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Annex for Bluetooth

Test Report No.: CTL2606232061-WF

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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	0.865	/	Pass
		2441	DH5	1	0.860	/	Pass
		2480	DH5	1	0.865	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.164	/	Pass
		2441	2DH5	1	1.162	/	Pass
		2480	2DH5	1	1.163	/	Pass
8DPSK	SISO	2402	3DH5	1	1.177	/	Pass
		2441	3DH5	1	1.169	/	Pass
		2480	3DH5	1	1.172	/	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	0.920	/	Pass
		2441	DH5	1	0.921	/	Pass
		2480	DH5	1	0.904	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.239	/	Pass
		2441	2DH5	1	1.246	/	Pass
		2480	2DH5	1	1.246	/	Pass
8DPSK	SISO	2402	3DH5	1	1.259	/	Pass

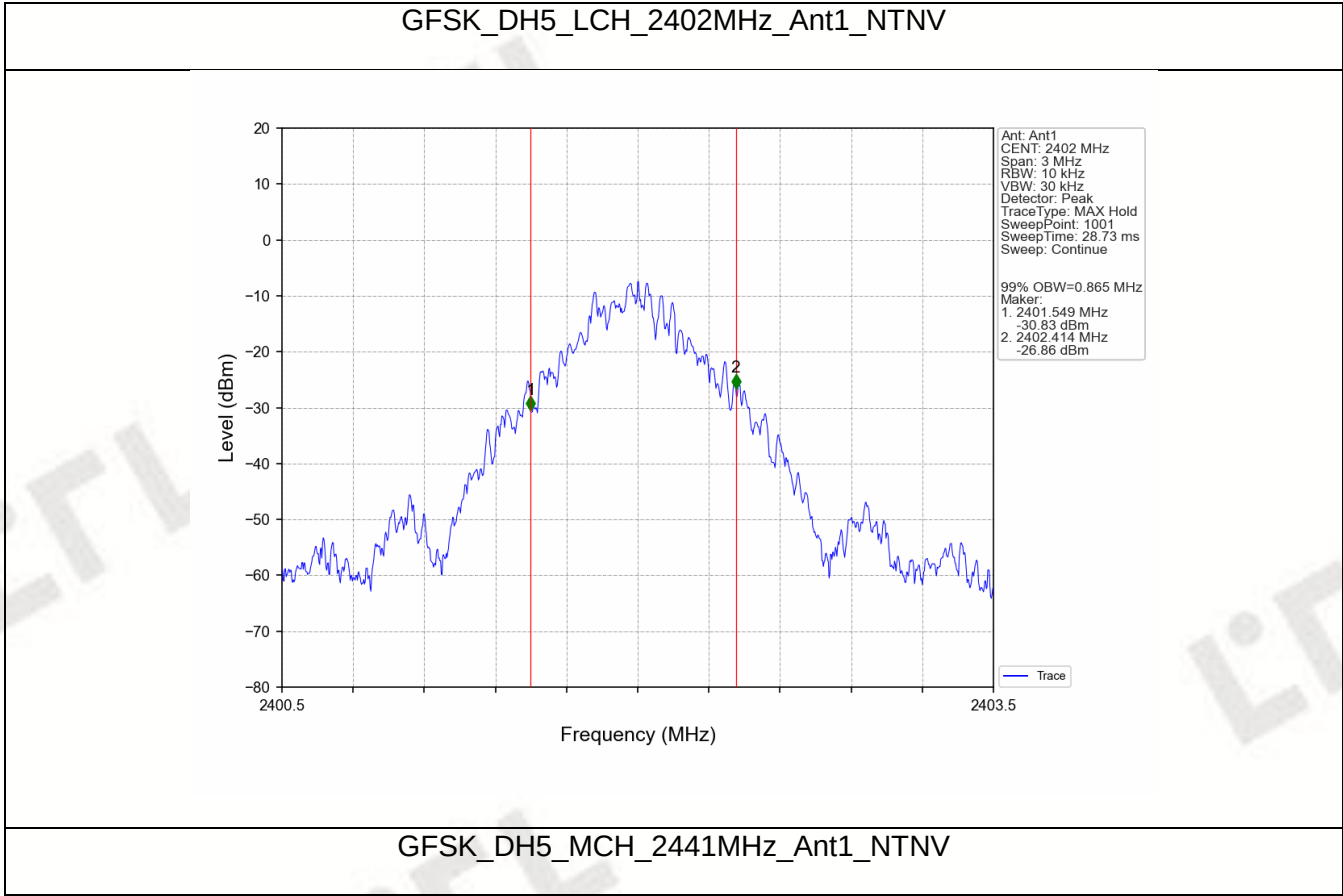
FCCID: 2AJ9K-UT2612

		2441	3DH5	1	1.259	/	Pass
		2480	3DH5	1	1.262	/	Pass

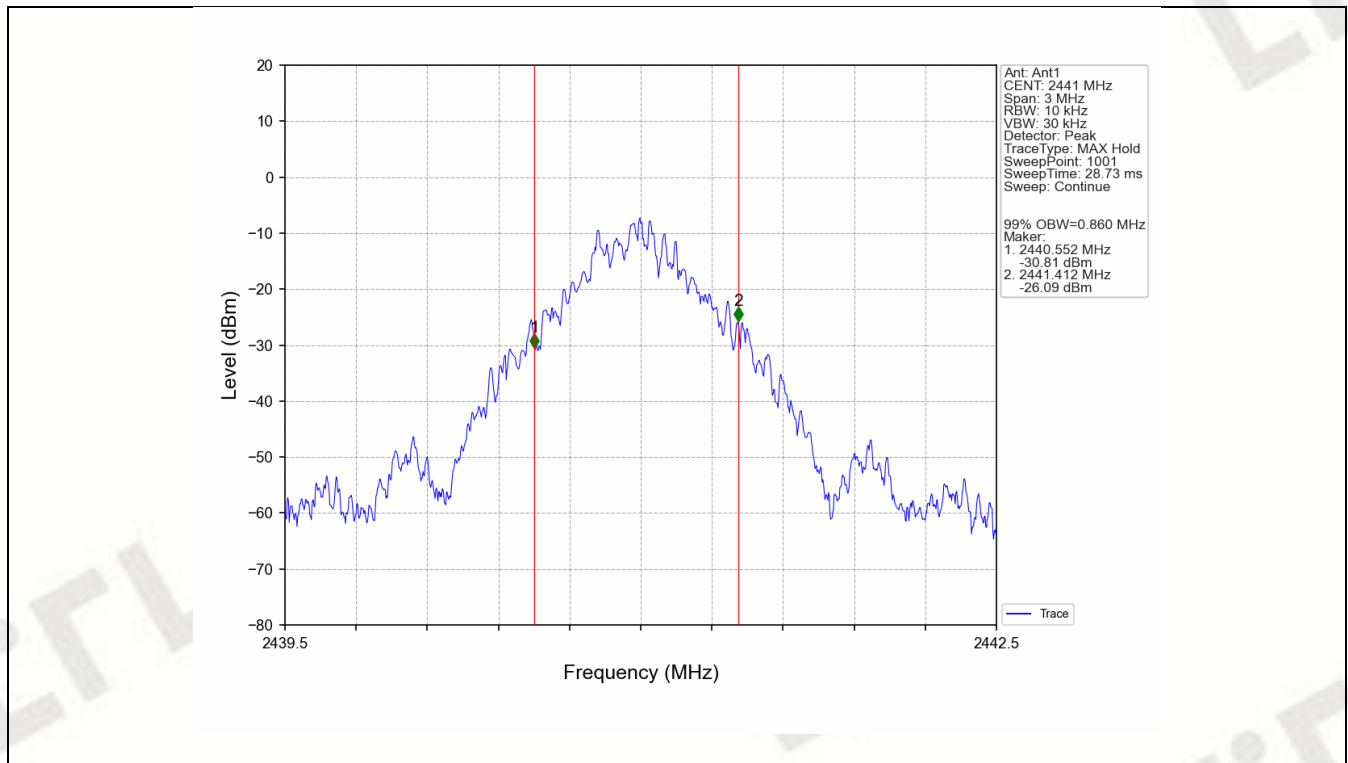
FCCID: 2AJ9K-UT2612

1.2 Test Graph

1.2.1 OBW

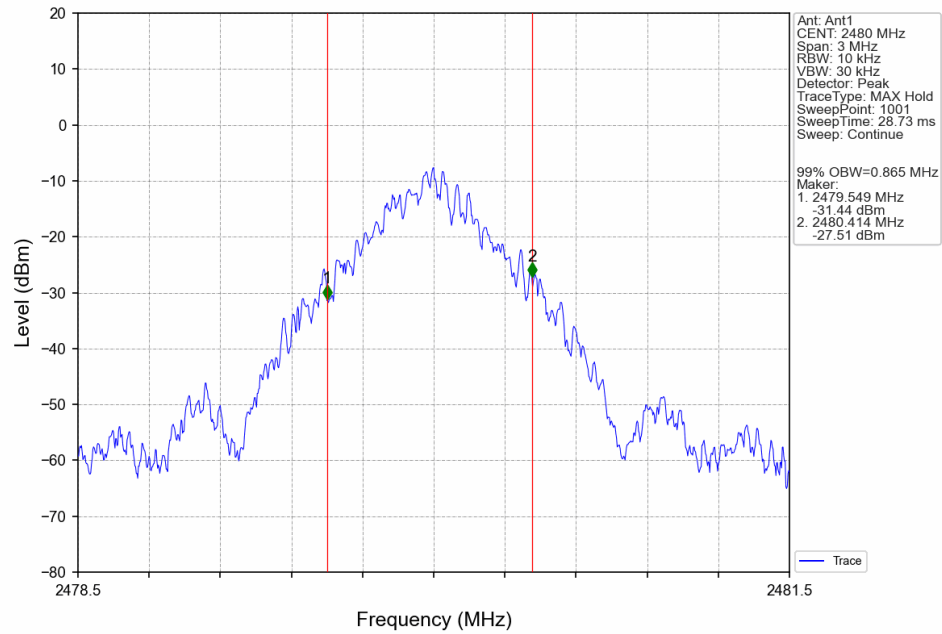


FCCID: 2AJ9K-UT2612

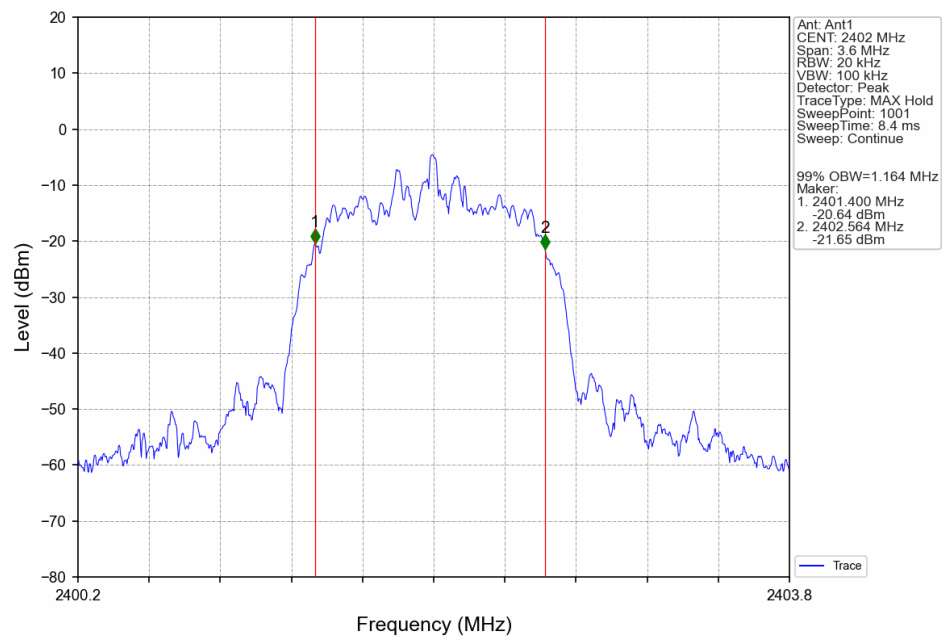


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GFSK_DH5_HCH_2480MHz_Ant1_NTNV

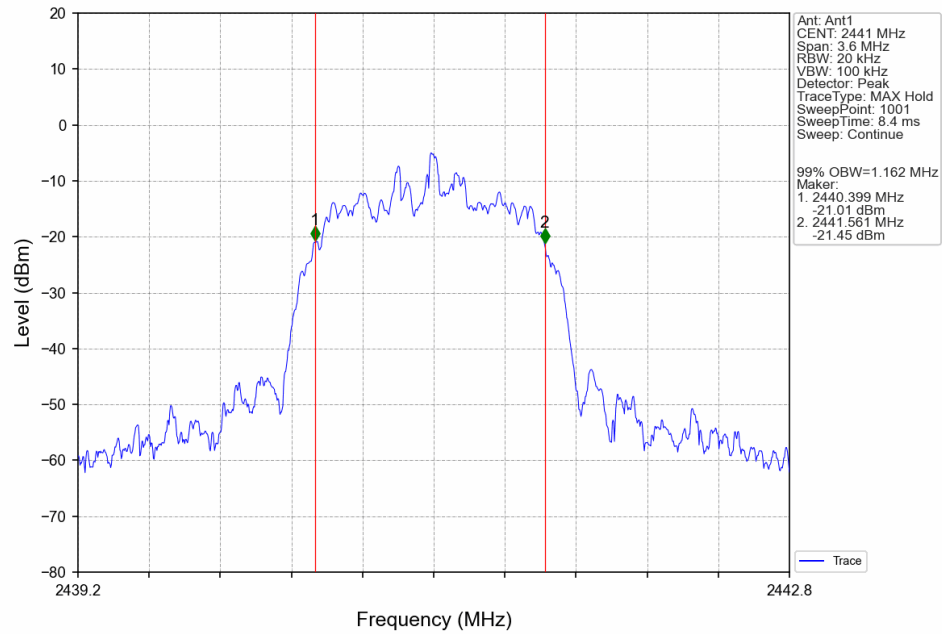


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

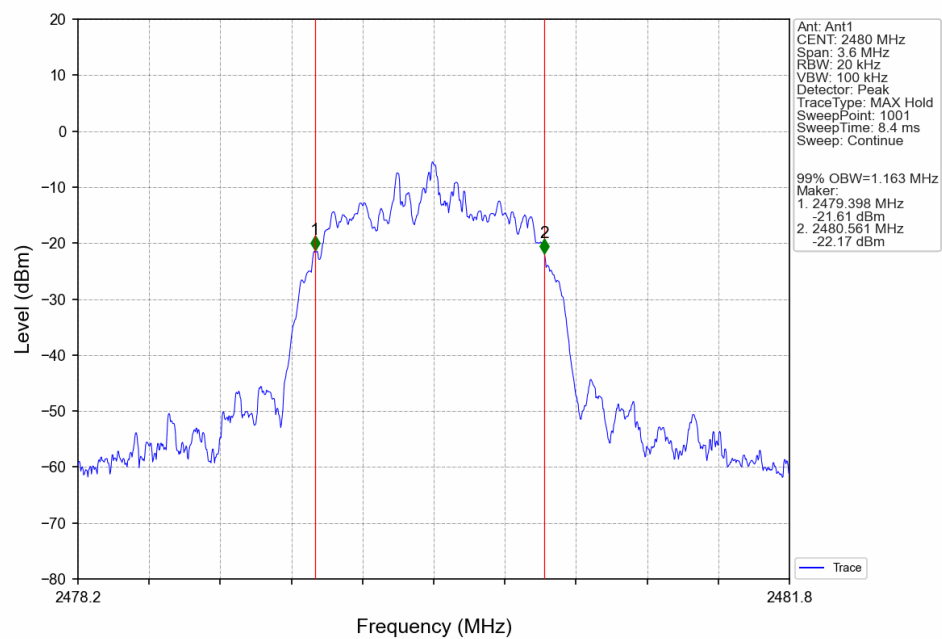


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Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

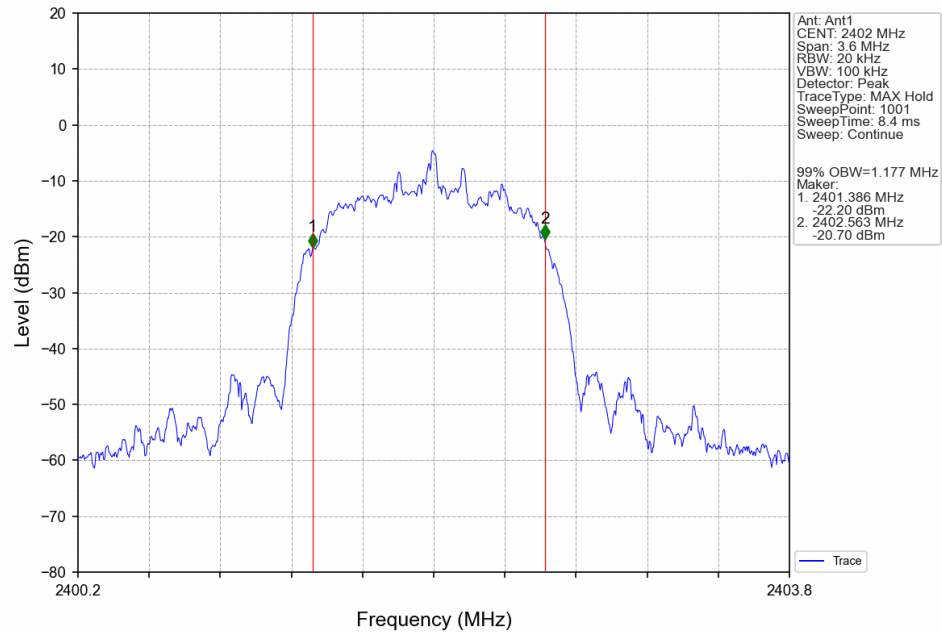


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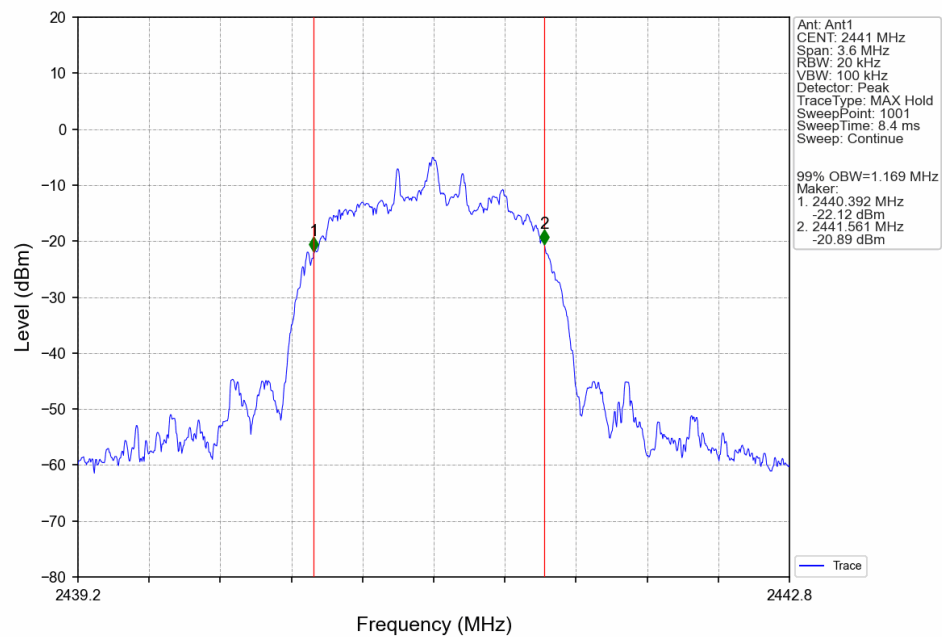


FCCID: 2AJ9K-UT2612

8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV

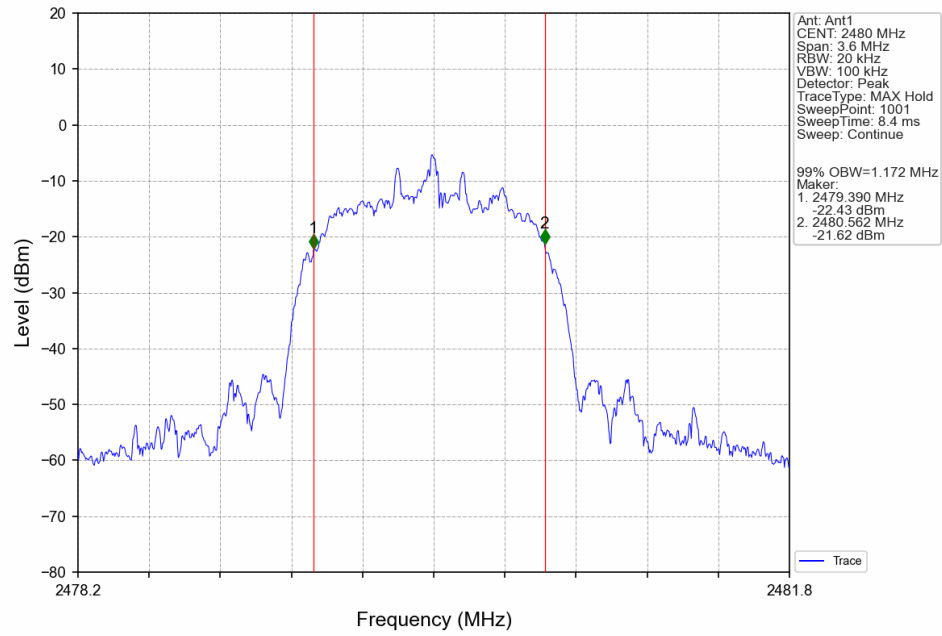


8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



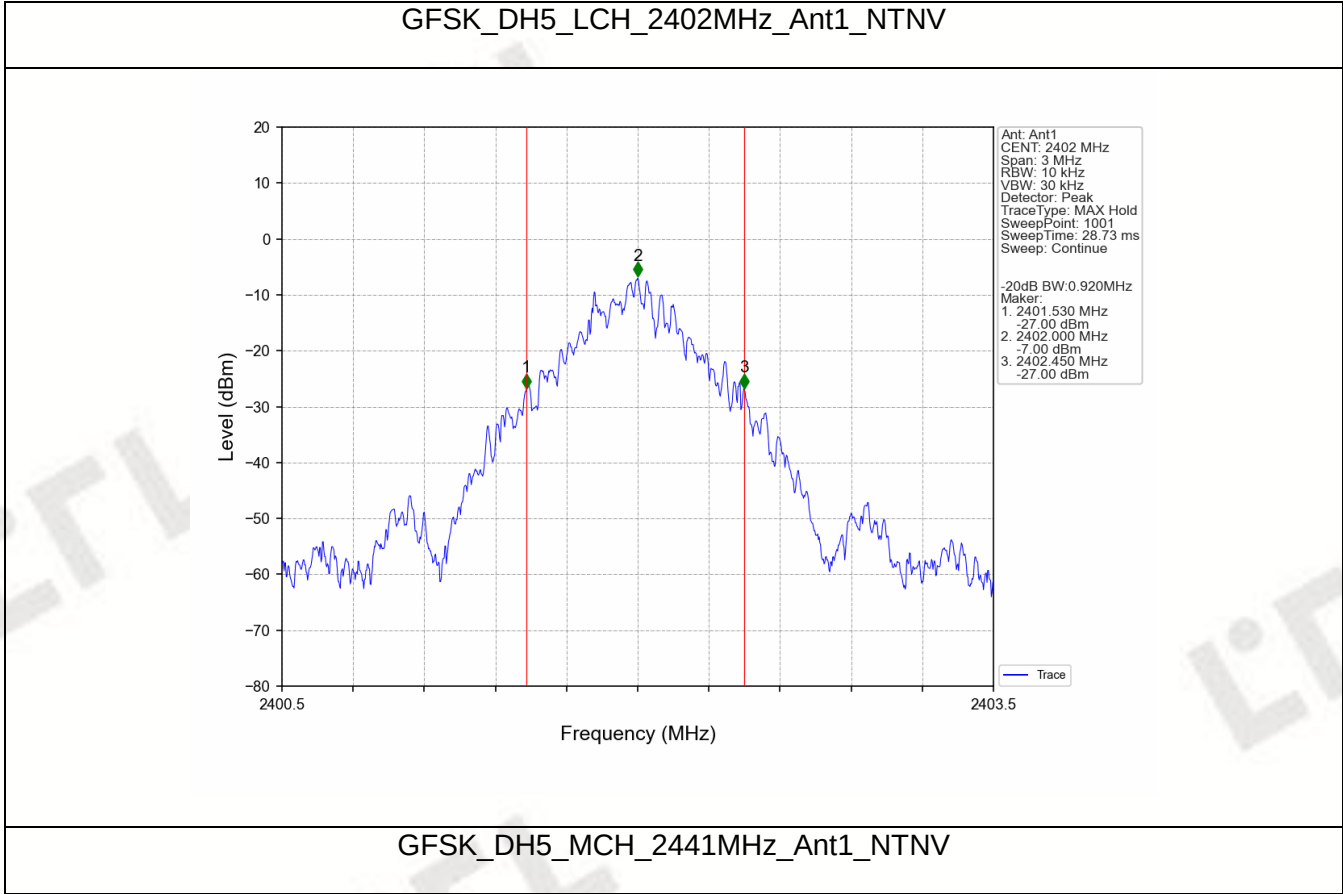
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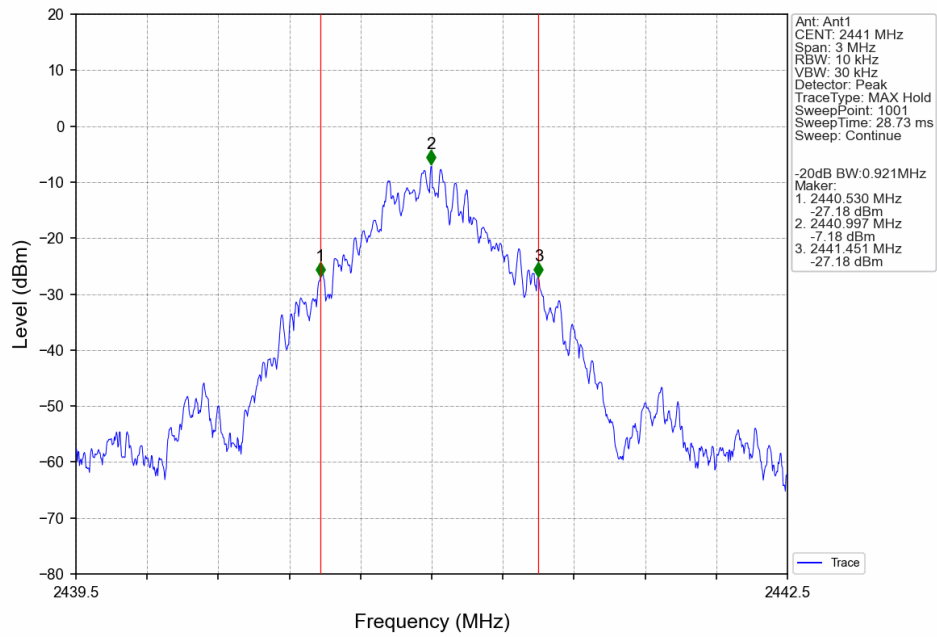


FCCID: 2AJ9K-UT2612

1.2.2 20dB BW

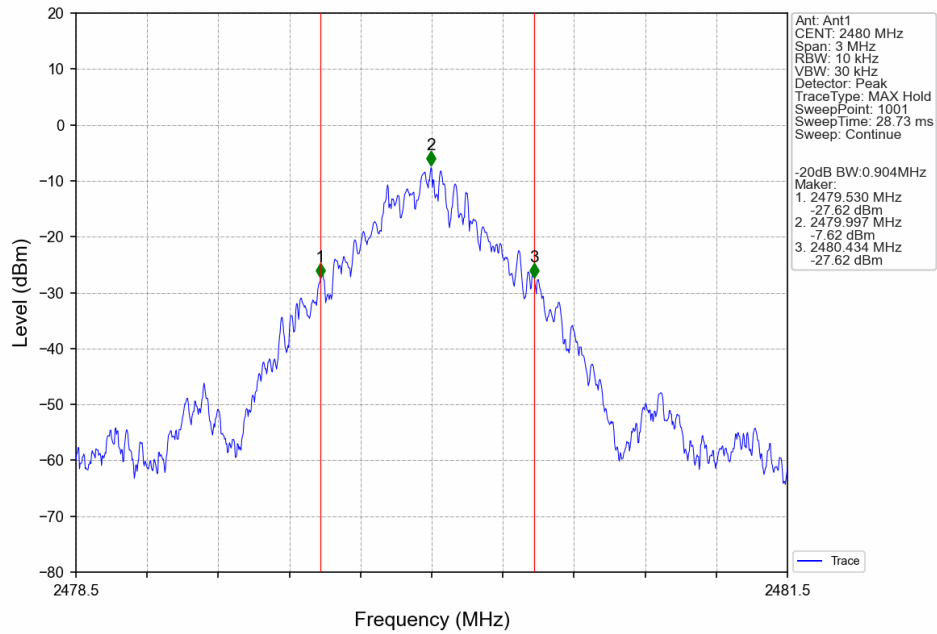


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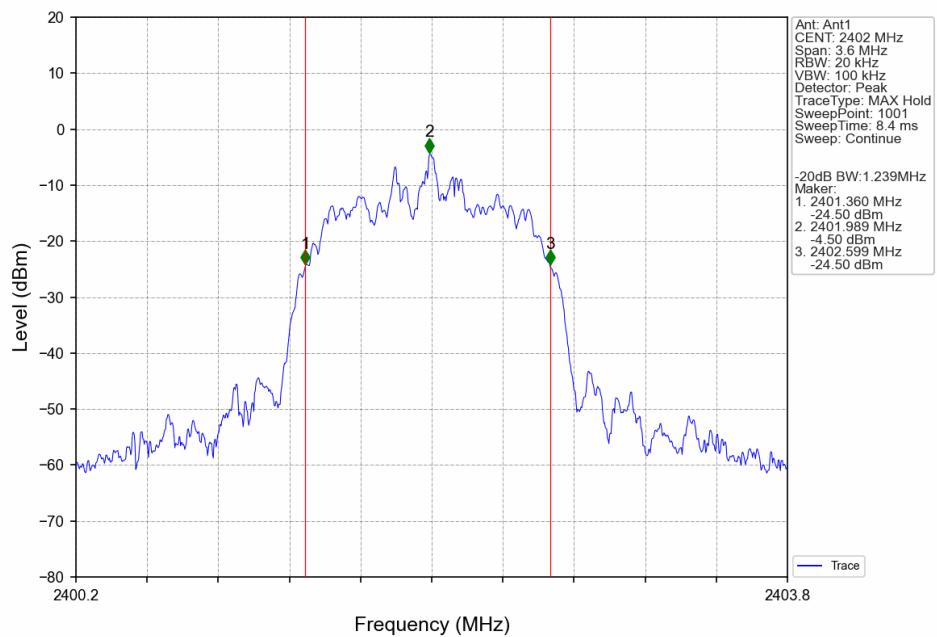


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GFSK_DH5_HCH_2480MHz_Ant1_NTNV

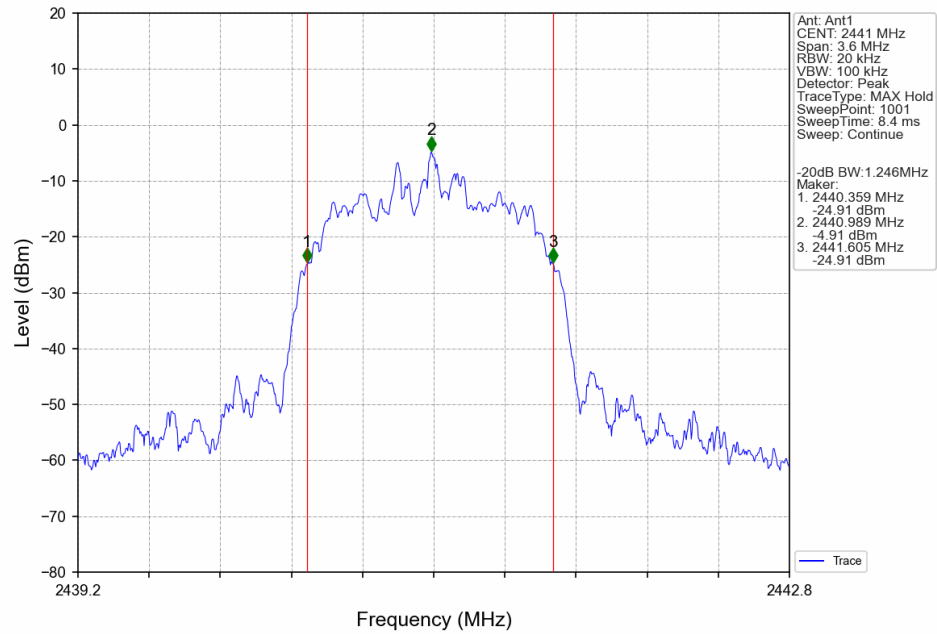


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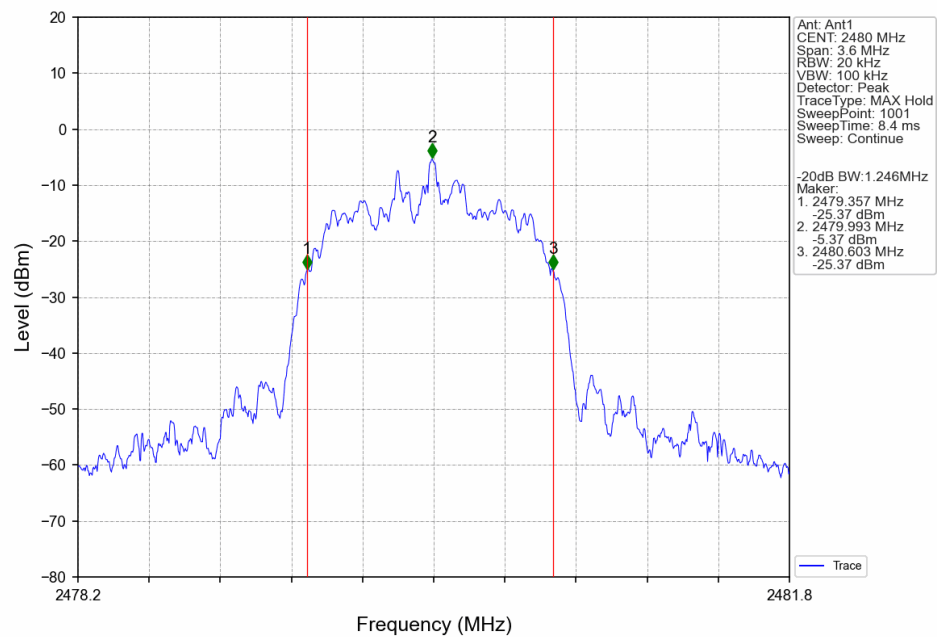


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Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

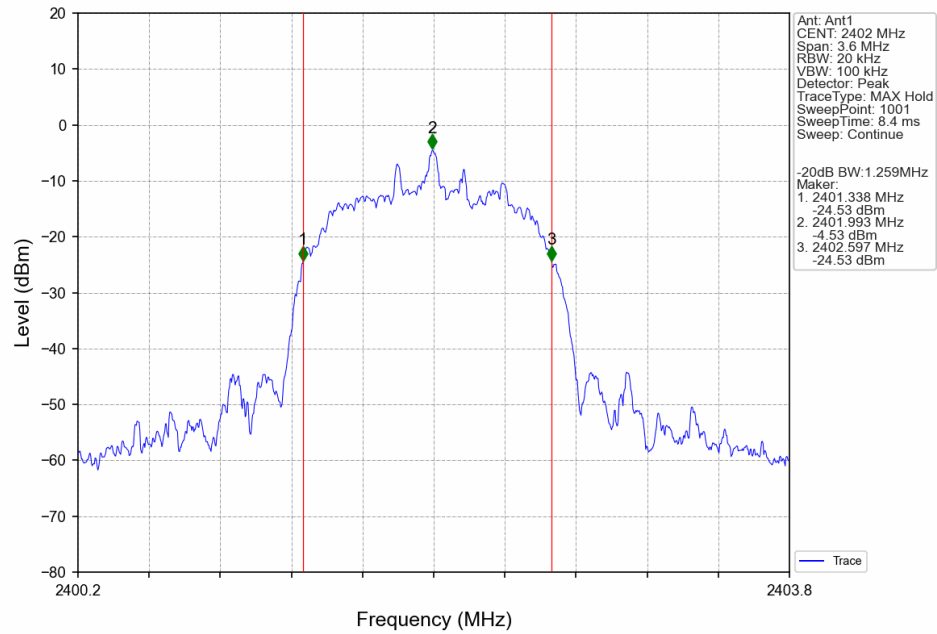


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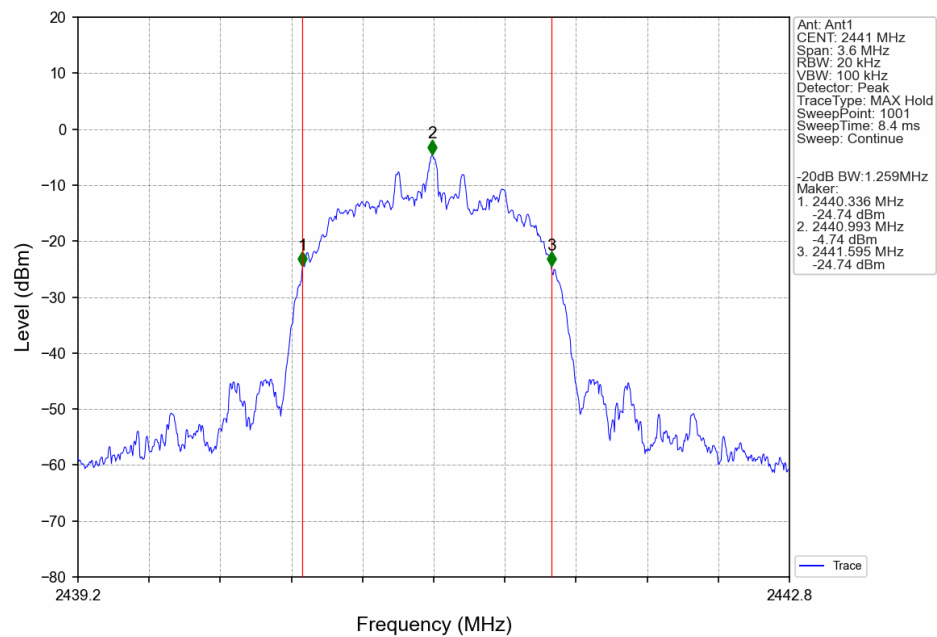


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8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV

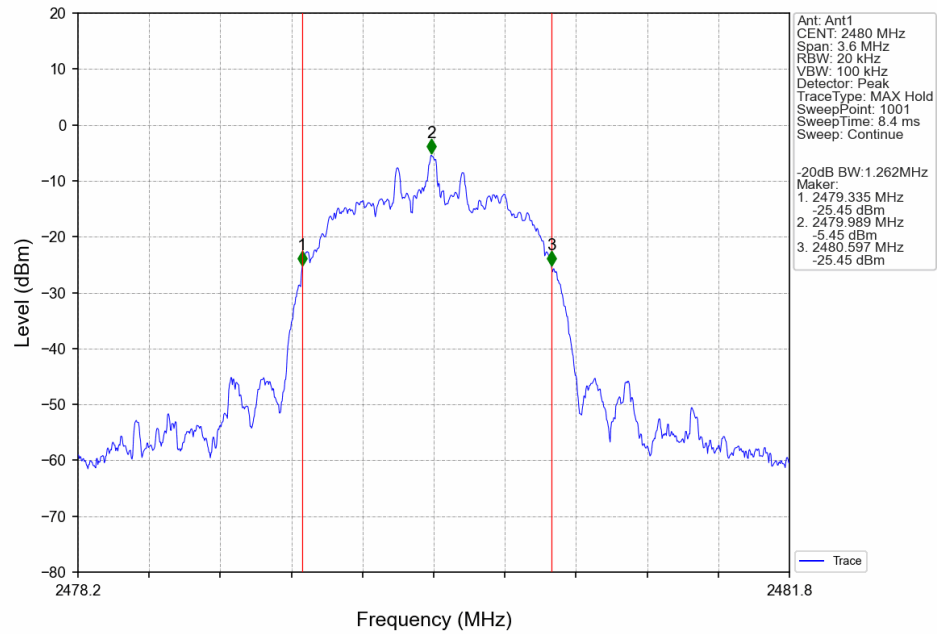


8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



FCCID: 2AJ9K-UT2612

8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-1.03	<=30	Pass
		2441	DH5	-1.28	<=30	Pass
		2480	DH5	-1.80	<=30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-0.22	<=20.97	Pass
		2441	2DH5	-0.46	<=20.97	Pass
		2480	2DH5	-1.03	<=20.97	Pass
8DPSK	SISO	2402	3DH5	0.03	<=20.97	Pass
		2441	3DH5	-0.25	<=20.97	Pass
		2480	3DH5	-0.79	<=20.97	Pass
Note1: Antenna Gain: Ant1: 2.70dBi;						

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3. Carrier Frequency Separation

3.1 Test Result

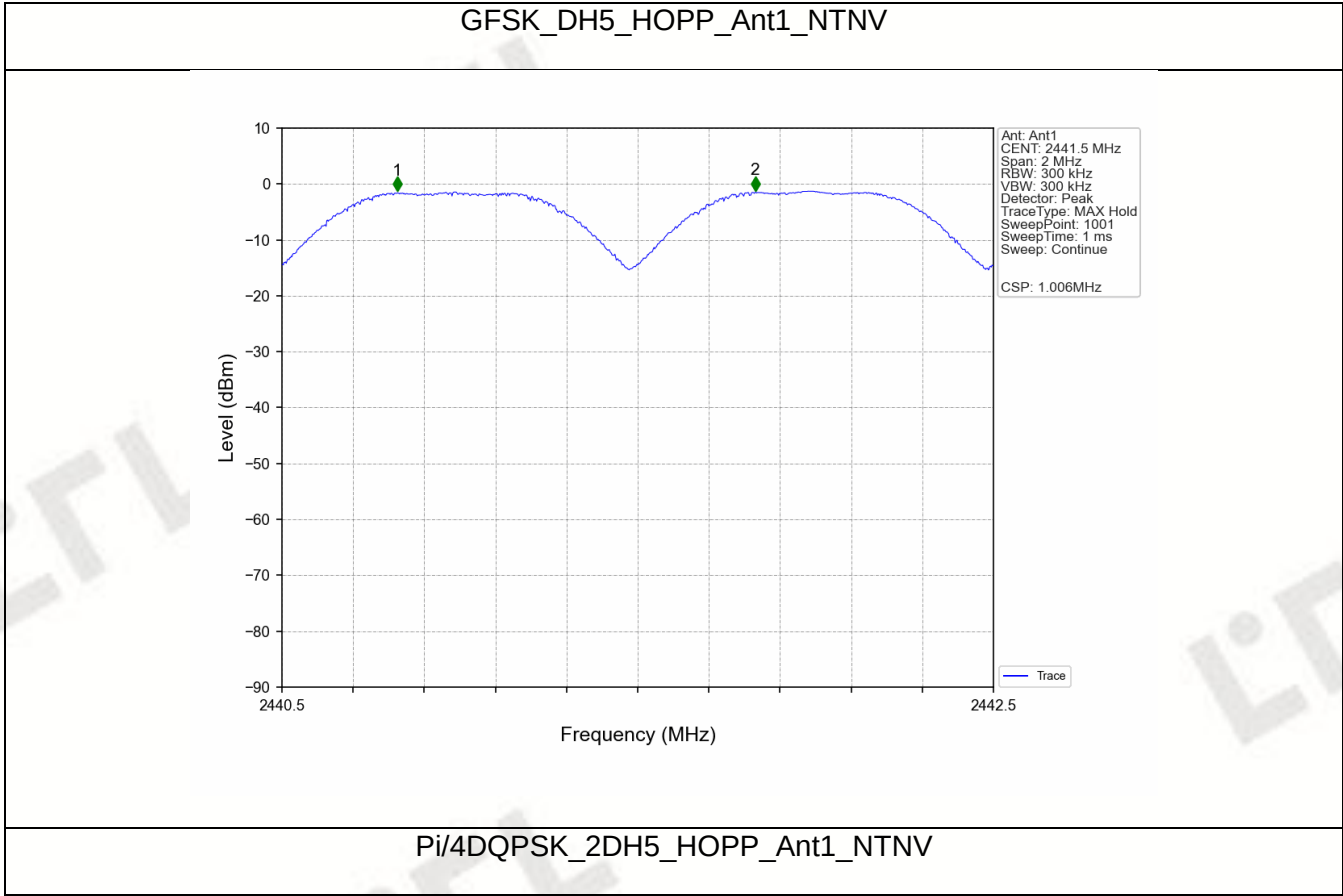
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.006	0.921	≥ 0.921	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.006	1.246	≥ 0.831	Pass
8DPSK	SISO	HOPP	3DH5	0.989	1.262	≥ 0.841	Pass

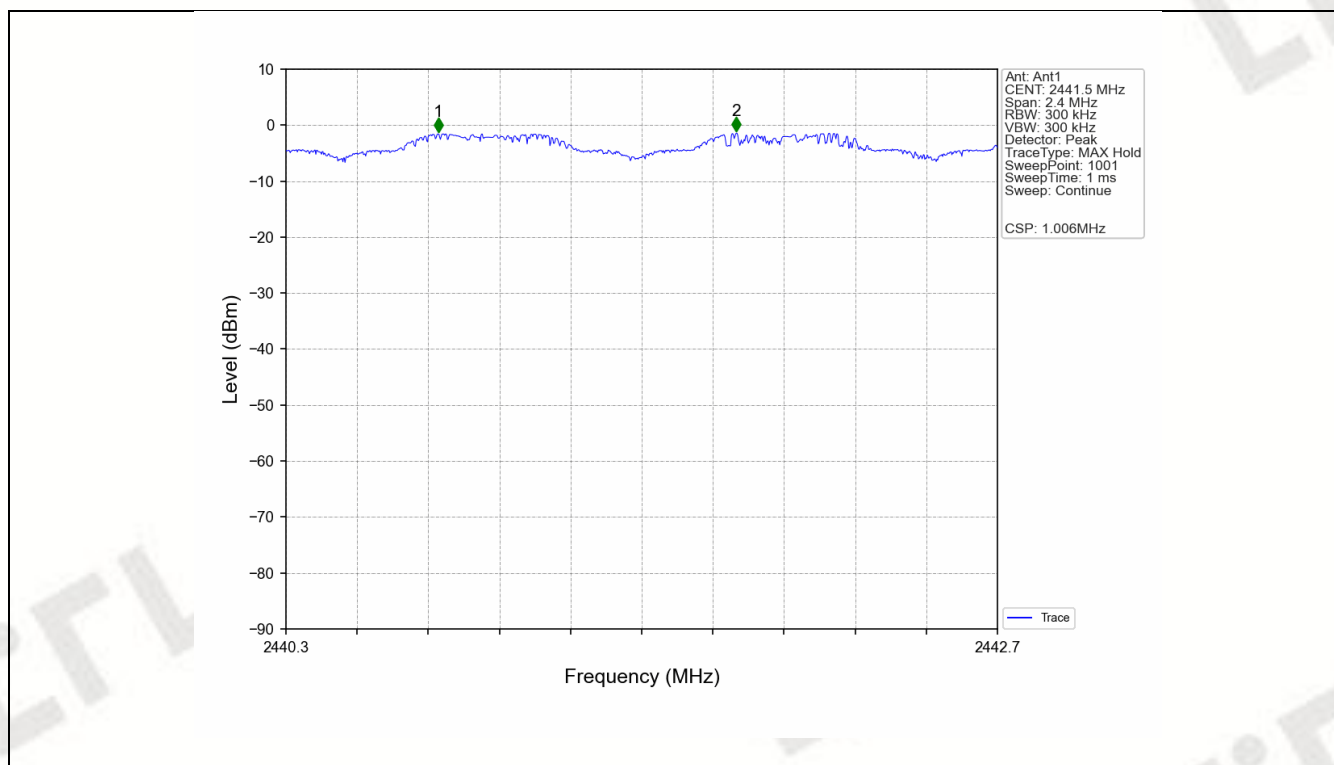
FCCID: 2AJ9K-UT2612

3.2 Test Graph

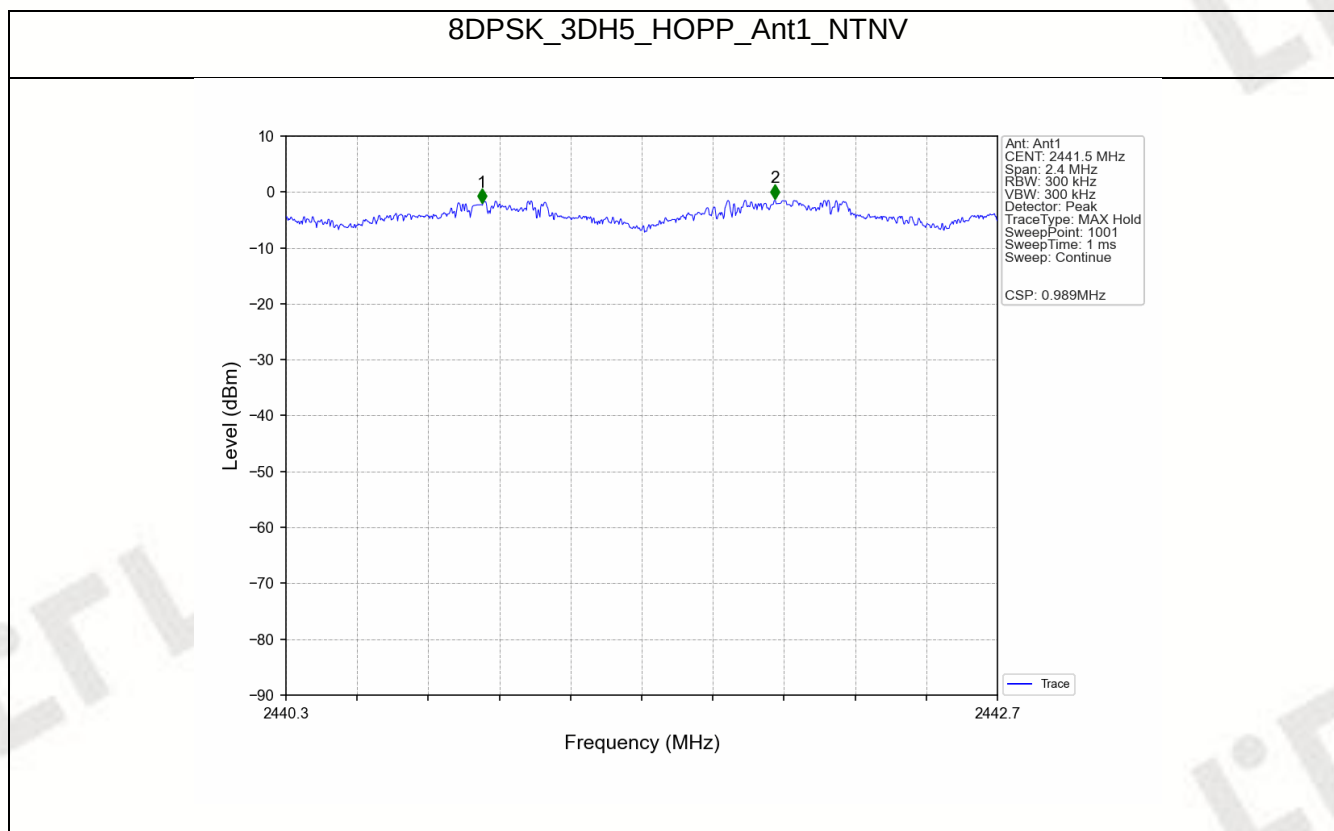
3.2.1 Ant1



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4. Number of Hopping Frequencies

4.1 Test Result

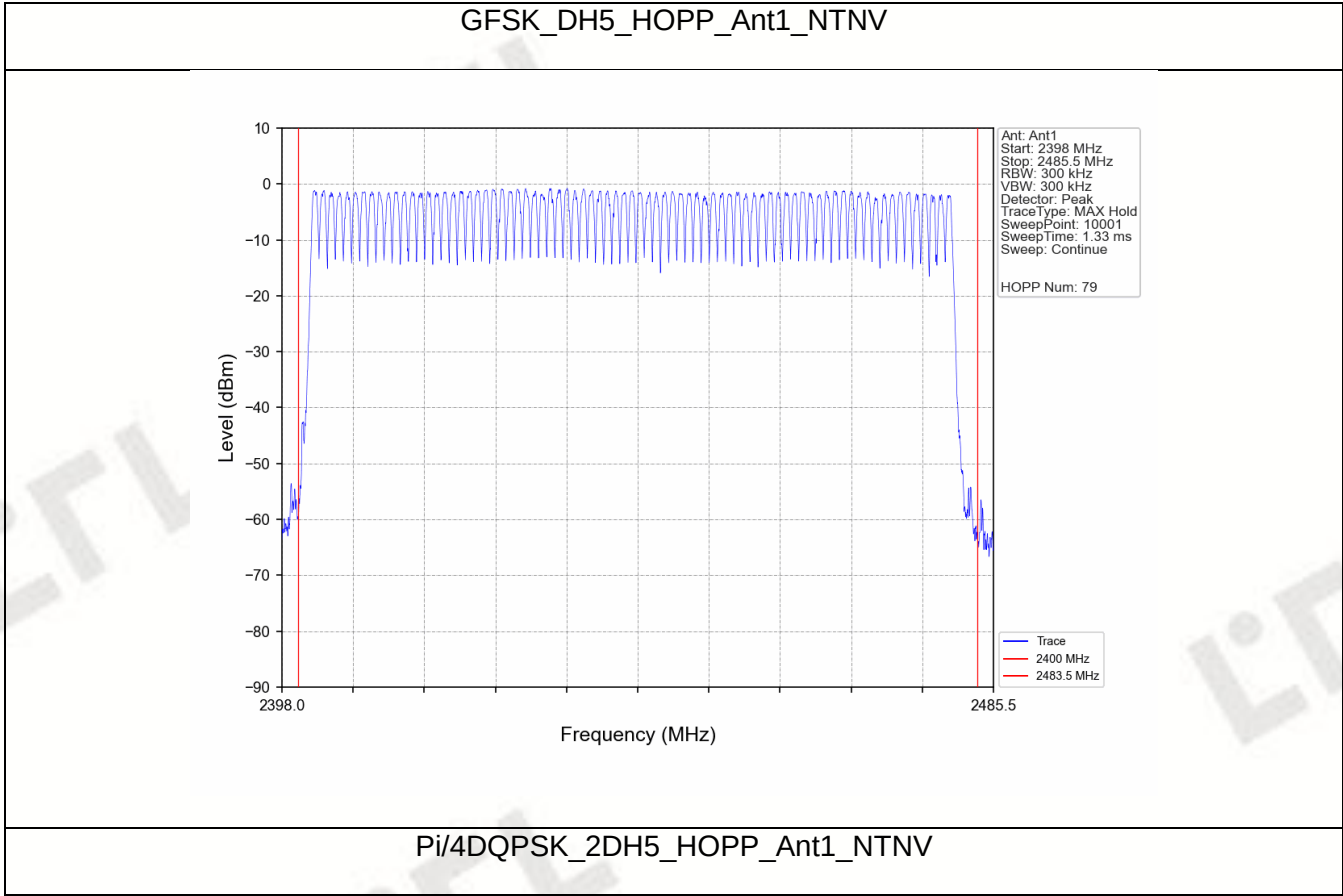
4.1.1 HoppNum

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

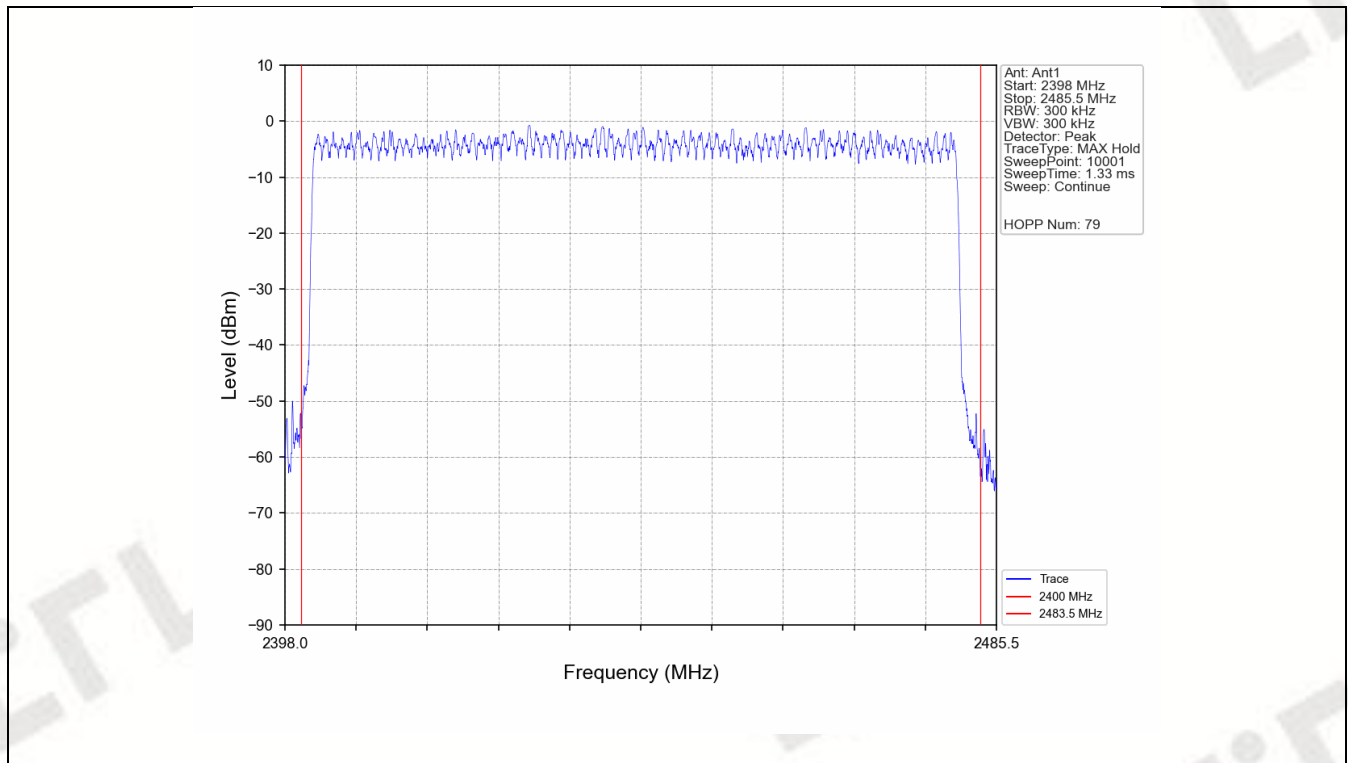
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4.2 Test Graph

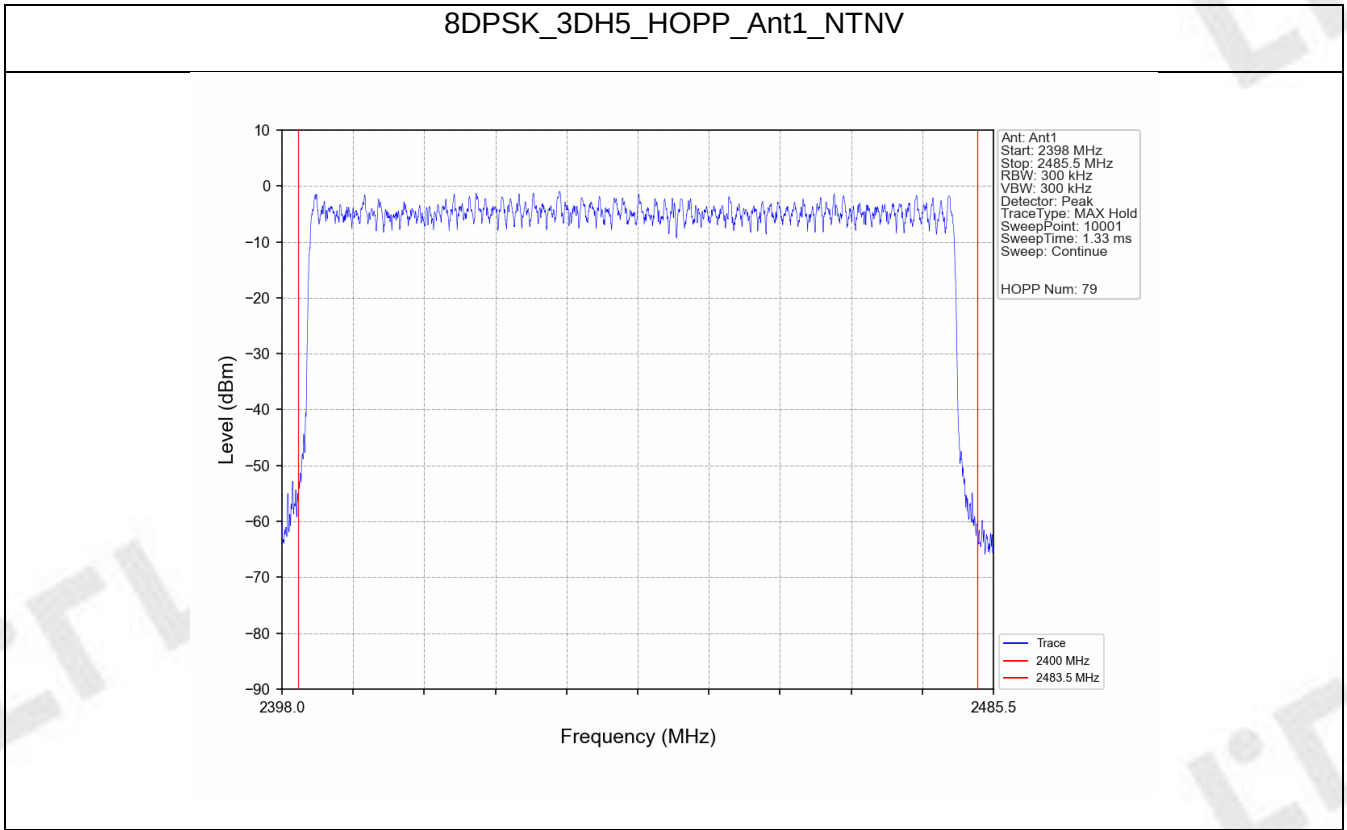
4.2.1 HoppNum



FCCID: 2AJ9K-UT2612



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5. Time of Occupancy (Dwell Time)

5.1 Test Result

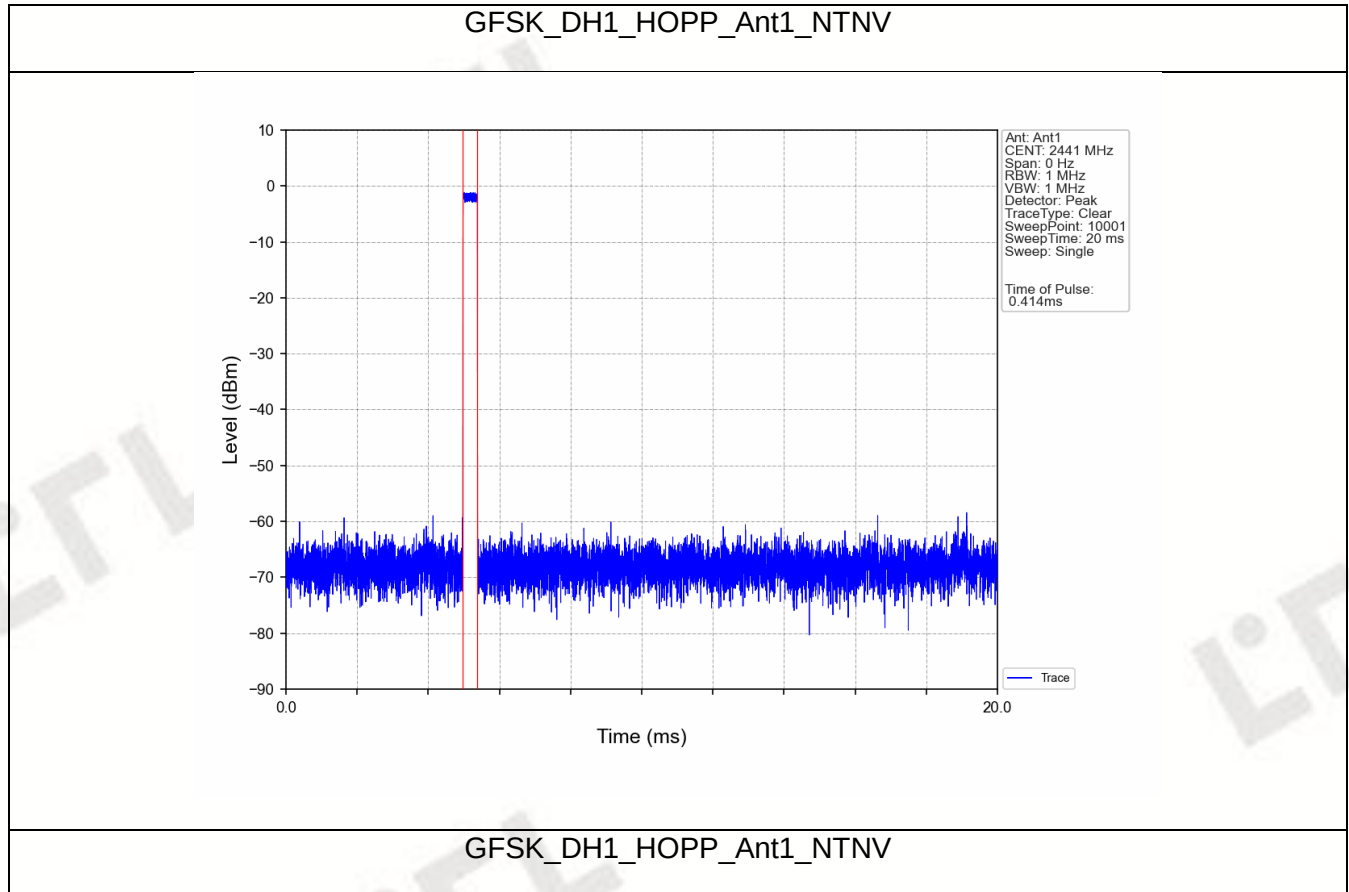
5.1.1 Ant1

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	0.414	31.600	320	132.480	<=400	Pass
			DH3	1.668	31.600	162	270.216	<=400	Pass
			DH5	2.916	31.600	97	282.852	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.422	31.600	319	134.618	<=400	Pass
			2DH3	1.676	31.600	161	269.836	<=400	Pass
			2DH5	2.922	31.600	100	292.200	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.428	31.600	320	136.960	<=400	Pass
			3DH3	1.678	31.600	162	271.836	<=400	Pass
			3DH5	2.932	31.600	106	310.792	<=400	Pass

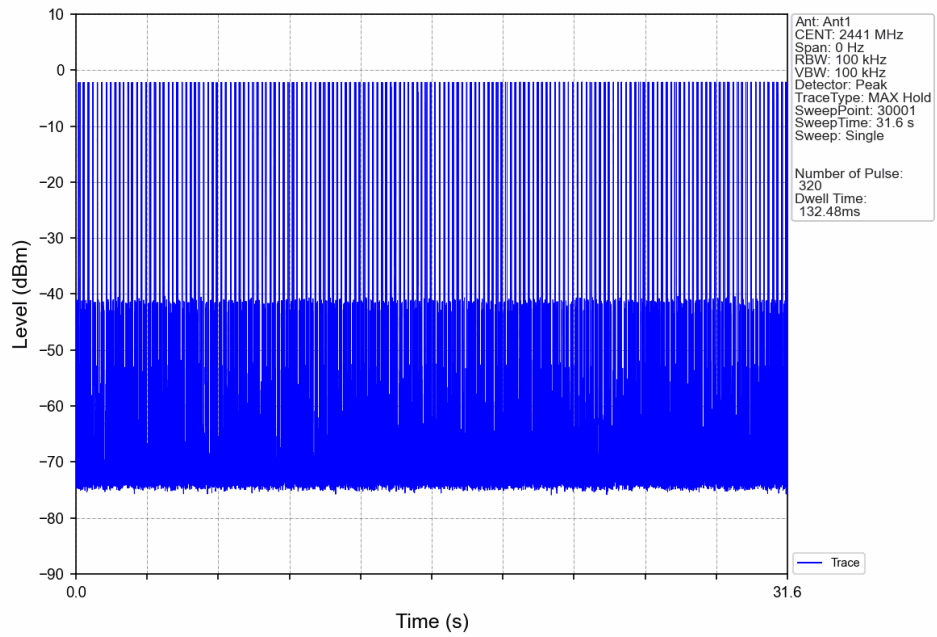
FCCID: 2AJ9K-UT2612

5.2 Test Graph

5.2.1 Ant1

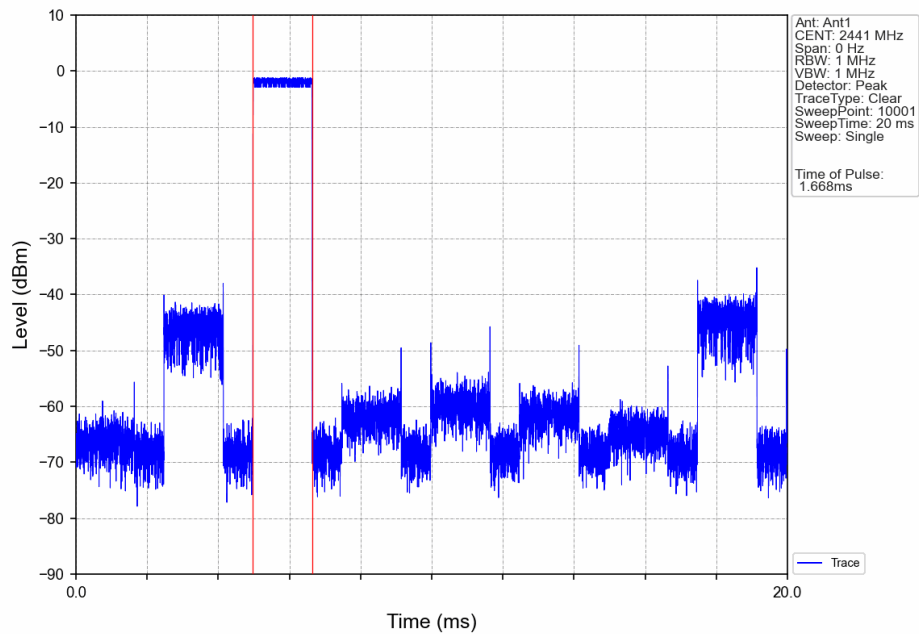


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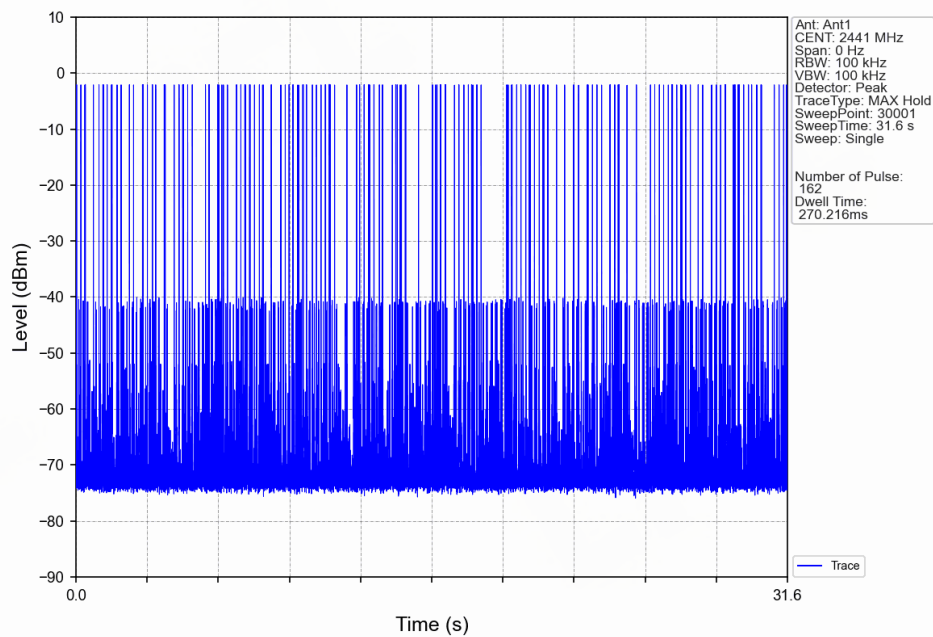


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GFSK_DH3_HOPP_Ant1_NTNV

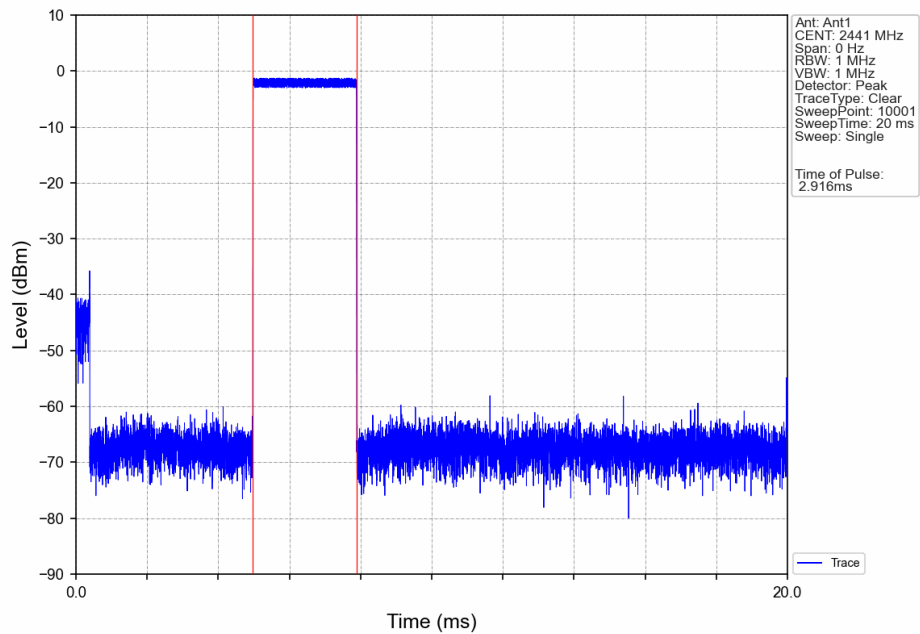


GFSK_DH3_HOPP_Ant1_NTNV

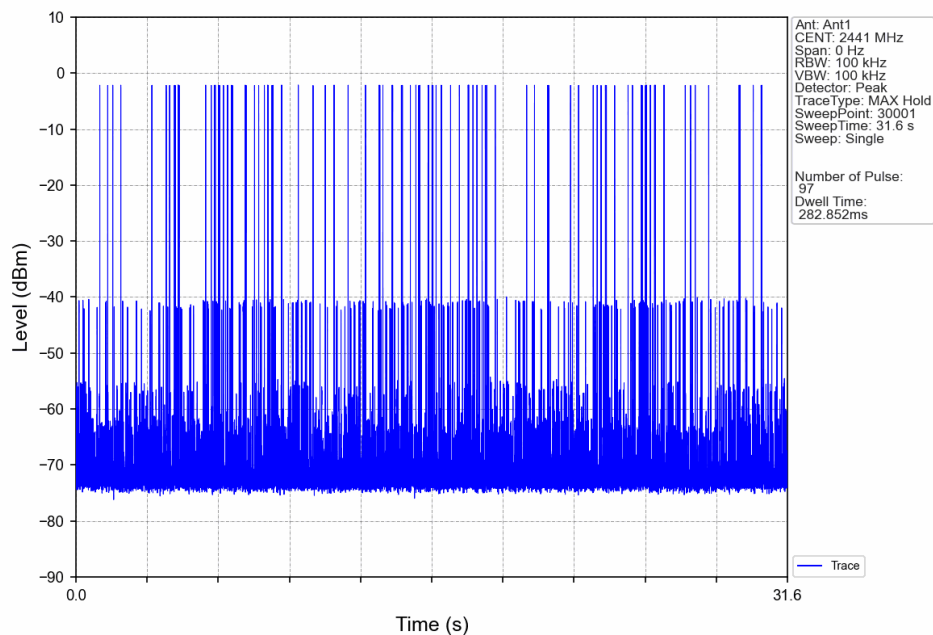


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GFSK_DH5_HOPP_Ant1_NTNV

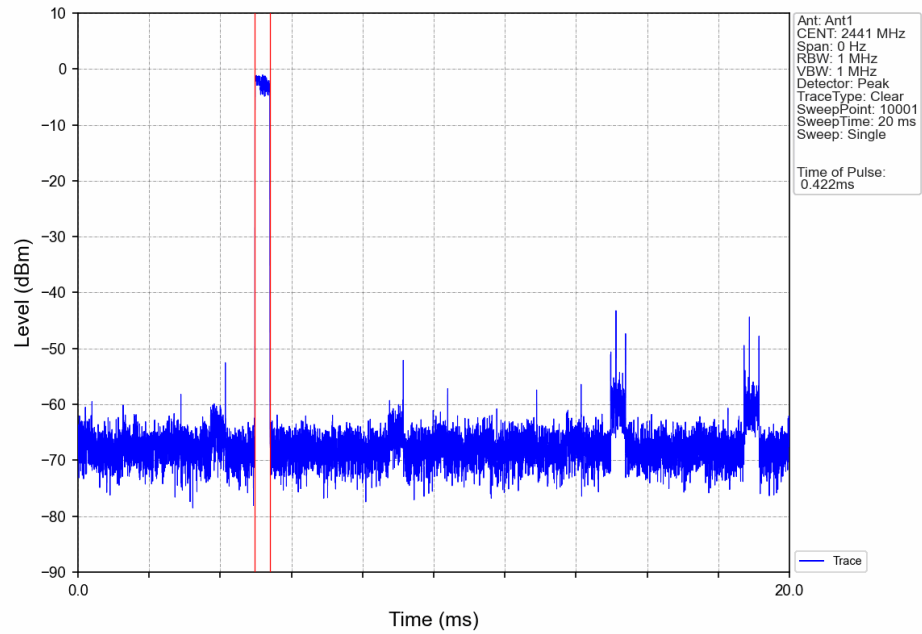


GFSK_DH5_HOPP_Ant1_NTNV

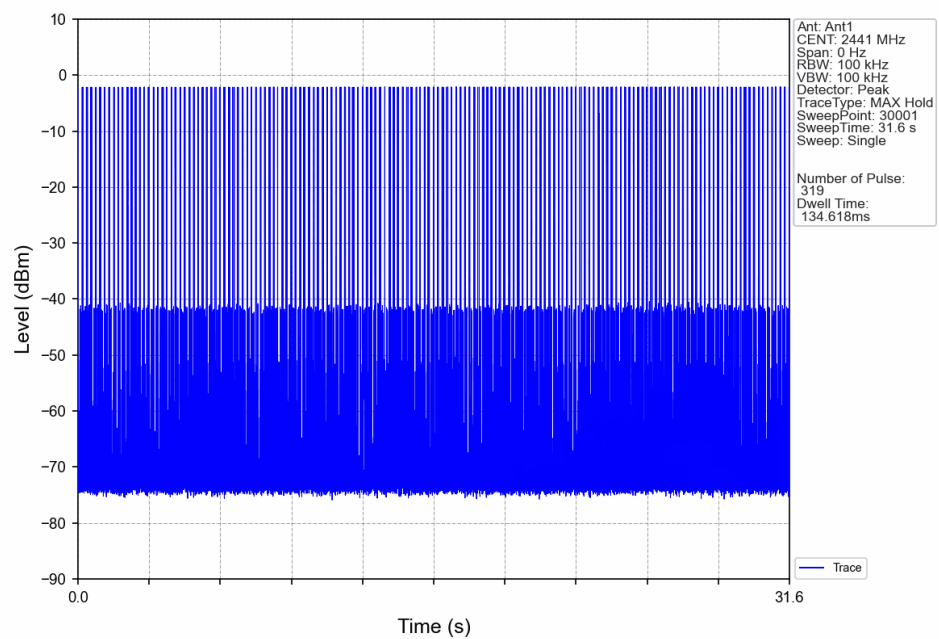


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Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV

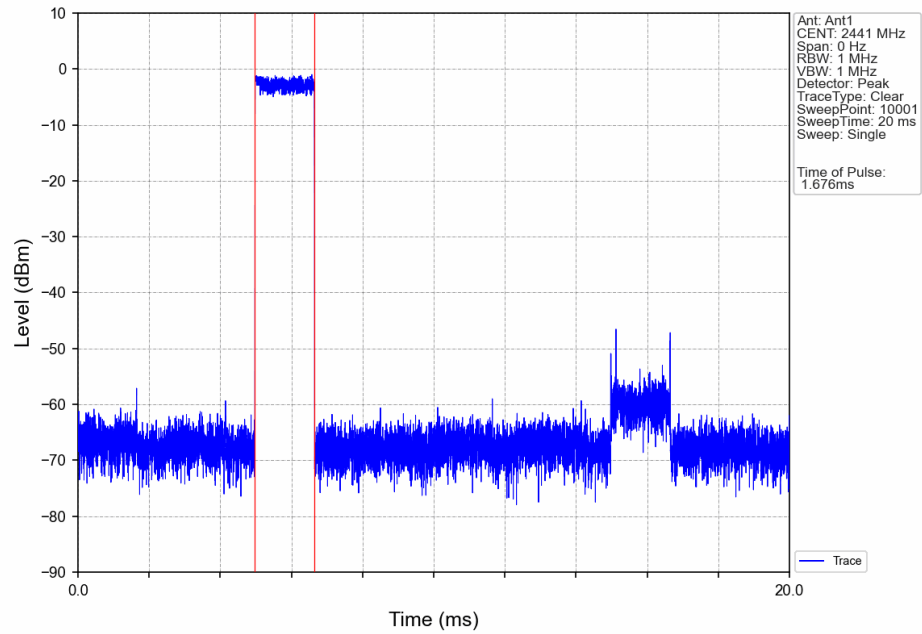


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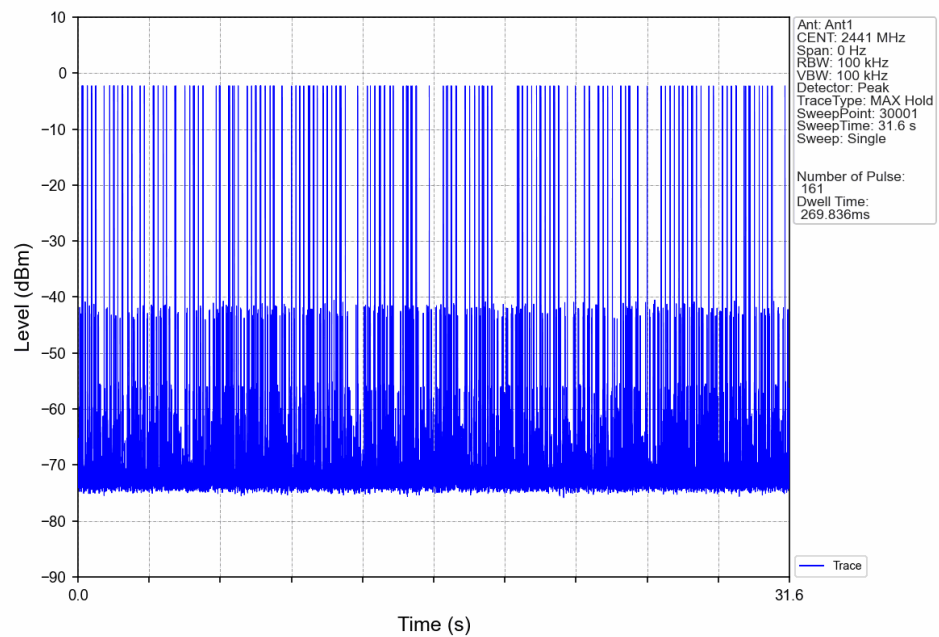


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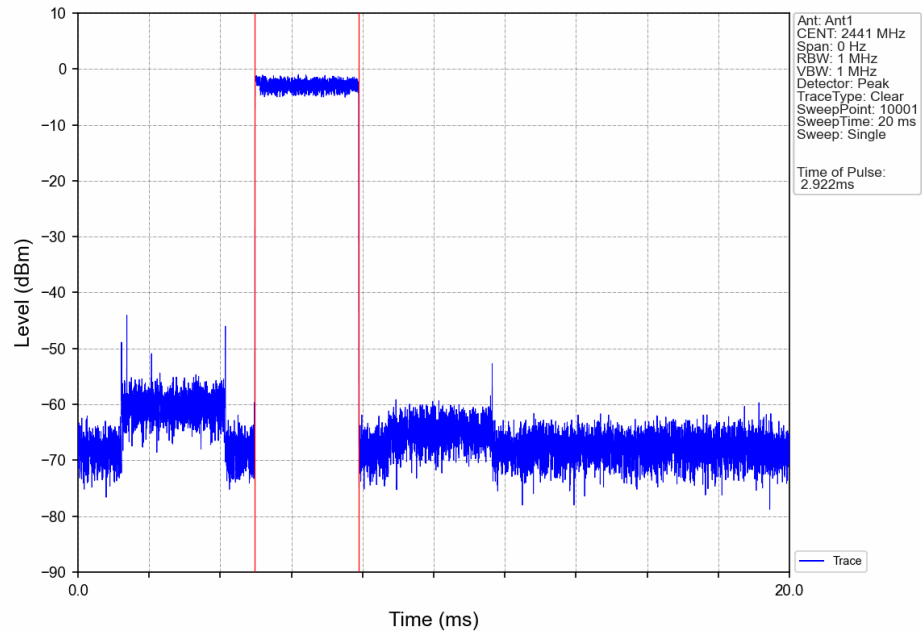


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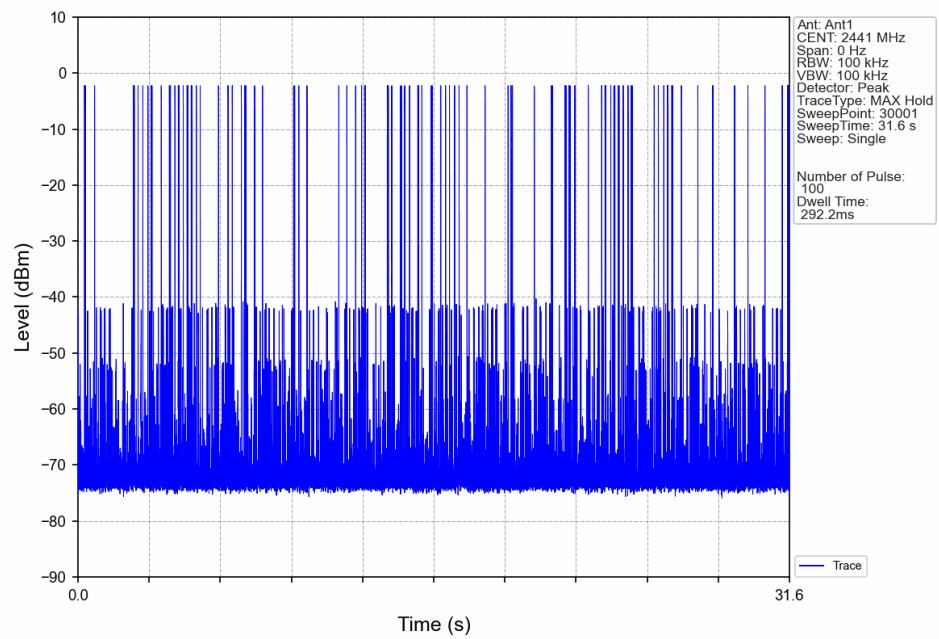


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Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

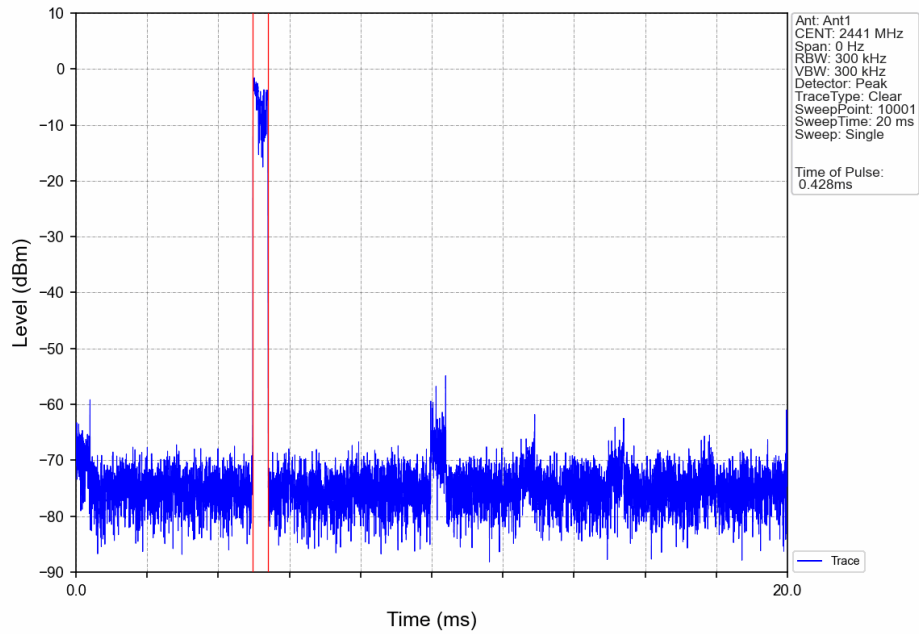


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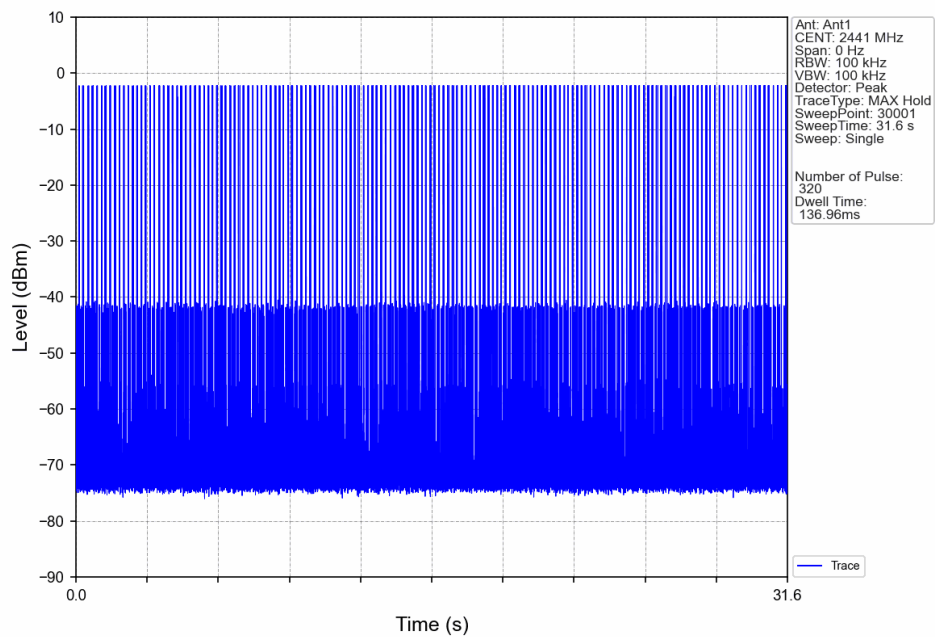


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8DPSK_3DH1_HOPP_Ant1_NTNV

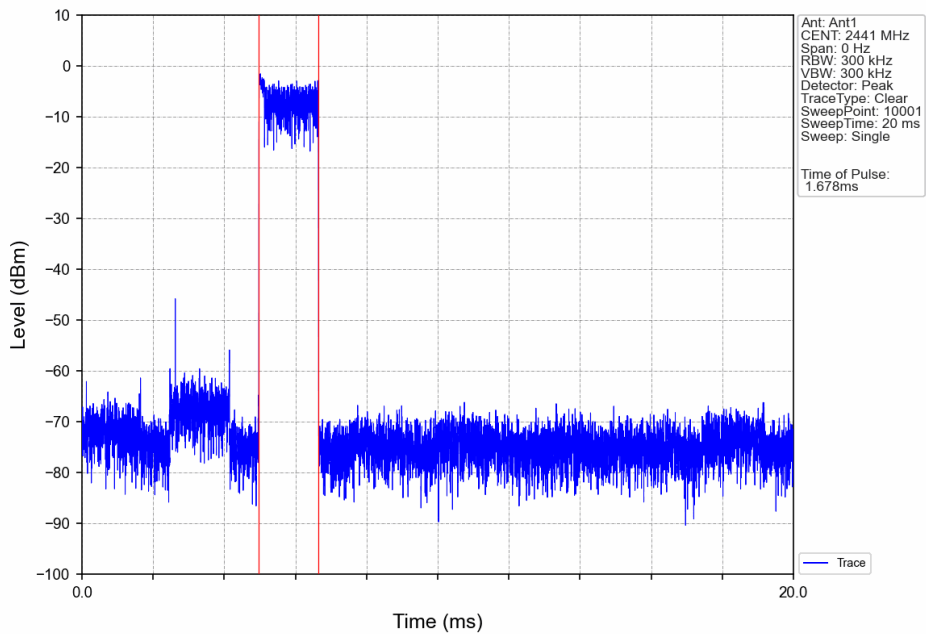


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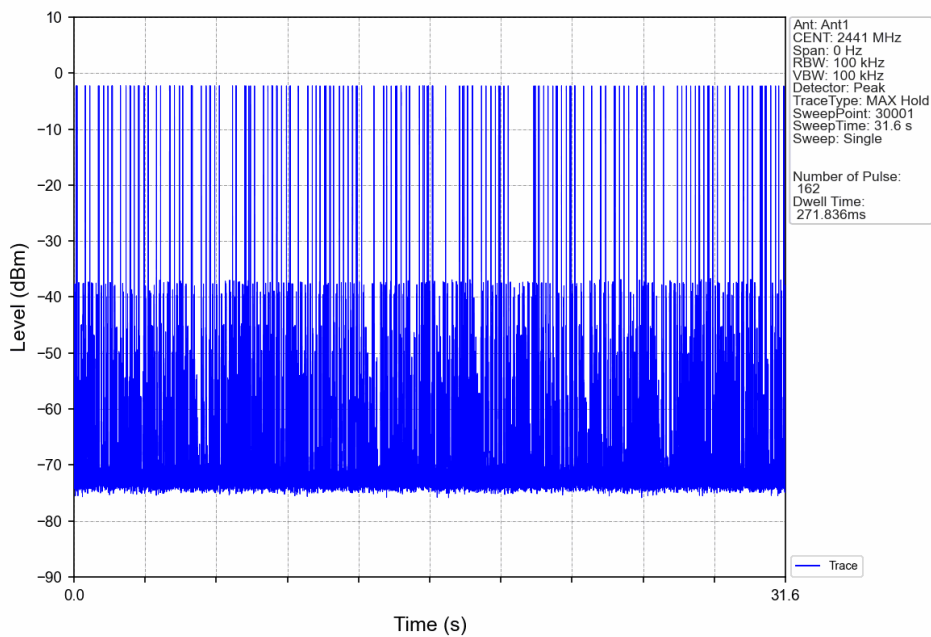


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8DPSK_3DH3_HOPP_Ant1_NTNV

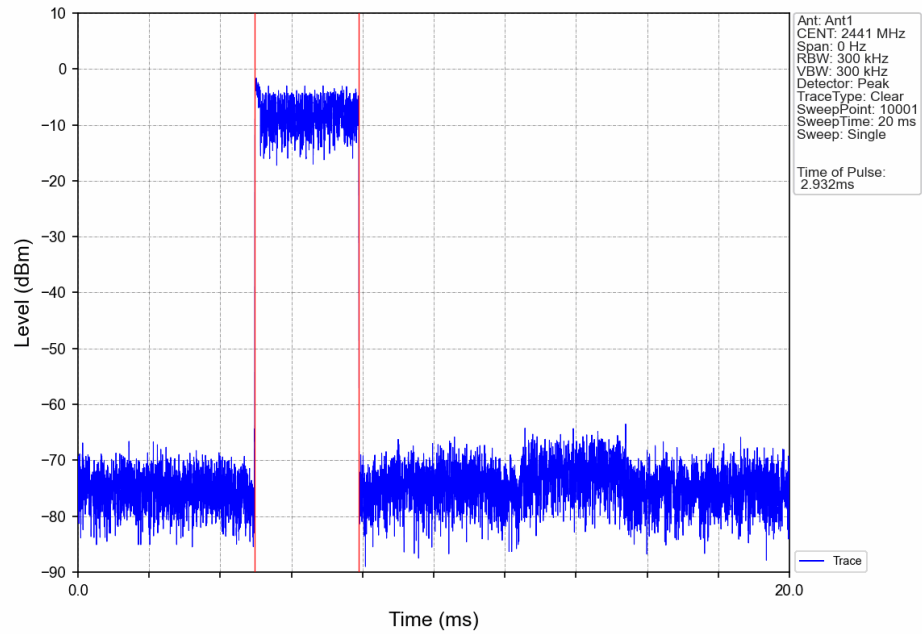


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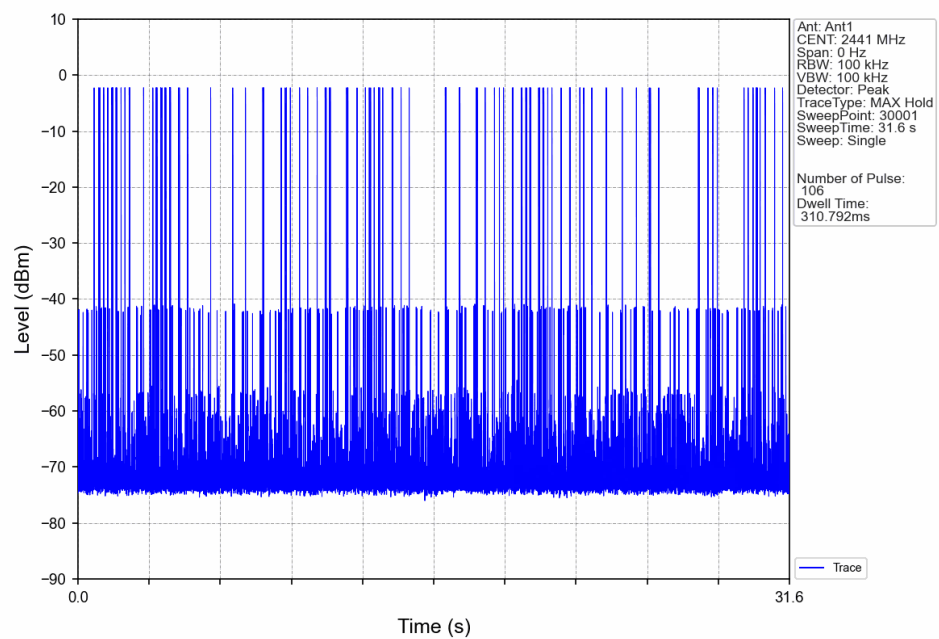


FCCID: 2AJ9K-UT2612

8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



FCCID: 2AJ9K-UT2612

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	-1.66
		2441	DH5	1	-1.88
		2480	DH5	1	-2.40
		HOPP	DH5	1	-1.22
					-1.22
Pi/4DQPSK	SISO	2402	2DH5	1	-1.95
		2441	2DH5	1	-2.09
		2480	2DH5	1	-2.74
		HOPP	2DH5	1	-1.64
					-1.64
8DPSK	SISO	2402	3DH5	1	-1.93
		2441	3DH5	1	-2.19
		2480	3DH5	1	-2.73
		HOPP	3DH5	1	-1.83
					-1.83

6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-1.66	-21.66	Pass
		2441	DH5	1	-1.88	-21.88	Pass

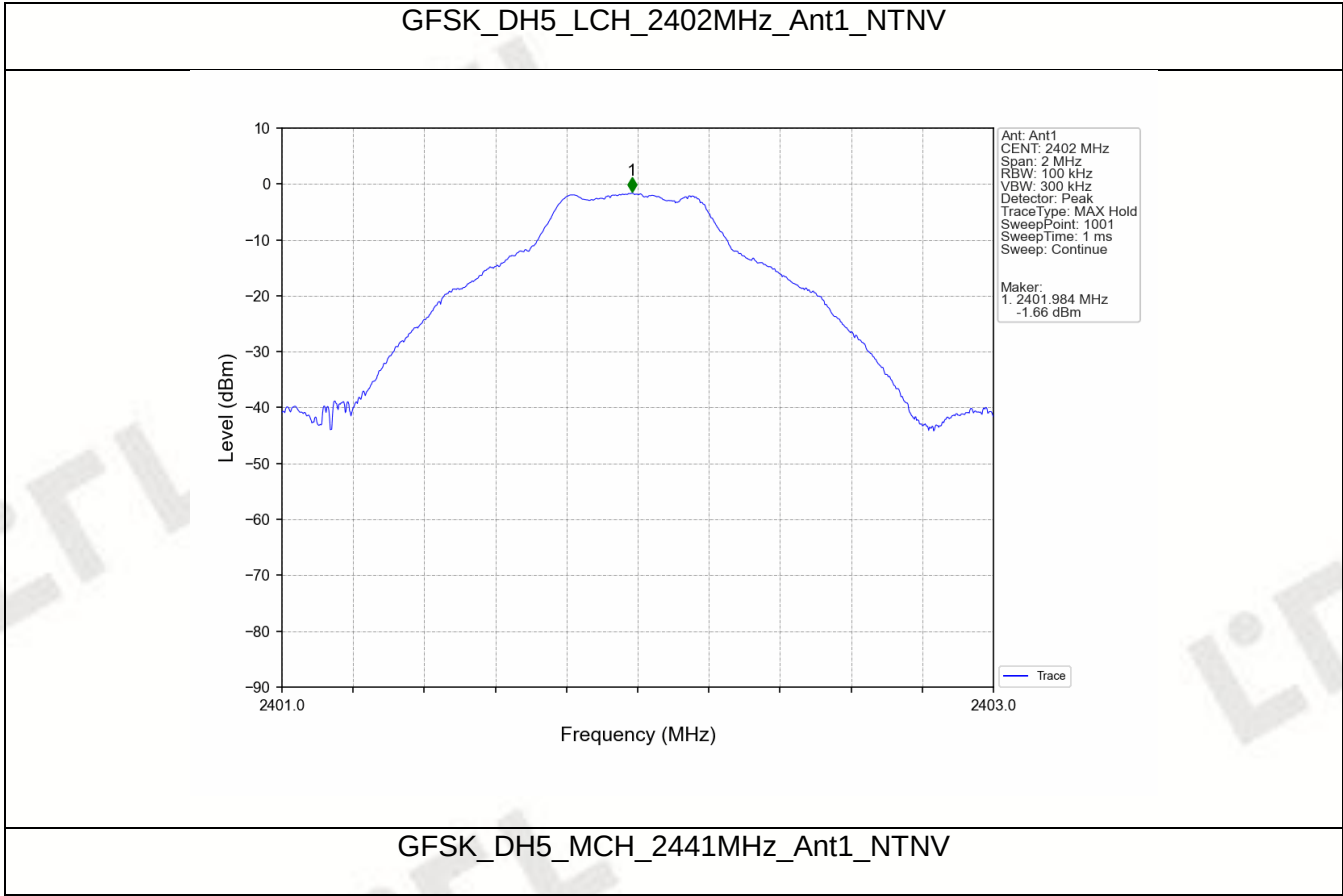
FCCID: 2AJ9K-UT2612

		2480	DH5	1	-2.40	-22.40	Pass
		HOPP	DH5	1	-1.22	-21.22	Pass
					-1.22	-21.22	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-1.95	-21.95	Pass
		2441	2DH5	1	-2.09	-22.09	Pass
		2480	2DH5	1	-2.74	-22.74	Pass
		HOPP	2DH5	1	-1.64	-21.64	Pass
					-1.64	-21.64	Pass
8DPSK	SISO	2402	3DH5	1	-1.93	-21.93	Pass
		2441	3DH5	1	-2.19	-22.19	Pass
		2480	3DH5	1	-2.73	-22.73	Pass
		HOPP	3DH5	1	-1.83	-21.83	Pass
					-1.83	-21.83	Pass

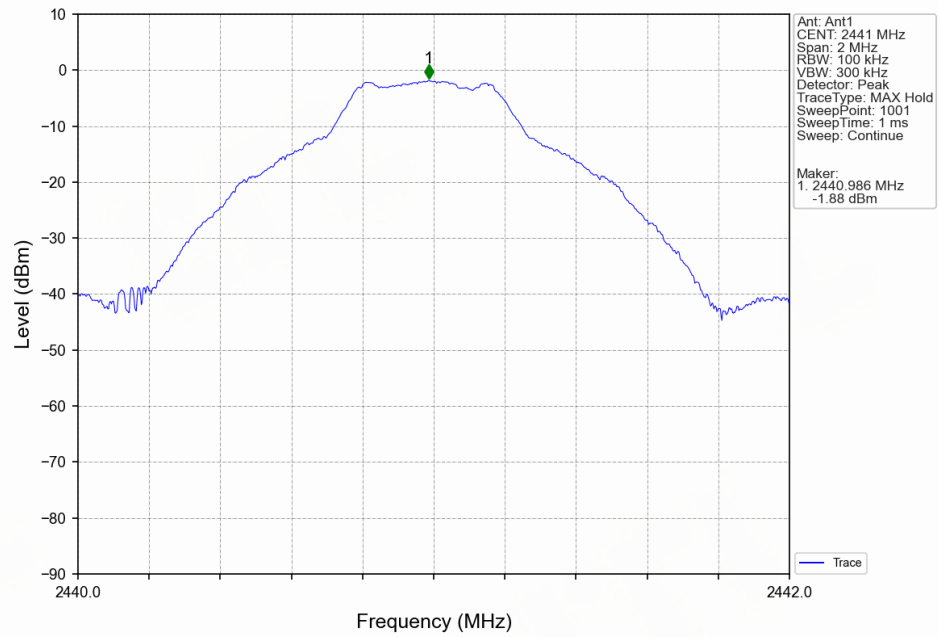
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6.2 Test Graph

6.2.1 Ref

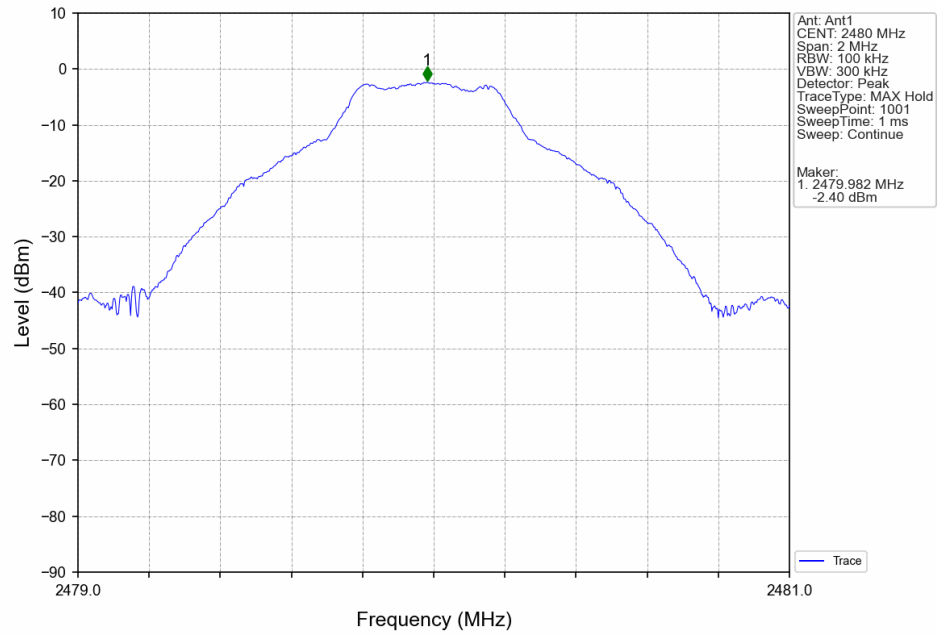


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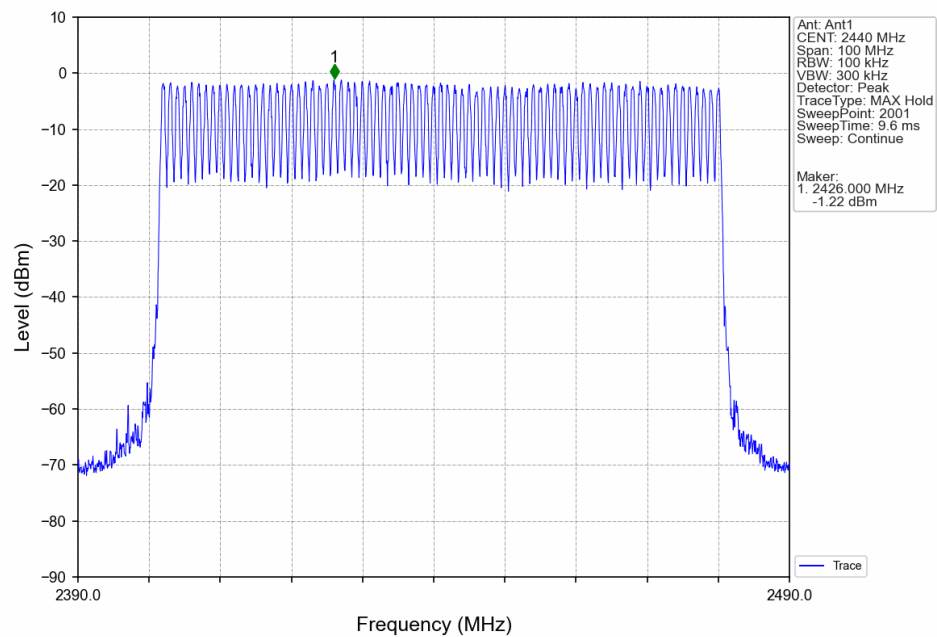


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GFSK_DH5_HCH_2480MHz_Ant1_NTNV

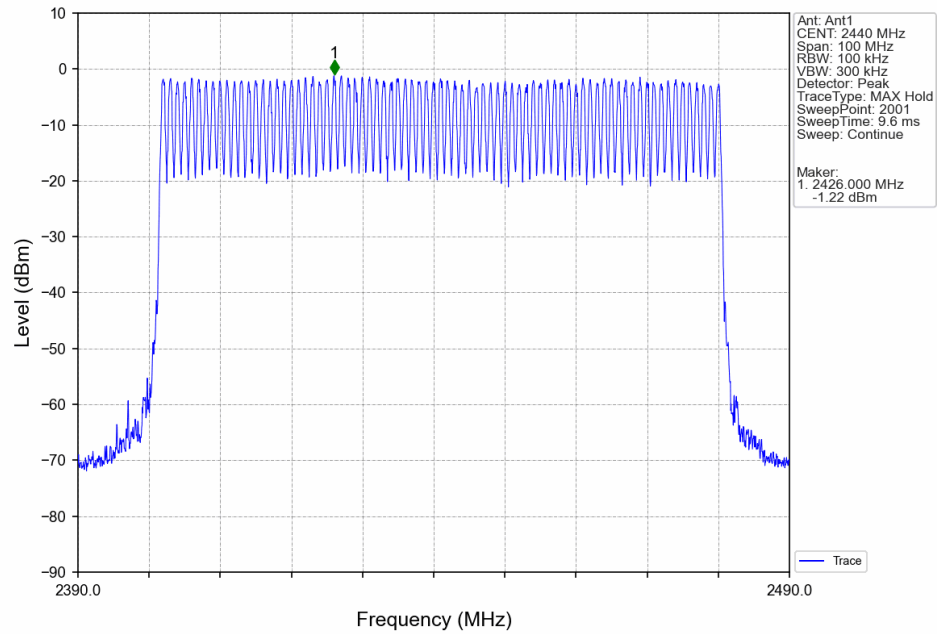


GFSK_DH5_HOPP_Ant1_NTNV

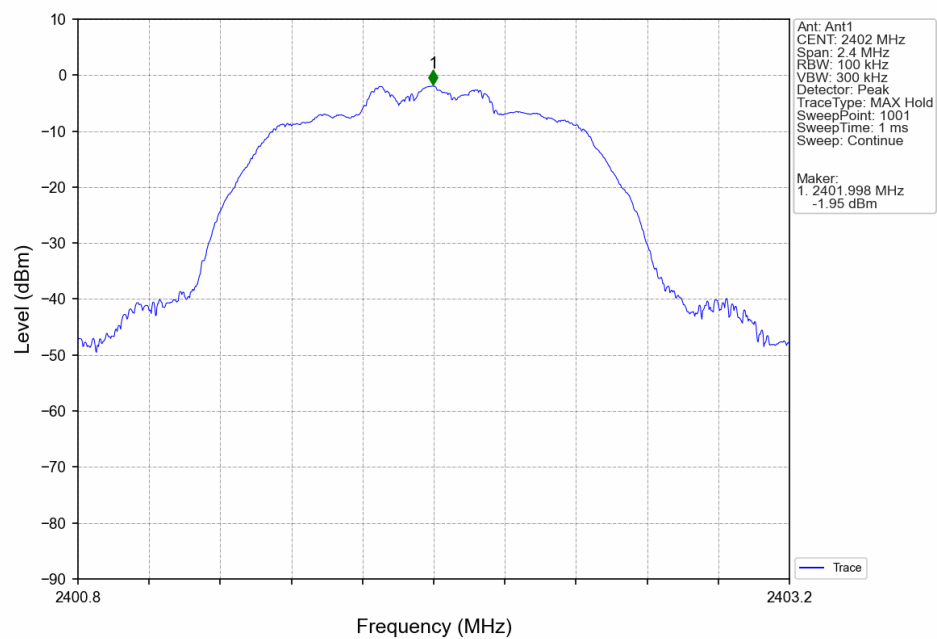


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GFSK_DH5_HOPP_Ant1_NTNV

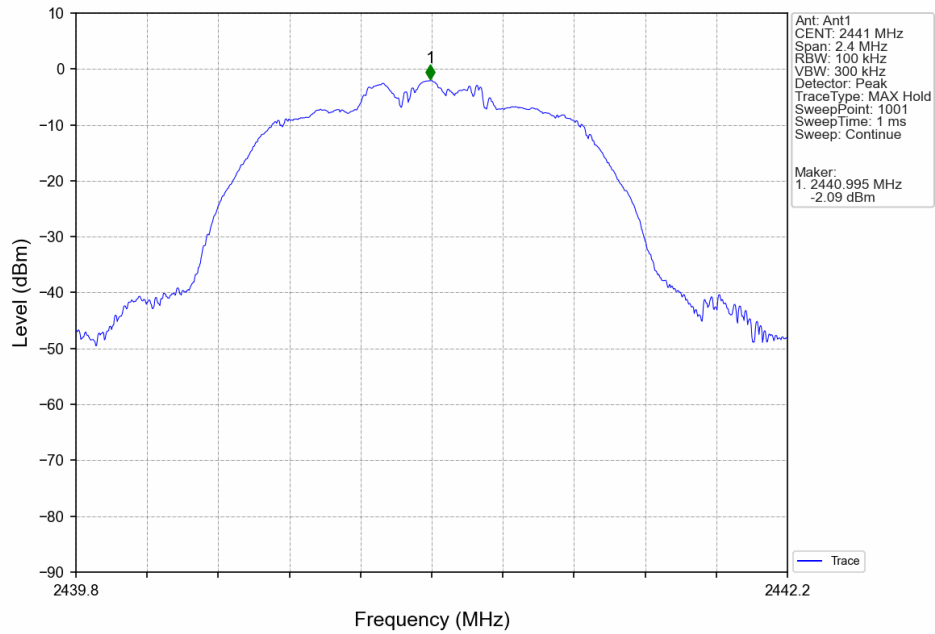


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

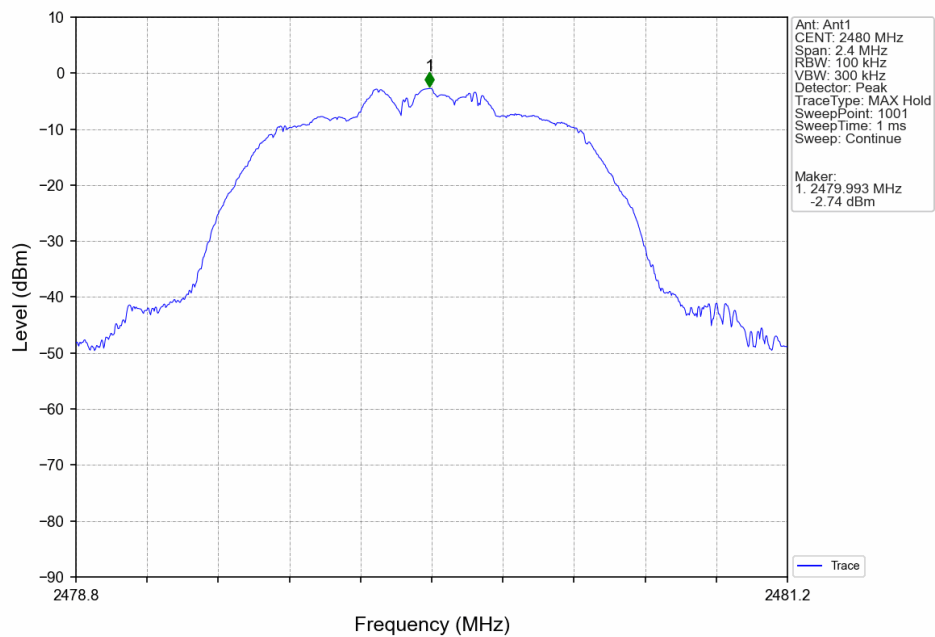


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Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

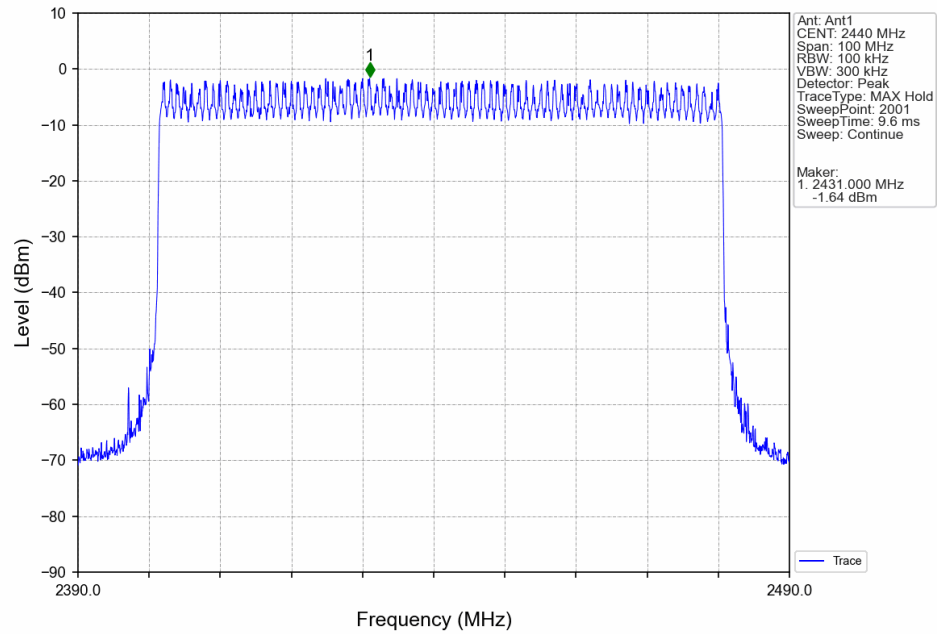


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

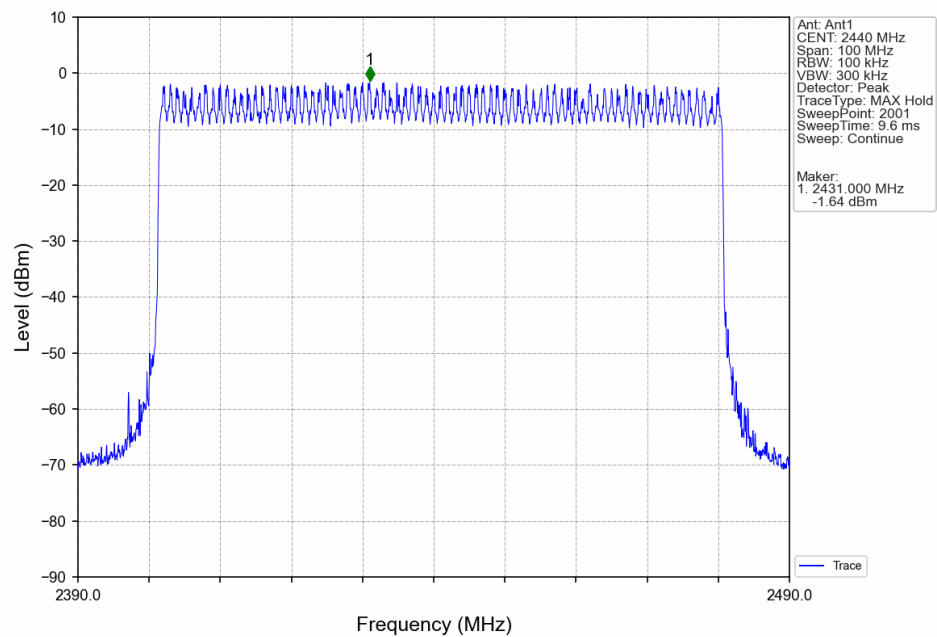


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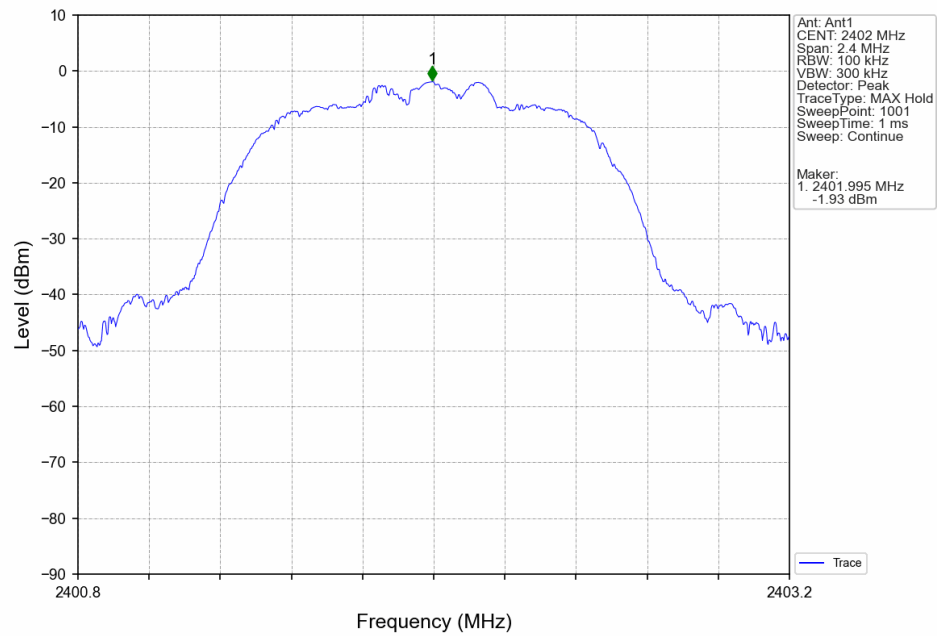


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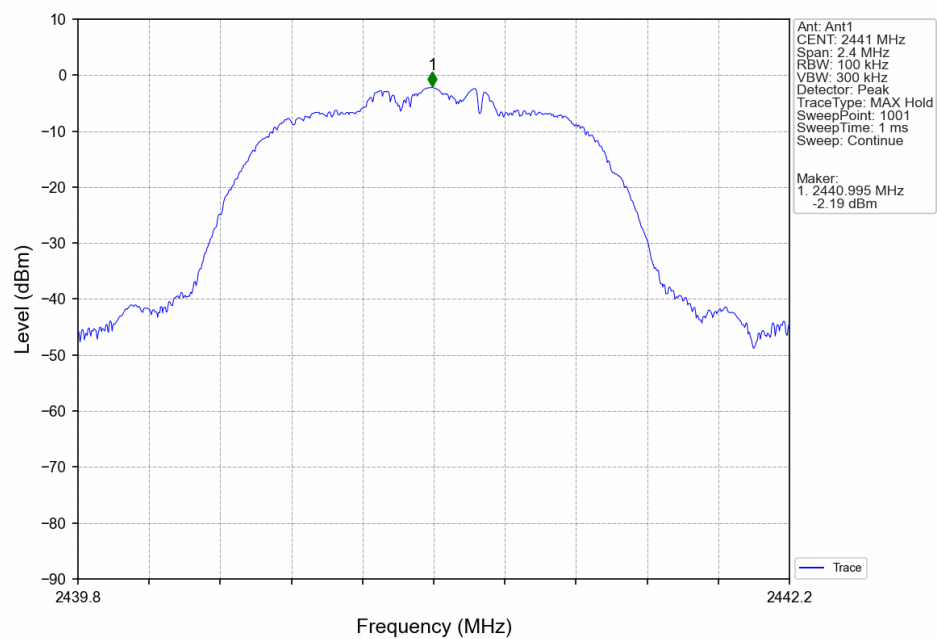


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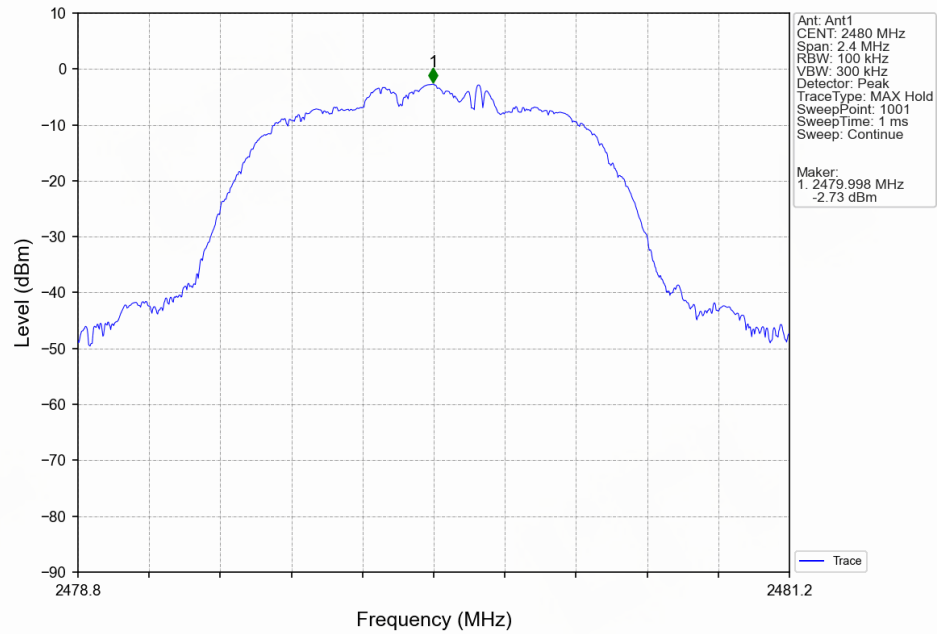


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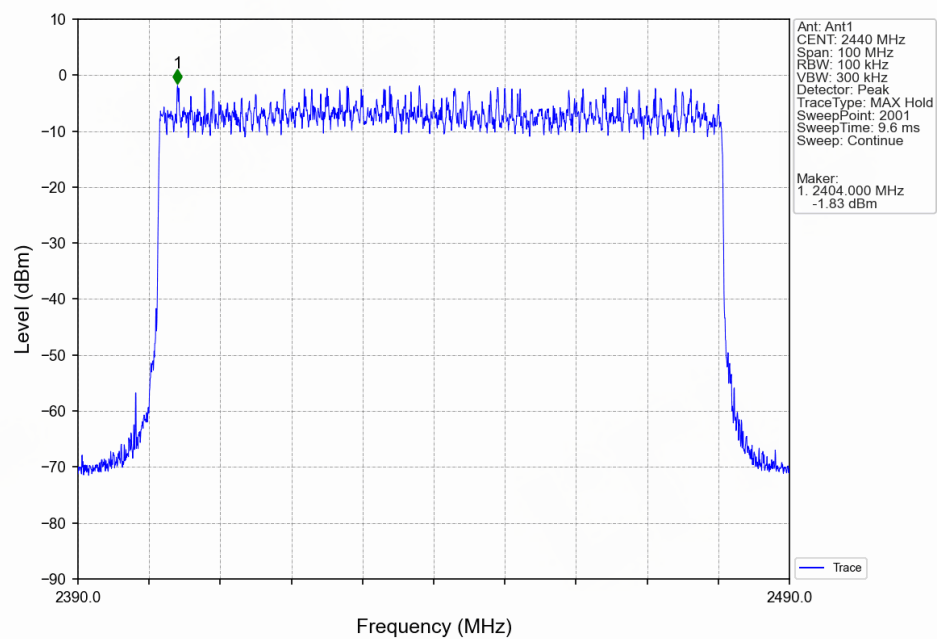


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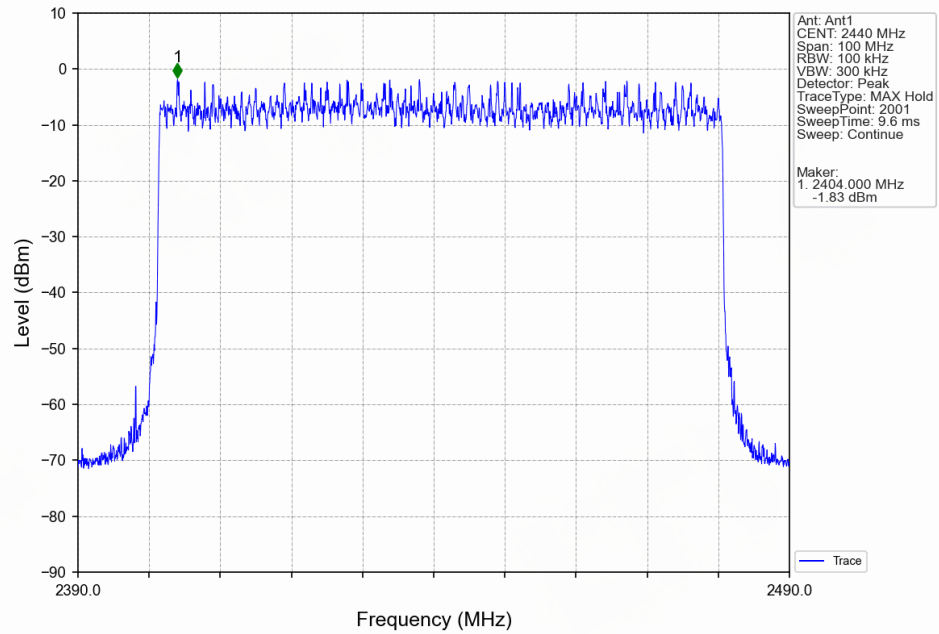


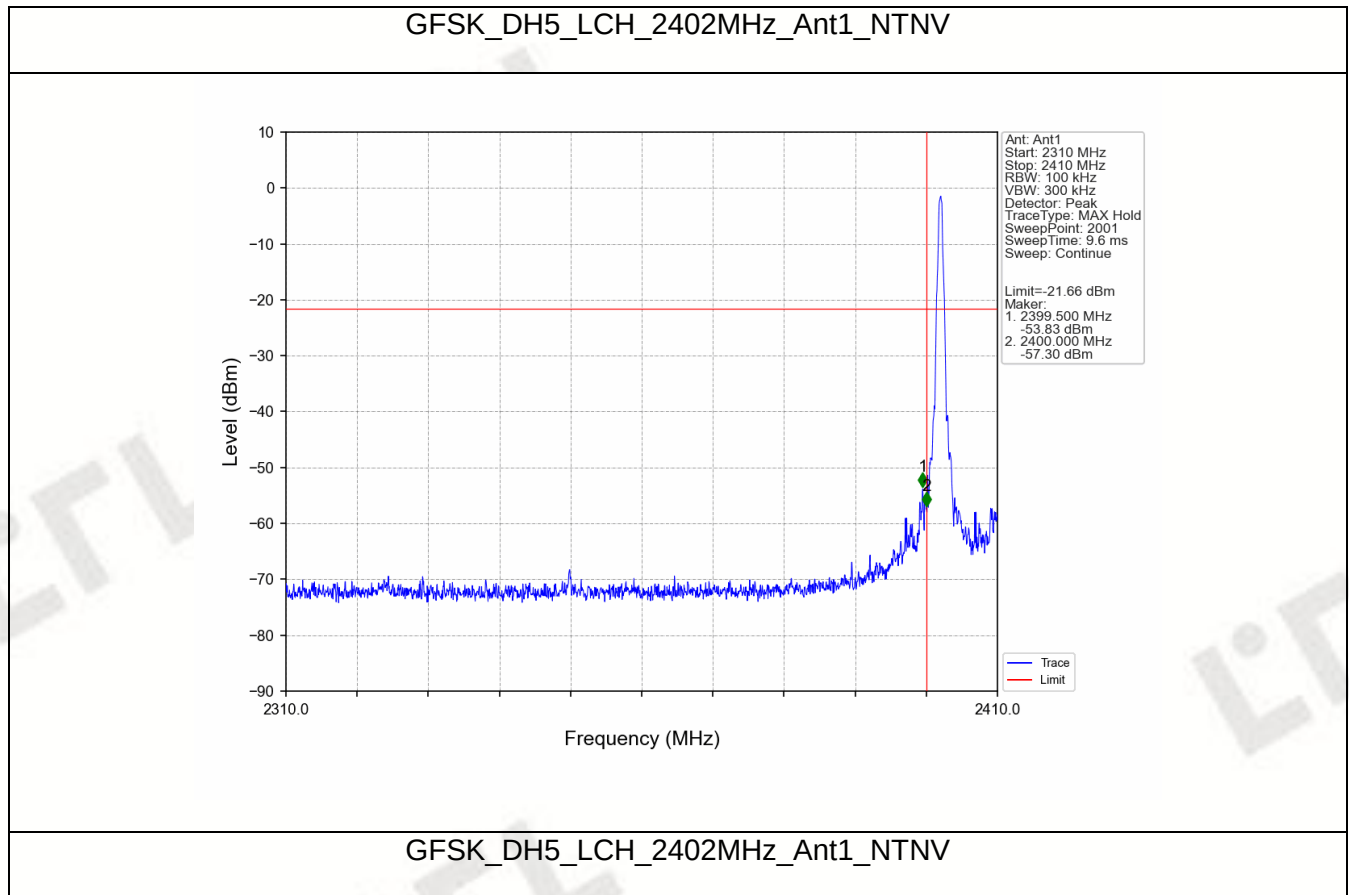
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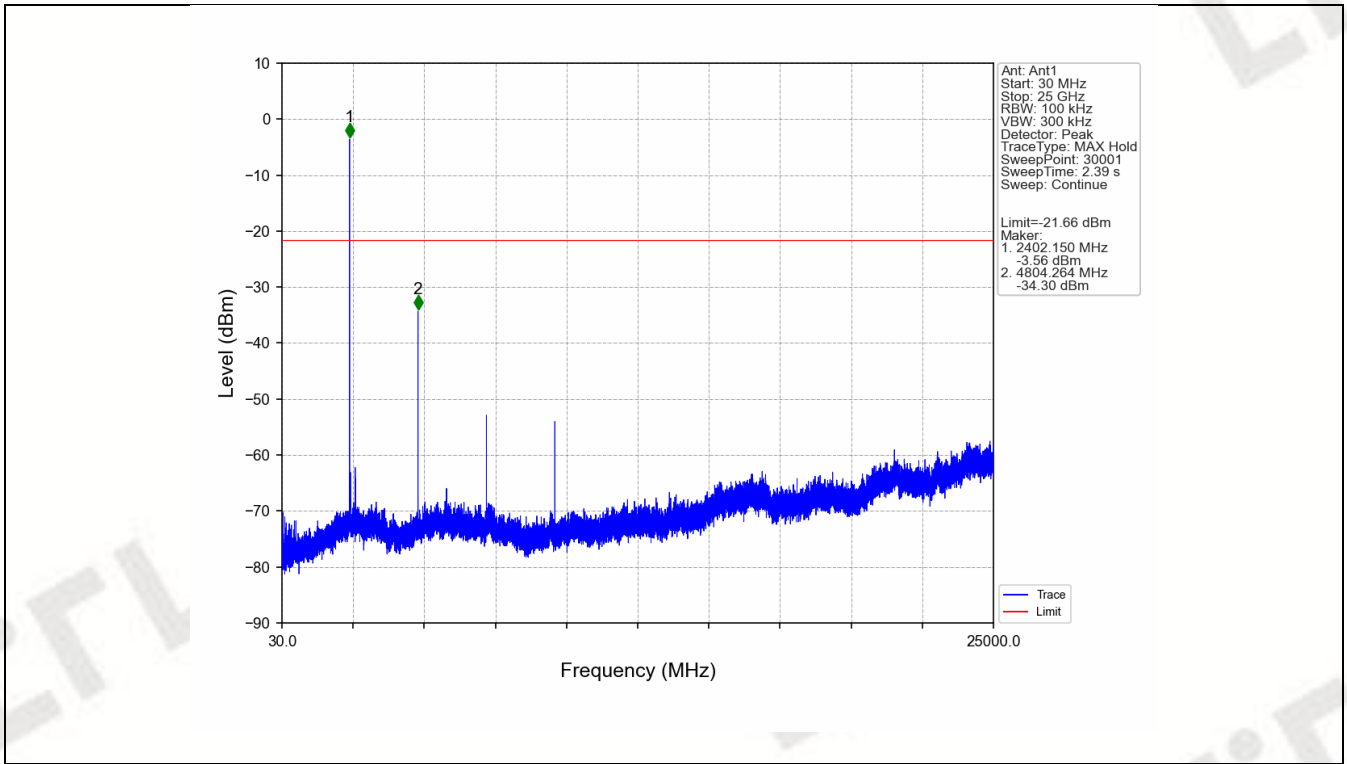
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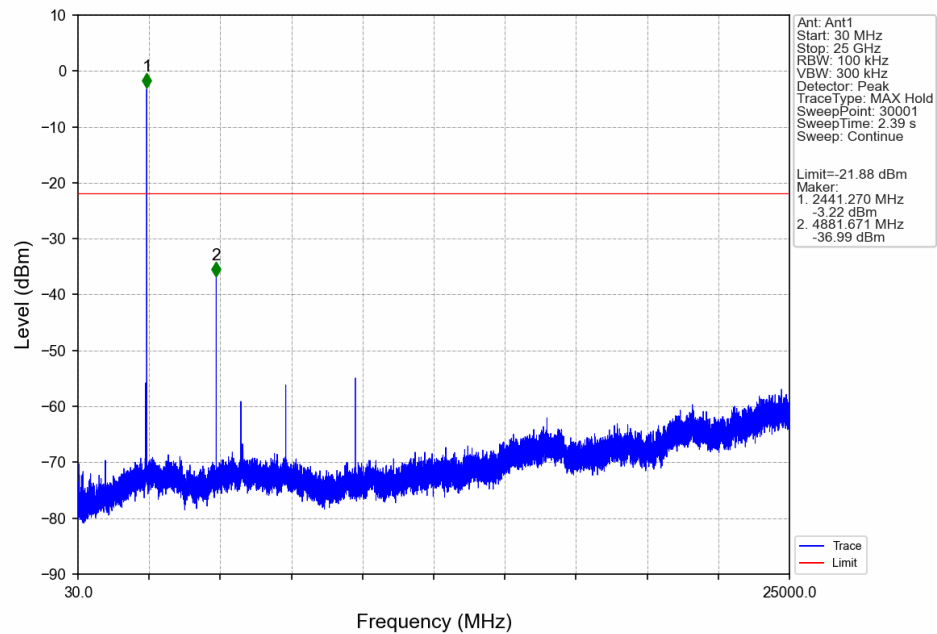
6.2.2 CSE

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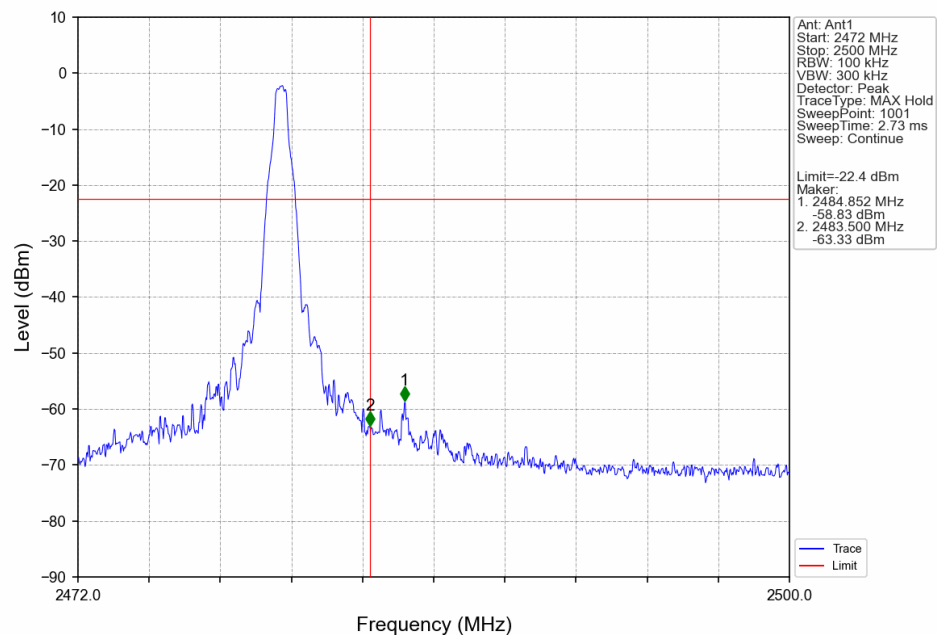


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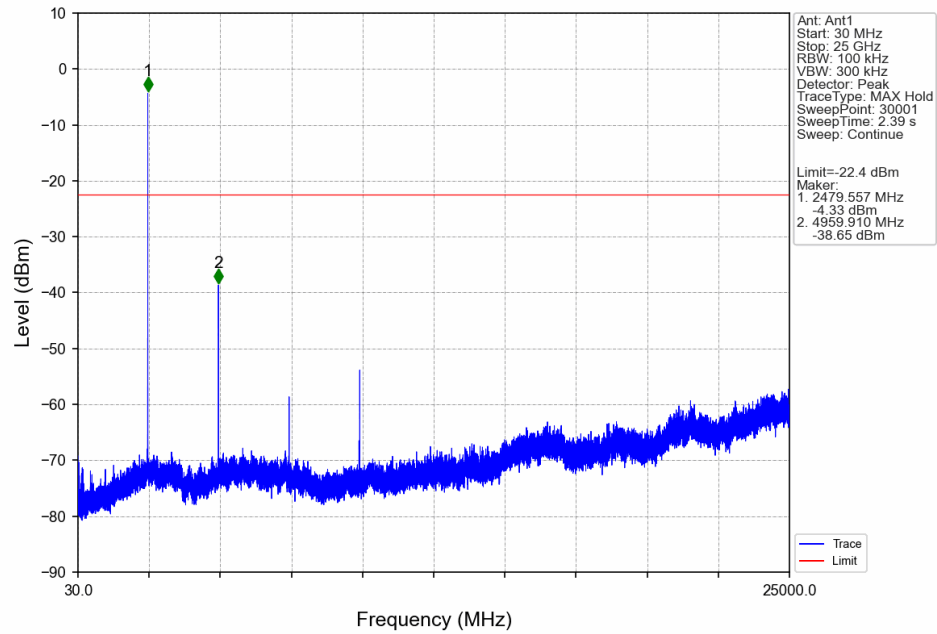


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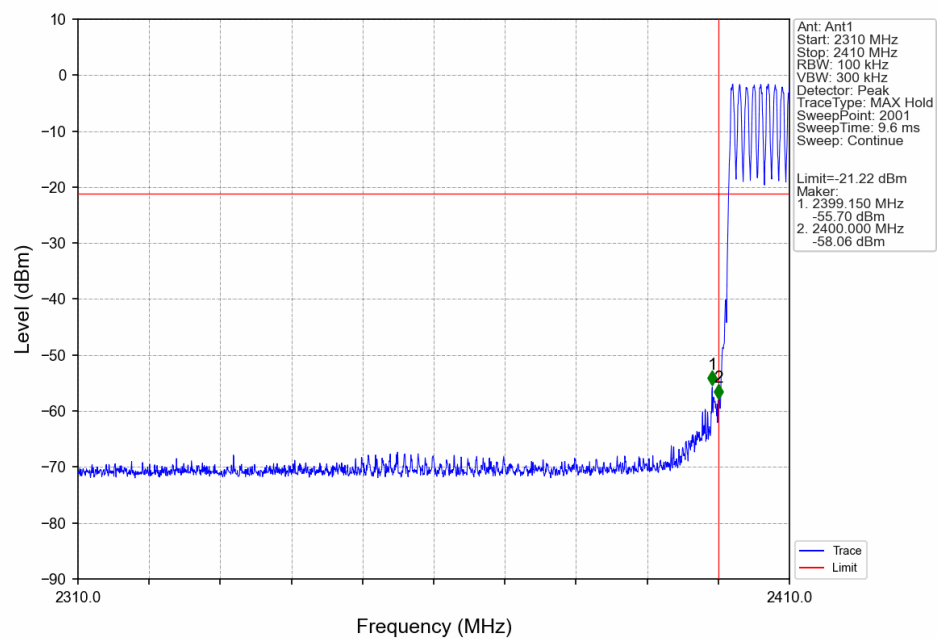


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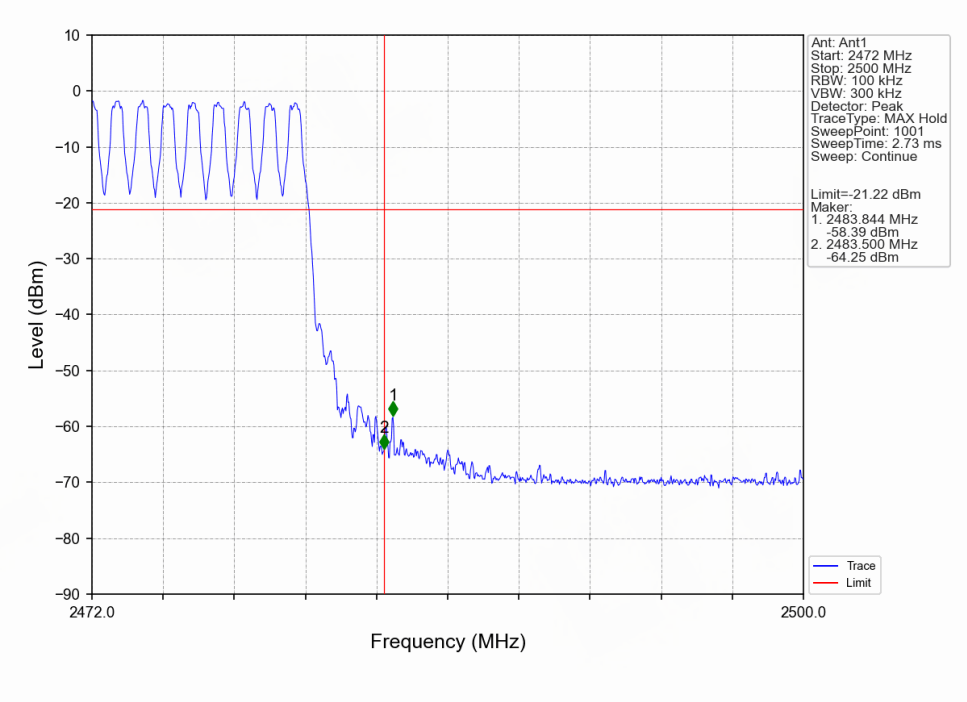


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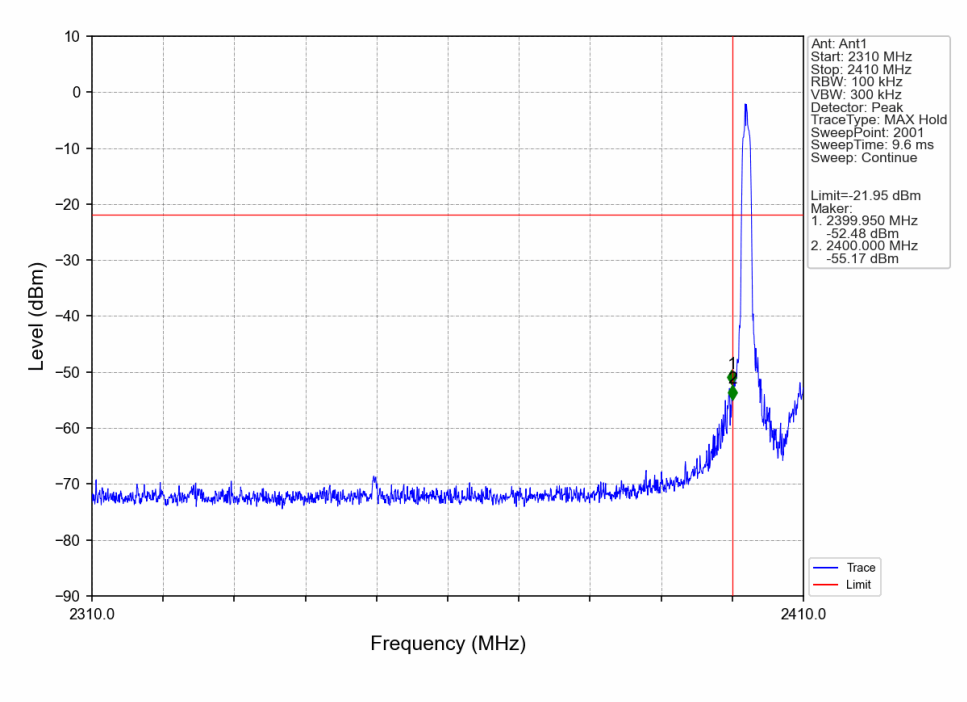


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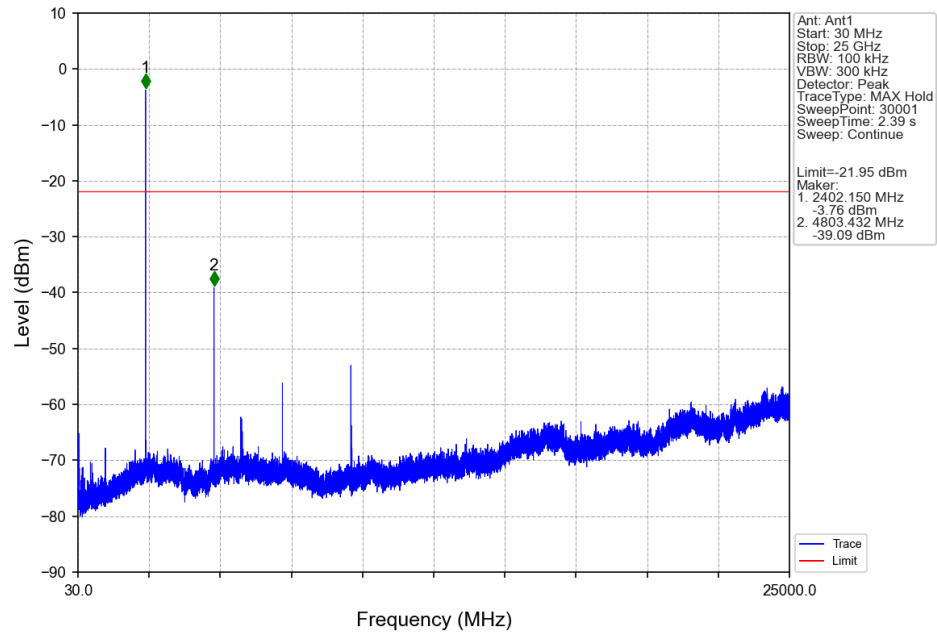


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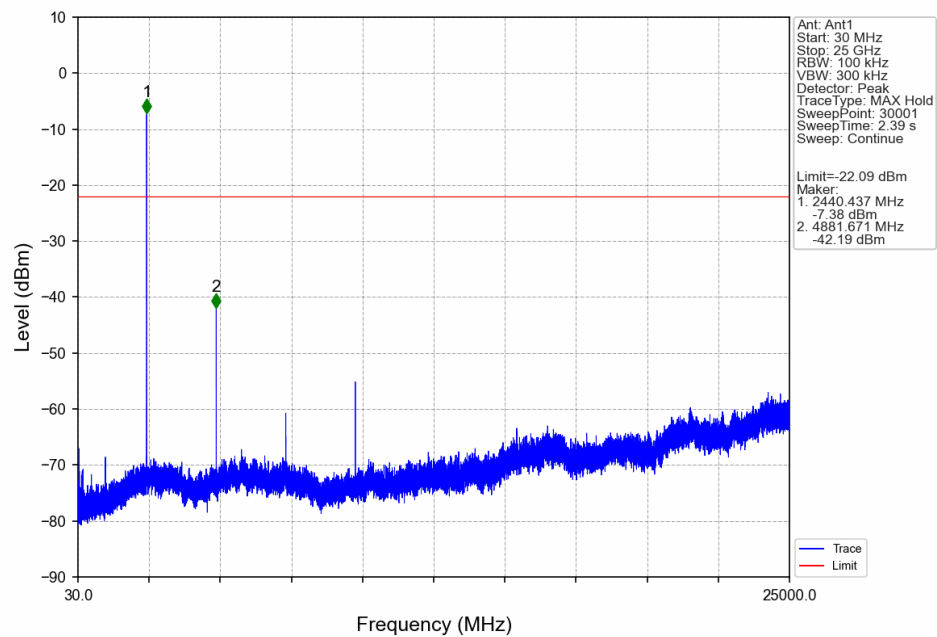


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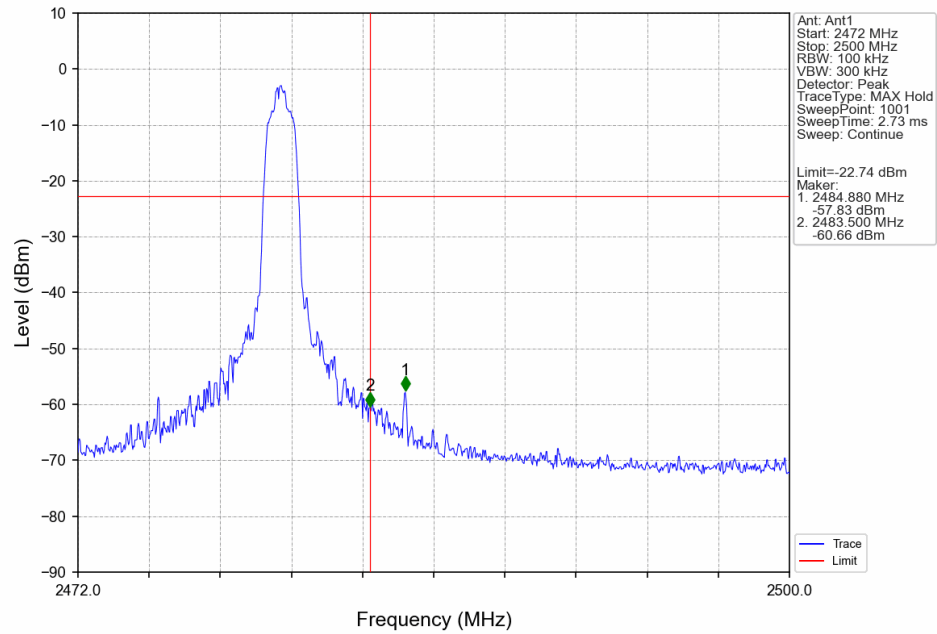


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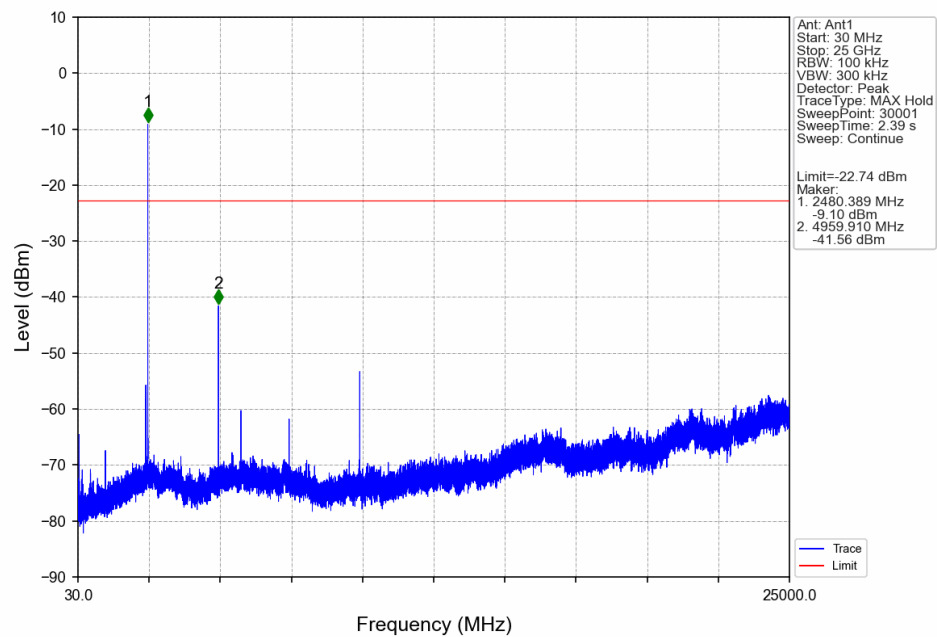


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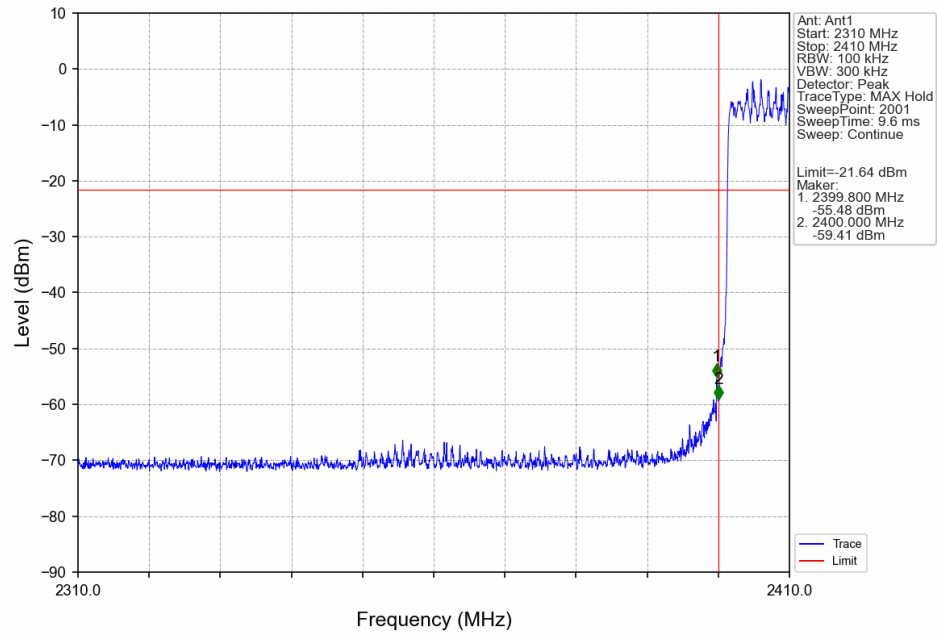


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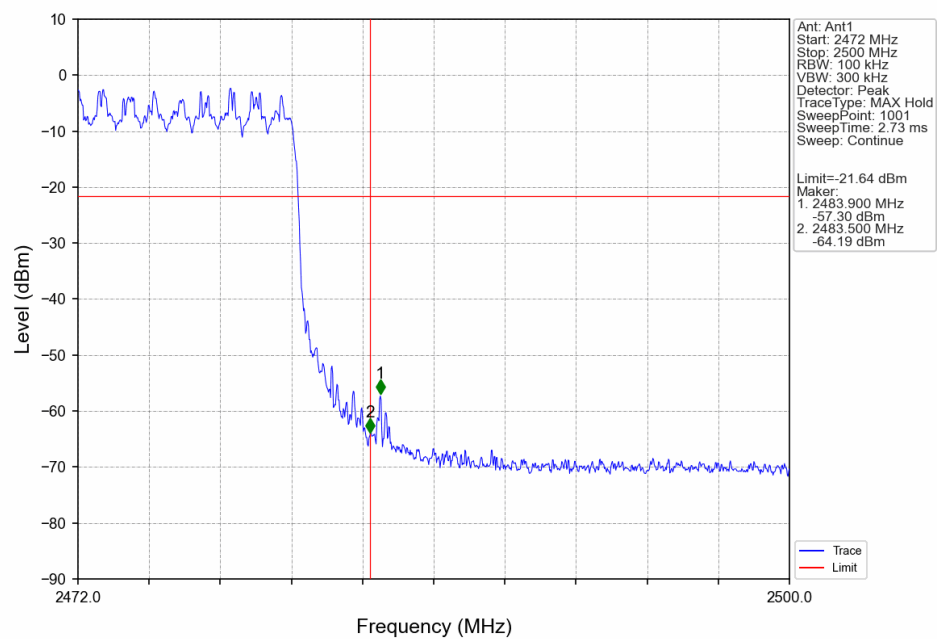


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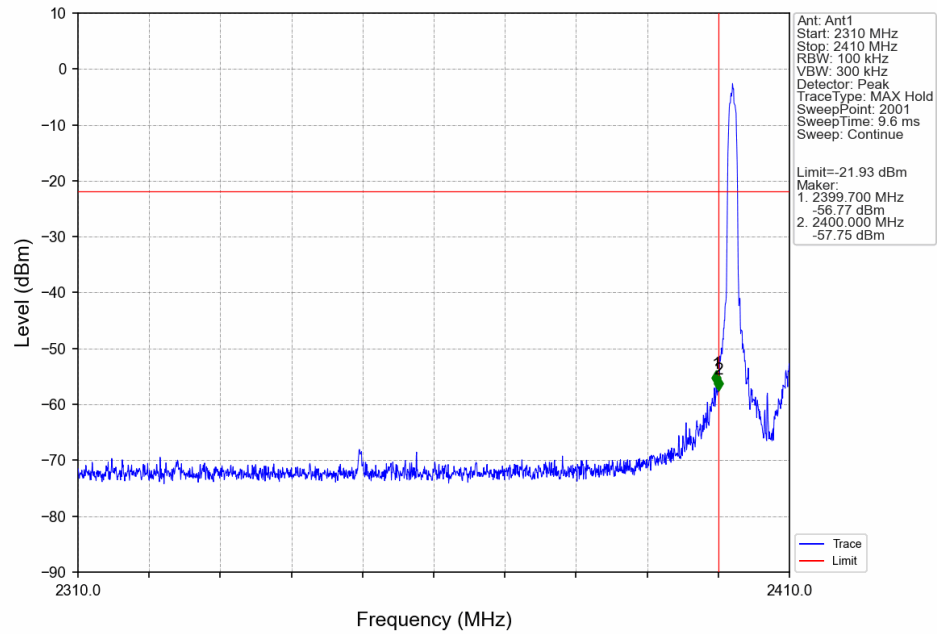


Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

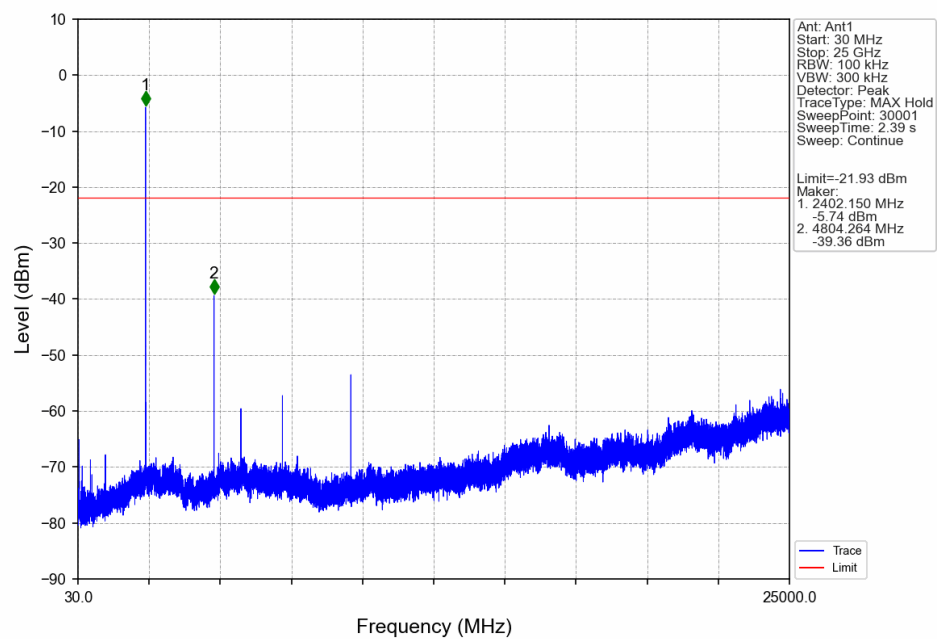


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8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV

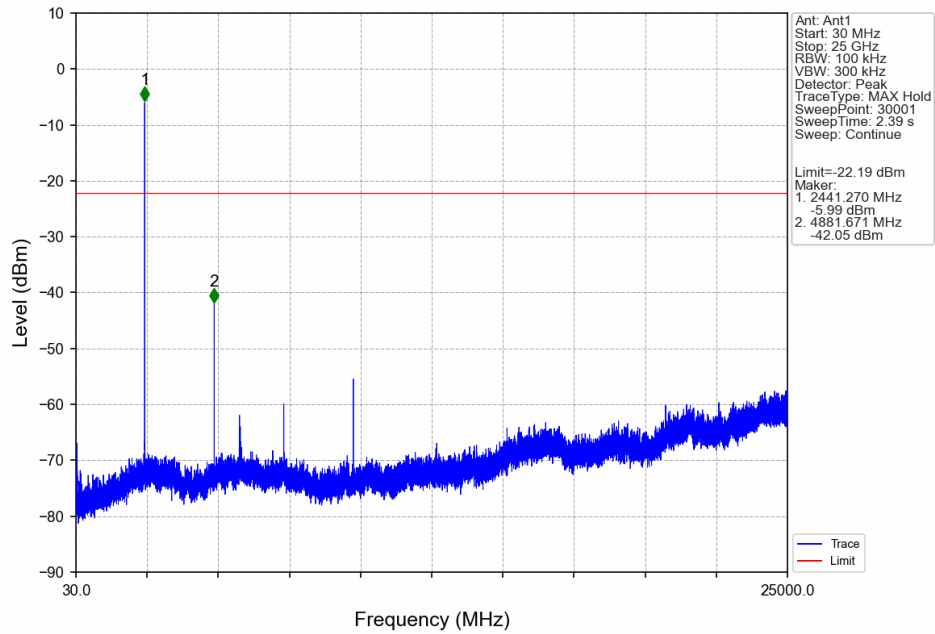


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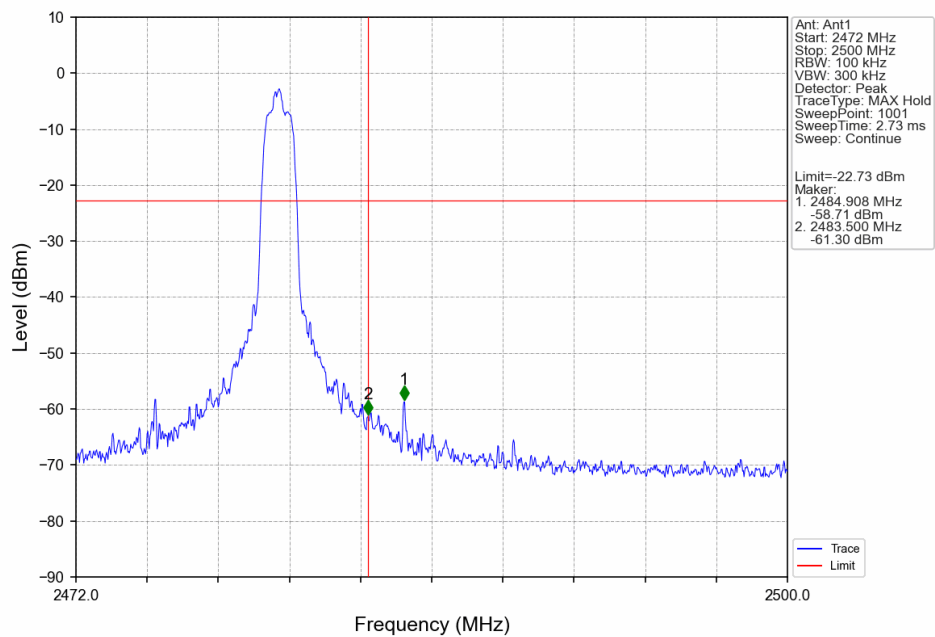


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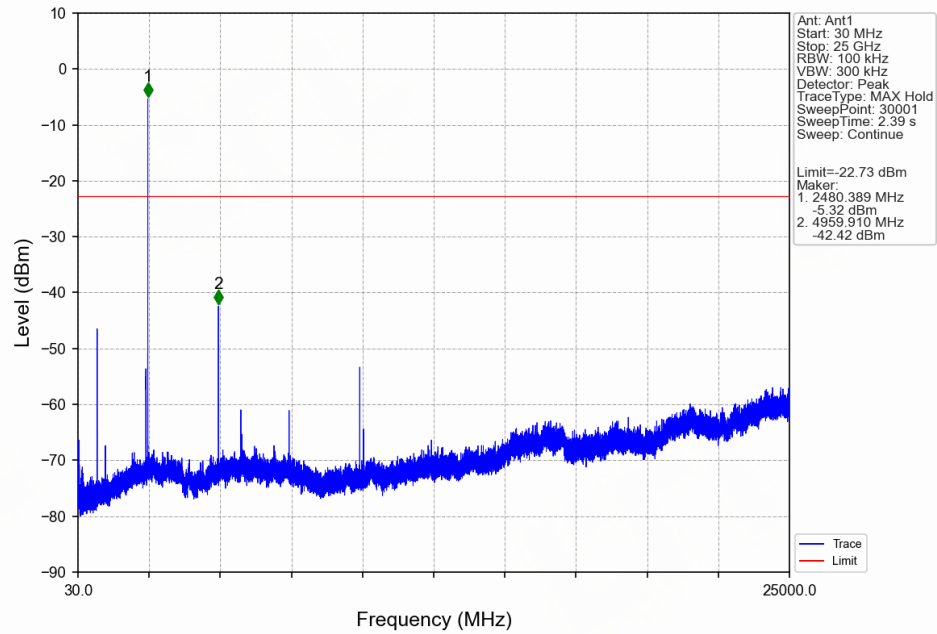


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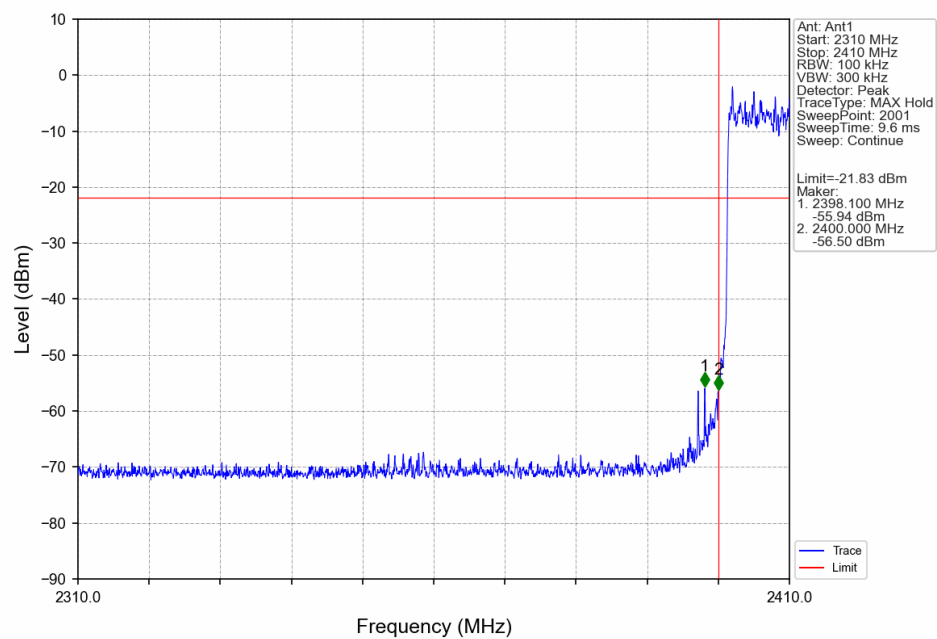


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8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



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