Certificate #6613.01

VARIANT FCC TEST REPORT

(PART 27)

Applicant:	SIMCom Wireless Solutions Limited
Address:	Building 3, No.289 Linhong Road Shanghai China 200335

Manufacturer or Supplier:	SIMCom Wireless Solutions Limited
Address:	Building 3, No.289 Linhong Road Shanghai China 200335
Product:	SIM7672NA
Brand Name:	SIMCom
Model Name:	SIM7672NA
FCC ID:	2AJYU-8XS0003
Date of tests:	Aug. 22, 2023 ~ Nov. 01, 2023

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

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

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

Prepared by Chao Wu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
Chao Wu Date: Nov. 01, 2023	Sun Pei bo Date: Nov. 01, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P23070009RF04	Original release	Sep. 11, 2023
W7L-P23070009-2RF04	Based on the original report product changing the model name and FCC ID, add LTE Band 14, remove LTE Band 7/25/26/38/41, The new sample verify LTE Band 66 RSE worse case of channel bandwidth 10MHz.	Nov. 01, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 27 & PART 2		
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**
§2.1046	Conducted Output Power	See note
§27.50(d)(4) §27.50(h)(2)	Equivalent Isotropically Radiated Power (Band 4) (Band 38) (Band 41) (Band 66)	See note
§2.1055 §27.54	Frequency Stability	See note
§2.1049	Occupied Bandwidth	See note
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Band Edge Measurements (Band 4) (Band 38) (Band 41) (Band 66)	See note
§2.1051 §27.53(h) §27.53(m)(4)(6)	Conducted Spurious Emissions (Band 4) (Band 38) (Band 41) (Band 66)	See note
§2.1053 §27.53(h) §27.53(m)(4)(6)	Radiated Spurious Emissions (Band 4) (Band 38) (Band 41) (Band 66)	See note Compliance
§27.50(k)(4) §27.50(d)(5)	Peak to average ratio	See note

Note:

1.This report refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

2. List of the verified results (worse case) in the test item as follows

Test Item / Report No.	W7L-P23070009RF04(see Note 2)	W7L-P23070009-2RF04
Radiated Emission Test (30MHz ~ 1GHz)	Margin: -26.78dB	Margin:47.19dB
Radiated Emission Test (Above 1GHz)	LTE Band 66 Margin: -33.24dB	LTE Band 66 Margin:37.28dB

Remark:
1. All validation data are within increase of below to 3 dB, the result is better than original data.
2. The worst case data was verified based on the frequency bands that two models both supported.

***Test Lab Information Reference**

Lab :

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

Lab Address:

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

Accredited Test Lab Cert 6613.01

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

Lab :

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

Lab Address:

No.B102, Dazu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Accredited Test Lab Cert 3939.01

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

1.1 MEASREMENT UNCERTAINTY

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

MEASUREMENT	UNCERTAINTY
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions & Radiated Power (30MHz~1GHz)	±4.98dB
Radiated emissions & Radiated Power (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB

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

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
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	585660781000050	May.31,22	May.30,24

NOTE: 1. The calibration interval of the above test instruments is 6 months or 12 months 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.

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 28,23	Mar. 27,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.10,23	May.09,24
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.03,22	Sep.02,23
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.02,23	Sep.01,24
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Feb. 18,23	Feb. 17,24
Horn Antenna	ETS-LINDGREN	3117	00168692	Feb. 18,23	Feb. 17,24
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.04, 22	Sep.03, 23
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Sep.03, 23	Sep.02, 24
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 14,23	Feb. 13,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,23	May. 05,24
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.10,23	May.09,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb.16,24
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 22, 23	May. 21,26
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. 06,23	May. 05,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Temperature Chamber	ESPEC	SH-242	93000855	May. 06,23	May. 05,24
MXG Analog Microvave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,23	Feb. 13,24
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.10,23	May.09,24
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 11,23	Aug. 10,24

NOTE: 1. The calibration interval of the above test instruments is 12 months 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 525120; The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	SIM7672NA	
BRAND NAME*	SIMCom	
MODEL NAME*	SIM7672NA	
NOMINAL VOLTAGE*	EUT 3.8V	
MODULATION TECHNOLOGY*	**LTE**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 4 Channel Bandwidth: 1.4MHz**	1710.7MHz ~ 1754.3MHz
	LTE Band 4 Channel Bandwidth: 3MHz	1711.5MHz ~ 1753.5MHz
	LTE Band 4 Channel Bandwidth: 5MHz	1712.5MHz ~ 1752.5MHz
	LTE Band 4 Channel Bandwidth: 10MHz	1715MHz ~ 1750MHz
	LTE Band 4 Channel Bandwidth: 15MHz	1717.5MHz ~ 1747.5 MHz
	LTE Band 4 Channel Bandwidth: 20MHz	1720MHz ~ 1745MHz
	LTE Band 66 Channel Bandwidth: 1.4MHz	1710.7MHz ~ 1779.3MHz
	LTE Band 66 Channel Bandwidth: 3MHz	1711.5MHz ~ 1778.5MHz
	LTE Band 66 Channel Bandwidth: 5MHz	1712.5MHz ~ 1777.5MHz
	LTE Band 66 Channel Bandwidth: 10MHz	1715MHz ~ 1775MHz
	LTE Band 66 Channel Bandwidth: 15MHz	1717.5MHz ~ 1772.5MHz
	LTE Band 66 Channel Bandwidth: 20MHz	1720MHz ~ 1770MHz
MAX. EIRP POWER	**LTE Band 4 Channel Bandwidth: 1.4MHz**	331.89mW
	LTE Band 4 Channel Bandwidth: 3MHz	334.97mW
	LTE Band 4 Channel Bandwidth: 5MHz	334.97mW
	LTE Band 4 Channel Bandwidth: 10MHz	335.74mW
	LTE Band 4 Channel Bandwidth: 15MHz	331.89mW

	LTE Band 4 Channel Bandwidth: 20MHz	336.51mW
	LTE Band 66 Channel Bandwidth: 1.4MHz	353.18mW
	LTE Band 66 Channel Bandwidth: 3MHz	354mW
	LTE Band 66 Channel Bandwidth: 5MHz	358.92mW
	LTE Band 66 Channel Bandwidth: 10MHz	358.92mW
	LTE Band 66 Channel Bandwidth: 15MHz	359.75mW
	LTE Band 66 Channel Bandwidth: 20MHz	361.41mW
EMISSION DESIGNATOR	**LTE Band 66 Channel Bandwidth: 1.4MHz**	QPSK: 1M09G7D 16QAM: 1M10W7D
	LTE Band 66 Channel Bandwidth: 3MHz	QPSK: 2M71G7D 16QAM: 2M72W7D
	LTE Band 66 Channel Bandwidth: 5MHz	QPSK: 4M52G7D 16QAM: 4M51W7D
	LTE Band 66 Channel Bandwidth: 10MHz	QPSK: 8M99G7D 16QAM: 4M88W7D
	LTE Band 66 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 4M88W7D
	LTE Band 66 Channel Bandwidth: 20MHz	QPSK: 18M0G7D 16QAM: 4M89W7D
ANTENNA TYPE*	Monopole Antenna with 2.12dBi gain for LTE B4 Monopole Antenna with 2.12dBi gain for LTE B66	
HW VERSION*	V2.02	
SW VERSION*	SIM7672M5A	
I/O PORTS*	Refer to user's manual	

CABLE SUPPLIED*	N/A
EXTREME TEMPERATURE*	-10-55 ℃
EXTREME VOLTAGE*	3.2V - 4.2V

NOTE:

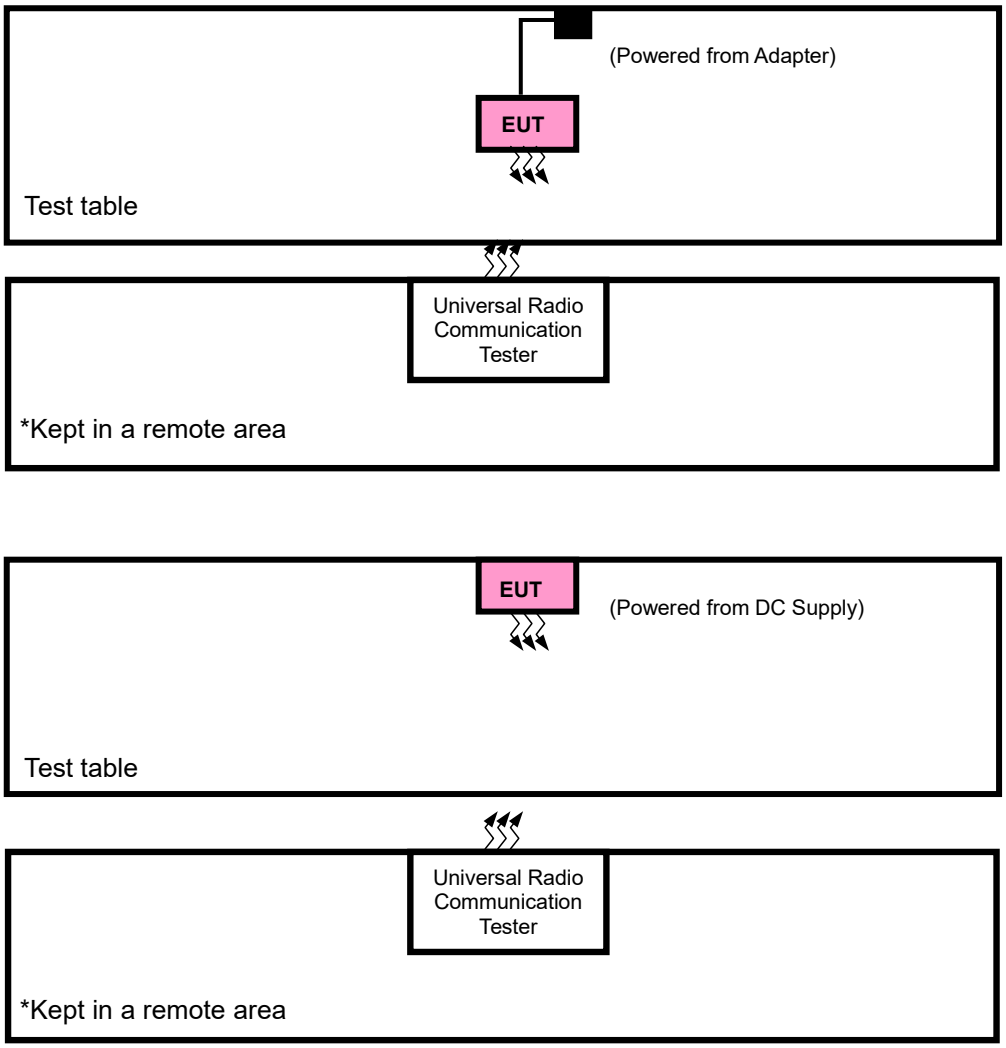
1. ***Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.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

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

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

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	HYELEC	HY3010B	551016	N/A
2	Adapter	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	USB Line: Shielded, 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 with LTE link
B	EUT + DC Supply with LTE link

LTE BAND 4 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20MHz	QPSK,16QAM	1 RB / 0 RB Offset

Note: 1.This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

2. LTE Band 4 are covered by LTE Band 66, Because it is a subset of LTE Band 66 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 66

LTE BAND 66 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
B	FREQUENCY STABILITY	132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	Full RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	Full RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	Full RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	Full RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	Full RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	Full RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	Full RB / 0 RB Offset
A	BAND EDGE	131979 to 132322	131979	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
			132322	1.4MHz	QPSK,16QAM	1 RB / 5 RB Offset
						Full RB / 0 RB Offset
		131987 to 132657	131987	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
			132657	3MHz	QPSK,16QAM	1 RB / 14 RB Offset
						Full RB / 0 RB Offset
		131997 to 132647	131997	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
			132647	5MHz	QPSK,16QAM	1 RB / 24 RB Offset
						Full RB / 0 RB Offset
		132022 to 132622	132022	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
			132622	10MHz	QPSK,16QAM	1 RB / 49 RB Offset
						Full RB / 0 RB Offset
		132047 to 132597	132047	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset

			132597	15MHz	QPSK,16QAM	1 RB / 74 RB Offset
						Full RB / 0 RB Offset
		132072 to 132572	132072	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
						Full RB / 0 RB Offset
			132572	20MHz	QPSK,16QAM	1 RB / 99 RB Offset
						Full RB / 0 RB Offset
A	CONDCUDETED EMISSION	131979 to 132665	131979,132322,132665	1.4MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131987 to 132657	131987,132322,132657	3MHz	QPSK,16QAM	1 RB / 0 RB Offset
		131997 to 132647	131997,132322,132647	5MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132047 to 132597	132047,132322,132597	15MHz	QPSK,16QAM	1 RB / 0 RB Offset
		132072 to 132572	132072,132322,132572	20MHz	QPSK,16QAM	1 RB / 0 RB Offset
A	RADIATED EMISSION	131979 to 132665	132322	1.4MHz	QPSK	1 RB / 0 RB Offset
		131987 to 132657	132322	3MHz	QPSK	1 RB / 0 RB Offset
		131997 to 132647	132322	5MHz	QPSK	1 RB / 0 RB Offset
		132022 to 132622	132022,132322,132622	10MHz	QPSK	1 RB / 0 RB Offset
		132047 to 132597	132322	15MHz	QPSK	1 RB / 0 RB Offset
		132072 to 132572	132322	20MHz	QPSK	1 RB / 0 RB Offset

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

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	EUT 3.8V	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.2V/3.8V/4.2V By DC Supply	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	EUT 3.8V	James Fu
BAND EDGE	23deg. C, 70%RH	EUT 3.8V	James Fu
CONDCUDETED EMISSION	23deg. C, 70%RH	EUT 3.8V	James Fu
RADIATED EMISSION	23deg. C, 70%RH	EUT 3.8V	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	EUT 3.8V	James Fu

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

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

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

3.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

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

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, typically dBW or dBm);

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

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

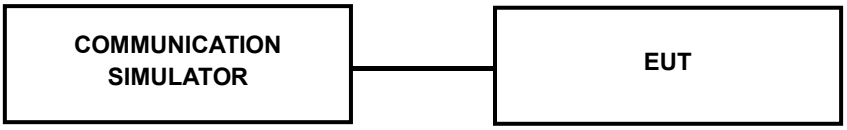
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 4

Band/BW	Modulation	RB Size	RB Offset	Low CH 19957	Mid CH 20175	High CH 20393
				Frequency 1710.7 MHz	Frequency 1732.5 MHz	Frequency 1754.3 MHz
4/ 1.4	QPSK	1	0	22.97	23.04	22.42
		1	2	23.09	22.70	23.07
		1	5	22.81	23.02	22.73
		3	0	22.35	22.42	22.30
		3	1	22.38	22.25	22.52
		3	3	22.42	22.34	22.70
		6	0	21.98	22.11	22.15
	16QAM	1	0	22.26	22.44	21.83
		1	2	22.48	22.14	22.44
		1	5	22.04	22.55	22.21
		3	0	22.48	22.66	22.14
		3	1	22.53	22.38	22.56
		3	3	22.41	22.64	22.62
		6	0	21.12	21.29	20.92

Band/BW	Modulation	RB Size	RB Offset	Low CH 19965	Mid CH 20175	High CH 20385
				Frequency 1711.5 MHz	Frequency 1732.5 MHz	Frequency 1753.5 MHz
4/ 3	QPSK	1	0	22.96	23.00	22.42
		1	7	23.07	22.69	23.05
		1	14	22.82	23.13	22.76
		8	0	22.01	22.09	21.89
		8	3	22.07	21.85	22.20
		8	7	22.02	21.91	22.29
		15	0	21.96	22.12	22.09
	16QAM	1	0	22.24	22.41	21.80
		1	7	22.39	22.21	22.45
		1	14	22.03	22.58	22.21
		8	0	22.13	22.31	21.66
		8	3	22.10	21.93	22.26
		8	7	22.03	22.24	22.15
		15	0	21.16	21.24	20.87

Band/BW	Modulation	RB Size	RB Offset	Low CH 19975	Mid CH 20175	High CH 20375
				Frequency 1712.5 MHz	Frequency 1732.5 MHz	Frequency 1752.5 MHz
4/ 5	QPSK	1	0	23.04	23.03	22.48
		1	12	23.13	22.69	23.09
		1	24	22.73	23.06	22.77
		12	0	22.00	22.03	21.88
		12	6	22.00	21.88	22.14
		12	13	21.96	21.97	22.27
		25	0	22.03	22.13	22.11
	16QAM	1	0	22.27	22.50	21.82
		1	12	22.38	22.20	22.52
		1	24	22.13	22.57	22.24
		12	0	22.12	22.22	21.66
		12	6	22.13	21.92	22.25
		12	13	21.95	22.26	22.22
		25	0	21.16	21.30	20.85

Band/BW	Modulation	RB Size	RB Offset	Low CH 20000	Mid CH 20175	High CH 20350
				Frequency 1715 MHz	Frequency 1732.5 MHz	Frequency 1750 MHz
4/ 10	QPSK	1	0	23.01	23.04	22.41
		1	24	23.08	22.70	23.04
		1	49	22.74	23.14	22.78
		25	0	22.02	22.08	21.89
		25	12	22.06	21.87	22.12
		25	25	21.94	21.91	22.26
		50	0	21.96	22.08	22.11
	16QAM	1	0	22.22	22.46	21.91
		1	24	22.42	22.16	22.47
		1	49	22.05	22.53	22.23
		12	0	22.16	22.25	21.66
		12	17	22.15	21.98	22.21
		12	36	22.06	22.22	22.14
		27	0	21.12	21.33	20.83

Band/BW	Modulation	RB Size	RB Offset	Low CH 20025	Mid CH 20175	High CH 20325
				Frequency 1717.5 MHz	Frequency 1732.5 MHz	Frequency 1747.5 MHz
4/ 15	QPSK	1	0	22.94	23.02	22.39
		1	37	23.08	22.75	23.09
		1	74	22.84	23.06	22.83
		36	0	21.95	22.00	21.85
		36	19	21.96	21.89	22.17
		36	39	21.99	22.02	22.28
		75	0	22.05	22.03	22.08
	16QAM	1	0	22.24	22.41	21.79
		1	37	22.46	22.12	22.46
		1	74	22.06	22.54	22.21
		12	0	22.10	22.23	21.71
		12	30	22.14	22.00	22.19
		12	61	22.02	22.15	22.23
		27	0	21.18	21.30	20.82

Band/BW	Modulation	RB Size	RB Offset	Low CH 20050	Mid CH 20175	High CH 20300
				Frequency 1720 MHz	Frequency 1732.5 MHz	Frequency 1745 MHz
4/ 20	QPSK	1	0	23.04	23.10	22.50
		1	50	23.15	22.80	23.14
		1	99	22.84	23.14	22.84
		50	0	22.06	22.10	21.94
		50	25	22.08	21.95	22.23
		50	50	22.05	22.03	22.31
		100	0	22.07	22.14	22.17
	16QAM	1	0	22.30	22.51	21.91
		1	50	22.49	22.23	22.53
		1	99	22.15	22.58	22.32
		12	0	22.17	22.33	21.75
		12	42	22.19	22.00	22.26
		12	86	22.06	22.27	22.24
		27	0	21.23	21.36	20.93

LTE Band 66

Band/BW	Modulation	RB Size	RB Offset	Low CH 131979 Frequency 1710.7MHz	Mid CH 132322 Frequency 1745MHz	High CH 132665 Frequency 1779.3MHz
66/ 1.4	QPSK	1	0	23.36	22.53	22.89
		1	2	23.33	23.08	22.27
		1	5	22.93	23.11	22.74
		3	0	22.99	22.49	22.11
		3	1	22.92	22.86	22.11
		3	3	22.79	22.91	22.07
		6	0	22.33	22.14	21.57
	16QAM	1	0	22.62	21.75	22.10
		1	2	22.61	22.45	21.80
		1	5	22.27	22.46	22.07
		3	0	22.97	22.20	22.37
		3	1	22.84	22.71	22.04
		3	3	22.73	22.78	22.22
		6	0	21.59	20.70	20.92

Band/BW	Modulation	RB Size	RB Offset	Low CH 131987 Frequency 1711.5MHz	Mid CH 132322 Frequency 1745MHz	High CH 132657 Frequency 1778.5MHz
66/ 3	QPSK	1	0	23.34	22.59	22.89
		1	7	23.37	23.15	22.36
		1	14	22.89	23.05	22.67
		8	0	22.39	21.86	21.48
		8	3	22.32	22.23	21.41
		8	7	22.20	22.32	21.47
		15	0	22.32	22.16	21.56
	16QAM	1	0	22.69	21.84	22.11
		1	7	22.69	22.46	21.75
		1	14	22.27	22.43	21.99
		8	0	22.32	21.60	21.81
		8	3	22.25	22.15	21.54
		8	7	22.13	22.22	21.66
		15	0	21.56	20.71	20.90

Band/BW	Modulation	RB Size	RB Offset	Low CH 131997 Frequency 1712.5MHz	Mid CH 132322 Frequency 1745MHz	High CH 132647 Frequency 1777.5MHz
66/ 5	QPSK	1	0	23.43	22.51	22.86
		1	12	23.29	23.11	22.34
		1	24	22.91	23.04	22.65
		12	0	22.47	21.86	21.55
		12	6	22.37	22.19	21.48
		12	13	22.24	22.38	21.54
		25	0	22.40	22.15	21.56
	16QAM	1	0	22.64	21.83	22.19
		1	12	22.68	22.47	21.72
		1	24	22.28	22.37	22.02
		12	0	22.27	21.65	21.86
		12	6	22.30	22.13	21.44
		12	13	22.18	22.19	21.68
		25	0	21.54	20.77	20.87

Band/BW	Modulation	RB Size	RB Offset	Low CH 132022 Frequency 1715MHz	Mid CH 132322 Frequency 1745MHz	High CH 132622 Frequency 1775MHz
66/ 10	QPSK	1	0	23.43	22.60	22.82
		1	24	23.36	23.08	22.35
		1	49	22.87	23.09	22.73
		25	0	22.47	21.91	21.57
		25	12	22.38	22.23	21.49
		25	25	22.14	22.35	21.48
		50	0	22.38	22.13	21.53
	16QAM	1	0	22.66	21.78	22.13
		1	24	22.63	22.41	21.80
		1	49	22.26	22.46	22.04
		12	0	22.30	21.60	21.79
		12	17	22.32	22.14	21.48
		12	36	22.17	22.27	21.63
		27	0	21.60	20.69	20.85

Band/BW	Modulation	RB Size	RB Offset	Low CH 132047 Frequency 1717.5 MHz	Mid CH 132322 Frequency 1745MHz	High CH 132597 Frequency 1772.5 MHz
66/ 15	QPSK	1	0	23.44	22.58	22.78
		1	37	23.33	23.04	22.32
		1	74	22.86	23.05	22.74
		36	0	22.45	21.86	21.48
		36	19	22.40	22.23	21.41
		36	39	22.19	22.36	21.53
		75	0	22.34	22.11	21.59
	16QAM	1	0	22.68	21.75	22.18
		1	37	22.70	22.38	21.74
		1	74	22.23	22.41	21.99
		12	0	22.30	21.56	21.81
		12	30	22.25	22.18	21.48
		12	61	22.22	22.27	21.61
		27	0	21.57	20.67	20.83

Band/BW	Modulation	RB Size	RB Offset	Low CH 132072 Frequency 1720MHz	Mid CH 132322 Frequency 1745MHz	High CH 132572 Frequency 1770MHz
66/ 20	QPSK	1	0	23.46	22.62	22.90
		1	50	23.40	23.15	22.36
		1	99	22.95	23.13	22.76
		50	0	22.50	21.92	21.57
		50	25	22.43	22.27	21.52
		50	50	22.25	22.39	21.57
		100	0	22.40	22.16	21.59
	16QAM	1	0	22.69	21.85	22.21
		1	50	22.70	22.48	21.82
		1	99	22.29	22.47	22.09
		12	0	22.39	21.66	21.88
		12	42	22.33	22.19	21.55
		12	86	22.22	22.29	21.73
		27	0	21.61	20.77	20.94

EIRP
LTE BAND 4
CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	23.09	2.12	25.21	331.89	1
20175	1732.5	23.04	2.12	25.16	328.1	1
20393	1754.3	23.07	2.12	25.19	330.37	1

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19957	1710.7	22.53	2.12	24.65	291.74	1
20175	1732.5	22.66	2.12	24.78	300.61	1
20393	1754.3	22.62	2.12	24.74	297.85	1

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	23.07	2.12	25.19	330.37	1
20175	1732.5	23.13	2.12	25.25	334.97	1
20385	1753.5	23.05	2.12	25.17	328.85	1

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19965	1711.5	22.39	2.12	24.51	282.49	1
20175	1732.5	22.39	2.12	24.51	282.49	1
20385	1753.5	22.13	2.12	24.25	266.07	1

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	23.13	2.12	25.25	334.97	1
20175	1732.5	23.06	2.12	25.18	329.61	1
20375	1752.5	23.09	2.12	25.21	331.89	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
19975	1712.5	22.38	2.12	24.5	281.84	1
20175	1732.5	22.57	2.12	24.69	294.44	1
20375	1752.5	22.52	2.12	24.64	291.07	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	23.08	2.12	25.2	331.13	1
20175	1732.5	23.14	2.12	25.26	335.74	1
20350	1750	23.04	2.12	25.16	328.1	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20000	1715	22.42	2.12	24.54	284.45	1
20175	1732.5	22.53	2.12	24.65	291.74	1
20350	1750	22.47	2.12	24.59	287.74	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	23.08	2.12	25.2	331.13	1
20175	1732.5	23.06	2.12	25.18	329.61	1
20325	1747.5	23.09	2.12	25.21	331.89	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20025	1717.5	22.46	2.12	24.58	287.08	1
20175	1732.5	22.54	2.12	24.66	292.42	1
20325	1747.5	22.46	2.12	24.58	287.08	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	23.15	2.12	25.27	336.51	1
20175	1732.5	23.14	2.12	25.26	335.74	1
20300	1745	23.14	2.12	25.26	335.74	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
20050	1720	22.49	2.12	24.61	289.07	1
20175	1732.5	22.58	2.12	24.7	295.12	1
20300	1745	22.53	2.12	24.65	291.74	1

LTE BAND 66

CHANNEL BANDWIDTH: 1.4MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131979	1710.7	23.36	2.12	25.48	353.18	1
132322	1745	23.11	2.12	25.23	333.43	1
132665	1779.3	22.89	2.12	25.01	316.96	1

CHANNEL BANDWIDTH: 1.4MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131979	1710.7	22.97	2.12	25.09	322.85	1
132322	1745	22.78	2.12	24.9	309.03	1
132665	1779.3	22.37	2.12	24.49	281.19	1

CHANNEL BANDWIDTH: 3MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131987	1711.5	23.37	2.12	25.49	354	1
132322	1745	23.15	2.12	25.27	336.51	1
132657	1778.5	22.89	2.12	25.01	316.96	1

CHANNEL BANDWIDTH: 3MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131987	1711.5	22.69	2.12	24.81	302.69	1
132322	1745	22.46	2.12	24.58	287.08	1
132657	1778.5	22.11	2.12	24.23	264.85	1

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131997	1712.5	23.43	2.12	25.55	358.92	1
132322	1745	23.11	2.12	25.23	333.43	1
132647	1777.5	22.86	2.12	24.98	314.77	1

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
131997	1712.5	22.68	2.12	24.8	302	1
132322	1745	22.47	2.12	24.59	287.74	1
132647	1777.5	22.19	2.12	24.31	269.77	1

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132022	1715	23.43	2.12	25.55	358.92	1
132322	1745	23.09	2.12	25.21	331.89	1
132622	1775	22.82	2.12	24.94	311.89	1

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132022	1715	22.66	2.12	24.78	300.61	1
132322	1745	22.46	2.12	24.58	287.08	1
132622	1775	22.13	2.12	24.25	266.07	1

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132047	1717.5	23.44	2.12	25.56	359.75	1
132322	1745	23.05	2.12	25.17	328.85	1
132597	1772.5	22.78	2.12	24.9	309.03	1

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132047	1717.5	22.7	2.12	24.82	303.39	1
132322	1745	22.41	2.12	24.53	283.79	1
132597	1772.5	22.18	2.12	24.3	269.15	1

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132072	1720	23.46	2.12	25.58	361.41	1
132322	1745	23.15	2.12	25.27	336.51	1
132572	1770	22.9	2.12	25.02	317.69	1

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
132072	1720	22.7	2.12	24.82	303.39	1
132322	1745	22.48	2.12	24.6	288.4	1
132572	1770	22.21	2.12	24.33	271.02	1

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

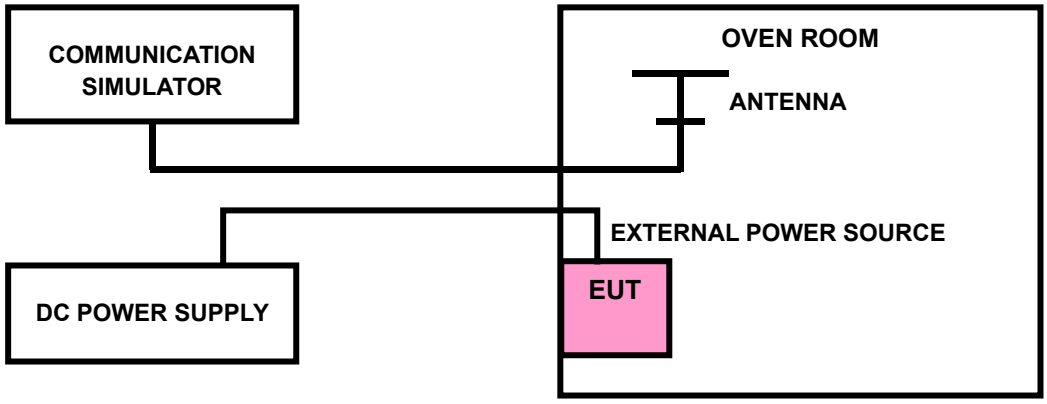
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

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

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

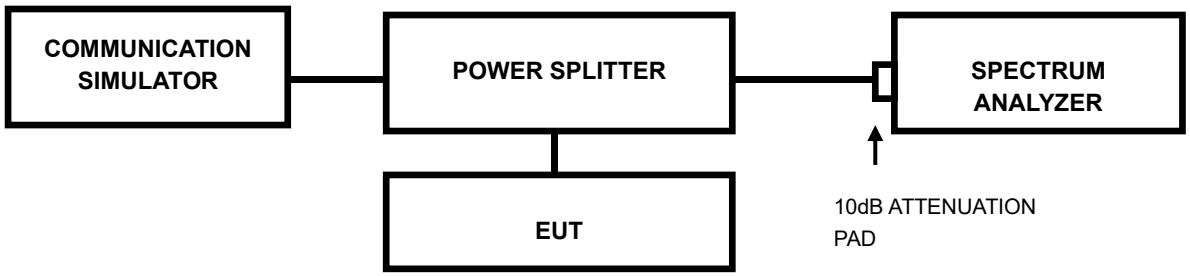
Note: VL = Low voltage(3.2V); VN/NV = Normal voltage(3.8V); VH = High voltage(4.2V);
NT = Normal temperature (25℃)

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

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

3.3.4 TEST RESULTS

Refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

3.4 BAND EDGE MEASUREMENT

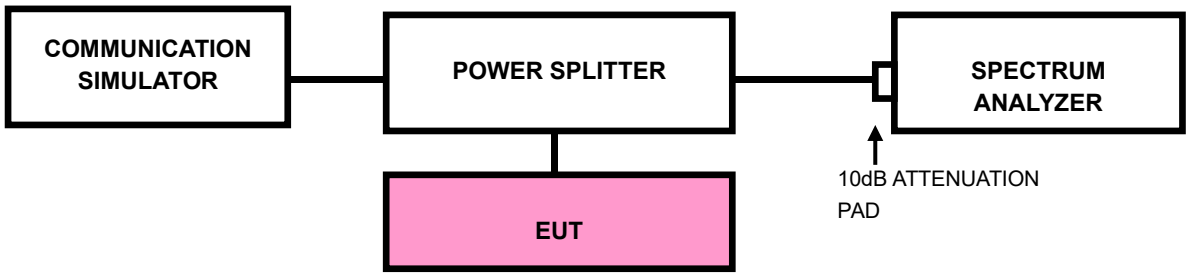
3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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

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

According to FCC Part 27.53 (n)(2)For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed-13 dBm/MHz.Compliance with this paragraph is based on the use of measurement instrumentation employing a Iresolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

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) ≧ 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 ≧3 x 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.

3.4.4 TEST RESULTS

Refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

For: LTE Band7/Band41

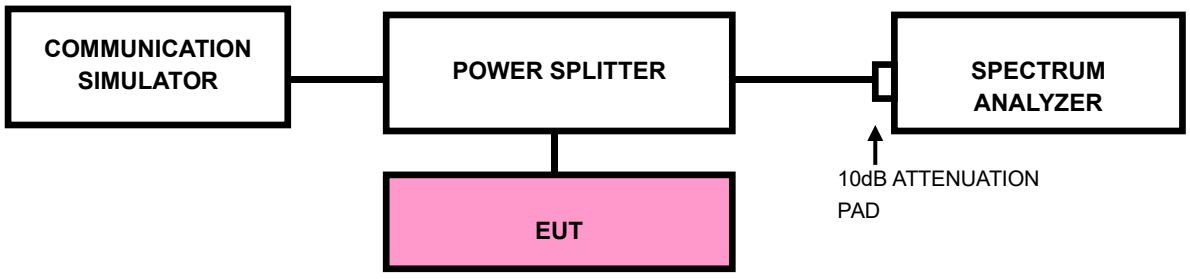
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

3.5.2 TEST PROCEDURE

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

b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

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

Refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

For: LTE Band38/ Band41

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

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3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G.
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

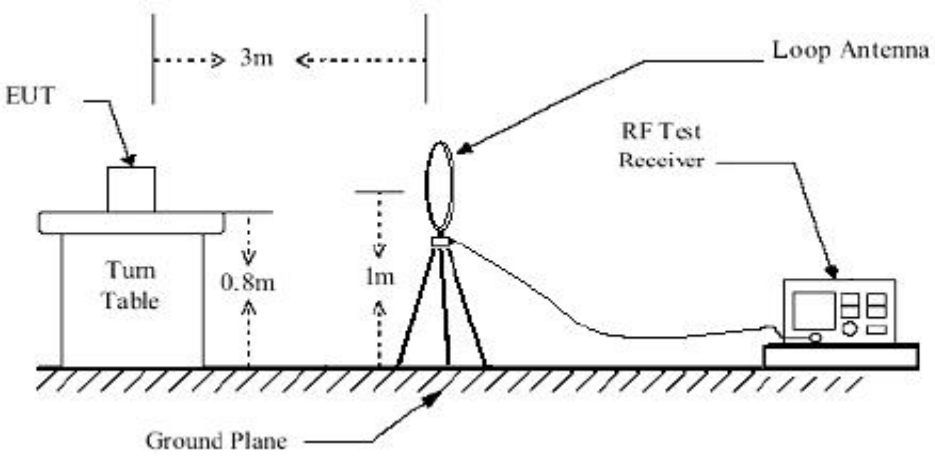
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

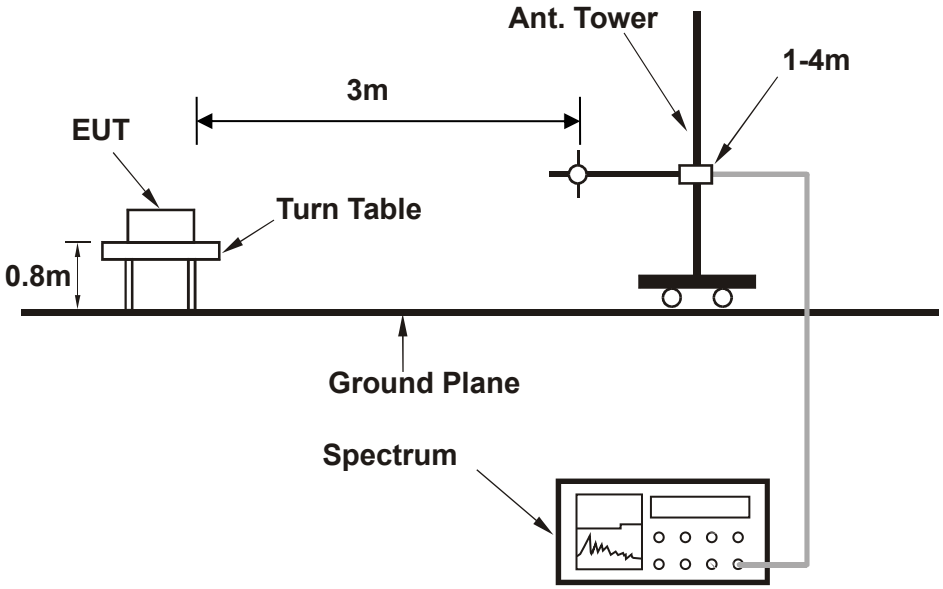
No deviation

3.6.4 TEST SETUP

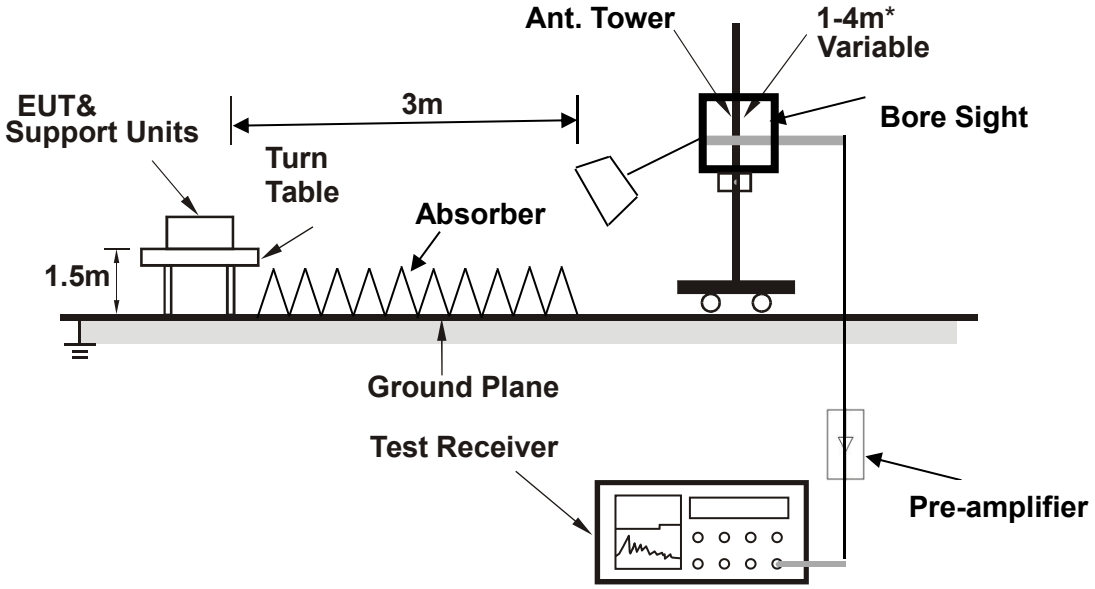
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



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

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

3.6.5 TEST RESULTS

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

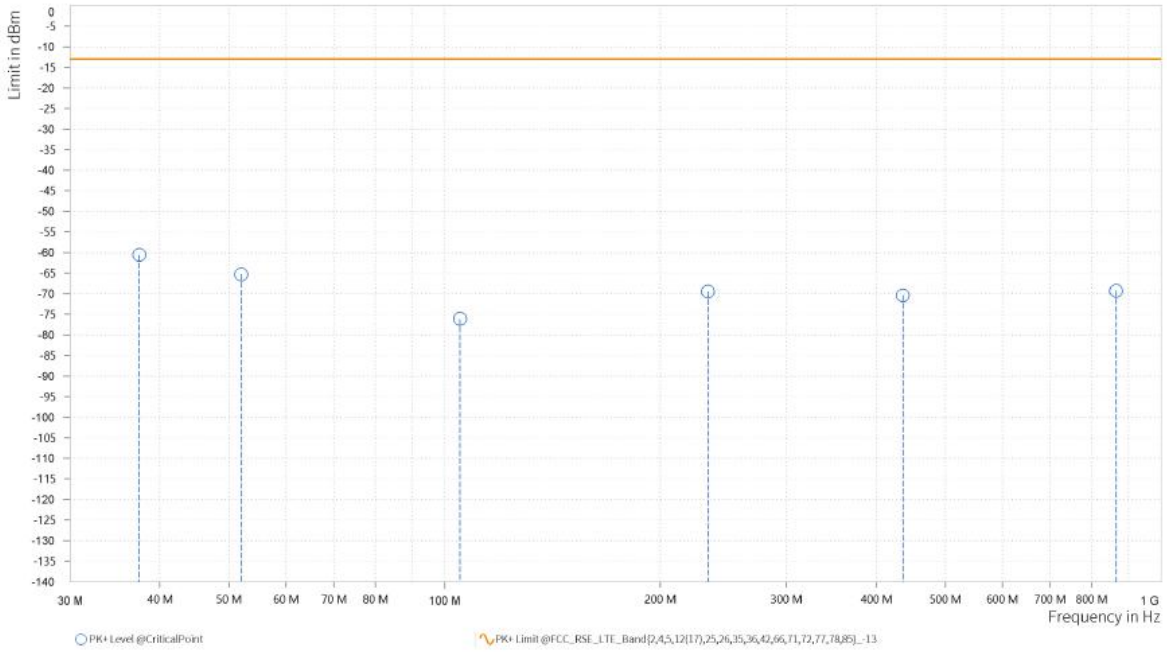
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 66
CHANNEL BANDWIDTH: 10MHz / QPSK

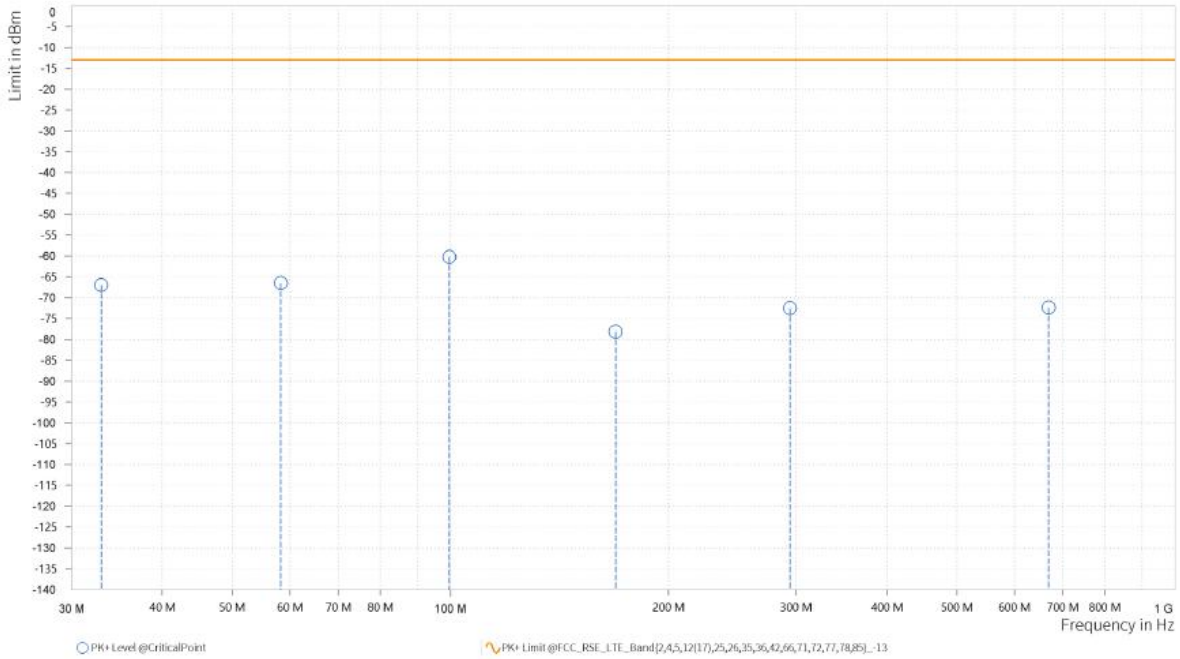
MODE	TX channel 132322	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	37.450	-60.56	-13.00	47.56	6.74	H	308.9	1
1	52.000	-65.27	-13.00	52.27	3.70	H	0.9	2
1	105.000	-76.11	-13.00	63.11	-4.23	H	173	2
1	233.100	-69.44	-13.00	56.44	8.18	H	339.4	1
1	435.900	-70.36	-13.00	57.36	7.23	H	5	2
2	865.250	-69.29	-13.00	56.29	11.49	H	137.9	1



MODE	TX channel 132322	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
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	32.950	-66.95	-13.00	53.95	0.10	V	4.3	1
1	58.300	-66.52	-13.00	53.52	3.11	V	317.3	1
1	99.650	-60.19	-13.00	47.19	11.58	V	346.6	1
1	168.950	-78.16	-13.00	65.16	-3.36	V	359	2
1	293.950	-72.52	-13.00	59.52	4.79	V	1	2
2	668.579	-72.37	-13.00	59.37	5.35	V	293.4	1



ABOVE 1GHz

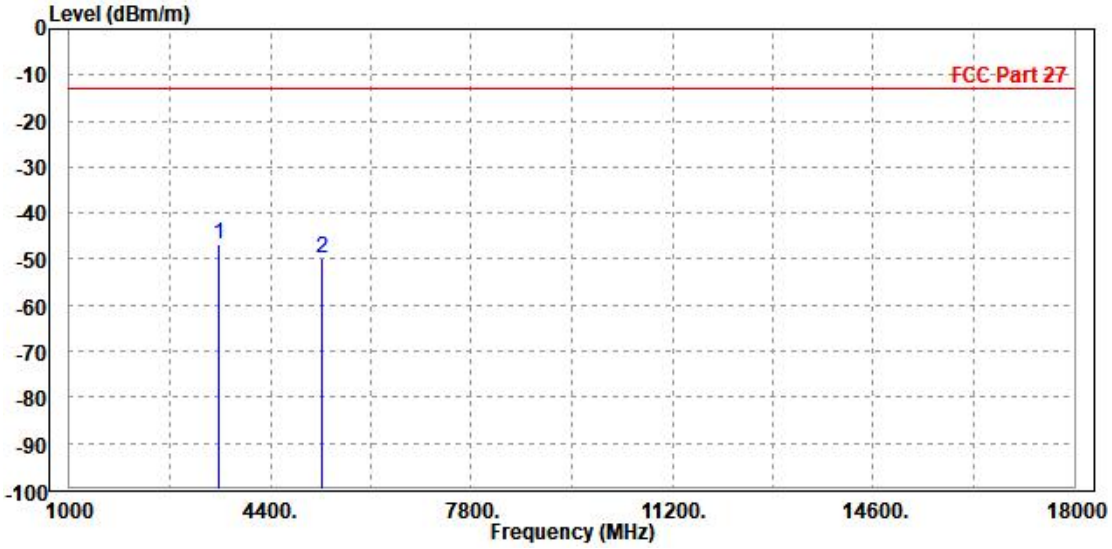
Note: For higher frequency, the emission is too low to be detected.

LTE B66

CHANNEL BANDWIDTH: 1.4MHz / QPSK

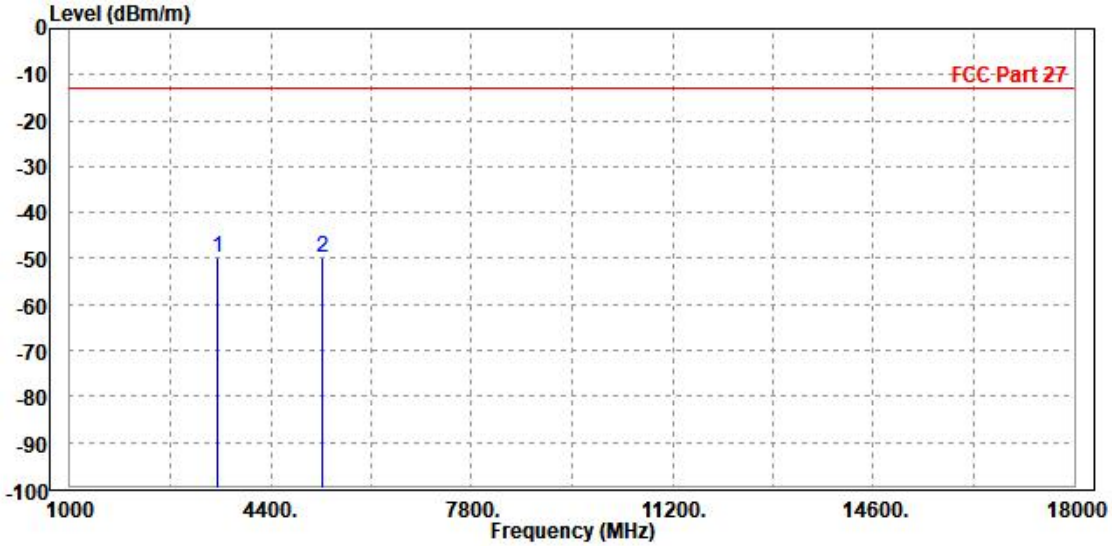
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3516.000	-46.67	-54.03	-13.00	-33.67	7.36	Peak	Horizontal
2	5265.000	-49.81	-59.92	-13.00	-36.81	10.11	Peak	Horizontal



MODE	TX channel 132322	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			

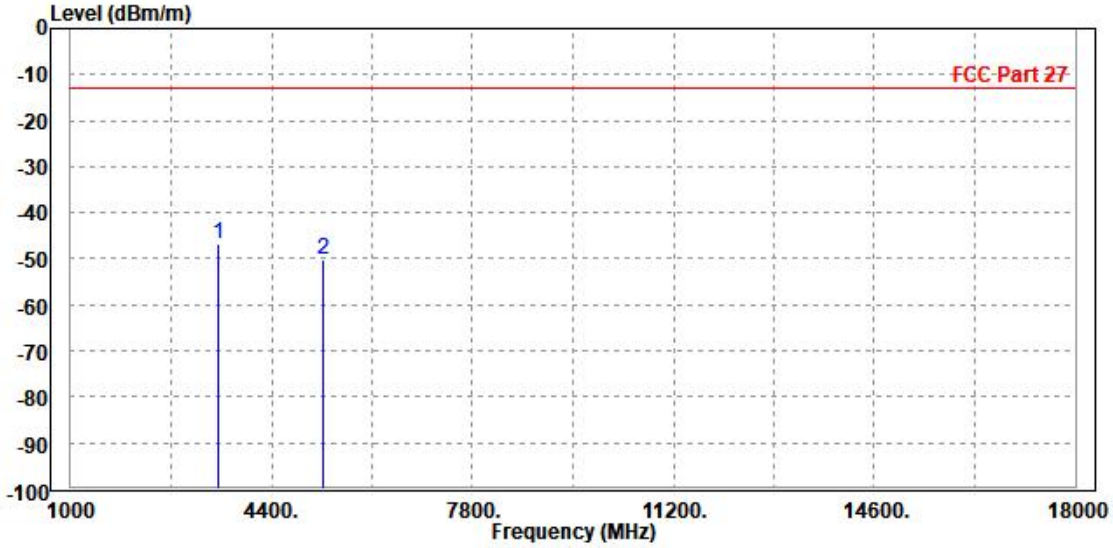
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3510.000	-49.81	-57.14	-13.00	-36.81	7.33	Peak	Vertical
2 PP	5267.000	-49.64	-60.15	-13.00	-36.64	10.51	Peak	Vertical



CHANNEL BANDWIDTH: 3MHz / QPSK

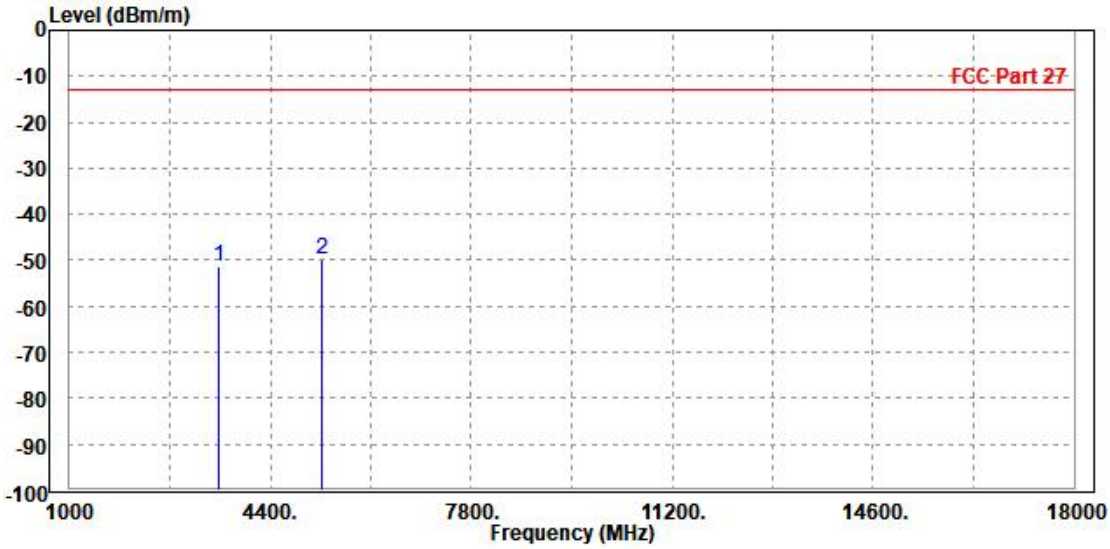
MODE	TX channel 132322	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3510.000	-46.91	-54.26	-13.00	-33.91	7.35	Peak	Horizontal
2	5267.000	-50.05	-60.16	-13.00	-37.05	10.11	Peak	Horizontal



MODE	TX channel 132322	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			

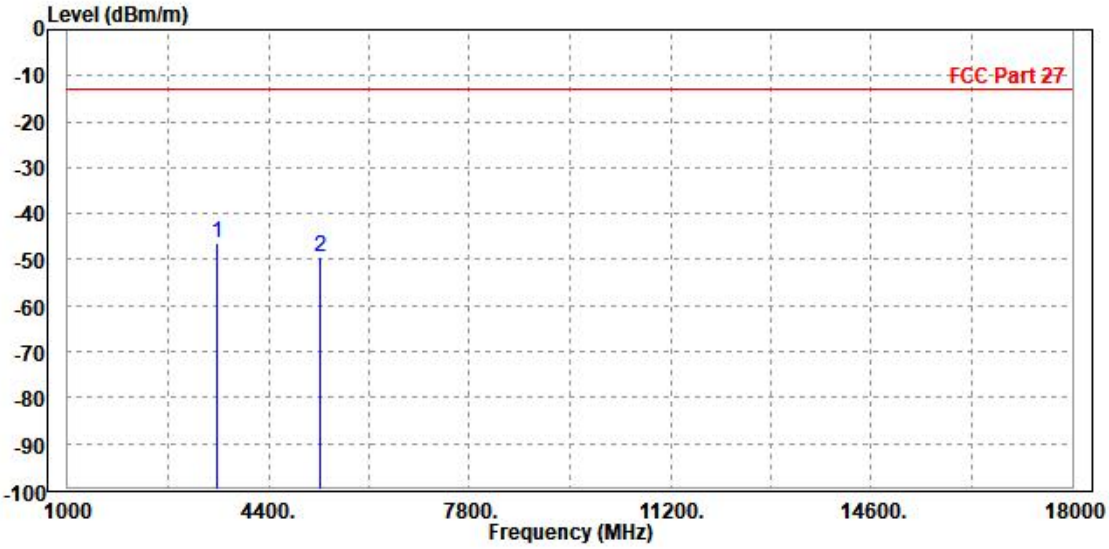
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3516.000	-51.46	-58.80	-13.00	-38.46	7.34	Peak	Vertical
2 PP	5265.000	-49.75	-60.26	-13.00	-36.75	10.51	Peak	Vertical



CHANNEL BANDWIDTH: 5MHz / QPSK

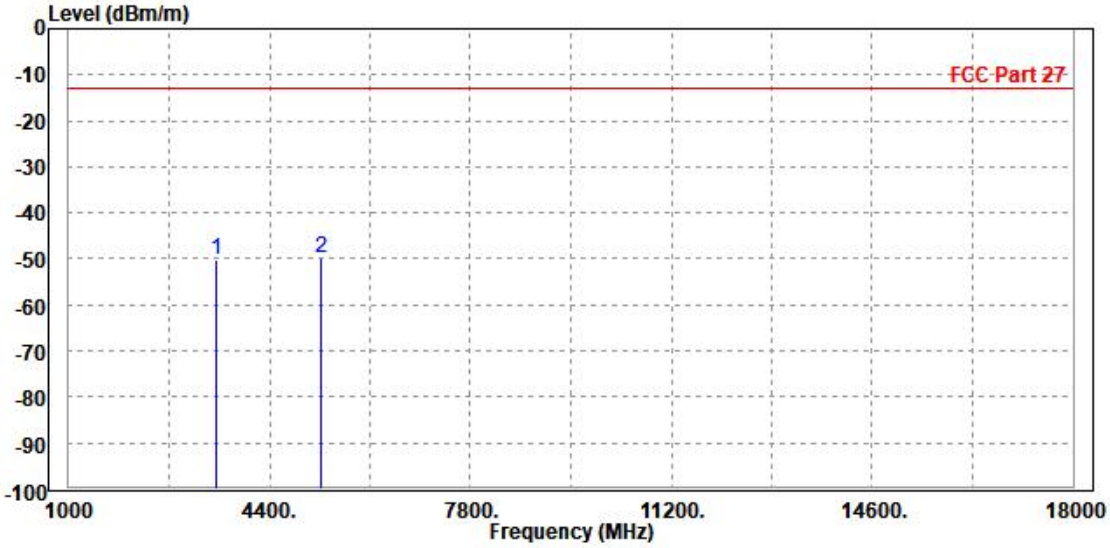
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3516.000	-46.58	-53.94	-13.00	-33.58	7.36	Peak	Horizontal
2		5265.000	-49.44	-59.55	-13.00	-36.44	10.11	Peak	Horizontal



MODE	TX channel 132322	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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3510.000	-50.37	-57.70	-13.00	-37.37	7.33	Peak	Vertical
2 PP	5267.000	-49.90	-60.41	-13.00	-36.90	10.51	Peak	Vertical

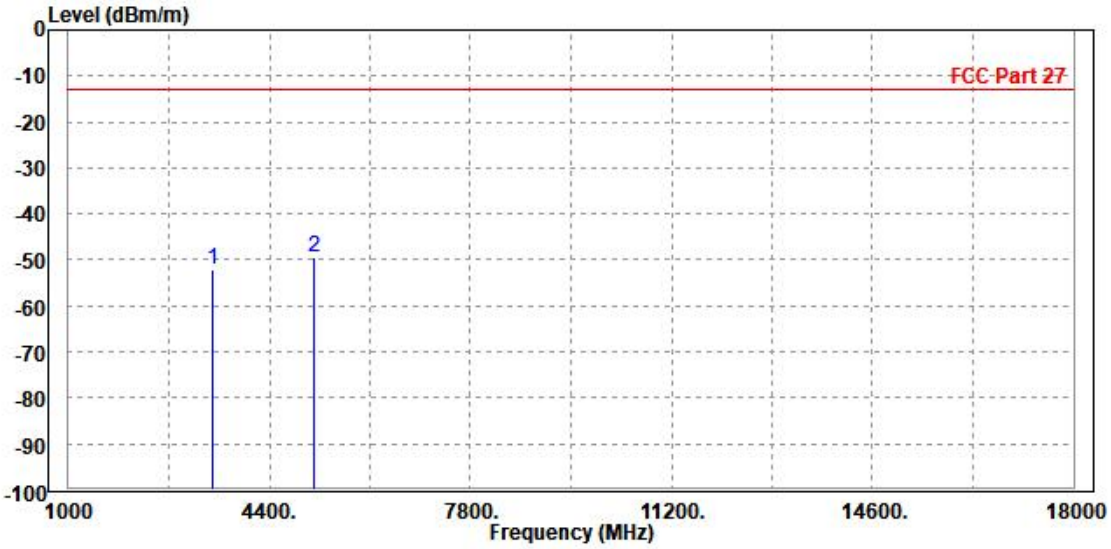


CHANNEL BANDWIDTH: 10MHz / QPSK

CH132022

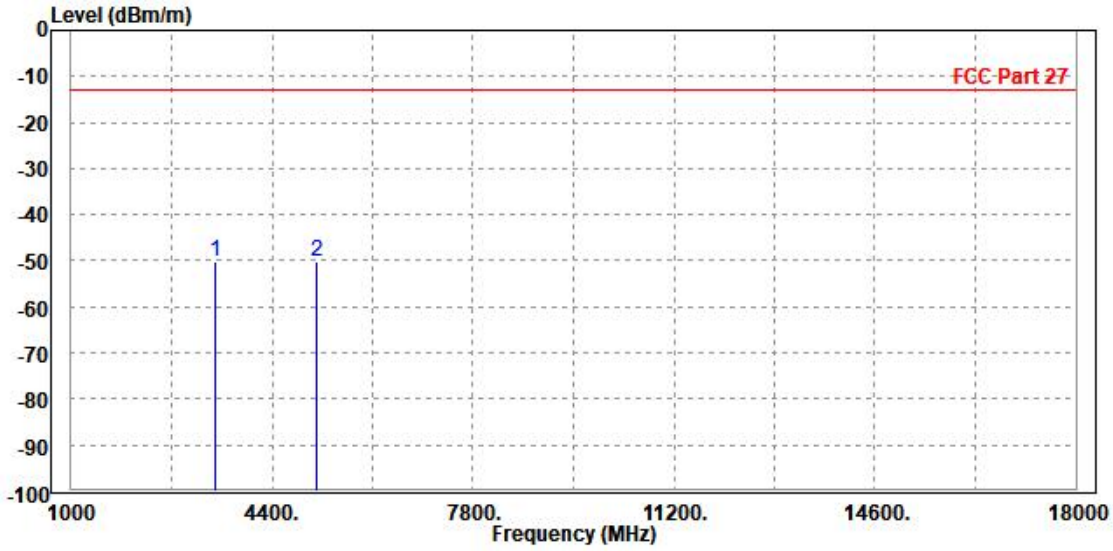
MODE	TX channel 132022	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3430.000	-52.26	-59.49	-13.00	-39.26	7.23	Peak	Horizontal
2 PP	5148.000	-49.36	-59.28	-13.00	-36.36	9.92	Peak	Horizontal



MODE	TX channel 132022	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			

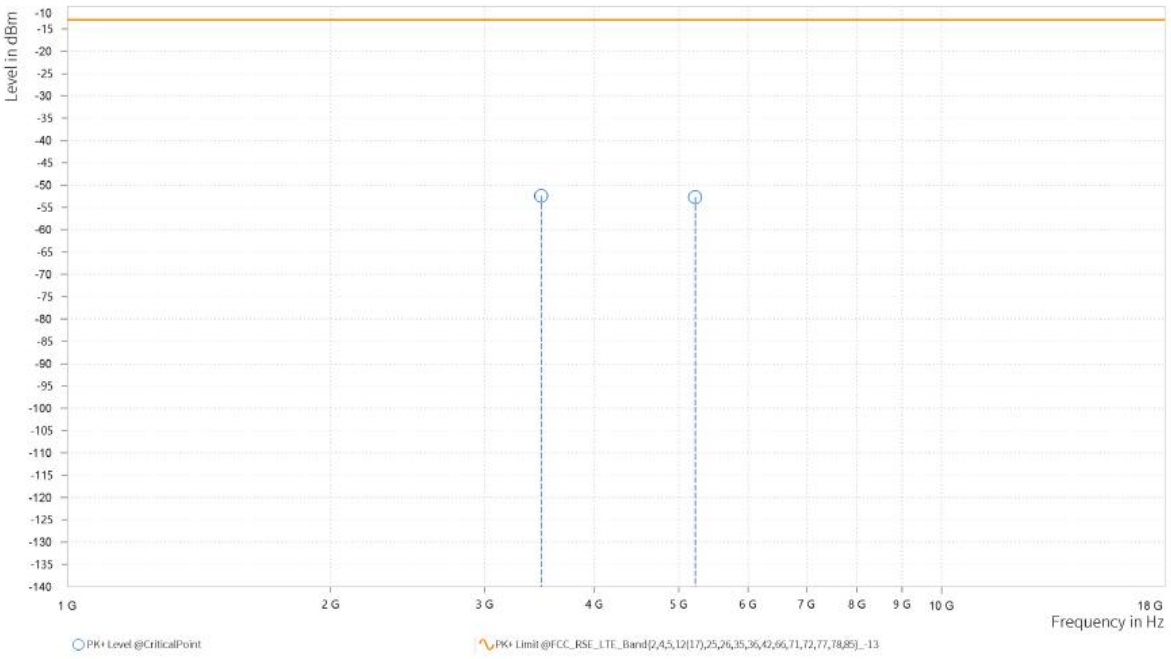
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3431.000	-50.17	-57.38	-13.00	-37.17	7.21	Peak	Vertical
2	5145.000	-50.24	-60.64	-13.00	-37.24	10.40	Peak	Vertical



CH132322

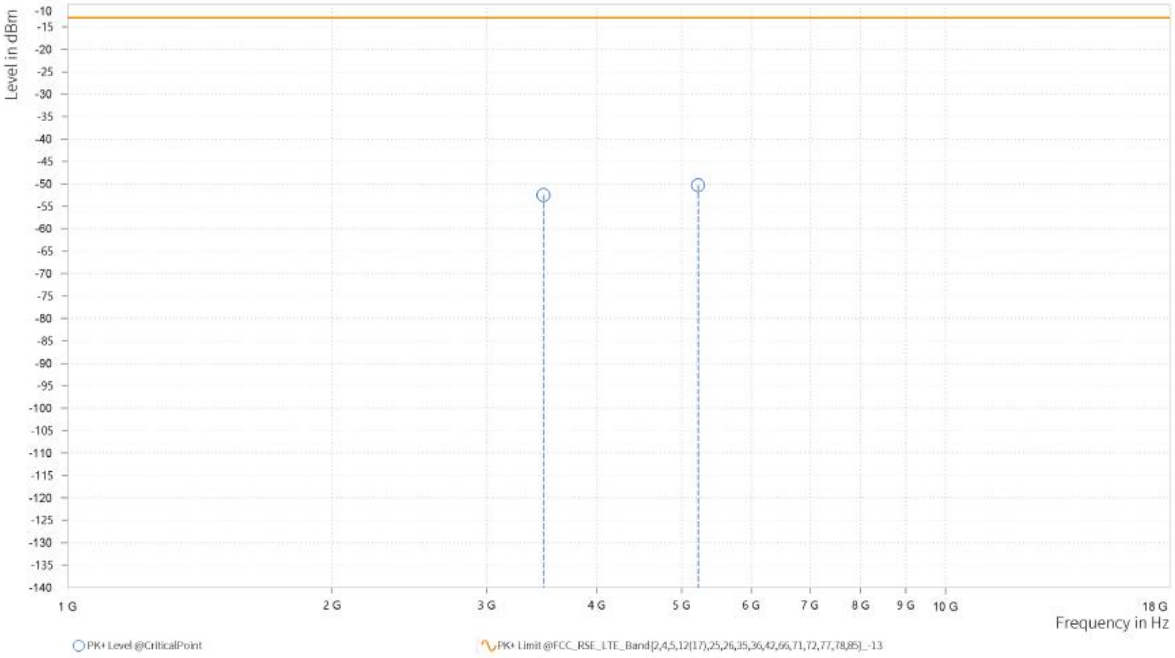
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,481.000	-52.41	-13.00	39.41	21.72	H	1.8	2
4	5,221.500	-52.67	-13.00	39.67	25.57	H	358.6	1



MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Chao Wu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

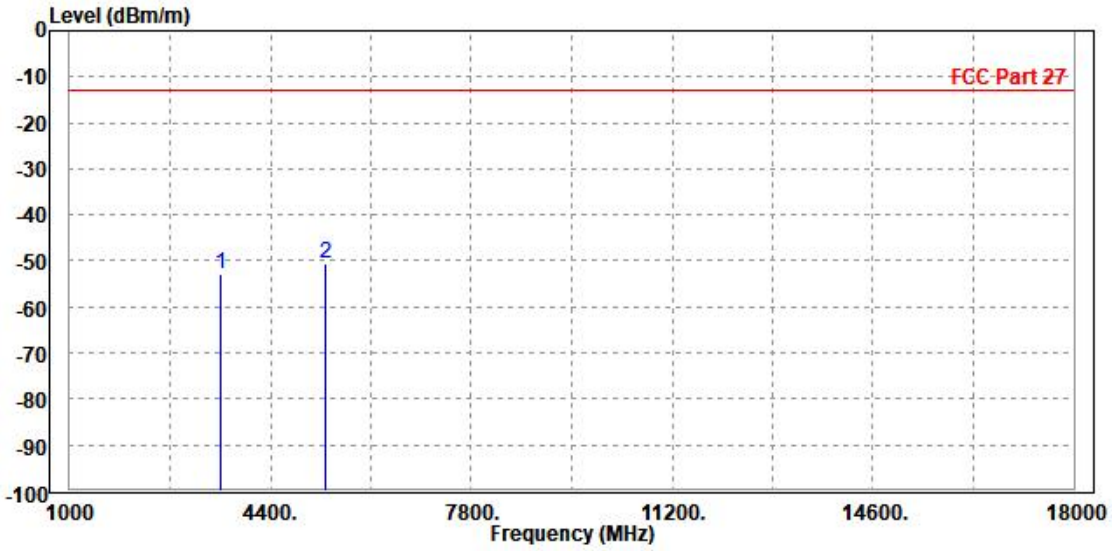
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,481.000	-52.48	-13.00	39.48	22.47	V	141.9	2
4	5,221.500	-50.28	-13.00	37.28	26.13	V	359	2



CH132622

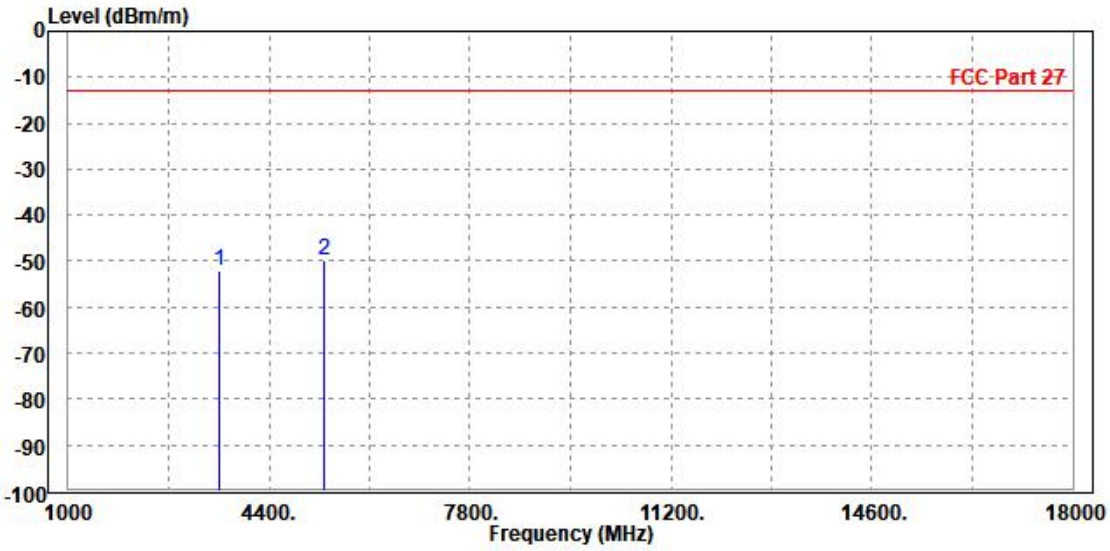
MODE	TX channel 132622	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3550.000	-52.78	-60.23	-13.00	-39.78	7.45	Peak	Horizontal
2 PP	5325.000	-50.61	-60.81	-13.00	-37.61	10.20	Peak	Horizontal



MODE	TX channel 132622	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			

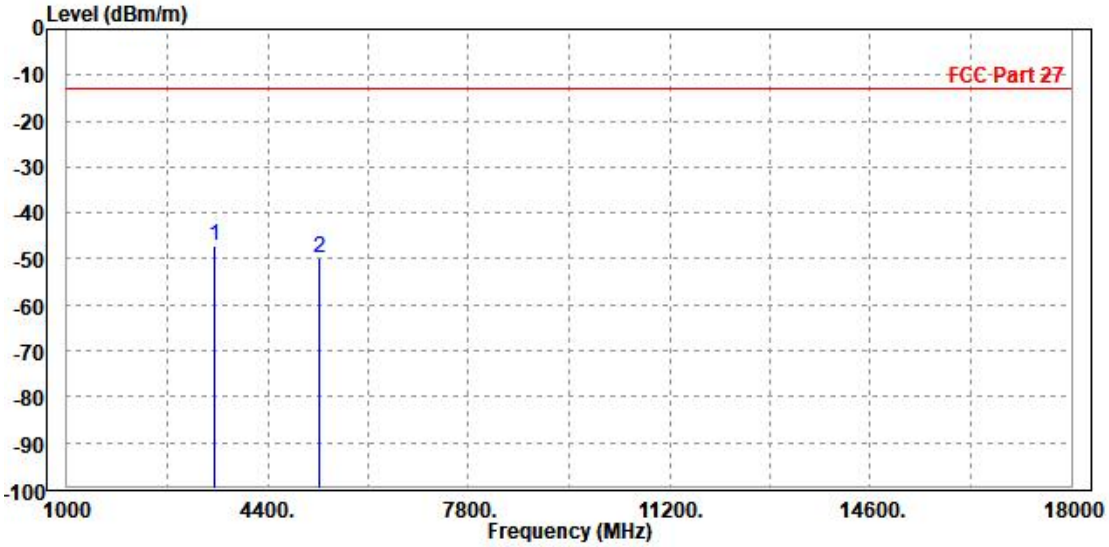
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3550.000	-52.18	-59.57	-13.00	-39.18	7.39	Peak	Vertical
2 PP	5318.000	-49.67	-60.23	-13.00	-36.67	10.56	Peak	Vertical



CHANNEL BANDWIDTH: 15MHz / QPSK

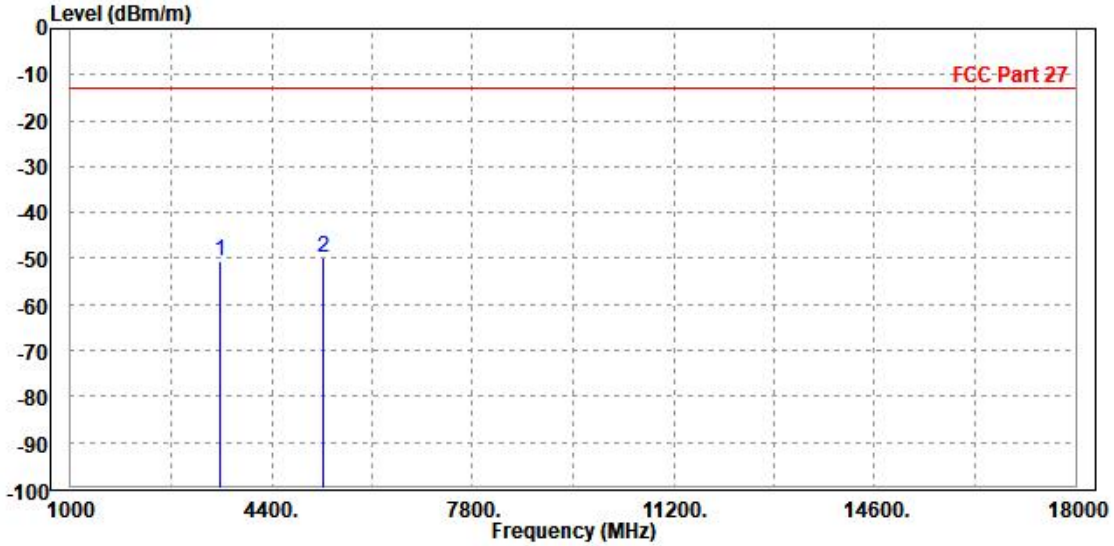
MODE	TX channel 132322	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3510.000	-47.32	-54.67	-13.00	-34.32	7.35	Peak	Horizontal
2	5267.000	-49.97	-60.08	-13.00	-36.97	10.11	Peak	Horizontal



MODE	TX channel 132322	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			

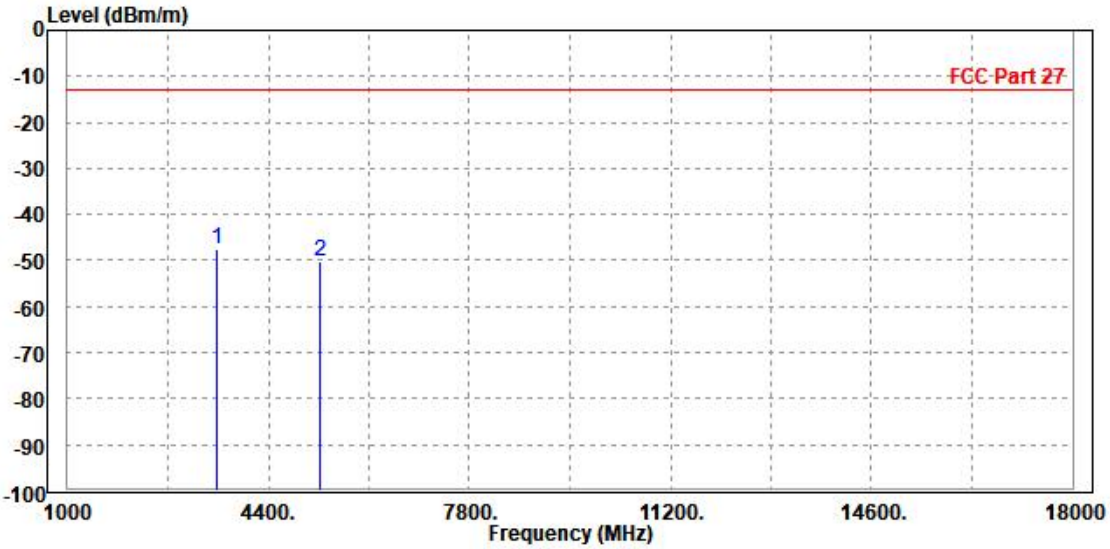
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3516.000	-50.76	-58.10	-13.00	-37.76	7.34	Peak	Vertical
2 PP	5265.000	-49.80	-60.31	-13.00	-36.80	10.51	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

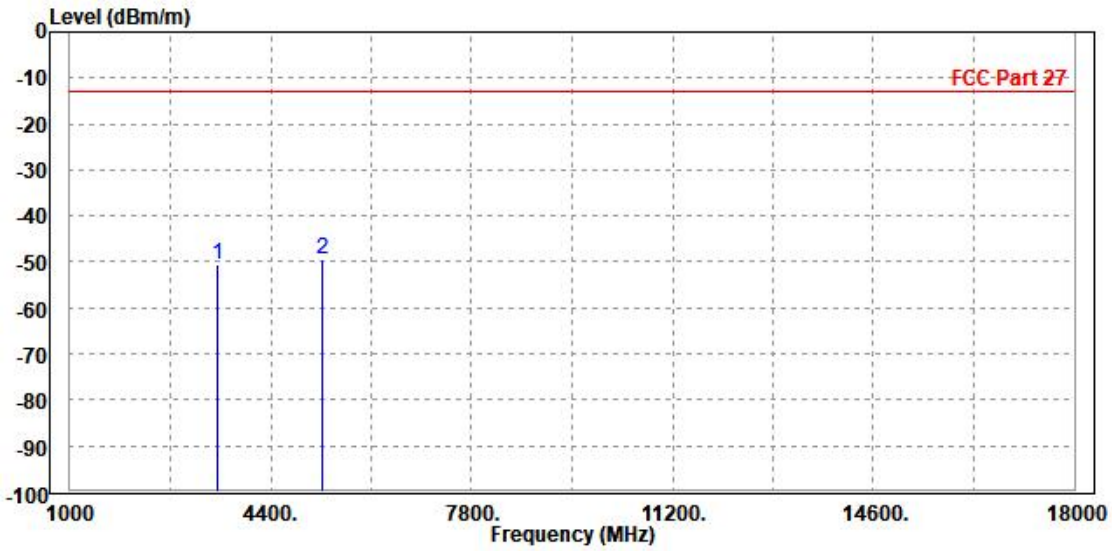
MODE	TX channel 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3516.000	-47.50	-54.86	-13.00	-34.50	7.36	Peak	Horizontal
2		5265.000	-50.04	-60.15	-13.00	-37.04	10.11	Peak	Horizontal



MODE	TX channel 132322	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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3510.000	-50.72	-58.05	-13.00	-37.72	7.33	Peak	Vertical
2 PP	5267.000	-49.33	-59.84	-13.00	-36.33	10.51	Peak	Vertical

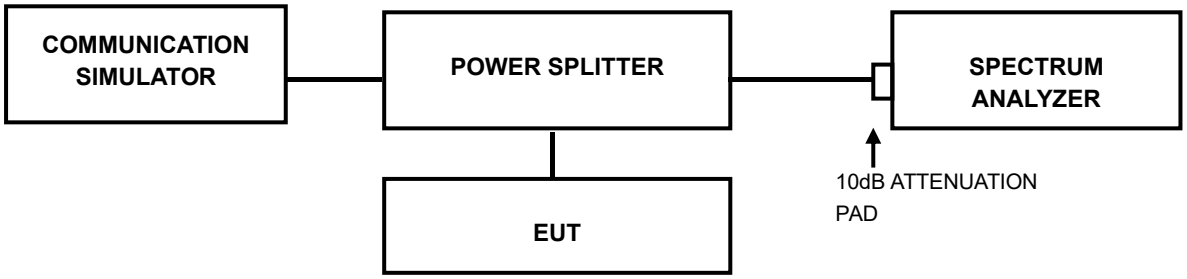


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

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

3.7.4 TEST RESULTS

Refers to the data of W7L-P23070009RF04（FCC ID: 2AJYU-8XS0001, model: SIM7672G）.

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--