

1. Bandwidth

1.1 Test Result

1.1.1 OBW

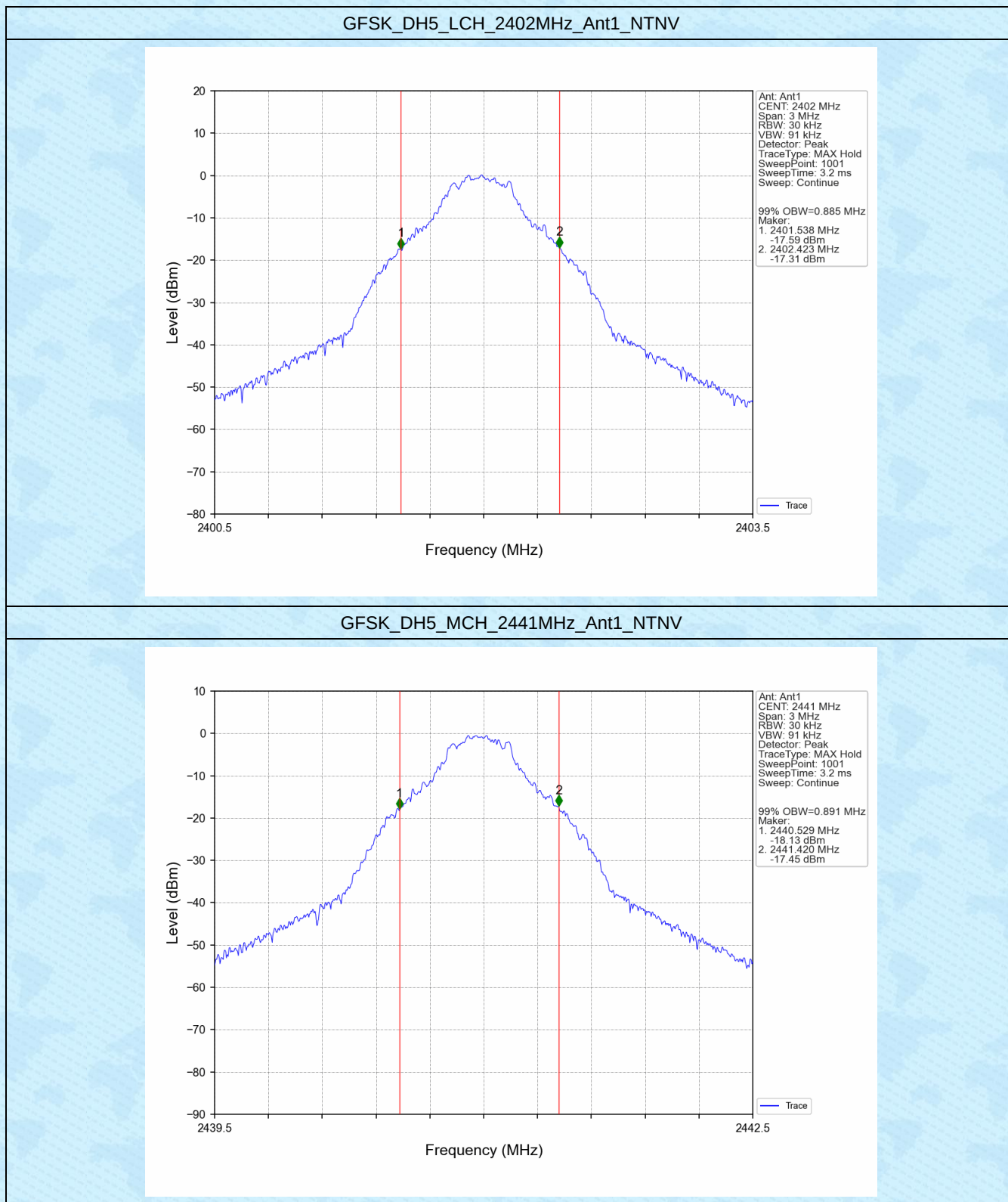
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.885	/	Pass
		2441	DH5	1	0.891	/	Pass
		2480	DH5	1	0.892	/	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.192	/	Pass
		2441	2DH5	1	1.189	/	Pass
		2480	2DH5	1	1.194	/	Pass
8-DPSK	SISO	2402	3DH5	1	1.190	/	Pass
		2441	3DH5	1	1.185	/	Pass
		2480	3DH5	1	1.183	/	Pass

1.1.2 20dB BW

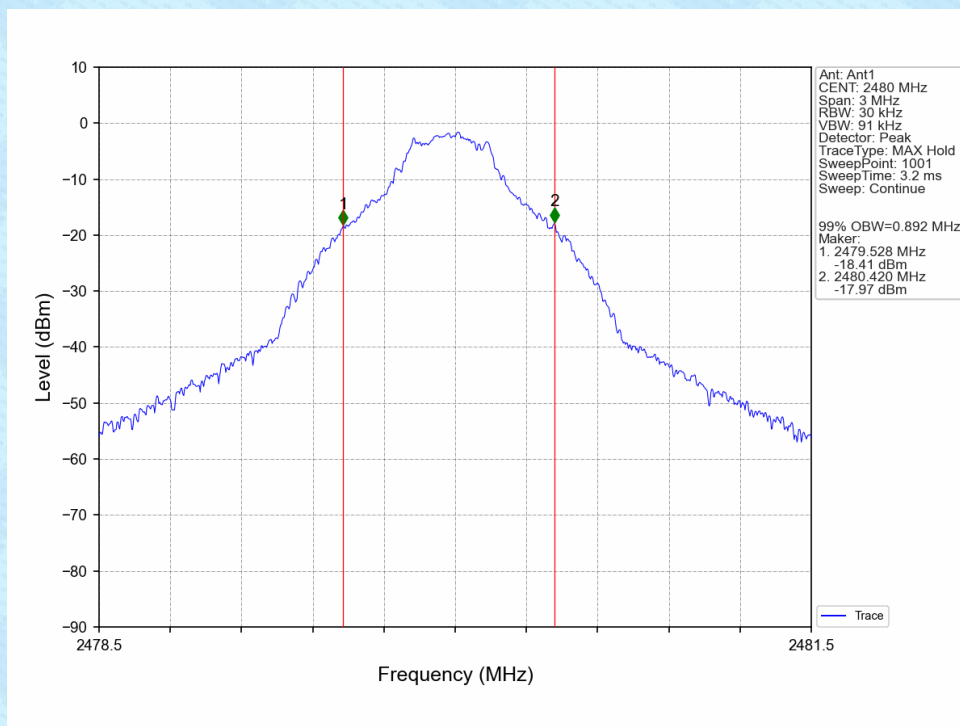
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	1.012	/	Pass
		2441	DH5	1	1.004	/	Pass
		2480	DH5	1	1.029	/	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.322	/	Pass
		2441	2DH5	1	1.314	/	Pass
		2480	2DH5	1	1.322	/	Pass
8-DPSK	SISO	2402	3DH5	1	1.321	/	Pass
		2441	3DH5	1	1.326	/	Pass
		2480	3DH5	1	1.316	/	Pass

1.2 Test Graph

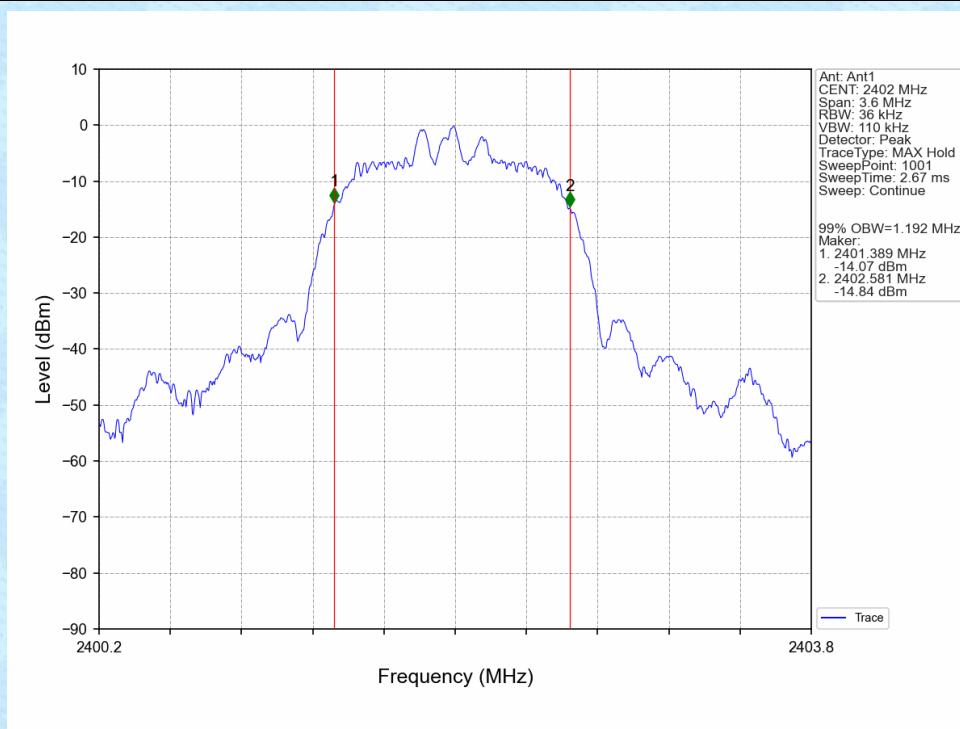
1.2.1 OBW



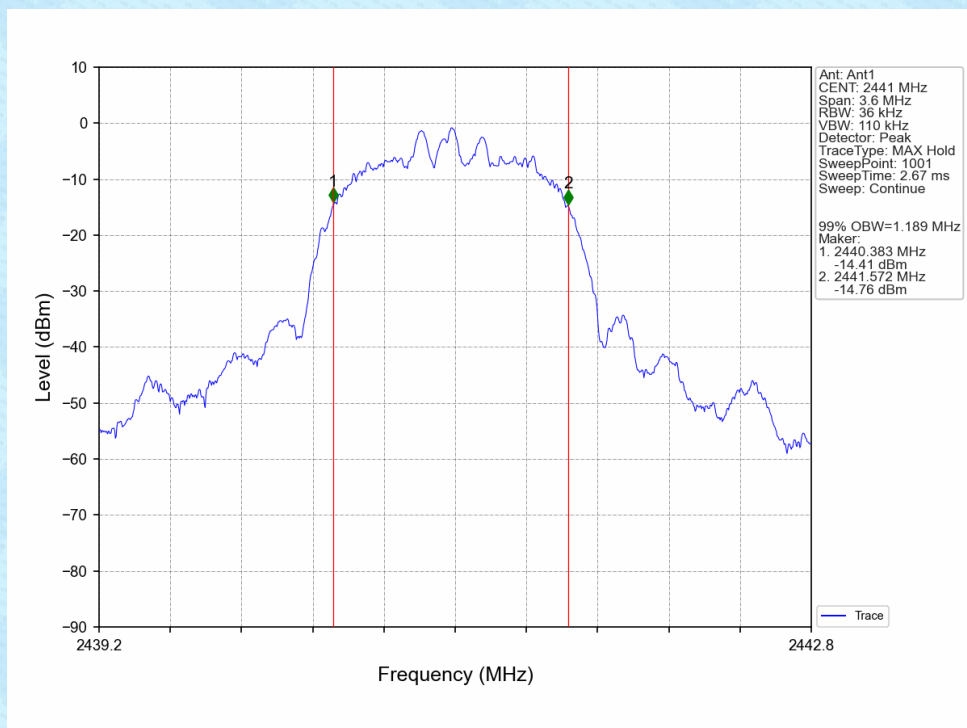
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



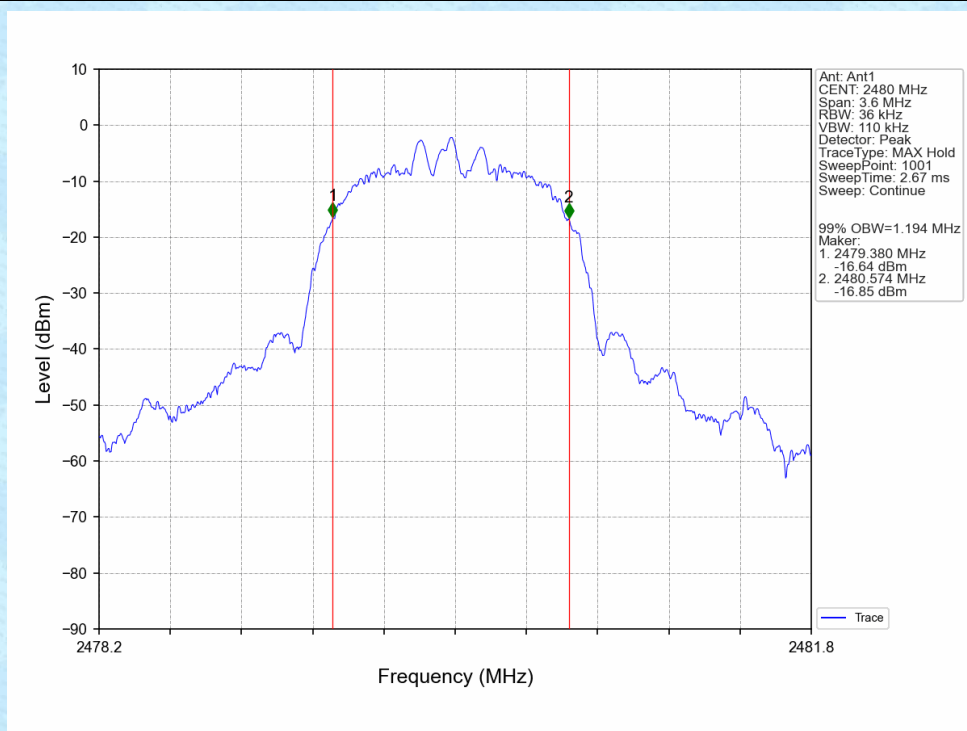
$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



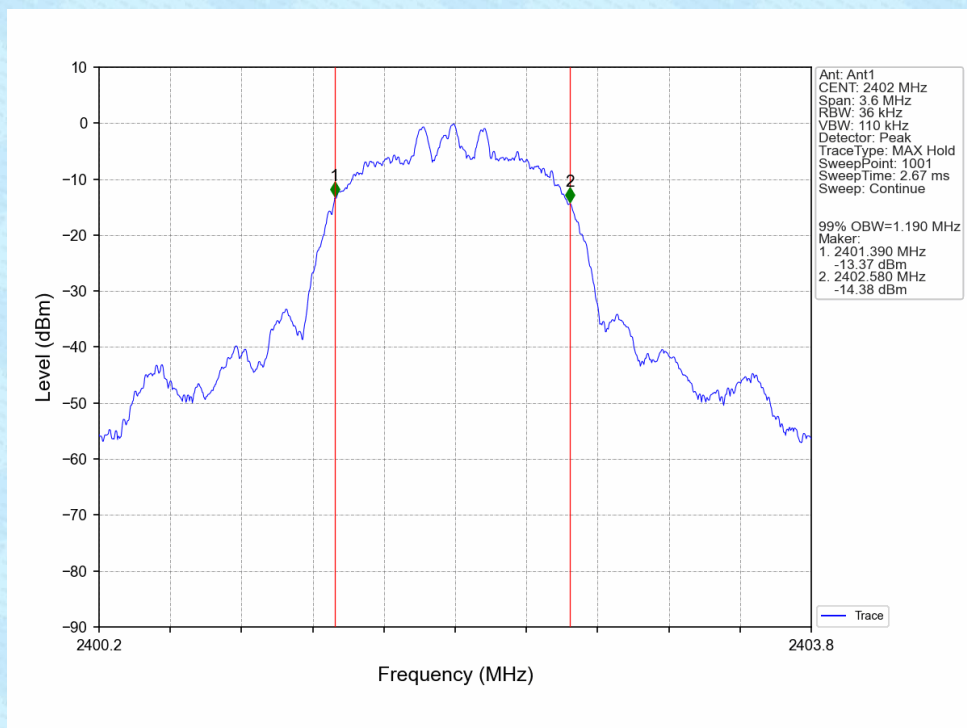
$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



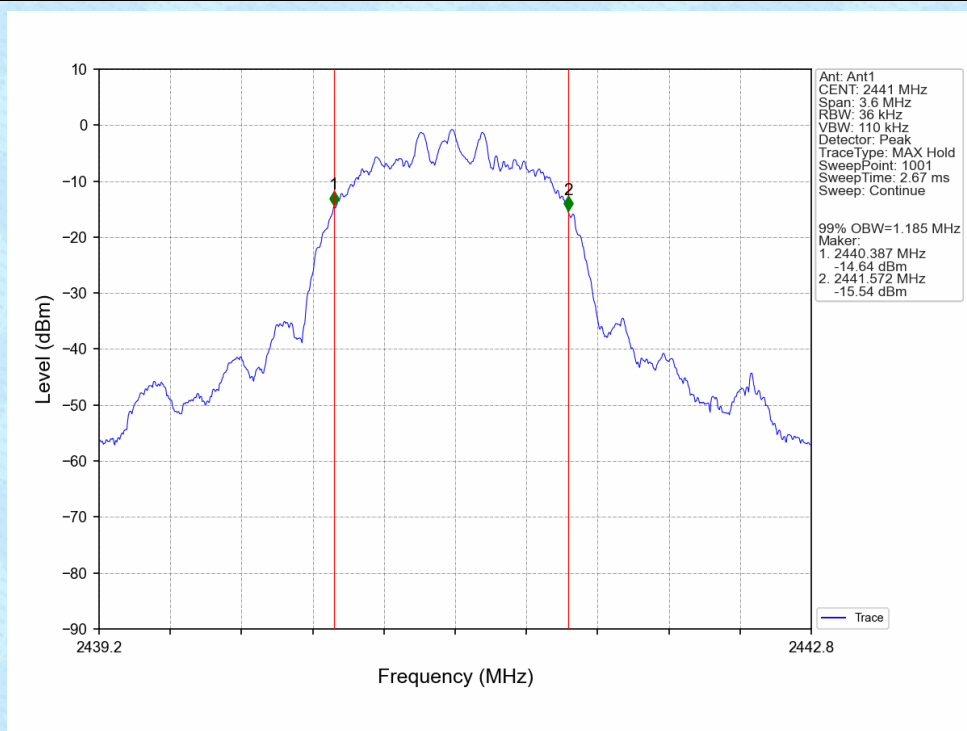
$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



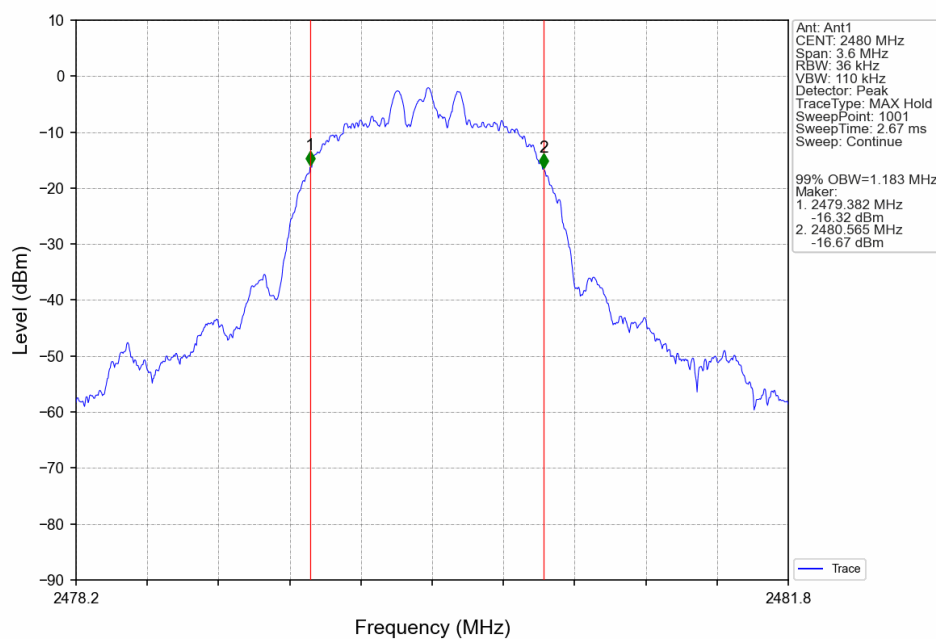
8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV

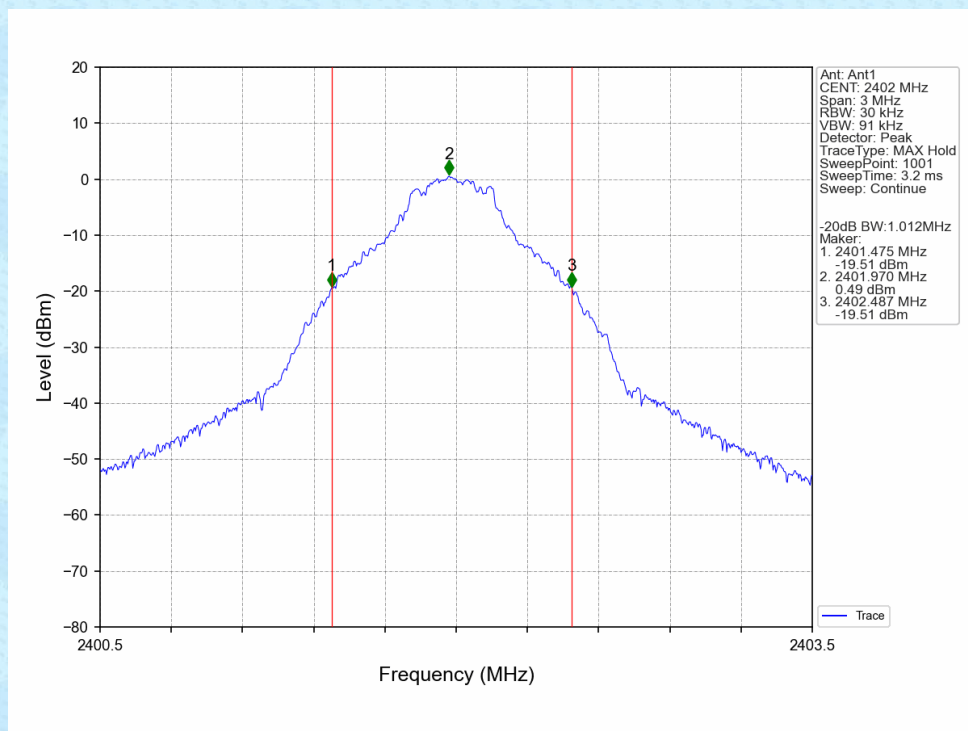


8-DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

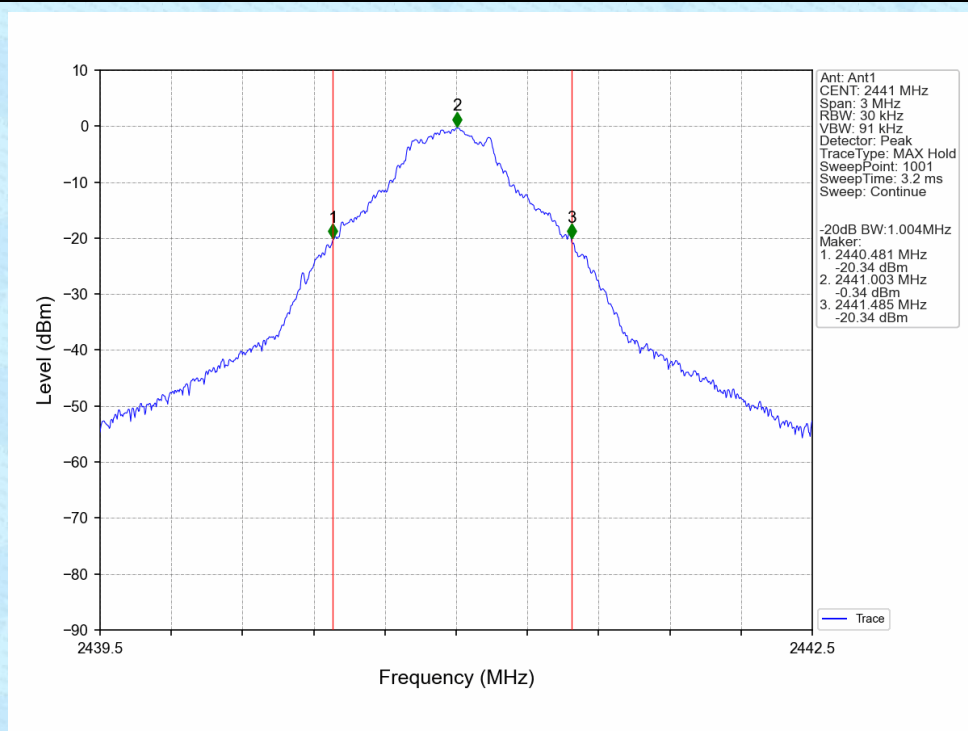


1.2.2 20dB BW

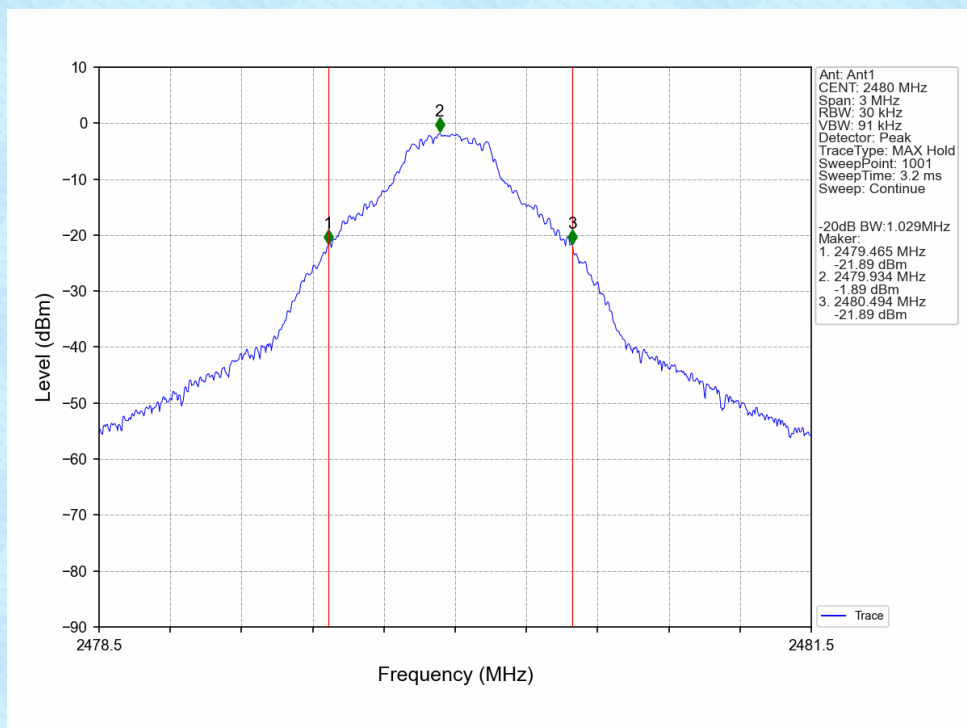
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



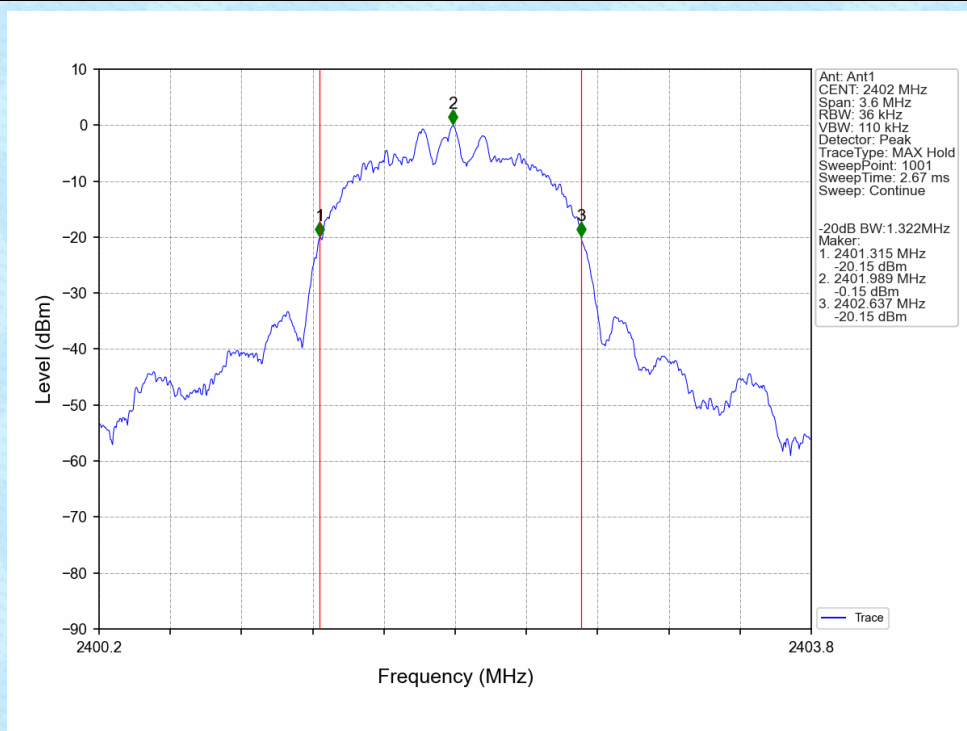
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



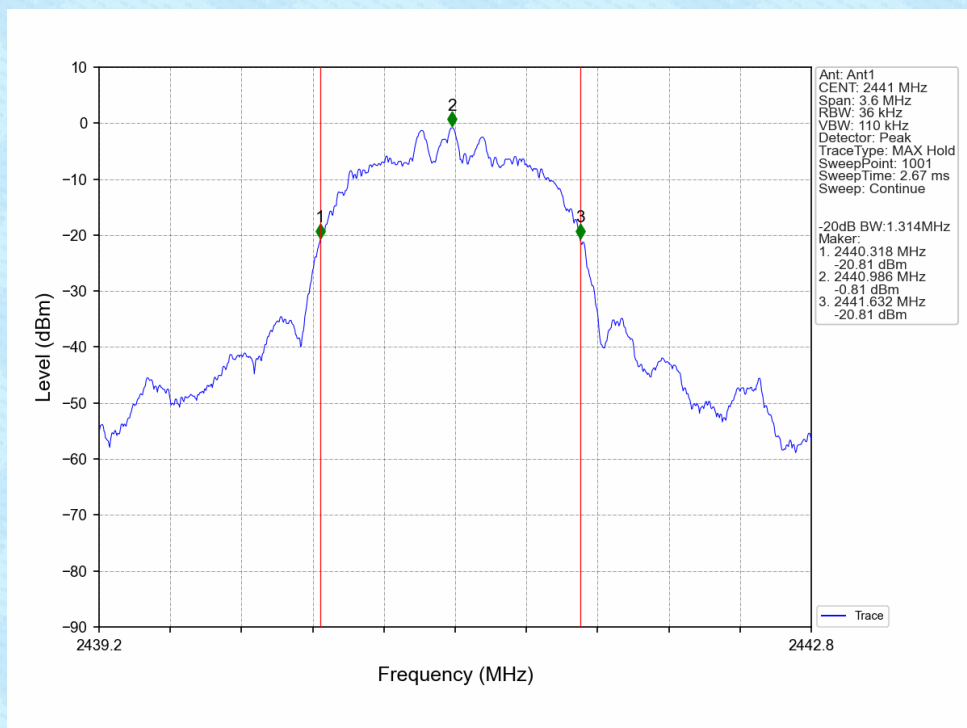
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



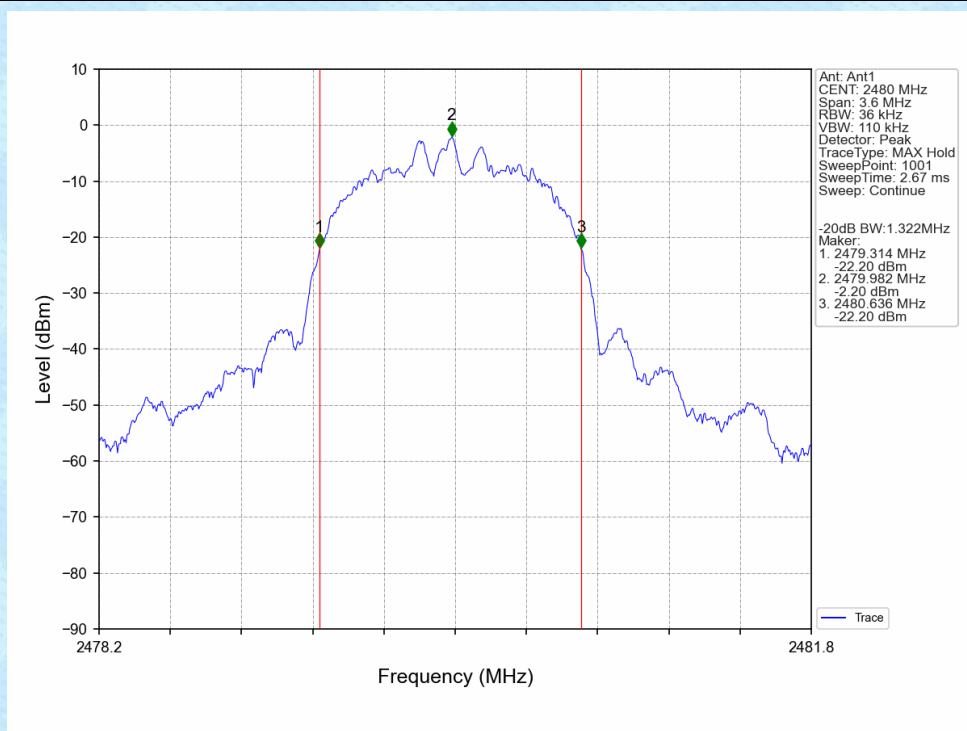
$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



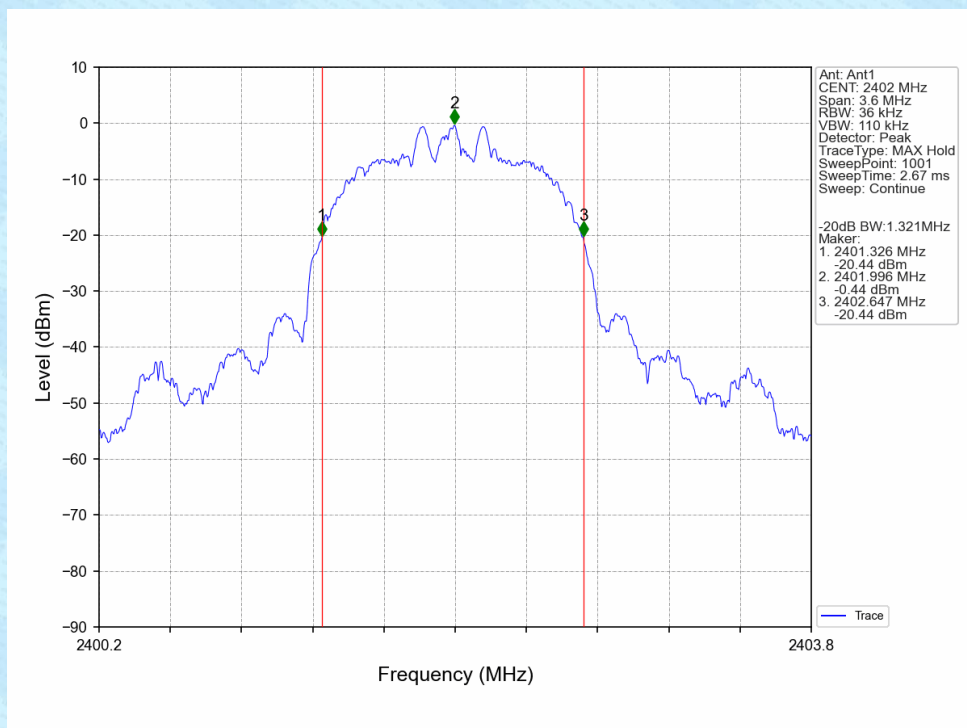
$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



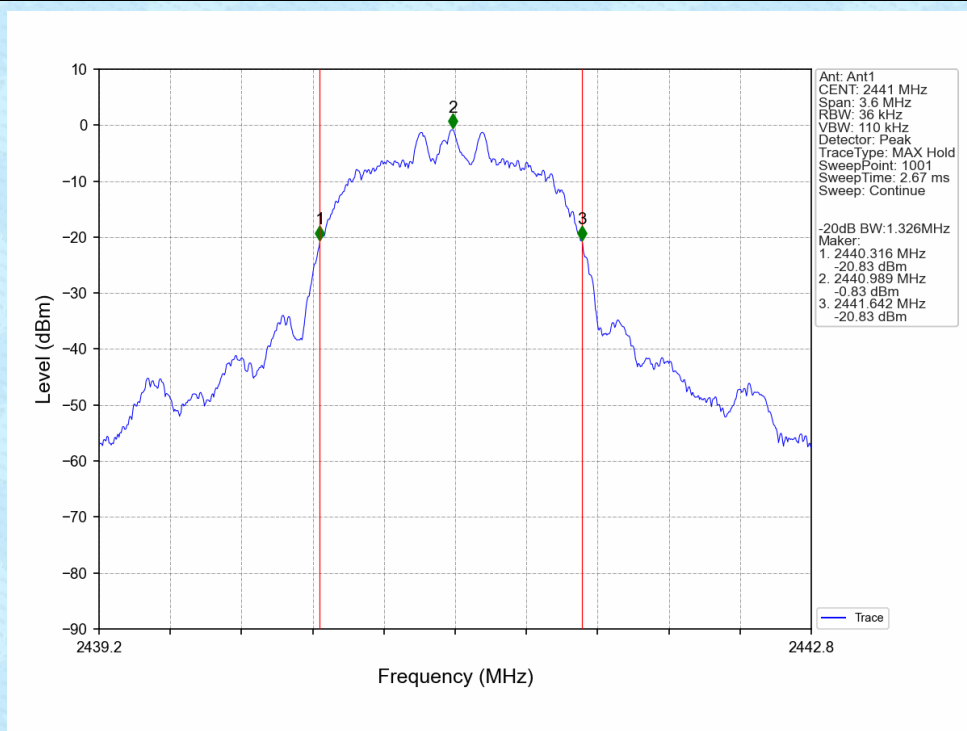
$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



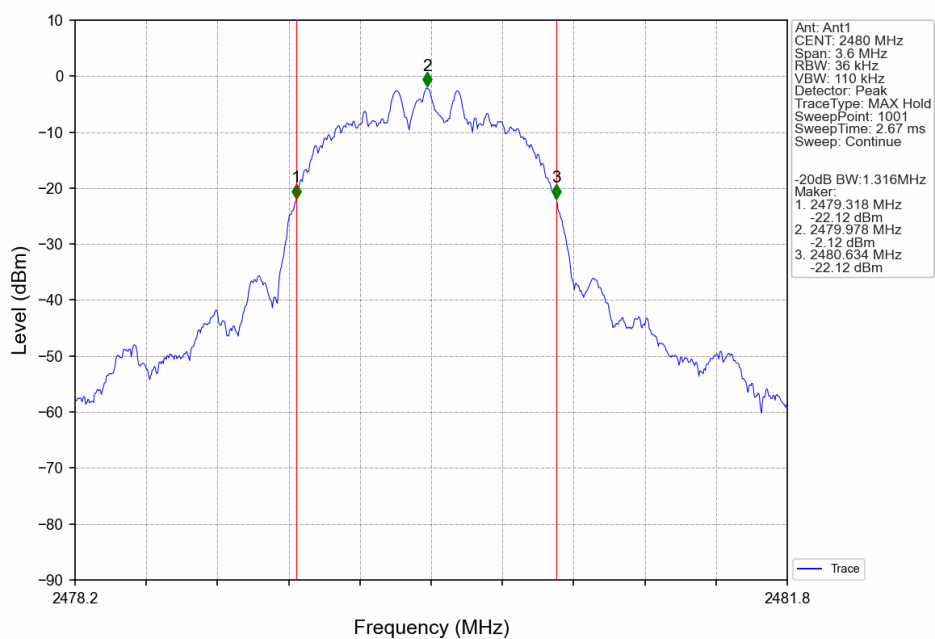
8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8-DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



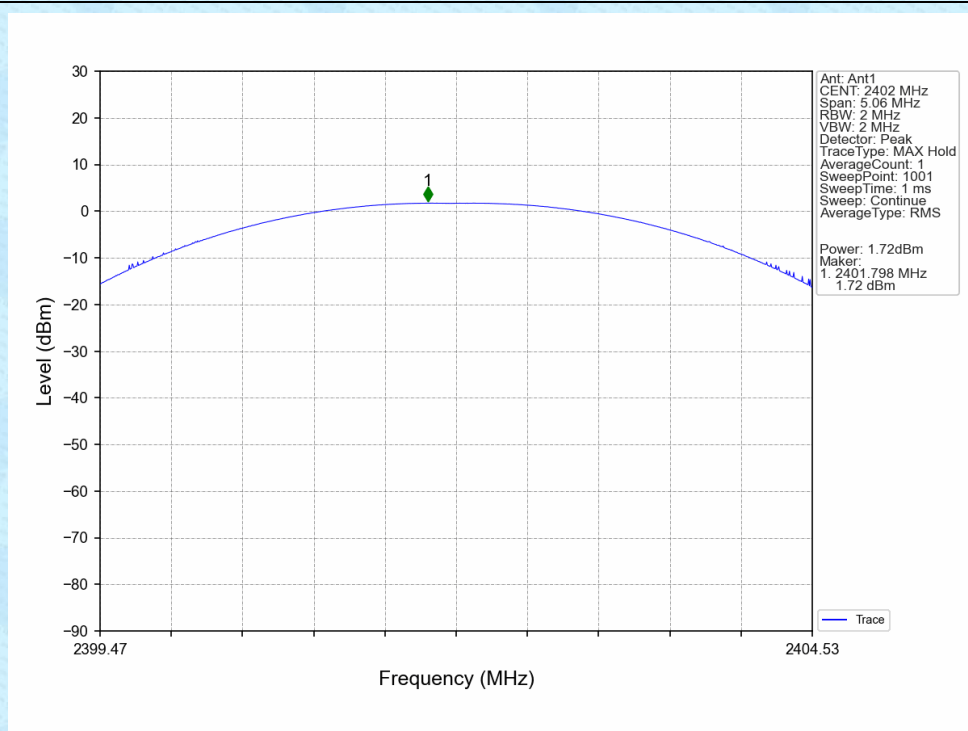
2. Maximum Conducted Output Power

2.1 Test Result

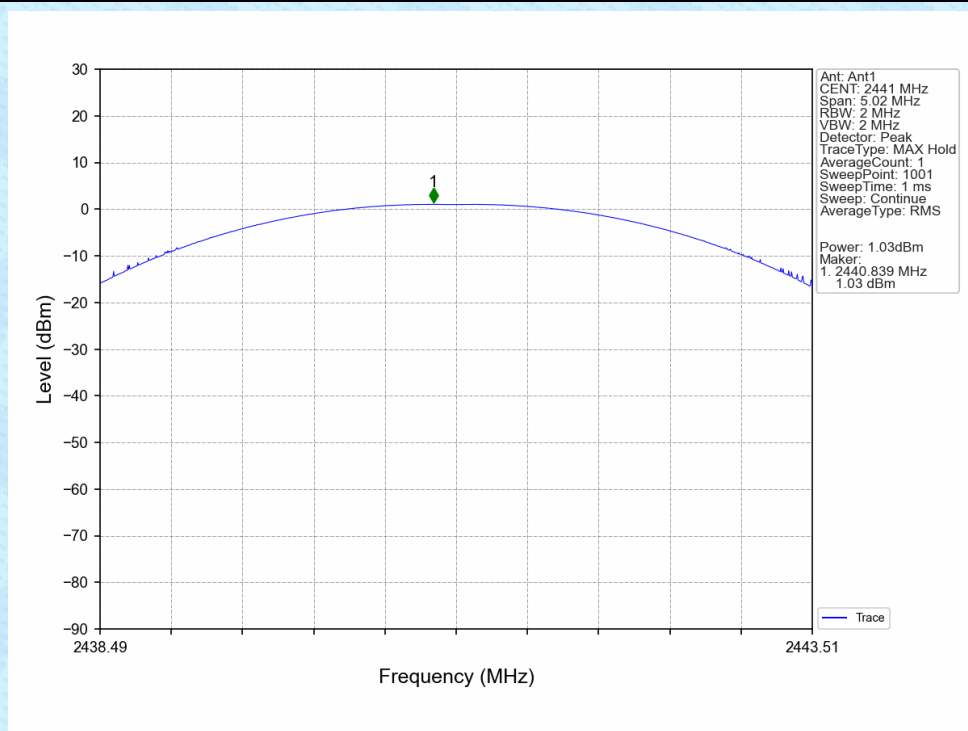
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	1.72	≤ 20.97	Pass
		2441	DH5	1.03	≤ 20.97	Pass
		2480	DH5	-0.30	≤ 20.97	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1.76	≤ 20.97	Pass
		2441	2DH5	1.10	≤ 20.97	Pass
		2480	2DH5	-0.28	≤ 20.97	Pass
8-DPSK	SISO	2402	3DH5	2.16	≤ 20.97	Pass
		2441	3DH5	1.51	≤ 20.97	Pass
		2480	3DH5	0.13	≤ 20.97	Pass

2.2 Test Graph

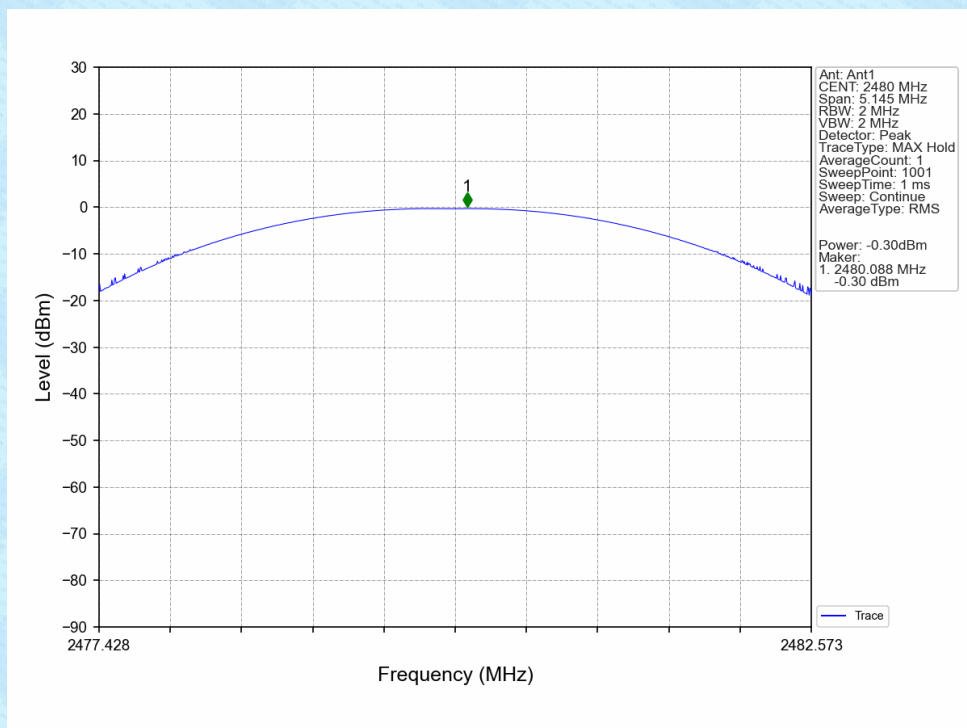
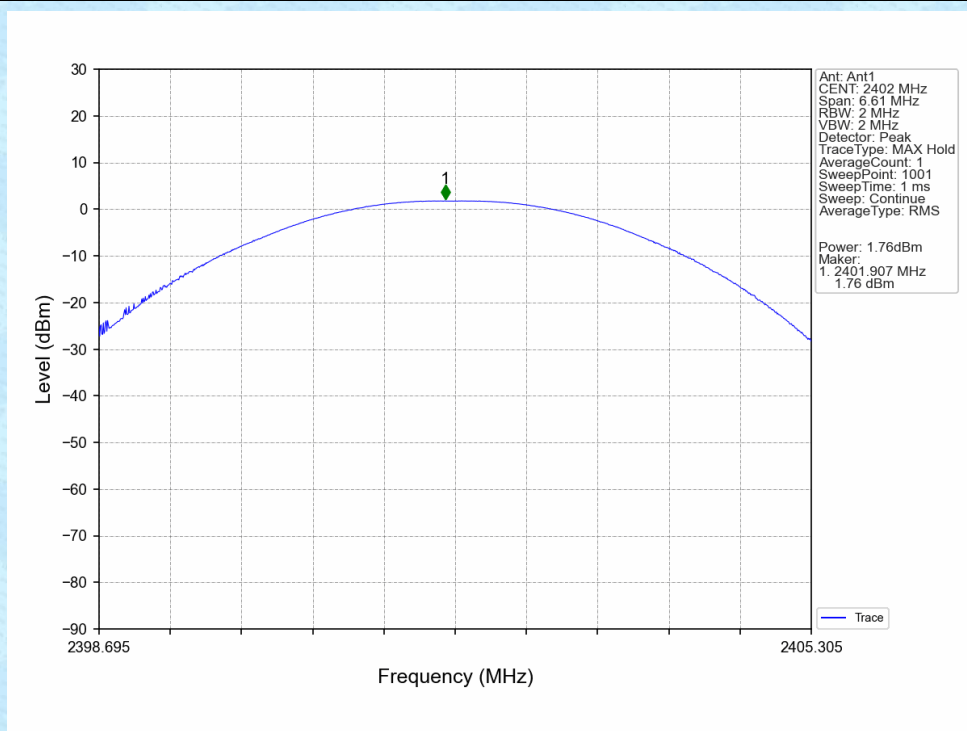
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



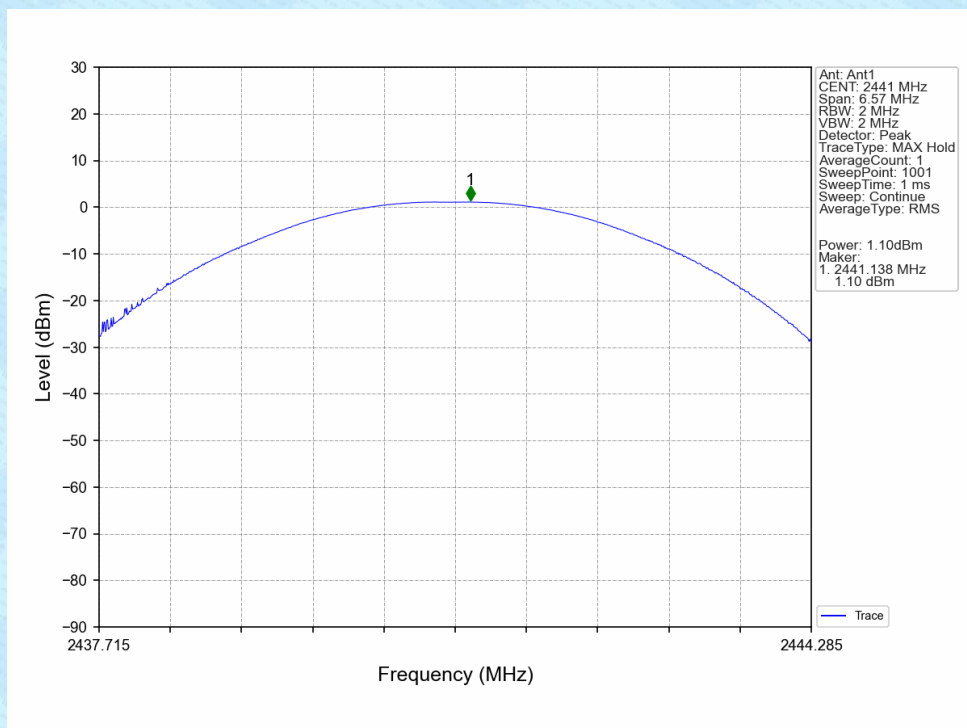
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



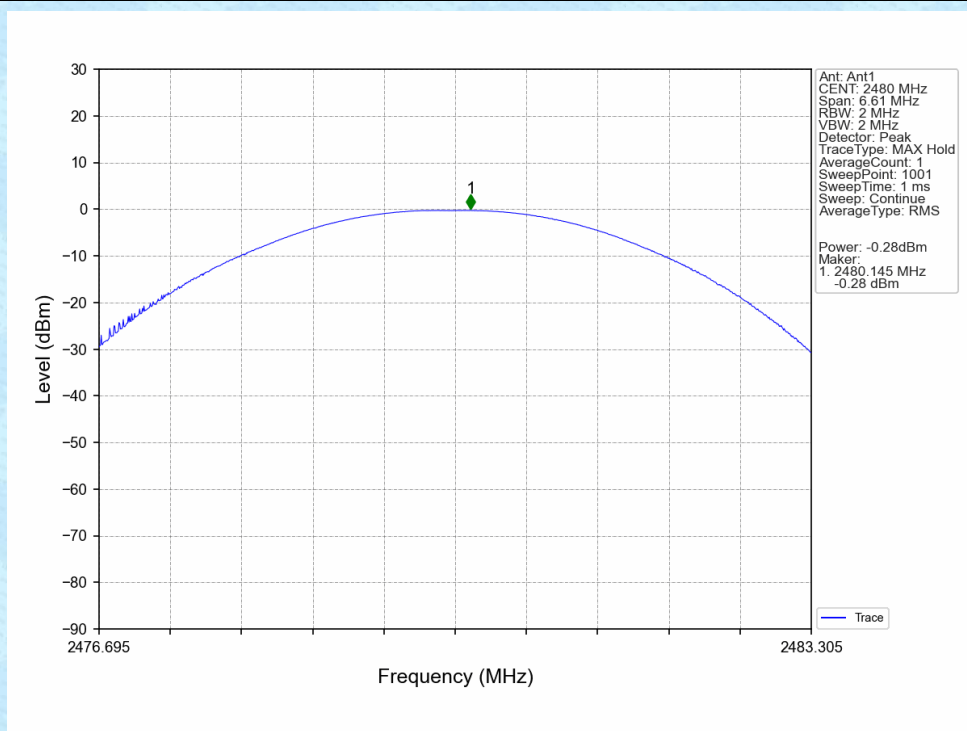
GFSK_DH5_HCH_2480MHz_Ant1_NTNV


 $\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV


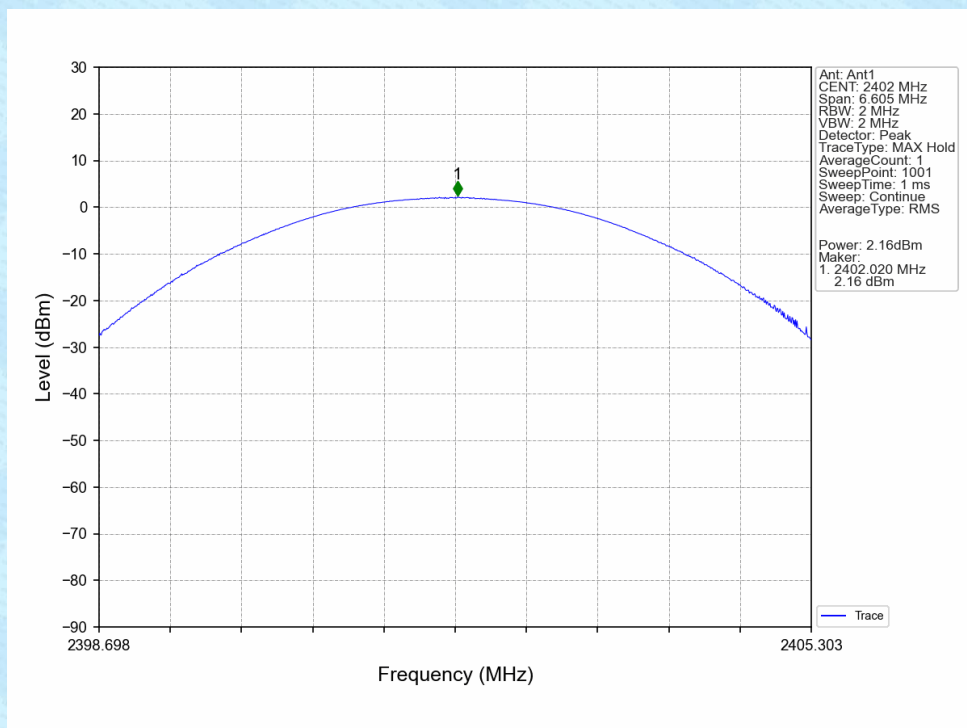
$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



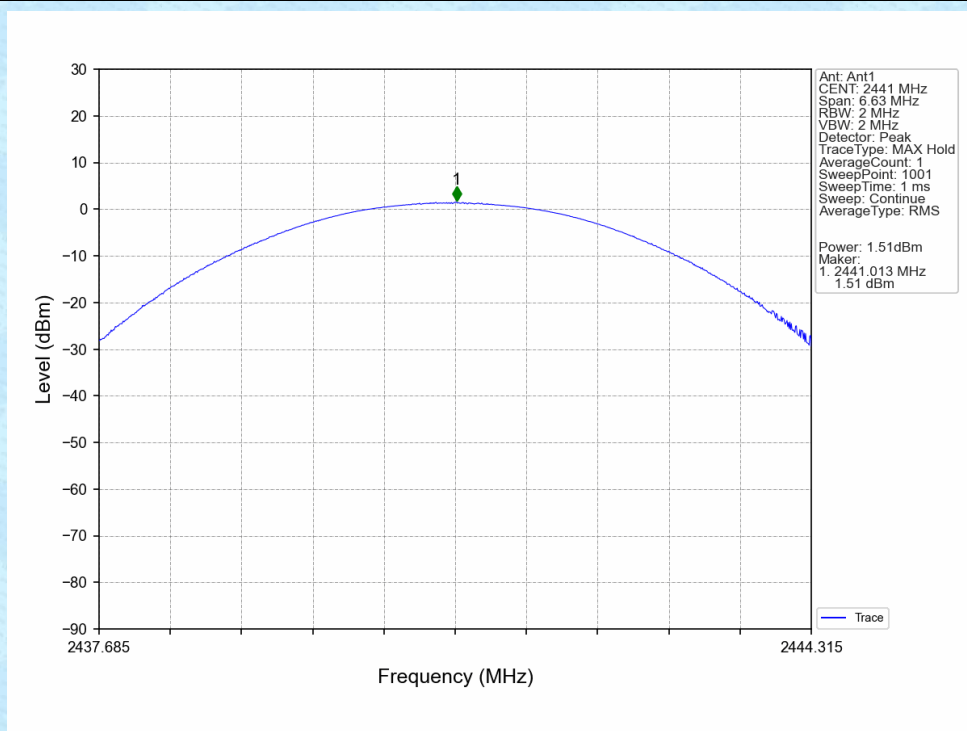
$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



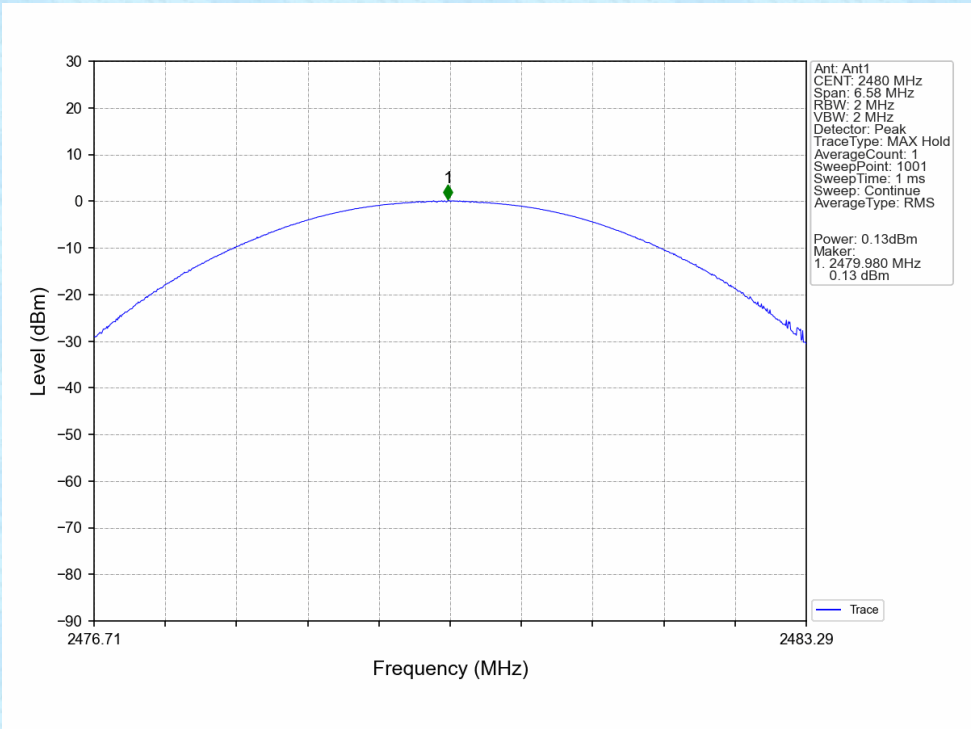
8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8-DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

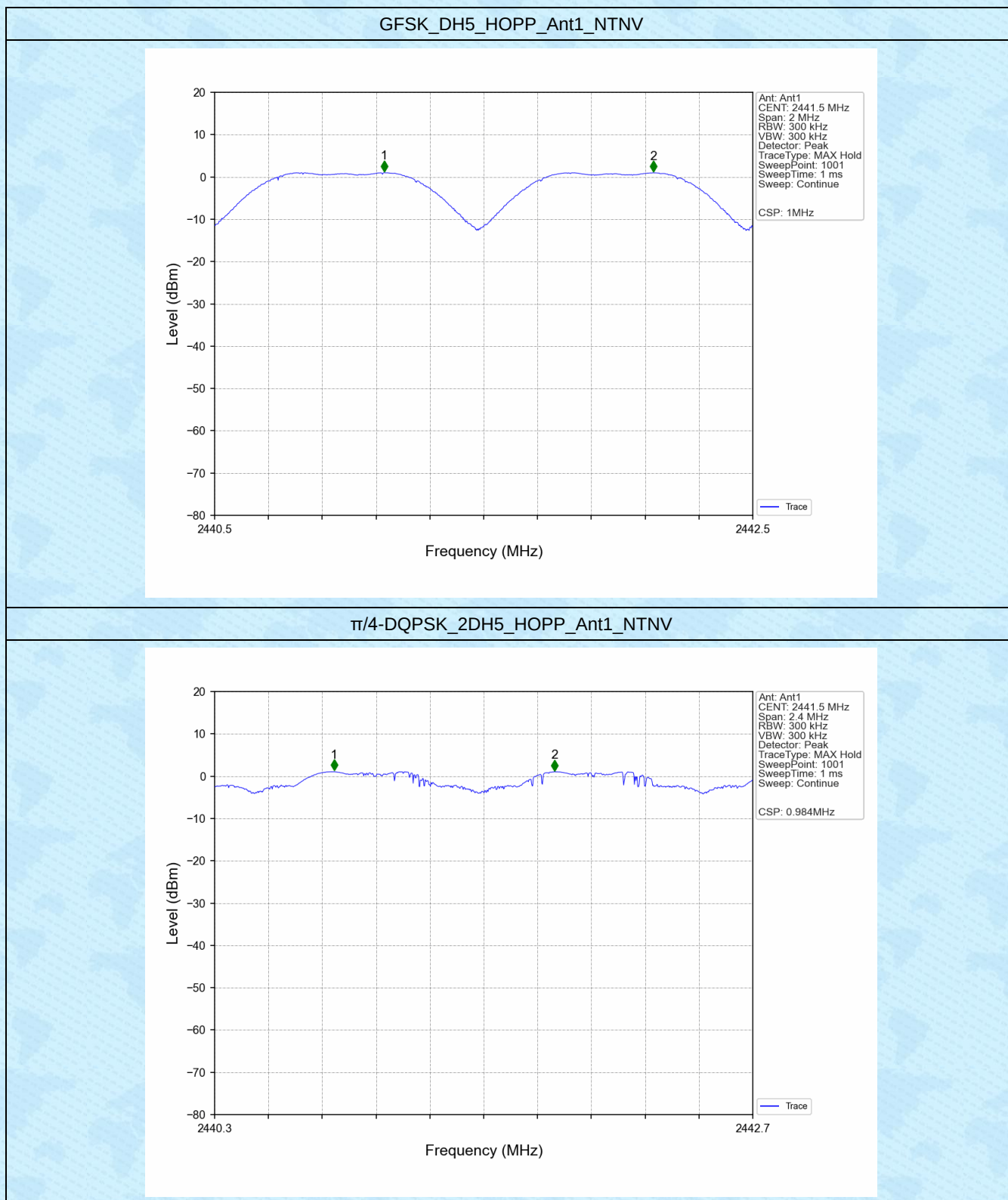


3. Carrier Frequency Separation

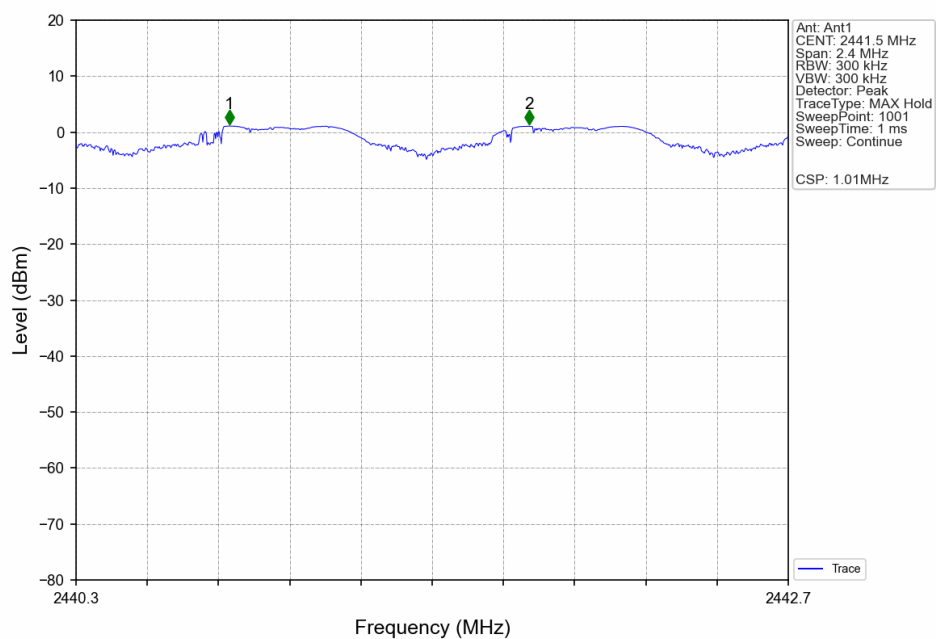
3.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.000	1.029	≥ 0.686	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	0.984	1.322	≥ 0.881	Pass
8-DPSK	SISO	HOPP	3DH5	1.010	1.326	≥ 0.884	Pass

3.2 Test Graph



8-DPSK_3DH5_HOPP_Ant1_NTNV

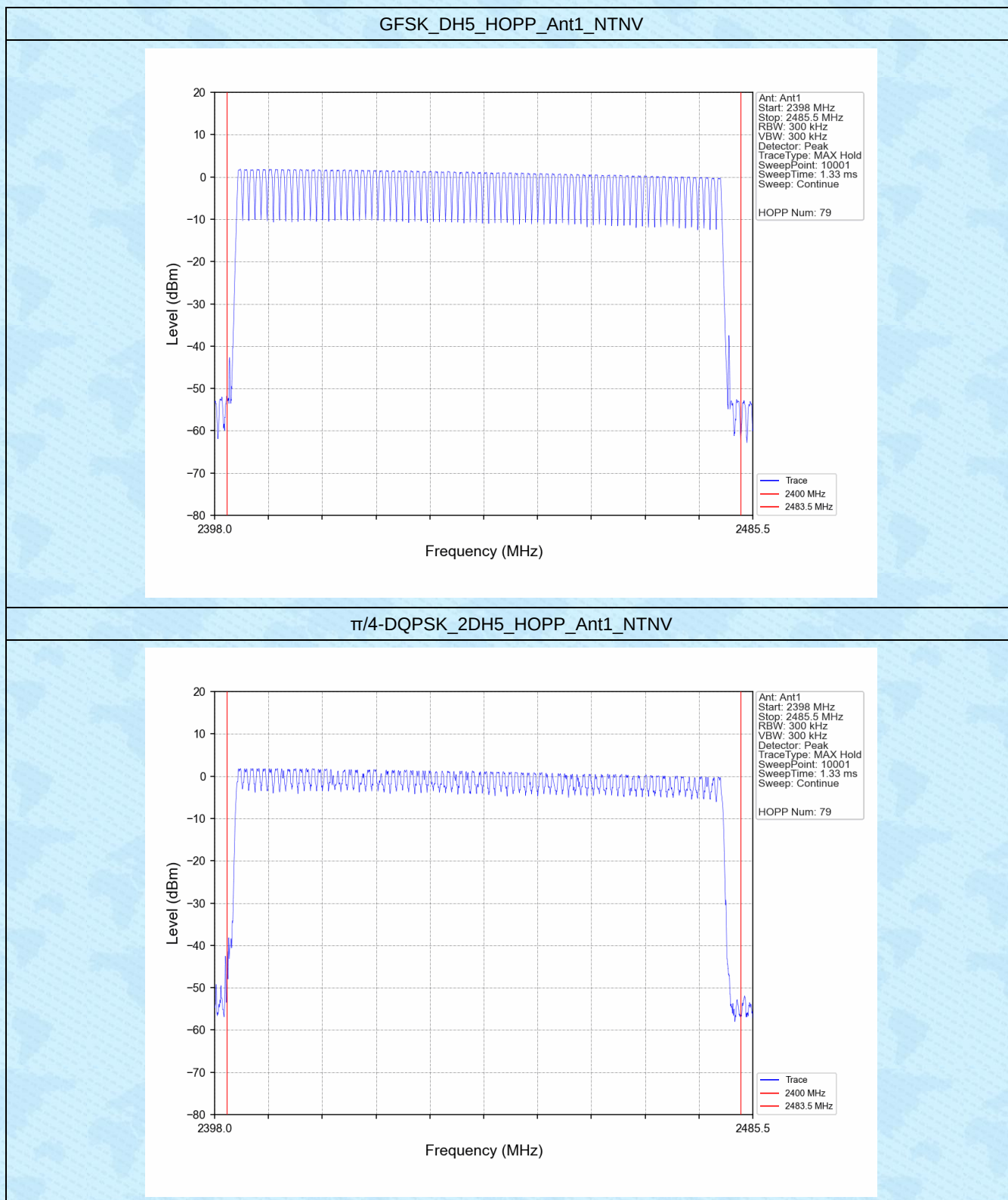


4. Number of Hopping Frequencies

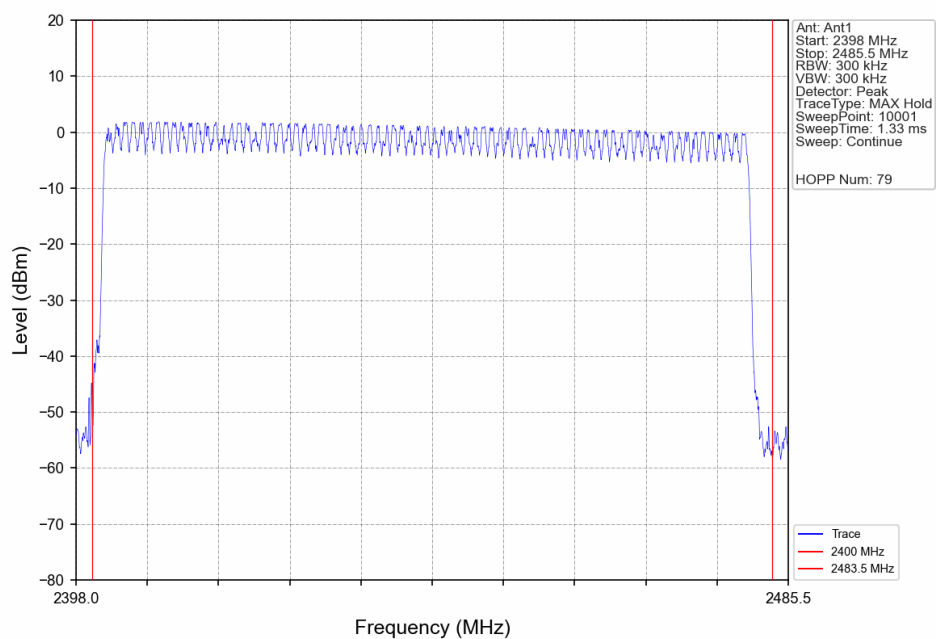
4.1 Test Result

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

4.2 Test Graph



8-DPSK_3DH5_HOPP_Ant1_NTNV



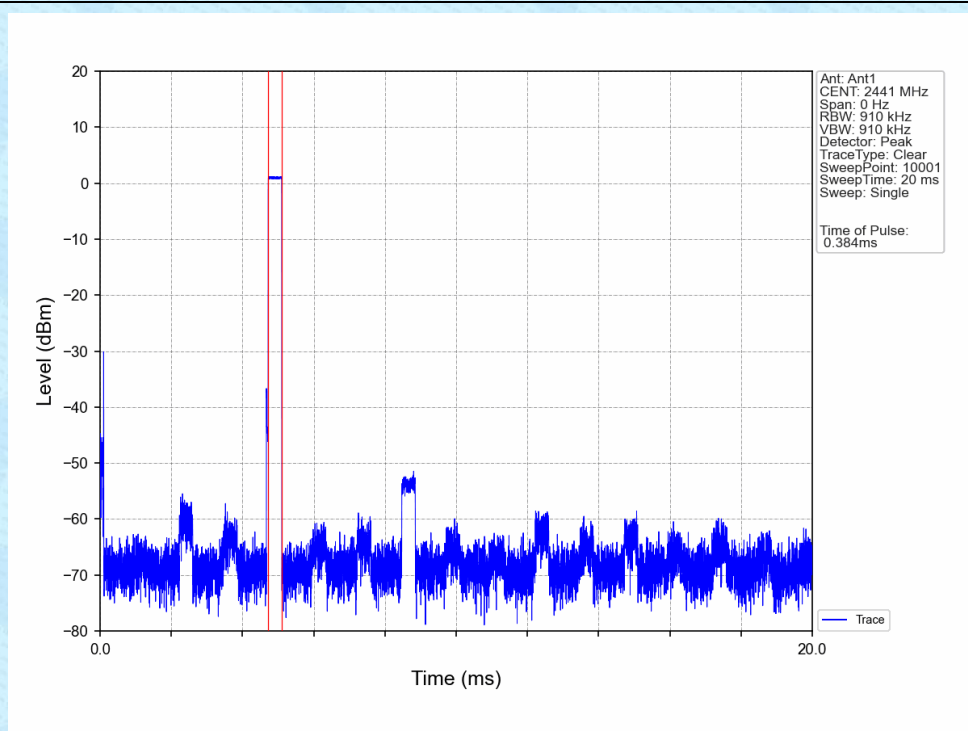
5. Time of Occupancy (Dwell Time)

5.1 Test Result

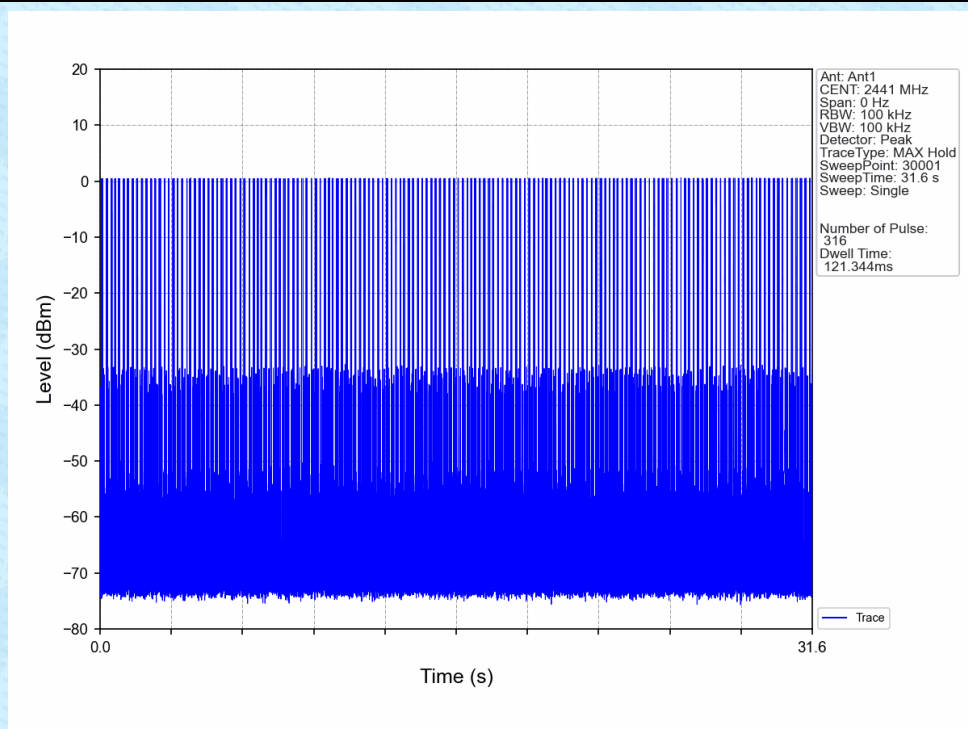
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.384	31.600	316	121.344	<=400	Pass
			DH3	1.648	31.600	166	273.568	<=400	Pass
			DH5	2.896	31.600	89	257.744	<=400	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH1	0.392	31.600	316	123.872	<=400	Pass
			2DH3	1.642	31.600	166	272.572	<=400	Pass
			2DH5	2.890	31.600	111	320.790	<=400	Pass
8-DPSK	SISO	HOPP	3DH1	0.392	31.600	315	123.480	<=400	Pass
			3DH3	1.640	31.600	166	272.240	<=400	Pass
			3DH5	2.952	31.600	105	309.960	<=400	Pass

5.2 Test Graph

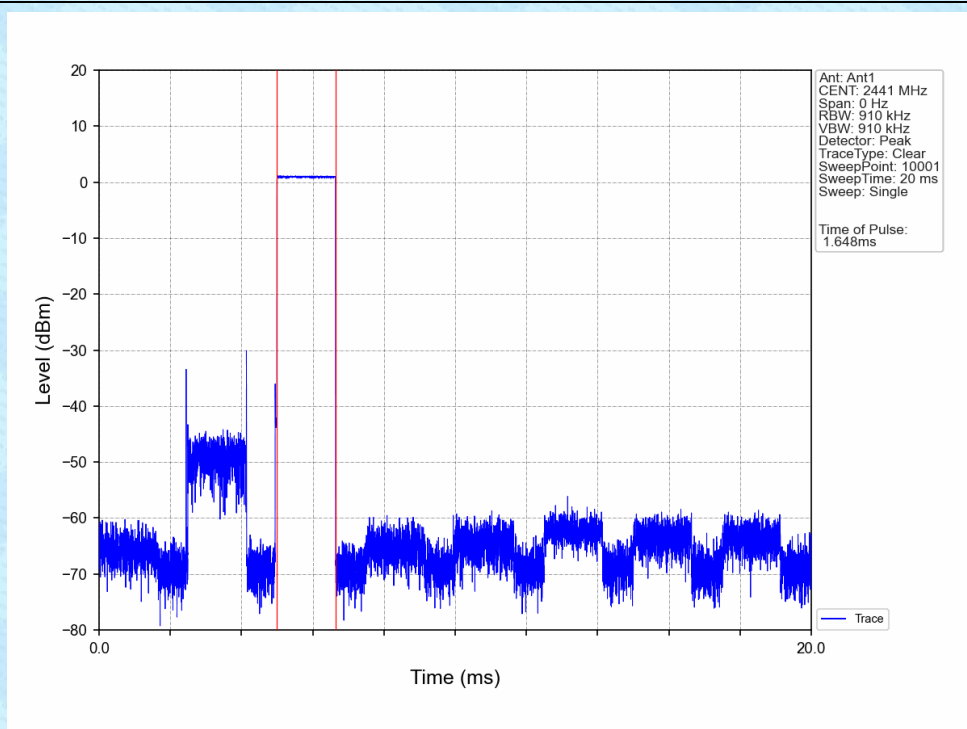
GFSK_DH1_HOPP_Ant1_NTNV



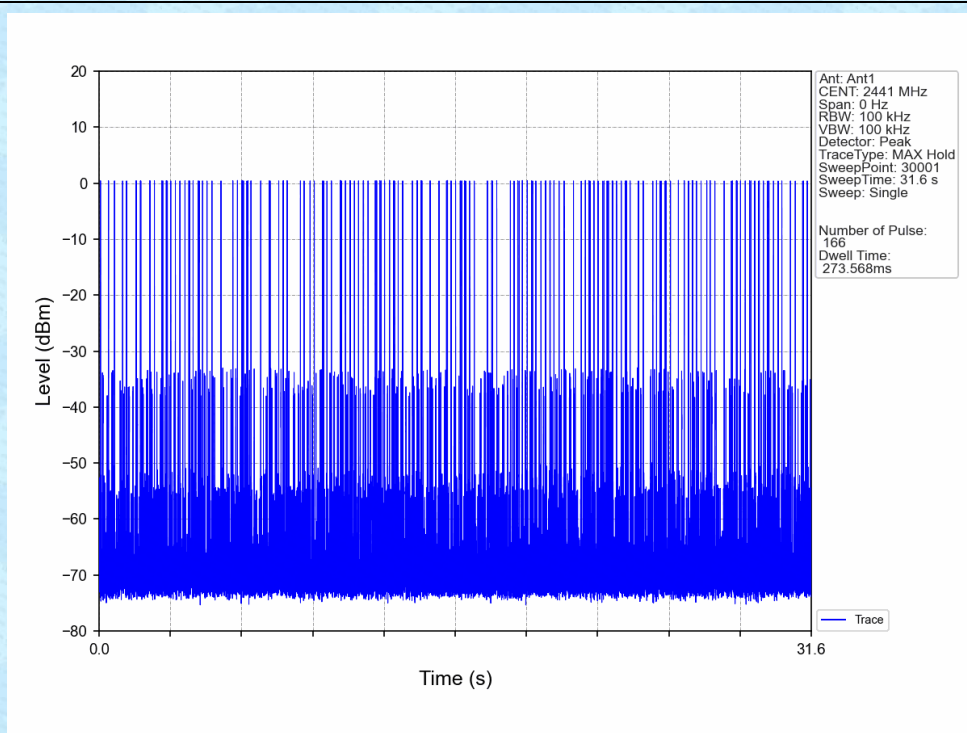
GFSK_DH1_HOPP_Ant1_NTNV



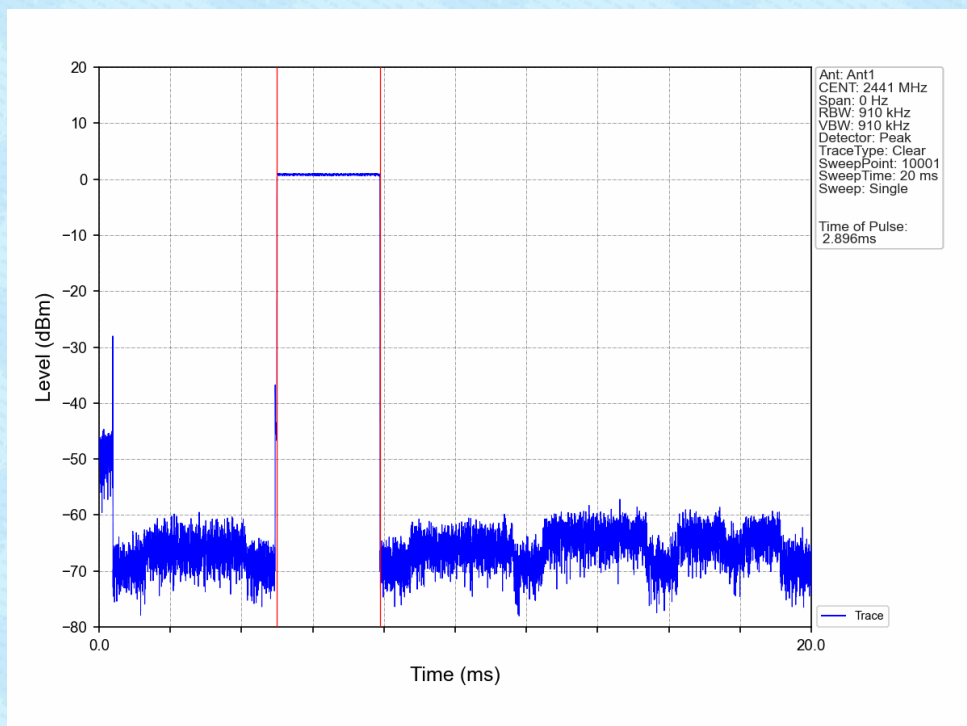
GFSK_DH3_HOPP_Ant1_NTNV



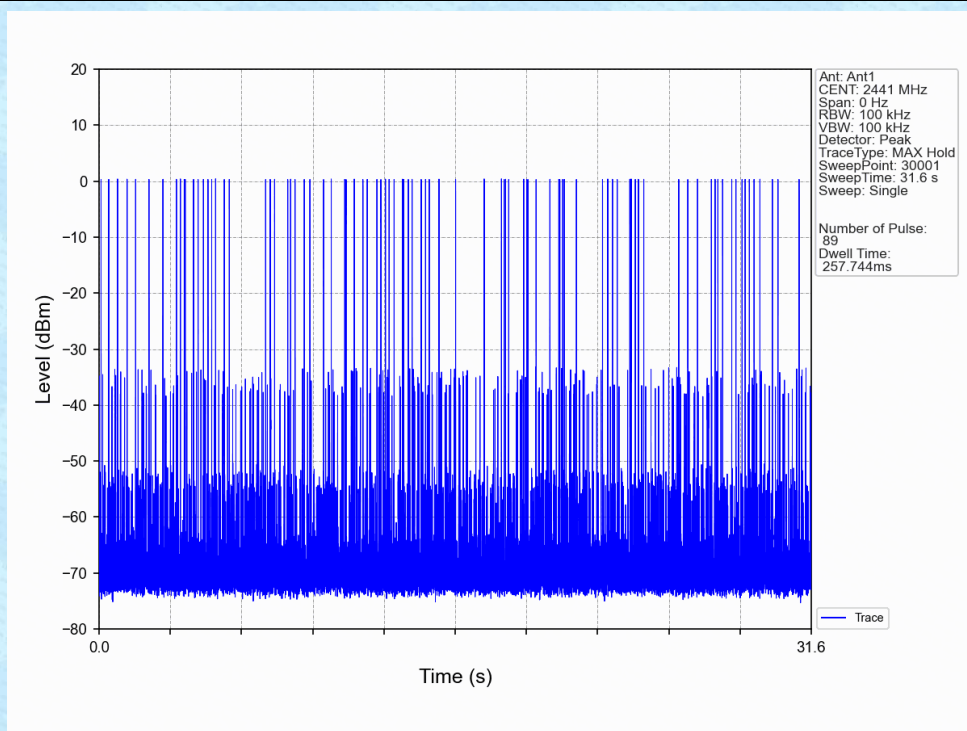
GFSK_DH3_HOPP_Ant1_NTNV



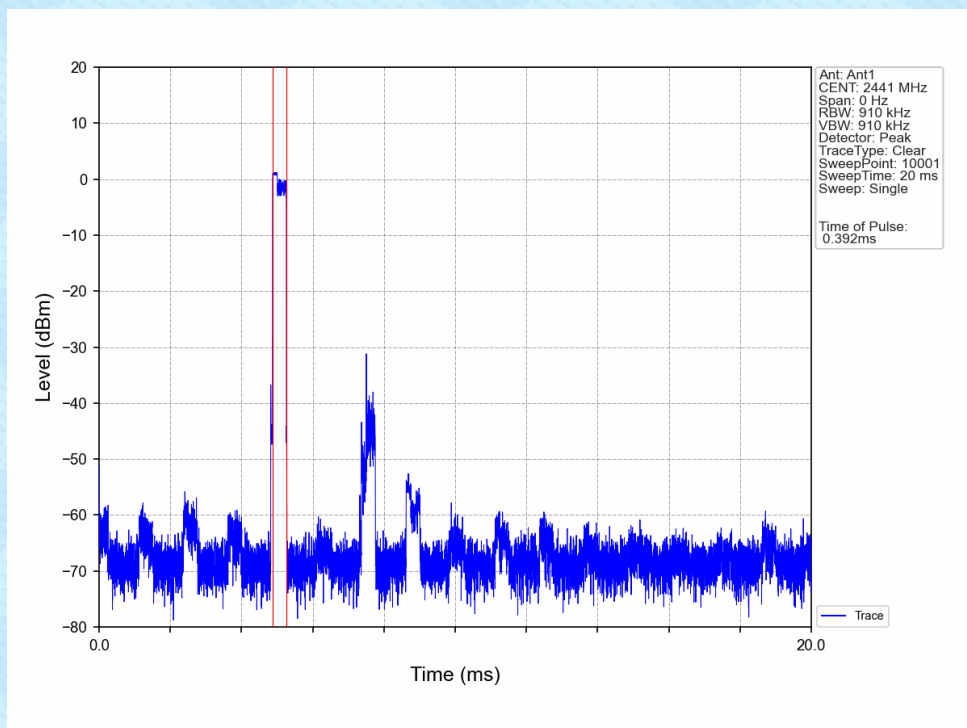
GFSK_DH5_HOPP_Ant1_NTNV



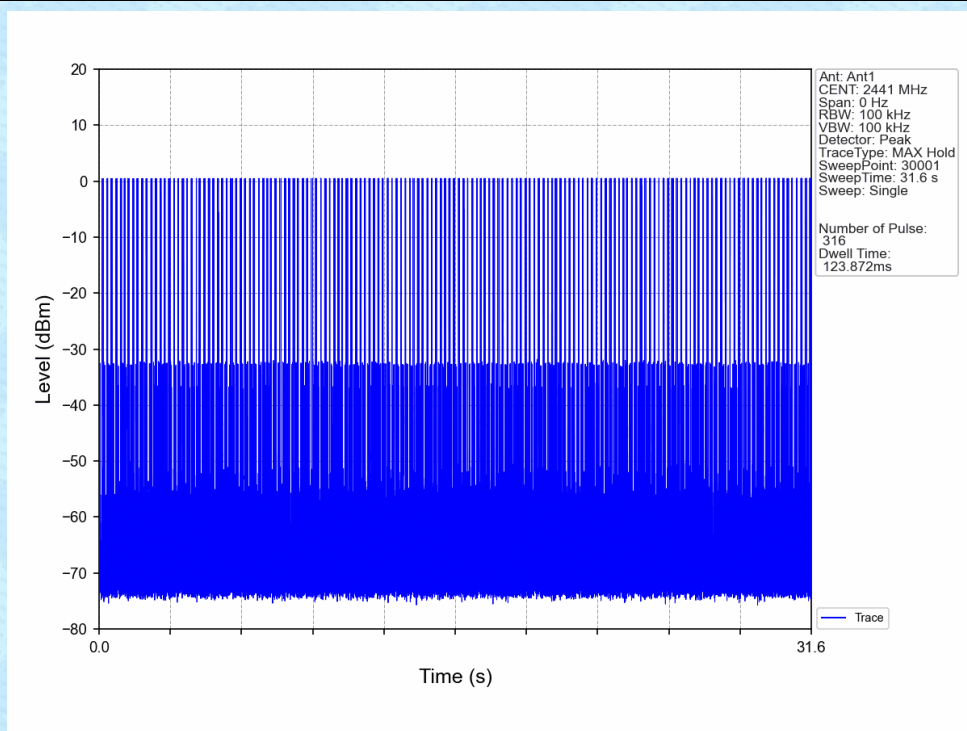
GFSK_DH5_HOPP_Ant1_NTNV



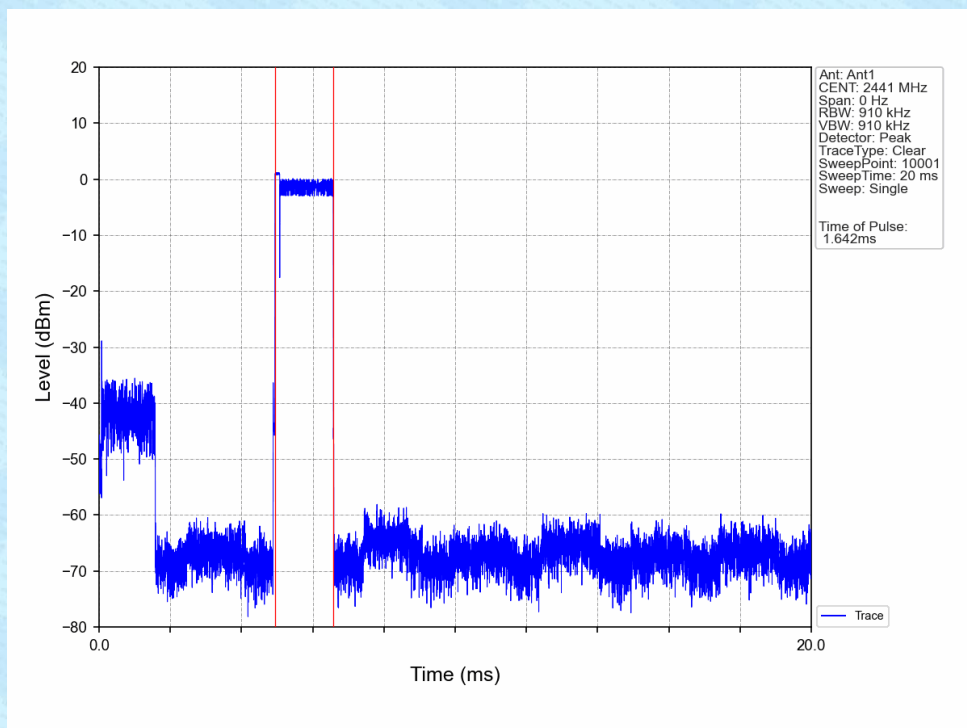
$\pi/4$ -DQPSK_2DH1_HOPP_Ant1_NTNV



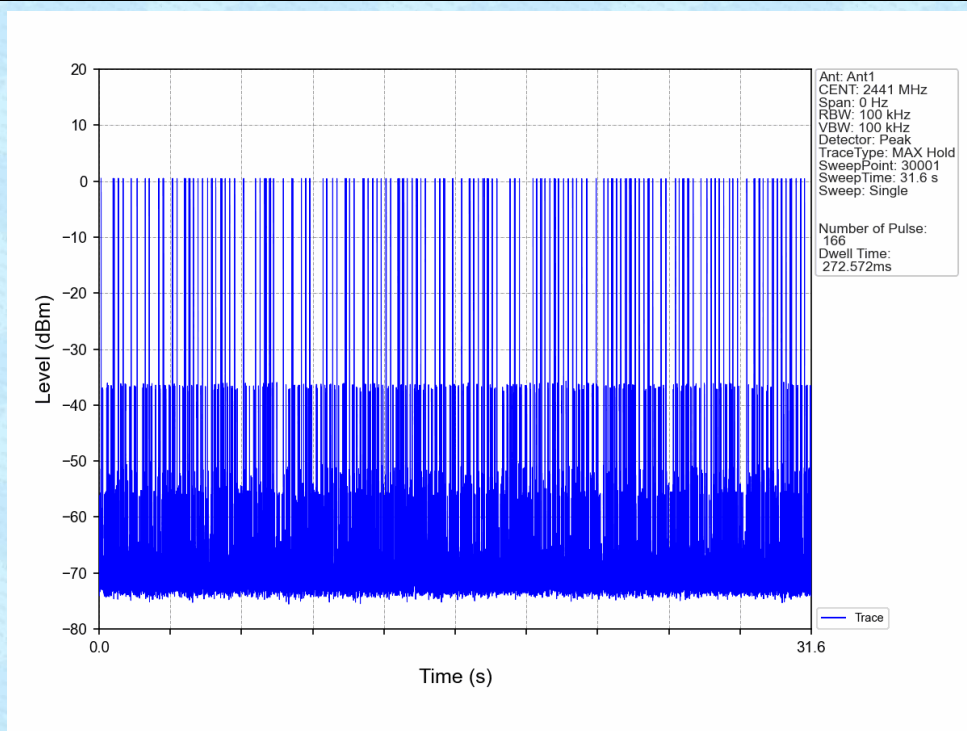
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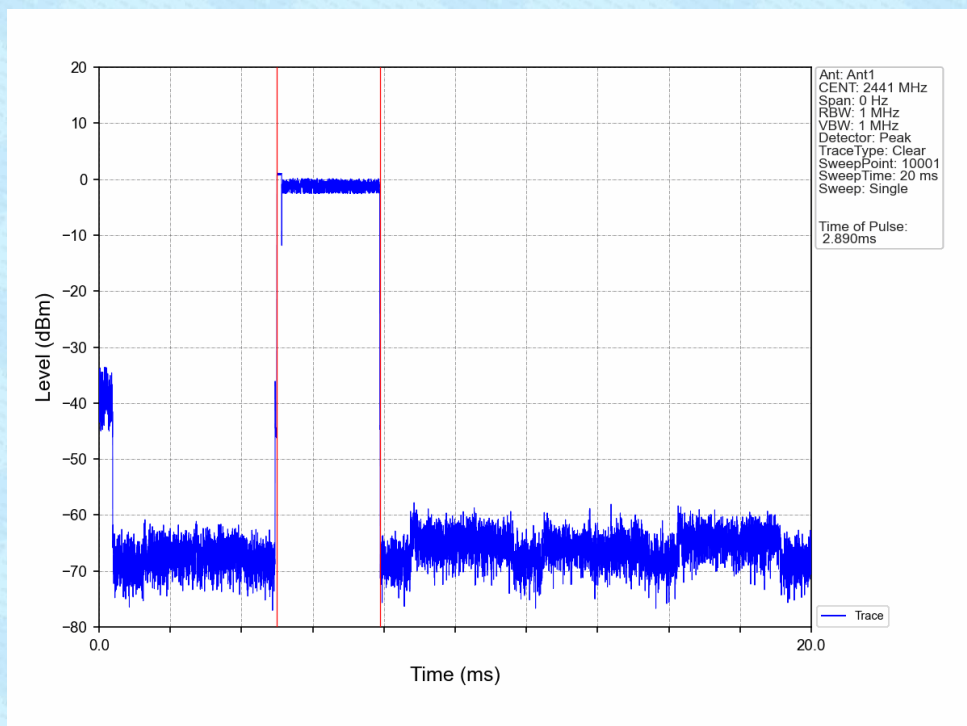
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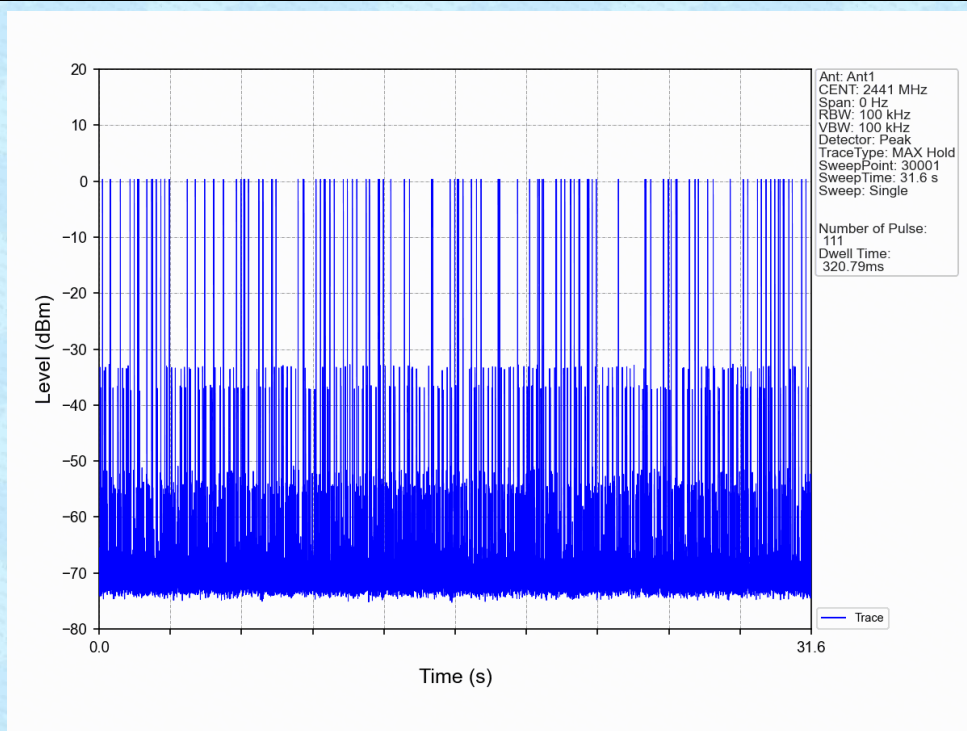
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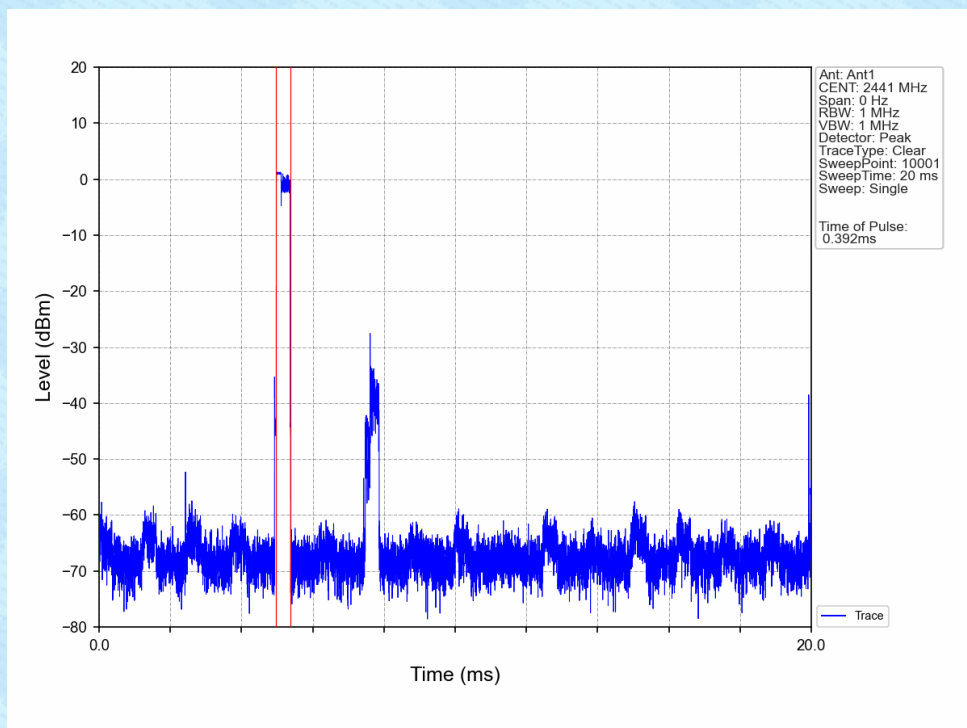
$\pi/4$ -DQPSK_2DH5_HOPP_Ant1_NTNV



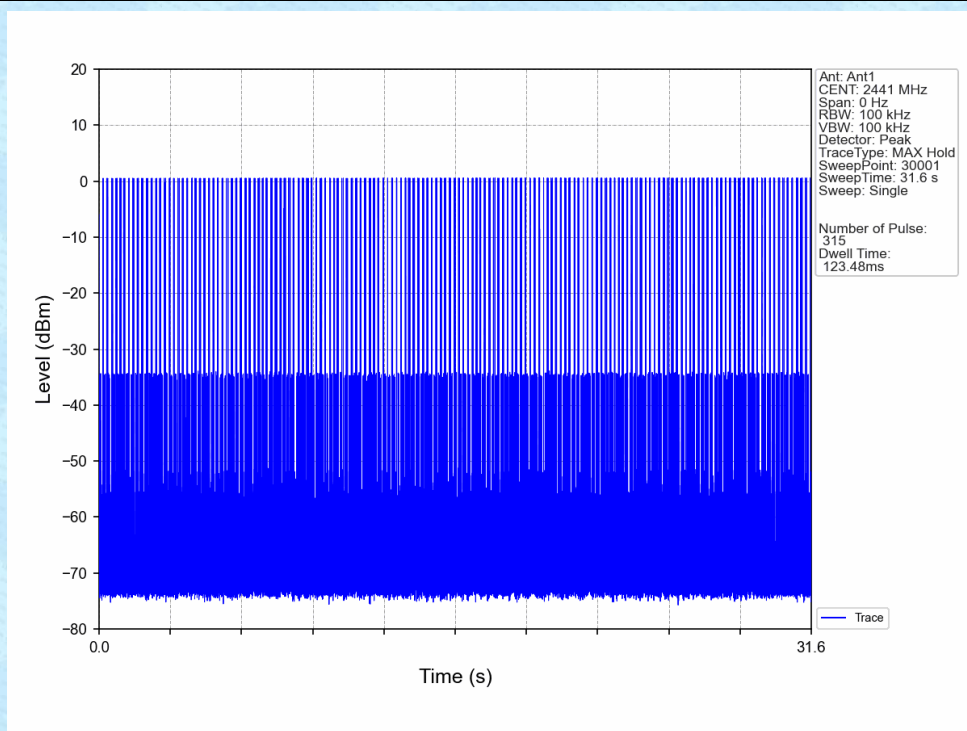
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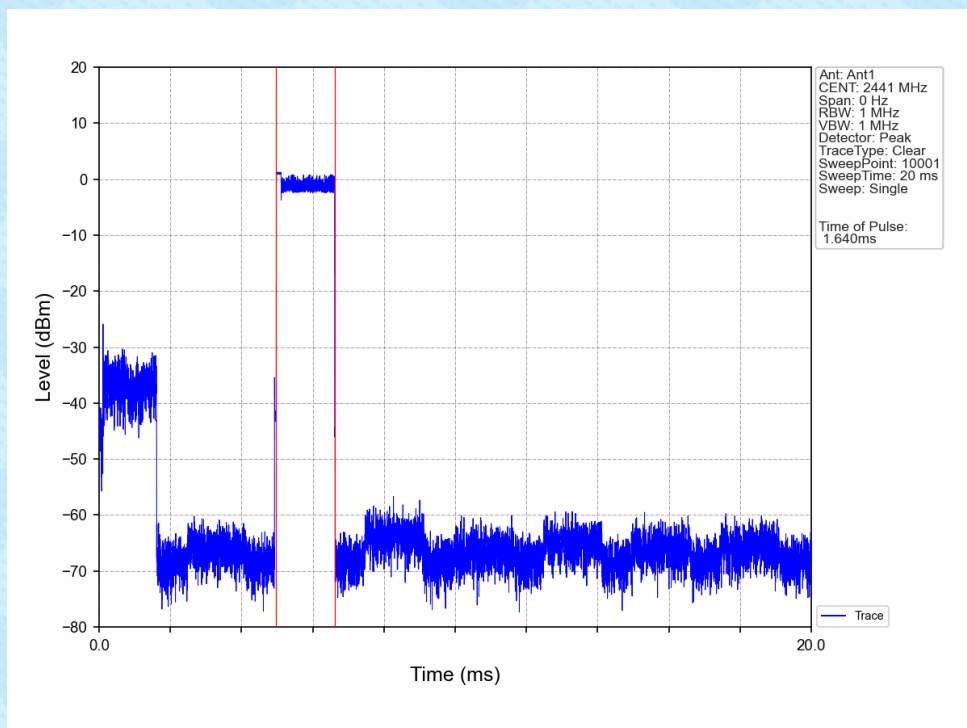
8-DPSK_3DH1_HOPP_Ant1_NTNV



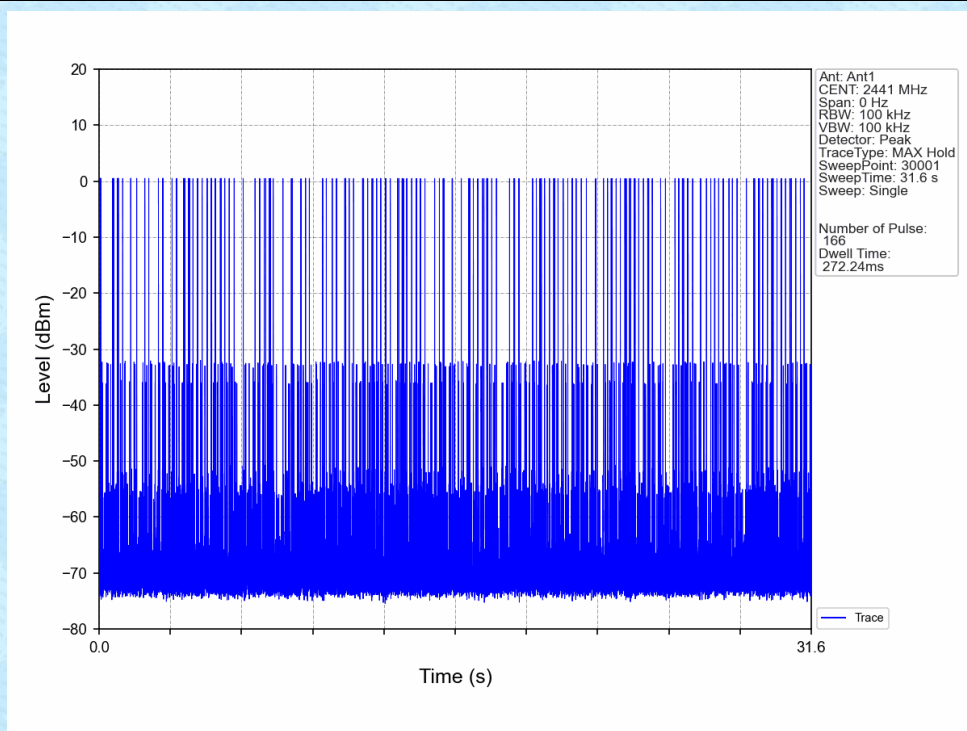
8-DPSK_3DH1_HOPP_Ant1_NTNV



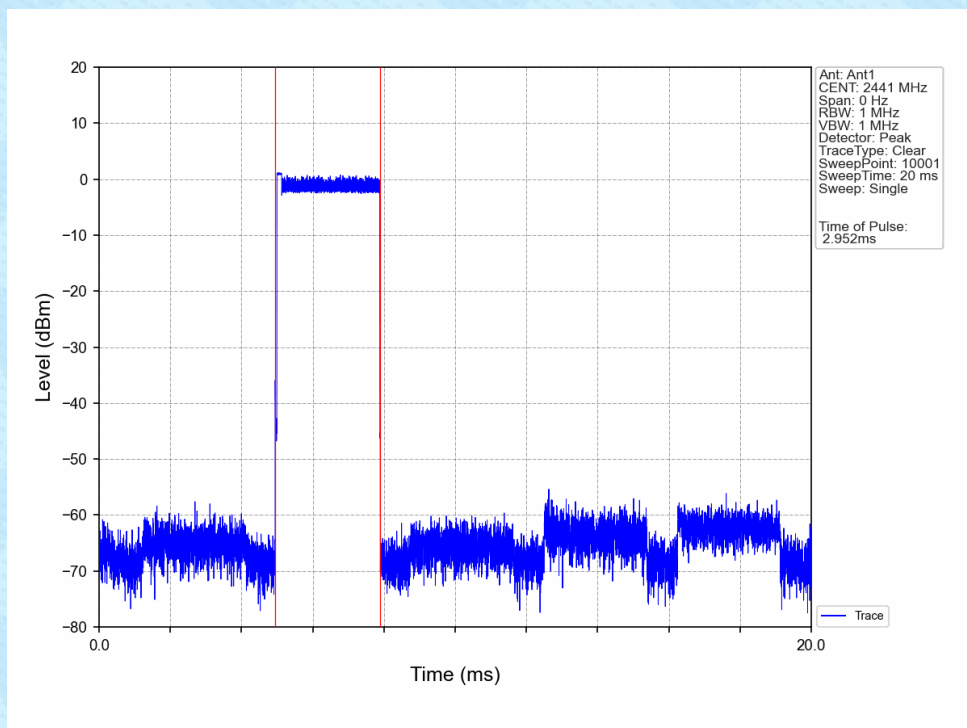
8-DPSK_3DH3_HOPP_Ant1_NTNV



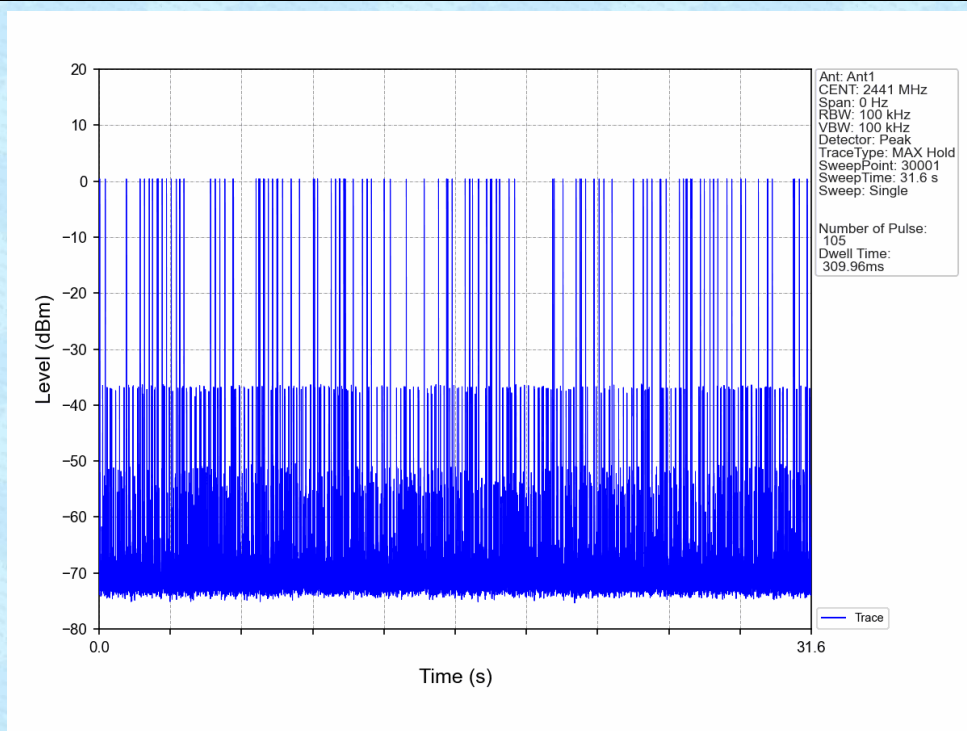
8-DPSK_3DH3_HOPP_Ant1_NTNV



8-DPSK_3DH5_HOPP_Ant1_NTNV



8-DPSK_3DH5_HOPP_Ant1_NTNV



6. Unwanted Emissions In Non-restricted Frequency Bands

6.1 Test Result

6.1.1 Ref

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	1.56
		2441	DH5	1	0.84
		2480	DH5	1	-0.44
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.61
		2441	2DH5	1	0.94
		2480	2DH5	1	-0.44
8-DPSK	SISO	2402	3DH5	1	1.64
		2441	3DH5	1	1.00
		2480	3DH5	1	-0.40

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.

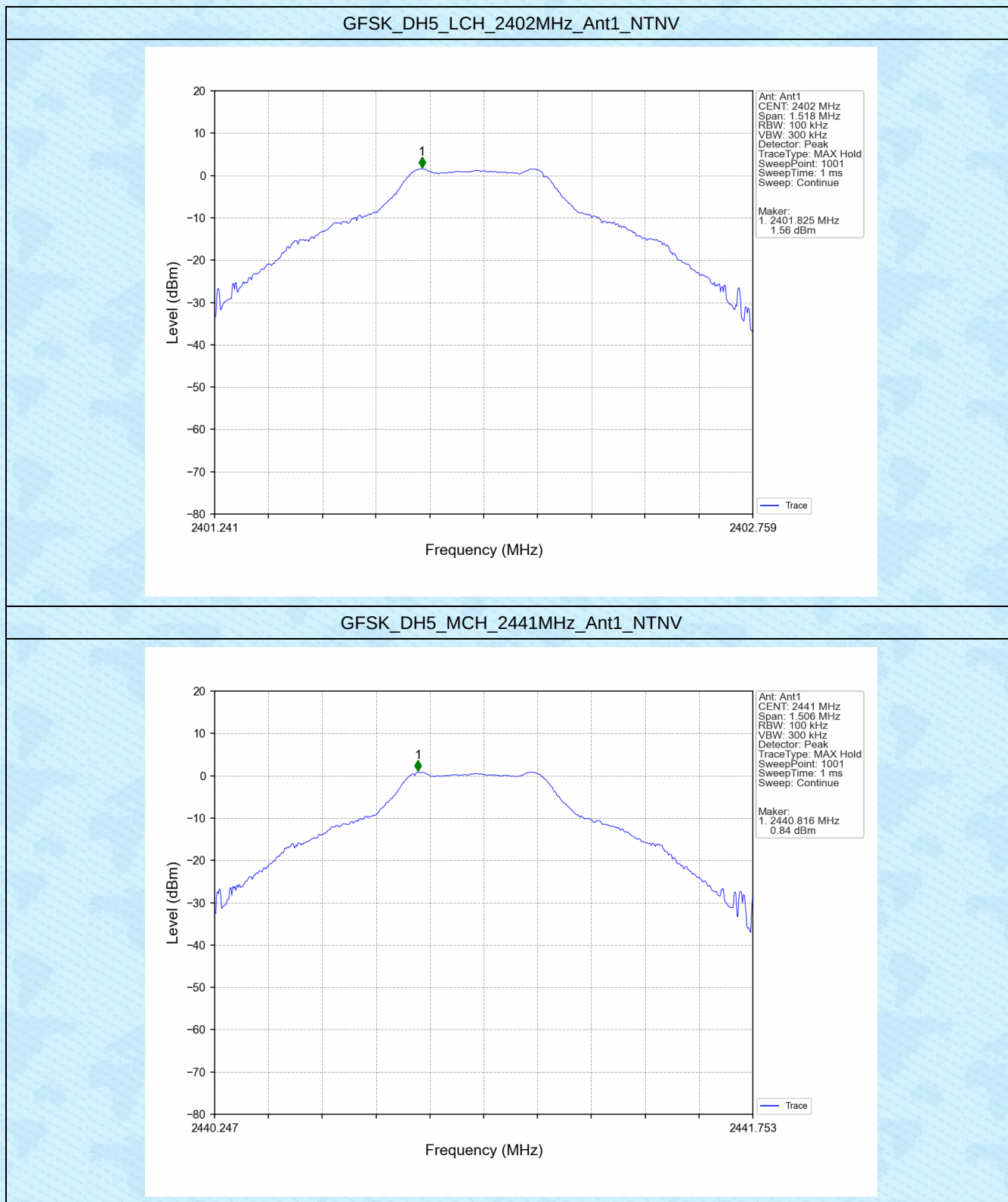
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	1.56	-18.44	Pass
		2441	DH5	1	1.56	-18.44	Pass
		2480	DH5	1	1.56	-18.44	Pass
		HOPP	DH5	1	1.56	-18.44	Pass
					1.56	-18.44	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.61	-18.39	Pass
		2441	2DH5	1	1.61	-18.39	Pass
		2480	2DH5	1	1.61	-18.39	Pass
		HOPP	2DH5	1	1.61	-18.39	Pass
					1.61	-18.39	Pass
8-DPSK	SISO	2402	3DH5	1	1.64	-18.36	Pass
		2441	3DH5	1	1.64	-18.36	Pass
		2480	3DH5	1	1.64	-18.36	Pass
		HOPP	3DH5	1	1.64	-18.36	Pass
					1.64	-18.36	Pass

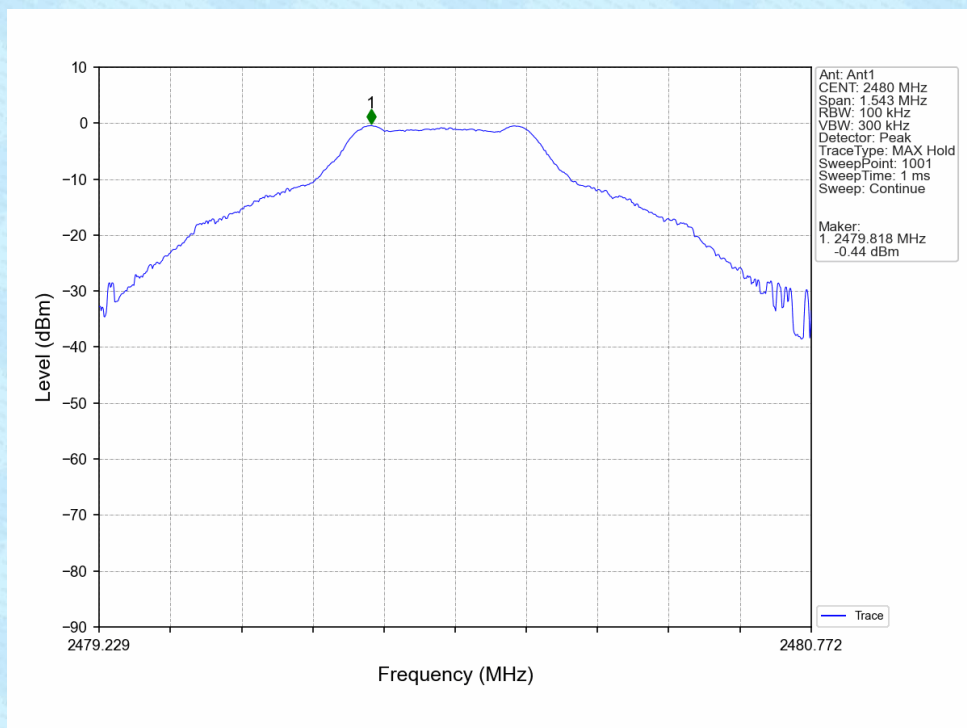
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

6.2 Test Graph

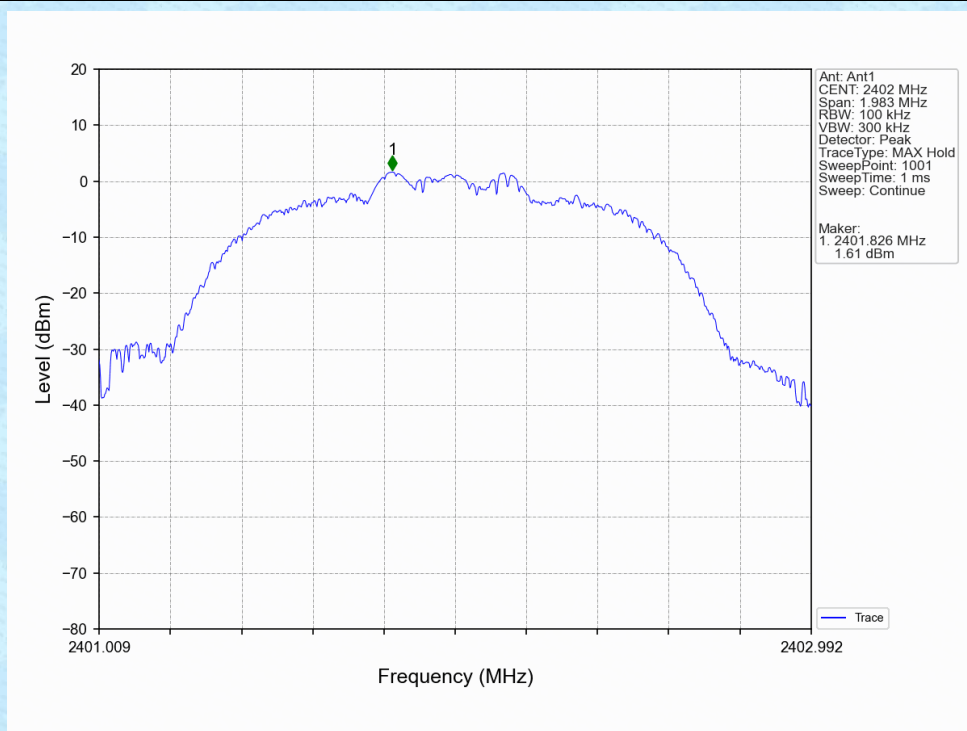
6.2.1 Ref



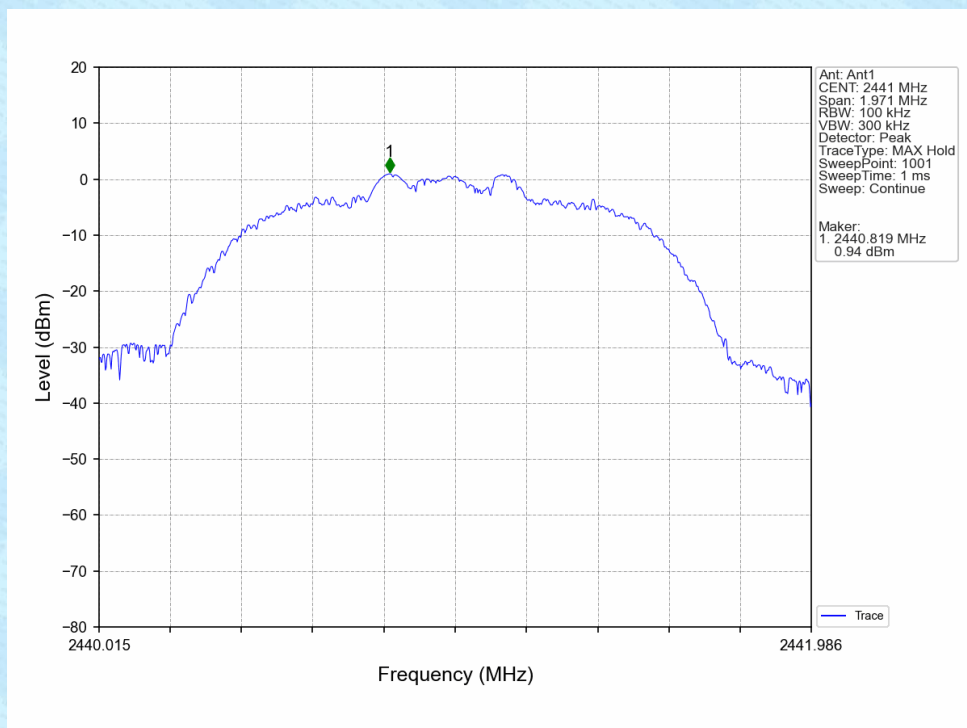
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



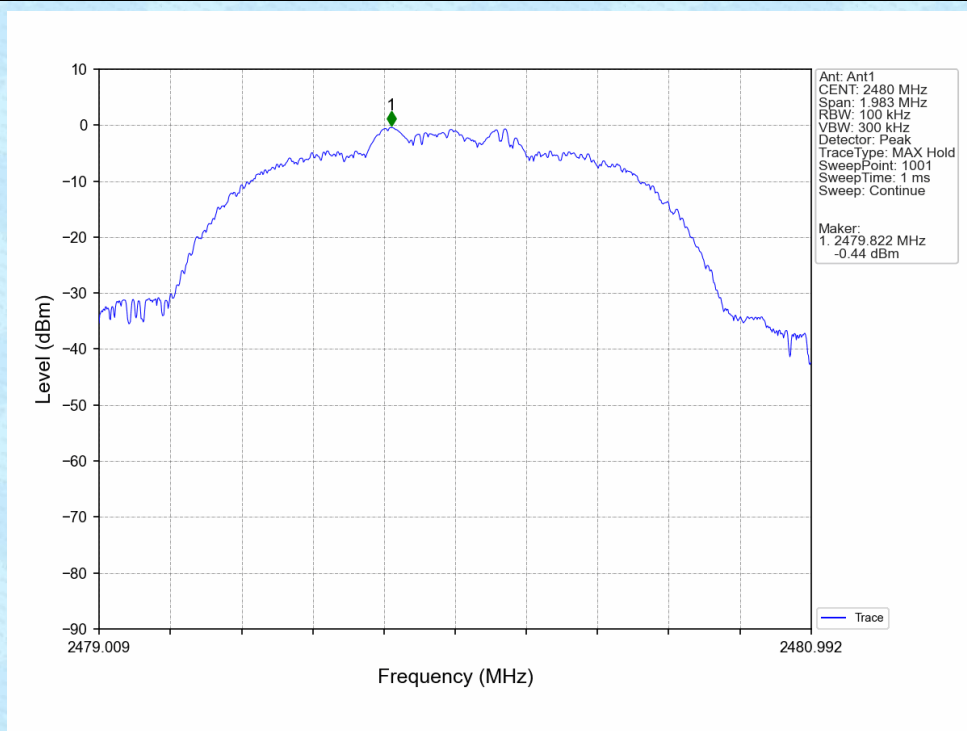
$\pi/4$ -DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



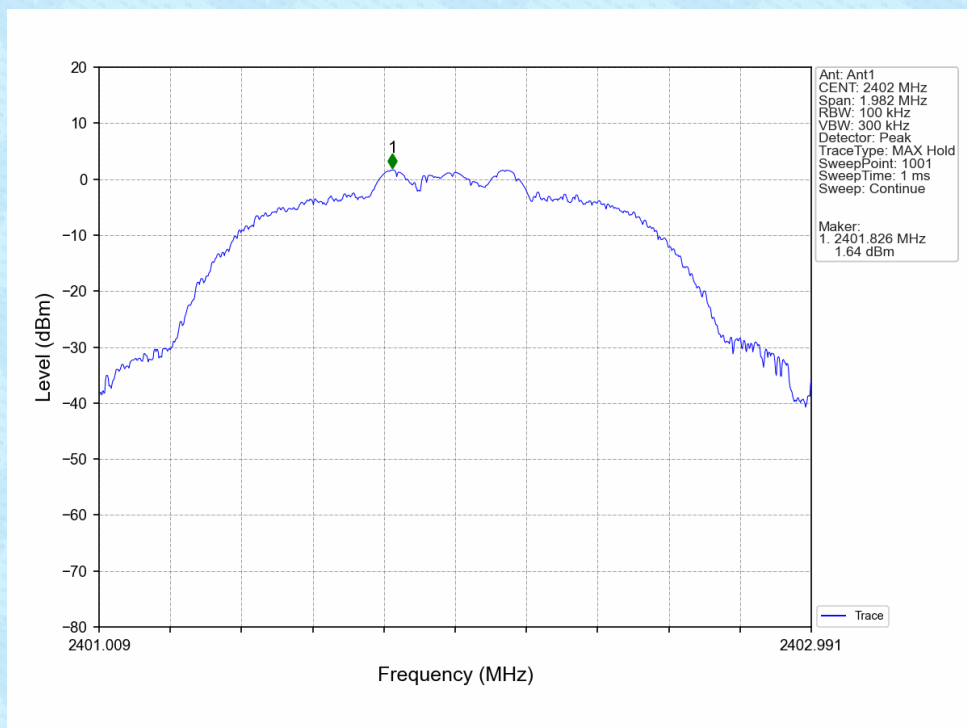
$\pi/4$ -DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



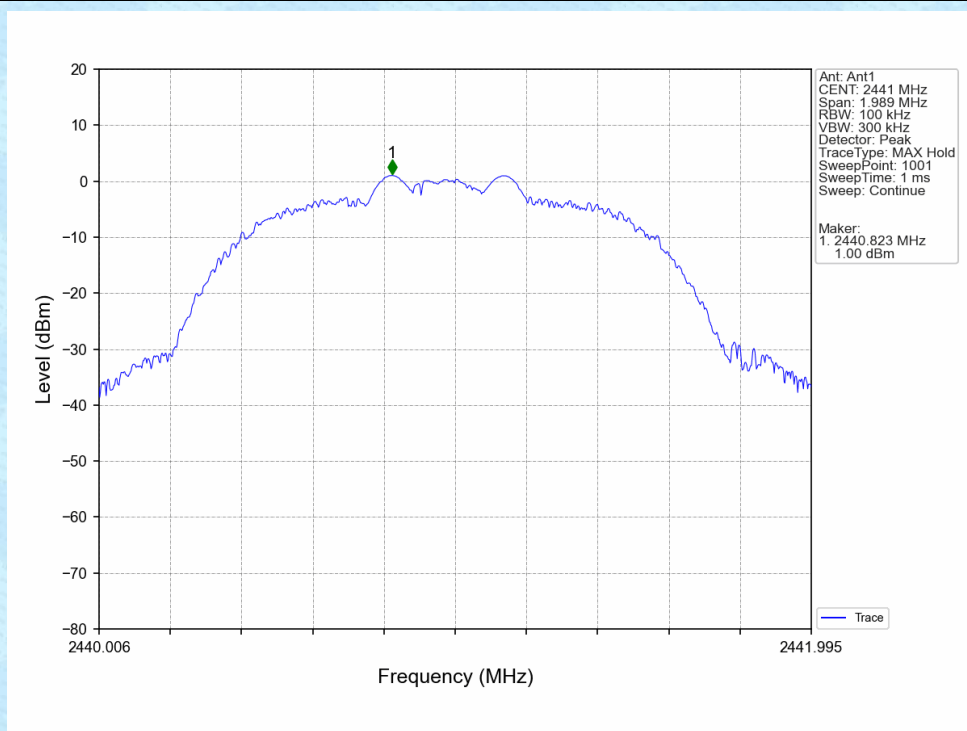
$\pi/4$ -DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



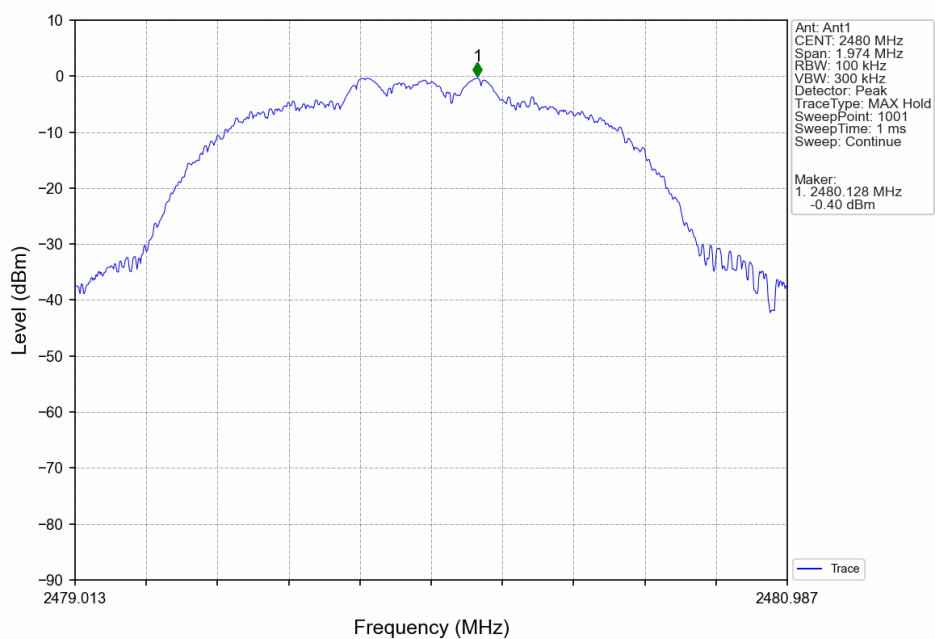
8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV

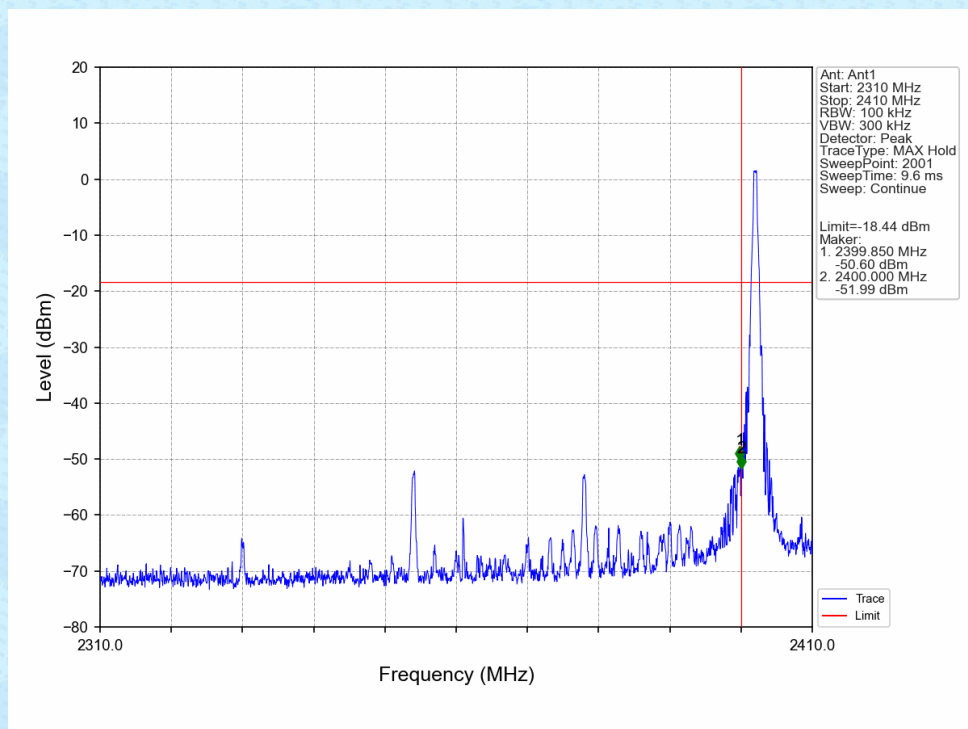


8-DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

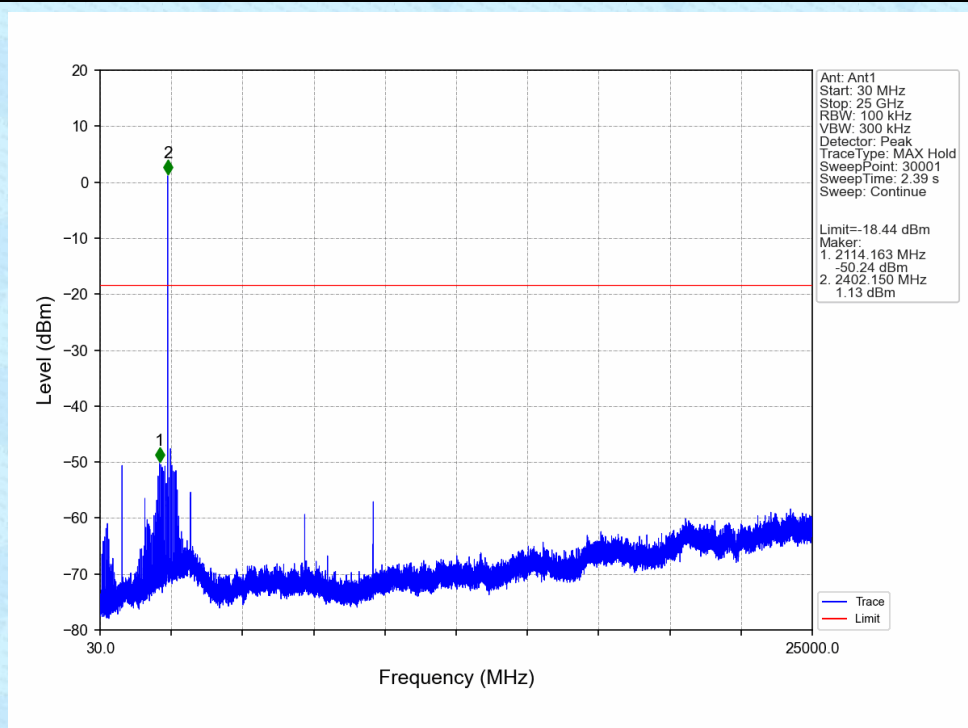


6.2.2 CSE

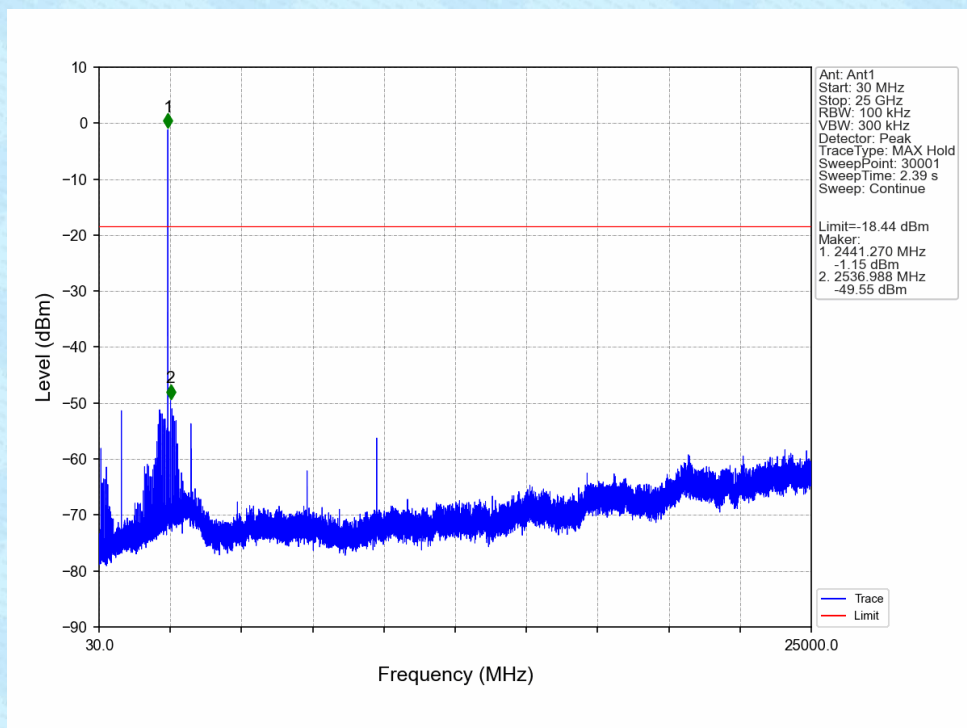
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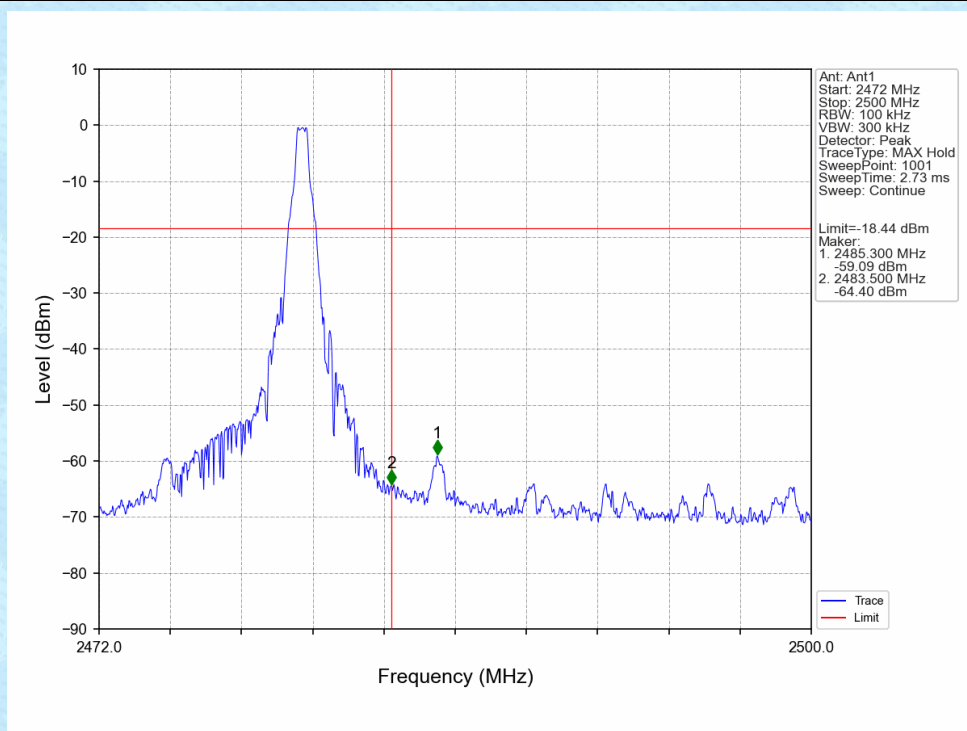
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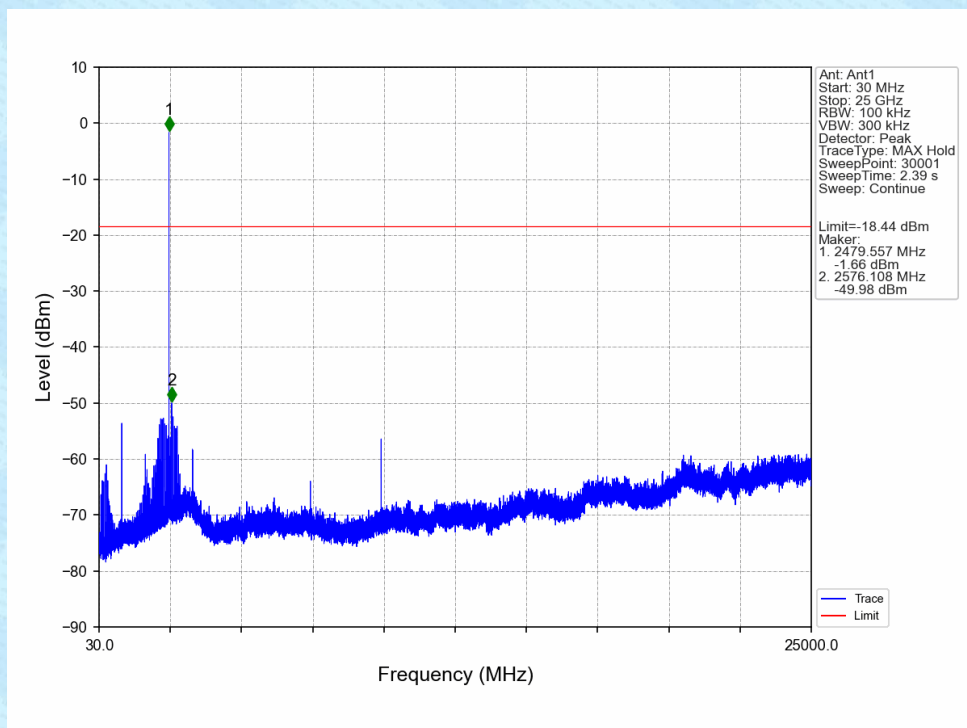
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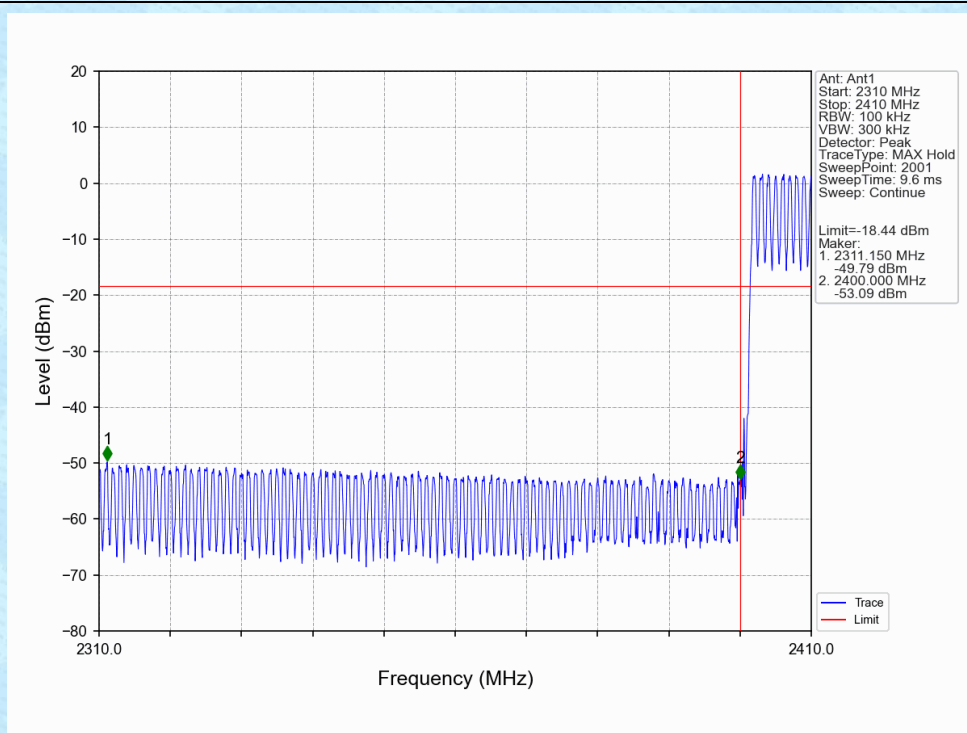
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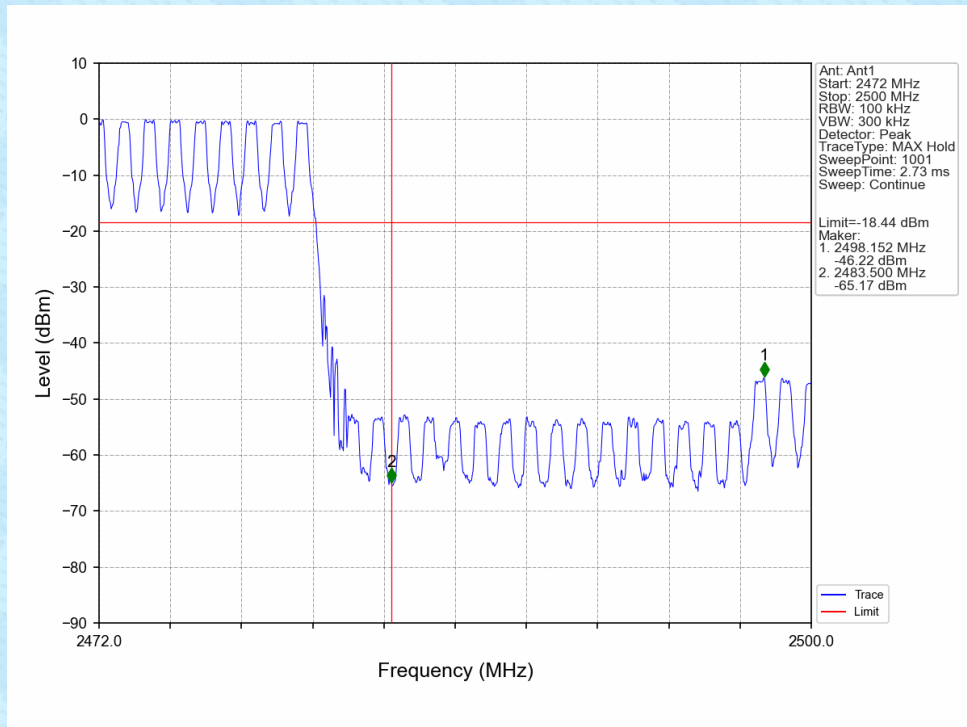
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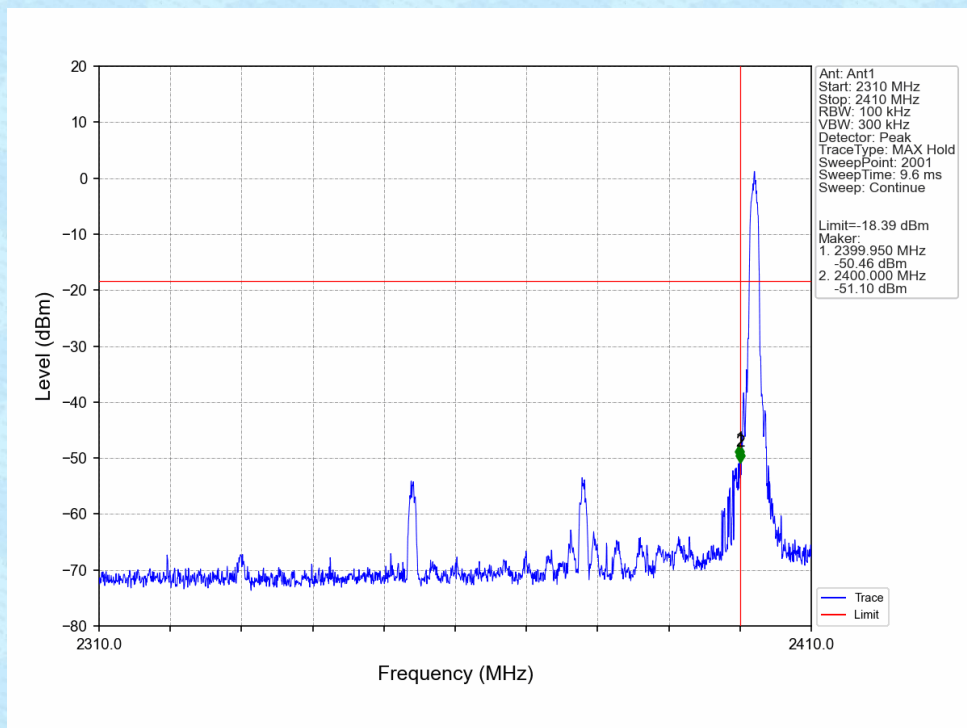
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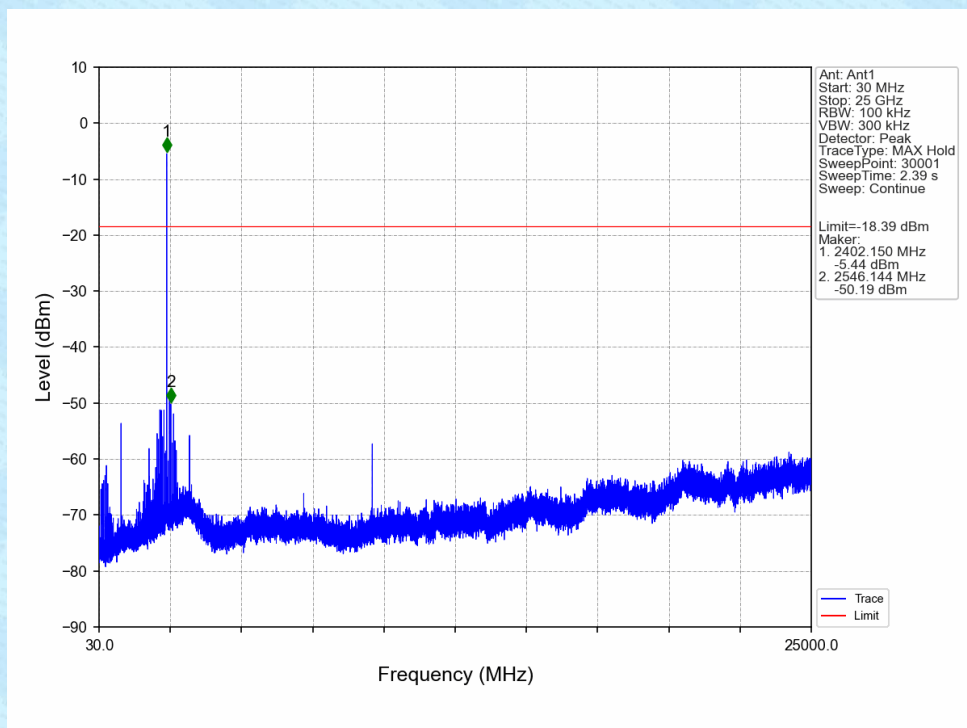
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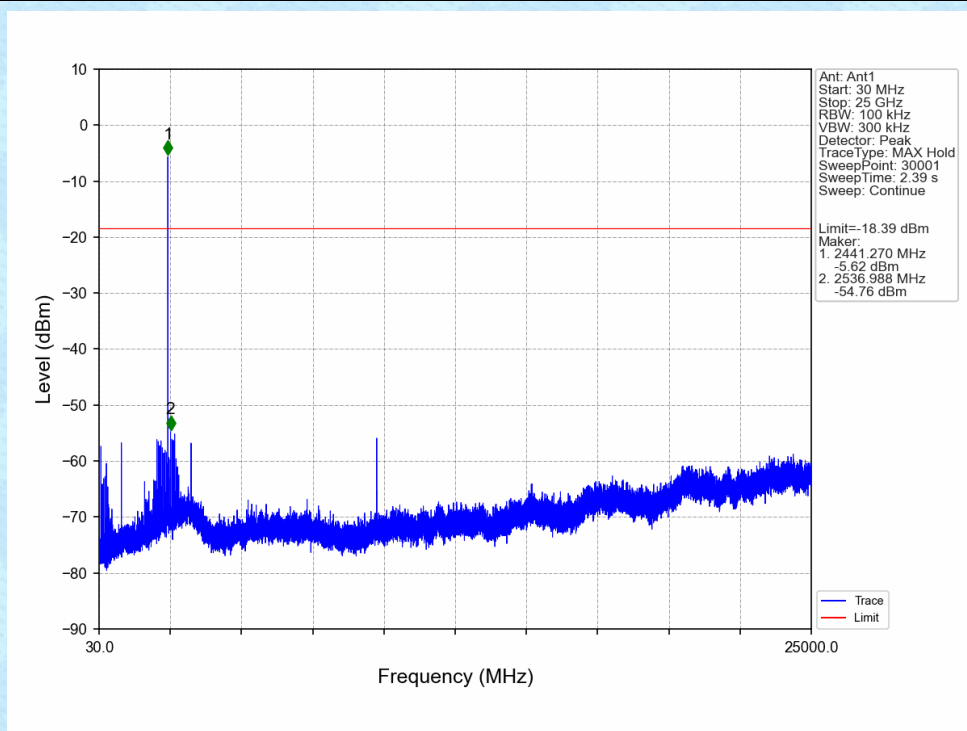
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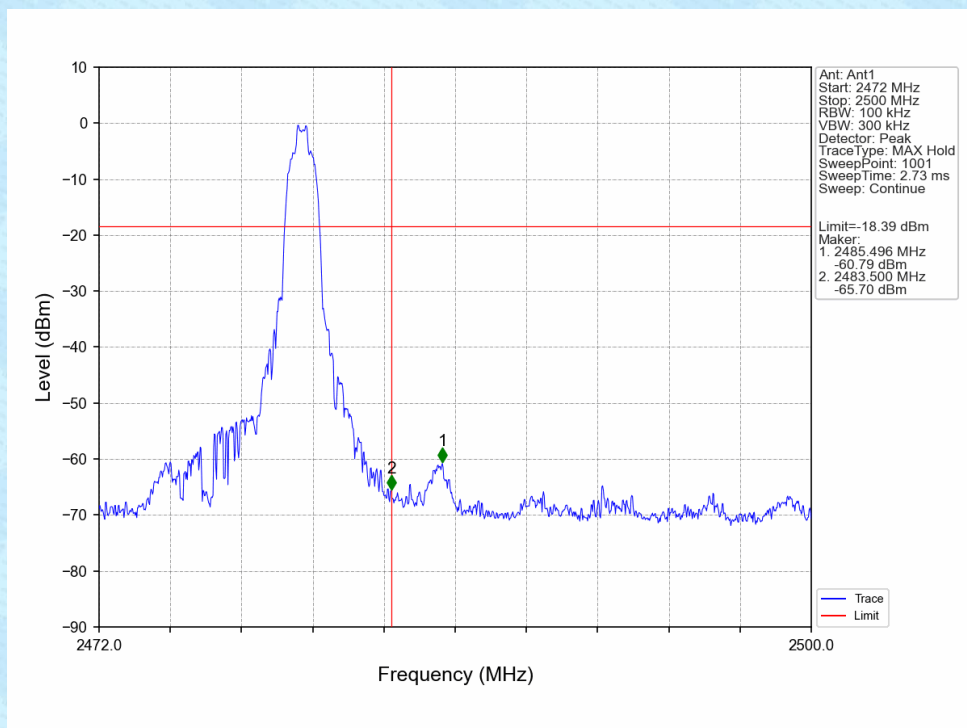
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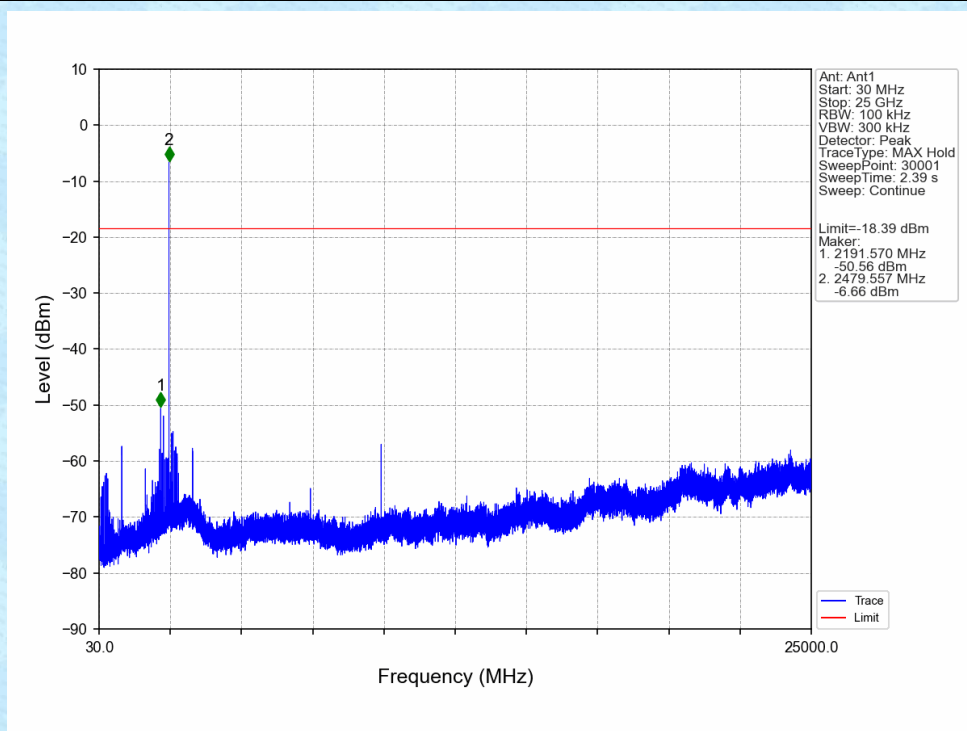
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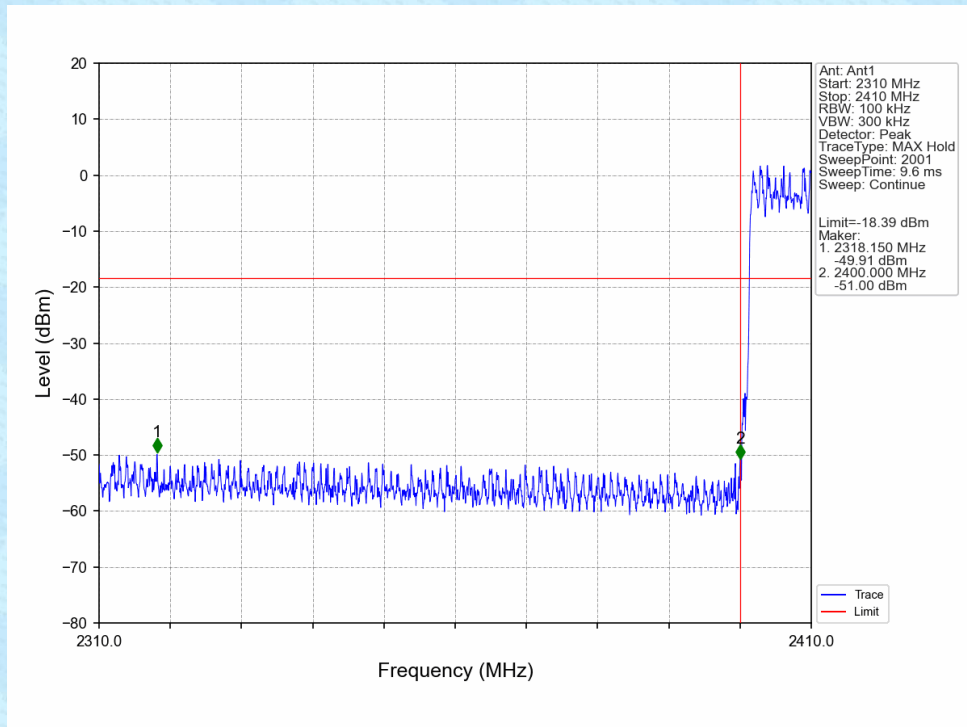
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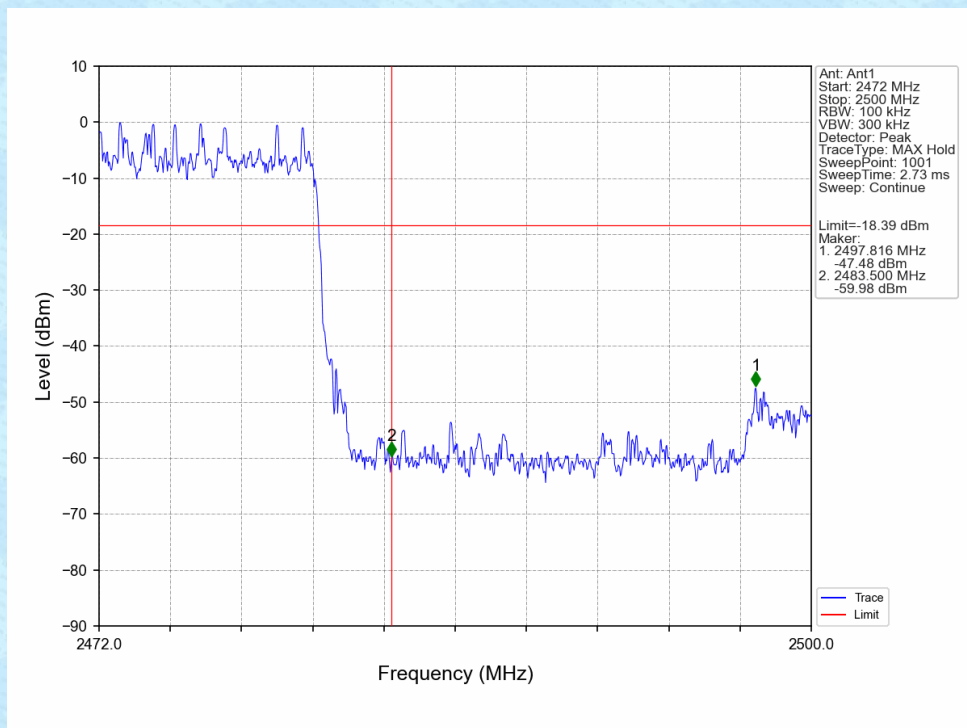
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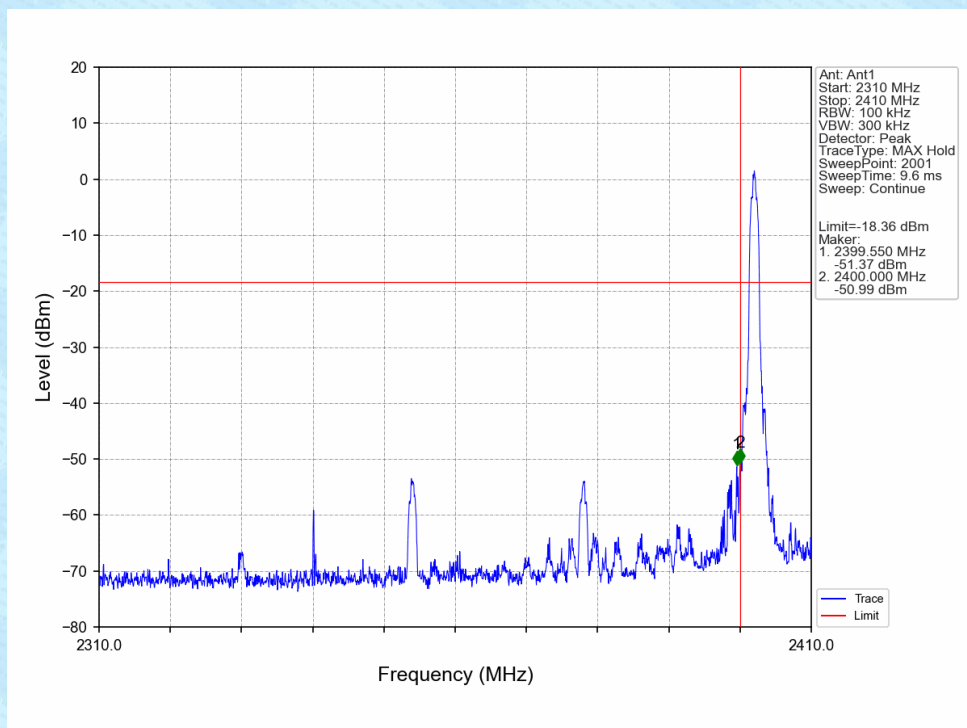
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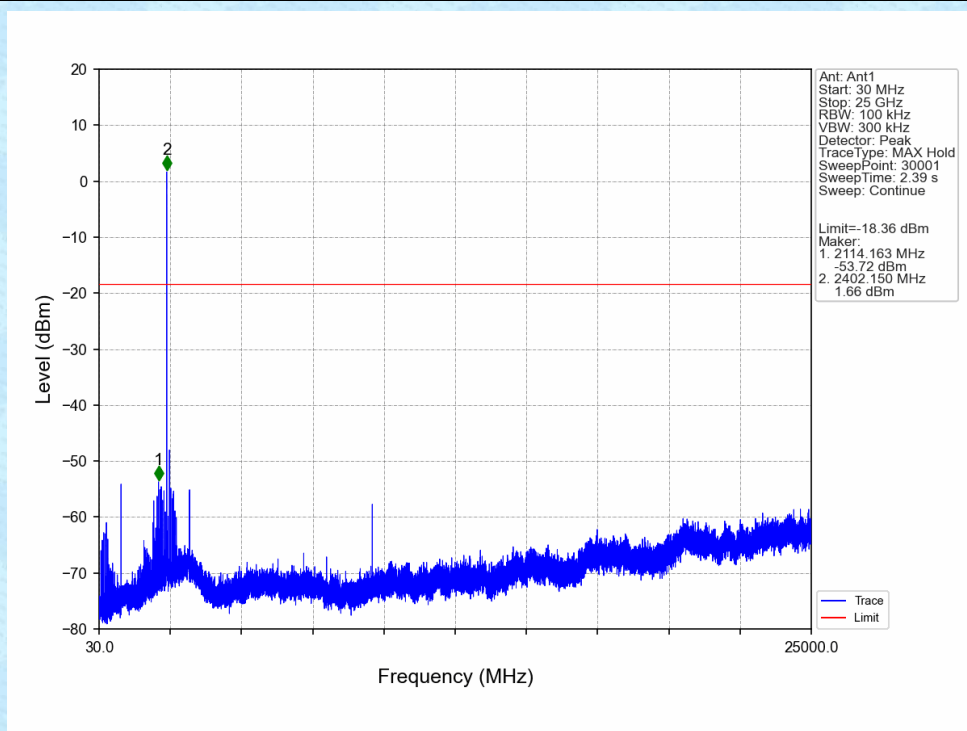
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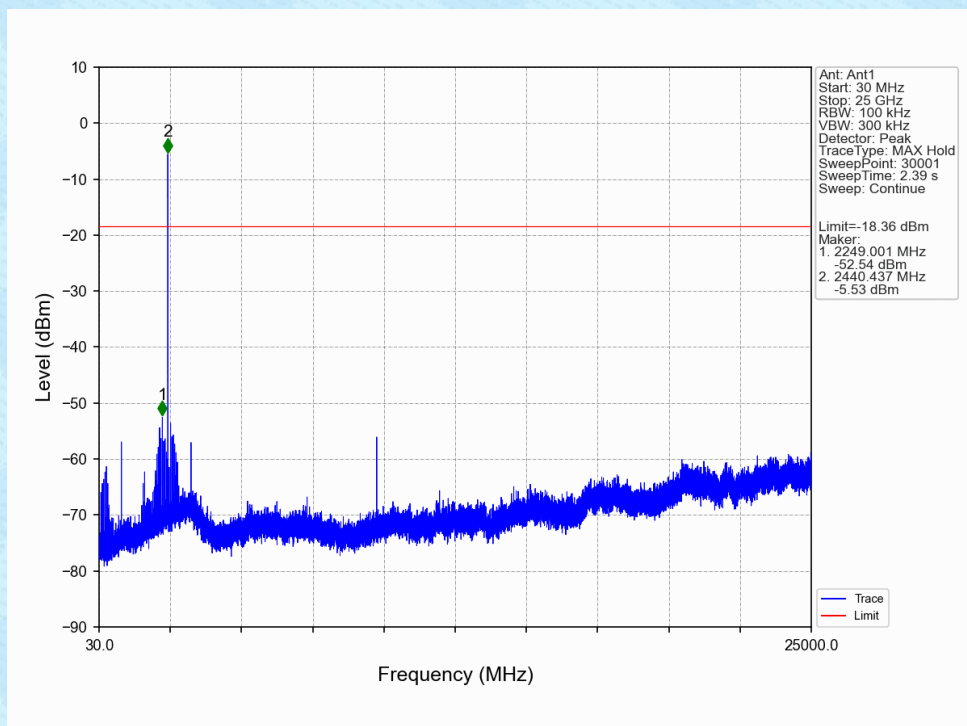
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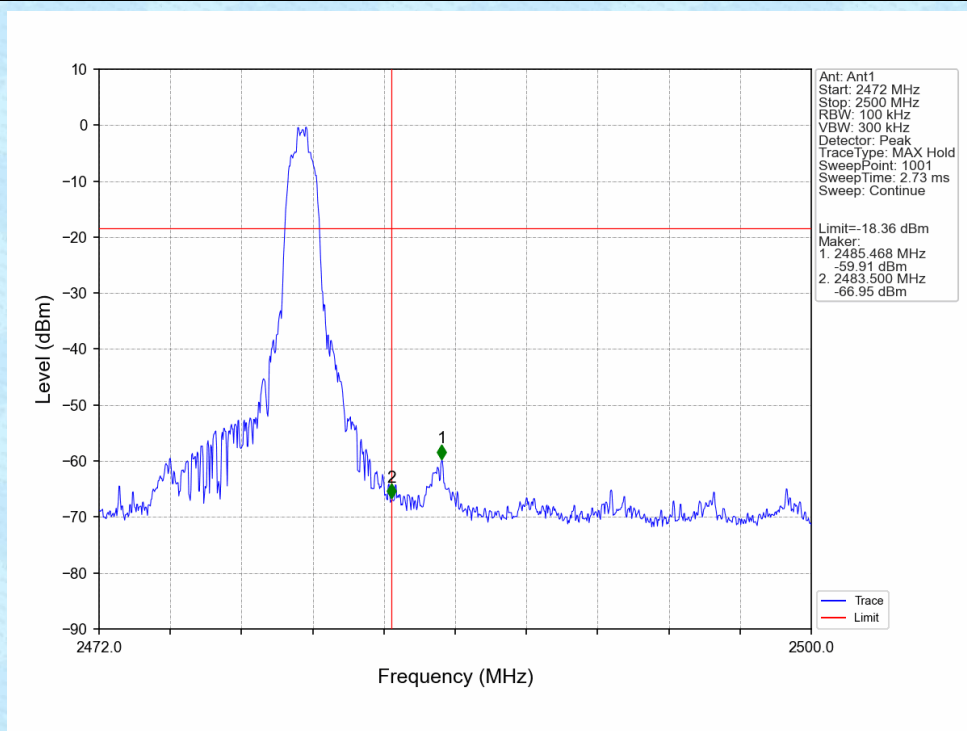
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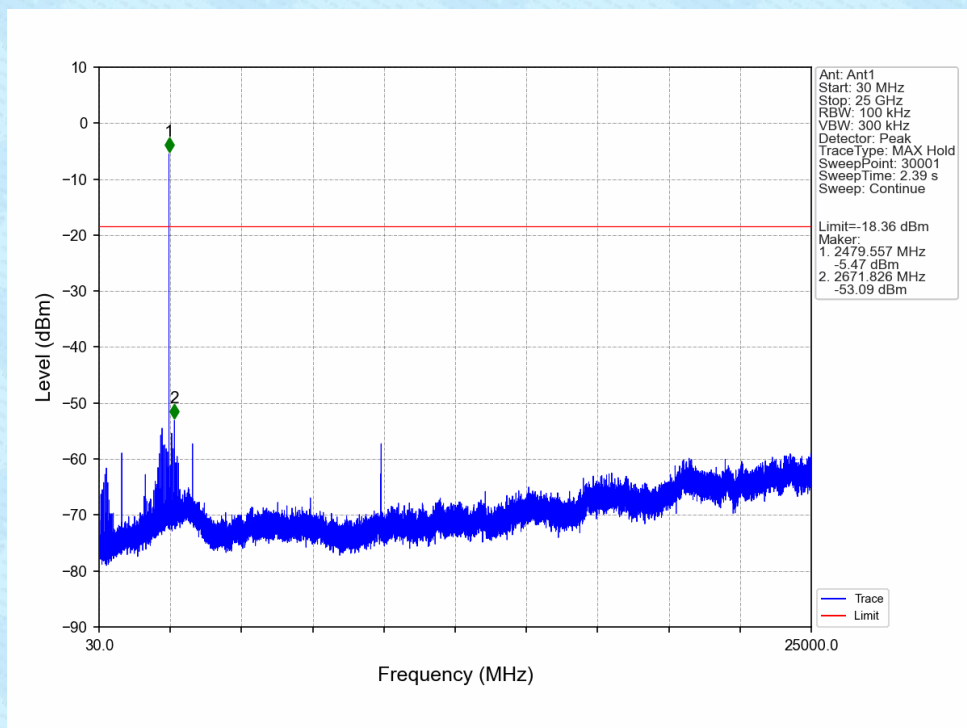
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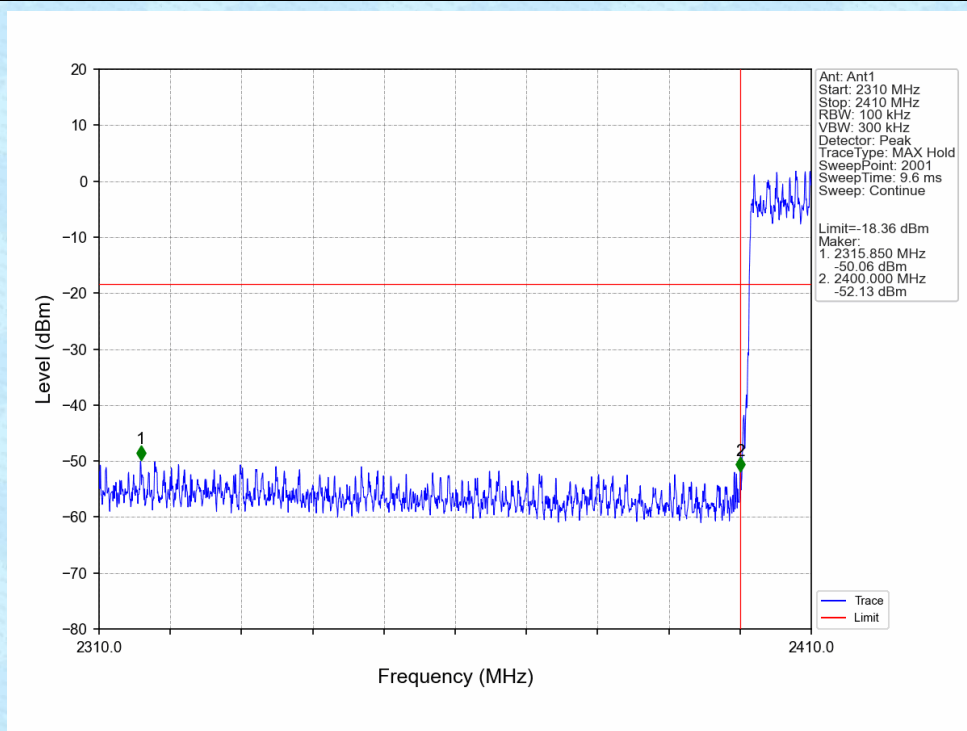
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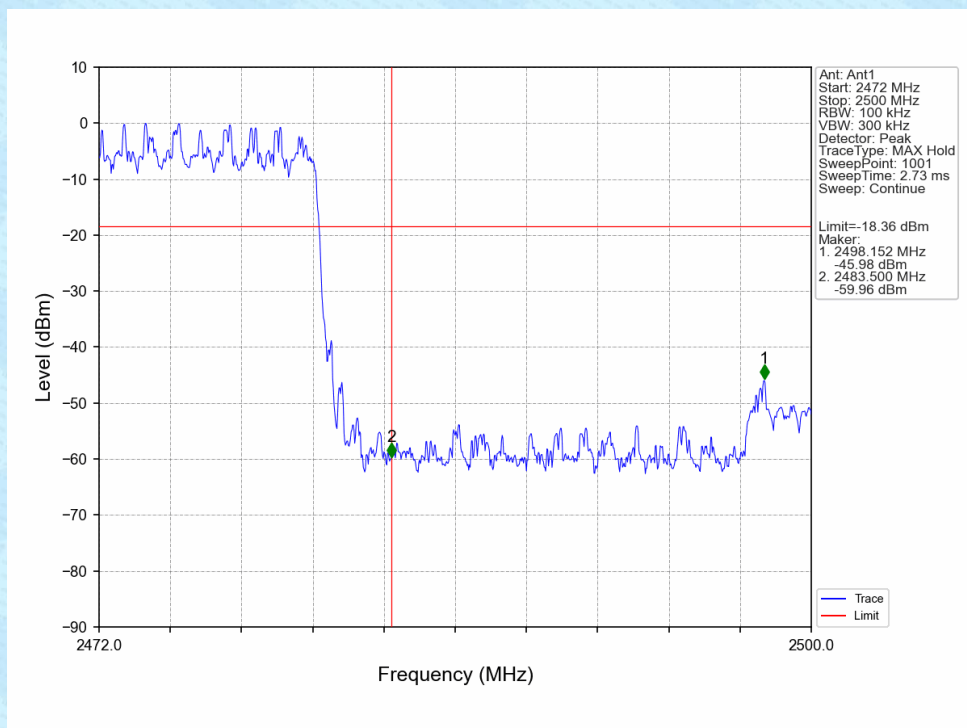
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8-DPSK_3DH5_HOPP_Ant1_NTNV



8-DPSK_3DH5_HOPP_Ant1_NTNV



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