Certificate #6613.01

FCC TEST REPORT

(PART 27)

Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo,Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9,02600 Espoo,Finland
Product:	Mobile Phone
Brand Name:	HMD
Model Name:	TA-1681
FCC ID	2AJOTTA-1681
Date of tests	Aug. 29, 2024 ~ Sep. 27, 2024

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 Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
Date: Sep. 27, 2024	Date: Sep. 27, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-NQN2405210111RF04	Original release	Sep. 27, 2024

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(d)(4) §27.50(h)(2)	Equivalent Isotropically Radiated Power (WCMDA Band 4) (Band 4) (Band 7) (Band 38) (Band 41)	Compliance	A
§2.1055 §27.54	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§2.1051 §27.53(h) §27.53(m)(4)	Conducted Band Edge Measurements (WCMDA Band 4) (Band 4) (Band 7) (Band 38) (Band 41)	Compliance	A
§2.1051 §27.53(h) §27.53(m)(4)	Conducted Spurious Emissions (WCMDA Band 4) (Band 4) (Band 7) (Band 38) (Band 41)	Compliance	A
§2.1053 §27.53(h) §27.53(m)(4)	Radiated Spurious Emissions (WCMDA Band 4) (Band 4) (Band 7) (Band 38) (Band 41)	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:

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

Lab Address:

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

Accredited Test Lab Cert 6613.01

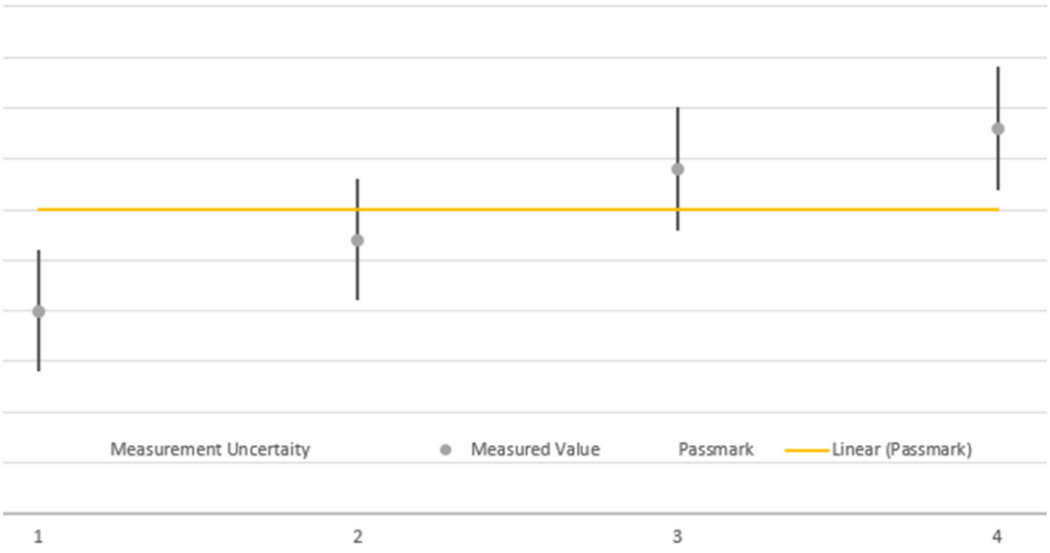
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 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
Frequency Stability	±76.97Hz
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 emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

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



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

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

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Mar.28,24	Mar.27,26
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
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
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,24	Apr.26,25
CABLE	R&S	W12.14	N/A	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,24	Apr.26,25
Temperature Chamber	votsch	VT4002	58566078100050	May.30,24	May.29,26

NOTE: 1. The calibration interval of the above test instruments is 12/ 24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.

3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile Phone	
BRAND NAME*	HMD	
MODEL NAME*	TA-1681	
NOMINAL VOLTAGE*	5Vdc (Adapter) 3.8Vdc (Battery)	
MODULATION TECHNOLOGY	**WCDMA IV**	BPSK, QPSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	**WCDMA IV**	1712.4MHz ~ 1752.6MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	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 38 Channel Bandwidth: 5MHz	2572.5MHz ~ 2617.5MHz
	LTE Band 38 Channel Bandwidth: 10MHz	2575MHz ~ 2615MHz
	LTE Band 38 Channel Bandwidth: 15MHz	2577.5MHz ~ 2612.5MHz
	LTE Band 38 Channel Bandwidth: 20MHz	2580MHz ~ 2610MHz
	LTE Band 41 Channel Bandwidth: 5MHz	2498.5MHz ~ 2687.5MHz
	LTE Band 41 Channel Bandwidth: 10MHz	2501MHz ~ 2685MHz
	LTE Band 41 Channel Bandwidth: 15MHz	2503.5MHz ~ 2682.5MHz
	LTE Band 41 Channel Bandwidth: 20MHz	2506MHz ~ 2680MHz

MAX. EIRP POWER	WCDMA IV	116.68mW
	LTE Band 4 Channel Bandwidth: 1.4MHz	148.94mW
	LTE Band 4 Channel Bandwidth: 3MHz	148.59mW
	LTE Band 4 Channel Bandwidth: 5MHz	151.01mW
	LTE Band 4 Channel Bandwidth: 10MHz	149.62mW
	LTE Band 4 Channel Bandwidth: 15MHz	148.59mW
	LTE Band 4 Channel Bandwidth: 20MHz	151.36mW
	LTE Band 7 Channel Bandwidth: 5MHz	172.98mW
	LTE Band 7 Channel Bandwidth: 10MHz	171.4mW
	LTE Band 7 Channel Bandwidth: 15MHz	173.38mW
	LTE Band 7 Channel Bandwidth: 20MHz	174.18mW
	LTE Band 38 Channel Bandwidth: 5MHz	167.11mW
	LTE Band 38 Channel Bandwidth: 10MHz	168.66mW
	LTE Band 38 Channel Bandwidth: 15MHz	167.88mW
	LTE Band 38 Channel Bandwidth: 20MHz	169.43mW
	LTE Band 41 Channel Bandwidth: 5MHz	175.39mW
	LTE Band 41 Channel Bandwidth: 10MHz	179.06mW
	LTE Band 41 Channel Bandwidth: 15MHz	179.06mW
	LTE Band 41 Channel Bandwidth: 20MHz	179.89mW
EMISSION DESIGNATOR	WCDMA IV	4M14F9W
	LTE Band 4 Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D
		16QAM: 1M09W7D
	LTE Band 4 Channel Bandwidth: 3MHz	QPSK: 2M70G7D
		16QAM: 2M69W7D
	LTE Band 4 Channel Bandwidth: 5MHz	QPSK: 4M49G7D
		16QAM: 4M48W7D
	LTE Band 4 Channel Bandwidth: 10MHz	QPSK: 8M96G7D
		16QAM: 8M97W7D

	LTE Band 4 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
	LTE Band 4 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 17M9W7D
	LTE Band 7 Channel Bandwidth: 5MHz	QPSK: 4M48G7D
		16QAM: 4M49W7D
	LTE Band 7 Channel Bandwidth: 10MHz	QPSK:8M97G7D
		16QAM: 8M96W7D
	LTE Band 7 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
	LTE Band 7 Channel Bandwidth: 20MHz	QPSK: 18M0G7D
		16QAM: 17M9W7D
	LTE Band 41 Channel Bandwidth: 5MHz	QPSK: 4M49G7D
		16QAM: 4M48W7D
	LTE Band 41 Channel Bandwidth: 10MHz	QPSK: 8M97G7D
		16QAM: 8M96W7D
	LTE Band 41 Channel Bandwidth: 15MHz	QPSK: 13M5G7D
		16QAM: 13M5W7D
	LTE Band 41 Channel Bandwidth: 20MHz	QPSK: 17M9G7D
		16QAM: 17M9W7D
ANTENNA TYPE*	PIFA Antenna with -1.1dBi gain for WCDMA IV /LTE B4 PIFA Antenna with -0.2dBi gain for LTE B7/LTE B41 PIFA Antenna with -0.3dBi gain for LTE B38	
HW VERSION*	FF618-MB-V3.0	
SW VERSION*	MOCOR_20A_MP_W22.04.6_P5	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	USB cable: non-shielded cable, with w/o ferrite core, 1.0 meter	
EXTREME TEMPERATURE*	-10-55 ℃	

NOTE:

1. ***Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.

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

3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and two receivers.

MODULATION MODE	TX FUNCTION
WCDMA	1TX/2RX
LTE	1TX/2RX

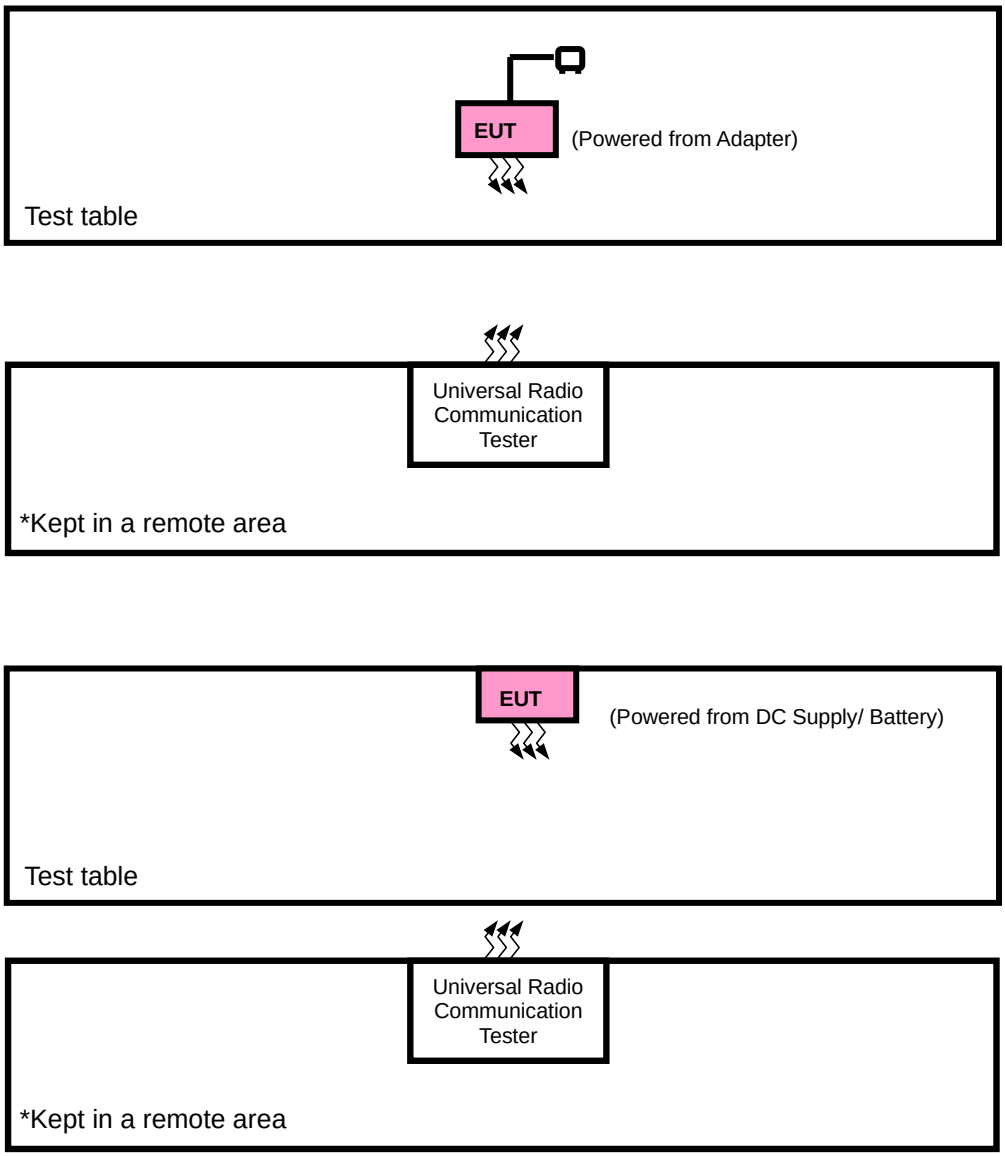
4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in the test report.

5. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
USB Cable	HMD	Huizhou Juwei Electronics Co., Ltd.	JWUB1801-W27H	USB 2.0
Battery	HMD	HuNan ADF Alternative Energy Technology Co., Ltd	BL-L4E	3.8V, Rated Capacity: 1450mAh, 5.51Wh Typical Capacity: 1500mAh, 5.7Wh

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	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB Line: Shielded, Detachable 1m;

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**
B	**EUT + Battery /DC Supply 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
B	FREQUENCY STABILITY	1312 to 1513	1312, 1413, 1513	WCDMA
A	OCCUPIED BANDWIDTH	1312 to 1513	1312, 1413, 1513	WCDMA
A	BAND EDGE	1312 to 1513	1312, 1513	WCDMA
A	PEAK TO AVERAGE RATIO	1312 to 1513	1312, 1413, 1513	WCDMA
A	CONDCUDETED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA
A	RADIATED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA

LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	19957 to 20393	19957, 20393	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965, 20385	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975, 20375	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000, 20350	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025, 20325	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050, 20300	20MHz	QPSK	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	BAND EDGE	19957 to 20393	19957	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			20393	1.4MHz	QPSK, 16QAM	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		19965 to 20385	19965	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			20385	3MHz	QPSK, 16QAM	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		19975 to 20375	19975	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			20375	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20000 to 20350	20000	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			20350	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset

A	BAND EDGE	20025 to 20325	20025	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			20325	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		20050 to 20300	20050	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			20300	20MHz	QPSK, 16QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	19957 to 20393	20175	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	20175	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20175	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 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 / 0RB 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, 21100, 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
			21425	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		20800 to 21400	20800	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			21400	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		20825 to 21375	20825	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						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
						100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	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 / 0RB 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
A	RADIATED EMISSION	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
		20800 to 21400	21100	10MHz	QPSK	1 RB / 0 RB Offset
		20825 to 21375	20825,21100,21375	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 38 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	37775 to 38225	37775, 38000, 38225	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	37800 to 38200	37800, 38000, 38200	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	37775 to 38225	37775, 38000, 38225	5MHz	QPSK,16QAM	25 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK,16QAM	50 RB / 0 RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK,16QAM	75 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK,16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	37850 to38150	37850, 38000, 38150	20MHz	QPSK,16QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	37775 to 38225	37775	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			38225	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		37800 to 38200	37800	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset

			38200	10MHz	QPSK,16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		37825 to 38175	37825	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			38175	15MHz	QPSK,16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		37850 to 38150	37850	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			38150	20MHz	QPSK,16QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	CONDUCTED EMISSION	37775 to 38225	37775, 38000, 38225	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		37800 to 38200	37800, 38000, 38200	10MHz	QPSK,16QAM	1 RB / 0RB Offset
		37825 to 38175	37825, 38000, 38175	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		37850 to38150	37850, 38000, 38150	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	37775 to 38225	37775, 38000, 38225	5MHz	QPSK	1 RB / 0 RB Offset
		37800 to 38200	38000	10MHz	QPSK	1 RB / 0RB Offset
		37825 to 38175	38000	15MHz	QPSK	1 RB / 0 RB Offset
		37850 to38150	38000	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 41 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	40065 to 41215	40065, 40640, 41215	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		40090to 41190	40090, 40640, 41190	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		40115 to 41165	40115, 40640, 41165	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	40065 to 41215	40065, 40640, 41215	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		40090to 41190	40090, 40640, 41190	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		40115 to 41165	40115, 40640, 41165	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset

		40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	40065 to 41215	40065	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			41215	5MHz	QPSK, 16QAM	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		40090 to 41190	40090	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			41190	10MHz	QPSK, 16QAM	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		40115 to 41165	40115	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			41165	15MHz	QPSK, 16QAM	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		40140 to 41140	40140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			41140	20MHz	QPSK, 16QAM	1 RB / 99 RB Offset
						100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	40065 to 41215	40065, 40640, 41215	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		40090to 41190	40090, 40640, 41190	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		40115 to 41165	40115, 40640, 41165	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		40140 to 41140	40140, 40640, 41140	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	39675 to 41565	40620	5MHz	QPSK	1 RB / 0 RB Offset
		39700 to 41540	40620	10MHz	QPSK	1 RB / 0RB Offset
		39725 to 41515	39725, 40620, 41515	15MHz	QPSK	1 RB / 0 RB Offset
		39750 to 41490	40620	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	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.35V/ 3.8V/ 4.35V By DC Source	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu

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.

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);

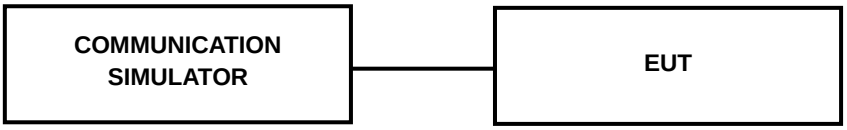
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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

CONDUCTED OUTPUT POWER (dBm)

Band	WCDMA IV		
TX Channel	1312	1413	1513
Rx Channel	1537	1638	1738
Frequency	1712.4	1732.6	1752.6
RMC 12.2K	22.81	22.83	**22.84**
HSDPA Subtest-1	21.85	21.88	21.91
HSDPA Subtest-2	21.86	21.90	21.89
HSDPA Subtest-3	21.38	21.42	21.43
HSDPA Subtest-4	21.42	21.43	21.42
HSUPA Subtest-1	21.96	21.93	21.98
HSUPA Subtest-2	19.92	19.94	19.94
HSUPA Subtest-3	20.91	20.94	20.95
HSUPA Subtest-4	19.96	19.99	19.97
HSUPA Subtest-5	21.86	21.84	21.86

LTE Band 4

Band/BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz
4/ 1.4	QPSK	1	0	22.81	22.80	22.56
		1	2	22.72	22.83	22.46
		1	5	22.71	22.63	22.35
		3	0	22.37	22.39	22.25
		3	1	22.50	22.45	22.36
		3	3	22.34	22.49	22.47
		6	0	21.92	21.87	21.95
	16QAM	1	0	21.97	21.92	21.98
		1	2	22.01	22.02	22.02
		1	5	22.00	22.04	22.17
		3	0	22.13	21.98	21.99
		3	1	22.03	22.07	22.06
		3	3	22.09	22.01	22.00
		6	0	21.00	21.09	20.98

Band/BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz
4/ 3	QPSK	1	0	22.78	22.82	22.59
		1	7	22.70	22.82	22.44
		1	14	22.72	22.68	22.38
		8	0	21.87	21.96	21.80
		8	3	21.94	21.93	21.91
		8	7	21.93	21.94	21.97
		15	0	21.96	21.95	21.87
	16QAM	1	0	21.99	21.94	22.07
		1	7	22.02	22.02	22.02
		1	14	21.96	22.06	22.14
		8	0	21.13	20.93	20.97
		8	3	21.05	21.05	21.01
		8	7	21.02	21.07	20.90
		15	0	20.99	21.13	20.94

Band/BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz
4/ 5	QPSK	1	0	22.77	22.80	22.57
		1	12	22.67	22.89	22.39
		1	24	22.75	22.60	22.35
		12	0	21.84	21.89	21.78
		12	6	22.01	21.97	21.91
		12	13	21.92	21.99	21.97
		25	0	21.94	21.90	21.87
	16QAM	1	0	22.02	21.93	22.01
		1	12	22.01	22.04	22.03
		1	24	21.95	22.08	22.18
		12	0	21.08	20.94	20.96
		12	6	20.98	21.07	20.97
		12	13	21.05	21.07	20.92
		25	0	21.07	21.17	20.97

Band/BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz
4/ 10	QPSK	1	0	22.72	22.85	22.61
		1	24	22.67	22.81	22.38
		1	49	22.68	22.64	22.40
		25	0	21.87	21.88	21.78
		25	12	21.92	21.97	21.86
		25	25	21.83	22.02	21.99
		50	0	21.93	21.93	21.96
	16QAM	1	0	22.06	21.98	22.01
		1	24	22.04	21.98	22.08
		1	49	21.98	22.05	22.20
		25	0	21.09	20.93	20.99
		25	12	20.98	21.11	20.99
		25	25	21.02	21.06	20.96
		50	0	21.00	21.12	20.92

Band/BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz
4/ 15	QPSK	1	0	22.82	22.80	22.56
		1	37	22.70	22.80	22.40
		1	74	22.75	22.70	22.42
		36	0	21.80	21.93	21.82
		36	19	22.01	21.91	21.88
		36	39	21.93	22.00	22.00
		75	0	21.97	21.93	21.96
	16QAM	1	0	22.05	21.99	22.05
		1	37	22.02	22.04	22.04
		1	74	21.98	22.11	22.13
		36	0	21.08	21.00	20.89
		36	19	20.96	21.04	21.01
		36	39	21.09	21.01	20.92
		75	0	21.00	21.08	20.97

Band/BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz
4/ 20	QPSK	1	0	22.82	**22.90**	22.61
		1	50	22.77	22.89	22.46
		1	99	22.76	22.70	22.44
		50	0	21.90	21.96	21.85
		50	25	22.01	21.98	21.94
		50	50	21.93	22.03	22.02
		100	0	21.97	21.99	21.96
	16QAM	1	0	22.07	21.99	22.08
		1	50	22.08	22.05	22.10
		1	99	22.05	22.13	22.23
		50	0	21.13	21.00	20.99
		50	25	21.05	21.14	21.06
		50	50	21.10	21.11	21.00
		100	0	21.07	21.17	21.02

LTE Band 7

Band/BW	Modulation	RB Size	RB Offset	Low CH 20775 Frequency 2502.5 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21425 Frequency 2567.5 MHz
7/ 5	QPSK	1	0	22.58	22.48	22.52
		1	12	22.52	22.44	22.46
		1	24	22.46	22.55	22.41
		12	0	22.11	22.09	22.04
		12	6	22.17	21.94	22.03
		12	13	22.07	21.98	21.95
		25	0	22.17	22.01	22.06
	16QAM	1	0	22.52	22.42	22.36
		1	12	22.48	22.41	22.24
		1	24	22.53	22.31	22.20
		12	0	20.96	20.89	20.89
		12	6	20.88	20.87	20.84
		12	13	20.90	20.85	20.74
		25	0	20.91	20.89	20.90

Band/BW	Modulation	RB Size	RB Offset	Low CH 20800 Frequency 2505 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21400 Frequency 2565 MHz
7/ 10	QPSK	1	0	22.54	22.54	22.45
		1	24	22.48	22.50	22.50
		1	49	22.41	22.50	22.43
		25	0	22.10	22.06	22.04
		25	12	22.14	22.00	22.03
		25	25	22.06	22.03	22.02
		50	0	22.17	22.00	22.13
	16QAM	1	0	22.48	22.46	22.39
		1	24	22.47	22.42	22.22
		1	49	22.47	22.39	22.21
		25	0	20.89	20.87	20.85
		25	12	20.83	20.88	20.85
		25	25	20.89	20.86	20.72
		50	0	20.84	20.87	20.84

Band/BW	Modulation	RB Size	RB Offset	Low CH 20825 Frequency 2507.5 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21375 Frequency 2562.5 MHz
7/ 15	QPSK	1	0	22.59	22.47	22.53
		1	37	22.56	22.45	22.46
		1	74	22.42	22.48	22.37
		36	0	22.08	22.02	21.99
		36	19	22.15	21.92	21.96
		36	39	22.05	21.98	21.92
		75	0	22.15	22.00	22.04
	16QAM	1	0	22.53	22.45	22.41
		1	37	22.48	22.39	22.19
		1	74	22.52	22.31	22.11
		36	0	20.90	20.85	20.88
		36	19	20.87	20.86	20.87
		36	39	20.95	20.84	20.70
		75	0	20.86	20.93	20.84

Band/BW	Modulation	RB Size	RB Offset	Low CH 20850 Frequency 2510 MHz	Mid CH 21100 Frequency 2535 MHz	High CH 21350 Frequency 2560 MHz
7/ 20	QPSK	1	0	**22.61**	22.55	22.54
		1	50	22.57	22.54	22.56
		1	99	22.51	22.57	22.45
		50	0	22.16	22.11	22.04
		50	25	22.19	22.00	22.03
		50	50	22.11	22.04	22.02
		100	0	22.17	22.09	22.13
	16QAM	1	0	22.55	22.52	22.43
		1	50	22.49	22.42	22.24
		1	99	22.55	22.41	22.21
		50	0	20.97	20.93	20.93
		50	25	20.91	20.92	20.88
		50	50	20.98	20.91	20.79
		100	0	20.93	20.93	20.90

LTE Band 38

Band/BW	Modulation	RB Size	RB Offset	Low CH (37775)	Low Mid CH (38000)	Mid CH (38225)
				Frequency (2572.5)MHz	Frequency (2595)MHz	Frequency (2617.5)MHz
38/ 5	QPSK	1	0	22.41	22.53	22.52
		1	12	22.43	22.50	22.51
		1	24	22.41	22.38	22.45
		12	0	21.75	21.80	21.84
		12	6	21.91	21.83	21.94
		12	13	21.72	21.88	21.90
		25	0	21.77	21.89	21.94
	16QAM	1	0	22.14	22.06	22.08
		1	12	22.09	22.06	22.07
		1	24	22.02	22.14	22.11
		12	0	21.15	21.22	21.15
		12	6	21.12	21.15	21.12
		12	13	21.16	21.16	21.13
		25	0	21.14	21.14	21.08

Band/BW	Modulation	RB Size	RB Offset	Low CH (37800)	Low Mid CH (38000)	Mid CH (38200)
				Frequency (2575)MHz	Frequency (2595)MHz	Frequency (2615)MHz
38/ 10	QPSK	1	0	22.44	22.57	22.56
		1	24	22.39	22.52	22.46
		1	49	22.38	22.40	22.45
		25	0	21.85	21.76	21.82
		25	12	21.90	21.89	21.88
		25	25	21.77	21.90	21.90
		50	0	21.77	21.83	21.86
	16QAM	1	0	22.18	22.01	22.09
		1	24	22.10	22.06	22.14
		1	49	22.03	22.07	22.09
		25	0	21.11	21.23	21.15
		25	12	21.04	21.19	21.18
		25	25	21.11	21.12	21.16
		50	0	21.14	21.14	21.08

Band/BW	Modulation	RB Size	RB Offset	Low CH (37825)	Low Mid CH (38000)	Mid CH (38175)
				Frequency (2577.5)MHz	Frequency (2595)MHz	Frequency (2612.5)MHz
38/ 15	QPSK	1	0	22.47	22.53	22.55
		1	37	22.43	22.52	22.49
		1	74	22.35	22.41	22.47
		36	0	21.77	21.78	21.81
		36	19	21.94	21.88	21.96
		36	39	21.72	21.89	21.89
		75	0	21.72	21.90	21.87
	16QAM	1	0	22.17	22.07	22.03
		1	37	22.10	22.08	22.04
		1	74	22.06	22.07	22.07
		36	0	21.17	21.26	21.11
		36	19	21.12	21.23	21.21
		36	39	21.08	21.18	21.17
		75	0	21.08	21.16	21.09

Band/BW	Modulation	RB Size	RB Offset	Low CH (37850)	Low Mid CH (38000)	Mid CH (38150)
				Frequency (2580)MHz	Frequency (2595)MHz	Frequency (2610)MHz
38/ 20	QPSK	1	0	22.48	**22.59**	22.58
		1	50	22.44	22.56	22.55
		1	99	22.45	22.46	22.50
		50	0	21.85	21.83	21.85
		50	25	21.94	21.96	21.95
		50	50	21.78	21.92	21.95
		100	0	21.80	21.92	21.87
	16QAM	1	0	22.20	22.08	22.13
		1	50	22.16	22.14	22.14
		1	99	22.07	22.16	22.17
		50	0	21.21	21.27	21.18
		50	25	21.14	21.24	21.21
		50	50	21.16	21.20	21.22

LTE Band 41

Band/BW	Modulation	RB Size	RB Offset	Low CH (40065)	Mid CH (40640)	High CH (41215)
				Frequency (2537.5)MHz	Frequency (2595)MHz	Frequency (2652.5)MHz
41/ 5	QPSK	1	0	22.72	22.64	22.47
		1	12	22.59	22.45	22.33
		1	24	22.51	22.47	22.27
		12	0	22.05	22.02	21.99
		12	6	22.11	22.15	21.94
		12	13	21.99	22.01	21.85
		25	0	22.16	22.08	22.04
	16QAM	1	0	21.99	21.91	21.90
		1	12	22.03	21.98	21.88
		1	24	22.03	21.87	21.74
		12	0	21.40	21.27	21.21
		12	6	21.29	21.20	21.19
		12	13	21.41	21.26	21.25
		25	0	21.23	21.21	21.26

Band/BW	Modulation	RB Size	RB Offset	Low CH (40090)	Mid CH (40640)	High CH (41190)
				Frequency (2540)MHz	Frequency (2595)MHz	Frequency (2650)MHz
41/ 10	QPSK	1	0	22.73	22.62	22.47
		1	24	22.62	22.47	22.35
		1	49	22.45	22.39	22.35
		25	0	22.04	22.01	21.97
		25	12	22.12	22.08	21.94
		25	25	22.05	21.91	21.92
		50	0	22.17	22.11	22.06
	16QAM	1	0	22.01	21.92	21.89
		1	24	22.03	21.95	21.90
		1	49	22.05	21.86	21.78
		25	0	21.39	21.27	21.27
		25	12	21.34	21.19	21.27
		25	25	21.41	21.36	21.28
		50	0	21.23	21.26	21.22

Band/BW	Modulation	RB Size	RB Offset	Low CH (40115)	Mid CH (40640)	High CH (41165)
				Frequency (2542.5)MHz	Frequency (2595)MHz	Frequency (2647.5)MHz
41/ 15	QPSK	1	0	22.73	22.67	22.50
		1	37	22.61	22.49	22.38
		1	74	22.47	22.46	22.35
		36	0	22.07	22.10	21.96
		36	19	22.13	22.15	22.01
		36	39	22.03	21.96	21.87
		75	0	22.17	22.07	22.01
	16QAM	1	0	21.98	21.85	21.90
		1	37	22.06	21.95	21.88
		1	74	22.05	21.89	21.76
		36	0	21.36	21.30	21.25
		36	19	21.33	21.27	21.27
		36	39	21.40	21.29	21.26
		75	0	21.26	21.25	21.26

Band/BW	Modulation	RB Size	RB Offset	Low CH (40140)	Mid CH (40640)	High CH (41140)
				Frequency (2545)MHz	Frequency (2595)MHz	Frequency (2645)MHz
41/ 20	QPSK	1	0	**22.75**	22.70	22.51
		1	50	22.65	22.55	22.38
		1	99	22.53	22.49	22.37
		50	0	22.13	22.10	22.04
		50	25	22.21	22.18	22.03
		50	50	22.06	22.01	21.93
		100	0	22.23	22.16	22.06
	16QAM	1	0	22.01	21.95	21.91
		1	50	22.07	21.98	21.91
		1	99	22.07	21.96	21.83
		50	0	21.46	21.37	21.30
		50	25	21.35	21.28	21.27
		50	50	21.41	21.36	21.31
		100	0	21.28	21.28	21.27

EIRP

WCDMA IV

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
1312	1712.4	21.69	-1.1	20.59	114.55	1
1413	1732.6	21.72	-1.1	20.62	115.35	1
1513	1752.6	21.77	-1.1	20.67	116.68	1

LTE BAND 4
CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	22.81	-1.1	21.71	148.25	1
20175	1732.5	22.83	-1.1	21.73	148.94	1
20393	1754.3	22.56	-1.1	21.46	139.96	1

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	22.13	-1.1	21.03	126.77	1
20175	1732.5	22.07	-1.1	20.97	125.03	1
20393	1754.3	22.17	-1.1	21.07	127.94	1

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	22.78	-1.1	21.68	147.23	1
20175	1732.5	22.82	-1.1	21.72	148.59	1
20385	1753.5	22.59	-1.1	21.49	140.93	1

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	22.02	-1.1	20.92	123.59	1
20175	1732.5	22.02	-1.1	20.92	123.59	1
20385	1753.5	21.96	-1.1	20.86	121.9	1

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	22.77	-1.1	21.67	146.89	1
20175	1732.5	22.89	-1.1	21.79	151.01	1
20375	1752.5	22.57	-1.1	21.47	140.28	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	22.02	-1.1	20.92	123.59	1
20175	1732.5	22.08	-1.1	20.98	125.31	1
20375	1752.5	22.18	-1.1	21.08	128.23	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	22.72	-1.1	21.62	145.21	1
20175	1732.5	22.85	-1.1	21.75	149.62	1
20350	1750	22.61	-1.1	21.51	141.58	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	22.06	-1.1	20.96	124.74	1
20175	1732.5	22.05	-1.1	20.95	124.45	1
20350	1750	22.2	-1.1	21.1	128.82	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	22.82	-1.1	21.72	148.59	1
20175	1732.5	22.8	-1.1	21.7	147.91	1
20325	1747.5	22.56	-1.1	21.46	139.96	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	22.05	-1.1	20.95	124.45	1
20175	1732.5	22.11	-1.1	21.01	126.18	1
20325	1747.5	22.13	-1.1	21.03	126.77	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	22.82	-1.1	21.72	148.59	1
20175	1732.5	22.9	-1.1	21.8	151.36	1
20300	1745	22.61	-1.1	21.51	141.58	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	22.08	-1.1	20.98	125.31	1
20175	1732.5	22.13	-1.1	21.03	126.77	1
20300	1745	22.23	-1.1	21.13	129.72	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	22.58	-0.2	22.38	172.98	2
21100	2535	22.55	-0.2	22.35	171.79	2
21425	2567.5	22.52	-0.2	22.32	170.61	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	22.53	-0.2	22.33	171	2
21100	2535	22.42	-0.2	22.22	166.72	2
21425	2567.5	22.36	-0.2	22.16	164.44	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	22.54	-0.2	22.34	171.4	2
21100	2535	22.54	-0.2	22.34	171.4	2
21400	2565	22.5	-0.2	22.3	169.82	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20800	2505	22.48	-0.2	22.28	169.04	2
21100	2535	22.46	-0.2	22.26	168.27	2
21400	2565	22.39	-0.2	22.19	165.58	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	22.59	-0.2	22.39	173.38	2
21100	2535	22.48	-0.2	22.28	169.04	2
21375	2562.5	22.53	-0.2	22.33	171	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	22.53	-0.2	22.33	171	2
21100	2535	22.45	-0.2	22.25	167.88	2
21375	2562.5	22.41	-0.2	22.21	166.34	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	22.61	-0.2	22.41	174.18	2
21100	2535	22.55	-0.2	22.35	171.79	2
21350	2560	22.54	-0.2	22.34	171.4	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20850	2510	22.55	-0.2	22.35	171.79	2
21100	2535	22.52	-0.2	22.32	170.61	2
21350	2560	22.43	-0.2	22.23	167.11	2

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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	22.43	-0.3	22.13	163.31	2
38000	2595.0	22.53	-0.3	22.23	167.11	2
38225	2617.5	22.52	-0.3	22.22	166.72	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37775	2572.5	22.14	-0.3	21.84	152.76	2
38000	2595.0	22.14	-0.3	21.84	152.76	2
38225	2617.5	22.11	-0.3	21.81	151.71	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	22.44	-0.3	22.14	163.68	2
38000	2595.0	22.57	-0.3	22.27	168.66	2
38200	2615.0	22.56	-0.3	22.26	168.27	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	22.18	-0.3	21.88	154.17	2
38000	2595.0	22.07	-0.3	21.77	150.31	2
38200	2615.0	22.14	-0.3	21.84	152.76	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	22.47	-0.3	22.17	164.82	2
38000	2595.0	22.53	-0.3	22.23	167.11	2
38175	2612.5	22.55	-0.3	22.25	167.88	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	22.17	-0.3	21.87	153.82	2
38000	2595.0	22.08	-0.3	21.78	150.66	2
38175	2612.5	22.07	-0.3	21.77	150.31	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	22.48	-0.3	22.18	165.2	2
38000	2595.0	22.59	-0.3	22.29	169.43	2
38150	2610.0	22.58	-0.3	22.28	169.04	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	22.2	-0.3	21.9	154.88	2
38000	2595.0	22.16	-0.3	21.86	153.46	2
38150	2610.0	22.17	-0.3	21.87	153.82	2

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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40065	2537.5	22.72	-0.2	22.52	178.65	2
40640	2595	22.64	-0.2	22.44	175.39	2
41215	2652.5	22.47	-0.2	22.27	168.66	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40065	2537.5	22.03	-0.2	21.83	152.41	2
40640	2595	21.98	-0.2	21.78	150.66	2
41215	2652.5	21.9	-0.2	21.7	147.91	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40090	2540	22.73	-0.2	22.53	179.06	2
40640	2595	22.62	-0.2	22.42	174.58	2
41190	2650	22.47	-0.2	22.27	168.66	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40090	2540	22.05	-0.2	21.85	153.11	2
40640	2595	21.95	-0.2	21.75	149.62	2
41190	2650	21.9	-0.2	21.7	147.91	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40115	2542.5	22.73	-0.2	22.53	179.06	2
40640	2595	22.67	-0.2	22.47	176.6	2
41165	2647.5	22.5	-0.2	22.3	169.82	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40115	2542.5	22.06	-0.2	21.86	153.46	2
40640	2595	21.95	-0.2	21.75	149.62	2
41165	2647.5	21.9	-0.2	21.7	147.91	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40140	2545	22.75	-0.2	22.55	179.89	2
40640	2595	22.7	-0.2	22.5	177.83	2
41140	2645	22.51	-0.2	22.31	170.22	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
40140	2545	22.07	-0.2	21.87	153.82	2
40640	2595	21.98	-0.2	21.78	150.66	2
41140	2645	21.91	-0.2	21.71	148.25	2

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

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

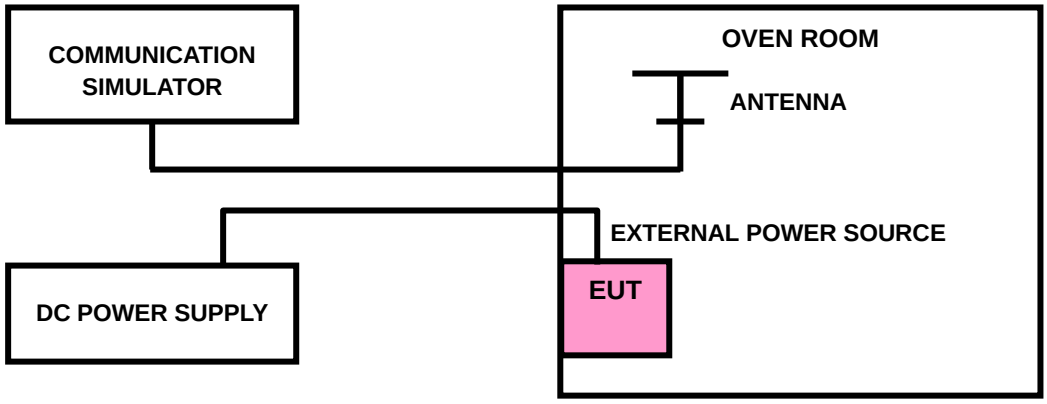
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

a. 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.
b. 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.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Please Refer to Appendix Of this test report.

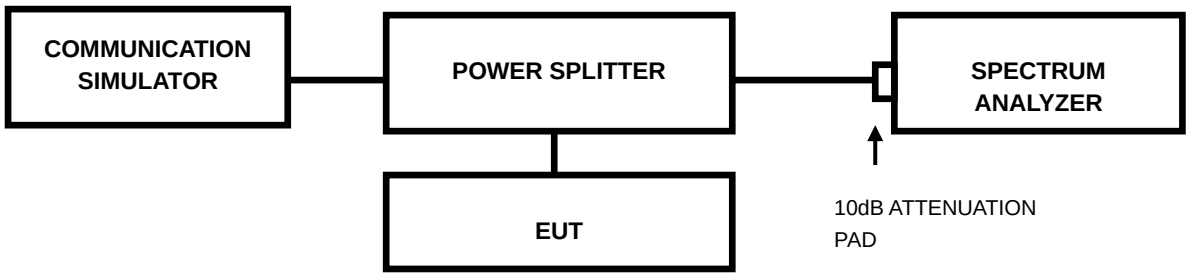
Note: 1.VL = Low voltage(3.35V); VN/NV = Normal voltage(3.8V); VH = High voltage(4.35V);
NT = Normal temperature (25℃)
2. The frequency fundamental emissions stay within the authorized frequency block.

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

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. 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.

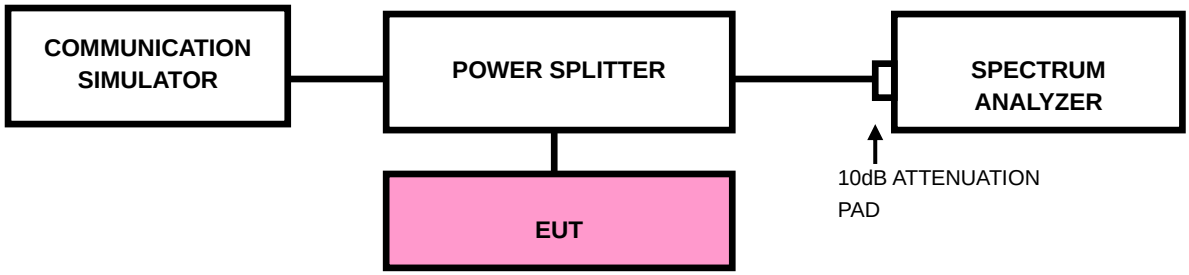
According to FCC 27.53(h) specified that For operations in the 1710-1755 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter 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;

47 CFR 27.53(f)：For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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) ≧ 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 ≧3 x RBW.

g) Select the average power (RMS) display detector.

h) Set the number of measurement points to ≧ 1001.

i) Use auto-coupled sweep time.

j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.

k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.

l) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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(h) specified that For operations in the 1710-1755 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 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter 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;

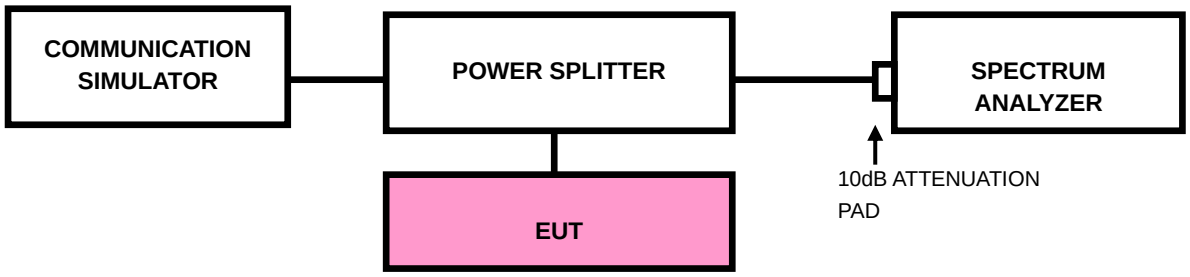
47 CFR 27.53(f)：For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

3.5.2 TEST PROCEDURE

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

b. 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

According to FCC 27.53(h) specified that For operations in the 1710-1755 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 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter 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.

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. 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.

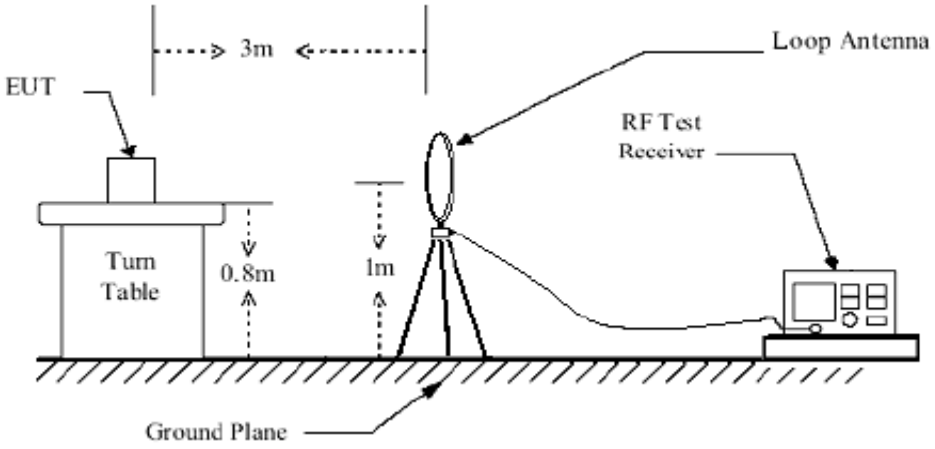
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

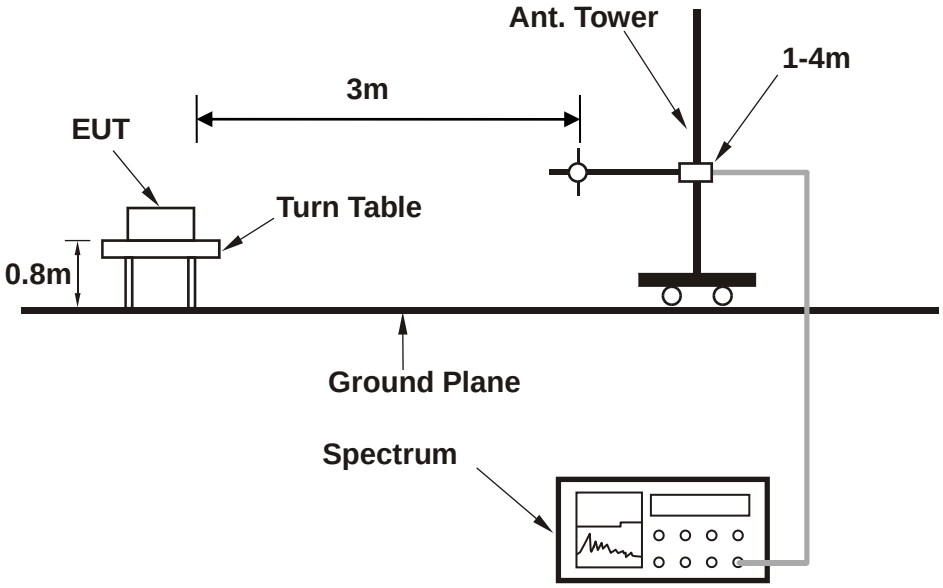
No deviation

3.6.4 TEST SETUP

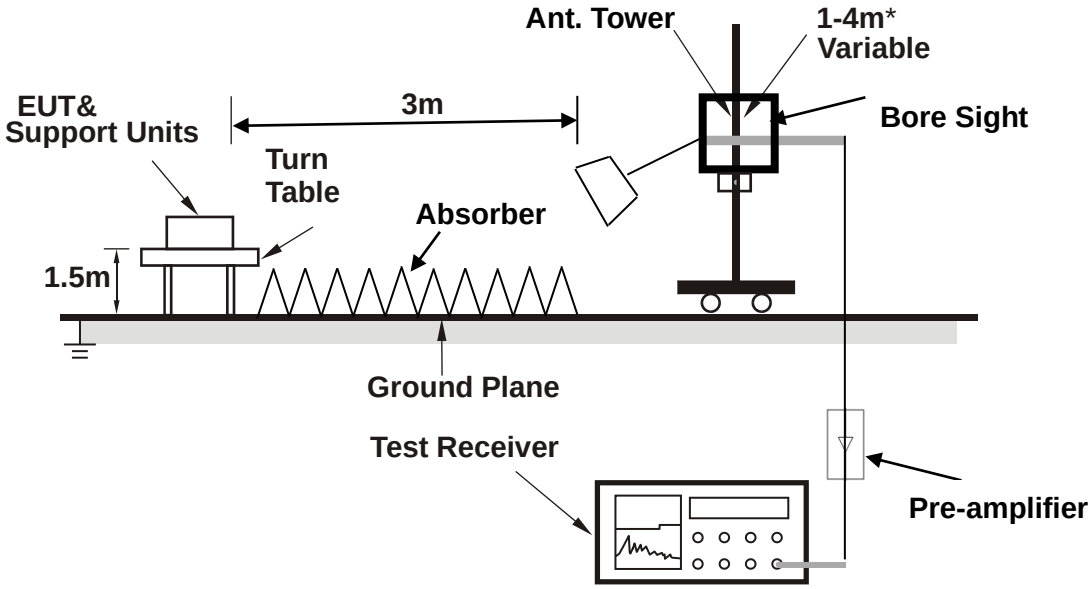
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



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

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

3.6.5 TEST RESULTS

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

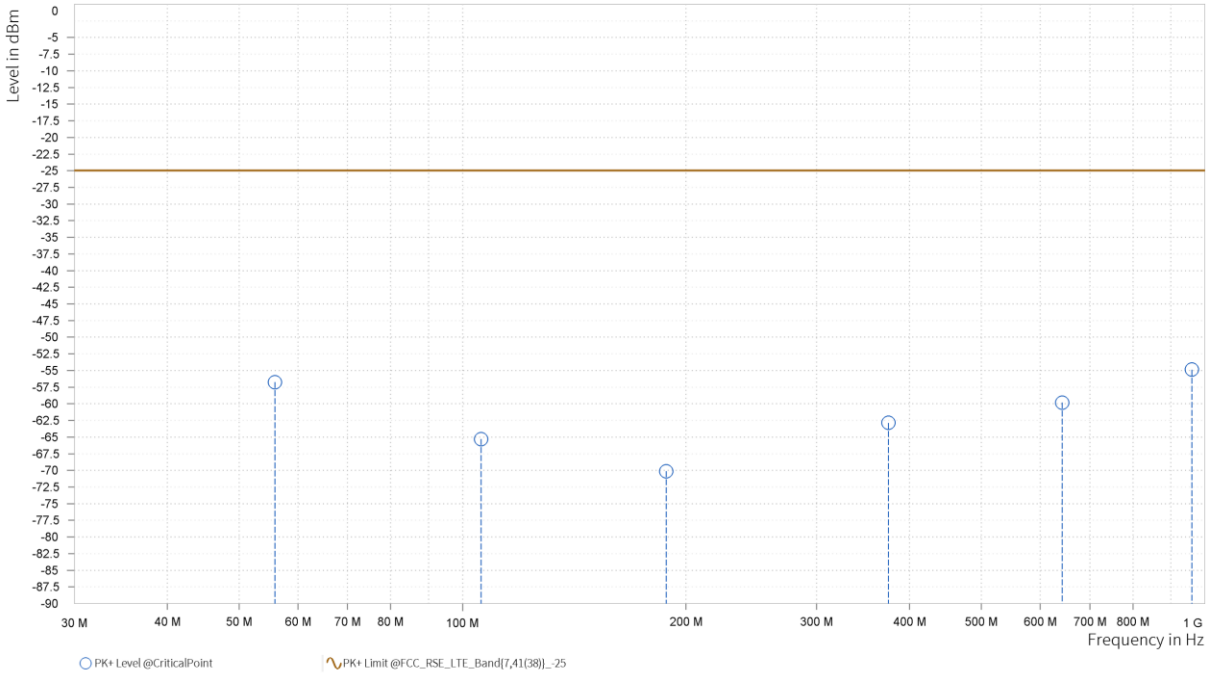
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 41
CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 40640	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

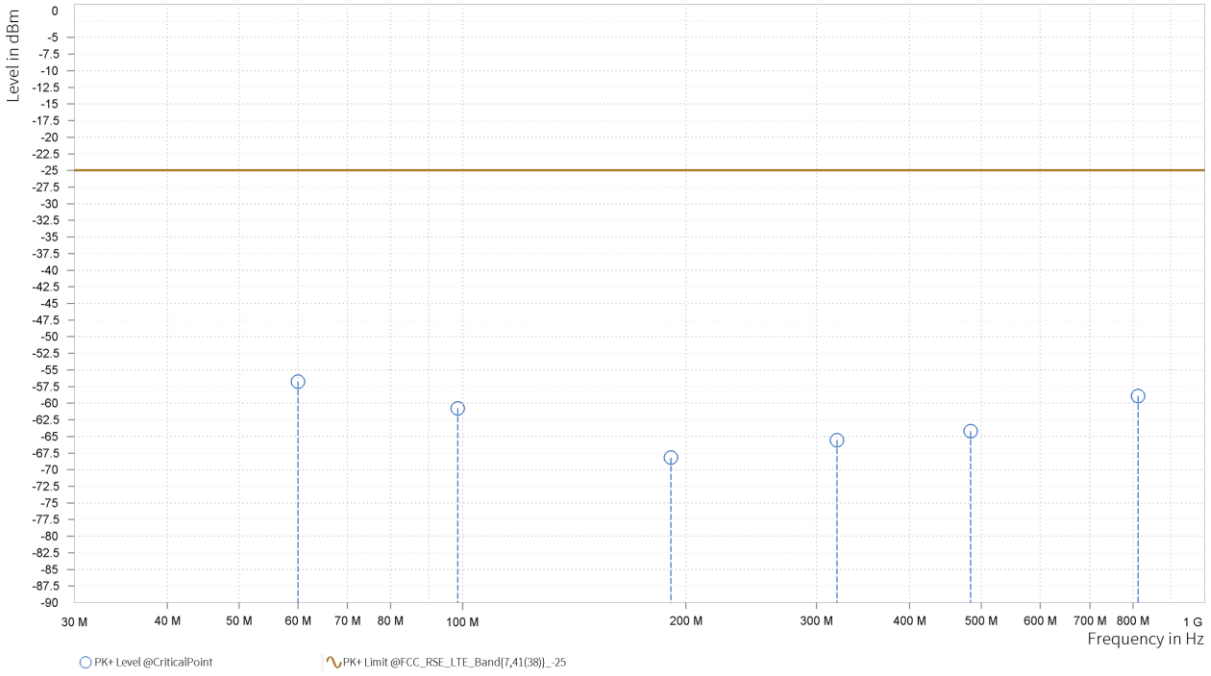
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	55.851	-56.76	-25.0	31.76	8.61	H	168.2	2.0
1	105.903	-65.3	-25.0	40.3	4.94	H	266.1	2.0
1	188.062	-70.13	-25.0	45.13	4.47	H	5.1	1.0
1	374.641	-62.86	-25.0	37.86	10.5	H	294.8	1.0
1	642.555	-59.81	-25.0	34.81	14.46	H	1.0	1.0
1	960.473	-54.86	-25.0	29.86	21.25	H	217.1	2.0



MODE	TX channel 40640	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	60.022	-56.74	-25.0	31.74	9.57	V	65.3	2.0
1	98.531	-60.76	-25.0	35.76	9.7	V	46.1	1.0
1	190.875	-68.2	-25.0	43.2	5.45	V	167.0	2.0
1	319.497	-65.56	-25.0	40.56	9.26	V	116.6	2.0
1	483.475	-64.21	-25.0	39.21	10.75	V	315.2	2.0
1	812.402	-58.9	-25.0	33.9	16.9	V	167.0	2.0



ABOVE 1GHz

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

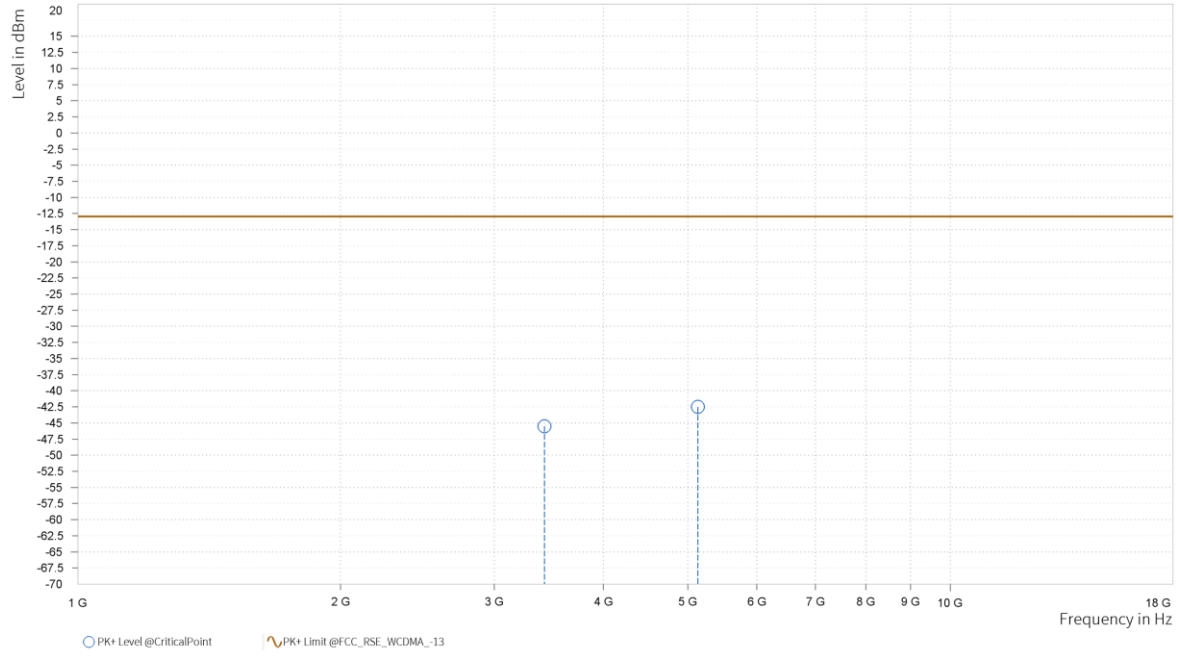
WCDMA Band IV:

CH 1312

MODE	TX channel 1312	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

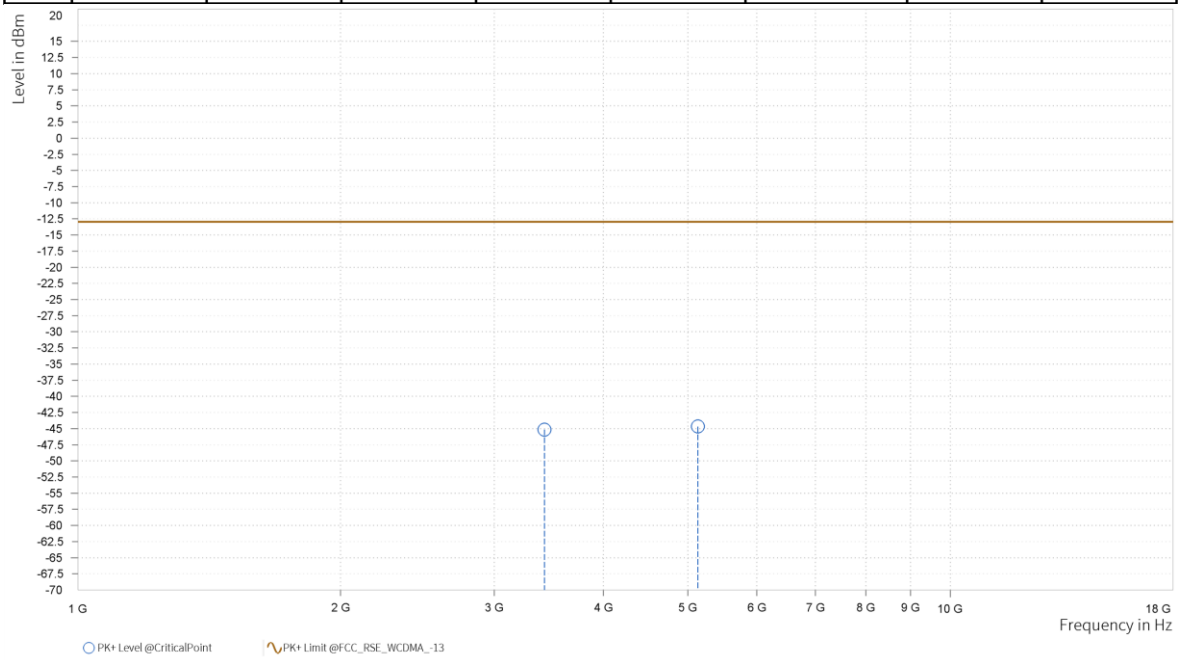
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,424.800	-45.49	-13.0	32.49	29.01	H	1.0	1.0
4	5,137.200	-42.52	-13.0	29.52	30.26	H	0.9	2.0



MODE	TX channel 1312	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,424.800	-45.16	-13.0	32.16	28.79	V	359.0	2.0
4	5,137.200	-44.66	-13.0	31.66	30.14	V	110.7	2.0

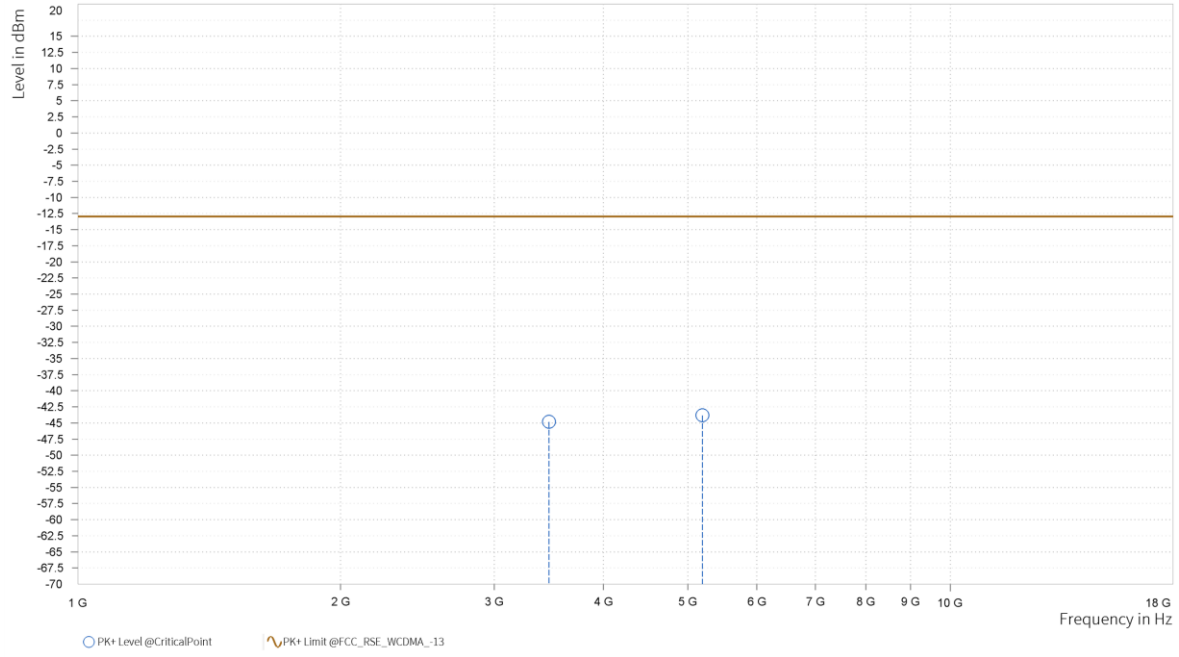


CH 1413

MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

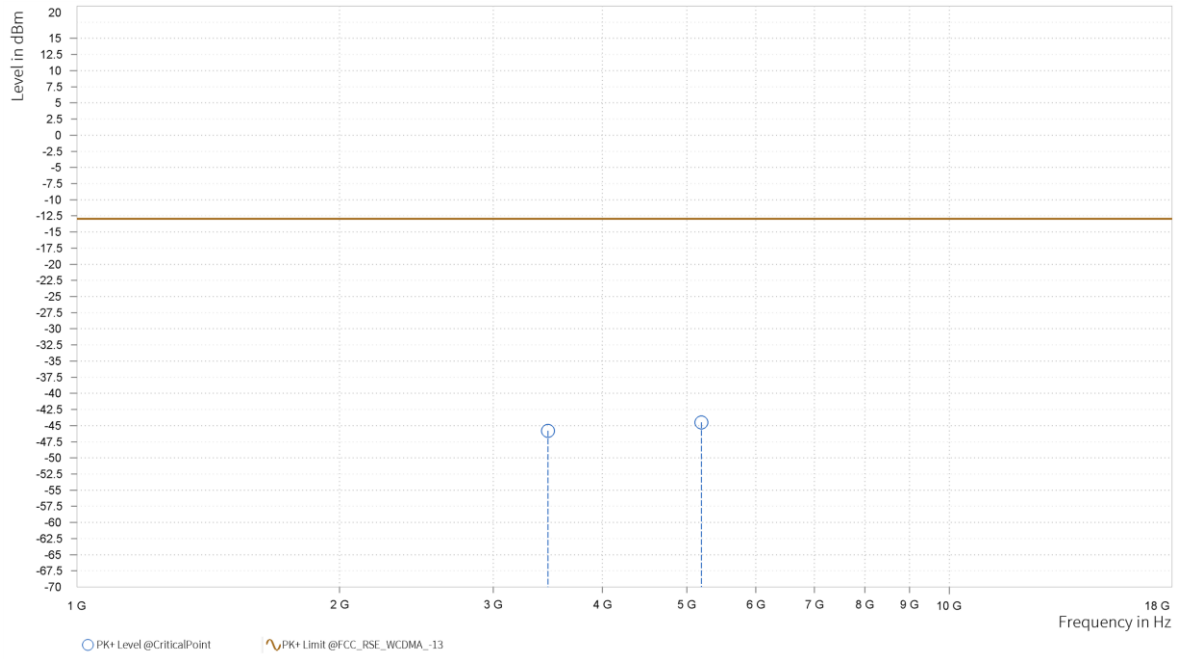
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,465.200	-44.82	-13.0	31.82	27.0	H	250.6	1.0
4	5,197.800	-43.82	-13.0	30.82	29.99	H	0.9	2.0



MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,465.200	-45.8	-13.0	32.8	26.72	V	359.1	1.0
4	5,197.800	-44.48	-13.0	31.48	29.95	V	0.8	2.0

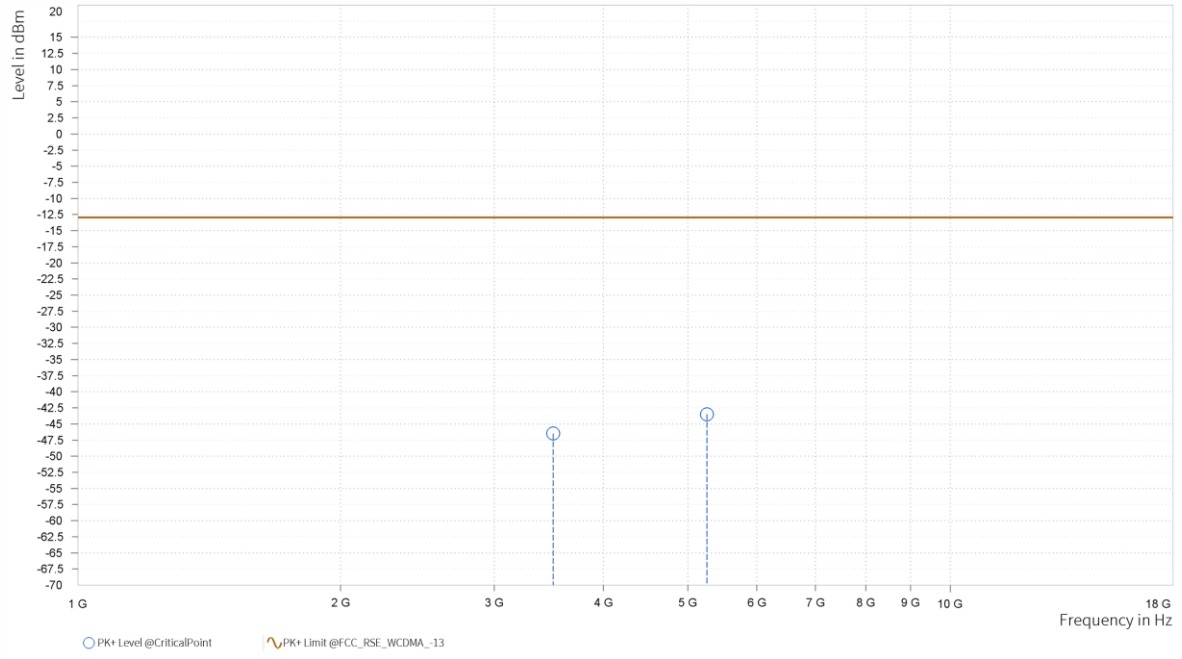


CH 1513

MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

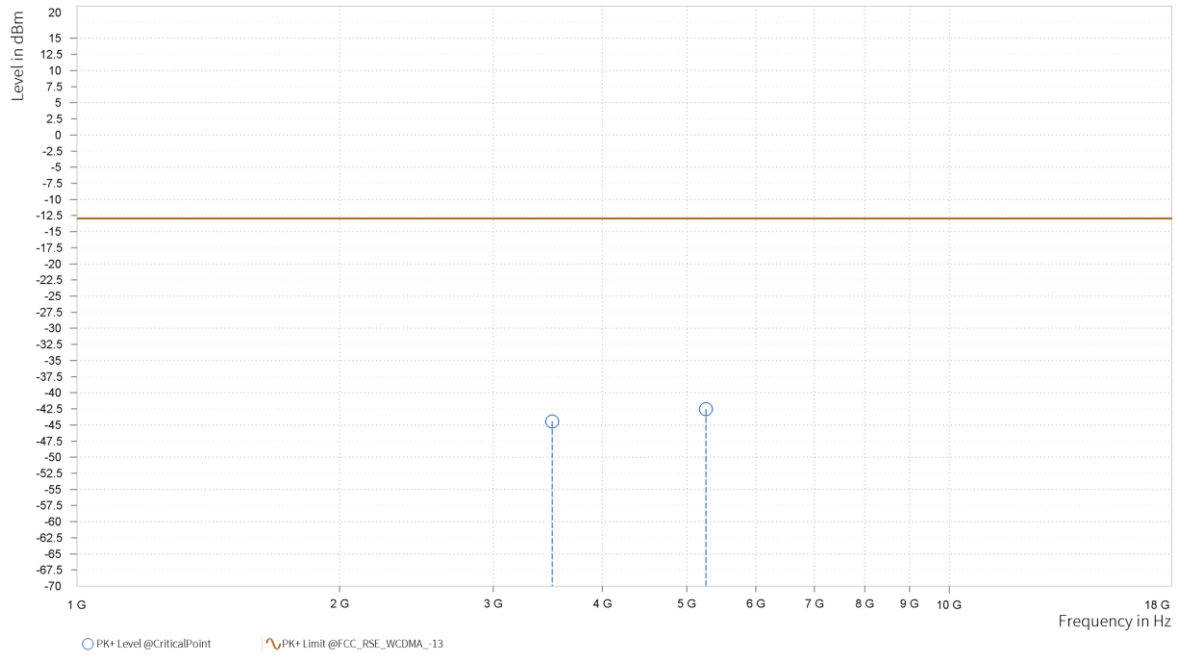
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,505.200	-46.48	-13.0	33.48	27.73	H	1	1.0
4	5,257.800	-43.48	-13.0	30.48	30.47	H	1	1.0



MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,505.200	-44.46	-13.0	31.46	27.54	V	0.9	2.0
4	5,257.800	-42.57	-13.0	29.57	30.41	V	250.6	1.0



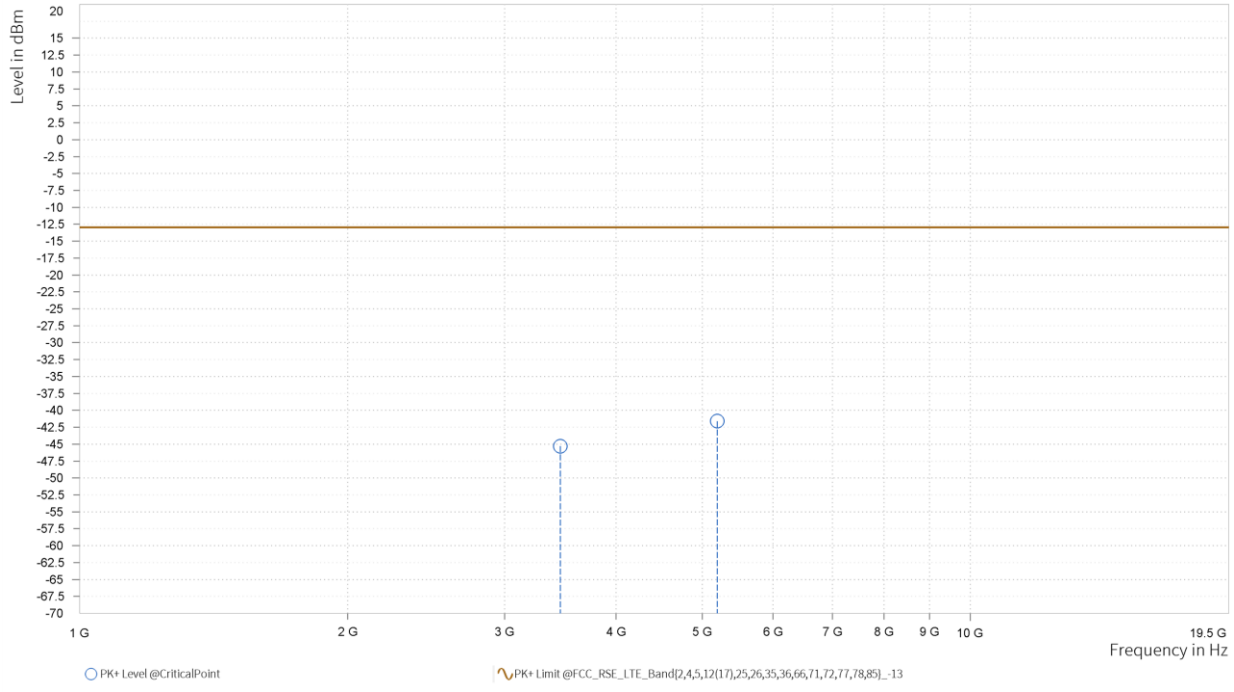
LTE Band 4

CHANNEL BANDWIDTH: 1.4MHz / QPSK

MODE	TX channel 20175	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

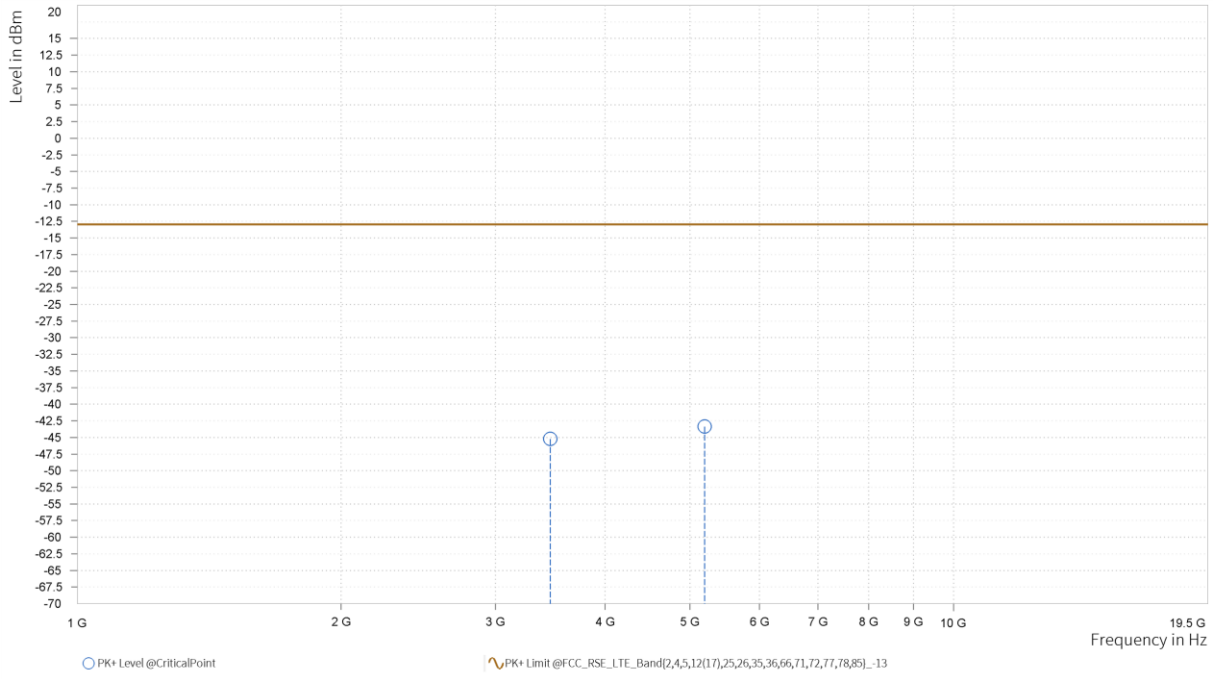
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,463.740	-45.3	-13.0	32.3	26.95	H	359	2.0
4	5,195.610	-41.61	-13.0	28.61	29.96	H	1	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,463.740	-45.23	-13.0	32.23	26.66	V	1	1.0
4	5,195.610	-43.37	-13.0	30.37	29.92	V	359	1.0

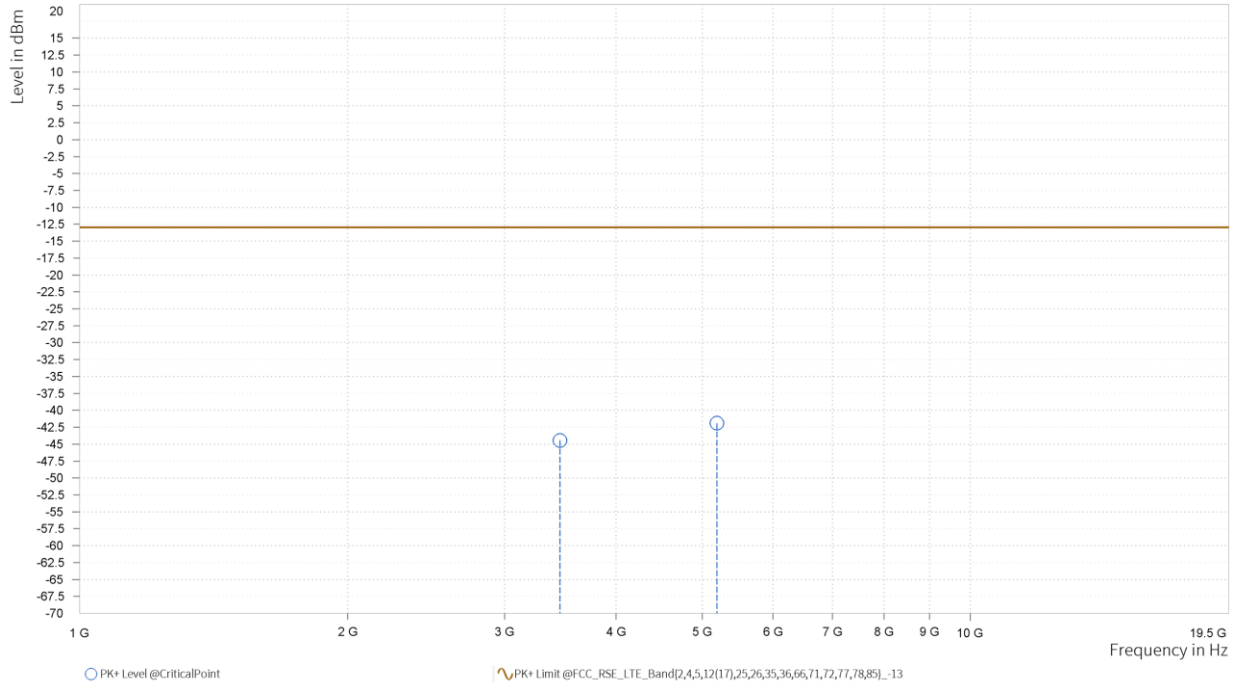


CHANNEL BANDWIDTH: 3MHz / QPSK

MODE	TX channel 20175	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

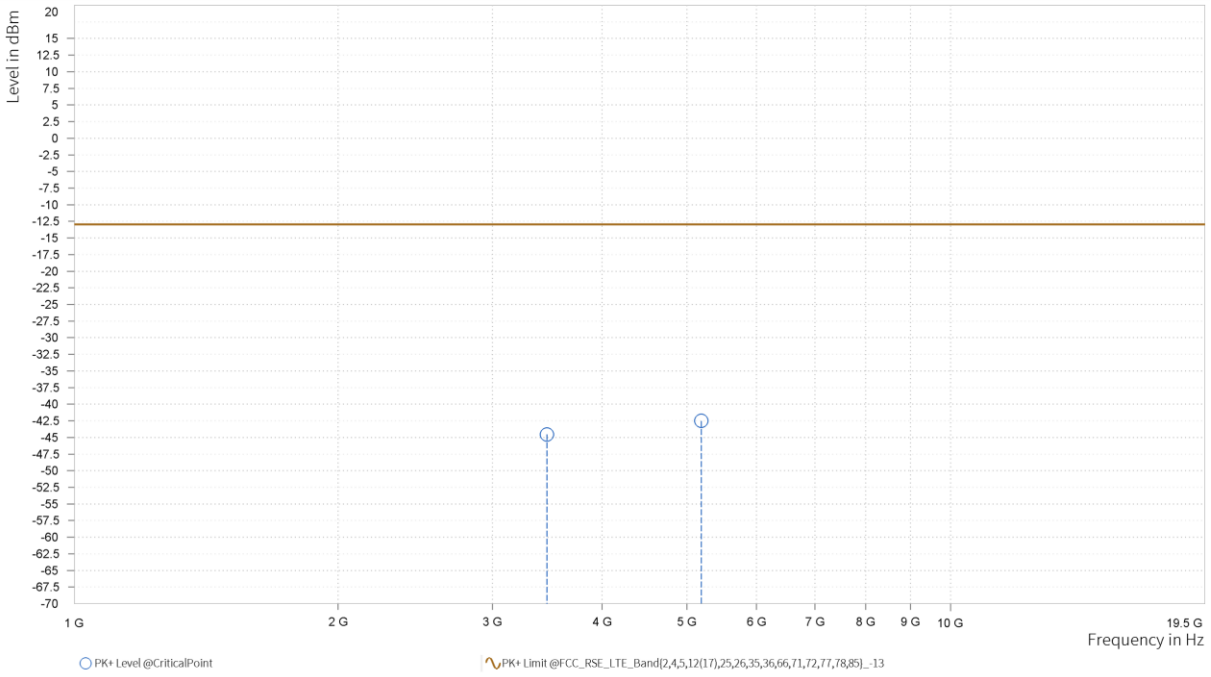
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,462.300	-44.45	-13.0	31.45	26.91	H	285.2	1.0
4	5,193.450	-41.89	-13.0	28.89	29.93	H	285.2	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,462.300	-44.55	-13.0	31.55	26.62	V	245.8	1.0
4	5,193.450	-42.5	-13.0	29.5	29.89	V	1.0	1.0

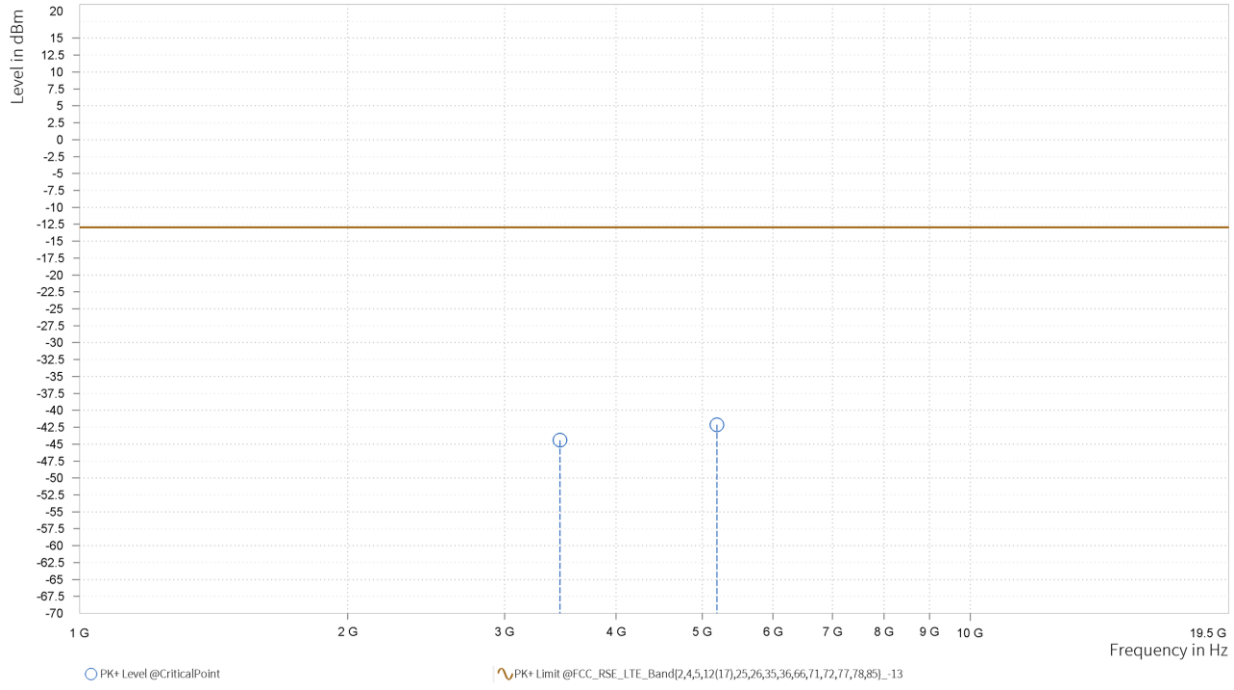


CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 20175	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

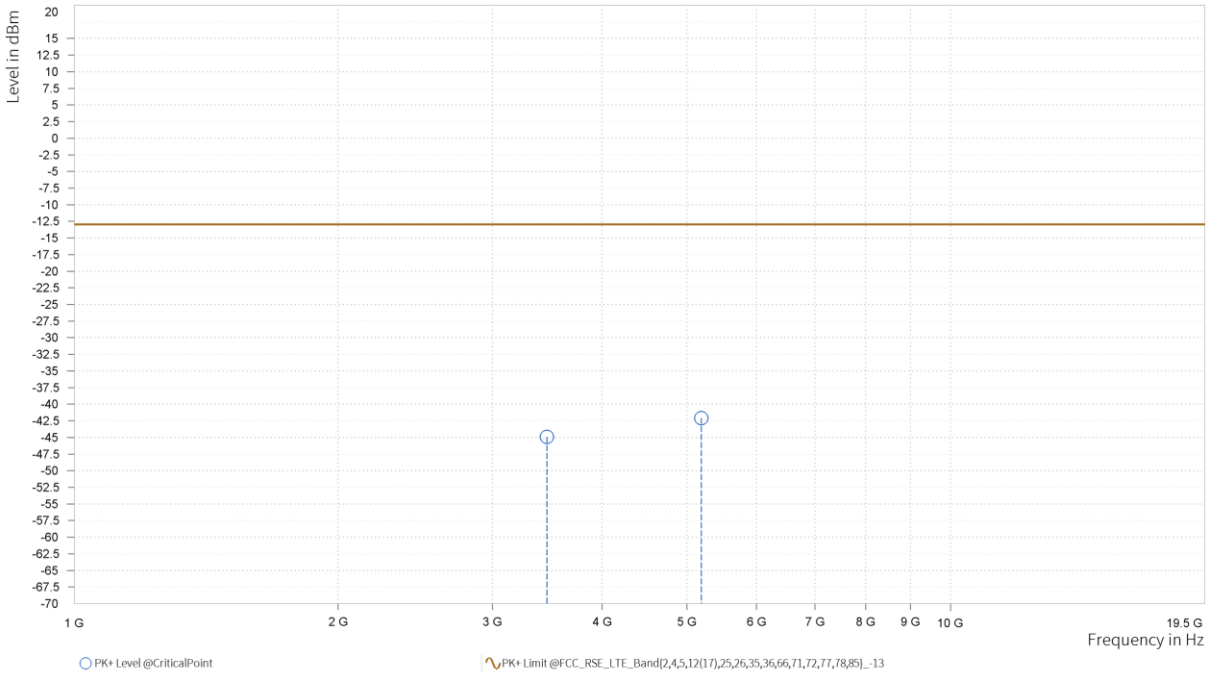
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,460.500	-44.41	-13.0	31.41	26.84	H	359	1.0
4	5,190.750	-42.13	-13.0	29.13	29.89	H	1	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,460.500	-44.93	-13.0	31.93	26.55	V	0.9	2.0
4	5,190.750	-42.08	-13.0	29.08	29.84	V	1.0	1.0

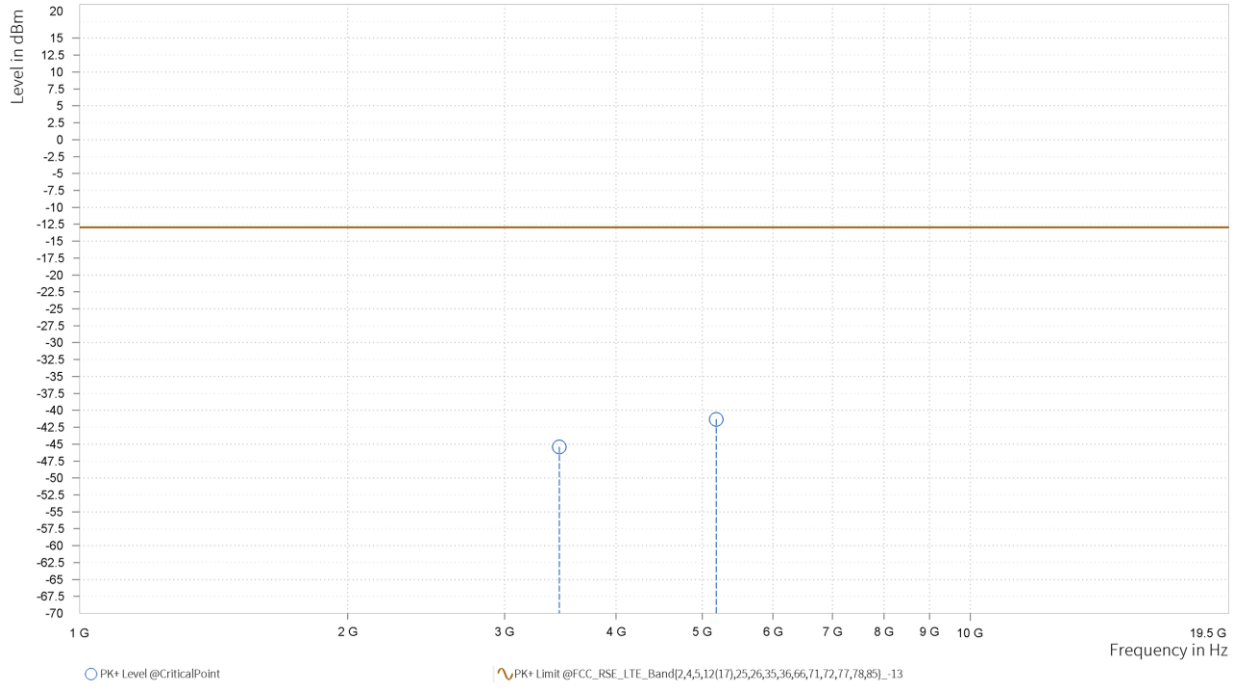


CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 20175	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

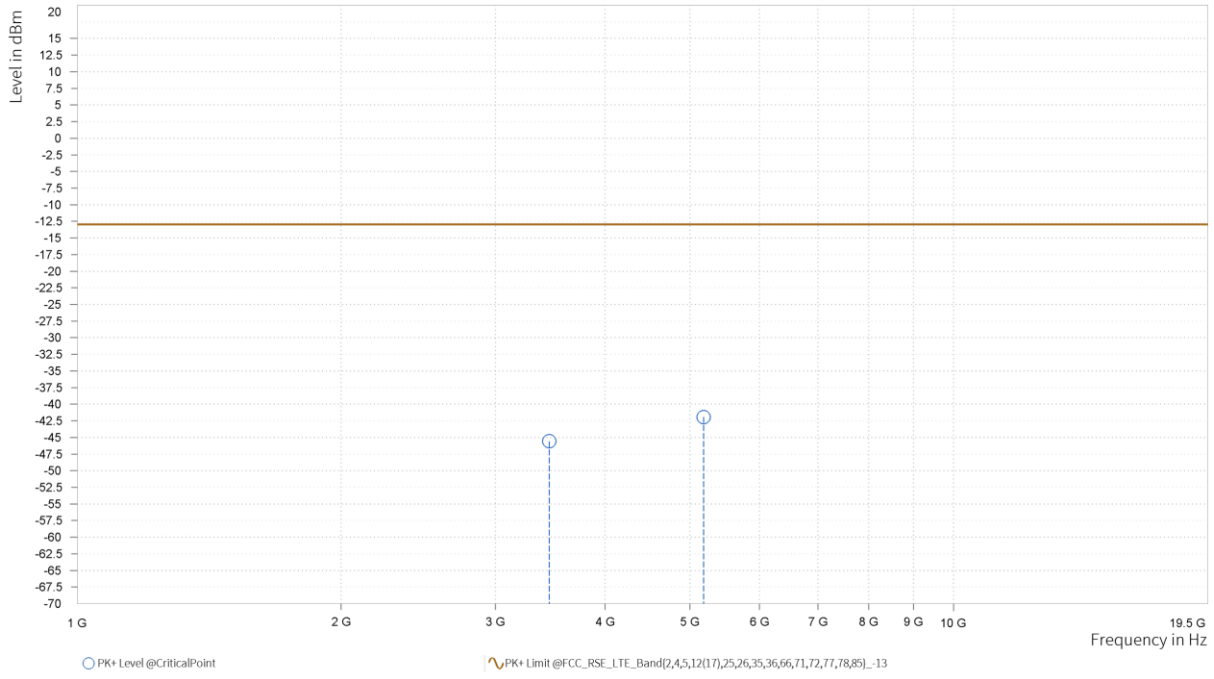
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,456.000	-45.39	-13.0	32.39	26.91	H	1	1.0
4	5,184.000	-41.32	-13.0	28.32	30.04	H	1	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,456.000	-45.58	-13.0	32.58	26.61	V	359	1.0
4	5,184.000	-41.94	-13.0	28.94	29.99	V	1	2.0



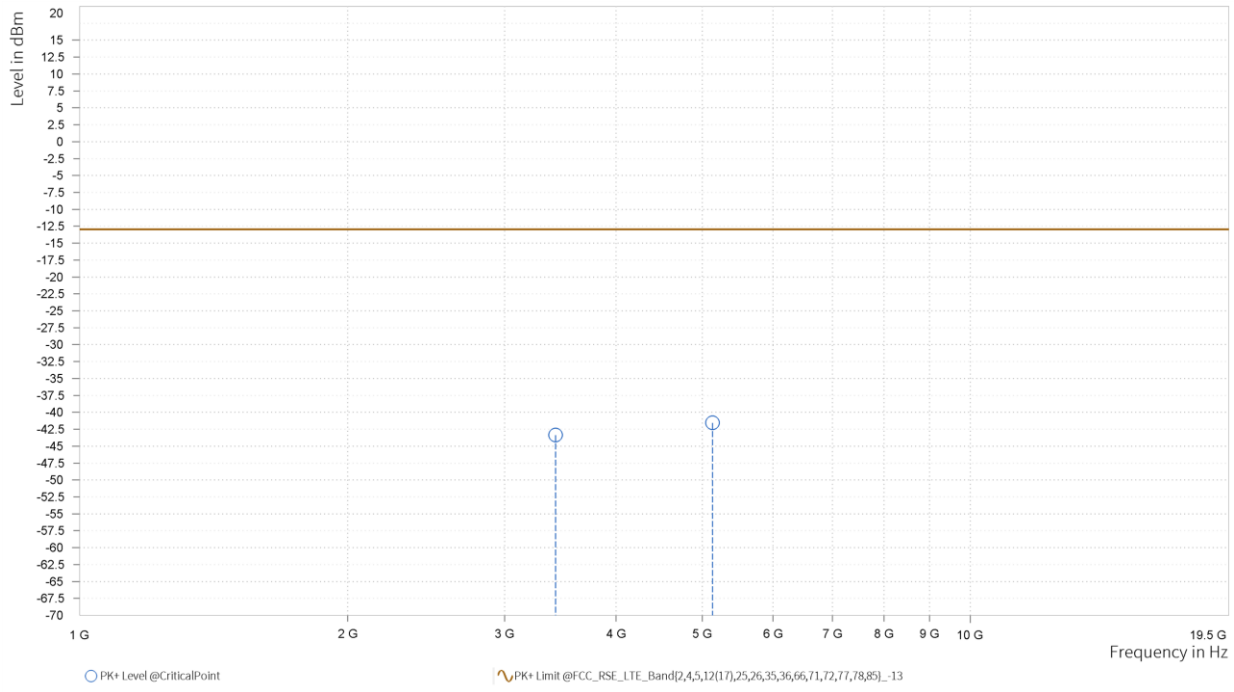
CHANNEL BANDWIDTH: 15MHz / QPSK

CH 20025

MODE	TX channel 20025	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

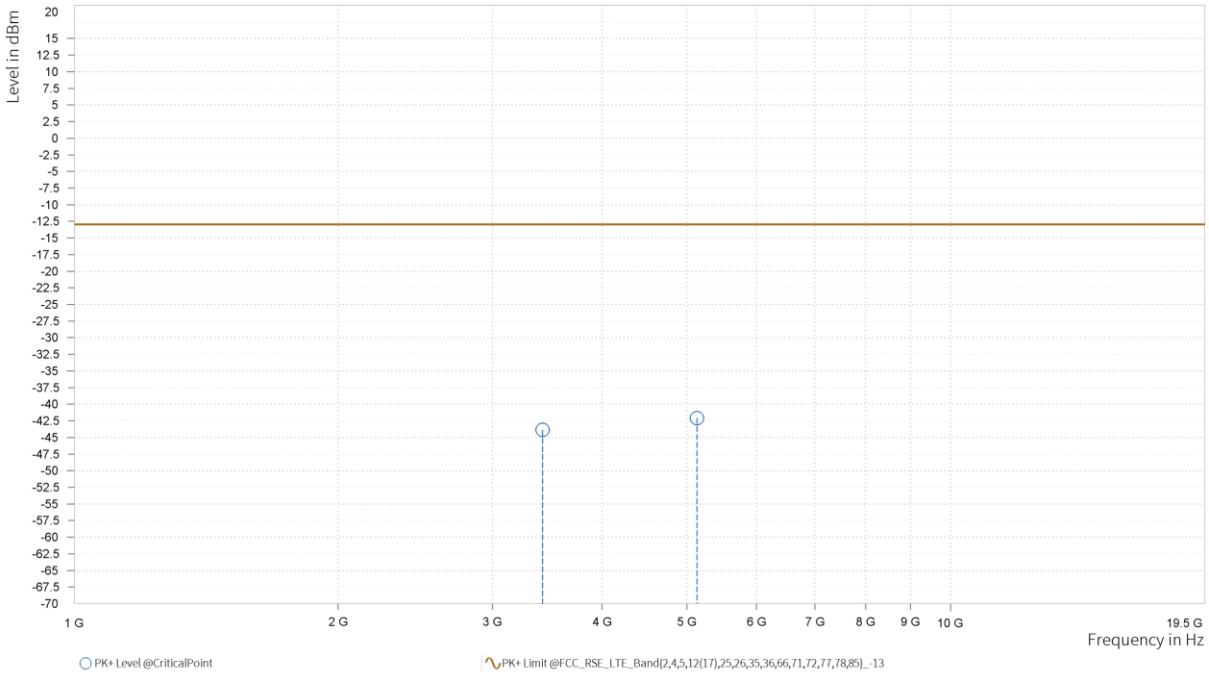
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,421.500	-43.36	-13.0	30.36	28.43	H	89.2	2.0
4	5,132.250	-41.55	-13.0	28.55	30.43	H	359.0	1.0



MODE	TX channel 20025	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,421.500	-43.86	-13.0	30.86	28.23	V	1.0	1.0
4	5,132.250	-42.09	-13.0	29.09	30.29	V	338.6	1.0

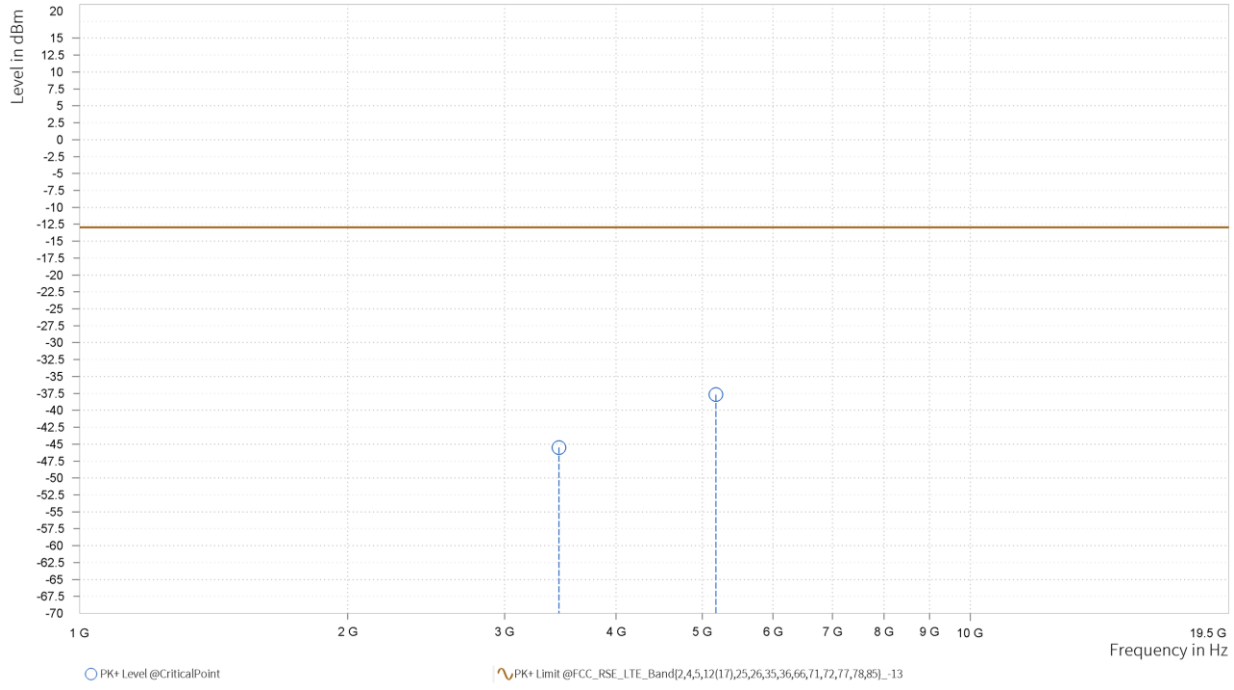


CH20175

MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

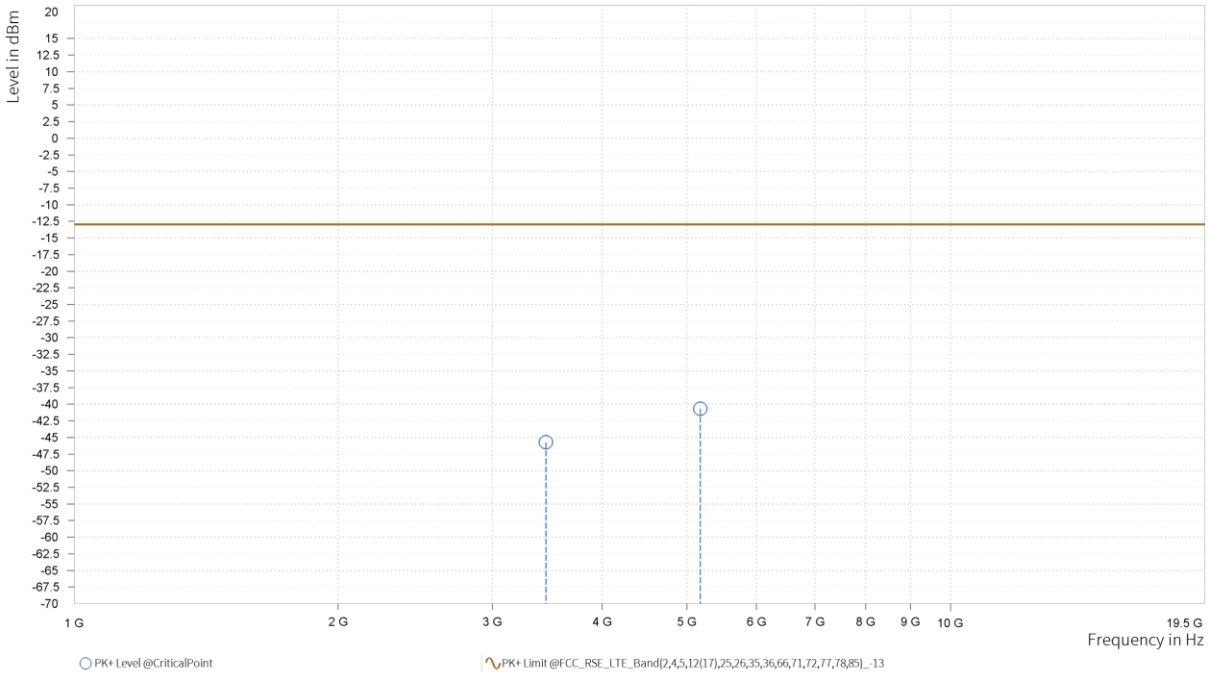
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,451.500	-45.51	-13.0	32.51	27.01	H	359	2.0
4	5,177.250	-37.68	-13.0	24.68	30.24	H	1	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,451.500	-45.72	-13.0	32.72	26.7	V	91.6	2.0
4	5,177.250	-40.68	-13.0	27.68	30.14	V	333.0	1.0

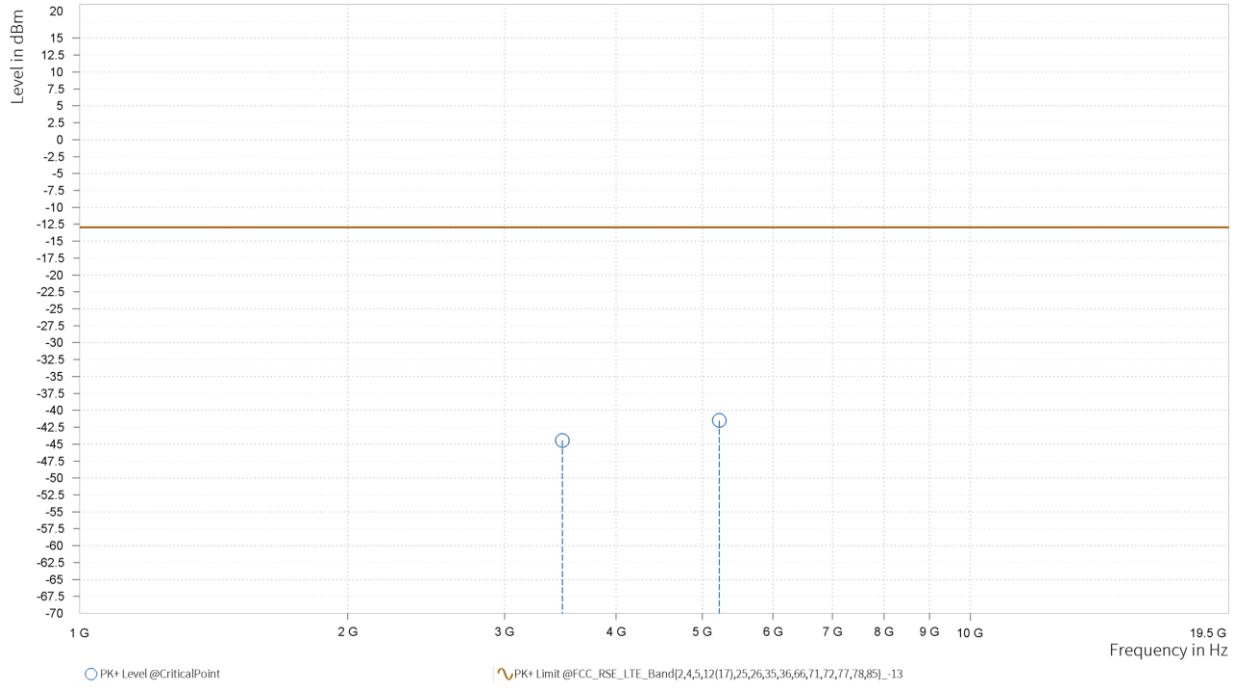


CH 20325

MODE	TX channel 20325	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

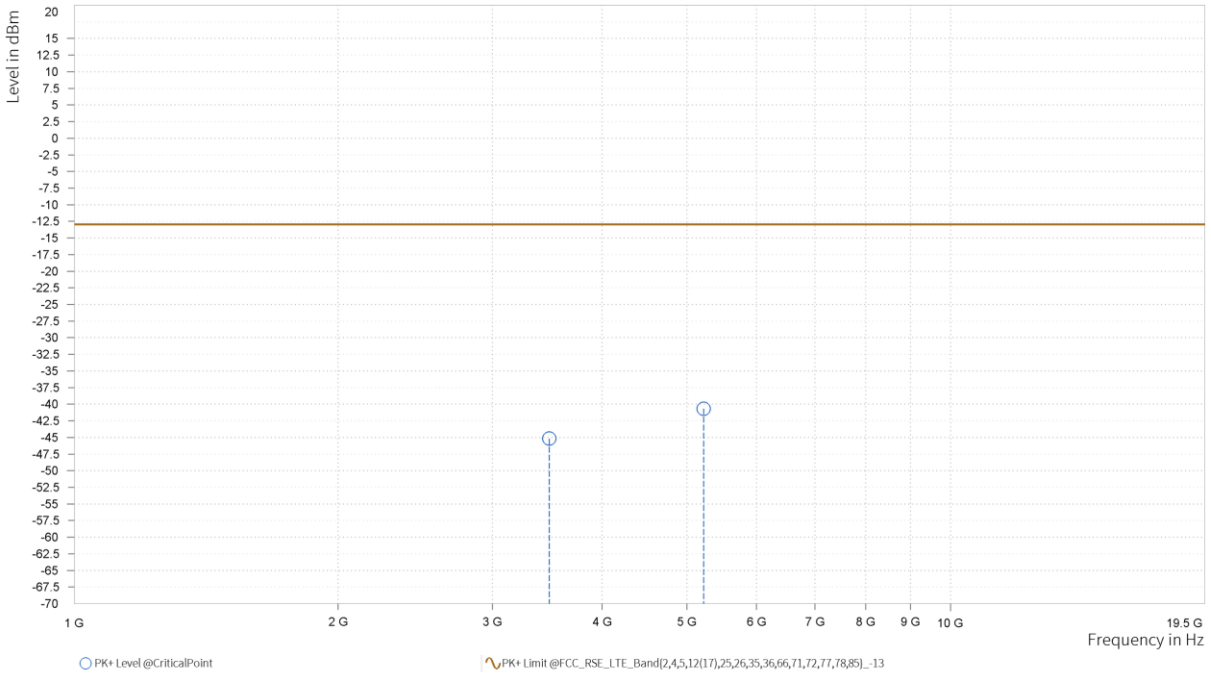
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,481.500	-44.44	-13.0	31.44	27.4	H	1	1.0
4	5,222.250	-41.51	-13.0	28.51	30.45	H	1	1.0



MODE	TX channel 20325	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,481.500	-45.18	-13.0	32.18	27.15	V	359.1	1.0
4	5,222.250	-40.68	-13.0	27.68	30.43	V	359.0	2.0

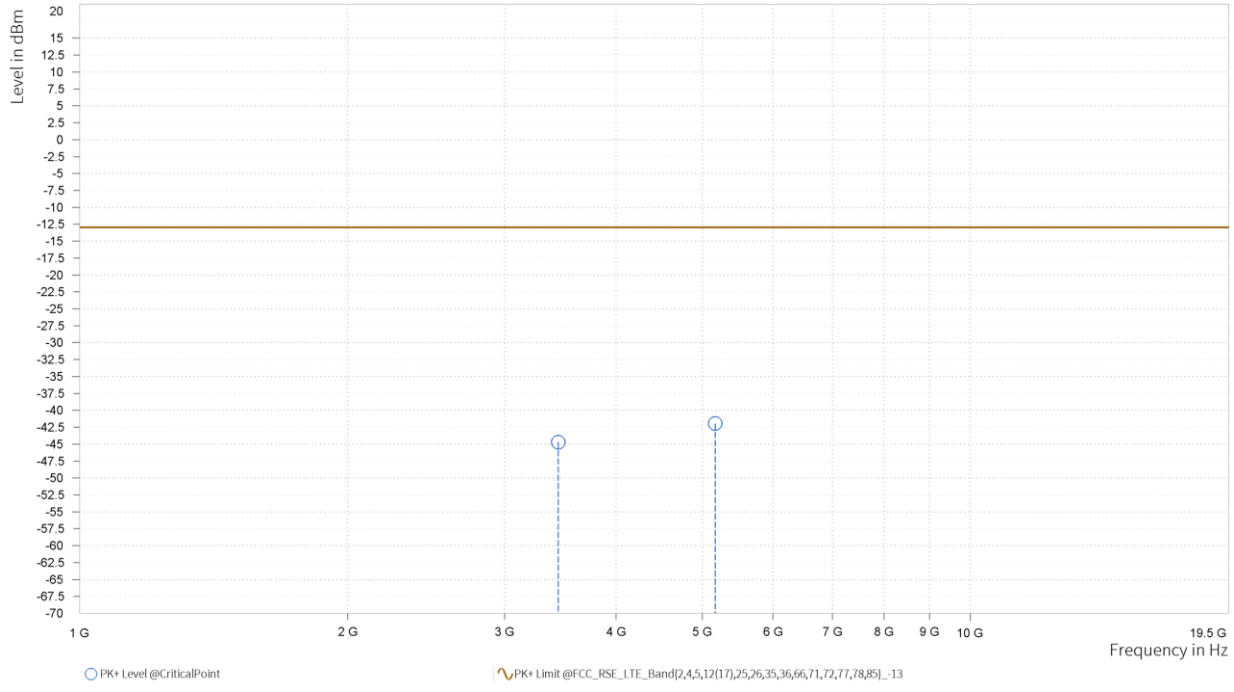


CHANNEL BANDWIDTH: 20MHz / QPSK

MODE	TX channel 20175	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

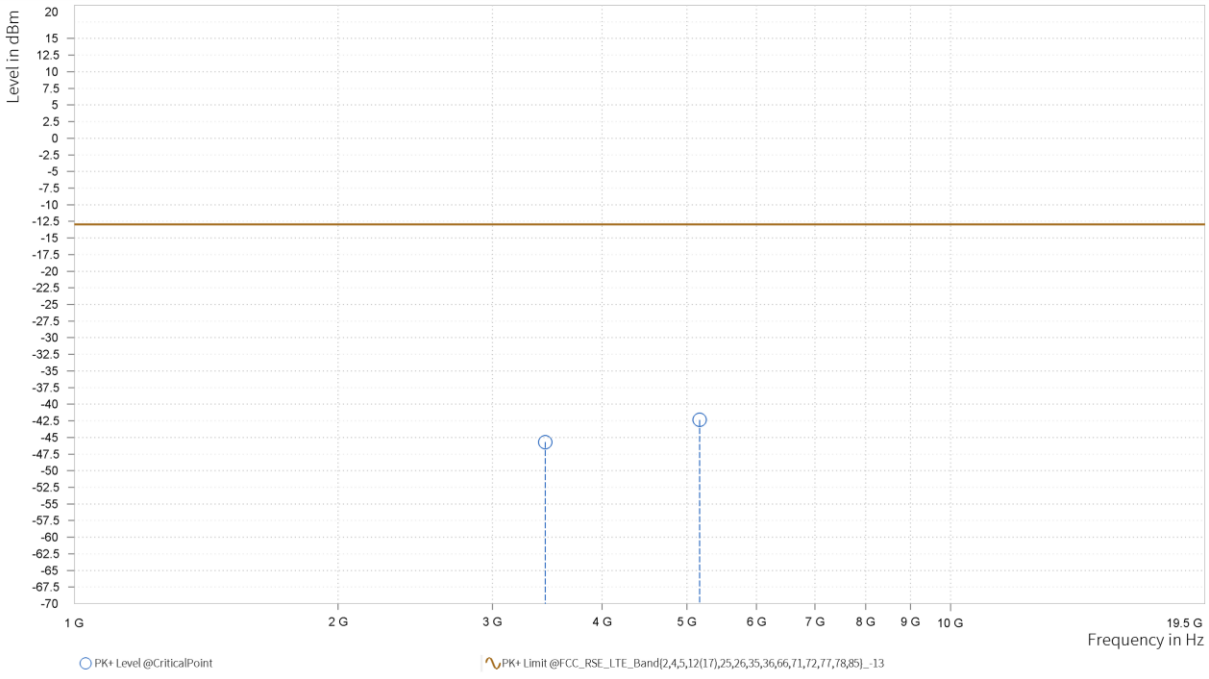
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,447.000	-44.69	-13.0	31.69	27.35	H	359	2.0
4	5,170.500	-41.96	-13.0	28.96	30.44	H	359	1.0



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,447.000	-45.7	-13.0	32.7	27.05	V	0.9	2.0
4	5,170.500	-42.37	-13.0	29.37	30.36	V	285.2	1.0

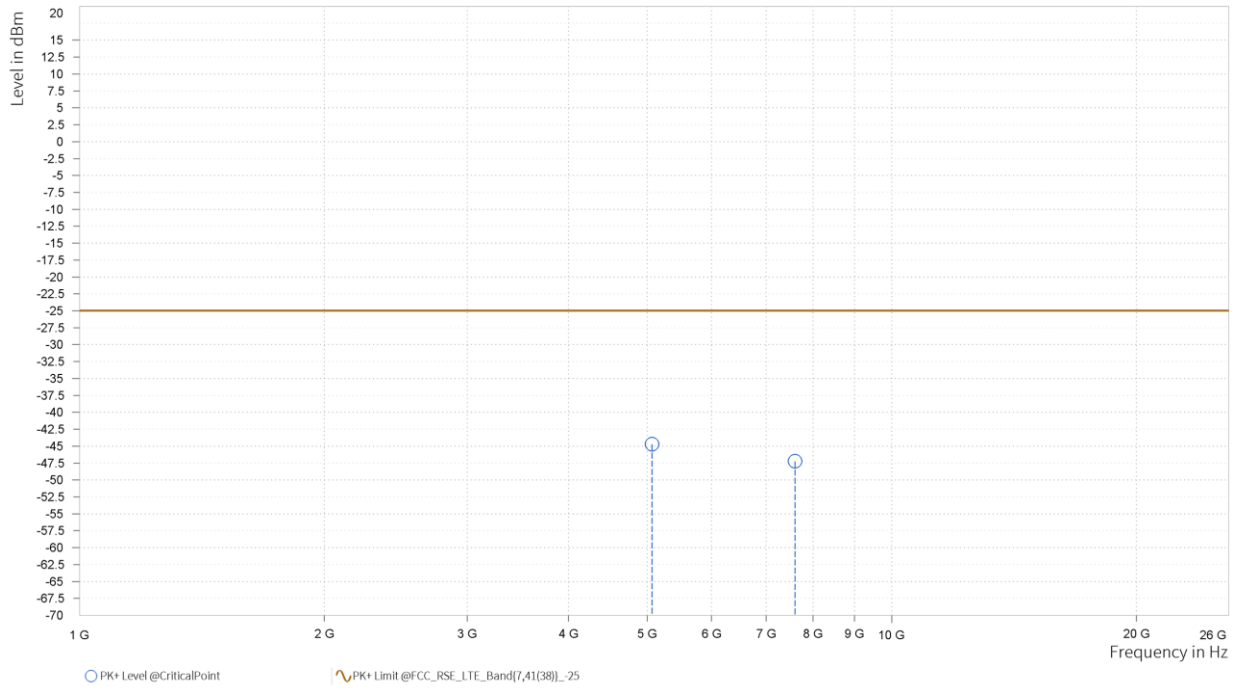


LTE Band 7
CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

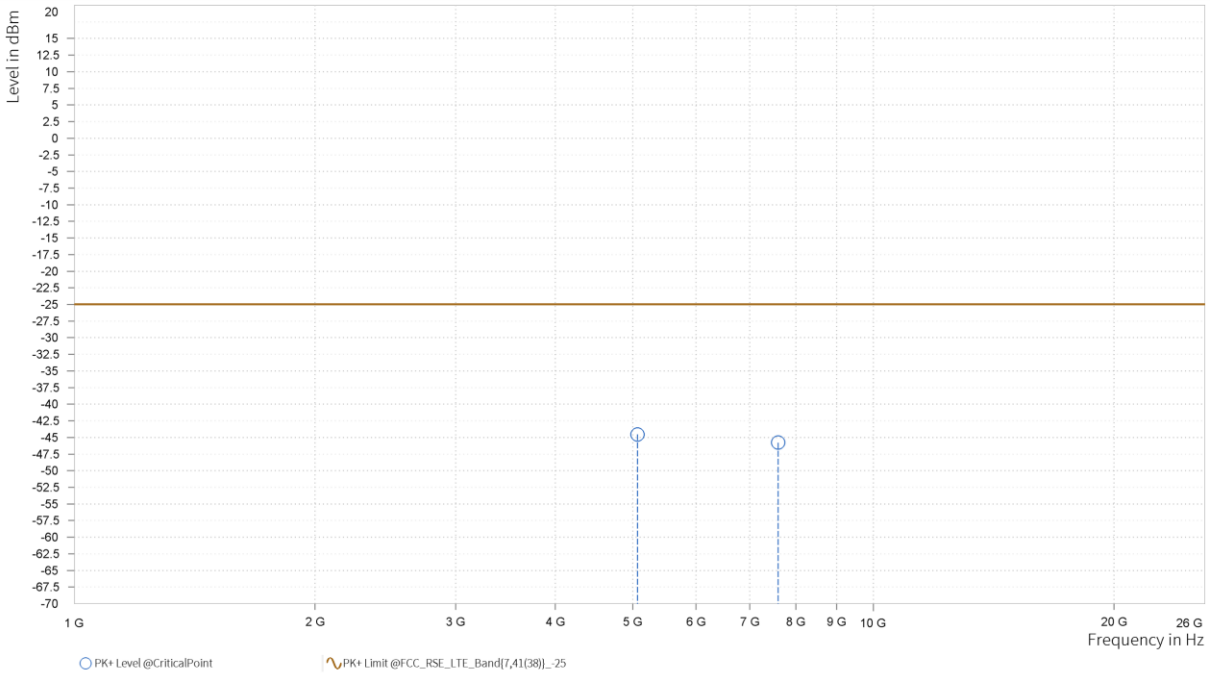
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-44.72	-25.0	19.72	29.79	H	359	2.0
5	7,598.250	-47.25	-25.0	22.25	35.83	H	1	1.0



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-44.55	-25.0	19.55	29.55	V	1	1.0
5	7,598.250	-45.79	-25.0	20.79	35.85	V	1	1.0

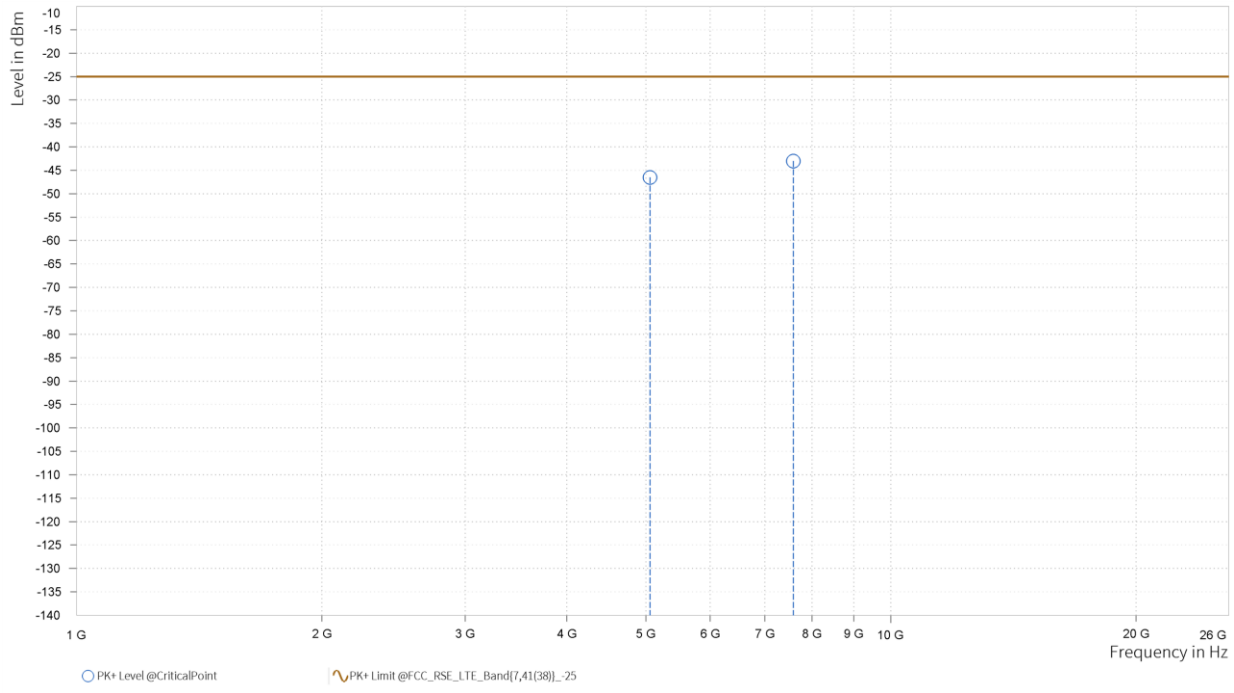


CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

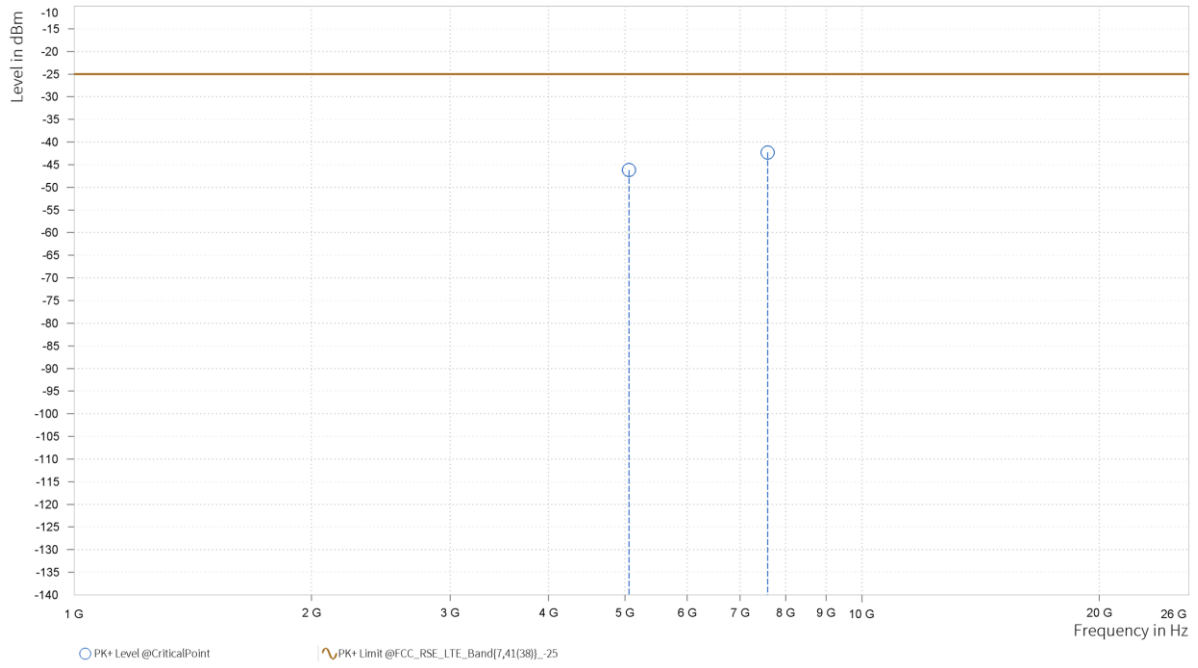
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,061.000	-46.52	-25.0	21.52	25.31	H	241	2.0
2	7,591.500	-43.01	-25.0	18.01	29.77	H	1	2.0



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	5,061.000	-46.2	-25.0	21.2	25.08	V	359.0	2.0
2	7,591.500	-42.31	-25.0	17.31	29.8	V	205.1	2.0

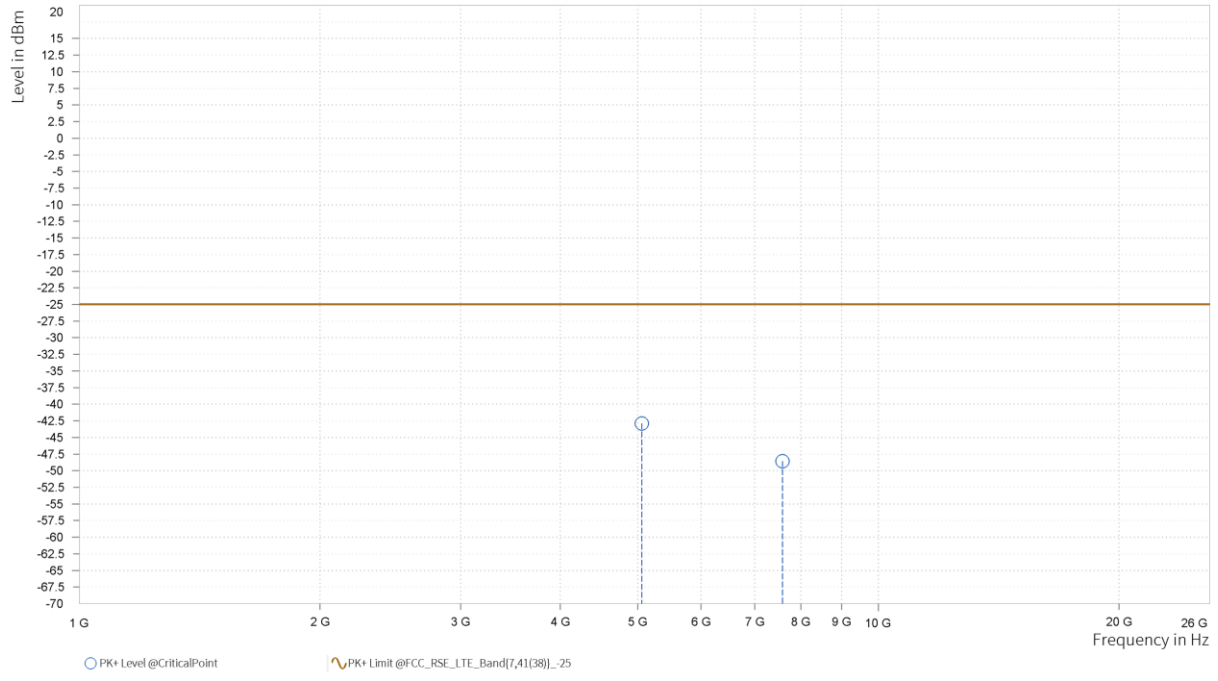


CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

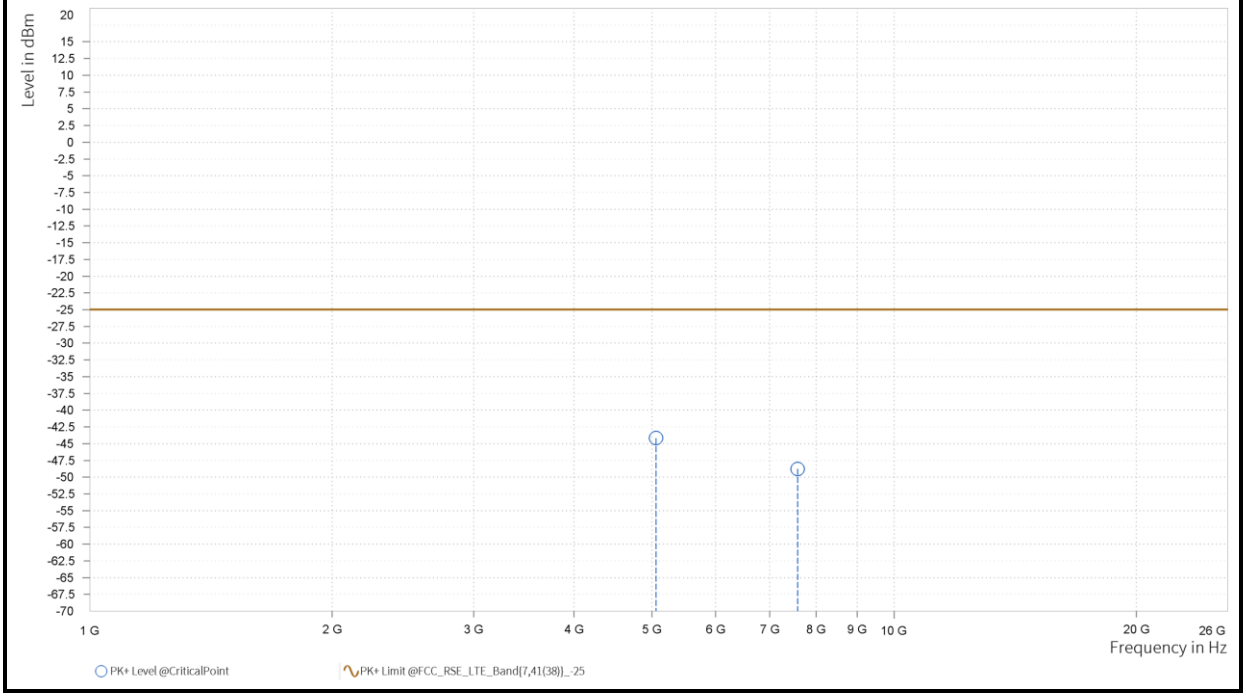
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-42.88	-25.0	17.88	30.51	H	1	1.0
5	7,584.750	-48.57	-25.0	23.57	34.37	H	359	2.0



MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-44.16	-25.0	19.16	30.29	V	239.8	1.0
5	7,584.750	-48.76	-25.0	23.76	34.42	V	1.0	1.0

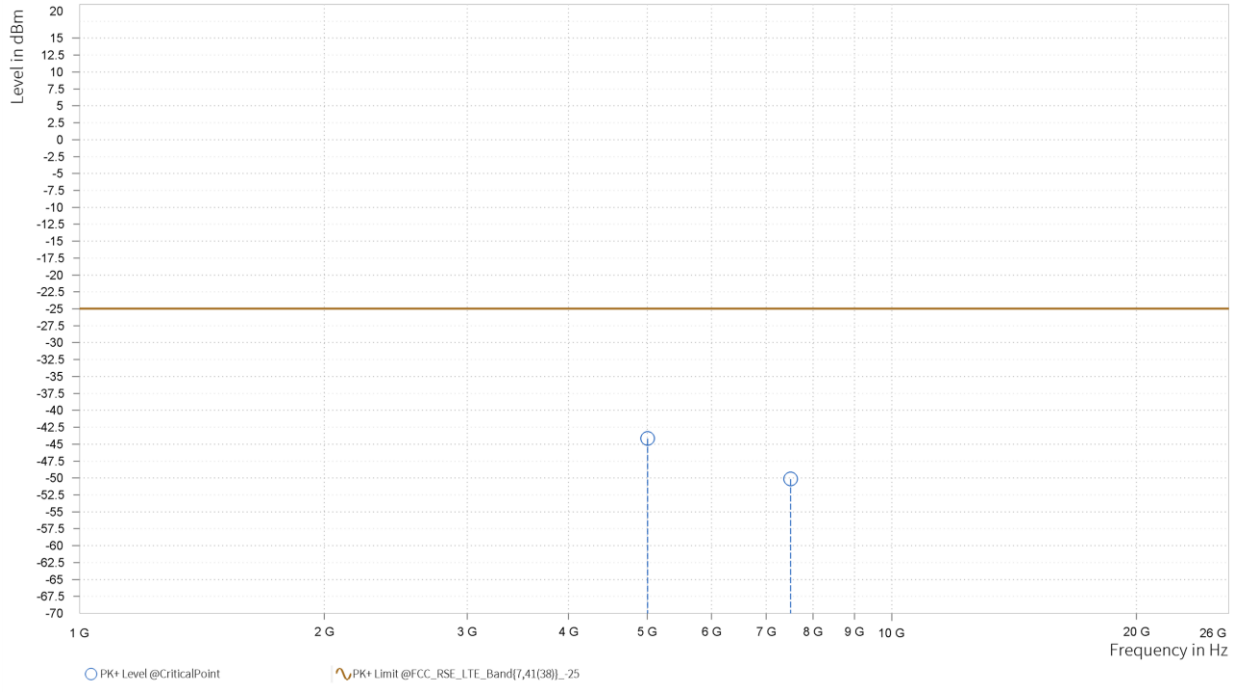


CHANNEL BANDWIDTH: 20MHz / QPSK
CH: 20850

MODE	TX channel 20850	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

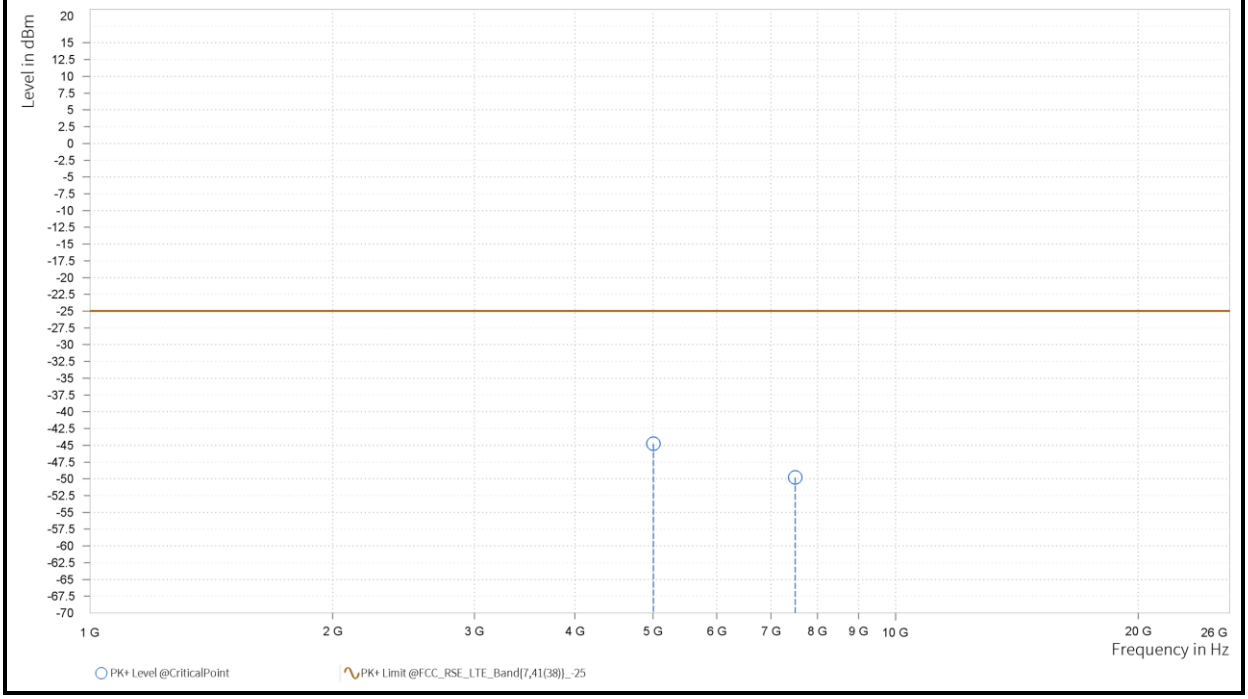
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,002.000	-44.17	-25.0	19.17	29.42	H	1.0	1.0
5	7,503.000	-50.15	-25.0	25.15	32.64	H	0.9	2.0



MODE	TX channel 20850	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,002.000	-44.77	-25.0	19.77	29.27	V	359	2.0
5	7,503.000	-49.8	-25.0	24.8	32.81	V	1	2.0



CH:21100

MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-41.55	-25.0	16.55	31.49	H	110.7	2.0
5	7,578.000	-50.38	-25.0	25.38	33.43	H	359.1	1.0