

Appendix for 15.247

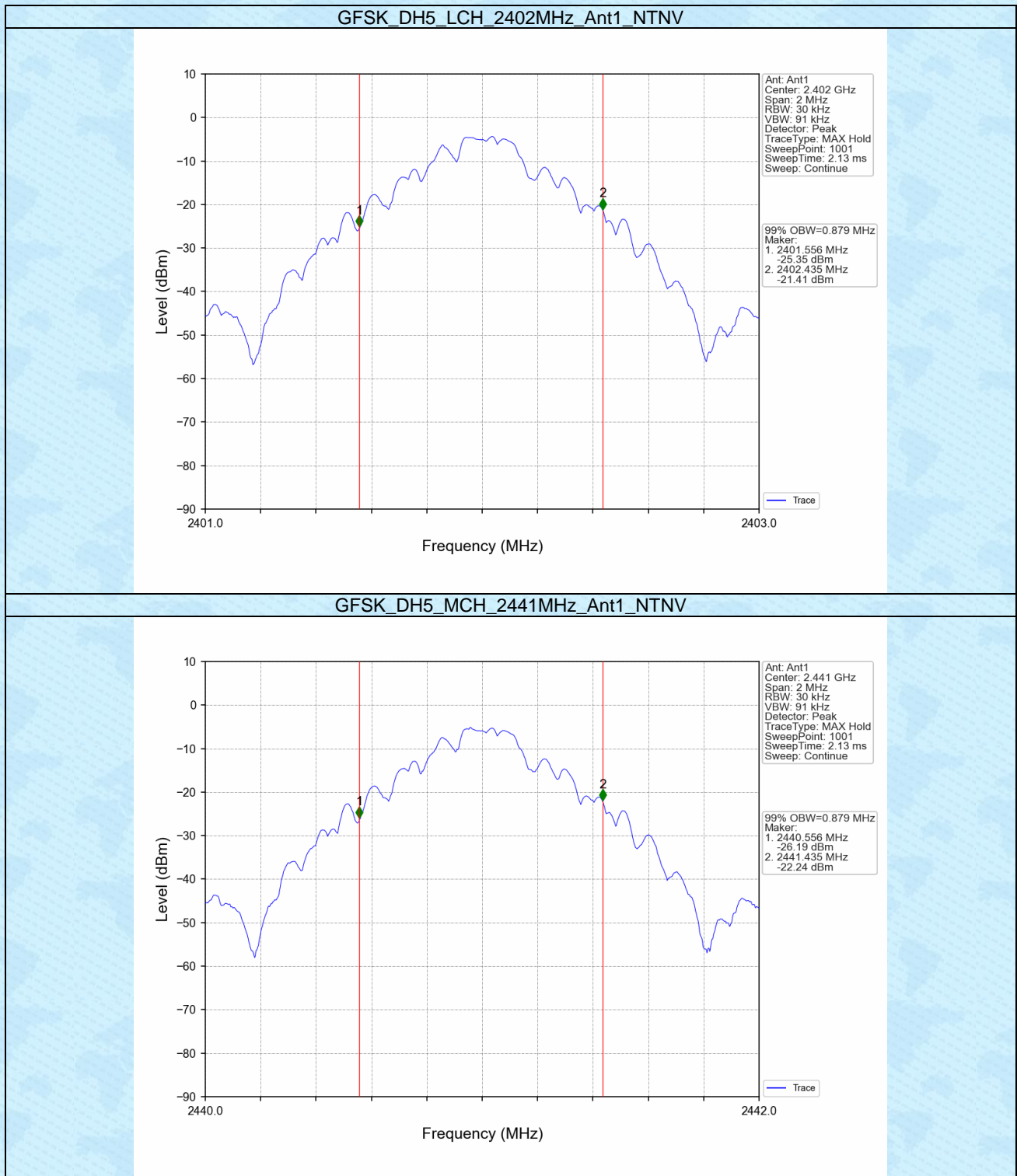
1. Bandwidth

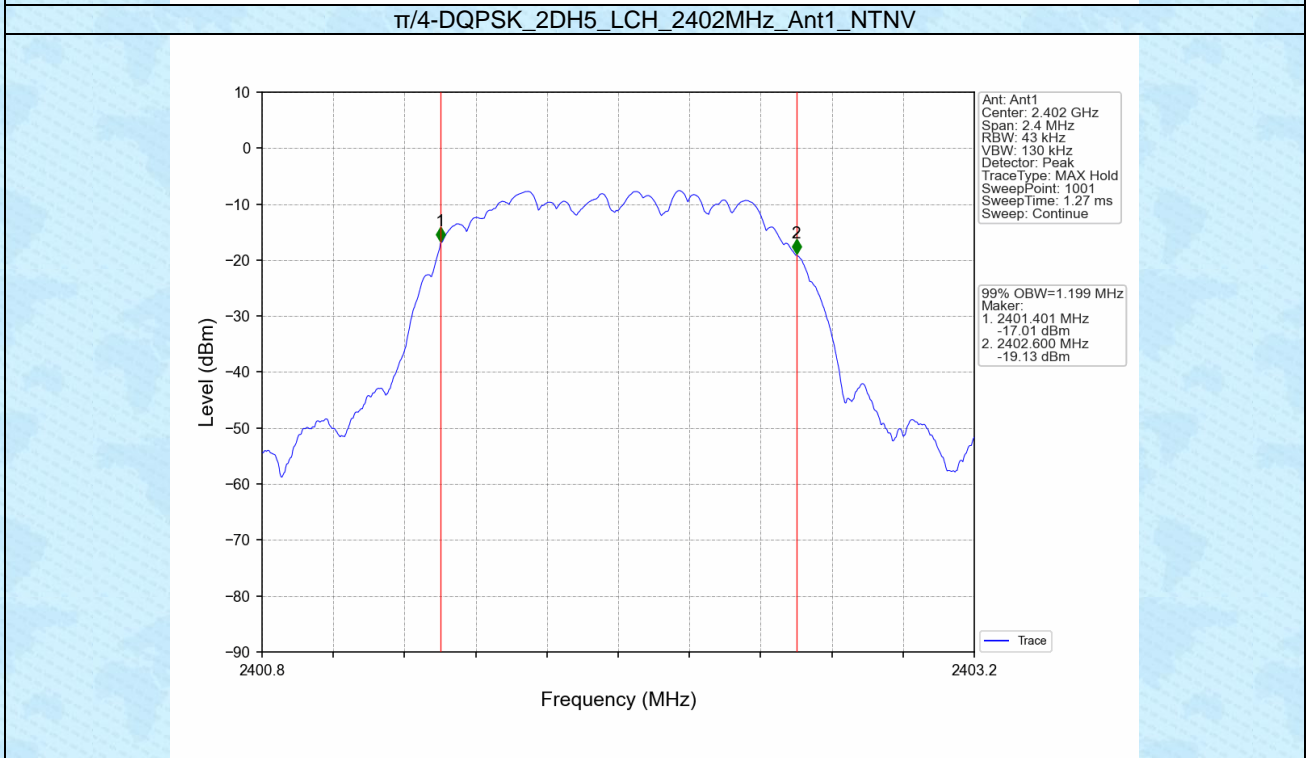
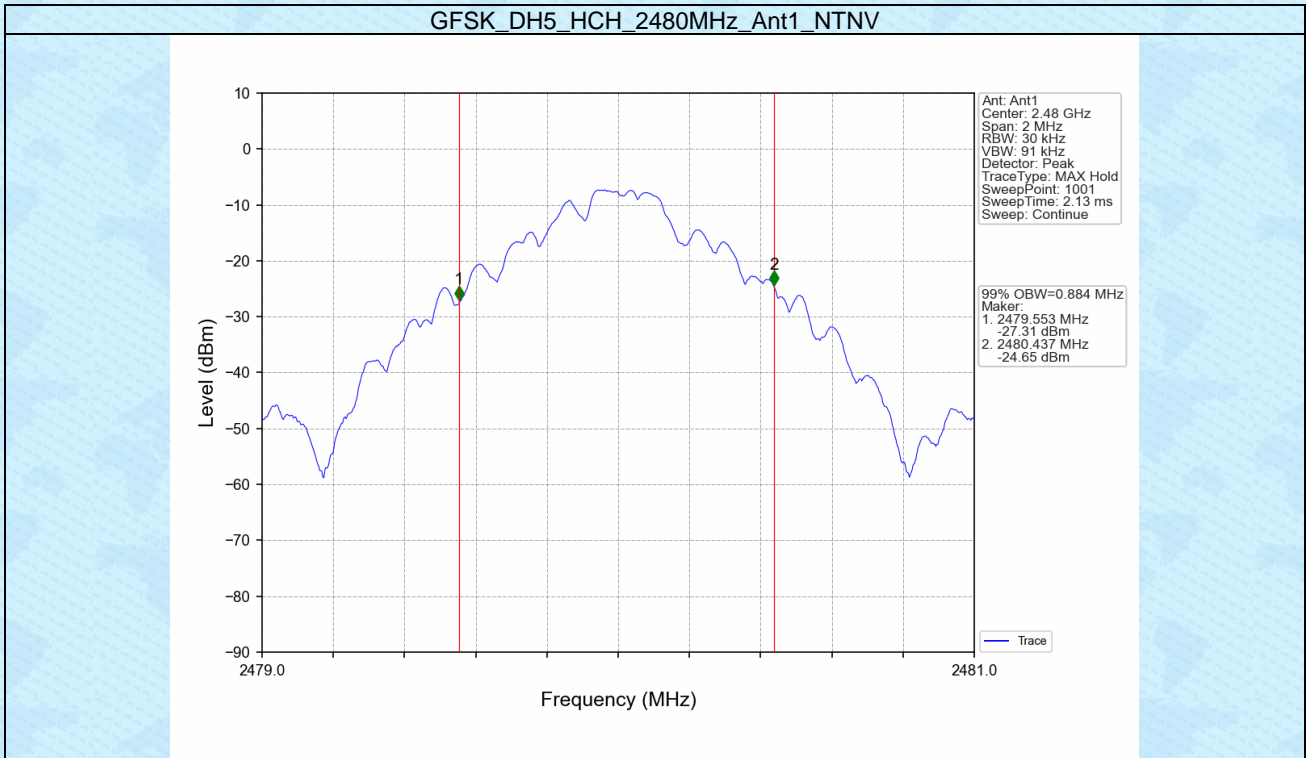
1.1 OBW

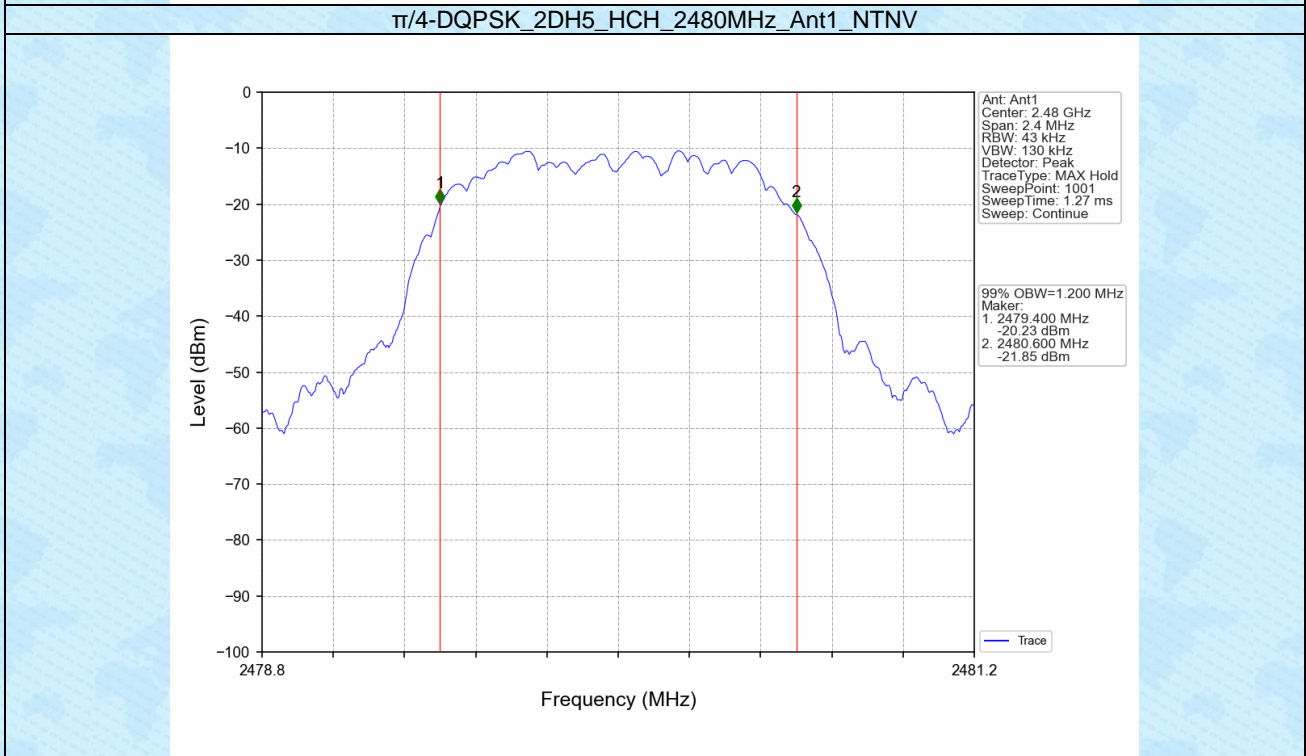
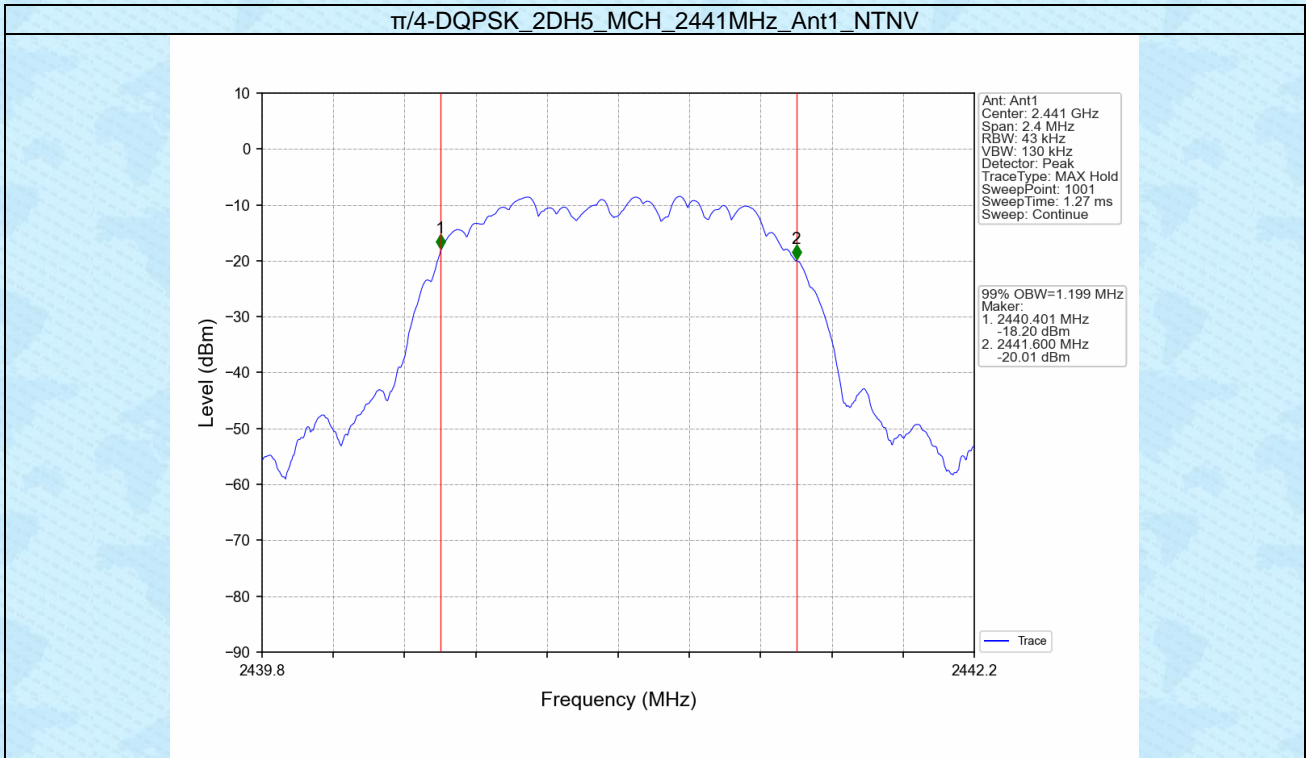
1.1.1 Test Result

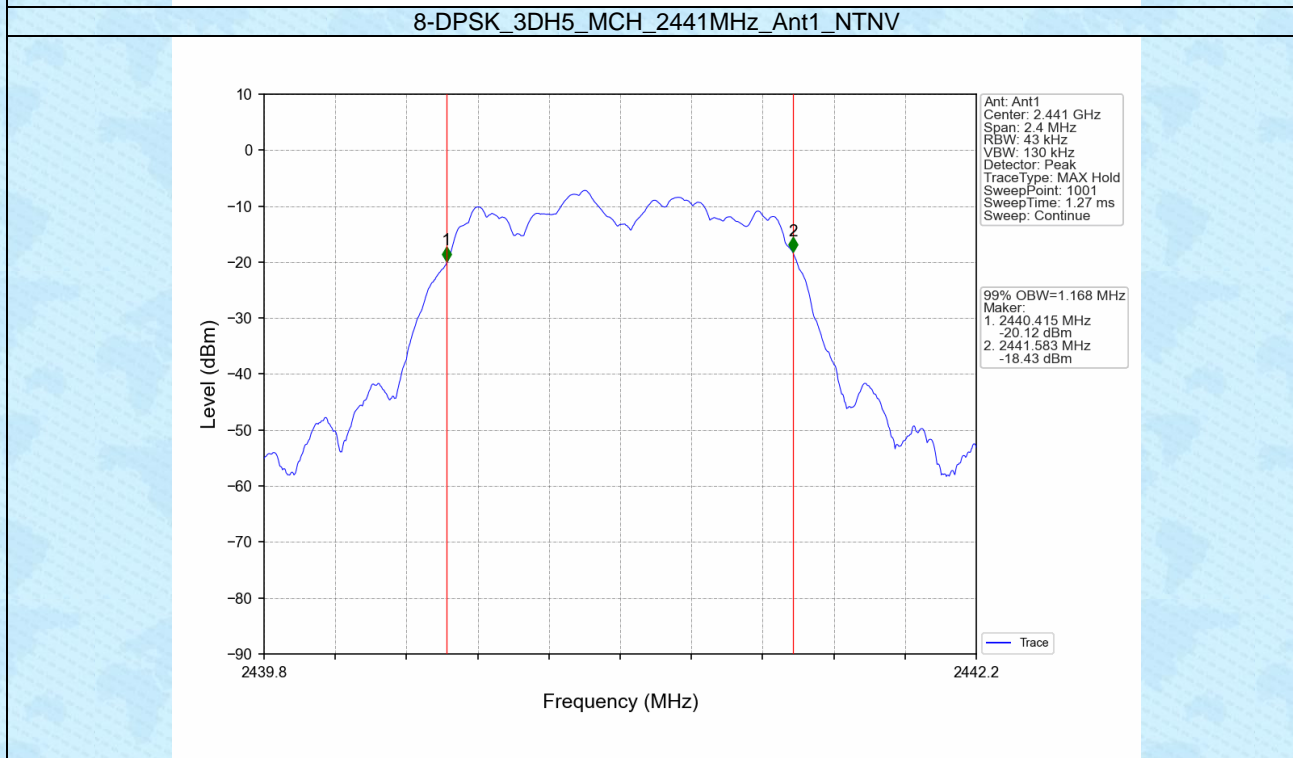
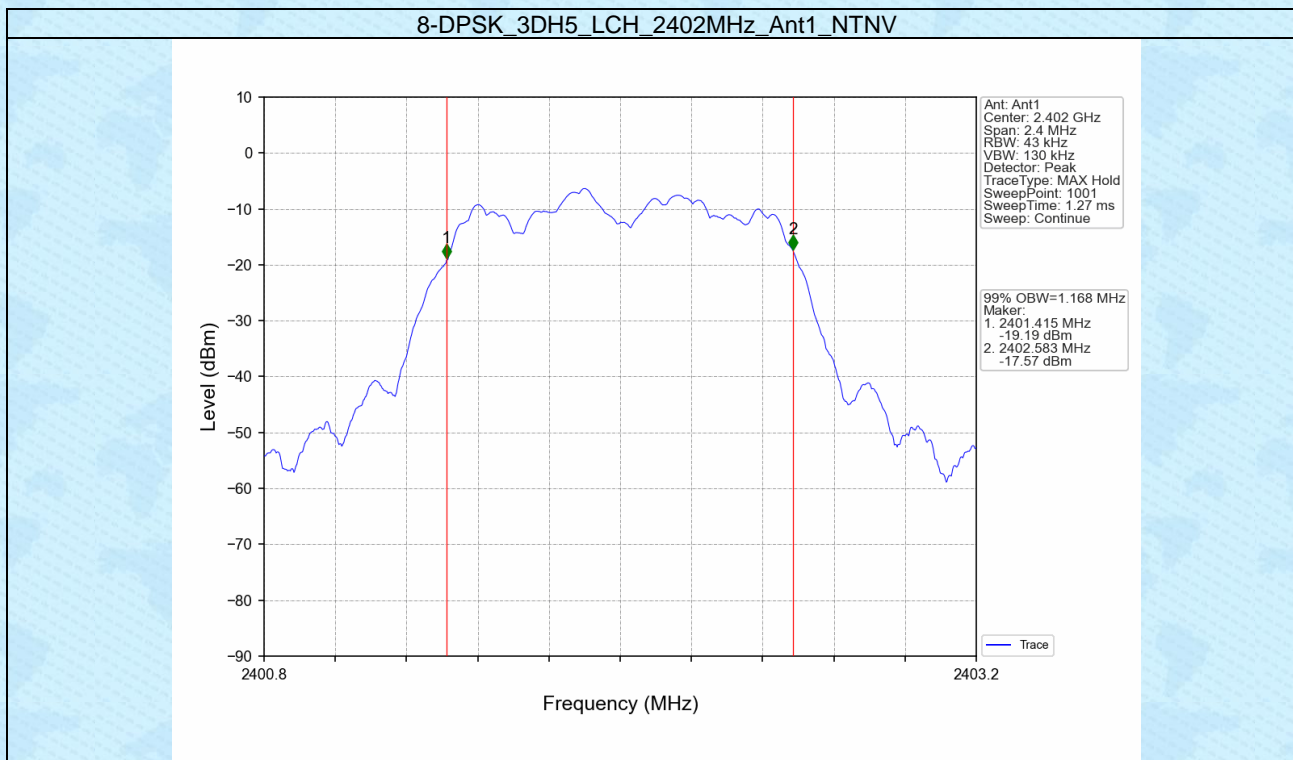
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	0.879	Pass
		2441	DH5	1	0.879	Pass
		2480	DH5	1	0.884	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.199	Pass
		2441	2DH5	1	1.199	Pass
		2480	2DH5	1	1.200	Pass
8-DPSK	SISO	2402	3DH5	1	1.168	Pass
		2441	3DH5	1	1.168	Pass
		2480	3DH5	1	1.172	Pass

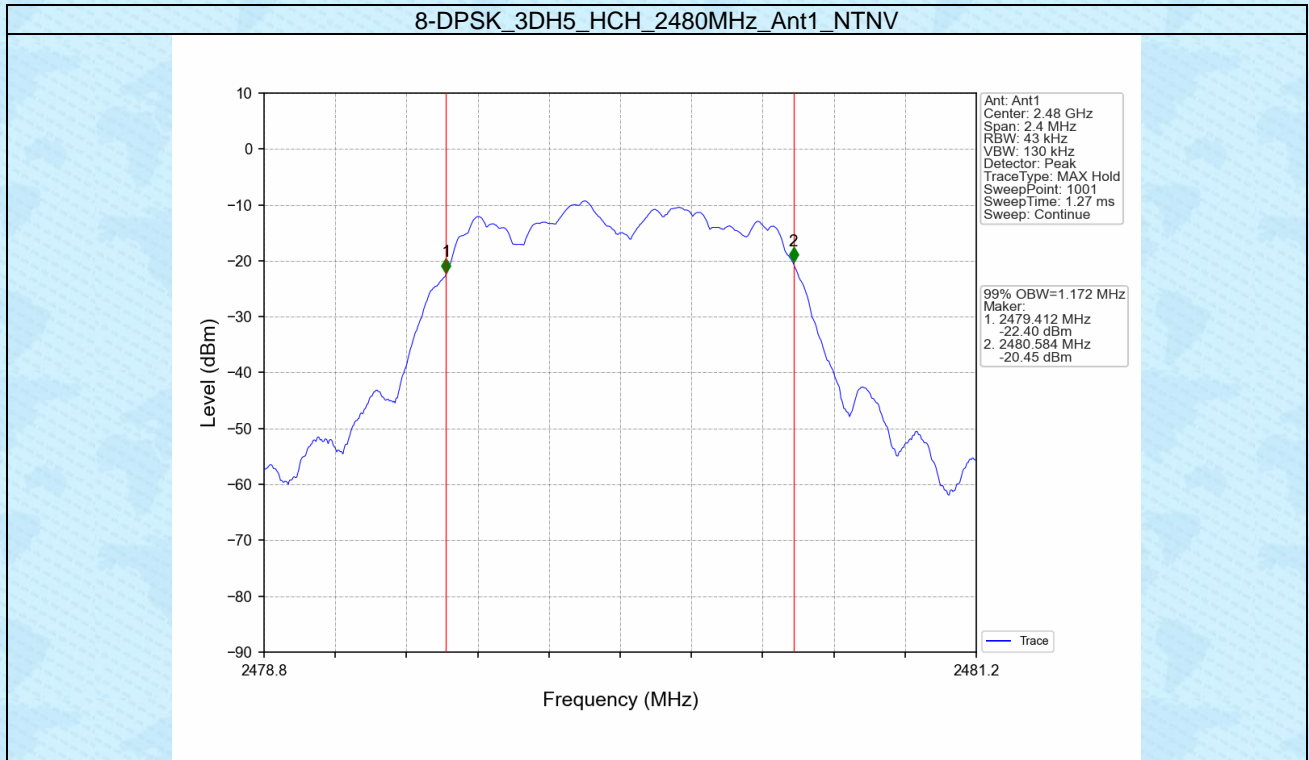
1.1.2 Test Graph









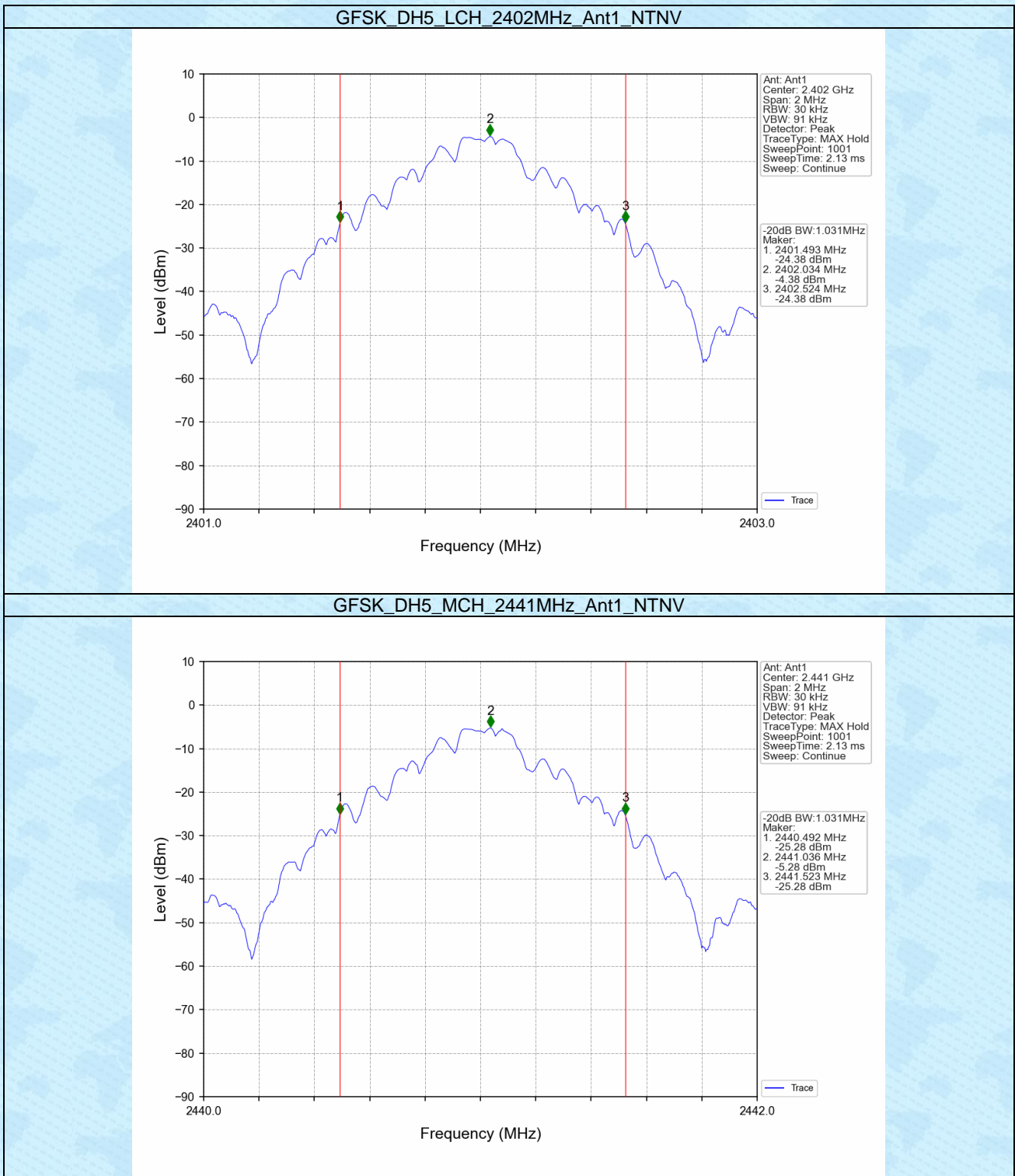


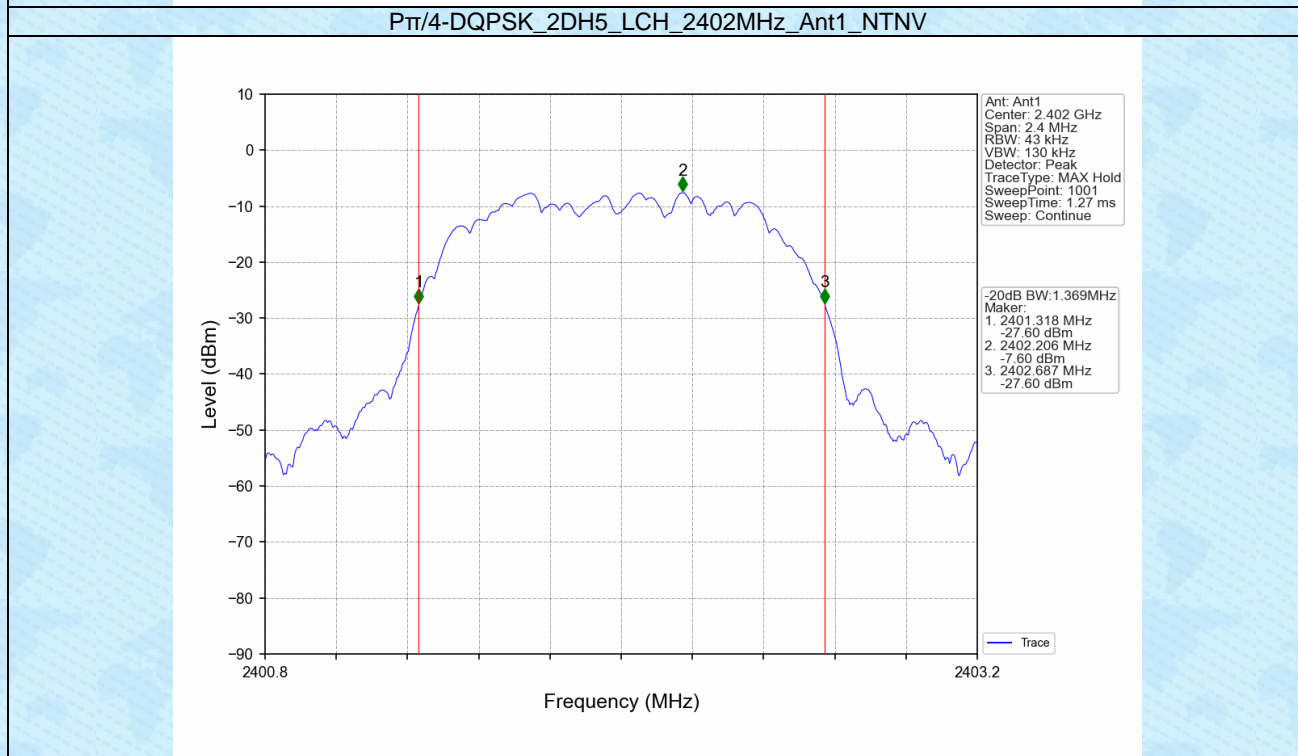
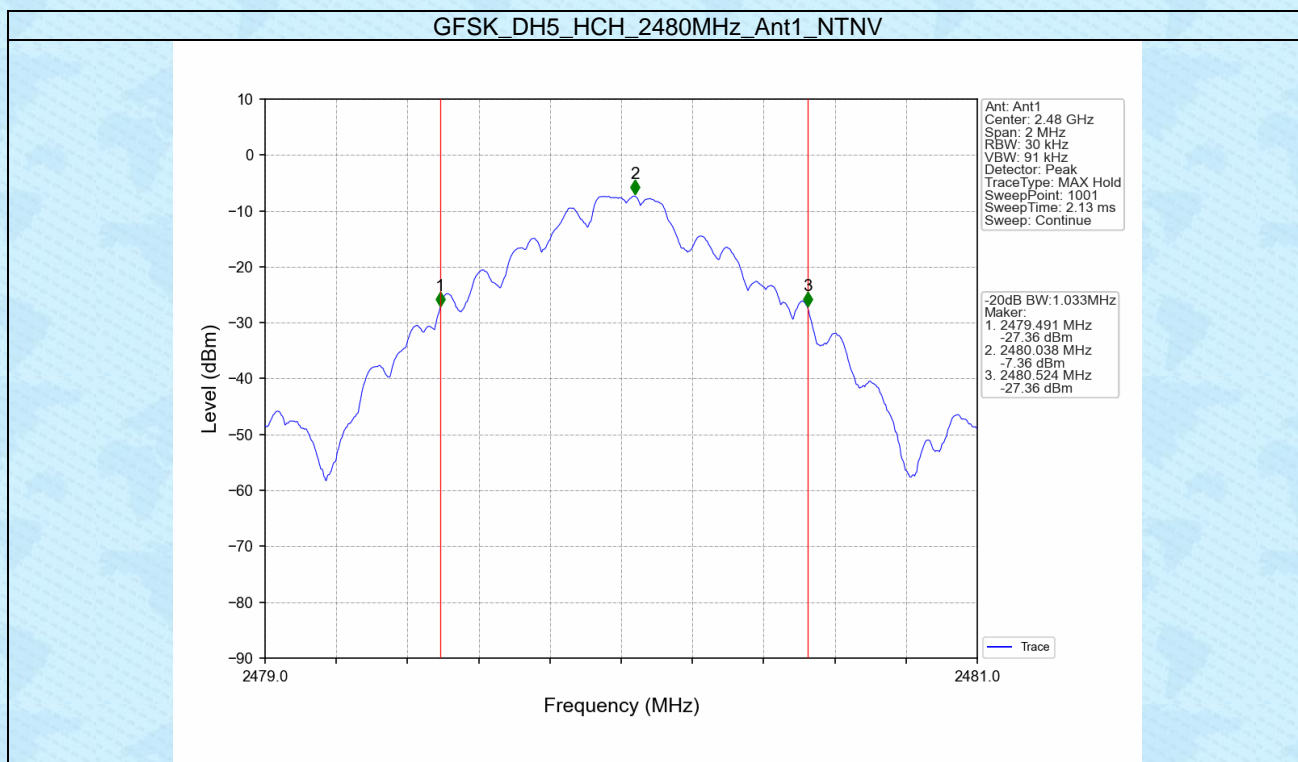
1.2 20dB BW

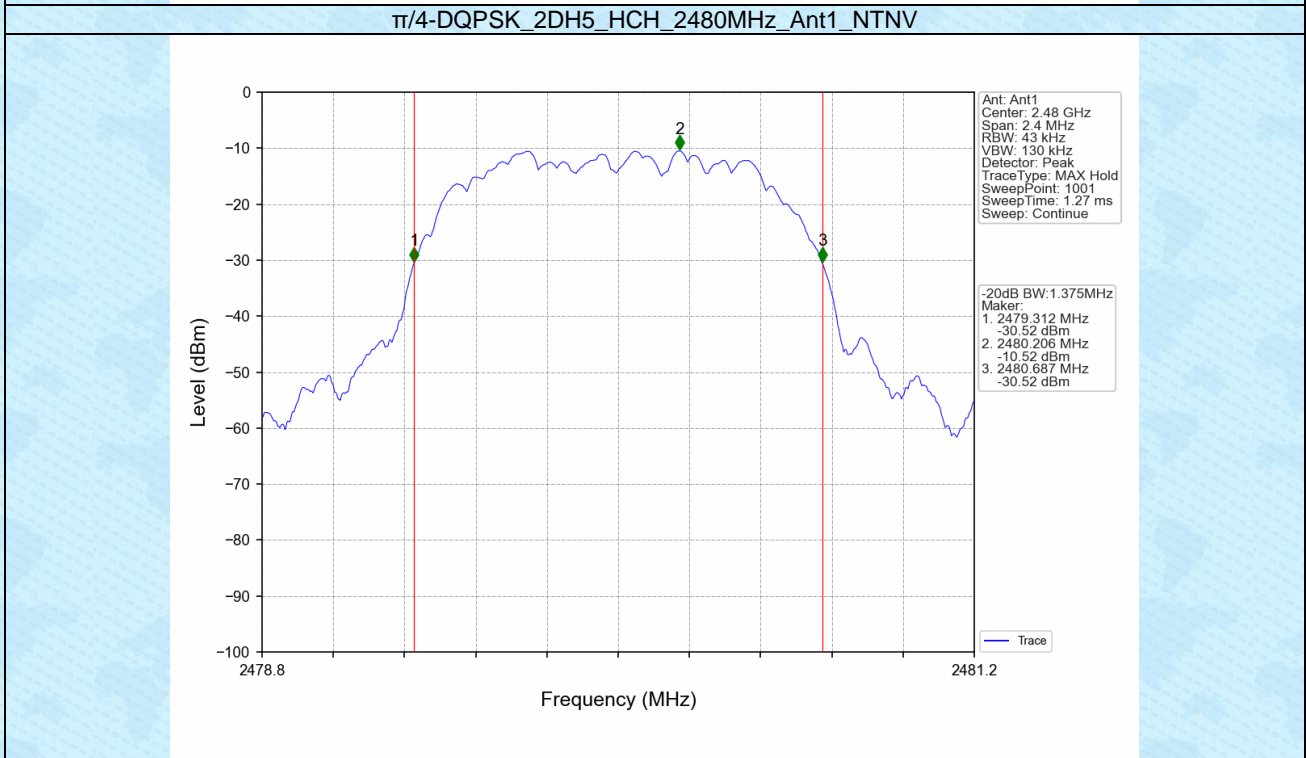
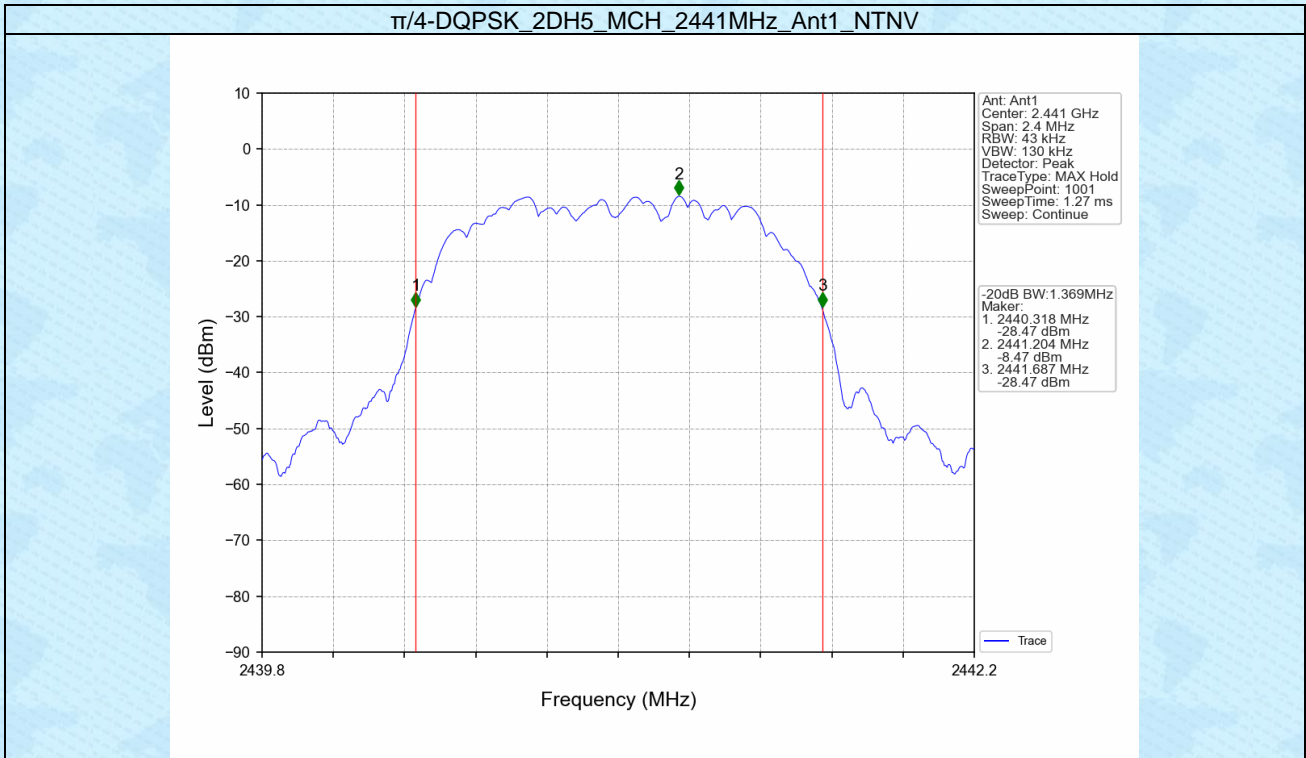
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	1.031	Pass
		2441	DH5	1	1.031	Pass
		2480	DH5	1	1.033	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	1.369	Pass
		2441	2DH5	1	1.369	Pass
		2480	2DH5	1	1.375	Pass
8-DPSK	SISO	2402	3DH5	1	1.304	Pass
		2441	3DH5	1	1.304	Pass
		2480	3DH5	1	1.308	Pass

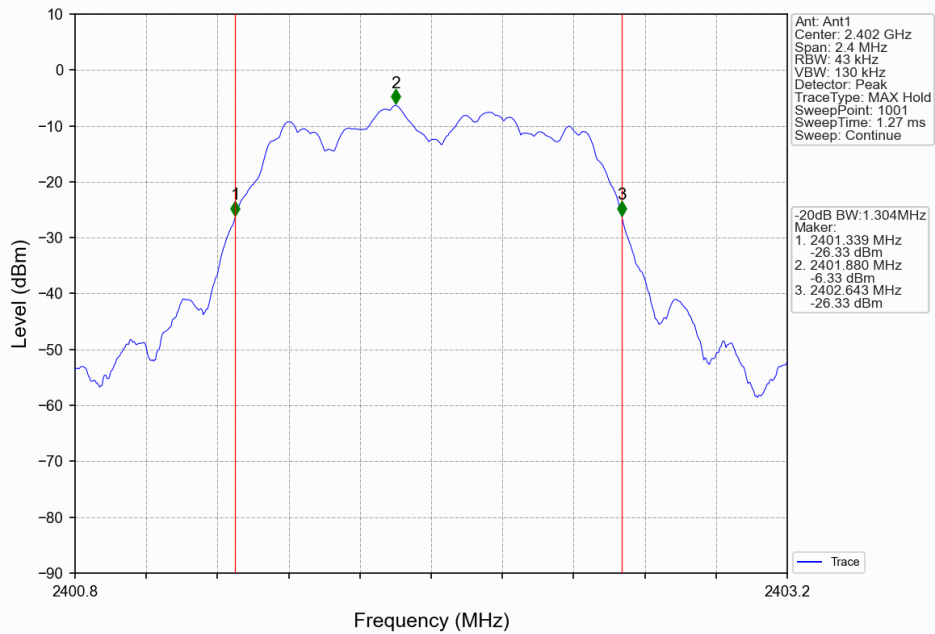
1.2.2 Test Graph



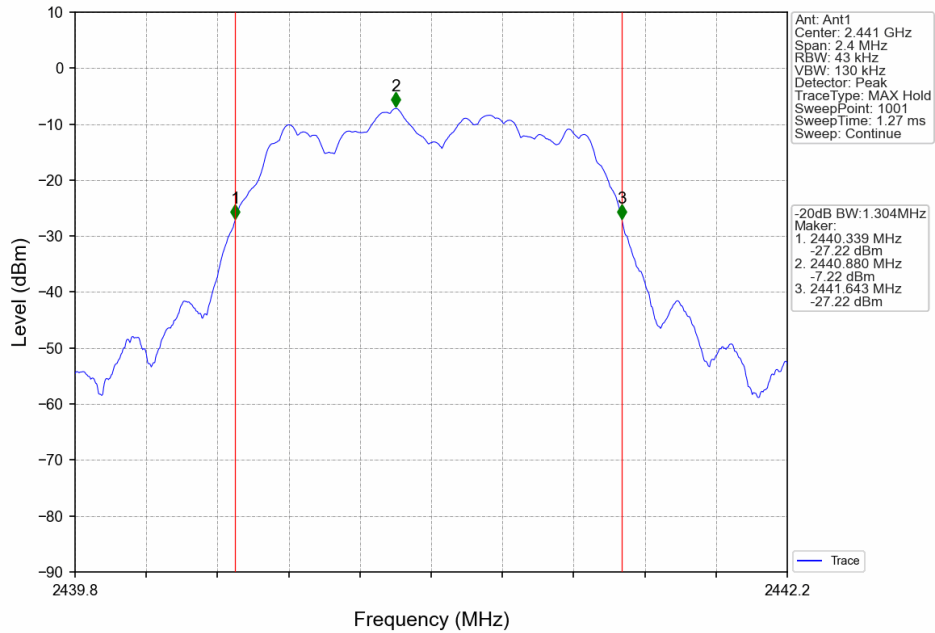


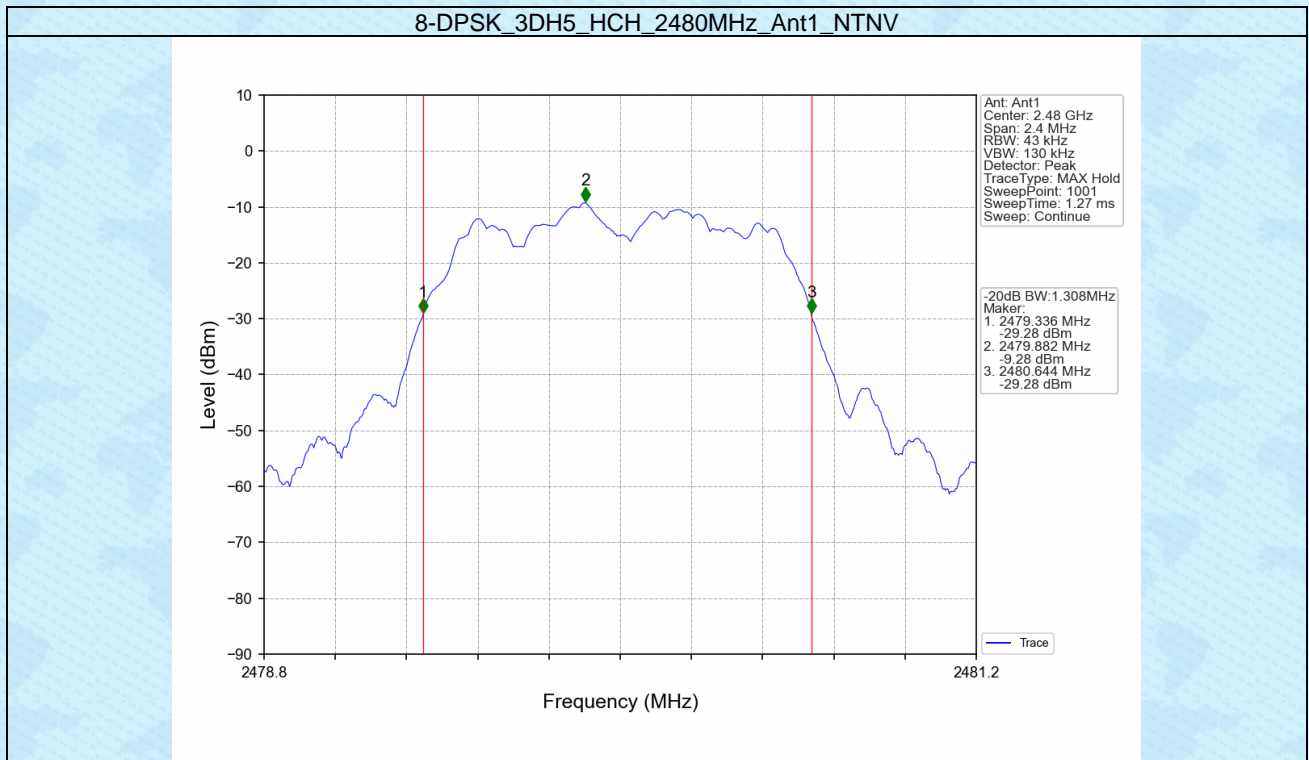


8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





2. Maximum Conducted Output Power

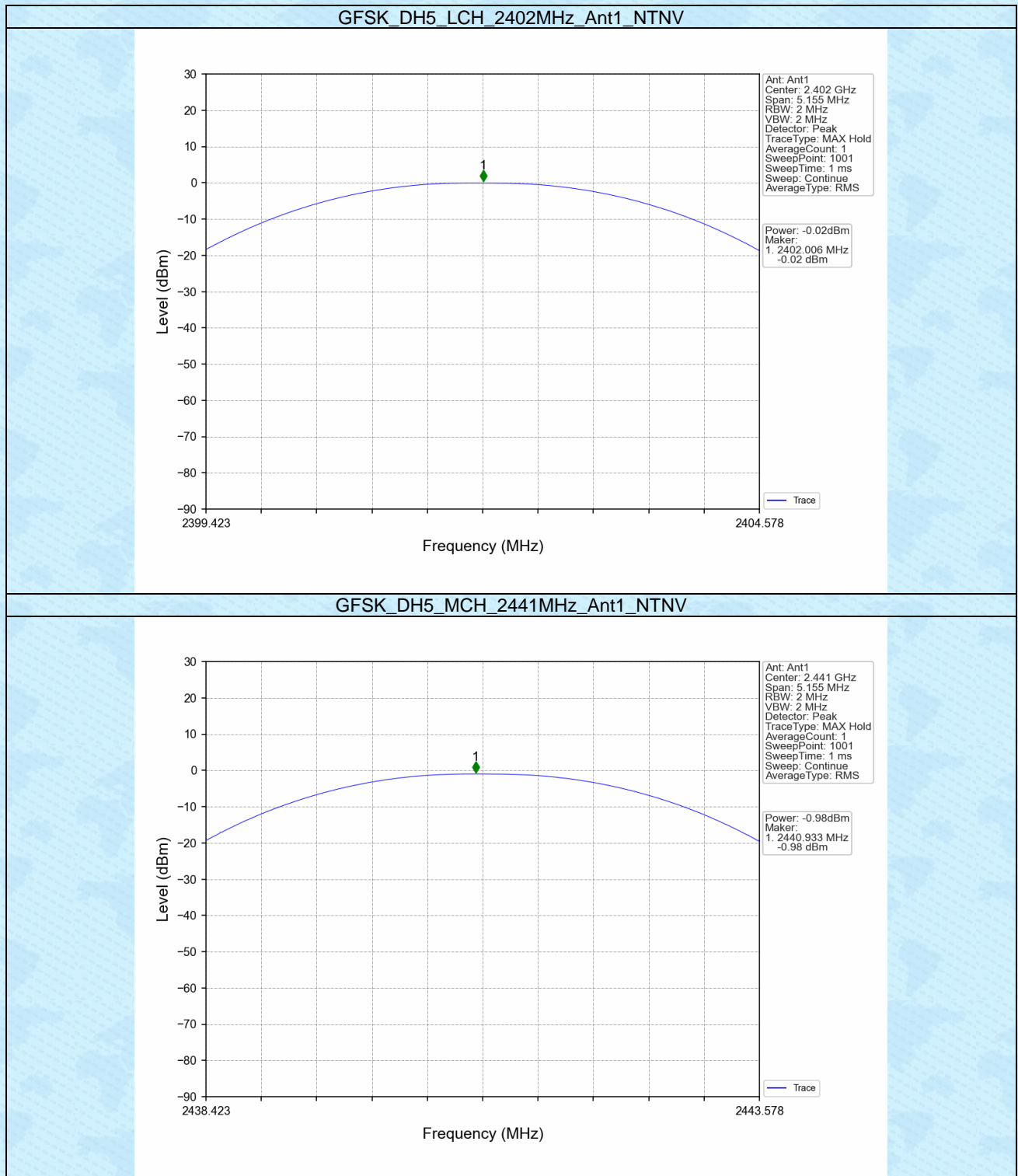
2.1 Power

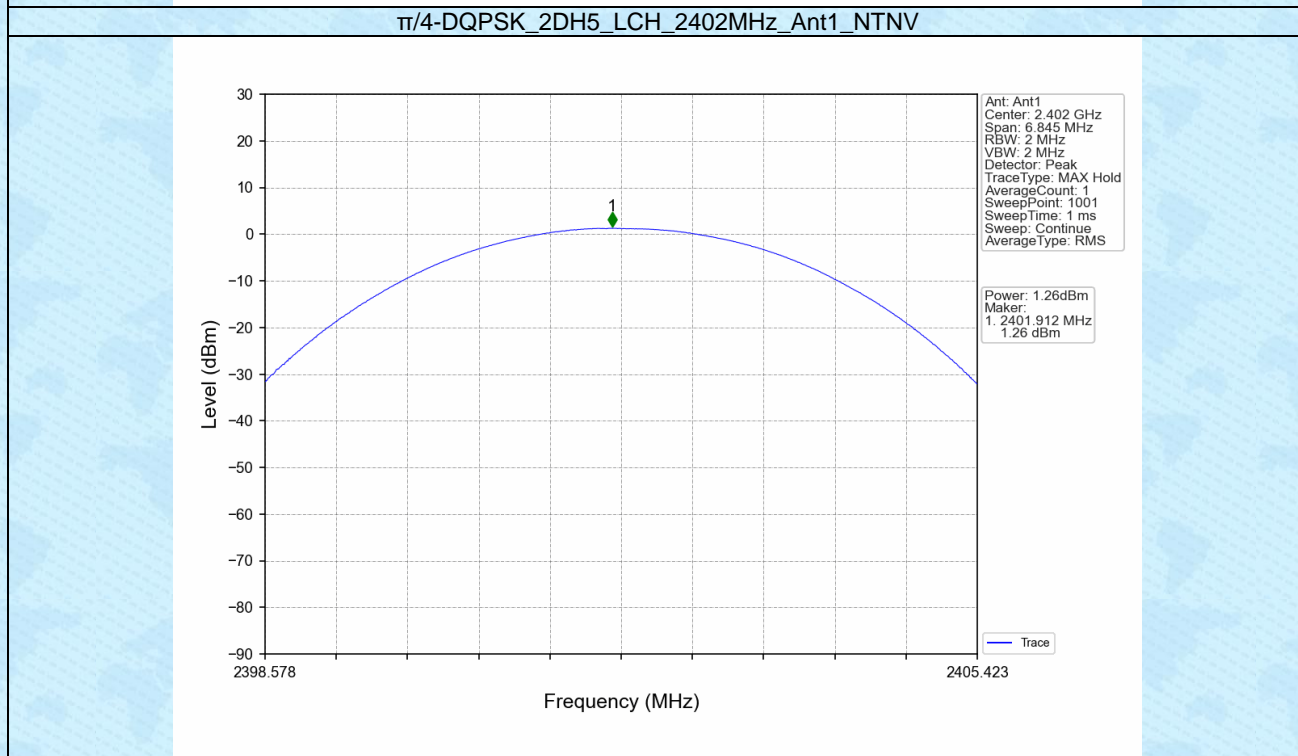
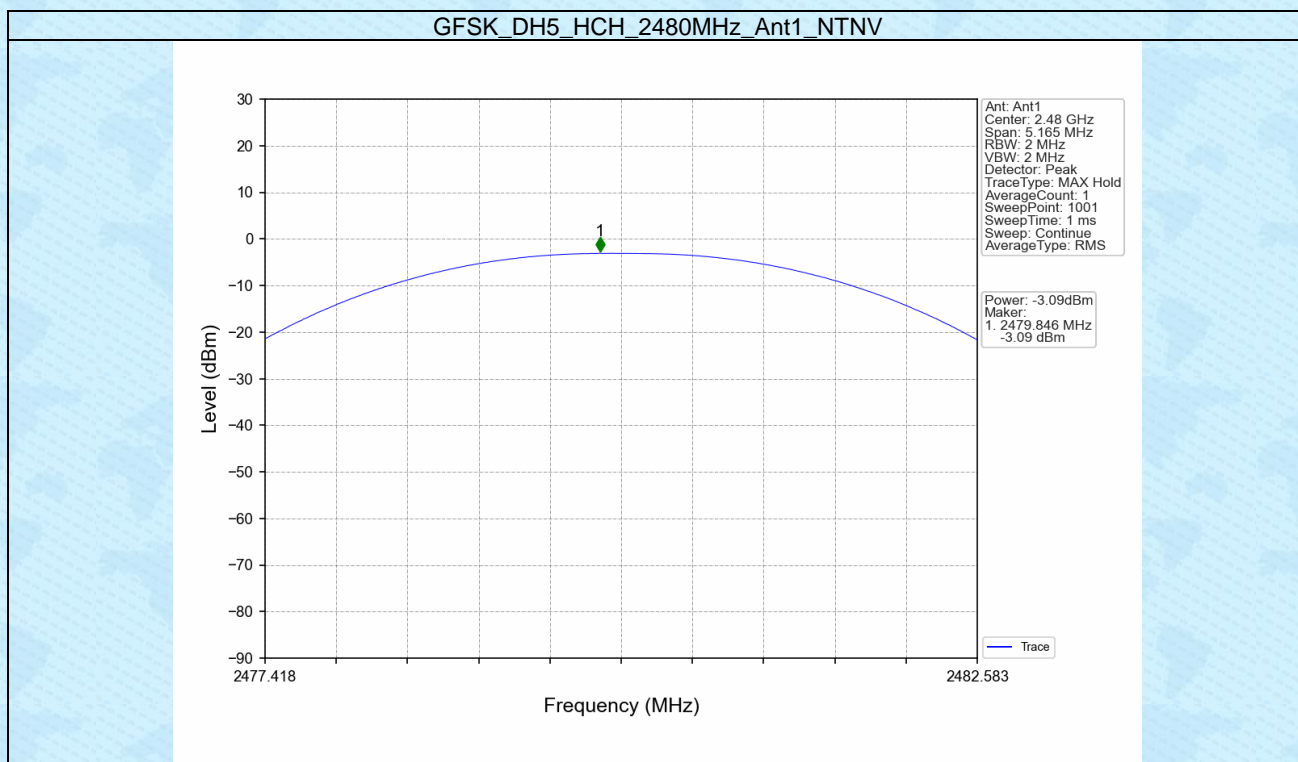
2.1.1 Test Result

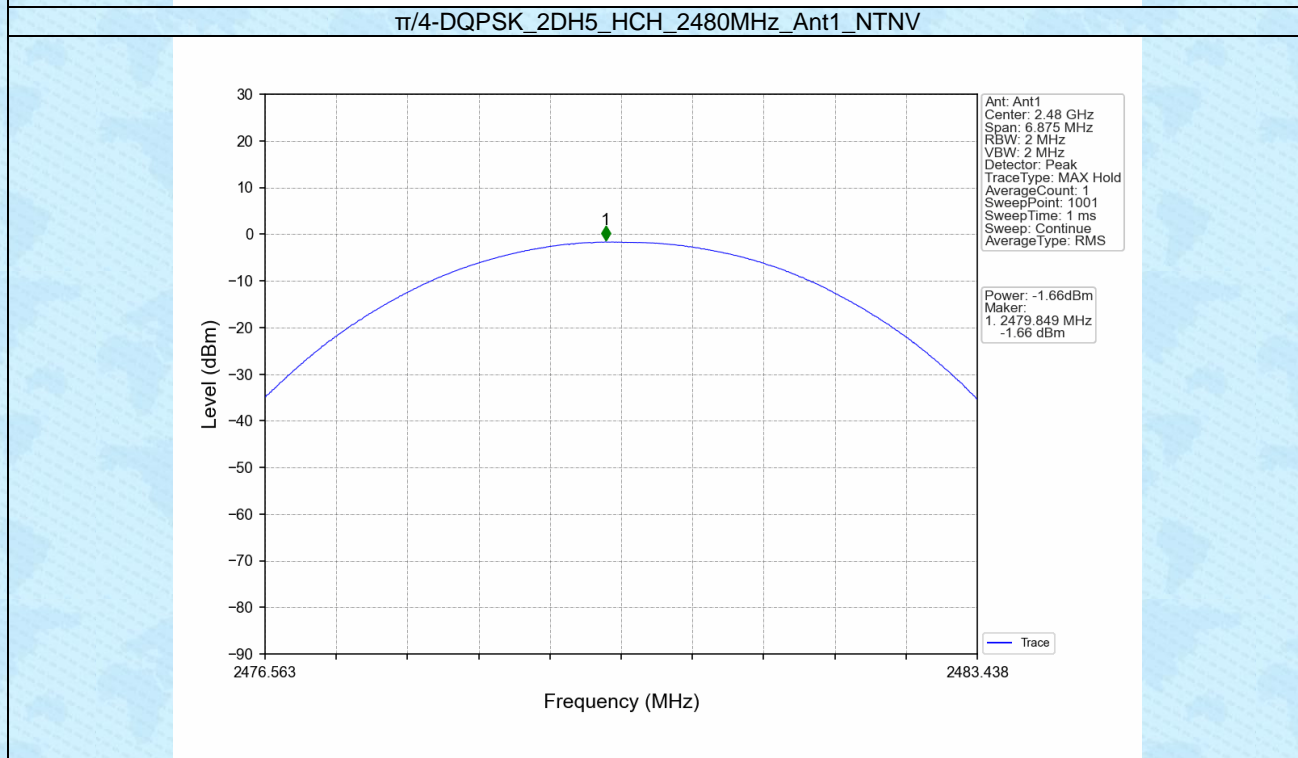
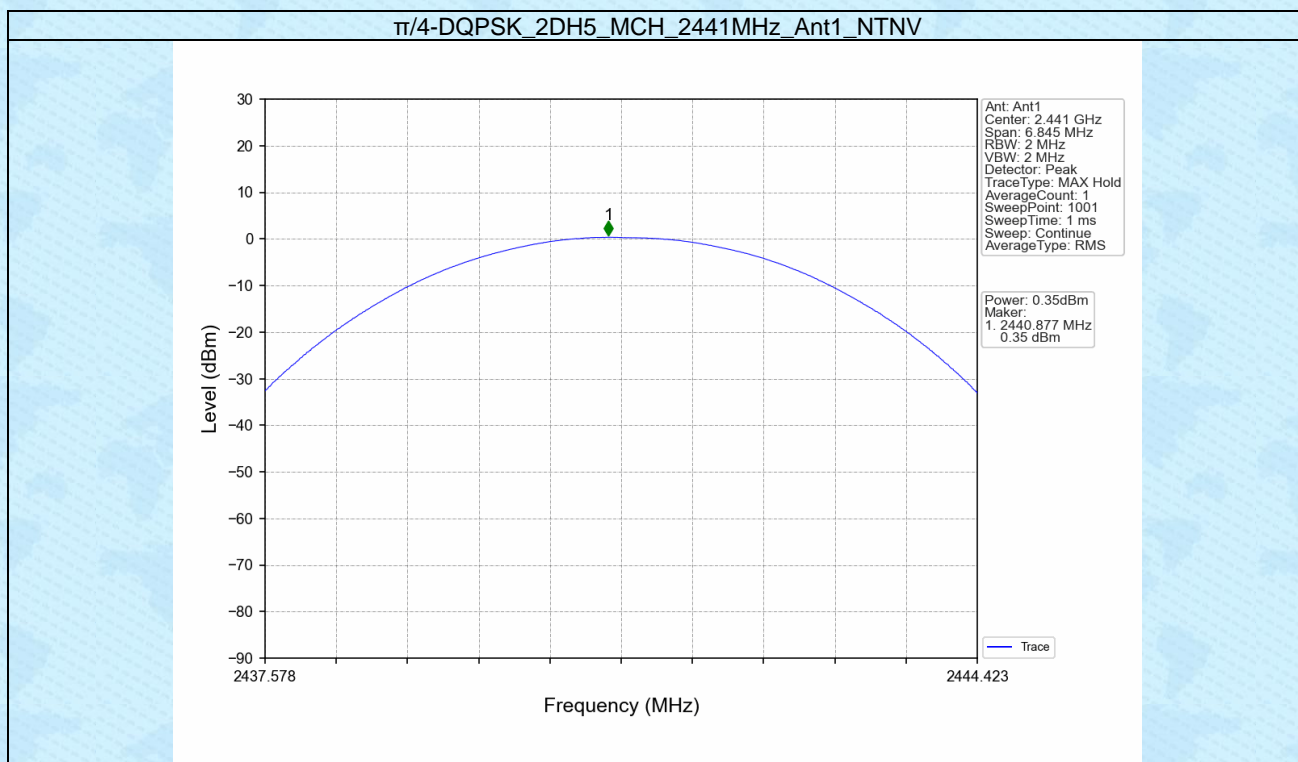
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-0.02	<=20.97	Pass
		2441	DH5	-0.98	<=20.97	Pass
		2480	DH5	-3.09	<=20.97	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1.26	<=20.97	Pass
		2441	2DH5	0.35	<=20.97	Pass
		2480	2DH5	-1.66	<=20.97	Pass
8-DPSK	SISO	2402	3DH5	1.46	<=20.97	Pass
		2441	3DH5	0.58	<=20.97	Pass
		2480	3DH5	-1.44	<=20.97	Pass

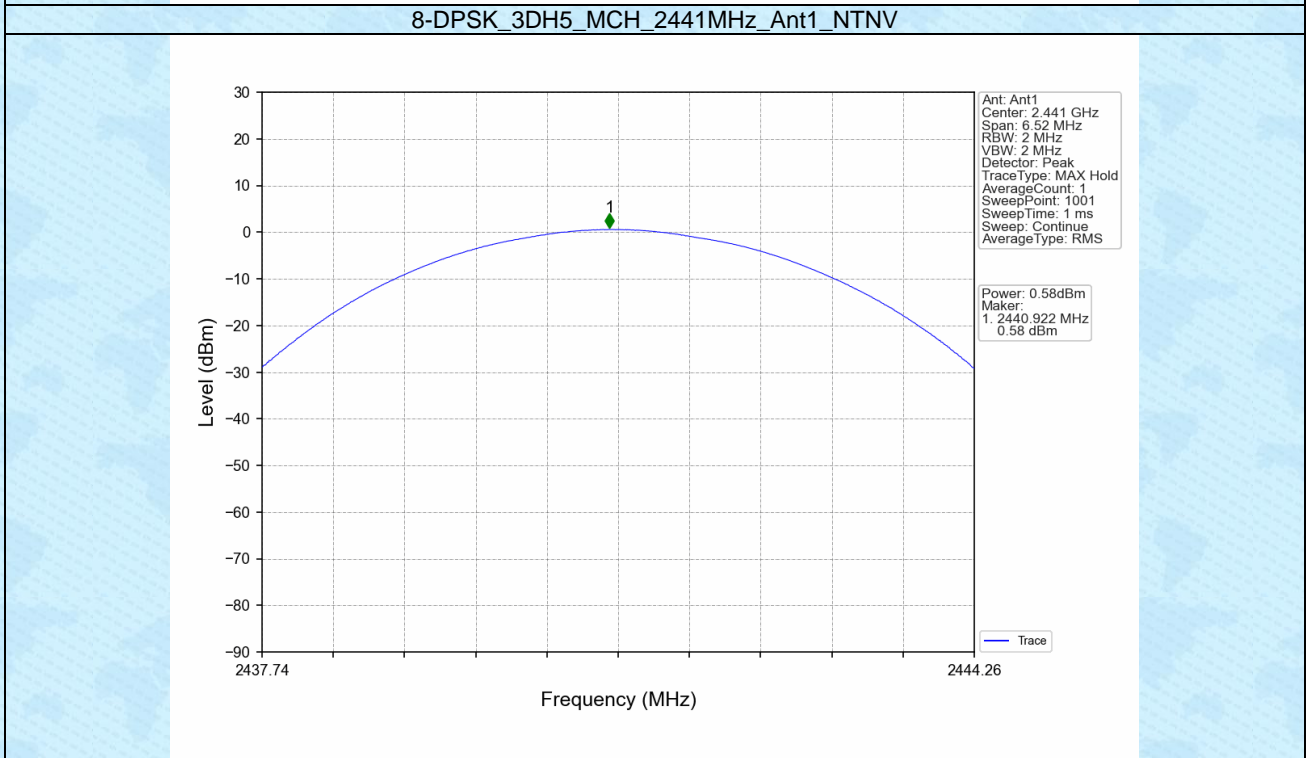
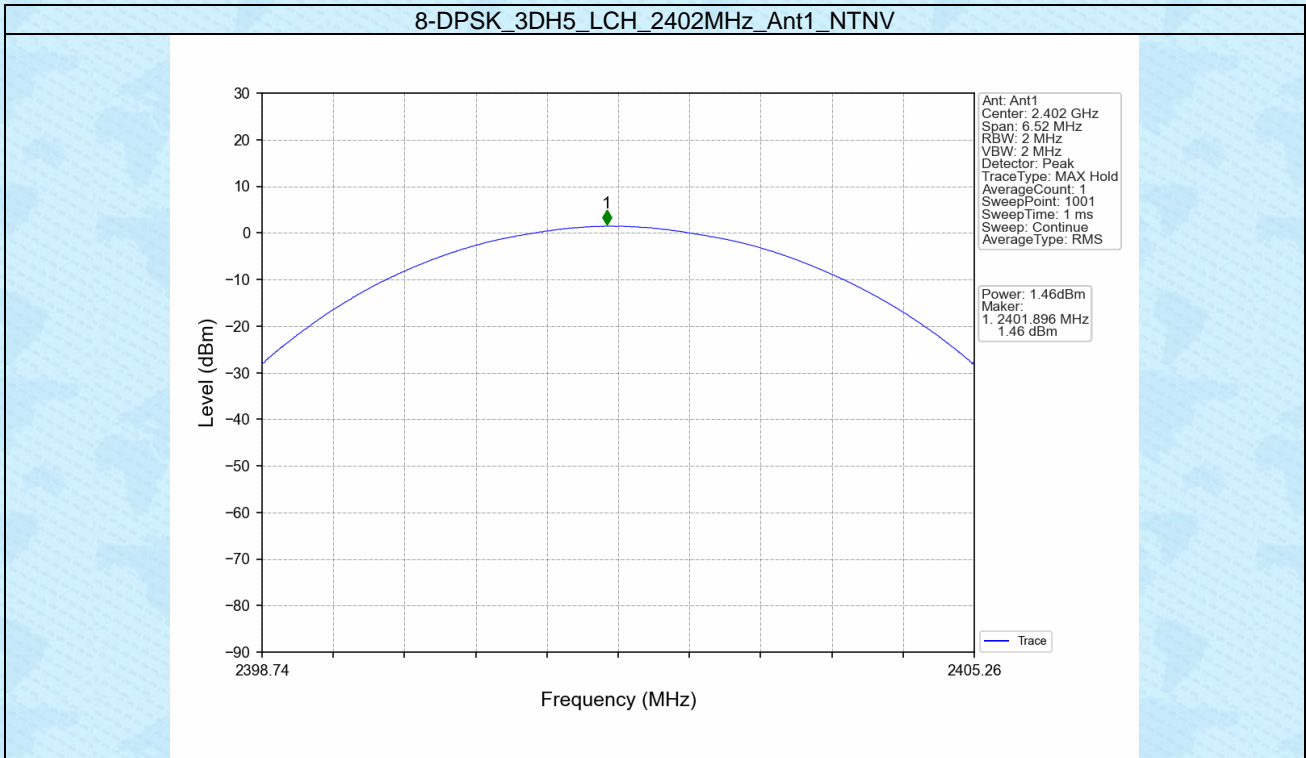
Note1: Antenna Gain: Ant1: -0.28dBi;

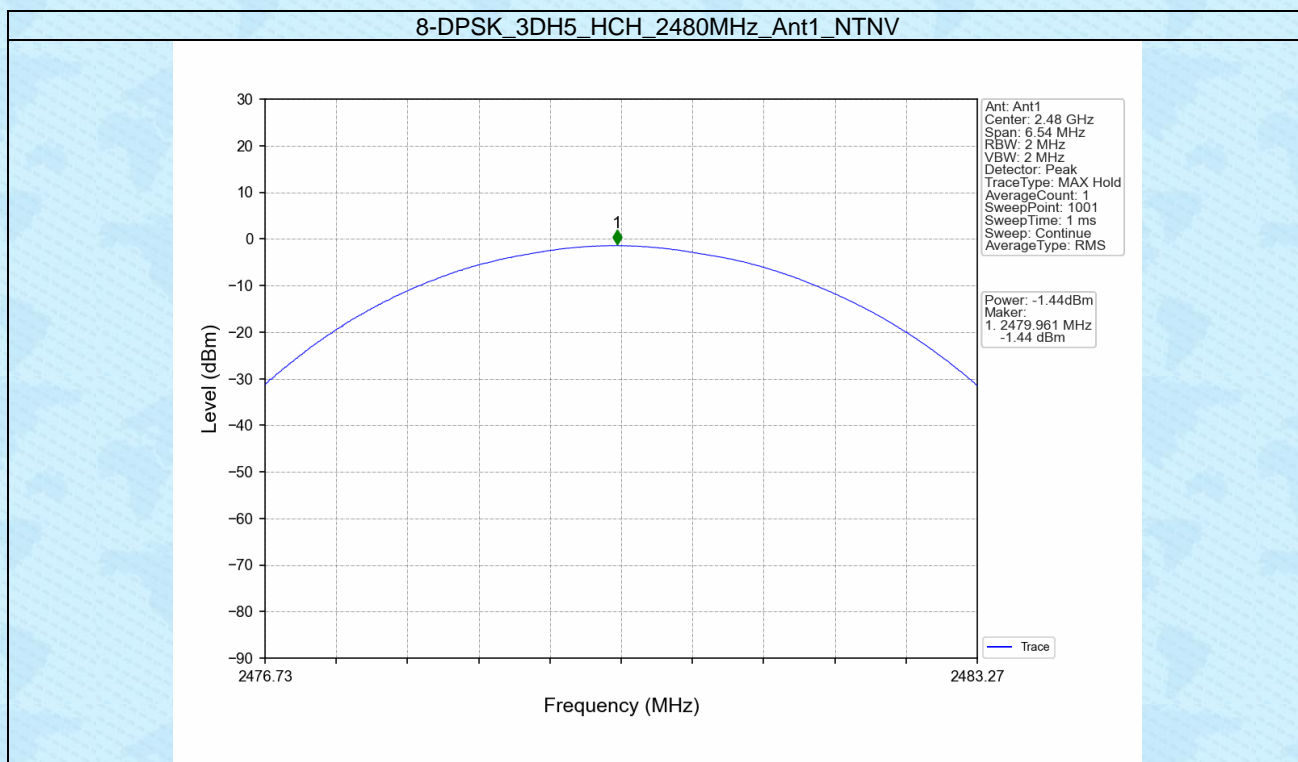
2.1.2 Test Graph









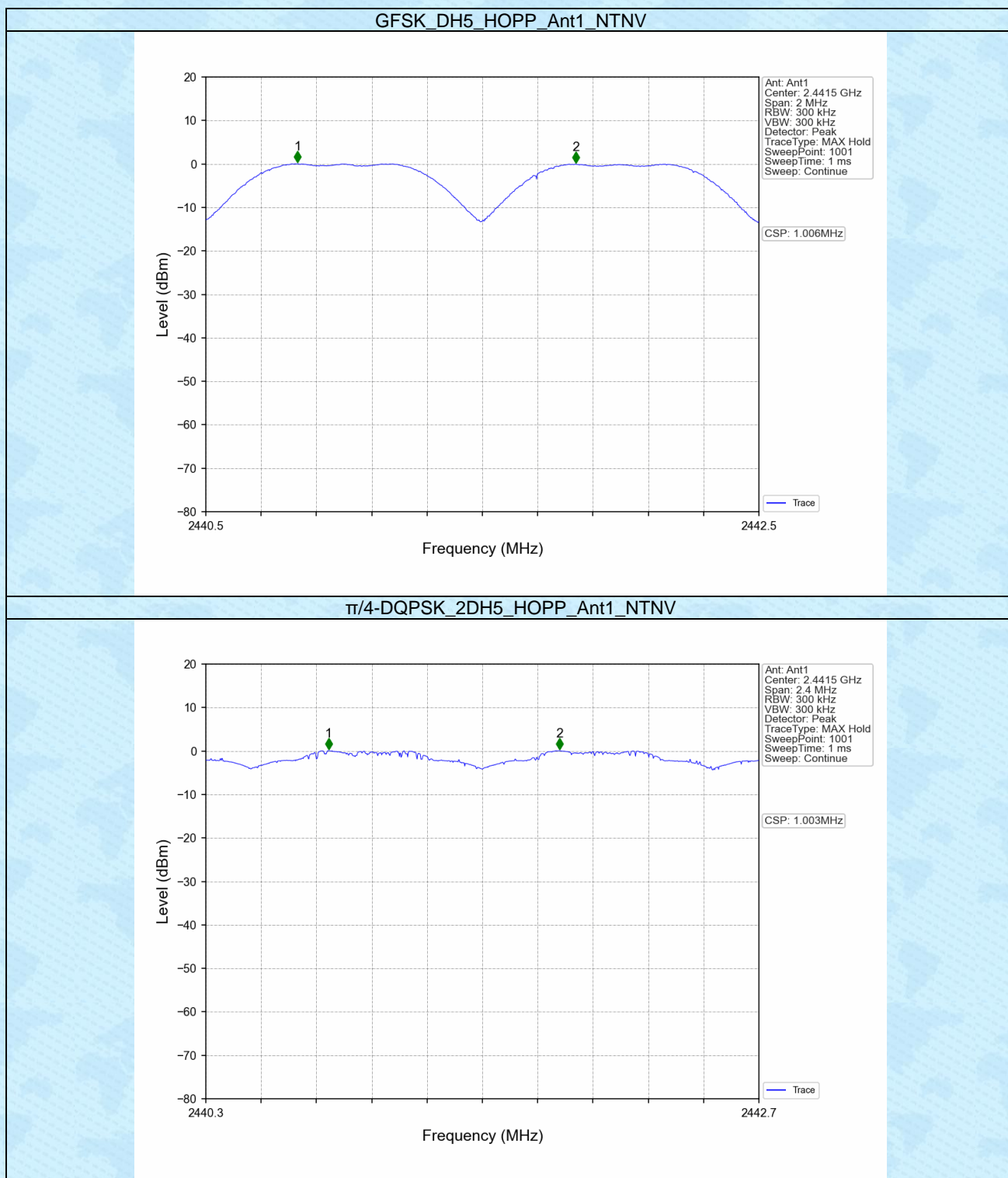


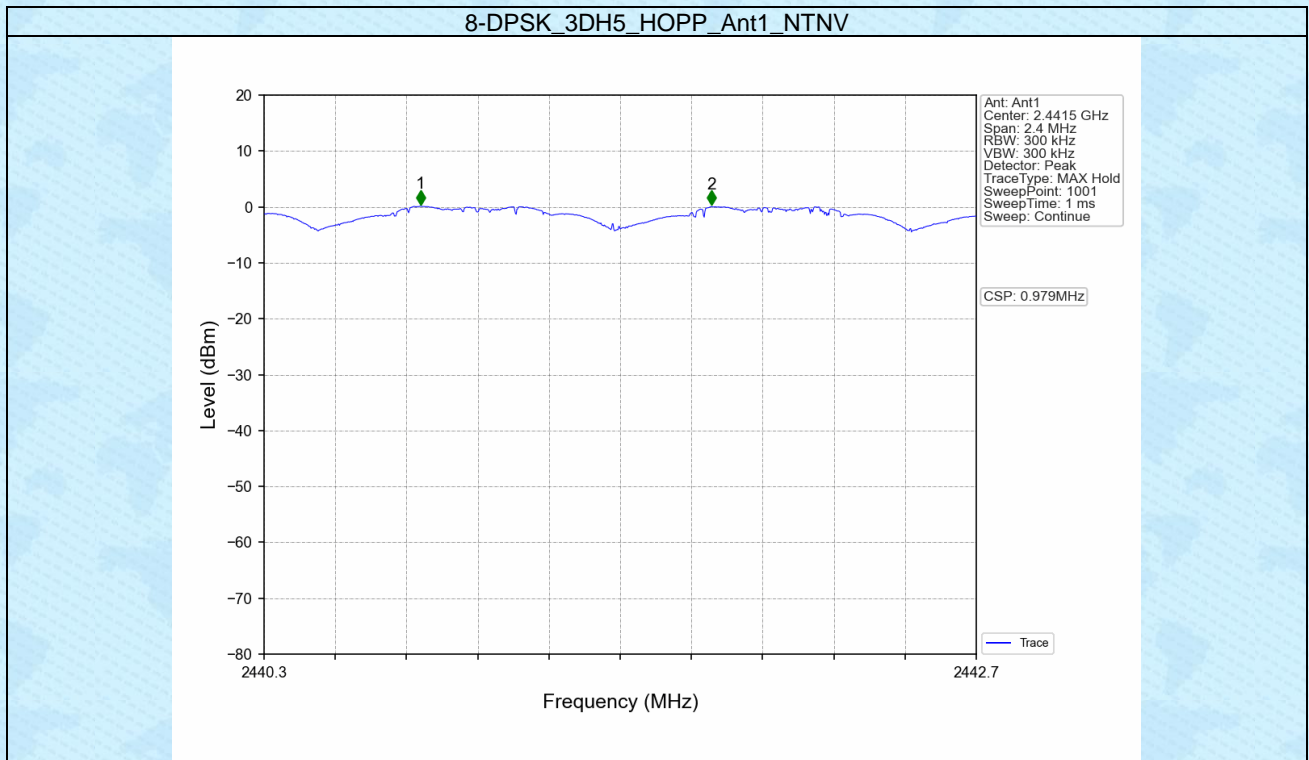
3. Carrier Frequency Separation

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	1.006	1.033	≥ 0.689	Pass
$\pi/4$ -DQPSK	SISO	HOPP	2DH5	1.003	1.375	≥ 0.917	Pass
8-DPSK	SISO	HOPP	3DH5	0.979	1.308	≥ 0.872	Pass

3.2 Test Graph





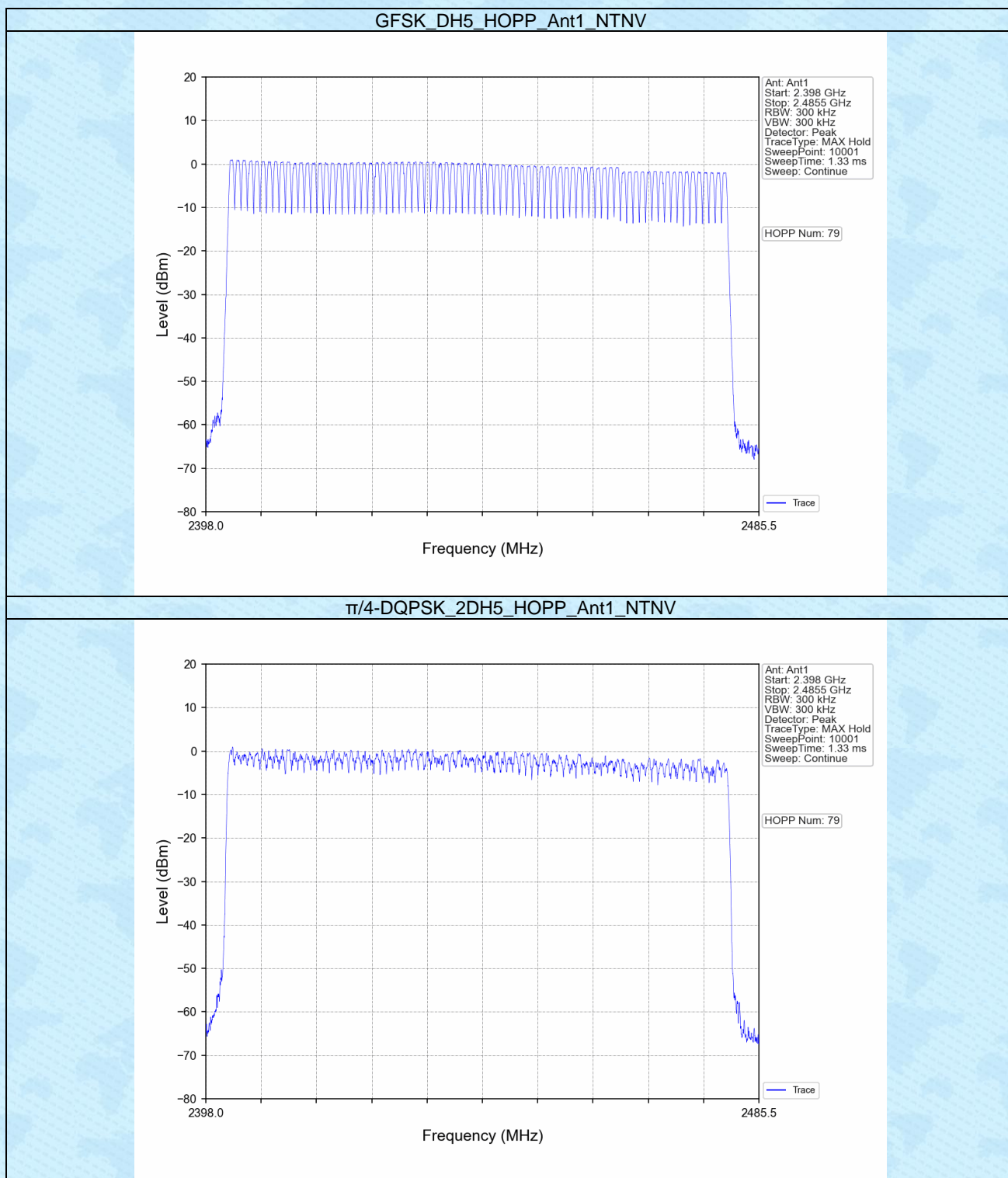
4. Number of Hopping Frequencies

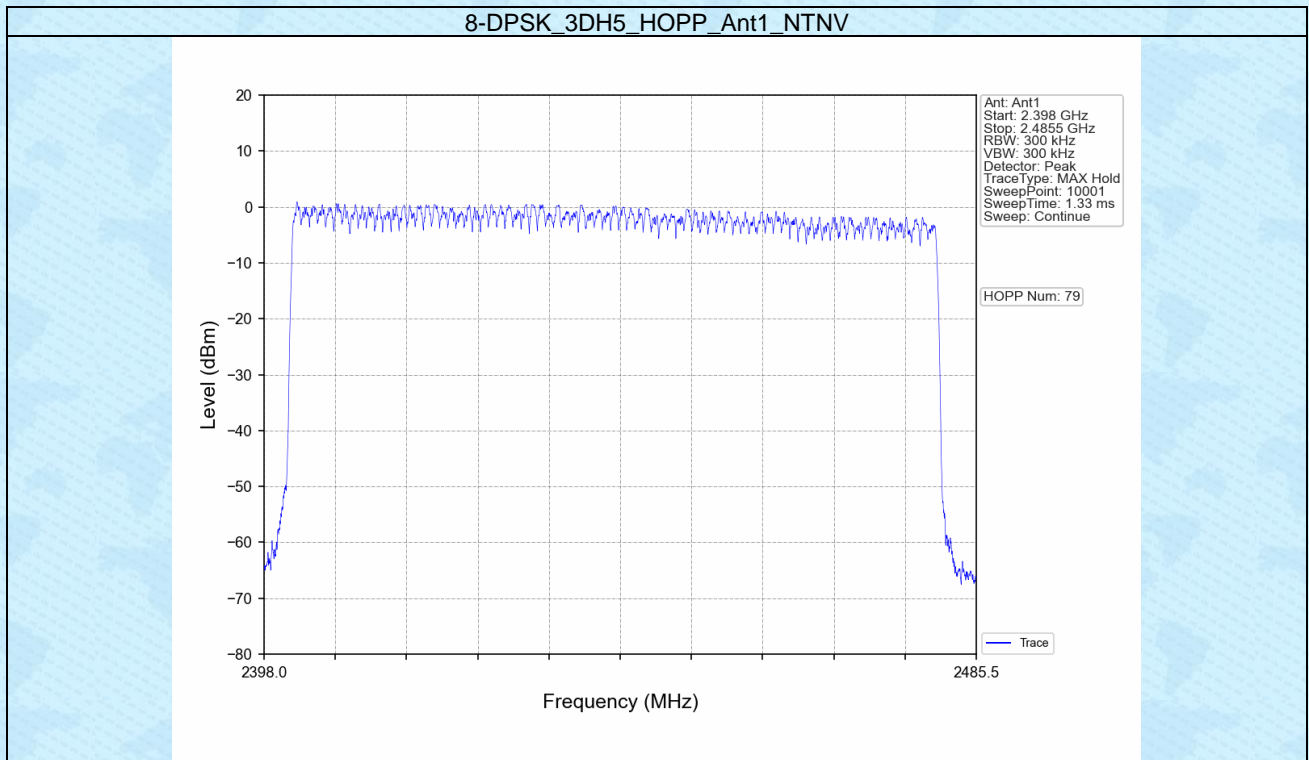
4.1 Hopp Num

4.1.1 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

4.1.2 Test Graph



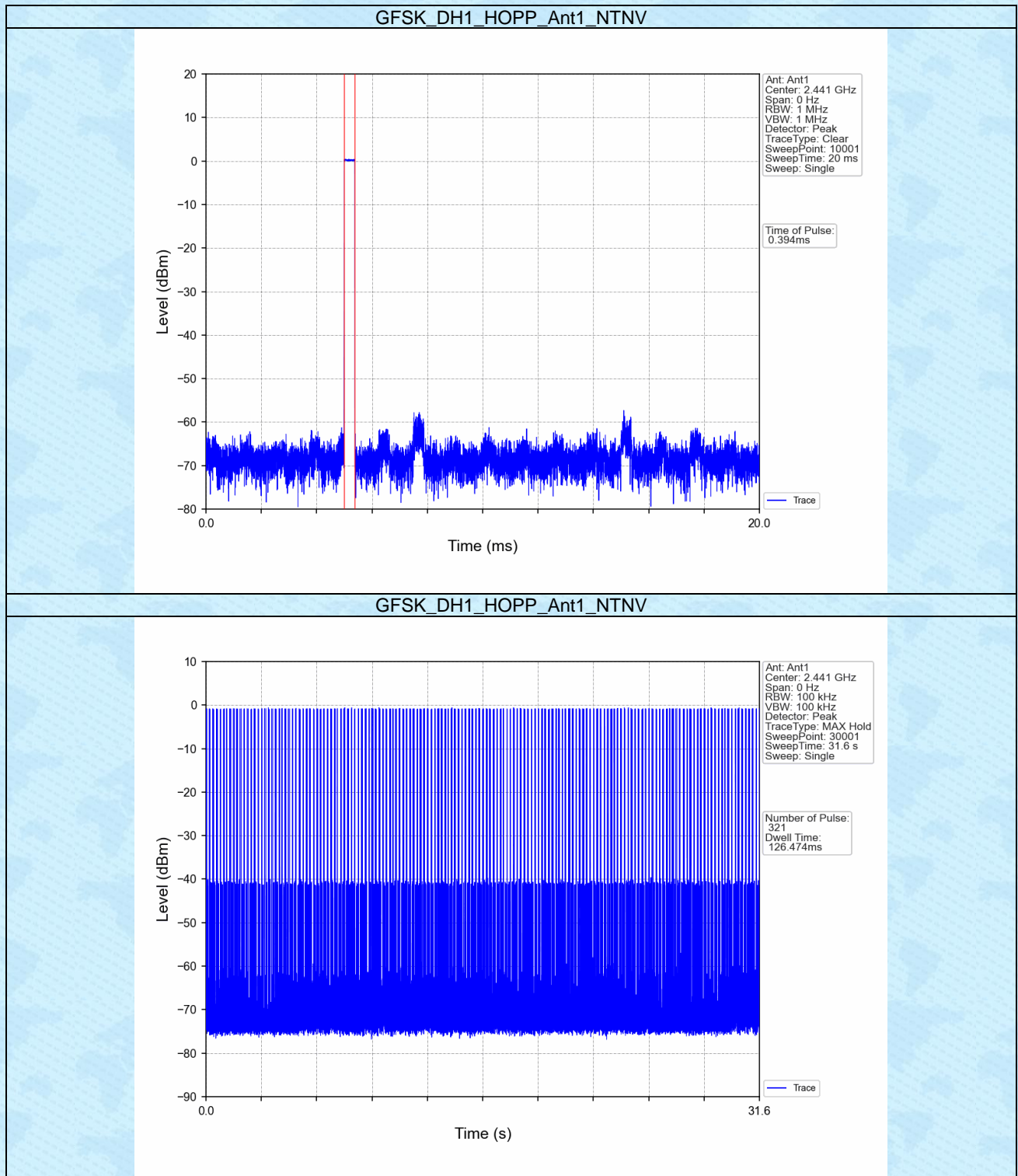


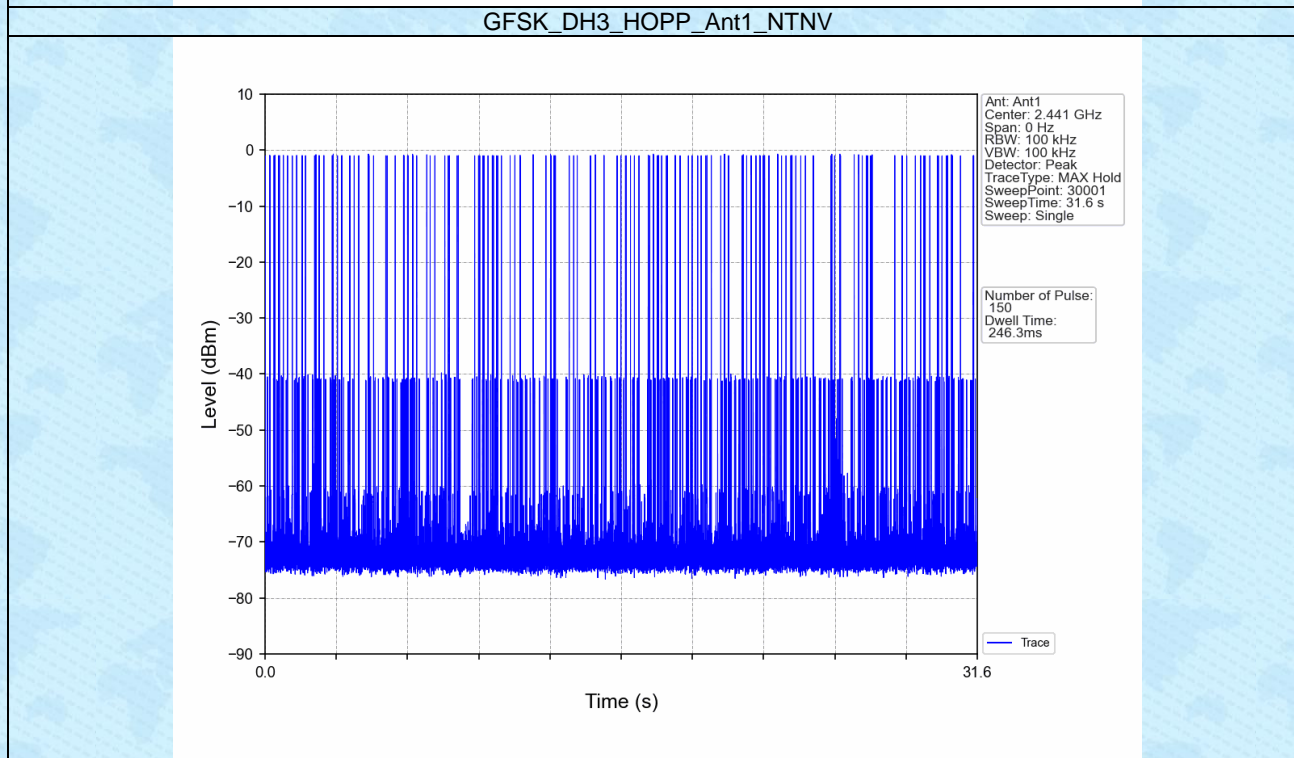
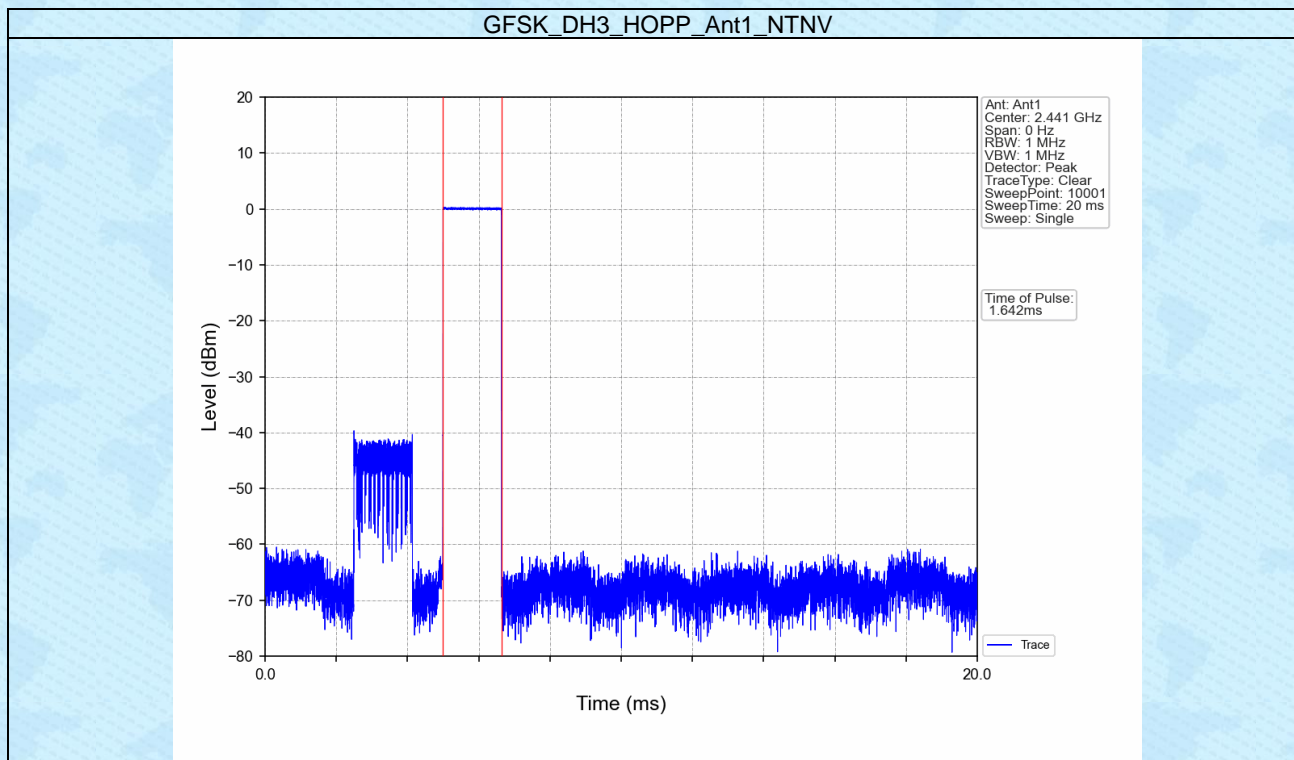
5. Time of Occupancy (Dwell Time)

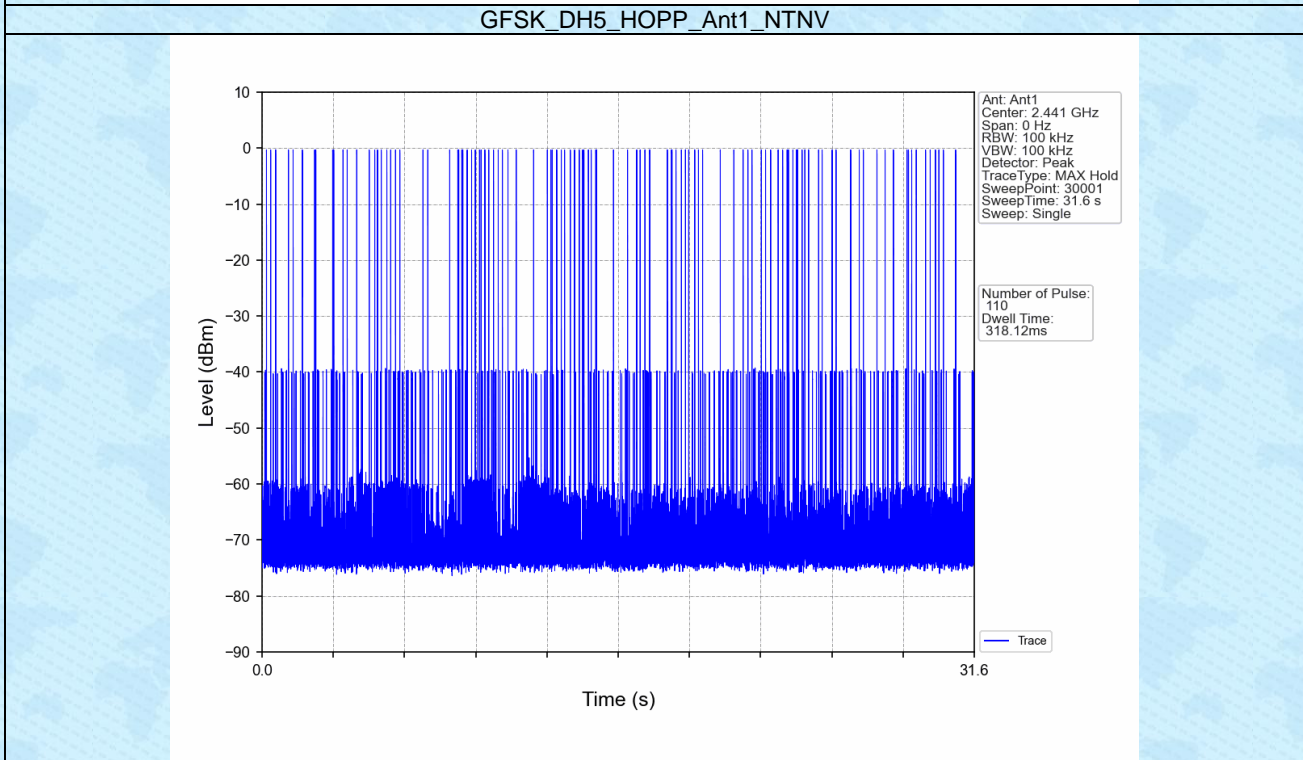
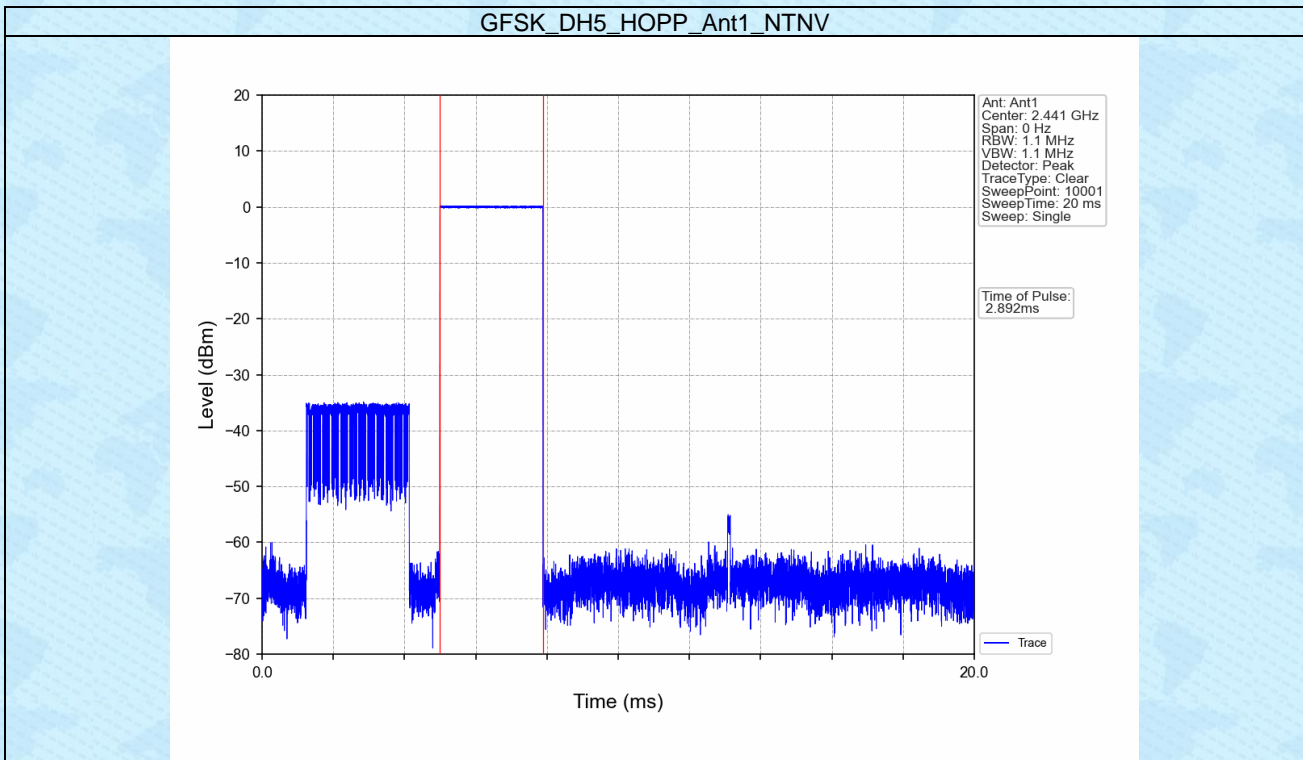
5.1 Test Result

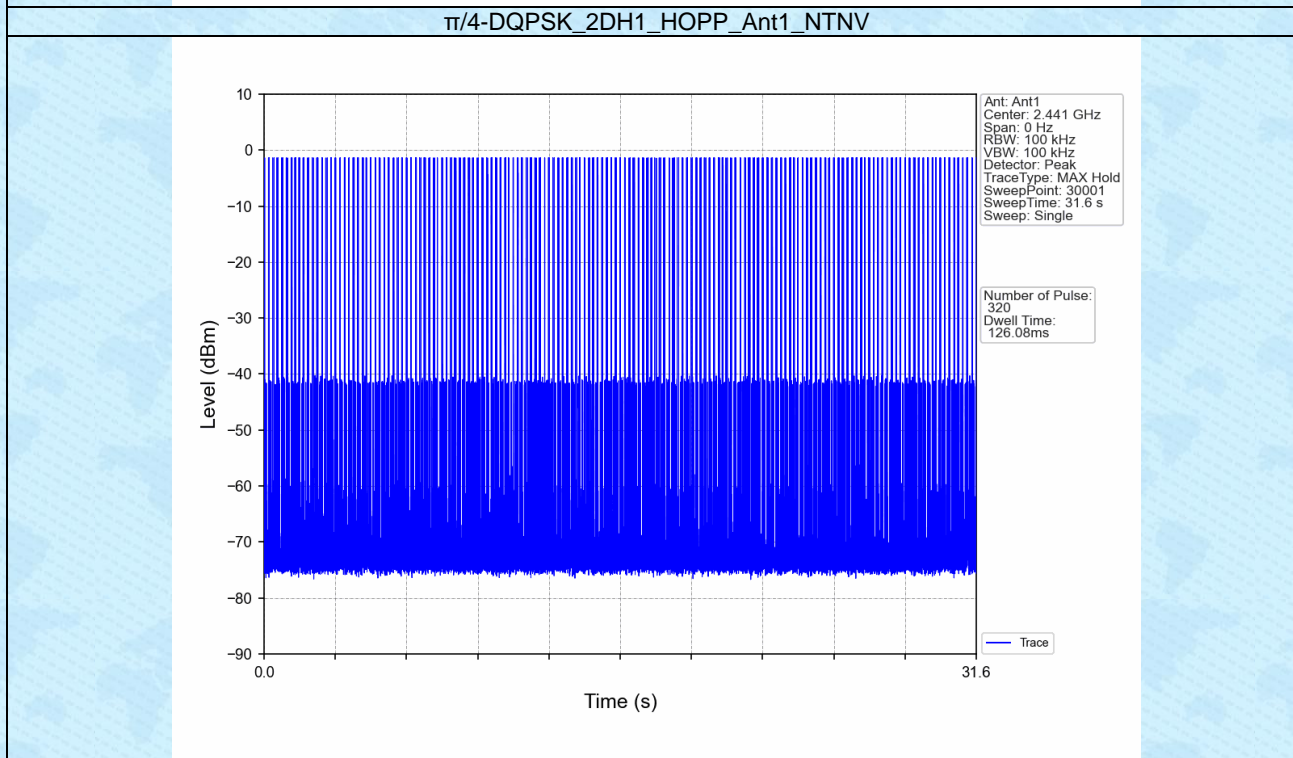
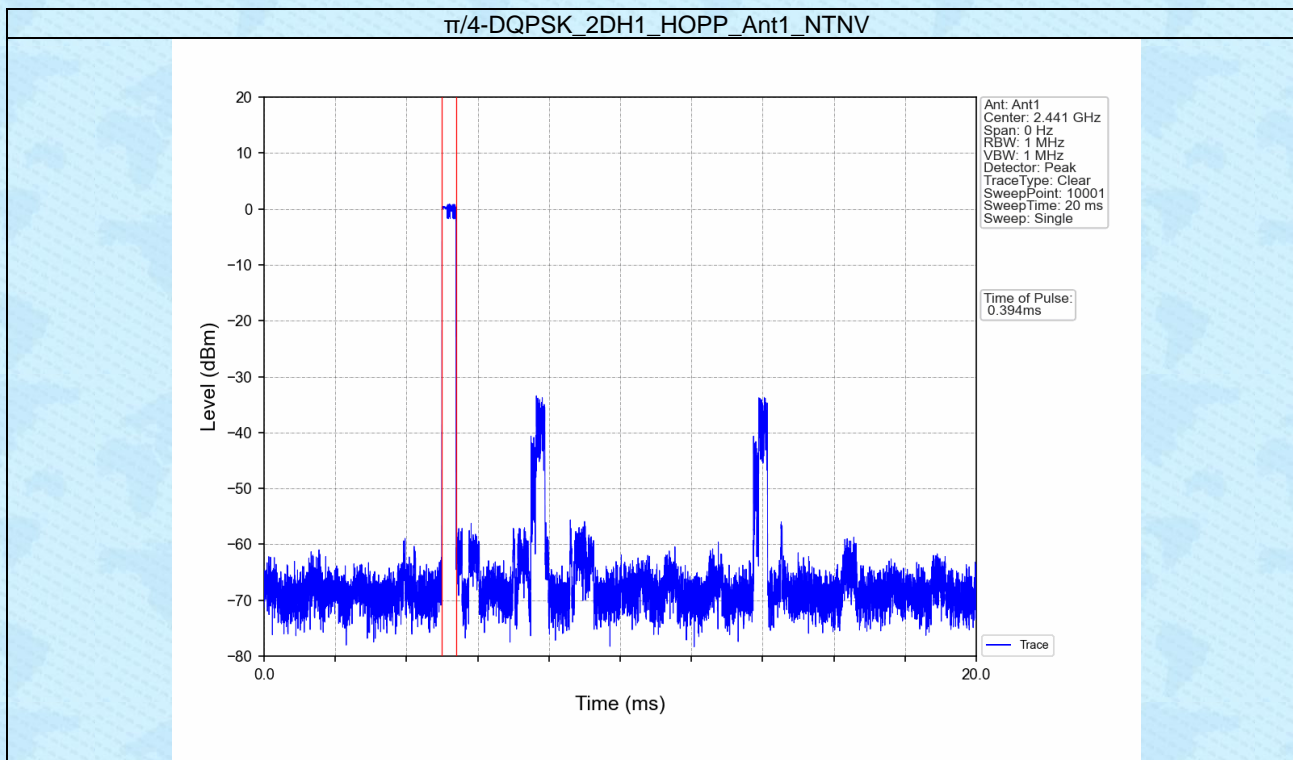
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.394	31.600	321	126.474	<=400	Pass
			DH3	1.642	31.600	150	246.300	<=400	Pass
			DH5	2.892	31.600	110	318.120	<=400	Pass
π/4-DQPSK	SISO	HOPP	2DH1	0.394	31.600	320	126.080	<=400	Pass
			2DH3	1.648	31.600	162	266.976	<=400	Pass
			2DH5	2.902	31.600	106	307.612	<=400	Pass
8-DPSK	SISO	HOPP	3DH1	0.396	31.600	319	126.324	<=400	Pass
			3DH3	1.648	31.600	164	270.272	<=400	Pass
			3DH5	2.906	31.600	110	319.660	<=400	Pass

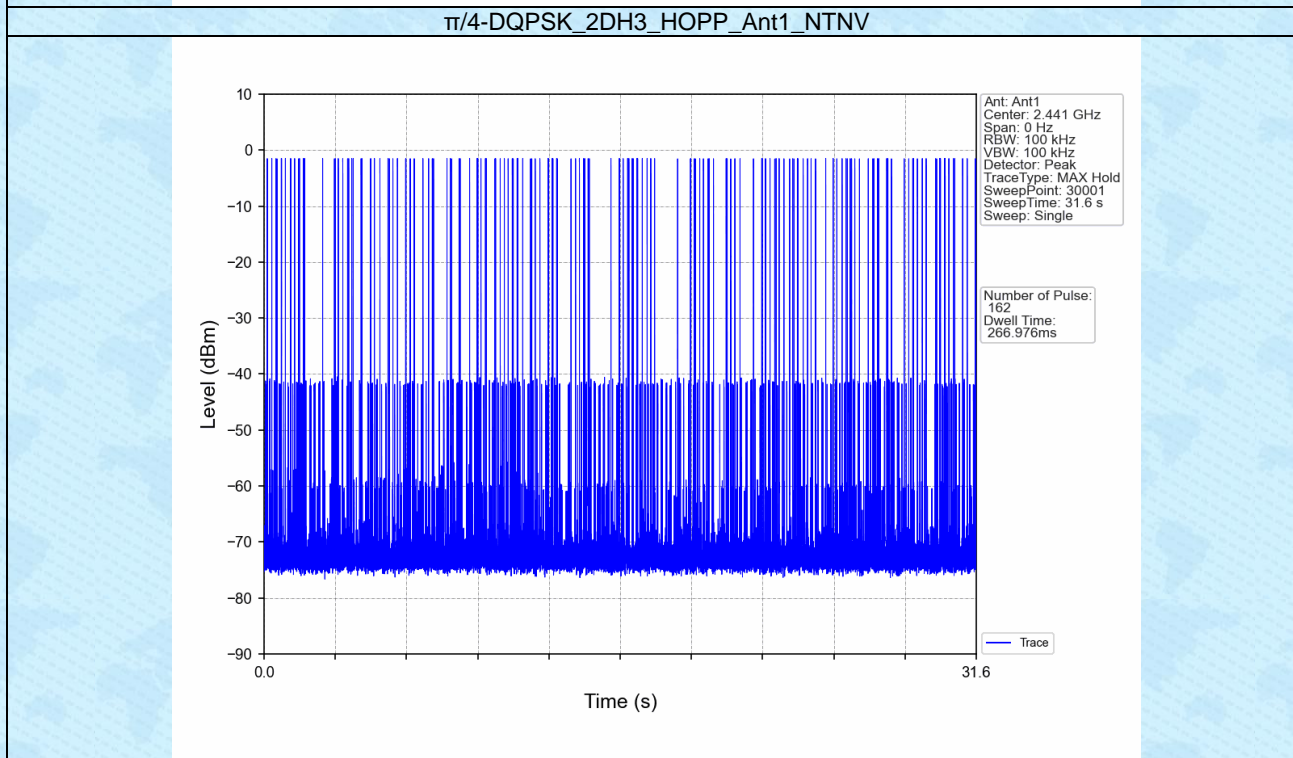
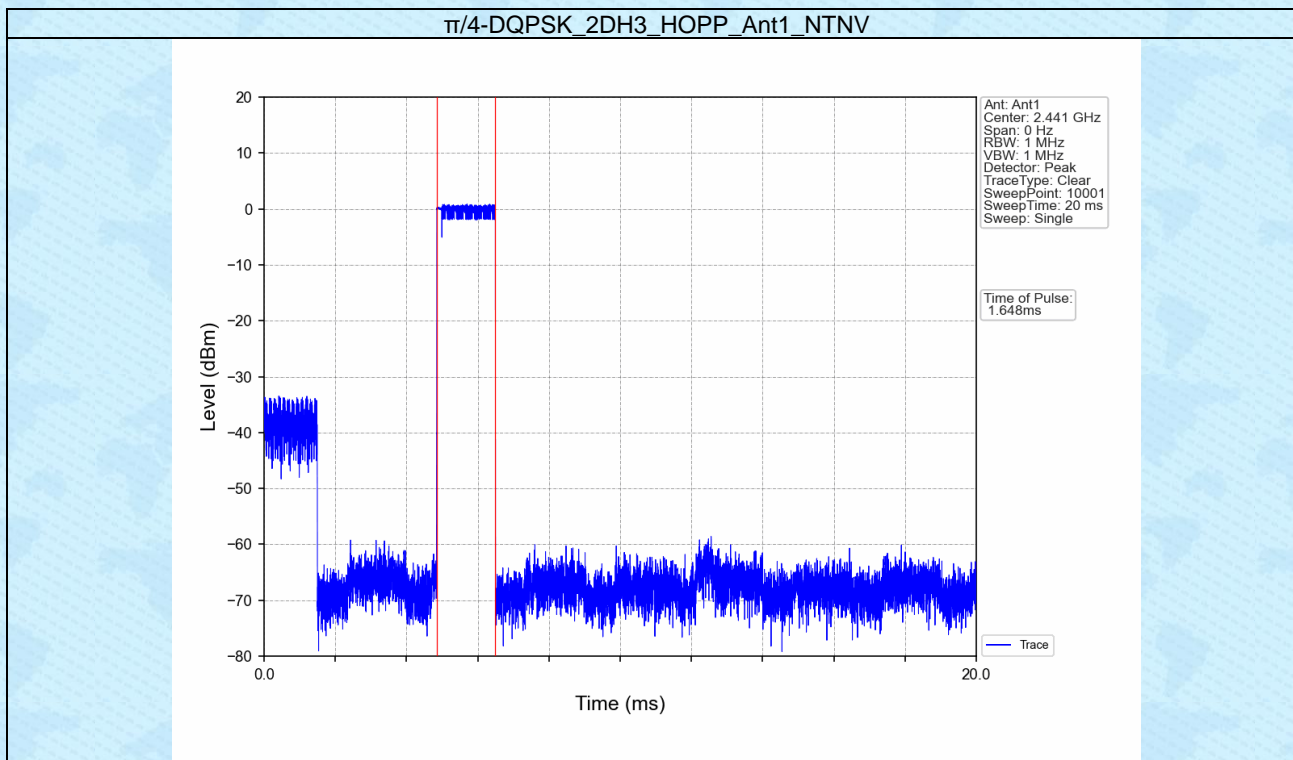
5.2 Test Graph

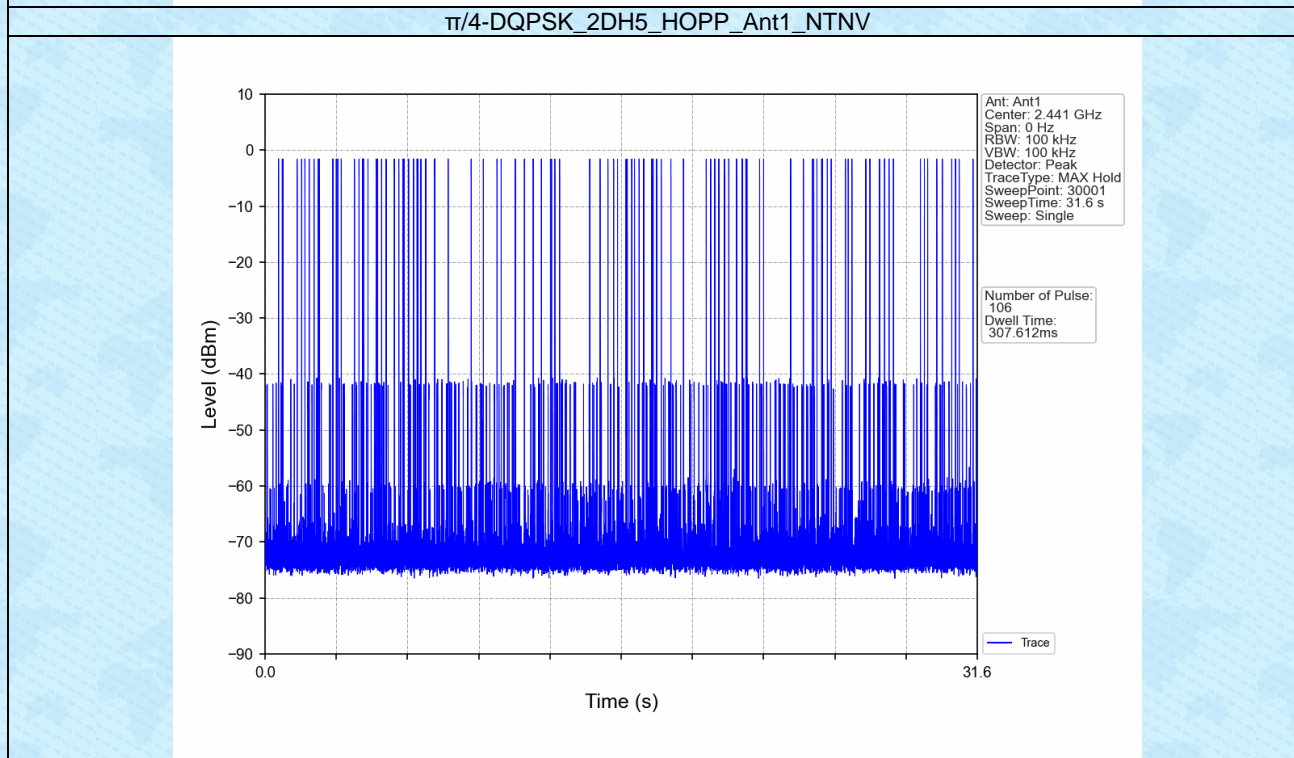
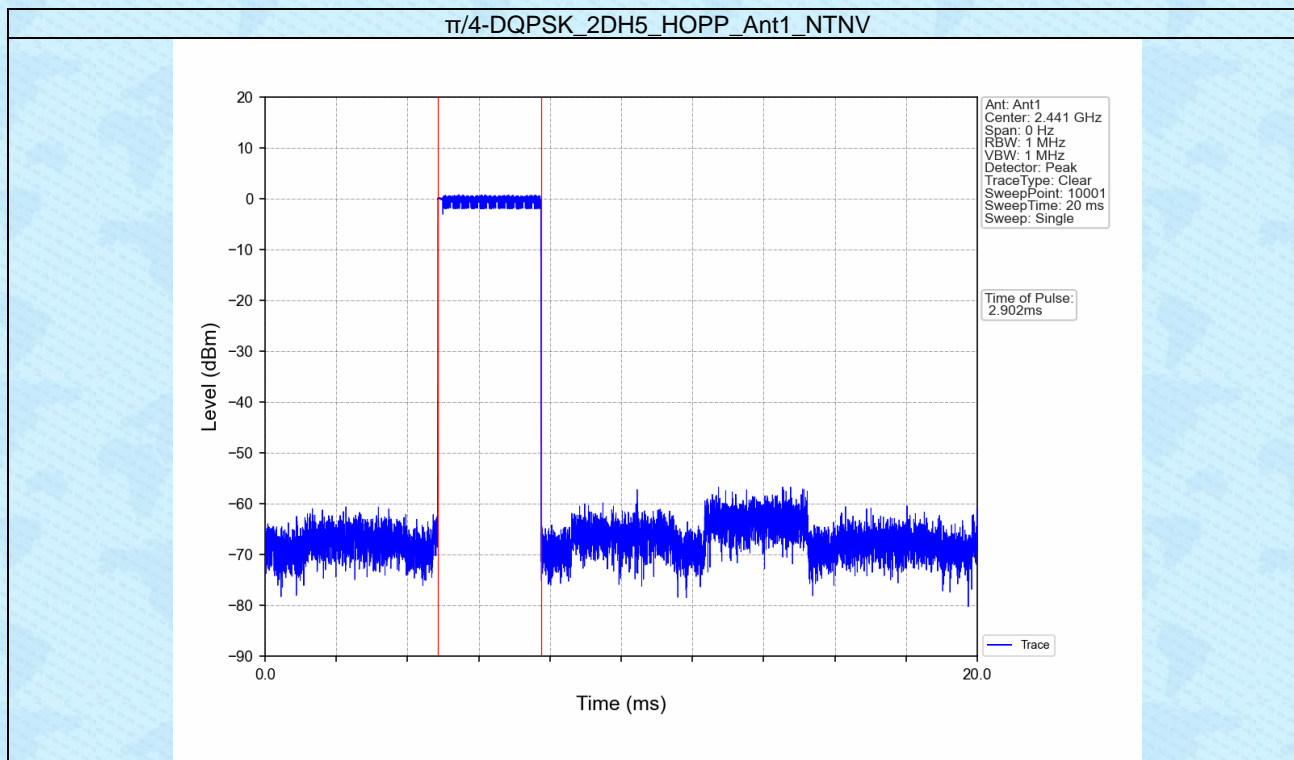


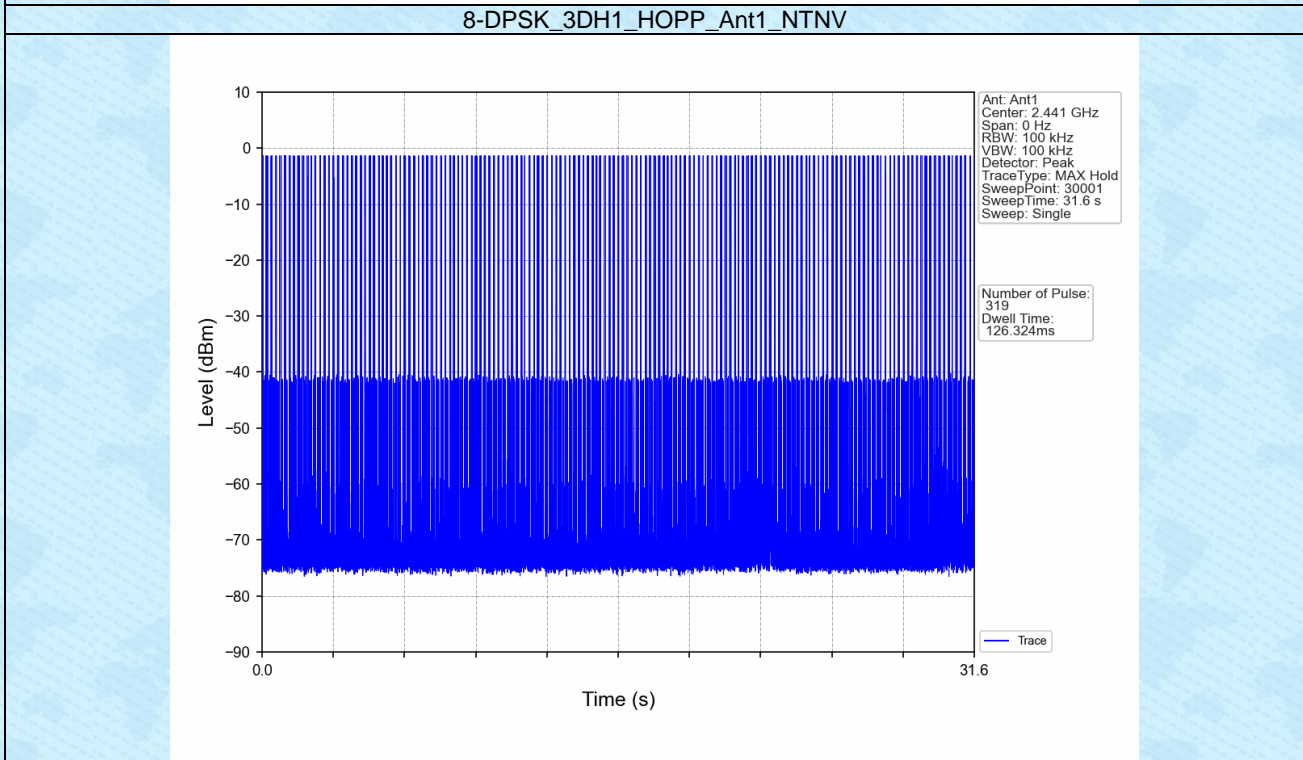
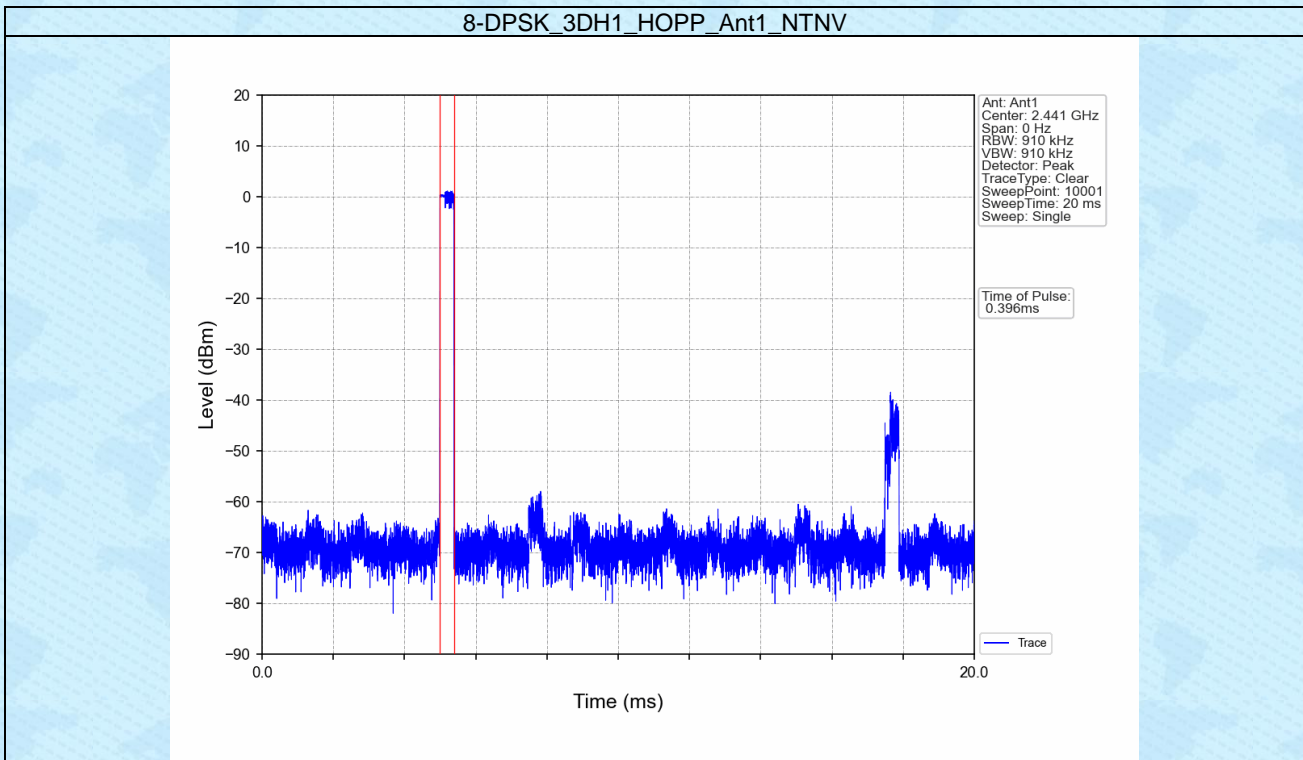


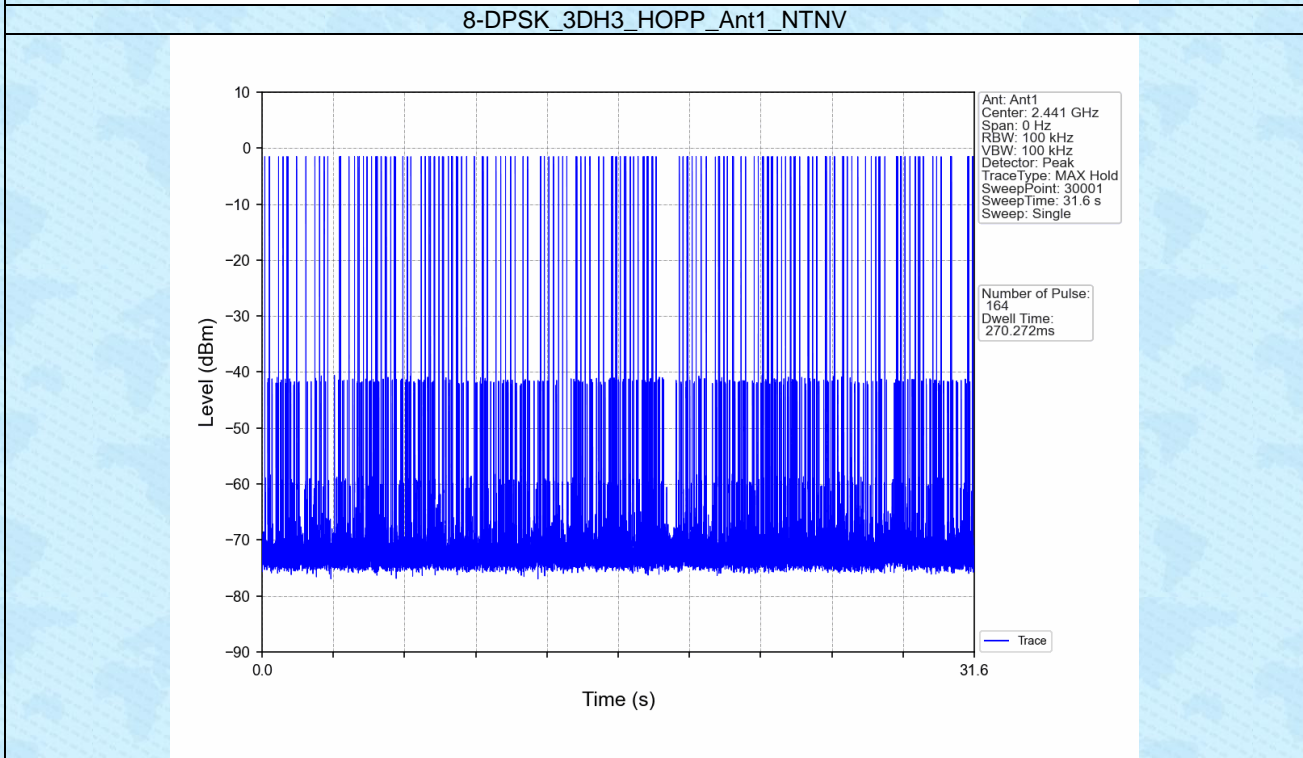
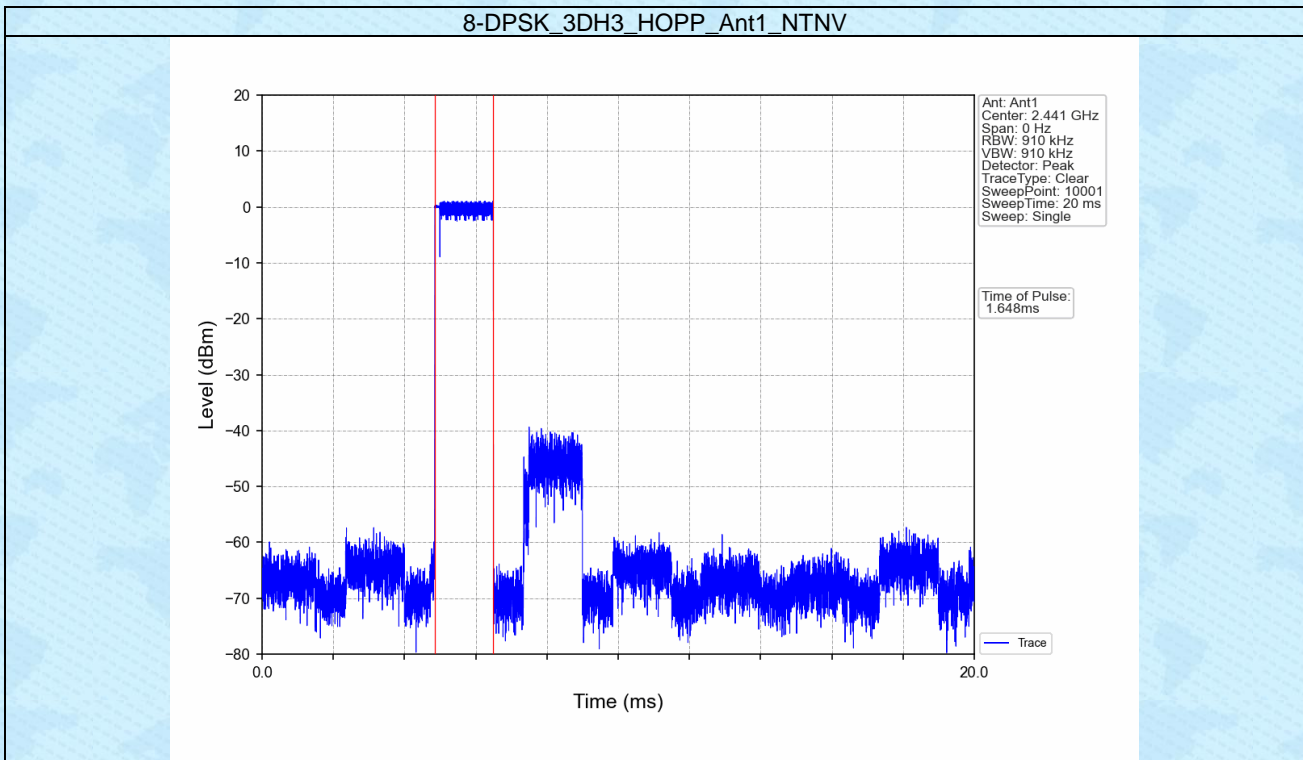


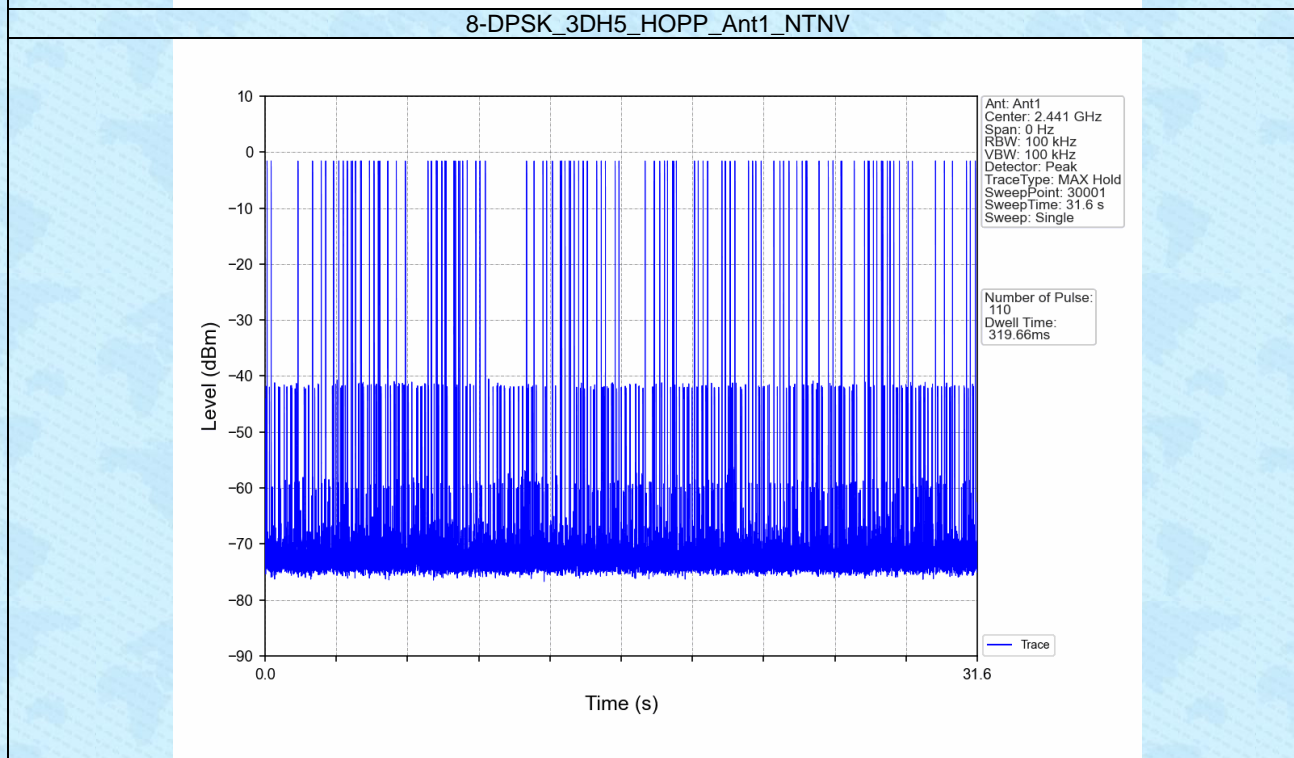
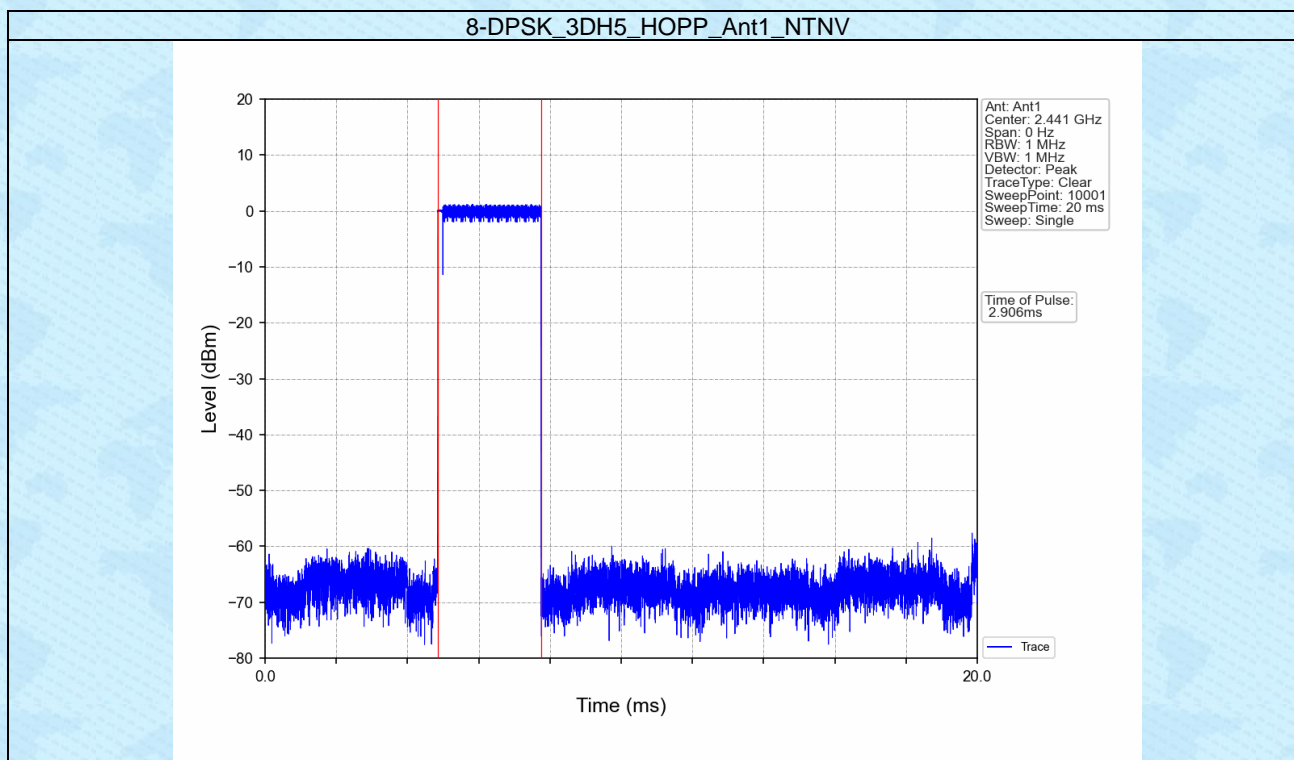












6. Unwanted Emissions In Standard Non-restricted Frequency Bands

6.1 Ref

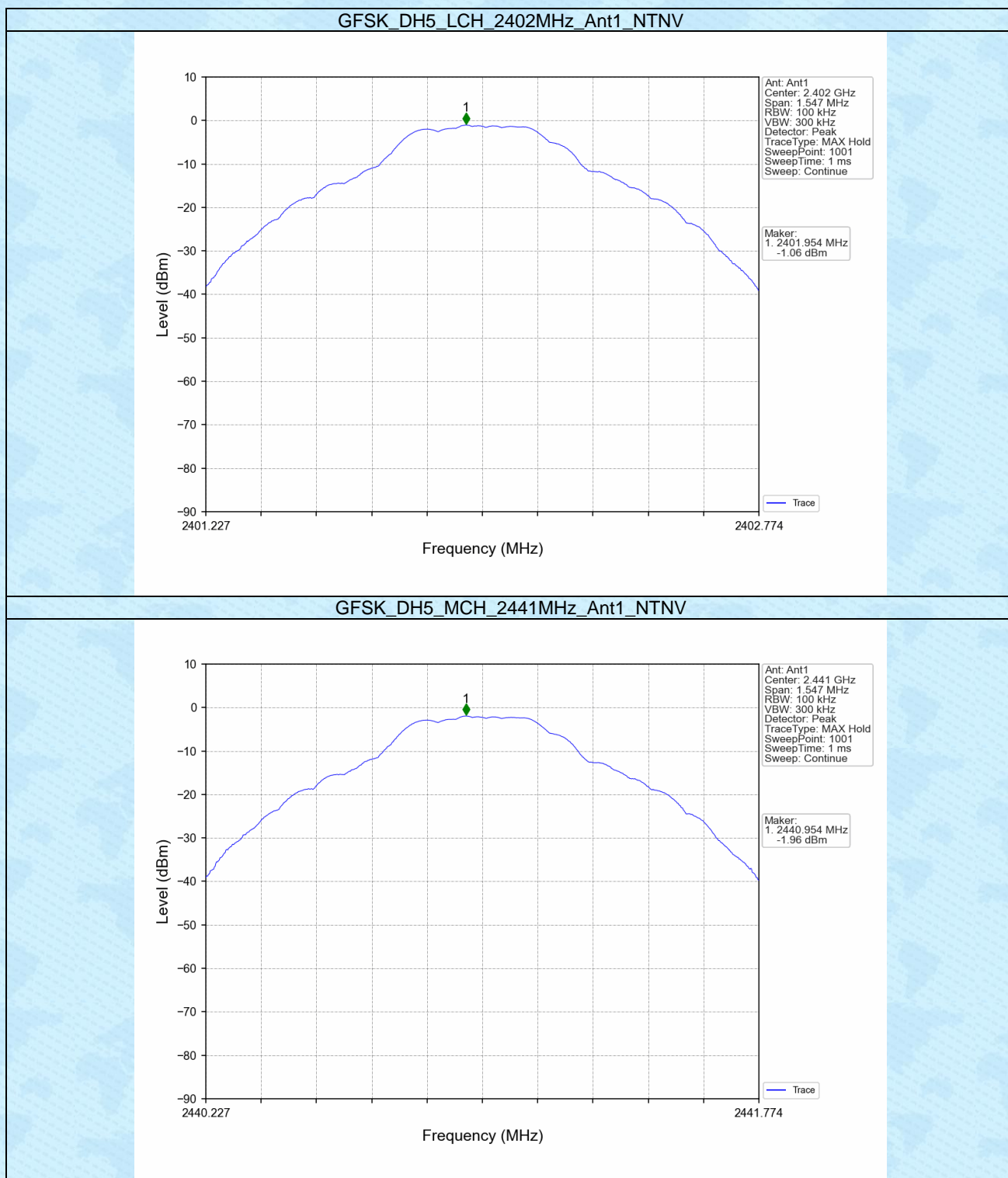
6.1.1 Test Result

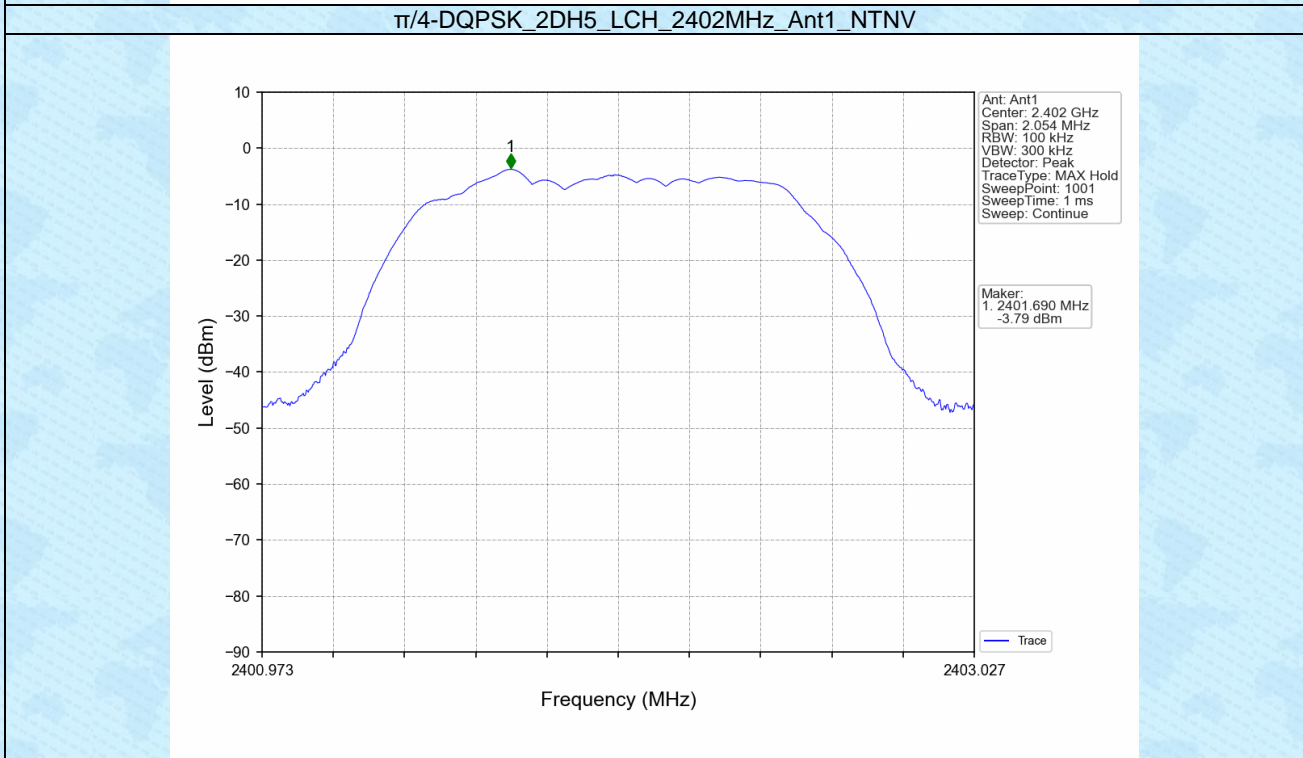
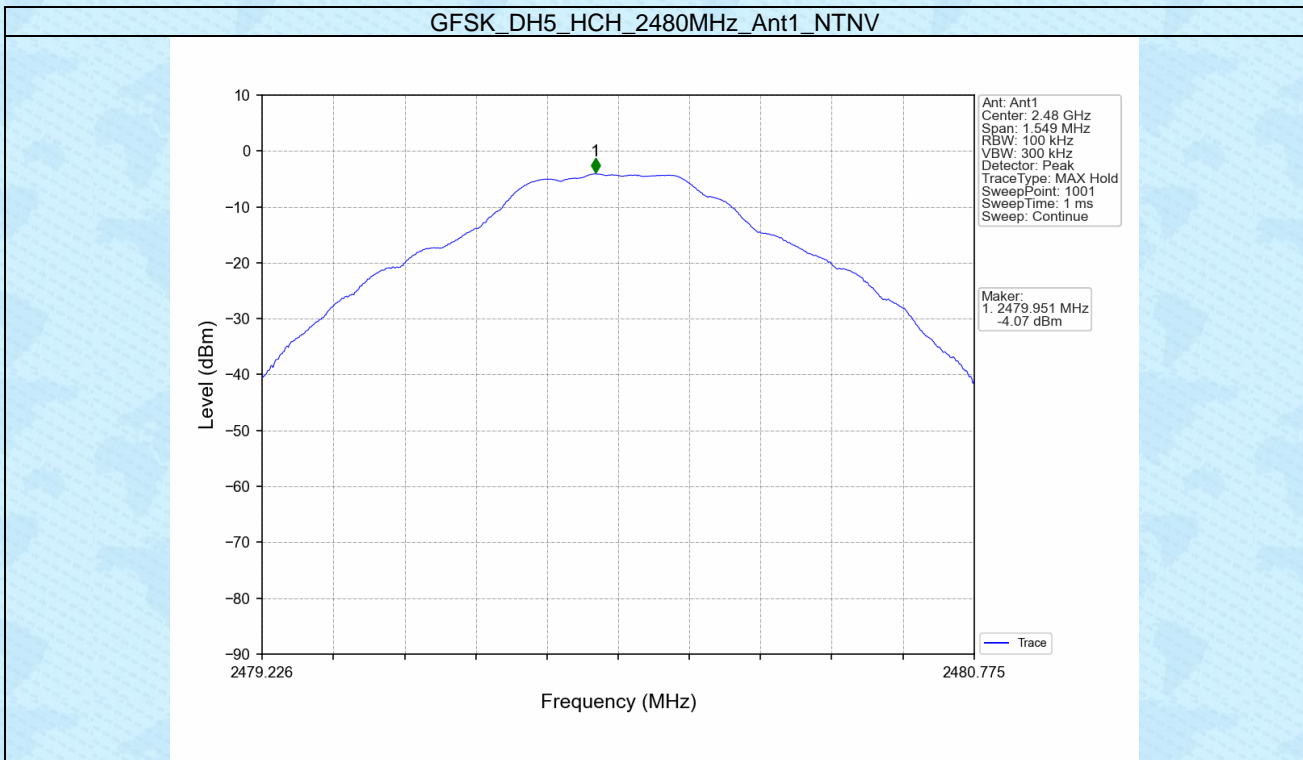
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	-1.06
		2441	DH5	1	-1.96
		2480	DH5	1	-4.07
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	-3.79
		2441	2DH5	1	-4.68
		2480	2DH5	1	-6.78
8-DPSK	SISO	2402	3DH5	1	-3.85
		2441	3DH5	1	-4.69
		2480	3DH5	1	-6.72

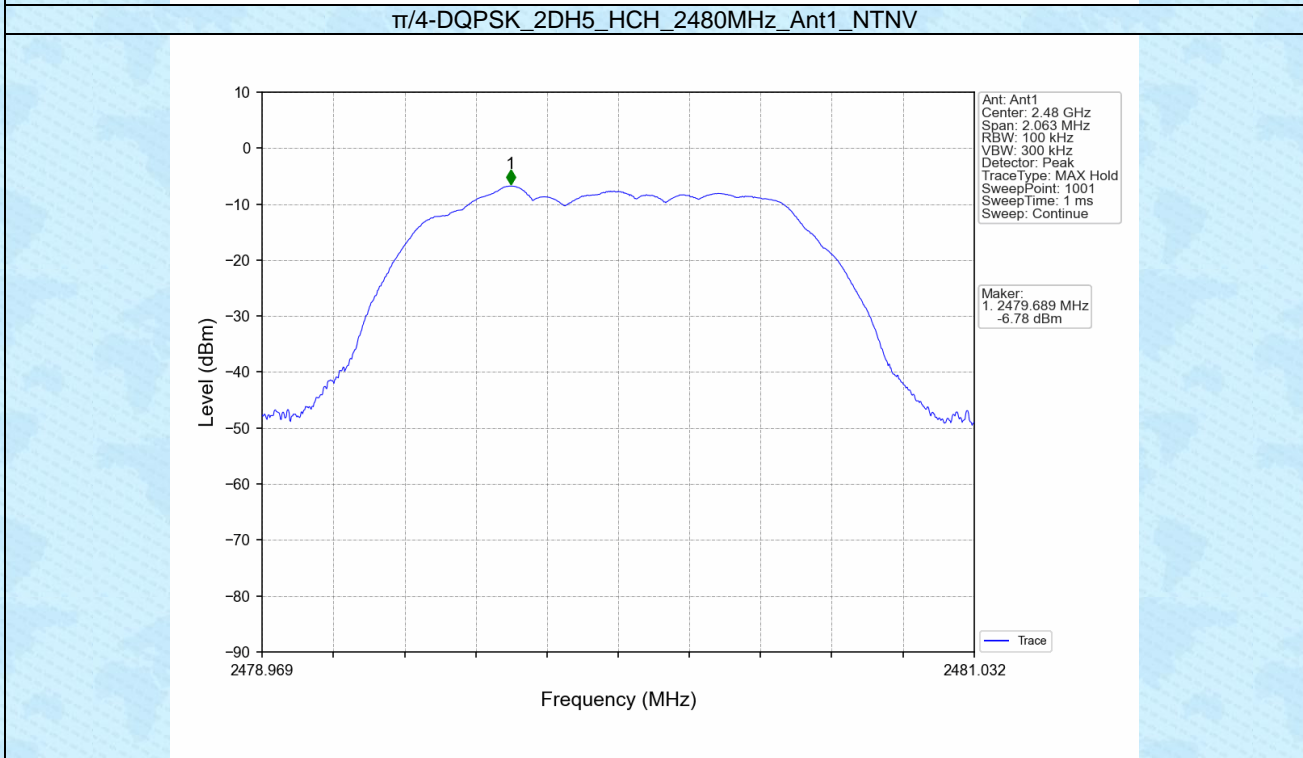
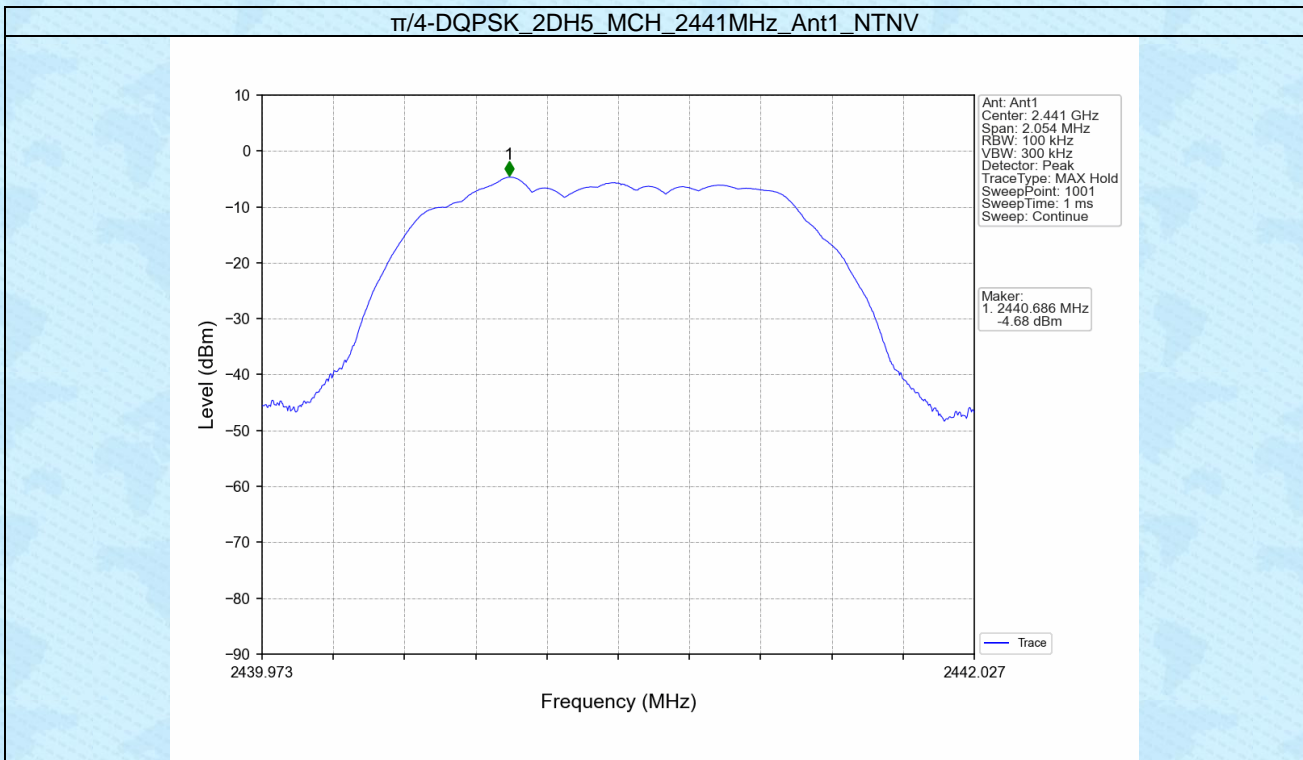
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10, the channel contains the maximum PSD level was used to establish the reference level.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

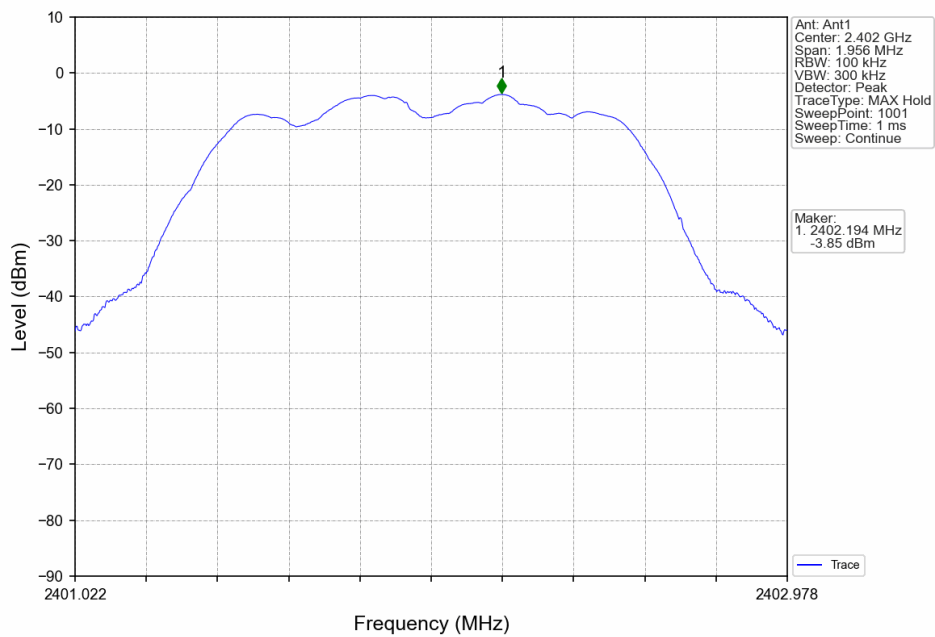
6.1.2 Test Graph



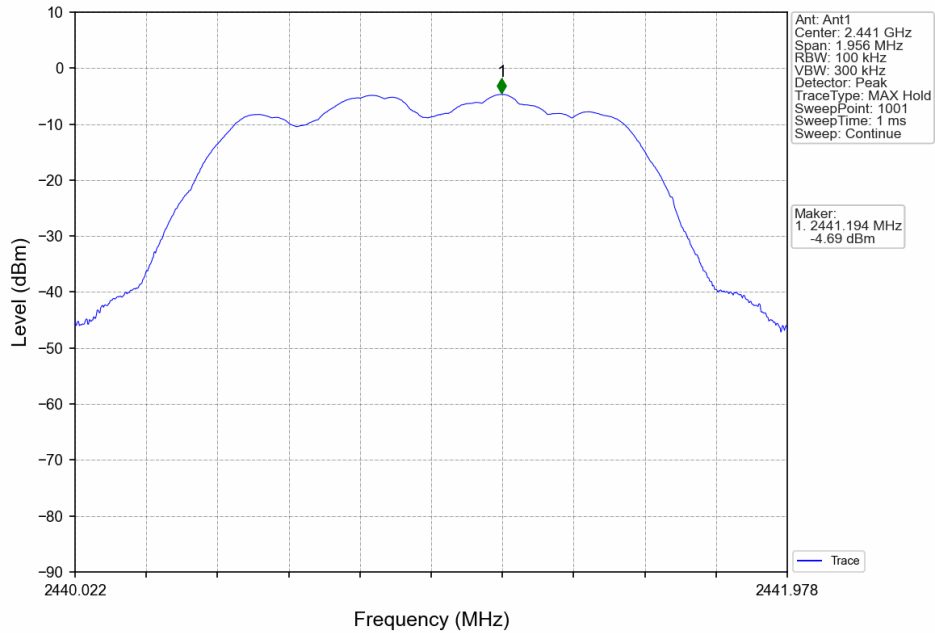


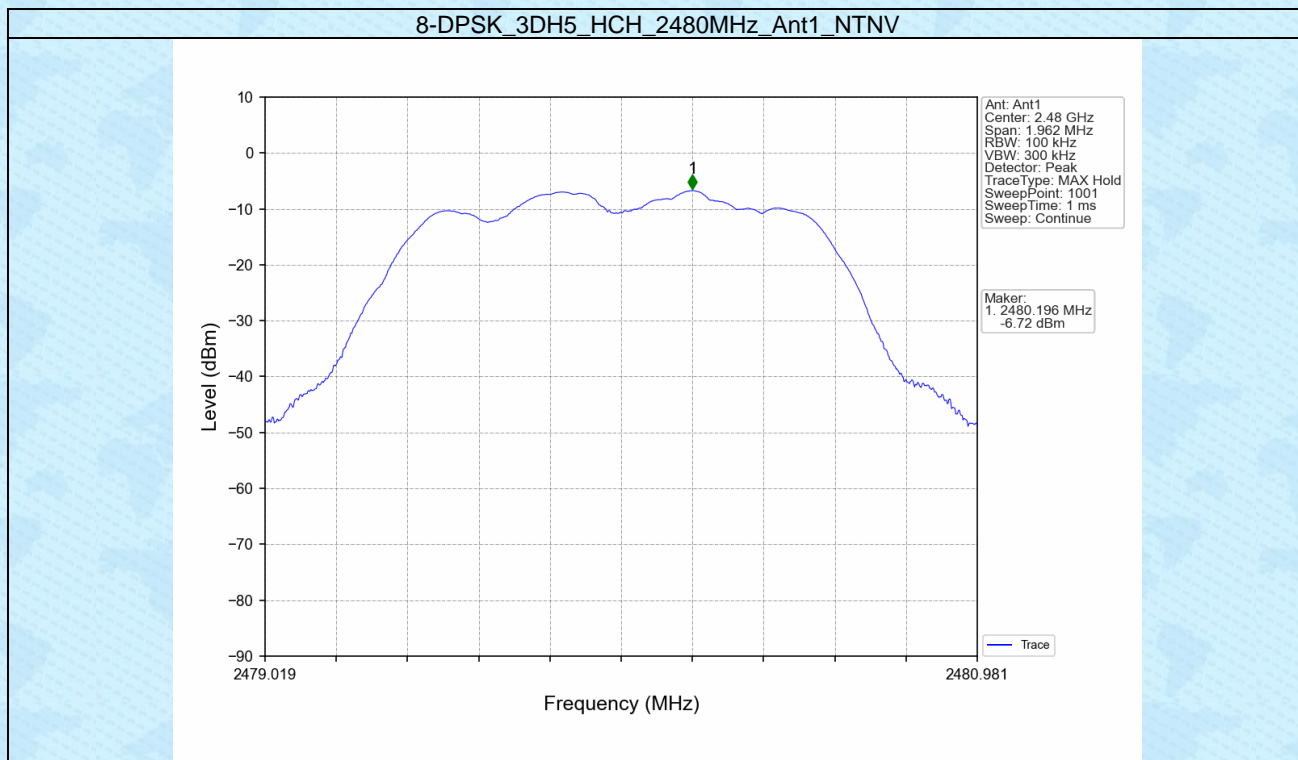


8-DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8-DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





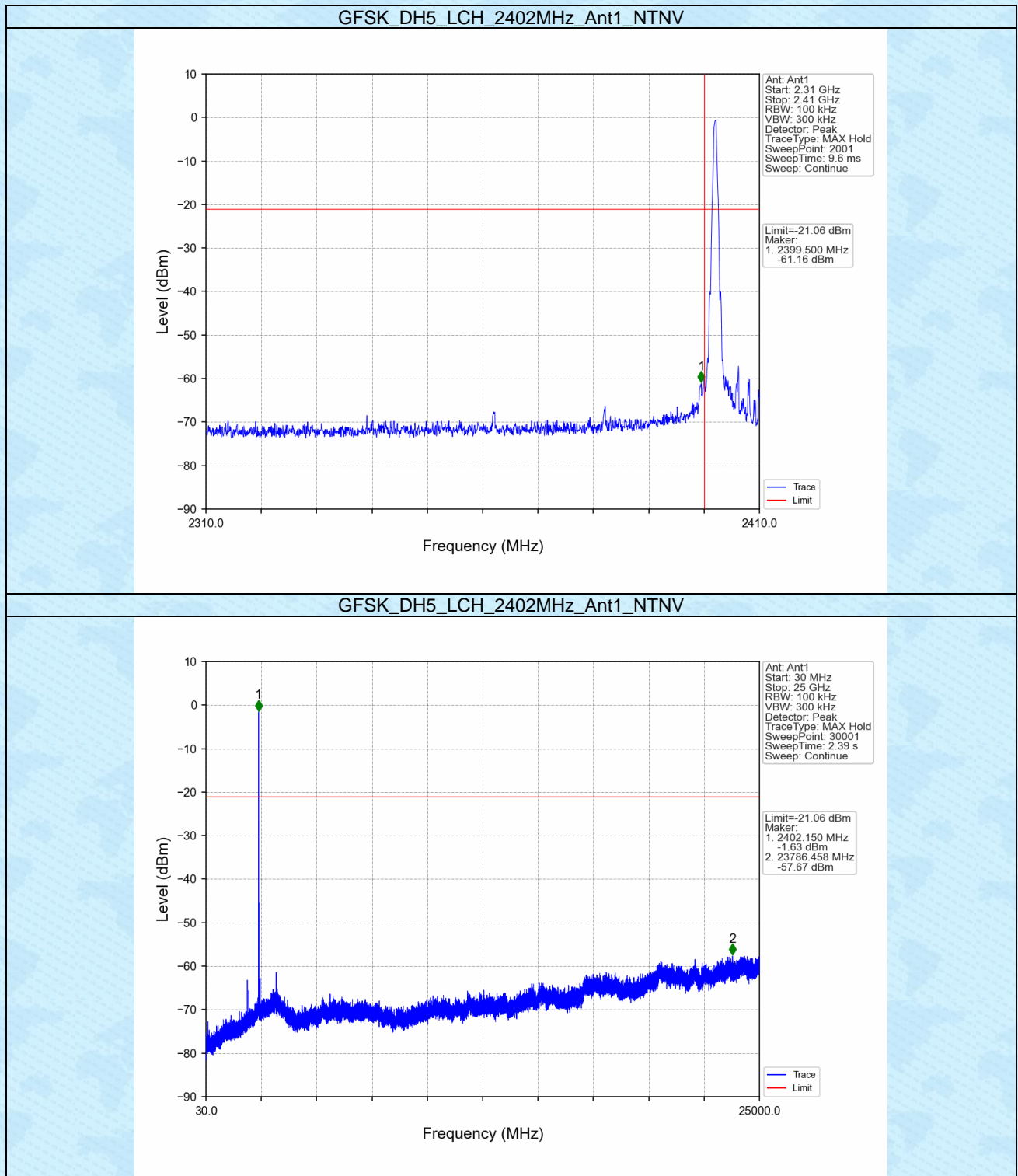
6.2 CSE

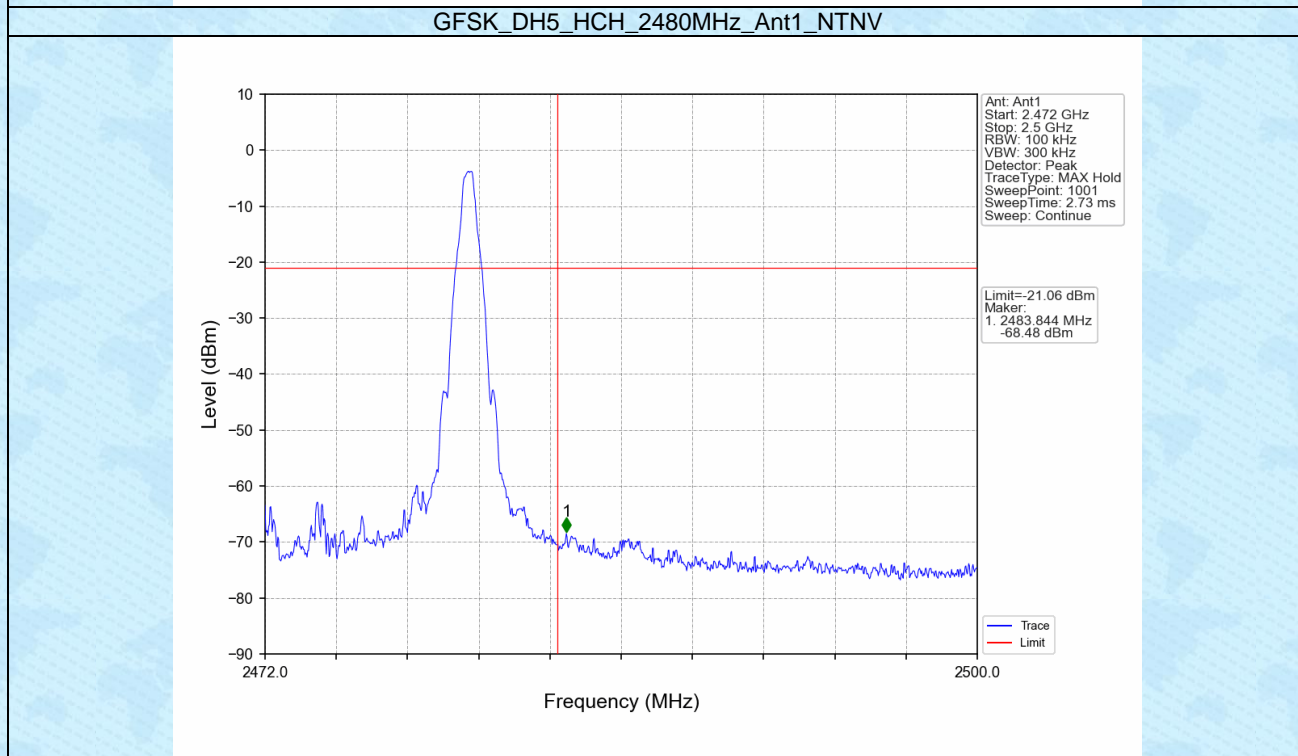
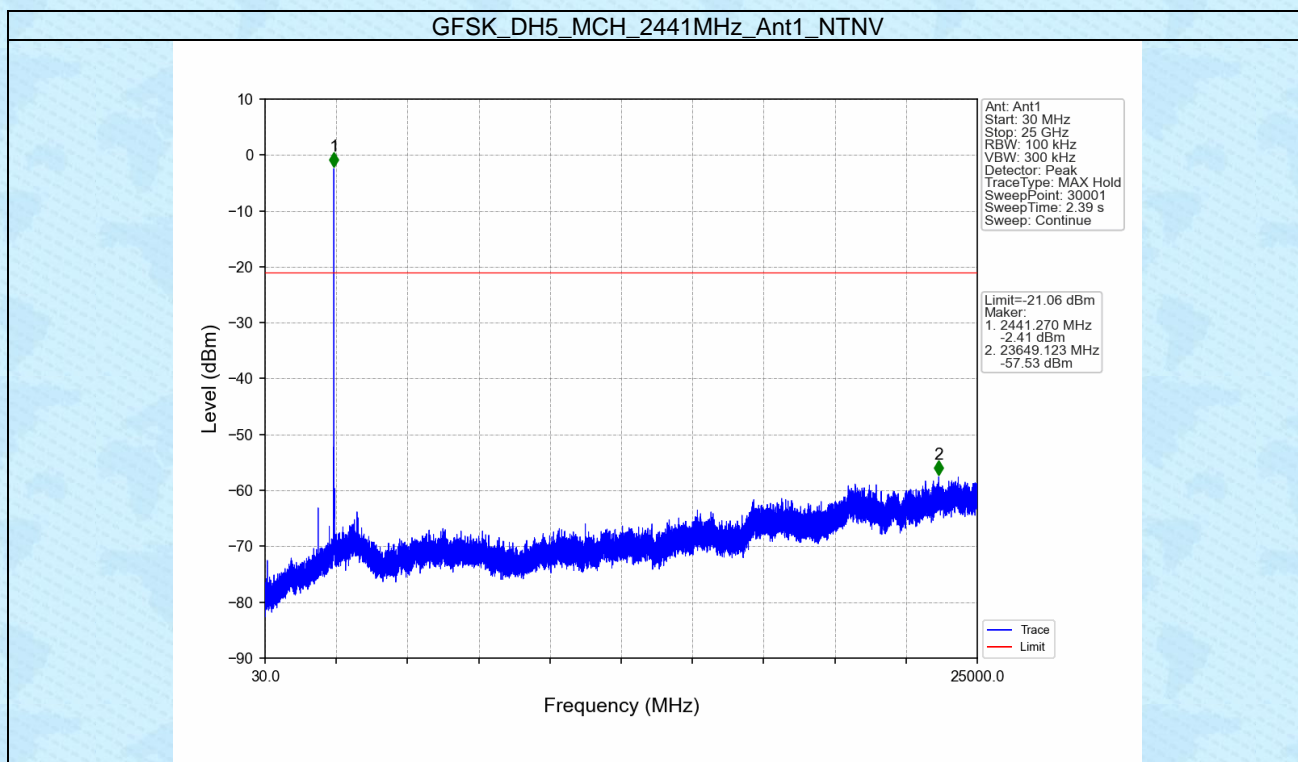
6.2.1 Test Result

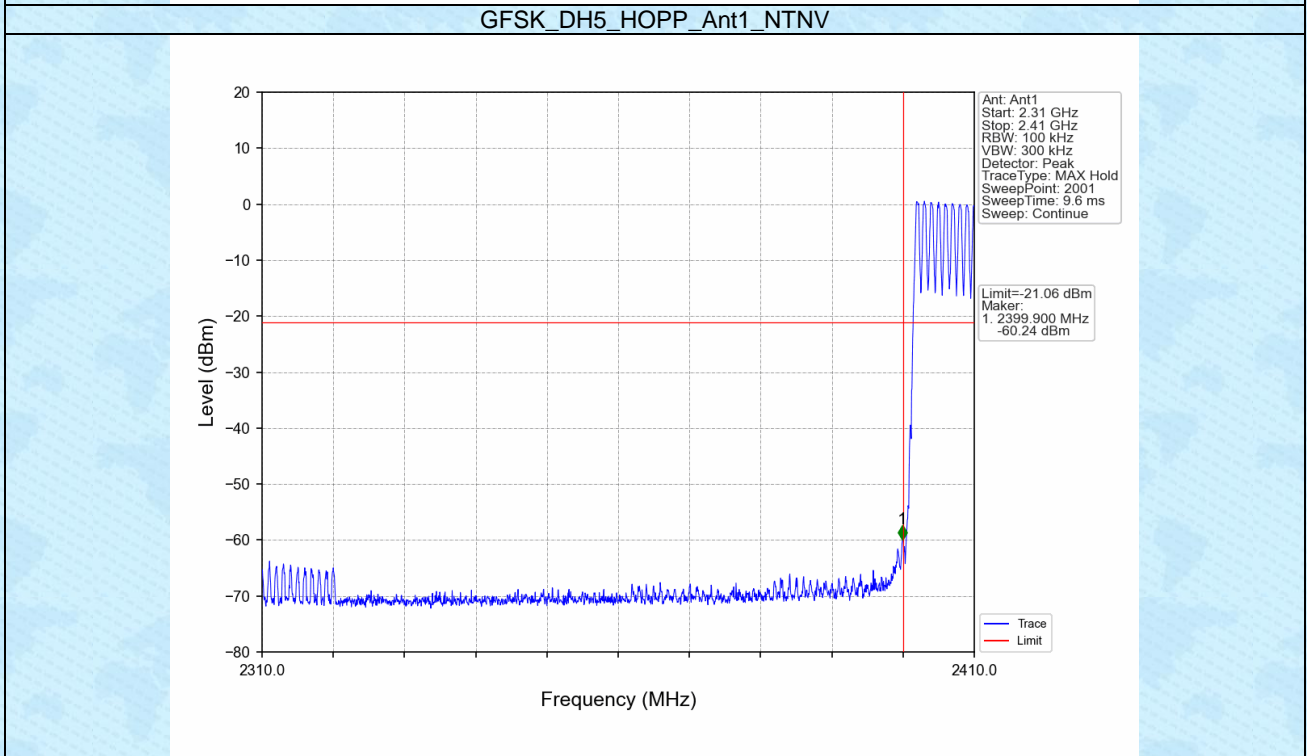
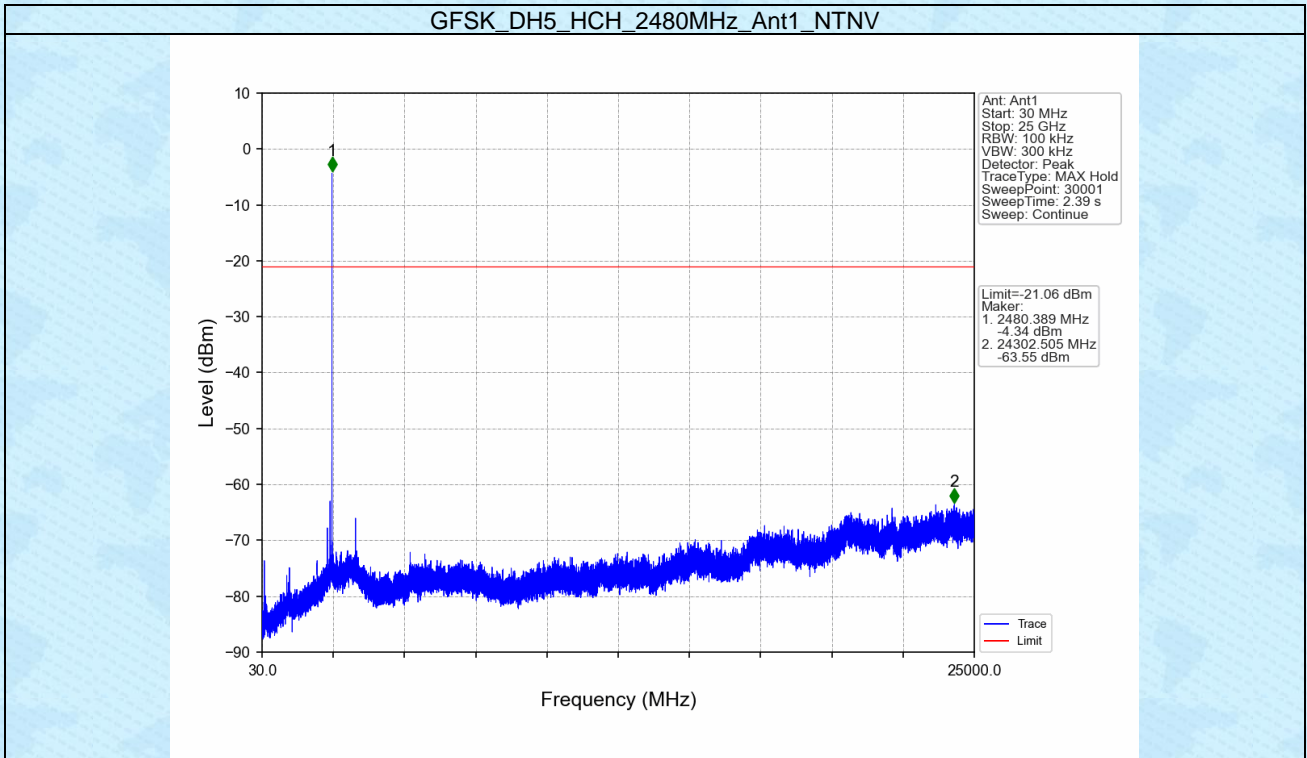
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-1.06	-21.06	Pass
		2441	DH5	1	-1.06	-21.06	Pass
		2480	DH5	1	-1.06	-21.06	Pass
		HOPP	DH5	1	-1.06	-21.06	Pass
$\pi/4$ -DQPSK	SISO	2402	2DH5	1	-3.79	-23.79	Pass
		2441	2DH5	1	-3.79	-23.79	Pass
		2480	2DH5	1	-3.79	-23.79	Pass
		HOPP	2DH5	1	-3.79	-23.79	Pass
8-DPSK	SISO	2402	3DH5	1	-3.85	-23.85	Pass
		2441	3DH5	1	-3.85	-23.85	Pass
		2480	3DH5	1	-3.85	-23.85	Pass
		HOPP	3DH5	1	-3.85	-23.85	Pass

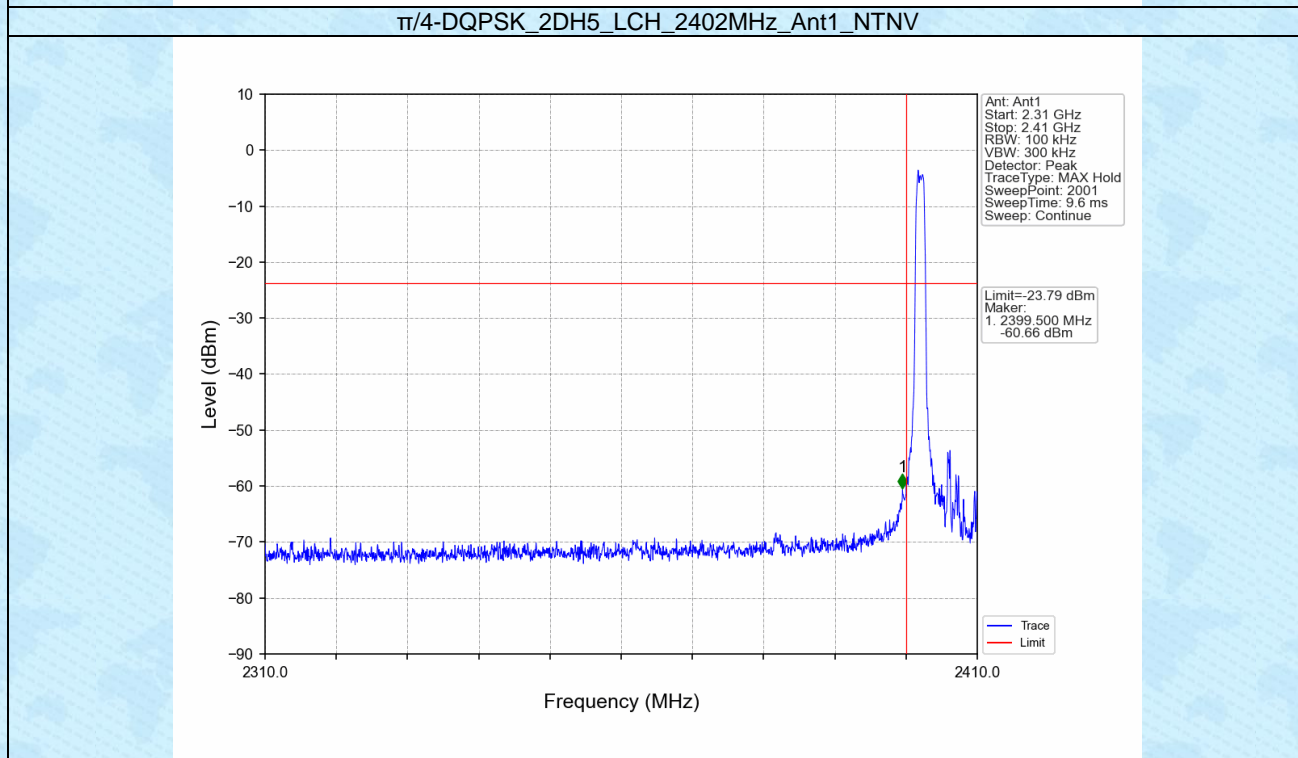
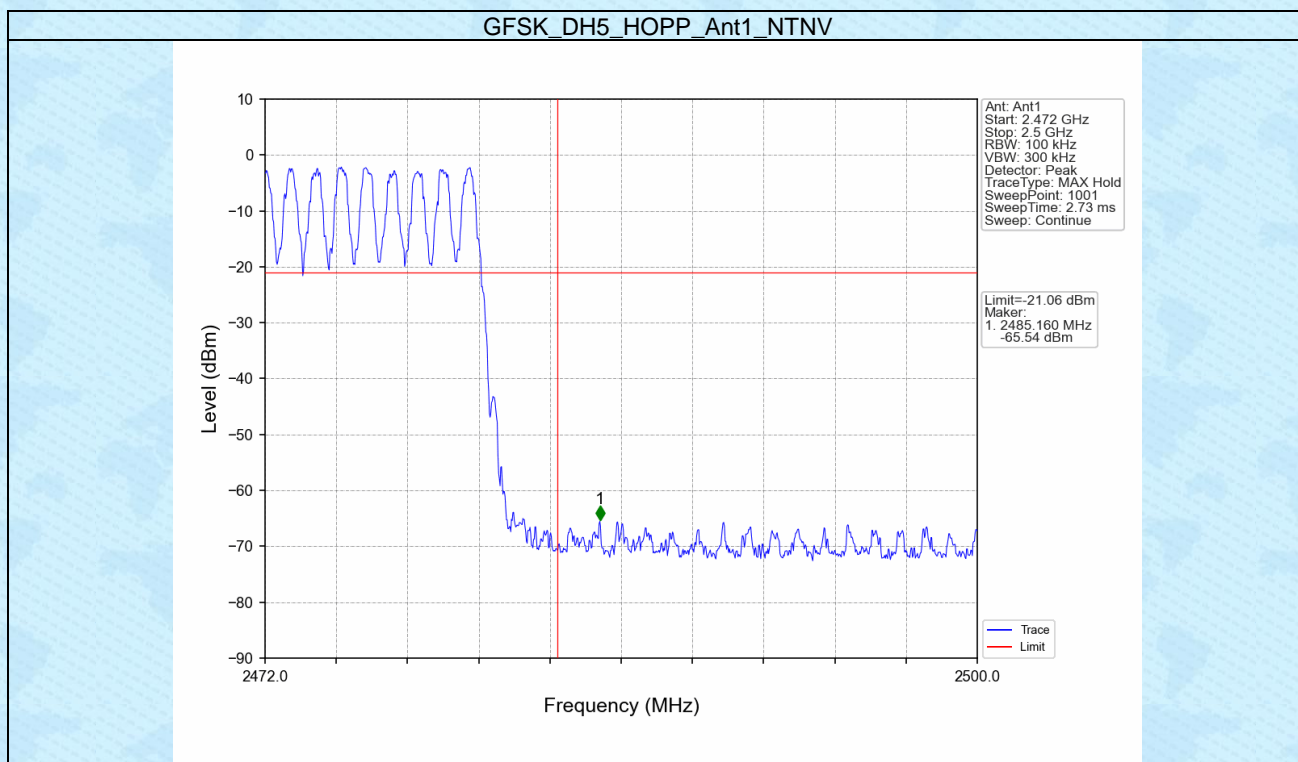
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10, the channel contains the maximum PSD level was used to establish the reference level.
 Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

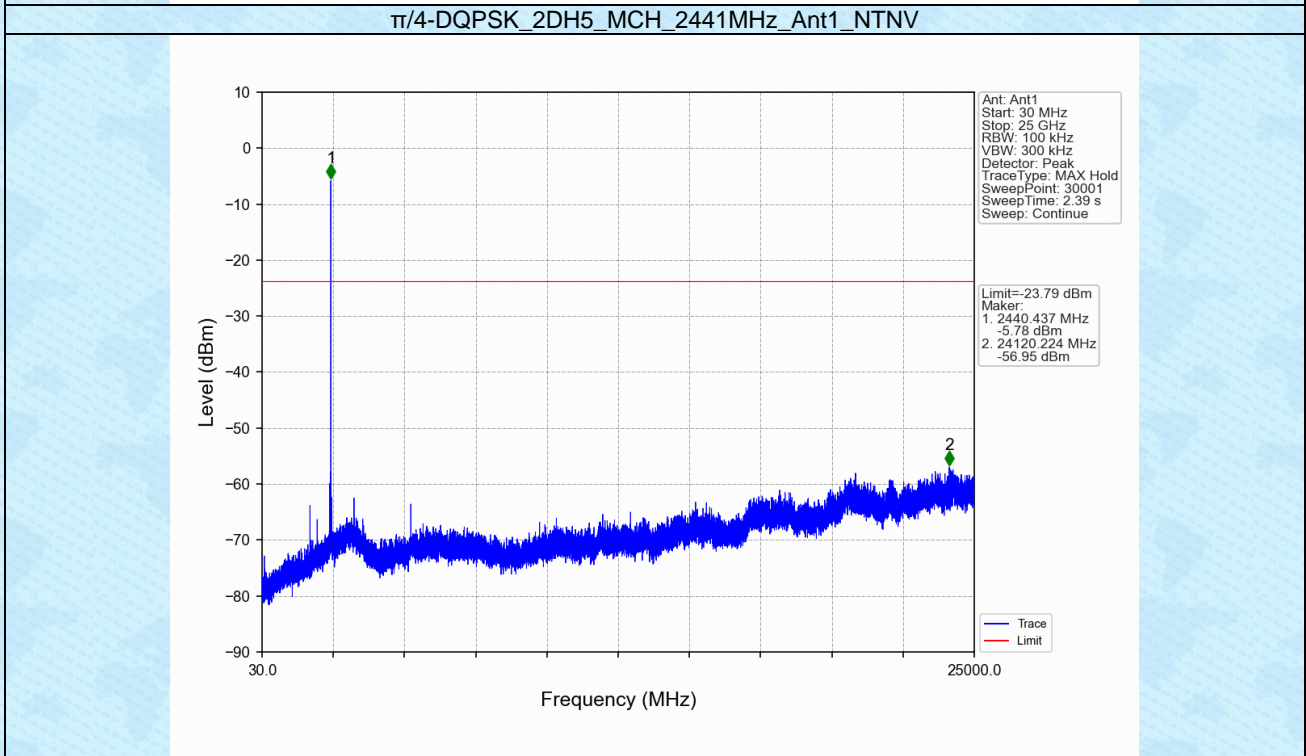
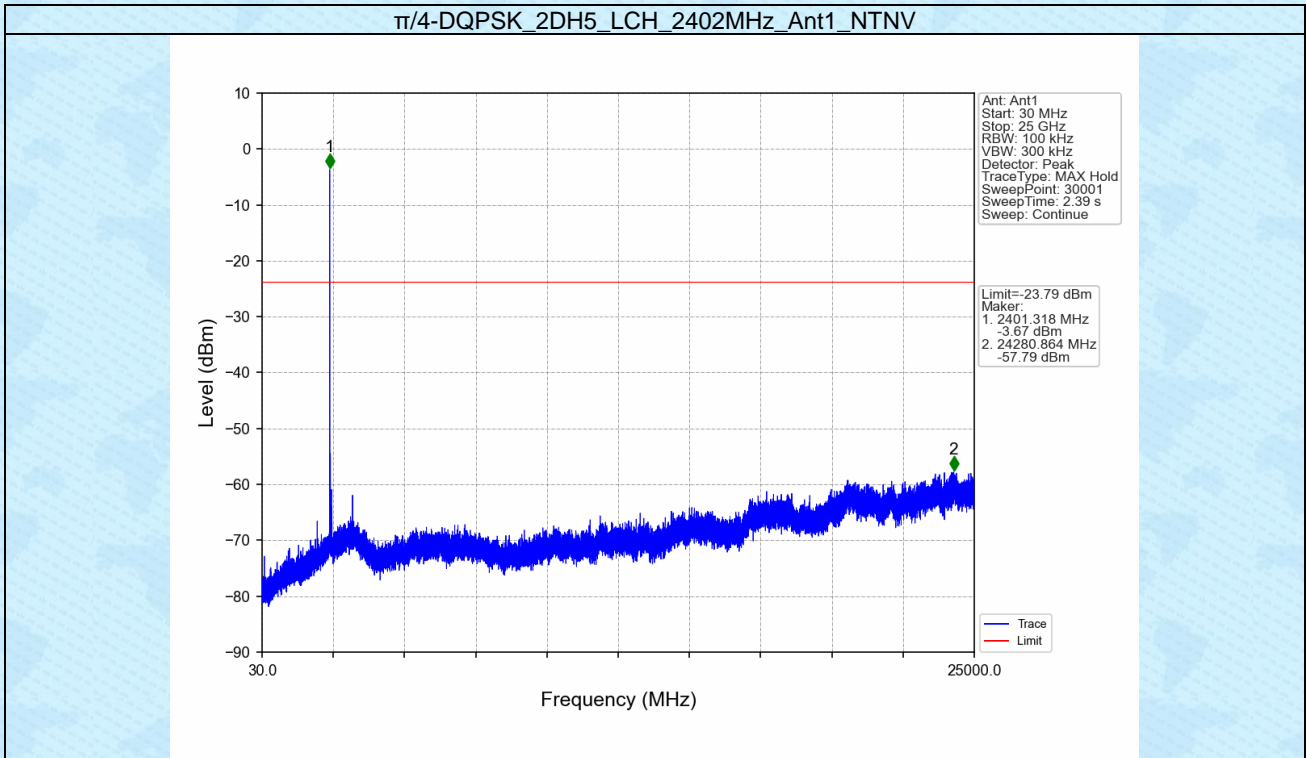
6.2.2 Test Graph

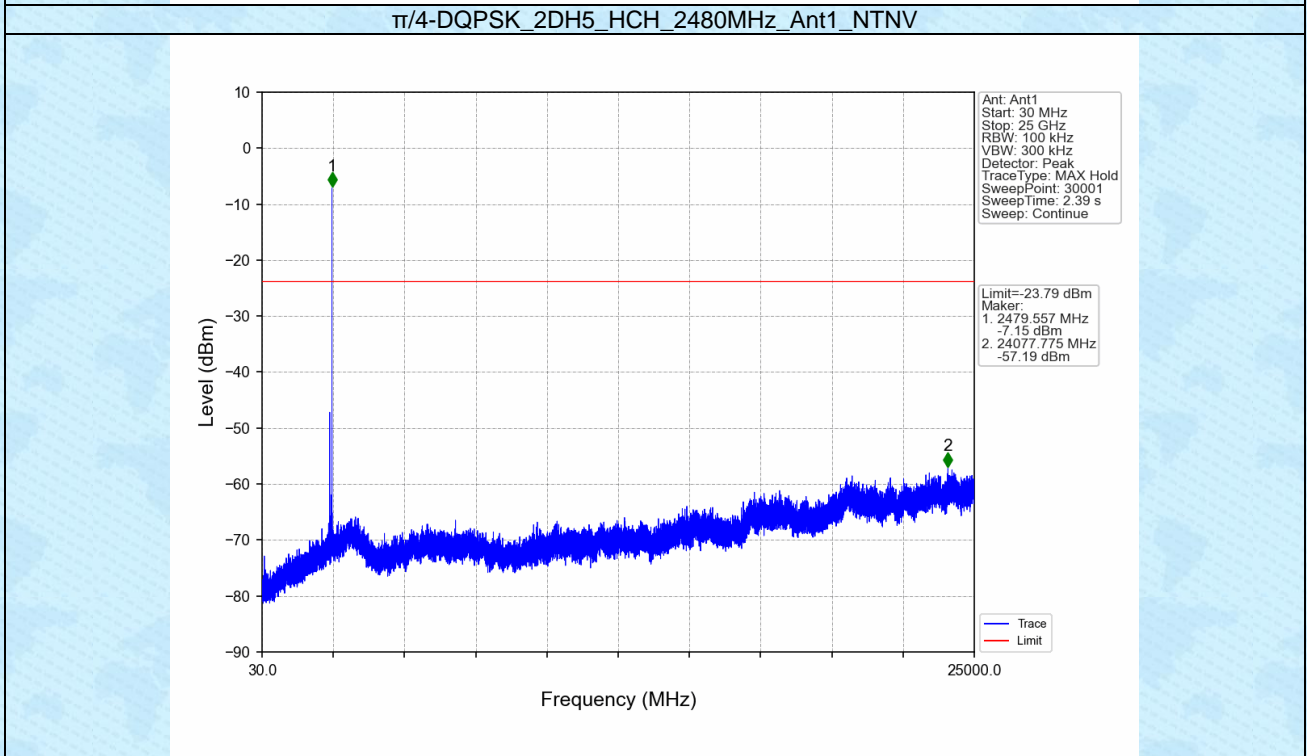
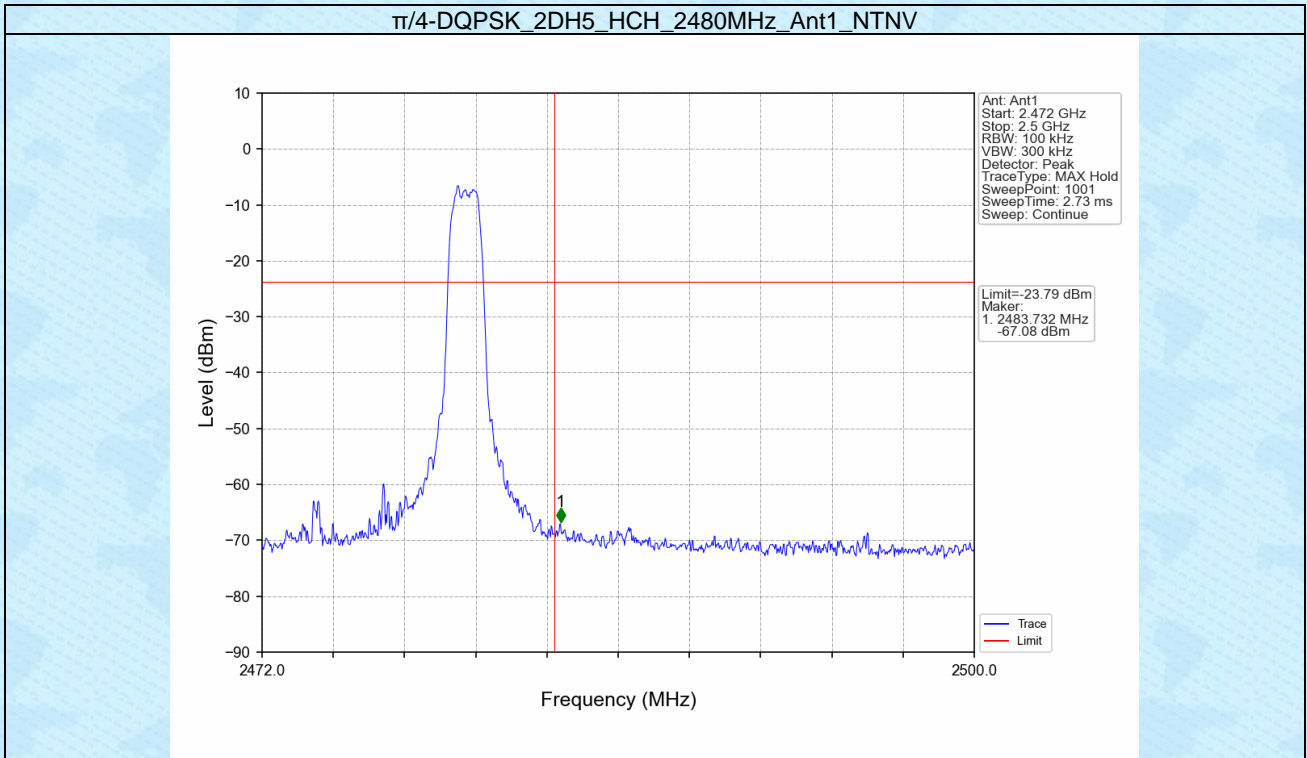


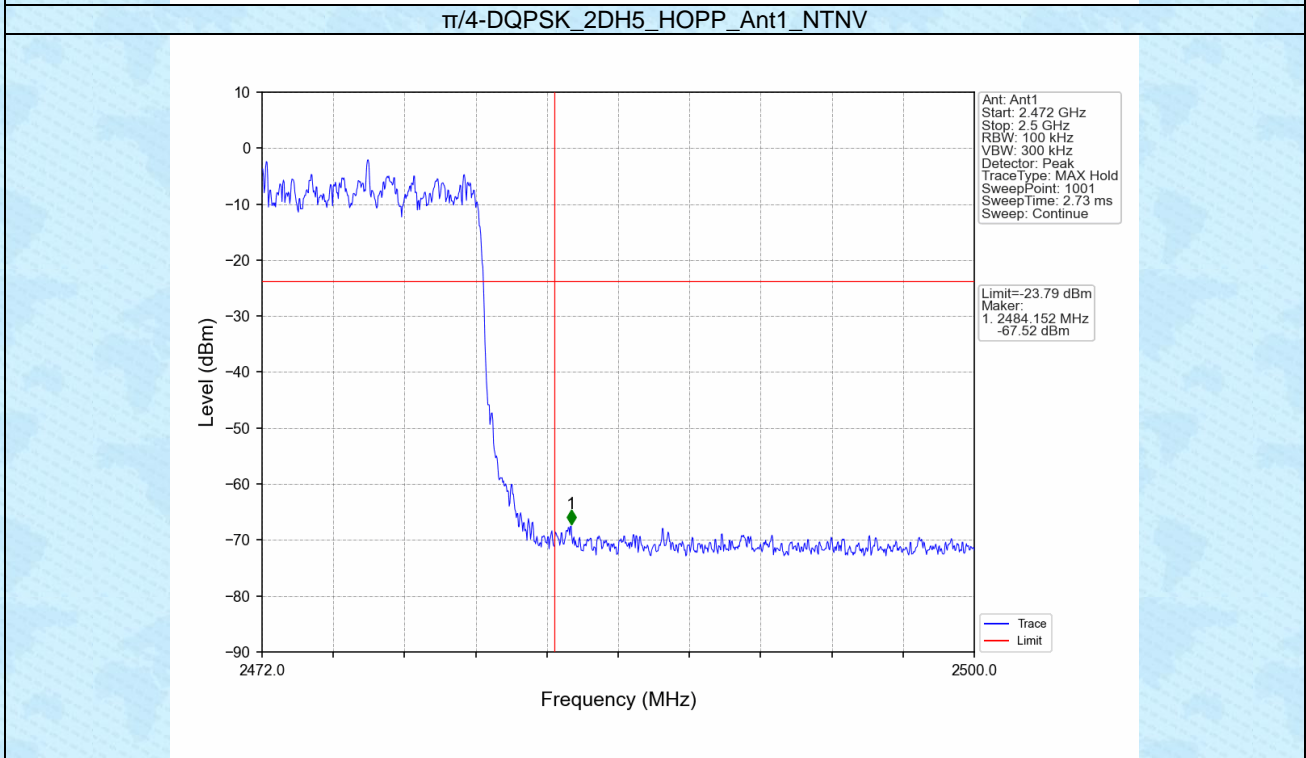
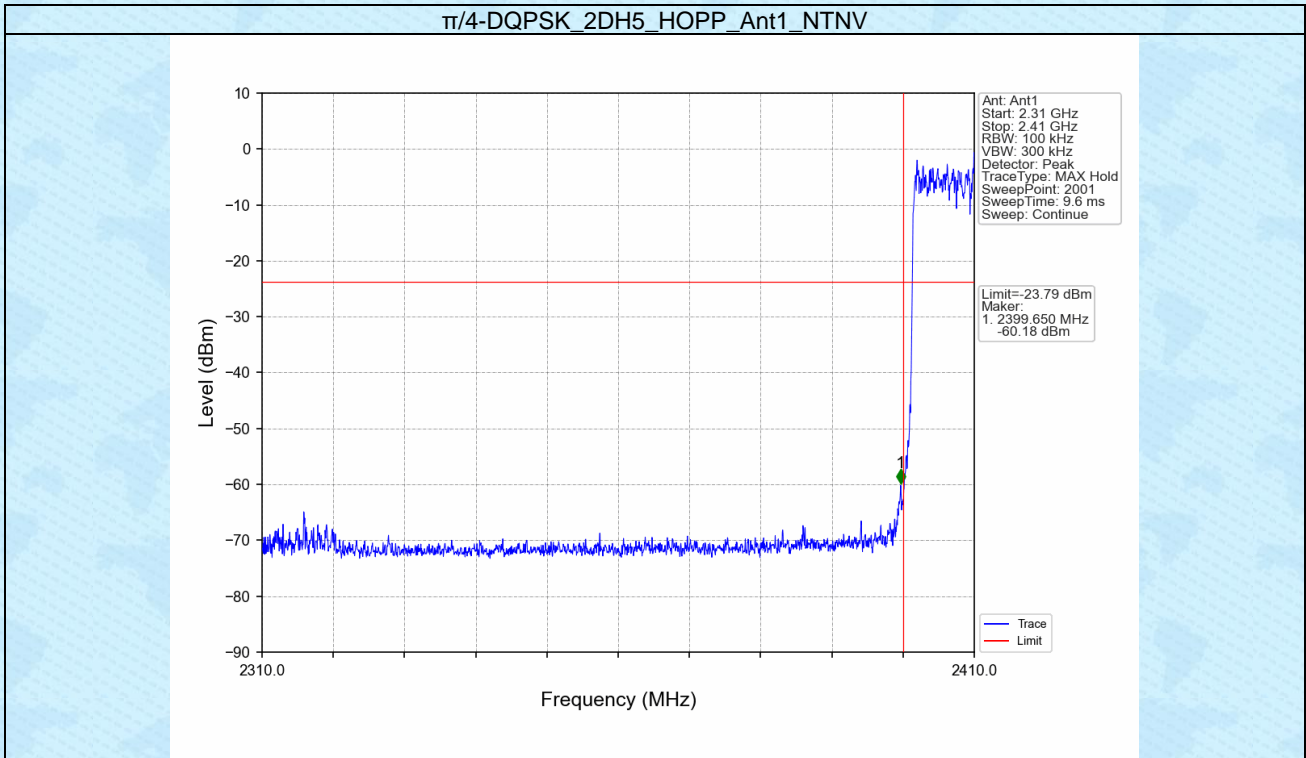


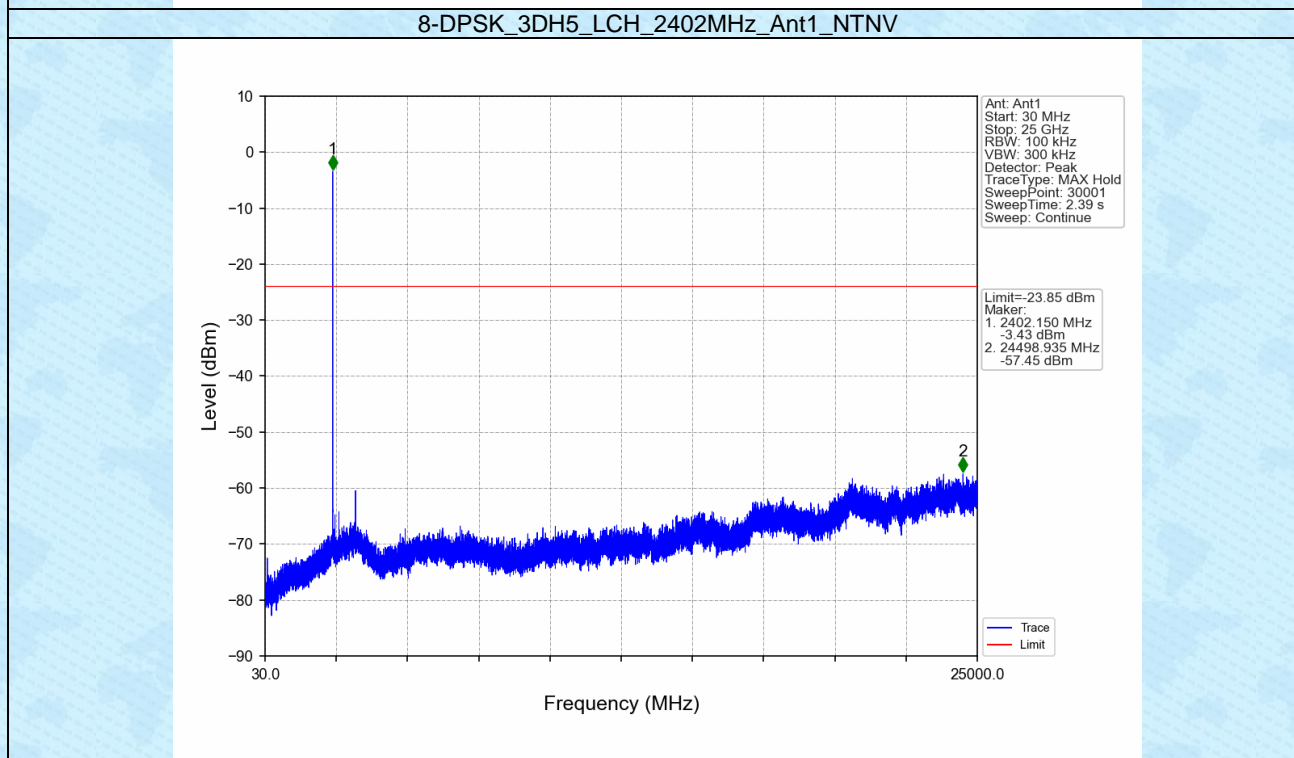
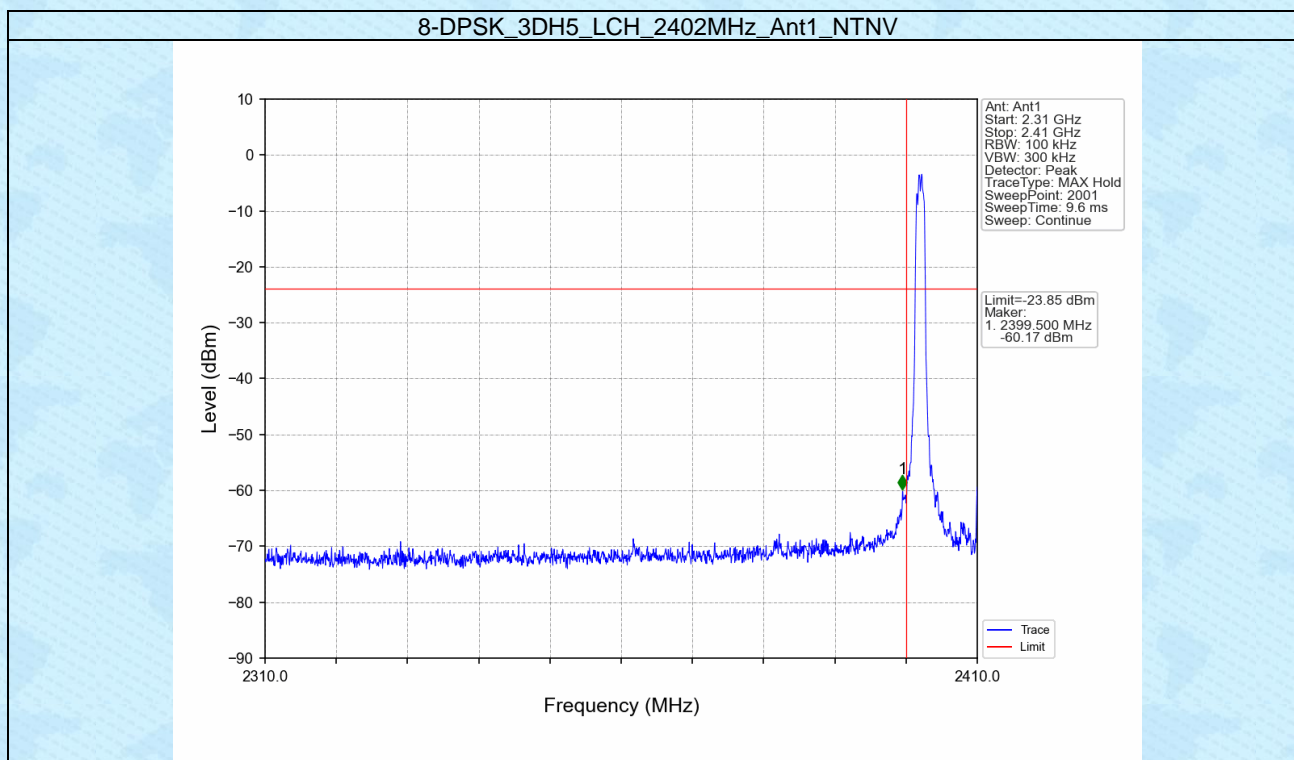


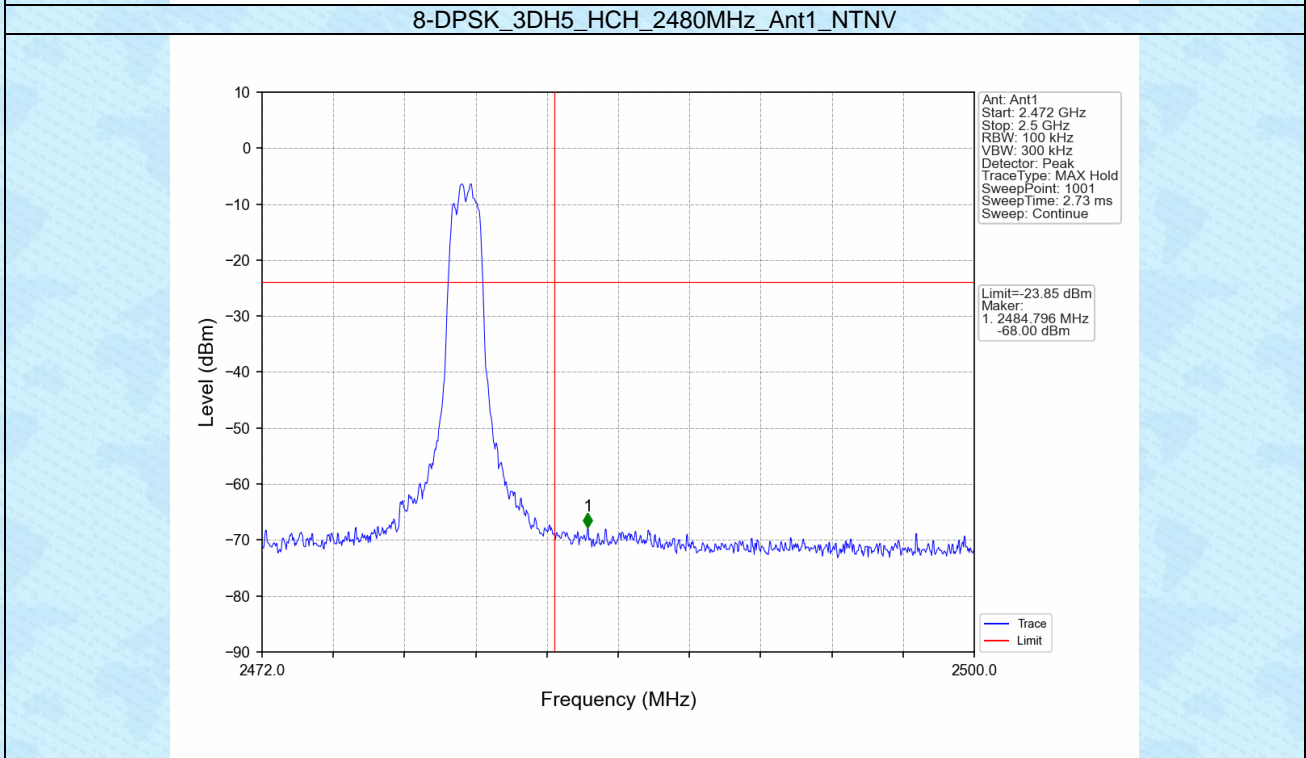
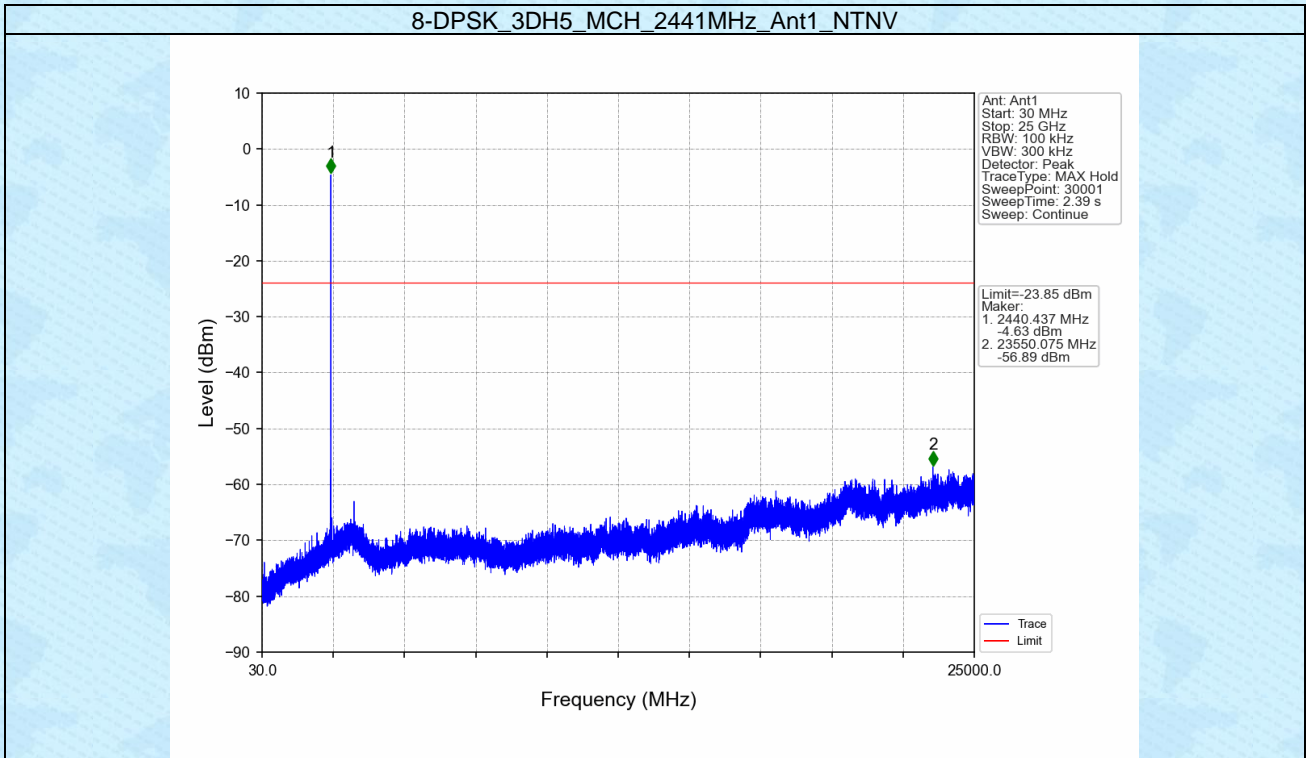


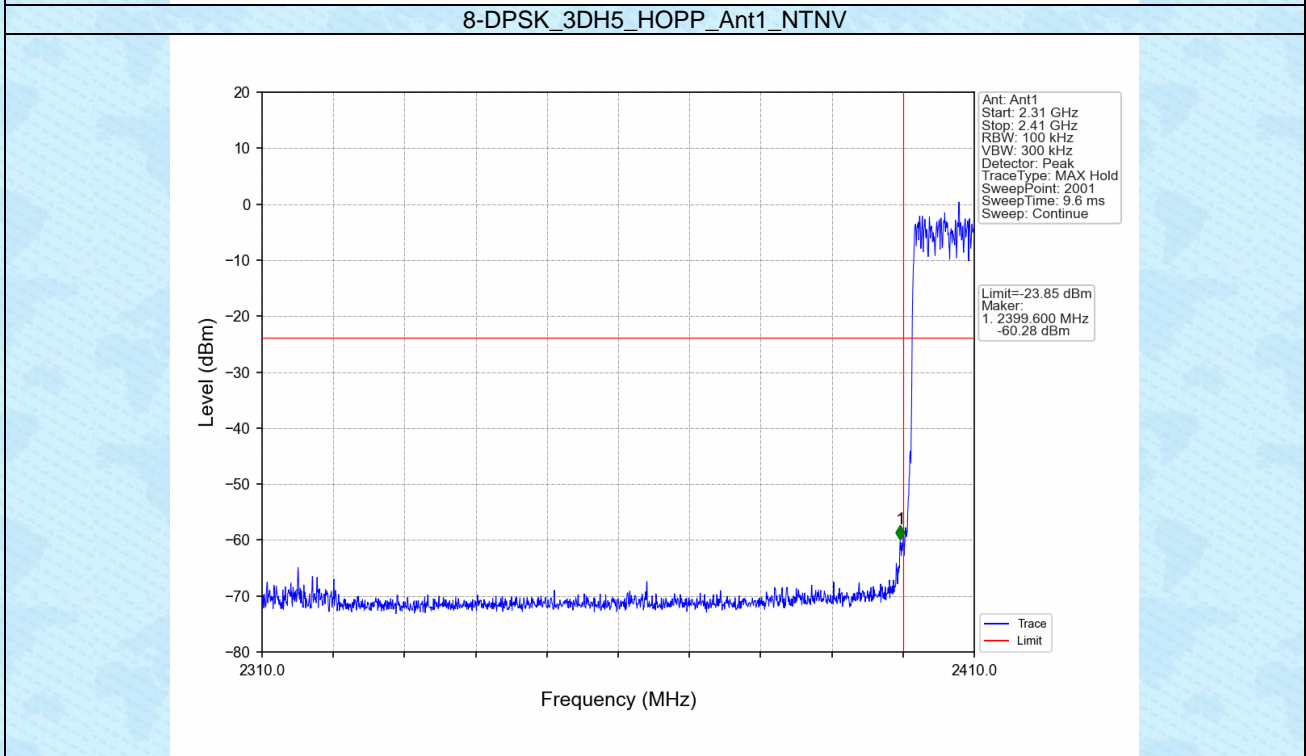
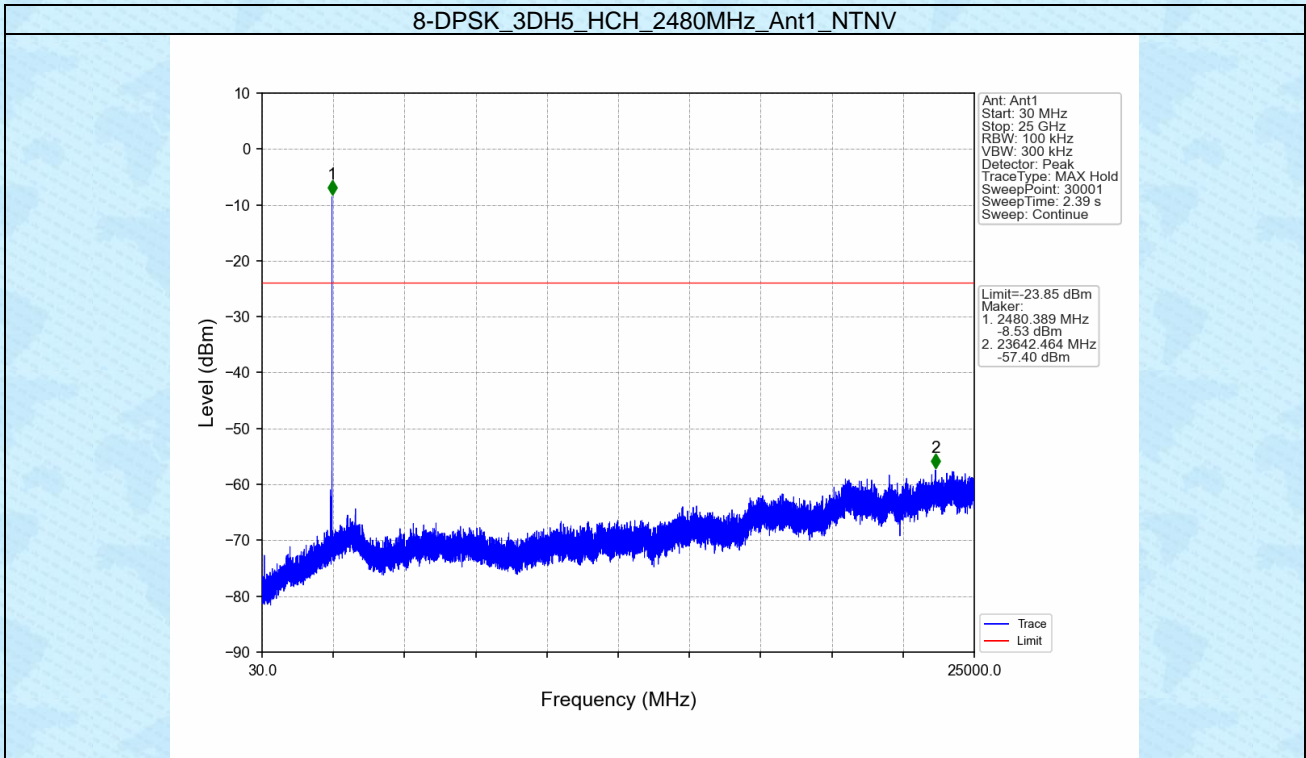


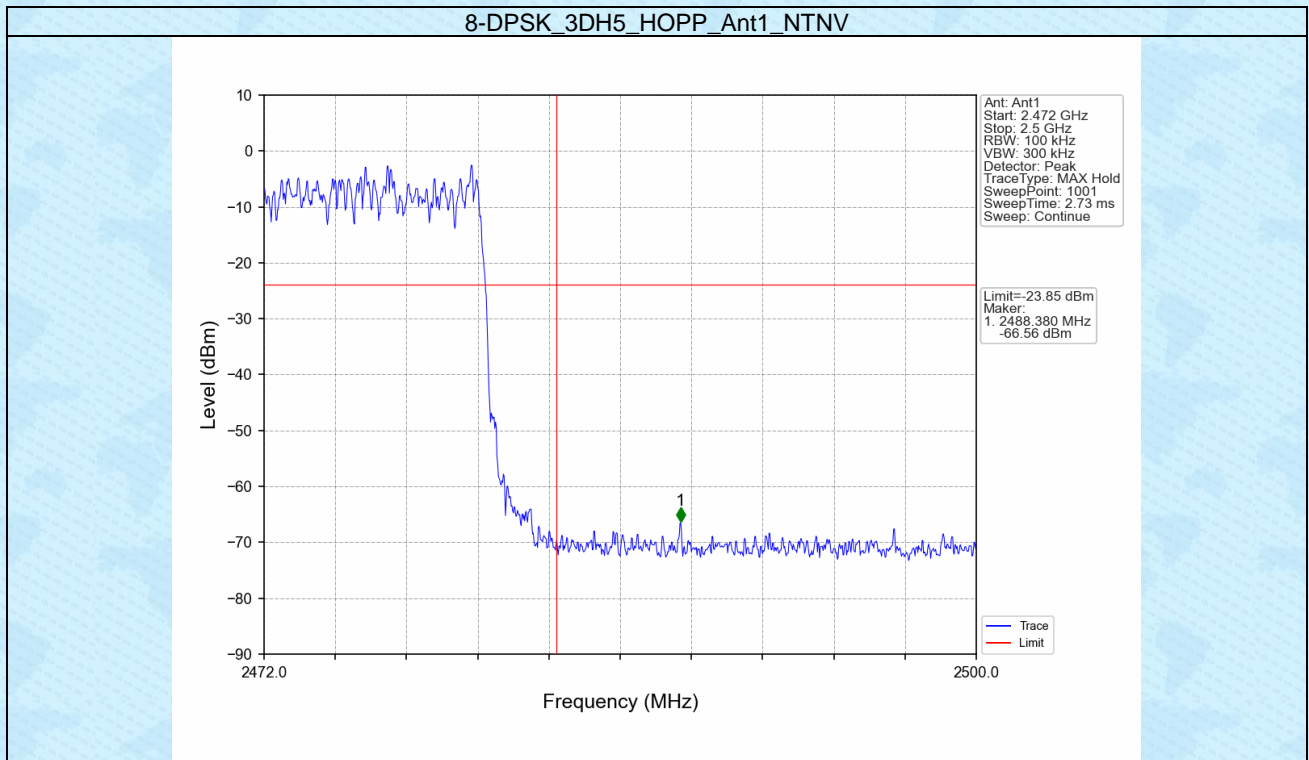












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