FCC TEST REPORT

(PART 96)

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

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

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

☒ **47 CFR FCC Part 96**
☒ **ANSI 63.26-2015**

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

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

TABLE OF CONTENTS

RELEASE CONTROL RECORD 3
1 SUMMARY OF TEST RESULTS 4
1.1 MEASUREMENT UNCERTAINTY 4
1.2 TEST SITE AND INSTRUMENTS 5
2 GENERAL INFORMATION 7
2.1 GENERAL DESCRIPTION OF EUT 7
2.2 CONFIGURATION OF SYSTEM UNDER TEST 11
2.3 DESCRIPTION OF SUPPORT UNITS 12
2.4 TEST ITEM AND TEST CONFIGURATION 12
2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS 15
3 TEST TYPES AND RESULTS 16
3.1 MAXIMUM EIRP MEASUREMENT 16
3.1.1 LIMITS OF MAXIMUM EIRP MEASUREMENT 16
3.1.2 TEST SETUP 16
3.1.3 TEST PROCEDURES 17
3.1.4 DEVIATION FROM TEST STANDARD 17
3.1.5 TEST RESULTS 18
3.2 RADIATED EMISSION MEASUREMENT 27
3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT 27
3.2.2 TEST PROCEDURES 27
3.2.3 DEVIATION FROM TEST STANDARD 27
3.2.4 TEST SET UP 28
3.2.5 TEST RESULTS 30
4 INFORMATION ON THE TESTING LABORATORIES 50
5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB 51

RELEASE CONTROL RECORD

ISSUE NO.	DESCRIPTION	DATE ISSUED
W7L-P23070010RF07	Original release	Oct. 31, 2023

1 SUMMARY OF TEST RESULTS

47 CFR FCC PART 96		
FCC CLAUSE	**TEST ITEM**	**RESULT**
2.1046 96.41(b)	Maximum Peak Output Power	See Note2
	Maximum EIRP	Compliance
2.1051 96.41(e)	Conducted Band Edge	See Note2
2.1049	Occupied Bandwidth	See Note2
2.1055	Frequency Stability	See Note2
2.1051 96.41(e)	Conducted Spurious Emissions	See Note2
2.1053 96.41(e)	Radiated Spurious Emissions	Compliance See Note3
96.41(g)	Peak-to-Average Power Ratio	See Note2

Note:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Please refer to the module report FYCR220600021101 (FCC ID: XMR2022RM520NGL), but the data of EIRP is recalculated and showed in this report.
3. For Inter-CA band, the EUT had been tested with all combinations, the report only shows the worst case RSE mode data.

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

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Vector Signal Generator	R&S	SMBV100B	102176	Feb.16,22	Feb.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Feb.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.25,22	Feb.24,24
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
Test Software	EMC32	EMC32	N/A	N/A	N/A
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Oct.01,22	Sep.30,24
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	W13.02	N/A	Oct.27,23	Apr.26,24
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Oct.27,23	Apr.26,24
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.28,23	Oct.27,23

CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.27,23	Apr.26,24
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.27,23	Apr.26,24
Temperature Chamber	votsch	VT4002	58566078100050	May.31,22	May.30,24

NOTE: 1. The calibration interval of the above test instruments is 6 months or 24months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

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

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

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

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Edge AI Station	
BRAND NAME	Thundercomm	
MODEL NAME	EB5S	
NOMINAL VOLTAGE	19Vdc(adapter)	
MODULATION TECHNOLOGY	**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
	LTE Band CA_48C Channel Bandwidth: 5MHz+20MHz	3553.3MHz ~ 3690MHz
	LTE Band CA_48C Channel Bandwidth: 20MHz +5MHz	3560MHz ~ 3696.7MHz
	LTE Band CA_48C Channel Bandwidth: 10MHz +20MHz	3555.5MHz ~ 3690MHz
	LTE Band CA_48C Channel Bandwidth: 20MHz +10MHz	3560MHz ~ 3694.5MHz
	LTE Band CA_48C Channel Bandwidth: 15MHz +20MHz	3557.8MHz ~ 3690MHz
	LTE Band CA_48C Channel Bandwidth: 20MHz +15MHz	3560MHz ~ 3692.2MHz
	LTE Band CA_48C Channel Bandwidth: 20MHz +20MHz	3560MHz ~ 3690MHz

EMISSION DESIGNATOR	LTE Band 48 Channel Bandwidth: 5MHz	QPSK: 4M59G7D
		16QAM: 4M58W7D
		64QAM: /
		256QAM: /
	LTE Band 48 Channel Bandwidth: 10MHz	QPSK: 9M12G7D
		16QAM: 9M10W7D
		64QAM: /
		256QAM: /
	LTE Band 48 Channel Bandwidth: 15MHz	QPSK: 13M7G7D
		16QAM: 13M6W7D
		64QAM: /
		256QAM: /
	LTE Band 48 Channel Bandwidth: 20MHz	QPSK: 18M1G7D
		16QAM: 18M1W7D
		64QAM: /
		256QAM: /
	LTE Band CA_48C Channel Bandwidth: 5MHz+20MHz	QPSK: 22M9G7D
		16QAM: 22M9W7D
		64QAM: 22M9W7D
		256QAM: 22M9W7D
	LTE Band CA_48C Channel Bandwidth: 20MHz +5MHz	QPSK: 23M0G7D
		16QAM: 22M9W7D
		64QAM: 22M9W7D
		256QAM: 22M9W7D
	LTE Band CA_48C Channel Bandwidth: 10MHz +20MHz	QPSK: 27M8G7D
		16QAM: 27M7W7D
		64QAM: 27M7W7D
		256QAM: 27M7W7D
	LTE Band CA_48C Channel Bandwidth: 20MHz +10MHz	QPSK: 27M8G7D
		16QAM: 27M8W7D
		64QAM: 27M8W7D
		256QAM: 27M7W7D
	LTE Band CA_48C Channel Bandwidth: 15MHz +20MHz	QPSK: 32M7G7D
		16QAM: 32M6W7D
		64QAM: 32M6W7D
		256QAM: 32M6W7D
	LTE Band CA_48C Channel Bandwidth: 20MHz +15MHz	QPSK: 32M7G7D
		16QAM: 32M6W7D
		64QAM: 32M6W7D
		256QAM: 32M6W7D
	LTE Band CA_48C Channel Bandwidth: 20MHz +20MHz	QPSK: 37M9G7D
		16QAM: 37M7W7D
		64QAM: 37M7W7D

		256QAM: 37M8W7D
MAX. EIRP POWER	**LTE Band 48 Channel Bandwidth: 5MHz**	171.79mW
	LTE Band 48 Channel Bandwidth: 10MHz	186.21mW
	LTE Band 48 Channel Bandwidth: 15MHz	170.61mW
	LTE Band 48 Channel Bandwidth: 20MHz	143.88mW
	LTE Band CA_48C Channel Bandwidth: 5MHz+20MHz	97.50mW
	LTE Band CA_48C Channel Bandwidth: 20MHz +5MHz	96.83mW
	LTE Band CA_48C Channel Bandwidth: 10MHz +20MHz	97.95mW
	LTE Band CA_48C Channel Bandwidth: 20MHz +10MHz	97.72mW
	LTE Band CA_48C Channel Bandwidth: 15MHz +20MHz	98.40mW
	LTE Band CA_48C Channel Bandwidth: 20MHz +15MHz	98.86mW
	LTE Band CA_48C Channel Bandwidth: 20MHz +20MHz	99.08mW
ANTENNA GAIN	Fixed External Antenna with -1.84dBi gain for LTE B48/ LTE CA 48C	
HW VERSION	Turbox EB5S-IO-BOARD V03	
SW VERSION	R.5S.LA.2.20231030	
I/O PORTS	Refer to user's manual	
DATA CABLE	N/A	
EXTREME TEMPERATURE	-20-60 ℃	
EXTREME VOLTAGE	12V - 24V	

NOTE:

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

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

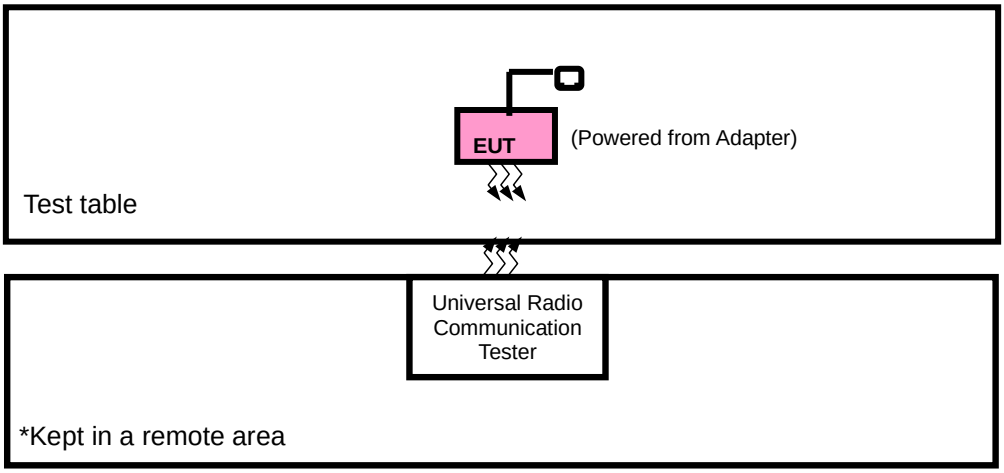
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

4. List of Accessory:

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

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	N/A	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

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**

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	1 RB / 0 RB Offset
		55290 to 56690	55290, 55990, 56690	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		55315 to 56665	55315, 55990, 56665	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		55340 to 56640	55340, 55990, 56640	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	55265 to 56715	55265, 55990, 56715	5MHz	QPSK	1 RB / 0 RB Offset
		55290 to 56690	55990	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

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

LTE BAND 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	RADIATED EMISSION	55340 to 56442	55538 to 56640	Low, Middle, High	20MHz +20MHz	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.

TEST CONDITION:

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

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 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.

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issue

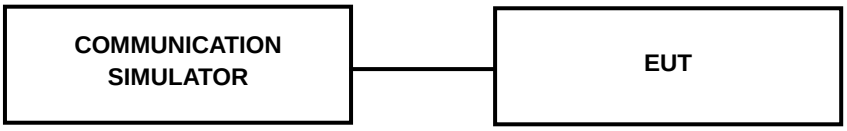
3 TEST TYPES AND RESULTS
3.1 MAXIMUM EIRP MEASUREMENT

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 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.

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.

3.1.5 TEST RESULTS

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	23.77	-1.84	21.93	155.96	23
55990	3625	24.19	-1.84	22.35	171.79	23
56715	3697.5	24.14	-1.84	22.3	169.82	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	22.47	-1.84	20.63	115.61	23
55990	3625	22.87	-1.84	21.03	126.77	23
56715	3697.5	23.5	-1.84	21.66	146.55	23

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	23.51	-1.84	21.67	146.89	23
55990	3625	23.78	-1.84	21.94	156.31	23
56690	3695	24.54	-1.84	22.7	186.21	23

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	22.51	-1.84	20.67	116.68	23
55990	3625	23.19	-1.84	21.35	136.46	23
56690	3695	23.4	-1.84	21.56	143.22	23

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	23.25	-1.84	21.41	138.36	23
55990	3625	23.35	-1.84	21.51	141.58	23
56665	3692.5	24.16	-1.84	22.32	170.61	23

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	22.54	-1.84	20.7	117.49	23
55990	3625	22.77	-1.84	20.93	123.88	23
56665	3692.5	23.02	-1.84	21.18	131.22	23

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	23.37	-1.84	21.53	142.23	23
55990	3625	21.38	-1.84	19.54	89.95	23
56640	3690	22.02	-1.84	20.18	104.23	23

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	22.44	-1.84	20.6	114.82	23
55990	3625	20.68	-1.84	18.84	76.56	23
56640	3690	23.42	-1.84	21.58	143.88	23

LTE BAND CA_48C

LTE BAND CA_48C 5M+20M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55273	3553.3	55390	3565.0	21.59	-1.84	19.75	94.41	23
55898	3615.8	56015	3627.5	21.72	-1.84	19.88	97.27	23
56523	3678.3	56640	3690.0	21.73	-1.84	19.89	97.50	23
LTE BAND CA_48C 5M+20M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55273	3553.3	55390	3565.0	20.74	-1.84	18.90	77.62	23
55898	3615.8	56015	3627.5	20.83	-1.84	18.99	79.25	23
56523	3678.3	56640	3690.0	20.81	-1.84	18.97	78.89	23
LTE BAND CA_48C 5M+20M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55273	3553.3	55390	3565.0	19.74	-1.84	17.90	61.66	23
55898	3615.8	56015	3627.5	19.83	-1.84	17.99	62.95	23
56523	3678.3	56640	3690.0	19.92	-1.84	18.08	64.27	23

LTE BAND CA_48C 5M+20M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55273	3553.3	55390	3565.0	17.47	-1.84	15.63	36.56	23
55898	3615.8	56015	3627.5	17.53	-1.84	15.69	37.07	23
56523	3678.3	56640	3690.0	17.47	-1.84	15.63	36.56	23

LTE BAND CA_48C 20M+5M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55457	3571.7	21.70	-1.84	19.86	96.83	23
55965	3622.5	56082	3634.2	21.59	-1.84	19.75	94.41	23
56590	3685.0	56707	3696.7	21.68	-1.84	19.84	96.38	23
LTE BAND CA_48C 20M+5M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55457	3571.7	20.73	-1.84	18.89	77.45	23
55965	3622.5	56082	3634.2	20.63	-1.84	18.79	75.68	23
56590	3685.0	56707	3696.7	20.63	-1.84	18.79	75.68	23
LTE BAND CA_48C 20M+5M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55457	3571.7	19.77	-1.84	17.93	62.09	23
55965	3622.5	56082	3634.2	19.78	-1.84	17.94	62.23	23
56590	3685.0	56707	3696.7	19.77	-1.84	17.93	62.09	23

LTE BAND CA_48C 20M+5M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55457	3571.7	17.48	-1.84	15.64	36.64	23
55965	3622.5	56082	3634.2	17.48	-1.84	15.64	36.64	23
56590	3685.0	56707	3696.7	17.45	-1.84	15.61	36.39	23

LTE BAND CA_48C 10M+20M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55295	3555.5	55439	3569.9	21.65	-1.84	19.81	95.72	23
55896	3615.6	56040	3630.0	21.75	-1.84	19.91	97.95	23
56496	3675.6	56640	3690.0	21.74	-1.84	19.90	97.72	23
LTE BAND CA_48C 10M+20M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55295	3555.5	55439	3569.9	20.70	-1.84	18.86	76.91	23
55896	3615.6	56040	3630.0	20.76	-1.84	18.92	77.98	23
56496	3675.6	56640	3690.0	20.74	-1.84	18.90	77.62	23
LTE BAND CA_48C 10M+20M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55295	3555.5	55439	3569.9	19.79	-1.84	17.95	62.37	23
55896	3615.6	56040	3630.0	19.93	-1.84	18.09	64.42	23
56496	3675.6	56640	3690.0	19.77	-1.84	17.93	62.09	23

LTE BAND CA_48C 10M+20M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55295	3555.5	55439	3569.9	17.48	-1.84	15.64	36.64	23
55896	3615.6	56040	3630.0	17.54	-1.84	15.70	37.15	23
56496	3675.6	56640	3690.0	17.52	-1.84	15.68	36.98	23

LTE BAND CA_48C 20M+10M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55484	3574.4	21.66	-1.84	19.82	95.94	23
55941	3620.1	56085	3634.5	21.64	-1.84	19.80	95.50	23
56541	3680.1	56685	3694.5	21.74	-1.84	19.90	97.72	23
LTE BAND CA_48C 20M+10M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55484	3574.4	20.64	-1.84	18.80	75.86	23
55941	3620.1	56085	3634.5	20.68	-1.84	18.84	76.56	23
56541	3680.1	56685	3694.5	20.72	-1.84	18.88	77.27	23
LTE BAND CA_48C 20M+10M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55484	3574.4	19.86	-1.84	18.02	63.39	23
55941	3620.1	56085	3634.5	19.92	-1.84	18.08	64.27	23
56541	3680.1	56685	3694.5	19.82	-1.84	17.98	62.81	23

LTE BAND CA_48C 20M+10M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55484	3574.4	17.56	-1.84	15.72	37.33	23
55941	3620.1	56085	3634.5	17.58	-1.84	15.74	37.50	23
56541	3680.1	56685	3694.5	17.56	-1.84	15.72	37.33	23

LTE BAND CA_48C 15M+20M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55318	3557.8	55489	3574.9	21.64	-1.84	19.80	95.50	23
55893	3615.3	55064	3632.4	21.77	-1.84	19.93	98.40	23
56496	3672.9	56640	3690.0	21.72	-1.84	19.88	97.27	23
LTE BAND CA_48C 15M+20M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55318	3557.8	55489	3574.9	20.54	-1.84	18.70	74.13	23
55893	3615.3	55064	3632.4	20.77	-1.84	18.93	78.16	23
56496	3672.9	56640	3690.0	20.72	-1.84	18.88	77.27	23
LTE BAND CA_48C 15M+20M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55318	3557.8	55489	3574.9	19.83	-1.84	17.99	62.95	23
55893	3615.3	55064	3632.4	19.98	-1.84	18.14	65.16	23
56496	3672.9	56640	3690.0	19.88	-1.84	18.04	63.68	23

LTE BAND CA_48C 15M+20M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55318	3557.8	55489	3574.9	17.64	-1.84	15.80	38.02	23
55893	3615.3	55064	3632.4	17.69	-1.84	15.85	38.46	23
56496	3672.9	56640	3690.0	17.63	-1.84	15.79	37.93	23

LTE BAND CA_48C 20M+15M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55511	3577.1	21.79	-1.84	19.95	98.86	23
55916	3617.6	56087	3634.7	21.79	-1.84	19.95	98.86	23
56491	3675.1	56662	3692.2	21.71	-1.84	19.87	97.05	23
LTE BAND CA_48C 20M+15M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55511	3577.1	20.92	-1.84	19.08	80.91	23
55916	3617.6	56087	3634.7	20.78	-1.84	18.94	78.34	23
56491	3675.1	56662	3692.2	20.72	-1.84	18.88	77.27	23
LTE BAND CA_48C 20M+15M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55511	3577.1	19.88	-1.84	18.04	63.68	23
55916	3617.6	56087	3634.7	20.00	-1.84	18.16	65.46	23
56491	3675.1	56662	3692.2	19.83	-1.84	17.99	62.95	23

LTE BAND CA_48C 20M+15M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55511	3577.1	17.67	-1.84	15.83	38.28	23
55916	3617.6	56087	3634.7	17.64	-1.84	15.80	38.02	23
56491	3675.1	56662	3692.2	17.63	-1.84	15.79	37.93	23

LTE BAND CA_48C 20M+20M QPSK								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55538	3579.8	21.80	-1.84	19.96	99.08	23
55891	3615.1	56089	3634.9	21.73	-1.84	19.89	97.50	23
56442	3670.2	56640	3690.0	21.77	-1.84	19.93	98.40	23
LTE BAND CA_48C 20M+20M 16QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55538	3579.8	20.77	-1.84	18.93	78.16	23
55891	3615.1	56089	3634.9	20.71	-1.84	18.87	77.09	23
56442	3670.2	56640	3690.0	20.86	-1.84	19.02	79.80	23
LTE BAND CA_48C 20M+20M 64QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55538	3579.8	19.91	-1.84	18.07	64.12	23
55891	3615.1	56089	3634.9	19.96	-1.84	18.12	64.86	23
56442	3670.2	56640	3690.0	19.86	-1.84	18.02	63.39	23

LTE BAND CA_48C 20M+20M 256QAM								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560.0	55538	3579.8	17.66	-1.84	15.82	38.19	23
55891	3615.1	56089	3634.9	17.69	-1.84	15.85	38.46	23
56442	3670.2	56640	3690.0	17.63	-1.84	15.79	37.93	23

3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

3.2.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(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, E.R.P power = E.I.P.R power - 2.15dBi.

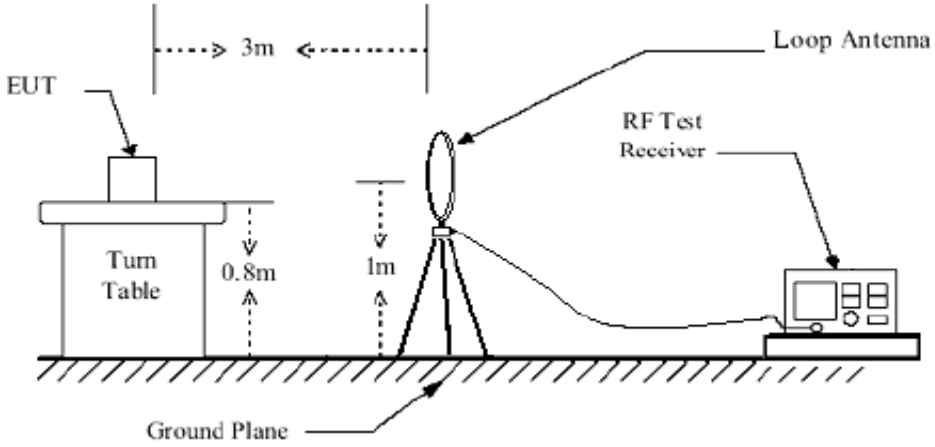
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.2.3 DEVIATION FROM TEST STANDARD

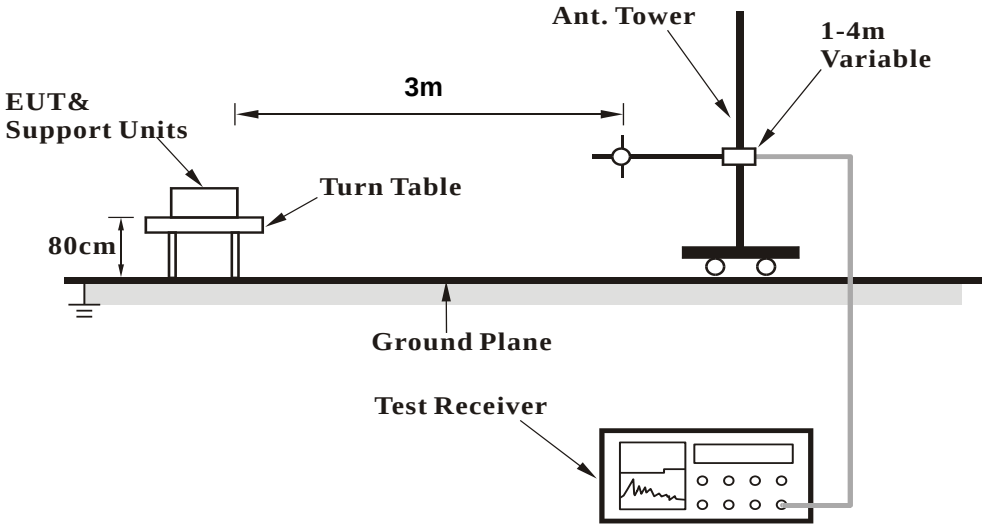
No deviation.

3.2.4 TEST SET UP

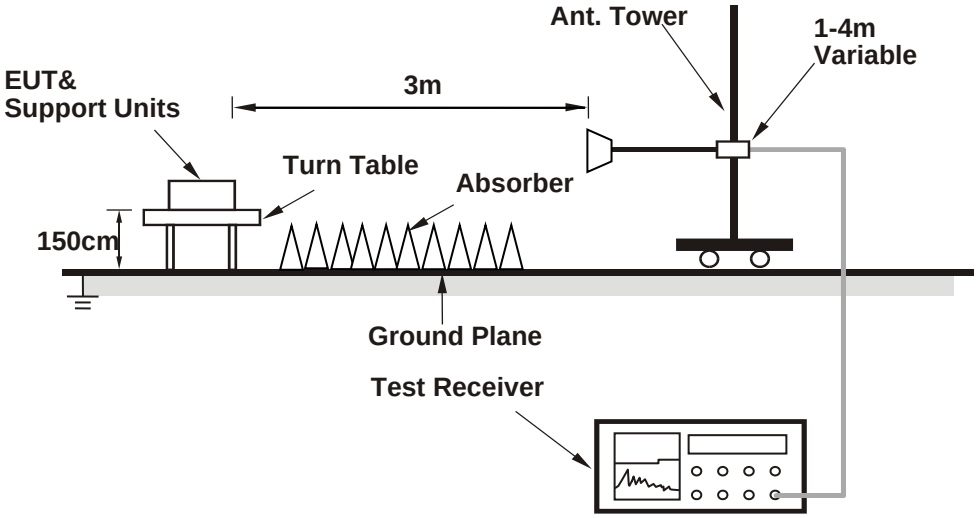
< Frequency Range below 30MHz >



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

3.2.5 TEST RESULTS

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

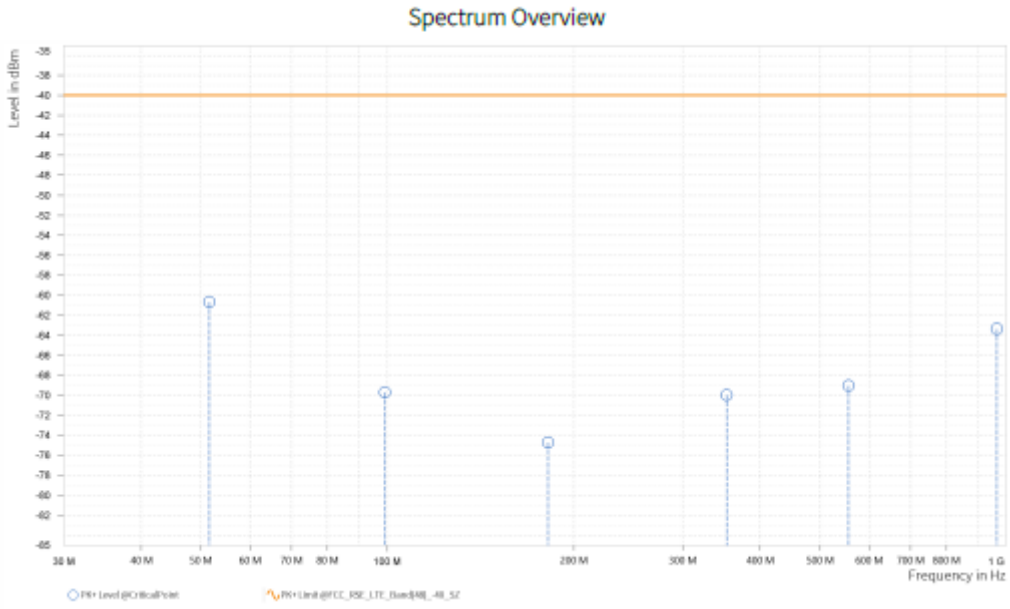
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 48
CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 55990	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

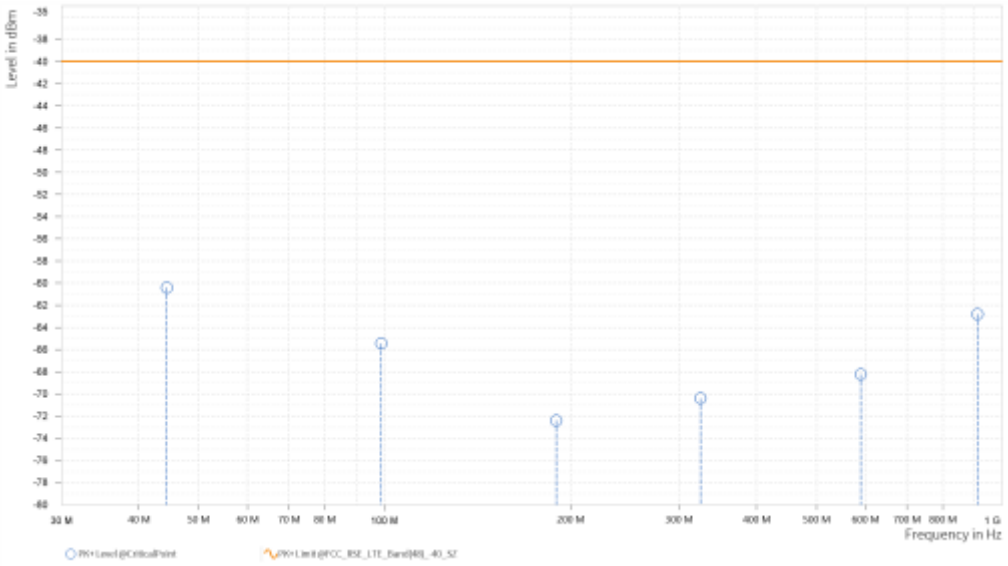
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	51.550	-60.68	-40.00	20.68	4.82	H	5.2	1
1	99.150	-69.70	-40.00	29.70	0.42	H	178.8	2
1	181.700	-74.72	-40.00	34.72	-1.57	H	181.3	1
1	353.100	-69.96	-40.00	29.96	6.52	H	1	1
2	555.692	-69.03	-40.00	29.03	6.44	H	1.4	2
2	965.213	-63.35	-40.00	23.35	15.02	H	253	1



MODE	TX channel 55990	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	44.400	-60.41	-40.00	20.41	5.00	V	335.4	1
1	98.850	-65.45	-40.00	25.45	4.16	V	1	1
1	189.600	-72.40	-40.00	32.40	-0.03	V	359	2
1	324.600	-70.41	-40.00	30.41	5.33	V	31.8	2
2	589.517	-68.24	-40.00	28.24	7.82	V	248.2	2
2	912.321	-62.80	-40.00	22.80	15.19	V	358.9	1

Spectrum Overview



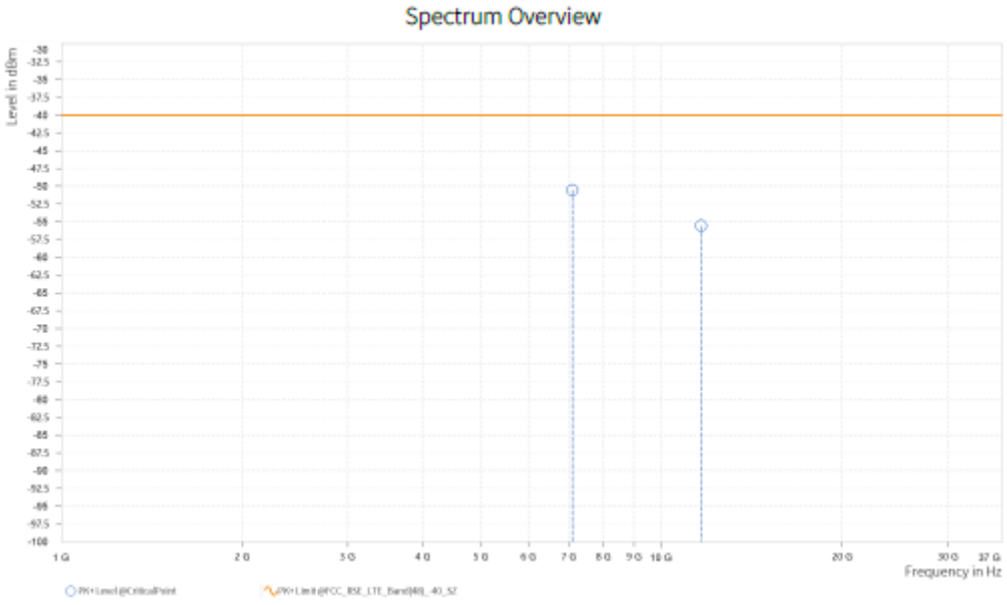
ABOVE 1GHz
LTE BAND 48

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 55265

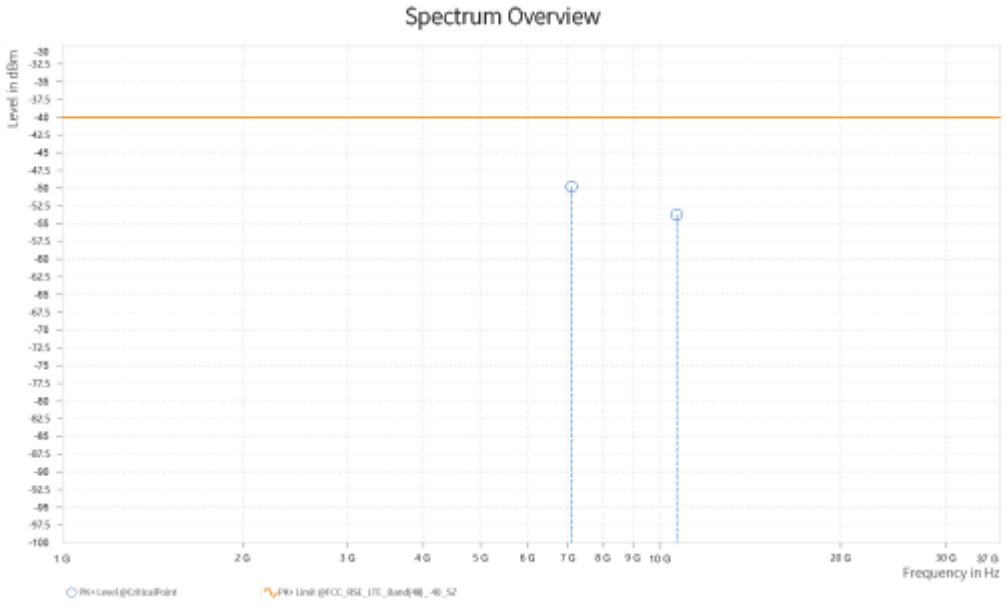
MODE	TX channel 55265	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,102.500	-50.52	-40.00	10.52	27.38	H	151.4	2
6	11,650.500	-55.54	-40.00	15.54	18.26	H	15.7	2



MODE	TX channel 55265	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			

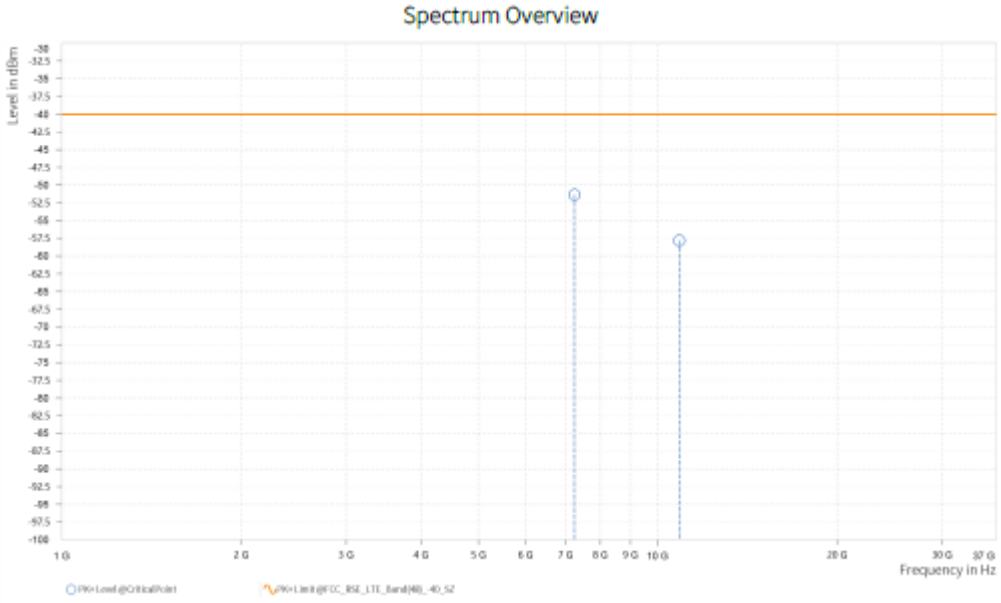
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,100.288	-49.79	-40.00	9.79	27.34	V	86.9	2
6	10,650.000	-53.72	-40.00	13.72	17.14	V	359	2



CH 55990

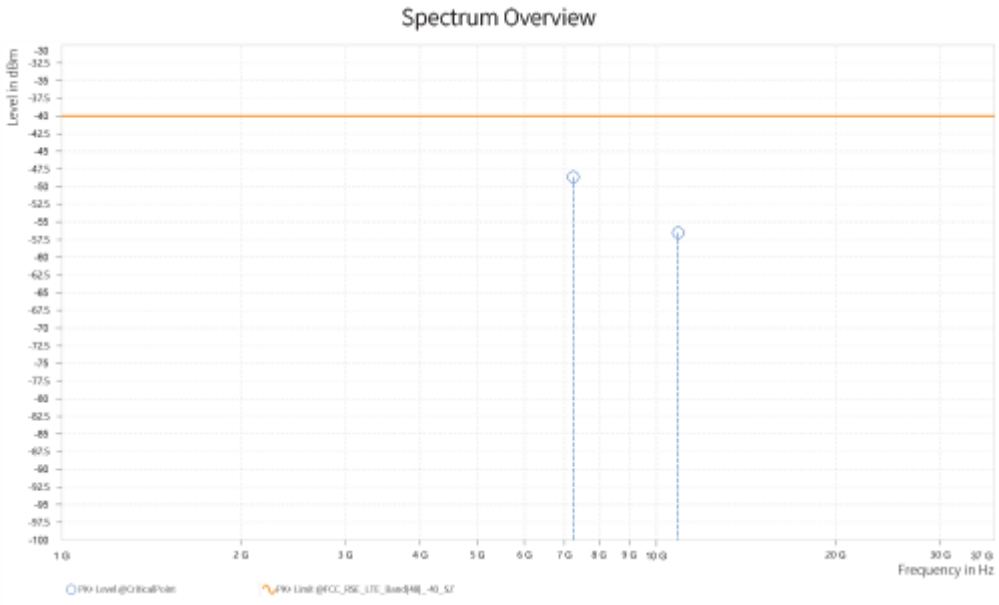
MODE	TX channel 55990	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,245.000	-51.36	-40.00	11.36	27.34	H	359	2
6	10,868.000	-57.84	-40.00	17.84	16.36	H	359.1	1



MODE	TX channel 55990	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			

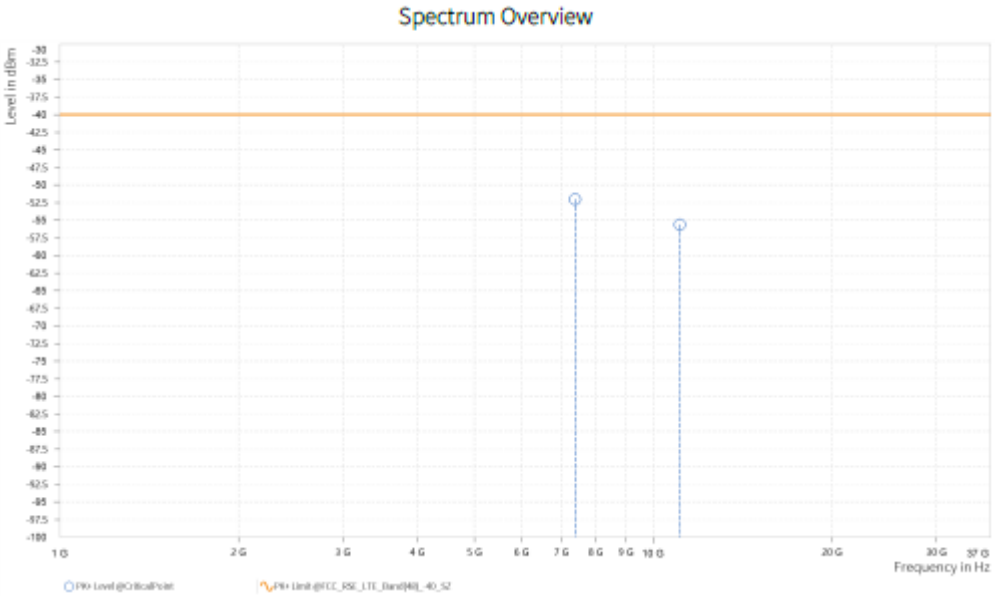
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,245.045	-48.61	-40.00	8.61	27.32	V	0.9	2
6	10,868.182	-56.49	-40.00	16.49	16.49	V	359	2



CH 56715

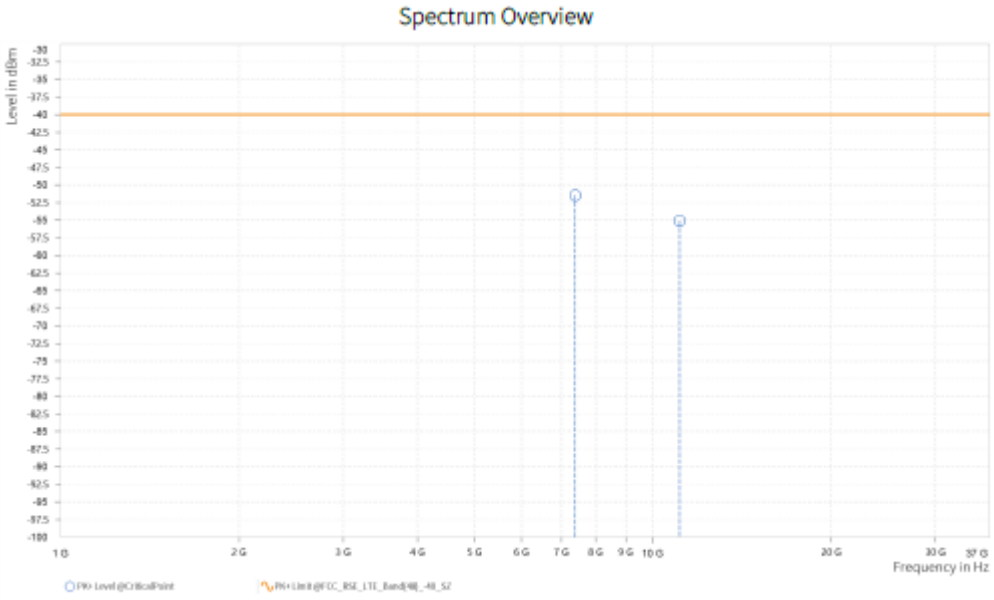
MODE	TX channel 56715	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,389.500	-52.00	-40.00	12.00	26.57	H	359	1
6	11,085.500	-55.61	-40.00	15.61	17.22	H	259	1



MODE	TX channel 56715	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			

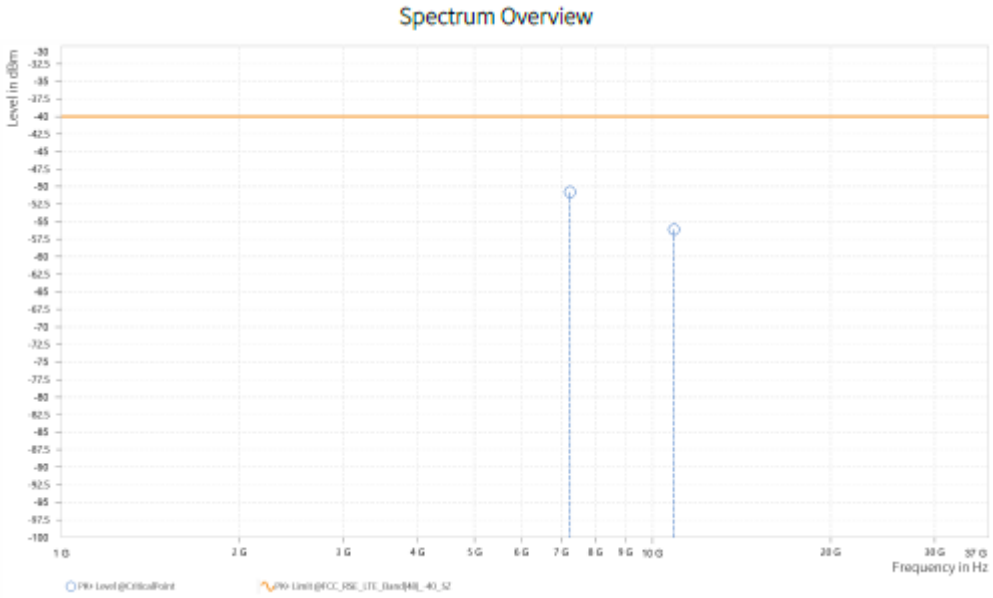
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,390.318	-51.45	-40.00	11.45	26.62	V	1	2
6	11,085.909	-55.07	-40.00	15.07	17.41	V	7.8	2



CHANNEL BANDWIDTH: 10MHz / QPSK

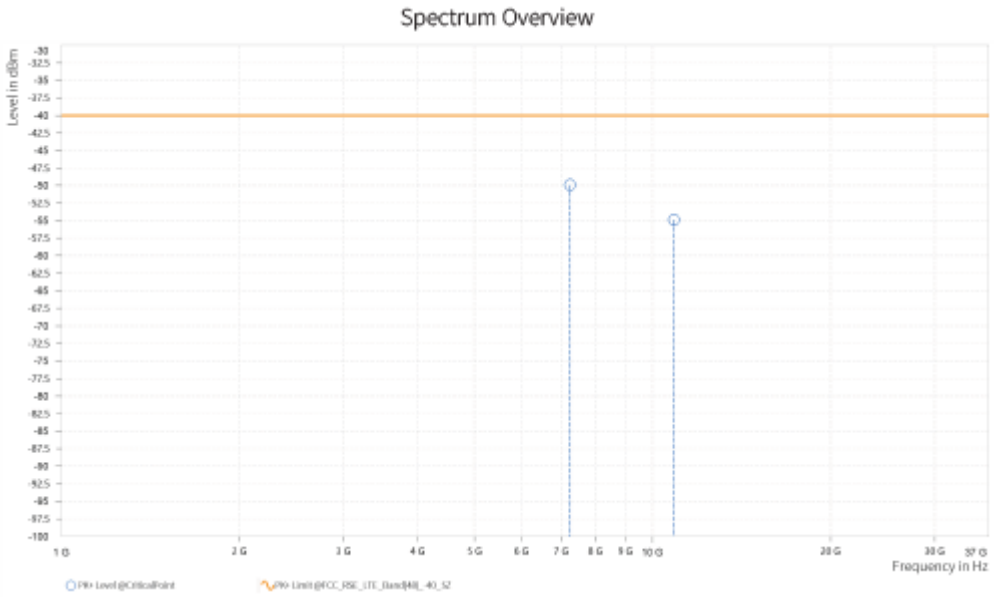
MODE	TX channel 55990	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,242.000	-50.77	-40.00	10.77	27.36	H	205.1	1
6	10,862.500	-56.12	-40.00	16.12	16.38	H	339.5	1



MODE	TX channel 55990	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			

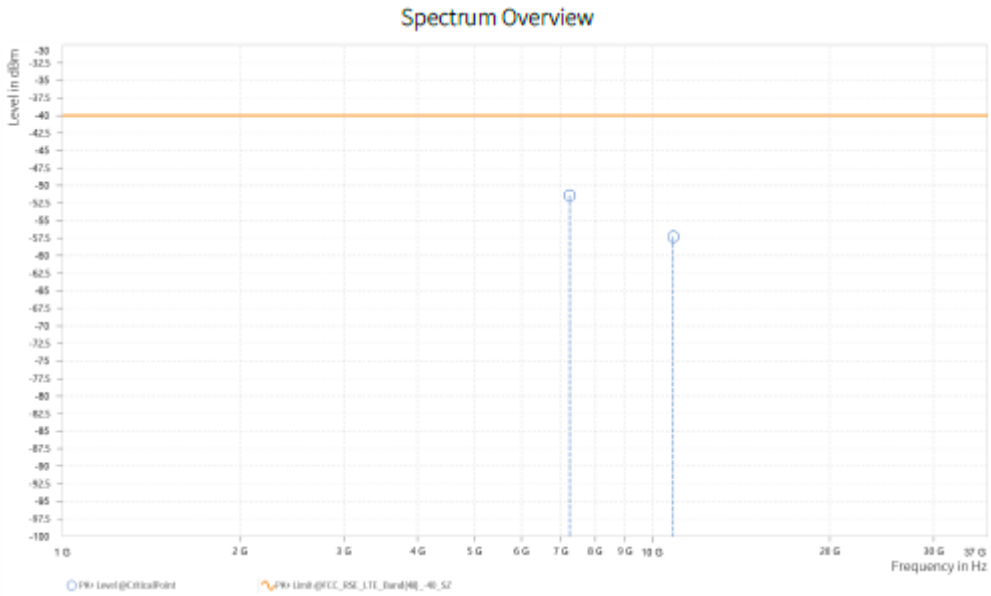
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,241.955	-49.91	-40.00	9.91	27.34	V	85.7	2
6	10,862.727	-54.88	-40.00	14.88	16.50	V	359	2



CHANNEL BANDWIDTH: 15MHz / QPSK

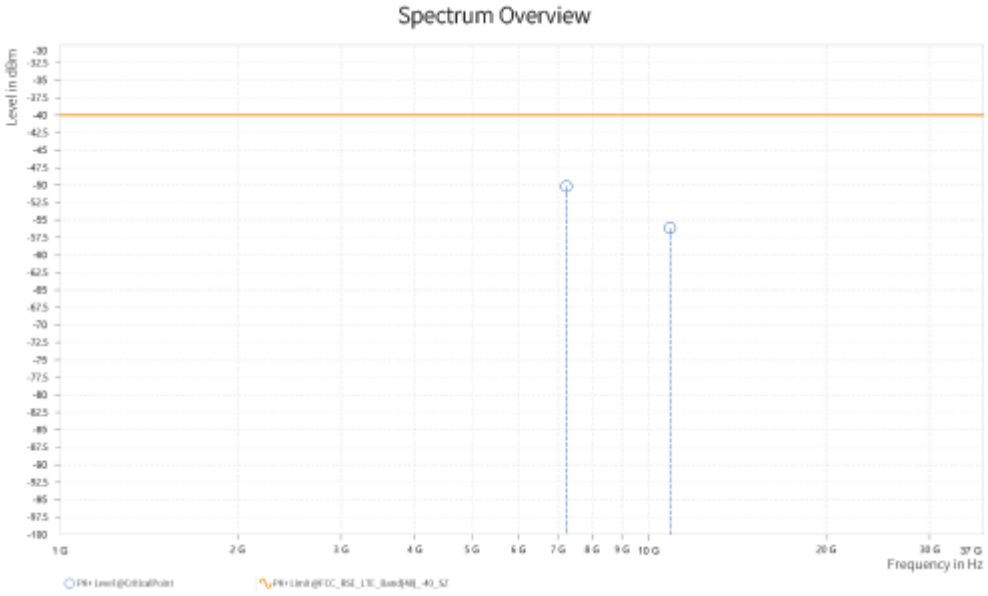
MODE	TX channel 55990	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,236.000	-51.39	-40.00	11.39	27.41	H	359	2
6	10,856.000	-57.28	-40.00	17.28	16.41	H	260.1	1



MODE	TX channel 55990	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			

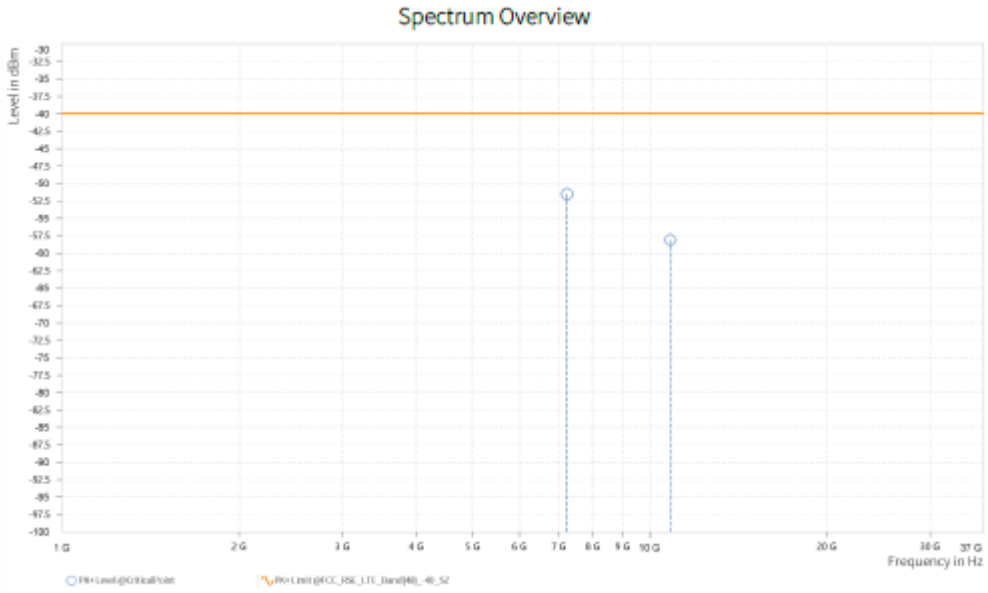
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,237.061	-50.16	-40.00	10.16	27.38	V	359	2
6	10,855.000	-56.13	-40.00	16.13	16.55	V	359	2



CHANNEL BANDWIDTH: 20MHz / QPSK

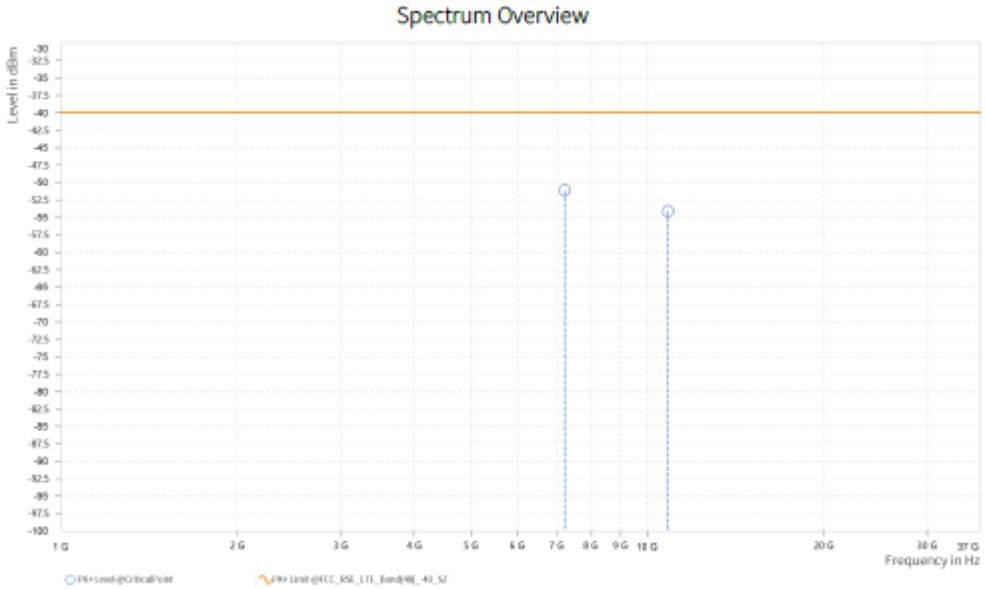
MODE	TX channel 55990	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,231.500	-51.49	-40.00	11.49	27.45	H	30.6	2
6	10,847.500	-58.08	-40.00	18.08	16.45	H	344.4	1



MODE	TX channel 55990	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	7,231.652	-51.13	-40.00	11.13	27.42	V	86.8	2
6	10,847.273	-54.09	-40.00	14.09	16.59	V	5	2



LTE Band CA _48C

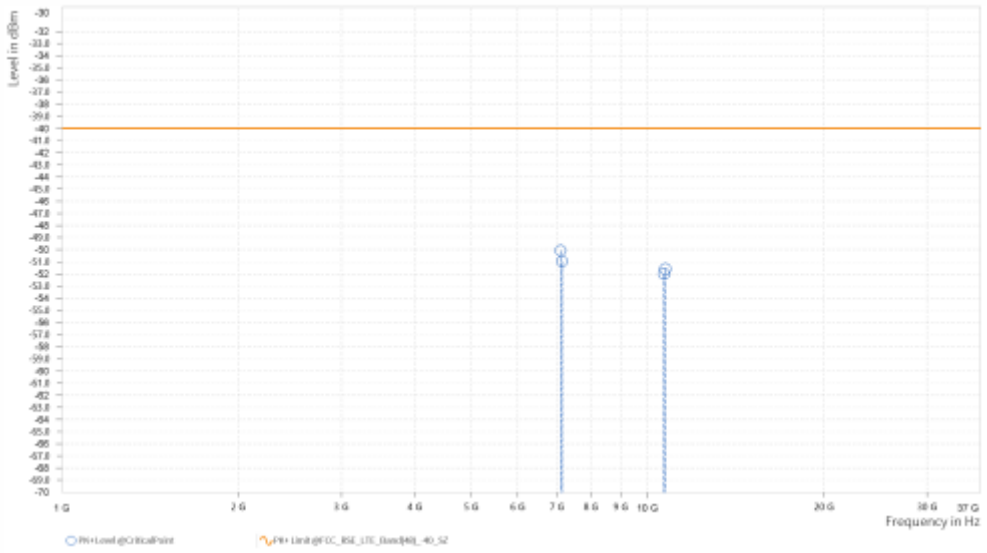
CHANNEL BANDWIDTH: 20MHz + 20MHz

CH 55340 /55538

MODE	55340 /55538	**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			

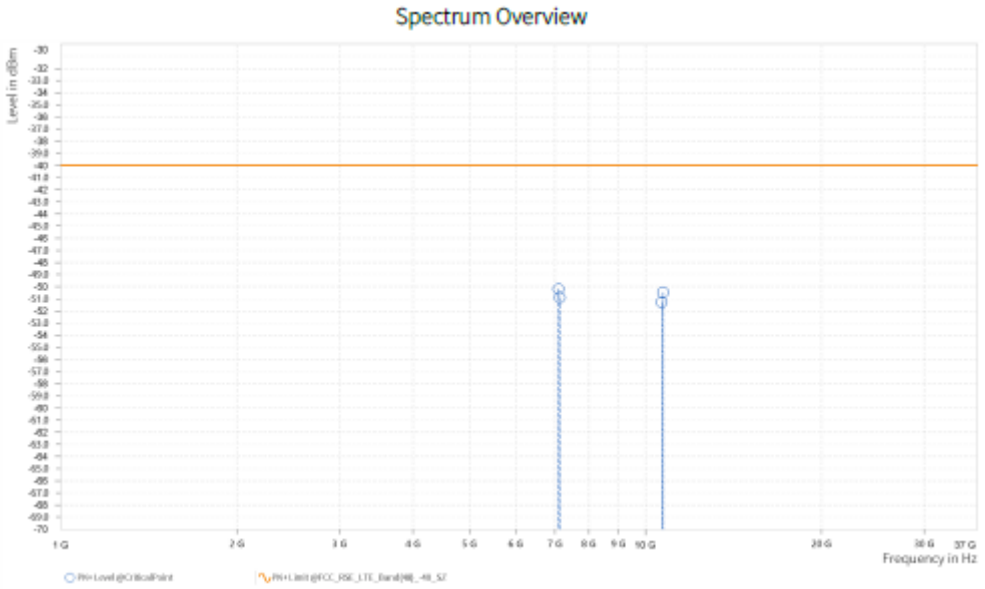
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,101.500	-50.07	-40.00	10.07	27.38	H	359.1	1
5	7,141.000	-50.95	-40.00	10.95	27.58	H	359.1	1
6	10,653.500	-51.99	-40.00	11.99	16.94	H	359.1	1
6	10,711.500	-51.59	-40.00	11.59	16.93	H	267.3	1

Spectrum Overview



MODE	55340 /55538	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			

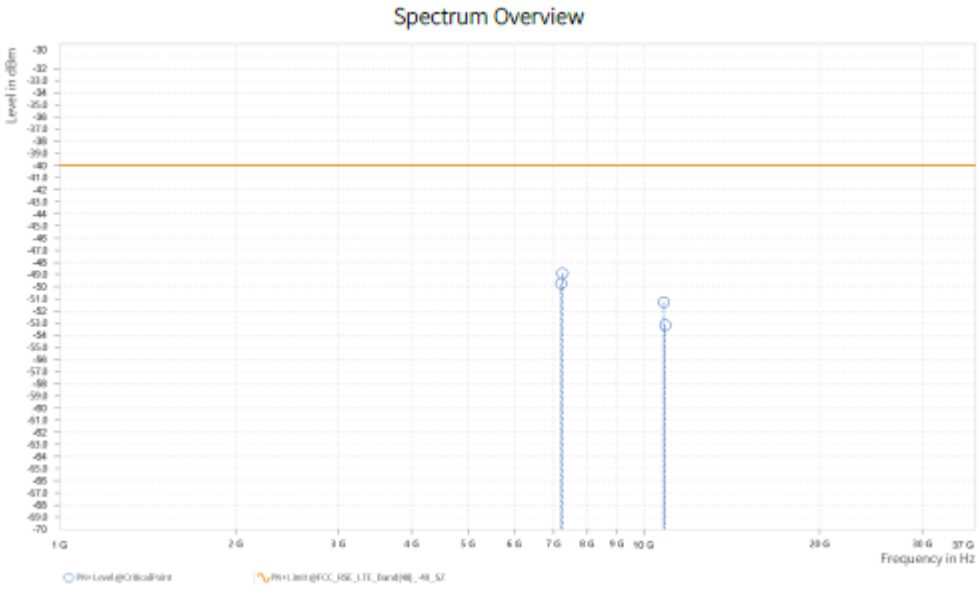
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,101.500	-50.19	-40.00	10.19	27.35	V	359.1	1
5	7,140.500	-50.89	-40.00	10.89	27.54	V	1	2
6	10,653.500	-51.28	-40.00	11.28	17.15	V	359.1	1
6	10,712.000	-50.46	-40.00	10.46	17.12	V	94	2



CH 55891/56089

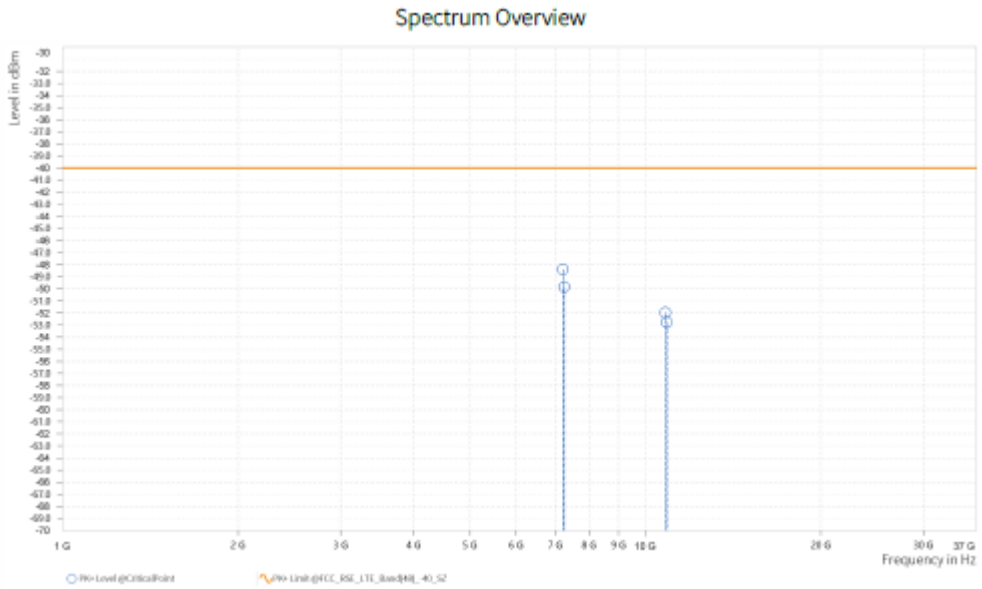
MODE	55891/56089	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,211.500	-49.75	-40.00	9.75	27.60	H	1	1
5	7,252.000	-48.90	-40.00	8.90	27.28	H	148.9	2
6	10,818.000	-51.26	-40.00	11.26	16.61	H	359	2
6	10,877.500	-53.17	-40.00	13.17	16.38	H	8.8	2



MODE	55891/56089	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			

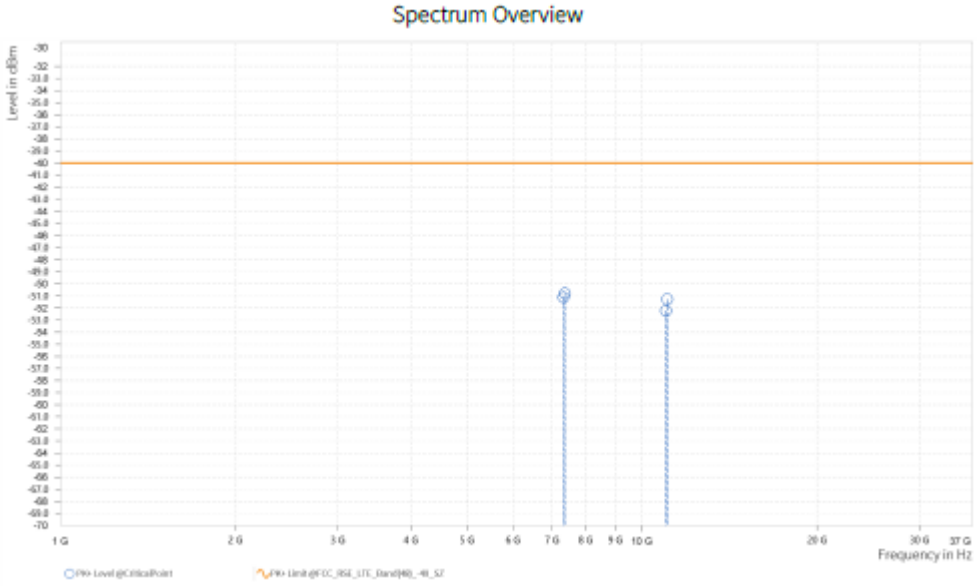
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,211.500	-48.38	-40.00	8.38	27.57	V	142.9	2
5	7,251.500	-49.85	-40.00	9.85	27.27	V	348.7	1
6	10,817.500	-51.96	-40.00	11.96	16.76	V	87.9	2
6	10,877.000	-52.76	-40.00	12.76	16.50	V	359	2



CH 56442 /56640

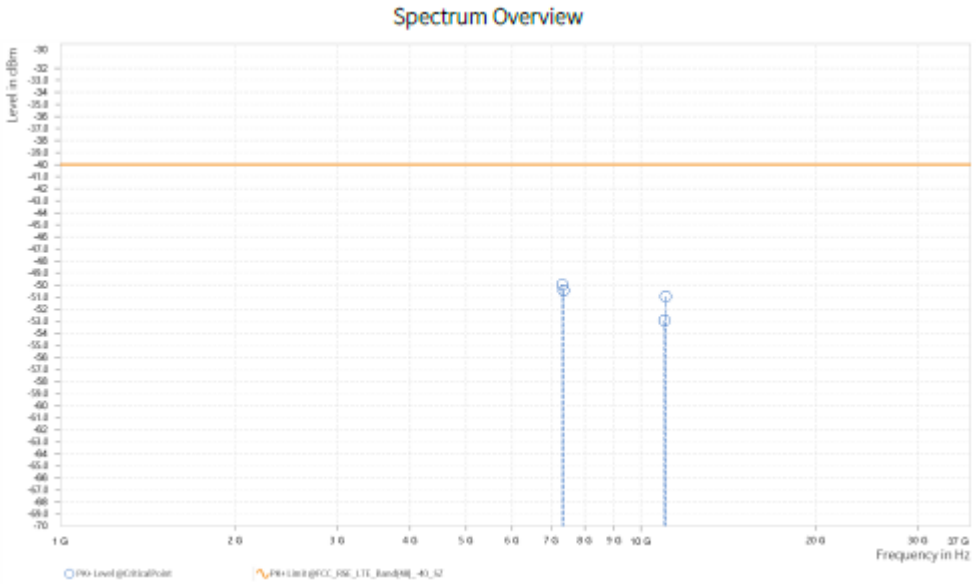
MODE	56442 /56640	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
5	7,321.500	-51.12	-40.00	11.12	26.72	H	208.8	1
5	7,362.000	-50.78	-40.00	10.78	26.56	H	208.8	1
6	10,983.500	-52.23	-40.00	12.23	16.61	H	359	1
6	11,043.500	-51.28	-40.00	11.28	16.97	H	96.3	2



MODE	56442 /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	7,321.000	-49.98	-40.00	9.98	26.73	V	359	1
5	7,362.000	-50.46	-40.00	10.46	26.60	V	339.5	1
6	10,983.500	-52.95	-40.00	12.95	16.76	V	264.9	1
6	11,043.000	-50.96	-40.00	10.96	17.15	V	264.9	1



4 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

Suzhou EMC/RF Lab:
Tel: +86 (0557) 368 1008

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

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

--END--