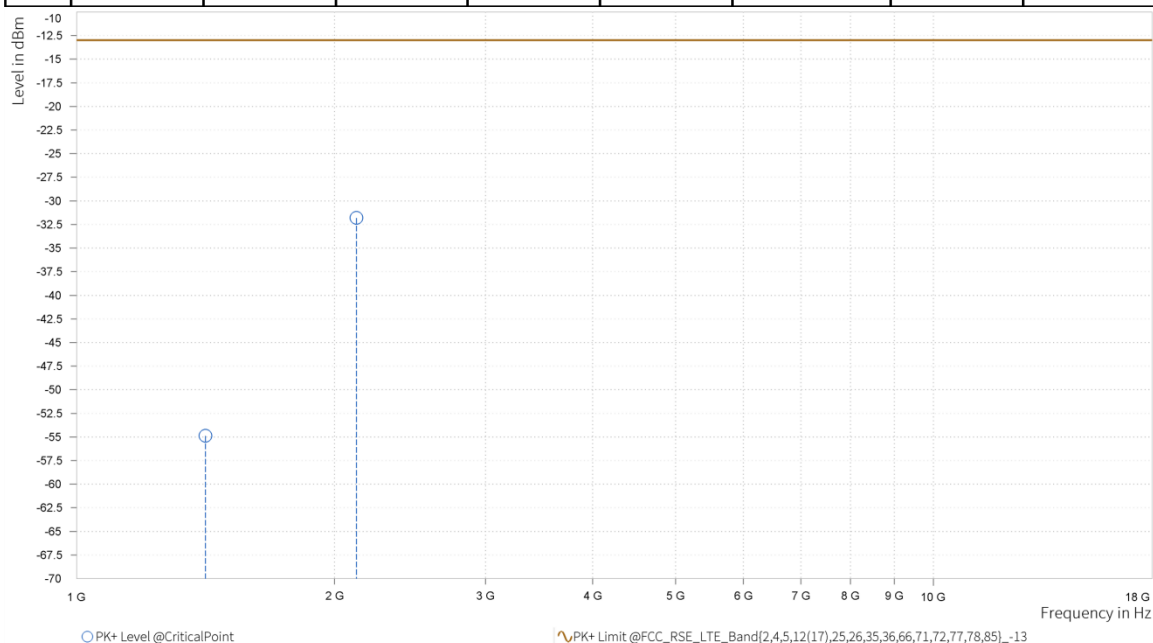
Test Report No.: RF260714B003

CH23095

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

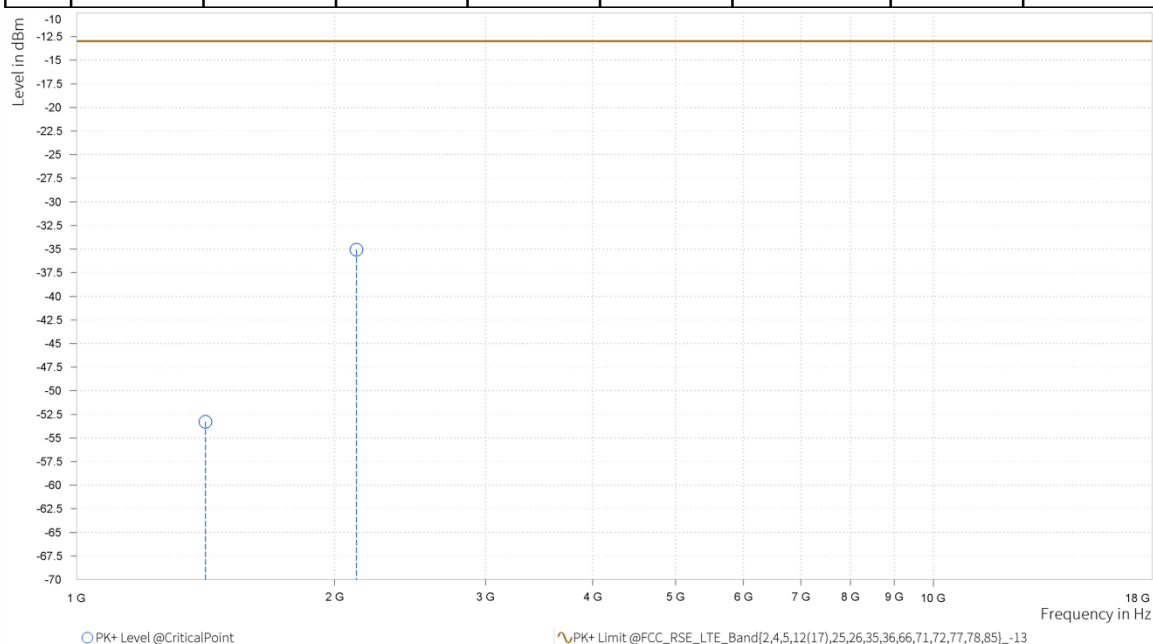
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.740	-54.89	-13.00	41.89	15.13	H	2.2	2.00
2	2,121.500	-31.80	-13.00	18.80	22.31	H	359	2.00



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

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	1,413.740	-53.28	-13.00	40.28	15.03	V	292.5	2.00
2	2,121.000	-35.06	-13.00	22.06	21.91	V	67.6	1.00



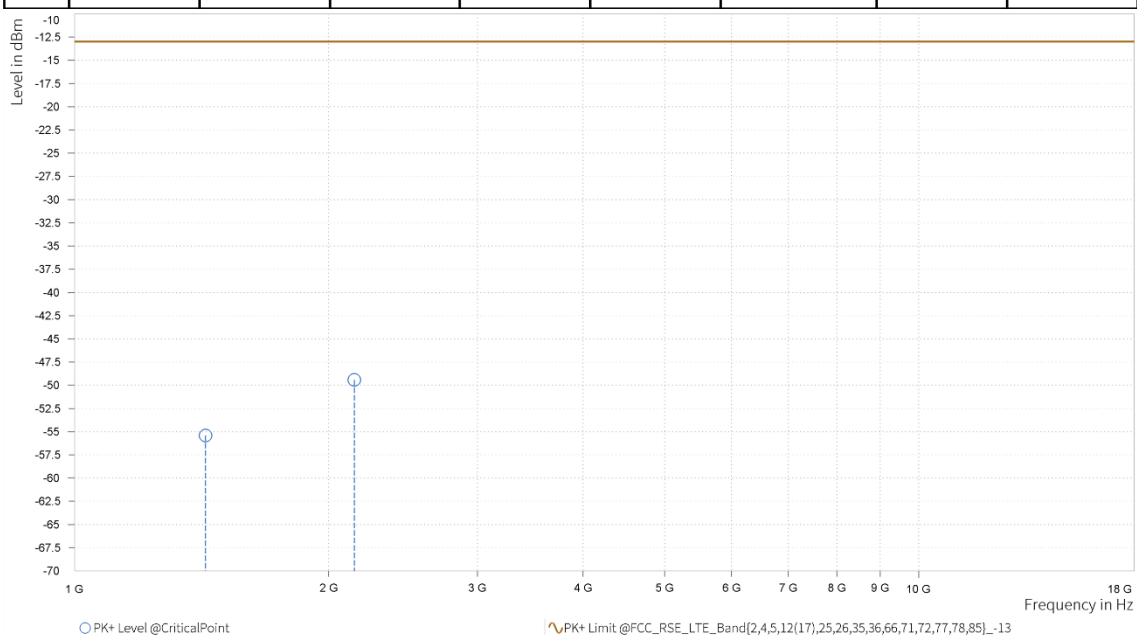
Test Report No.: RF260714B003

CH23173

CHANNEL BANDWIDTH	1.4MHz / QPSK	MODE	TX channel 23173
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

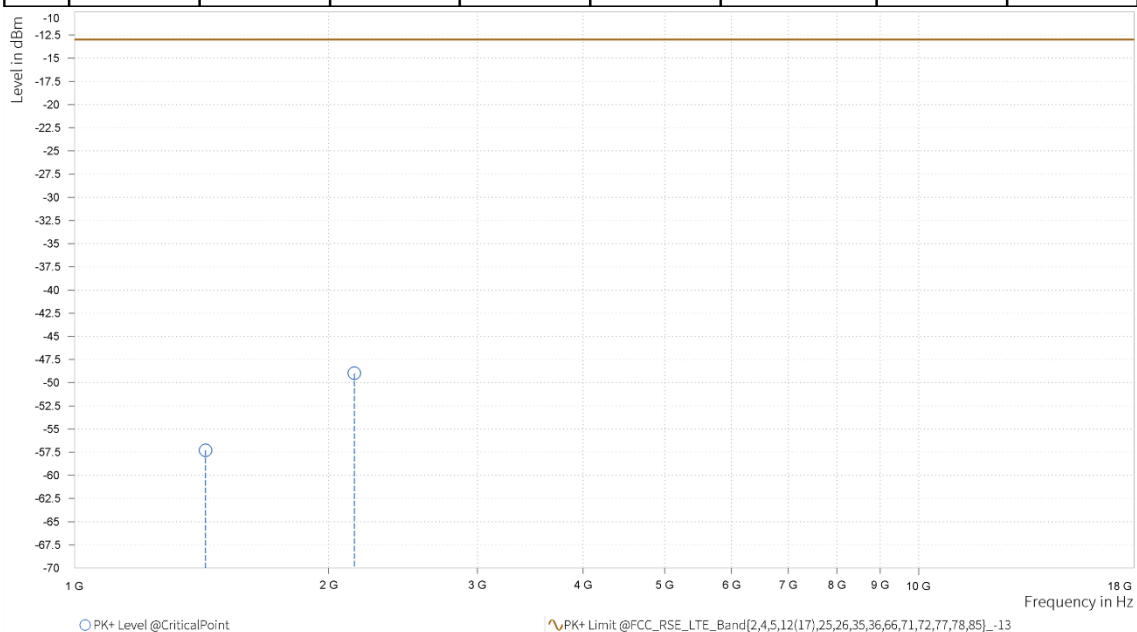
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,429.340	-55.41	-13.00	42.41	14.11	H	358.8	1.00
2	2,144.010	-49.43	-13.00	36.43	23.21	H	1	1.00



CHANNEL BANDWIDTH	1.4MHz / QPSK	MODE	TX channel 23173
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

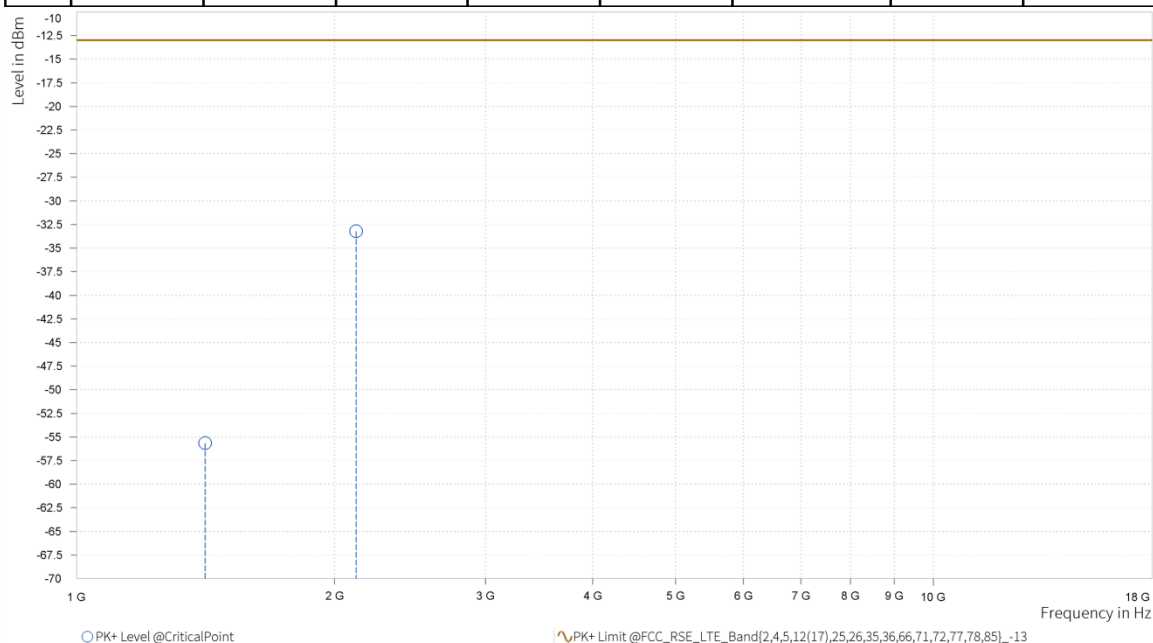
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,429.340	-57.29	-13.00	44.29	13.97	V	73.6	1.00
2	2,144.010	-48.99	-13.00	35.99	22.59	V	1	2.00



CHANNEL BANDWIDTH	3MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

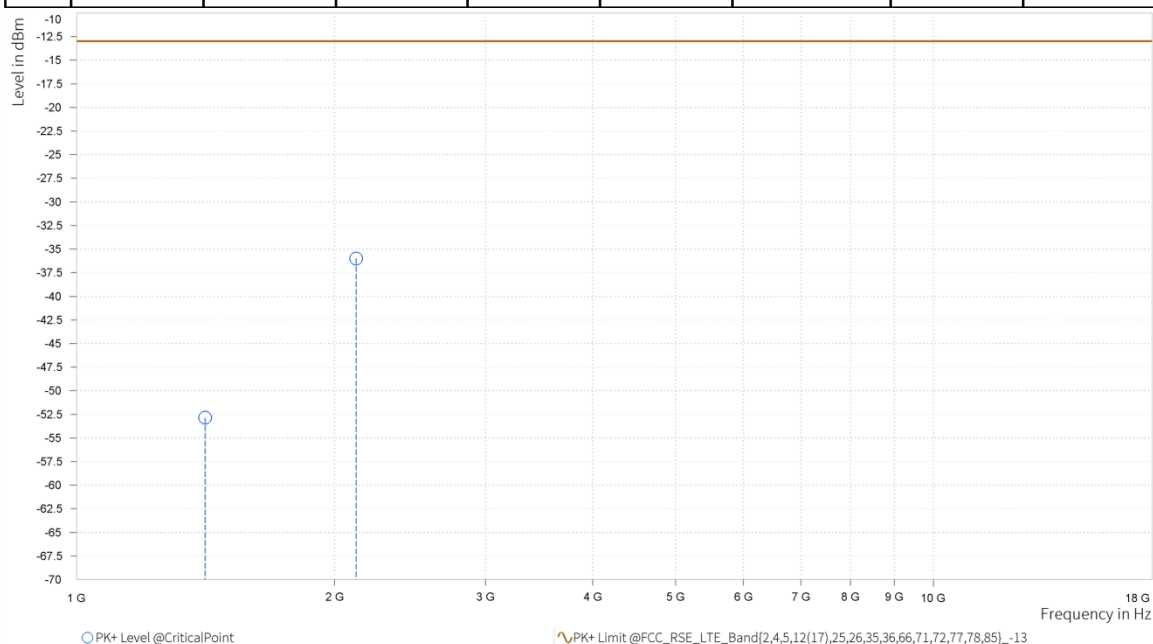
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,412.300	-55.66	-13.00	42.66	15.31	H	72.4	1.00
2	2,119.000	-33.23	-13.00	20.23	22.14	H	359	2.00



CHANNEL BANDWIDTH	3MHz / QPSK	MODE	TX channel 23095
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Carl Xie

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

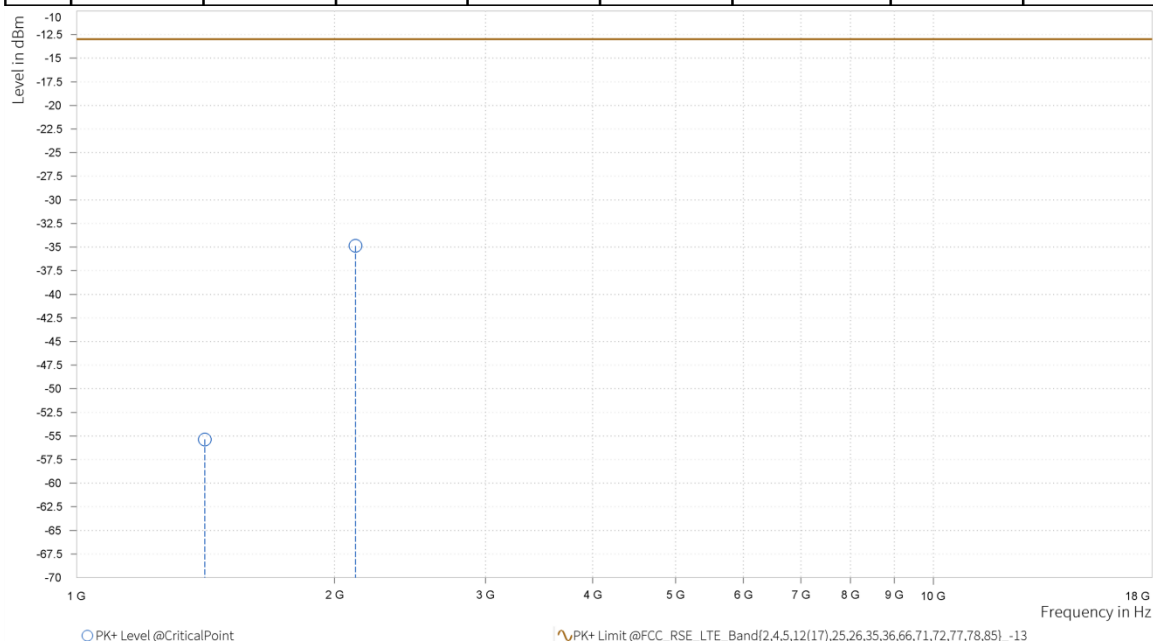
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,412.300	-52.86	-13.00	39.86	15.21	V	359	2.00
2	2,119.000	-36.00	-13.00	23.00	21.80	V	71.2	1.00



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

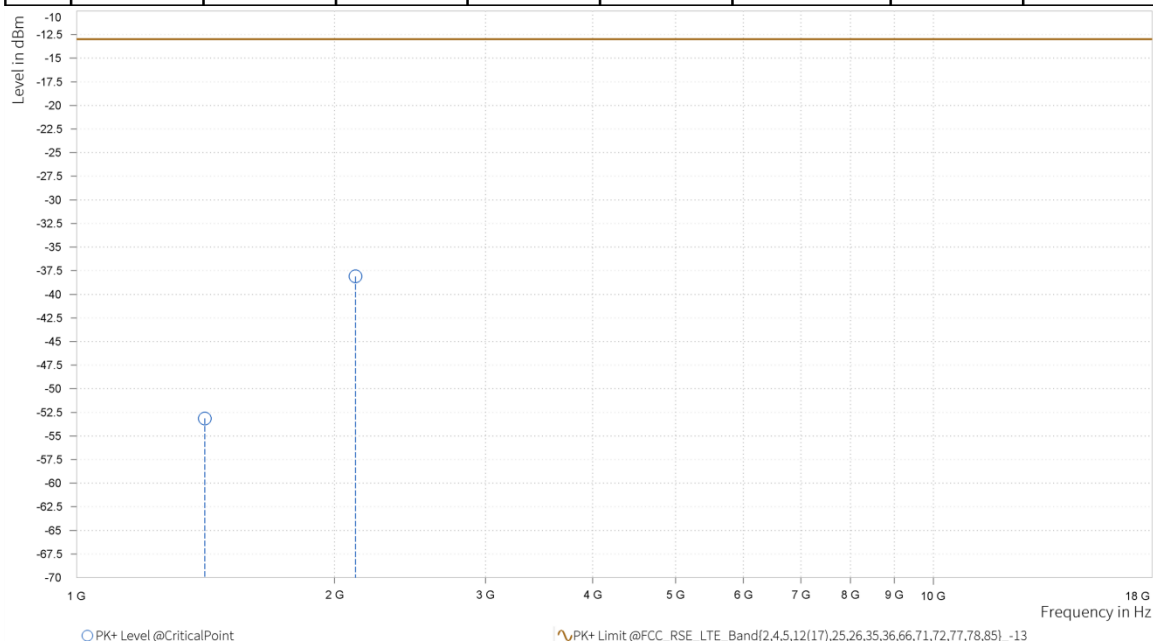
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,410.500	-55.38	-13.00	42.38	15.67	H	287.6	2.00
2	2,116.000	-34.87	-13.00	21.87	22.00	H	71.3	1.00



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

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

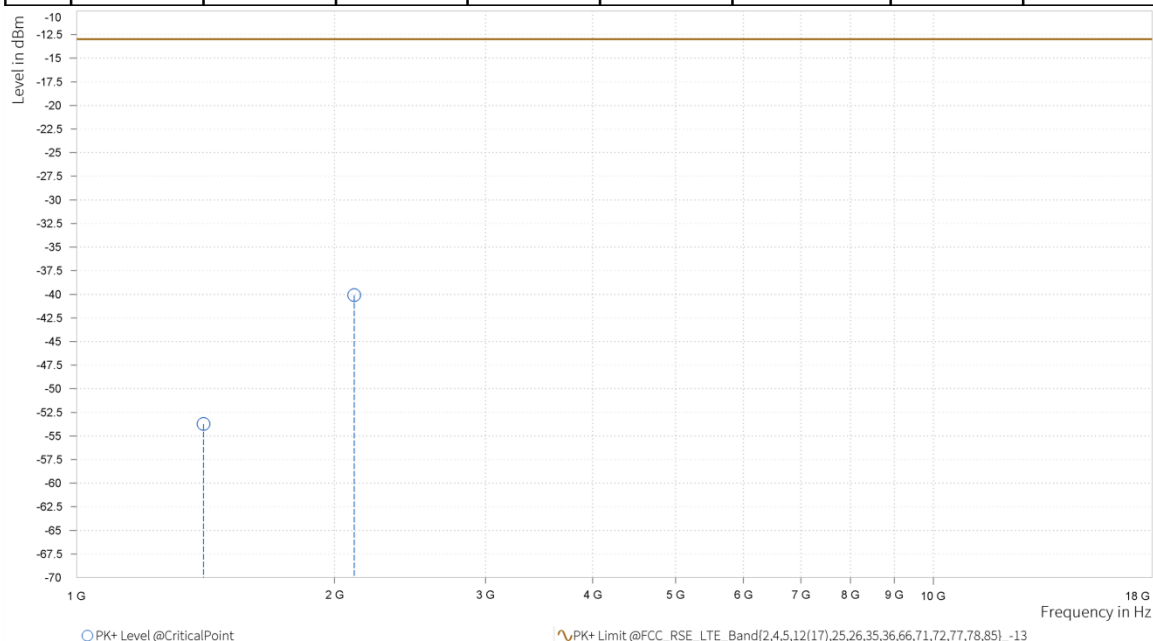
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,410.500	-53.15	-13.00	40.15	15.59	V	1.3	2.00
2	2,116.000	-38.11	-13.00	25.11	21.70	V	70	1.00



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

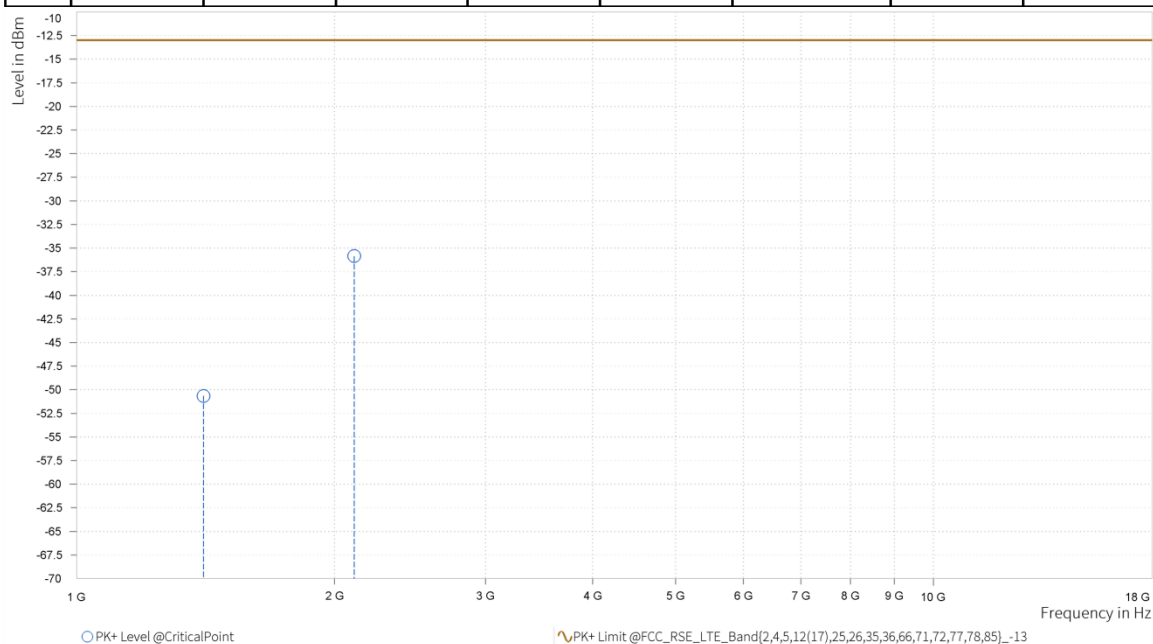
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,406.000	-53.74	-13.00	40.74	16.24	H	67.6	1.00
2	2,109.000	-40.10	-13.00	27.10	21.73	H	2.5	2.00



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

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	-50.65	-13.00	37.65	16.19	V	293.6	2.00
2	2,109.000	-35.85	-13.00	22.85	21.51	V	293.6	2.00



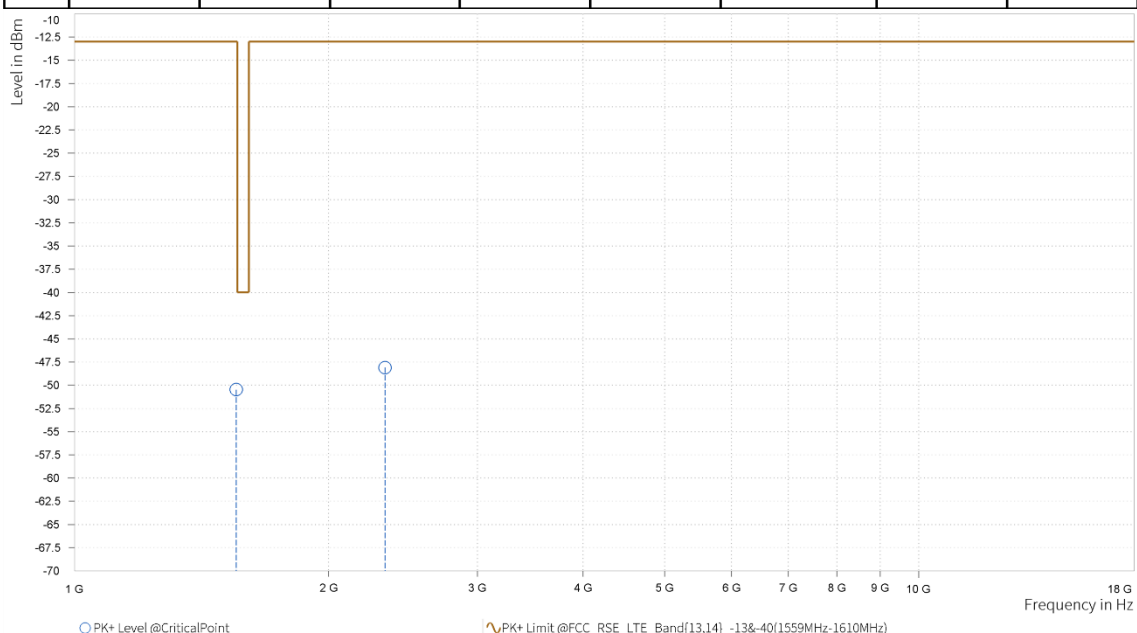
LTE B13

CH23205

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

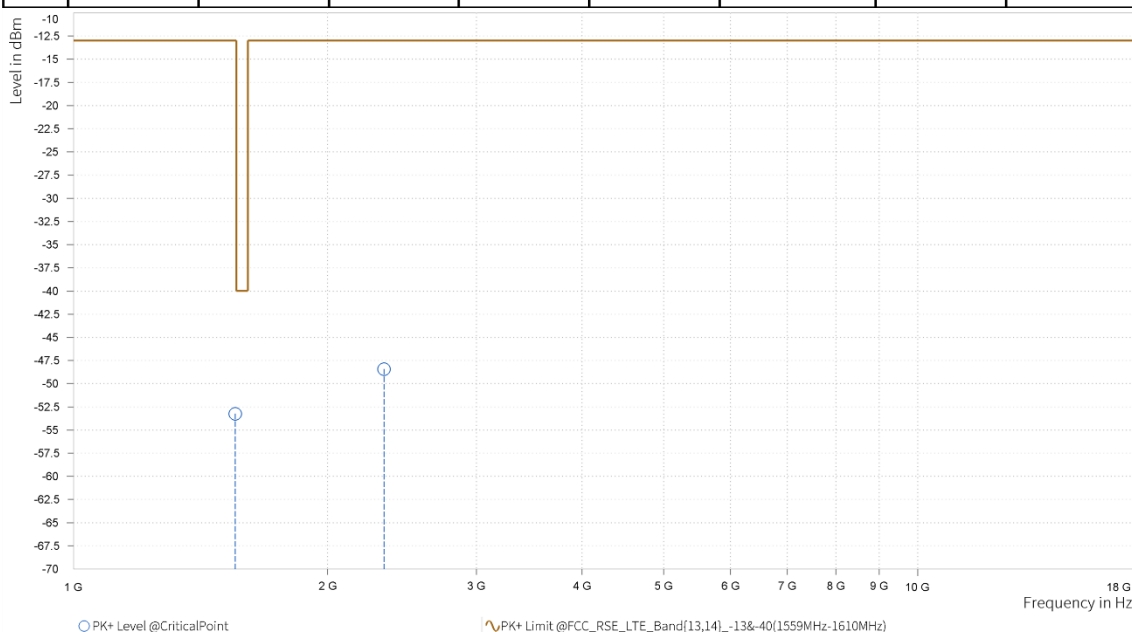
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-50.47	-13.00	37.47	17.15	H	1	1.00
3	2,331.750	-48.09	-13.00	35.09	24.26	H	141.8	1.00



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

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	-53.26	-13.00	40.26	16.78	V	74.8	1.00
3	2,331.750	-48.43	-13.00	35.43	23.77	V	359	1.00



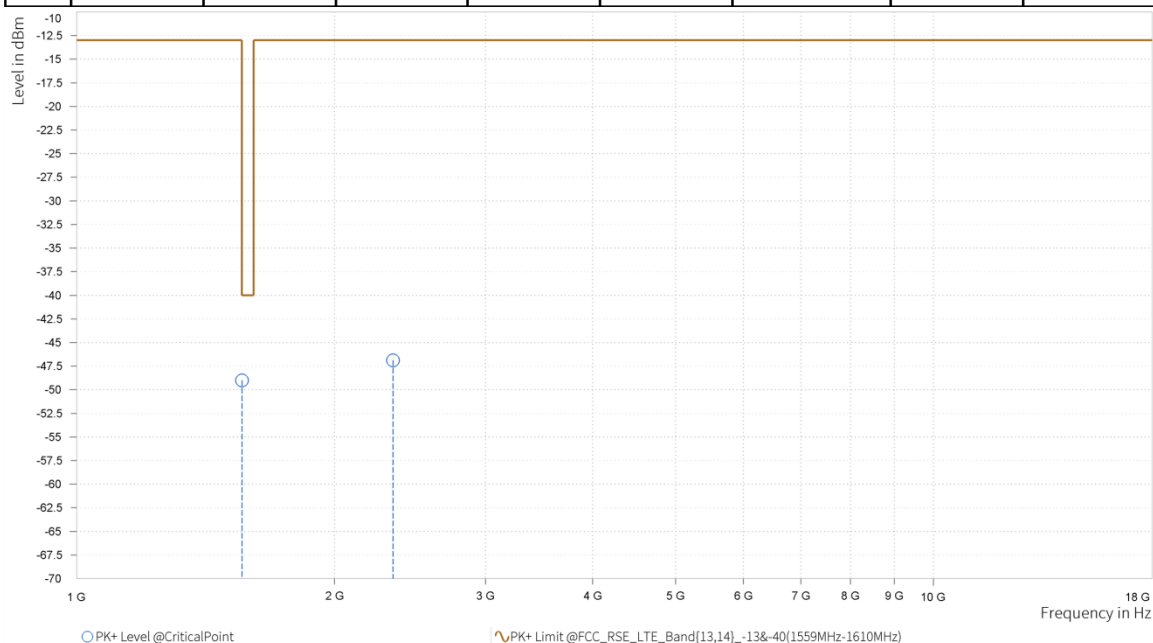
Test Report No.: RF260714B003

CH23230

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

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	-49.00	-40.00	9.00	17.19	H	0.9	2.00
3	2,339.250	-46.88	-13.00	33.88	24.41	H	0.9	2.00



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CO., LTD.

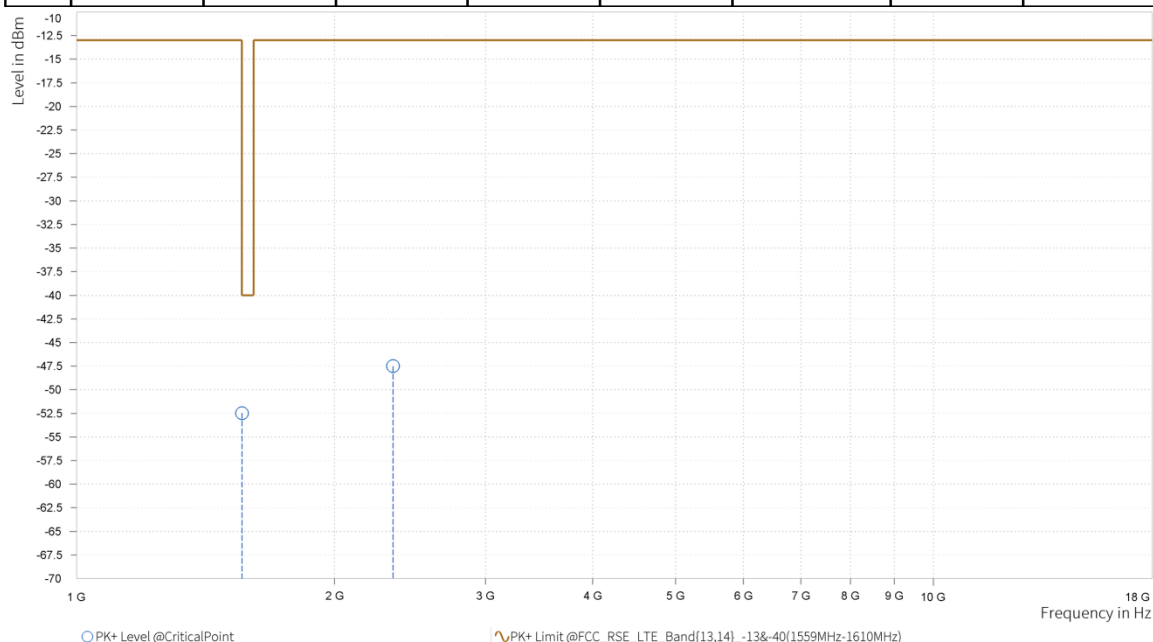
Room B38, Warehouse A5(Chiwan No.1), No.3 Chiwan
4th Road, Chiwan Community, Zhaoshang Street,
Nanshan District, Shenzhen, Guangdong, P.R. CHINA

Mobile: +86 15118052731
Email:shimin.wang@boomwavelab.com

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

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	-52.47	-40.00	12.47	16.86	V	359	1.00
3	2,339.250	-47.51	-13.00	34.51	23.96	V	1	1.00



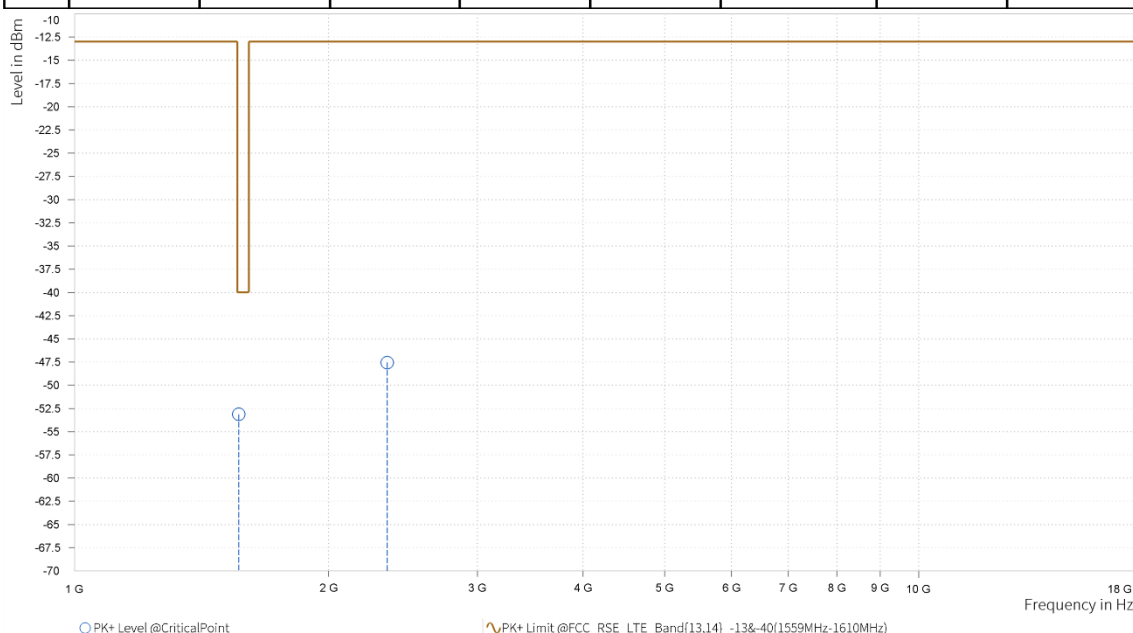
Test Report No.: RF260714B003

CH23255

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

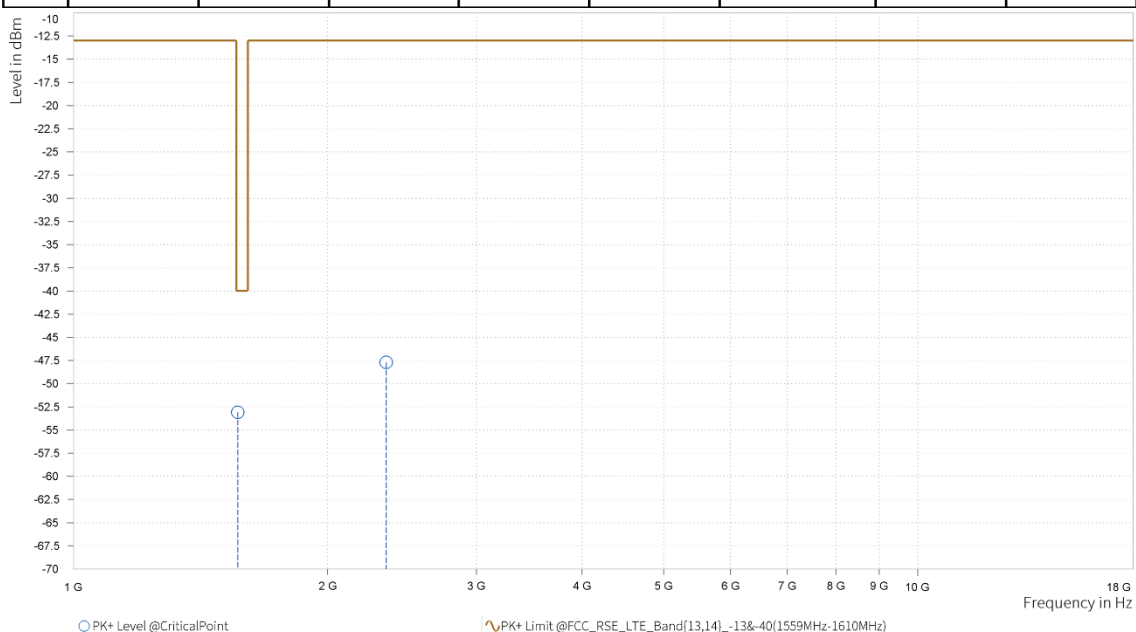
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-53.12	-40.00	13.12	17.15	H	359	1.00
3	2,346.750	-47.55	-13.00	34.55	24.45	H	220.7	2.00



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

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

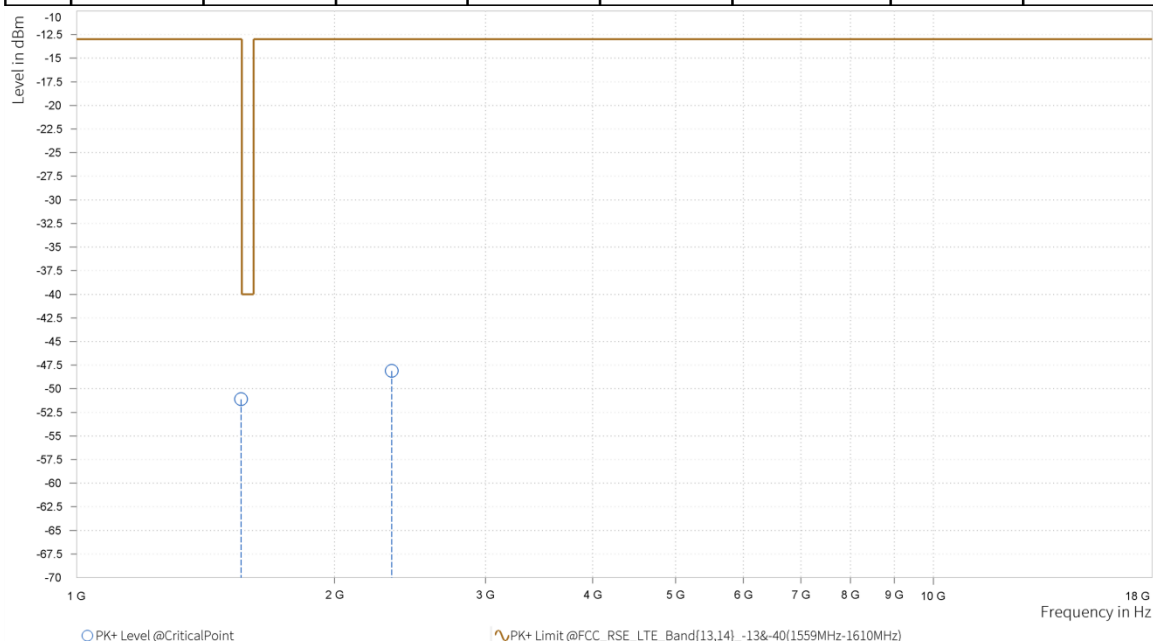
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-53.08	-40.00	13.08	16.86	V	359.1	1.00
3	2,346.750	-47.70	-13.00	34.70	24.05	V	359.1	1.00



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

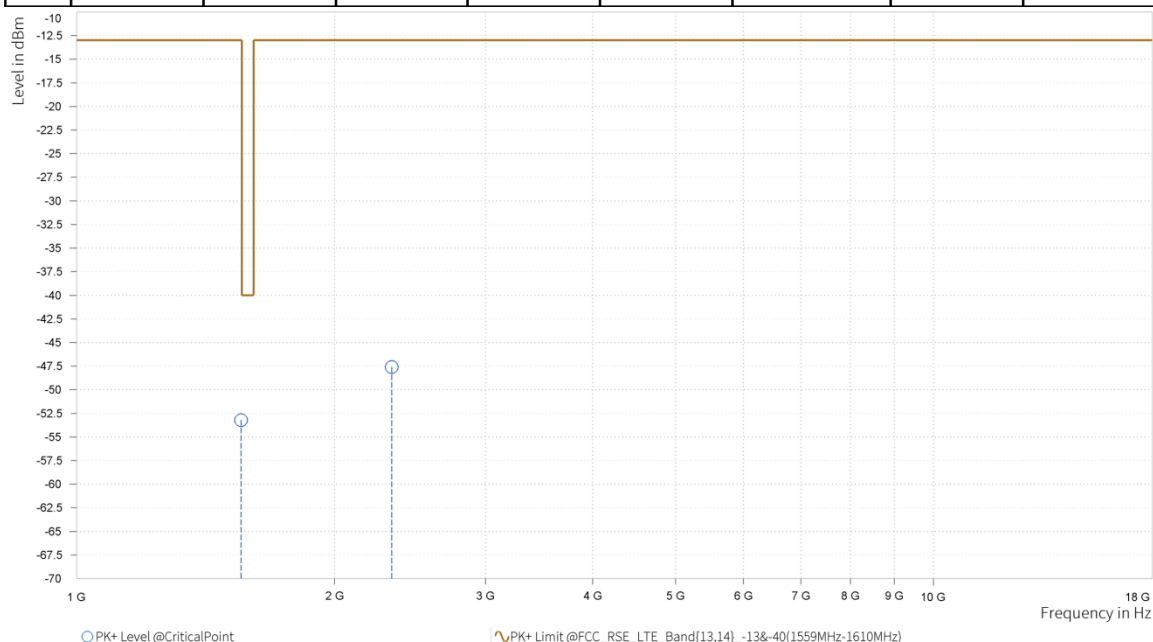
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,555.000	-51.11	-13.00	38.11	17.16	H	285.2	2.00
3	2,332.500	-48.11	-13.00	35.11	24.28	H	1	1.00



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

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	-53.21	-13.00	40.21	16.80	V	1	1.00
3	2,332.500	-47.58	-13.00	34.58	23.80	V	211.1	2.00

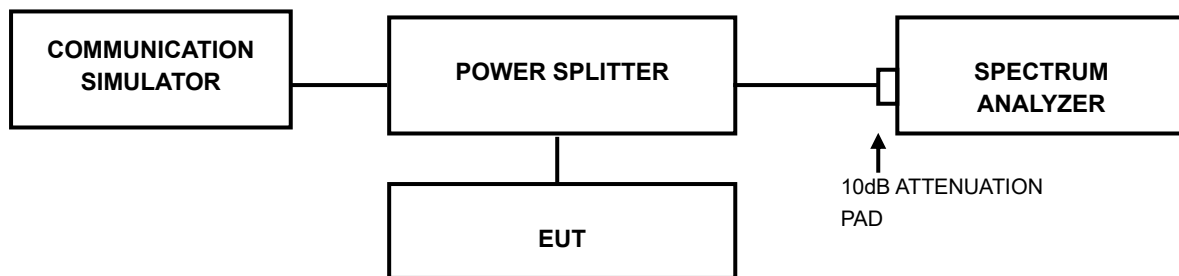


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

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

3.7.4 TEST RESULTS

Please Refer to Appendix of this test report.



Test Report No.: RF260714B003

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

5 INFORMATION ON THE TESTING LABORATORIES

We, BOOMWAVE TEST (SHENZHEN) CO., LTD., were founded in 2025 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

BOOMWAVE TEST (SHENZHEN) CO., LTD.

Lab Address:

Room B38, Warehouse A5(Chiwan No.1), No.3 Chiwan 4th Road, Chiwan Community, Zhaoshang Street, Nanshan District, Shenzhen, Guangdong, P.R. CHINA

Accredited Test Lab Cert 7607.01

Shenzhen EMC/RF Lab:

Mobile: +86 15118052731

Email: shimin.wang@boomwavelab.com

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

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

7 Appendix

LTE BAND 7

PEAK-TO-AVERAGE RATIO(CCDF)

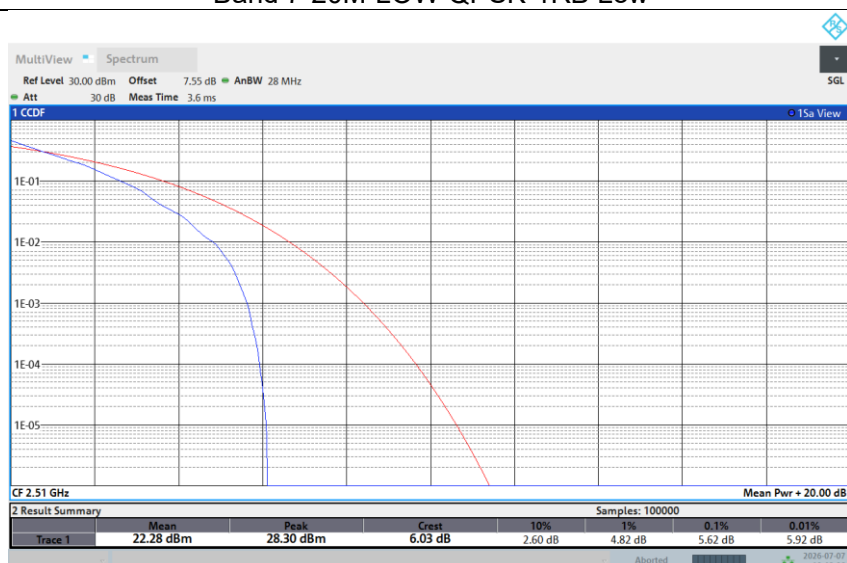
Test Result

LTE Band 7

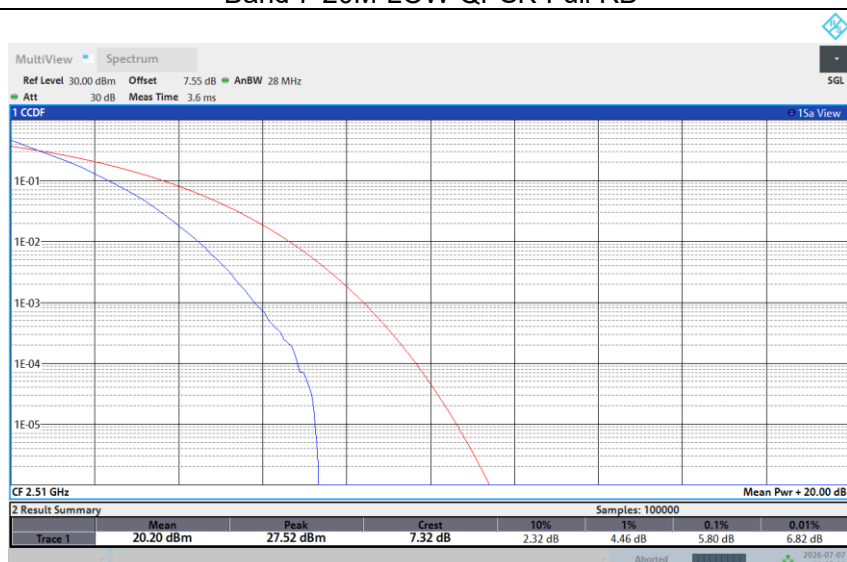
Bandwidth	Modulation	Channel	RB Configuration	Result (dB)	Limit (dB)	Verdict
20MHz	QPSK	20850	1RB Low	5.62	13	PASS
20MHz	QPSK	20850	Full RB	5.80	13	PASS
20MHz	16QAM	20850	1RB Low	5.28	13	PASS
20MHz	16QAM	20850	Full RB	6.32	13	PASS
20MHz	QPSK	21100	1RB Low	6.42	13	PASS
20MHz	QPSK	21100	Full RB	5.98	13	PASS
20MHz	16QAM	21100	1RB Low	6.82	13	PASS
20MHz	16QAM	21100	Full RB	7.20	13	PASS
20MHz	QPSK	21350	1RB Low	4.86	13	PASS
20MHz	QPSK	21350	Full RB	5.90	13	PASS
20MHz	16QAM	21350	1RB Low	4.84	13	PASS
20MHz	16QAM	21350	Full RB	6.06	13	PASS

Test Graphs

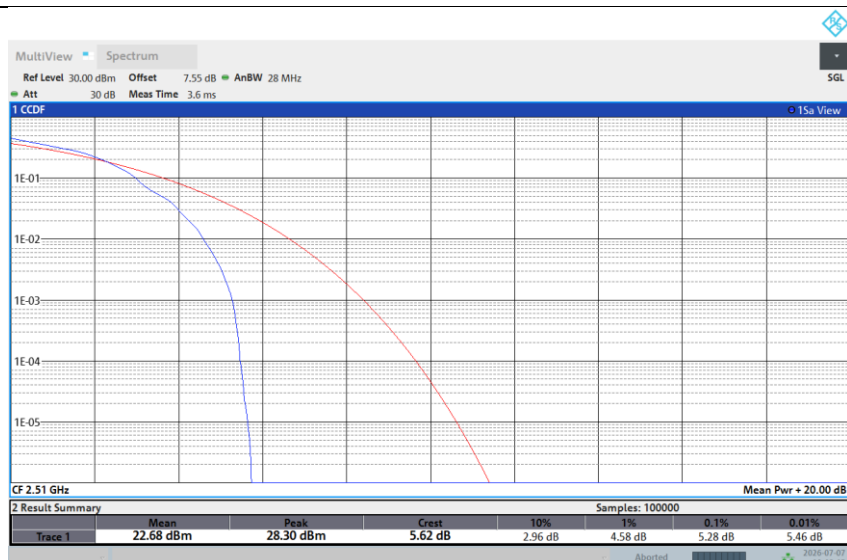
Band 7-20M-LOW-QPSK-1RB Low



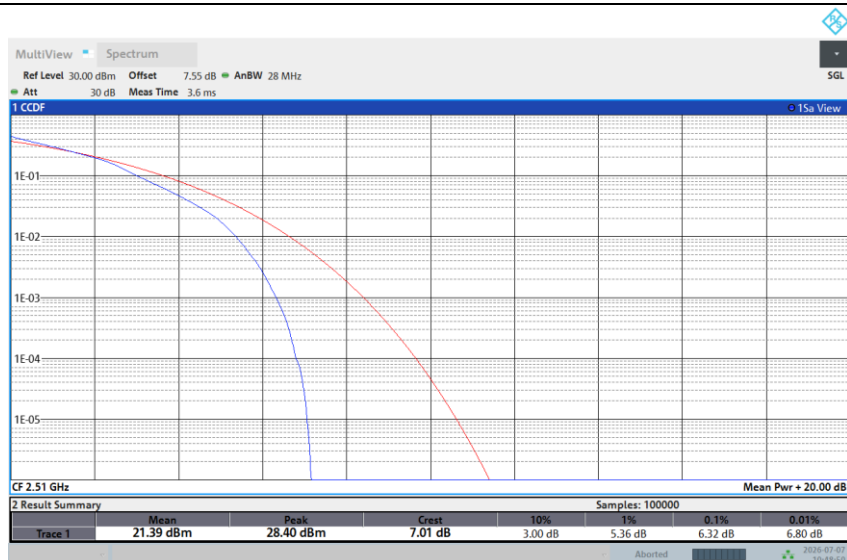
Band 7-20M-LOW-QPSK-Full RB



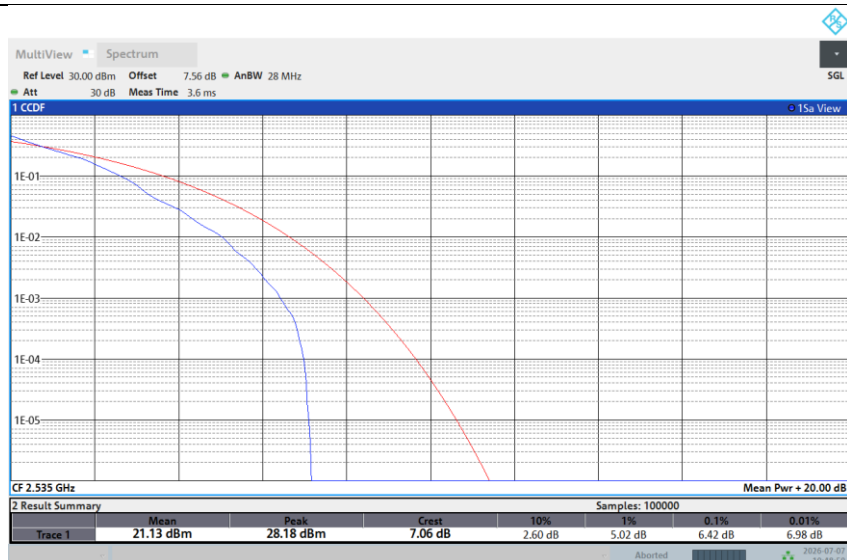
Band 7-20M-LOW-16QAM-1RB Low



Band 7-20M-LOW-16QAM-Full RB



Band 7-20M-MID-QPSK-1RB Low



Band 7-20M-MID-QPSK-Full RB