

# FCC TEST REPORT (PART 24)



Applicant:	COOSEA GROUP (HK) COMPANY LIMITED
Address:	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA

Manufacturer or Supplier:	COOSEA GROUP (HK) COMPANY LIMITED
Address:	UNIT 5-6 16/F MULTIFIELD PLAZA 3-7A PRAT AVENUE TSIMSHATSUI KL, HONG KONG, CHINA
Product:	LTE Smartphone
Brand Name:	Cricket
Model Name:	SL100EA
FCC ID:	2A28USL100EA
Date of tests:	Oct. 27, 2021 ~ Dec. 23, 2021

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

- FCC PART 24, Subpart E**  
  **FCC PART 2**  
 **ANSI/TIA/EIA-603-D**  
  **ANSI/TIA/EIA-603-E**  
  **ANSI C63.26-2015**

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

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
  Date: Dec. 24, 2021	  Date: Dec. 24, 2021

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P21100025RF05	Original release	Dec. 24, 2021

## 1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2		
STANDARD SECTION	TEST TYPE	RESULT
§2.1046	Coducted Output Power	Compliance
§24.232(c)	Equivalent Isotropic Radiated Power	Compliance
§2.1055 §24.235	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance
§24.232(d)	Peak to average ratio	Compliance
§24.238(a)(b)	Band Edge Measurements	Compliance
§2.1051 §24.238(a)(b)	Conducted Spurious Emissions	Compliance
§2.1053 §24.238(a)(b)	Radiated Spurious Emissions	Compliance

Note: Except the data of RSE and power, other data please refer to APPENDIX A.

### 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
Frequency Stability	± 76.97Hz
Radiated emissions & Radiated Power (30MHz~1GMHz)	±4.98dB
Radiated emissions & Radiated Power (1GMHz ~6GMHz)	±4.70dB
Radiated emissions (6GMHz ~18GMHz)	±4.60dB
Radiated emissions (18GMHz ~40GMHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Conducted Output power	±2.06dB
Band Edge Measurements	±4.70dB
Peak to average ratio	±0.76dB

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



## 1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 22,21	Apr. 21,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-051	Feb. 14,20	Feb. 13,23
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Horn Antenna	ETS-LINDGREN	3117	00168692	Apr. 02,21	Apr. 01,22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 25,21	Feb. 24,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 03,21	Jun. 02,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 22,21	Apr. 21,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V 7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
Power Meter	Anritsu	ML2495A	1506002	Apr. 07,21	Apr. 06,22
Power Sensor	Anritsu	MA2411B	1339352	May. 07,21	May. 06,22
Temperature Chamber	ESPEC	SH-242	93000855	Jun. 02,21	Jun. 01,22
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 05,21	Mar. 04,22
Power Divider	MCLI/USA	PS2-15	24880	N/A	N/A

- 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

<b>PRODUCT</b>	LTE Smartphone	
<b>BRAND NAME</b>	Cricket	
<b>MODEL NAME</b>	SL100EA	
<b>NOMINAL VOLTAGE</b>	5.0Vdc(adapter or host equipment) 3.85Vdc (Li-ion, battery)	
<b>MODULATION TYPE</b>	LTE Band 2: QPSK, 16QAM, 64QAM	
<b>FREQUENCY RANGE</b>	LTE Band 2 Channel Bandwidth: 1.4MHz	1850.7MHz ~ 1909.3MHz
	LTE Band 2 Channel Bandwidth: 3MHz	1851.5MHz ~ 1908.5MHz
	LTE Band 2 Channel Bandwidth: 5MHz	1852.5MHz ~ 1907.5MHz
	LTE Band 2 Channel Bandwidth: 10MHz	1855.0MHz ~ 1905.0MHz
	LTE Band 2 Channel Bandwidth: 15MHz	1857.5MHz ~ 1902.5MHz
	LTE Band 2 Channel Bandwidth: 20MHz	1860.0MHz ~ 1900.0MHz
<b>MAX. EIRP POWER</b>	LTE Band 2 Channel Bandwidth: 1.4MHz	242.66mW
	LTE Band 2 Channel Bandwidth: 3MHz	236.59mW
	LTE Band 2 Channel Bandwidth: 5MHz	239.33mW
	LTE Band 2 Channel Bandwidth: 10MHz	239.33mW
	LTE Band 2 Channel Bandwidth: 15MHz	238.23mW
	LTE Band 2 Channel Bandwidth: 20MHz	240.44mW



<b>EMISSION DESIGNATOR</b>	<b>LTE Band 2 Channel Bandwidth: 1.4MHz</b>	QPSK: 1M11G7D
		16QAM: 1M12W7D
		64QAM: 1M11W7D
	<b>LTE Band 2 Channel Bandwidth: 3MHz</b>	QPSK: 2M73G7D
		16QAM: 2M73W7D
		64QAM: 2M73W7D
	<b>LTE Band 2 Channel Bandwidth: 5MHz</b>	QPSK: 4M55G7D
		16QAM: 4M57W7D
		64QAM: 4M54W7D
	<b>LTE Band 2 Channel Bandwidth: 10MHz</b>	QPSK: 9M08G7D
		16QAM: 9M06W7D
		64QAM: 9M07W7D
	<b>LTE Band 2 Channel Bandwidth: 15MHz</b>	QPSK: 13M6G7D
		16QAM: 13M6W7D
		64QAM: 13M6W7D
	<b>LTE Band 2 Channel Bandwidth: 20MHz</b>	QPSK: 18M1G7D
		16QAM: 18M2W7D
		64QAM: 18M1W7D
<b>ANTENNA TYPE</b>	PIFA Antenna with -0.7dBi gain for LTE B2	
<b>HW VERSION</b>	1.0	
<b>SW VERSION</b>	SL100EAC010001	
<b>I/O PORTS</b>	Refer to user's manual	
<b>CABLE SUPPLIED</b>	USB cable: unshielded without ferrite, 1.0meter	
<b>EXTREME TEMPERATURE</b>	-10-55 °C	
<b>EXTREME VOLTAGE</b>	3.6V - 4.4V	

**NOTE:**

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

MODULATION MODE	TX FUNCTION
LTE	1TX/1RX

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





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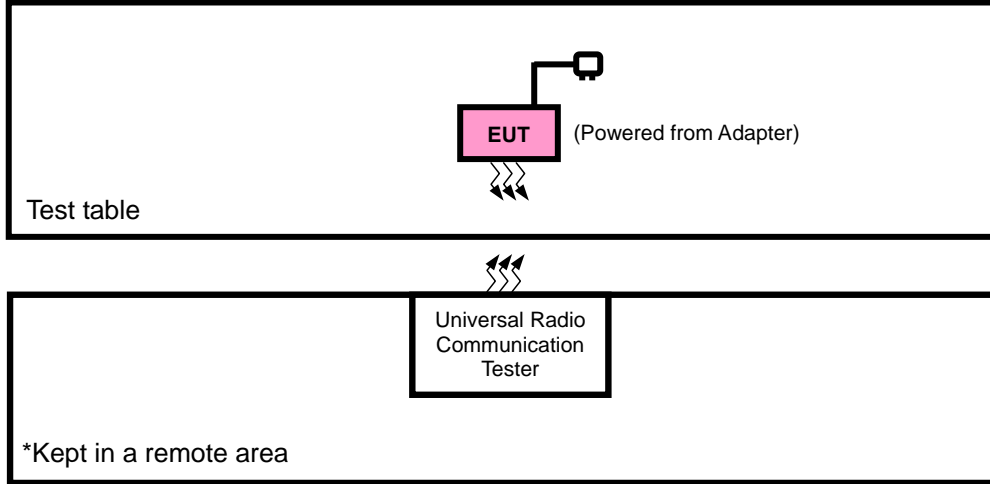
**4. List of Accessory:**

<b>ACCESSORIES</b>	<b>BRAND</b>	<b>MANUFACTURER</b>	<b>MODEL</b>	<b>SPECIFICATION</b>
Battery	COOSEA	ZHONGSHAN TIANMAO BATTERY CO., LTD	BL-A32CT	Capacity : 3.85 Vdc, 3450mAh
AC Adapter	COOSEA	Guangdong Beicom Electronics Co., Ltd.	U312E0A05020 0	I/P:100-240V,50/60Hz,0.35A, O/P: 5.0V,2.0A 10.0W
USB Cable	COOSEA	Wivtak	TP-C0028-B3	Signal Line, 1.0meter



## 2.2 CONFIGURATION OF SYSTEM UNDER TEST

### FOR RADIATION EMISSION TEST





### 2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	Kikusui/JP	PMX18-5A	0000001	N/A

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

### 2.4 TEST ITEM AND TEST CONFIGURATION

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

DESCRIPTION
EUT + Adapter with LTE



LTE BAND 2 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
FREQUENCY STABILITY	18607 to 19193	18607, 19193	1.4MHz	QPSK	1 RB / 0 RB Offset
	18615 to 19185	18615, 19185	3MHz	QPSK	1 RB / 0 RB Offset
	18625 to 19175	18625, 19175	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18650, 19150	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18675, 19125	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18700, 19100	20MHz	QPSK	1 RB / 0 RB Offset
OCCUPIED BANDWIDTH	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM, 64QAM	6 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM, 64QAM	15 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM, 64QAM	25 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM, 64QAM	50 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM, 64QAM	75 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM, 64QAM	100 RB / 0 RB Offset
PEAK TO AVERAGE RATIO	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset



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BAND EDGE	18607 to 19193	18607	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
		19193	1.4MHz	QPSK,16QAM, 64QAM	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	18615 to 19185	18615	3MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
		19185	3MHz	QPSK,16QAM, 64QAM	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	18625 to 19175	18625	5MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		19175	5MHz	QPSK,16QAM, 64QAM	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	18650 to 19150	18650	10MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		19150	10MHz	QPSK,16QAM, 64QAM	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
18675 to 19125	18675	15MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset	
				75 RB / 0 RB Offset	
	19125	15MHz	QPSK,16QAM, 64QAM	1 RB / 74 RB Offset	
				75 RB / 0 RB Offset	
18700 to 19100	18700	20MHz	QPSK,16QAM, 64QAM	1 RB / 0 RB Offset	
				100 RB / 0 RB Offset	
	19100	20MHz	QPSK,16QAM, 64QAM	1 RB / 99 RB Offset	
				100 RB / 0 RB Offset	
CONDCUDED EMISSION	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK	1 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK	1 RB / 0 RB Offset
RADIATED EMISSION	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
	18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
	18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18607, 18900, 19193	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset



**TEST CONDITION:**

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	25deg. C, 57%RH	DC 5V By Adapter	Jace Hu
FREQUENCY STABILITY	23deg. C, 61%RH	3.5/3.85/4.4V By Battery	James Fu
OCCUPIED BANDWIDTH	23deg. C, 61%RH	DC5V By Adapter	James Fu
PEAK TO AVERAGE RATIO	23deg. C, 61%RH	DC 5V By Adapter	James Fu
BAND EDGE	23deg. C, 61%RH	DC5V By Adapter	James Fu
CONDCUDED EMISSION	23deg. C, 61%RH	DC5V By Adapter	James Fu
RADIATED EMISSION	23deg. C, 70%RH	DC5V By Adapter	Jace Hu

**2.5 EUT OPERATING CONDITIONS**

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

**2.6 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 24**

**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

Mobile and portable stations are limited to 2 watts 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 determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as  $P_{\text{Meas}}$ , typically dBW or dBm);

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

$G_{\text{T}}$  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

$L_{\text{C}}$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

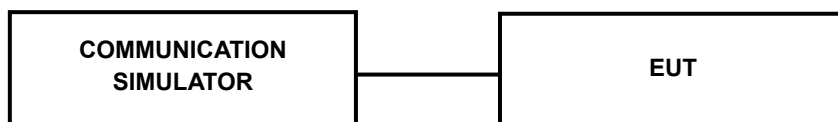
###### **CONDUCTED POWER MEASUREMENT:**

The EUT was set up for the maximum power with WCDMA 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.

### 3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



### 3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE BAND 2

Band/BW	Modulation	RB Size	RB Offset	Low CH 18607	Mid CH 18900	High CH 19193	MPR
				Frequency 1850.7 MHz	Frequency 1880 MHz	Frequency 1909.3 MHz	
2/ 1.4	QPSK	1	0	24.27	24.11	23.92	0
		1	2	24.48	24.29	24.16	0
		1	5	24.05	23.84	23.69	0
		3	0	24.43	24.25	24.21	0
		3	1	24.55	24.36	24.13	0
		3	3	24.36	24.17	24.10	0
		6	0	23.50	23.25	23.16	1
	16QAM	1	0	23.52	23.35	23.18	1
		1	2	23.73	23.49	23.44	1
		1	5	23.20	23.04	22.96	1
		3	0	23.48	23.24	23.17	1
		3	1	23.40	23.34	23.15	1
		3	3	23.42	23.21	23.15	1
		6	0	22.44	22.27	22.07	2
	64QAM	1	0	22.33	22.21	22.09	2
		1	2	22.61	22.45	22.30	2
		1	5	22.29	22.04	22.02	2
		3	0	22.45	22.29	22.07	2
		3	1	22.43	22.29	22.13	2
		3	3	22.40	22.21	22.11	2
		6	0	21.45	21.21	21.14	3





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Band/BW	Modulation	RB Size	RB Offset	Low CH 18615	Mid CH 18900	High CH 19185	MPR
				Frequency 1851.5 MHz	Frequency 1880 MHz	Frequency 1908.5 MHz	
2/3	QPSK	1	0	24.29	24.13	23.91	0
		1	7	24.44	24.30	24.16	0
		1	14	24.01	23.84	23.69	0
		8	0	23.42	23.28	23.21	1
		8	3	23.48	23.36	23.15	1
		8	7	23.33	23.24	23.14	1
		15	0	23.47	23.26	23.10	1
	16QAM	1	0	23.49	23.41	23.21	1
		1	7	23.70	23.52	23.42	1
		1	14	23.23	23.04	22.96	1
		8	0	22.44	22.25	22.17	2
		8	3	22.45	22.29	22.18	2
		8	7	22.44	22.19	22.11	2
		15	0	22.44	22.21	22.10	2
	64QAM	1	0	22.39	22.24	22.03	2
		1	7	22.64	22.39	22.29	2
		1	14	22.30	22.06	22.02	2
		8	0	21.48	21.33	21.08	3
		8	3	21.47	21.23	21.18	3
		8	7	21.37	21.25	21.07	3
		15	0	21.47	21.18	21.18	3



Band/BW	Modulation	RB Size	RB Offset	Low CH 18625	Mid CH 18900	High CH 19175	MPR
				Frequency 1852.5 MHz	Frequency 1880 MHz	Frequency 1907.5 MHz	
2 / 5	QPSK	1	0	24.30	24.08	23.92	0
		1	12	24.49	24.27	24.16	0
		1	24	24.02	23.83	23.73	0
		12	0	23.45	23.28	23.18	1
		12	6	23.48	23.37	23.16	1
		12	13	23.37	23.20	23.15	1
		25	0	23.45	23.29	23.13	1
	16QAM	1	0	23.50	23.37	23.21	1
		1	12	23.67	23.55	23.41	1
		1	24	23.23	23.04	22.95	1
		12	0	22.44	22.23	22.14	2
		12	6	22.42	22.33	22.14	2
		12	13	22.39	22.21	22.14	2
		25	0	22.44	22.22	22.07	2
	64QAM	1	0	22.33	22.21	22.09	2
		1	12	22.61	22.45	22.29	2
		1	24	22.23	22.11	22.02	2
		12	0	21.49	21.30	21.07	3
		12	6	21.41	21.30	21.17	3
		12	13	21.41	21.24	21.04	3
		25	0	21.43	21.24	21.16	3



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**Test Report No.: W7L-P21100025RF05**

Band/BW	Modulation	RB Size	RB Offset	Low CH 18650	Mid CH 18900	High CH 19150	MPR
				Frequency 1855 MHz	Frequency 1880 MHz	Frequency 1905 MHz	
2/ 10	QPSK	1	0	24.27	24.11	23.92	0
		1	24	24.49	24.27	24.17	0
		1	49	23.99	23.87	23.69	0
		25	0	23.46	23.27	23.21	1
		25	12	23.54	23.31	23.16	1
		25	25	23.35	23.17	23.14	1
		50	0	23.50	23.29	23.10	1
	16QAM	1	0	23.50	23.34	23.17	1
		1	24	23.72	23.51	23.44	1
		1	49	23.23	23.05	22.92	1
		25	0	22.46	22.21	22.20	2
		25	12	22.46	22.27	22.19	2
		25	25	22.38	22.22	22.11	2
		50	0	22.48	22.21	22.11	2
	64QAM	1	0	22.32	22.22	22.06	2
		1	24	22.66	22.41	22.33	2
		1	49	22.29	22.05	21.99	2
		25	0	21.47	21.27	21.13	3
		25	12	21.48	21.29	21.11	3
		25	25	21.40	21.21	21.06	3
		50	0	21.48	21.20	21.17	3



Band/BW	Modulation	RB Size	RB Offset	Low CH 18675	Mid CH 18900	High CH 19125	MPR
				Frequency 1857.5 MHz	Frequency 1880 MHz	Frequency 1902.5 MHz	
2/ 15	QPSK	1	0	24.34	24.11	23.89	0
		1	37	24.47	24.32	24.12	0
		1	74	24.05	23.90	23.70	0
		36	0	23.43	23.28	23.22	1
		36	19	23.55	23.36	23.16	1
		36	39	23.33	23.18	23.14	1
		75	0	23.50	23.27	23.15	1
	16QAM	1	0	23.54	23.41	23.17	1
		1	37	23.71	23.52	23.44	1
		1	74	23.19	23.10	22.94	1
		36	0	22.50	22.21	22.21	2
		36	19	22.40	22.31	22.15	2
		36	39	22.43	22.20	22.14	2
		75	0	22.49	22.24	22.04	2
	64QAM	1	0	22.34	22.23	22.07	2
		1	37	22.67	22.40	22.30	2
		1	74	22.25	22.04	22.02	2
		36	0	21.52	21.33	21.07	3
		36	19	21.42	21.23	21.13	3
		36	39	21.43	21.28	21.08	3
		75	0	21.47	21.18	21.18	3



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**Test Report No.: W7L-P21100025RF05**

Band/BW	Modulation	RB Size	RB Offset	Low CH 18700	Mid CH 18900	High CH 19100	MPR
				Frequency 1860 MHz	Frequency 1880 MHz	Frequency 1900 MHz	
2/ 20	QPSK	1	0	24.35	24.15	23.97	0
		1	50	24.51	24.35	24.18	0
		1	99	24.07	23.91	23.74	0
		50	0	23.49	23.33	23.23	1
		50	25	23.56	23.38	23.21	1
		50	50	23.41	23.25	23.16	1
		100	0	23.51	23.31	23.18	1
	16QAM	1	0	23.57	23.42	23.23	1
		1	50	23.75	23.57	23.46	1
		1	99	23.25	23.12	22.97	1
		50	0	22.52	22.29	22.22	2
		50	25	22.48	22.35	22.20	2
		50	50	22.46	22.26	22.16	2
		100	0	22.50	22.29	22.12	2
	64QAM	1	0	22.40	22.26	22.11	2
		1	50	22.69	22.47	22.35	2
		1	99	22.31	22.12	22.04	2
		50	0	21.53	21.35	21.15	3
		50	25	21.49	21.31	21.19	3
		50	50	21.45	21.29	21.12	3
		100	0	21.49	21.26	21.19	3



**EIRP POWER (dBm)**

**LTE BAND 2**

**CHANNEL BANDWIDTH: 1.4MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	24.55	-0.7	23.85	<b>242.66</b>	2
18900	1880.0	24.36	-0.7	23.66	232.27	2
19193	1909.3	24.21	-0.7	23.51	224.39	2

**CHANNEL BANDWIDTH: 1.4MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	23.73	-0.7	23.03	200.91	2
18900	1880.0	23.49	-0.7	22.79	190.11	2
19193	1909.3	23.44	-0.7	22.74	187.93	2

**CHANNEL BANDWIDTH: 1.4MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18607	1850.7	22.61	-0.7	21.91	155.24	2
18900	1880.0	22.45	-0.7	21.75	149.62	2
19193	1909.3	22.3	-0.7	21.6	144.54	2



**CHANNEL BANDWIDTH: 3MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	24.44	-0.7	23.74	<b>236.59</b>	2
18900	1880.0	24.3	-0.7	23.6	229.09	2
19185	1908.5	24.16	-0.7	23.46	221.82	2

**CHANNEL BANDWIDTH: 3MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	23.7	-0.7	23	199.53	2
18900	1880.0	23.52	-0.7	22.82	191.43	2
19185	1908.5	23.42	-0.7	22.72	187.07	2

**CHANNEL BANDWIDTH: 3MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18615	1851.5	22.64	-0.7	21.94	156.31	2
18900	1880.0	22.39	-0.7	21.69	147.57	2
19185	1908.5	22.29	-0.7	21.59	144.21	2



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**CHANNEL BANDWIDTH: 5MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	24.49	-0.7	23.79	<b>239.33</b>	2
18900	1880.0	24.27	-0.7	23.57	227.51	2
19175	1907.5	24.16	-0.7	23.46	221.82	2

**CHANNEL BANDWIDTH: 5MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	23.67	-0.7	22.97	198.15	2
18900	1880.0	23.55	-0.7	22.85	192.75	2
19175	1907.5	23.41	-0.7	22.71	186.64	2

**CHANNEL BANDWIDTH: 5MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T</sub> -L <sub>c</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18625	1852.5	22.61	-0.7	21.91	155.24	2
18900	1880.0	22.45	-0.7	21.75	149.62	2
19175	1907.5	22.29	-0.7	21.59	144.21	2





**CHANNEL BANDWIDTH: 10MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	24.49	-0.7	23.79	<b>239.33</b>	2
18900	1880.0	24.27	-0.7	23.57	227.51	2
19150	1905.0	24.17	-0.7	23.47	222.33	2

**CHANNEL BANDWIDTH: 10MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	23.72	-0.7	23.02	200.45	2
18900	1880.0	23.51	-0.7	22.81	190.99	2
19150	1905.0	23.44	-0.7	22.74	187.93	2

**CHANNEL BANDWIDTH: 10MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18650	1855.0	22.66	-0.7	21.96	157.04	2
18900	1880.0	22.41	-0.7	21.71	148.25	2
19150	1905.0	22.33	-0.7	21.63	145.55	2



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Test Report No.: W7L-P21100025RF05

**CHANNEL BANDWIDTH: 15MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	24.47	-0.7	23.77	<b>238.23</b>	2
18900	1880.0	24.32	-0.7	23.62	230.14	2
19125	1902.5	24.12	-0.7	23.42	219.79	2

**CHANNEL BANDWIDTH: 15MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	23.71	-0.7	23.01	199.99	2
18900	1880.0	23.52	-0.7	22.82	191.43	2
19125	1902.5	23.44	-0.7	22.74	187.93	2

**CHANNEL BANDWIDTH: 15MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18675	1857.5	22.67	-0.7	21.97	157.4	2
18900	1880.0	22.4	-0.7	21.7	147.91	2
19125	1902.5	22.3	-0.7	21.6	144.54	2



**CHANNEL BANDWIDTH: 20MHz QPSK**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	24.51	-0.7	23.81	<b>240.44</b>	2
18900	1880	24.35	-0.7	23.65	231.74	2
19100	1900	24.18	-0.7	23.48	222.84	2

**CHANNEL BANDWIDTH: 20MHz 16QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	23.75	-0.7	23.05	201.84	2
18900	1880	23.57	-0.7	22.87	193.64	2
19100	1900	23.46	-0.7	22.76	188.8	2

**CHANNEL BANDWIDTH: 20MHz 64QAM**

Channel	Frequency (MHz)	Conducted Power (dBm)	G <sub>T-Lc</sub> (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
18700	1860	22.69	-0.7	21.99	158.12	2
18900	1880	22.47	-0.7	21.77	150.31	2
19100	1900	22.35	-0.7	21.65	146.22	2



### 3.2 FREQUENCY STABILITY MEASUREMENT

#### 3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

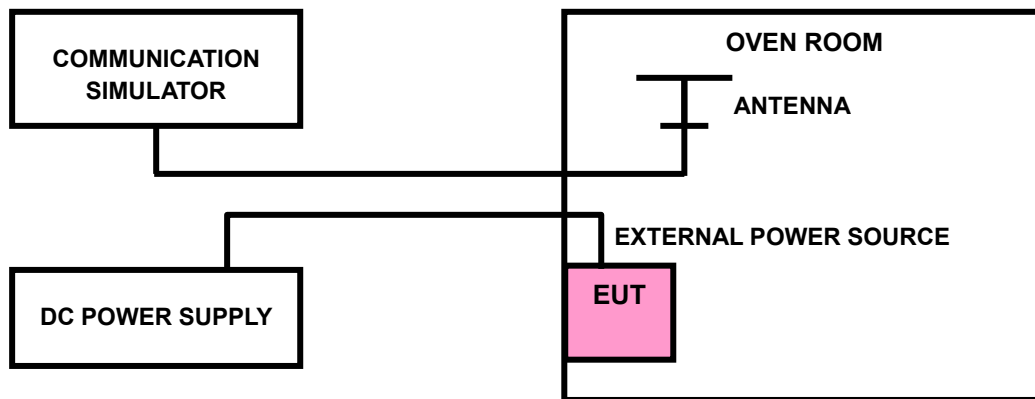
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

#### 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  $\pm 0.5^{\circ}\text{C}$  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.

#### 3.2.3 TEST SETUP





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### 3.2.4 TEST RESULTS

Please Refer to Appendix A Of this test report.

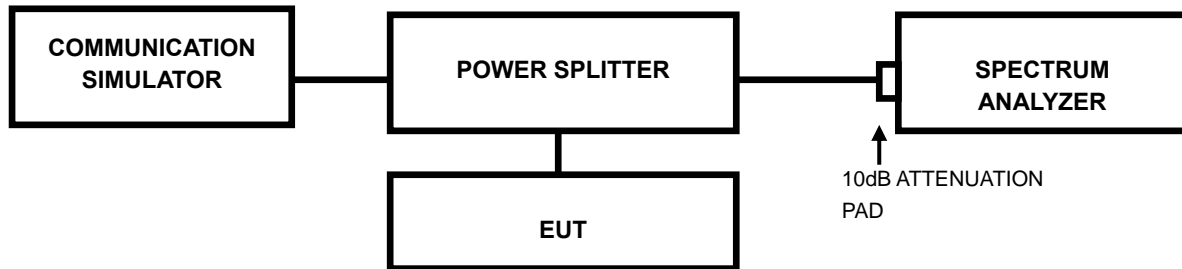


### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

#### 3.3.2 TEST SETUP





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### 3.3.3 TEST RESULTS

Please Refer to Appendix A Of this test report.

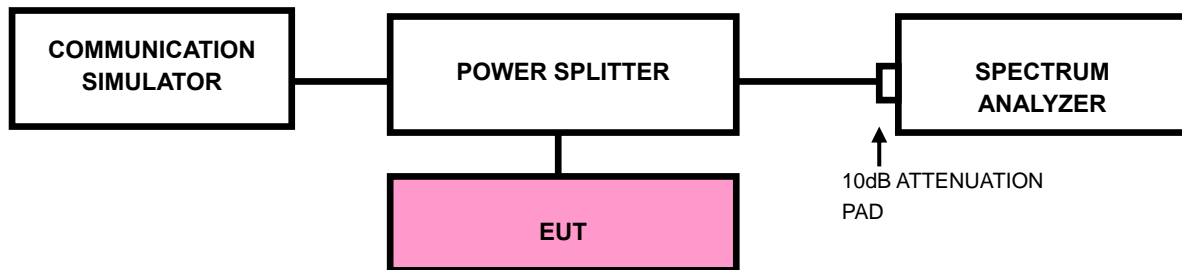


### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### 3.4.2 TEST SETUP







### 3.4.3 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
- c. RBW of the spectrum is 10kHz and VBW of the spectrum is 30kHz (GSM/GPRS/EDGE/LTE bandwidth for (1.4M/3M/5M/10M/15M/20M)1RB/0RB&1RB/MAXRB).
- d. The center frequency of spectrum is the band edge frequency and span is 10MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is  $\geq 1\% \cdot \text{EBW}$  kHz and VBW of the spectrum is  $3 \cdot \text{RBW}$  kHz. (LTE bandwidth 1.4M/3M/5M/10M/15M/20MHz).
- f. Record the max trace plot into the test report.

### 3.4.4. TEST RESULTS

Please Refer to Appendix A Of this test report.



### 3.5 CONDUCTED SPURIOUS EMISSIONS

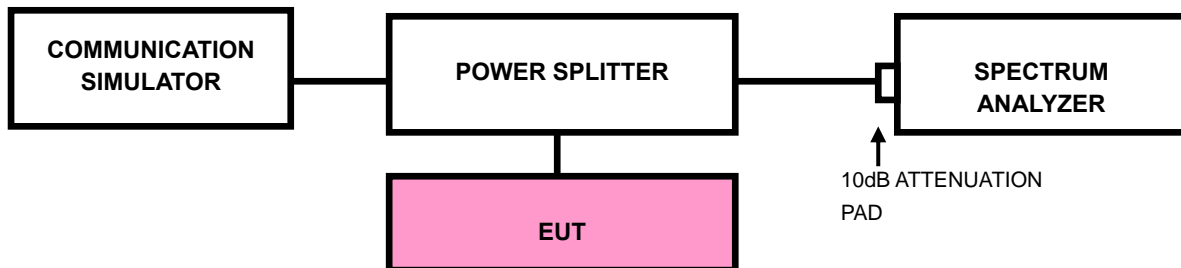
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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  $-13\text{dBm}$ .

#### 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 10<sup>th</sup> harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 3.5.3 TEST SETUP





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### 3.5.4 TEST RESULTS

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

Please Refer to Appendix A Of this test report.



### 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  $-13\text{dBm}$ .

#### 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.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .

**NOTE:** The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

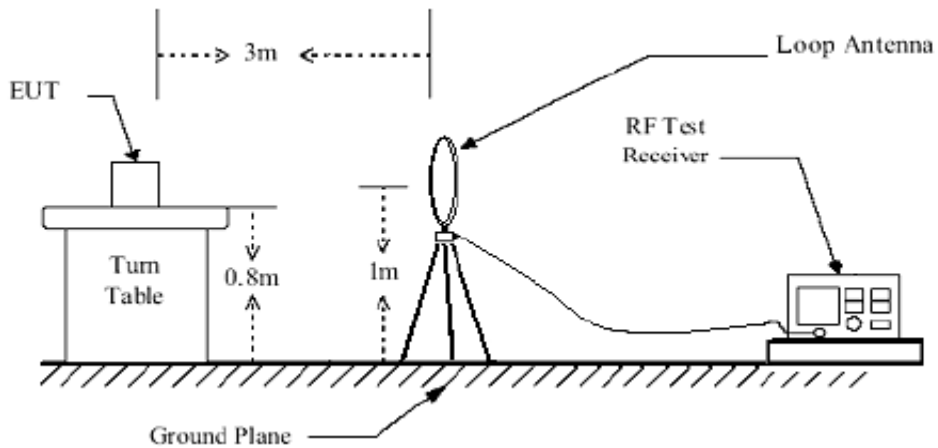
#### 3.6.3 DEVIATION FROM TEST STANDARD

No deviation

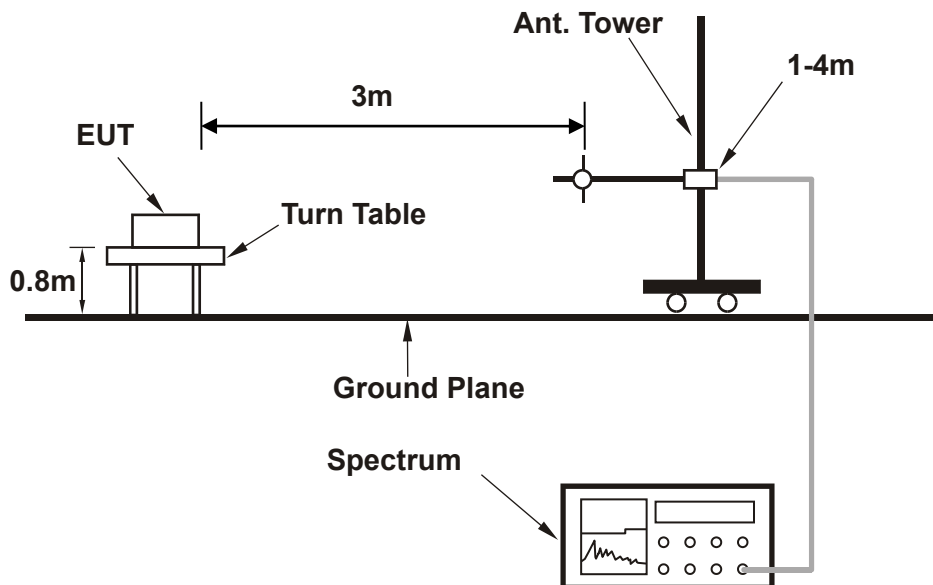


### 3.6.4 TEST SETUP

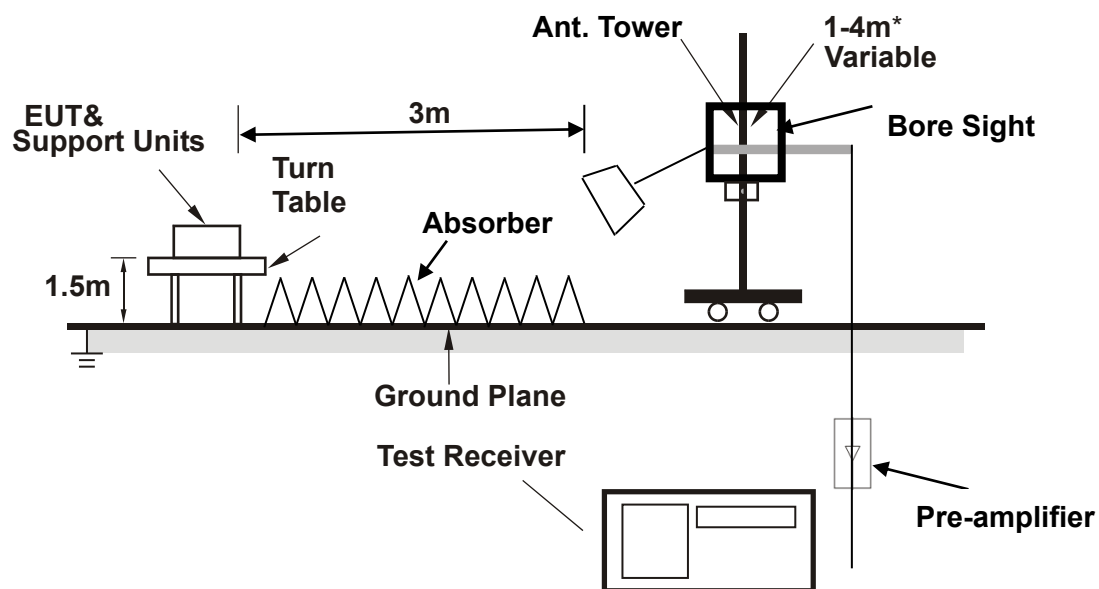
#### < Frequency Range below 30MHz >



#### < 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

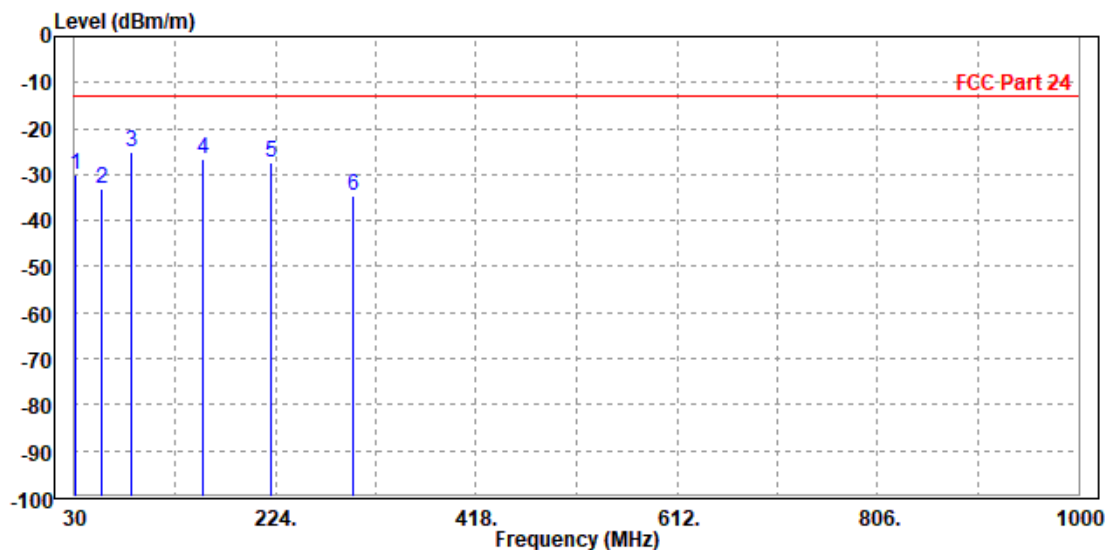
30 MHz – 1GHz data:

LTE Band 2

CHANNEL BANDWIDTH: 5MHz / QPSK

<b>MODE</b>	TX channel 18625	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	30.970	-30.22	-50.23	-13.00	-17.22	20.01	Peak	Horizontal
2	56.190	-33.03	-41.01	-13.00	-20.03	7.98	Peak	Horizontal
3 PP	85.290	-25.04	-32.89	-13.00	-12.04	7.85	Peak	Horizontal
4	154.160	-26.71	-36.85	-13.00	-13.71	10.14	Peak	Horizontal
5	220.120	-27.41	-39.30	-13.00	-14.41	11.89	Peak	Horizontal
6	298.690	-34.72	-48.70	-13.00	-21.72	13.98	Peak	Horizontal



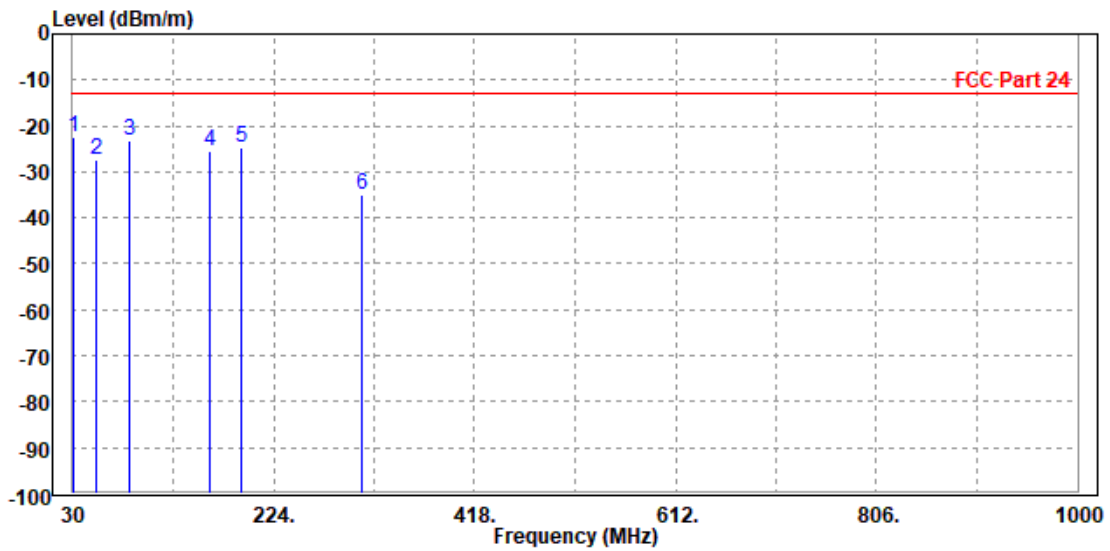


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**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 18625	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	30.970	-22.43	-42.20	-13.00	-9.43	19.77 Peak	Vertical
2		52.310	-27.56	-36.31	-13.00	-14.56	8.75 Peak	Vertical
3		85.290	-23.28	-31.69	-13.00	-10.28	8.41 Peak	Vertical
4		161.920	-25.61	-36.99	-13.00	-12.61	11.38 Peak	Vertical
5		192.960	-24.86	-35.94	-13.00	-11.86	11.08 Peak	Vertical
6		309.360	-35.07	-50.28	-13.00	-22.07	15.21 Peak	Vertical







BUREAU VERITAS

Test Report No.: W7L-P21100025RF05

ABOVE 1GHz DATA

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

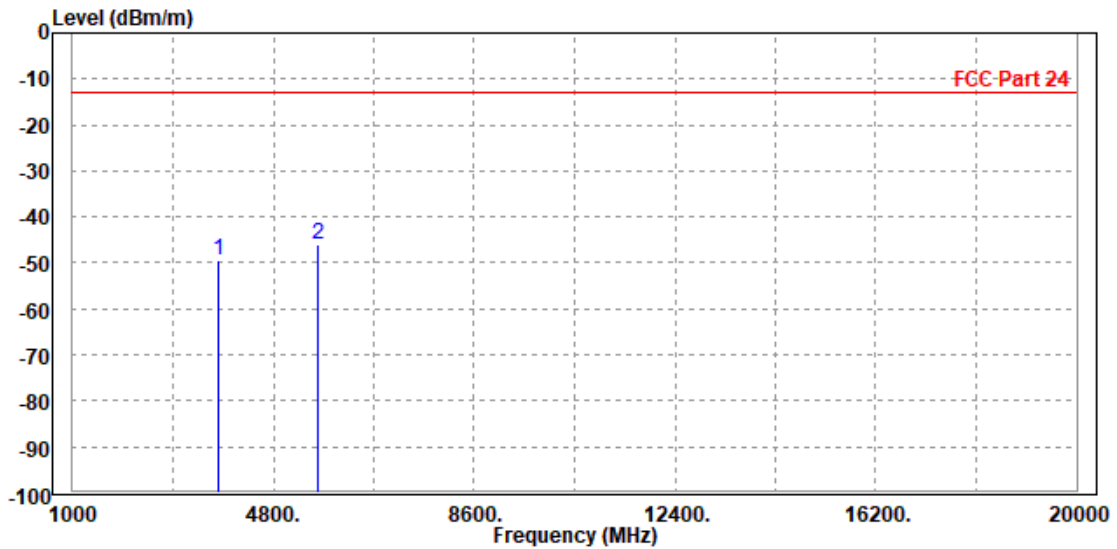
WORST-CASE DATA

LTE Band 2

CHANNEL BANDWIDTH: 1.4MHz / QPSK

MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.39	-58.24	-13.00	-36.39	8.85	Peak	Horizontal
2 PP	5640.000	-46.18	-56.66	-13.00	-33.18	10.48	Peak	Horizontal



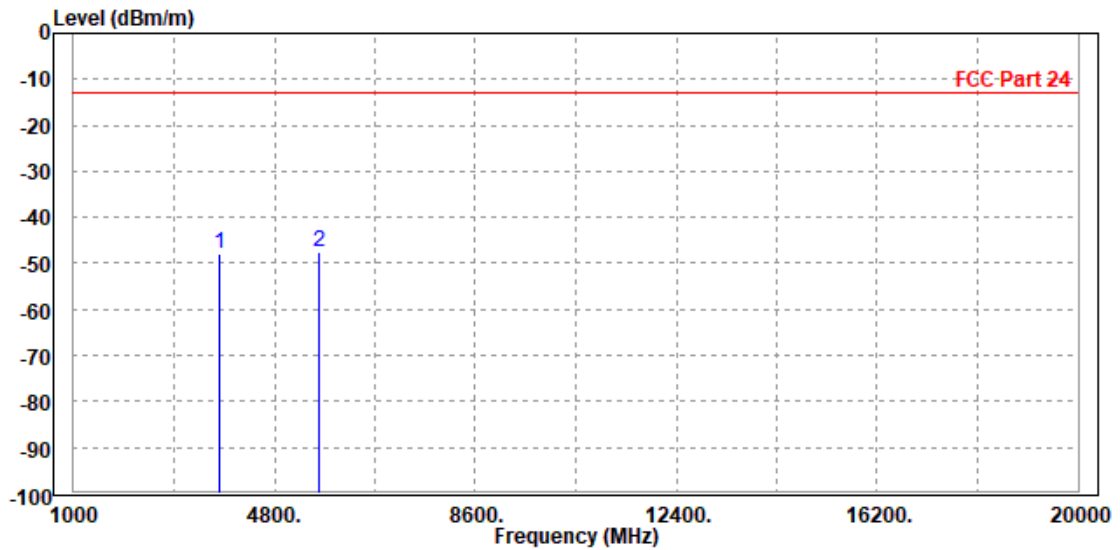


**BUREAU  
VERITAS**

**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-48.06	-57.33	-13.00	-35.06	9.27	Peak	Vertical
2 PP	5640.000	-47.45	-57.70	-13.00	-34.45	10.25	Peak	Vertical





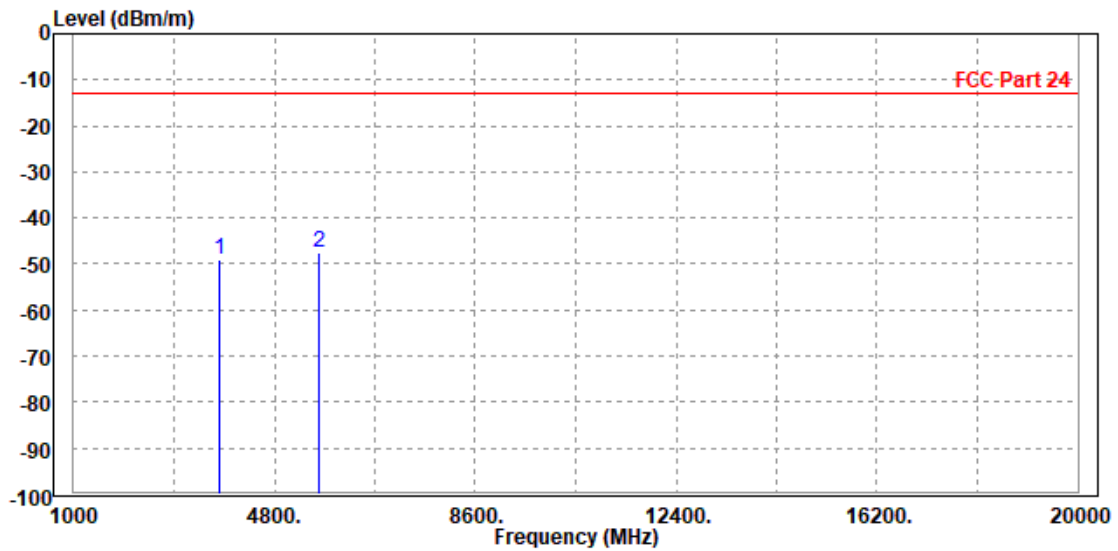
**BUREAU  
VERITAS**

**Test Report No.: W7L-P21100025RF05**

**CHANNEL BANDWIDTH: 3MHz / QPSK**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.13	-57.98	-13.00	-36.13	8.85	Peak	Horizontal
2 PP	5640.000	-47.36	-57.84	-13.00	-34.36	10.48	Peak	Horizontal



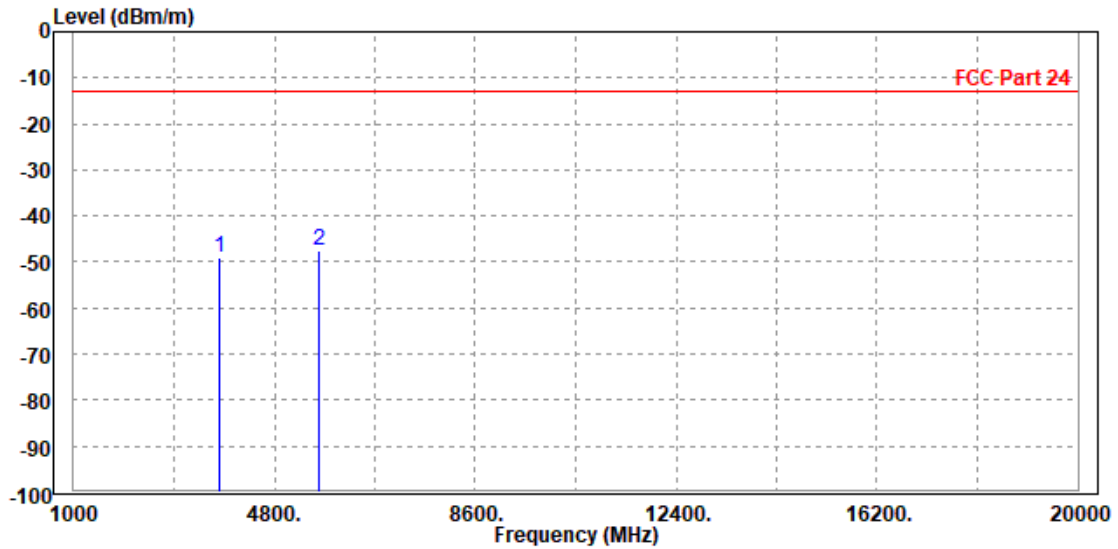


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VERITAS**

Test Report No.: W7L-P21100025RF05

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.07	-58.34	-13.00	-36.07	9.27	Peak	Vertical
2 PP	5640.000	-47.45	-57.70	-13.00	-34.45	10.25	Peak	Vertical





BUREAU VERITAS

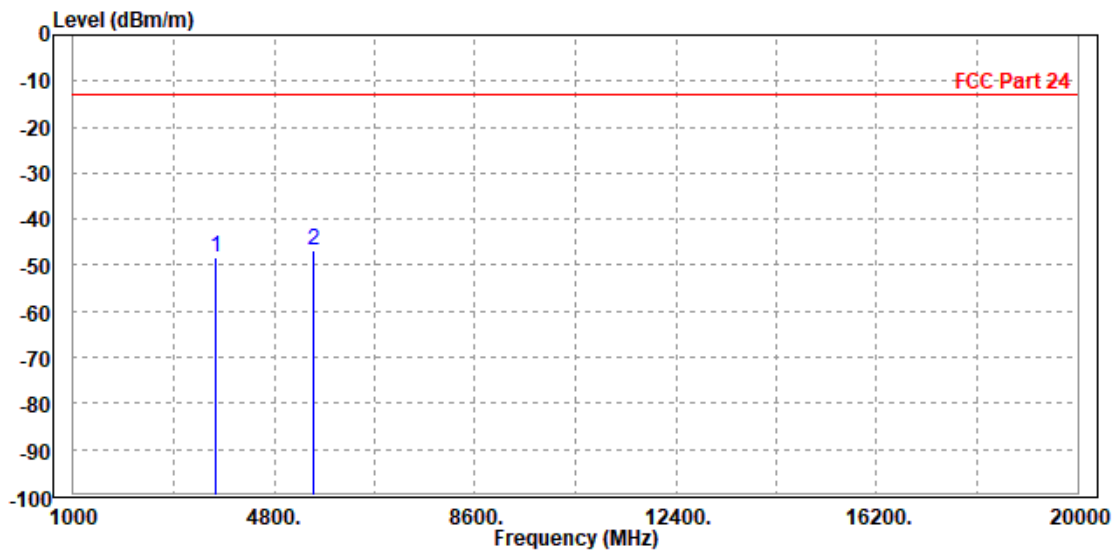
Test Report No.: W7L-P21100025RF05

CHANNEL BANDWIDTH: 5MHz / QPSK

CH18625

MODE	TX channel 18625	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	3698.000	-48.11	-56.89	-13.00	-35.11	8.78	Peak	Horizontal
2 PP	5552.100	-46.94	-57.13	-13.00	-33.94	10.19	Peak	Horizontal



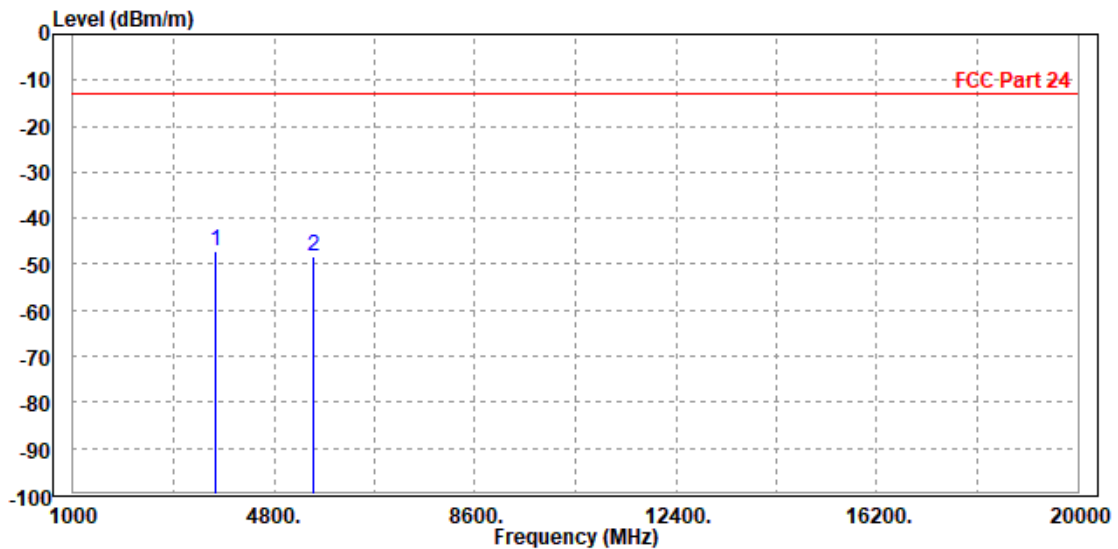


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**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 18625	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3698.000	-47.25	-56.50	-13.00	-34.25	9.25	Peak	Vertical
2	5552.100	-48.10	-58.01	-13.00	-35.10	9.91	Peak	Vertical





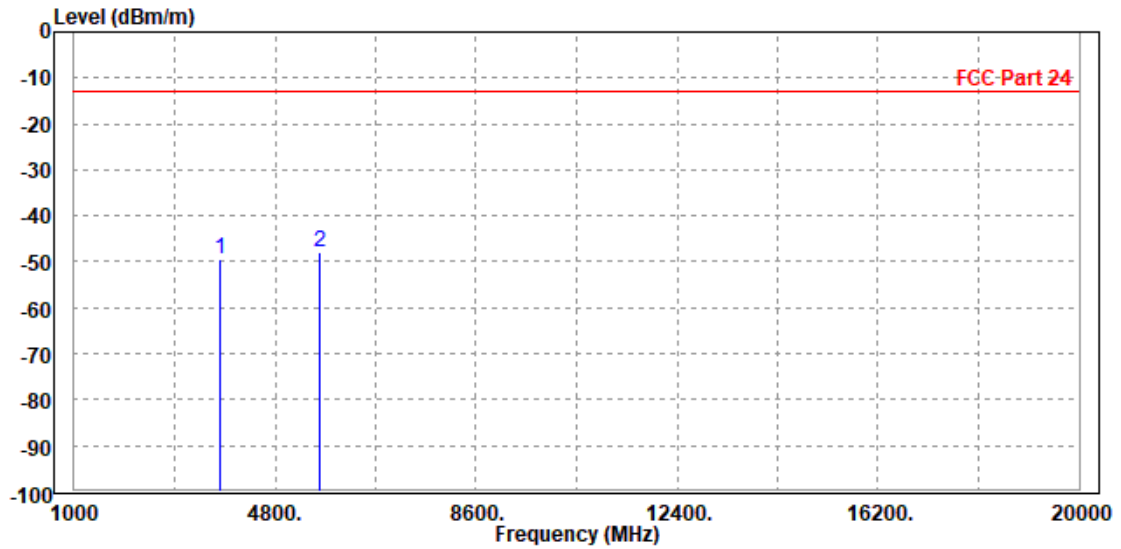
**BUREAU  
VERITAS**

**Test Report No.: W7L-P21100025RF05**

**CH18900**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.28	-58.13	-13.00	-36.28	8.85	Peak	Horizontal
2 PP	5640.000	-47.94	-58.42	-13.00	-34.94	10.48	Peak	Horizontal



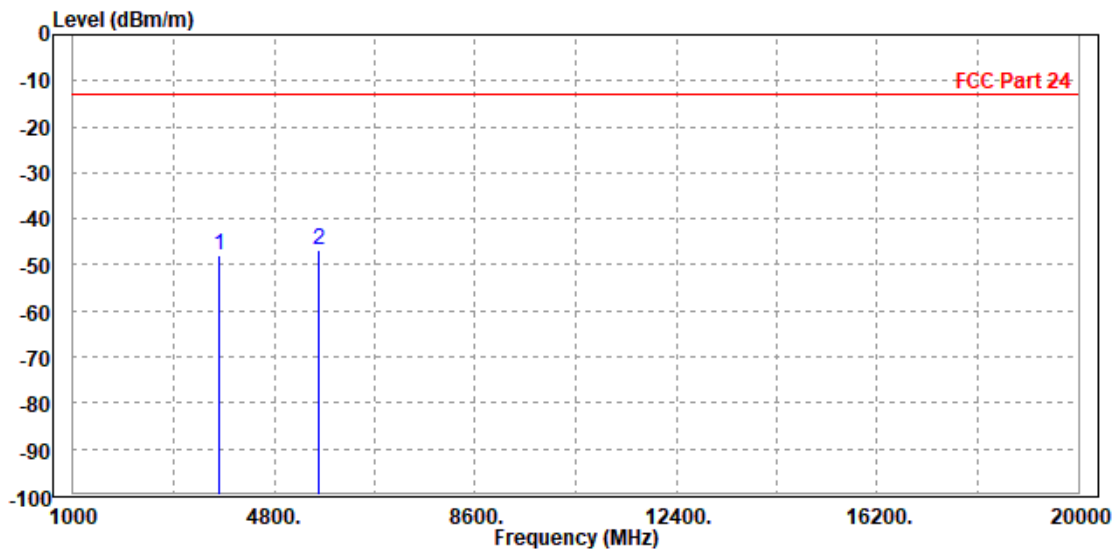


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VERITAS**

**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-47.79	-57.06	-13.00	-34.79	9.27	Peak	Vertical
2 PP	5640.000	-46.72	-56.97	-13.00	-33.72	10.25	Peak	Vertical







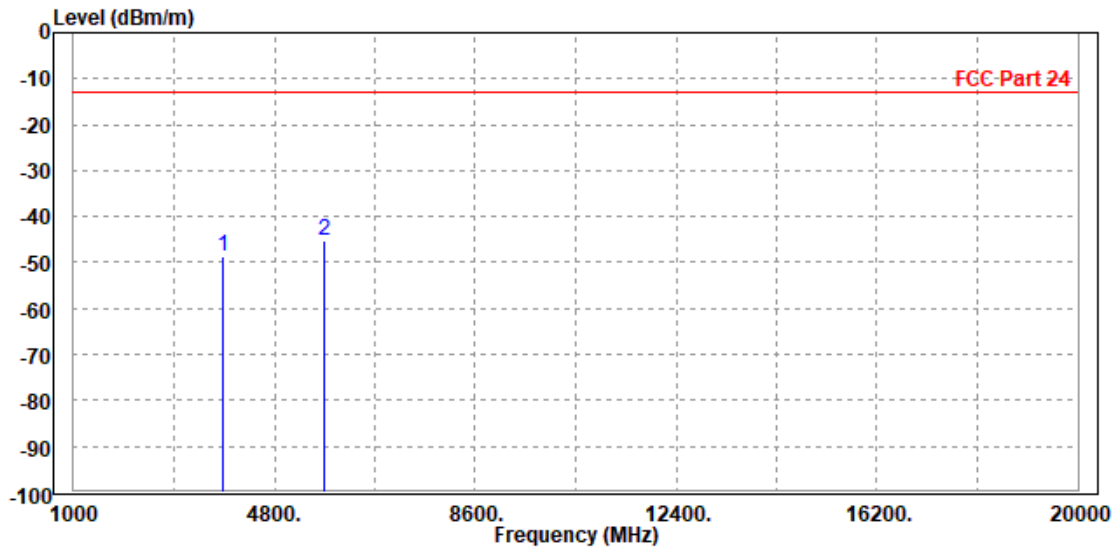
BUREAU VERITAS

Test Report No.: W7L-P21100025RF05

CH19175

MODE	TX channel 19175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3818.600	-48.85	-57.76	-13.00	-35.85	8.91	Peak	Horizontal
2 PP	5727.900	-45.21	-55.98	-13.00	-32.21	10.77	Peak	Horizontal



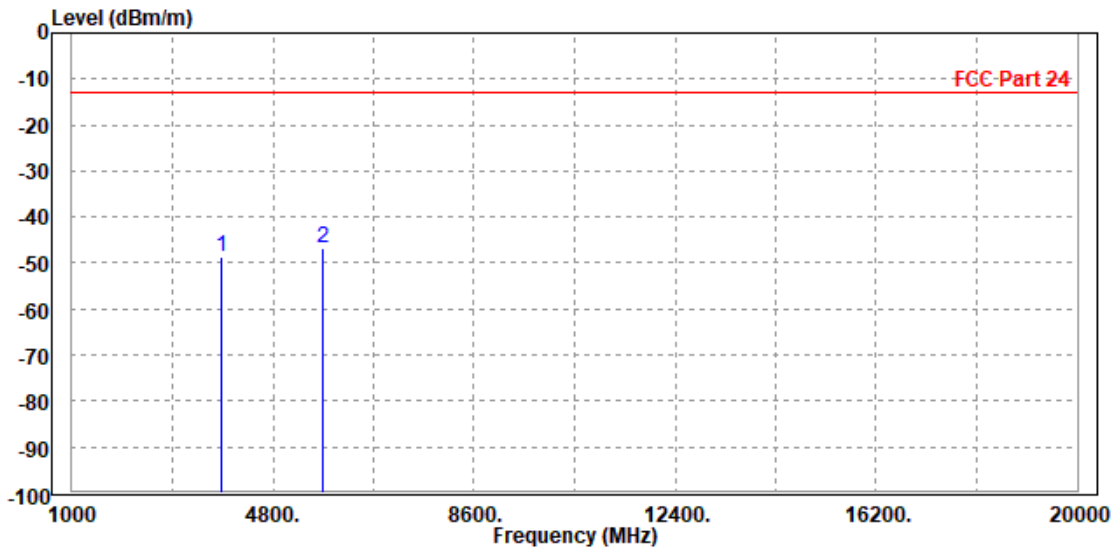


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VERITAS**

**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 19175	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3818.600	-48.52	-57.81	-13.00	-35.52	9.29	Peak	Vertical
2 PP	5727.900	-46.77	-57.36	-13.00	-33.77	10.59	Peak	Vertical





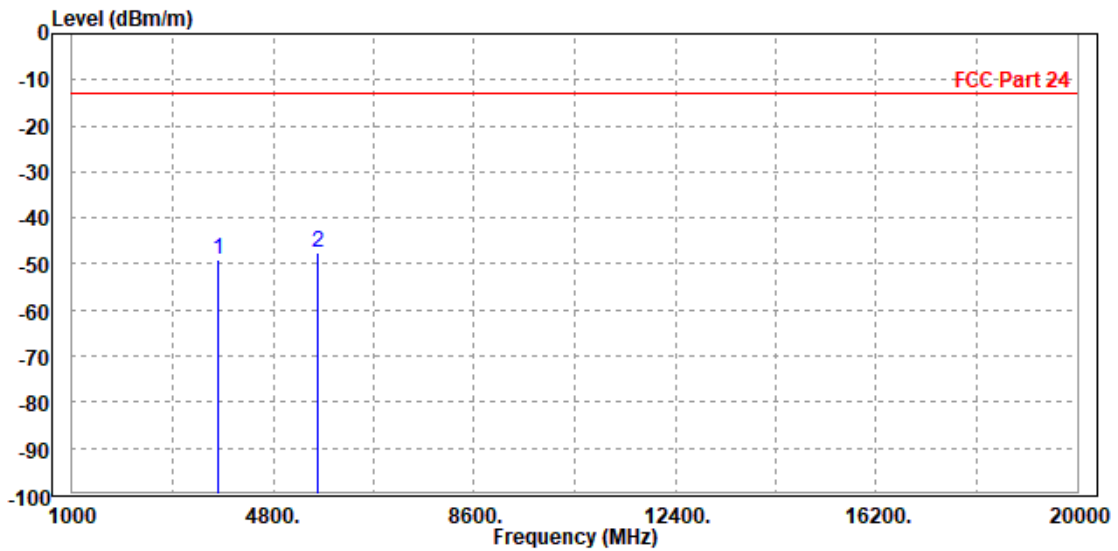
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VERITAS**

**Test Report No.: W7L-P21100025RF05**

**CHANNEL BANDWIDTH: 10MHz / QPSK**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.01	-57.86	-13.00	-36.01	8.85	Peak	Horizontal
2 PP	5640.000	-47.43	-57.91	-13.00	-34.43	10.48	Peak	Horizontal



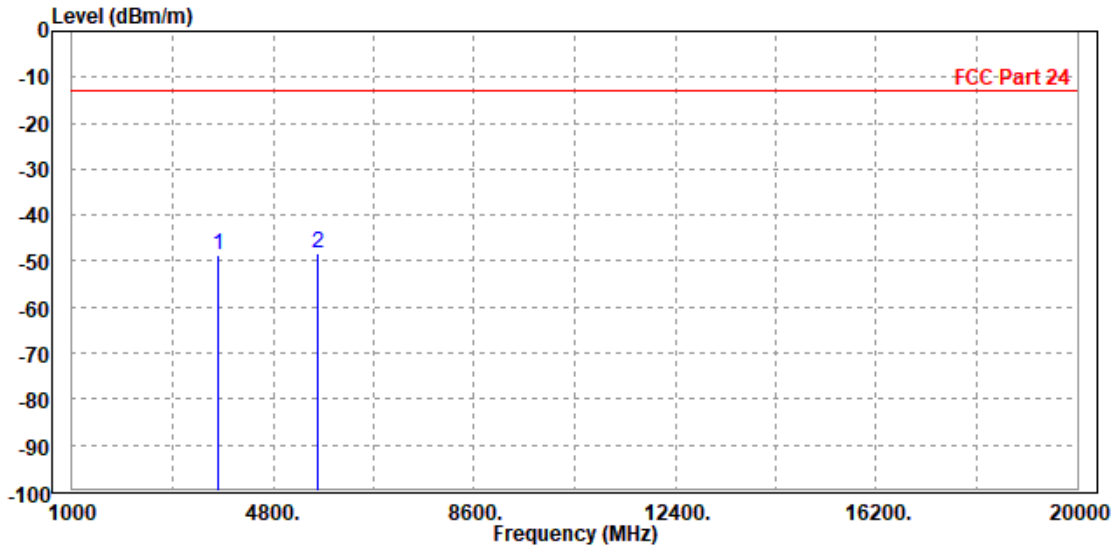


**BUREAU  
VERITAS**

Test Report No.: W7L-P21100025RF05

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-48.64	-57.91	-13.00	-35.64	9.27	Peak	Vertical
2	PP 5640.000	-48.32	-58.57	-13.00	-35.32	10.25	Peak	Vertical





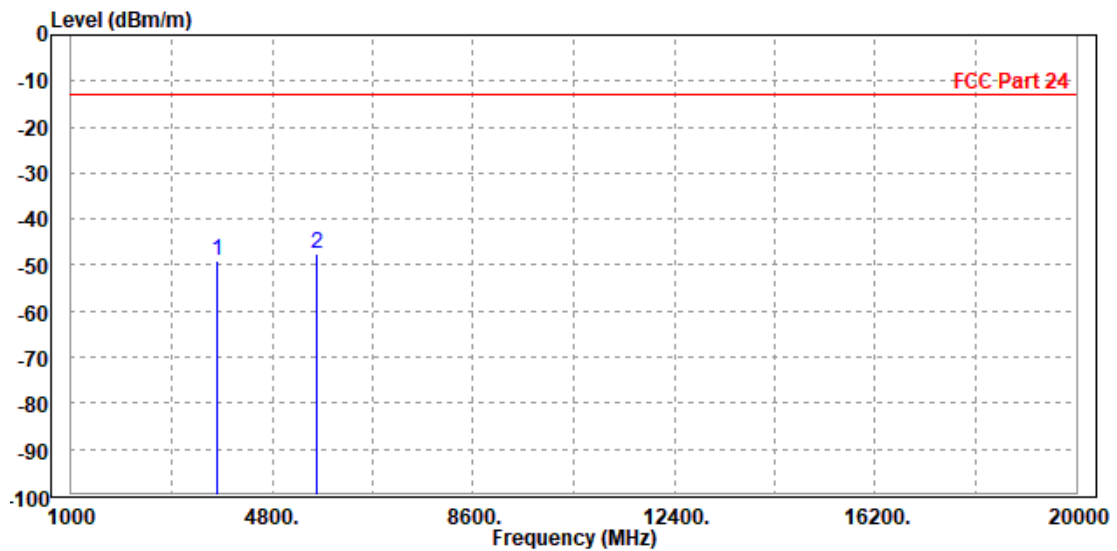
**BUREAU  
VERITAS**

Test Report No.: W7L-P21100025RF05

**CHANNEL BANDWIDTH: 15MHz / QPSK**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.09	-57.94	-13.00	-36.09	8.85	Peak	Horizontal
2 PP	5640.000	-47.67	-58.15	-13.00	-34.67	10.48	Peak	Horizontal



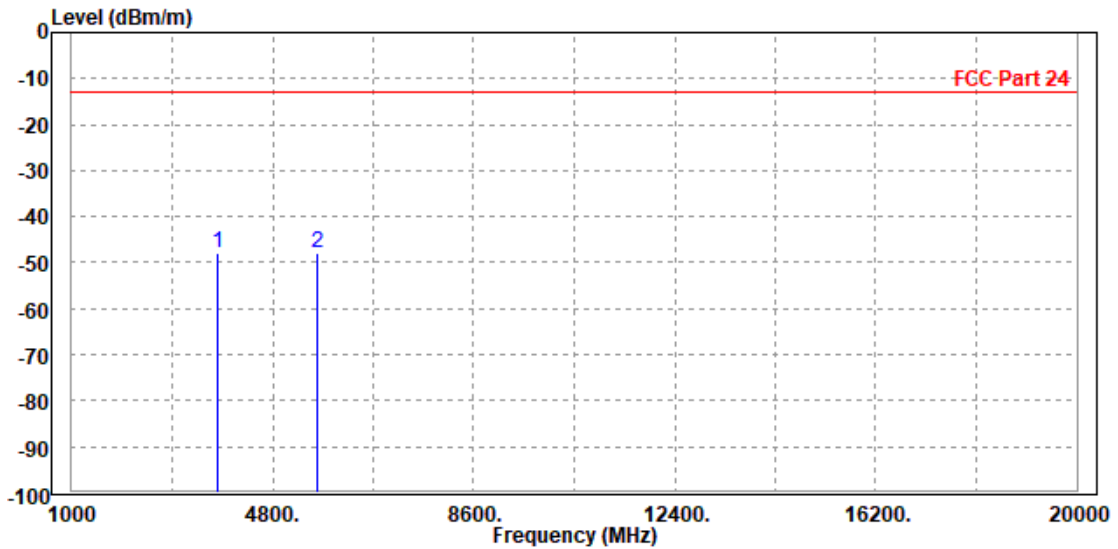


BUREAU VERITAS

Test Report No.: W7L-P21100025RF05

MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3755.000	-47.87	-57.14	-13.00	-34.87	9.27	Peak	Vertical
2	5640.000	-47.98	-58.23	-13.00	-34.98	10.25	Peak	Vertical





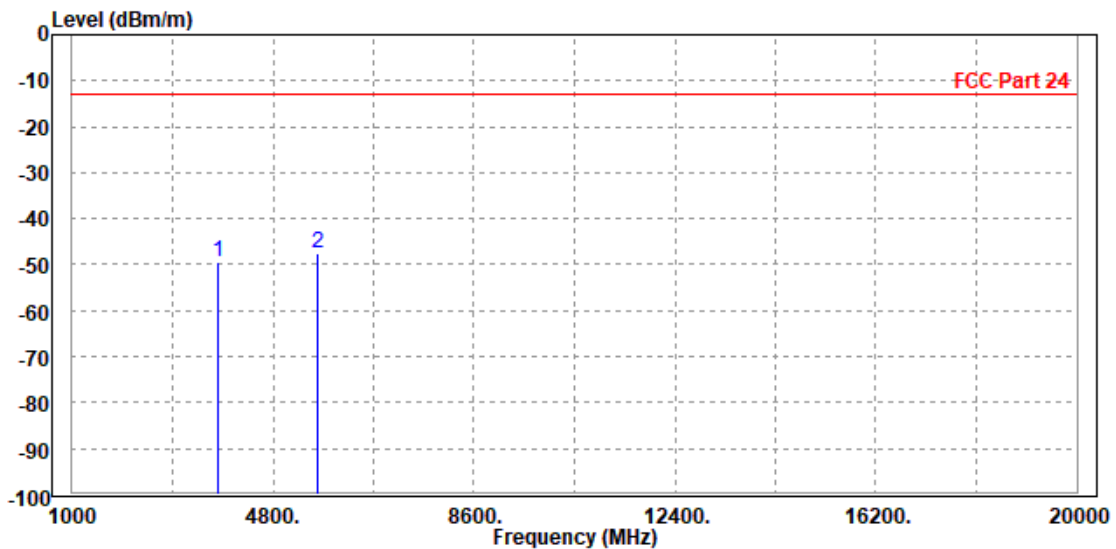
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Test Report No.: W7L-P21100025RF05

**CHANNEL BANDWIDTH: 20MHz / QPSK**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-49.60	-58.45	-13.00	-36.60	8.85	Peak	Horizontal
2 PP	5640.000	-47.42	-57.90	-13.00	-34.42	10.48	Peak	Horizontal



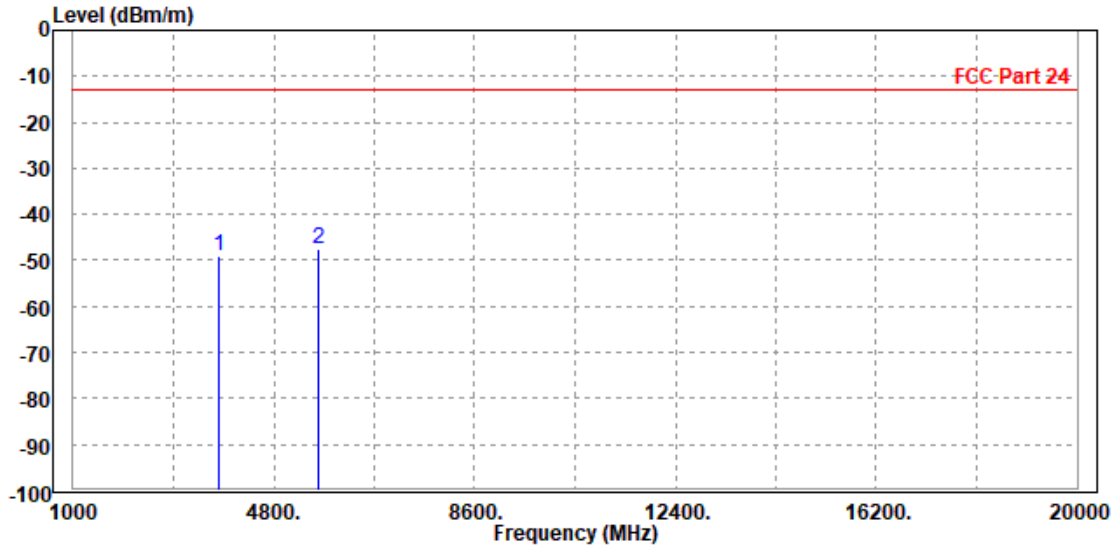


**BUREAU  
VERITAS**

**Test Report No.: W7L-P21100025RF05**

<b>MODE</b>	TX channel 18900	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-48.92	-58.19	-13.00	-35.92	9.27	Peak	Vertical
2 PP	5640.000	-47.35	-57.60	-13.00	-34.35	10.25	Peak	Vertical





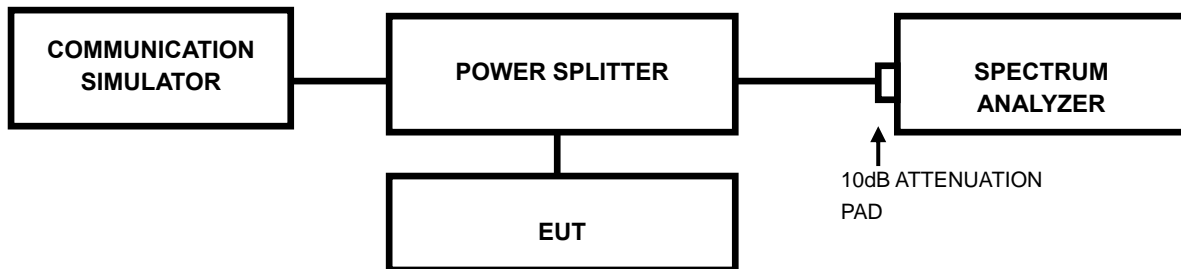


### 3.7 PEAK TO AVERAGE RATIO

#### 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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**Test Report No.: W7L-P21100025RF05**

### 3.7.4 TEST RESULTS

Please Refer to Appendix A Of this test report.



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Test Report No.: W7L-P21100025RF05

## 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@bureauveritas.com](mailto:customerservice.sw@bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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



Test Report No.: W7L-P21100025RF05

## 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.



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Test Report No.: W7L-P21100025RF05

## 6 Appendix A



## APPENDIX A : LTE Band2

### Frequency Stability

B2\_1.4MHz

Test Result

Band: 2 / Bandwidth: 1.4MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	1850.7	6	0	20	3.27	-10.70	-0.01	-2.5 to 2.5	Pass
					3.85	-22.50	-0.01	-2.5 to 2.5	Pass
					4.43	-9.74	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-6.91	-0.00	-2.5 to 2.5	Pass
				0	3.85	-6.74	-0.00	-2.5 to 2.5	Pass
				10	3.85	-12.40	-0.01	-2.5 to 2.5	Pass
				30	3.85	-7.07	-0.00	-2.5 to 2.5	Pass
				40	3.85	-7.04	-0.00	-2.5 to 2.5	Pass
	50	3.85	-10.87	-0.01	-2.5 to 2.5	Pass			
	1880	6	0	20	3.27	3.10	0.00	-2.5 to 2.5	Pass
					3.85	-14.92	-0.01	-2.5 to 2.5	Pass
					4.43	-16.62	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-1.92	-0.00	-2.5 to 2.5	Pass
				0	3.85	-6.34	-0.00	-2.5 to 2.5	Pass
				10	3.85	-12.14	-0.01	-2.5 to 2.5	Pass
				30	3.85	-13.19	-0.01	-2.5 to 2.5	Pass
				40	3.85	-5.99	-0.00	-2.5 to 2.5	Pass
	50	3.85	-7.60	-0.00	-2.5 to 2.5	Pass			
	1909.3	6	0	20	3.27	-5.98	-0.00	-2.5 to 2.5	Pass
					3.85	-23.40	-0.01	-2.5 to 2.5	Pass
					4.43	-17.39	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-5.57	-0.00	-2.5 to 2.5	Pass
				0	3.85	-2.83	-0.00	-2.5 to 2.5	Pass
				10	3.85	1.99	0.00	-2.5 to 2.5	Pass
30				3.85	-2.85	-0.00	-2.5 to 2.5	Pass	
40				3.85	-1.54	-0.00	-2.5 to 2.5	Pass	
50	3.85	-11.39	-0.01	-2.5 to 2.5	Pass				
16QAM	1850.7	6	0	20	3.27	-11.70	-0.01	-2.5 to 2.5	Pass
					3.85	-4.48	-0.00	-2.5 to 2.5	Pass
					4.43	-3.00	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-3.40	-0.00	-2.5 to 2.5	Pass
				0	3.85	-6.95	-0.00	-2.5 to 2.5	Pass
				10	3.85	-9.61	-0.01	-2.5 to 2.5	Pass
				30	3.85	-8.25	-0.00	-2.5 to 2.5	Pass
				40	3.85	-3.52	-0.00	-2.5 to 2.5	Pass
	50	3.85	-5.61	-0.00	-2.5 to 2.5	Pass			
	1880	6	0	20	3.27	-10.13	-0.01	-2.5 to 2.5	Pass
					3.85	-1.12	-0.00	-2.5 to 2.5	Pass
					4.43	-3.96	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-9.31	-0.01	-2.5 to 2.5	Pass
				0	3.85	-3.98	-0.00	-2.5 to 2.5	Pass
				10	3.85	-1.96	-0.00	-2.5 to 2.5	Pass
				30	3.85	-5.94	-0.00	-2.5 to 2.5	Pass



	1909.3	6	0	40	3.85	-7.91	-0.00	-2.5 to 2.5	Pass
				50	3.85	-7.01	-0.00	-2.5 to 2.5	Pass
				20	3.27	-0.32	-0.00	-2.5 to 2.5	Pass
					3.85	-2.06	-0.00	-2.5 to 2.5	Pass
					4.43	-4.38	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-8.35	-0.00	-2.5 to 2.5	Pass
				0	3.85	3.48	0.00	-2.5 to 2.5	Pass
				10	3.85	2.89	0.00	-2.5 to 2.5	Pass
				30	3.85	-10.71	-0.01	-2.5 to 2.5	Pass
				40	3.85	-3.30	-0.00	-2.5 to 2.5	Pass
50	3.85	-11.62	-0.01	-2.5 to 2.5	Pass				
64QAM	1850.7	6	0	20	3.27	-5.95	-0.00	-2.5 to 2.5	Pass
					3.85	-4.96	-0.00	-2.5 to 2.5	Pass
					4.43	-6.31	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-10.03	-0.01	-2.5 to 2.5	Pass
				0	3.85	-4.63	-0.00	-2.5 to 2.5	Pass
				10	3.85	-3.38	-0.00	-2.5 to 2.5	Pass
				30	3.85	-3.13	-0.00	-2.5 to 2.5	Pass
				40	3.85	-7.83	-0.00	-2.5 to 2.5	Pass
	50	3.85	-6.37	-0.00	-2.5 to 2.5	Pass			
	1880	6	0	20	3.27	-2.70	-0.00	-2.5 to 2.5	Pass
					3.85	-3.30	-0.00	-2.5 to 2.5	Pass
					4.43	-6.57	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-0.40	-0.00	-2.5 to 2.5	Pass
				0	3.85	-1.54	-0.00	-2.5 to 2.5	Pass
				10	3.85	-7.68	-0.00	-2.5 to 2.5	Pass
				30	3.85	-8.86	-0.00	-2.5 to 2.5	Pass
				40	3.85	-11.63	-0.01	-2.5 to 2.5	Pass
	50	3.85	-3.99	-0.00	-2.5 to 2.5	Pass			
	1909.3	6	0	20	3.27	0.71	0.00	-2.5 to 2.5	Pass
					3.85	-7.77	-0.00	-2.5 to 2.5	Pass
4.43					-2.75	-0.00	-2.5 to 2.5	Pass	
-10				3.85	-5.96	-0.00	-2.5 to 2.5	Pass	
0				3.85	-9.27	-0.00	-2.5 to 2.5	Pass	
10				3.85	-6.17	-0.00	-2.5 to 2.5	Pass	
30				3.85	-16.61	-0.01	-2.5 to 2.5	Pass	
40				3.85	-13.20	-0.01	-2.5 to 2.5	Pass	
50	3.85	-7.17	-0.00	-2.5 to 2.5	Pass				

B2\_3MHz

Test Result

Band: 2 / Bandwidth: 3MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	1851.5	15	0	20	3.27	-41.57	-0.02	-2.5 to 2.5	Pass
					3.85	11.92	0.01	-2.5 to 2.5	Pass
					4.43	-9.73	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-9.96	-0.01	-2.5 to 2.5	Pass
				0	3.85	-4.06	-0.00	-2.5 to 2.5	Pass
				10	3.85	-7.14	-0.00	-2.5 to 2.5	Pass
				30	3.85	-9.41	-0.01	-2.5 to 2.5	Pass
				40	3.85	-3.86	-0.00	-2.5 to 2.5	Pass



	1880	15	0	50	3.85	-8.31	-0.00	-2.5 to 2.5	Pass
				20	3.27	-1.45	-0.00	-2.5 to 2.5	Pass
					3.85	-19.24	-0.01	-2.5 to 2.5	Pass
					4.43	-19.63	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-19.67	-0.01	-2.5 to 2.5	Pass
				0	3.85	-12.37	-0.01	-2.5 to 2.5	Pass
				10	3.85	-9.64	-0.01	-2.5 to 2.5	Pass
				30	3.85	-12.40	-0.01	-2.5 to 2.5	Pass
	40	3.85	-9.31	-0.01	-2.5 to 2.5	Pass			
	50	3.85	-10.53	-0.01	-2.5 to 2.5	Pass			
	1908.5	15	0	20	3.27	1.53	0.00	-2.5 to 2.5	Pass
					3.85	-22.53	-0.01	-2.5 to 2.5	Pass
					4.43	-20.46	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-17.38	-0.01	-2.5 to 2.5	Pass
0				3.85	-10.90	-0.01	-2.5 to 2.5	Pass	
10				3.85	-7.57	-0.00	-2.5 to 2.5	Pass	
30				3.85	-9.56	-0.01	-2.5 to 2.5	Pass	
40				3.85	-6.87	-0.00	-2.5 to 2.5	Pass	
50	3.85	-7.27	-0.00	-2.5 to 2.5	Pass				
16QAM	1851.5	15	0	20	3.27	-2.27	-0.00	-2.5 to 2.5	Pass
					3.85	-6.97	-0.00	-2.5 to 2.5	Pass
					4.43	-6.42	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-5.67	-0.00	-2.5 to 2.5	Pass
				0	3.85	-1.73	-0.00	-2.5 to 2.5	Pass
				10	3.85	-10.50	-0.01	-2.5 to 2.5	Pass
				30	3.85	-7.32	-0.00	-2.5 to 2.5	Pass
				40	3.85	-7.74	-0.00	-2.5 to 2.5	Pass
	50	3.85	-7.02	-0.00	-2.5 to 2.5	Pass			
	1880	15	0	20	3.27	-7.47	-0.00	-2.5 to 2.5	Pass
					3.85	-1.33	-0.00	-2.5 to 2.5	Pass
					4.43	2.23	0.00	-2.5 to 2.5	Pass
				-10	3.85	0.00	0.00	-2.5 to 2.5	Pass
				0	3.85	-14.21	-0.01	-2.5 to 2.5	Pass
10				3.85	-6.44	-0.00	-2.5 to 2.5	Pass	
30				3.85	-4.43	-0.00	-2.5 to 2.5	Pass	
40				3.85	-10.56	-0.01	-2.5 to 2.5	Pass	
50	3.85	-5.92	-0.00	-2.5 to 2.5	Pass				
1908.5	15	0	20	3.27	-13.49	-0.01	-2.5 to 2.5	Pass	
				3.85	-8.30	-0.00	-2.5 to 2.5	Pass	
				4.43	-3.09	-0.00	-2.5 to 2.5	Pass	
			-10	3.85	-10.59	-0.01	-2.5 to 2.5	Pass	
			0	3.85	-0.99	-0.00	-2.5 to 2.5	Pass	
			10	3.85	-2.93	-0.00	-2.5 to 2.5	Pass	
			30	3.85	-12.19	-0.01	-2.5 to 2.5	Pass	
			40	3.85	-5.79	-0.00	-2.5 to 2.5	Pass	
50	3.85	-9.27	-0.00	-2.5 to 2.5	Pass				
64QAM	1851.5	15	0	20	3.27	-11.99	-0.01	-2.5 to 2.5	Pass
					3.85	-4.68	-0.00	-2.5 to 2.5	Pass
					4.43	-10.36	-0.01	-2.5 to 2.5	Pass
				-10	3.85	-12.12	-0.01	-2.5 to 2.5	Pass
				0	3.85	-6.42	-0.00	-2.5 to 2.5	Pass
				10	3.85	-14.40	-0.01	-2.5 to 2.5	Pass
				30	3.85	-11.14	-0.01	-2.5 to 2.5	Pass
				40	3.85	-11.59	-0.01	-2.5 to 2.5	Pass
	50	3.85	-9.26	-0.01	-2.5 to 2.5	Pass			
	1880	15	0	20	3.27	-9.04	-0.00	-2.5 to 2.5	Pass





					3.85	0.97	0.00	-2.5 to 2.5	Pass	
					4.43	-1.25	-0.00	-2.5 to 2.5	Pass	
				-10	3.85	-7.92	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-5.95	-0.00	-2.5 to 2.5	Pass	
				10	3.85	-1.57	-0.00	-2.5 to 2.5	Pass	
				30	3.85	-4.85	-0.00	-2.5 to 2.5	Pass	
				40	3.85	-4.11	-0.00	-2.5 to 2.5	Pass	
	50	3.85	-2.58	-0.00	-2.5 to 2.5	Pass				
	1908.5	15	0		20	3.27	-12.42	-0.01	-2.5 to 2.5	Pass
						3.85	3.55	0.00	-2.5 to 2.5	Pass
						4.43	-1.09	-0.00	-2.5 to 2.5	Pass
					-10	3.85	-5.57	-0.00	-2.5 to 2.5	Pass
					0	3.85	-4.61	-0.00	-2.5 to 2.5	Pass
					10	3.85	-2.02	-0.00	-2.5 to 2.5	Pass
30					3.85	-6.77	-0.00	-2.5 to 2.5	Pass	
40	3.85	-10.84	-0.01	-2.5 to 2.5	Pass					
50	3.85	-9.87	-0.01	-2.5 to 2.5	Pass					

B2\_5MHz

Test Result

Band: 2 / Bandwidth: 5MHz											
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict		
		Size	Offset				Result	Limit			
QPSK	1852.5	25	0	20	3.27	-17.44	-0.01	-2.5 to 2.5	Pass		
					3.85	-27.74	-0.01	-2.5 to 2.5	Pass		
					4.43	-17.77	-0.01	-2.5 to 2.5	Pass		
					-10	3.85	-9.01	-0.00	-2.5 to 2.5	Pass	
					0	3.85	-5.09	-0.00	-2.5 to 2.5	Pass	
					10	3.85	-6.72	-0.00	-2.5 to 2.5	Pass	
					30	3.85	-7.97	-0.00	-2.5 to 2.5	Pass	
	40	3.85	-6.64	-0.00	-2.5 to 2.5	Pass					
	50	3.85	-6.59	-0.00	-2.5 to 2.5	Pass					
	1880	25	0		20	3.27	-4.02	-0.00	-2.5 to 2.5	Pass	
						3.85	-15.62	-0.01	-2.5 to 2.5	Pass	
						4.43	-11.85	-0.01	-2.5 to 2.5	Pass	
						-10	3.85	-5.78	-0.00	-2.5 to 2.5	Pass
						0	3.85	-7.35	-0.00	-2.5 to 2.5	Pass
						10	3.85	-3.81	-0.00	-2.5 to 2.5	Pass
						30	3.85	-5.15	-0.00	-2.5 to 2.5	Pass
	40	3.85	-3.19	-0.00	-2.5 to 2.5	Pass					
	50	3.85	-2.20	-0.00	-2.5 to 2.5	Pass					
	1907.5	25	0		20	3.27	-1.73	-0.00	-2.5 to 2.5	Pass	
						3.85	-20.39	-0.01	-2.5 to 2.5	Pass	
						4.43	-15.81	-0.01	-2.5 to 2.5	Pass	
-10						3.85	-4.46	-0.00	-2.5 to 2.5	Pass	
0						3.85	-5.09	-0.00	-2.5 to 2.5	Pass	
10						3.85	-5.11	-0.00	-2.5 to 2.5	Pass	
30						3.85	-0.32	-0.00	-2.5 to 2.5	Pass	
40	3.85	-6.84	-0.00	-2.5 to 2.5	Pass						
50	3.85	-5.39	-0.00	-2.5 to 2.5	Pass						
16QAM	1852.5	25	0	20	3.27	-4.85	-0.00	-2.5 to 2.5	Pass		
					3.85	-7.01	-0.00	-2.5 to 2.5	Pass		



					4.43	-0.81	-0.00	-2.5 to 2.5	Pass	
				-10	3.85	-8.22	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-6.91	-0.00	-2.5 to 2.5	Pass	
				10	3.85	-10.36	-0.01	-2.5 to 2.5	Pass	
				30	3.85	-8.88	-0.00	-2.5 to 2.5	Pass	
				40	3.85	-3.25	-0.00	-2.5 to 2.5	Pass	
	1880	25	0	50	3.85	-12.27	-0.01	-2.5 to 2.5	Pass	
				20	3.27	-6.05	-0.00	-2.5 to 2.5	Pass	
					3.85	-5.64	-0.00	-2.5 to 2.5	Pass	
					4.43	1.03	0.00	-2.5 to 2.5	Pass	
				-10	3.85	-8.81	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-5.92	-0.00	-2.5 to 2.5	Pass	
		10	3.85	-12.09	-0.01	-2.5 to 2.5	Pass			
		1907.5	25	0	30	3.85	-9.21	-0.00	-2.5 to 2.5	Pass
					40	3.85	0.24	0.00	-2.5 to 2.5	Pass
					50	3.85	-6.78	-0.00	-2.5 to 2.5	Pass
					20	3.27	-7.48	-0.00	-2.5 to 2.5	Pass
						3.85	13.09	0.01	-2.5 to 2.5	Pass
	4.43					-3.92	-0.00	-2.5 to 2.5	Pass	
	-10	3.85	-6.44	-0.00	-2.5 to 2.5	Pass				
	0	3.85	-12.29	-0.01	-2.5 to 2.5	Pass				
10	3.85	-9.03	-0.00	-2.5 to 2.5	Pass					
64QAM	1852.5	25	0	30	3.85	2.85	0.00	-2.5 to 2.5	Pass	
				40	3.85	-10.00	-0.01	-2.5 to 2.5	Pass	
				50	3.85	-11.62	-0.01	-2.5 to 2.5	Pass	
				20	3.27	-5.18	-0.00	-2.5 to 2.5	Pass	
					3.85	-4.96	-0.00	-2.5 to 2.5	Pass	
					4.43	-4.05	-0.00	-2.5 to 2.5	Pass	
	-10	3.85	-6.74	-0.00	-2.5 to 2.5	Pass				
	0	3.85	-11.52	-0.01	-2.5 to 2.5	Pass				
	10	3.85	-5.79	-0.00	-2.5 to 2.5	Pass				
	1880	25	0	30	3.85	-6.67	-0.00	-2.5 to 2.5	Pass	
				40	3.85	-6.87	-0.00	-2.5 to 2.5	Pass	
				50	3.85	-7.04	-0.00	-2.5 to 2.5	Pass	
				20	3.27	2.65	0.00	-2.5 to 2.5	Pass	
					3.85	-3.02	-0.00	-2.5 to 2.5	Pass	
					4.43	-6.12	-0.00	-2.5 to 2.5	Pass	
				-10	3.85	-6.14	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-7.54	-0.00	-2.5 to 2.5	Pass	
				10	3.85	-4.11	-0.00	-2.5 to 2.5	Pass	
	30	3.85	-6.29	-0.00	-2.5 to 2.5	Pass				
	40	3.85	-1.80	-0.00	-2.5 to 2.5	Pass				
	50	3.85	0.79	0.00	-2.5 to 2.5	Pass				
1907.5	25	0	20	3.27	-0.93	-0.00	-2.5 to 2.5	Pass		
			3.85	0.79	0.00	-2.5 to 2.5	Pass			
			4.43	-3.66	-0.00	-2.5 to 2.5	Pass			
			-10	3.85	-5.34	-0.00	-2.5 to 2.5	Pass		
			0	3.85	-8.78	-0.00	-2.5 to 2.5	Pass		
			10	3.85	-4.81	-0.00	-2.5 to 2.5	Pass		
			30	3.85	-8.38	-0.00	-2.5 to 2.5	Pass		
			40	3.85	-6.38	-0.00	-2.5 to 2.5	Pass		
			50	3.85	-7.85	-0.00	-2.5 to 2.5	Pass		



B2\_10MHz

Test Result

Band: 2 / Bandwidth: 10MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	1855	50	0	20	3.27	-12.49	-0.01	-2.5 to 2.5	Pass
					3.85	-6.01	-0.00	-2.5 to 2.5	Pass
					4.43	-5.49	-0.00	-2.5 to 2.5	Pass
				3.85	-6.07	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-6.18	-0.00	-2.5 to 2.5	Pass
				10	3.85	-6.25	-0.00	-2.5 to 2.5	Pass
				30	3.85	-12.60	-0.01	-2.5 to 2.5	Pass
				40	3.85	-3.88	-0.00	-2.5 to 2.5	Pass
				50	3.85	-5.45	-0.00	-2.5 to 2.5	Pass
	1880	50	0	20	3.27	-12.53	-0.01	-2.5 to 2.5	Pass
					3.85	-10.01	-0.01	-2.5 to 2.5	Pass
					4.43	-5.99	-0.00	-2.5 to 2.5	Pass
				3.85	-6.05	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-4.35	-0.00	-2.5 to 2.5	Pass
				10	3.85	-8.65	-0.00	-2.5 to 2.5	Pass
				30	3.85	-5.01	-0.00	-2.5 to 2.5	Pass
				40	3.85	-5.74	-0.00	-2.5 to 2.5	Pass
				50	3.85	-7.22	-0.00	-2.5 to 2.5	Pass
	1905	50	0	20	3.27	-9.70	-0.01	-2.5 to 2.5	Pass
					3.85	-12.20	-0.01	-2.5 to 2.5	Pass
					4.43	-4.46	-0.00	-2.5 to 2.5	Pass
				3.85	-8.44	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-6.94	-0.00	-2.5 to 2.5	Pass
				10	3.85	-9.08	-0.00	-2.5 to 2.5	Pass
30				3.85	-4.95	-0.00	-2.5 to 2.5	Pass	
40				3.85	-6.07	-0.00	-2.5 to 2.5	Pass	
50				3.85	-7.21	-0.00	-2.5 to 2.5	Pass	
16QAM	1855	50	0	20	3.27	-5.09	-0.00	-2.5 to 2.5	Pass
					3.85	-5.18	-0.00	-2.5 to 2.5	Pass
					4.43	-6.08	-0.00	-2.5 to 2.5	Pass
				3.85	-2.92	-0.00	-2.5 to 2.5	Pass	
				0	3.85	-0.69	-0.00	-2.5 to 2.5	Pass
				10	3.85	-9.64	-0.01	-2.5 to 2.5	Pass
				30	3.85	-7.98	-0.00	-2.5 to 2.5	Pass
				40	3.85	-11.52	-0.01	-2.5 to 2.5	Pass
				50	3.85	-7.18	-0.00	-2.5 to 2.5	Pass
	1880	50	0	20	3.27	-6.58	-0.00	-2.5 to 2.5	Pass
					3.85	-6.58	-0.00	-2.5 to 2.5	Pass
					4.43	-5.48	-0.00	-2.5 to 2.5	Pass
				3.85	-10.93	-0.01	-2.5 to 2.5	Pass	
				0	3.85	-6.04	-0.00	-2.5 to 2.5	Pass
				10	3.85	-5.39	-0.00	-2.5 to 2.5	Pass
				30	3.85	-5.64	-0.00	-2.5 to 2.5	Pass
				40	3.85	-6.12	-0.00	-2.5 to 2.5	Pass
				50	3.85	-4.39	-0.00	-2.5 to 2.5	Pass
	1905	50	0	20	3.27	-4.65	-0.00	-2.5 to 2.5	Pass



					3.85	-7.68	-0.00	-2.5 to 2.5	Pass						
					4.43	-5.78	-0.00	-2.5 to 2.5	Pass						
					-10	3.85	-6.27	-0.00	-2.5 to 2.5	Pass					
					0	3.85	-4.51	-0.00	-2.5 to 2.5	Pass					
					10	3.85	-2.13	-0.00	-2.5 to 2.5	Pass					
					30	3.85	-3.08	-0.00	-2.5 to 2.5	Pass					
					40	3.85	-8.10	-0.00	-2.5 to 2.5	Pass					
					50	3.85	-3.65	-0.00	-2.5 to 2.5	Pass					
					64QAM	1855	50	0		20	3.27	-8.54	-0.00	-2.5 to 2.5	Pass
										3.85	-5.25	-0.00	-2.5 to 2.5	Pass	
										4.43	-3.08	-0.00	-2.5 to 2.5	Pass	
										-10	3.85	-5.12	-0.00	-2.5 to 2.5	Pass
										0	3.85	-7.21	-0.00	-2.5 to 2.5	Pass
										10	3.85	-8.30	-0.00	-2.5 to 2.5	Pass
30	3.85	-3.85	-0.00	-2.5 to 2.5						Pass					
40	3.85	-1.90	-0.00	-2.5 to 2.5						Pass					
50	3.85	-1.77	-0.00	-2.5 to 2.5		Pass									
1880	50	0				20	3.27	-3.48	-0.00	-2.5 to 2.5	Pass				
						3.85	-3.76	-0.00	-2.5 to 2.5	Pass					
						4.43	-4.76	-0.00	-2.5 to 2.5	Pass					
						-10	3.85	-4.49	-0.00	-2.5 to 2.5	Pass				
						0	3.85	-4.00	-0.00	-2.5 to 2.5	Pass				
					10	3.85	-7.14	-0.00	-2.5 to 2.5	Pass					
					30	3.85	-4.75	-0.00	-2.5 to 2.5	Pass					
					40	3.85	-9.73	-0.01	-2.5 to 2.5	Pass					
50	3.85	-8.43	-0.00	-2.5 to 2.5	Pass										
1905	50	0			20	3.27	-1.52	-0.00	-2.5 to 2.5	Pass					
					3.85	-3.03	-0.00	-2.5 to 2.5	Pass						
					4.43	-5.65	-0.00	-2.5 to 2.5	Pass						
					-10	3.85	-6.72	-0.00	-2.5 to 2.5	Pass					
					0	3.85	-5.75	-0.00	-2.5 to 2.5	Pass					
					10	3.85	-8.77	-0.00	-2.5 to 2.5	Pass					
					30	3.85	-5.29	-0.00	-2.5 to 2.5	Pass					
					40	3.85	-6.97	-0.00	-2.5 to 2.5	Pass					
50	3.85	-8.54	-0.00	-2.5 to 2.5	Pass										

B2\_15MHz

Test Result

Band: 2 / Bandwidth: 15MHz										
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict	
		Size	Offset				Result	Limit		
QPSK	1857.5	75	0	20	3.27	-13.82	-0.01	-2.5 to 2.5	Pass	
					3.85	-4.22	-0.00	-2.5 to 2.5	Pass	
					4.43	-3.26	-0.00	-2.5 to 2.5	Pass	
					-10	3.85	-4.71	-0.00	-2.5 to 2.5	Pass
					0	3.85	-8.53	-0.00	-2.5 to 2.5	Pass
					10	3.85	-4.92	-0.00	-2.5 to 2.5	Pass
					30	3.85	-1.26	-0.00	-2.5 to 2.5	Pass
					40	3.85	-5.42	-0.00	-2.5 to 2.5	Pass
	50	3.85	-1.25	-0.00	-2.5 to 2.5	Pass				
	1880	75	0	20	3.27	-13.07	-0.01	-2.5 to 2.5	Pass	
					3.85	-8.35	-0.00	-2.5 to 2.5	Pass	



				-10	4.43	-5.95	-0.00	-2.5 to 2.5	Pass								
				0	3.85	-2.38	-0.00	-2.5 to 2.5	Pass								
				10	3.85	-3.79	-0.00	-2.5 to 2.5	Pass								
				30	3.85	-4.82	-0.00	-2.5 to 2.5	Pass								
				40	3.85	-5.11	-0.00	-2.5 to 2.5	Pass								
				50	3.85	-11.41	-0.01	-2.5 to 2.5	Pass								
	1902.5	75	0	20	3.85	-12.72	-0.01	-2.5 to 2.5	Pass								
					3.27	-10.14	-0.01	-2.5 to 2.5	Pass								
					3.85	-9.10	-0.00	-2.5 to 2.5	Pass								
				-10	0	10	30	40	50	4.43	-6.02	-0.00	-2.5 to 2.5	Pass			
										3.85	-9.47	-0.01	-2.5 to 2.5	Pass			
										3.85	-8.48	-0.00	-2.5 to 2.5	Pass			
										3.85	-1.70	-0.00	-2.5 to 2.5	Pass			
										3.85	-6.95	-0.00	-2.5 to 2.5	Pass			
										3.85	-1.75	-0.00	-2.5 to 2.5	Pass			
16QAM	1857.5	75	0	20	-10	0	10	30	40	50	3.85	-2.98	-0.00	-2.5 to 2.5	Pass		
											3.27	0.73	0.00	-2.5 to 2.5	Pass		
											3.85	-2.12	-0.00	-2.5 to 2.5	Pass		
				1880	75	0	-10	0	10	30	40	50	4.43	-0.76	-0.00	-2.5 to 2.5	Pass
													3.85	-1.69	-0.00	-2.5 to 2.5	Pass
													3.85	-3.63	-0.00	-2.5 to 2.5	Pass
													3.85	-3.60	-0.00	-2.5 to 2.5	Pass
	3.85	-1.52	-0.00										-2.5 to 2.5	Pass			
	3.85	-7.48	-0.00										-2.5 to 2.5	Pass			
	1902.5	75	0	20	-10	0	10	30	40	50	3.85	-4.21	-0.00	-2.5 to 2.5	Pass		
											3.27	-10.30	-0.01	-2.5 to 2.5	Pass		
											3.85	-9.76	-0.01	-2.5 to 2.5	Pass		
				-10	0	10	30	40	50	4.43	-11.17	-0.01	-2.5 to 2.5	Pass			
										3.85	-9.36	-0.01	-2.5 to 2.5	Pass			
										3.85	-8.51	-0.00	-2.5 to 2.5	Pass			
3.85										-12.95	-0.01	-2.5 to 2.5	Pass				
3.85										-2.35	-0.00	-2.5 to 2.5	Pass				
64QAM	1857.5	75	0	20	-10	0	10	30	40	50	3.85	-6.24	-0.00	-2.5 to 2.5	Pass		
											3.27	-4.72	-0.00	-2.5 to 2.5	Pass		
											3.85	-4.76	-0.00	-2.5 to 2.5	Pass		
				-10	0	10	30	40	50	4.43	-2.53	-0.00	-2.5 to 2.5	Pass			
										3.85	-1.53	-0.00	-2.5 to 2.5	Pass			
										3.85	-4.95	-0.00	-2.5 to 2.5	Pass			
										3.85	-4.31	-0.00	-2.5 to 2.5	Pass			
	1880	75	0	-10	0	10	30	40	50	3.85	-4.15	-0.00	-2.5 to 2.5	Pass			
3.85										-1.06	-0.00	-2.5 to 2.5	Pass				
3.85										-6.79	-0.00	-2.5 to 2.5	Pass				
3.27										-3.00	-0.00	-2.5 to 2.5	Pass				
3.85										-4.06	-0.00	-2.5 to 2.5	Pass				
-10	0	10	30	40	50	4.43	-4.21	-0.00	-2.5 to 2.5	Pass							
						3.85	-1.67	-0.00	-2.5 to 2.5	Pass							
						3.85	-0.77	-0.00	-2.5 to 2.5	Pass							
						3.85	-5.75	-0.00	-2.5 to 2.5	Pass							
-10	0	10	30	40	50	3.85	-1.50	-0.00	-2.5 to 2.5	Pass							
						3.85	-1.06	-0.00	-2.5 to 2.5	Pass							
						3.85	-2.58	-0.00	-2.5 to 2.5	Pass							
						3.27	-3.35	-0.00	-2.5 to 2.5	Pass							
-10	0	10	30	40	50	3.85	-11.36	-0.01	-2.5 to 2.5	Pass							
						4.43	-7.67	-0.00	-2.5 to 2.5	Pass							
						3.85	-6.52	-0.00	-2.5 to 2.5	Pass							



				0	3.85	-5.38	-0.00	-2.5 to 2.5	Pass
				10	3.85	-9.88	-0.01	-2.5 to 2.5	Pass
				30	3.85	-7.72	-0.00	-2.5 to 2.5	Pass
				40	3.85	-3.65	-0.00	-2.5 to 2.5	Pass
				50	3.85	-8.17	-0.00	-2.5 to 2.5	Pass
	1902.5	75	0	20	3.27	0.09	0.00	-2.5 to 2.5	Pass
					3.85	-5.79	-0.00	-2.5 to 2.5	Pass
					4.43	-6.68	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-0.93	-0.00	-2.5 to 2.5	Pass
				0	3.85	-3.66	-0.00	-2.5 to 2.5	Pass
				10	3.85	-7.25	-0.00	-2.5 to 2.5	Pass
				30	3.85	-6.82	-0.00	-2.5 to 2.5	Pass
				40	3.85	-8.24	-0.00	-2.5 to 2.5	Pass
				50	3.85	-8.17	-0.00	-2.5 to 2.5	Pass

B2\_20MHz

Test Result

Band: 2 / Bandwidth: 20MHz									
Modulation	Frequency (MHz)	RB Allocation		Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
		Size	Offset				Result	Limit	
QPSK	1860	100	0	20	3.27	-17.22	-0.01	-2.5 to 2.5	Pass
					3.85	-1.06	-0.00	-2.5 to 2.5	Pass
					4.43	1.42	0.00	-2.5 to 2.5	Pass
				-10	3.85	-7.92	-0.00	-2.5 to 2.5	Pass
				0	3.85	-6.47	-0.00	-2.5 to 2.5	Pass
				10	3.85	-9.08	-0.00	-2.5 to 2.5	Pass
				30	3.85	-4.85	-0.00	-2.5 to 2.5	Pass
				40	3.85	-5.64	-0.00	-2.5 to 2.5	Pass
				50	3.85	-7.70	-0.00	-2.5 to 2.5	Pass
				1880	100	0	20	3.27	-14.72
	3.85	-3.85	-0.00					-2.5 to 2.5	Pass
	4.43	-7.71	-0.00					-2.5 to 2.5	Pass
	-10	3.85	-12.30				-0.01	-2.5 to 2.5	Pass
	0	3.85	-9.64				-0.01	-2.5 to 2.5	Pass
	10	3.85	-8.60				-0.00	-2.5 to 2.5	Pass
	30	3.85	-7.01				-0.00	-2.5 to 2.5	Pass
	40	3.85	-7.58				-0.00	-2.5 to 2.5	Pass
	1900	100	0	20	3.27	-10.54	-0.01	-2.5 to 2.5	Pass
					3.85	-6.02	-0.00	-2.5 to 2.5	Pass
					4.43	-6.09	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-3.49	-0.00	-2.5 to 2.5	Pass
				0	3.85	-6.18	-0.00	-2.5 to 2.5	Pass
				10	3.85	-4.93	-0.00	-2.5 to 2.5	Pass
				30	3.85	-6.38	-0.00	-2.5 to 2.5	Pass
40				3.85	-6.95	-0.00	-2.5 to 2.5	Pass	
16QAM	1860	100	0	20	3.27	-4.11	-0.00	-2.5 to 2.5	Pass
					3.85	-7.91	-0.00	-2.5 to 2.5	Pass
					4.43	-1.06	-0.00	-2.5 to 2.5	Pass
				-10	3.85	-4.46	-0.00	-2.5 to 2.5	Pass
				0	3.85	-5.58	-0.00	-2.5 to 2.5	Pass



	1880	100	0	10	3.85	-2.65	-0.00	-2.5 to 2.5	Pass				
				30	3.85	-2.30	-0.00	-2.5 to 2.5	Pass				
				40	3.85	-5.11	-0.00	-2.5 to 2.5	Pass				
				50	3.85	-8.90	-0.00	-2.5 to 2.5	Pass				
				20	3.27	-7.22	-0.00	-2.5 to 2.5	Pass				
					3.85	-5.01	-0.00	-2.5 to 2.5	Pass				
					4.43	-6.88	-0.00	-2.5 to 2.5	Pass				
				-10	3.85	-8.30	-0.00	-2.5 to 2.5	Pass				
				0	3.85	-4.62	-0.00	-2.5 to 2.5	Pass				
				10	3.85	-4.48	-0.00	-2.5 to 2.5	Pass				
				30	3.85	-5.69	-0.00	-2.5 to 2.5	Pass				
				40	3.85	-10.89	-0.01	-2.5 to 2.5	Pass				
	50	3.85	-6.61	-0.00	-2.5 to 2.5	Pass							
	1900	100	0	20	3.27	-8.80	-0.00	-2.5 to 2.5	Pass				
					3.85	-6.78	-0.00	-2.5 to 2.5	Pass				
					4.43	-7.78	-0.00	-2.5 to 2.5	Pass				
				-10	3.85	-6.81	-0.00	-2.5 to 2.5	Pass				
				0	3.85	-3.49	-0.00	-2.5 to 2.5	Pass				
				10	3.85	-5.69	-0.00	-2.5 to 2.5	Pass				
				30	3.85	-4.68	-0.00	-2.5 to 2.5	Pass				
				40	3.85	-9.56	-0.01	-2.5 to 2.5	Pass				
				50	3.85	-5.31	-0.00	-2.5 to 2.5	Pass				
				64QAM	1860	100	0	20	3.27	-6.37	-0.00	-2.5 to 2.5	Pass
									3.85	-3.32	-0.00	-2.5 to 2.5	Pass
4.43									-7.07	-0.00	-2.5 to 2.5	Pass	
-10	3.85	-7.54	-0.00					-2.5 to 2.5	Pass				
0	3.85	-4.26	-0.00					-2.5 to 2.5	Pass				
10	3.85	-0.66	-0.00					-2.5 to 2.5	Pass				
30	3.85	-0.83	-0.00					-2.5 to 2.5	Pass				
40	3.85	-2.30	-0.00					-2.5 to 2.5	Pass				
50	3.85	-2.58	-0.00					-2.5 to 2.5	Pass				
1880	100	0	20					3.27	-5.29	-0.00	-2.5 to 2.5	Pass	
								3.85	-5.36	-0.00	-2.5 to 2.5	Pass	
								4.43	-8.04	-0.00	-2.5 to 2.5	Pass	
			-10		3.85	-6.54	-0.00	-2.5 to 2.5	Pass				
			0		3.85	-5.78	-0.00	-2.5 to 2.5	Pass				
			10		3.85	-10.53	-0.01	-2.5 to 2.5	Pass				
			30		3.85	-8.63	-0.00	-2.5 to 2.5	Pass				
			40		3.85	-9.48	-0.01	-2.5 to 2.5	Pass				
			50		3.85	-10.30	-0.01	-2.5 to 2.5	Pass				
			1900		100	0	20	3.27	-4.89	-0.00	-2.5 to 2.5	Pass	
								3.85	-5.36	-0.00	-2.5 to 2.5	Pass	
								4.43	-6.22	-0.00	-2.5 to 2.5	Pass	
-10	3.85	-8.04					-0.00	-2.5 to 2.5	Pass				
0	3.85	-6.82					-0.00	-2.5 to 2.5	Pass				
10	3.85	-8.70					-0.00	-2.5 to 2.5	Pass				
30	3.85	-9.83		-0.01			-2.5 to 2.5	Pass					
40	3.85	-4.39		-0.00			-2.5 to 2.5	Pass					
50	3.85	-5.62		-0.00			-2.5 to 2.5	Pass					



### 99% & 26dB Bandwidth

Band2\_OBW

### Test Result

Band: 2 / NTV						
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		99% Occupied Bandwidth (MHz)	Verdict
			Size	Offset	Result	
1.4	QPSK	1850.7	6	0	1.114	Pass
		1880	6	0	1.110	Pass
		1909.3	6	0	1.111	Pass
	16QAM	1850.7	6	0	1.108	Pass
		1880	6	0	1.115	Pass
		1909.3	6	0	1.117	Pass
	64QAM	1850.7	6	0	1.113	Pass
		1880	6	0	1.111	Pass
		1909.3	6	0	1.112	Pass
3	QPSK	1851.5	15	0	2.719	Pass
		1880	15	0	2.731	Pass
		1908.5	15	0	2.729	Pass
	16QAM	1851.5	15	0	2.730	Pass
		1880	15	0	2.727	Pass
		1908.5	15	0	2.720	Pass
	64QAM	1851.5	15	0	2.720	Pass
		1880	15	0	2.723	Pass
		1908.5	15	0	2.731	Pass
5	QPSK	1852.5	25	0	4.554	Pass
		1880	25	0	4.536	Pass
		1907.5	25	0	4.547	Pass
	16QAM	1852.5	25	0	4.532	Pass
		1880	25	0	4.565	Pass
		1907.5	25	0	4.556	Pass
	64QAM	1852.5	25	0	4.540	Pass
		1880	25	0	4.538	Pass
		1907.5	25	0	4.539	Pass
10	QPSK	1855	50	0	9.077	Pass
		1880	50	0	9.061	Pass
		1905	50	0	9.065	Pass
	16QAM	1855	50	0	9.059	Pass
		1880	50	0	9.055	Pass
		1905	50	0	9.050	Pass
	64QAM	1855	50	0	9.067	Pass
		1880	50	0	9.026	Pass
		1905	50	0	9.053	Pass
15	QPSK	1857.5	75	0	13.583	Pass
		1880	75	0	13.580	Pass
		1902.5	75	0	13.574	Pass
	16QAM	1857.5	75	0	13.610	Pass
		1880	75	0	13.602	Pass
		1902.5	75	0	13.592	Pass
	64QAM	1857.5	75	0	13.566	Pass



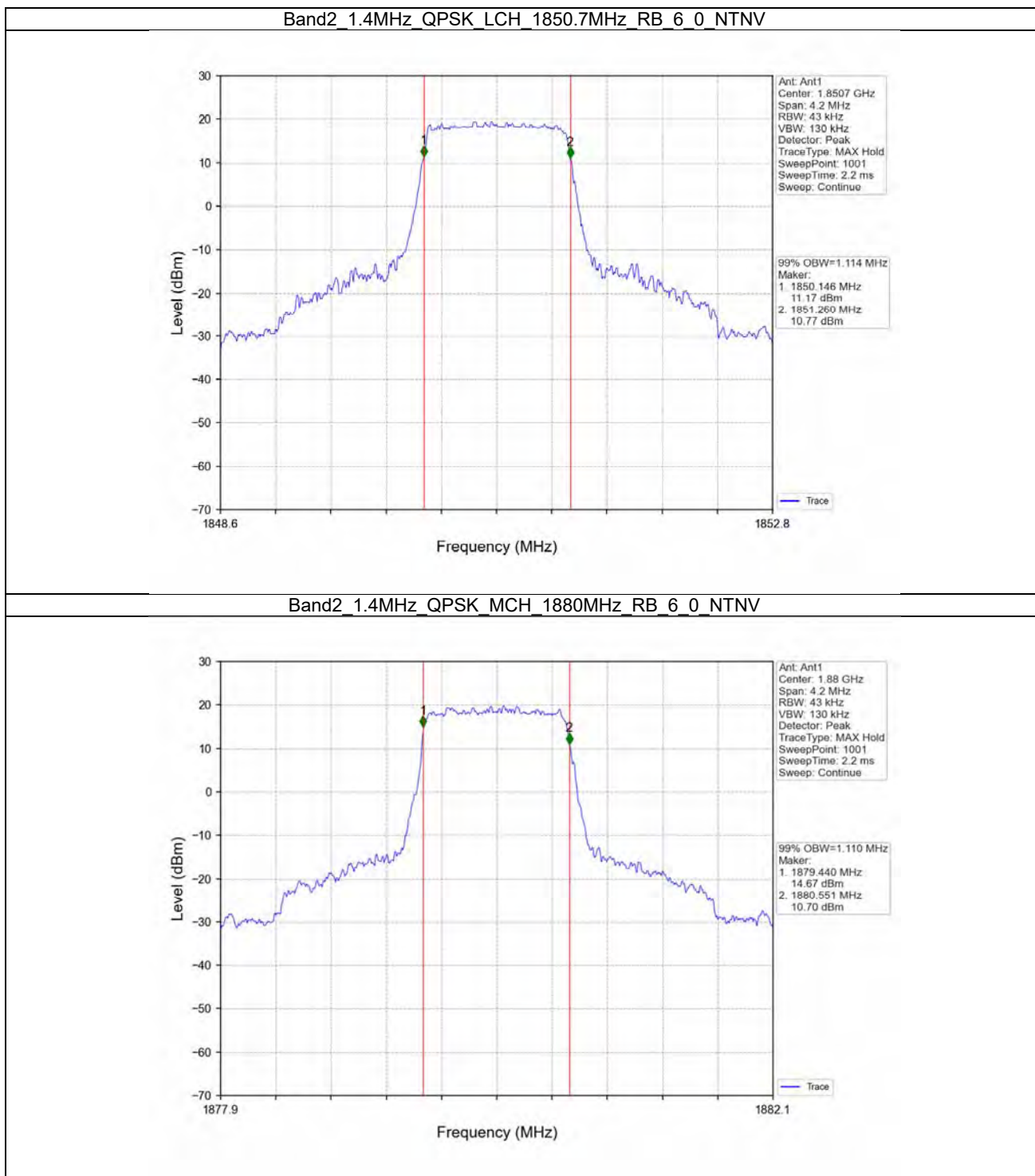


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		1880	75	0	13.609	Pass
		1902.5	75	0	13.604	Pass
20	QPSK	1860	100	0	18.118	Pass
		1880	100	0	18.066	Pass
		1900	100	0	18.113	Pass
	16QAM	1860	100	0	18.192	Pass
		1880	100	0	18.106	Pass
		1900	100	0	18.118	Pass
	64QAM	1860	100	0	18.097	Pass
		1880	100	0	18.095	Pass
		1900	100	0	18.117	Pass

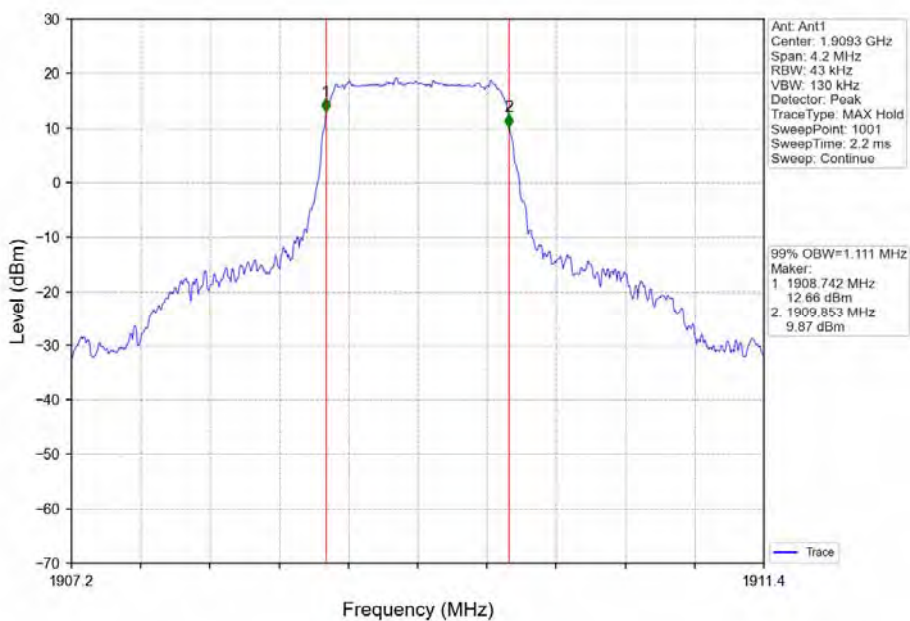


### Test Graph

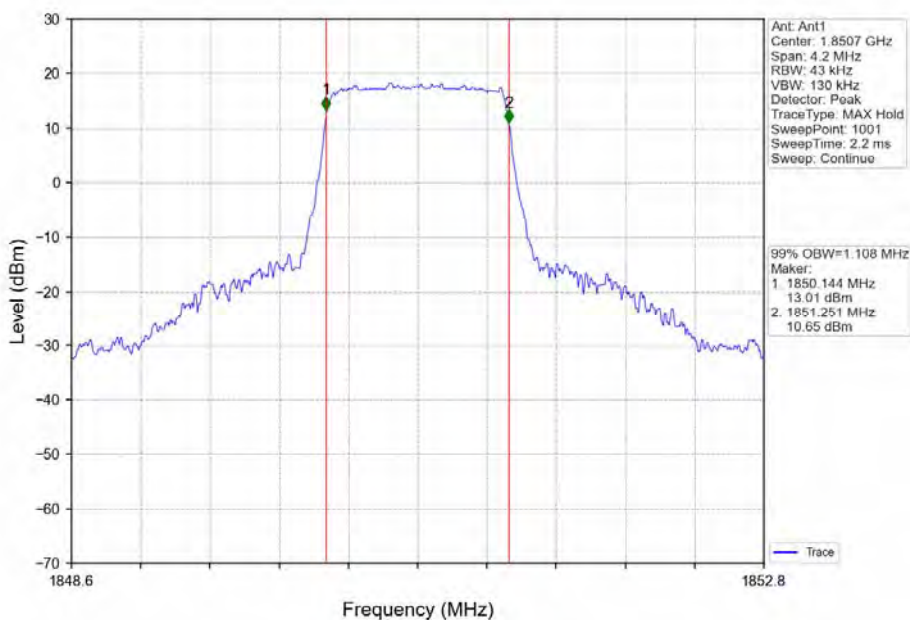


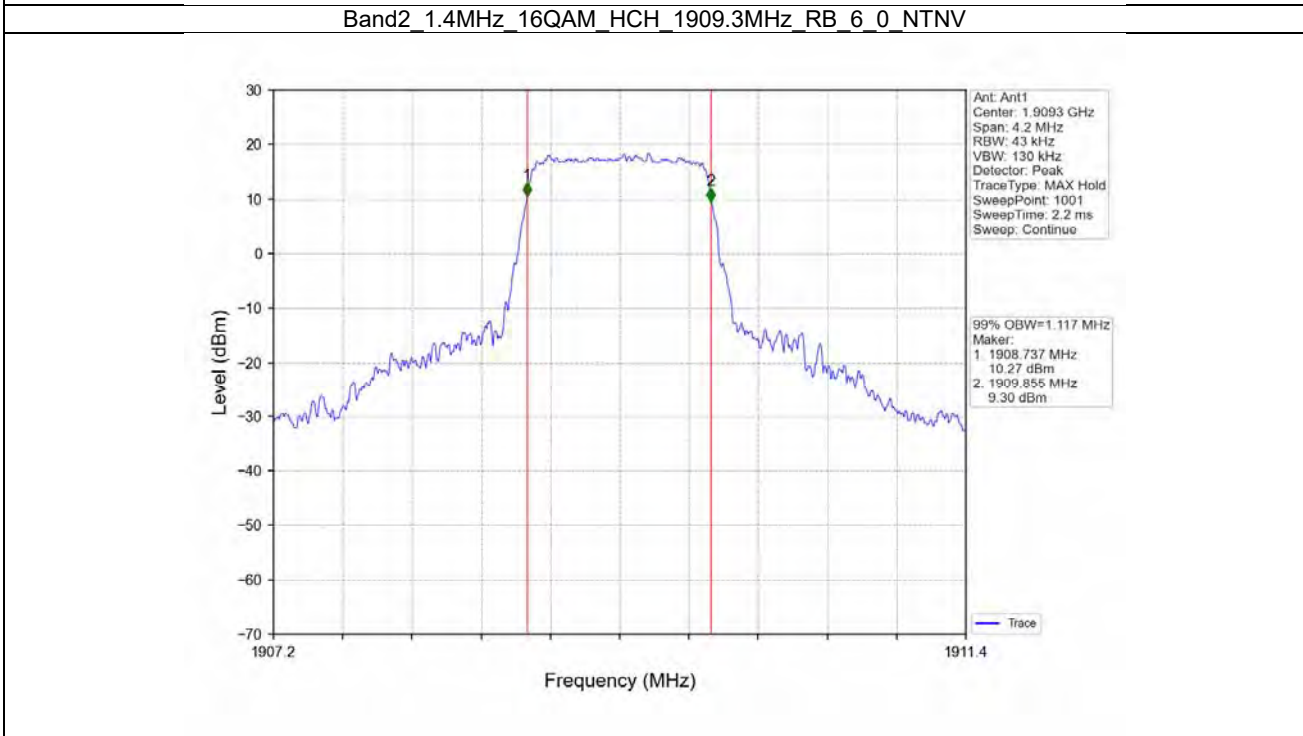
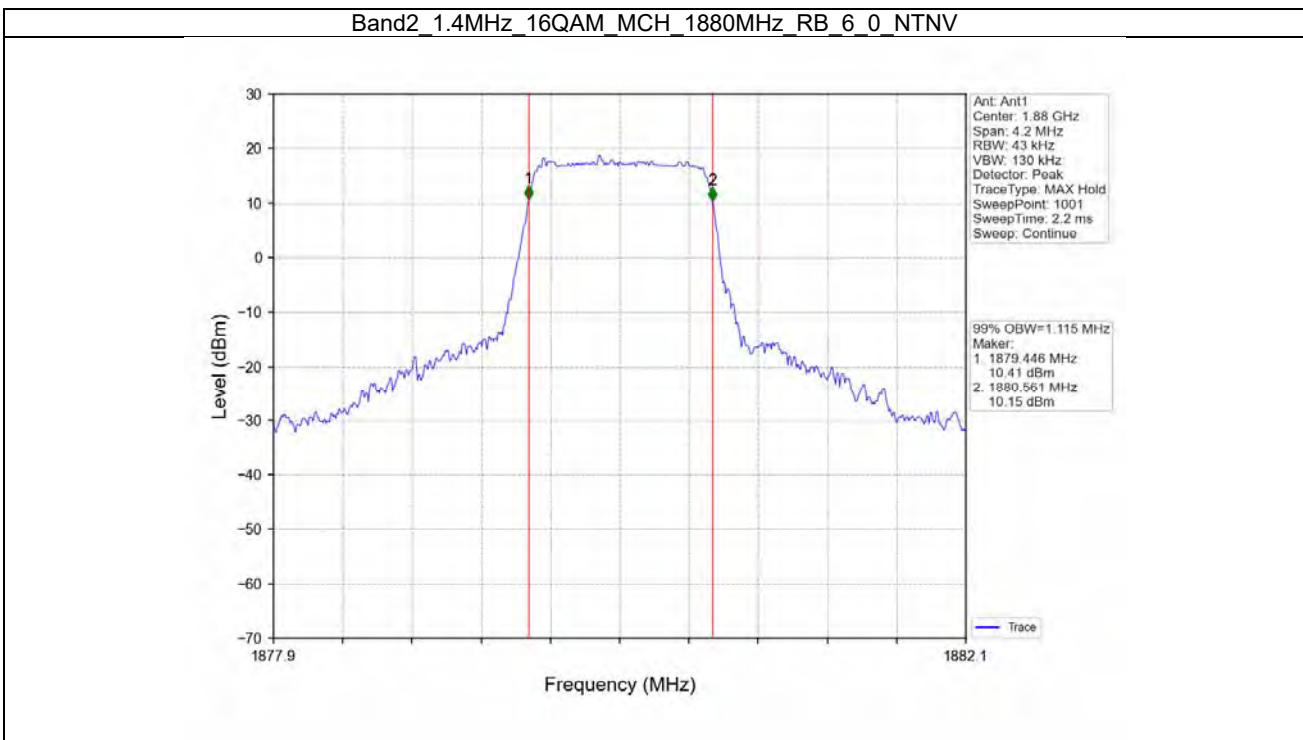


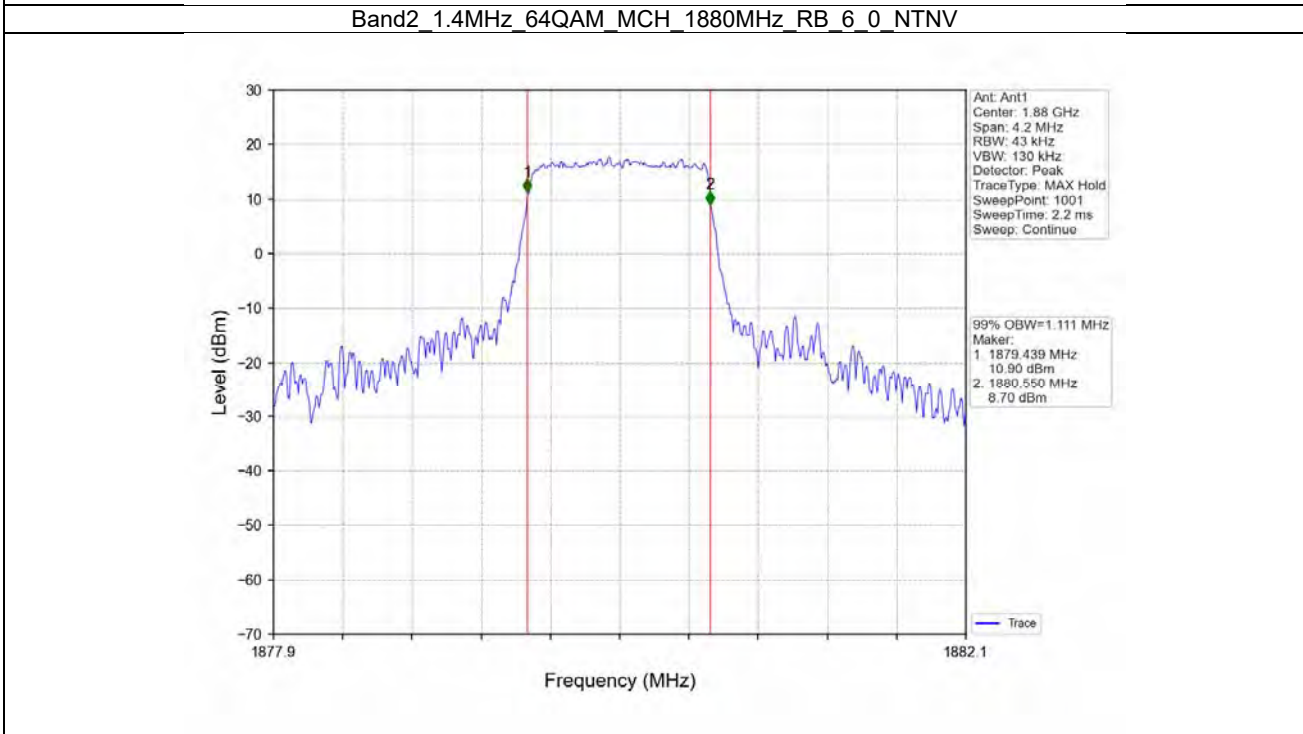
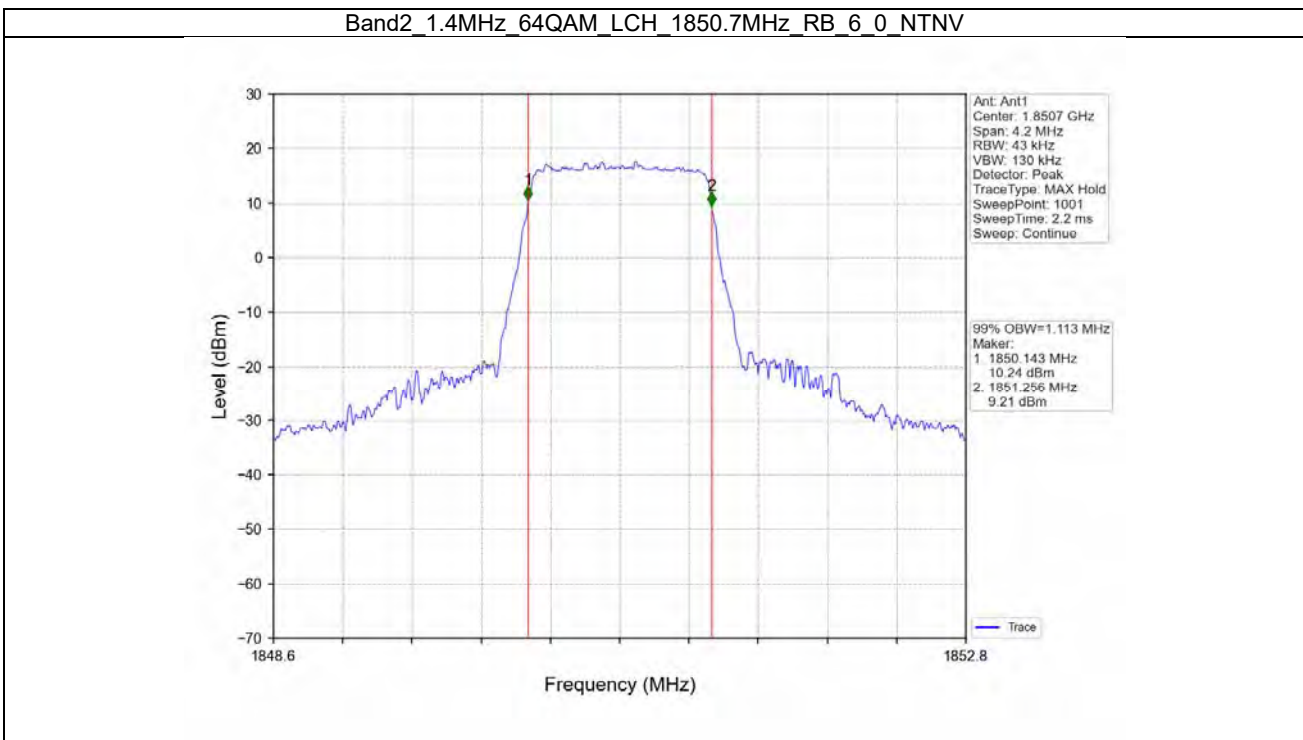
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Band2\_1.4MHz\_16QAM\_LCH\_1850.7MHz\_RB\_6\_0\_NTNV

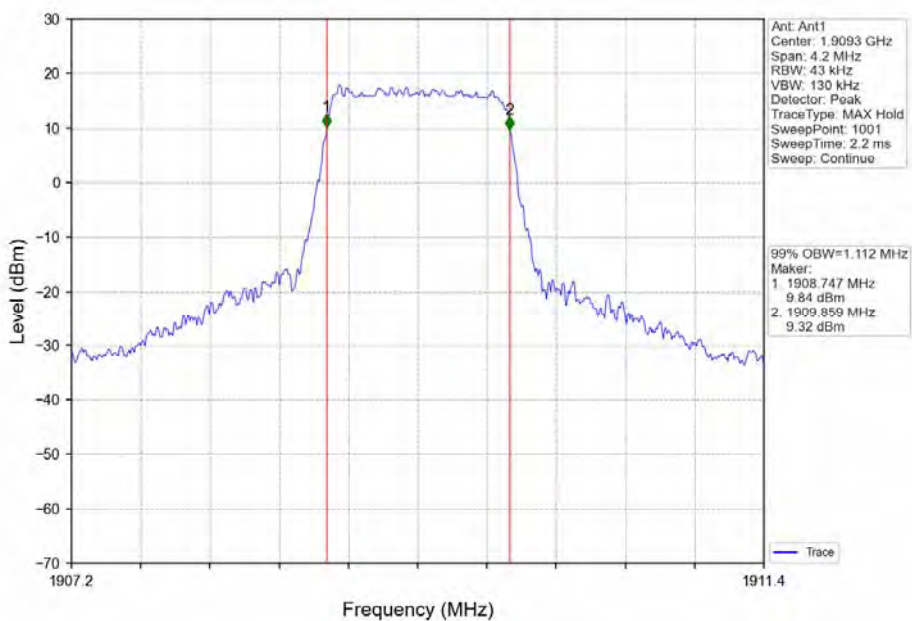




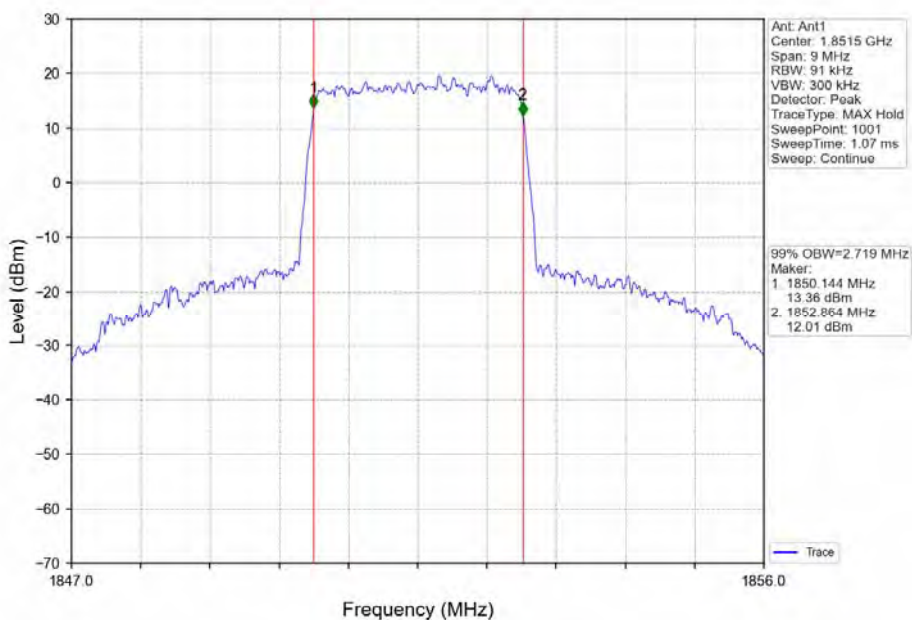




Band2\_1.4MHz\_64QAM\_HCH\_1909.3MHz\_RB\_6\_0\_NTNV

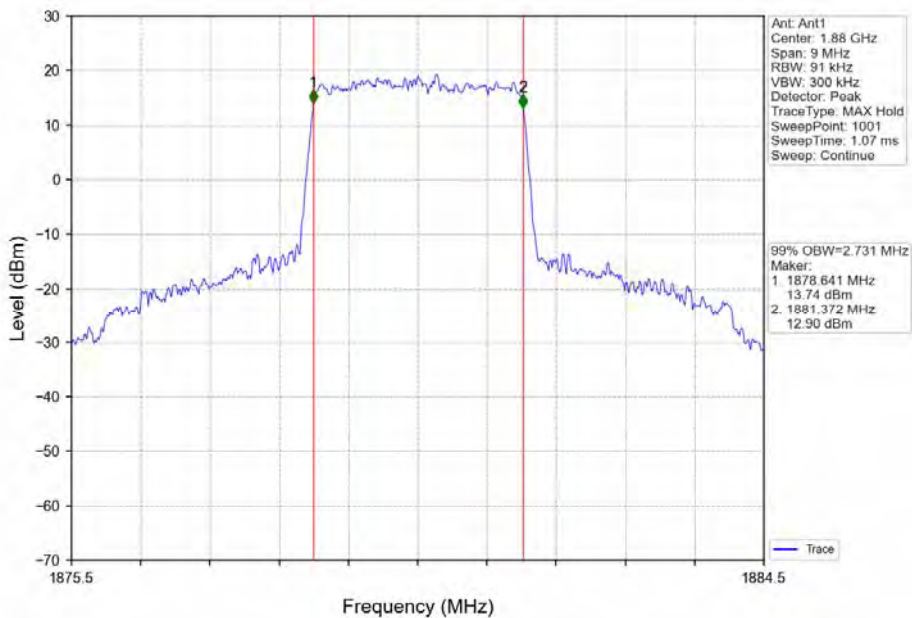


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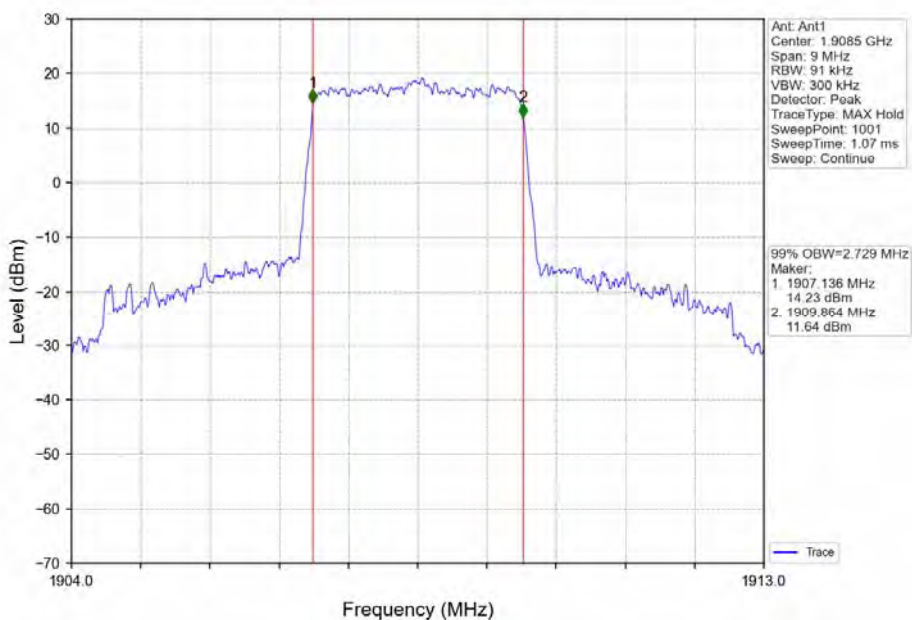


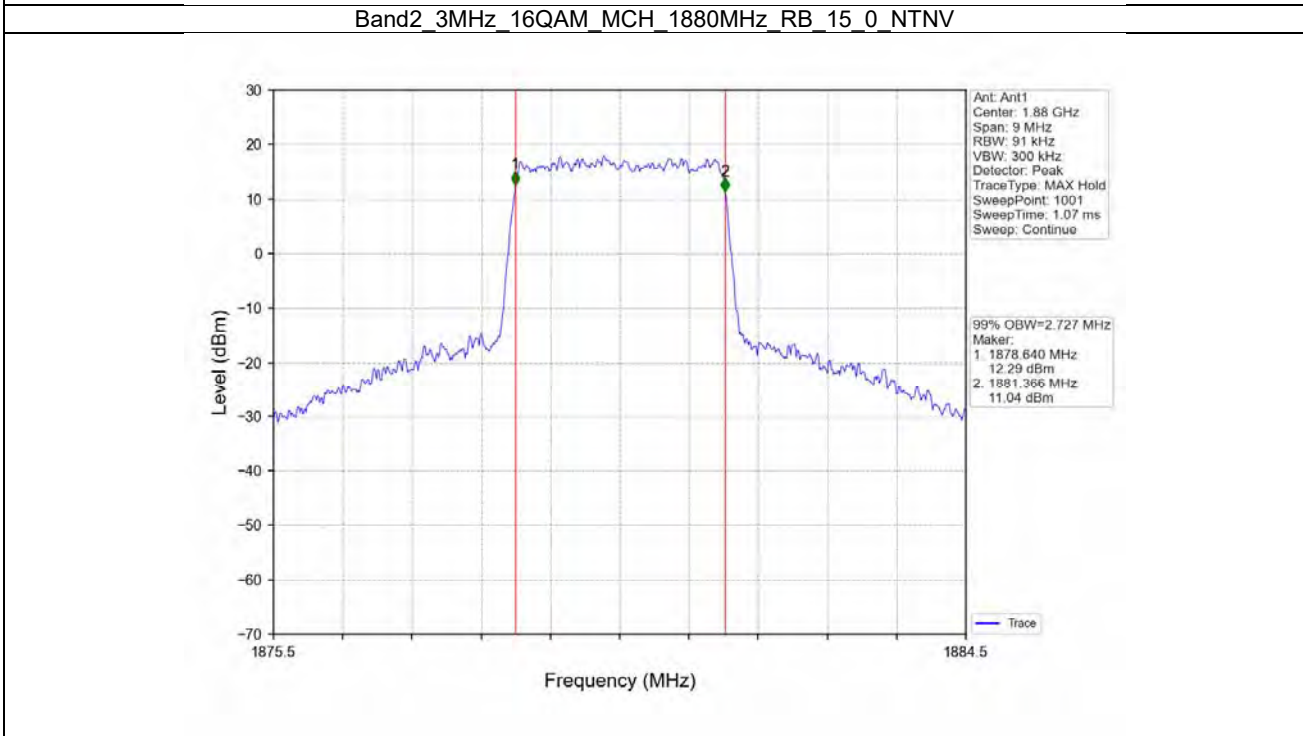
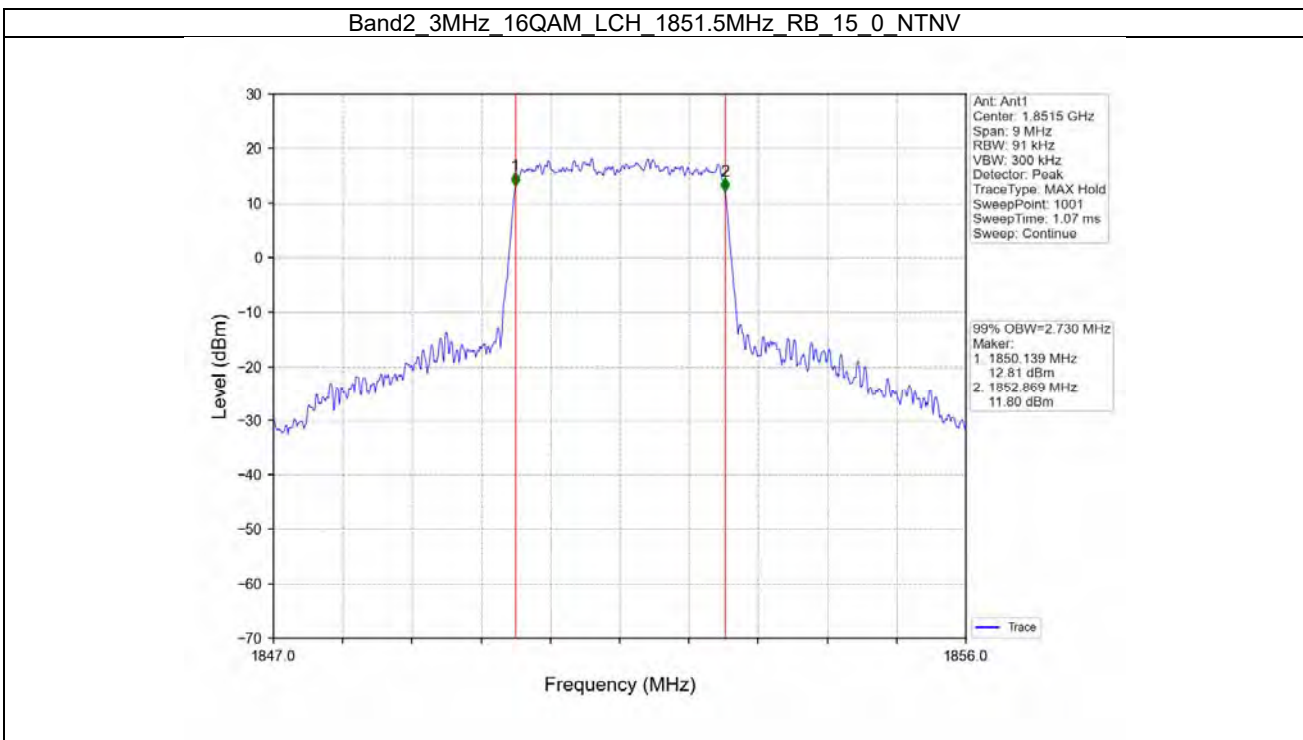


Band2\_3MHz\_QPSK\_MCH\_1880MHz\_RB\_15\_0\_NTNV

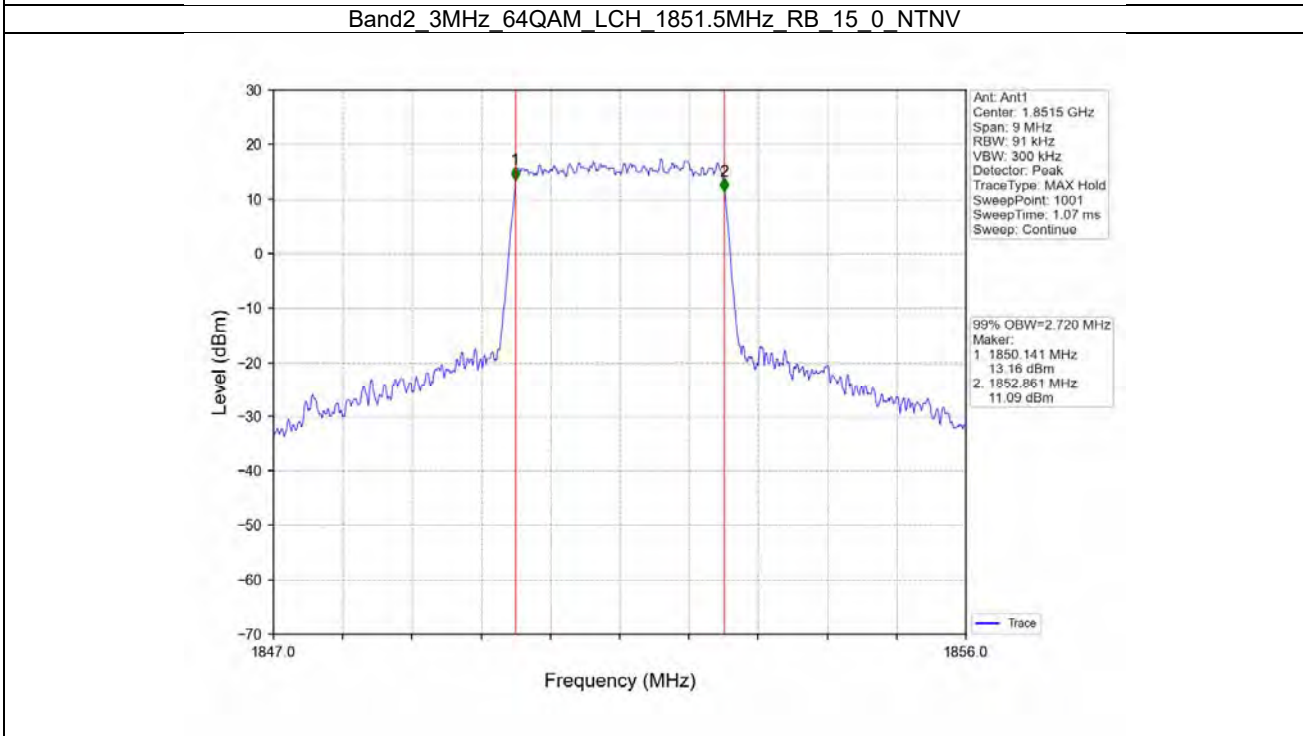
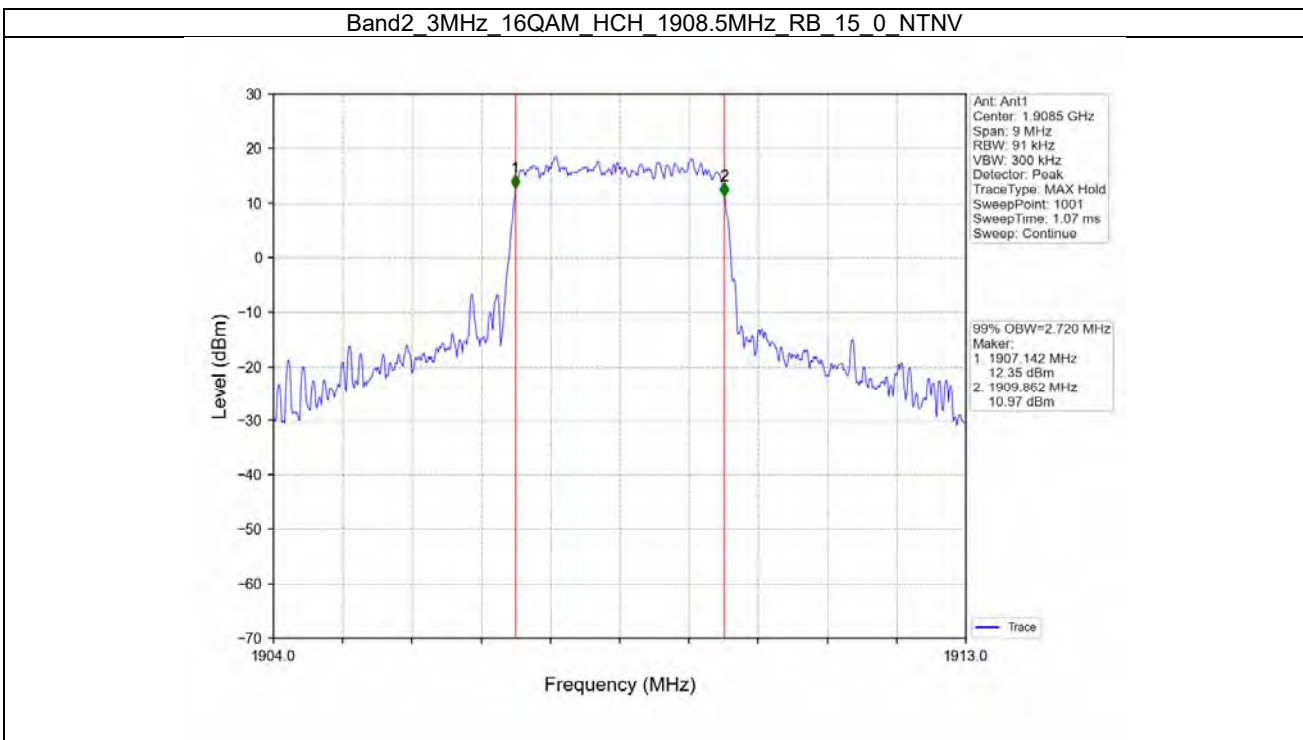


Band2\_3MHz\_QPSK\_HCH\_1908.5MHz\_RB\_15\_0\_NTNV



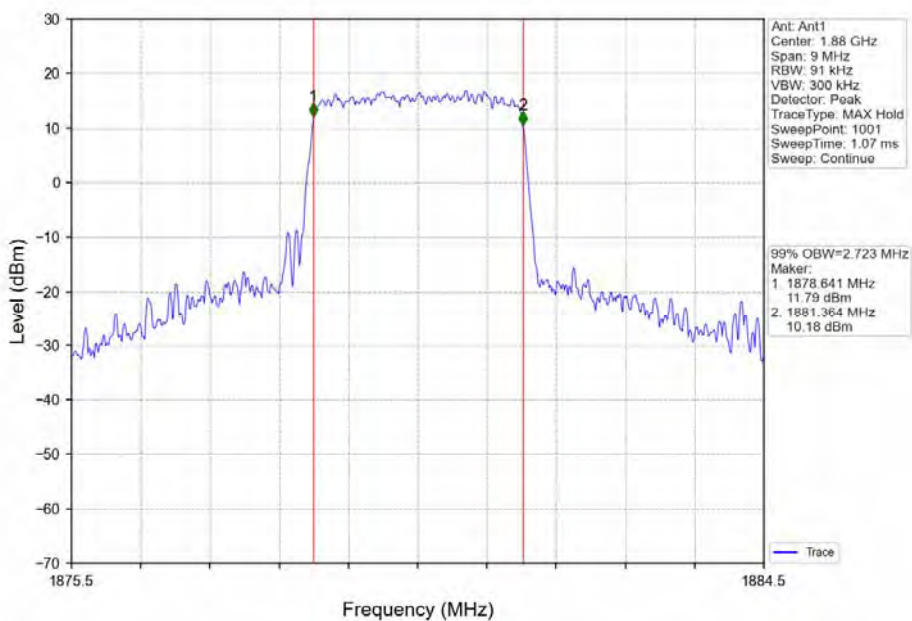




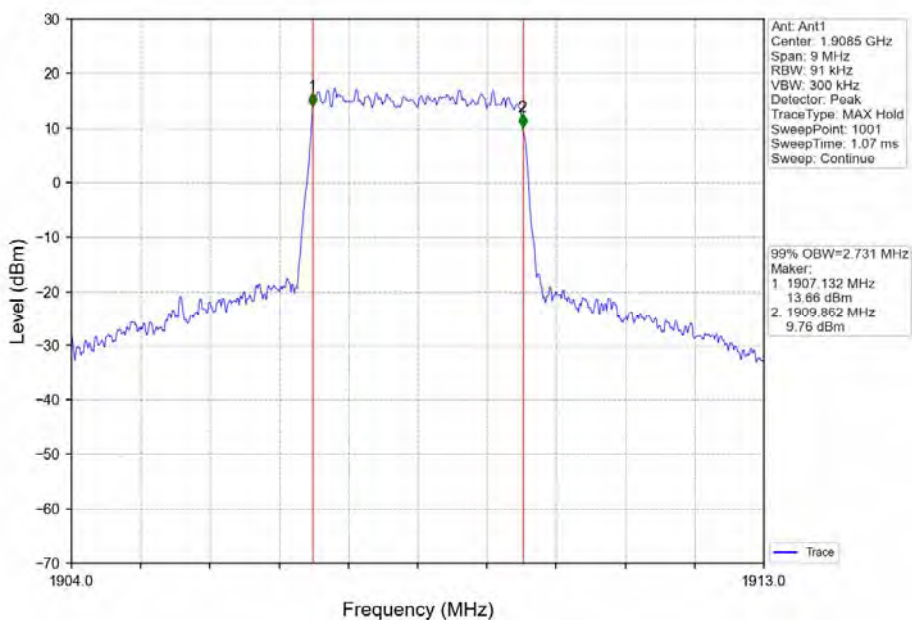




Band2\_3MHz\_64QAM\_MCH\_1880MHz\_RB\_15\_0\_NTNV

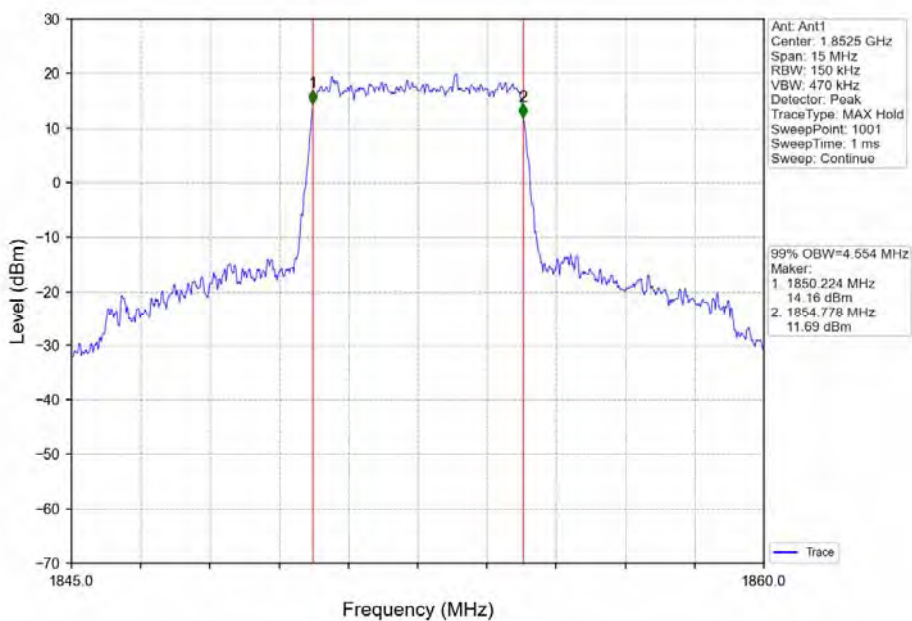


Band2\_3MHz\_64QAM\_HCH\_1908.5MHz\_RB\_15\_0\_NTNV

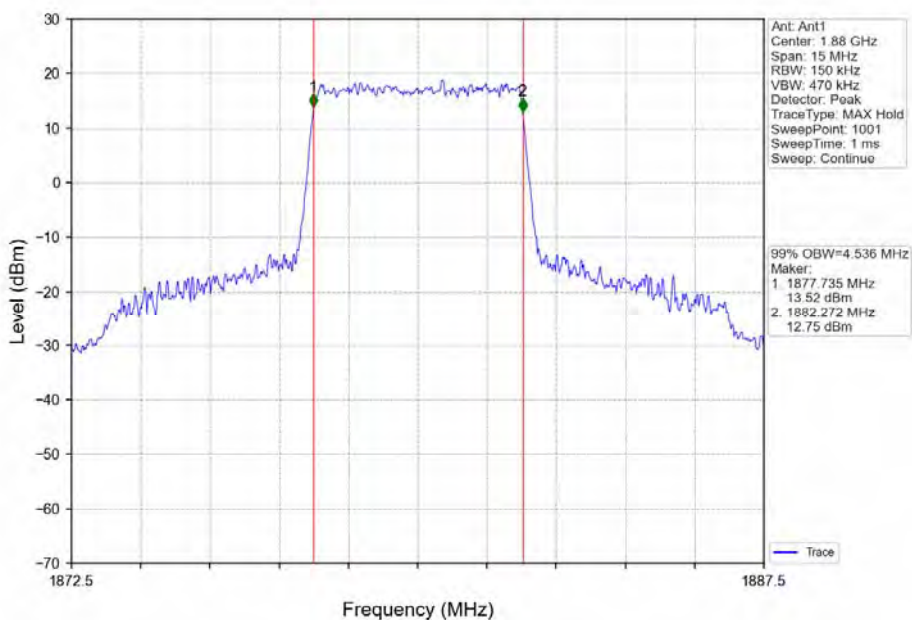




Band2\_5MHz\_QPSK\_LCH\_1852.5MHz\_RB\_25\_0\_NTNV

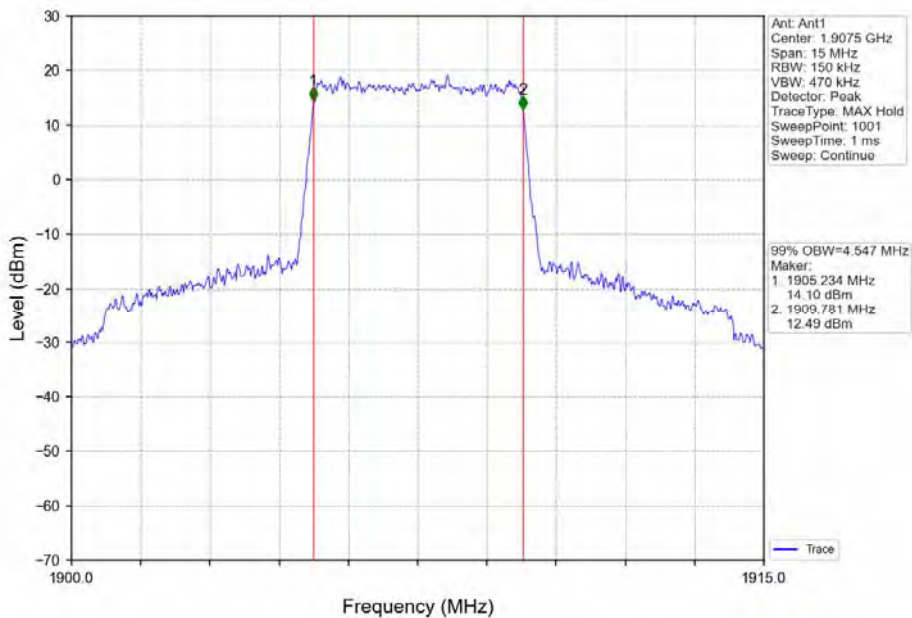


Band2\_5MHz\_QPSK\_MCH\_1880MHz\_RB\_25\_0\_NTNV

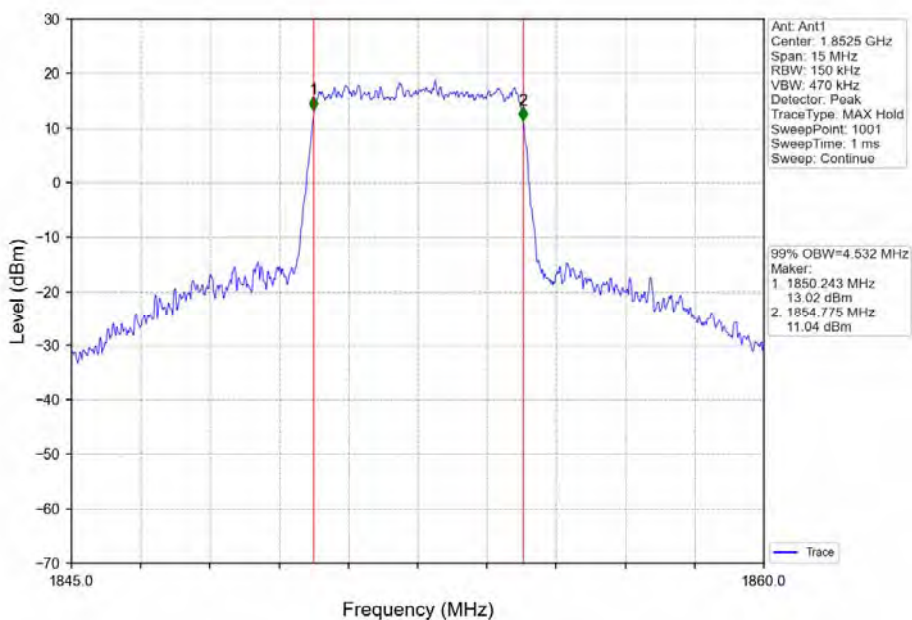




Band2\_5MHz\_QPSK\_HCH\_1907.5MHz\_RB\_25\_0\_NTNV

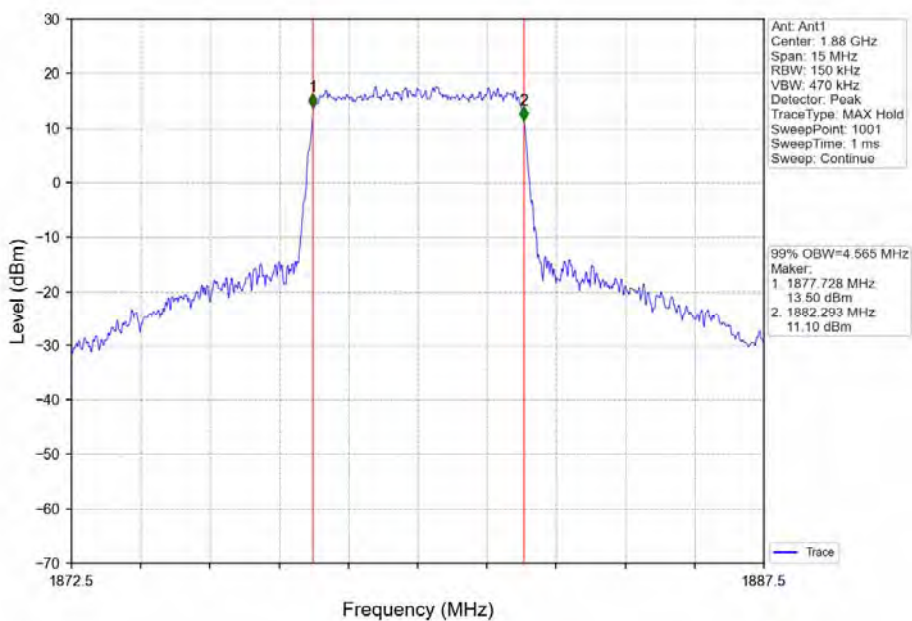


Band2\_5MHz\_16QAM\_LCH\_1852.5MHz\_RB\_25\_0\_NTNV

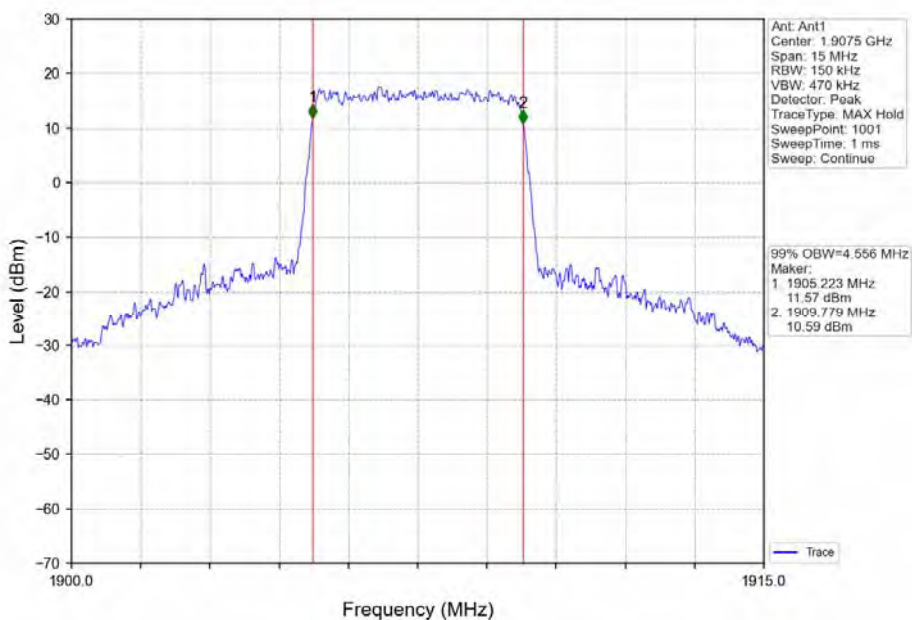


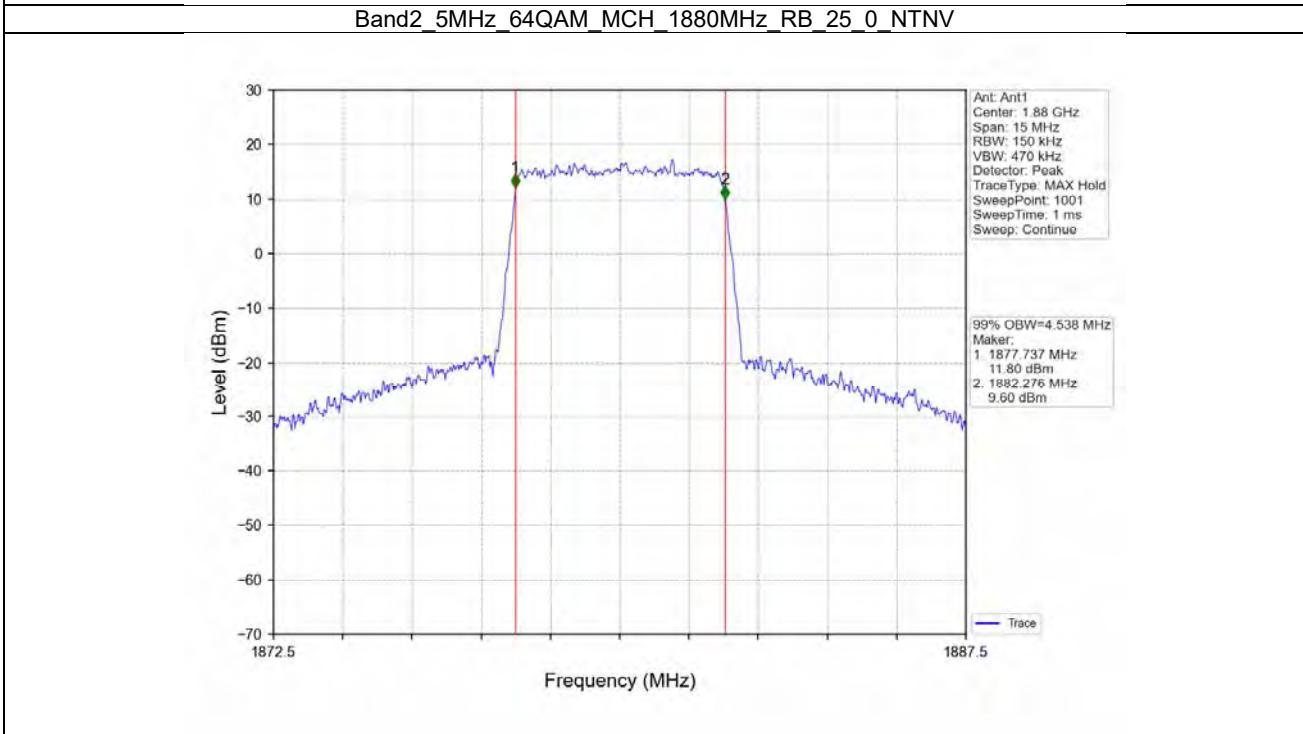
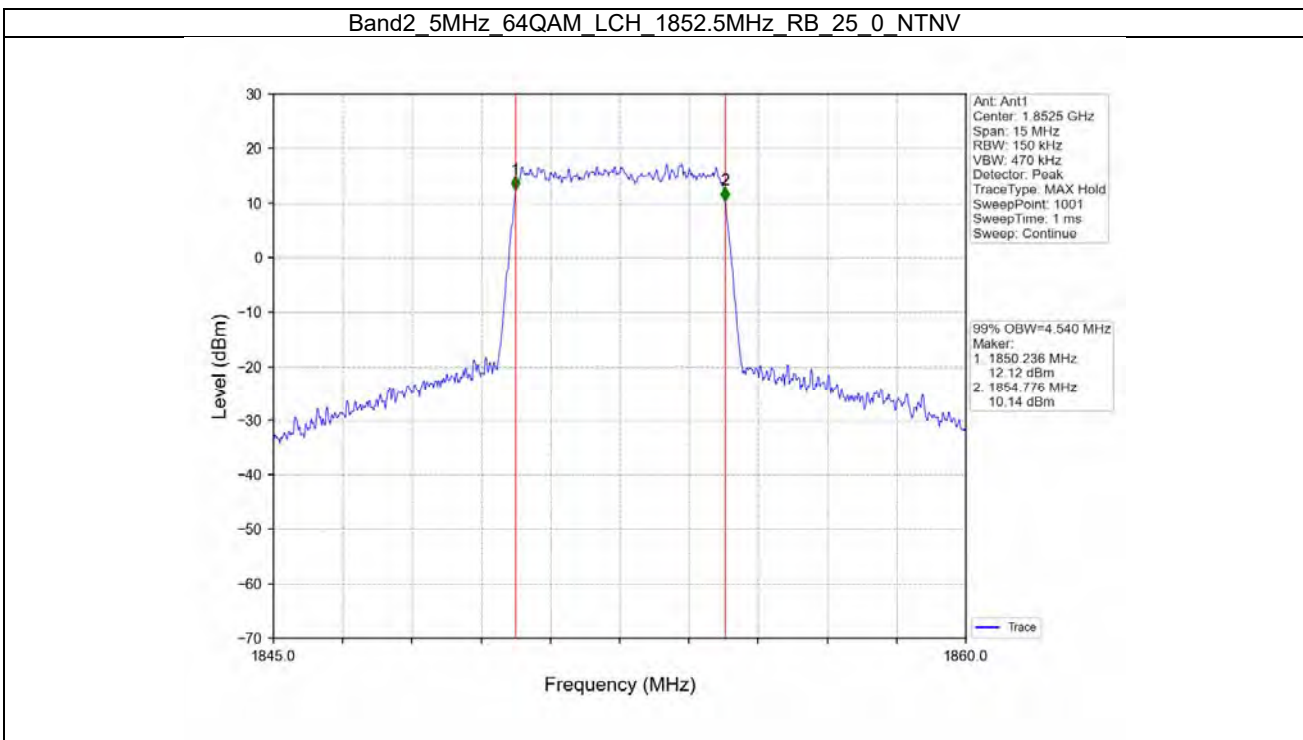


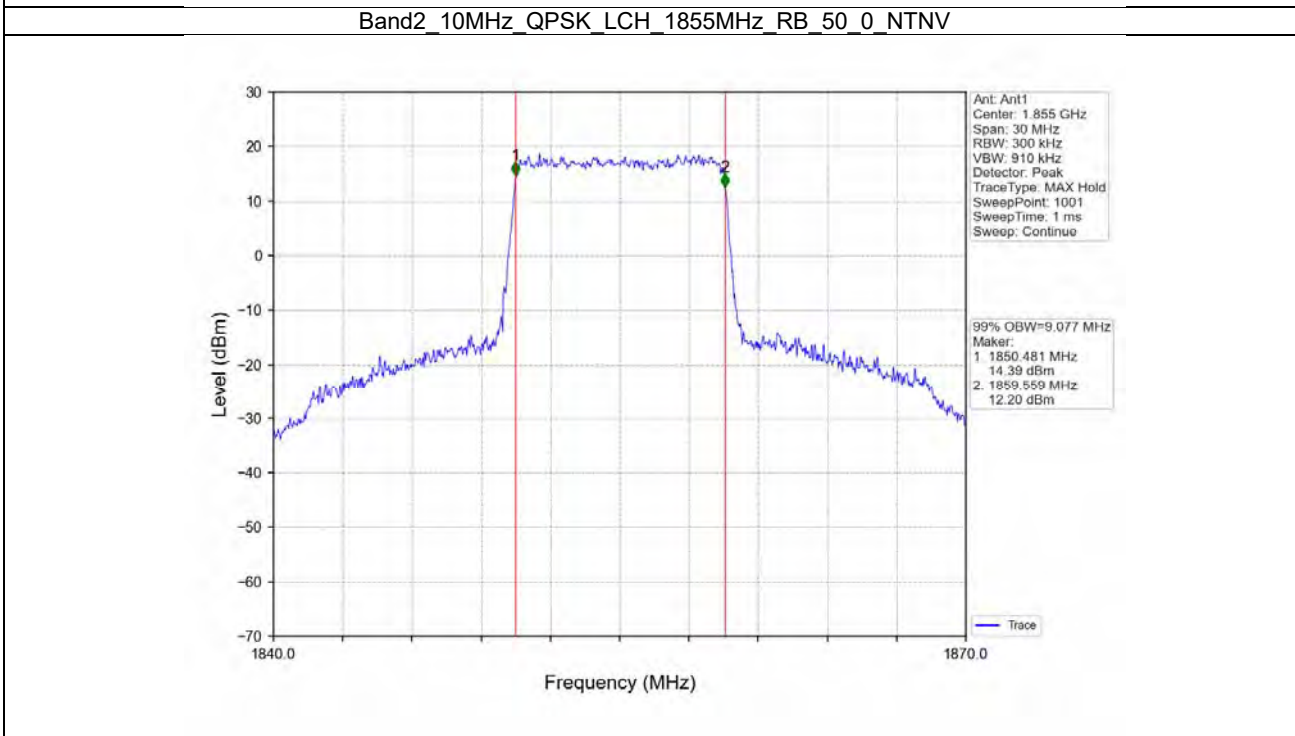
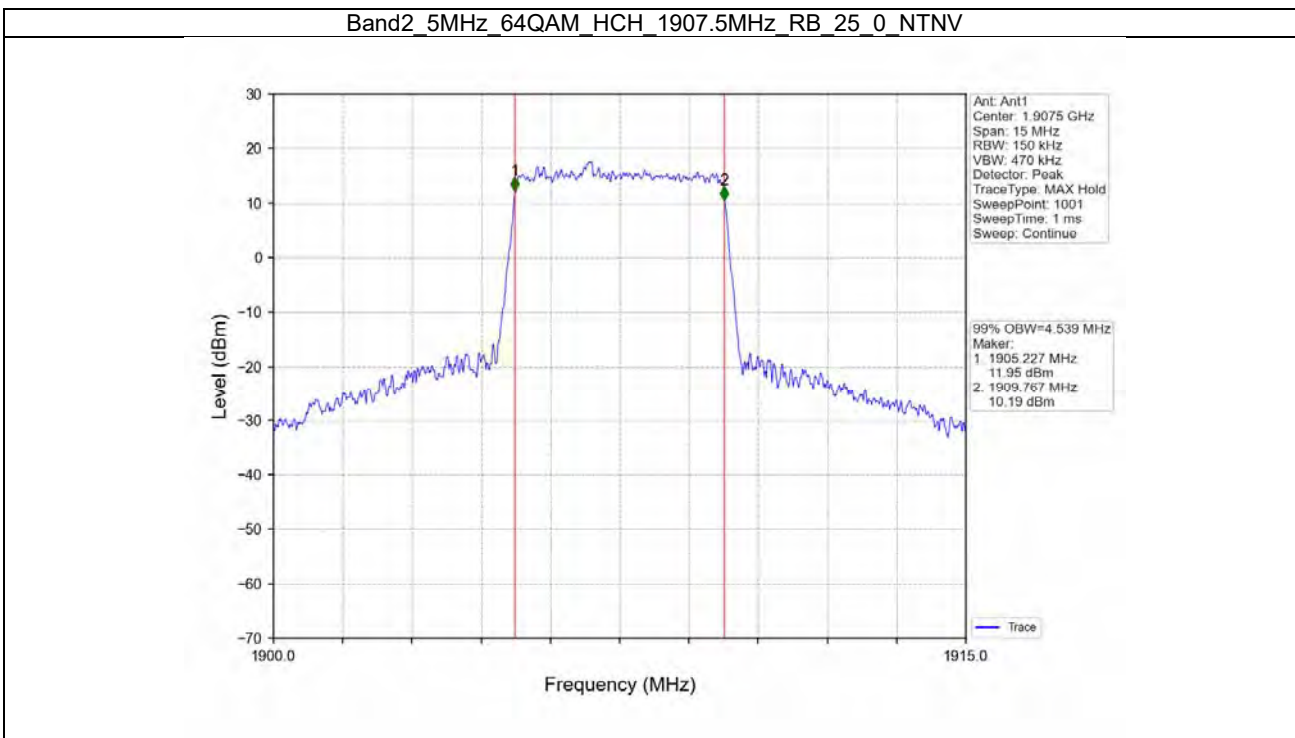
Band2\_5MHz\_16QAM\_MCH\_1880MHz\_RB\_25\_0\_NTNV



Band2\_5MHz\_16QAM\_HCH\_1907.5MHz\_RB\_25\_0\_NTNV

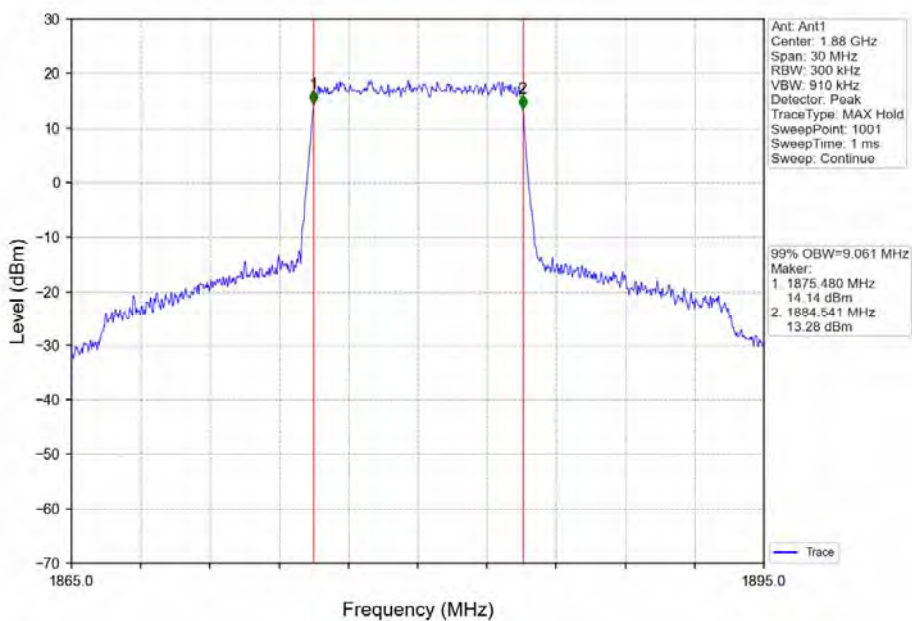




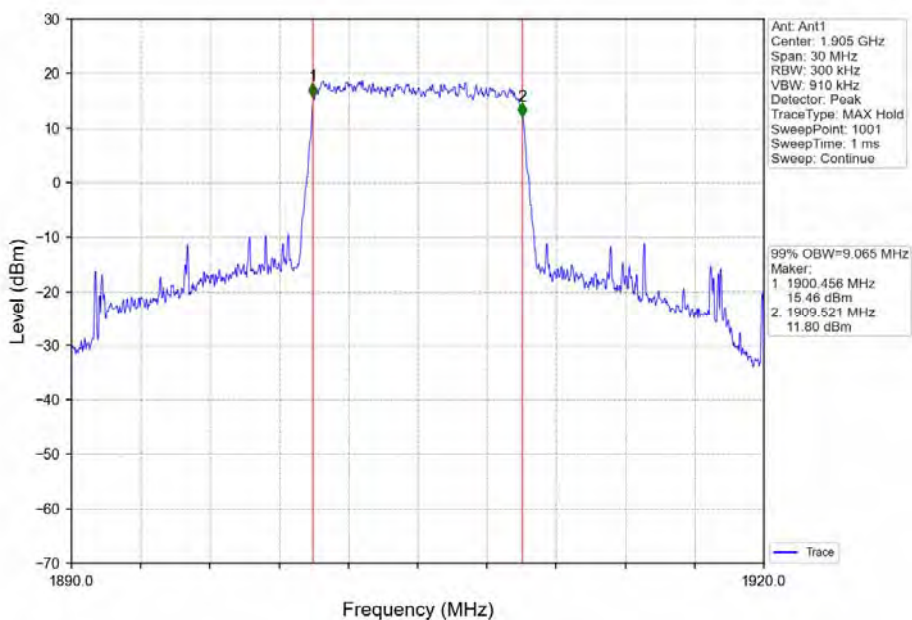




Band2\_10MHz\_QPSK\_MCH\_1880MHz\_RB\_50\_0\_NTNV



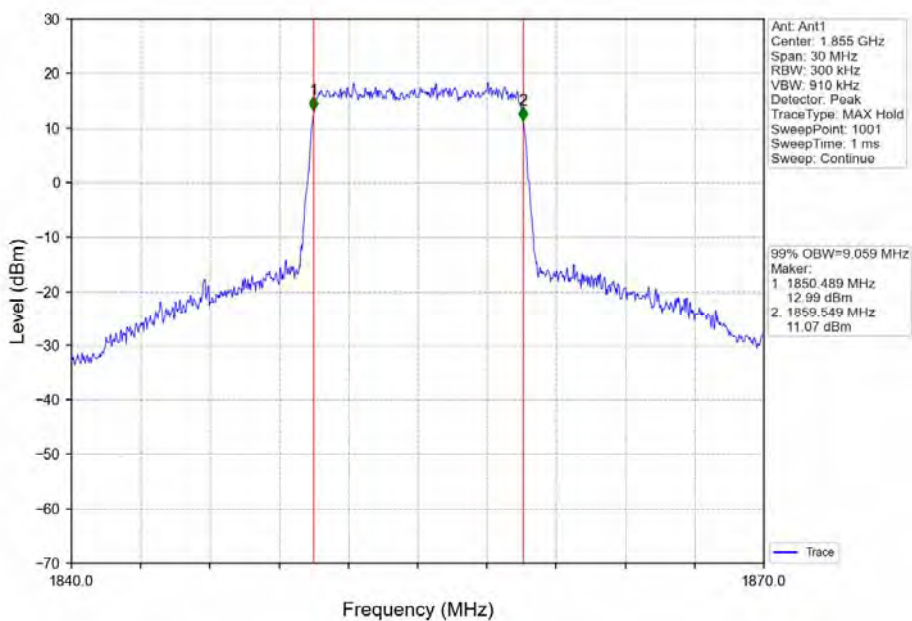
Band2\_10MHz\_QPSK\_HCH\_1905MHz\_RB\_50\_0\_NTNV



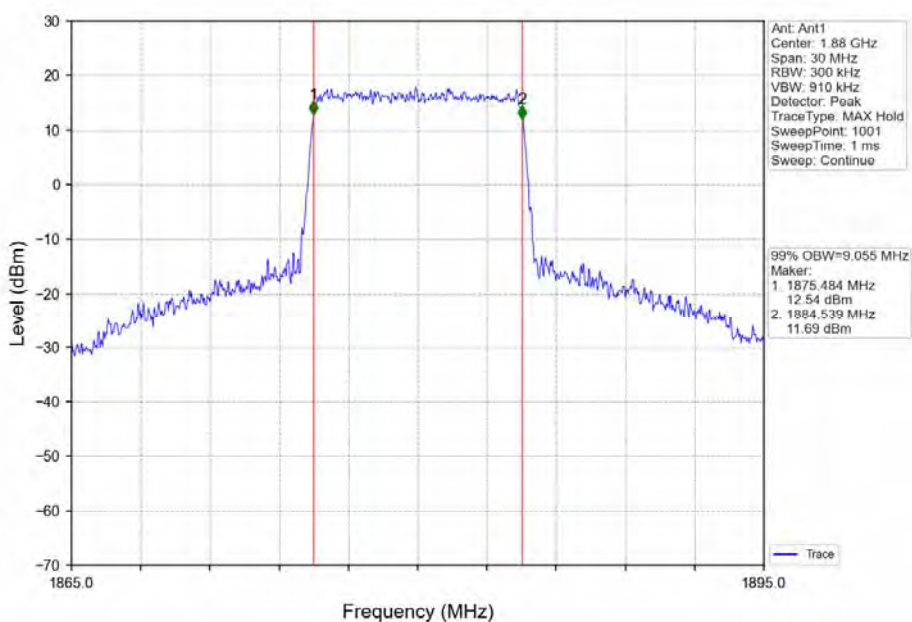




Band2\_10MHz\_16QAM\_LCH\_1855MHz\_RB\_50\_0\_NTNV

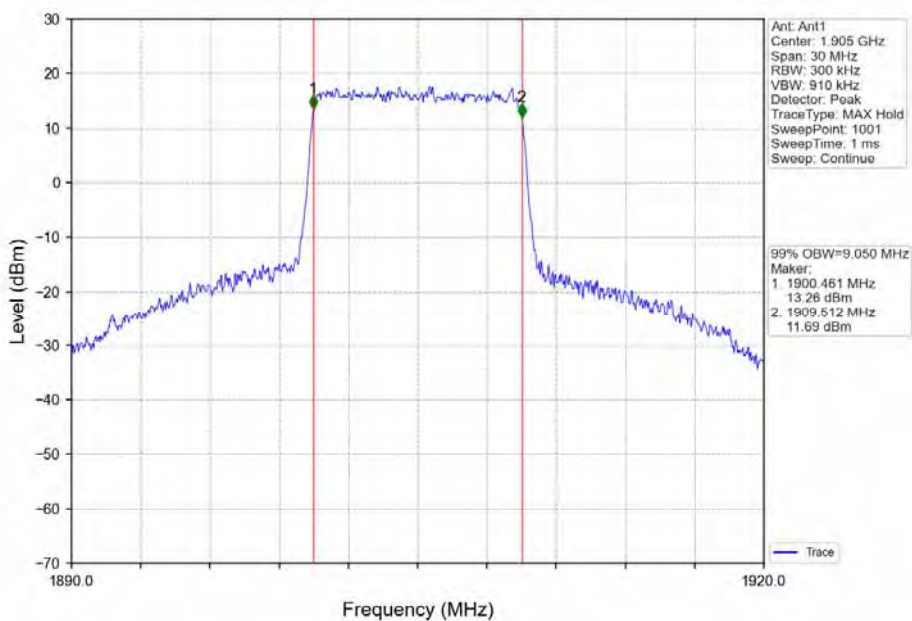


Band2\_10MHz\_16QAM\_MCH\_1880MHz\_RB\_50\_0\_NTNV

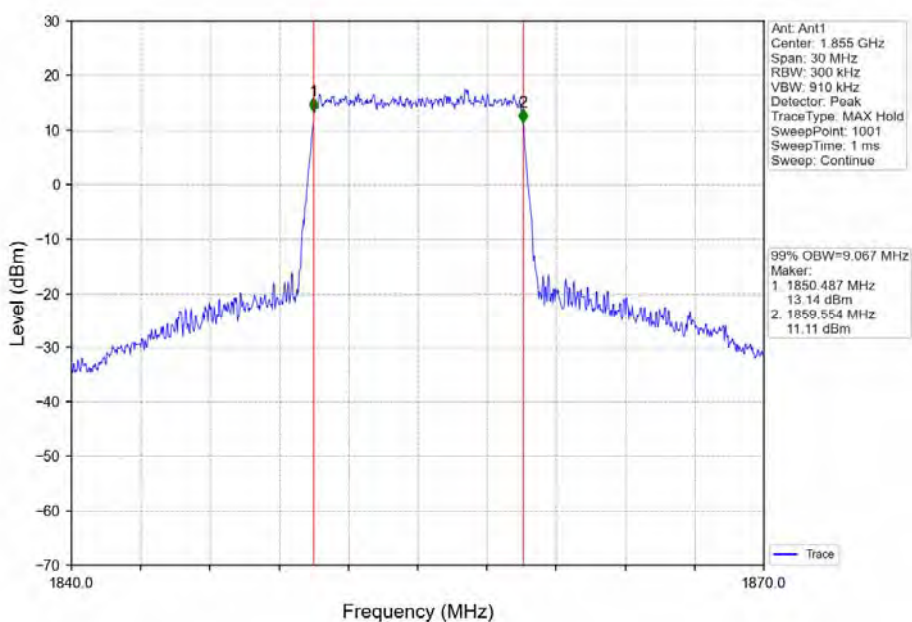




Band2\_10MHz\_16QAM\_HCH\_1905MHz\_RB\_50\_0\_NTNV

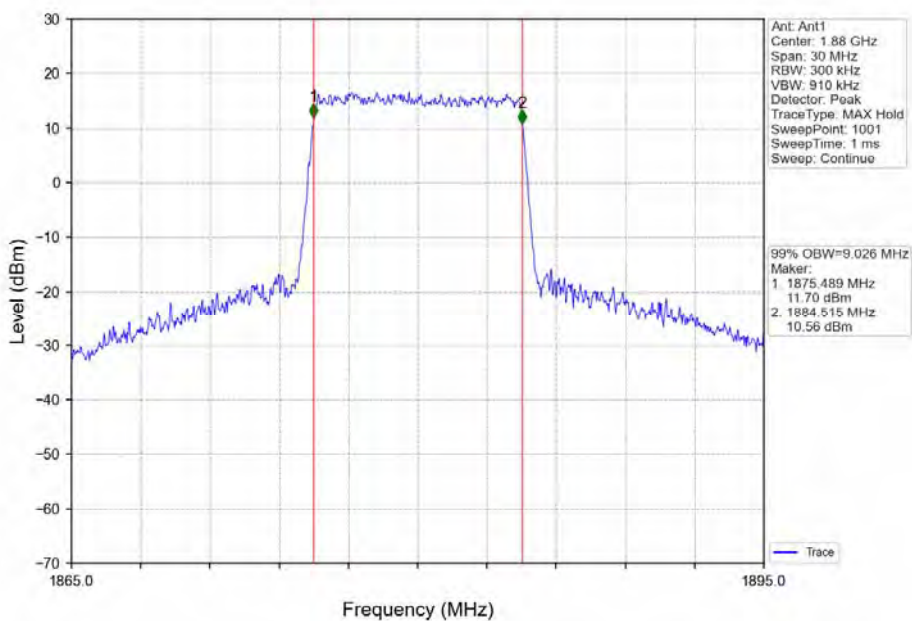


Band2\_10MHz\_64QAM\_LCH\_1855MHz\_RB\_50\_0\_NTNV

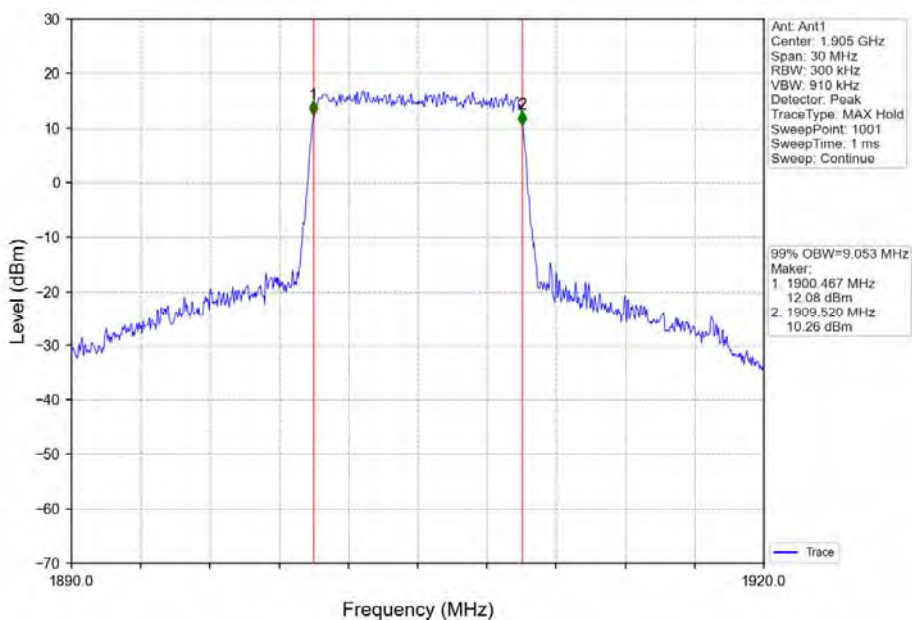




Band2\_10MHz\_64QAM\_MCH\_1880MHz\_RB\_50\_0\_NTNV

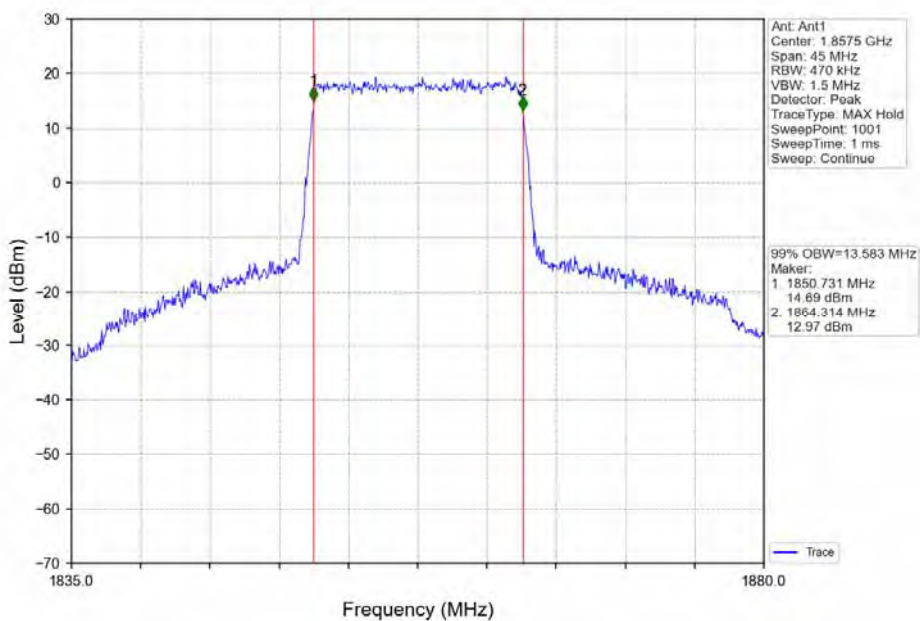


Band2\_10MHz\_64QAM\_HCH\_1905MHz\_RB\_50\_0\_NTNV

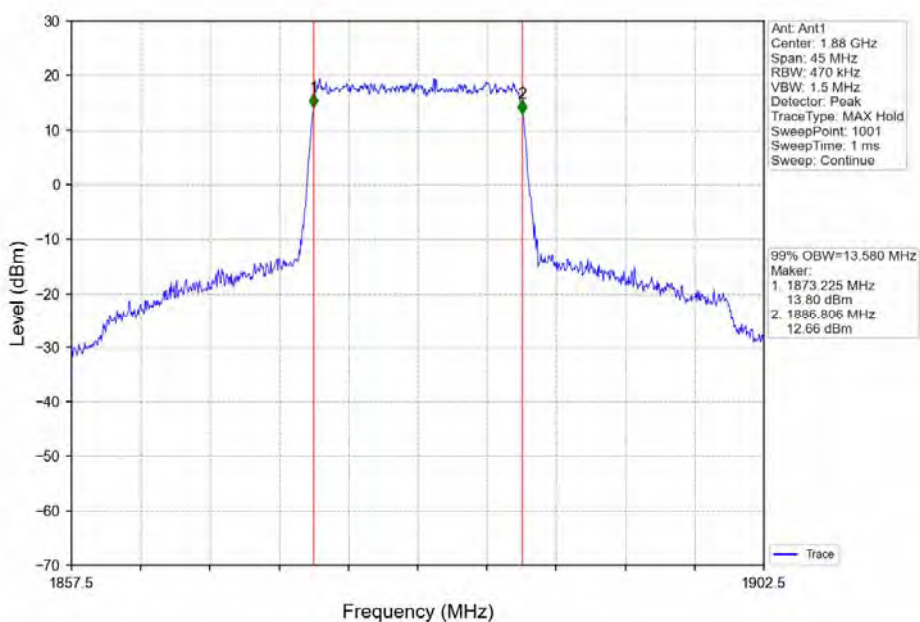


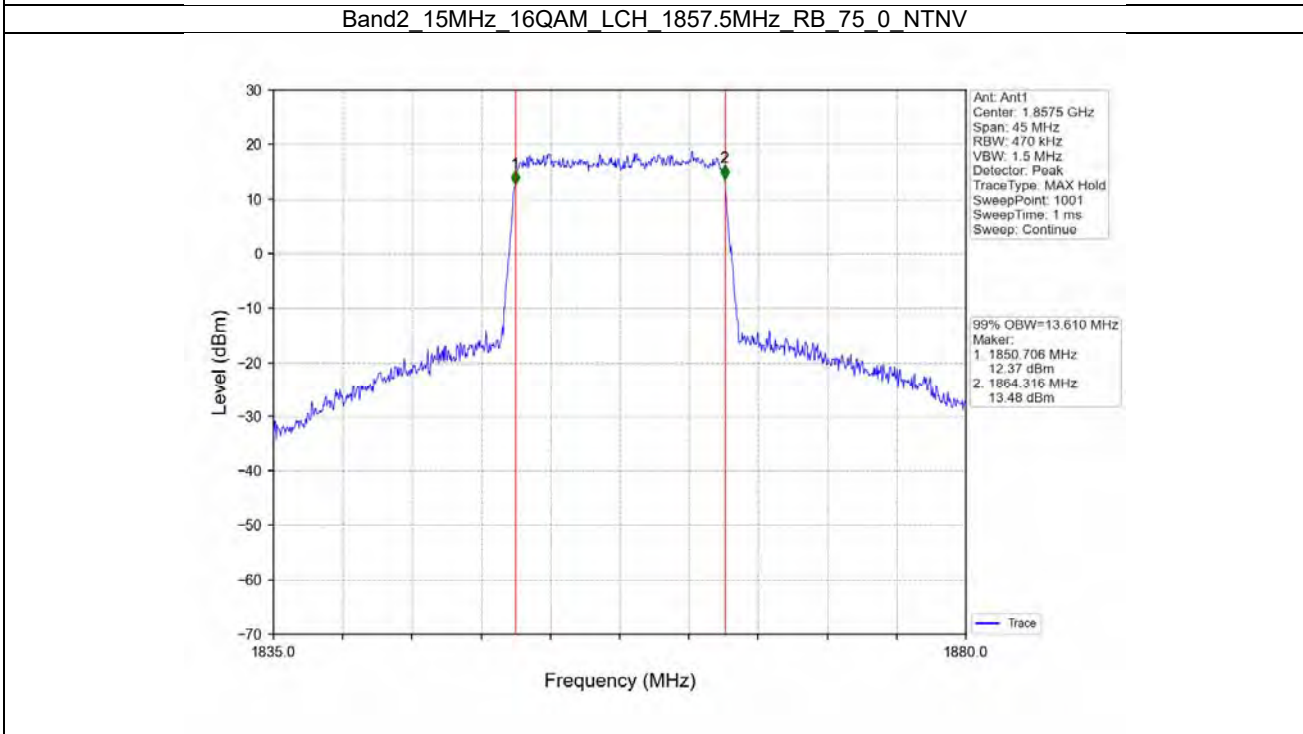
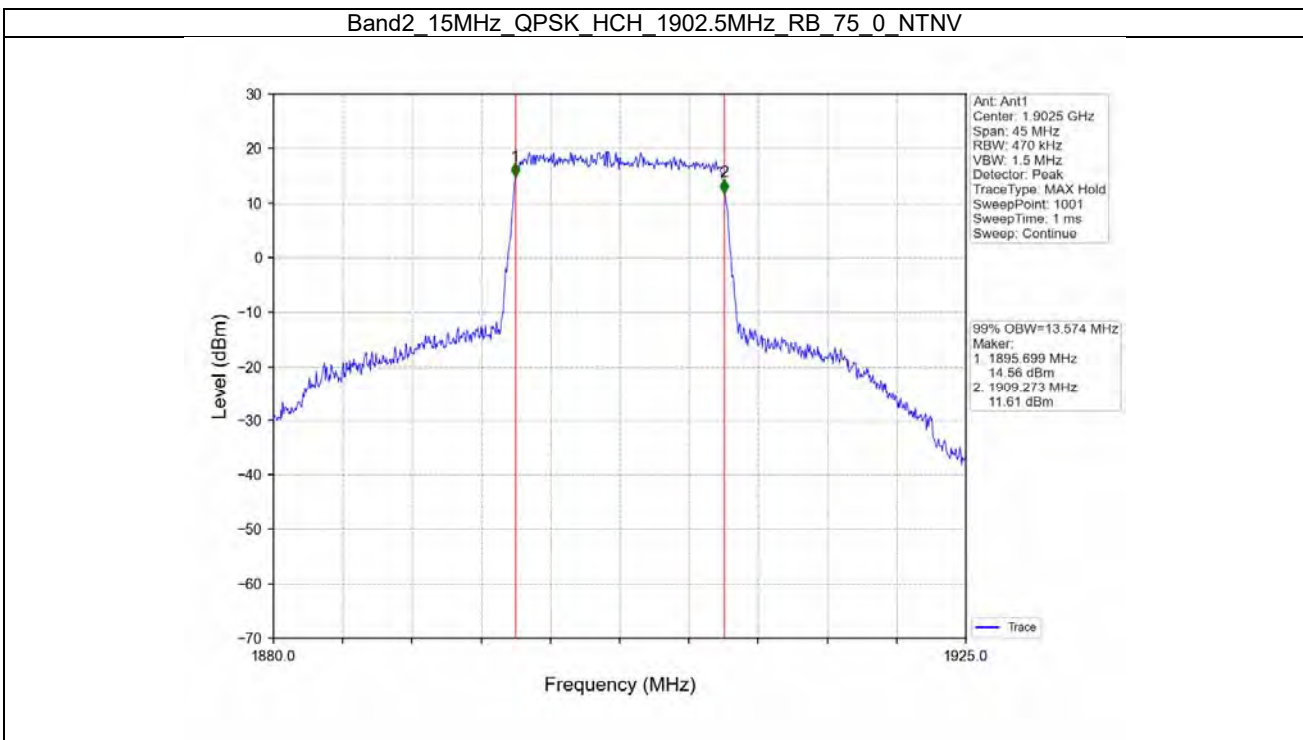


Band2\_15MHz\_QPSK\_LCH\_1857.5MHz\_RB\_75\_0\_NTNV



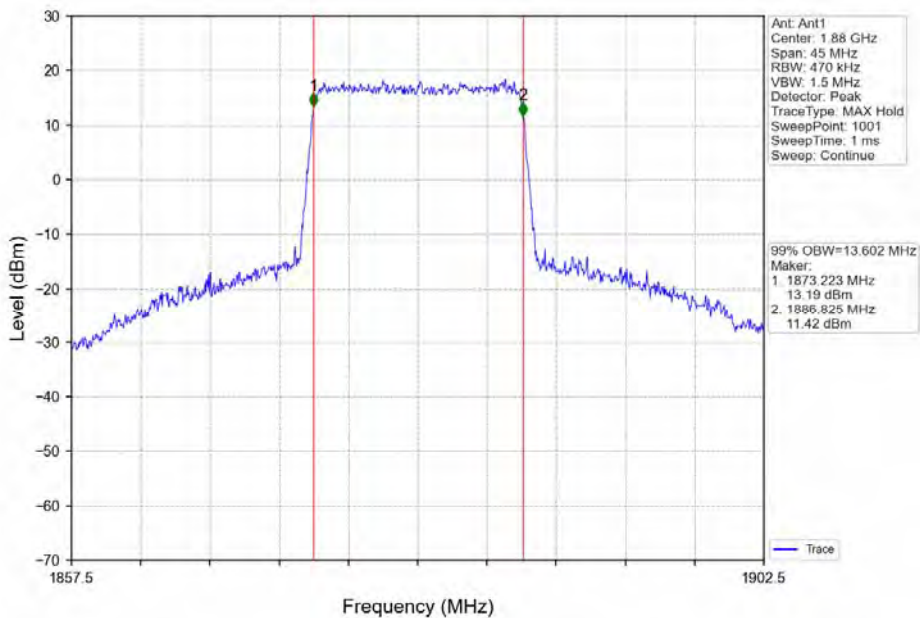
Band2\_15MHz\_QPSK\_MCH\_1880MHz\_RB\_75\_0\_NTNV



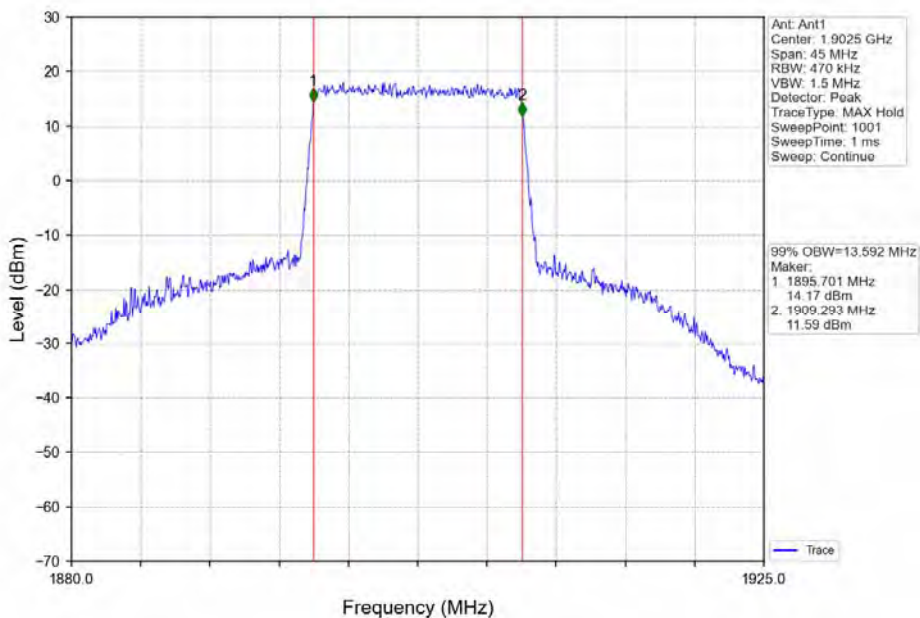




Band2\_15MHz\_16QAM\_MCH\_1880MHz\_RB\_75\_0\_NTNV

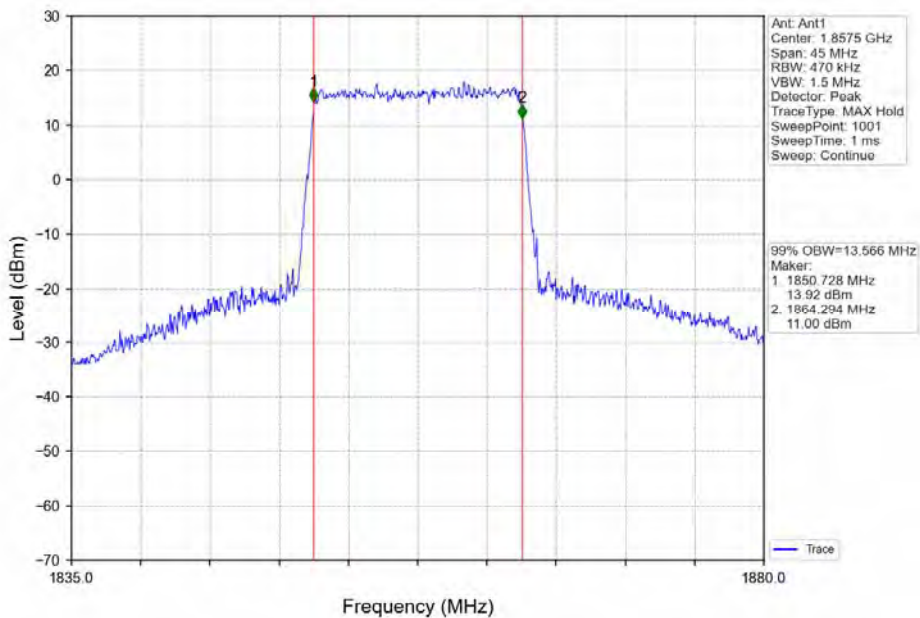


Band2\_15MHz\_16QAM\_HCH\_1902.5MHz\_RB\_75\_0\_NTNV

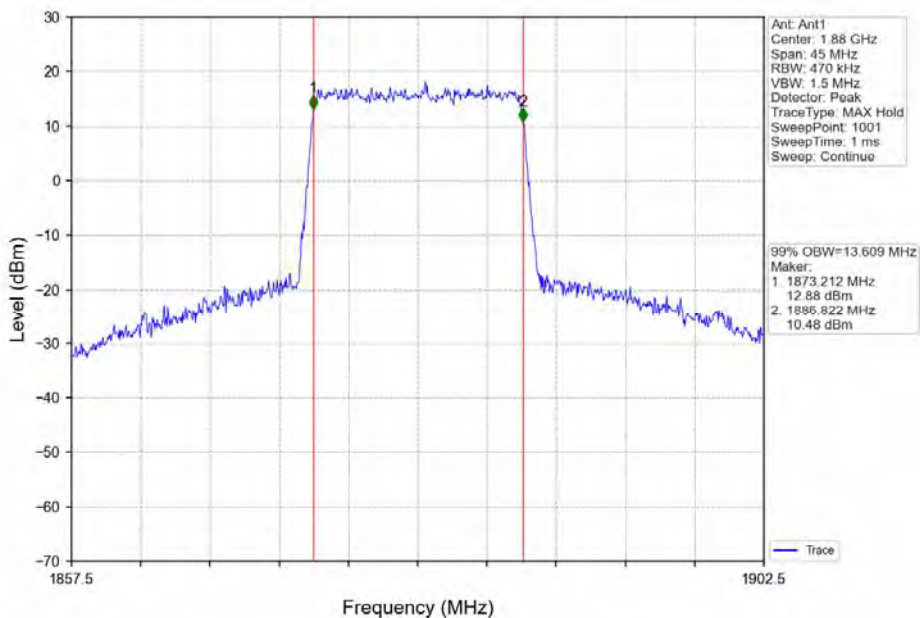




Band2\_15MHz\_64QAM\_LCH\_1857.5MHz\_RB\_75\_0\_NTNV

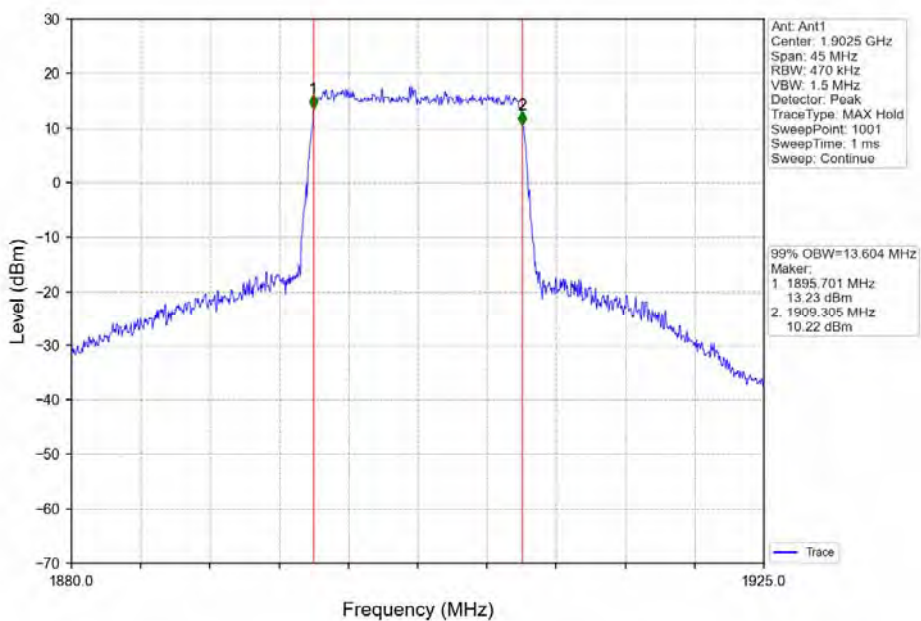


Band2\_15MHz\_64QAM\_MCH\_1880MHz\_RB\_75\_0\_NTNV

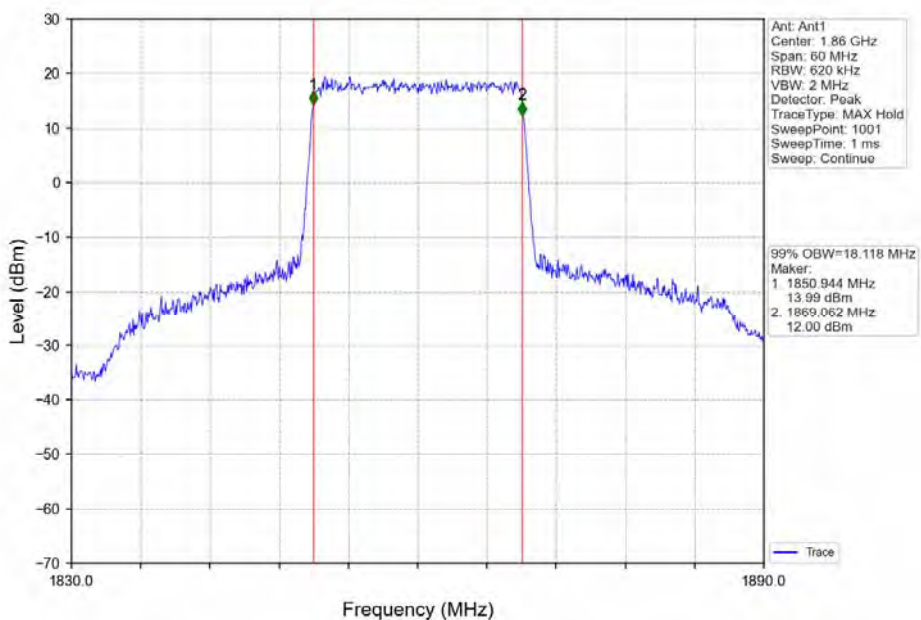




Band2\_15MHz\_64QAM\_HCH\_1902.5MHz\_RB\_75\_0\_NTNV



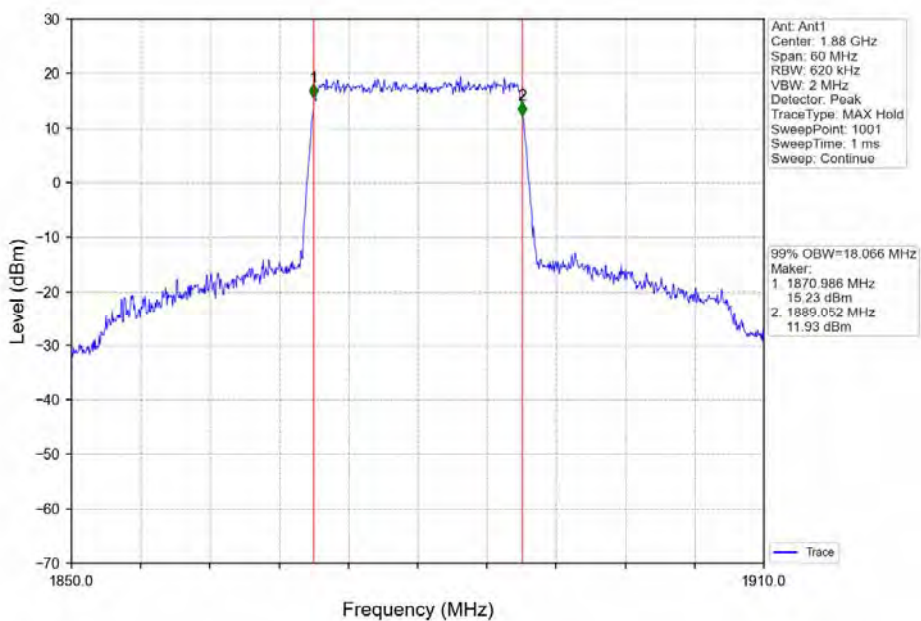
Band2\_20MHz\_QPSK\_LCH\_1860MHz\_RB\_100\_0\_NTNV



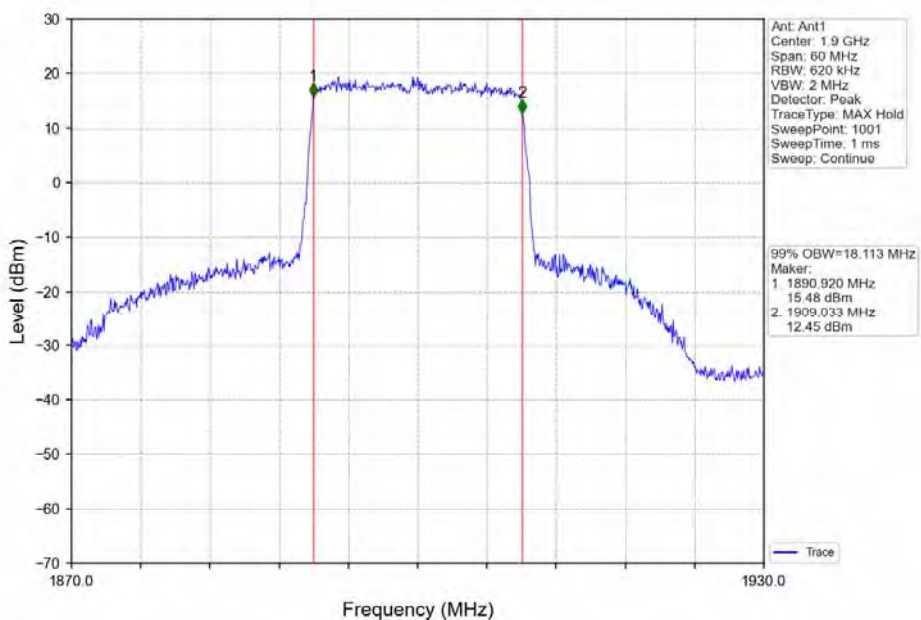


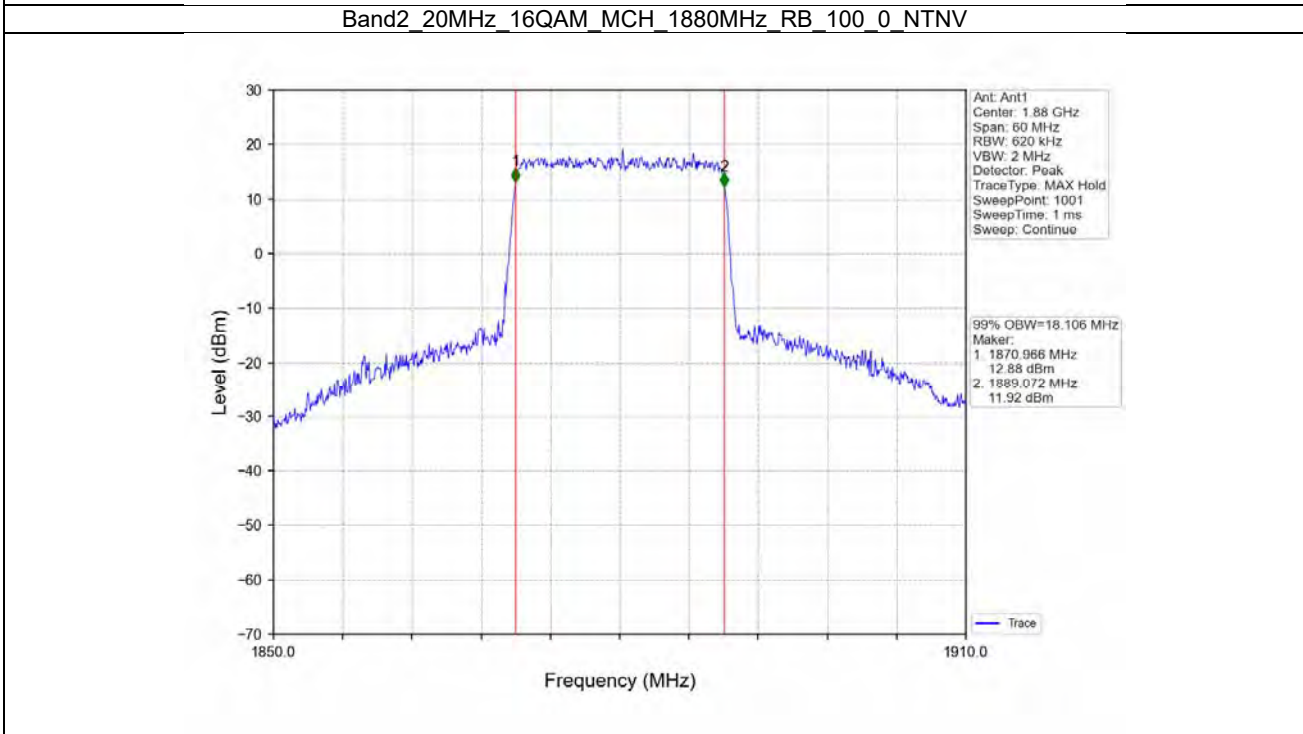
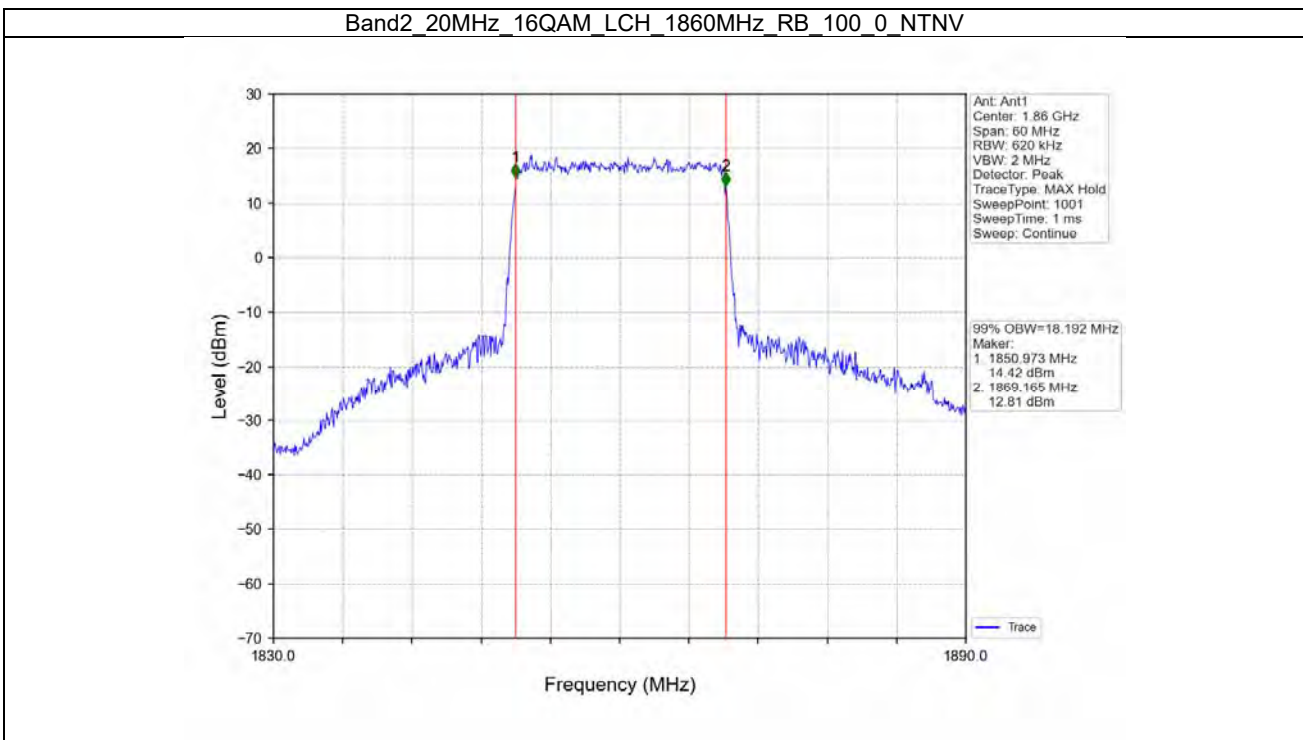


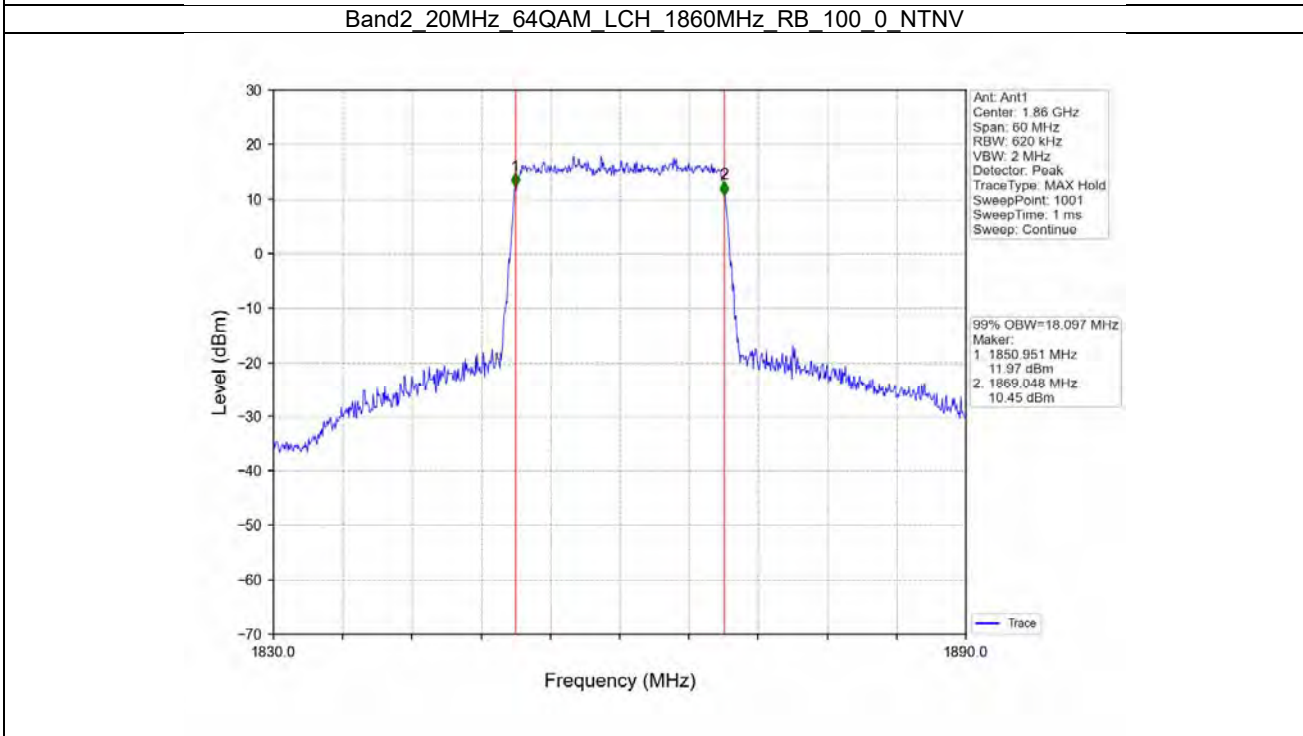
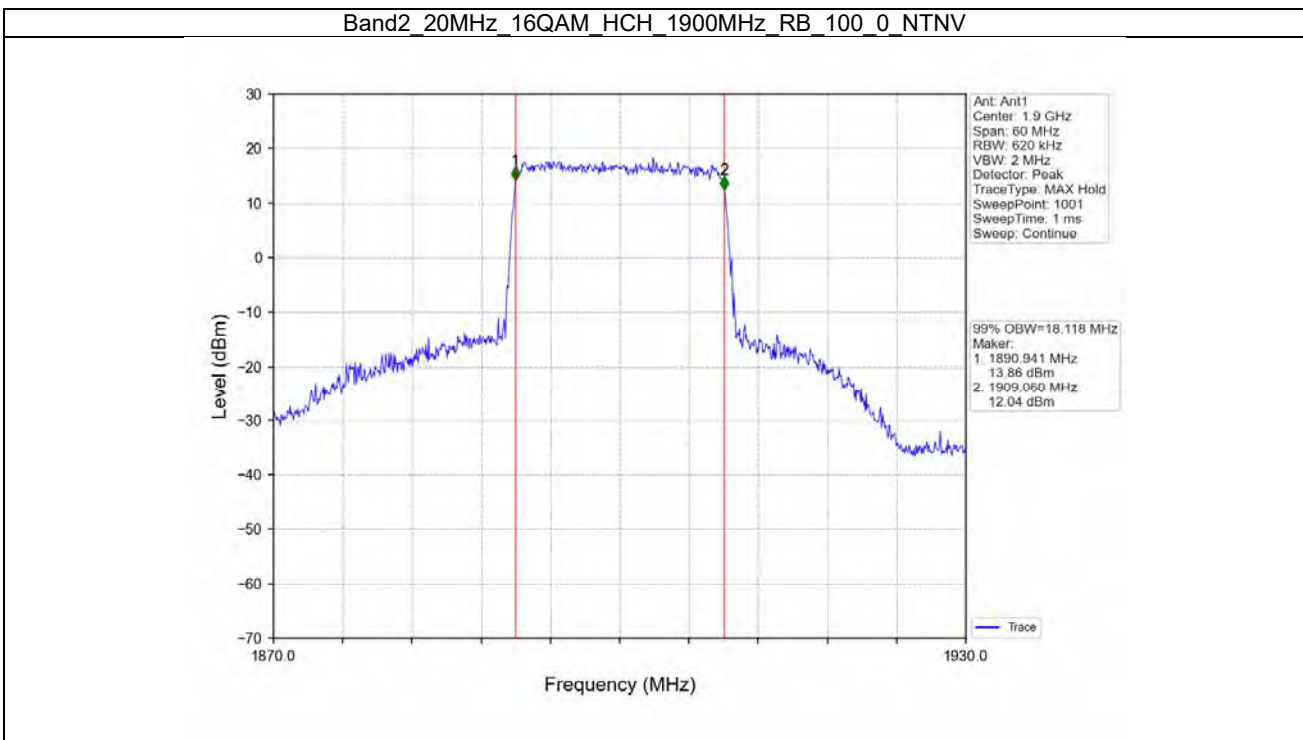
Band2\_20MHz\_QPSK\_MCH\_1880MHz\_RB\_100\_0\_NTNV



Band2\_20MHz\_QPSK\_HCH\_1900MHz\_RB\_100\_0\_NTNV

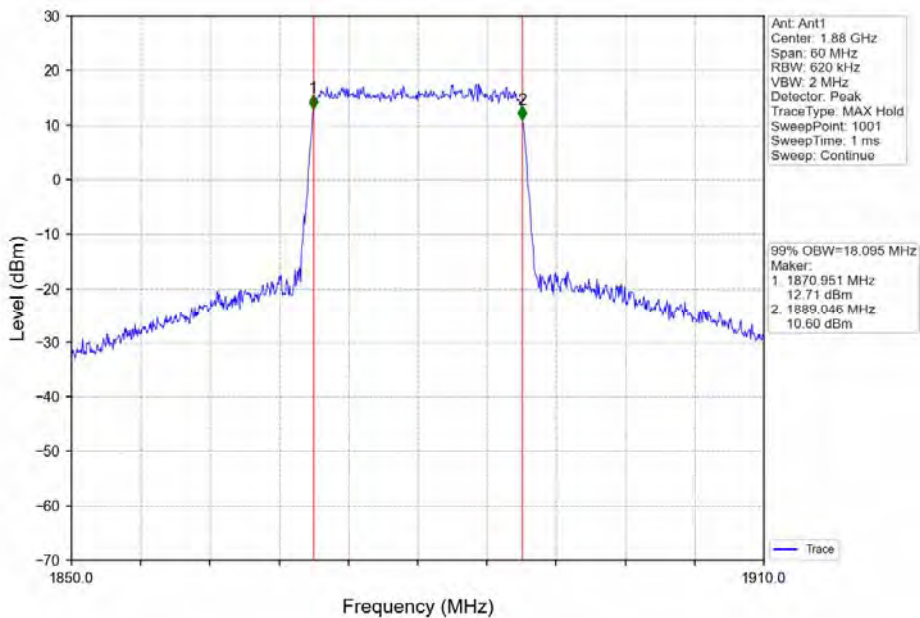




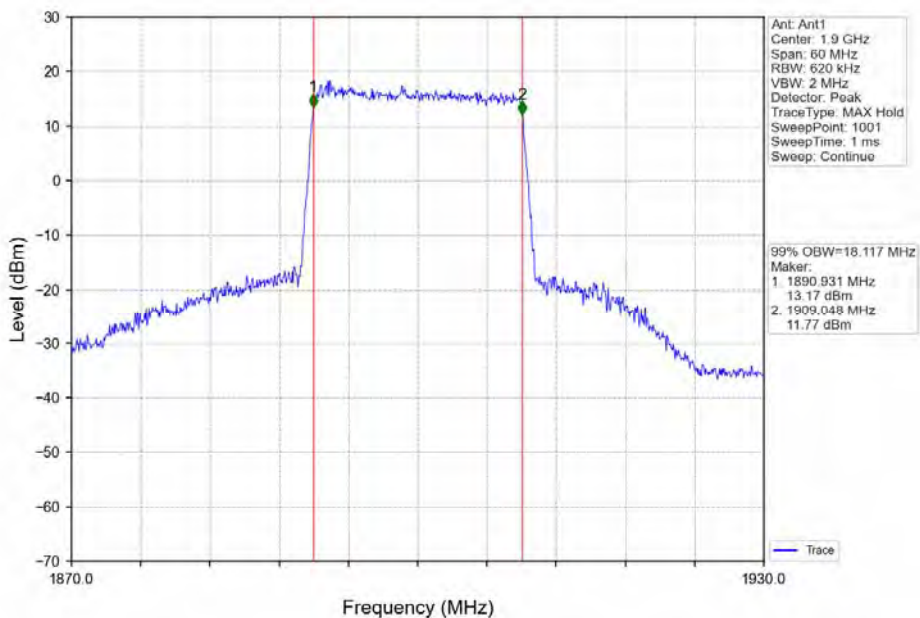




Band2\_20MHz\_64QAM\_MCH\_1880MHz\_RB\_100\_0\_NTNV



Band2\_20MHz\_64QAM\_HCH\_1900MHz\_RB\_100\_0\_NTNV





26DB\_BW

Test Result

Band: 2 / NTNV						
Bandwidth (MHz)	Modulation	Frequency (MHz)	RB Allocation		26dB Bandwidth (MHz)	Verdict
			Size	Offset	Result	
1.4	QPSK	1850.7	6	0	1.326	Pass
		1880	6	0	1.322	Pass
		1909.3	6	0	1.325	Pass
	16QAM	1850.7	6	0	1.317	Pass
		1880	6	0	1.328	Pass
		1909.3	6	0	1.332	Pass
	64QAM	1850.7	6	0	1.338	Pass
		1880	6	0	1.359	Pass
		1909.3	6	0	1.303	Pass
3	QPSK	1851.5	15	0	3.003	Pass
		1880	15	0	2.982	Pass
		1908.5	15	0	3.003	Pass
	16QAM	1851.5	15	0	3.008	Pass
		1880	15	0	3.001	Pass
		1908.5	15	0	3.449	Pass
	64QAM	1851.5	15	0	2.979	Pass
		1880	15	0	3.084	Pass
		1908.5	15	0	2.991	Pass
5	QPSK	1852.5	25	0	5.046	Pass
		1880	25	0	5.005	Pass
		1907.5	25	0	5.044	Pass
	16QAM	1852.5	25	0	5.006	Pass
		1880	25	0	5.062	Pass
		1907.5	25	0	5.046	Pass
	64QAM	1852.5	25	0	5.021	Pass
		1880	25	0	5.044	Pass
		1907.5	25	0	4.992	Pass
10	QPSK	1855	50	0	10.027	Pass
		1880	50	0	9.957	Pass
		1905	50	0	9.984	Pass
	16QAM	1855	50	0	9.916	Pass
		1880	50	0	9.985	Pass
		1905	50	0	9.951	Pass
	64QAM	1855	50	0	9.977	Pass
		1880	50	0	9.908	Pass
		1905	50	0	9.969	Pass
15	QPSK	1857.5	75	0	14.902	Pass
		1880	75	0	14.887	Pass
		1902.5	75	0	14.967	Pass
	16QAM	1857.5	75	0	14.886	Pass
		1880	75	0	14.912	Pass
		1902.5	75	0	14.872	Pass
	64QAM	1857.5	75	0	14.836	Pass
		1880	75	0	14.885	Pass
		1902.5	75	0	14.900	Pass
20	QPSK	1860	100	0	19.650	Pass
		1880	100	0	19.714	Pass
		1900	100	0	19.656	Pass

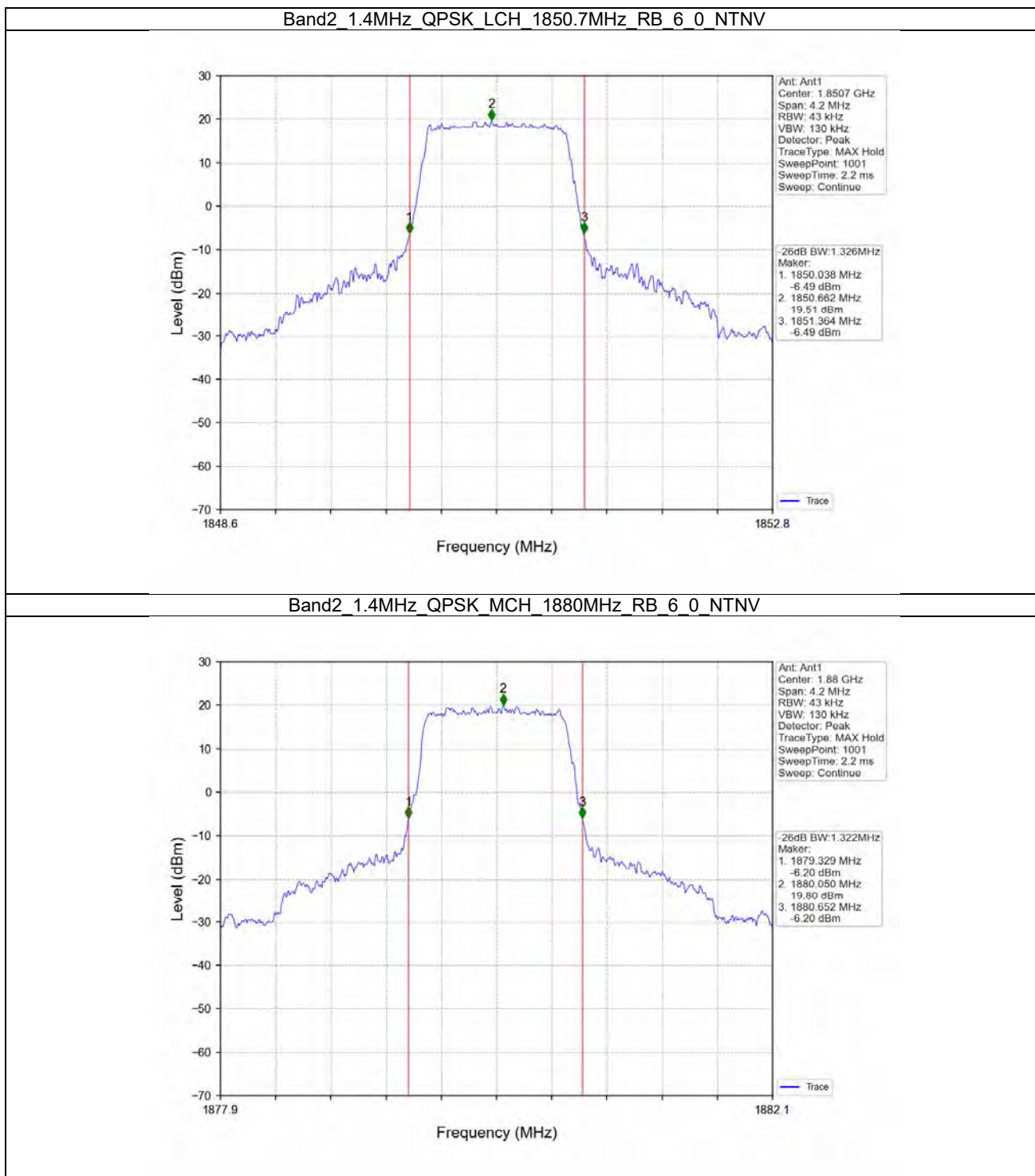


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	16QAM	1860	100	0	19.801	Pass
		1880	100	0	19.815	Pass
		1900	100	0	19.739	Pass
	64QAM	1860	100	0	19.688	Pass
		1880	100	0	19.720	Pass
		1900	100	0	19.684	Pass

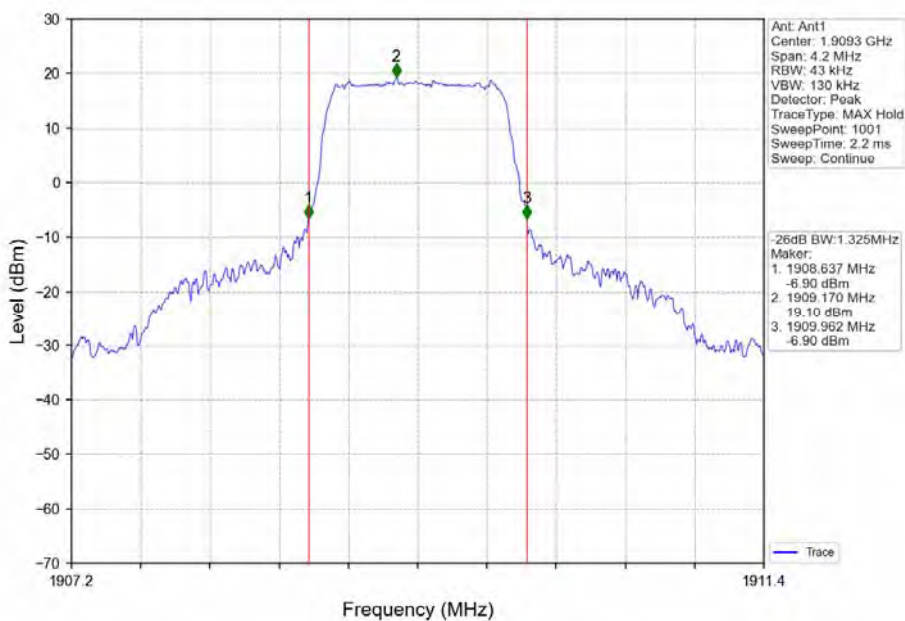


### Test Graph

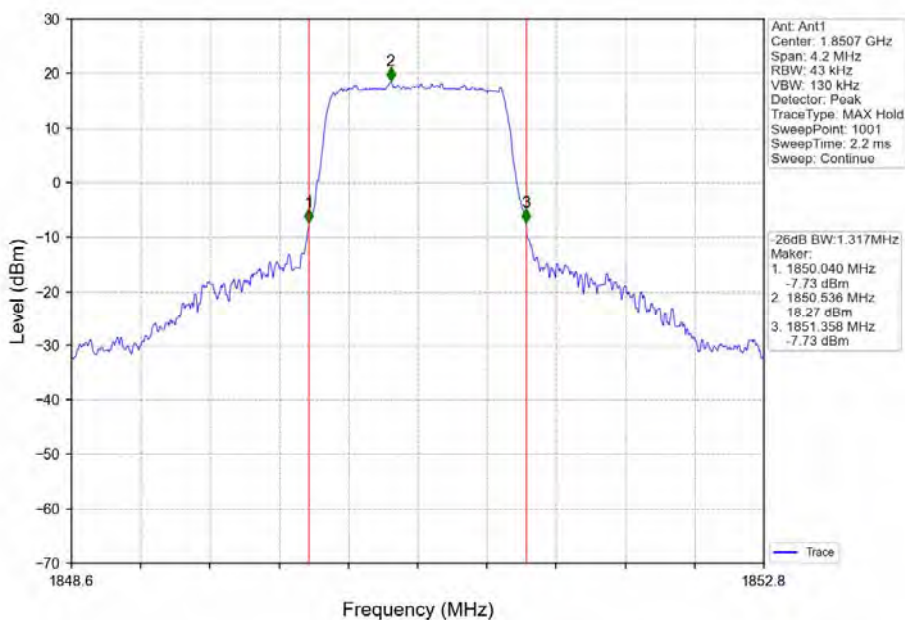




Band2\_1.4MHz\_QPSK\_HCH\_1909.3MHz\_RB\_6\_0\_NTNV



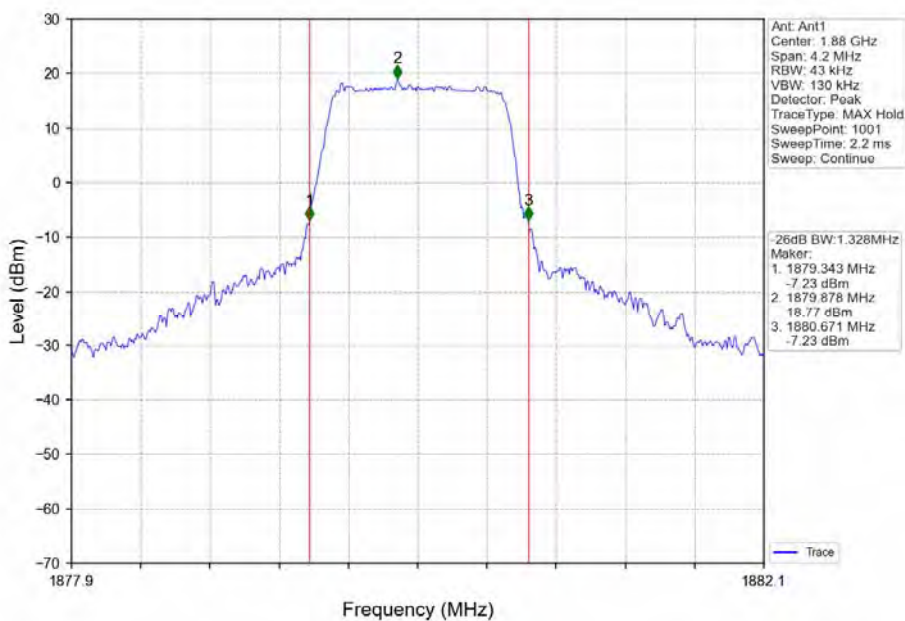
Band2\_1.4MHz\_16QAM\_LCH\_1850.7MHz\_RB\_6\_0\_NTNV







Band2\_1.4MHz\_16QAM\_MCH\_1880MHz\_RB\_6\_0\_NTNV



Band2\_1.4MHz\_16QAM\_HCH\_1909.3MHz\_RB\_6\_0\_NTNV

