

## 1. Bandwidth

### 1.1 Test Result

#### 1.1.1 OBW

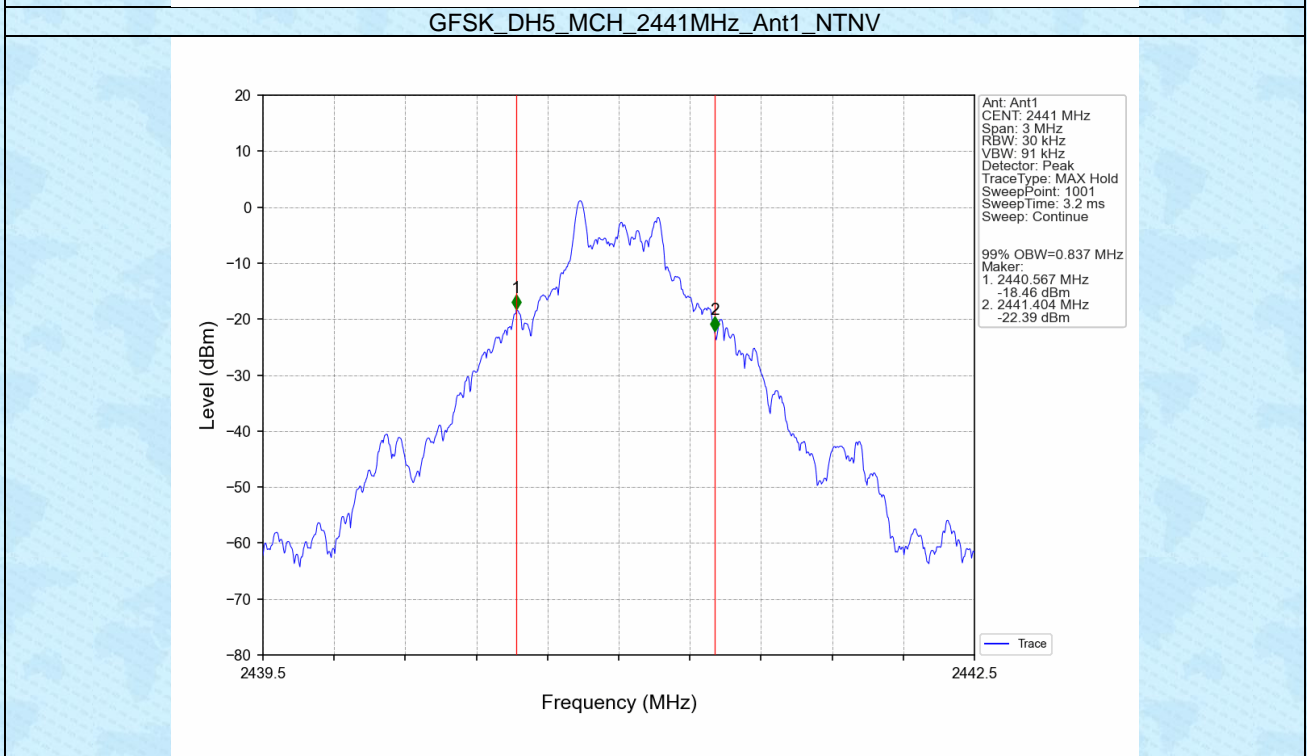
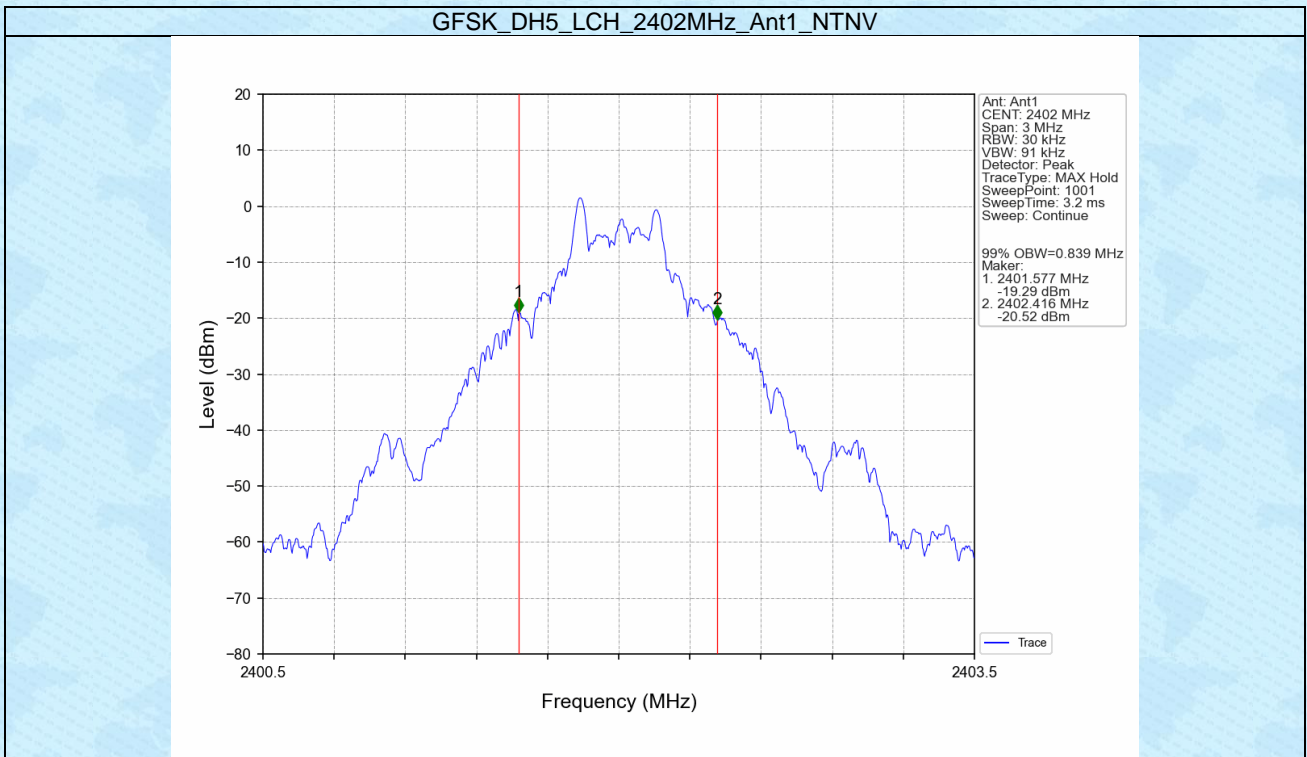
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.839	/	Pass
		2441	DH5	1	0.837	/	Pass
		2480	DH5	1	0.852	/	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.082	/	Pass
		2441	2DH5	1	1.078	/	Pass
		2480	2DH5	1	1.080	/	Pass
8-DPSK	SISO	2402	3DH5	1	1.079	/	Pass
		2441	3DH5	1	1.089	/	Pass
		2480	3DH5	1	1.086	/	Pass

#### 1.1.2 20dB BW

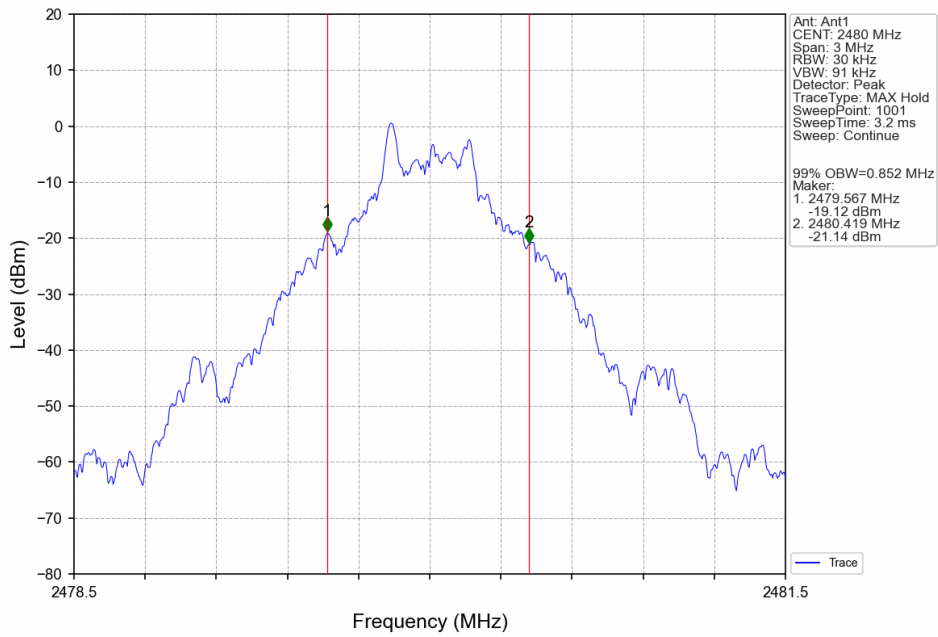
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.813	/	Pass
		2441	DH5	1	0.825	/	Pass
		2480	DH5	1	0.786	/	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.171	/	Pass
		2441	2DH5	1	1.164	/	Pass
		2480	2DH5	1	1.158	/	Pass
8-DPSK	SISO	2402	3DH5	1	1.172	/	Pass
		2441	3DH5	1	1.168	/	Pass
		2480	3DH5	1	1.166	/	Pass

## 1.2 Test Graph

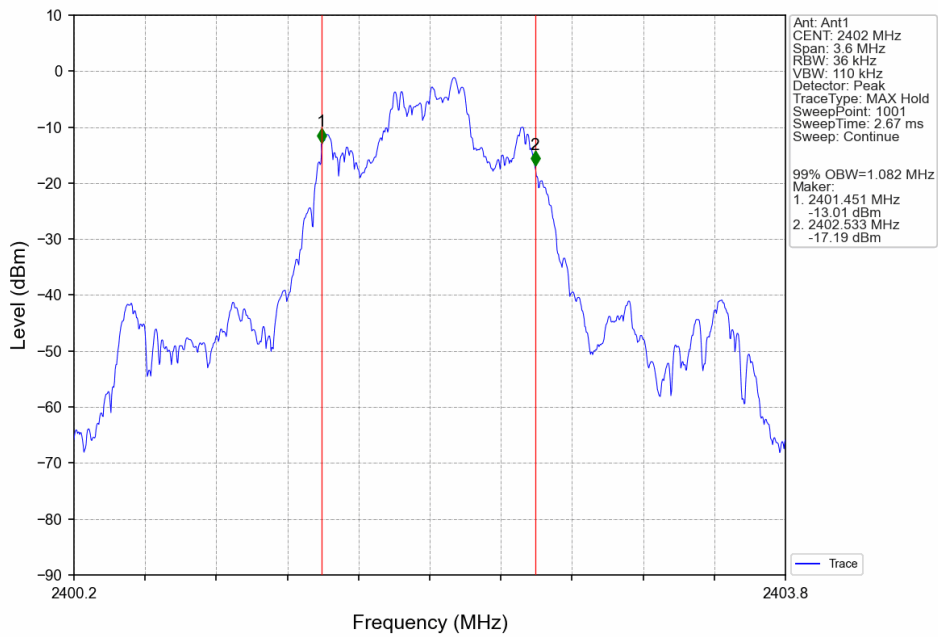
### 1.2.1 OBW



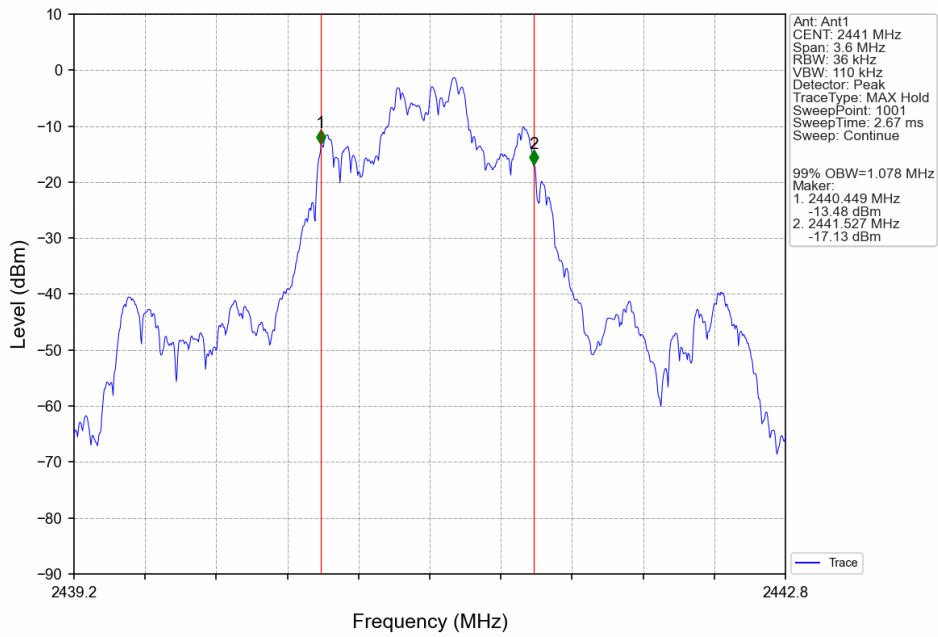
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



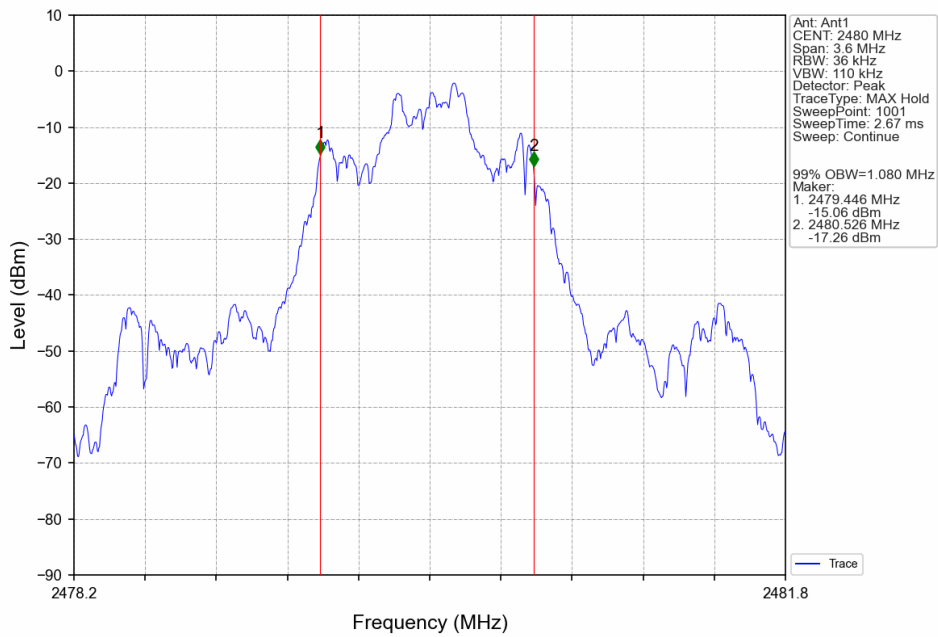
$\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



$\pi/4$ -DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV

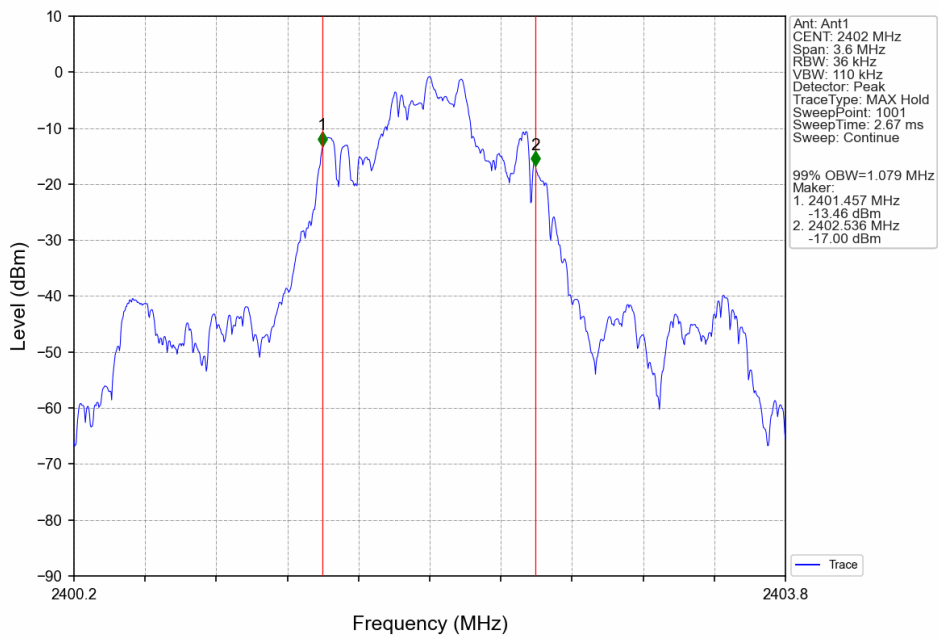


$\pi/4$ -DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV

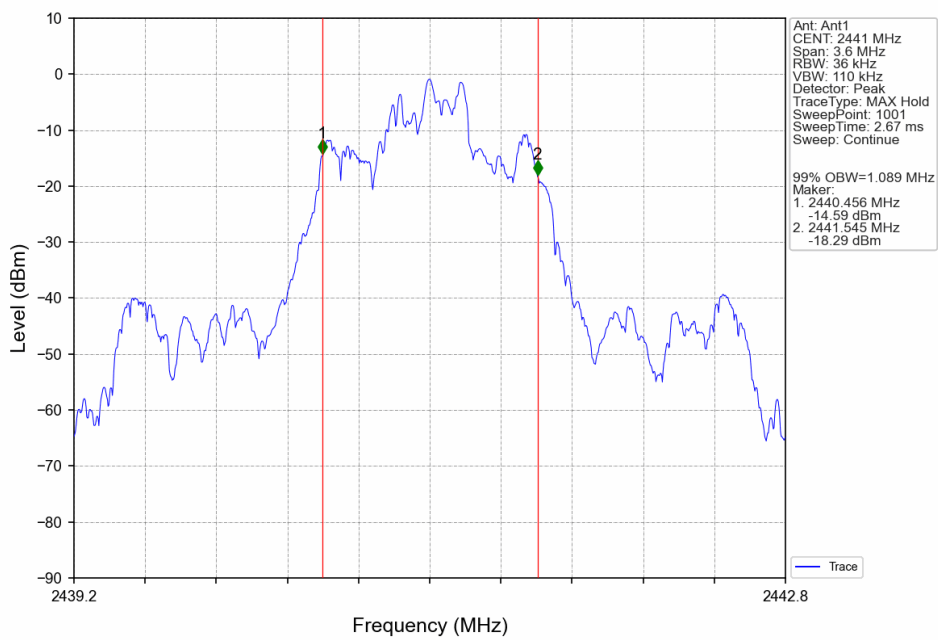




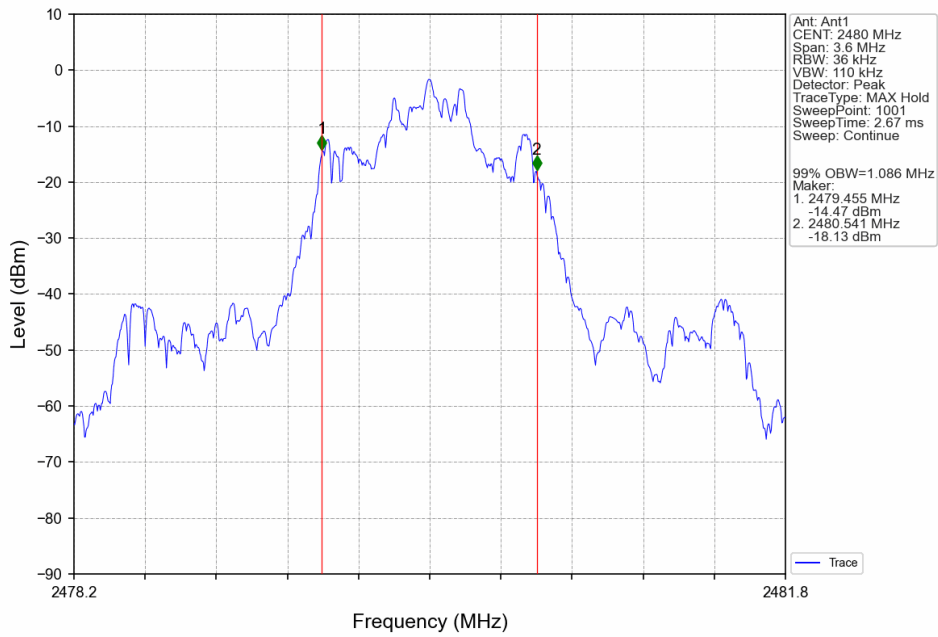
8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



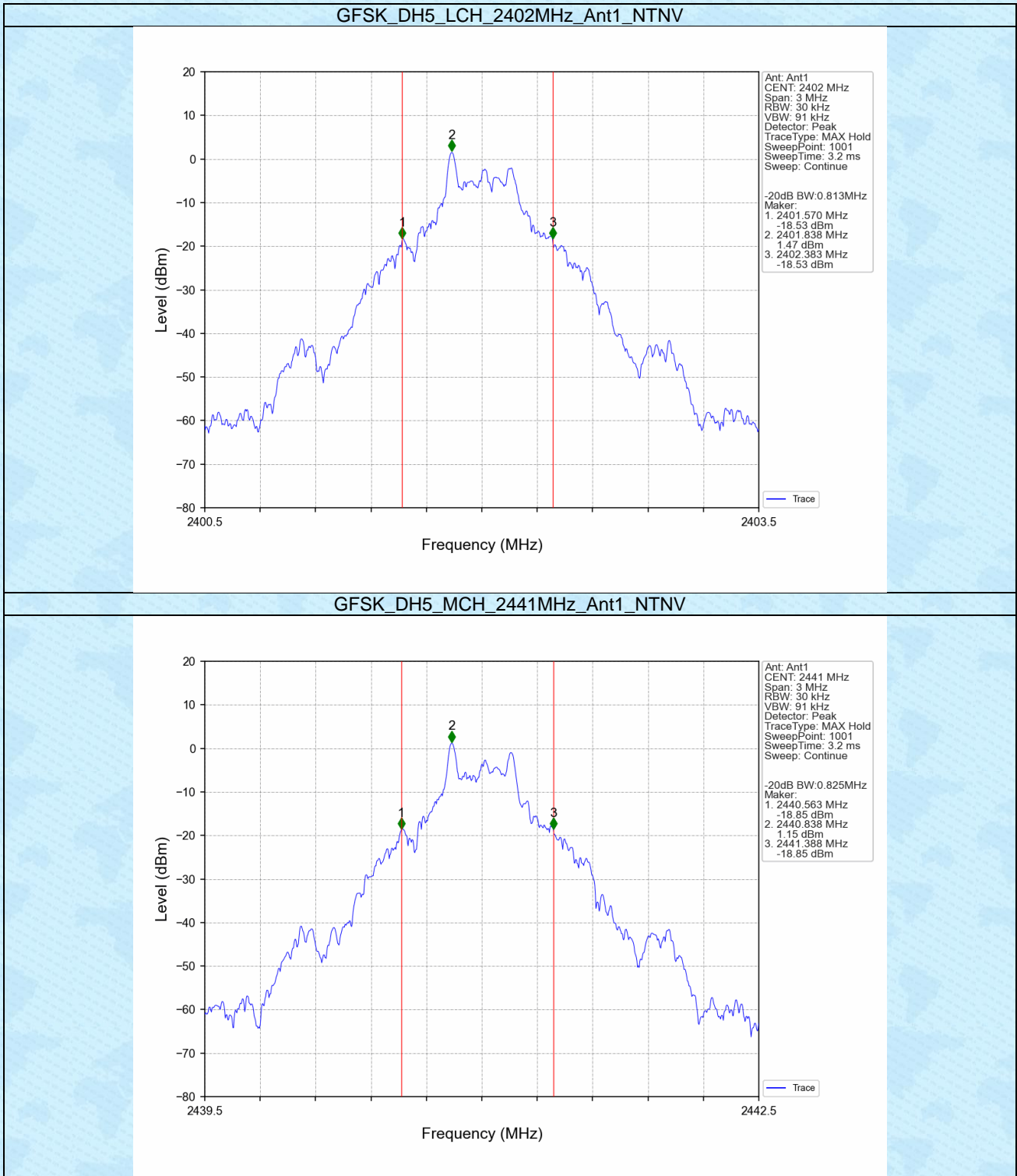
8-DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



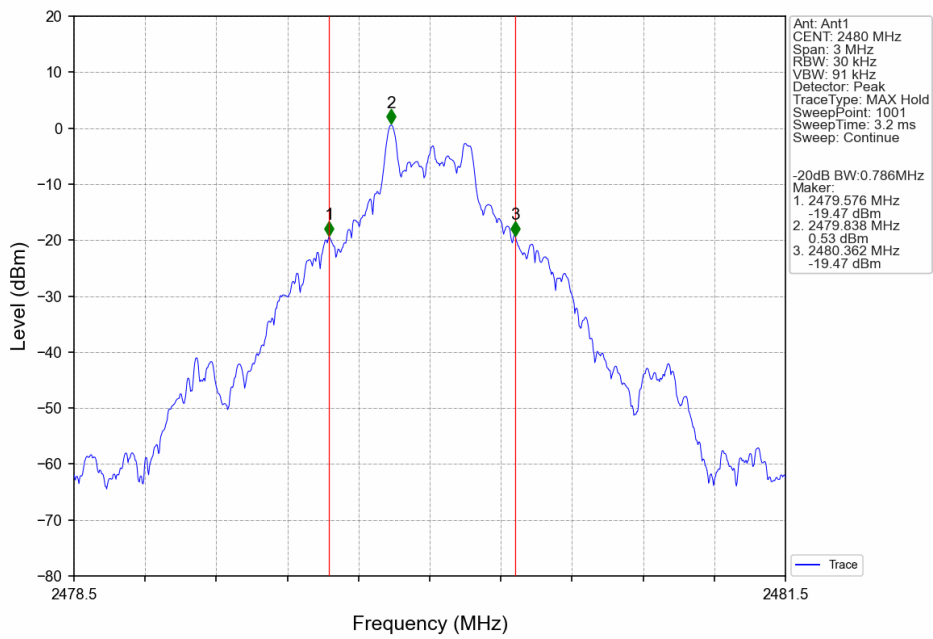
### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



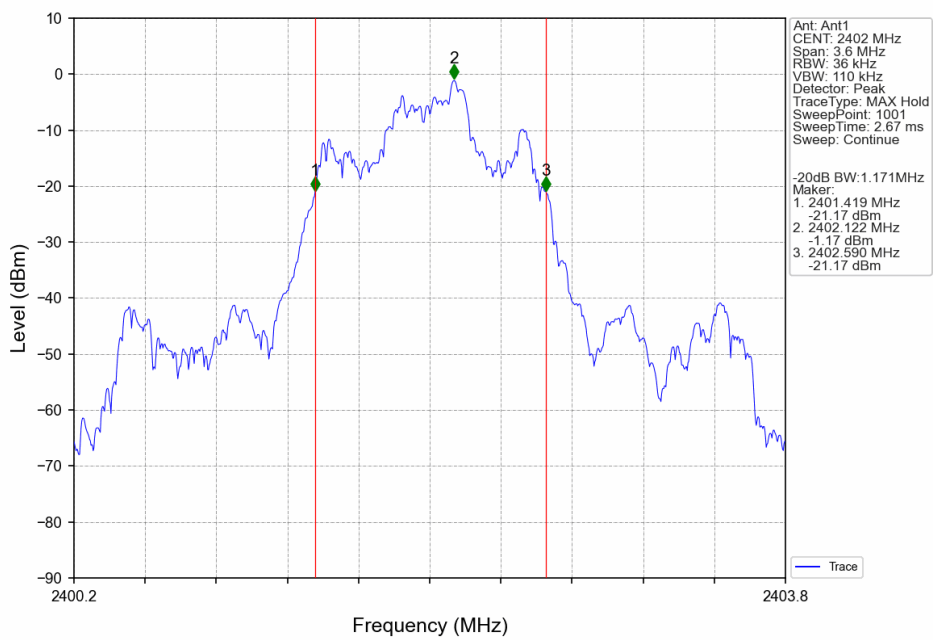
## 1.2.2 20dB BW



### GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV

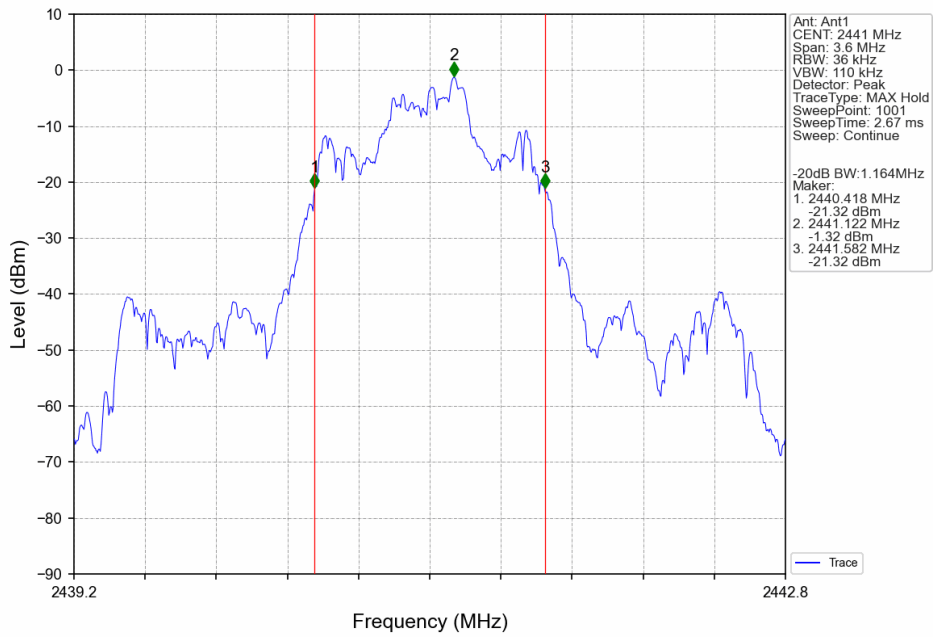


### $\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

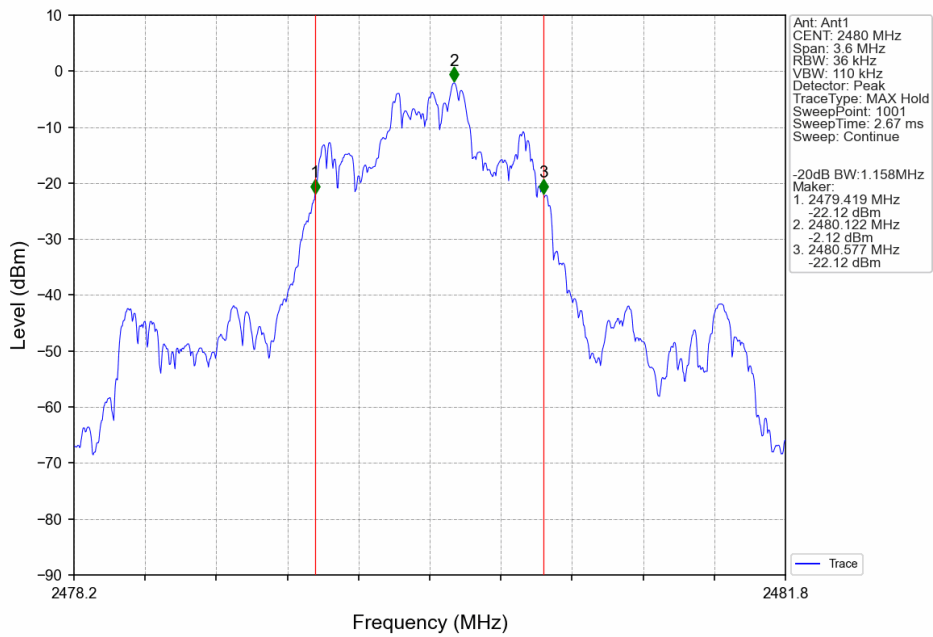




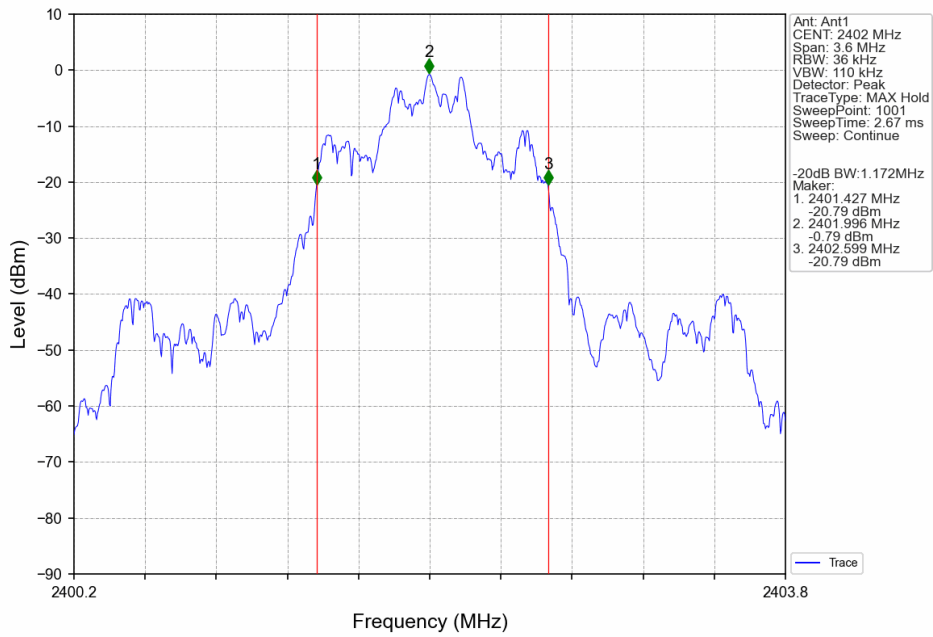
$\pi/4$ -DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



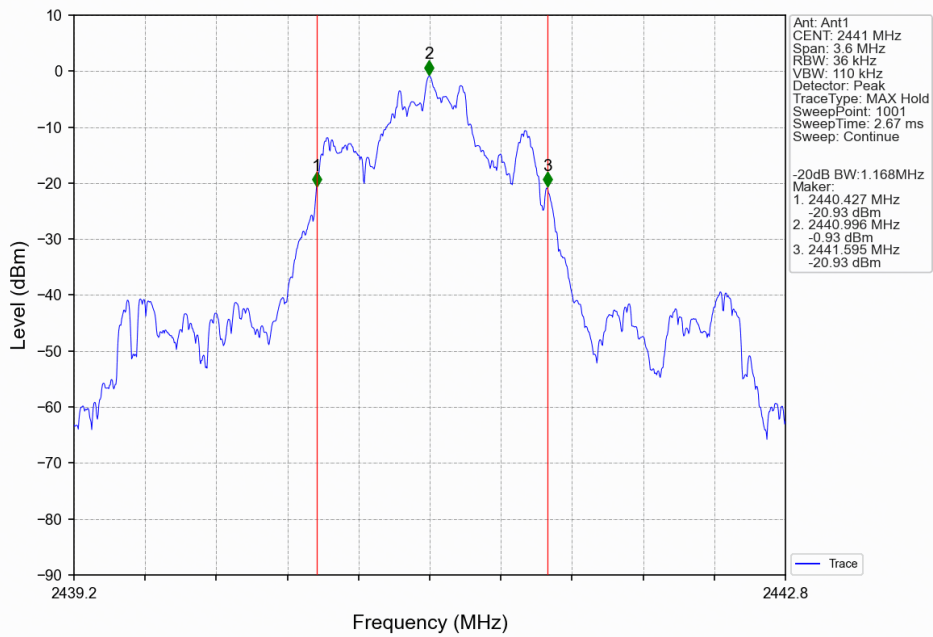
Pi/4DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



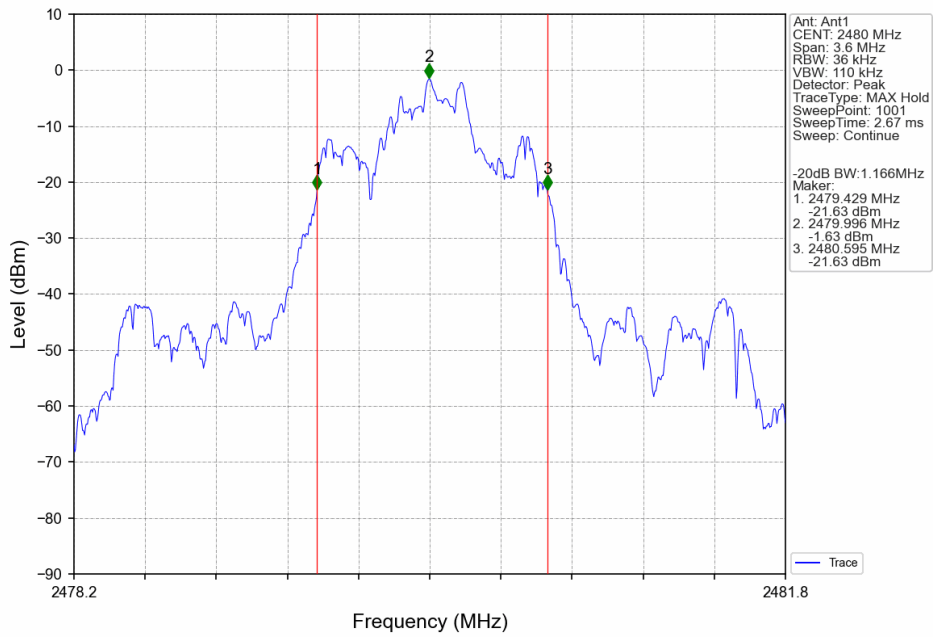
### 8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



### 8-DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



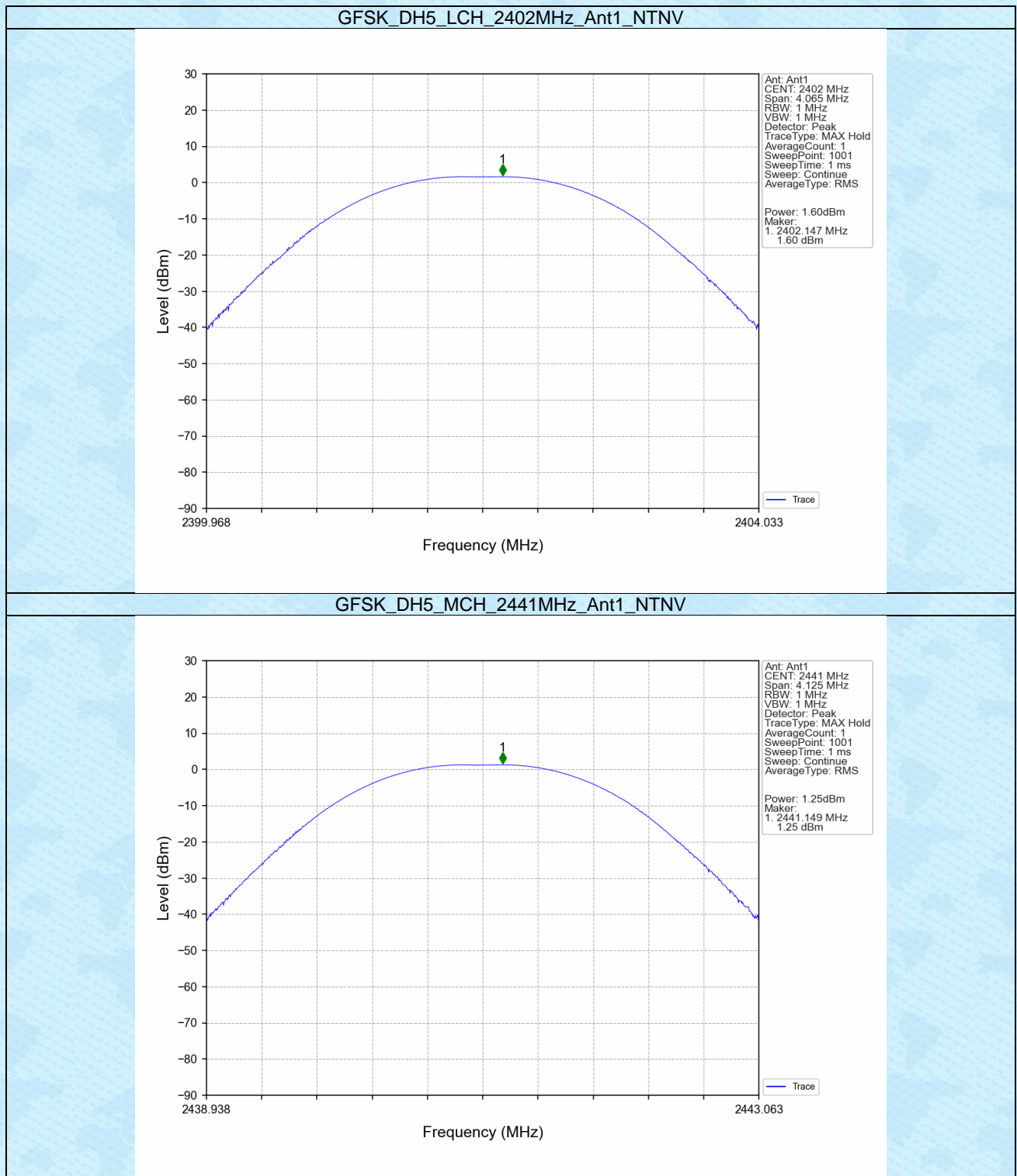
## 2. Maximum Conducted Output Power

### 2.1 Test Result

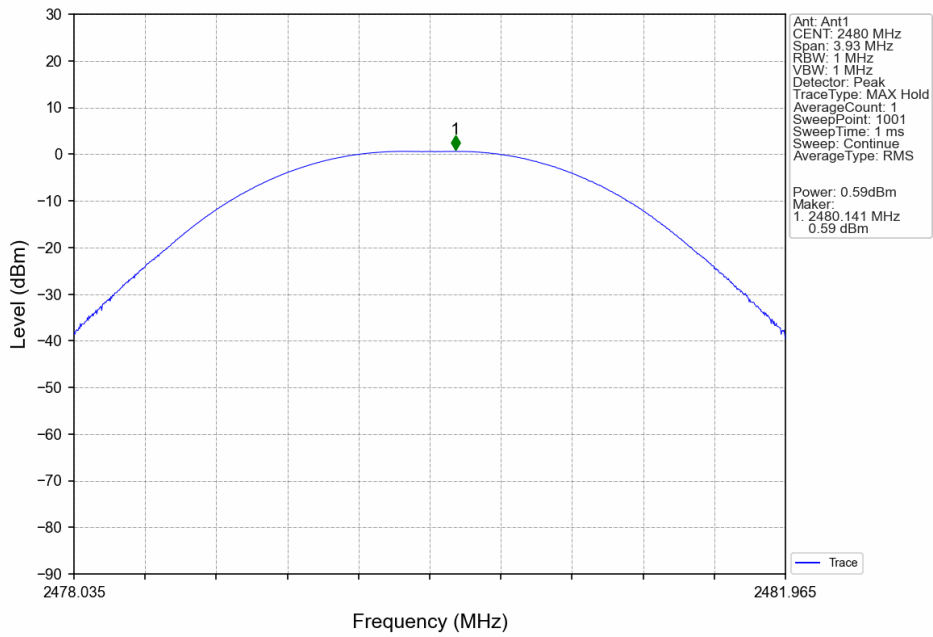
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	1.60	<=30	Pass
		2441	DH5	1.25	<=30	Pass
		2480	DH5	0.59	<=30	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	0.43	<=20.97	Pass
		2441	2DH5	0.15	<=20.97	Pass
		2480	2DH5	-0.63	<=20.97	Pass
8-DPSK	SISO	2402	3DH5	0.70	<=20.97	Pass
		2441	3DH5	0.46	<=20.97	Pass
		2480	3DH5	-0.21	<=20.97	Pass



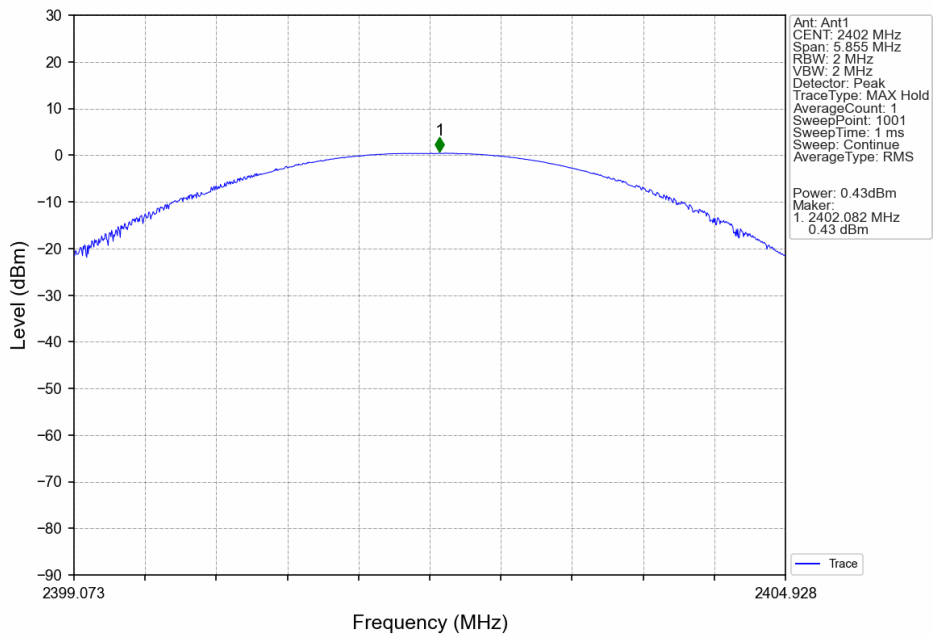
## 2.2 Test Graph



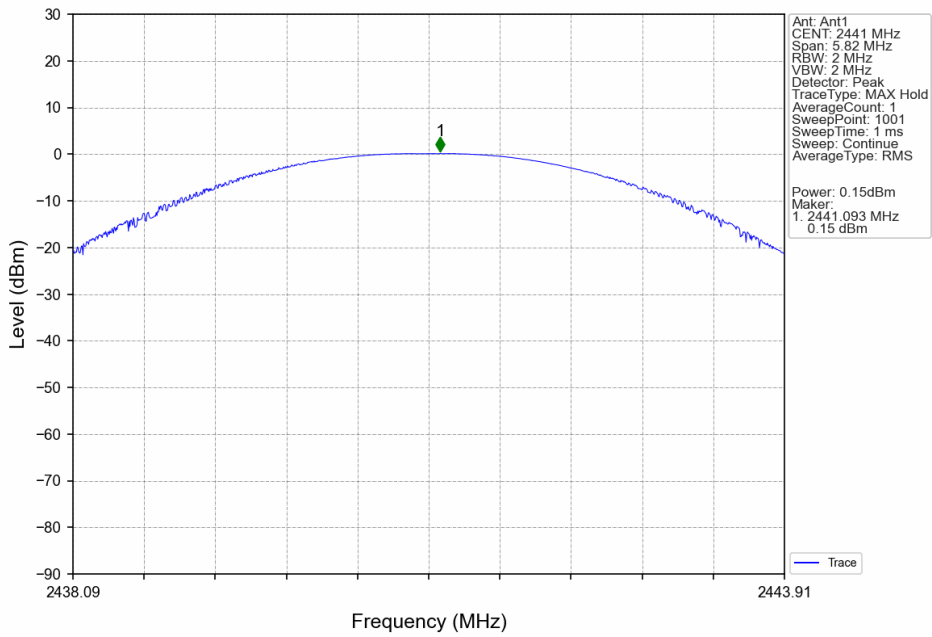
GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



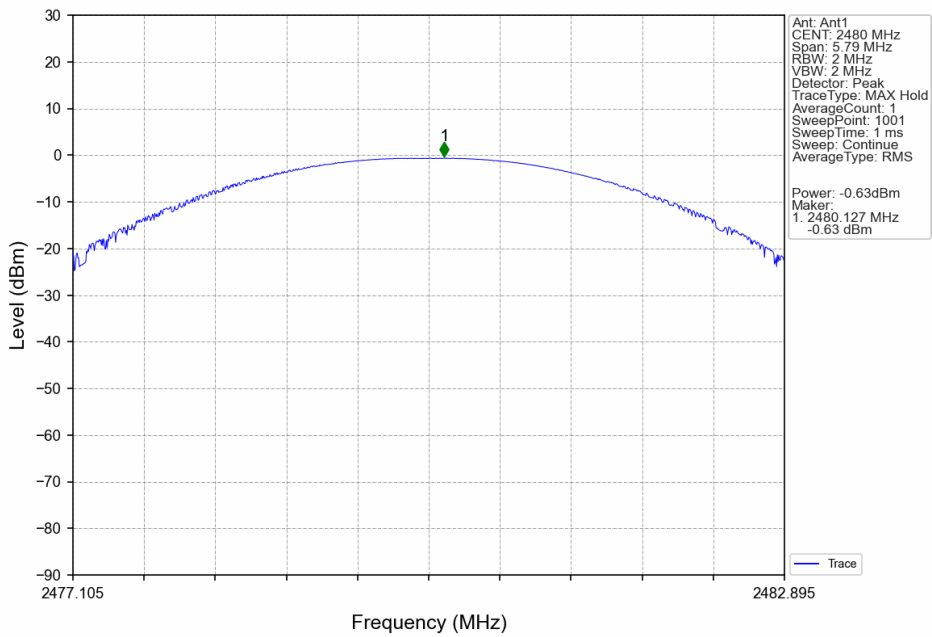
$\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



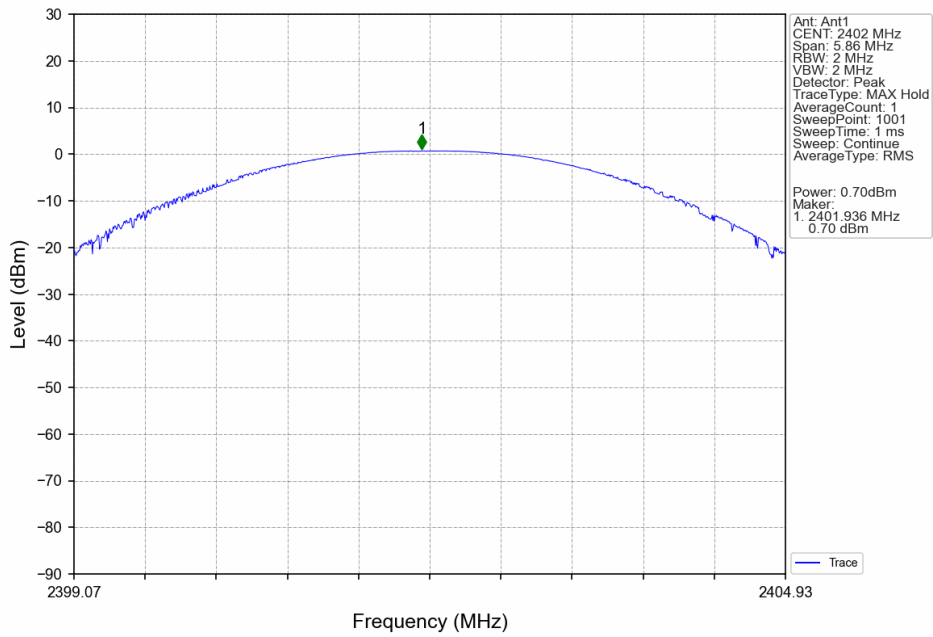
### $\pi/4$ -DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTNV



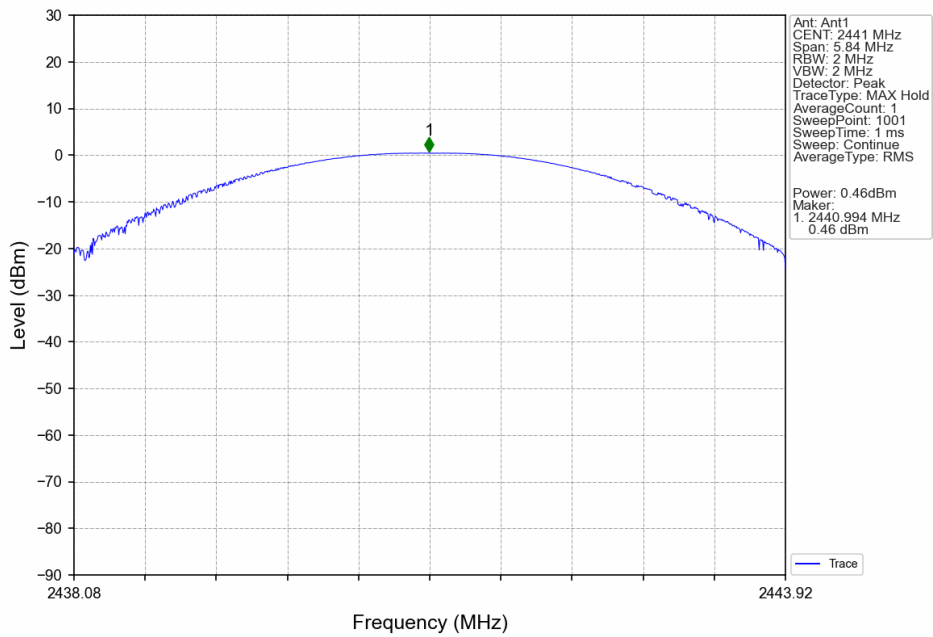
### $\pi/4$ -DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV

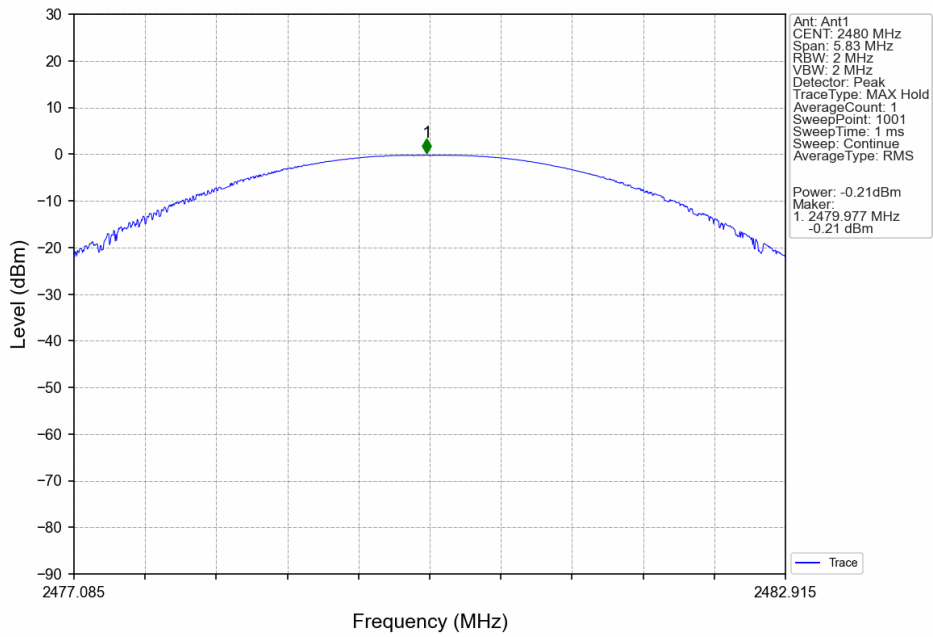


8-DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV





### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

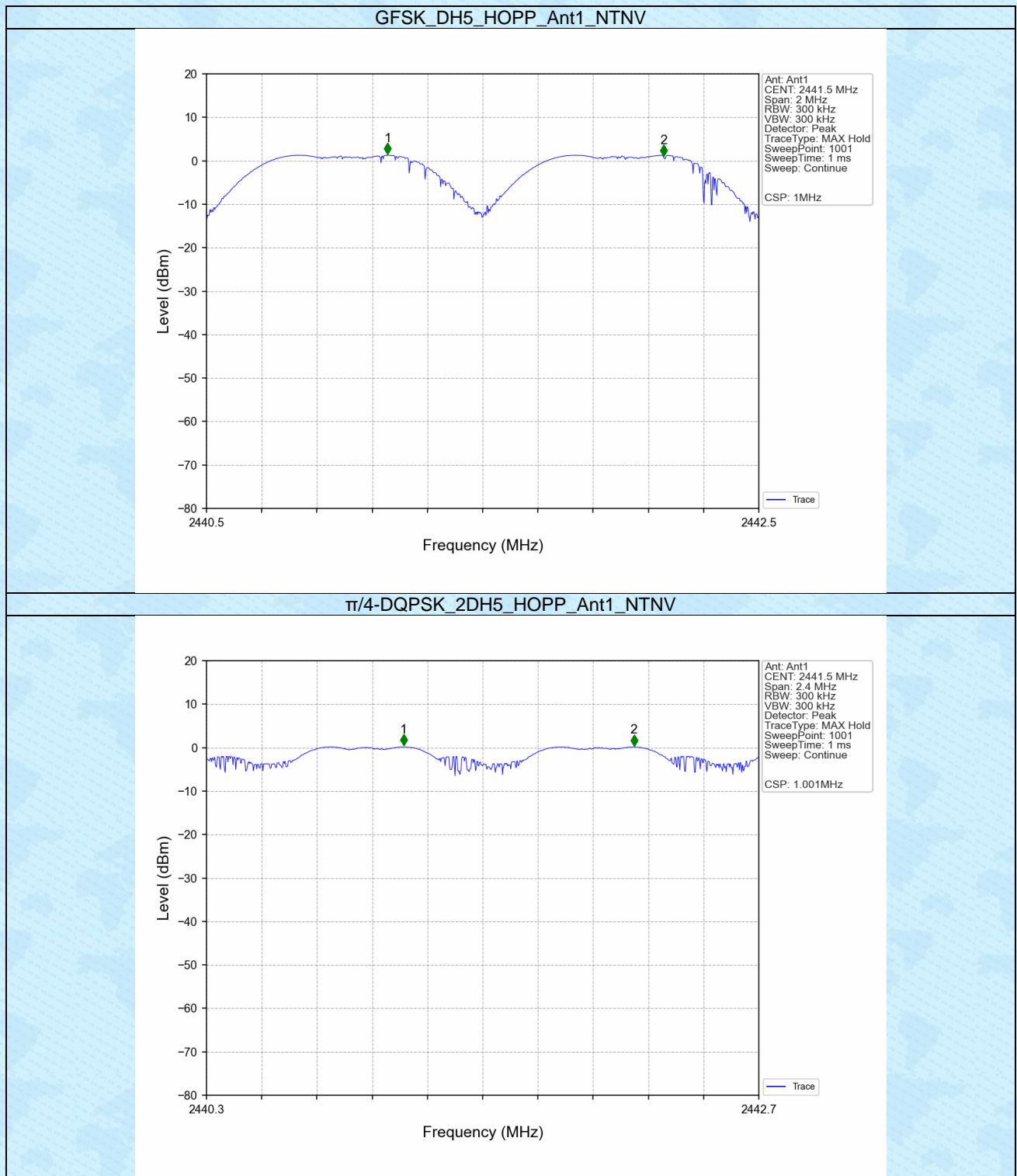


### 3. Carrier Frequency Separation

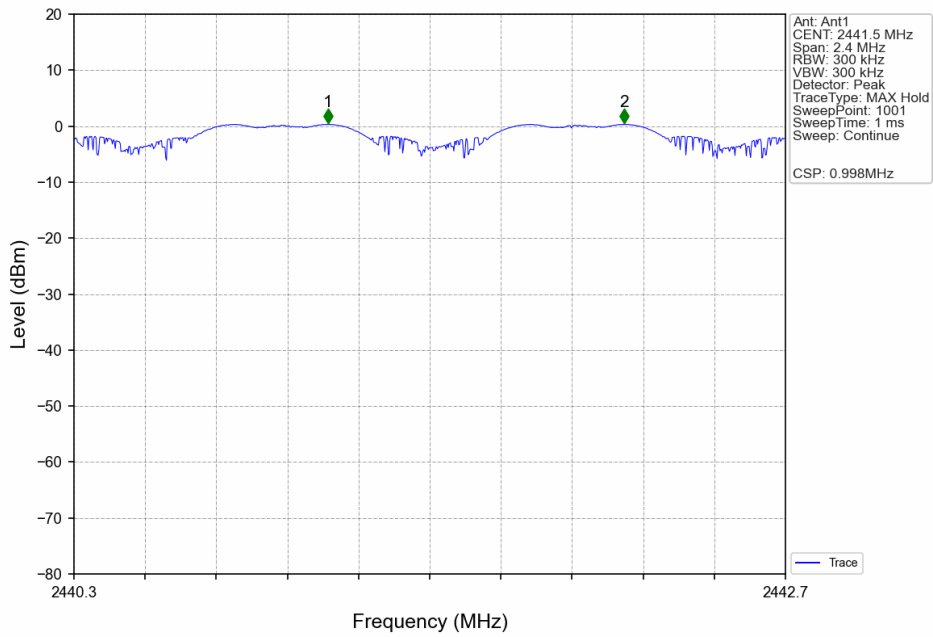
#### 3.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.000	0.825	$\geq 0.825$	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	1.001	1.171	$\geq 0.781$	Pass
8-DPSK	SISO	HOPP	3DH5	0.998	1.172	$\geq 0.781$	Pass

## 3.2 Test Graph



### 8-DPSK\_3DH5\_HOPP\_Ant1\_NTNV



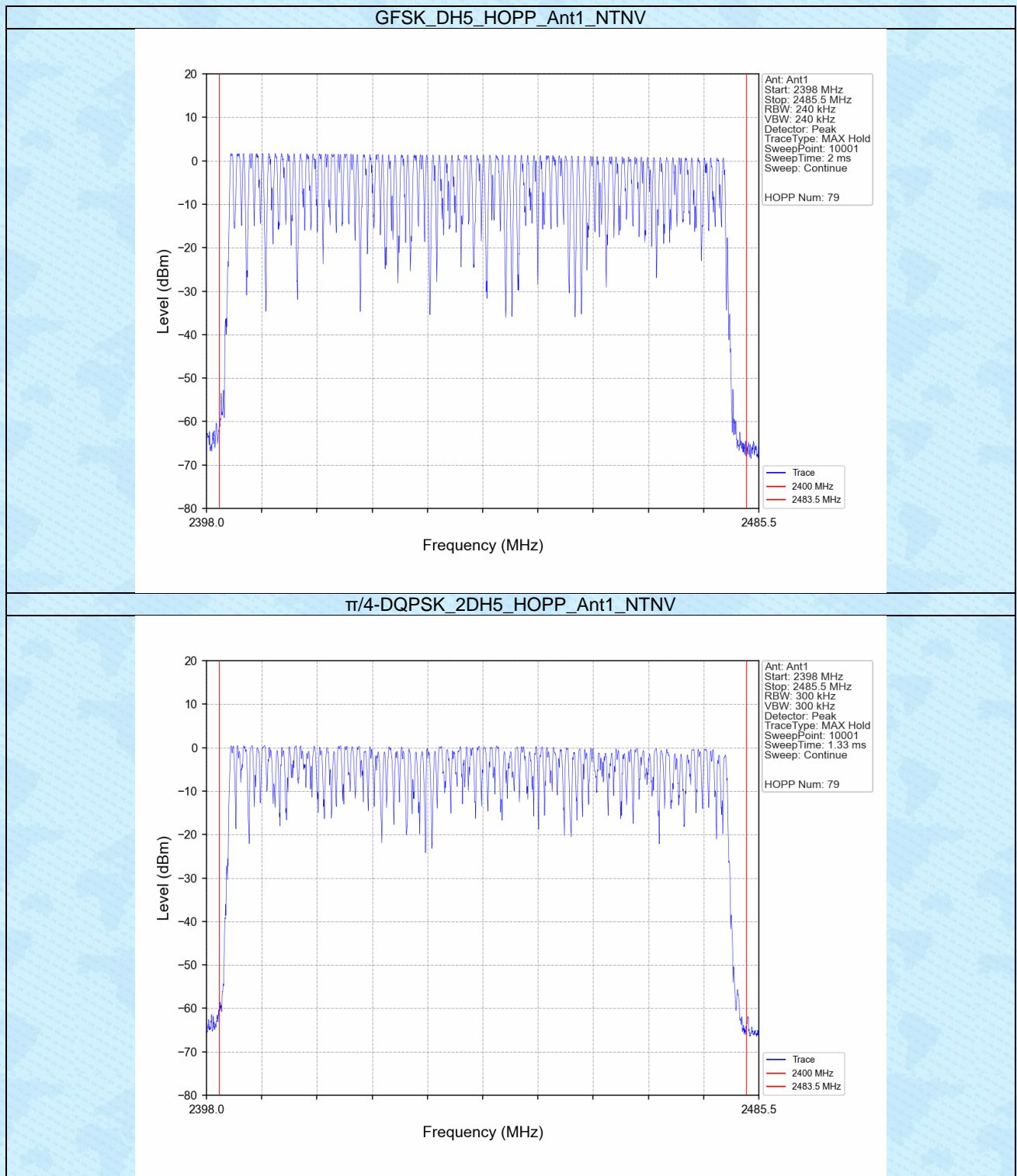


## 4. Number of Hopping Frequencies

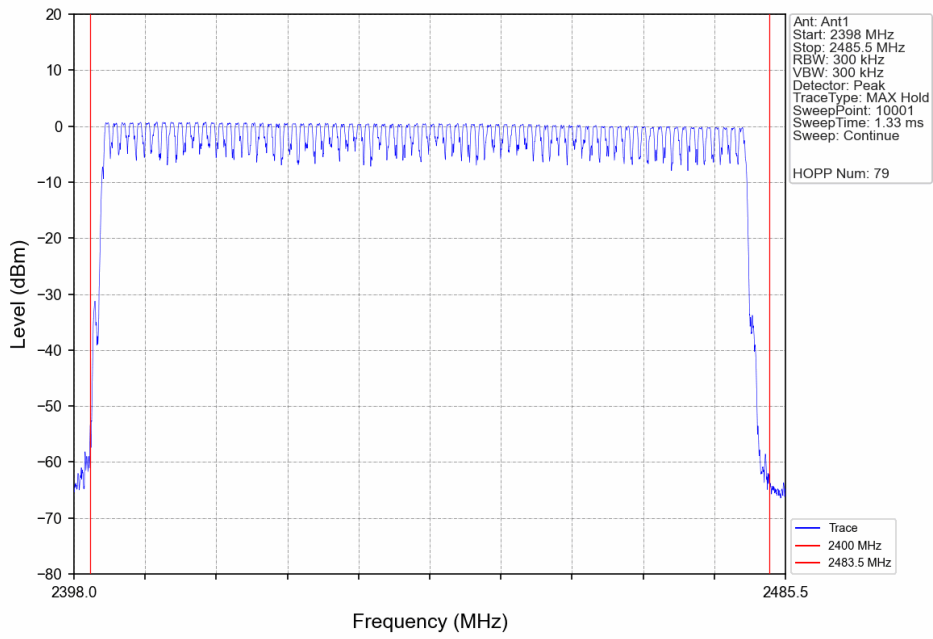
### 4.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies		Verdict
				ANT1	Limit	
GFSK	SISO	HOPP	DH5	79	$\geq 15$	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	79	$\geq 15$	Pass
8-DPSK	SISO	HOPP	3DH5	79	$\geq 15$	Pass

## 4.2 Test Graph



### 8-DPSK\_3DH5\_HOPP\_Ant1\_NTNV



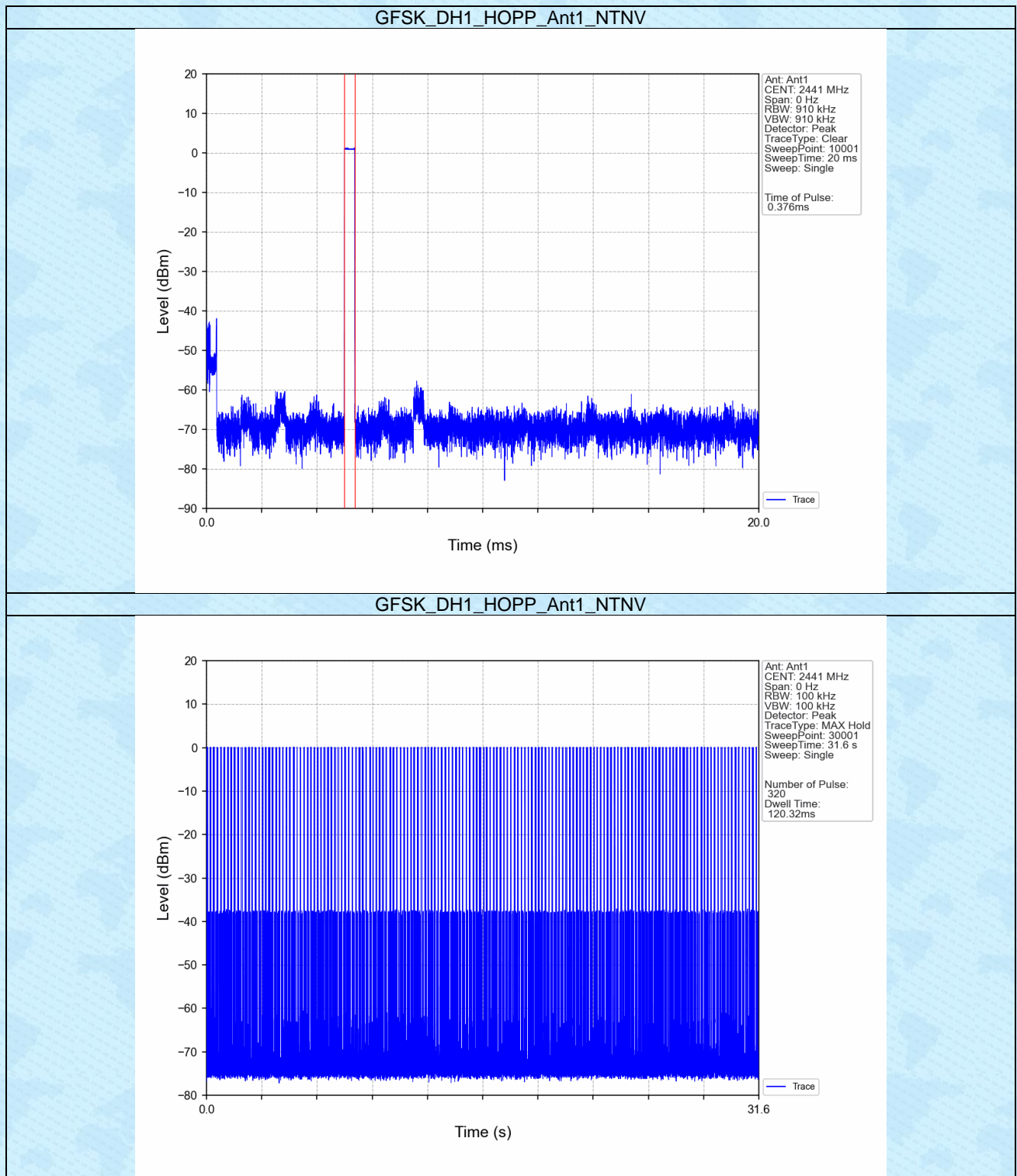
## 5. Time of Occupancy (Dwell Time)

### 5.1 Test Result

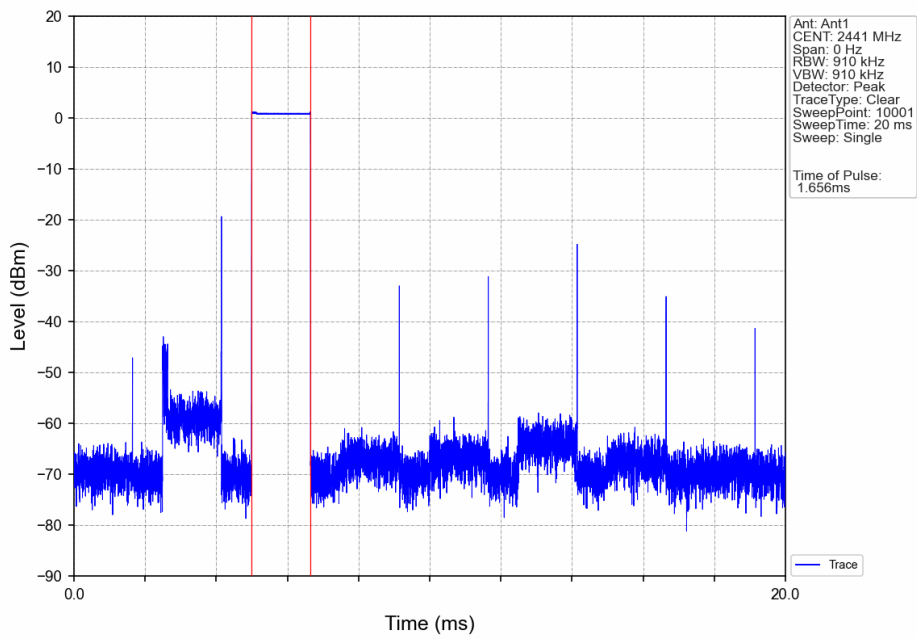
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.376	31.600	320	120.320	<=400	Pass
			DH3	1.656	31.600	159	263.304	<=400	Pass
			DH5	2.888	31.600	110	317.680	<=400	Pass
π/4-DQPSK	SISO	HOPP	2DH1	0.380	31.600	319	121.220	<=400	Pass
			2DH3	1.642	31.600	159	261.078	<=400	Pass
			2DH5	2.892	31.600	104	300.768	<=400	Pass
8-DPSK	SISO	HOPP	3DH1	0.384	31.600	319	122.496	<=400	Pass
			3DH3	1.634	31.600	163	266.342	<=400	Pass
			3DH5	2.892	31.600	106	306.552	<=400	Pass



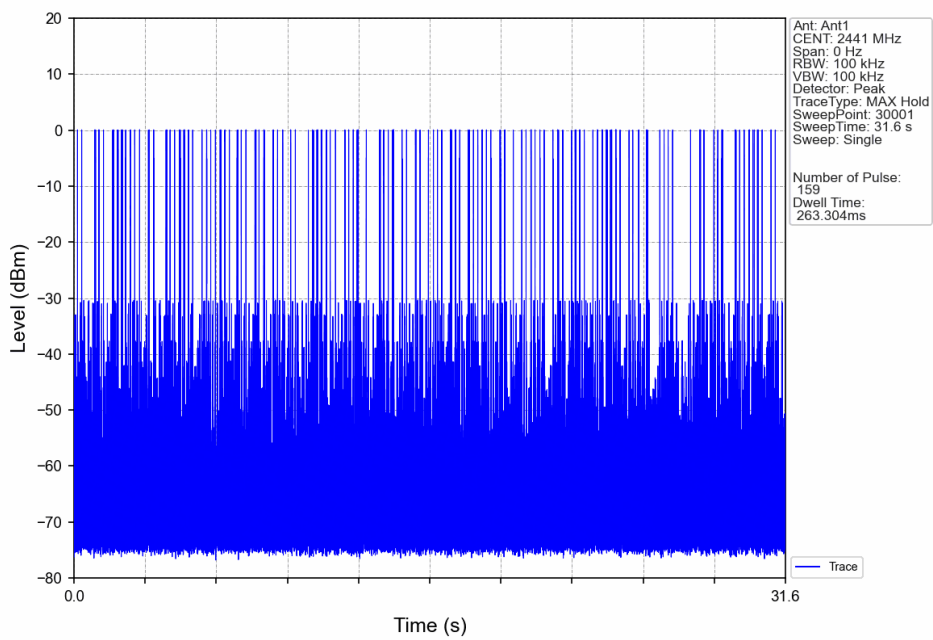
## 5.2 Test Graph



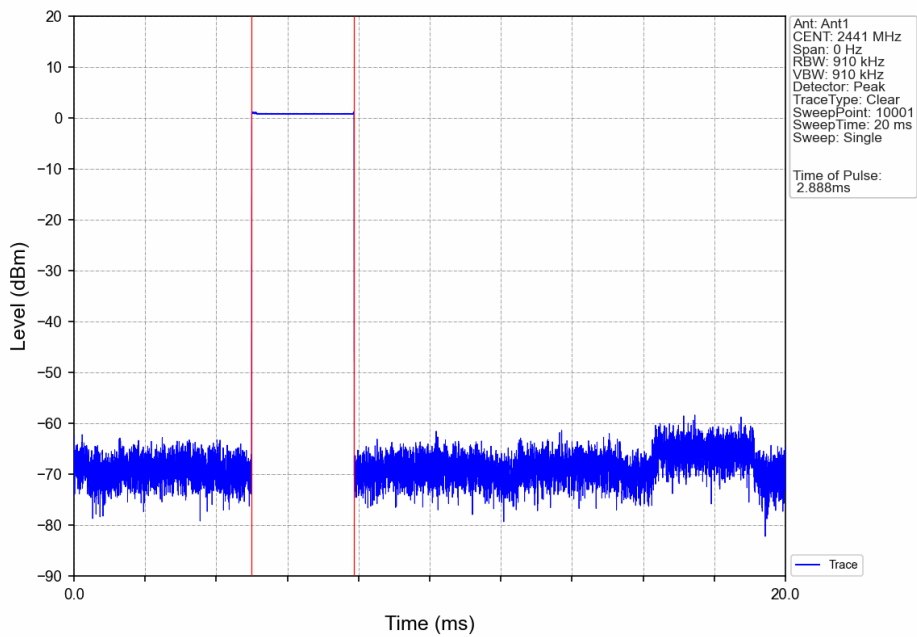
GFSK\_DH3\_HOPP\_Ant1\_NTNV



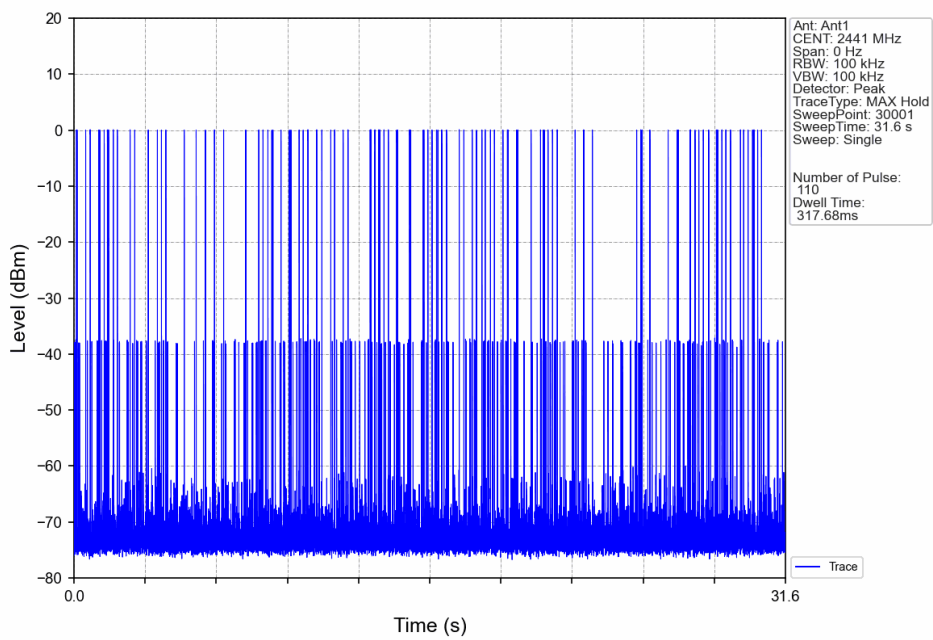
GFSK\_DH3\_HOPP\_Ant1\_NTNV



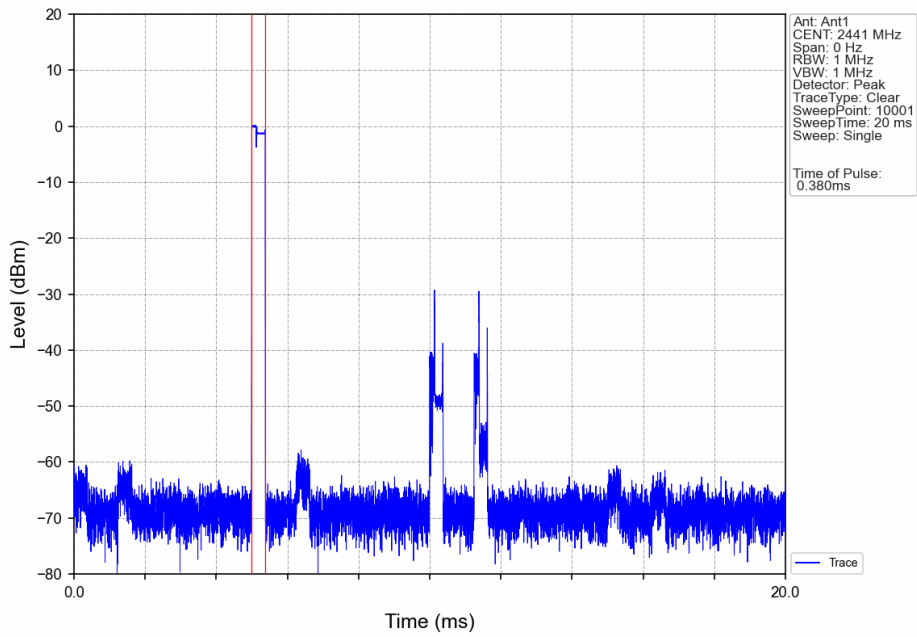
GFSK\_DH5\_HOPP\_Ant1\_NTNV



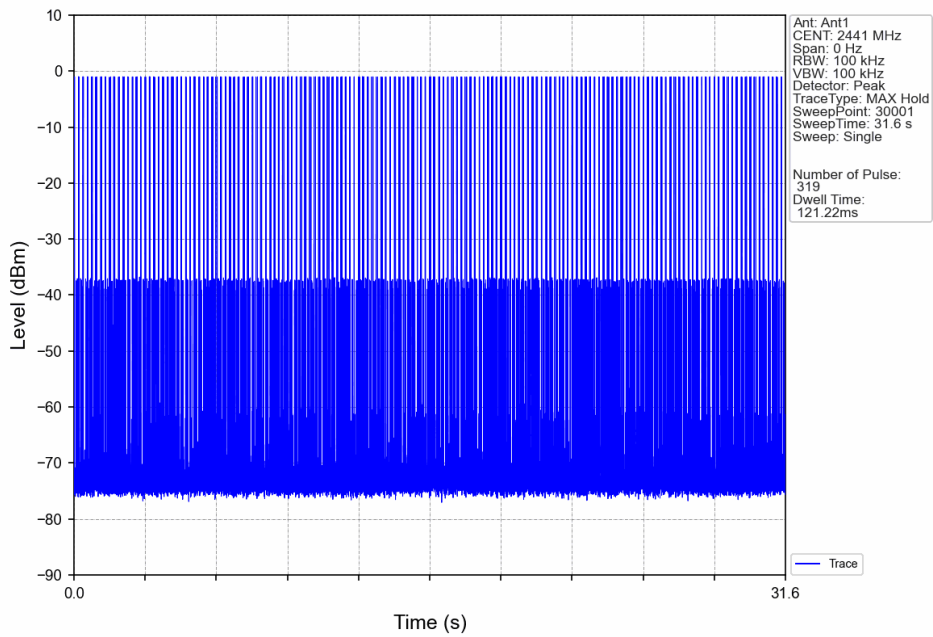
GFSK\_DH5\_HOPP\_Ant1\_NTNV



### $\pi/4$ -DQPSK\_2DH1\_HOPP\_Ant1\_NTNV

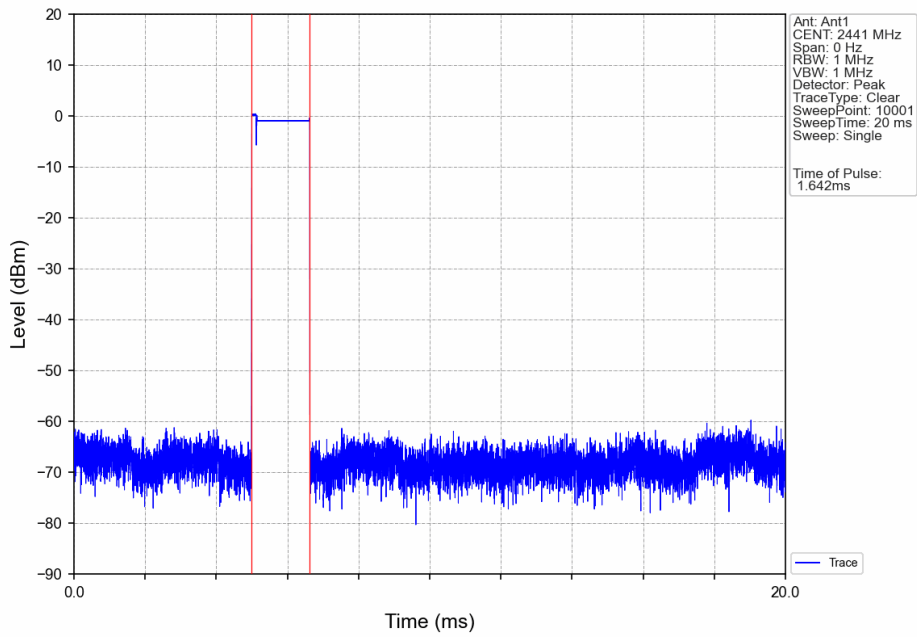


### $\pi/4$ -DQPSK\_2DH1\_HOPP\_Ant1\_NTNV

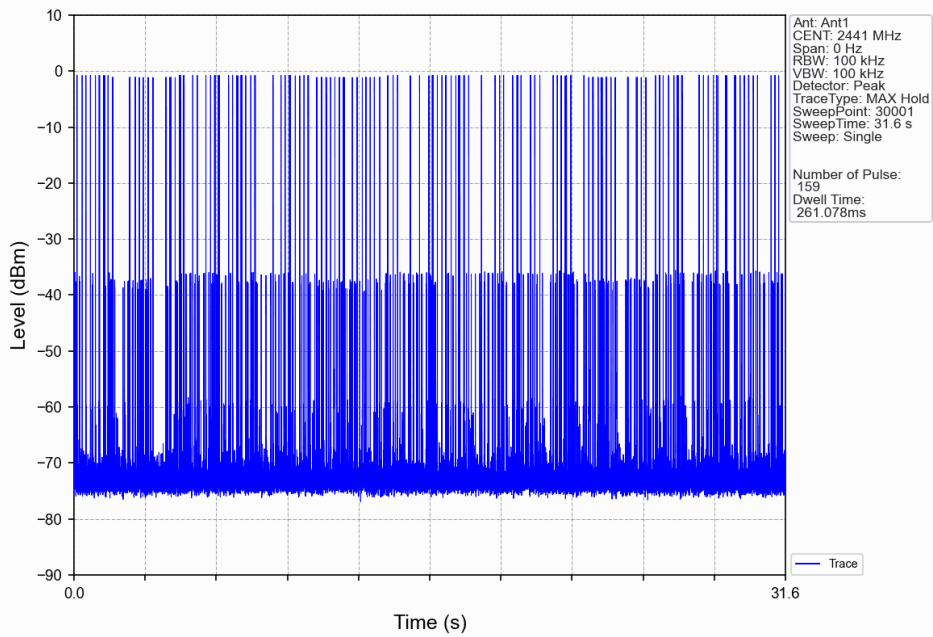




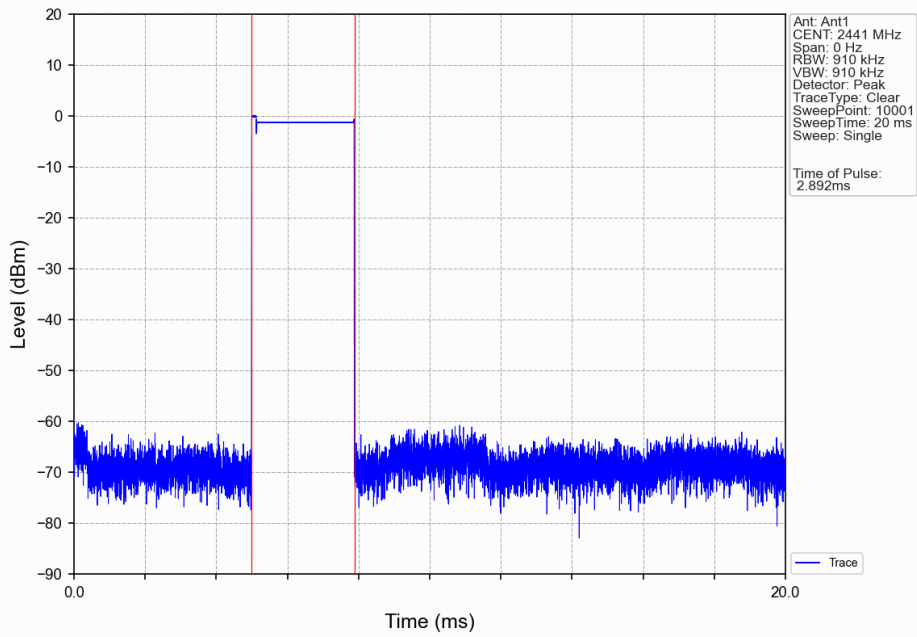
$\pi/4$ -DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



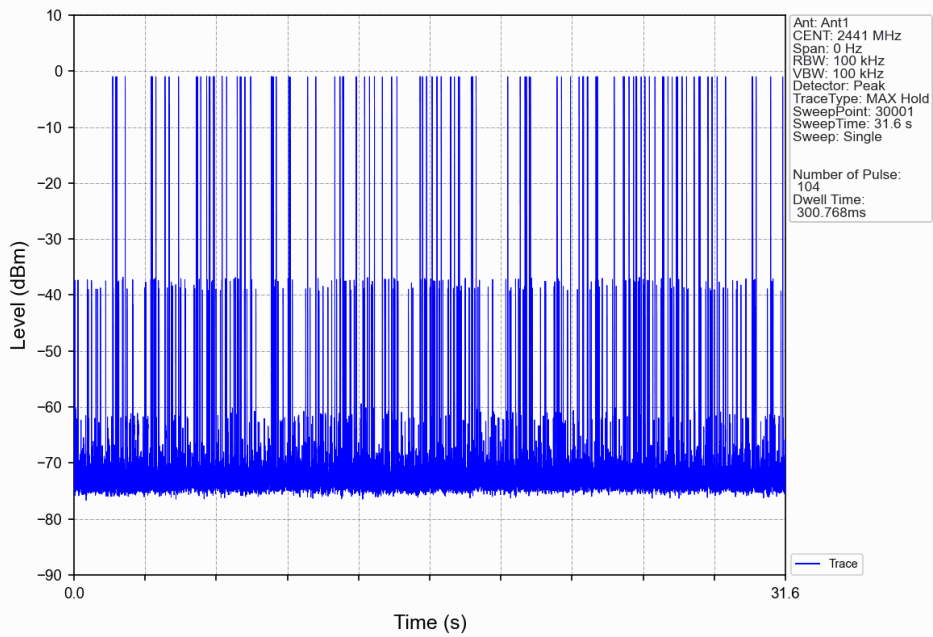
$\pi/4$ -DQPSK\_2DH3\_HOPP\_Ant1\_NTNV



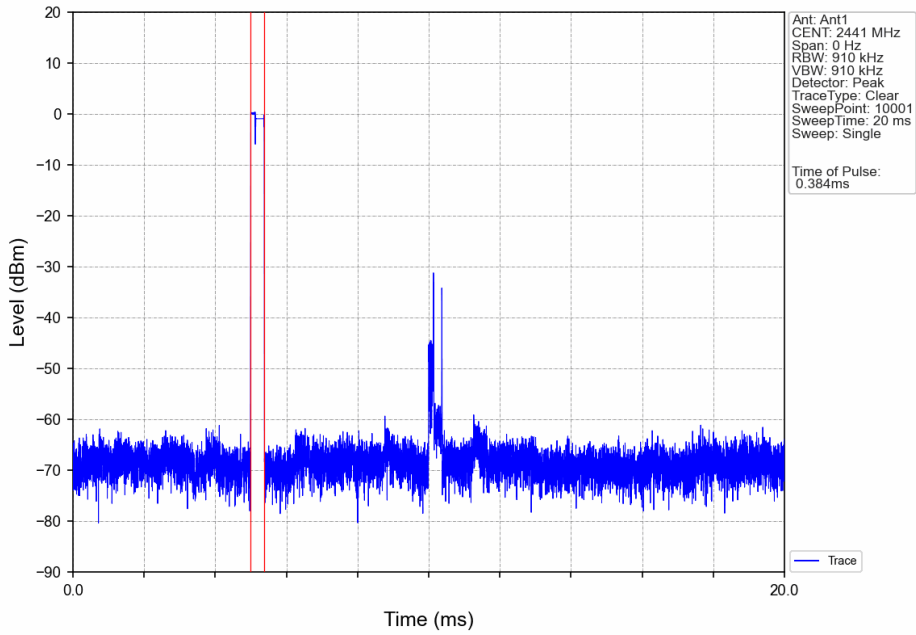
$\pi/4$ -DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



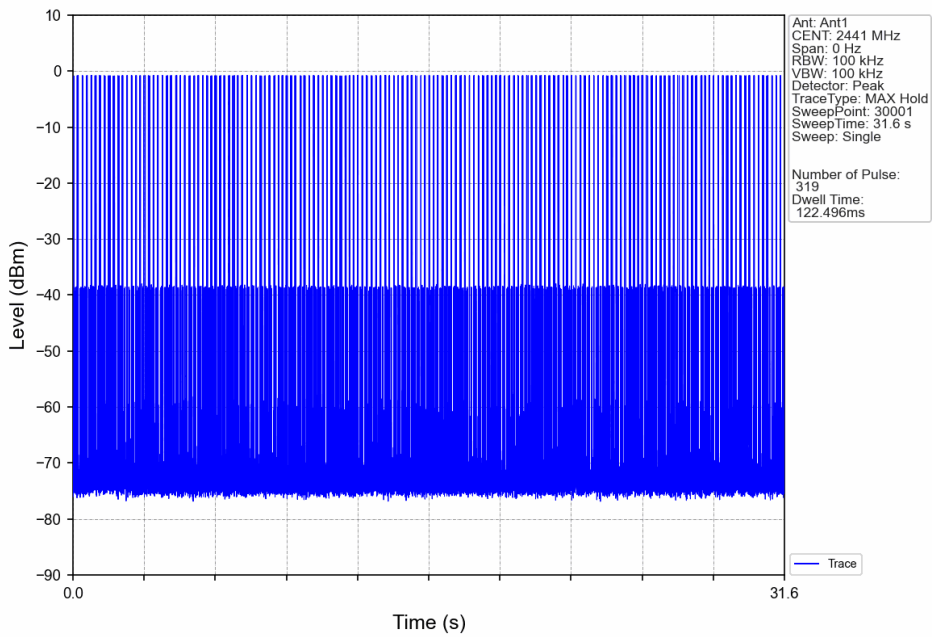
$\pi/4$ -DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



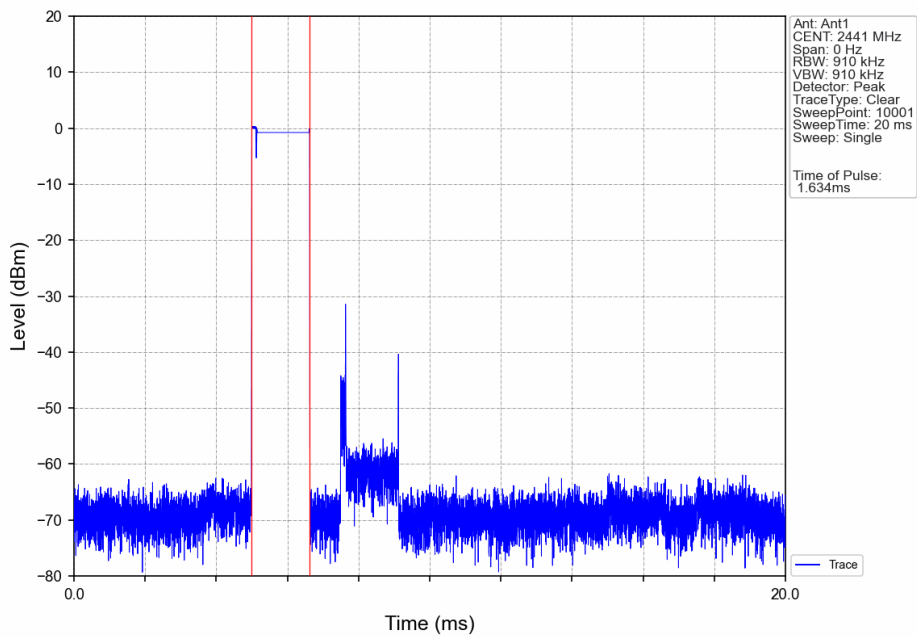
### 8-DPSK\_3DH1\_HOPP\_Ant1\_NTNV



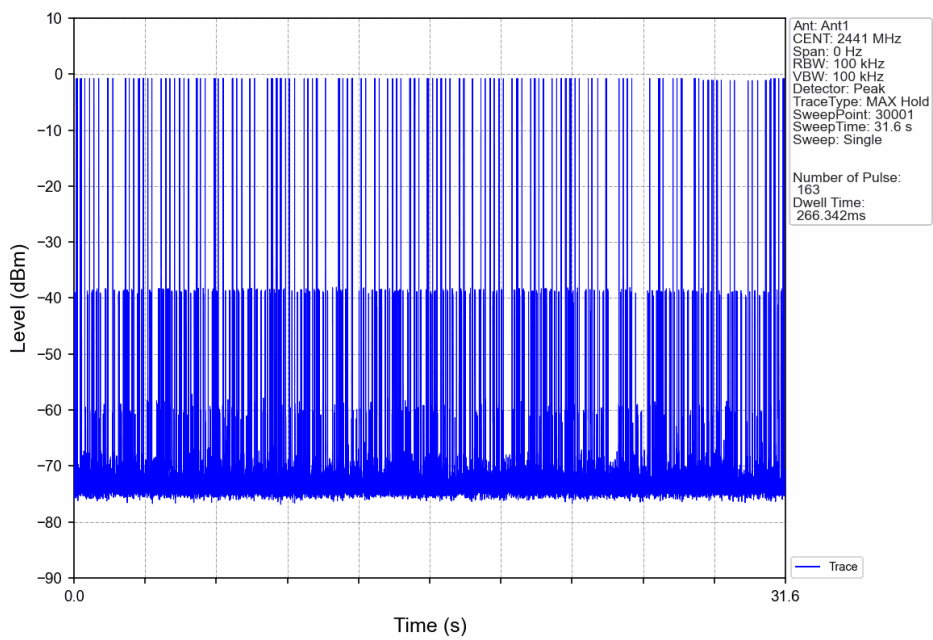
### 8-DPSK\_3DH1\_HOPP\_Ant1\_NTNV



### 8-DPSK\_3DH3\_HOPP\_Ant1\_NTNV

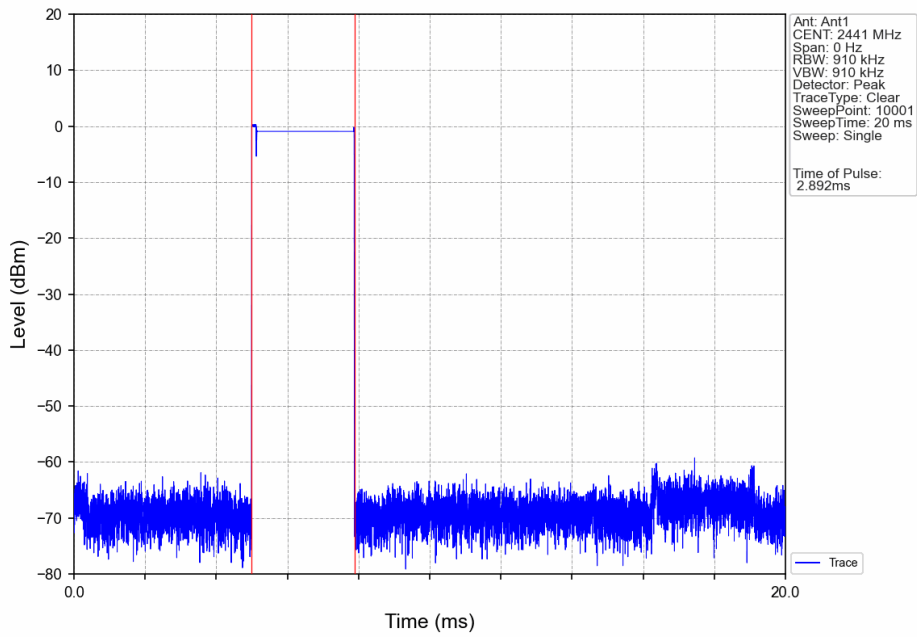


### 8-DPSK\_3DH3\_HOPP\_Ant1\_NTNV

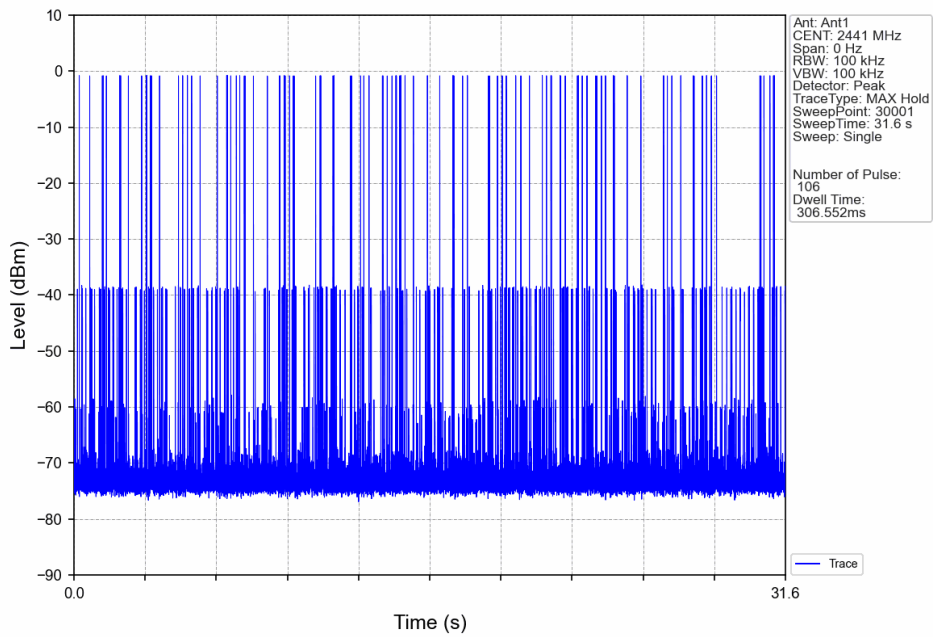




### 8-DPSK\_3DH5\_HOPP\_Ant1\_NTNV



### 8-DPSK\_3DH5\_HOPP\_Ant1\_NTNV



## 6. Unwanted Emissions In Non-restricted Frequency Bands

### 6.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	1.48
		2441	DH5	1	1.15
		2480	DH5	1	0.49
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	-0.02
		2441	2DH5	1	-0.12
		2480	2DH5	1	-0.98
8-DPSK	SISO	2402	3DH5	1	0.40
		2441	3DH5	1	0.24
		2480	3DH5	1	-0.41

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

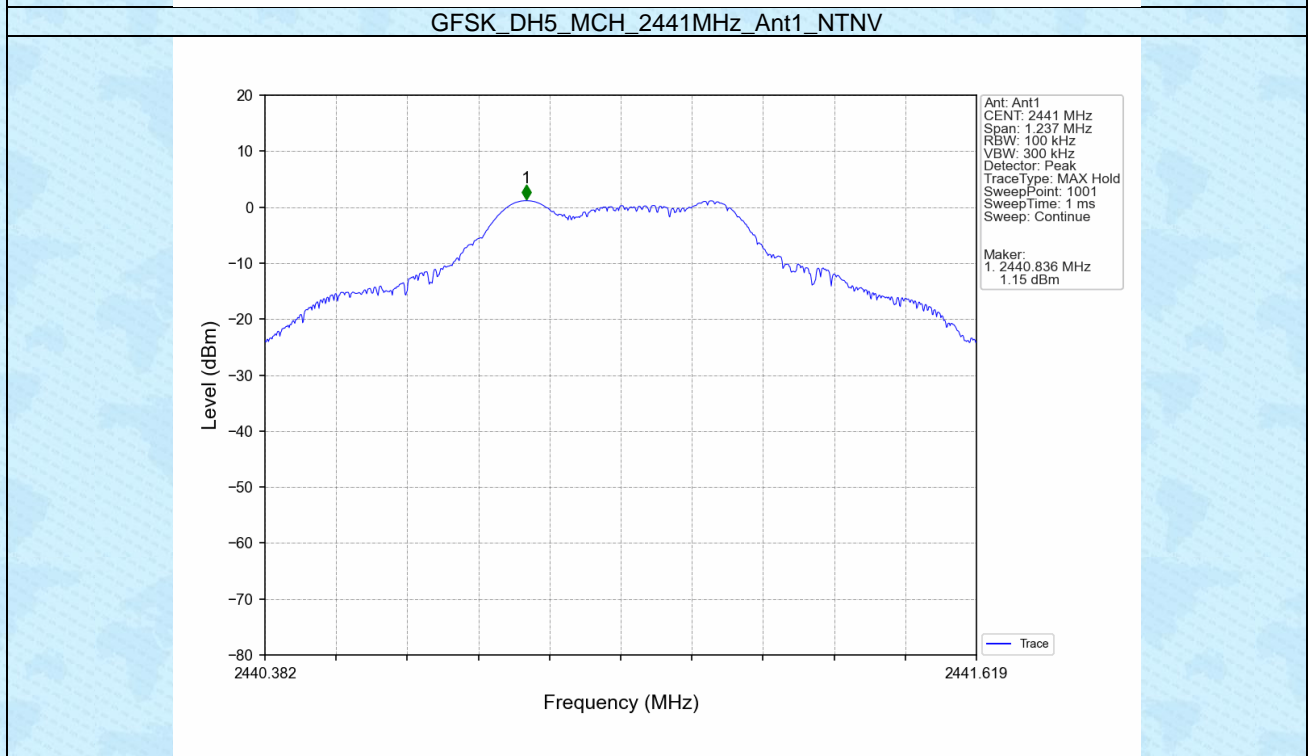
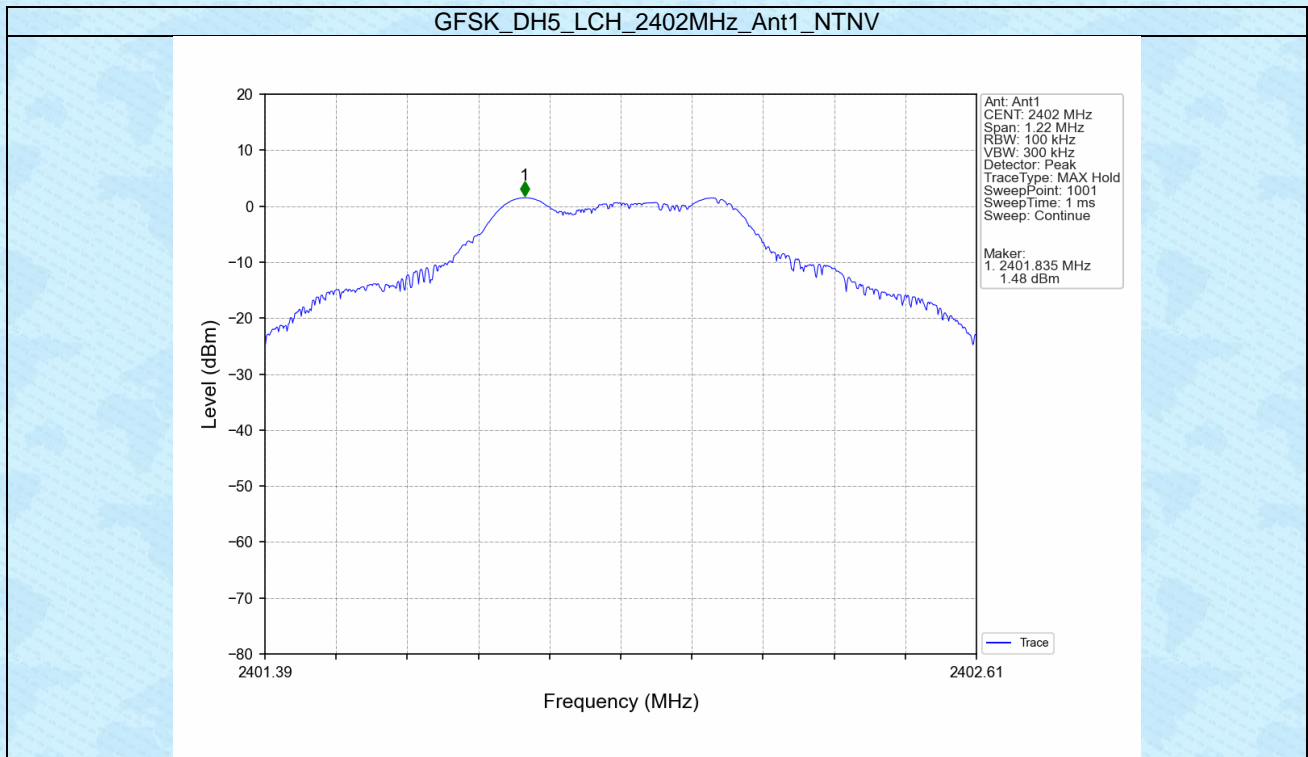
#### 6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	1.48	-18.52	Pass
		2441	DH5	1	1.48	-18.52	Pass
		2480	DH5	1	1.48	-18.52	Pass
		HOPP	DH5	1	1.48	-18.52	Pass
					1.48	-18.52	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	-0.02	-20.02	Pass
		2441	2DH5	1	-0.02	-20.02	Pass
		2480	2DH5	1	-0.02	-20.02	Pass
		HOPP	2DH5	1	-0.02	-20.02	Pass
					-0.02	-20.02	Pass
8-DPSK	SISO	2402	3DH5	1	0.40	-19.60	Pass
		2441	3DH5	1	0.40	-19.60	Pass
		2480	3DH5	1	0.40	-19.60	Pass
		HOPP	3DH5	1	0.40	-19.60	Pass
					0.40	-19.60	Pass

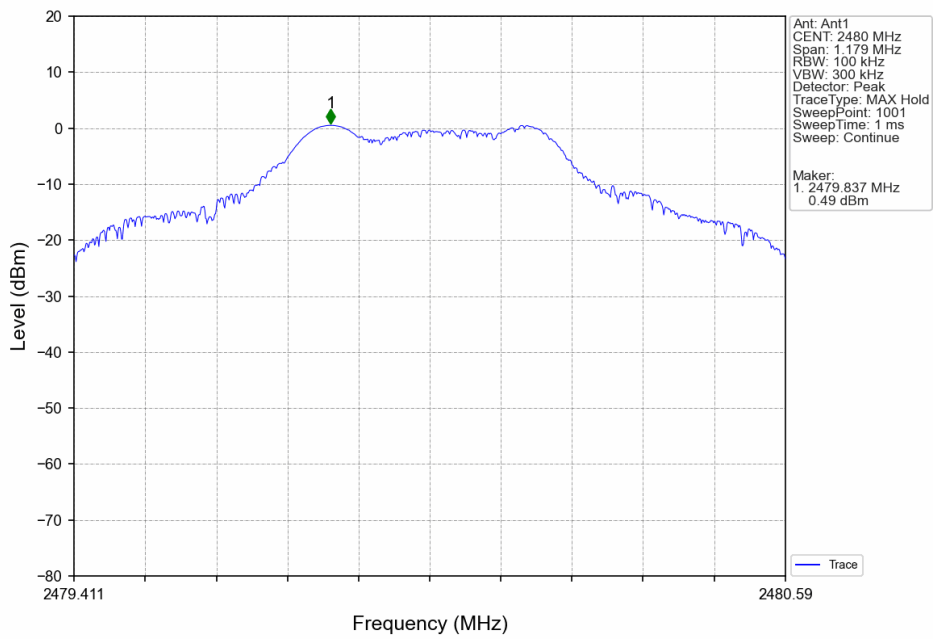
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

## 6.2 Test Graph

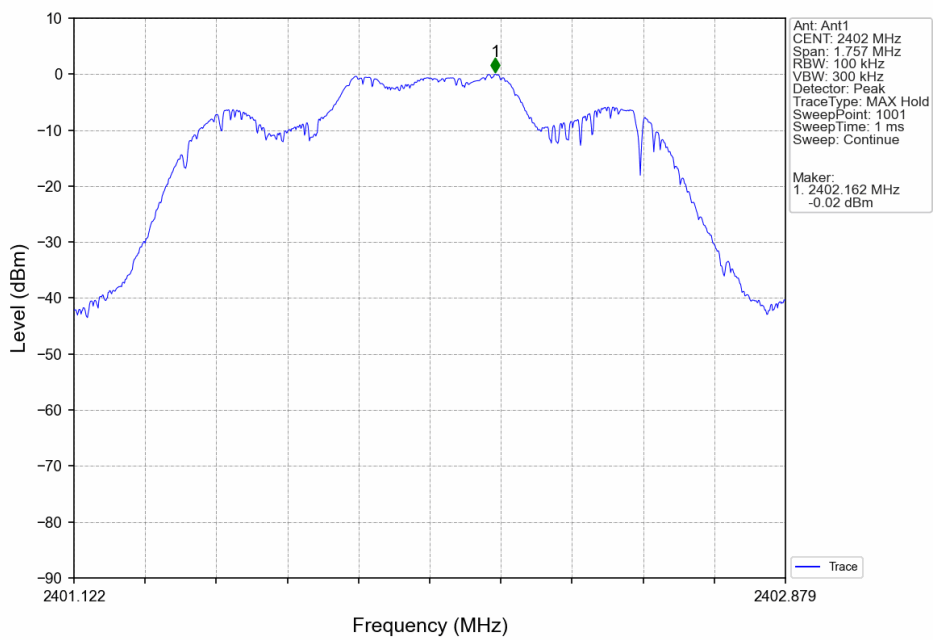
### 6.2.1 Ref



GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV

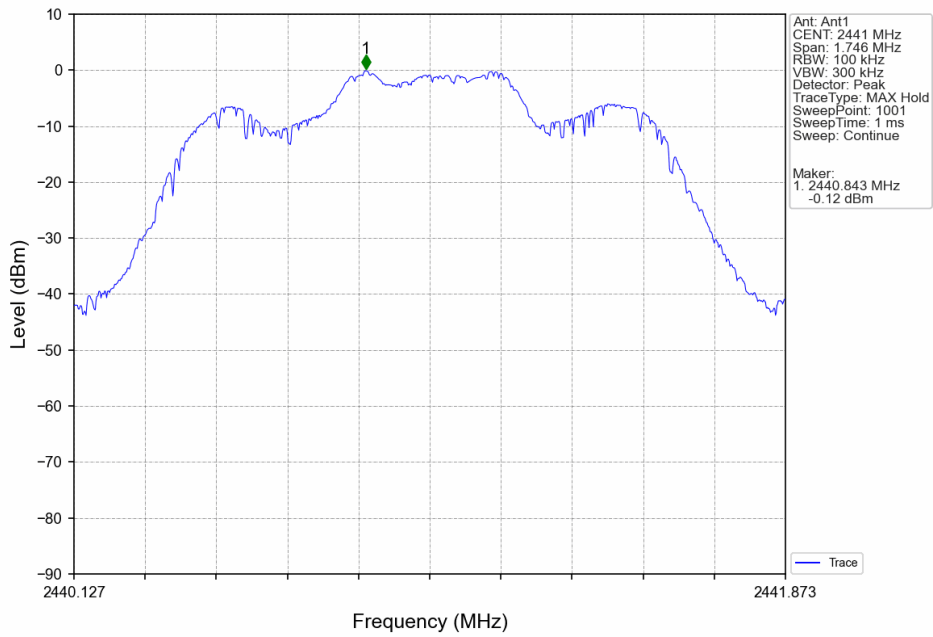


$\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

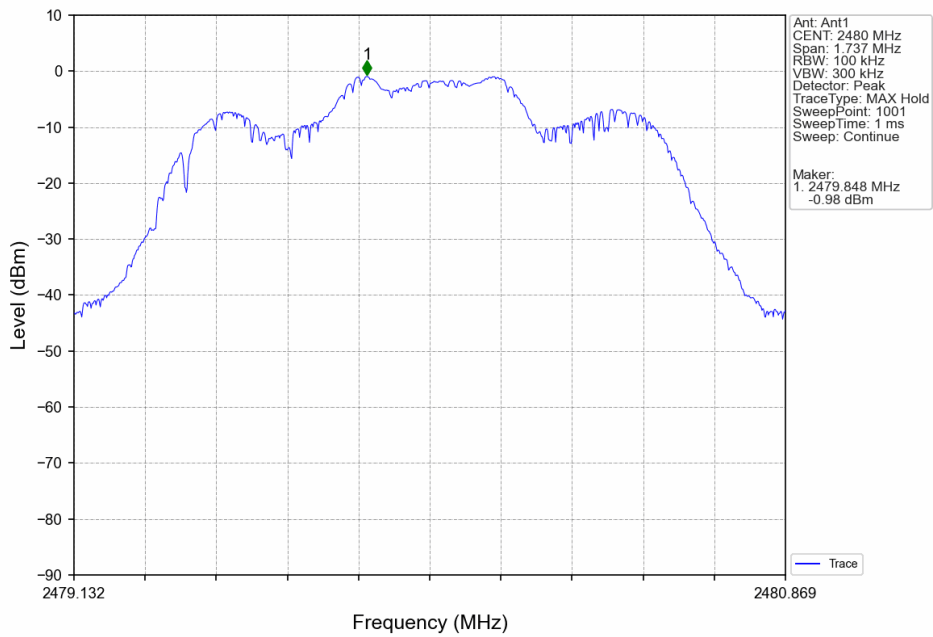




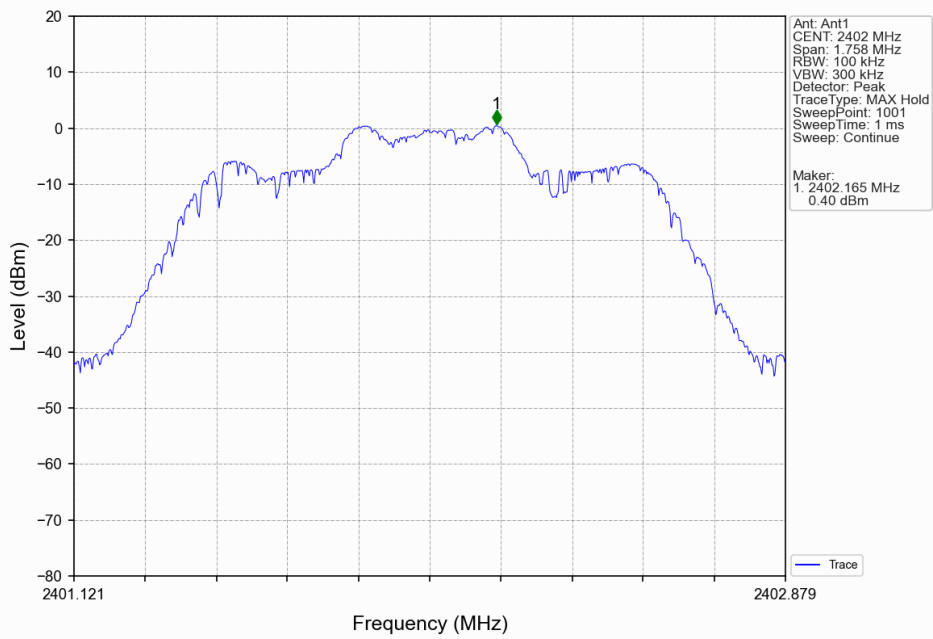
$\pi/4$ -DQPSK\_2DH5\_MCH\_2441MHz\_Ant1\_NTV



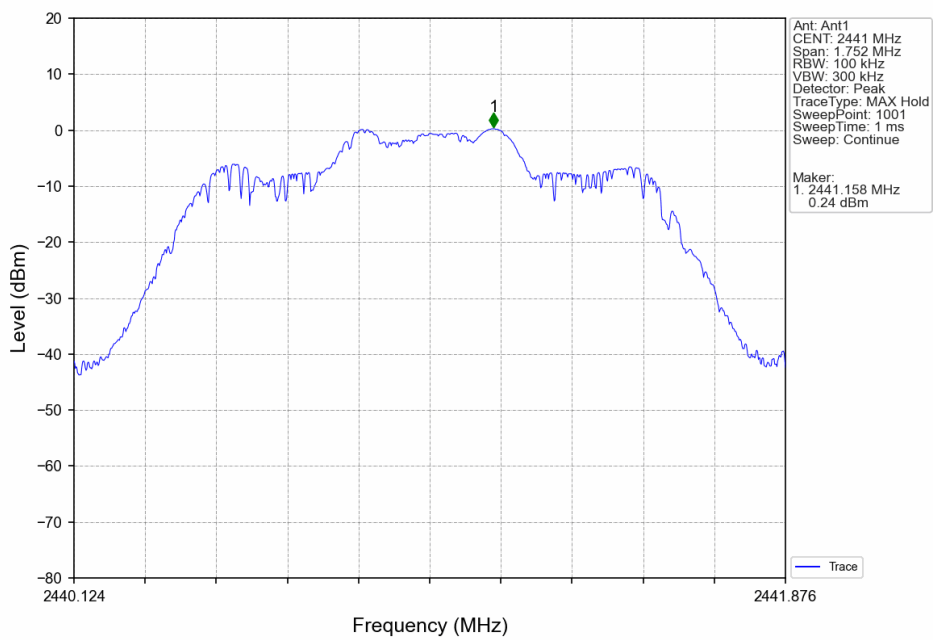
$\pi/4$ -DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTV



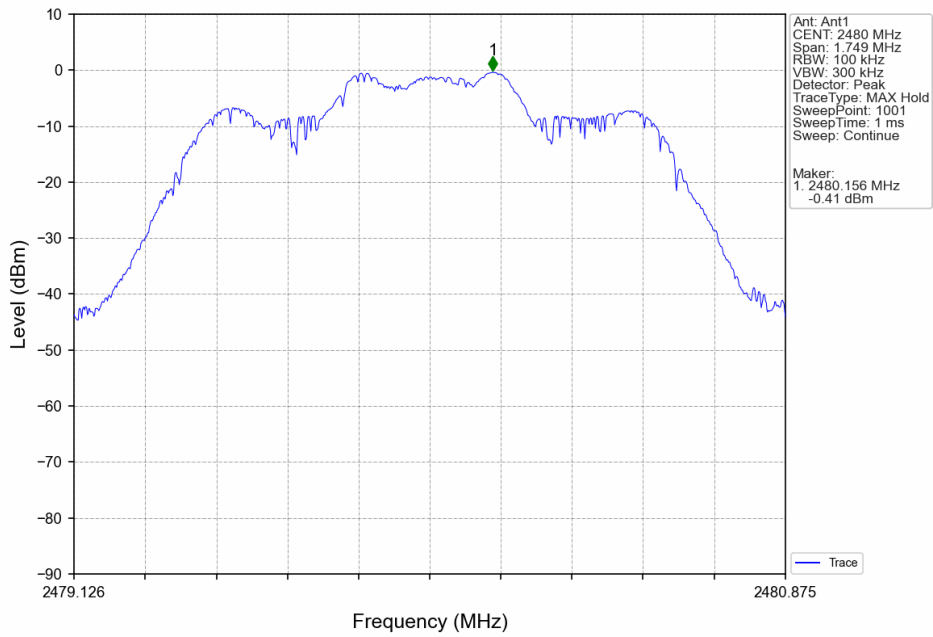
## 8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



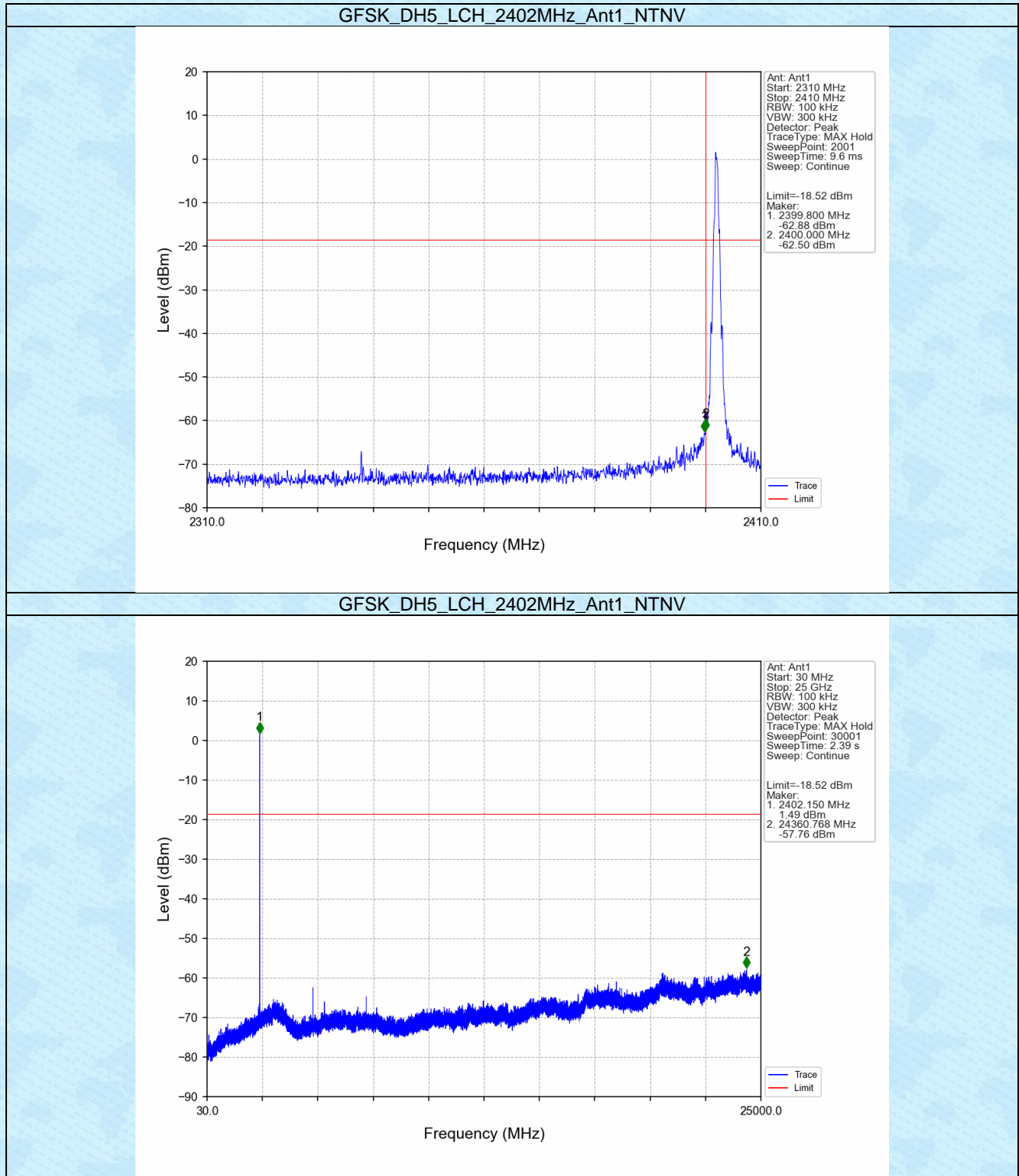
## 8-DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV



### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

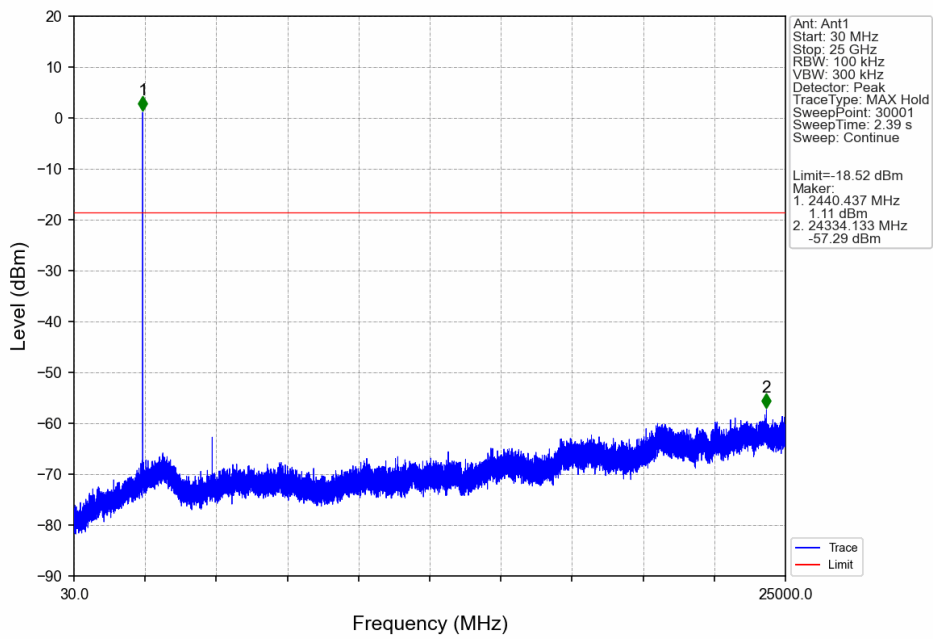


## 6.2.2 CSE

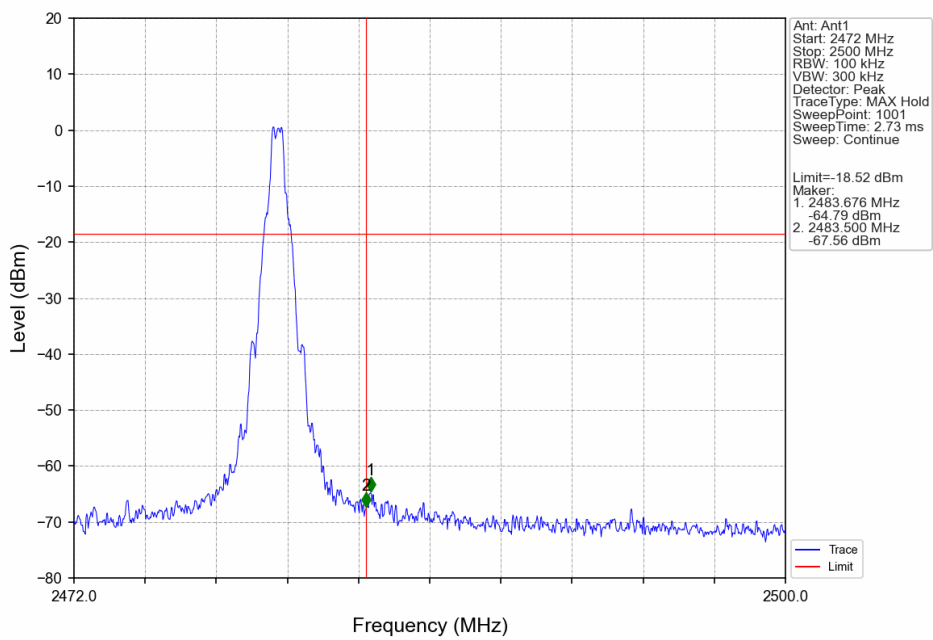




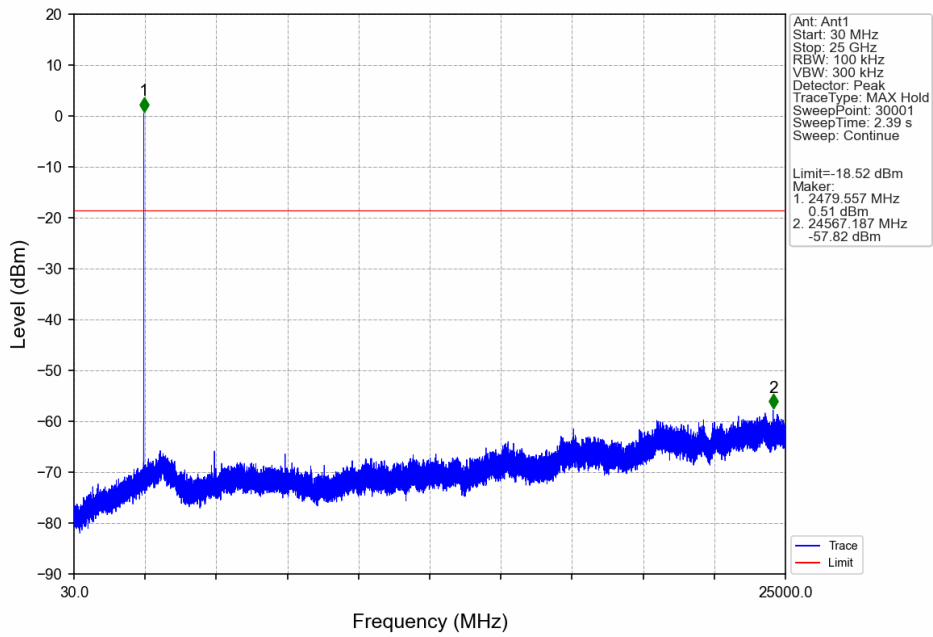
### GFSK\_DH5\_MCH\_2441MHz\_Ant1\_NTNV



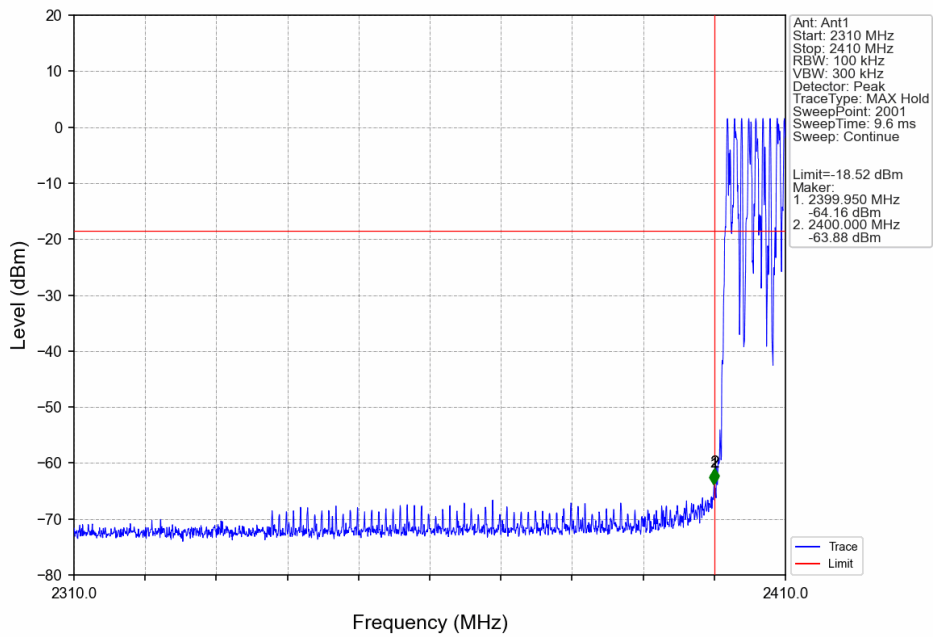
### GFSK\_DH5\_HCH\_2480MHz\_Ant1\_NTNV



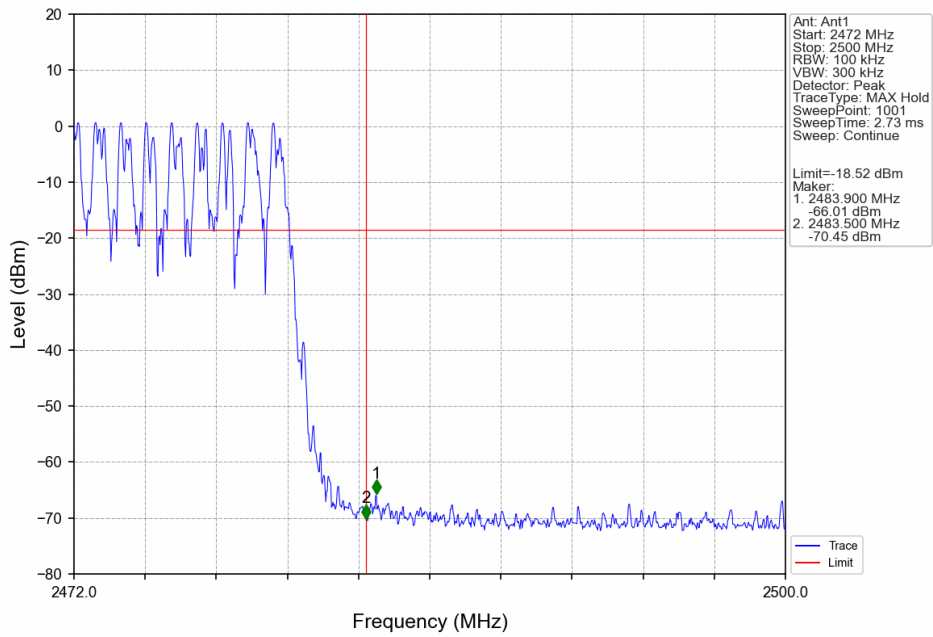
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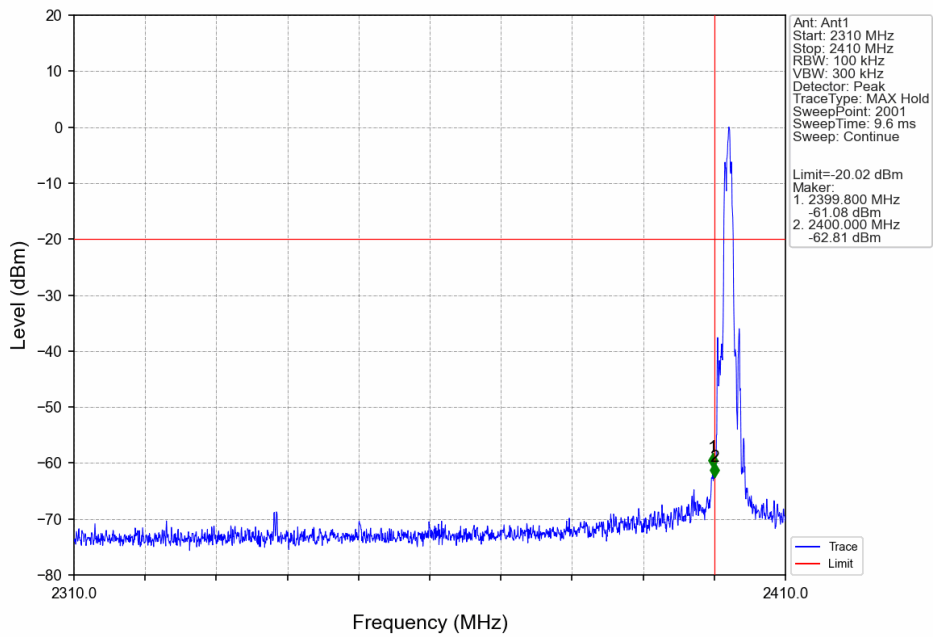
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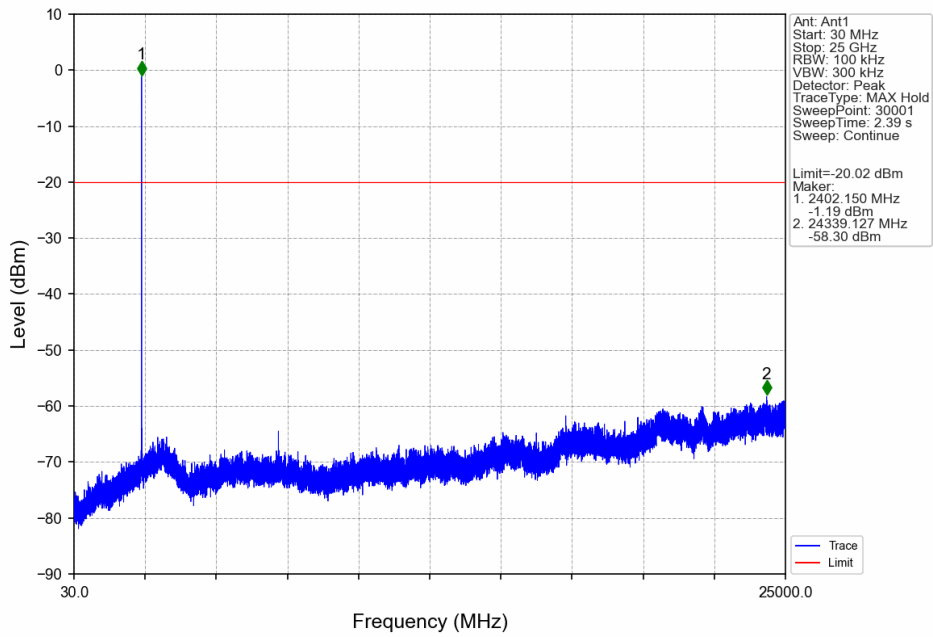
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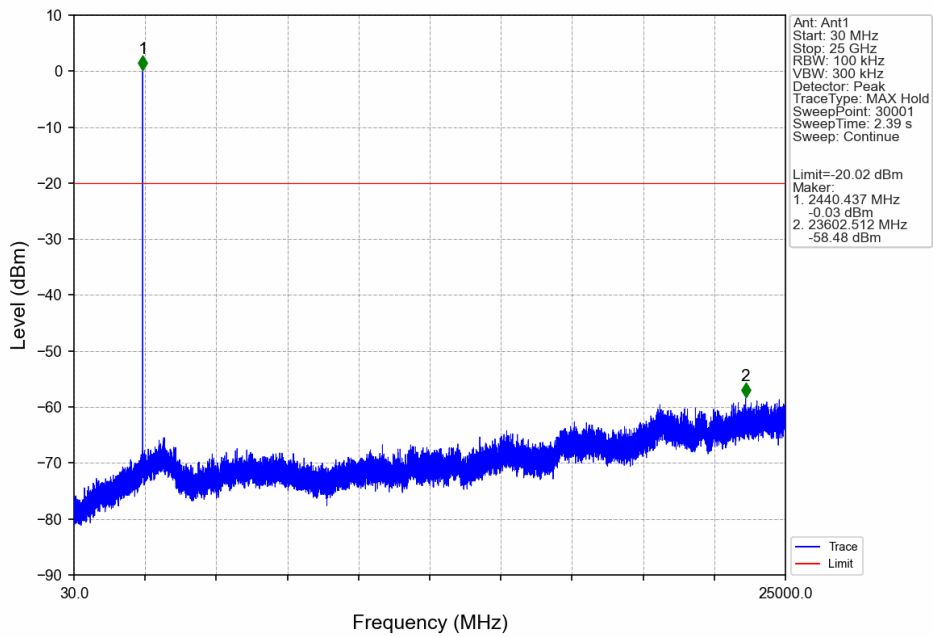
## $\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV



$\pi/4$ -DQPSK\_2DH5\_LCH\_2402MHz\_Ant1\_NTNV

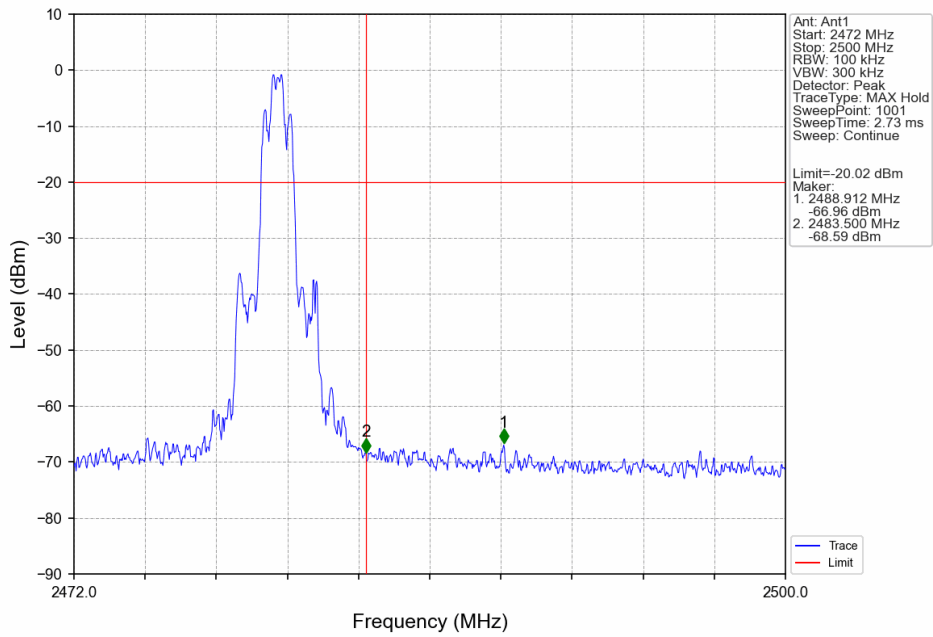


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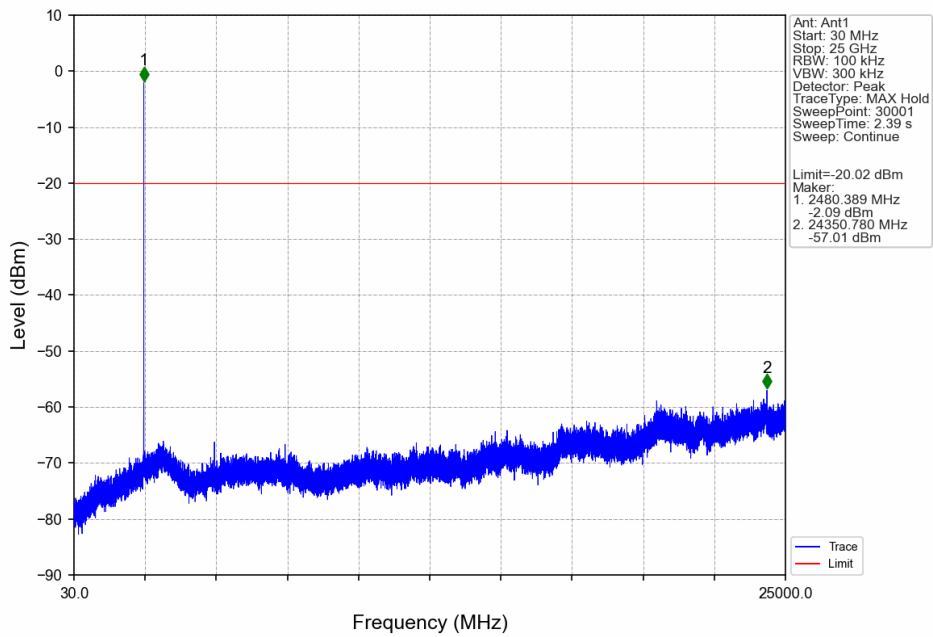




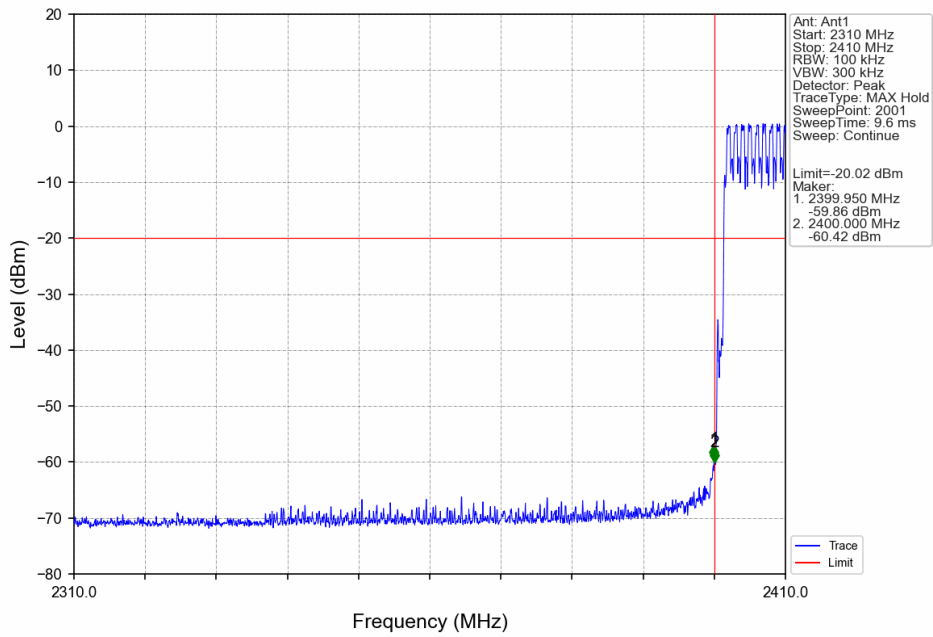
$\pi/4$ -DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



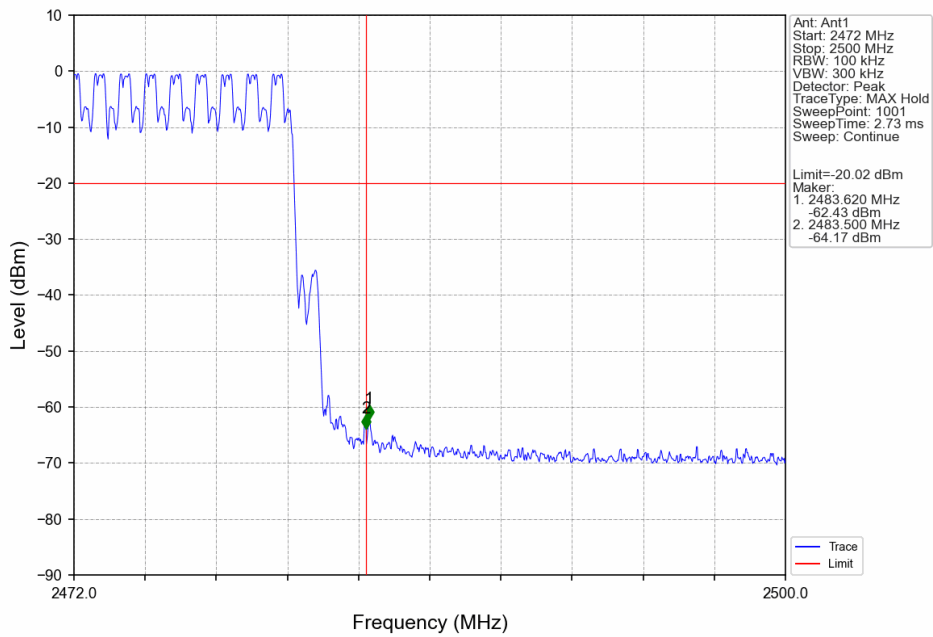
$\pi/4$ -DQPSK\_2DH5\_HCH\_2480MHz\_Ant1\_NTNV



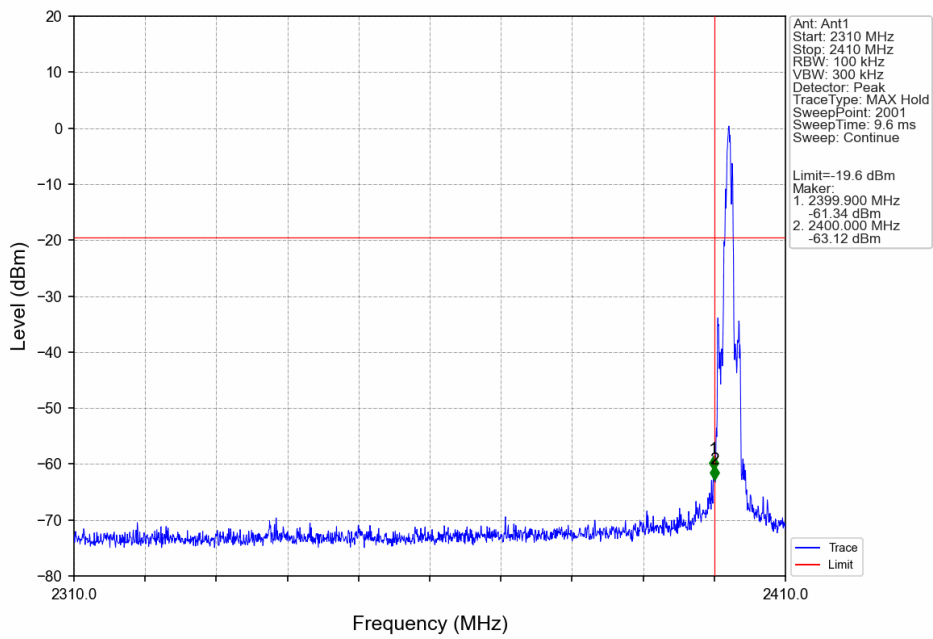
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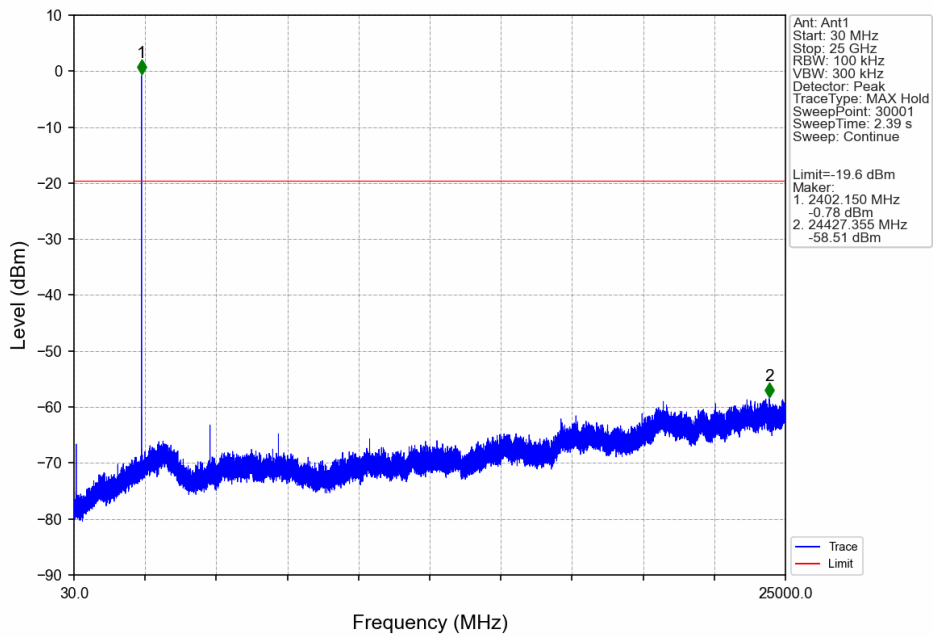
$\pi/4$ -DQPSK\_2DH5\_HOPP\_Ant1\_NTNV



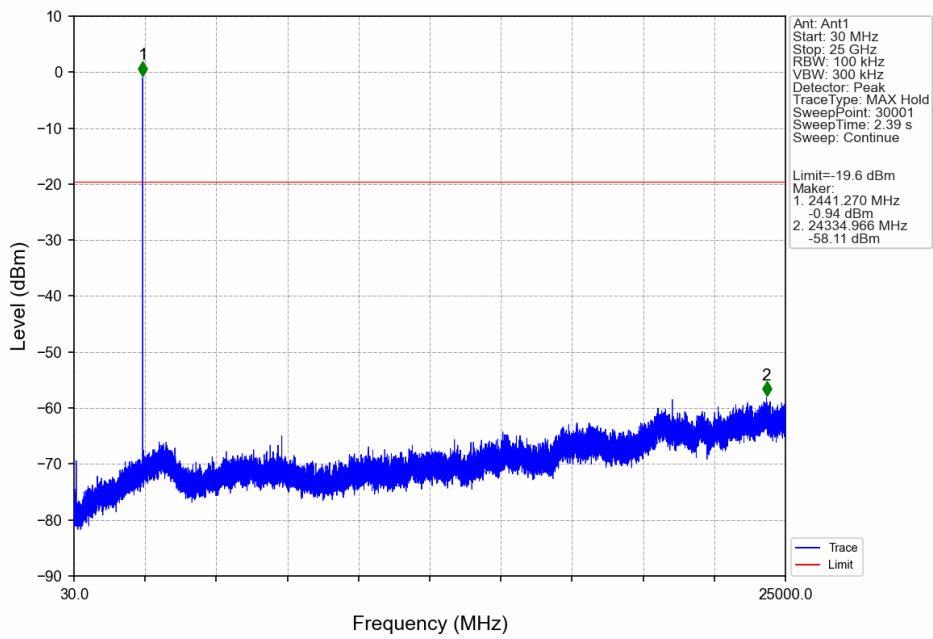
8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



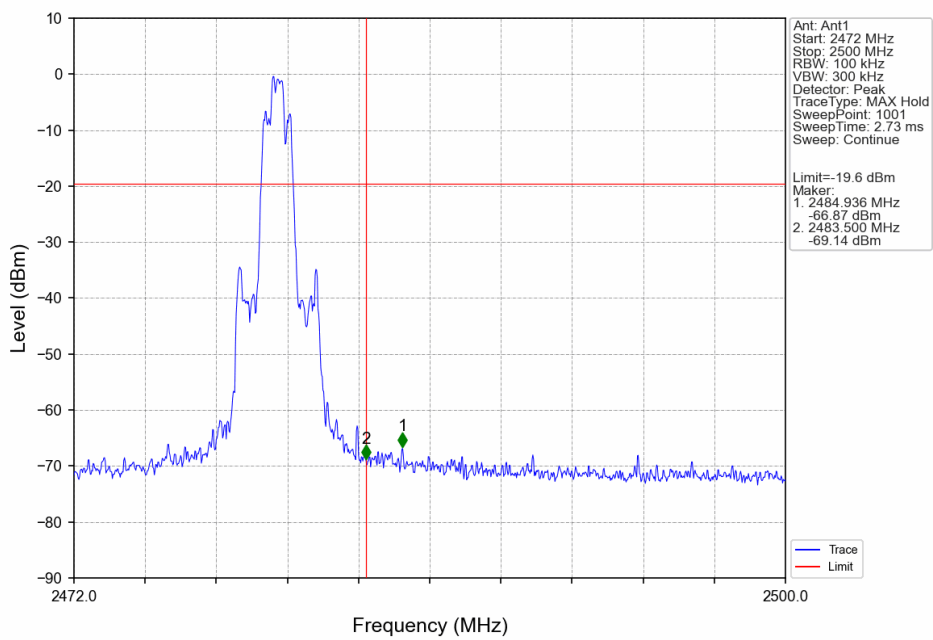
8-DPSK\_3DH5\_LCH\_2402MHz\_Ant1\_NTNV



### 8-DPSK\_3DH5\_MCH\_2441MHz\_Ant1\_NTNV

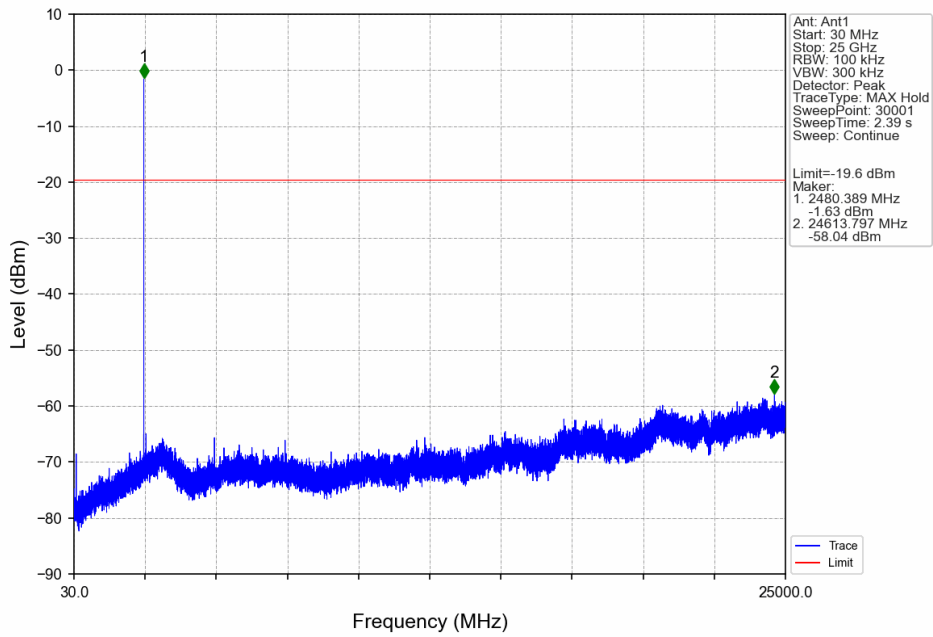


### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV

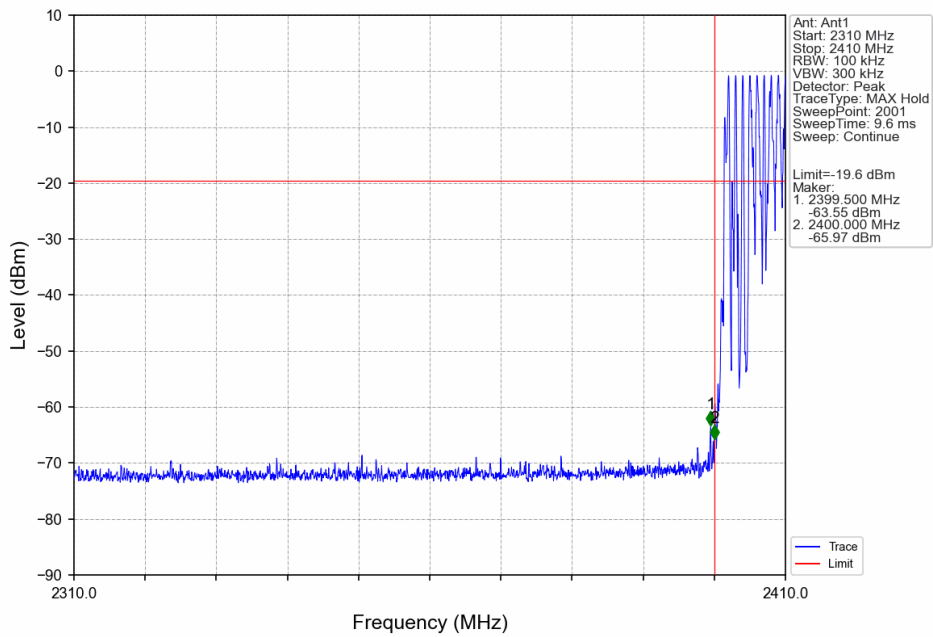


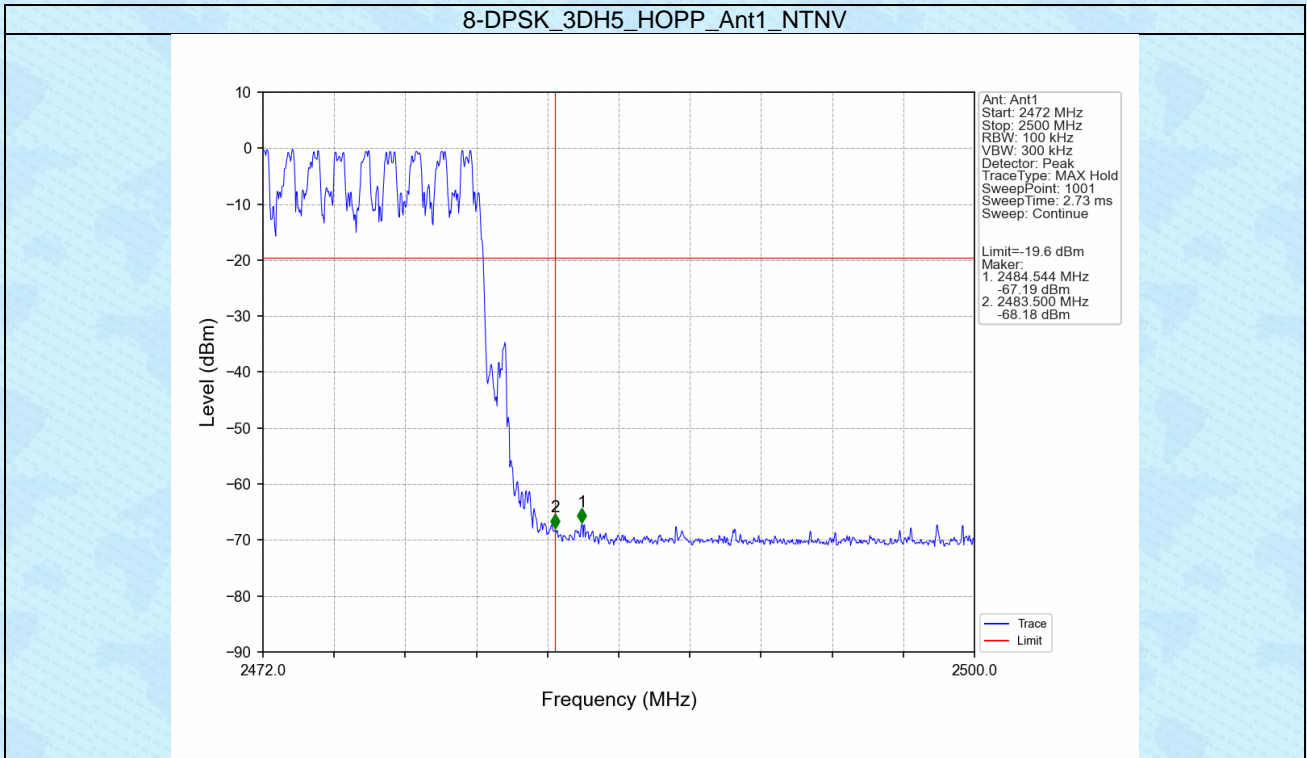


### 8-DPSK\_3DH5\_HCH\_2480MHz\_Ant1\_NTNV



### 8-DPSK\_3DH5\_HOPP\_Ant1\_NTNV





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