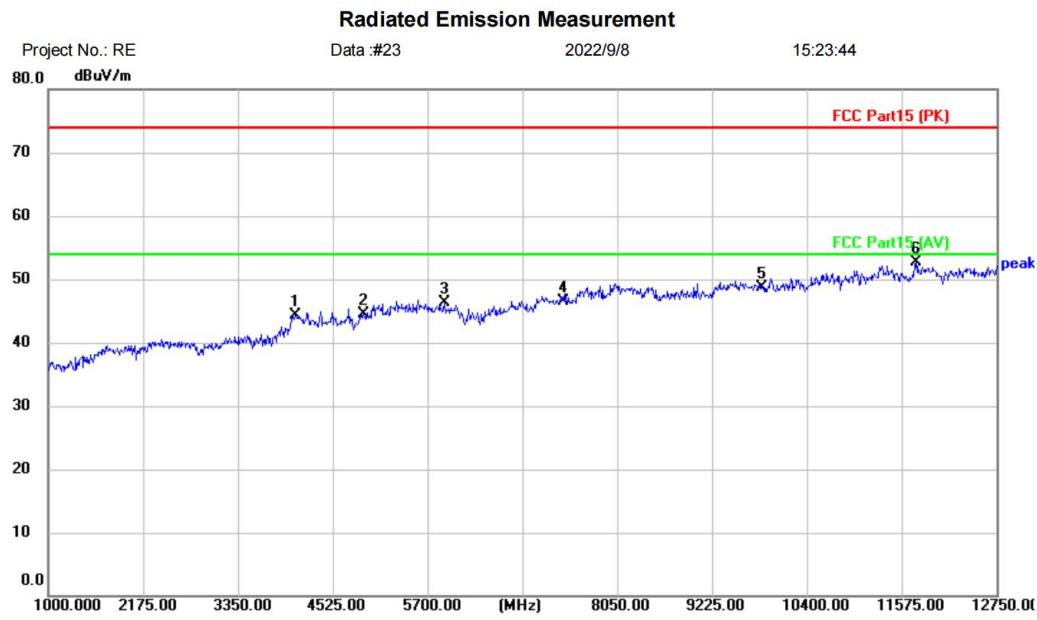


[TestMethod: TX high channel]; [Polarity: Horizontal]



Site

Polarization: **Horizontal**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: MoerLink

M/N: AAD02

Mode: TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dB	Detector	Comment
1		4066.750	41.81	2.48	44.29	74.00	-29.71	peak
2		4904.000	40.02	4.49	44.51	74.00	-29.49	peak
3		5911.500	39.38	6.85	46.23	74.00	-27.77	peak
4		7386.000	38.21	8.36	46.57	74.00	-27.43	peak
5		9848.000	37.16	11.52	48.68	74.00	-25.32	peak
6	*	11751.250	38.87	13.79	52.66	74.00	-21.34	peak

\*:Maximum data   x:Over limit   !:over margin

⟨Reference Only⟩

**Test Result: Pass**

[TestMode: TX high channel]; [Polarity: Vertical]

## Radiated Emission Measurement

Project No.: RE

Data :#24

2022/9/8

15:26:22



## Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: MoerLink

M/N: AAD02

Mode: TX-H

**Note:**

No.	Mk.	Reading Level		Correct Factor	Measure- ment Limit		Over	
		MHz	dBuV		dB/m	dBuV/m	dB	Detector
1		4904.000	39.81	4.49	44.30	74.00	-29.70	peak
2		6005.500	42.66	3.92	46.58	74.00	-27.42	peak
3		7386.000	40.27	8.36	48.63	74.00	-25.37	peak
4		8778.500	39.66	9.25	48.91	74.00	-25.09	peak
5		9848.000	36.74	11.52	48.26	74.00	-25.74	peak
6	*	11739.500	37.87	13.78	51.65	74.00	-22.35	peak

\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

## Test Result: Pass

## 15 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

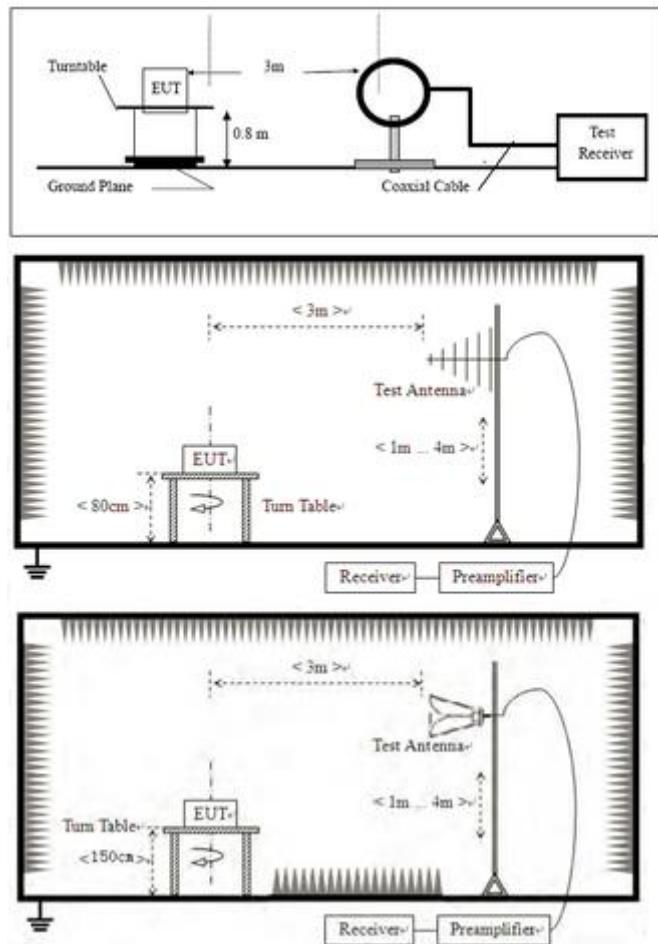
<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 6.10.5
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Jozu
<b>Temperature</b>	25°C
<b>Humidity</b>	60%

### 15.1 LIMITS

<b>Frequency(MHz)</b>	<b>Field strength(microvolts/meter)</b>	<b>Measurement distance(meters)</b>
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 15.2 BLOCK DIAGRAM OF TEST SETUP



## 15.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

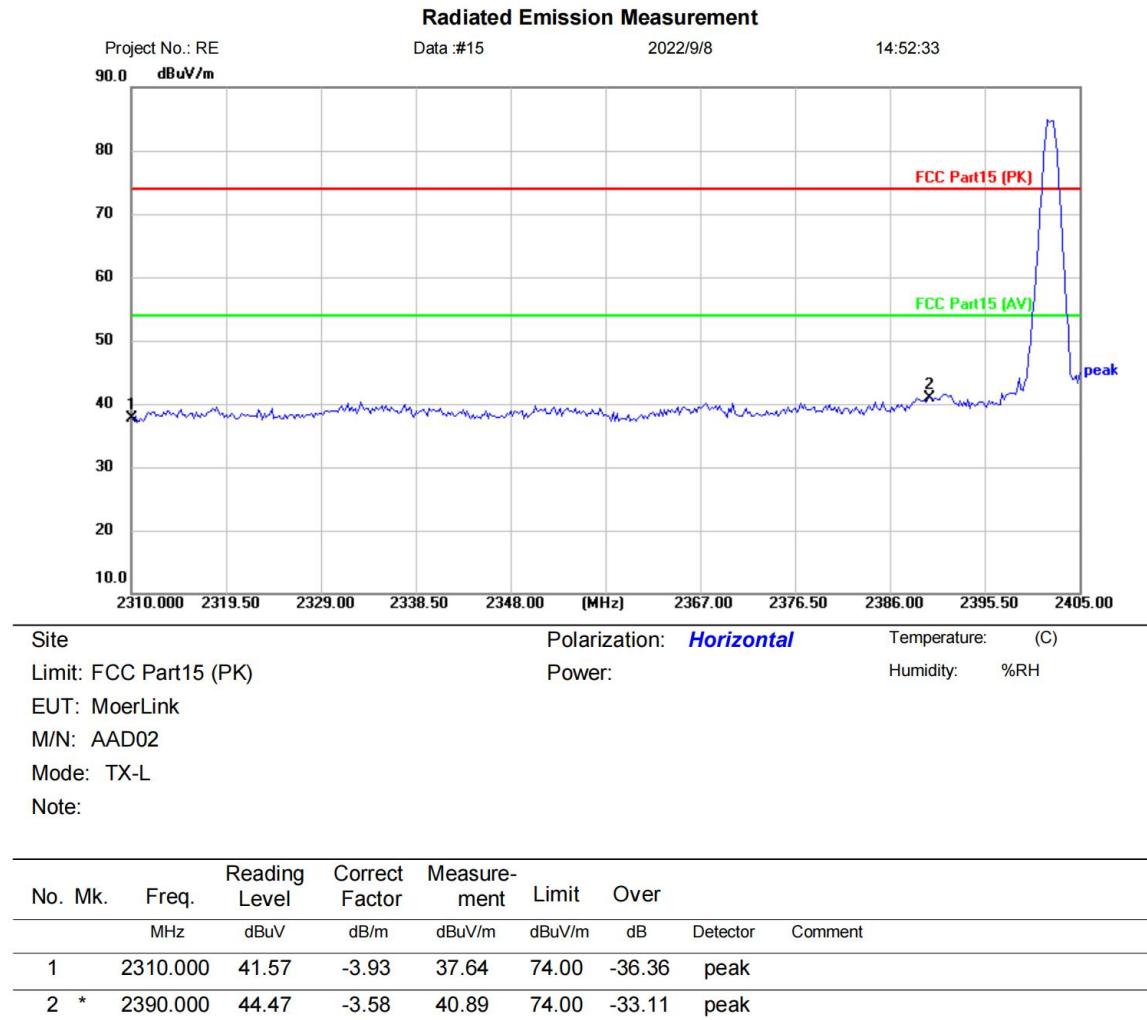
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

BlueAsia

## 15.4 TEST DATA

[TestMode: TX low channel]; [Polarity: Horizontal]



\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

**Test Result: Pass**

[TestMode: TX low channel]; [Polarity: Vertical]

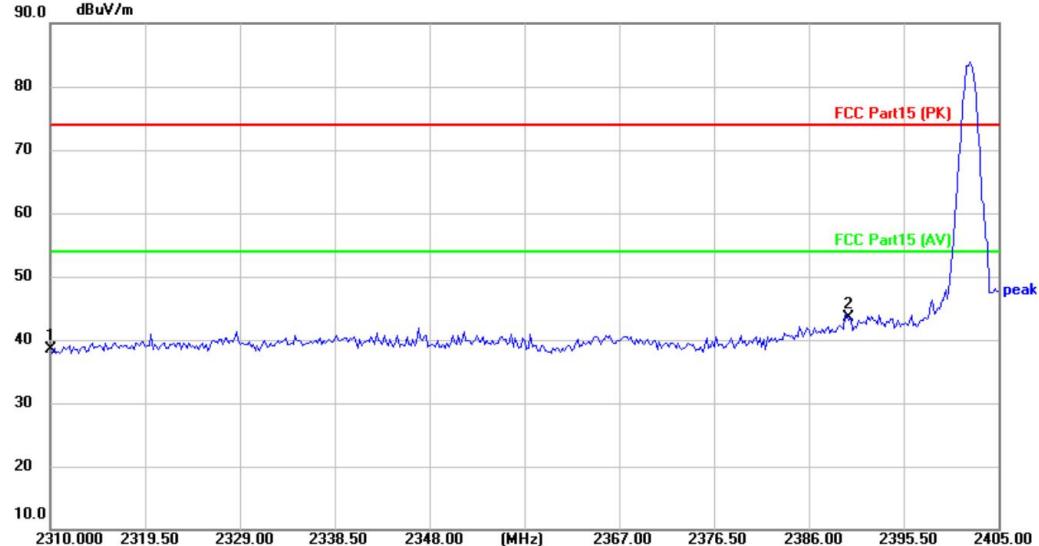
## Radiated Emission Measurement

Project No.: RE

Data :#16

2022/9/8

14:56:58



## Site

Polarization: *Vertical*

Temperature: (C)

Limit: FCC Part15 (PK)

Power:

Humidity: %RH

EUT: MoerLink

M/N: AAD02

Mode: TX-L

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
			Level	Factor	ment		Detector	Comment
			MHz	dBuV	dB/m	dBuV/m	dB	
1		2310.000	42.48	-3.93	38.55	74.00	-35.45	peak
2	*	2390.000	47.13	-3.58	43.55	74.00	-30.45	peak

\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

## Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]

## Radiated Emission Measurement

Project No.: RE

Data :#17

2022/9/8

15:01:00



## Site

Polarization: *Horizontal*

Temperature: (C)

Limit: FCC Part15 (PK)

## Power:

Humidity: %RH

EUT: MoerLink

M/N: AAD02

Mode: TX-H

Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
			Level	Factor	ment		Detector	Comment
			MHz	dBuV	dB/m	dBuV/m	dB	
1	*	2483.500	42.66	-3.14	39.52	74.00	-34.48	peak
2		2500.000	41.99	-3.08	38.91	74.00	-35.09	peak

\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

## Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]

## Radiated Emission Measurement

Project No.: RE

Data :#18

2022/9/8

15:04:27



### Site

Polarization: **Vertical**

Temperature: (C)

Limit: FCC Part15 (PK)

## Power:

Humidity: %RH

EUT: MoerLink

M/N: AAD02

Mode: TX-H

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	41.80	-3.14	38.66	74.00	-35.34	peak	
2	*	2500.000	42.00	-3.08	38.92	74.00	-35.08	peak	

\*:Maximum data    x:Over limit    !:over margin

⟨Reference Only

## Test Result: Pass

## 16 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

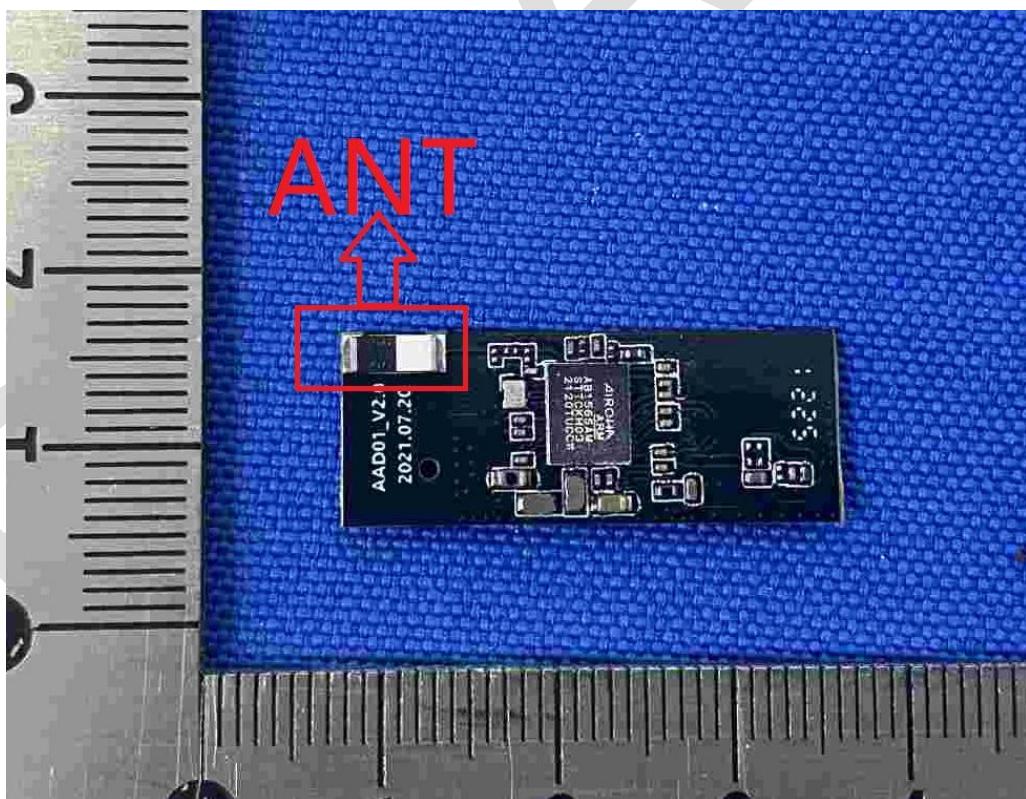
### 16.1 CONCLUSION

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.01dBi.



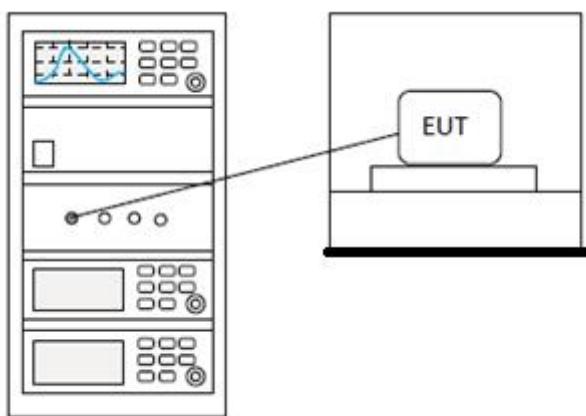
## 17 CONDUCTED SPURIOUS EMISSIONS

<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Jozu
<b>Temperature</b>	25 °C
<b>Humidity</b>	60%

### 17.1 LIMITS

<b>Limit:</b>	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
---------------	--

### 17.2 BLOCK DIAGRAM OF TEST SETUP



### 17.3 TEST DATA

**Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

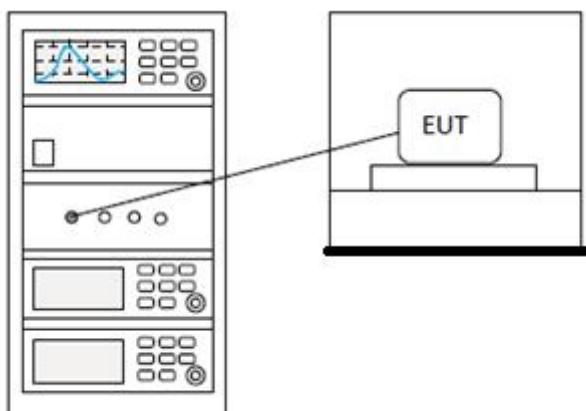
## 18 DWELL TIME

<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 7.8.4
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Jozu
<b>Temperature</b>	25°C
<b>Humidity</b>	60%

### 18.1 LIMITS

Frequency(MHz)	Limit
902-928	0.4S within a 20S period(20dB bandwidth<250kHz)
	0.4S within a 10S period(20dB bandwidth≥250kHz)
2400-2483.5	0.4S within a period of 0.4S multiplied by the number of hopping channels
5725-5850	0.4S within a 30S period

### 18.2 BLOCK DIAGRAM OF TEST SETUP



### 18.3 TEST DATA

**Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

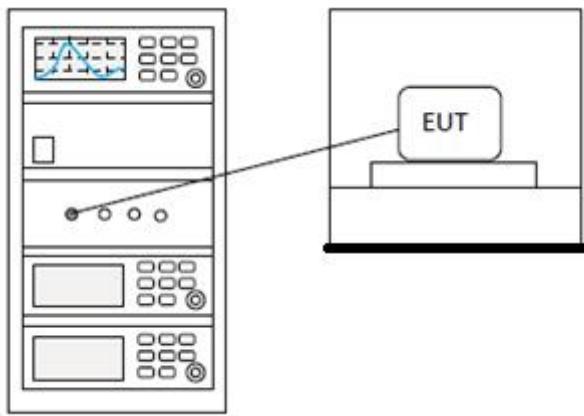
## 19 HOPPING CHANNEL NUMBER

<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 7.8.3
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Jozu
<b>Temperature</b>	25°C
<b>Humidity</b>	60%

### 19.1 LIMITS

Frequency range(MHz)	Number of hopping channels (minimum)
902-928	50 for 20dB bandwidth <250kHz
	25 for 20dB bandwidth ≥250kHz
2400-2483.5	15
5725-5850	75

### 19.2 BLOCK DIAGRAM OF TEST SETUP



### 19.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

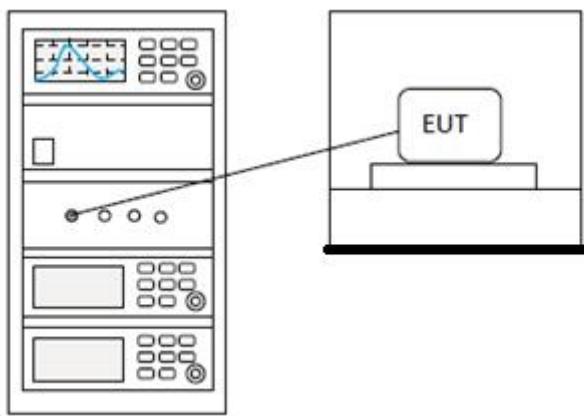
## 20 CARRIER FREQUENCIES SEPARATION

<b>Test Standard</b>	47 CFR Part 15, Subpart C 15.247
<b>Test Method</b>	ANSI C63.10 (2013) Section 7.8.2
<b>Test Mode (Pre-Scan)</b>	TX
<b>Test Mode (Final Test)</b>	TX
<b>Tester</b>	Jozu
<b>Temperature</b>	25 °C
<b>Humidity</b>	60%

### 20.1 LIMITS

**Limit:** 2/3 of the 20dB bandwidth base on the transmission power is less than 0.125W

### 20.2 BLOCK DIAGRAM OF TEST SETUP



### 20.3 TEST DATA

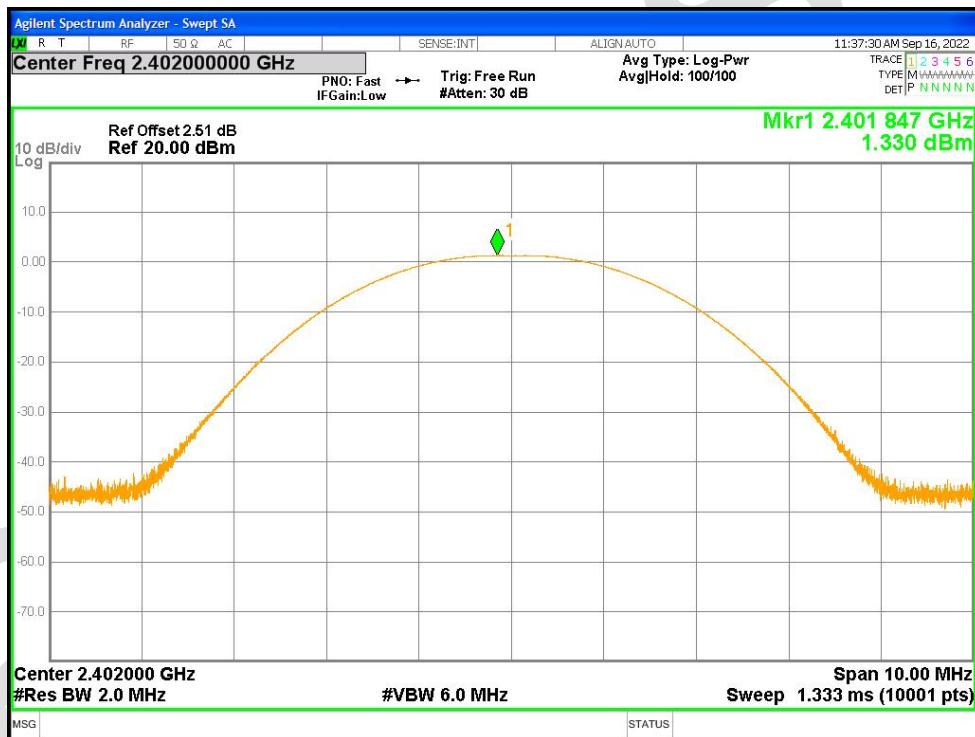
**Pass: Please Refer To Appendix: Appendix1 For Details**

## 21 APPENDIX

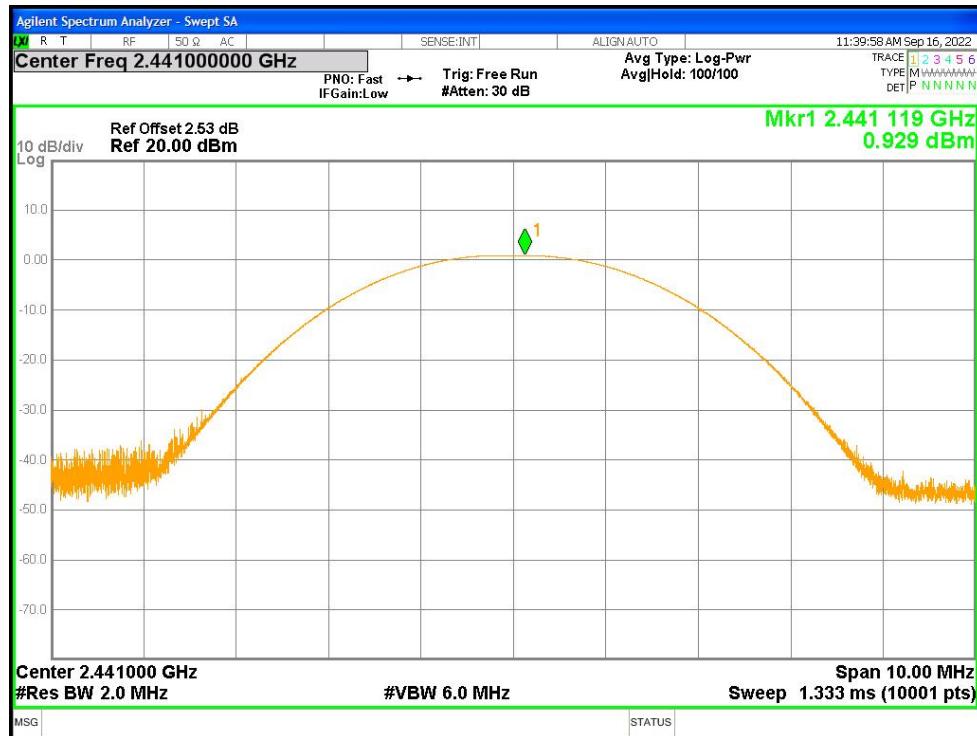
### Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	1.33	21	Pass
NVNT	1-DH1	2441	Ant1	0.929	21	Pass
NVNT	1-DH1	2480	Ant1	0.363	21	Pass
NVNT	2-DH1	2402	Ant1	1.579	21	Pass
NVNT	2-DH1	2441	Ant1	1.215	21	Pass
NVNT	2-DH1	2480	Ant1	0.471	21	Pass
NVNT	3-DH1	2402	Ant1	1.691	21	Pass
NVNT	3-DH1	2441	Ant1	1.534	21	Pass
NVNT	3-DH1	2480	Ant1	0.774	21	Pass

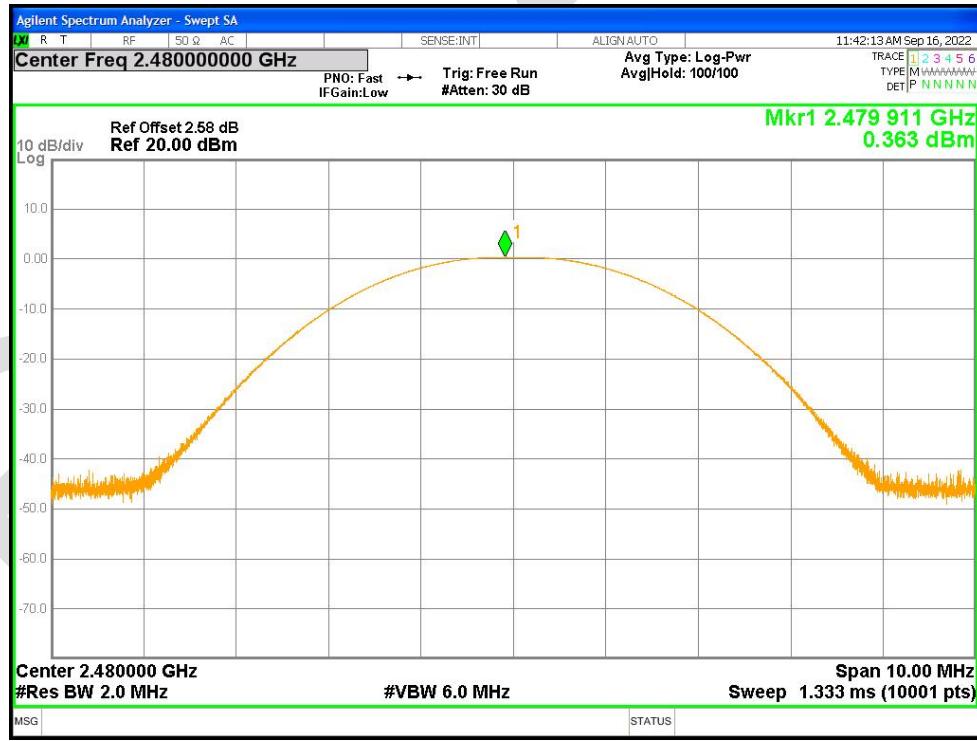
Power NVNT 1-DH1 2402MHz Ant1



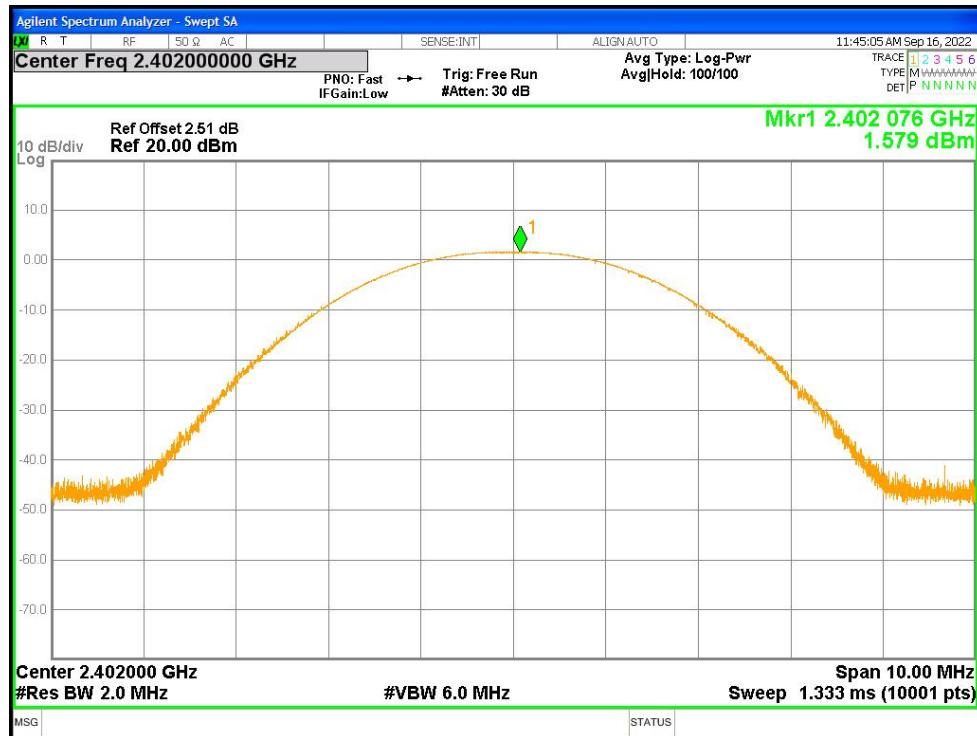
Power NVNT 1-DH1 2441MHz Ant1



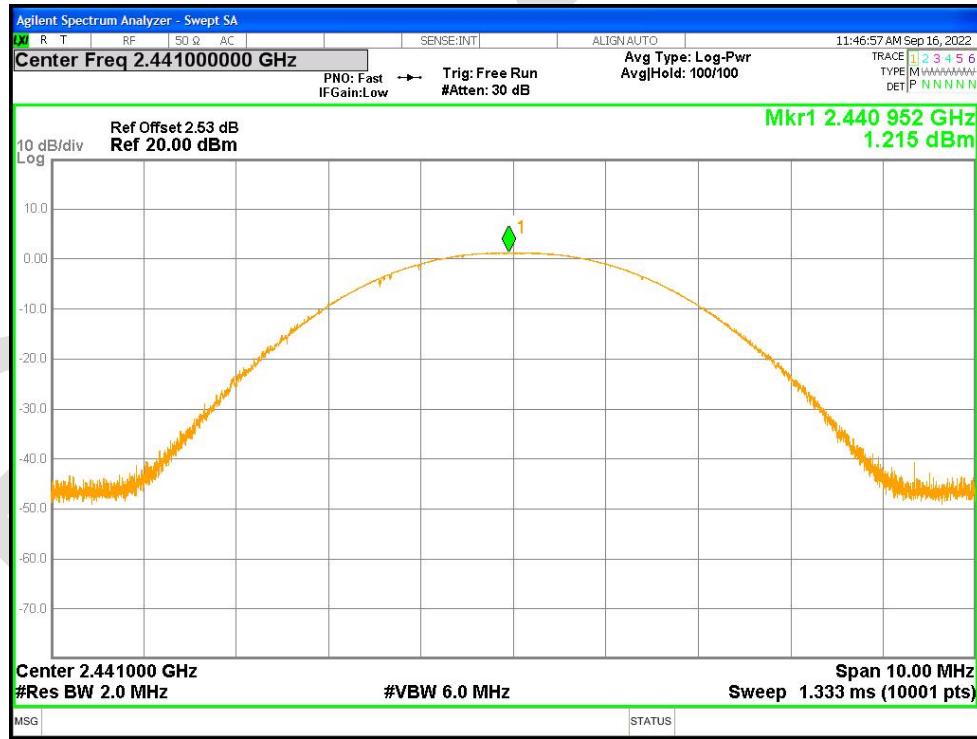
Power NVNT 1-DH1 2480MHz Ant1



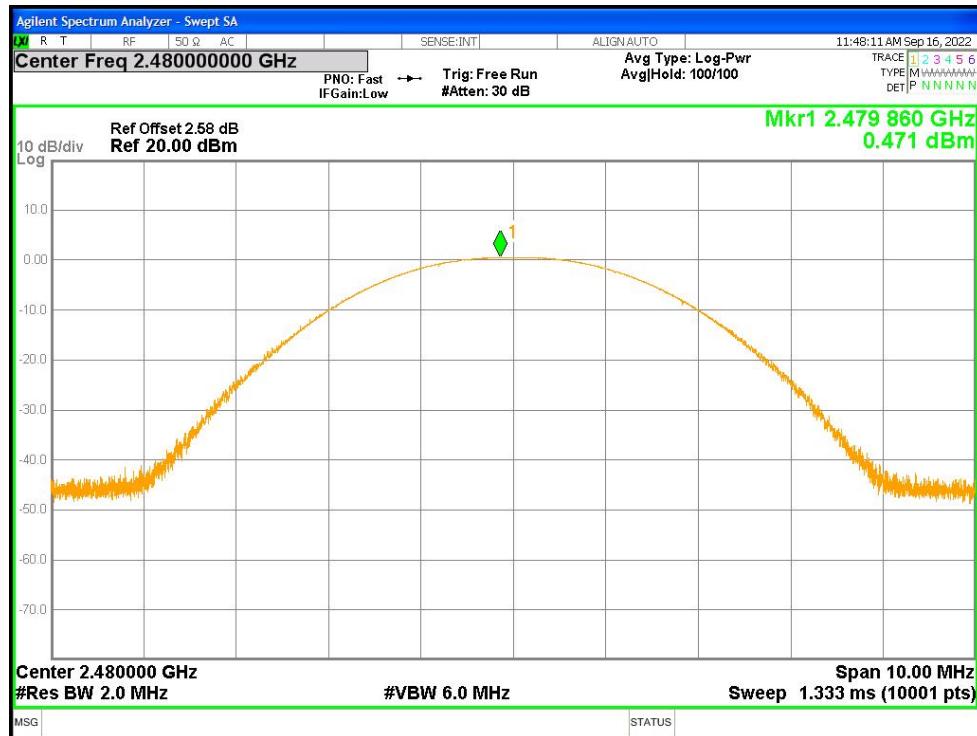
Power NVNT 2-DH1 2402MHz Ant1



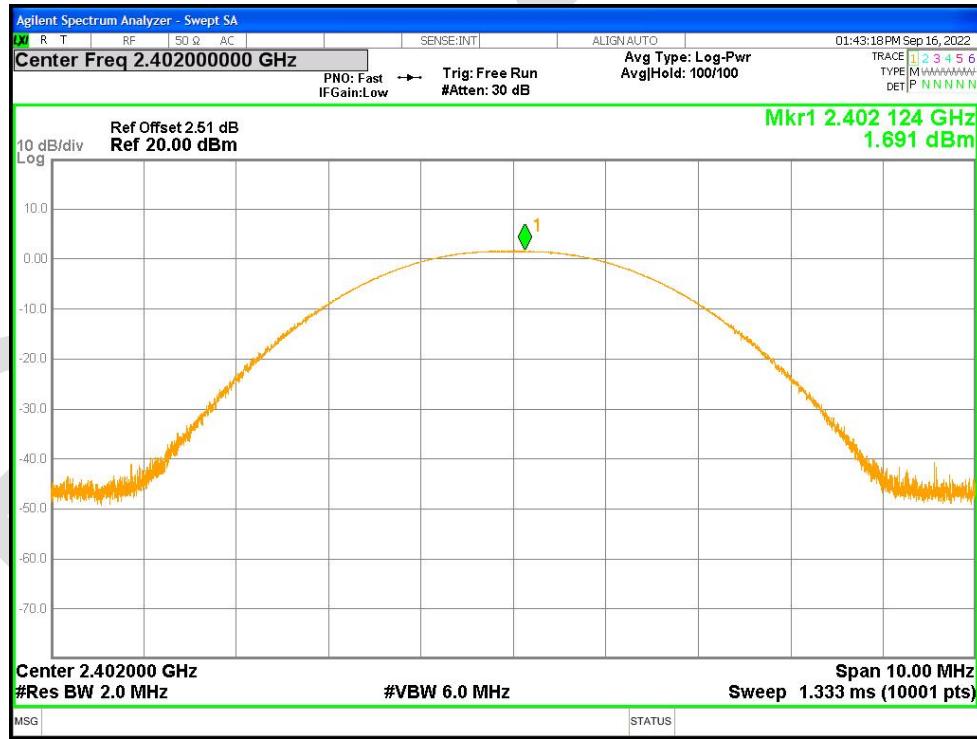
Power NVNT 2-DH1 2441MHz Ant1



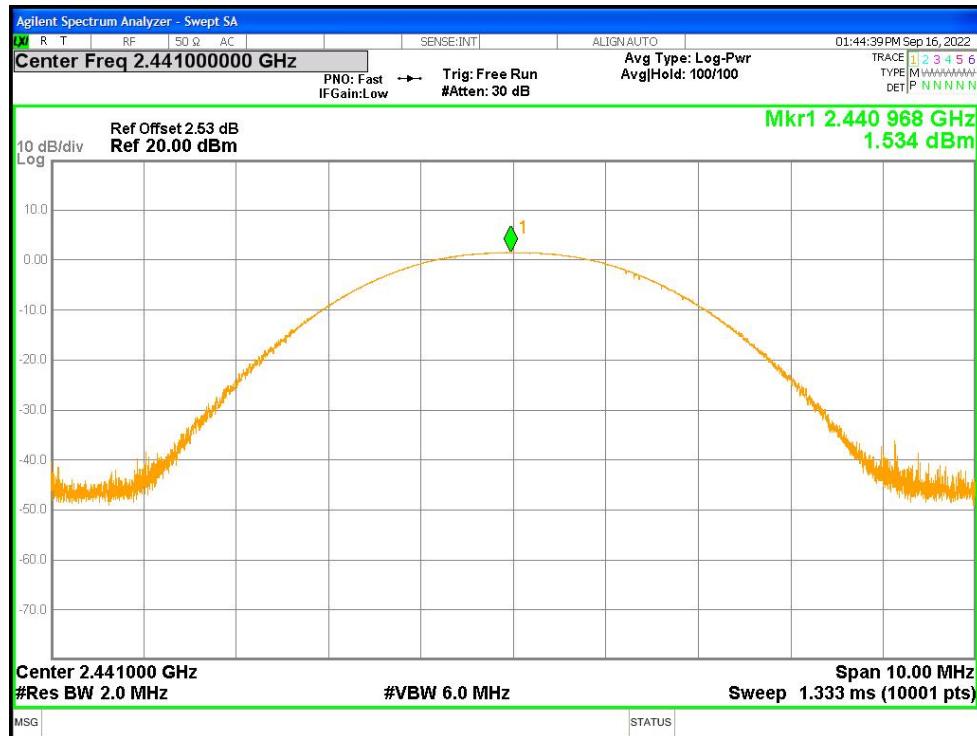
Power NVNT 2-DH1 2480MHz Ant1



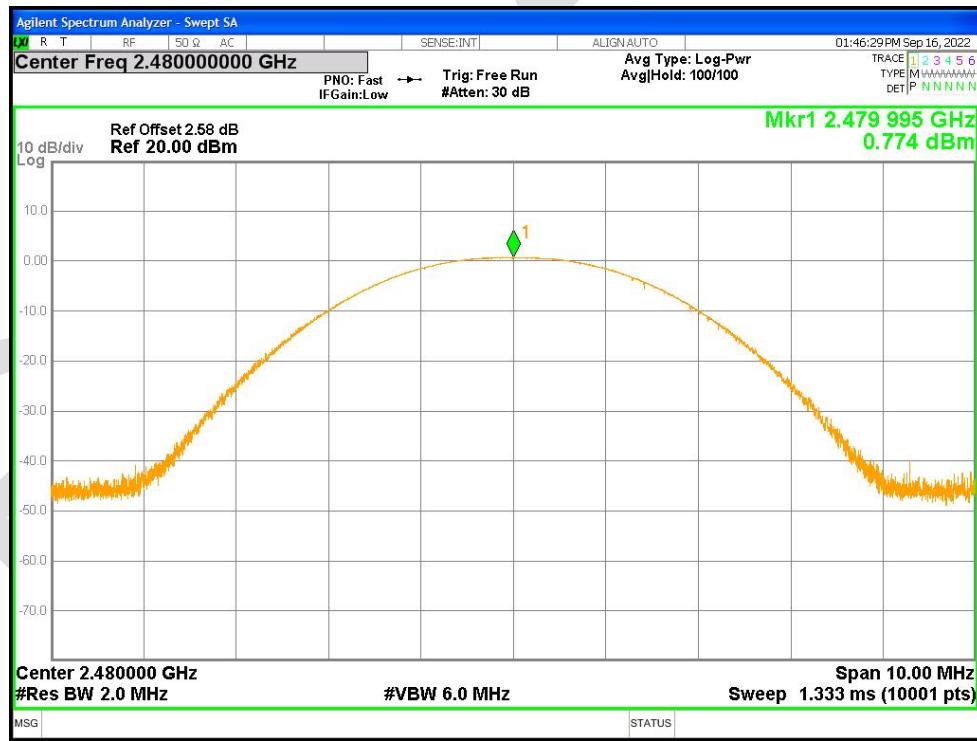
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1

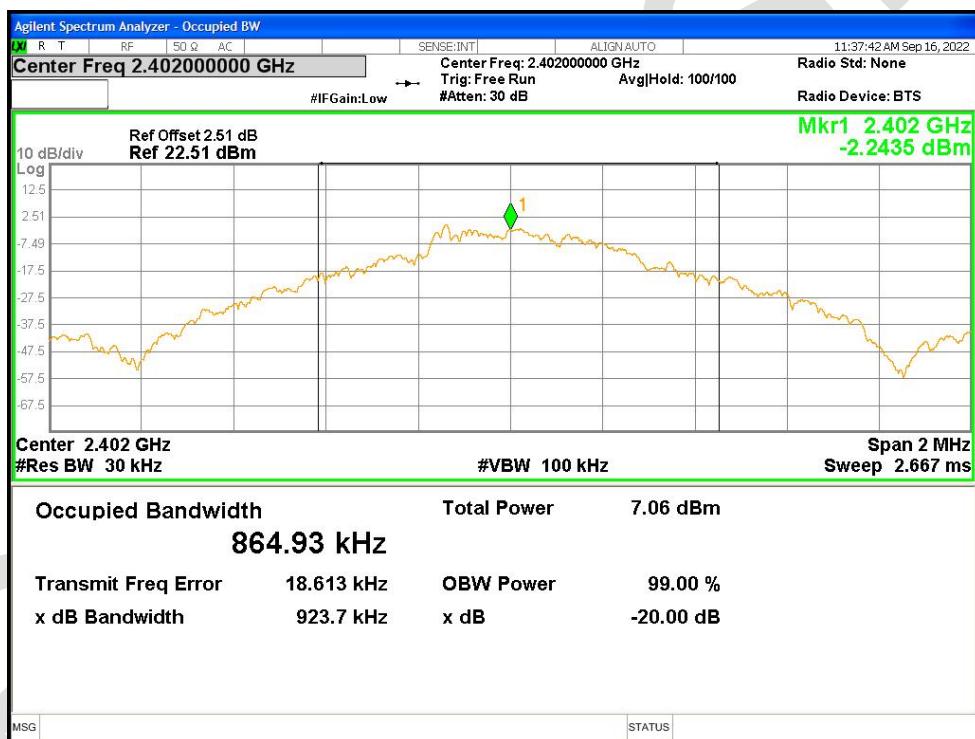


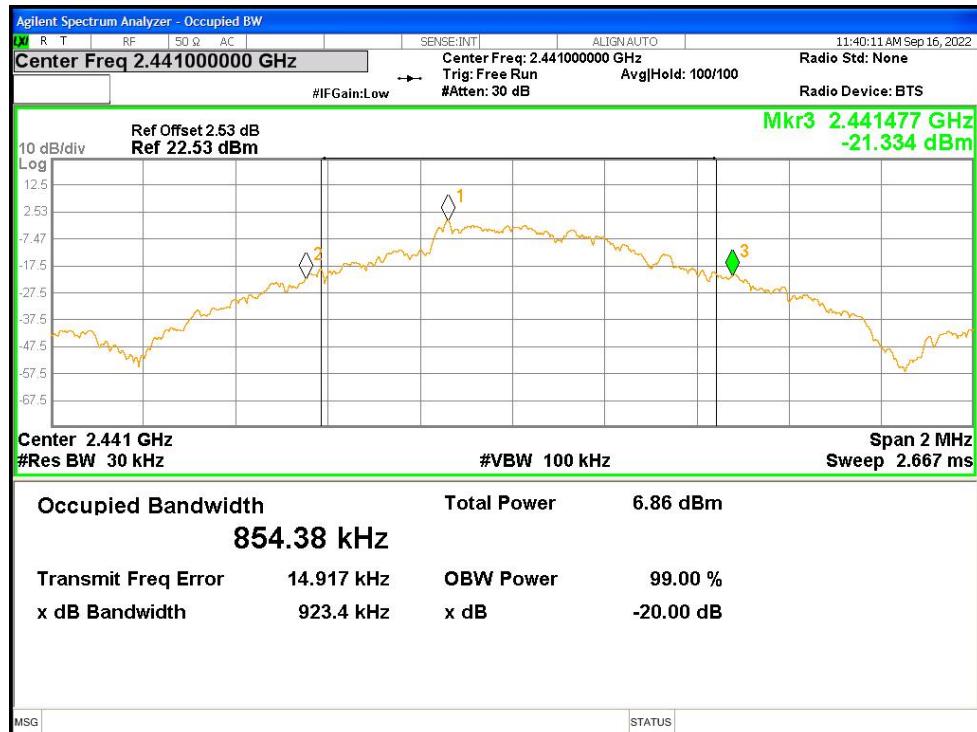
Power NVNT 3-DH1 2480MHz Ant1



**-20dB Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.924	0	Pass
NVNT	1-DH1	2441	Ant1	0.923	0	Pass
NVNT	1-DH1	2480	Ant1	0.907	0	Pass
NVNT	2-DH1	2402	Ant1	1.221	0	Pass
NVNT	2-DH1	2441	Ant1	1.206	0	Pass
NVNT	2-DH1	2480	Ant1	1.204	0	Pass
NVNT	3-DH1	2402	Ant1	1.201	0	Pass
NVNT	3-DH1	2441	Ant1	1.212	0	Pass
NVNT	3-DH1	2480	Ant1	1.211	0	Pass

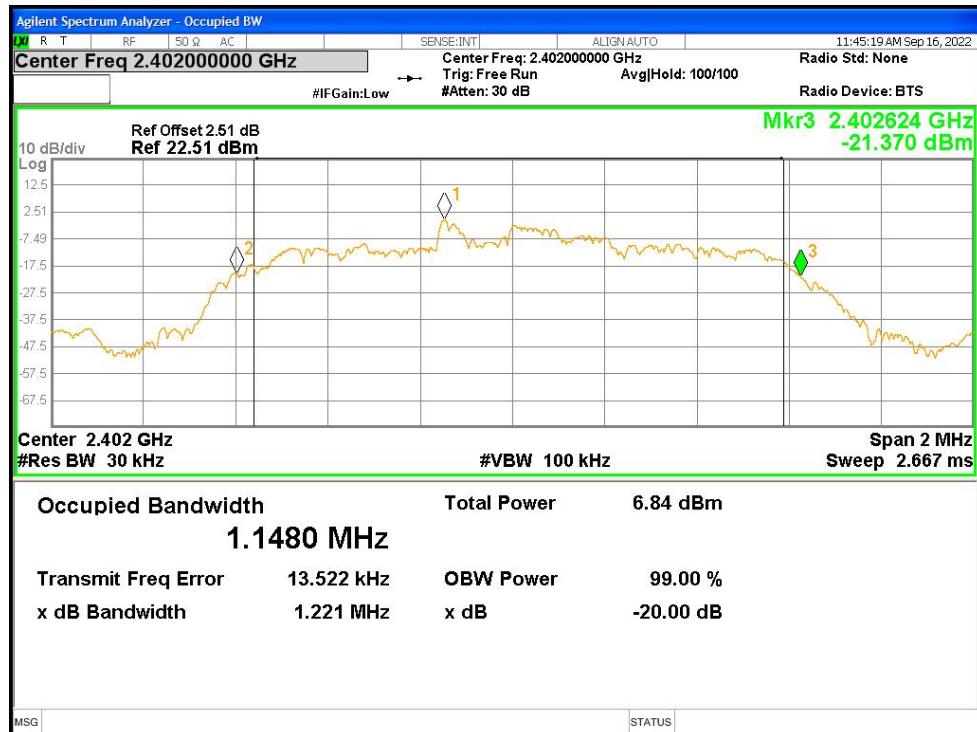
**-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1**

**-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1**



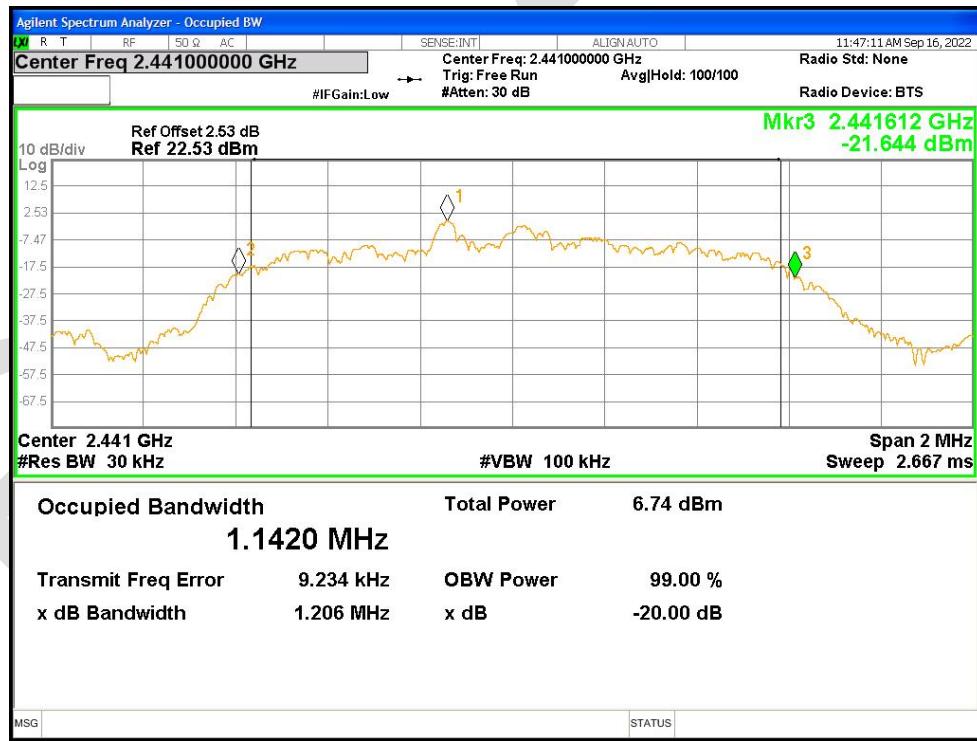
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



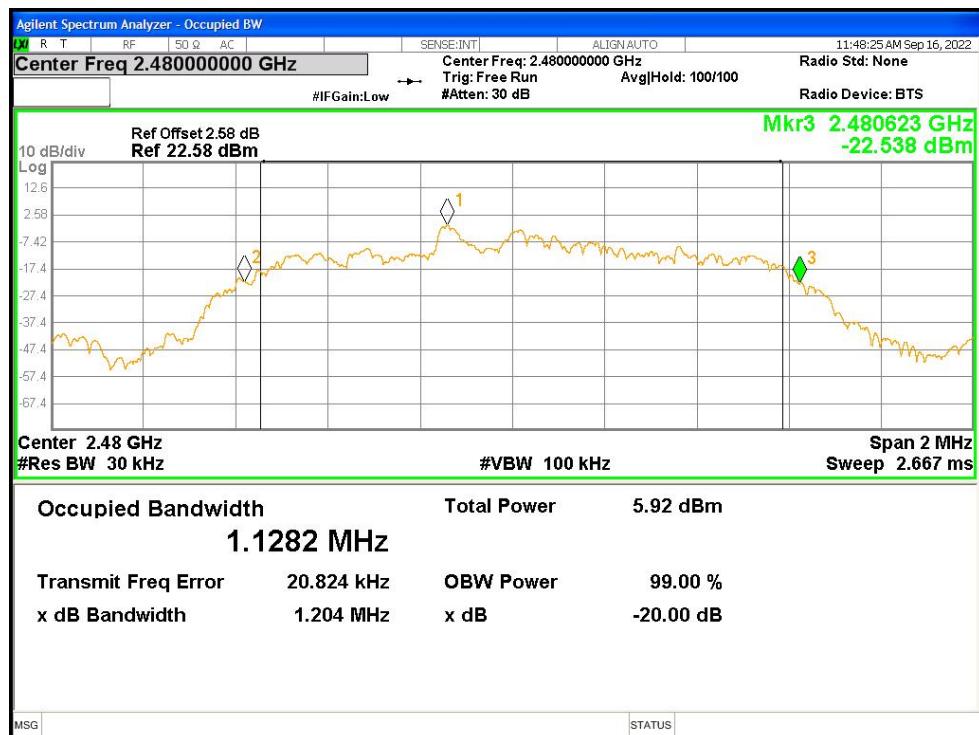
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



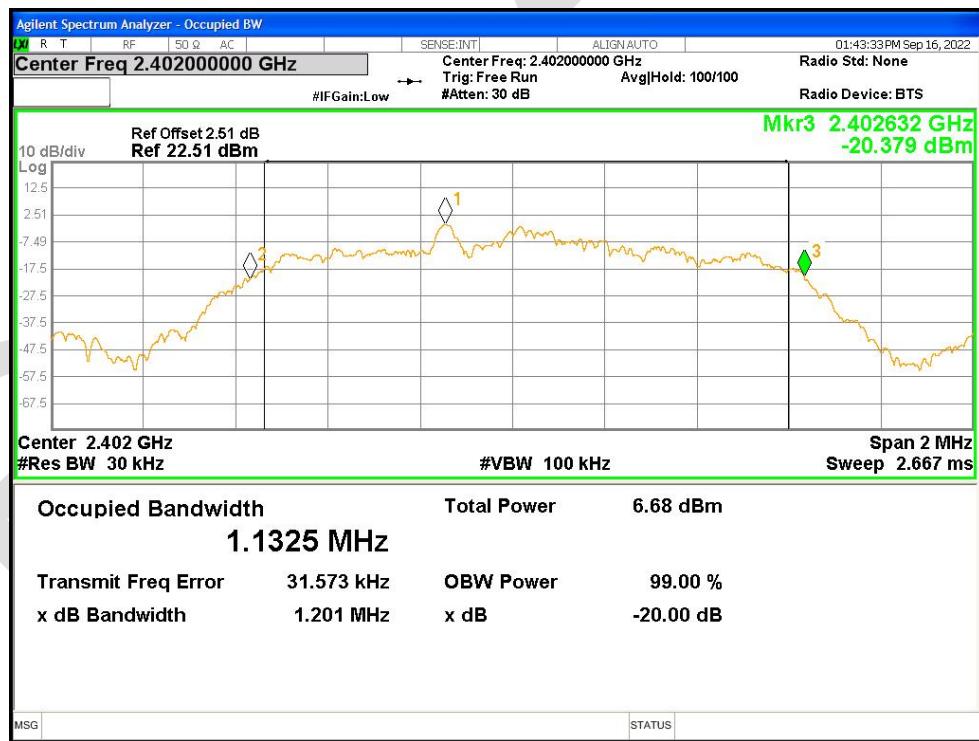
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



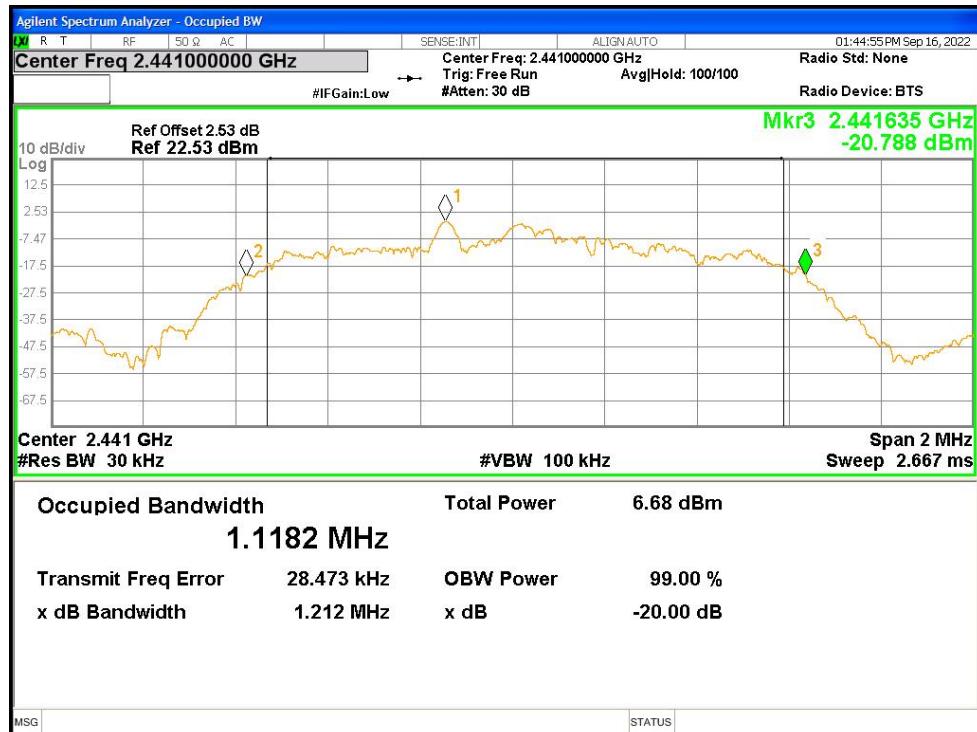
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



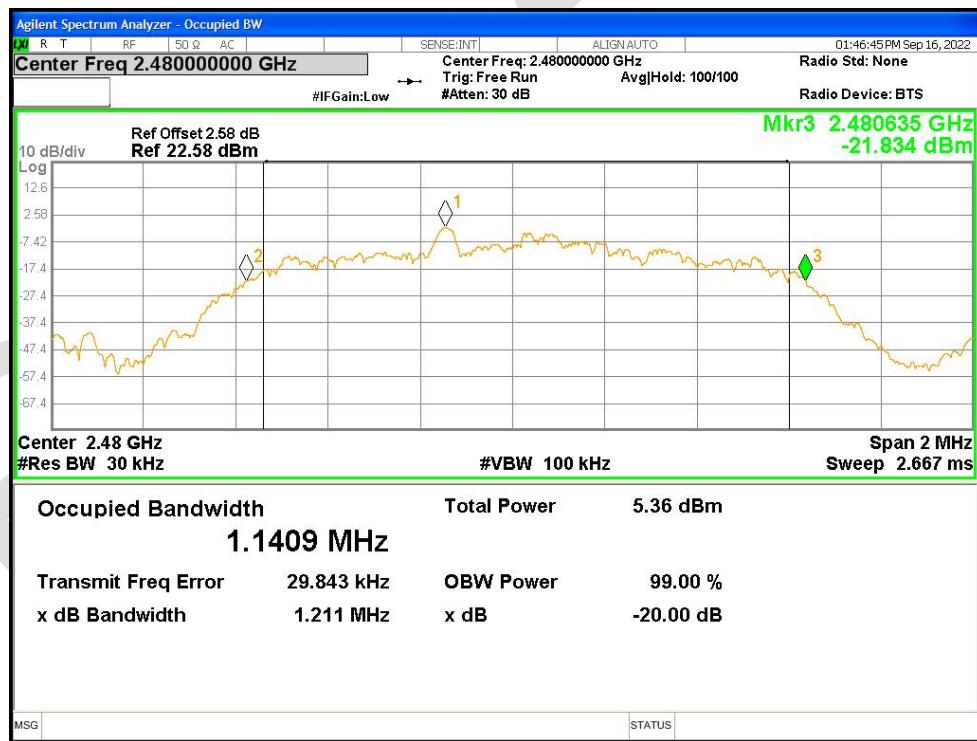
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1

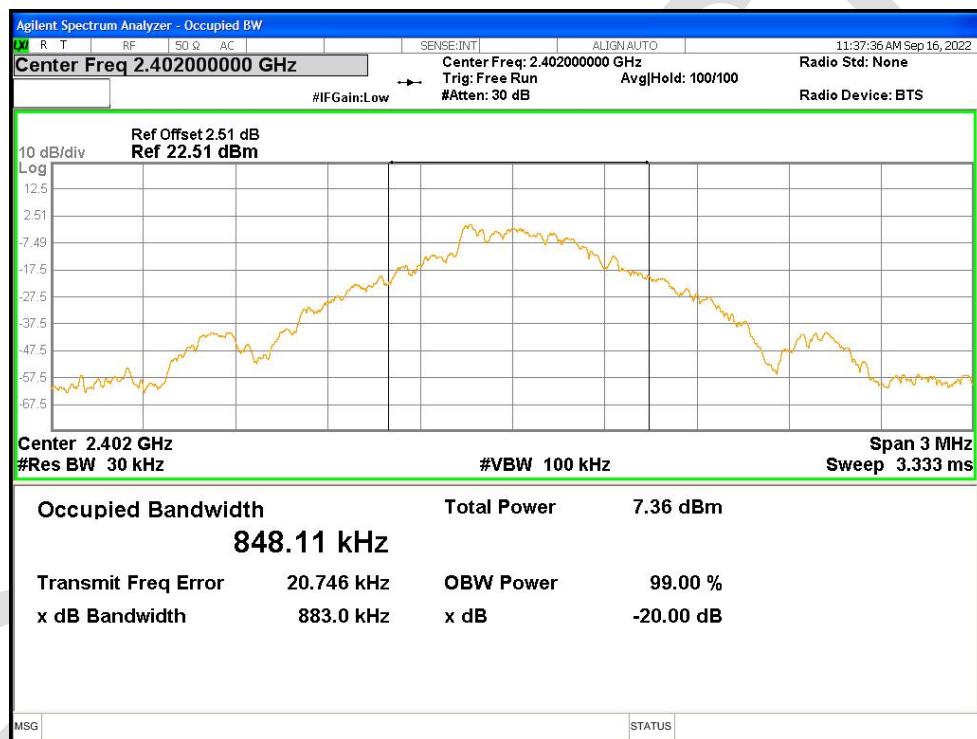


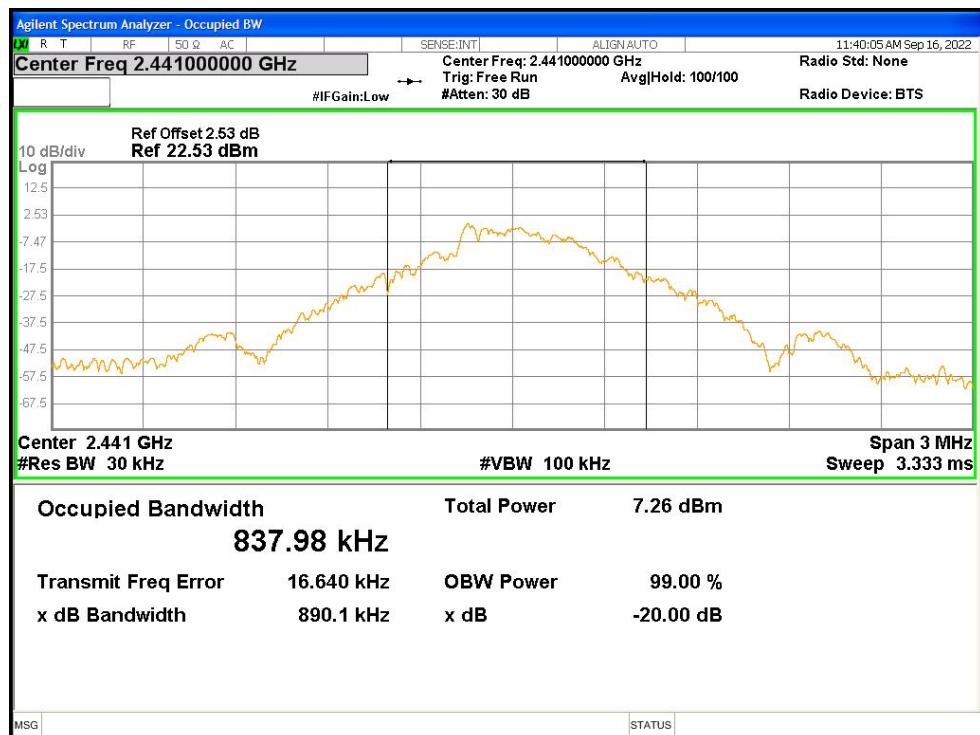
-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



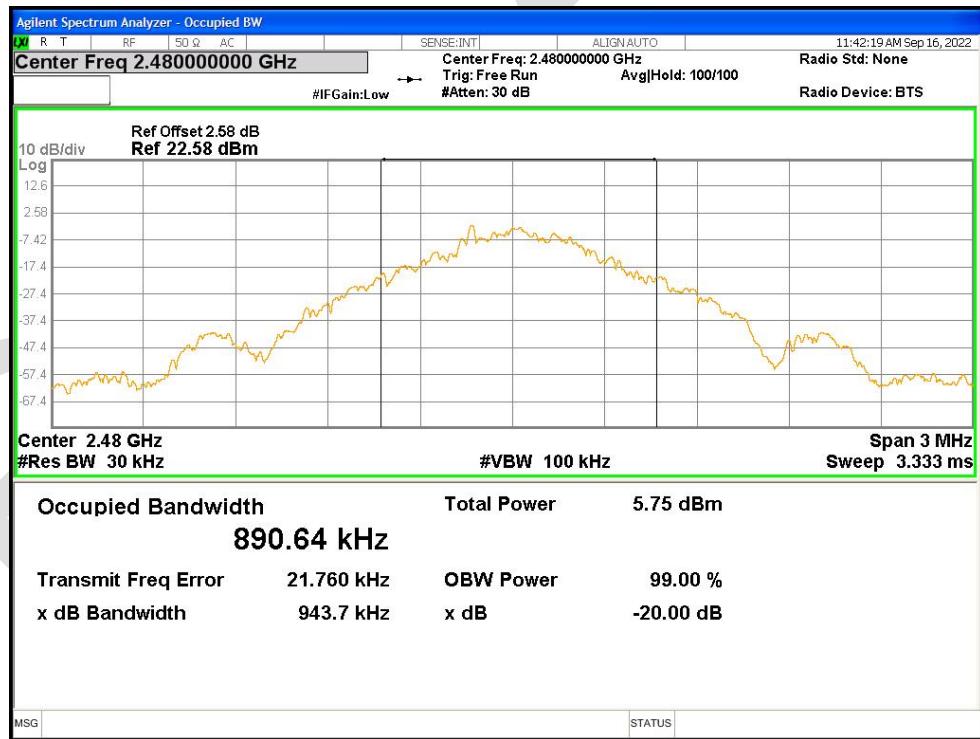
**Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.84811
NVNT	1-DH1	2441	Ant1	0.83798
NVNT	1-DH1	2480	Ant1	0.89064
NVNT	2-DH1	2402	Ant1	1.1447
NVNT	2-DH1	2441	Ant1	1.1351
NVNT	2-DH1	2480	Ant1	1.1475
NVNT	3-DH1	2402	Ant1	1.1331
NVNT	3-DH1	2441	Ant1	1.1284
NVNT	3-DH1	2480	Ant1	1.1383

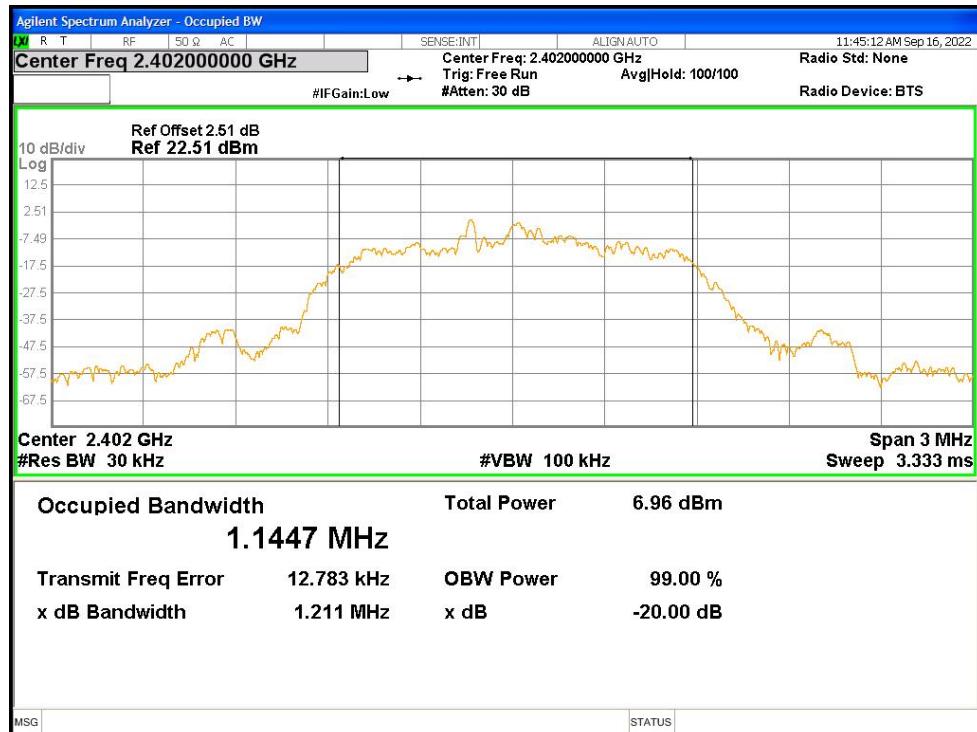
**OBW NVNT 1-DH1 2402MHz Ant1**

**OBW NVNT 1-DH1 2441MHz Ant1**



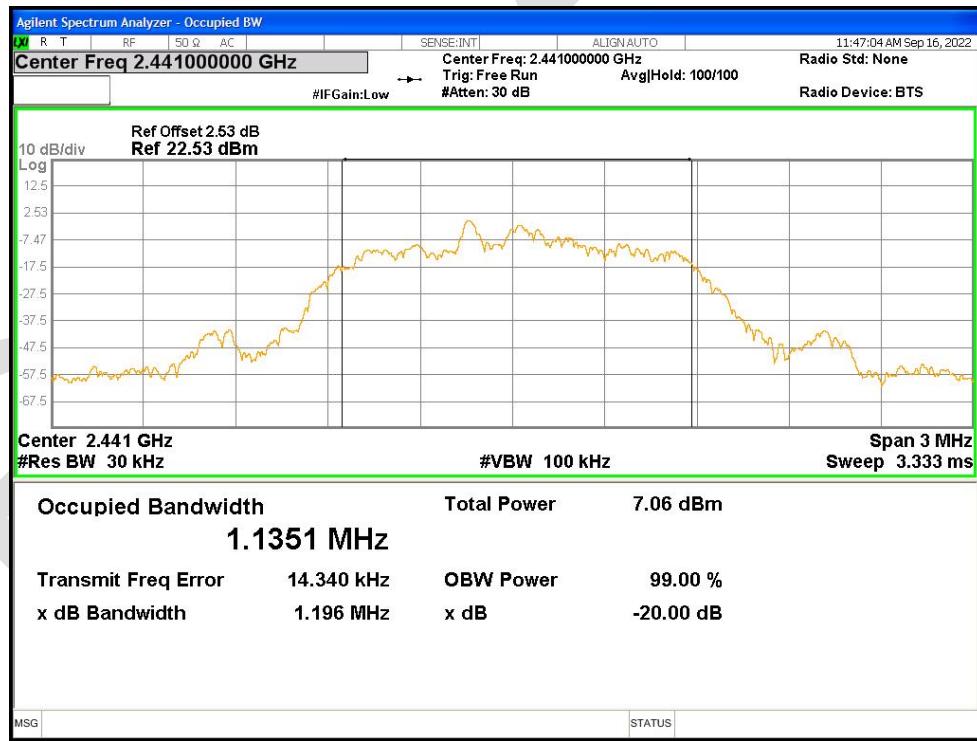
### OBW NVNT 1-DH1 2480MHz Ant1



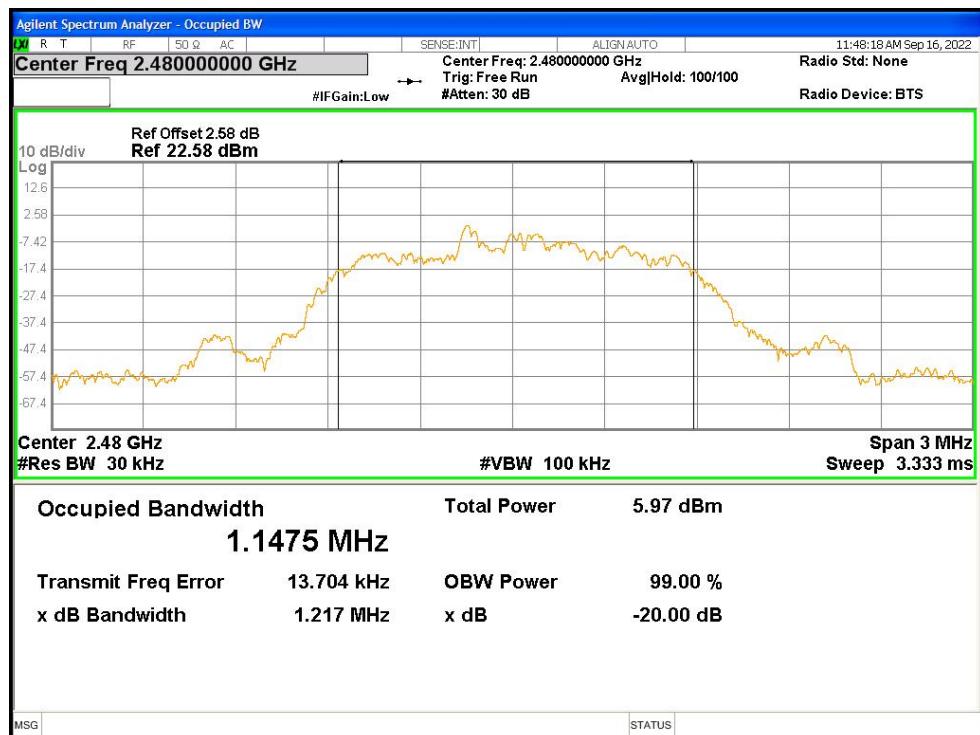
### OBW NVNT 2-DH1 2402MHz Ant1



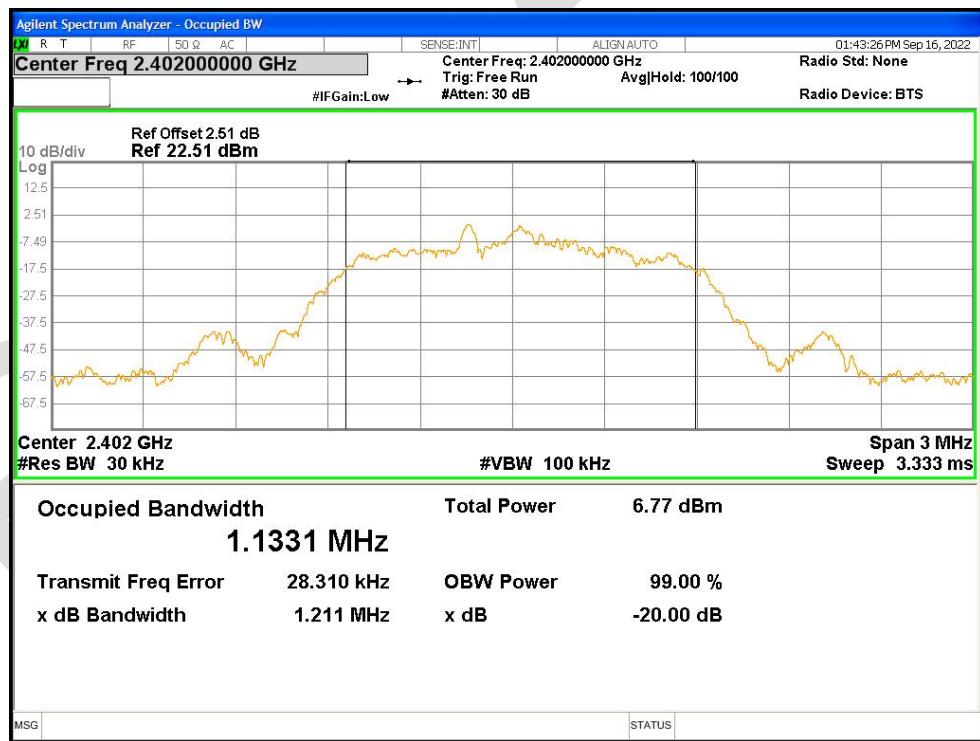
### OBW NVNT 2-DH1 2441MHz Ant1



### OBW NVNT 2-DH1 2480MHz Ant1



### OBW NVNT 3-DH1 2402MHz Ant1



### OBW NVNT 3-DH1 2441MHz Ant1