

FCC TEST REPORT

(PART 96)

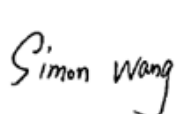
Applicant:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland

Manufacturer or Supplier:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Product:	Mobile phone
Brand Name:	HMD
Model Name:	H1702V
FCC ID:	2AJOTTA-1702
Date of tests:	Jan. 13, 2025 ~ Apr. 08, 2025

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

☒ **47 CFR FCC Part 96**

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: Apr. 08, 2025	Date: Apr. 08, 2025

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Test Report No.: PSU-NQN2412090110RF05

RELEASE CONTROL RECORD

ISSUE NO.	DESCRIPTION	DATE ISSUED
PSU-NQN2412090110RF05	Original release	Apr. 08, 2025



1 SUMMARY OF TEST RESULTS

47 CFR FCC PART 96		
FCC CLAUSE	TEST ITEM	RESULT
2.1046 96.41(b)	Maximum Peak Output Power and Maximum EIRP	Compliance
2.1046 96.41(e)	Conducted Band Edge	Compliance
2.1049	Occupied Bandwidth	Compliance
2.1055	Frequency Stability	Compliance
2.1051 96.41(e)	Conducted Spurious Emissions	Compliance
2.1053 96.41(e)	Radiated Spurious Emissions	Compliance
96.41(g)	Peak-to-Average Power Ratio	Compliance

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Lab B:

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

Lab Address:

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District
Shenzhen, Guangdong, People's Republic of China

Accredited Test Lab Cert 3939.01

The FCC Site Registration No. is 525120; The Designation No. is CN1171.

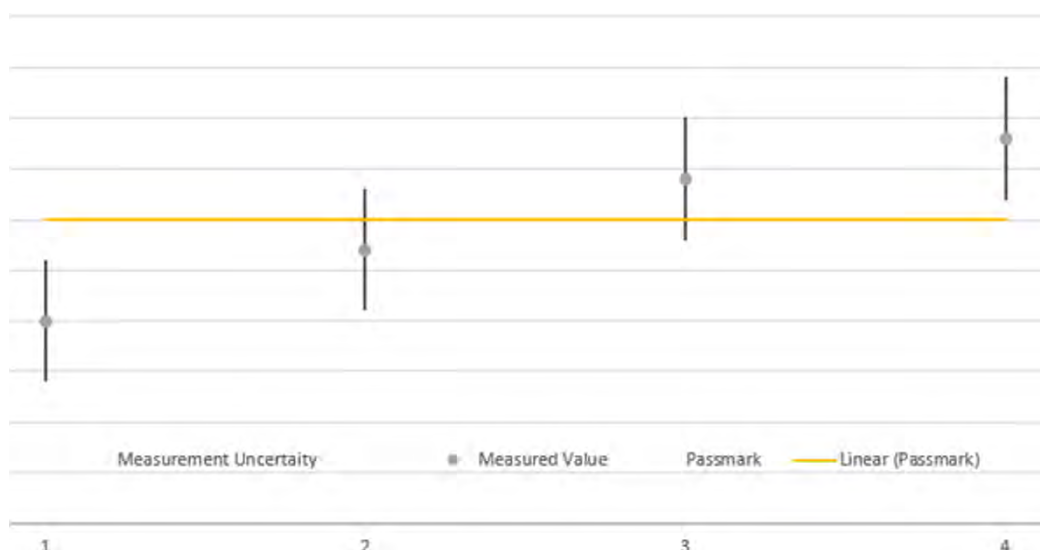


1.1 MEASUREMENT UNCERTAINTY

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
Effective Radiated Power	±1.48dB
Frequency Stability	±39.27Hz
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	±4.01 dB
Occupied Channel Bandwidth	±21.7KHz
Band Edge Measurements	±1.48dB
Peak to average ratio	±0.76dB

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.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 26,25	Mar. 25,26
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.09,24	May.08,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.08,25	May.07,26
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.01,24	Aut.31,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 17,24	Feb. 16,25
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 16,25	Feb. 15,26
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 17,24	Feb. 16,25
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 16,25	Feb. 15,26
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40- K-SG/QMS- 00361	15433	Sep.02, 24	Sep.01, 25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 13,24	Feb. 12,25
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 12,25	Feb. 11,26
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 05,24	May. 04,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.09,24	May.08,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 16,24	Feb.15,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb.15,25	Feb.14,26
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn- CT0001143- 1216	Nov. 14,23	Nov. 13,26
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010- SMA	May. 05,24	May. 04,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 13,24	Feb. 12,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 12,25	Feb. 11,26
Power Sensor	Anritsu	MA2411B	1339352	Feb. 13,24	Feb. 12,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 12,25	Feb. 11,26
Temperature Chamber	ESPEC	SH-242	93000855	May. 05,24	May. 04,25
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 13,24	Feb. 12,25
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 12,25	Feb. 11,26
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.09,24	May.08,25
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 10,24	Aug. 09,25
Power Divider	COM-MW	ZPD8-2M0-40G- 1942	04223131	Oct.08.24	Oct.07.25



NOTE:

1. The calibration interval of the above test instruments is 12 /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.
The FCC Site Registration No. is 525120; The Designation No. is CN1171.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile phone	
BRAND NAME*	HMD	
MODEL NAME*	H1702V	
NOMINAL VOLTAGE*	3.87Vdc (Li-ion, battery)	
MODULATION TECHNOLOGY*	LTE	QPSK, 16QAM, 64QAM, 256QAM
FREQUENCY RANGE	LTE Band 48 Channel Bandwidth: 5MHz	3552.5MHz ~ 3697.5MHz
	LTE Band 48 Channel Bandwidth: 10MHz	3555MHz ~ 3695MHz
	LTE Band 48 Channel Bandwidth: 15MHz	3557.5MHz ~ 3692.5MHz
	LTE Band 48 Channel Bandwidth: 20MHz	3560MHz ~ 3690MHz
	CA_48B Channel Bandwidth: 10MHz +10MHz	3555MHz ~ 3695MHz
	CA_48C Channel Bandwidth: 5MHz+20MHz	3553.3MHz ~ 3690MHz
	CA_48C Channel Bandwidth: 20MHz +5MHz	3560MHz ~ 3696.7MHz
	CA_48C Channel Bandwidth: 10MHz +20MHz	3555.5MHz ~ 3690MHz
	CA_48C Channel Bandwidth: 20MHz +10MHz	3560MHz ~ 3694.5MHz
	CA_48C Channel Bandwidth: 15MHz +20MHz	3557.8MHz ~ 3690MHz
	CA_48C Channel Bandwidth: 20MHz +15MHz	3560MHz ~ 3692.2MHz
	CA_48C Channel Bandwidth: 20MHz +20MHz	3560MHz ~ 3690MHz
EMISSION DESIGNATOR	LTE Band 48 Channel Bandwidth: 5MHz	QPSK: 4M52G7D 16QAM: 4M52W7D
	LTE Band 48 Channel Bandwidth: 10MHz	QPSK: 9M02G7D 16QAM: 9M02W7D
	LTE Band 48 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 13M5W7D
	LTE Band 48 Channel Bandwidth: 20MHz	QPSK: 18M0G7D 16QAM: 18M0W7D



	CA_48B Channel Bandwidth: 10MHz+10MHz	QPSK: 18M9G7D
		16QAM: 18M8W7D
		64QAM: 18M8W7D
		256QAM: 18M8W7D
	CA_48C Channel Bandwidth: 5MHz+20MHz	QPSK: 23M0G7D
		16QAM: 23M0W7D
	CA_48C Channel Bandwidth: 20MHz +5MHz	QPSK: 23M0G7D
		16QAM: 49M5W7D
	CA_48C Channel Bandwidth: 10MHz +20MHz	QPSK: 27M9G7D
		16QAM: 27M9W7D
	CA_48C Channel Bandwidth: 20MHz +10MHz	QPSK: 27M9G7D
		16QAM: 27M9W7D
MAX. EIRP POWER	LTE Band 48 Channel Bandwidth: 5MHz	166.34mW
	LTE Band 48 Channel Bandwidth: 10MHz	167.11mW
	LTE Band 48 Channel Bandwidth: 15MHz	167.11mW
	LTE Band 48 Channel Bandwidth: 20MHz	169.43mW
	CA_48B Channel Bandwidth: 10MHz +10MHz	138.36mW
	CA_48C Channel Bandwidth: 5MHz+20MHz	138.68mW
	CA_48C Channel Bandwidth: 20MHz +5MHz	140.60mW
	CA_48C Channel Bandwidth: 10MHz +20MHz	137.72mW
	CA_48C Channel Bandwidth: 20MHz +10MHz	137.09mW
	CA_48C Channel Bandwidth: 15MHz +20MHz	140.28mW



	CA_48C Channel Bandwidth: 20MHz +15MHz	139.32 mW
	CA_48C Channel Bandwidth: 20MHz +20MHz	141.91mW
ANTENNA GAIN*	LTE BAND 48/48B/48C	ANT4:-1.5dBi
ANTENNA TYPE*	PIFA Antenna	
HW VERSION*	V1.0	
SW VERSION*	000T_0_310	
I/O PORTS*	Refer to user's manual	
DATA CABLE*	USB cable: non-shielded cable, with w/o ferrite core, 1.0meter	
EXTREME TEMPERATURE*	-10°C ~ 55°C	
EXTREME VOLTAGE*	3.6V ~ 4.5V	

NOTE:

- *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

- For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
- For Band Edge and Emission Mask: The all BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.
- For Out of Band Emissions: The all combination was tested. The highest power RB combination was selected as worst case.



7. The differences between the sample 1 and sample 2 as Listings below, others are the same. And only the worst case was shown in the test report.

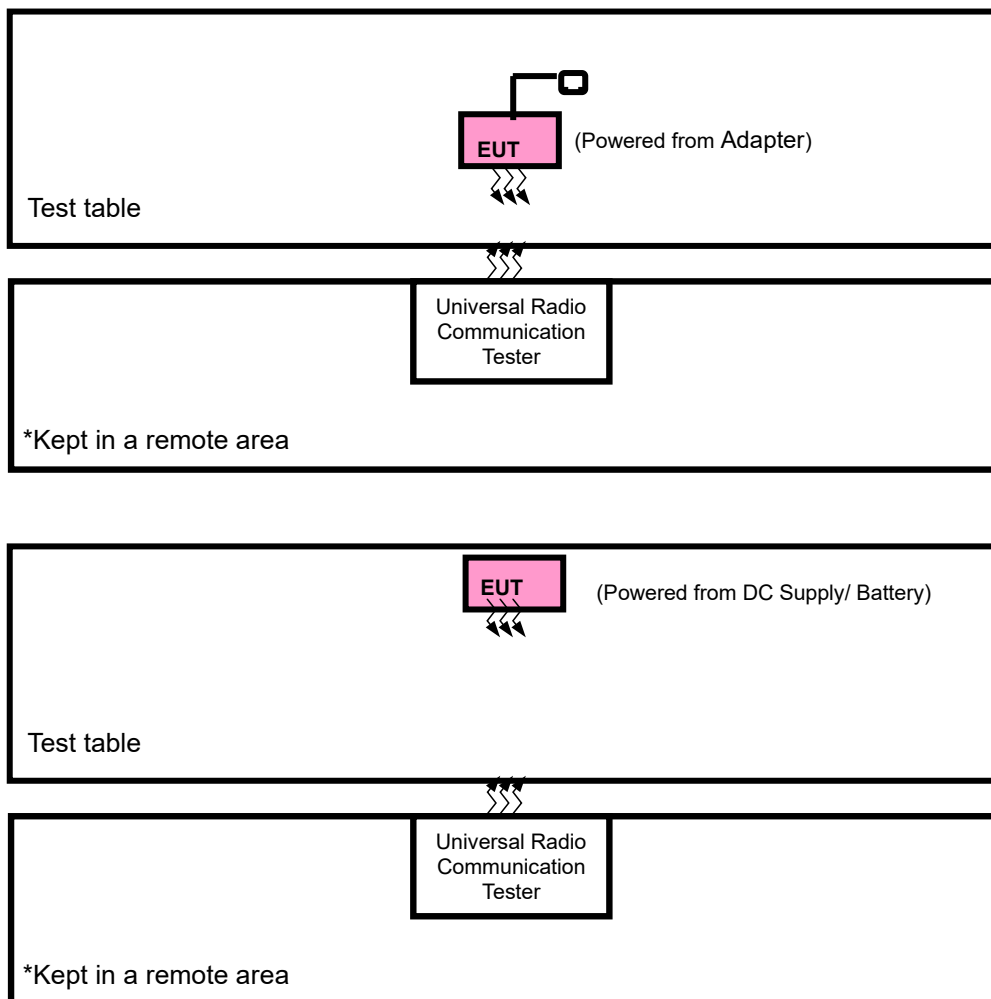
Raptor 5G(H1702V)

Object	Sample 1 1 st source		Sample 2 2 nd source	
	Specifications	Supplier	Specifications	Supplier
Display	Y92232	DZX	TD-TCHJ6615-5D	CDOT
Memory	LPDDR4X 6GB FLXC4006G-49	Longsys	BWCC4X32N2A-48G-X	Biwin
	128GB eMMC5.1 MEMDNN128G-M1D03	Longsys	MEMDNN128G-M1D03	Biwin
Motor	C0830H-C138ZN-021	KunWang	CY0830-05-FPC-182	Chaoying
Mic	SM2718B381YR2-01	Rayking	S150B381-155	Goertek
Charger IC	UPM6720	Unisemi	SC8541CFFR	Southchip

8. List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	HMD	HuiZhou GanFeng LiEnergy Battery Technology Co., Ltd.	HBA-5033AA	Capacity: 3.87Vdc, 4900mAh
USB Cable	Saibao	Saibao (Jiangxi) Industry Co.,Ltd.	SZN-A047A	Signal Line,1.0meter

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
2	DC Source	HYELEC	HY3010B	551016	N/A

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

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case 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 + USB Cable with LTE link
B	EUT + DC Supply / Battery with LTE link



LTE BAND 48 MODE						
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	55265 to 56715	55265, 55990, 56715	5MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB Offset
		55290 to 56690	55290, 55990, 56690	10MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0RB Offset
		55315 to 56665	55315, 55990, 56665	15MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB Offset
		55340 to 56640	55340, 55990, 56640	20MHz	QPSK, 16QAM, 64QAM, 256QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	55290 to 56690	55290, 55990, 56690	10MHz	QPSK,	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	55265 to 56715	55265, 55990, 56715	5MHz	QPSK, 16QAM,	25 RB / 0 RB Offset
		55290 to 56690	55290, 55990, 56690	10MHz	QPSK, 16QAM,	50 RB / 0 RB Offset
		55315 to 56665	55315, 55990, 56665	15MHz	QPSK, 16QAM,	75 RB / 0 RB Offset
		55340 to 56640	55340, 55990, 56640	20MHz	QPSK, 16QAM,	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	55340 to 56640	55340, 55990, 56640	20MHz	QPSK, 16QAM,	1 RB / 0 RB Offset 100 RB / 0 RB Offset
A	BAND EDGE	55265 to 56715	55265	5MHz	QPSK, 16QAM,	1 RB / 0 RB Offset 25 RB / 0 RB Offset
			56715	5MHz	QPSK, 16QAM,	1 RB / 24 RB Offset 25 RB / 0 RB Offset
		55290 to 56690	55290	10MHz	QPSK, 16QAM,	1 RB / 0 RB Offset 50 RB / 0 RB Offset
			56690	10MHz	QPSK, 16QAM,	1 RB / 49 RB Offset 50 RB / 0 RB Offset
		55315 to 56665	55315	15MHz	QPSK, 16QAM,	1 RB / 0 RB Offset 75 RB / 0 RB Offset
			56665	15MHz	QPSK, 16QAM,	1 RB / 74 RB Offset 75 RB / 0 RB Offset
		55340 to 56640	55340	20MHz	QPSK, 16QAM,	1 RB / 0 RB Offset 100 RB / 0 RB Offset
			56640	20MHz	QPSK, 16QAM,	1 RB / 99 RB Offset



						100 RB / 0 RB Offset
A	CONDCUETED EMISSION	55265 to 56715	55265, 55990, 56715	5MHz	QPSK	1 RB / 0 RB Offset
		55290 to 56690	55290, 55990, 56690	10MHz	QPSK	1 RB / 0RB Offset
		55315 to 56665	55315, 55990, 56665	15MHz	QPSK	1 RB / 0 RB Offset
		55340 to 56640	55340, 55990, 56640	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	55265 to 56715	55990	5MHz	QPSK	1 RB / 0 RB Offset
		55290 to 56690	55290, 55990, 56690	10MHz	QPSK	1 RB / 0RB Offset
		55315 to 56665	55990	15MHz	QPSK	1 RB / 0 RB Offset
		55340 to 56640	55990	20MHz	QPSK	1 RB / 0 RB Offset
A	ACLR	55265 to 56715	55265	5MHz	QPSK, 16QAM,	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			56715	5MHz	QPSK, 16QAM,	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		55290 to 56690	55290	10MHz	QPSK, 16QAM,	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			56690	10MHz	QPSK, 16QAM,	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
		55315 to 56665	55315	15MHz	QPSK, 16QAM,	1 RB / 0 RB Offset
						75 RB / 0 RB Offset
			56665	15MHz	QPSK, 16QAM,	1 RB / 74 RB Offset
						75 RB / 0 RB Offset
		55340 to 56640	55340	20MHz	QPSK, 16QAM,	1 RB / 0 RB Offset
						100 RB / 0 RB Offset
			56640	20MHz	QPSK, 16QAM,	1 RB / 99 RB Offset
						100 RB / 0 RB Offset

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



CA_48B MODE								
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	55290 to 56591	55389 to 56690	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	55290 to 56591	55389 to 56690	Low, Middle, High	10MHz+10MHz	QPSK, 16QAM,	100RB/ 0RB Offset	75RB/ 0RB Offset
A	BAND EDGE	55290 to 56591	55389 to 56690	Low	10MHz+10MHz	QPSK, 16QAM,	1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
				High	10MHz+10MHz		1RB/ 0RB Offset	1RB/ 99RB Offset
							1RB/ 99RB Offset	1RB/ 0RB Offset
							100RB/ 0RB Offset	100RB/ 0RB Offset
A	CONDUCTED EMISSION	55290 to 56591	55389 to 56690	Low, Middle, High	10MHz+10MHz	QPSK,	1RB / 99RB Offset	1RB/ 0RB Offset
A	RADIATED EMISSION	55290 to 56591	55389 to 56690	Low, Middle, High	10MHz+10MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset

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



CA_48C MODE								
EUT CONFIGURE MODE	TEST ITEM	AVAILABLE PCC CHANNEL	AVAILABLE SCC CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE(PCC)	MODE(SCC)
A	EIRP	55340 to 56491	55511 to 56662	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		55318 to 56496	55489 to 56640	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 74RB Offset	1RB/ 0RB Offset
		55340 to 56541	55484 to 56685	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		55295 to 56496	55439 to 56640	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 49RB Offset	1RB/ 0RB Offset
		55340 to 56590	55457 to 56707	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
		55273 to 56523	55390 to 56640	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM, 64QAM,256QAM	1RB / 24RB Offset	1RB / 0RB Offset
		55340 to 56442	55538 to 56640	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM, 64QAM,256QAM	1RB/ 99RB Offset	1RB/ 0RB Offset
A	OCCUPIED BANDWIDTH	55340 to 56491	55511 to 56662	Low, Middle, High	20MHz+15MHz	QPSK, 16QAM,	100RB/ 0RB Offset	75RB/ 0RB Offset
		55318 to 56496	55489 to 56640	Low, Middle, High	15MHz+20MHz	QPSK, 16QAM,	75RB/ 0RB Offset	100RB/ 0RB Offset
		55340 to 56541	55484 to 56685	Low, Middle, High	20MHz+10MHz	QPSK, 16QAM,	100RB/ 0RB Offset	50RB/ 0RB Offset
		55295 to 56496	55439 to 56640	Low, Middle, High	10MHz+20MHz	QPSK, 16QAM,	50RB/ 0RB Offset	100RB/ 0RB Offset
		55340 to 56590	55457 to 56707	Low, Middle, High	20MHz +5MHz	QPSK, 16QAM,	100RB/ 0RB Offset	50RB/ 0RB Offset
		55273 to 56523	55390 to 56640	Low, Middle, High	5MHz +20MHz	QPSK, 16QAM,	50RB/ 0RB Offset	100RB/ 0RB Offset
		55340 to 56442	55538 to 56640	Low, Middle, High	20MHz +20MHz	QPSK, 16QAM,	100RB/ 0RB Offset	100RB/ 0RB Offset
A	BAND EDGE	55340 to 56442	Low	20MHz+20MHz	QPSK, 16QAM,	1RB/ 0RB Offset	1RB/ 99RB Offset	
						1RB/ 99RB Offset	1RB/ 0RB Offset	
						100RB/ 0RB Offset	100RB/ 0RB Offset	
			High	20MHz+20MHz		1RB/ 0RB Offset	1RB/ 99RB Offset	
						1RB/ 99RB Offset	1RB/ 0RB Offset	
						100RB/ 0RB Offset	100RB/ 0RB Offset	
A	CONDUCTED EMISSION	55340 to 56442	55538 to 56640	Low, Middle, High	20MHz+20MHz	QPSK	1RB / 99RB Offset	1RB/ 0RB Offset



A	RADIATED EMISSION	55318 to 56496	55489 to 56640	Middle	15MHz+20MHz	QPSK,	1RB/ 99RB Offset	1RB/ 0RB Offset
		55295 to 56496	55439 to 56640	Low, Middle, High,	10MHz+20MHz	QPSK,	1RB/ 49RB Offset	1RB/ 0RB Offset
		55273 to 56523	55390 to 56640	Middle	5MHz +20MHz	QPSK,	1RB/ 24RB Offset	1RB/ 0RB Offset
		55340 to 56442	55538 to 56640	Middle,	20MHz+20MHz	QPSK,	1RB / 99RB Offset 1RB / 0RB Offset	1RB/ 0RB Offset

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



TEST CONDITION			
TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 5V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.6V/ 3.87V/ 4.45V By DC Source	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5V By Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 5V By Adapter	James Fu
CONDCUDED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5V By Adapter	James Fu



**BUREAU
VERITAS**

Test Report No.: PSU-NQN2412090110RF05

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 96

KDB 971168 D02 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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



3 TEST TYPES AND RESULTS

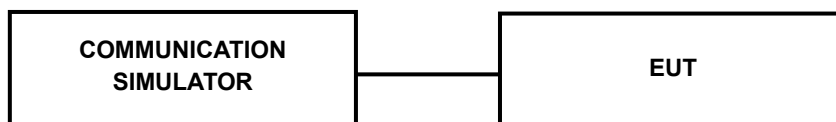
3.1 MAXIMUM EIRP MEASUREMENT

3.1.1 LIMITS OF MAXIMUM EIRP MEASUREMENT

Device	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

3.1.2 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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



3.1.3 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.

Note: The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 5, 10, 15, 20MHz).

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.

3.1.5 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE band 48(ANT4)

Band/BW	Modulation	RB Size	RB Offset	Low CH (55265)	Mid CH (55990)	High CH (56715)
				Frequency (3552.5)MHz	Frequency (3625.0)MHz	Frequency (3697.5)MHz
48/ 5	QPSK	1	0	23.50	23.39	23.70
		1	12	23.62	23.53	23.71
		1	24	23.52	23.53	23.68
		12	0	22.68	22.41	22.77
		12	6	22.70	22.49	22.75
		12	13	22.74	22.57	22.82
		25	0	22.68	22.46	22.71
	16QAM	1	0	22.48	22.40	22.70
		1	12	22.61	22.31	22.69
		1	24	22.53	22.40	22.68
		12	0	21.61	21.41	21.70
		12	6	21.67	21.44	21.84
		12	13	21.70	21.58	21.84
		25	0	21.68	21.53	21.73
	64QAM	1	0	21.64	21.44	21.68
		1	12	21.65	21.39	21.74
		1	24	21.68	21.46	21.83
		12	0	20.69	20.42	20.69
		12	6	20.62	20.46	20.76
		12	13	20.60	20.43	20.76
		25	0	20.74	20.43	20.78
	256QAM	1	0	18.50	18.30	18.73
		1	12	18.59	18.45	18.85
		1	24	18.61	18.46	18.82
		12	0	18.78	18.39	18.77
		12	6	18.73	18.54	18.83
		12	13	18.74	18.49	18.78
		25	0	18.72	18.50	18.73



Band/BW	Modulation	RB Size	RB Offset	Low CH (55290)	Mid CH (55990)	High CH (56690)
				Frequency (3555)MHz	Frequency (3625.0)MHz	Frequency (3695)MHz
48/ 10	QPSK	1	0	23.47	23.35	23.73
		1	24	23.65	23.52	23.72
		1	49	23.53	23.48	23.73
		25	0	22.63	22.34	22.66
		25	12	22.62	22.51	22.72
		25	25	22.68	22.50	22.83
		50	0	22.74	22.53	22.69
	16QAM	1	0	22.58	22.29	22.65
		1	24	22.49	22.41	22.59
		1	49	22.52	22.46	22.69
		25	0	21.65	21.33	21.69
		25	12	21.73	21.50	21.73
		25	25	21.62	21.52	21.78
		50	0	21.73	21.43	21.75
	64QAM	1	0	21.65	21.51	21.68
		1	24	21.72	21.48	21.73
		1	49	21.71	21.47	21.85
		25	0	20.71	20.41	20.76
		25	12	20.73	20.58	20.80
		25	25	20.71	20.48	20.88
		50	0	20.70	20.47	20.80
	256QAM	1	0	18.53	18.31	18.69
		1	24	18.68	18.57	18.78
		1	49	18.62	18.55	18.92
		25	0	18.78	18.47	18.75
		25	12	18.76	18.57	18.78
		25	25	18.67	18.63	18.79
		50	0	18.66	18.51	18.70



Band/BW	Modulation	RB Size	RB Offset	Low CH (55315)	Mid CH (55990)	High CH (56665)
				Frequency (3557.5)MHz	Frequency (3625.0)MHz	Frequency (3692.5)MHz
48/ 15	QPSK	1	0	23.51	23.36	23.61
		1	37	23.66	23.48	23.73
		1	74	23.63	23.46	23.70
		36	0	22.67	22.48	22.75
		36	19	22.64	22.52	22.84
		36	39	22.61	22.54	22.85
		75	0	22.64	22.49	22.71
	16QAM	1	0	22.46	22.34	22.60
		1	37	22.47	22.36	22.69
		1	74	22.55	22.46	22.59
		36	0	21.69	21.37	21.69
		36	19	21.73	21.47	21.78
		36	39	21.66	21.61	21.79
		75	0	21.62	21.49	21.69
	64QAM	1	0	21.66	21.44	21.70
		1	37	21.66	21.52	21.76
		1	74	21.76	21.50	21.79
		36	0	20.70	20.38	20.76
		36	19	20.65	20.51	20.73
		36	39	20.74	20.55	20.83
		75	0	20.69	20.49	20.72
	256QAM	1	0	18.45	18.29	18.67
		1	37	18.60	18.54	18.81
		1	74	18.66	18.58	18.87
		36	0	18.78	18.38	18.71
		36	19	18.73	18.55	18.77
		36	39	18.68	18.58	18.87
		75	0	18.65	18.57	18.80



Band/BW	Modulation	RB Size	RB Offset	Low CH (55340)	Mid CH (55990)	High CH (56640)
				Frequency (3560)MHz	Frequency (3625.0)MHz	Frequency (3690)MHz
48/ 20	QPSK	1	0	23.62	23.47	23.74
		1	50	23.71	23.56	23.79
		1	99	23.67	23.54	23.76
		50	0	22.74	22.49	22.80
		50	25	22.73	22.58	22.86
		50	50	22.76	22.59	22.91
		100	0	22.75	22.56	22.83
	16QAM	1	0	22.61	22.41	22.73
		1	50	22.62	22.42	22.74
		1	99	22.64	22.49	22.72
		50	0	21.74	21.44	21.81
		50	25	21.79	21.59	21.87
		50	50	21.77	21.62	21.93
		100	0	21.75	21.55	21.83
	64QAM	1	0	21.72	21.52	21.82
		1	50	21.74	21.53	21.86
		1	99	21.79	21.54	21.89
		50	0	20.77	20.49	20.84
		50	25	20.76	20.60	20.85
		50	50	20.75	20.58	20.89
		100	0	20.76	20.57	20.83
	256QAM	1	0	18.58	18.41	18.79
		1	50	18.71	18.60	18.90
		1	99	18.69	18.61	18.93
		50	0	18.81	18.51	18.86
		50	25	18.82	18.65	18.88
		50	50	18.80	18.64	18.92
		100	0	18.78	18.63	18.85

**CA_48B**

CA_48B (Ant4)									
Combination 10MHz+10MHz (50RB+50RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55290	3555	55389	3565	QPSK	1	49	1	0	22.76
				16QAM	1	49	1	0	21.86
				64QAM	1	49	1	0	20.81
				256QAM	1	49	1	0	17.71
56041	3630	56140	3640	QPSK	1	49	1	0	22.91
				16QAM	1	49	1	0	21.79
				64QAM	1	49	1	0	20.95
				256QAM	1	49	1	0	17.86
56591	3685	56690	3695	QPSK	1	49	1	0	22.90
				16QAM	1	49	1	0	21.89
				64QAM	1	49	1	0	20.93
				256QAM	1	49	1	0	17.89



CA_48C

CA_48C (Ant4)									
Combination 20MHz+20MHz (100RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55340	3560	55538	3579.8	QPSK	1	99	1	0	22.80
				16QAM	1	99	1	0	21.90
				64QAM	1	99	1	0	20.88
				256QAM	1	99	1	0	17.82
55891	3615	56089	3634.9	QPSK	1	99	1	0	22.95
				16QAM	1	99	1	0	21.93
				64QAM	1	99	1	0	20.98
				256QAM	1	99	1	0	17.90
56442	3670	56640	3690	QPSK	1	99	1	0	23.02
				16QAM	1	99	1	0	21.97
				64QAM	1	99	1	0	21.02
				256QAM	1	99	1	0	18.03
Combination 20MHz+15MHz (100RB+75RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55340	3560	55511	3577.1	QPSK	1	99	1	0	22.75
				16QAM	1	99	1	0	21.77
				64QAM	1	99	1	0	20.73
				256QAM	1	99	1	0	17.76
55916	3617.6	56087	3634.7	QPSK	1	99	1	0	22.94
				16QAM	1	99	1	0	21.83
				64QAM	1	99	1	0	20.86
				256QAM	1	99	1	0	17.85
56491	3675.1	56662	3692.2	QPSK	1	99	1	0	22.89
				16QAM	1	99	1	0	21.85
				64QAM	1	99	1	0	21.00
				256QAM	1	99	1	0	17.99



CA_48C (Ant4)									
Combination 15MHz+20MHz (75RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55318	3557.8	55489	3574.9	QPSK	1	74	1	0	22.74
				16QAM	1	74	1	0	21.75
				64QAM	1	74	1	0	20.85
				256QAM	1	74	1	0	17.80
55893	3615.3	56064	3632.4	QPSK	1	74	1	0	22.81
				16QAM	1	74	1	0	21.90
				64QAM	1	74	1	0	20.86
				256QAM	1	74	1	0	17.86
56469	3672.9	56640	3690	QPSK	1	74	1	0	22.97
				16QAM	1	74	1	0	21.89
				64QAM	1	74	1	0	20.95
				256QAM	1	74	1	0	17.88
Combination 20MHz+10MHz (100RB+50RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55340	3560	55484	3574.4	QPSK	1	99	1	0	22.69
				16QAM	1	99	1	0	21.80
				64QAM	1	99	1	0	20.76
				256QAM	1	99	1	0	17.70
55941	3620.1	56085	3634.5	QPSK	1	99	1	0	22.84
				16QAM	1	99	1	0	21.86
				64QAM	1	99	1	0	20.83
				256QAM	1	99	1	0	17.84
56541	3680.1	56685	3694.5	QPSK	1	99	1	0	22.87
				16QAM	1	99	1	0	21.88
				64QAM	1	99	1	0	21.01
				256QAM	1	99	1	0	17.98



CA_48C (Ant4)									
Combination 10MHz+20MHz (50RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55295	3555.5	55439	3569.9	QPSK	1	49	1	0	22.76
				16QAM	1	49	1	0	21.78
				64QAM	1	49	1	0	20.79
				256QAM	1	49	1	0	17.73
55896	3615.6	56040	3630	QPSK	1	49	1	0	22.83
				16QAM	1	49	1	0	21.84
				64QAM	1	49	1	0	20.86
				256QAM	1	49	1	0	17.85
56496	3675.6	56640	3690	QPSK	1	49	1	0	22.89
				16QAM	1	49	1	0	21.89
				64QAM	1	49	1	0	20.92
				256QAM	1	49	1	0	17.97
Combination 20MHz+5MHz (100RB+25RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55340	3560	55457	3571.7	QPSK	1	99	1	0	22.77
				16QAM	1	99	1	0	21.78
				64QAM	1	99	1	0	20.87
				256QAM	1	99	1	0	17.78
55965	3622.5	56082	3634.2	QPSK	1	99	1	0	22.91
				16QAM	1	99	1	0	21.87
				64QAM	1	99	1	0	20.88
				256QAM	1	99	1	0	17.78
56590	3685	56707	3696.7	QPSK	1	99	1	0	22.98
				16QAM	1	99	1	0	21.88
				64QAM	1	99	1	0	20.90
				256QAM	1	99	1	0	18.00



CA_48C (Ant4)									
Combination 5MHz+20MHz (25RB+100RB)									
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)
					RB Size	RB offset	RB Size	RB offset	
55273	3553.3	55390	3565	QPSK	1	24	1	0	22.66
				16QAM	1	24	1	0	21.75
				64QAM	1	24	1	0	20.77
				256QAM	1	24	1	0	17.79
55898	3615.8	56015	3627.5	QPSK	1	24	1	0	22.92
				16QAM	1	24	1	0	21.82
				64QAM	1	24	1	0	20.88
				256QAM	1	24	1	0	17.89
56523	3678.3	56640	3690	QPSK	1	24	1	0	22.92
				16QAM	1	24	1	0	21.96
				64QAM	1	24	1	0	20.99
				256QAM	1	24	1	0	17.93

EIRP

LTE Band 48

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	23.62	-1.5	22.12	162.93	23
55990	3625	23.53	-1.5	22.03	159.59	23
56715	3697.5	23.71	-1.5	22.21	166.34	23

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	22.61	-1.5	21.11	129.12	23
55990	3625	22.40	-1.5	20.90	123.03	23
56715	3697.5	22.70	-1.5	21.20	131.83	23

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	21.68	-1.5	20.18	104.23	23
55990	3625	21.46	-1.5	19.96	99.08	23
56715	3697.5	21.83	-1.5	20.33	107.89	23

CHANNEL BANDWIDTH: 5MHz256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	18.78	-1.5	17.28	53.46	23
55990	3625	18.54	-1.5	17.04	50.58	23
56715	3697.5	18.85	-1.5	17.35	54.33	23

**CHANNEL BANDWIDTH: 10MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	23.65	-1.5	22.15	164.06	23
55990	3625	23.52	-1.5	22.02	159.22	23
56690	3695	23.73	-1.5	22.23	167.11	23

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	22.58	-1.5	21.08	128.23	23
55990	3625	22.46	-1.5	20.96	124.74	23
56690	3695	22.69	-1.5	21.19	131.52	23

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	21.72	-1.5	20.22	105.20	23
55990	3625	21.51	-1.5	20.01	100.23	23
56690	3695	21.85	-1.5	20.35	108.39	23

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	18.78	-1.5	17.28	53.46	23
55990	3625	18.63	-1.5	17.13	51.64	23
56690	3695	18.92	-1.5	17.42	55.21	23

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	23.66	-1.5	22.16	164.44	23
55990	3625	23.48	-1.5	21.98	157.76	23
56665	3692.5	23.73	-1.5	22.23	167.11	23

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	22.55	-1.5	21.05	127.35	23
55990	3625	22.46	-1.5	20.96	124.74	23
56665	3692.5	22.69	-1.5	21.19	131.52	23

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	21.76	-1.5	20.26	106.17	23
55990	3625	21.52	-1.5	20.02	100.46	23
56665	3692.5	21.79	-1.5	20.29	106.91	23

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	18.78	-1.5	17.28	53.46	23
55990	3625	18.58	-1.5	17.08	51.05	23
56665	3692.5	18.87	-1.5	17.37	54.58	23

**CHANNEL BANDWIDTH: 20MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	23.71	-1.5	22.21	166.34	23
55990	3625	23.56	-1.5	22.06	160.69	23
56640	3690	23.79	-1.5	22.29	169.43	23

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	22.64	-1.5	21.14	130.02	23
55990	3625	22.49	-1.5	20.99	125.60	23
56640	3690	22.74	-1.5	21.24	133.05	23

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	21.79	-1.5	20.29	106.91	23
55990	3625	21.54	-1.5	20.04	100.93	23
56640	3690	21.89	-1.5	20.39	109.40	23

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	18.82	-1.5	17.32	53.95	23
55990	3625	18.65	-1.5	17.15	51.88	23
56640	3690	18.93	-1.5	17.43	55.34	23

CA_48B

CA_48B_Ant4													
Combination 10MHz+10MHz (50RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55290	3555	55389	3564.9	QPSK	1	49	1	0	22.76	-1.50	21.26	133.66	23
				16QAM	1	49	1	0	21.86	-1.50	20.36	108.64	23
				64QAM	1	49	1	0	20.81	-1.50	19.31	85.31	23
				256QAM	1	49	1	0	17.71	-1.50	16.21	41.78	23
56041	3630.1	56140	3640	QPSK	1	49	1	0	22.91	-1.50	21.41	138.36	23
				16QAM	1	49	1	0	21.79	-1.50	20.29	106.91	23
				64QAM	1	49	1	0	20.95	-1.50	19.45	88.10	23
				256QAM	1	49	1	0	17.86	-1.50	16.36	43.25	23
56591	3685.1	56690	3695	QPSK	1	49	1	0	22.90	-1.50	21.40	138.04	23
				16QAM	1	49	1	0	21.89	-1.50	20.39	109.40	23
				64QAM	1	49	1	0	20.93	-1.50	19.43	87.70	23
				256QAM	1	49	1	0	17.89	-1.50	16.39	43.55	23

CA_48C

CA_48C_Ant4													
Combination 20MHz+20MHz (100RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55340	3560	55538	3579.8	QPSK	1	99	1	0	22.80	-1.50	21.30	134.90	23
				16QAM	1	99	1	0	21.90	-1.50	20.40	109.65	23
				64QAM	1	99	1	0	20.88	-1.50	19.38	86.70	23
				256QAM	1	99	1	0	17.82	-1.50	16.32	42.85	23
55891	3615.1	56089	3634.9	QPSK	1	99	1	0	22.95	-1.50	21.45	139.64	23
				16QAM	1	99	1	0	21.93	-1.50	20.43	110.41	23
				64QAM	1	99	1	0	20.98	-1.50	19.48	88.72	23
				256QAM	1	99	1	0	17.90	-1.50	16.40	43.65	23
56442	3670.2	56640	3690	QPSK	1	99	1	0	23.02	-1.50	21.52	141.91	23
				16QAM	1	99	1	0	21.97	-1.50	20.47	111.43	23
				64QAM	1	99	1	0	21.02	-1.50	19.52	89.54	23
				256QAM	1	99	1	0	18.03	-1.50	16.53	44.98	23



CA_48C_Ant4													
Combination 20MHz+15MHz (100RB+75RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55340	3560	55511	3577.1	QPSK	1	99	1	0	22.75	-1.50	21.25	133.35	23
				16QAM	1	99	1	0	21.77	-1.50	20.27	106.41	23
				64QAM	1	99	1	0	20.73	-1.50	19.23	83.75	23
				256QAM	1	99	1	0	17.76	-1.50	16.26	42.27	23
55916	3617.6	56087	3634.7	QPSK	1	99	1	0	22.94	-1.50	21.44	139.32	23
				16QAM	1	99	1	0	21.83	-1.50	20.33	107.89	23
				64QAM	1	99	1	0	20.86	-1.50	19.36	86.30	23
				256QAM	1	99	1	0	17.85	-1.50	16.35	43.15	23
56491	3675.1	56662	3692.2	QPSK	1	99	1	0	22.89	-1.50	21.39	137.72	23
				16QAM	1	99	1	0	21.85	-1.50	20.35	108.39	23
				64QAM	1	99	1	0	21.00	-1.50	19.50	89.13	23
				256QAM	1	99	1	0	17.99	-1.50	16.49	44.57	23



CA_48C_Ant4													
Combination 15MHz+20MHz (75RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55318	3557.8	55489	3574.9	QPSK	1	74	1	0	22.74	-1.50	21.24	133.05	23
				16QAM	1	74	1	0	21.75	-1.50	20.25	105.93	23
				64QAM	1	74	1	0	20.85	-1.50	19.35	86.10	23
				256QAM	1	74	1	0	17.80	-1.50	16.30	42.66	23
55893	3615.3	56064	3632.4	QPSK	1	74	1	0	22.81	-1.50	21.31	135.21	23
				16QAM	1	74	1	0	21.90	-1.50	20.40	109.65	23
				64QAM	1	74	1	0	20.86	-1.50	19.36	86.30	23
				256QAM	1	74	1	0	17.86	-1.50	16.36	43.25	23
56469	3672.9	56640	3690	QPSK	1	74	1	0	22.97	-1.50	21.47	140.28	23
				16QAM	1	74	1	0	21.89	-1.50	20.39	109.40	23
				64QAM	1	74	1	0	20.95	-1.50	19.45	88.10	23
				256QAM	1	74	1	0	17.88	-1.50	16.38	43.45	23



CA_48C_Ant4													
Combination 20MHz+10MHz (100RB+50RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55340	3560	55484	3574.4	QPSK	1	99	1	0	22.69	-1.50	21.19	131.52	23
				16QAM	1	99	1	0	21.80	-1.50	20.30	107.15	23
				64QAM	1	99	1	0	20.76	-1.50	19.26	84.33	23
				256QAM	1	99	1	0	17.70	-1.50	16.20	41.69	23
55941	3620.1	56085	3634.5	QPSK	1	99	1	0	22.84	-1.50	21.34	136.14	23
				16QAM	1	99	1	0	21.86	-1.50	20.36	108.64	23
				64QAM	1	99	1	0	20.83	-1.50	19.33	85.70	23
				256QAM	1	99	1	0	17.84	-1.50	16.34	43.05	23
56541	3680.1	56685	3694.5	QPSK	1	99	1	0	22.87	-1.50	21.37	137.09	23
				16QAM	1	99	1	0	21.88	-1.50	20.38	109.14	23
				64QAM	1	99	1	0	21.01	-1.50	19.51	89.33	23
				256QAM	1	99	1	0	17.98	-1.50	16.48	44.46	23



CA_48C_Ant4													
Combination 10MHz+20MHz (50RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55295	3555.5	55439	3569.9	QPSK	1	49	1	0	22.76	-1.50	21.26	133.66	23
				16QAM	1	49	1	0	21.78	-1.50	20.28	106.66	23
				64QAM	1	49	1	0	20.79	-1.50	19.29	84.92	23
				256QAM	1	49	1	0	17.73	-1.50	16.23	41.98	23
55896	3615.6	56040	3630	QPSK	1	49	1	0	22.83	-1.50	21.33	135.83	23
				16QAM	1	49	1	0	21.84	-1.50	20.34	108.14	23
				64QAM	1	49	1	0	20.86	-1.50	19.36	86.30	23
				256QAM	1	49	1	0	17.85	-1.50	16.35	43.15	23
56496	3675.6	56640	3690	QPSK	1	49	1	0	22.89	-1.50	21.39	137.72	23
				16QAM	1	49	1	0	21.89	-1.50	20.39	109.40	23
				64QAM	1	49	1	0	20.92	-1.50	19.42	87.50	23
				256QAM	1	49	1	0	17.97	-1.50	16.47	44.36	23



CA_48C_Ant4													
Combination 20MHz+5MHz (100RB+25RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55340	3560	55457	3571.7	QPSK	1	99	1	0	22.77	-1.50	21.27	133.97	23
				16QAM	1	99	1	0	21.78	-1.50	20.28	106.66	23
				64QAM	1	99	1	0	20.87	-1.50	19.37	86.50	23
				256QAM	1	99	1	0	17.78	-1.50	16.28	42.46	23
55965	3622.5	56082	3634.2	QPSK	1	99	1	0	22.91	-1.50	21.41	138.36	23
				16QAM	1	99	1	0	21.87	-1.50	20.37	108.89	23
				64QAM	1	99	1	0	20.88	-1.50	19.38	86.70	23
				256QAM	1	99	1	0	17.78	-1.50	16.28	42.46	23
56590	3685	56707	3696.7	QPSK	1	99	1	0	22.98	-1.50	21.48	140.60	23
				16QAM	1	99	1	0	21.88	-1.50	20.38	109.14	23
				64QAM	1	99	1	0	20.90	-1.50	19.40	87.10	23
				256QAM	1	99	1	0	18.00	-1.50	16.50	44.67	23



CA_48C_Ant4													
Combination 5MHz+20MHz (25RB+100RB)													
PCC Channel	PCC Frequency (MHz)	SCC Channel	SCC Frequency (MHz)	Modulation	PCC		SCC		Measured Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
					RB Size	RB offset	RB Size	RB offset					
55273	3553.3	55390	3565	QPSK	1	24	1	0	22.66	-1.50	21.16	130.62	23
				16QAM	1	24	1	0	21.75	-1.50	20.25	105.93	23
				64QAM	1	24	1	0	20.77	-1.50	19.27	84.53	23
				256QAM	1	24	1	0	17.79	-1.50	16.29	42.56	23
55898	3615.8	56015	3627.5	QPSK	1	24	1	0	22.92	-1.50	21.42	138.68	23
				16QAM	1	24	1	0	21.82	-1.50	20.32	107.65	23
				64QAM	1	24	1	0	20.88	-1.50	19.38	86.70	23
				256QAM	1	24	1	0	17.89	-1.50	16.39	43.55	23
56523	3678.3	56640	3690	QPSK	1	24	1	0	22.92	-1.50	21.42	138.68	23
				16QAM	1	24	1	0	21.96	-1.50	20.46	111.17	23
				64QAM	1	24	1	0	20.99	-1.50	19.49	88.92	23
				256QAM	1	24	1	0	17.93	-1.50	16.43	43.95	23

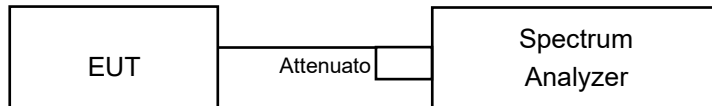
Note: The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 5, 10, 15, 20MHz).

3.2 CONDUCTED BAND EDGE

3.2.1 LIMITS OF CONDUCTED BAND EDGE MEASUREMENT

The conducted power of any End User Device emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B megahertz (where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B megahertz below the lower CBSD-assigned channel edge. At all frequencies greater than B megahertz above the upper CBSD assigned channel edge and less than B megahertz below the lower CBSD-assigned channel edge, the conducted power of any End User Device emission shall not exceed -25 dBm/MHz. Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

3.2.2 TEST SETUP



3.2.3 TEST INSTRUMENTS

Refer to section 1.2 to get information of above instrument.

3.2.4 TEST PROCEDURE

For the Conducted Band Edge:

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

For Adjacent Channel Leakage Ratio (ACLR) measurement:

1. The Adjacent Channel Leakage Ratio (ACLR) is the ratio of the average power in the assigned aggregated channel bandwidth to the average power over the equivalent adjacent channel bandwidth.
2. The option ACLR of spectrum analyzer is used and measures the ACLR ratio by setting equivalent channel bandwidth.
3. The measured ACLR ratio shall be at least 30 dB.

3.2.5 DEVIATION FROM TEST STANDARD

No deviation.

3.2.6 TEST RESULTS

Please Refer to Appendix Of this test report.



3.3.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

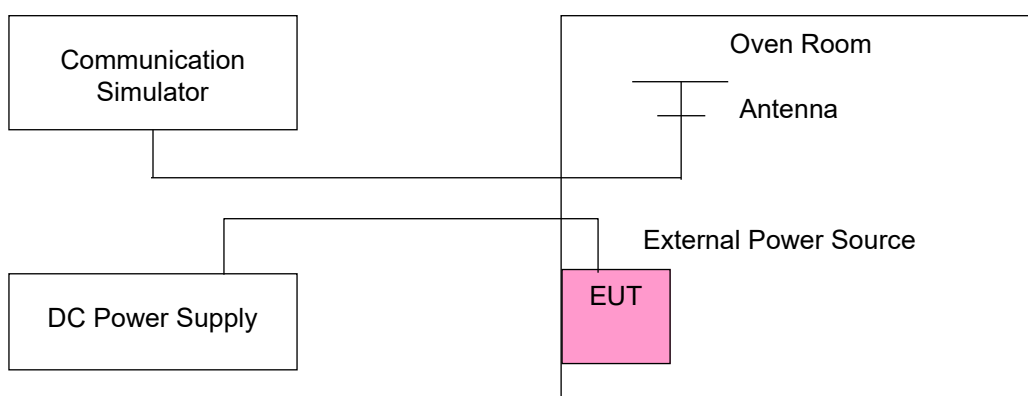
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band.

3.3.2 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





3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

CA_48C

LTE Band CA_48Bchannel and Frequency List					
BW(MHz)	Channel/Frequency(MHz)		Lowest	Middle	Highest
5+20	PCC	channel	55273	55898	56523
		Frequency	3553.3	3615.8	3678.3
	SCC	channel	42240	56015	56640
		Frequency	3550	3627.5	3690
10+20	PCC	channel	55295	55896	56496
		Frequency	3555.5	3615.6	3675.6
	SCC	channel	55439	56040	56640
		Frequency	3569.9	3630	3690
15+20	PCC	channel	55318	55893	56496
		Frequency	3557.8	3615.3	3672.9
	SCC	channel	55489	55064	56640
		Frequency	3574.9	3632.4	3690
20+5	PCC	channel	55340	55965	56590
		Frequency	3560	3622.5	3685
	SCC	channel	42307	56082	56707
		Frequency	3550	3634.2	3696.7
20+10	PCC	channel	55340	55941	56541
		Frequency	3560	3620.1	3680.1
	SCC	channel	55484	56085	56685
		Frequency	3574.4	3634.5	3694.5
20+15	PCC	channel	55340	55916	56491
		Frequency	3560	3617.6	3675.1
	SCC	channel	55511	56087	56662
		Frequency	3577.1	3634.7	3692.2
20+20	PCC	channel	55340	55891	56442
		Frequency	3560	3615.1	3670.2
	SCC	channel	55538	56089	56640
		Frequency	3579.8	3634.9	3690

**CA_48B**

LTE Band CA_48C channel and Frequency List					
BW(MHz)	Channel/Frequency(MHz)		Lowest	Middle	Highest
10+10	PCC	channel	55290	56041	56591
		Frequency	3555	3630.1	3685.1
	SCC	channel	55389	56140	56690
		Frequency	3564.9	3640	3695

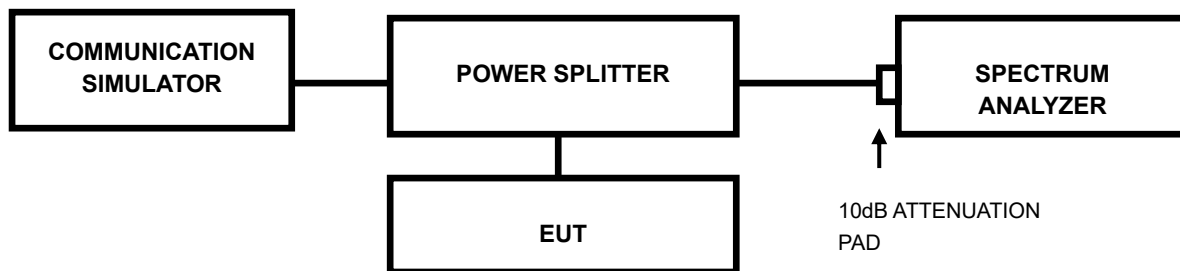
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.87V); VH = High voltage(4.45V);
NT = Normal temperature (25℃)



3.4.1 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.

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 1.2 to get information of above instrument.

3.4.4 TEST PROCEDURE

- 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.

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.



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3.4.6 TEST RESULT

Please Refer to Appendix Of this test report.

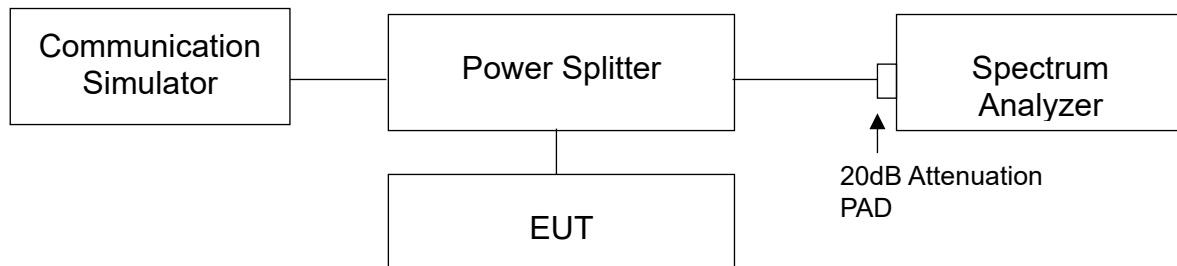


3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.5.2 TEST SETUP



3.5.3 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 9 kHz to 40 GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.



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3.5.4 TEST RESULTS

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 emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

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(below or equal 1GHz) and/or 1.5m(above 1GHz) 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 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,
$$\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$$

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

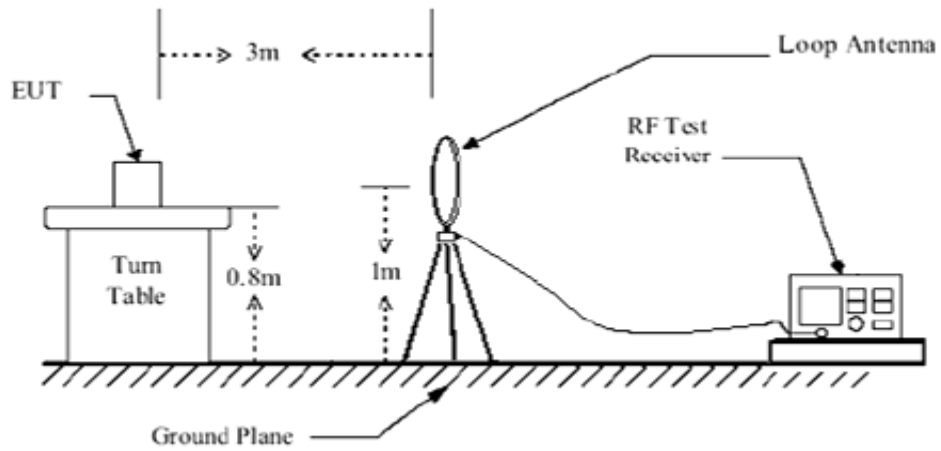
3.6.3 DEVIATION FROM TEST STANDARD

No deviation.

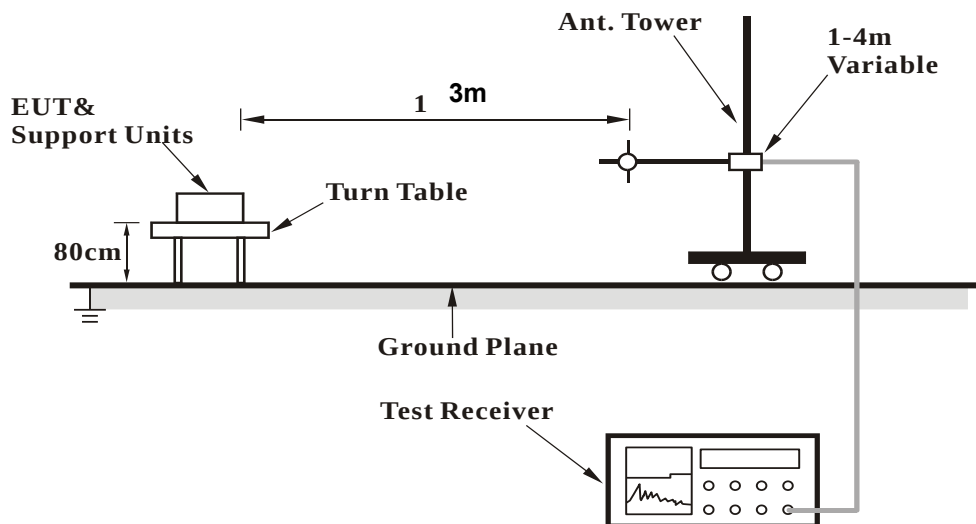


3.6.4 TEST SET UP

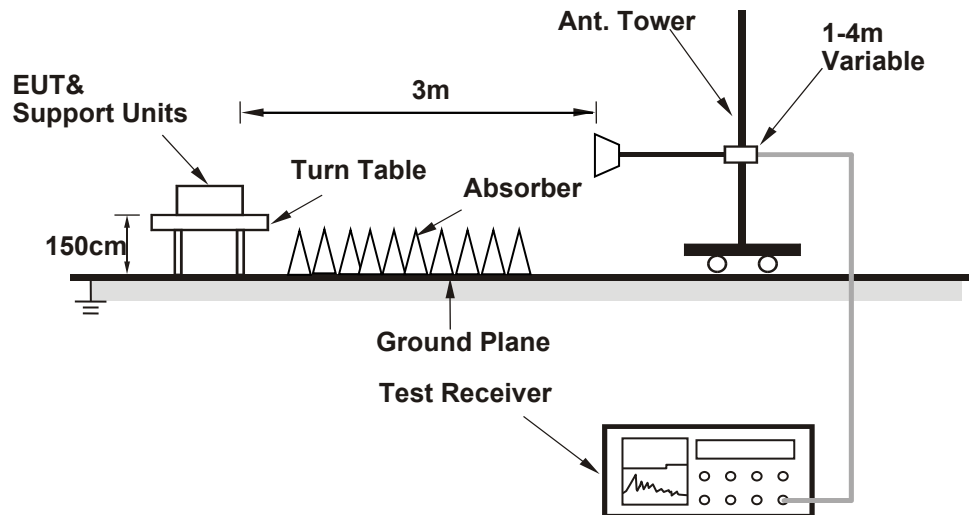
< Frequency Range below 30MHz >



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

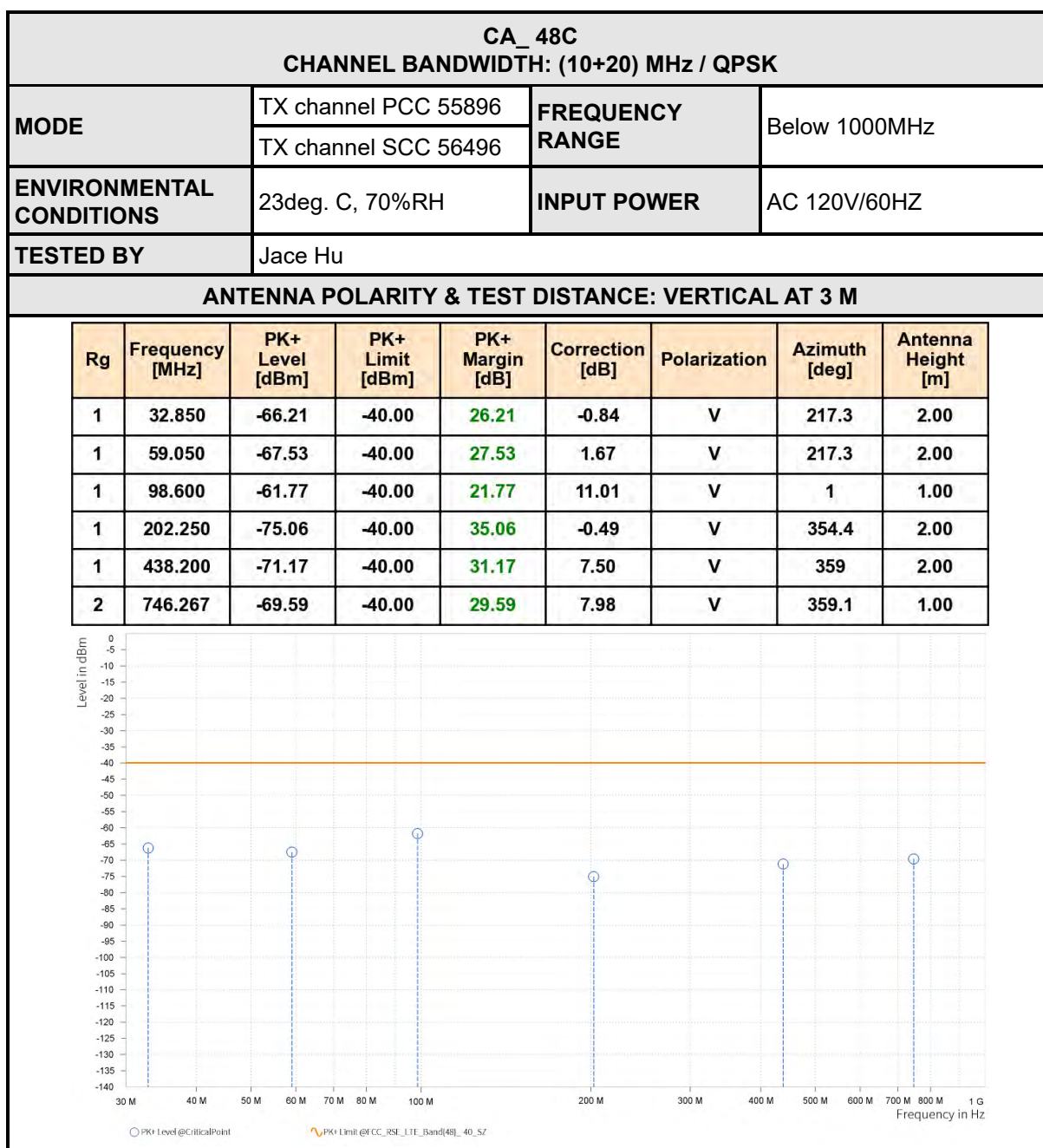
3.6.5 TEST RESULTS

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

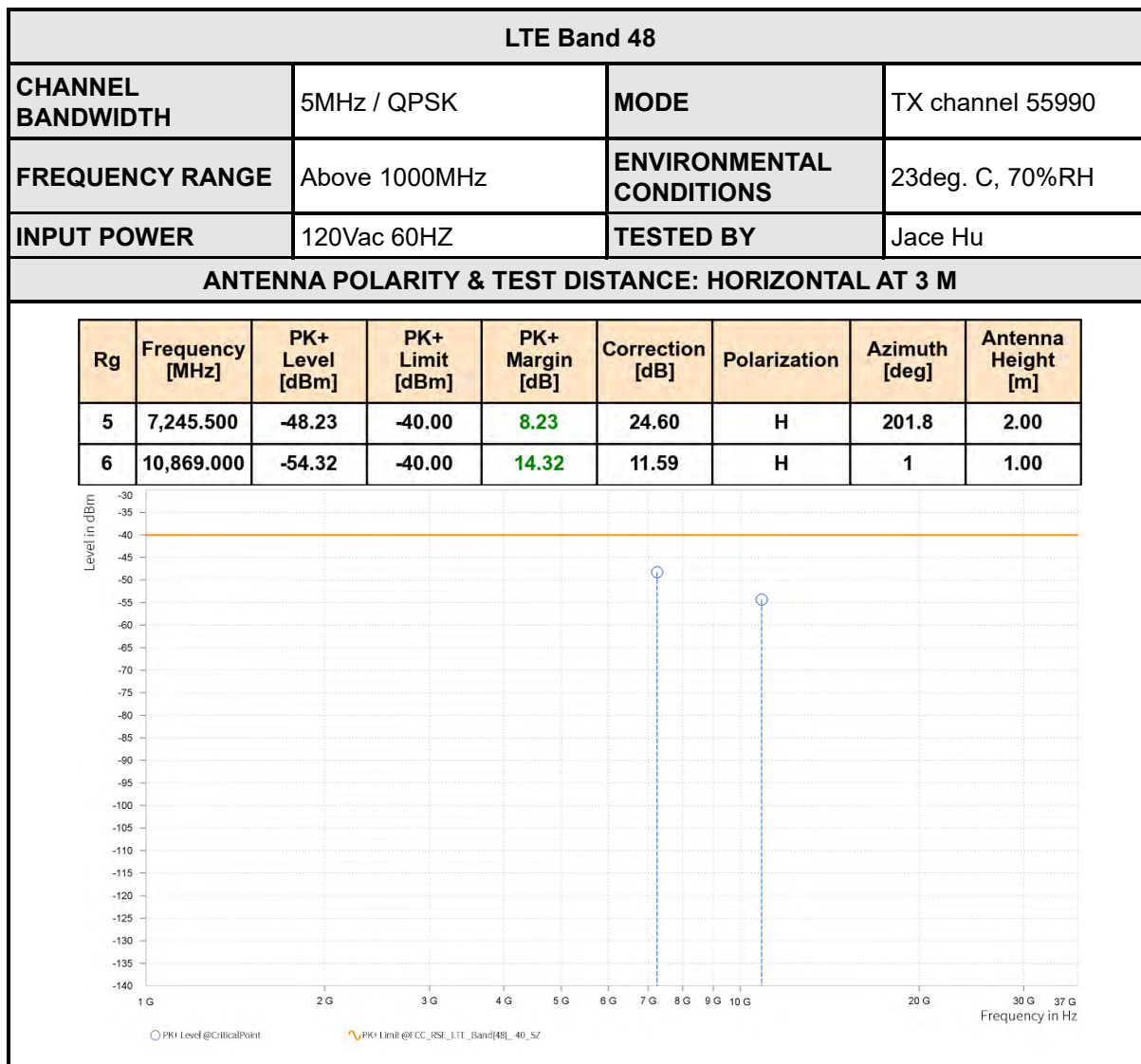
CA_48C CHANNEL BANDWIDTH: (10+20) MHz / QPSK								
MODE	TX channel PCC 55896				FREQUENCY RANGE	Below 1000MHz		
	TX channel SCC 56496							
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH				INPUT POWER	AC 120V/60HZ		
TESTED BY	Jace Hu							
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	38.300	-63.10	-40.00	23.10	5.67	H	355.7	2.00
1	59.000	-68.51	-40.00	28.51	2.10	H	324.4	1.00
1	99.200	-77.13	-40.00	37.13	-5.36	H	1	2.00
1	229.600	-69.95	-40.00	29.95	6.95	H	104.8	2.00
1	427.200	-71.48	-40.00	31.48	8.05	H	14.2	2.00
2	859.429	-65.75	-40.00	25.75	11.64	H	269.8	2.00

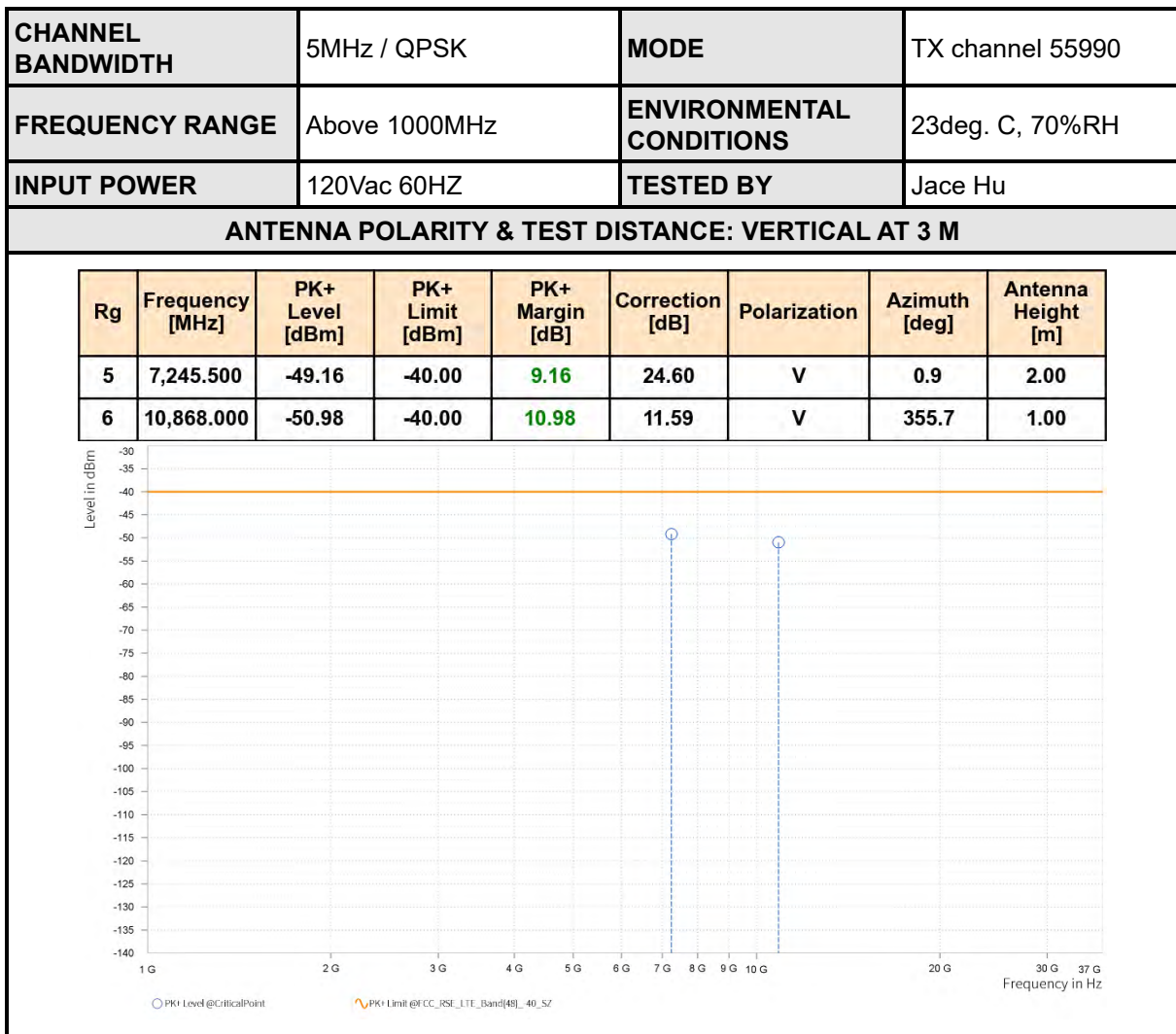
Level in dBm

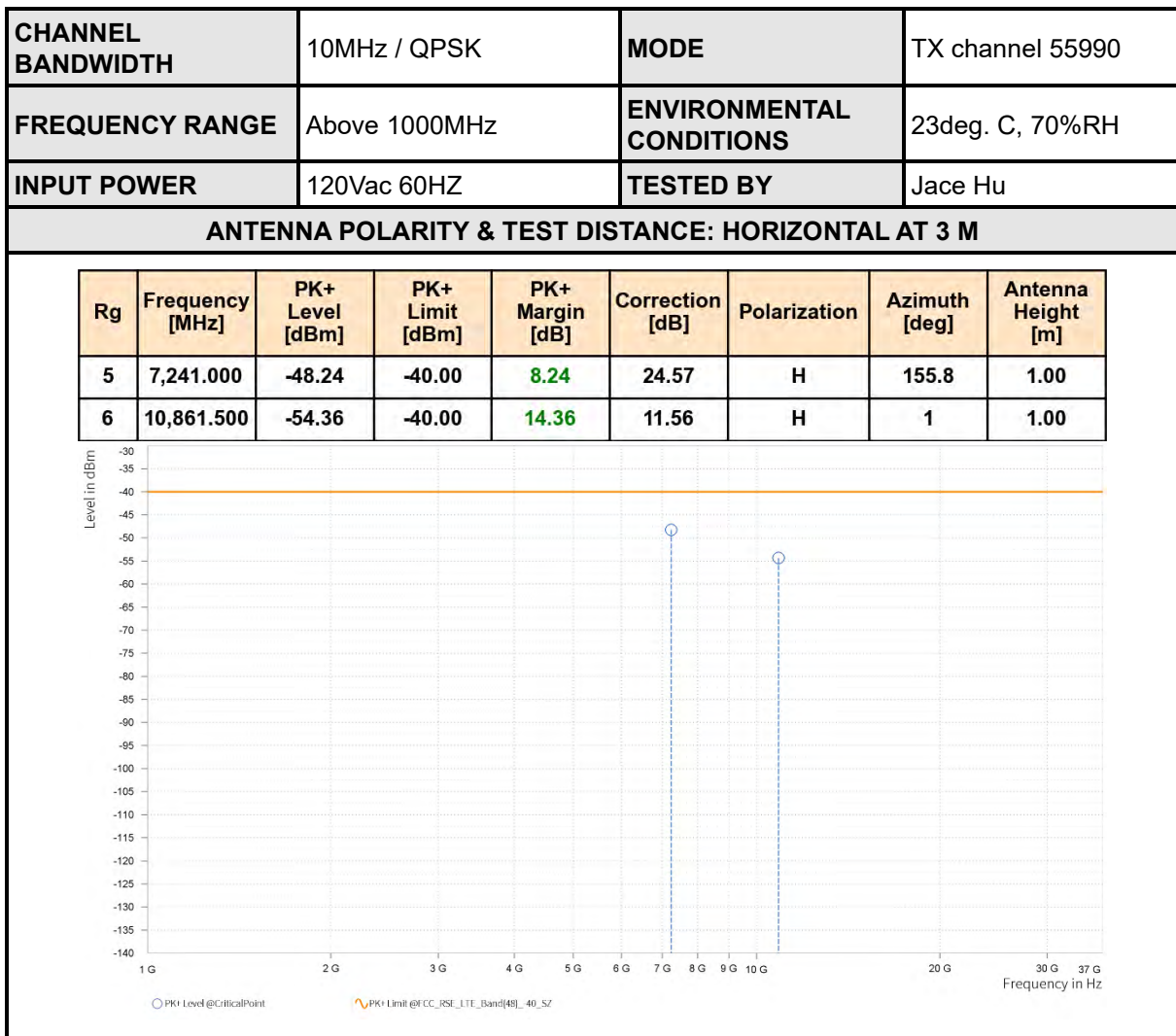


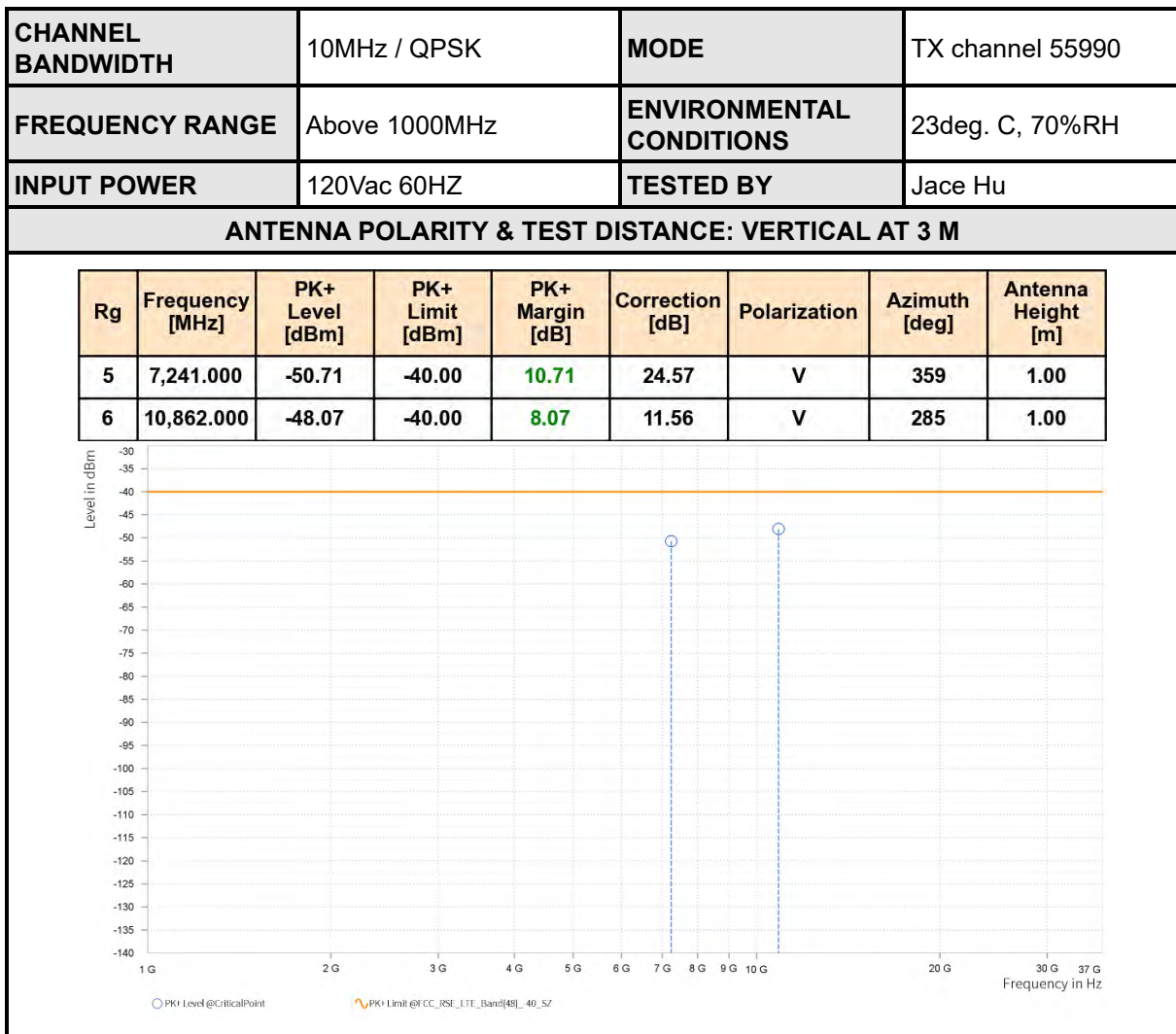
**ABOVE 1GHz**

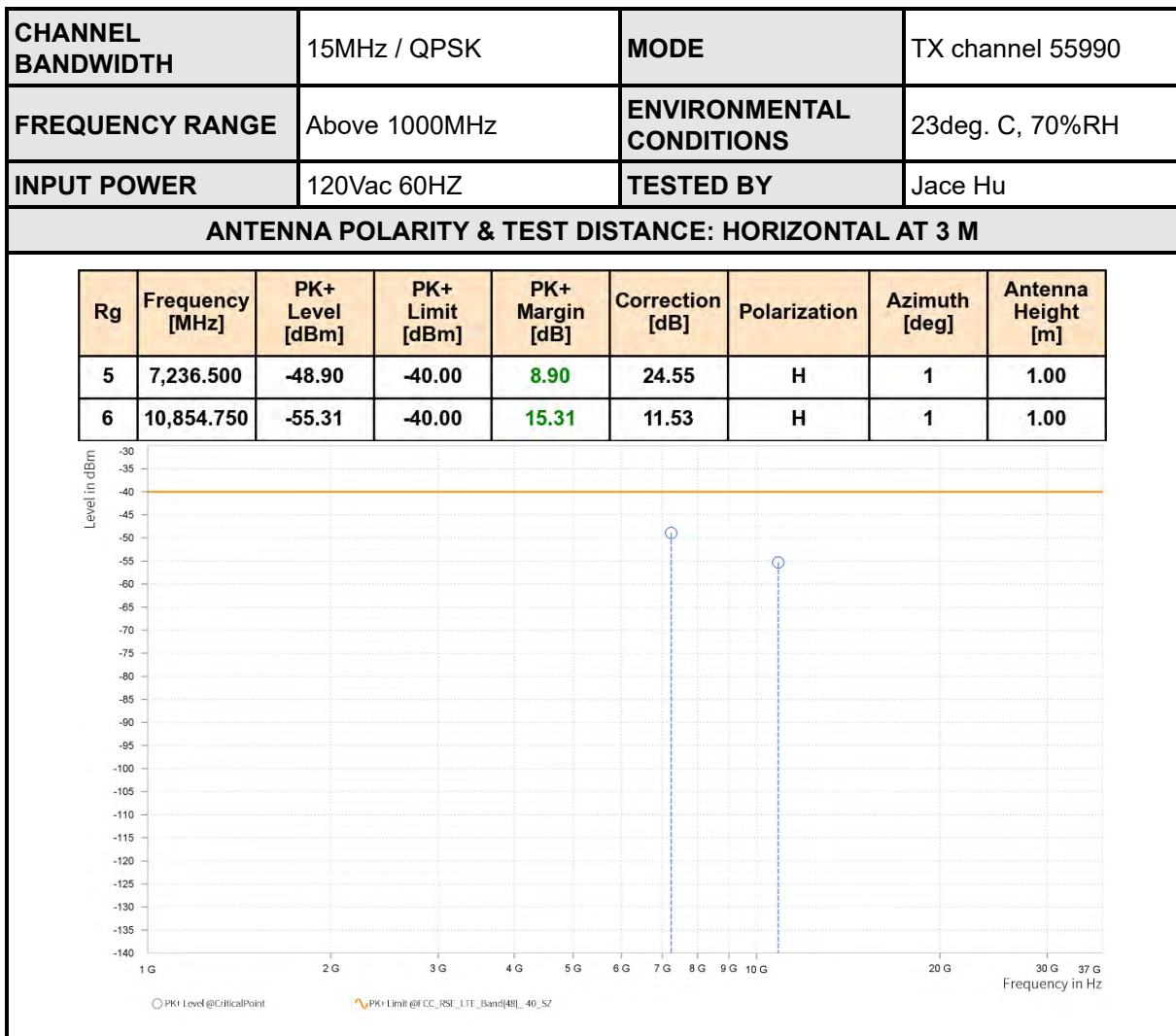
Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

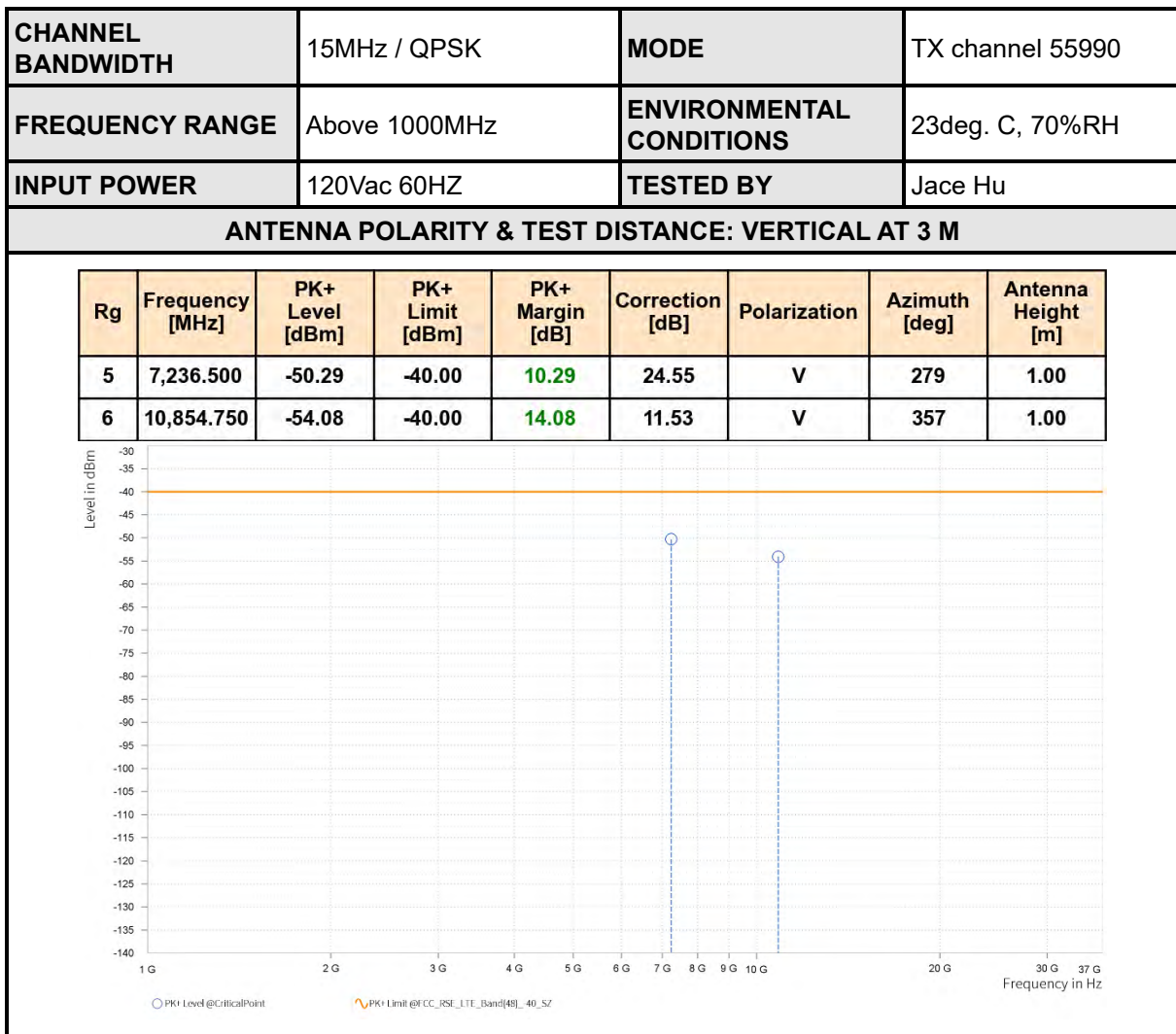


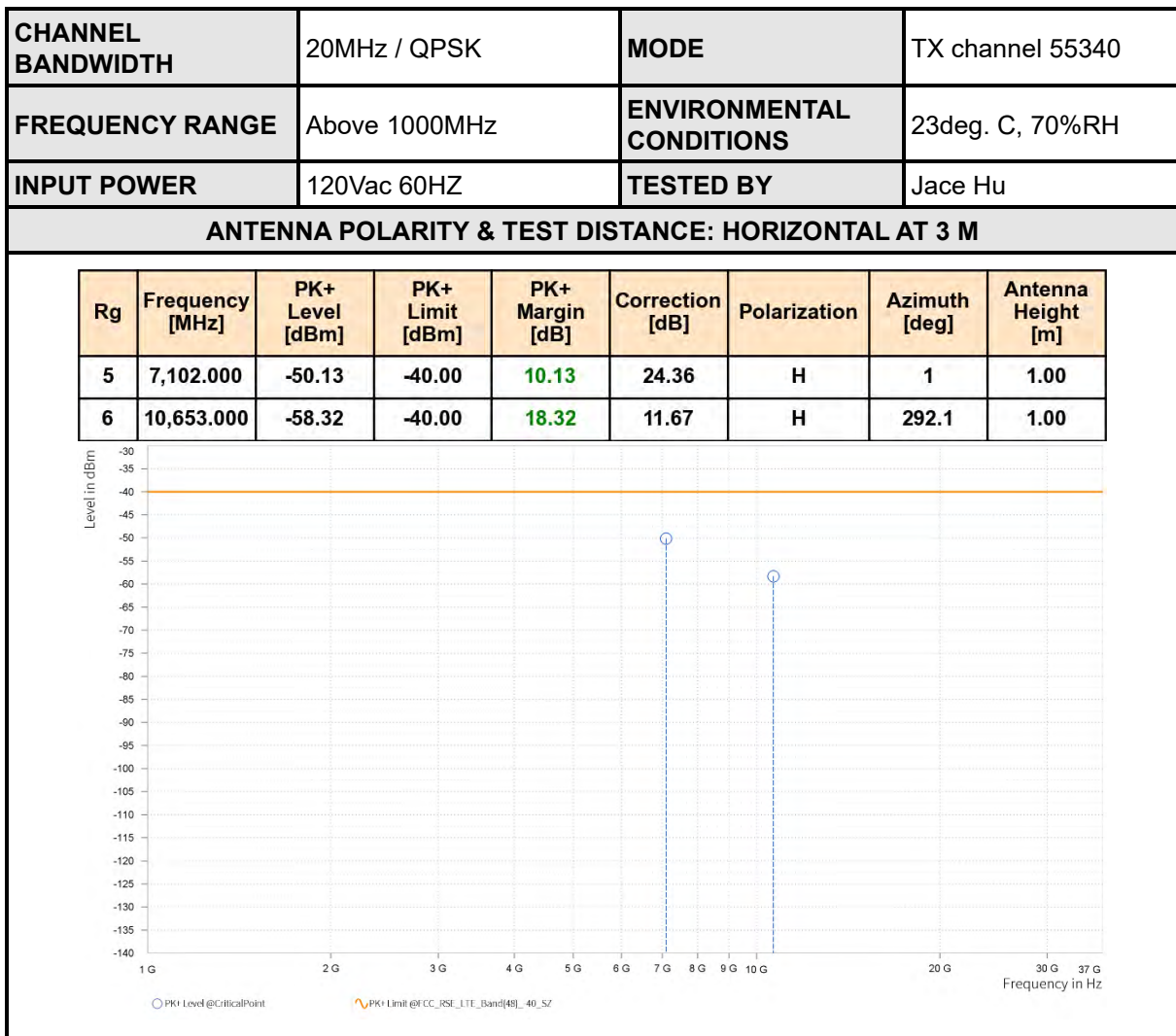


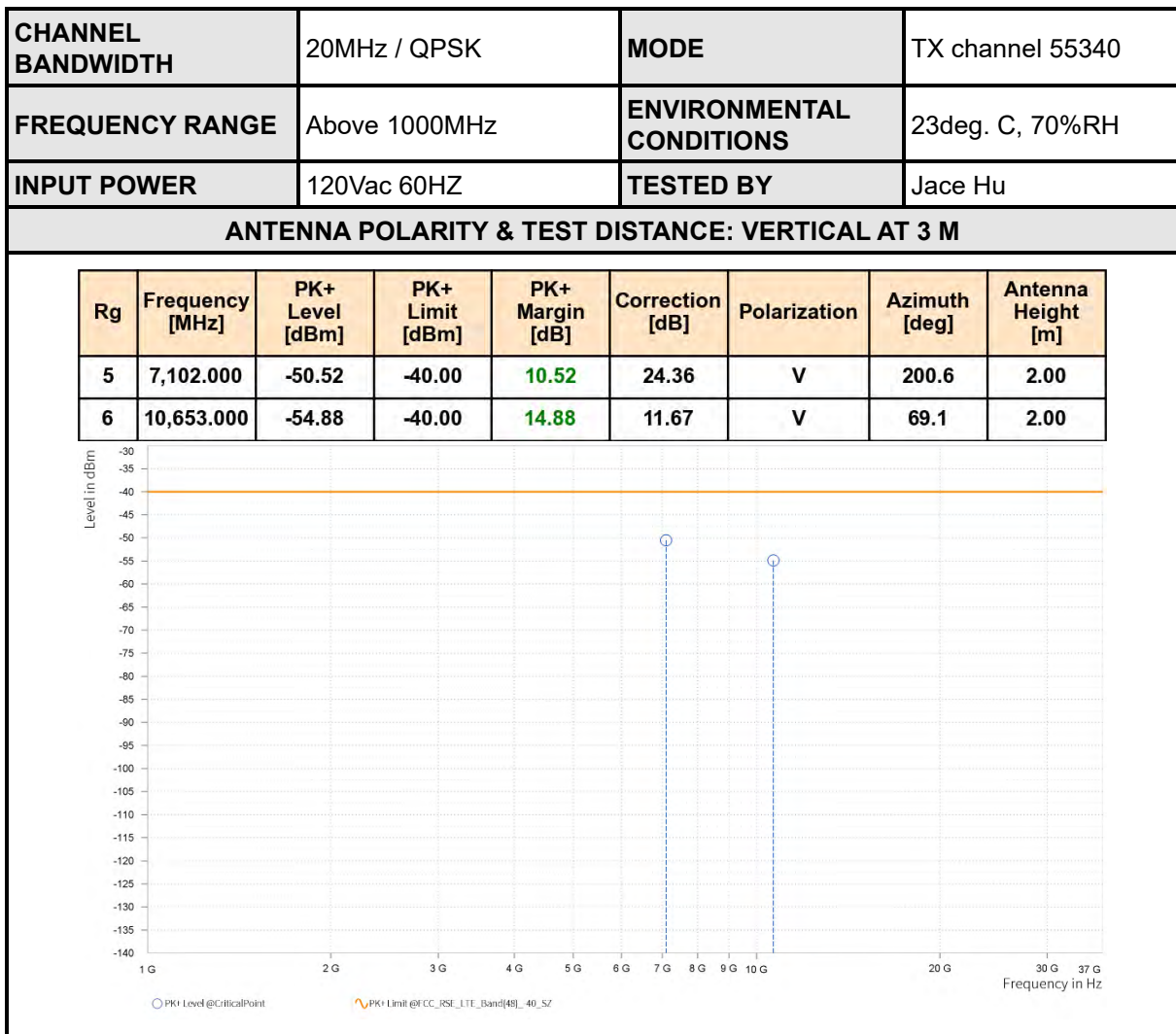


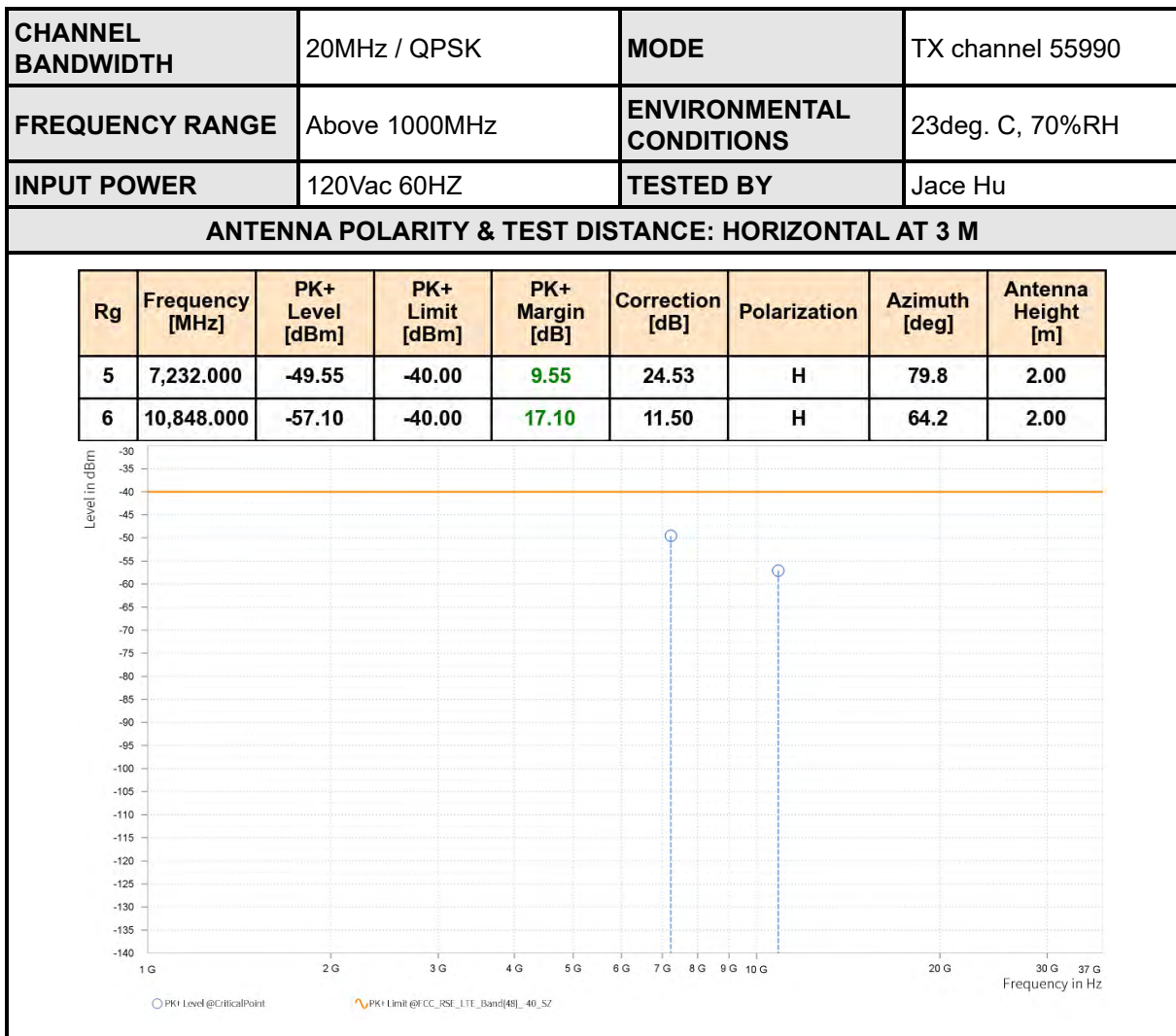


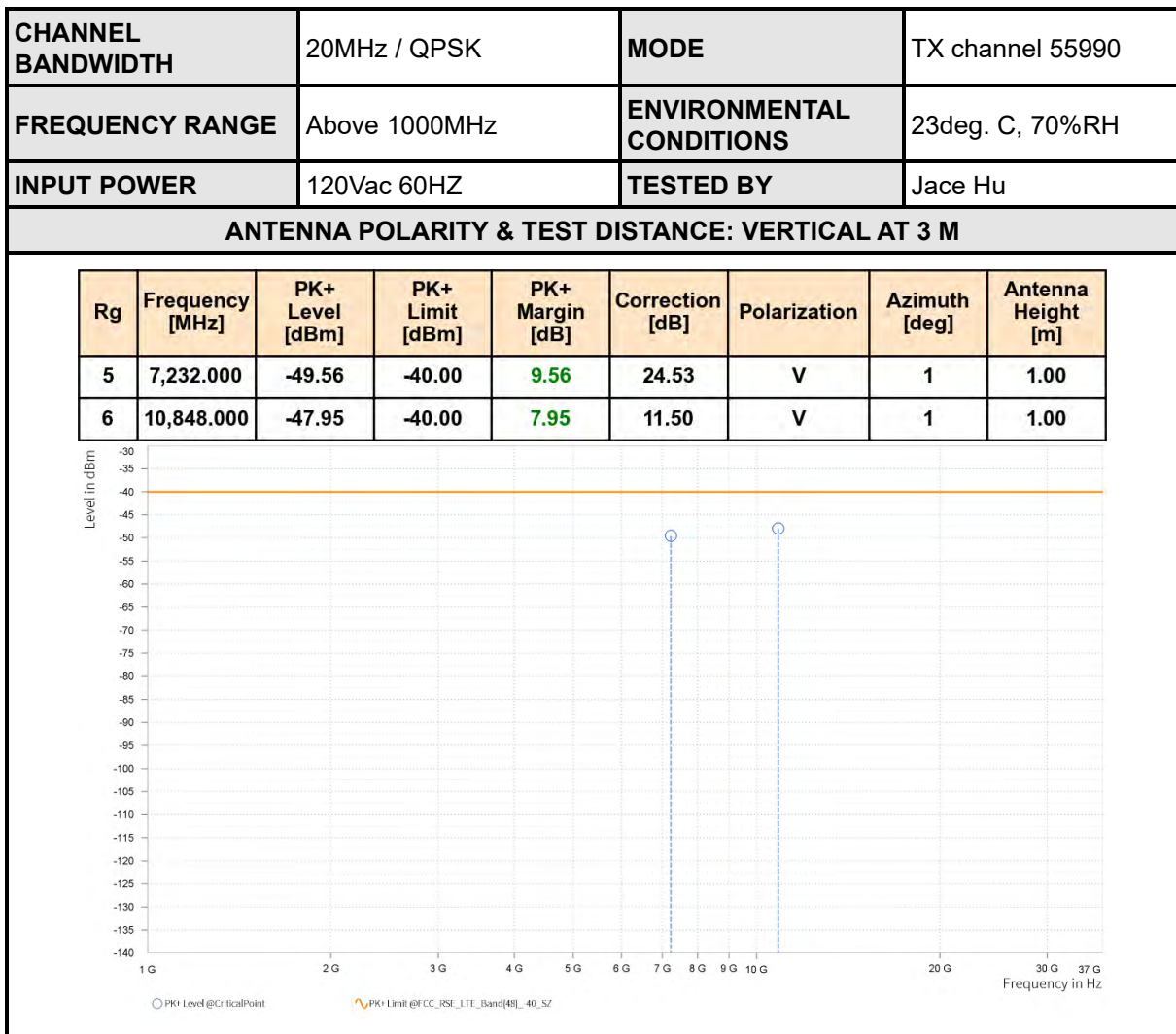


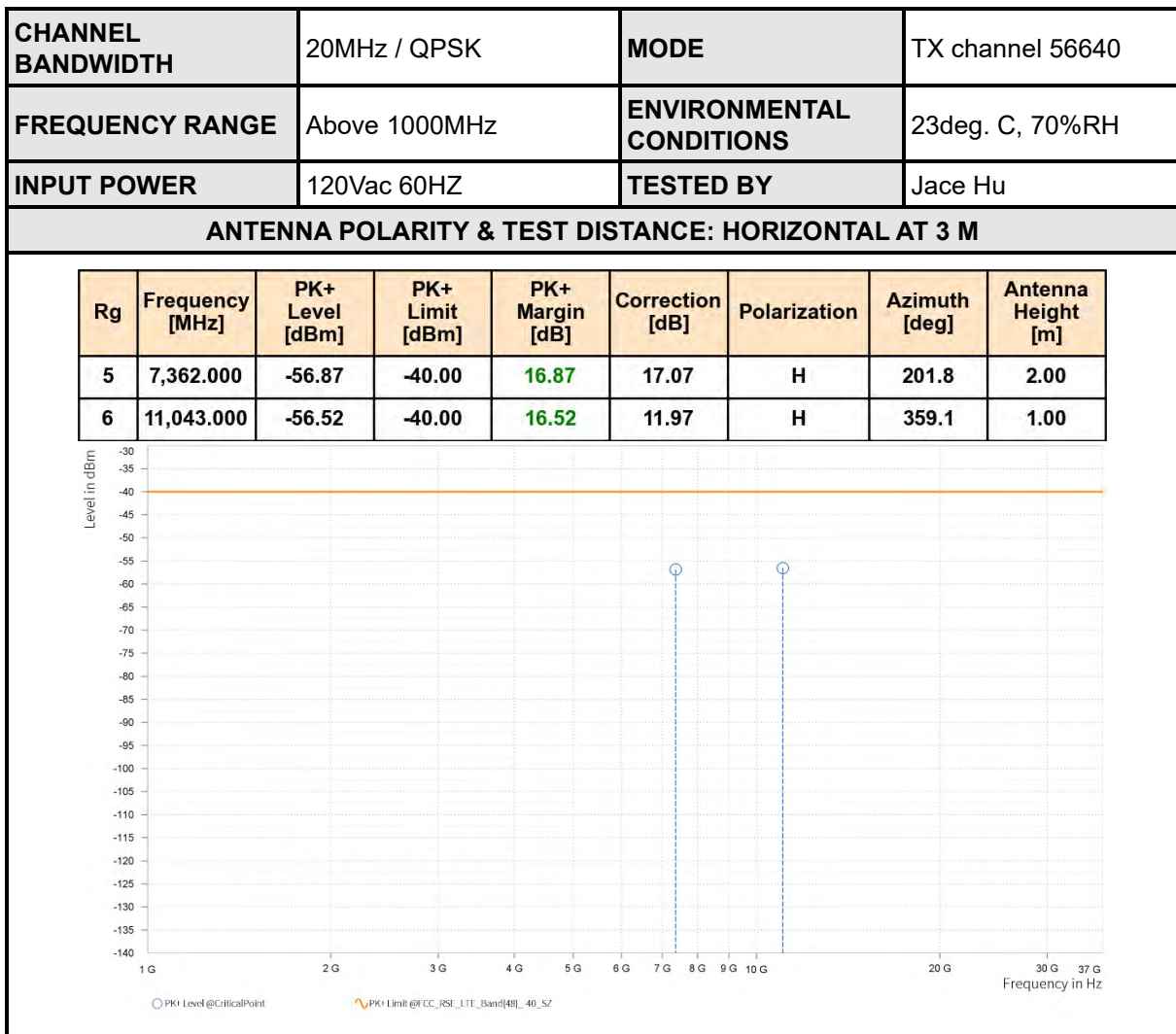


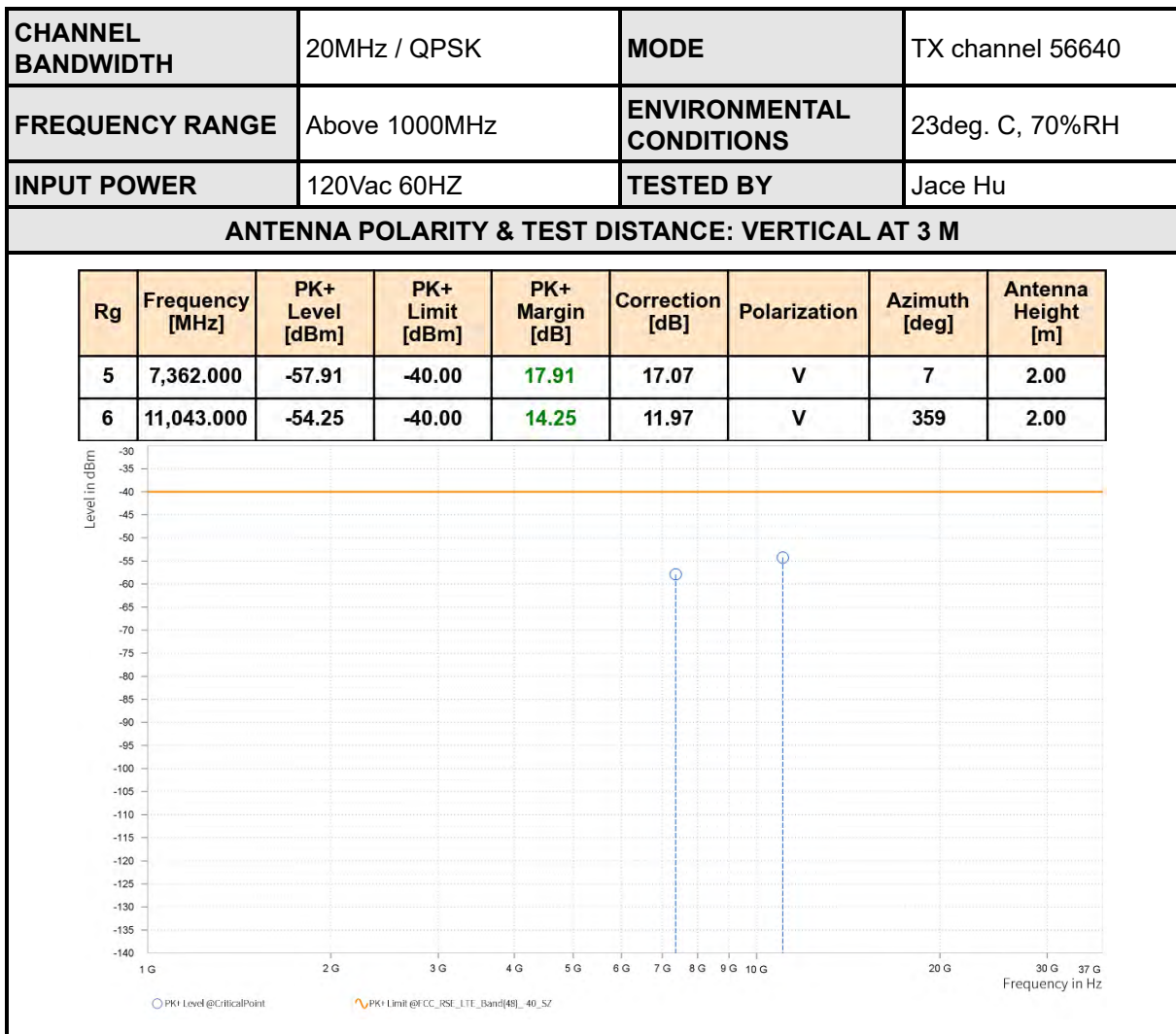


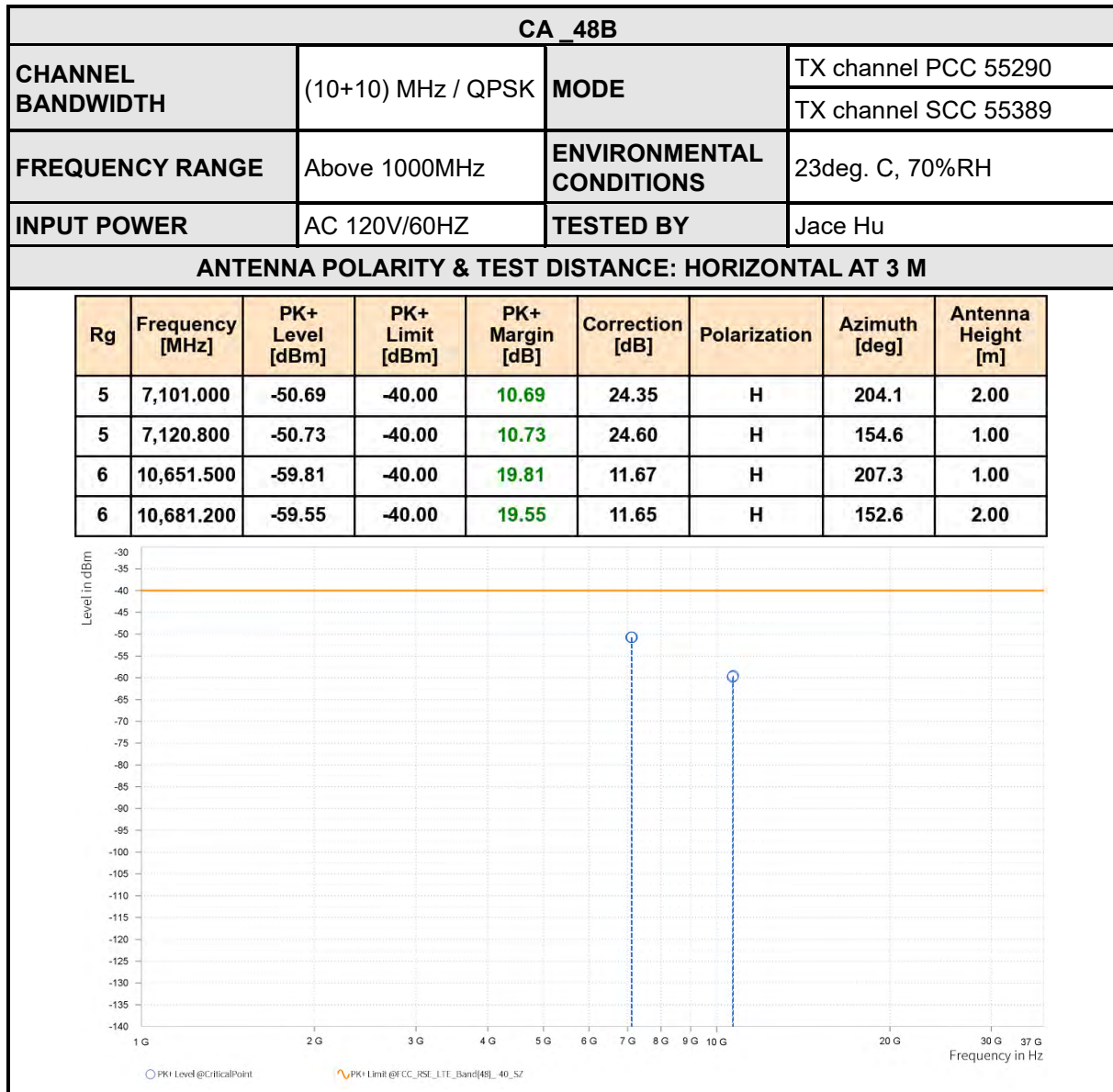










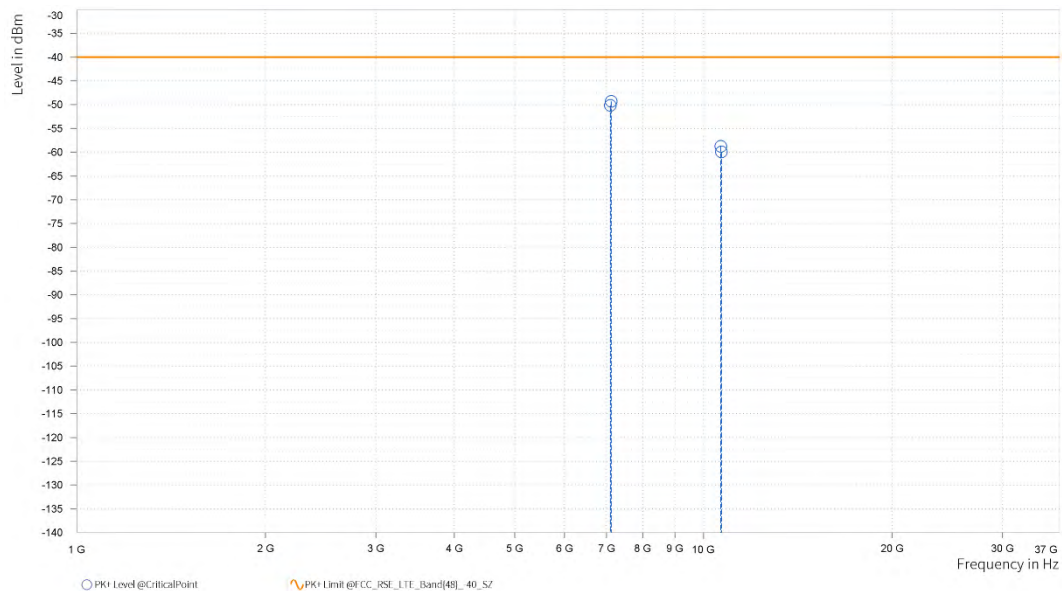




CHANNEL BANDWIDTH	(10+10) MHz / QPSK	MODE	TX channel PCC 55290
			TX channel SCC 55389
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,101.000	-50.16	-40.00	10.16	24.35	V	1	2.00
5	7,120.800	-49.32	-40.00	9.32	24.60	V	1	2.00
6	10,651.500	-58.73	-40.00	18.73	11.67	V	1	2.00
6	10,681.200	-59.92	-40.00	19.92	11.65	V	206.1	1.00

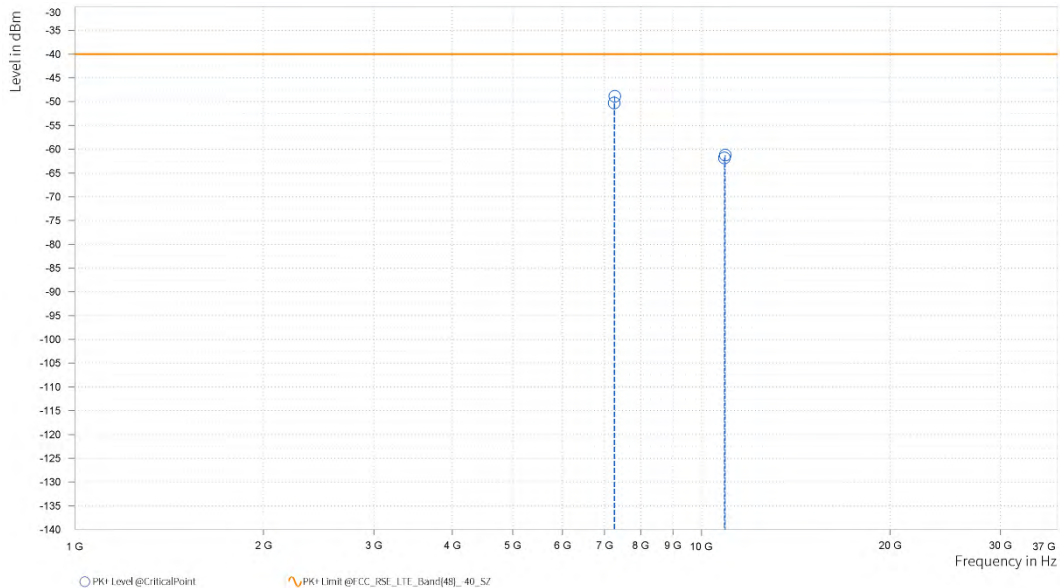




CHANNEL BANDWIDTH	(10+10) MHz / QPSK	MODE	TX channel PCC 56041
			TX channel SCC 56140
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,251.200	-50.31	-40.00	10.31	24.63	H	64.2	2.00
5	7,271.000	-48.86	-40.00	8.86	24.68	H	300.5	1.00
6	10,876.800	-61.83	-40.00	21.83	11.63	H	359	1.00
6	10,906.500	-61.22	-40.00	21.22	11.75	H	1	1.00

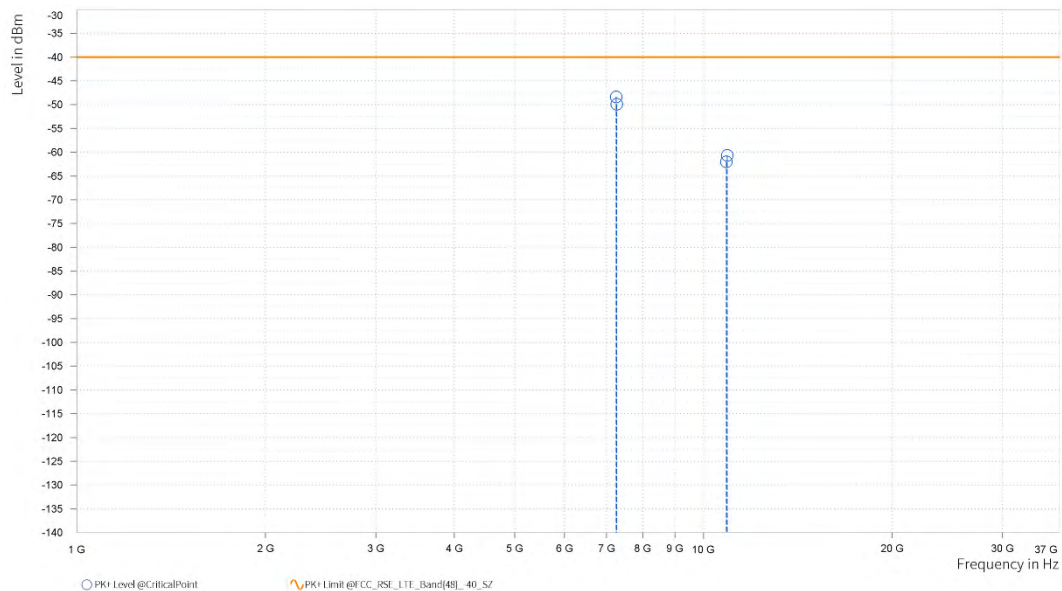




CHANNEL BANDWIDTH	(10+10) MHz / QPSK	MODE	TX channel PCC 56041
			TX channel SCC 56140
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,251.200	-48.36	-40.00	8.36	24.63	V	9.8	2.00
5	7,271.000	-49.93	-40.00	9.93	24.68	V	359	2.00
6	10,876.800	-62.00	-40.00	22.00	11.63	V	1	1.00
6	10,906.500	-60.66	-40.00	20.66	11.75	V	359	2.00

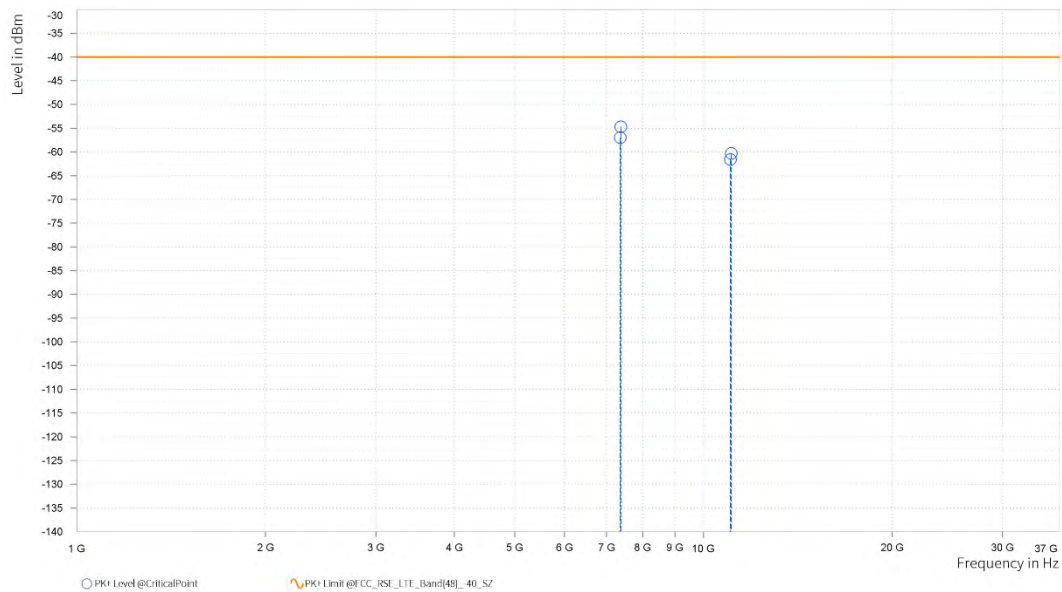




CHANNEL BANDWIDTH	(10+10) MHz / QPSK	MODE	TX channel PCC 56591
			TX channel SCC 56690
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,361.200	-56.98	-40.00	16.98	17.18	H	1	1.00
5	7,381.000	-54.69	-40.00	14.69	18.99	H	1	1.00
6	11,041.800	-61.57	-40.00	21.57	11.97	H	152.7	2.00
6	11,071.500	-60.28	-40.00	20.28	11.94	H	359	2.00

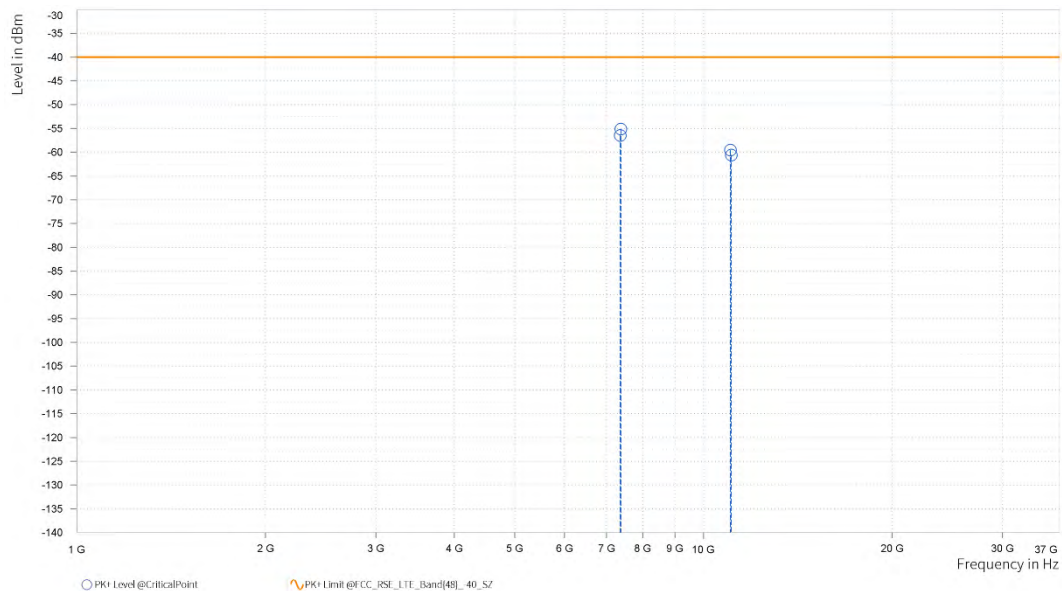


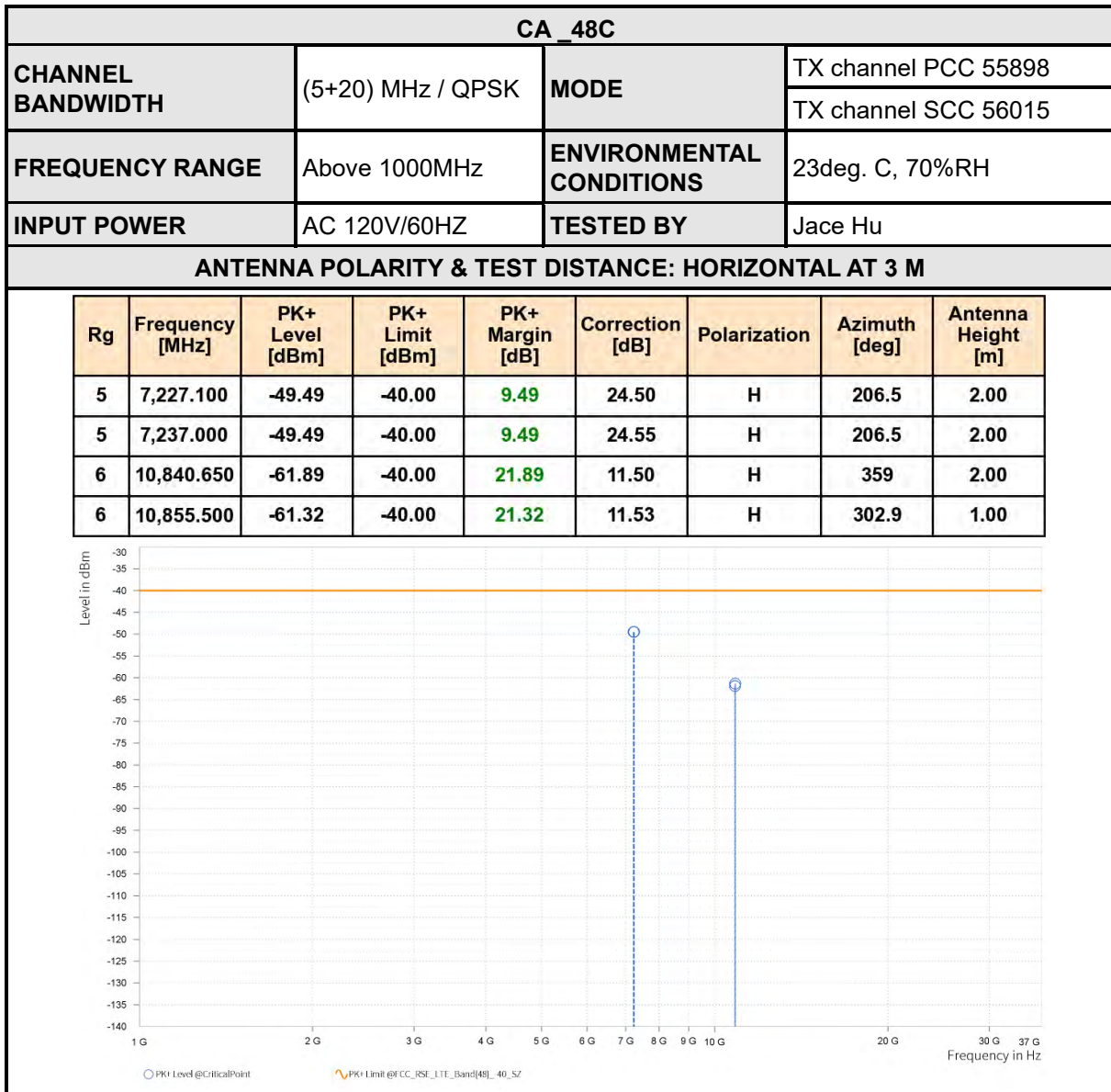


CHANNEL BANDWIDTH	(10+10) MHz / QPSK	MODE	TX channel PCC 56591
			TX channel SCC 56690
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,361.200	-56.47	-40.00	16.47	17.18	V	1	1.00
5	7,381.000	-55.13	-40.00	15.13	18.99	V	1.1	2.00
6	11,041.800	-59.56	-40.00	19.56	11.97	V	1	1.00
6	11,071.500	-60.59	-40.00	20.59	11.94	V	155.1	2.00



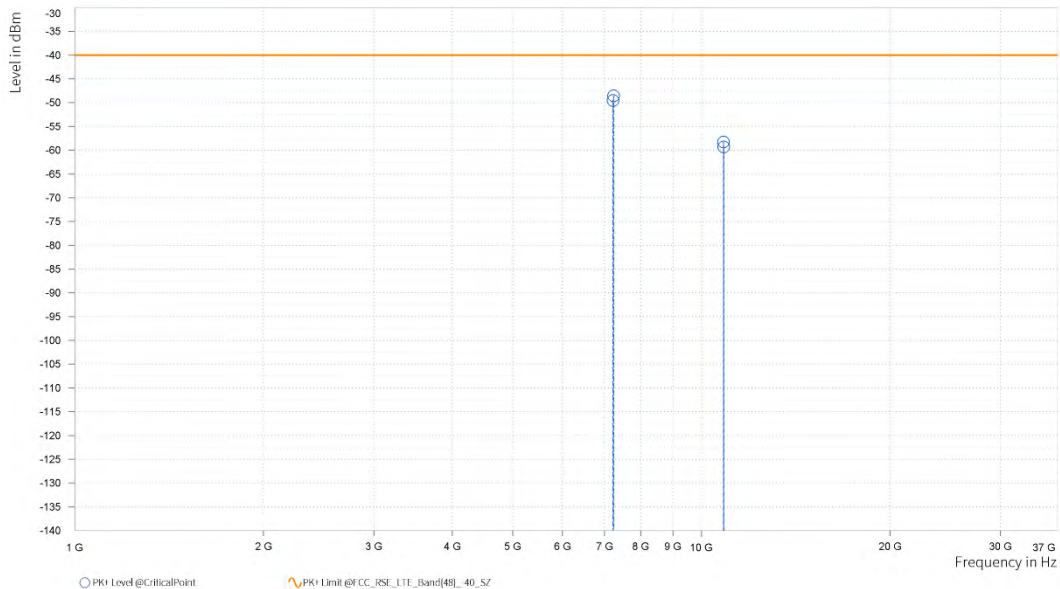




CHANNEL BANDWIDTH	(5+20) MHz / QPSK	MODE	TX channel PCC 55898
			TX channel SCC 56015
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,227.100	-49.54	-40.00	9.54	24.50	V	199.3	2.00
5	7,237.000	-48.54	-40.00	8.54	24.55	V	1	1.00
6	10,840.650	-58.26	-40.00	18.26	11.50	V	1	2.00
6	10,855.500	-59.30	-40.00	19.30	11.53	V	312.4	1.00





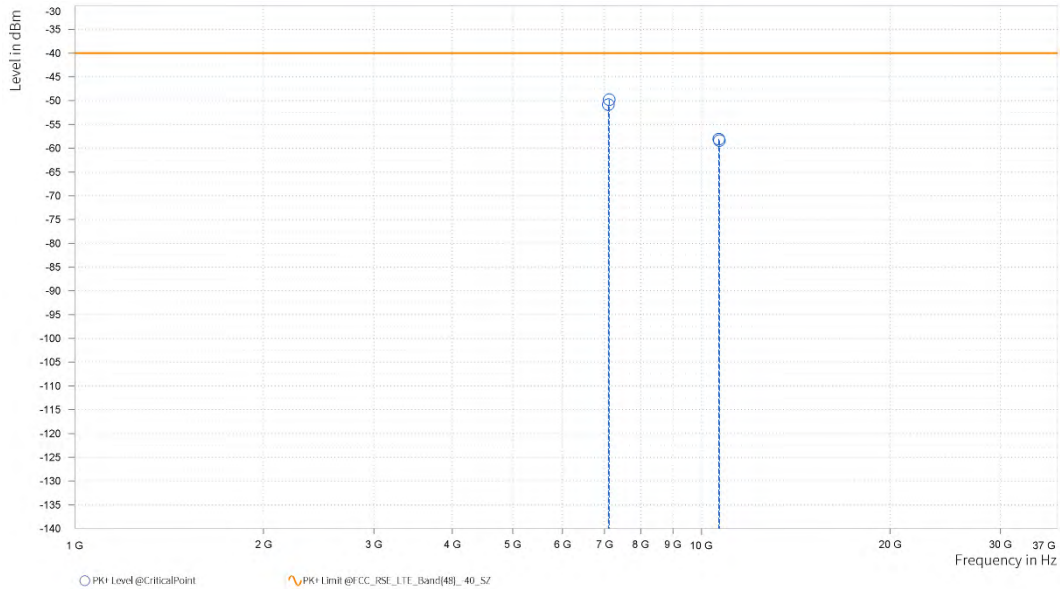
**BUREAU
VERITAS**

Test Report No.: PSU-NQN2412090110RF05

CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55295
			TX channel SCC 55439
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.000	-50.84	-40.00	10.84	24.36	H	1	2.00
5	7,121.800	-49.76	-40.00	9.76	24.61	H	294.6	1.00
6	10,653.000	-58.07	-40.00	18.07	11.67	H	359.1	1.00
6	10,682.700	-58.37	-40.00	18.37	11.65	H	1	2.00

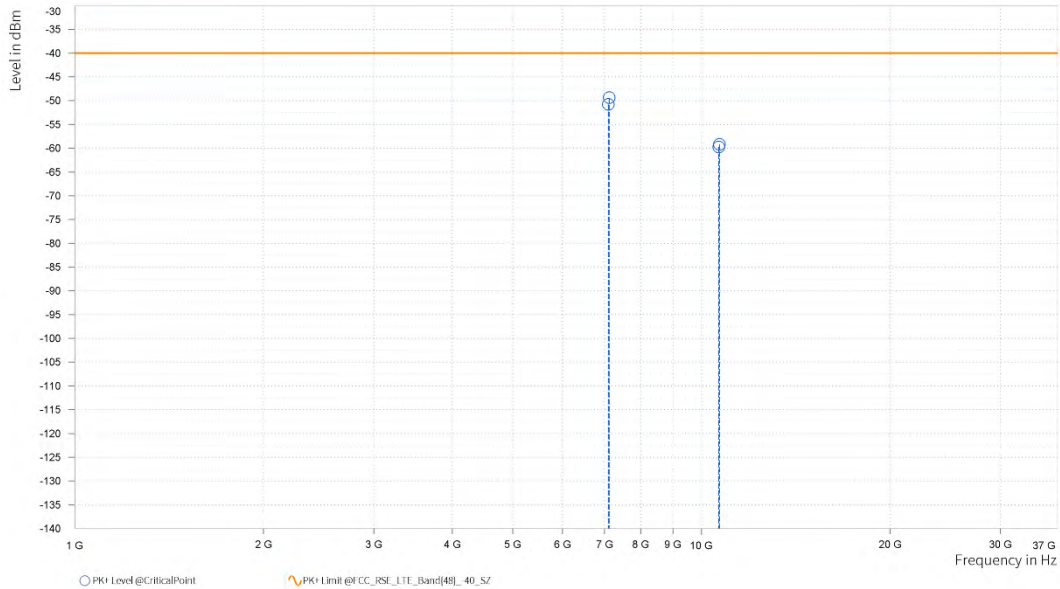




CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55295
			TX channel SCC 55439
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.000	-50.78	-40.00	10.78	24.36	V	359	2.00
5	7,121.800	-49.38	-40.00	9.38	24.61	V	1	1.00
6	10,653.000	-59.74	-40.00	19.74	11.67	V	359	1.00
6	10,682.700	-59.21	-40.00	19.21	11.65	V	359	2.00

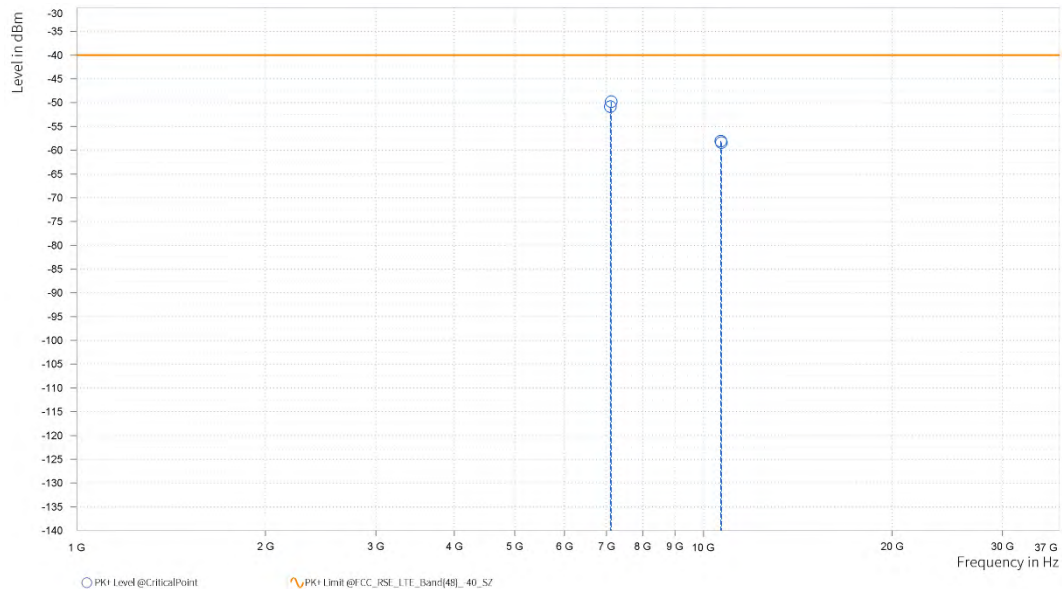




CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55896
			TX channel SCC 56496
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.000	-50.84	-40.00	10.84	24.36	H	1	2.00
5	7,121.800	-49.76	-40.00	9.76	24.61	H	294.6	1.00
6	10,653.000	-58.07	-40.00	18.07	11.67	H	359.1	1.00
6	10,682.700	-58.37	-40.00	18.37	11.65	H	1	2.00

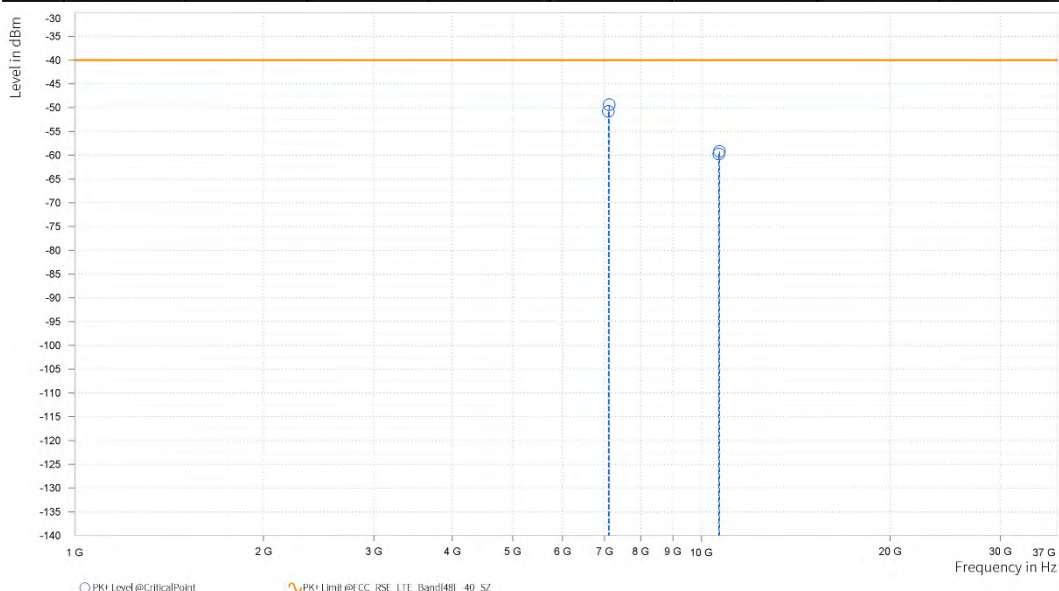




CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55896
			TX channel SCC 56496
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.000	-50.78	-40.00	10.78	24.36	V	359	2.00
5	7,121.800	-49.38	-40.00	9.38	24.61	V	1	1.00
6	10,653.000	-59.74	-40.00	19.74	11.67	V	359	1.00
6	10,682.700	-59.21	-40.00	19.21	11.65	V	359	2.00

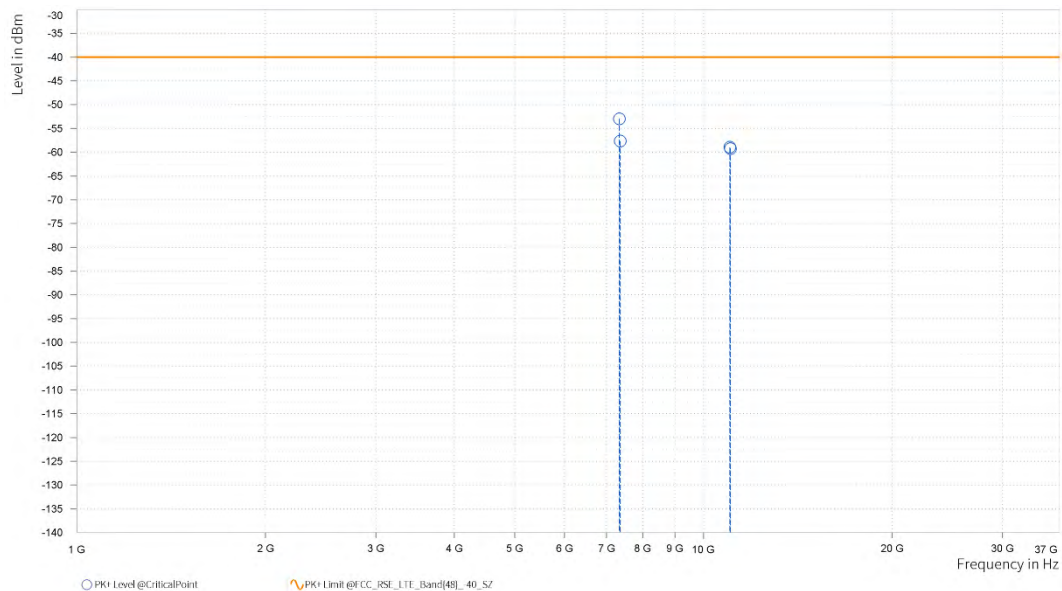




CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55496
			TX channel SCC 56640
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,342.200	-52.96	-40.00	12.96	19.20	H	1	2.00
5	7,362.000	-57.67	-40.00	17.67	17.07	H	358.6	1.00
6	11,013.300	-58.97	-40.00	18.97	11.99	H	359	1.00
6	11,043.000	-59.24	-40.00	19.24	11.97	H	1	2.00

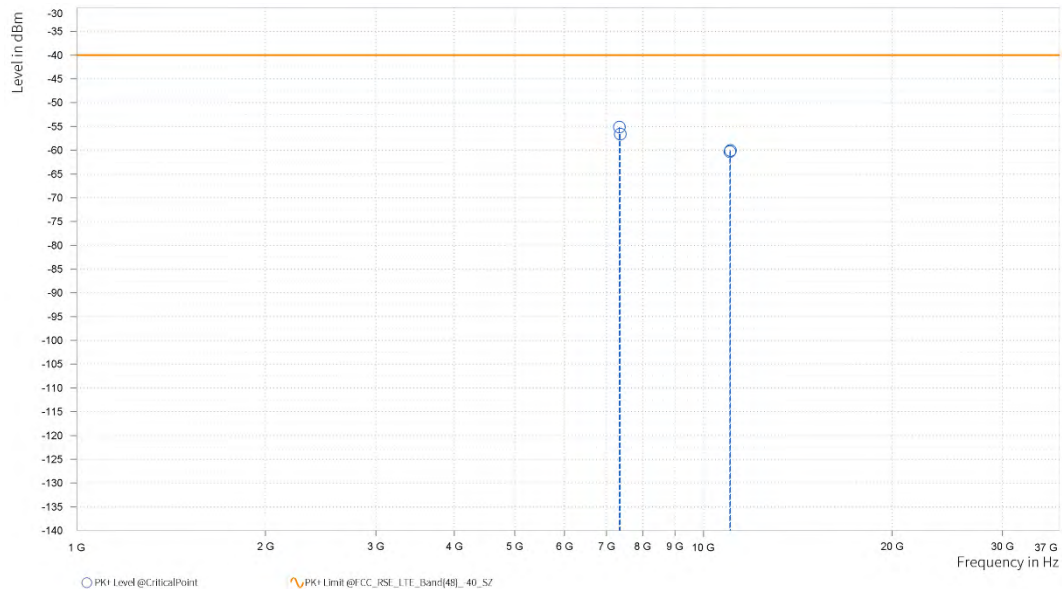




CHANNEL BANDWIDTH	(10+20) MHz / QPSK	MODE	TX channel PCC 55496
			TX channel SCC 56640
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,342.200	-55.16	-40.00	15.16	19.20	V	359	2.00
5	7,362.000	-56.61	-40.00	16.61	17.07	V	200.6	2.00
6	11,013.300	-60.29	-40.00	20.29	11.99	V	16.2	2.00
6	11,043.000	-60.02	-40.00	20.02	11.97	V	359.1	1.00

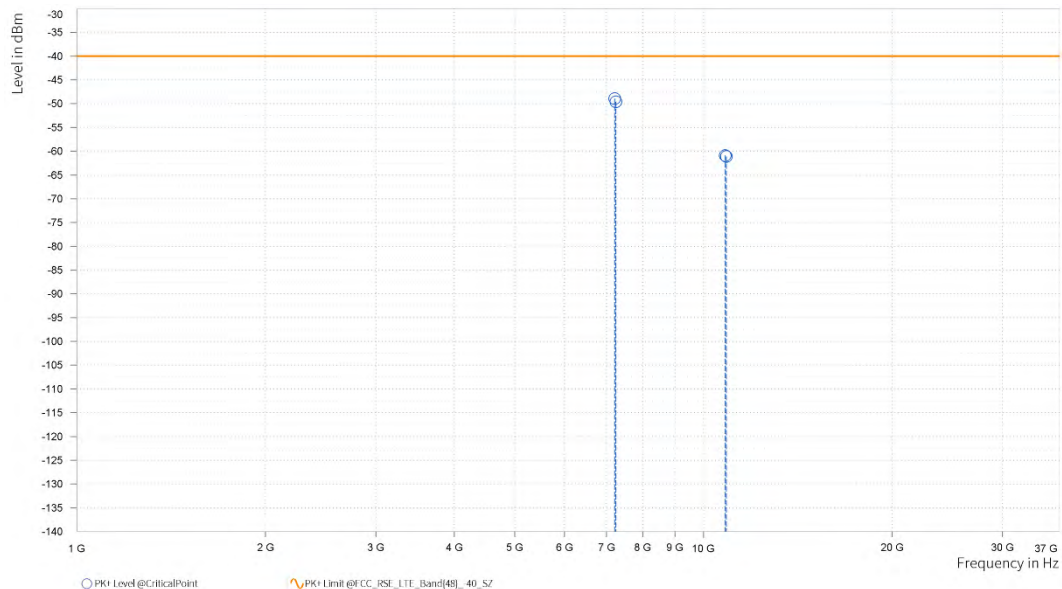




CHANNEL BANDWIDTH	(15+20) MHz / QPSK	MODE	TX channel PCC 55893
			TX channel SCC 56064
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,217.100	-48.95	-40.00	8.95	24.46	H	359	2.00
5	7,246.800	-49.59	-40.00	9.59	24.61	H	359	2.00
6	10,825.650	-60.89	-40.00	20.89	11.52	H	1	2.00
6	10,870.200	-61.10	-40.00	21.10	11.60	H	302.9	1.00

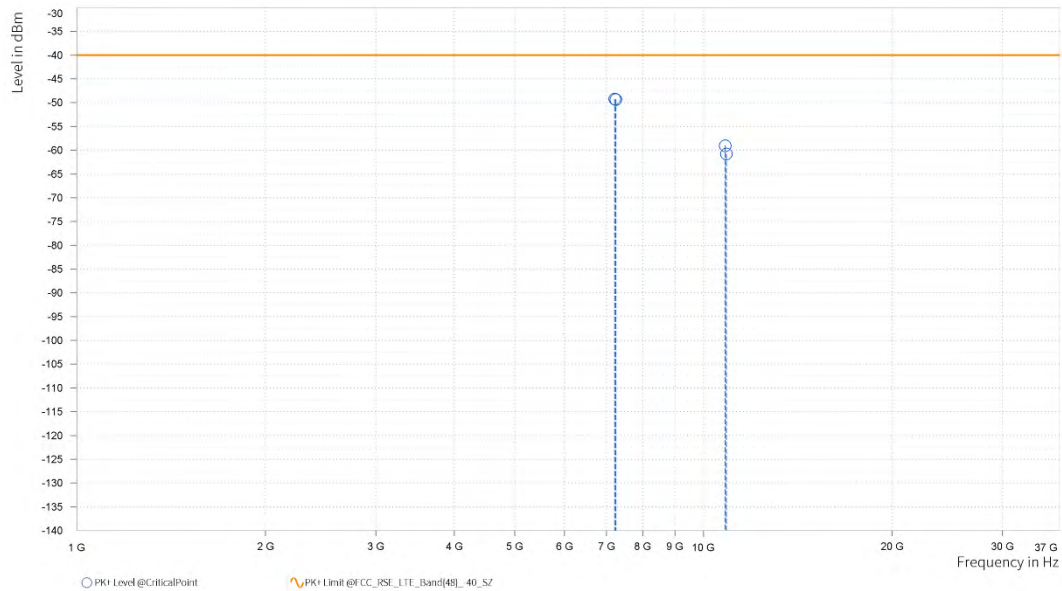




CHANNEL BANDWIDTH	(15+20) MHz / QPSK	MODE	TX channel PCC 55893
			TX channel SCC 56064
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,217.100	-49.24	-40.00	9.24	24.46	V	67.8	2.00
5	7,246.800	-49.34	-40.00	9.34	24.61	V	153.4	1.00
6	10,825.650	-59.07	-40.00	19.07	11.52	V	307.6	1.00
6	10,870.200	-60.79	-40.00	20.79	11.60	V	359	2.00





CHANNEL BANDWIDTH	(20+20) MHz / QPSK	MODE	TX channel PCC 55891
			TX channel SCC 56089
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	AC 120V/60HZ	TESTED BY	Jace Hu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,212.200	-50.28	-40.00	10.28	24.49	H	153.4	1.00
5	7,251.800	-49.68	-40.00	9.68	24.63	H	359	2.00
6	10,818.300	-59.72	-40.00	19.72	11.53	H	308.9	1.00
6	10,877.700	-61.03	-40.00	21.03	11.63	H	1	1.00

