

FCC TEST REPORT

(PART 96)

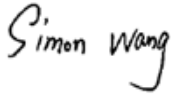
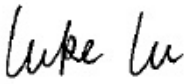
Applicant:	POINTMOBILE CO.,LTD
Address:	9F Kabul Great Valley, 32, Digital-ro 9-gil, Geumcheon-gu, Seoul, Korea 08512

Manufacturer or Supplier:	POINTMOBILE CO.,LTD
Address:	9F Kabul Great Valley, 32, Digital-ro 9-gil, Geumcheon-gu, Seoul, Korea 08512
Product:	Moblie computer
Brand Name:	Point mobile
Model Name:	PM95
FCC ID:	V2X-PM95
Date of tests:	Jan. 08, 2024 ~ May. 10, 2024

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

☒ **47 CFR FCC Part 96**

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: May. 10, 2024	Date: May. 10, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	DESCRIPTION	DATE ISSUED
W7L-P23120020RF06	Original release	May. 10, 2024



1 SUMMARY OF TEST RESULTS

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

Note:

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

Test Lab Information Reference*Lab A:**

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Lab Address:

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

Accredited Test Lab Cert 3939.01

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



1.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	UNCERTAINTY
Maximum Peak Output Power	$\pm 2.06\text{dB}$
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (9KHz~30MHz)	$\pm 2.68\text{dB}$
Radiated emissions (30MHz~1GHz)	$\pm 4.98\text{dB}$
Radiated emissions (1GHz ~6GHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GHz ~18GHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 28,23	Mar. 27,24
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Mar. 27,24	Mar. 26,25
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.10,23	May.09,24
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.09,24	May.08,25
Loop Antenna	Schwarzbeck	FMZB 1519B	00173	Sep.02,23	Sep.01,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 18,23	Feb. 17,24
Bilog Antenna	ETS-LINDGRE N	3143B	00161965	Feb. 17,24	Feb. 16,25
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 18,23	Feb. 17,24
Horn Antenna	ETS-LINDGRE N	3117	00168692	Feb. 17,24	Feb. 16,25
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
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 13,24	Feb. 12,25
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 06,23	May. 05,24
Signal Pre-Amplifier	EMSI	EMC 9135	980249	May. 05,24	May. 04,25
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.10,23	May.09,24
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	May.09,24	May.08,25
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb. 17,23	Feb.16,24
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Feb.16,24	Feb.15,25
3m Semi-anechoic Chamber	ETS-LINDGRE N	9m*6m*6m	Euroshieldpn-CT0001143-1216	Nov. 14,23	Nov. 13,26
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	JS1120	3.1.36	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010-SMA	May. 06,23	May. 05,24
10dB Attenuator	JFW/USA	50HF-010-SMA	50HF-010-SMA	May. 05,24	May. 04,25
Power Meter	Anritsu	ML2495A	1506002	Feb. 14,23	Feb. 13,24
Power Meter	Anritsu	ML2495A	1506002	Feb. 13,24	Feb. 12,25
Power Sensor	Anritsu	MA2411B	1339352	Feb. 14,23	Feb. 13,24
Power Sensor	Anritsu	MA2411B	1339352	Feb. 13,24	Feb. 12,25
Temperature Chamber	ESPEC	SH-242	93000855	May. 06,23	May. 05,24
Temperature Chamber	ESPEC	SH-242	93000855	May. 05,24	May. 04,25
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 14,23	Feb. 13,24
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 13,24	Feb. 12,25
Base station R&S CMW500	Rohde&Schwarz	CMW500	153085	May.10,23	May.09,24
Base station R&S	Rohde&Schwarz	CMW500	153085	May.09,24	May.08,25



CMW500	rz				
DC Source	Kikusui/JP	PMX18-5A	N/A	Aug. 11,23	Aug. 10,24
N9010B keysight SN	KEYSIGHT	N9010B	MY62170516	Aug. 01,23	Jul. 31, 24

- NOTE:**
1. The calibration interval of the above test instruments is 12/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Moblie computer	
BRAND NAME	Point mobile	
MODEL NAME	PM95	
NOMINAL VOLTAGE	5.0Vdc (adapter) 3.87Vdc (battery)	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM, 64QAM, 256QAM
FREQUENCY RANGE	LTE Band 42 Channel Bandwidth: 5MHz	3552.5 MHz ~ 3597.5MHz
	LTE Band 42 Channel Bandwidth: 10MHz	3555MHz ~ 3595MHz
	LTE Band 42 Channel Bandwidth: 15MHz	3557.5MHz ~ 3592.5MHz
	LTE Band 42 Channel Bandwidth: 20MHz	3560MHz ~ 3590MHz
	LTE Band 43 Channel Bandwidth: 5MHz	3602.5MHz ~ 3697.5MHz
	LTE Band 43 Channel Bandwidth: 10MHz	3605MHz ~ 3695MHz
	LTE Band 43 Channel Bandwidth: 15MHz	3607.5MHz ~ 3692.5MHz
	LTE Band 43 Channel Bandwidth: 20MHz	3610MHz ~ 3690MHz
	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 CA	The following only support downlink: CA_48A-48A CA_48A-66A CA_48A-71A CA_48B CA_48C CA_48D CA_48A-48A-66A CA_48A-66A-66A



EMISSION DESIGNATOR	LTE Band 48 Channel Bandwidth: 5MHz	QPSK: 4M54G7D 16QAM: 4M52W7D
	LTE Band 48 Channel Bandwidth: 10MHz	QPSK: 9M03G7D 16QAM: 9M02W7D
	LTE Band 48 Channel Bandwidth: 15MHz	QPSK: 13M5G7D 16QAM: 13M5W7D
	LTE Band 48 Channel Bandwidth: 20MHz	QPSK: 18M0G7D 16QAM: 18M0W7D
MAX. EIRP POWER	LTE Band 42 Channel Bandwidth: 5MHz	159.96mW
	LTE Band 42 Channel Bandwidth: 10MHz	157.04mW
	LTE Band 42 Channel Bandwidth: 15MHz	162.18mW
	LTE Band 42 Channel Bandwidth: 20MHz	162.55mW
	LTE Band 43 Channel Bandwidth: 5MHz	150.66mW
	LTE Band 43 Channel Bandwidth: 10MHz	152.41mW
	LTE Band 43 Channel Bandwidth: 15MHz	152.41mW
	LTE Band 43 Channel Bandwidth: 20MHz	155.96mW
	LTE Band 48 Channel Bandwidth: 5MHz	162.93mW
	LTE Band 48 Channel Bandwidth: 10MHz	166.72mW
	LTE Band 48 Channel Bandwidth: 15MHz	165.96mW
	LTE Band 48 Channel Bandwidth: 20MHz	167.11mW
ANTENNA GAIN	ANT11: Internal Antenna with -0.96dBi gain for LTE B42 Internal Antenna with -1.25dBi gain for LTE B43 Internal Antenna with -1.03dBi gain for LTE B48	
HW VERSION	MP	
SW VERSION	95.00	
I/O PORTS	Refer to user's manual	
DATA CABLE	USB cable: non-shielded cable, with w/o ferrite core, 1.5meter	
EXTREME TEMPERATURE	-20-60 °C	
EXTREME VOLTAGE	3.5V – 4.45V	

NOTE:

- 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/4RX

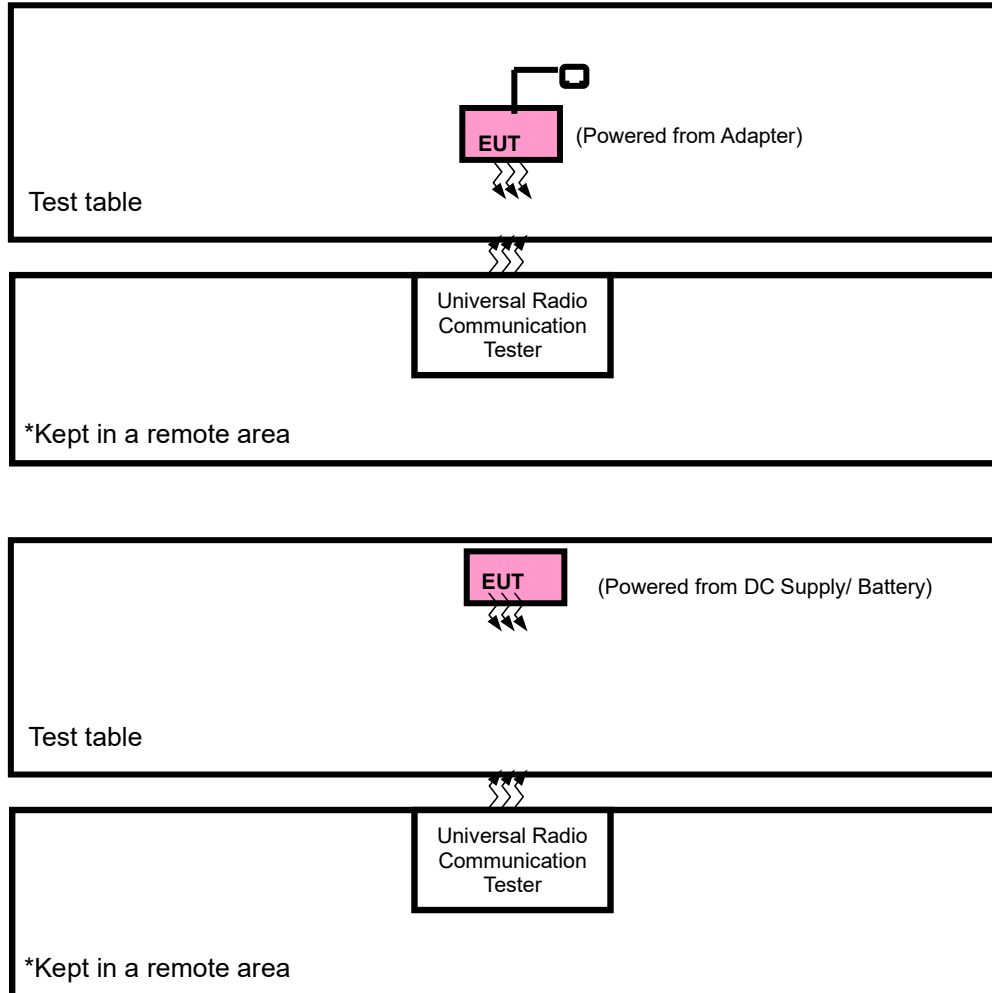
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
4. Antenna gain and EUT conducted cable loss are provided by the customer, and the laboratory will record the results based on these items that involve these two parameters.
5. For Band Edge and Emission Mask: The all BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.
6. For Out of Band Emissions: The all combination was tested. The highest power RB combination was selected as worst case.
7. The worst-case scenario for all measurements is based on an engineering evaluation made on different modulations. Then, QPSK and 16QAM were observed as the worst mode to LTE bands respectively and set for all conducted and radiated. Output power measurements were measured on QPSK, 16QAM, 64QAM, and 256QAM modulations, and tests other than output power are performed only in worse-case QPSK and 16QAM modulations.

List of Accessory:

ACCESSORIES	BRAND	MANUFACTURER	MODEL	SPECIFICATION
Battery	N/A	Shenzhen Guangwei Electronic Technology CO., LTD	95-BTSC	Capacity: 3.87Vdc, 4820mAh
AC Adapter 1	N/A	Shenzhen Shi Ying Yuan Electronics Co Ltd	ICP12-050-2000D(ICP12-xxx-yyyyf)	I/P: 100-240Vac, 0.3mA, O/P: 5.0Vdc, 2A
AC Adapter 2	N/A	SHENZHEN AQUILS TAR TECHNOLOGY CO.,LTD.	ASUC71w-050912300	I/P: 100-240V~50/60Hz, 0.7A O/P: 5.0Vdc, 3A or 9.0Vdc, 2A or 12.0Vdc, 1.5A
USB Cable	N/A	Dongguan DAWEI PRECISION Technology Co., Ltd.	SC-109B205	USB3.0, 1.5m



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	USB Line: Unshielded, Detachable, 1.5m;

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with LTE link
B	EUT + DC Supply /Battery with LTE link



LTE band 42

EUT CONFIGUR E MODE	TEST ITEM	AVAILABL E CHANNEL	TESTED CHANNEL	CHANNEL BANDWID TH	MODULATION	MODE
A	EIRP	43115 to 43565	43115 (3552.5MHz), 43340 (3575.0MHz), 43565 (3597.5MHz)	5MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43140 to 43540	43140 (3555.0MHz), 43340 (3575.0MHz), 43540 (3595.0MHz)	10MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43165 to 43515	43165 (3557.50MHz), 43340 (3575.0MHz), 43515 (3592.5MHz)	15MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43190 to 43490	43190 (3560.0MHz), 43340 (3575.0MHz), 43490 (3590.0MHz)	20MHz	QPSK, 16QAM, 64QAM, 256 QAM	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 42 is covered by LTE Band 48, Because it is a subset of LTE Band 48 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 48

LTE band 43

EUT CONFIGUR E MODE	TEST ITEM	AVAILABL E CHANNEL	TESTED CHANNEL	CHANNEL BANDWID TH	MODULATION	MODE
A	EIRP	43615 to 44565	43615 (3602.5MHz), 44090 (3650.0MHz), 44565 (3697.5MHz)	5MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43640 to 44540	43640 (3605.0MHz), 44090 (3650.0MHz), 44540 (3695.0MHz)	10MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43665 to 44515	43665 (3607.5MHz), 44090 (3650.0MHz), 44515 (3692.5MHz)	15MHz	QPSK, 16QAM, 64QAM, 256 QAM	1 RB / 0 RB Offset
		43690 to 44490	43690 (3610.0MHz), 44090 (3650.0MHz), 44490 (3690.0MHz)	20MHz	QPSK, 16QAM, 64QAM, 256 QAM	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 43 is covered by LTE Band 48, Because it is a subset of LTE Band 48 with the same output power and supported bandwidths, So the conducted test data and RSE test data please refer to LTE Band 48.



LTE BAND 48 MODE

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



A	RADIATED EMISSION	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
		55265 to 56715	55990	5MHz	QPSK	1 RB / 0 RB Offset
		55290 to 56690	55990	10MHz	QPSK	1 RB / 0RB Offset
		55315 to 56665	55315, 55990, 56665	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.

**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP&EIRP	23deg. C, 70%RH	DC 5.0Vdc by Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.5V/ 3.87V/ 4.45V By Battery	James Fu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5.0Vdc by Adapter	James Fu
BAND EDGE	23deg. C, 70%RH	DC 5.0Vdc by Adapter	James Fu
CONDUCTED EMISSION	23deg. C, 70%RH	DC 5.0Vdc by Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC 5.0Vdc by Adapter	Jace Hu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5.0Vdc by Adapter	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 96

KDB 971168 D02 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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

3 TEST TYPES AND RESULTS

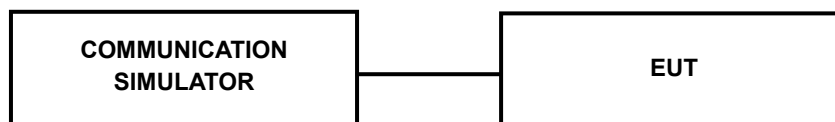
3.1 MAXIMUM EIRP MEASUREMENT

3.1.1 LIMITS OF MAXIMUM EIRP MEASUREMENT

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

3.1.2 TEST SETUP

CONDUCTED POWER MEASUREMENT:



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

3.1.3 TEST PROCEDURES

EIRP MEASUREMENT:

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

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

Where:

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

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

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

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

CONDUCTED POWER MEASUREMENT:

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

3.1.4 DEVIATION FROM TEST STANDARD

No deviation.

3.1.5 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE band 42(ANT11):

Band/BW	Modulation	RB Size	RB Offset	Low CH (43115)	Mid CH (43340)	High CH (43565)
				Frequency (3552.5)MHz	Frequency (3575)MHz	Frequency (3597.5)MHz
42/ 5	QPSK	1	0	23.00	22.92	22.86
		1	12	22.84	22.71	22.72
		1	24	22.77	22.70	22.63
		12	0	21.99	21.95	21.93
		12	6	21.97	21.82	21.84
		12	13	22.00	21.87	21.77
		25	0	21.82	21.87	21.93
	16QAM	1	0	21.95	21.95	21.89
		1	12	21.92	21.87	21.88
		1	24	21.77	21.73	21.62
		12	0	21.00	20.95	20.87
		12	6	20.94	20.86	20.90
		12	13	20.87	20.87	20.88
		25	0	20.86	20.83	20.82
	64QAM	1	0	20.79	20.86	20.91
		1	12	20.87	20.91	20.78
		1	24	20.78	20.69	20.71
		12	0	20.07	19.90	19.92
		12	6	19.96	19.91	19.88
		12	13	19.84	19.90	19.86
		25	0	20.03	19.89	19.84
	256QAM	1	0	17.79	17.81	17.81
		1	12	17.75	17.68	17.64
		1	24	17.81	17.61	17.59
		12	0	17.84	17.74	17.86
		12	6	17.94	17.73	17.74
		12	13	17.74	17.72	17.70
		25	0	17.99	17.85	17.76



Band/BW	Modulation	RB Size	RB Offset	Low CH (43140)	Mid CH (43340)	High CH (43540)
				Frequency (3555)MHz	Frequency (3575)MHz	Frequency (3595)MHz
42/ 10	QPSK	1	0	22.92	22.88	22.86
		1	24	22.82	22.66	22.77
		1	49	22.83	22.67	22.50
		25	0	21.95	21.87	21.99
		25	12	22.00	21.82	21.83
		25	25	21.97	21.92	21.81
		50	0	21.91	21.89	21.79
	16QAM	1	0	21.81	21.83	21.95
		1	24	21.80	21.89	21.85
		1	49	21.70	21.75	21.61
		25	0	21.06	20.92	20.87
		25	12	21.02	20.85	20.84
		25	25	20.91	20.86	20.77
		50	0	20.92	20.85	20.77
	64QAM	1	0	20.81	20.83	20.94
		1	24	20.94	20.77	20.82
		1	49	20.77	20.59	20.68
		25	0	20.07	19.87	19.97
		25	12	20.04	19.88	19.80
		25	25	19.80	19.91	19.86
		50	0	20.02	19.88	19.85
	256QAM	1	0	17.79	17.85	17.85
		1	24	17.84	17.68	17.69
		1	49	17.75	17.58	17.64
		25	0	17.87	17.70	17.87
		25	12	18.03	17.69	17.72
		25	25	17.77	17.71	17.65
		50	0	17.95	17.74	17.79



Band/BW	Modulation	RB Size	RB Offset	Low CH (43165)	Mid CH (43340)	High CH (43515)
				Frequency (3557.5)MHz	Frequency (3575)MHz	Frequency (3592.5)MHz
42/ 15	QPSK	1	0	23.06	22.90	22.80
		1	37	22.87	22.70	22.68
		1	74	22.78	22.60	22.57
		36	0	21.90	22.00	22.04
		36	19	21.93	21.81	21.85
		36	39	21.90	21.84	21.73
		75	0	21.92	21.90	21.91
	16QAM	1	0	21.95	21.92	21.88
		1	37	21.81	21.88	21.87
		1	74	21.71	21.73	21.64
		36	0	21.10	20.97	20.87
		36	19	20.98	20.95	20.87
		36	39	20.78	20.73	20.88
		75	0	20.91	20.78	20.87
	64QAM	1	0	20.88	20.88	20.91
		1	37	20.97	20.82	20.85
		1	74	20.81	20.59	20.69
		36	0	20.02	19.82	19.94
		36	19	20.02	19.81	19.84
		36	39	19.81	19.90	19.81
		75	0	20.07	20.00	19.87
	256QAM	1	0	17.75	17.75	17.86
		1	37	17.75	17.64	17.72
		1	74	17.84	17.62	17.68
		36	0	17.85	17.80	17.82
		36	19	18.03	17.77	17.75
		36	39	17.74	17.67	17.70
		75	0	17.86	17.83	17.80



Band/BW	Modulation	RB Size	RB Offset	Low CH (43190)	Mid CH (43340)	High CH (43490)
				Frequency (3560)MHz	Frequency (3575)MHz	Frequency (3590)MHz
42/ 20	QPSK	1	0	23.07	23.00	22.95
		1	50	22.91	22.81	22.81
		1	99	22.85	22.73	22.65
		50	0	22.02	22.01	22.06
		50	25	22.03	21.94	21.94
		50	50	22.01	21.98	21.87
		100	0	21.95	21.99	21.94
	16QAM	1	0	21.96	21.96	21.96
		1	50	21.93	21.94	21.90
		1	99	21.85	21.81	21.68
		50	0	21.14	21.04	21.01
		50	25	21.03	20.98	20.93
		50	50	20.92	20.88	20.91
		100	0	20.97	20.91	20.88
	64QAM	1	0	20.93	20.98	20.98
		1	50	20.99	20.92	20.86
		1	99	20.87	20.70	20.77
		50	0	20.08	19.95	20.00
		50	25	20.09	19.92	19.90
		50	50	19.89	19.95	19.91
		100	0	20.09	20.01	19.99
	256QAM	1	0	17.82	17.86	17.93
		1	50	17.88	17.79	17.76
		1	99	17.86	17.65	17.74
		50	0	17.96	17.85	17.91
		50	25	18.06	17.84	17.81
		50	50	17.80	17.80	17.78
		100	0	18.00	17.88	17.84



LTE Band 43(ANT11):

Band/BW	Modulation	RB Size	RB Offset	Low CH (43615)	Mid CH (44090)	High CH (44565)
				Frequency (3602.5)MHz	Frequency (3650)MHz	Frequency (3697.5)MHz
43/ 5	QPSK	1	0	23.03	22.98	22.93
		1	12	22.97	22.96	22.83
		1	24	22.86	22.78	22.82
		12	0	22.08	21.98	22.03
		12	6	22.01	22.01	22.05
		12	13	22.01	21.84	21.99
		25	0	22.09	21.96	21.98
	16QAM	1	0	22.09	22.09	21.99
		1	12	22.04	22.06	21.82
		1	24	22.00	21.82	21.82
		12	0	21.05	21.04	21.05
		12	6	21.00	21.00	20.91
		12	13	21.02	20.98	20.92
		25	0	21.04	20.85	20.86
	64QAM	1	0	20.99	20.96	21.08
		1	12	21.01	20.93	20.73
		1	24	20.87	20.77	20.67
		12	0	20.06	19.97	20.15
		12	6	20.12	19.97	19.96
		12	13	19.96	19.93	19.91
		25	0	20.13	19.93	19.98
	256QAM	1	0	18.07	18.07	18.10
		1	12	17.96	17.87	17.78
		1	24	17.82	17.81	17.66
		12	0	18.01	17.95	18.10
		12	6	18.00	17.97	18.08
		12	13	17.98	17.94	18.01
		25	0	18.07	17.96	17.95



Band/BW	Modulation	RB Size	RB Offset	Low CH (43640)	Mid CH (44090)	High CH (44540)
				Frequency (3605)MHz	Frequency (3650)MHz	Frequency (3695)MHz
43/ 10	QPSK	1	0	23.08	22.93	22.88
		1	24	22.94	22.87	22.94
		1	49	22.85	22.85	22.74
		25	0	22.01	21.96	22.06
		25	12	22.01	21.96	22.00
		25	25	22.01	21.87	21.99
		50	0	22.17	21.94	21.97
	16QAM	1	0	22.06	22.04	22.05
		1	24	21.95	22.03	21.91
		1	49	21.88	21.78	21.79
		25	0	21.06	21.11	20.94
		25	12	20.98	21.03	20.94
		25	25	21.03	21.00	20.95
		50	0	20.94	20.83	20.81
	64QAM	1	0	21.07	21.06	21.01
		1	24	20.95	20.89	20.72
		1	49	20.86	20.85	20.58
		25	0	20.03	19.93	20.09
		25	12	19.99	20.06	20.05
		25	25	19.98	19.90	19.97
		50	0	20.11	19.90	19.99
	256QAM	1	0	18.09	18.01	18.08
		1	24	18.00	17.92	17.77
		1	49	17.92	17.80	17.68
		25	0	18.03	18.00	18.09
		25	12	18.01	17.96	18.08
		25	25	17.98	17.98	17.91
		50	0	18.12	17.93	18.04



Band/BW	Modulation	RB Size	RB Offset	Low CH (43665)	Mid CH (44090)	High CH (44515)
				Frequency (3607.5)MHz	Frequency (3650)MHz	Frequency (3692.5)MHz
43/ 15	QPSK	1	0	23.08	22.94	22.93
		1	37	22.86	22.99	22.83
		1	74	22.78	22.81	22.73
		36	0	22.00	22.07	22.05
		36	19	22.06	22.05	22.00
		36	39	21.98	21.86	21.86
		75	0	22.09	21.95	21.99
	16QAM	1	0	22.12	21.98	22.10
		1	37	22.00	21.99	21.88
		1	74	21.86	21.87	21.75
		36	0	21.07	21.18	21.05
		36	19	21.00	21.02	20.87
		36	39	20.98	21.00	20.91
		75	0	20.90	20.84	20.82
	64QAM	1	0	21.01	20.96	21.01
		1	37	20.95	20.96	20.76
		1	74	20.88	20.86	20.66
		36	0	20.07	19.99	20.04
		36	19	20.03	20.05	20.08
		36	39	20.02	19.90	20.00
		75	0	20.13	19.97	20.03
	256QAM	1	0	18.03	18.06	18.09
		1	37	17.97	17.96	17.75
		1	74	17.85	17.87	17.70
		36	0	17.99	17.95	18.02
		36	19	18.06	18.05	17.96
		36	39	18.07	17.96	17.94
		75	0	18.09	18.00	18.00



Band/BW	Modulation	RB Size	RB Offset	Low CH (43690)	Mid CH (44090)	High CH (44490)
				Frequency (3610)MHz	Frequency (3650)MHz	Frequency (3690)MHz
43/ 20	QPSK	1	0	23.18	23.01	23.00
		1	50	23.01	23.01	22.95
		1	99	22.92	22.92	22.83
		50	0	22.13	22.11	22.11
		50	25	22.15	22.10	22.10
		50	50	22.03	21.98	22.01
		100	0	22.18	22.09	22.12
	16QAM	1	0	22.20	22.11	22.13
		1	50	22.06	22.07	21.94
		1	99	22.01	21.92	21.89
		50	0	21.16	21.19	21.07
		50	25	21.10	21.14	21.02
		50	50	21.09	21.07	20.99
		100	0	21.05	20.98	20.95
	64QAM	1	0	21.10	21.09	21.12
		1	50	21.03	21.00	20.85
		1	99	20.95	20.88	20.73
		50	0	20.12	20.08	20.17
		50	25	20.14	20.11	20.09
		50	50	20.10	20.04	20.06
		100	0	20.16	20.01	20.10
	256QAM	1	0	18.10	18.09	18.12
		1	50	18.03	18.00	17.85
		1	99	17.95	17.88	17.73
		50	0	18.12	18.08	18.17
		50	25	18.14	18.11	18.09
		50	50	18.10	18.04	18.06
		100	0	18.16	18.01	18.10



LTE band 48(ANT11):

Band/BW	Modulation	RB Size	RB Offset	Low CH (55265)	Low Mid CH (55810)	High Mid CH(56170)	High CH (56715)
				Frequency (3552.5)MHz	Frequency (3607)MHz	Frequency (3643)MHz	Frequency (3697.5)MHz
48/ 5	QPSK	1	0	22.90	22.83	23.04	23.01
		1	12	23.06	22.94	23.13	23.15
		1	24	22.72	22.85	22.87	22.93
		12	0	21.94	22.09	22.28	22.31
		12	6	22.00	22.12	22.13	22.10
		12	13	22.00	21.99	22.15	22.21
		25	0	21.90	21.97	22.20	22.07
	16QAM	1	0	21.81	21.87	21.92	21.84
		1	12	21.86	21.76	21.91	21.96
		1	24	21.66	21.78	21.69	21.72
		12	0	21.10	21.00	21.25	21.23
		12	6	21.14	21.00	21.13	21.12
		12	13	20.89	21.05	21.22	21.05
		25	0	20.99	21.09	21.20	21.16
	64QAM	1	0	20.74	20.94	20.89	20.87
		1	12	20.85	20.79	21.00	20.98
		1	24	20.68	20.75	20.77	20.91
		12	0	19.95	19.91	20.10	20.12
		12	6	20.08	20.09	20.00	20.15
		12	13	19.92	19.93	20.13	20.10
		25	0	19.84	20.07	20.11	20.13
	256QAM	1	0	17.78	17.88	17.85	17.92
		1	12	17.81	17.85	18.01	17.95
		1	24	17.70	17.75	17.78	17.82
		12	0	17.66	17.75	17.79	17.83
		12	6	17.67	17.73	17.73	17.80
		12	13	17.62	17.64	17.82	17.74
		25	0	17.52	17.80	17.77	17.87



Band/BW	Modulation	RB Size	RB Offset	Low CH (55290)	Low Mid CH (55815)	High Mid CH(56165)	High CH (56690)
				Frequency (3555)MHz	Frequency (3607.5)MHz	Frequency (3642.5)MHz	Frequency (3695)MHz
48/ 10	QPSK	1	0	22.93	22.90	23.07	23.03
		1	24	23.07	22.93	23.09	23.25
		1	49	22.72	22.86	22.89	23.01
		25	0	22.06	22.08	22.24	22.32
		25	12	21.94	22.05	22.19	22.20
		25	25	22.03	22.04	22.10	22.12
		50	0	21.92	21.96	22.10	22.05
	16QAM	1	0	21.79	21.79	21.81	21.93
		1	24	21.88	21.88	21.86	21.95
		1	49	21.72	21.82	21.83	21.81
		25	0	21.04	21.01	21.19	21.12
		25	12	21.04	20.96	21.11	21.04
		25	25	20.94	21.09	21.10	21.05
		50	0	20.88	21.14	21.08	21.13
	64QAM	1	0	20.76	20.81	20.88	20.88
		1	24	20.81	20.87	21.02	20.89
		1	49	20.71	20.76	20.85	20.90
		25	0	19.98	20.01	20.09	20.21
		25	12	19.98	20.12	20.07	20.20
		25	25	19.93	20.07	20.05	20.10
		50	0	19.93	20.10	20.00	20.07
	256QAM	1	0	17.70	17.82	17.89	17.87
		1	24	17.81	17.76	18.02	17.92
		1	49	17.67	17.82	17.76	17.77
		25	0	17.69	17.67	17.74	17.81
		25	12	17.74	17.75	17.80	17.88
		25	25	17.60	17.69	17.78	17.68
		50	0	17.62	17.74	17.72	17.76



Band/BW	Modulation	RB Size	RB Offset	Low CH (55315)	Low Mid CH (55820)	High Mid CH(56160)	High CH (56665)
				Frequency (3557.5)MHz	Frequency (3608)MHz	Frequency (3642)MHz	Frequency (3692.5)MHz
48/ 15	QPSK	1	0	22.89	22.95	23.09	23.01
		1	37	23.04	22.93	23.16	23.23
		1	74	22.75	22.94	22.86	22.96
		36	0	22.02	22.07	22.15	22.21
		36	19	21.99	22.06	22.19	22.11
		36	39	22.03	22.04	22.13	22.16
		75	0	22.01	22.03	22.10	22.09
	16QAM	1	0	21.82	21.89	21.89	21.93
		1	37	21.81	21.81	21.80	21.97
		1	74	21.71	21.80	21.81	21.80
		36	0	21.14	21.11	21.18	21.16
		36	19	21.09	21.04	21.03	21.06
		36	39	20.95	21.08	21.12	21.12
		75	0	20.90	21.13	21.10	21.15
	64QAM	1	0	20.78	20.95	20.82	20.93
		1	37	20.87	20.79	20.94	21.00
		1	74	20.65	20.83	20.77	20.79
		36	0	20.03	19.99	20.01	20.17
		36	19	20.02	20.14	20.12	20.10
		36	39	19.91	20.01	20.07	20.02
		75	0	19.88	20.03	20.11	20.11
	256QAM	1	0	17.73	17.90	17.80	17.80
		1	37	17.88	17.88	18.07	17.99
		1	74	17.58	17.86	17.81	17.79
		36	0	17.64	17.62	17.71	17.82
		36	19	17.77	17.84	17.74	17.86
		36	39	17.59	17.72	17.85	17.69
		75	0	17.62	17.79	17.70	17.88



Band/BW	Modulation	RB Size	RB Offset	Low CH (55340)	Low Mid CH (55830)	High Mid CH(56150)	High CH (56640)
				Frequency (3560)MHz	Frequency (3609)MHz	Frequency (3641)MHz	Frequency (3690)MHz
48/ 20	QPSK	1	0	23.01	22.97	23.12	23.13
		1	50	23.09	23.05	23.21	23.26
		1	99	22.87	22.96	23.00	23.03
		50	0	22.09	22.15	22.30	22.36
		50	25	22.08	22.13	22.25	22.22
		50	50	22.07	22.07	22.25	22.22
		100	0	22.02	22.04	22.21	22.19
	16QAM	1	0	21.87	21.90	21.93	21.99
		1	50	21.91	21.89	21.95	22.07
		1	99	21.73	21.85	21.84	21.87
		50	0	21.16	21.12	21.29	21.25
		50	25	21.16	21.11	21.18	21.19
		50	50	21.03	21.12	21.23	21.18
		100	0	21.01	21.16	21.22	21.24
	64QAM	1	0	20.80	20.96	20.95	20.94
		1	50	20.94	20.90	21.08	21.03
		1	99	20.72	20.87	20.90	20.92
		50	0	20.08	20.06	20.15	20.26
		50	25	20.09	20.16	20.15	20.24
		50	50	19.97	20.08	20.19	20.13
		100	0	19.96	20.15	20.13	20.20
	256QAM	1	0	17.80	17.96	17.95	17.94
		1	50	17.94	17.90	18.08	18.03
		1	99	17.72	17.87	17.90	17.92
		50	0	17.78	17.76	17.85	17.96
		50	25	17.79	17.86	17.85	17.94
		50	50	17.67	17.78	17.89	17.83
		100	0	17.66	17.85	17.83	17.90



EIRP

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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43115	3552.5	23	-0.96	22.04	159.96	23
43340	3575	22.92	-0.96	21.96	157.04	23
43565	3597.5	22.86	-0.96	21.9	154.88	23

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43115	3552.5	21.95	-0.96	20.99	125.6	23
43340	3575	21.95	-0.96	20.99	125.6	23
43565	3597.5	21.89	-0.96	20.93	123.88	23

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43115	3552.5	20.87	-0.96	19.91	97.95	23
43340	3575	20.91	-0.96	19.95	98.86	23
43565	3597.5	20.91	-0.96	19.95	98.86	23

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43115	3552.5	17.99	-0.96	17.03	50.47	23
43340	3575	17.85	-0.96	16.89	48.87	23
43565	3597.5	17.86	-0.96	16.9	48.98	23

**CHANNEL BANDWIDTH: 10MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43140	3555	22.92	-0.96	21.96	157.04	23
43340	3575	22.88	-0.96	21.92	155.6	23
43540	3595	22.86	-0.96	21.9	154.88	23

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43140	3555	21.81	-0.96	20.85	121.62	23
43340	3575	21.89	-0.96	20.93	123.88	23
43540	3595	21.95	-0.96	20.99	125.6	23

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43140	3555	20.94	-0.96	19.98	99.54	23
43340	3575	20.83	-0.96	19.87	97.05	23
43540	3595	20.94	-0.96	19.98	99.54	23

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43140	3555	18.03	-0.96	17.07	50.93	23
43340	3575	17.85	-0.96	16.89	48.87	23
43540	3595	17.87	-0.96	16.91	49.09	23

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43165	3557.5	23.06	-0.96	22.1	162.18	23
43340	3575	22.9	-0.96	21.94	156.31	23
43515	3592.5	22.8	-0.96	21.84	152.76	23

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43165	3557.5	21.95	-0.96	20.99	125.6	23
43340	3575	21.92	-0.96	20.96	124.74	23
43515	3592.5	21.88	-0.96	20.92	123.59	23

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43165	3557.5	20.97	-0.96	20.01	100.23	23
43340	3575	20.88	-0.96	19.92	98.17	23
43515	3592.5	20.91	-0.96	19.95	98.86	23

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43165	3557.5	18.03	-0.96	17.07	50.93	23
43340	3575	17.83	-0.96	16.87	48.64	23
43515	3592.5	17.86	-0.96	16.9	48.98	23

**CHANNEL BANDWIDTH: 20MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43190	3560	23.07	-0.96	22.11	162.55	23
43340	3575	23	-0.96	22.04	159.96	23
43490	3590	22.95	-0.96	21.99	158.12	23

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43190	3560	21.96	-0.96	21	125.89	23
43340	3575	21.96	-0.96	21	125.89	23
43490	3590	21.96	-0.96	21	125.89	23

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43190	3560	20.99	-0.96	20.03	100.69	23
43340	3575	20.98	-0.96	20.02	100.46	23
43490	3590	20.98	-0.96	20.02	100.46	23

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43190	3560	18.06	-0.96	17.1	51.29	23
43340	3575	17.88	-0.96	16.92	49.2	23
43490	3590	17.93	-0.96	16.97	49.77	23



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CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43615	3602.5	23.03	-1.25	21.78	150.66	23
44090	3650	22.98	-1.25	21.73	148.94	23
44565	3697.5	22.93	-1.25	21.68	147.23	23

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43615	3602.5	22.09	-1.25	20.84	121.34	23
44090	3650	22.09	-1.25	20.84	121.34	23
44565	3697.5	21.99	-1.25	20.74	118.58	23

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43615	3602.5	21.01	-1.25	19.76	94.62	23
44090	3650	20.96	-1.25	19.71	93.54	23
44565	3697.5	21.08	-1.25	19.83	96.16	23

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43615	3602.5	18.07	-1.25	16.82	48.08	23
44090	3650	18.07	-1.25	16.82	48.08	23
44565	3697.5	18.1	-1.25	16.85	48.42	23

**CHANNEL BANDWIDTH: 10MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43640	3605	23.08	-1.25	21.83	152.41	23
44090	3650	22.93	-1.25	21.68	147.23	23
44540	3695	22.94	-1.25	21.69	147.57	23

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43640	3605	22.06	-1.25	20.81	120.5	23
44090	3650	22.04	-1.25	20.79	119.95	23
44540	3695	22.05	-1.25	20.8	120.23	23

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43640	3605	21.07	-1.25	19.82	95.94	23
44090	3650	21.06	-1.25	19.81	95.72	23
44540	3695	21.01	-1.25	19.76	94.62	23

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43640	3605	18.12	-1.25	16.87	48.64	23
44090	3650	18.01	-1.25	16.76	47.42	23
44540	3695	18.09	-1.25	16.84	48.31	23

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43665	3607.5	23.08	-1.25	21.83	152.41	23
44090	3650	22.99	-1.25	21.74	149.28	23
44515	3692.5	22.93	-1.25	21.68	147.23	23

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43665	3607.5	22.12	-1.25	20.87	122.18	23
44090	3650	21.99	-1.25	20.74	118.58	23
44515	3692.5	22.1	-1.25	20.85	121.62	23

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43665	3607.5	21.01	-1.25	19.76	94.62	23
44090	3650	20.96	-1.25	19.71	93.54	23
44515	3692.5	21.01	-1.25	19.76	94.62	23

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43665	3607.5	18.09	-1.25	16.84	48.31	23
44090	3650	18.06	-1.25	16.81	47.97	23
44515	3692.5	18.09	-1.25	16.84	48.31	23

**CHANNEL BANDWIDTH: 20MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43690	3610	23.18	-1.25	21.93	155.96	23
44090	3650	23.01	-1.25	21.76	149.97	23
44490	3690	23	-1.25	21.75	149.62	23

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43690	3610	22.2	-1.25	20.95	124.45	23
44090	3650	22.11	-1.25	20.86	121.9	23
44490	3690	22.13	-1.25	20.88	122.46	23

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43690	3610	21.1	-1.25	19.85	96.61	23
44090	3650	21.09	-1.25	19.84	96.38	23
44490	3690	21.12	-1.25	19.87	97.05	23

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
43690	3610	18.16	-1.25	16.91	49.09	23
44090	3650	18.11	-1.25	16.86	48.53	23
44490	3690	18.17	-1.25	16.92	49.2	23



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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	23.06	-1.03	22.03	159.59	23
55810	3607	22.94	-1.03	21.91	155.24	23
56170	3643	23.13	-1.03	22.1	162.18	23
56715	3697.5	23.15	-1.03	22.12	162.93	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	21.86	-1.03	20.83	121.06	23
55810	3607	21.87	-1.03	20.84	121.34	23
56170	3643	21.92	-1.03	20.89	122.74	23
56715	3697.5	21.96	-1.03	20.93	123.88	23

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	20.85	-1.03	19.82	95.94	23
55810	3607	20.94	-1.03	19.91	97.95	23
56170	3643	21	-1.03	19.97	99.31	23
56715	3697.5	20.98	-1.03	19.95	98.86	23

CHANNEL BANDWIDTH: 5MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55265	3552.5	17.81	-1.03	16.78	47.64	23
55810	3607	17.88	-1.03	16.85	48.42	23
56170	3643	18.01	-1.03	16.98	49.89	23
56715	3697.5	17.95	-1.03	16.92	49.2	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	23.07	-1.03	22.04	159.96	23
55815	3607.5	22.93	-1.03	21.9	154.88	23
56165	3642.5	23.09	-1.03	22.06	160.69	23
56690	3695	23.25	-1.03	22.22	166.72	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	21.88	-1.03	20.85	121.62	23
55815	3607.5	21.88	-1.03	20.85	121.62	23
56165	3642.5	21.86	-1.03	20.83	121.06	23
56690	3695	21.95	-1.03	20.92	123.59	23

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	20.81	-1.03	19.78	95.06	23
55815	3607.5	20.87	-1.03	19.84	96.38	23
56165	3642.5	21.02	-1.03	19.99	99.77	23
56690	3695	20.9	-1.03	19.87	97.05	23

CHANNEL BANDWIDTH: 10MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55290	3555	17.81	-1.03	16.78	47.64	23
55815	3607.5	17.82	-1.03	16.79	47.75	23
56165	3642.5	18.02	-1.03	16.99	50	23
56690	3695	17.92	-1.03	16.89	48.87	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	23.04	-1.03	22.01	158.85	23
55820	3608	22.95	-1.03	21.92	155.6	23
56160	3642	23.16	-1.03	22.13	163.31	23
56665	3692.5	23.23	-1.03	22.2	165.96	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	21.82	-1.03	20.79	119.95	23
55820	3608	21.89	-1.03	20.86	121.9	23
56160	3642	21.89	-1.03	20.86	121.9	23
56665	3692.5	21.97	-1.03	20.94	124.17	23

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	20.87	-1.03	19.84	96.38	23
55820	3608	20.95	-1.03	19.92	98.17	23
56160	3642	20.94	-1.03	19.91	97.95	23
56665	3692.5	21	-1.03	19.97	99.31	23

CHANNEL BANDWIDTH: 15MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55315	3557.5	17.88	-1.03	16.85	48.42	23
55820	3608	17.9	-1.03	16.87	48.64	23
56160	3642	18.07	-1.03	17.04	50.58	23
56665	3692.5	17.99	-1.03	16.96	49.66	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	23.09	-1.03	22.06	160.69	23
55830	3609	23.05	-1.03	22.02	159.22	23
56150	3641	23.21	-1.03	22.18	165.2	23
56640	3690	23.26	-1.03	22.23	167.11	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	21.91	-1.03	20.88	122.46	23
55830	3609	21.9	-1.03	20.87	122.18	23
56150	3641	21.95	-1.03	20.92	123.59	23
56640	3690	22.07	-1.03	21.04	127.06	23

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	20.94	-1.03	19.91	97.95	23
55830	3609	20.96	-1.03	19.93	98.4	23
56150	3641	21.08	-1.03	20.05	101.16	23
56640	3690	21.03	-1.03	20	100	23

CHANNEL BANDWIDTH: 20MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
55340	3560	17.94	-1.03	16.91	49.09	23
55830	3609	17.96	-1.03	16.93	49.32	23
56150	3641	18.08	-1.03	17.05	50.7	23
56640	3690	18.03	-1.03	17	50.12	23

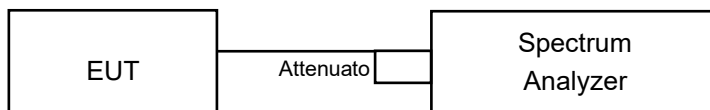
REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 CONDUCTED BAND EDGE

3.2.1 LIMITS OF CONDUCTED BAND EDGE MEASUREMENT

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

3.2.2 TEST SETUP



3.2.3 TEST INSTRUMENTS

Refer to section 1.2 to get information of above instrument.

3.2.4 TEST PROCEDURE

For the Conducted Band Edge:

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

For Adjacent Channel Leakage Ratio (ACLR) measurement:

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

3.2.5 DEVIATION FROM TEST STANDARD

No deviation.

3.2.6 TEST RESULTS

Please Refer to Appendix Of this test report.



3.3 FREQUENCY STABILITY MEASUREMENT

3.3.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

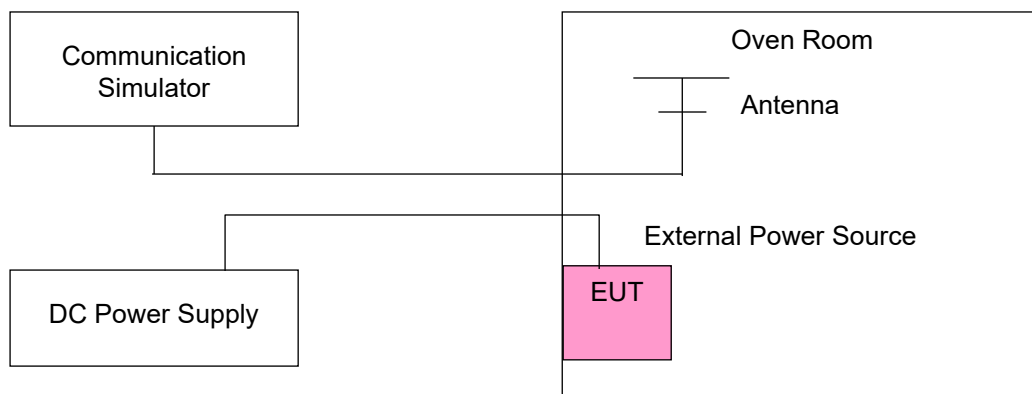
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency band.

3.3.2 TEST PROCEDURE

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

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

3.3.3 TEST SETUP





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Test Report No.: W7L-P23120020RF06

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.

Note: VL = Low voltage(3.5V); VN/NV = Normal voltage(3.87V); VH = High voltage(4.45V);
NT = Normal temperature (25°C)

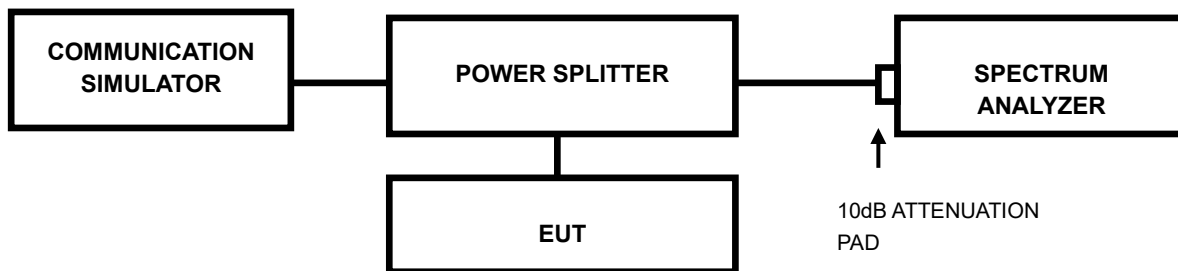


3.4 OCCUPIED BANDWIDTH MEASUREMENT

3.4.1 OCCUPIED BANDWIDTH MEASUREMENT

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

3.4.2 TEST SETUP



3.4.3 TEST INSTRUMENTS

Refer to section 1.2 to get information of above instrument.

3.4.4 TEST PROCEDURE

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

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 TEST RESULT

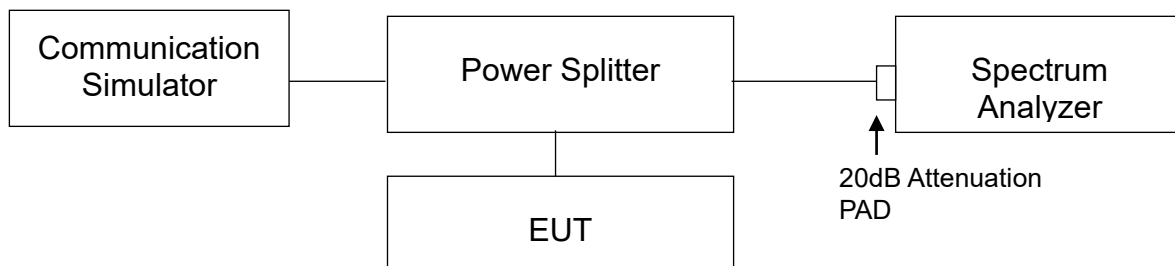
Please Refer to Appendix Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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

3.5.2 TEST SETUP



3.5.3 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9 kHz to 40 GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.4 TEST RESULTS

Please Refer to Appendix Of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a tx cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
$$\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$$

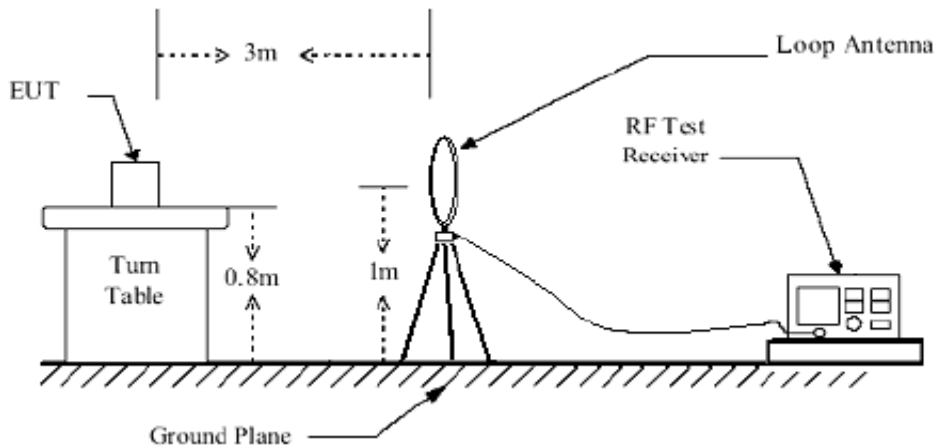
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

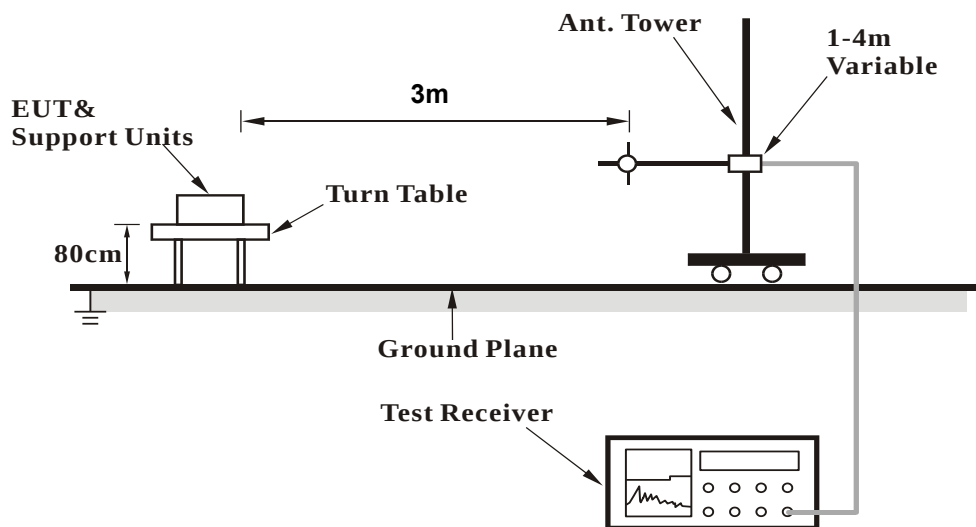
No deviation.

3.6.4 TEST SET UP

< Frequency Range below 30MHz >

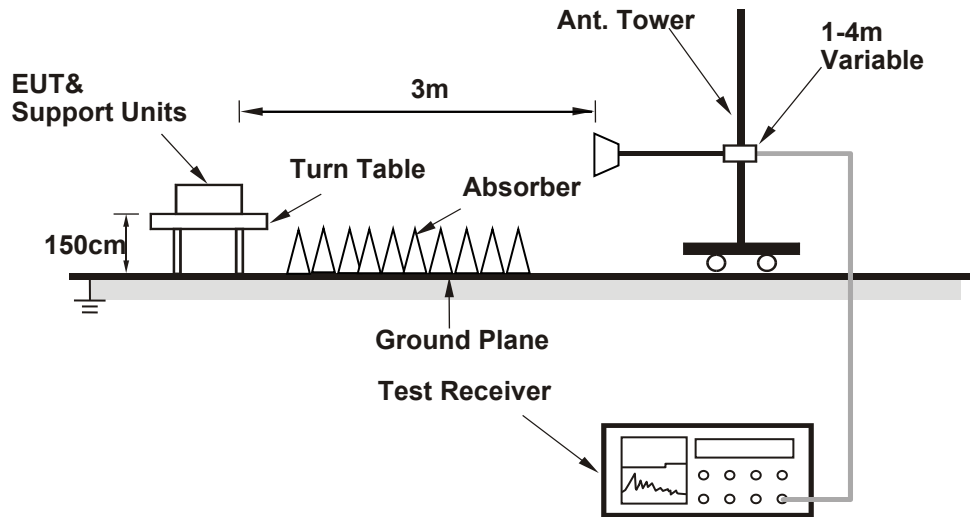


<Frequency Range below 1GHz>





<Frequency Range above 1GHz>



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



3.6.5 TEST RESULTS

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

BELOW 1GHz WORST-CASE DATA

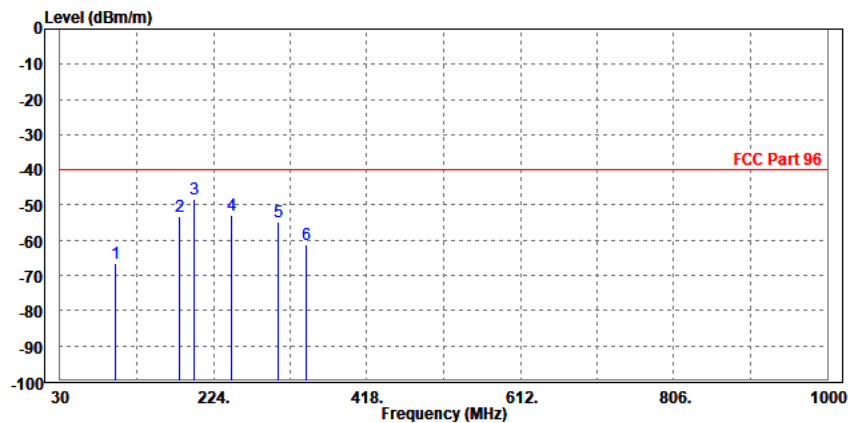
30 MHz – 1GHz data:

LTE Band 48

CHANNEL BANDWIDTH: 15MHz / 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			

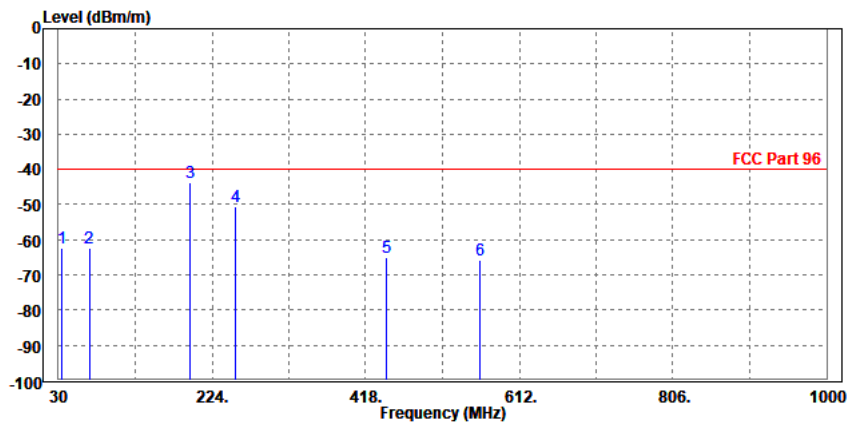
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	100.810	-66.45	-53.37	-40.00	-26.45	-13.08	Peak	Horizontal
2	180.350	-53.35	-37.01	-40.00	-13.35	-16.34	Peak	Horizontal
3 PP	198.780	-48.11	-32.69	-40.00	-8.11	-15.42	Peak	Horizontal
4	246.310	-52.88	-41.38	-40.00	-12.88	-11.50	Peak	Horizontal
5	305.480	-54.57	-45.87	-40.00	-14.57	-8.70	Peak	Horizontal
6	341.370	-61.04	-53.01	-40.00	-21.04	-8.03	Peak	Horizontal





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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	34.850	-62.33	-41.36	-40.00	-22.33	-20.97	Peak	Vertical
2	68.800	-62.27	-41.98	-40.00	-22.27	-20.29	Peak	Vertical
3 PP	196.840	-43.55	-35.22	-40.00	-3.55	-8.33	Peak	Vertical
4	253.100	-50.64	-46.92	-40.00	-10.64	-3.72	Peak	Vertical
5	444.190	-65.10	-60.47	-40.00	-25.10	-4.63	Peak	Vertical
6	562.530	-65.63	-63.03	-40.00	-25.63	-2.60	Peak	Vertical





ABOVE 1GHz

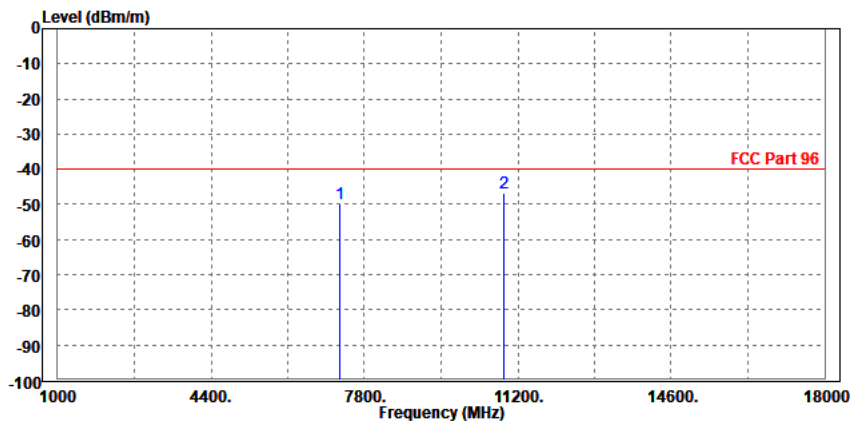
Note: For frequency above 18GHz, the emission was tested 20db below the limit so the data not recorded in the sheet.

LTE BAND 48

CHANNEL BANDWIDTH: 5MHz / 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			

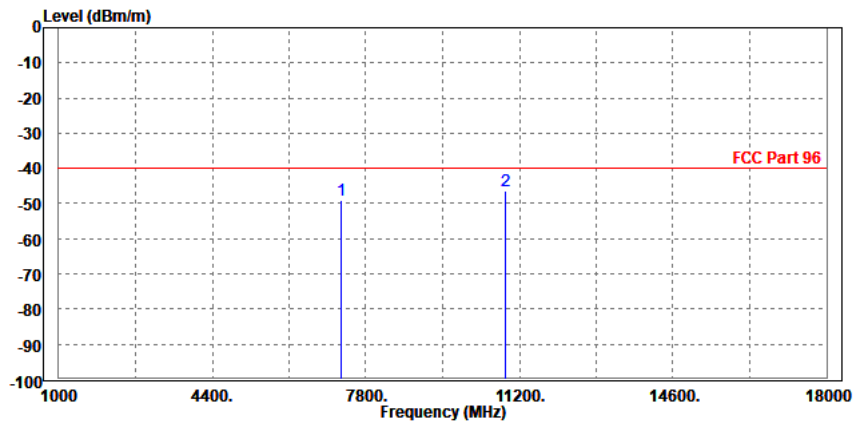
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7256.000	-49.80	-63.86	-40.00	-9.80	14.06	Peak	Horizontal
2	PP10877.000	-46.70	-66.89	-40.00	-6.70	20.19	Peak	Horizontal





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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7250.000	-49.16	-62.96	-40.00	-9.16	13.80	Peak	Vertical
2	PP10877.000	-46.49	-67.01	-40.00	-6.49	20.52	Peak	Vertical

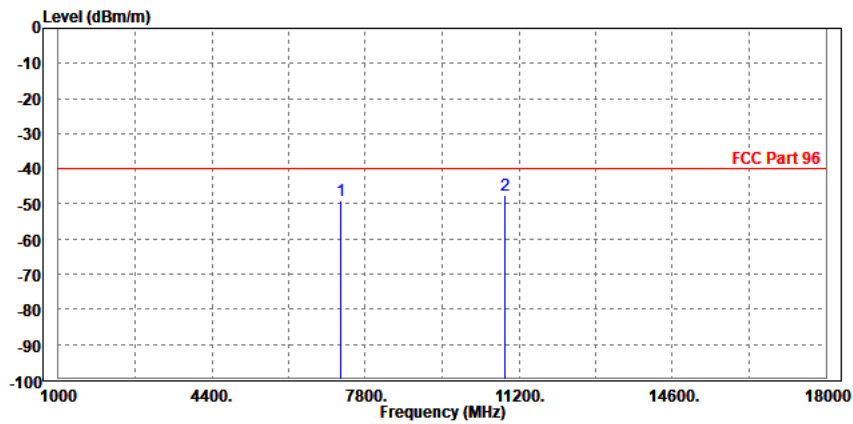




CHANNEL BANDWIDTH: 10MHz / QPSK

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			

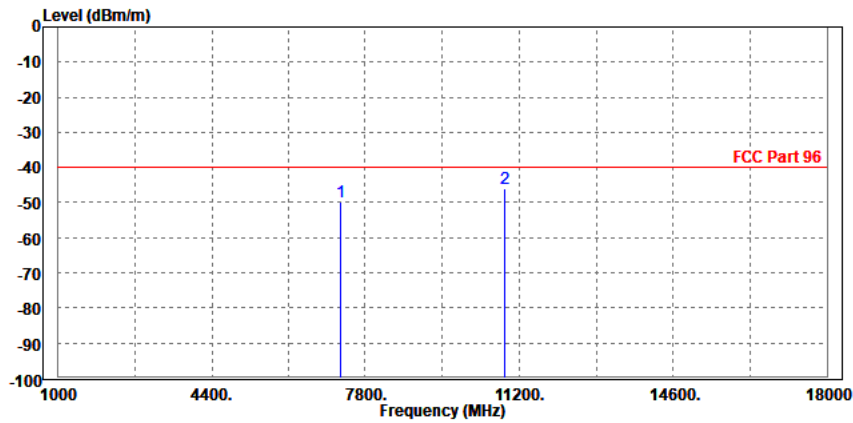
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7256.000	-49.13	-63.19	-40.00	-9.13	14.06	Peak	Horizontal
2	PP10877.000	-47.61	-67.80	-40.00	-7.61	20.19	Peak	Horizontal





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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7250.000	-49.91	-63.71	-40.00	-9.91	13.80	Peak	Vertical
2	PP10877.000	-46.13	-66.65	-40.00	-6.13	20.52	Peak	Vertical



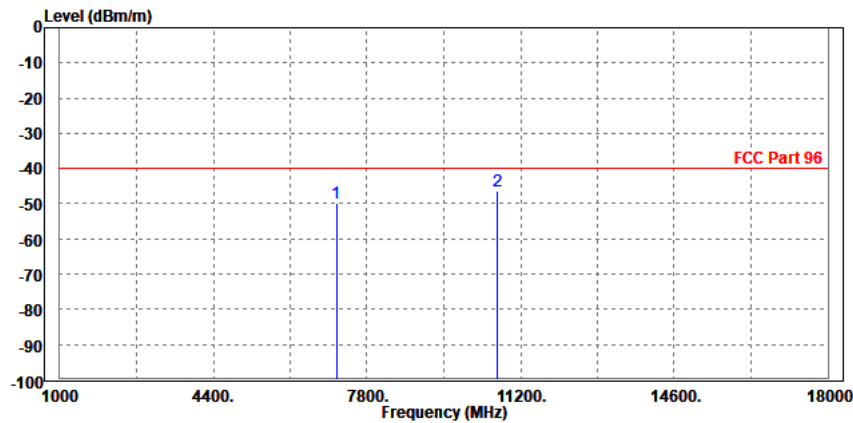


CHANNEL BANDWIDTH: 15MHz / QPSK

CH55315

MODE	TX channel 55315	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			

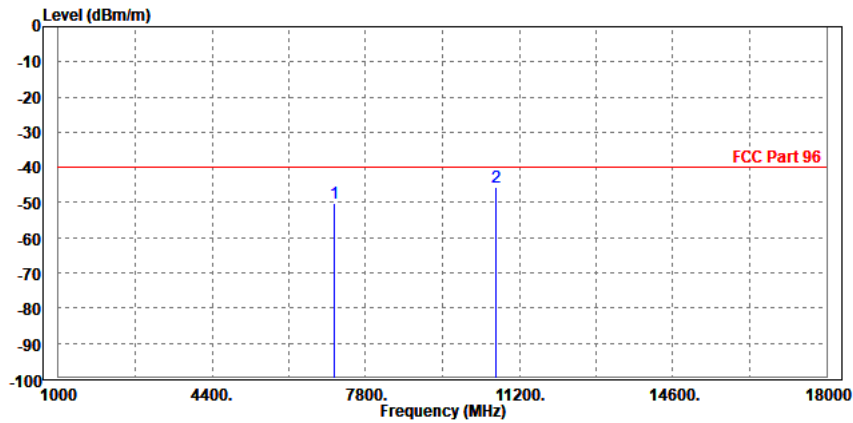
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7120.000	-49.71	-63.62	-40.00	-9.71	13.91	Peak	Horizontal
2	PP10673.000	-46.21	-66.11	-40.00	-6.21	19.90	Peak	Horizontal





MODE	TX channel 55315	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	7115.000	-50.37	-64.58	-40.00	-10.37	14.21	Peak	Vertical
2	PP10673.000	-45.57	-66.12	-40.00	-5.57	20.55	Peak	Vertical

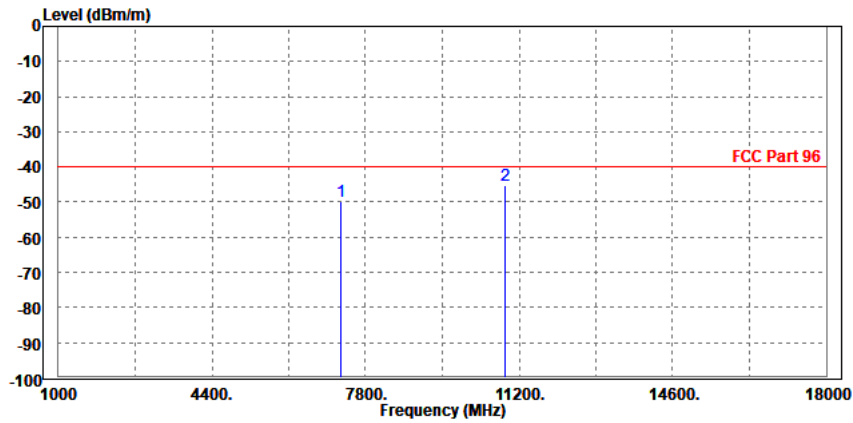




CH55990

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			

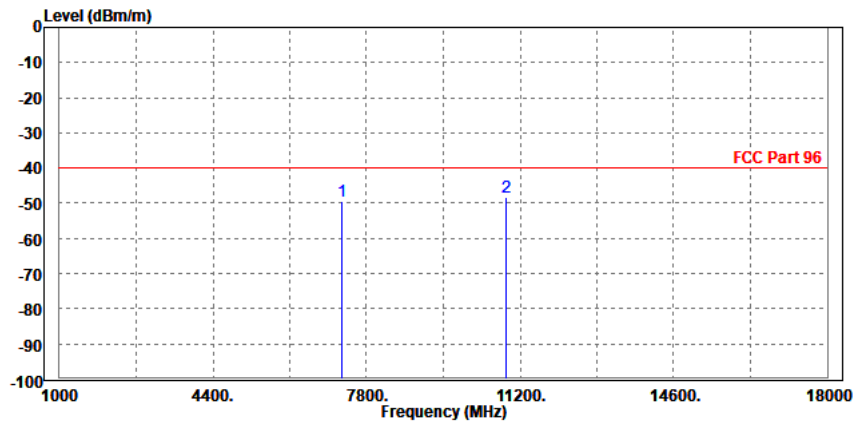
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7250.000	-49.90	-63.96	-40.00	-9.90	14.06	Peak	Horizontal
2	PP10877.000	-45.34	-65.53	-40.00	-5.34	20.19	Peak	Horizontal





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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7256.000	-49.38	-63.16	-40.00	-9.38	13.78	Peak	Vertical
2	PP10877.000	-48.48	-69.00	-40.00	-8.48	20.52	Peak	Vertical

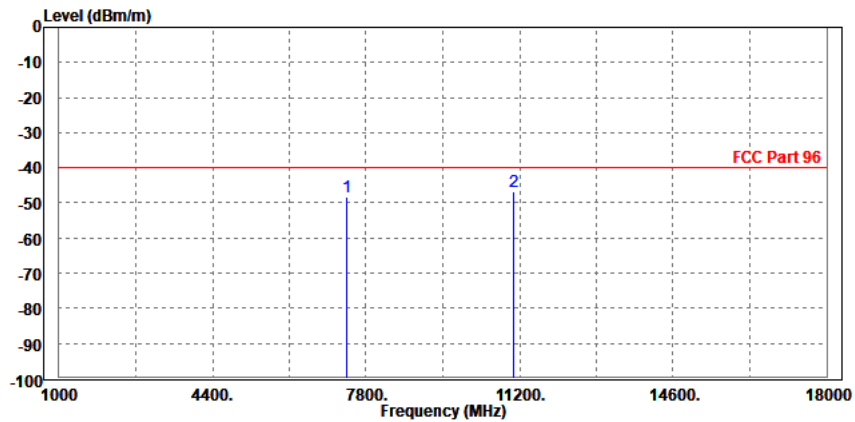




CH56665

MODE	TX channel 56665	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			

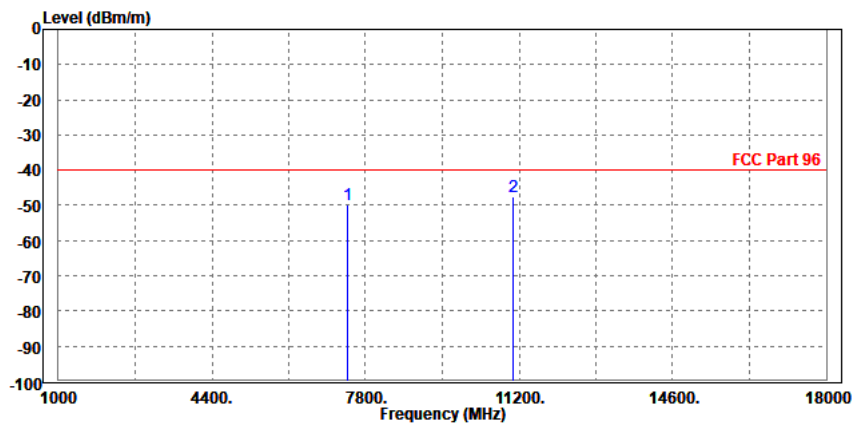
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7385.000	-48.24	-62.45	-40.00	-8.24	14.21	Peak	Horizontal
2	PP11081.000	-46.89	-67.29	-40.00	-6.89	20.40	Peak	Horizontal





MODE	TX channel 56665	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	7392.000	-49.64	-62.99	-40.00	-9.64	13.35	Peak	Vertical
2	PP11081.000	-47.42	-67.73	-40.00	-7.42	20.31	Peak	Vertical

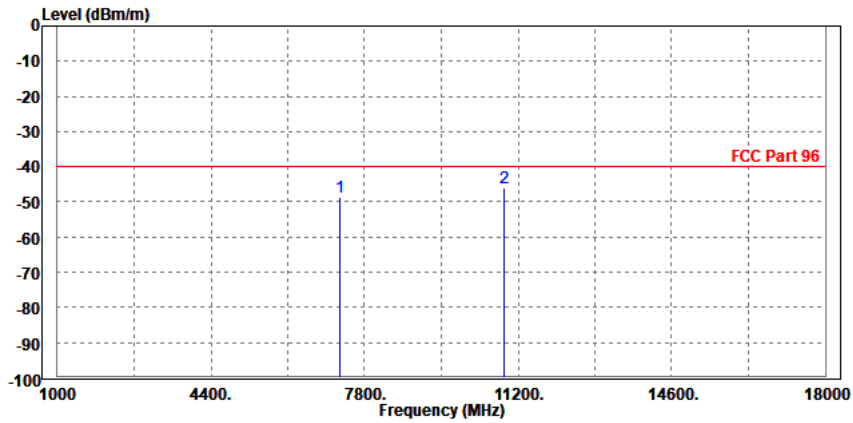




CHANNEL BANDWIDTH: 20MHz / QPSK

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			

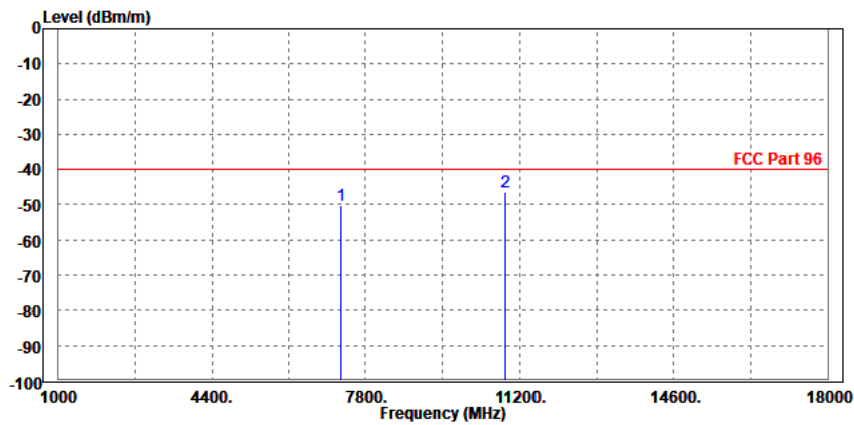
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7256.000	-48.85	-62.91	-40.00	-8.85	14.06	Peak	Horizontal
2	PP10877.000	-46.14	-66.33	-40.00	-6.14	20.19	Peak	Horizontal





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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	7250.000	-50.09	-63.89	-40.00	-10.09	13.80	Peak	Vertical
2	PP10877.000	-46.48	-67.00	-40.00	-6.48	20.52	Peak	Vertical

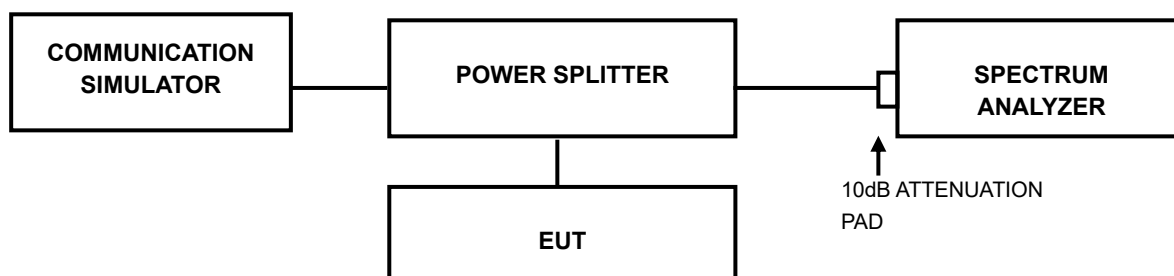


3.7 PEAK TO AVERAGE RATIO

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



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3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.



4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 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:

Shenzhen EMC/RF Lab:

Tel: +86-755-88696566

Fax: +86-755-88696577

Email: customerservice.sw@cn.bureauveritas.com

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



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.



6 APPENDIX

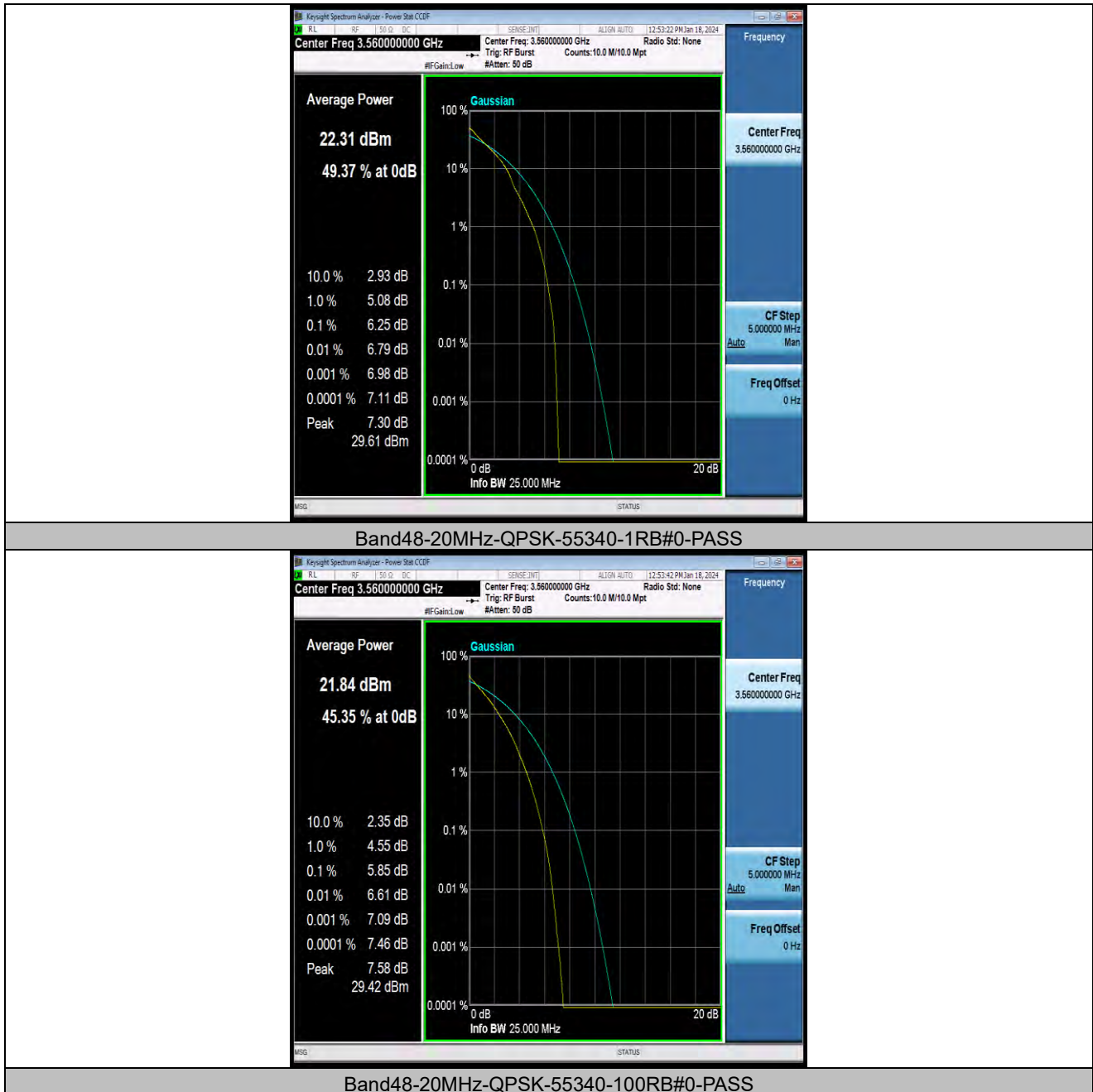
LTE BAND48 (INCLUDING LTE BAND42/43)

PEAK-TO-AVERAGE RATIO(CCDF) TEST RESULT

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band48	20MHz	QPSK	55340	1RB#0	6.25	13	PASS
Band48	20MHz	QPSK	55340	100RB#0	5.85	13	PASS
Band48	20MHz	QPSK	55990	1RB#0	6.21	13	PASS
Band48	20MHz	QPSK	55990	100RB#0	5.67	13	PASS
Band48	20MHz	QPSK	56640	1RB#0	6.17	13	PASS
Band48	20MHz	QPSK	56640	100RB#0	5.60	13	PASS
Band48	20MHz	16QAM	55340	1RB#0	6.74	13	PASS
Band48	20MHz	16QAM	55340	100RB#0	6.56	13	PASS
Band48	20MHz	16QAM	55990	1RB#0	7.02	13	PASS
Band48	20MHz	16QAM	55990	100RB#0	6.39	13	PASS
Band48	20MHz	16QAM	56640	1RB#0	6.97	13	PASS
Band48	20MHz	16QAM	56640	100RB#0	6.33	13	PASS



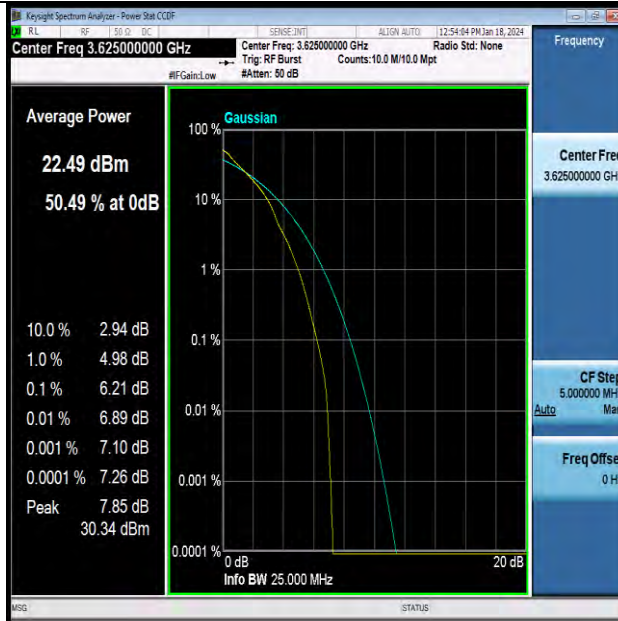
TEST GRAPHS



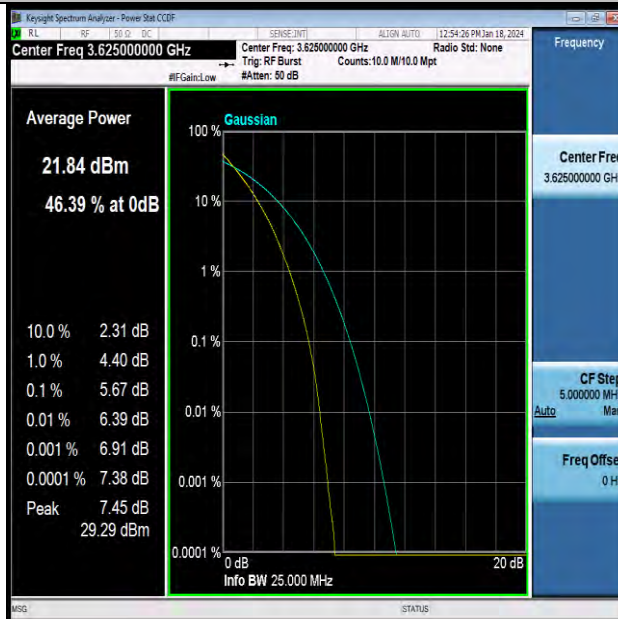


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Test Report No.: W7L-P23120020RF06



Band48-20MHz-QPSK-55990-1RB#0-PASS

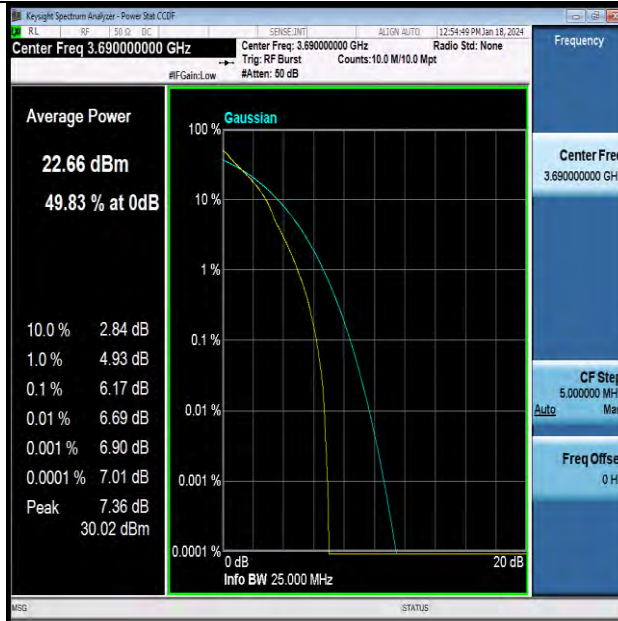


Band48-20MHz-QPSK-55990-100RB#0-PASS

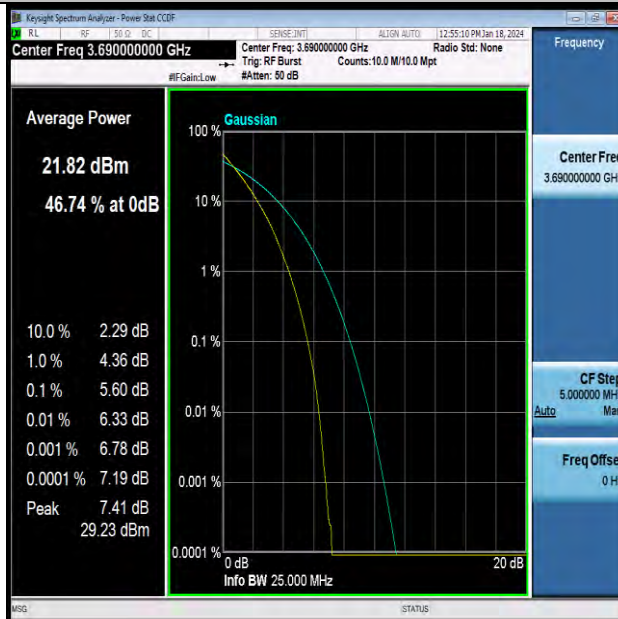


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VERITAS

Test Report No.: W7L-P23120020RF06



Band48-20MHz-QPSK-56640-1RB#0-PASS



Band48-20MHz-QPSK-56640-100RB#0-PASS

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

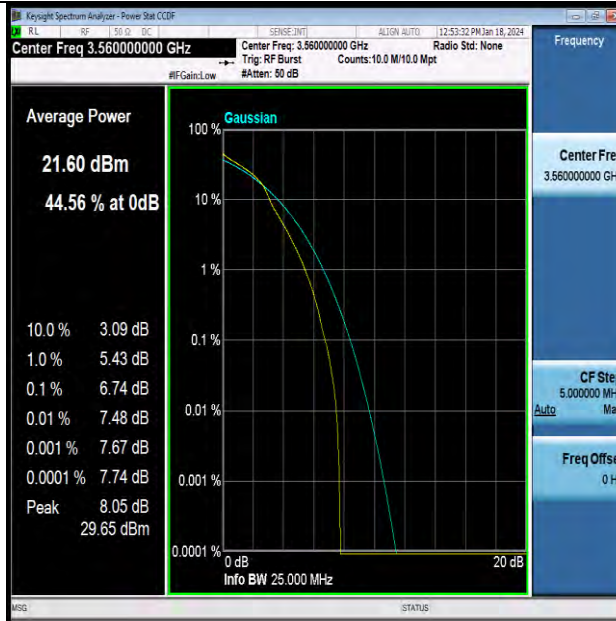
Room B37, Warehouse A5, No.3 Chiwan 4th Road,
Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

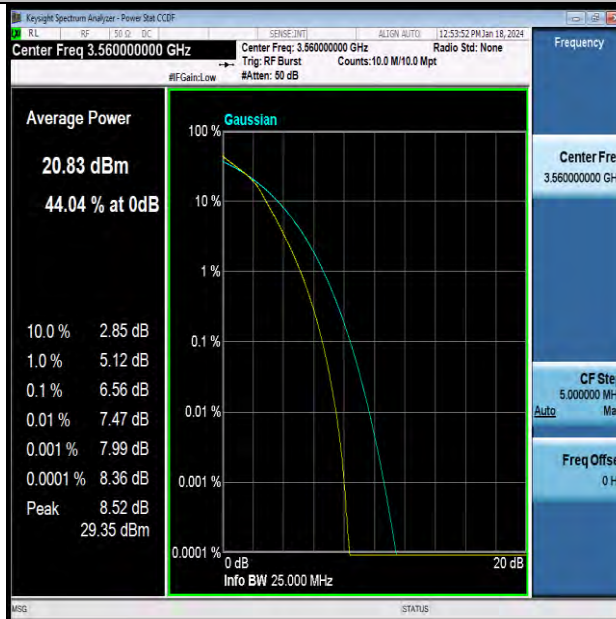


BUREAU
VERITAS

Test Report No.: W7L-P23120020RF06



Band48-20MHz-16QAM-55340-1RB#0-PASS



Band48-20MHz-16QAM-55340-100RB#0-PASS

BV 7Layers Communications Technology
(Shenzhen) Co., Ltd

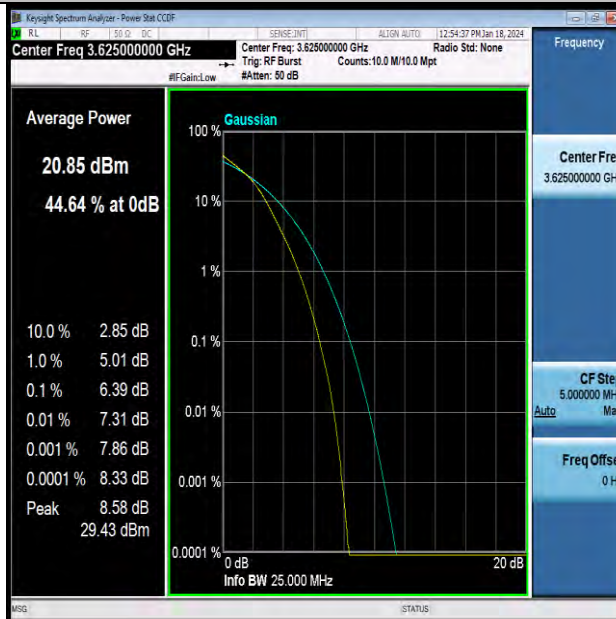
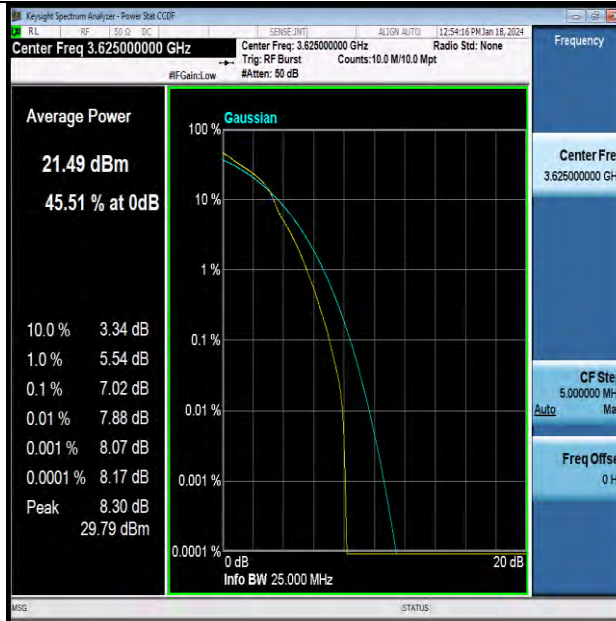
Room B37, Warehouse A5, No.3 Chiwan 4th Road,
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Test Report No.: W7L-P23120020RF06



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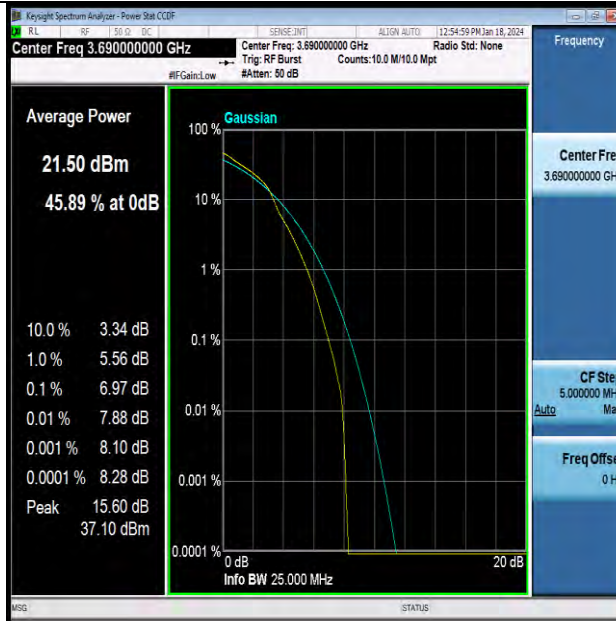
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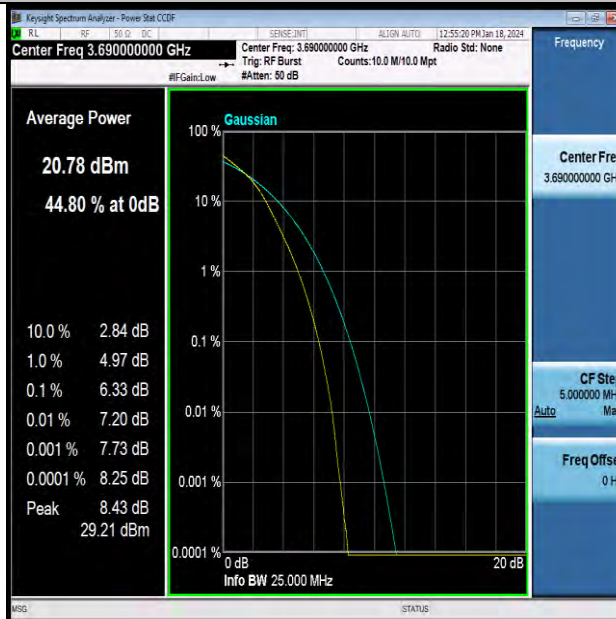


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Test Report No.: W7L-P23120020RF06



Band48-20MHz-16QAM-56640-1RB#0-PASS



Band48-20MHz-16QAM-56640-100RB#0-PASS

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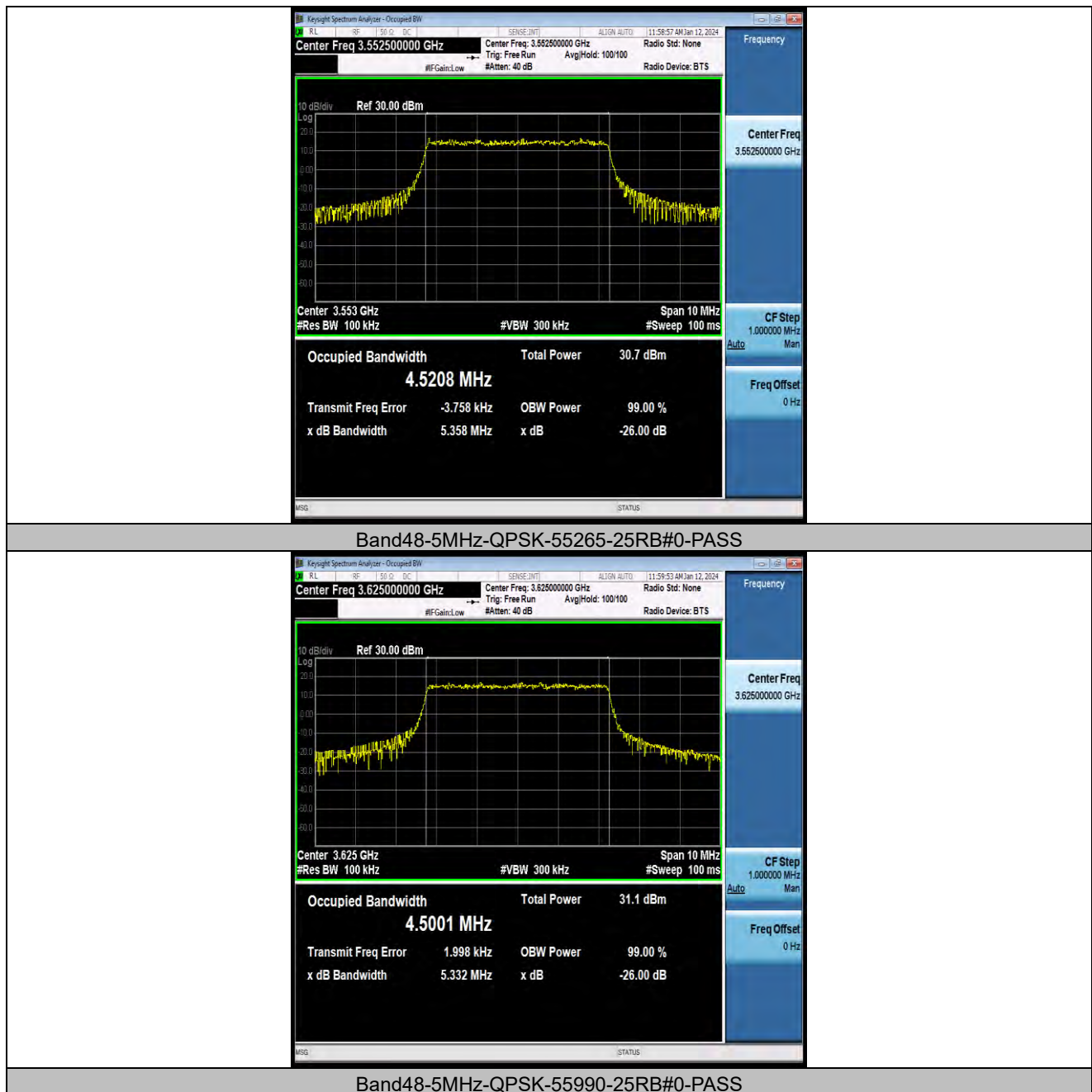


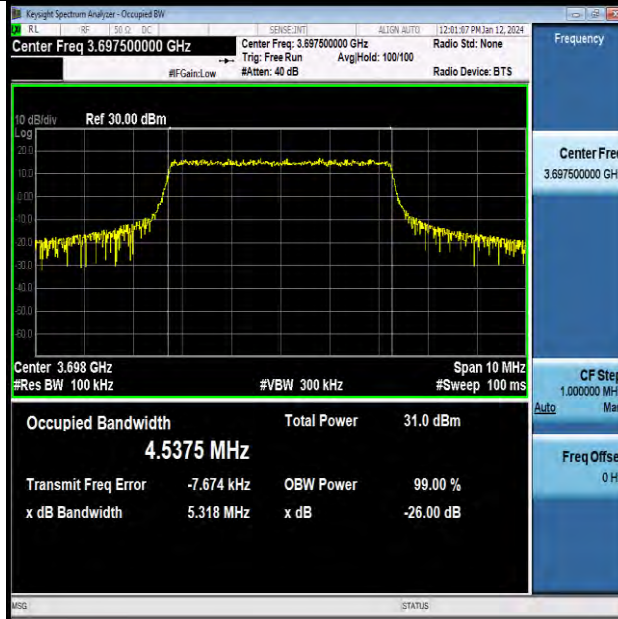
26DB BANDWIDTH AND OCCUPIED BANDWIDTH TEST RESULT

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band48	5MHz	QPSK	55265	25RB#0	4.5208	5.358	PASS
Band48	5MHz	QPSK	55990	25RB#0	4.5001	5.332	PASS
Band48	5MHz	QPSK	56715	25RB#0	4.5375	5.318	PASS
Band48	5MHz	16QAM	55265	25RB#0	4.5169	5.317	PASS
Band48	5MHz	16QAM	55990	25RB#0	4.5182	5.465	PASS
Band48	5MHz	16QAM	56715	25RB#0	4.5079	5.381	PASS
Band48	10MHz	QPSK	55290	50RB#0	9.0326	10.35	PASS
Band48	10MHz	QPSK	55990	50RB#0	8.9994	10.27	PASS
Band48	10MHz	QPSK	56690	50RB#0	9.0189	10.11	PASS
Band48	10MHz	16QAM	55290	50RB#0	9.0034	10.40	PASS
Band48	10MHz	16QAM	55990	50RB#0	8.9934	10.95	PASS
Band48	10MHz	16QAM	56690	50RB#0	9.0177	10.13	PASS
Band48	15MHz	QPSK	55315	75RB#0	13.530	15.03	PASS
Band48	15MHz	QPSK	55990	75RB#0	13.502	15.67	PASS
Band48	15MHz	QPSK	56665	75RB#0	13.540	15.16	PASS
Band48	15MHz	16QAM	55315	75RB#0	13.481	15.98	PASS
Band48	15MHz	16QAM	55990	75RB#0	13.500	15.36	PASS
Band48	15MHz	16QAM	56665	75RB#0	13.505	15.48	PASS
Band48	20MHz	QPSK	55340	100RB#0	17.944	20.08	PASS
Band48	20MHz	QPSK	55990	100RB#0	17.965	21.69	PASS
Band48	20MHz	QPSK	56640	100RB#0	17.998	20.16	PASS
Band48	20MHz	16QAM	55340	100RB#0	17.986	20.84	PASS
Band48	20MHz	16QAM	55990	100RB#0	17.992	21.08	PASS
Band48	20MHz	16QAM	56640	100RB#0	17.997	20.83	PASS



TEST GRAPHS

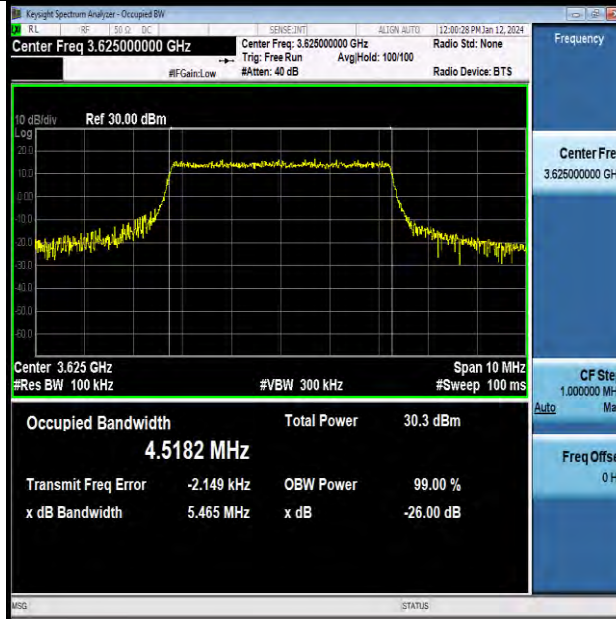




Band48-5MHz-QPSK-56715-25RB#0-PASS



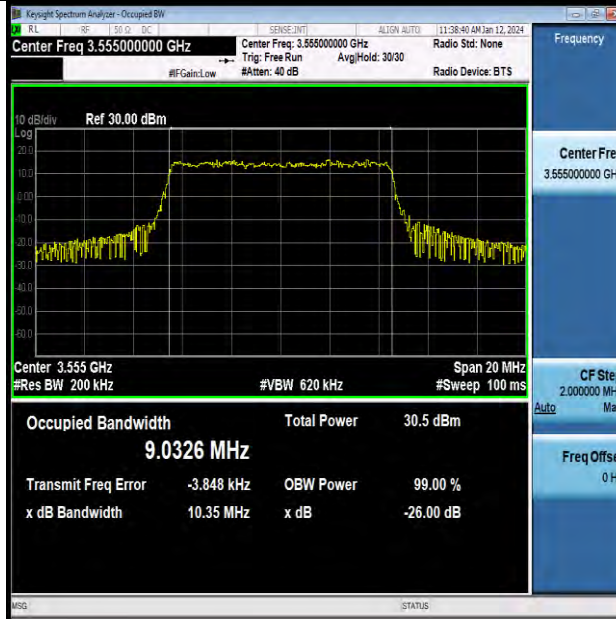
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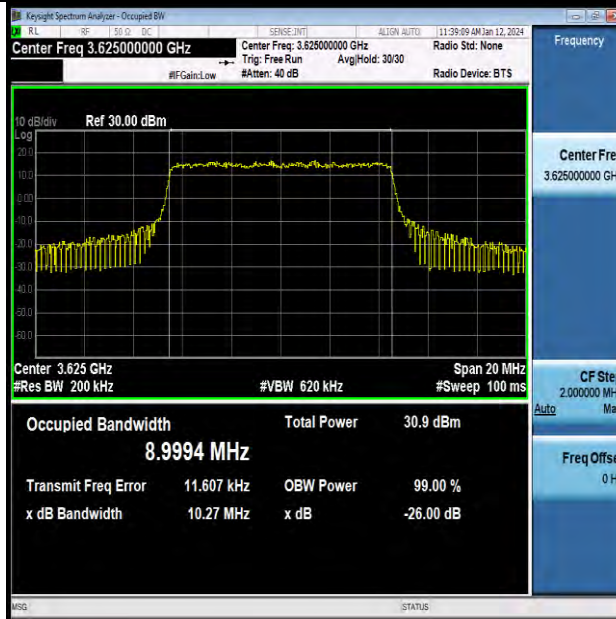
Band48-5MHz-16QAM-55990-25RB#0-PASS



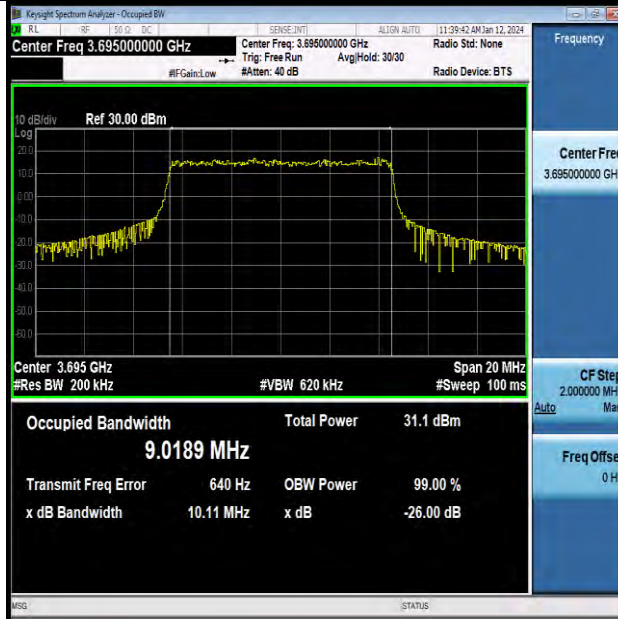
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Band48-10MHz-QPSK-55290-50RB#0-PASS



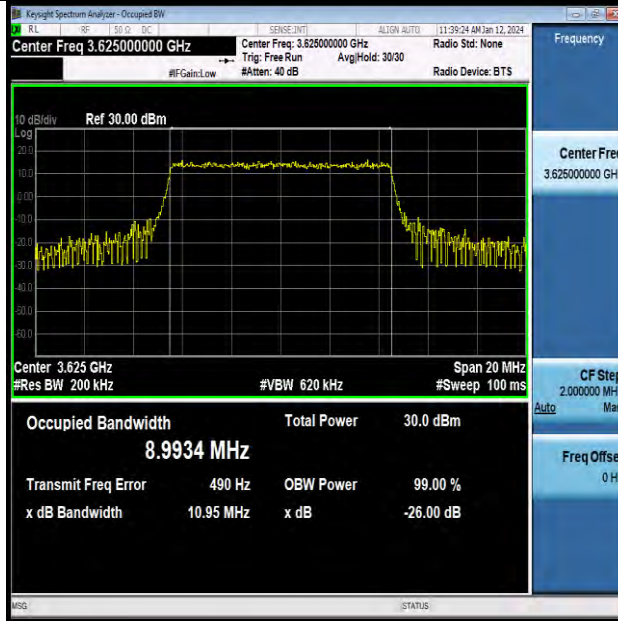
Band48-10MHz-QPSK-55990-50RB#0-PASS



Band48-10MHz-QPSK-56690-50RB#0-PASS



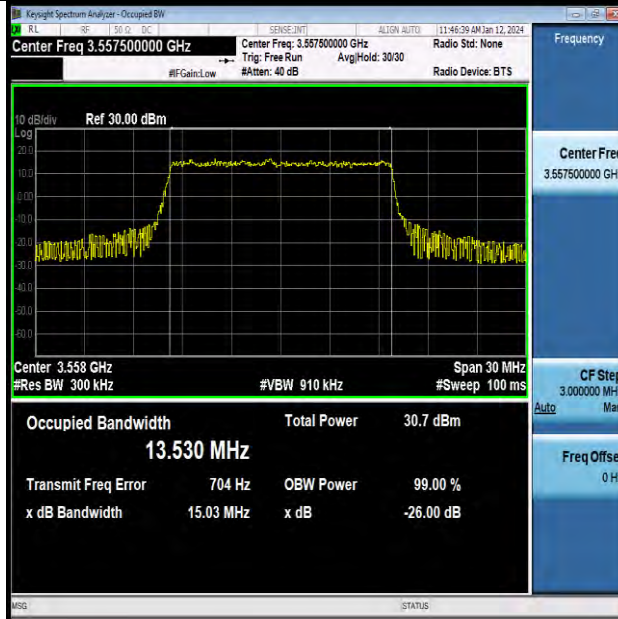
Band48-10MHz-16QAM-55290-50RB#0-PASS



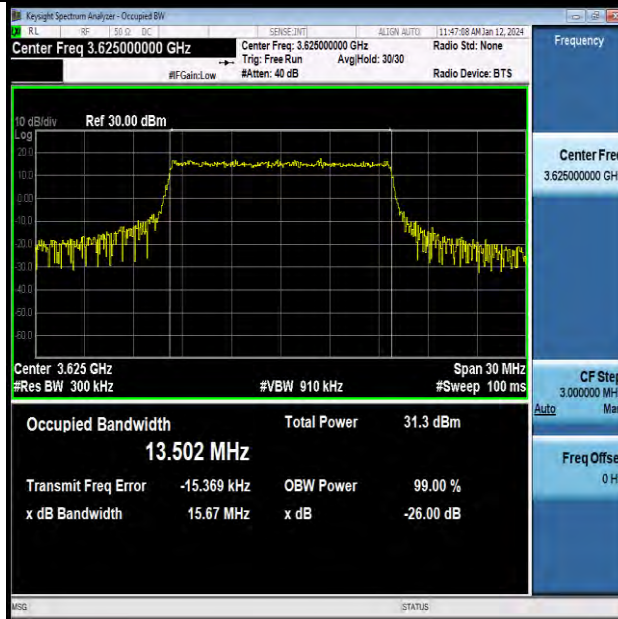
Band48-10MHz-16QAM-55990-50RB#0-PASS



Band48-10MHz-16QAM-56690-50RB#0-PASS



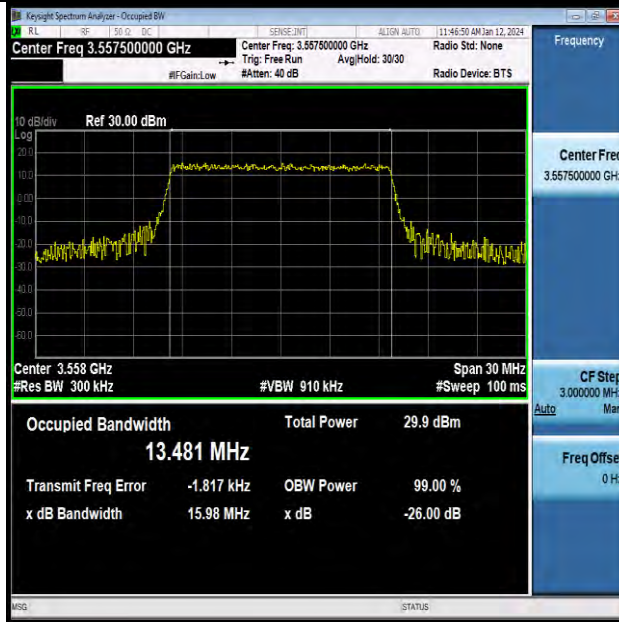
Band48-15MHz-QPSK-55315-75RB#0-PASS



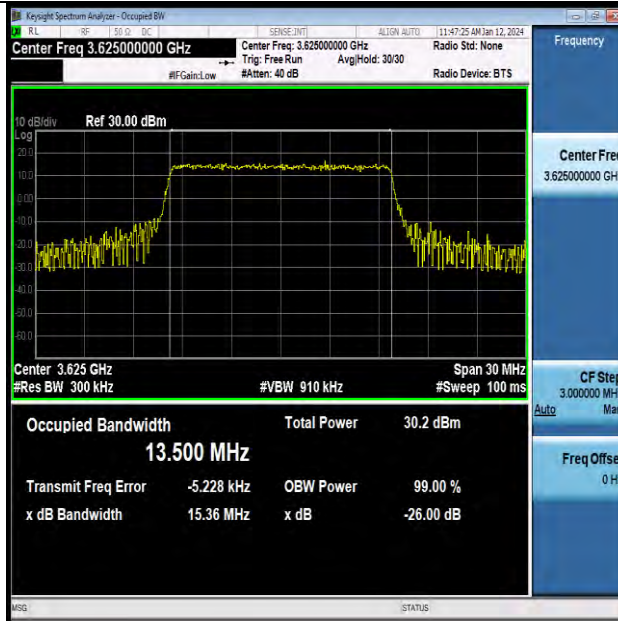
Band48-15MHz-QPSK-55990-75RB#0-PASS



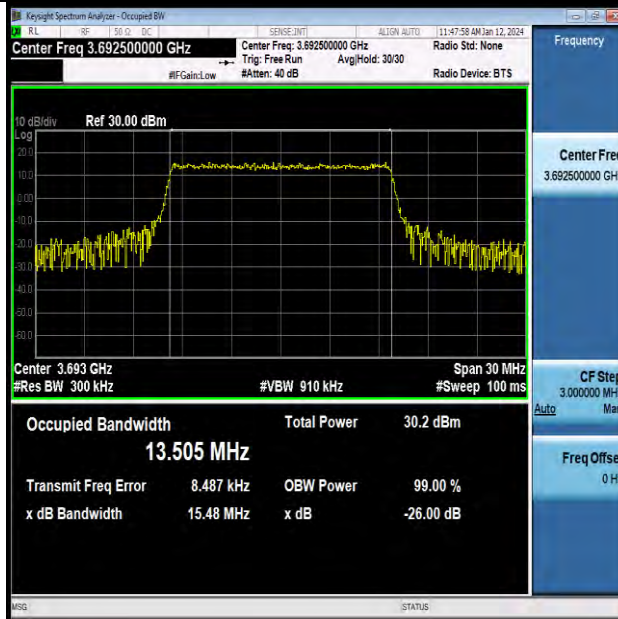
Band48-15MHz-QPSK-56665-75RB#0-PASS



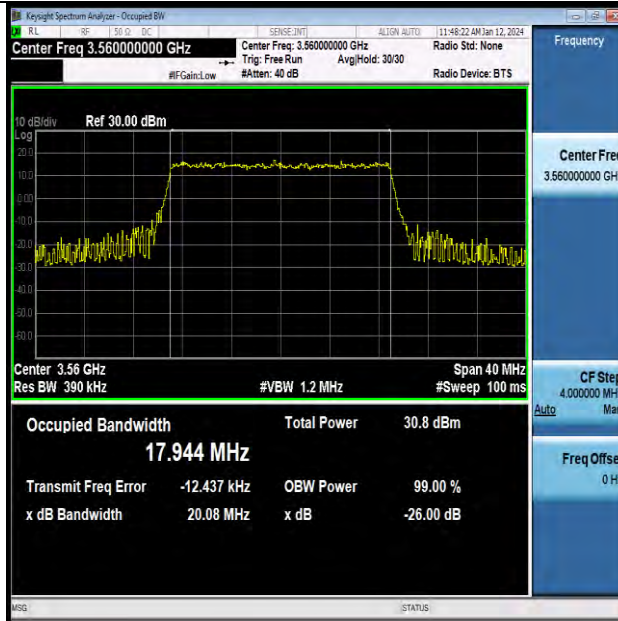
Band48-15MHz-16QAM-55315-75RB#0-PASS



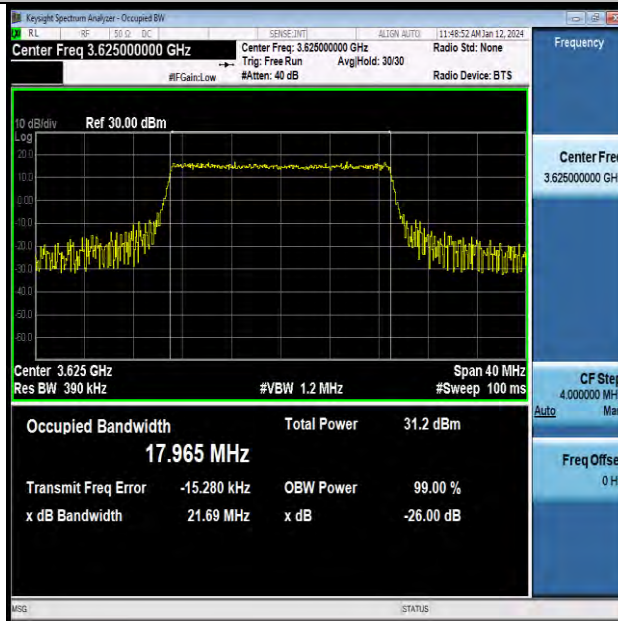
Band48-15MHz-16QAM-55990-75RB#0-PASS



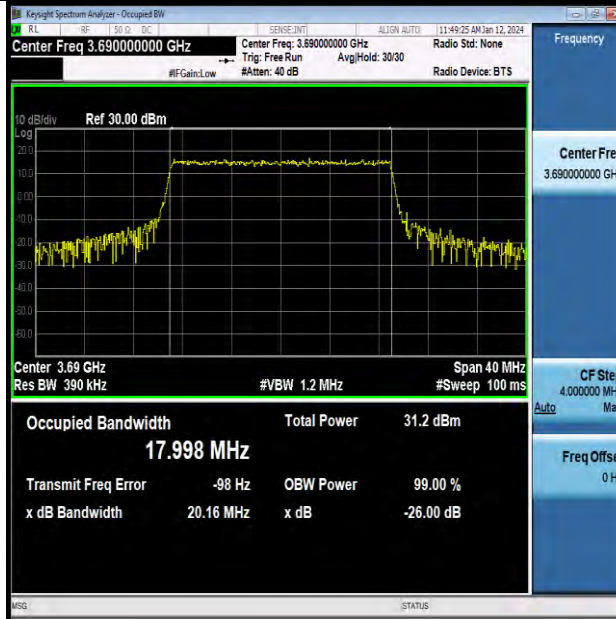
Band48-15MHz-16QAM-56665-75RB#0-PASS



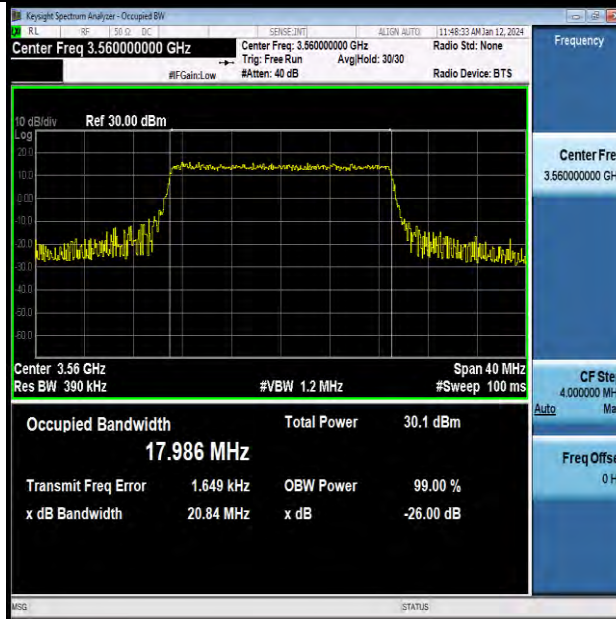
Band48-20MHz-QPSK-55340-100RB#0-PASS



Band48-20MHz-QPSK-55990-100RB#0-PASS



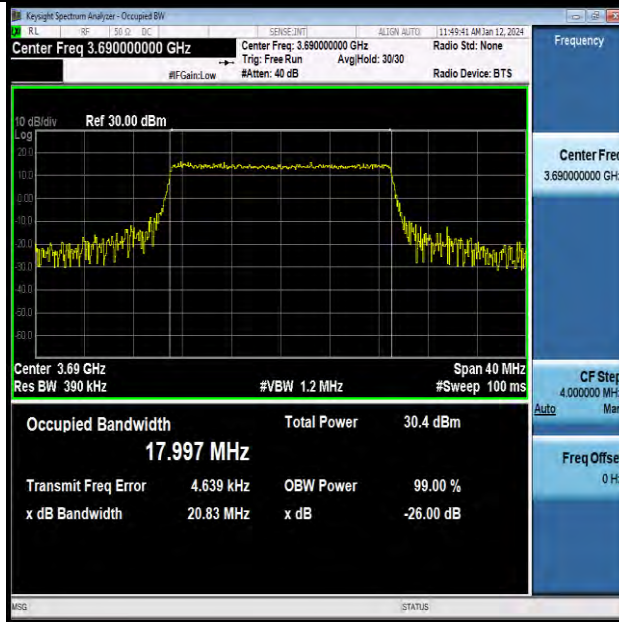
Band48-20MHz-QPSK-56640-100RB#0-PASS



Band48-20MHz-16QAM-55340-100RB#0-PASS



Band48-20MHz-16QAM-55990-100RB#0-PASS



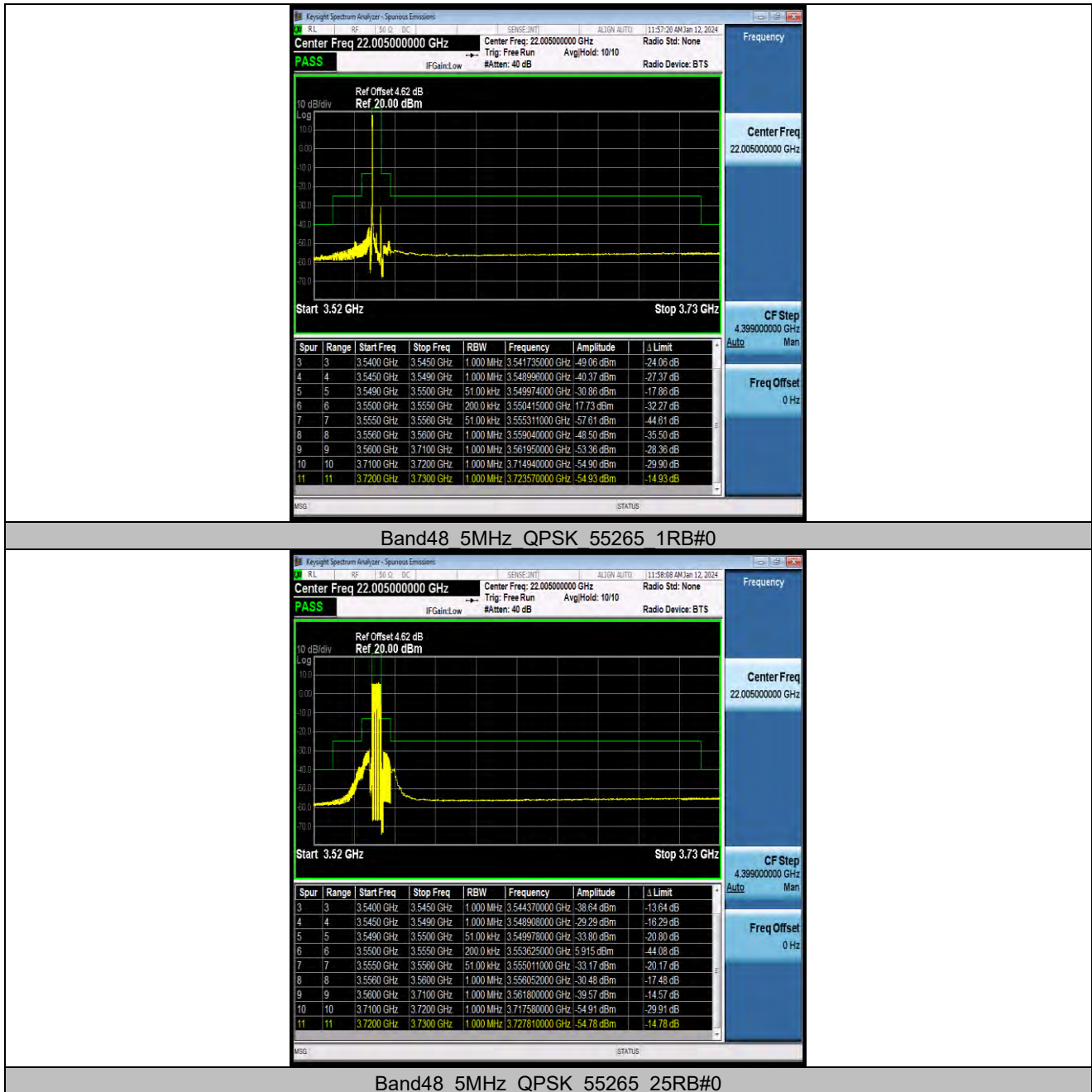
Band48-20MHz-16QAM-56640-100RB#0-PASS

**BAND EDGE
TEST RESULT**

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band48	5MHz	QPSK	55265	1RB#0	-54.93	PASS
Band48	5MHz	QPSK	55265	25RB#0	-38.64	PASS
Band48	5MHz	QPSK	56715	1RB#24	-53.75	PASS
Band48	5MHz	QPSK	56715	25RB#0	-54.12	PASS
Band48	5MHz	16QAM	55265	1RB#0	-54.91	PASS
Band48	5MHz	16QAM	55265	25RB#0	-38.32	PASS
Band48	5MHz	16QAM	56715	1RB#24	-53.98	PASS
Band48	5MHz	16QAM	56715	25RB#0	-54.28	PASS
Band48	10MHz	QPSK	55290	1RB#0	-54.89	PASS
Band48	10MHz	QPSK	55290	50RB#0	-51.90	PASS
Band48	10MHz	QPSK	56690	1RB#49	-53.58	PASS
Band48	10MHz	QPSK	56690	50RB#0	-52.15	PASS
Band48	10MHz	16QAM	55290	1RB#0	-54.89	PASS
Band48	10MHz	16QAM	55290	50RB#0	-53.27	PASS
Band48	10MHz	16QAM	56690	1RB#49	-54.14	PASS
Band48	10MHz	16QAM	56690	50RB#0	-53.07	PASS
Band48	15MHz	QPSK	55315	1RB#0	-54.80	PASS
Band48	15MHz	QPSK	55315	75RB#0	-42.39	PASS
Band48	15MHz	QPSK	56665	1RB#74	-53.91	PASS
Band48	15MHz	QPSK	56665	75RB#0	-46.65	PASS
Band48	15MHz	16QAM	55315	1RB#0	-54.78	PASS
Band48	15MHz	16QAM	55315	75RB#0	-46.53	PASS
Band48	15MHz	16QAM	56665	1RB#74	-53.97	PASS
Band48	15MHz	16QAM	56665	75RB#0	-48.35	PASS
Band48	20MHz	QPSK	55340	1RB#0	-54.88	PASS
Band48	20MHz	QPSK	55340	100RB#0	-42.76	PASS
Band48	20MHz	QPSK	56640	1RB#99	-54.01	PASS
Band48	20MHz	QPSK	56640	100RB#0	-47.73	PASS
Band48	20MHz	16QAM	55340	1RB#0	-54.91	PASS
Band48	20MHz	16QAM	55340	100RB#0	-44.19	PASS
Band48	20MHz	16QAM	56640	1RB#99	-54.00	PASS
Band48	20MHz	16QAM	56640	100RB#0	-47.01	PASS



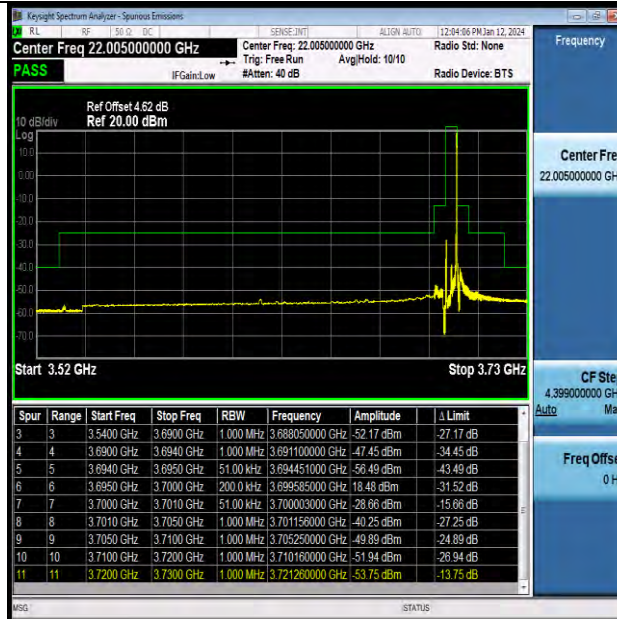
TEST GRAPHS



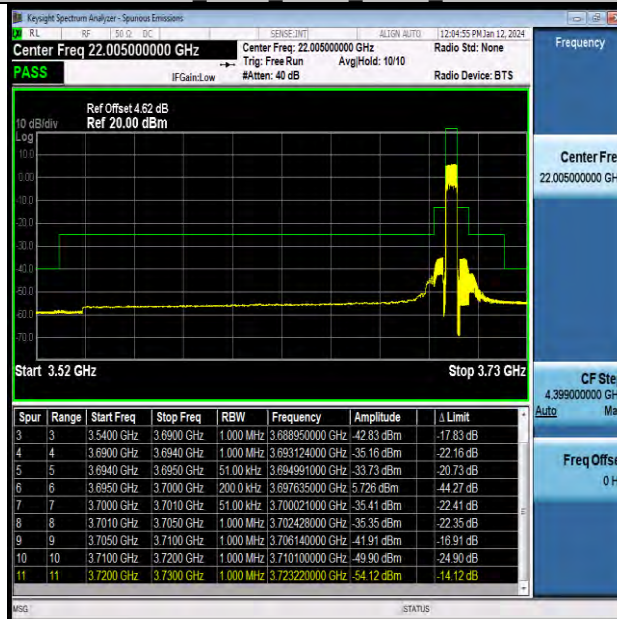


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Test Report No.: W7L-P23120020RF06



Band48 5MHz QPSK 56715 1RB#24



Band48 5MHz QPSK 56715 25RB#0

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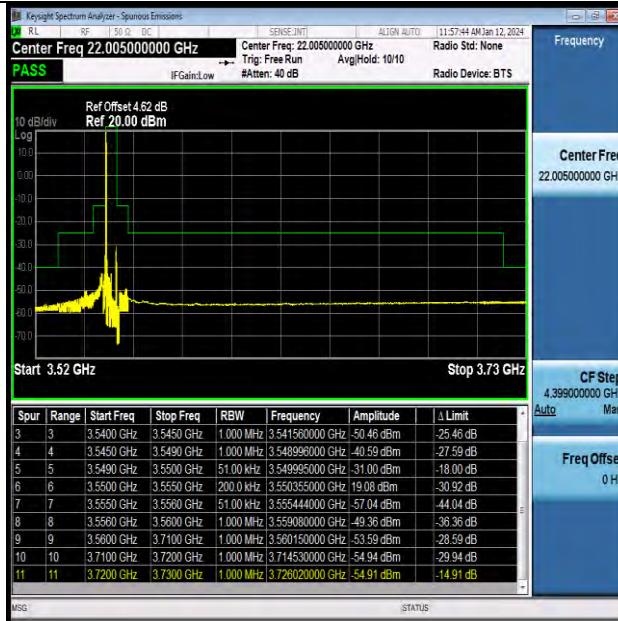
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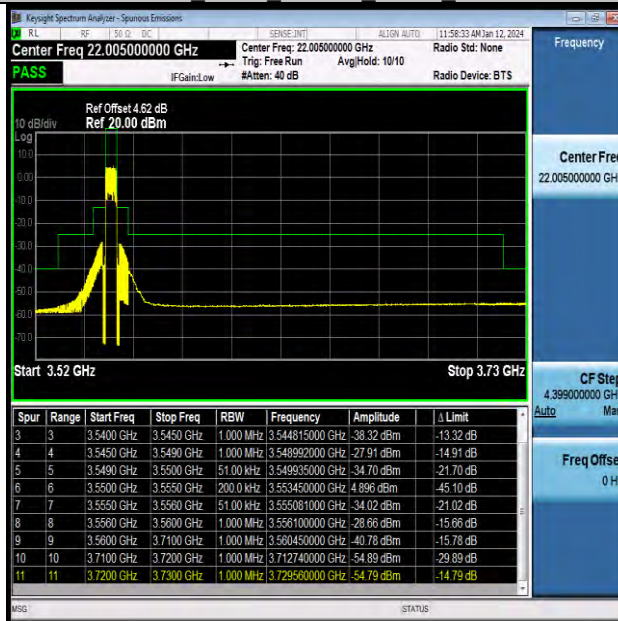


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Test Report No.: W7L-P23120020RF06



Band48 5MHz 16QAM 55265 1RB#0



Band48 5MHz 16QAM 55265 25RB#0

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