



1. Duty Cycle

1.1 Test Result

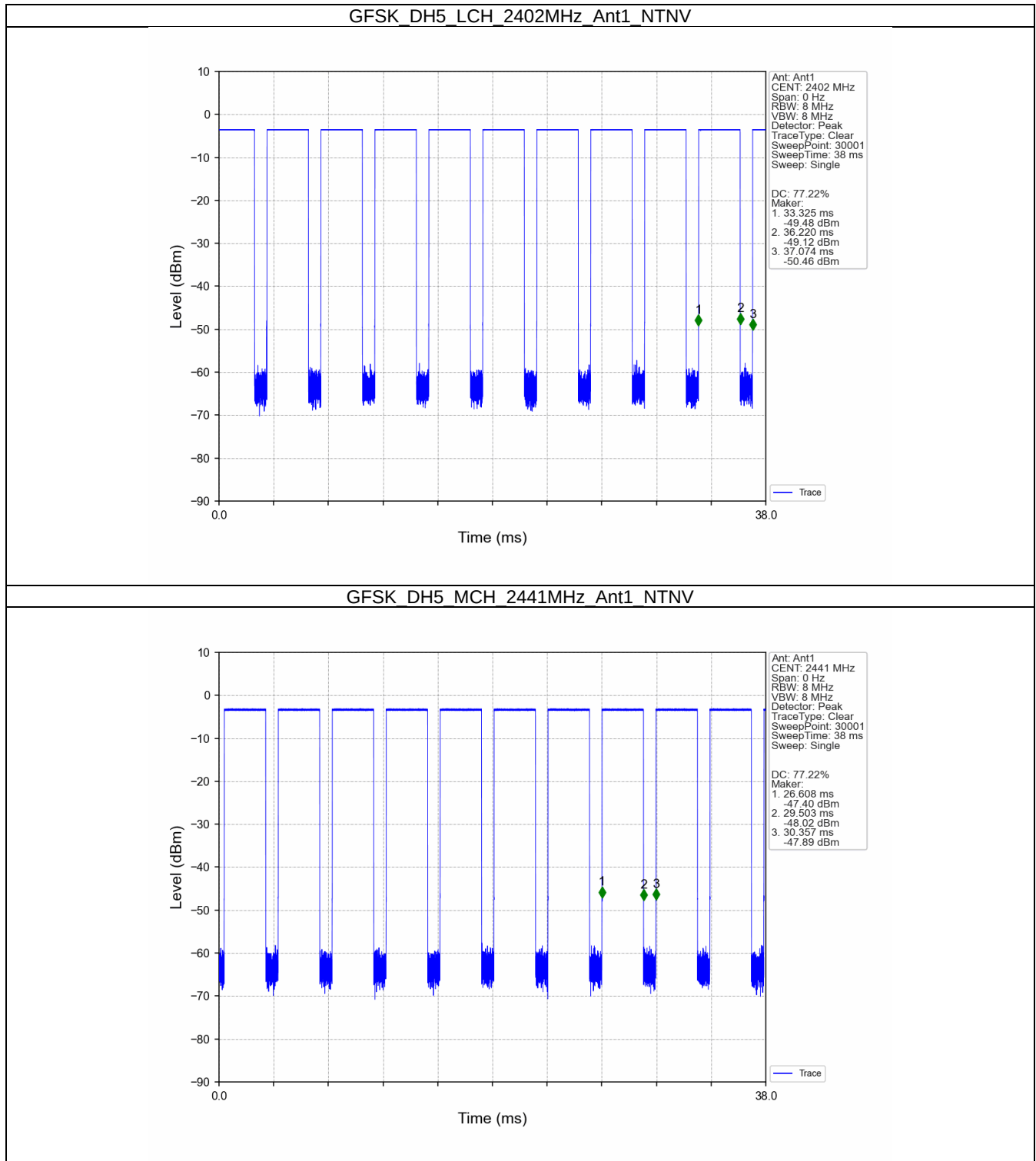
1.1.1 Ant1

Ant1								
Mode	Tx Type	Frequency (MHz)	Packet Type	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
GFSK	SISO	2402	DH5	2.895	3.749	77.22	1.12	0.03
		2441	DH5	2.895	3.749	77.22	1.12	0.03
		2480	DH5	2.896	3.751	77.21	1.12	0.04
Pi/4DQPSK	SISO	2402	2DH5	2.899	3.750	77.31	1.12	0.04
		2441	2DH5	2.900	3.751	77.31	1.12	0.03
		2480	2DH5	2.899	3.750	77.31	1.12	0.03
8DPSK	SISO	2402	3DH5	2.901	3.750	77.36	1.11	0.03
		2441	3DH5	2.901	3.750	77.36	1.11	0.03
		2480	3DH5	2.901	3.750	77.36	1.11	0.03



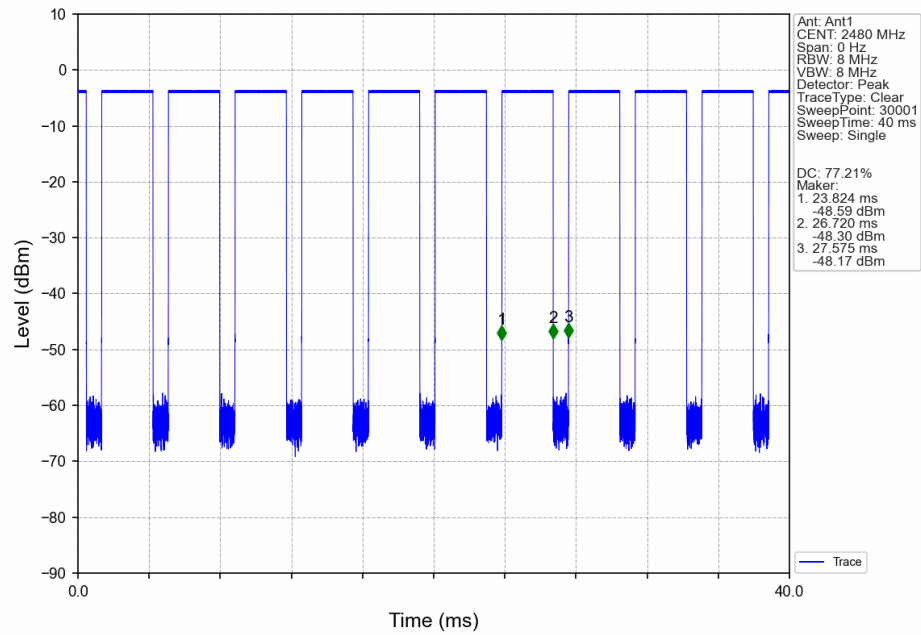
1.2 Test Graph

1.2.1 Ant1

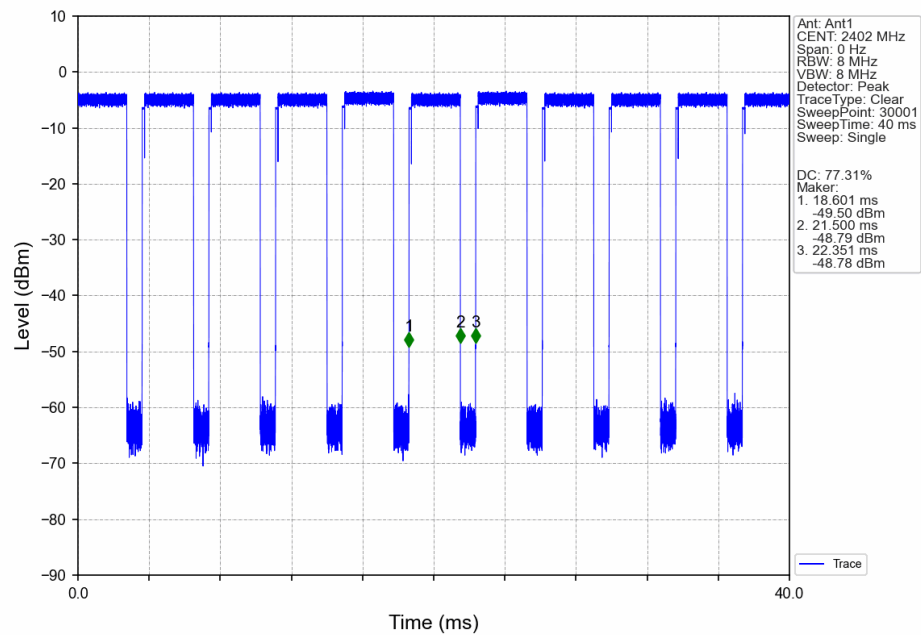




GFSK_DH5_HCH_2480MHz_Ant1_NTNV

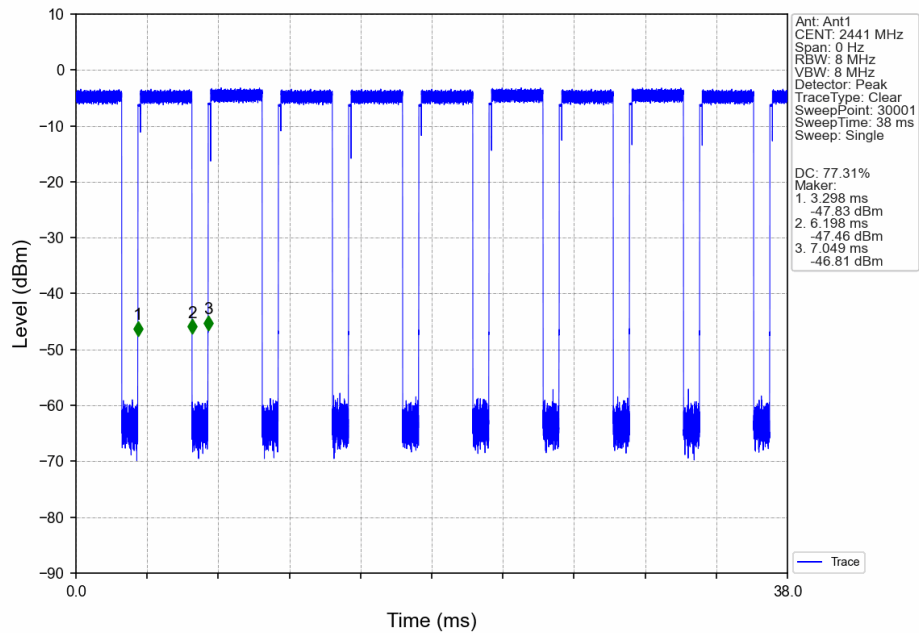


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

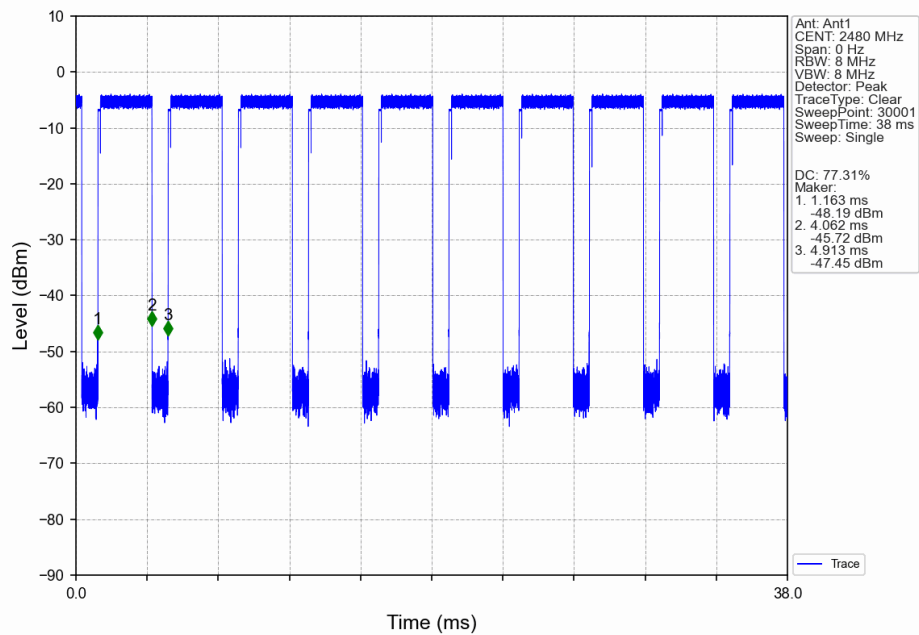




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

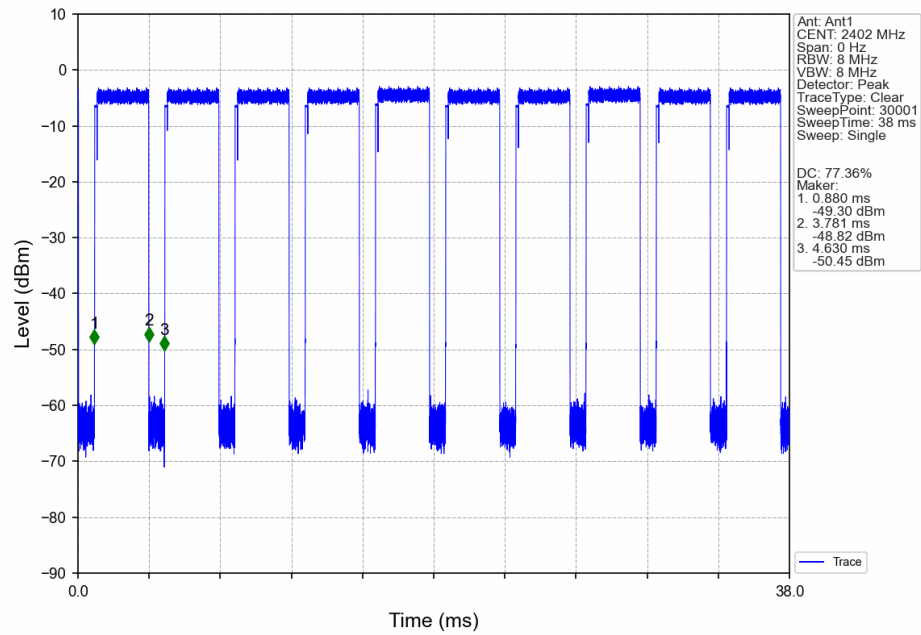


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

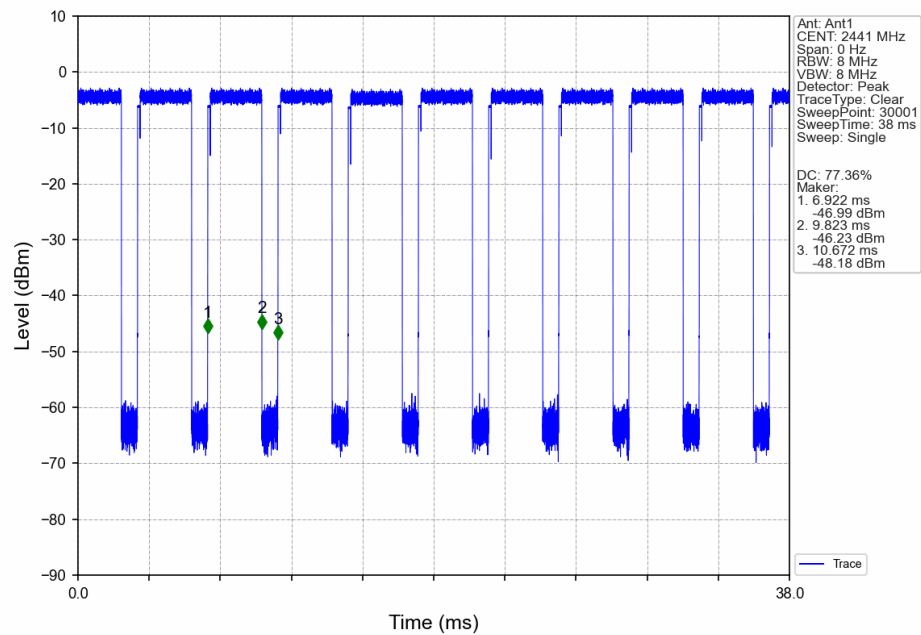




8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV

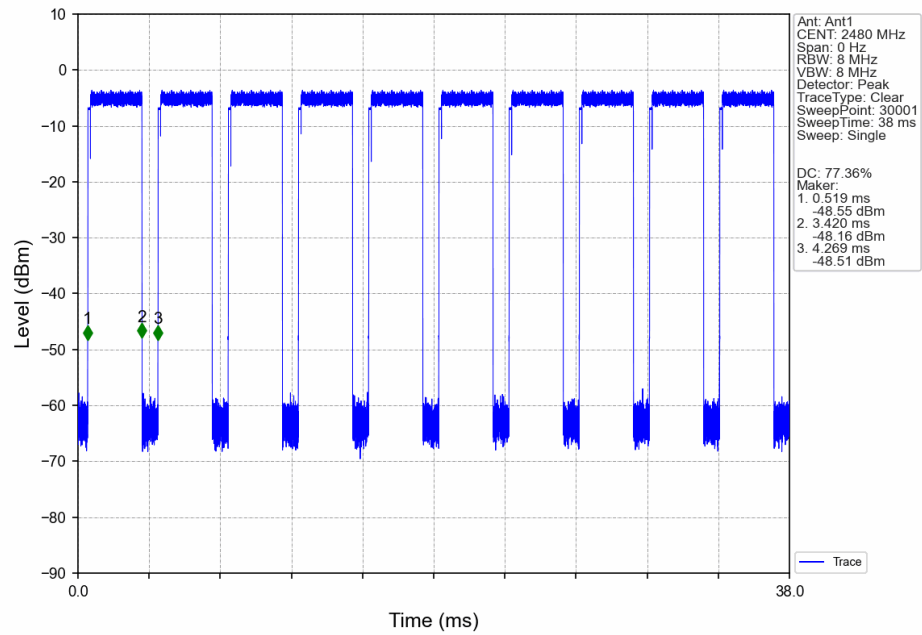


8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.852	/	Pass
		2441	DH5	1	0.721	/	Pass
		2480	DH5	1	0.746	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.182	/	Pass
		2441	2DH5	1	1.176	/	Pass
		2480	2DH5	1	1.177	/	Pass
8DPSK	SISO	2402	3DH5	1	1.187	/	Pass
		2441	3DH5	1	1.184	/	Pass
		2480	3DH5	1	1.182	/	Pass

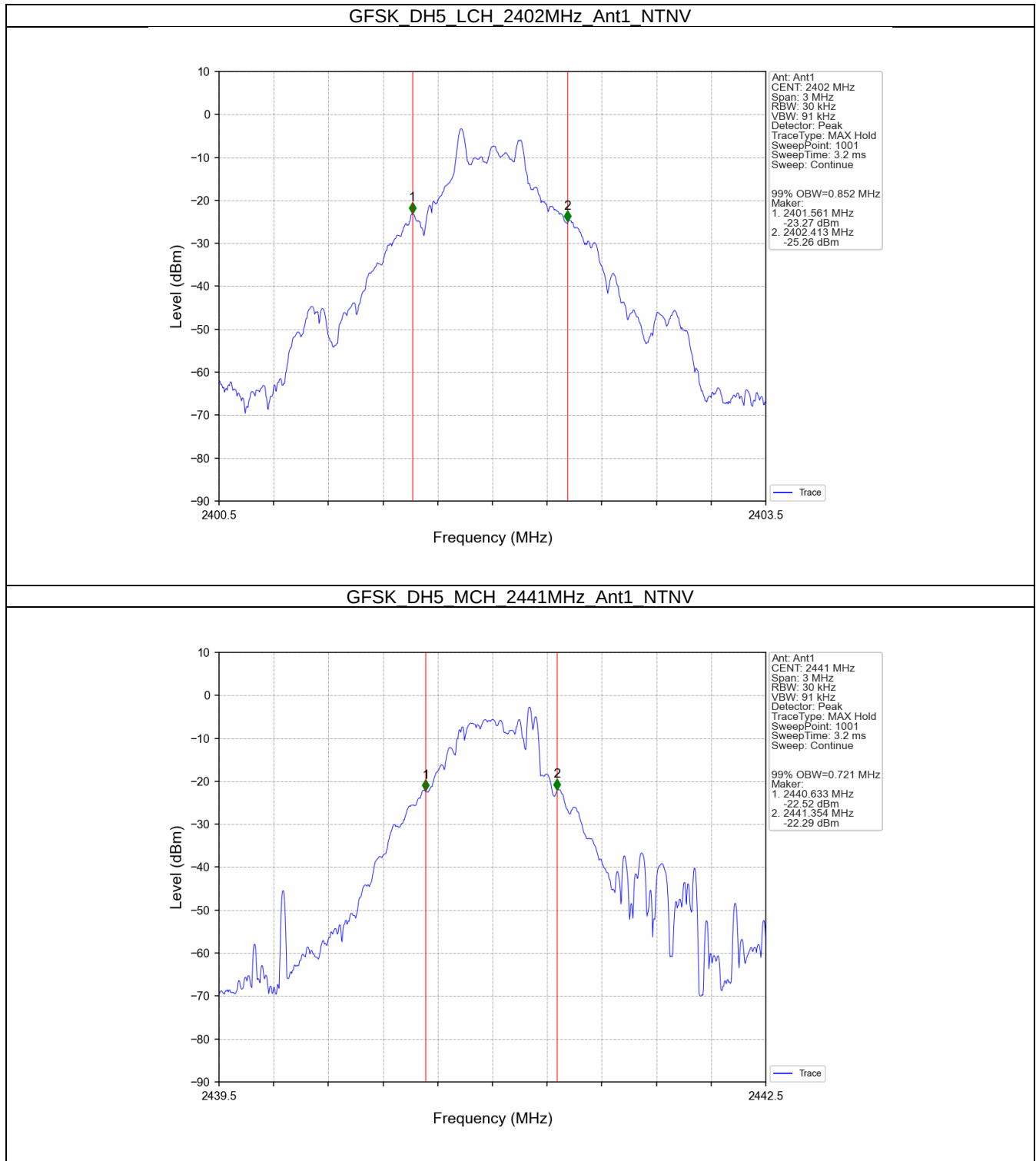
2.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.828	/	Pass
		2441	DH5	1	0.849	/	Pass
		2480	DH5	1	0.848	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.329	/	Pass
		2441	2DH5	1	1.328	/	Pass
		2480	2DH5	1	1.326	/	Pass
8DPSK	SISO	2402	3DH5	1	1.322	/	Pass
		2441	3DH5	1	1.315	/	Pass
		2480	3DH5	1	1.320	/	Pass



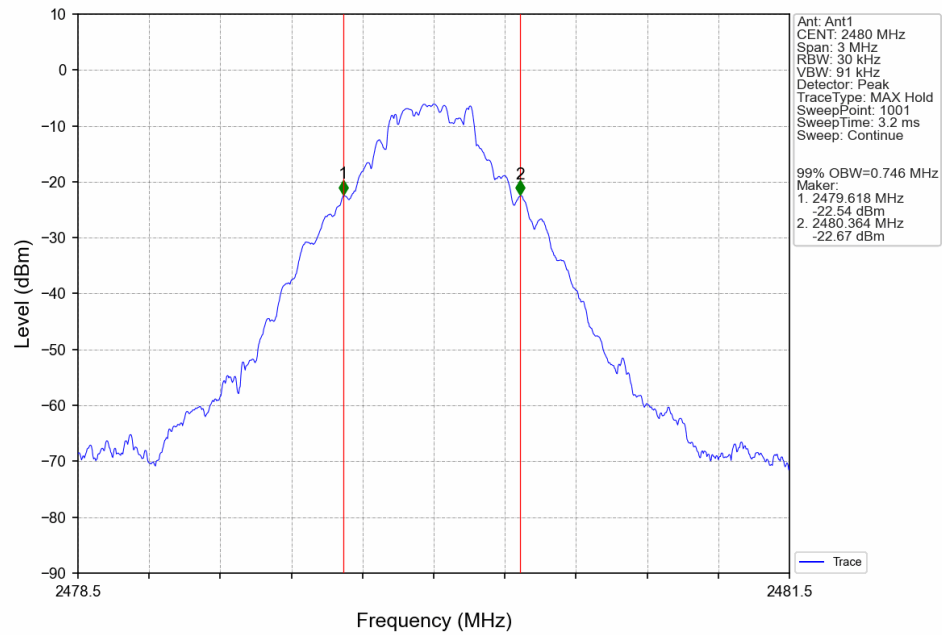
2.2 Test Graph

2.2.1 OBW

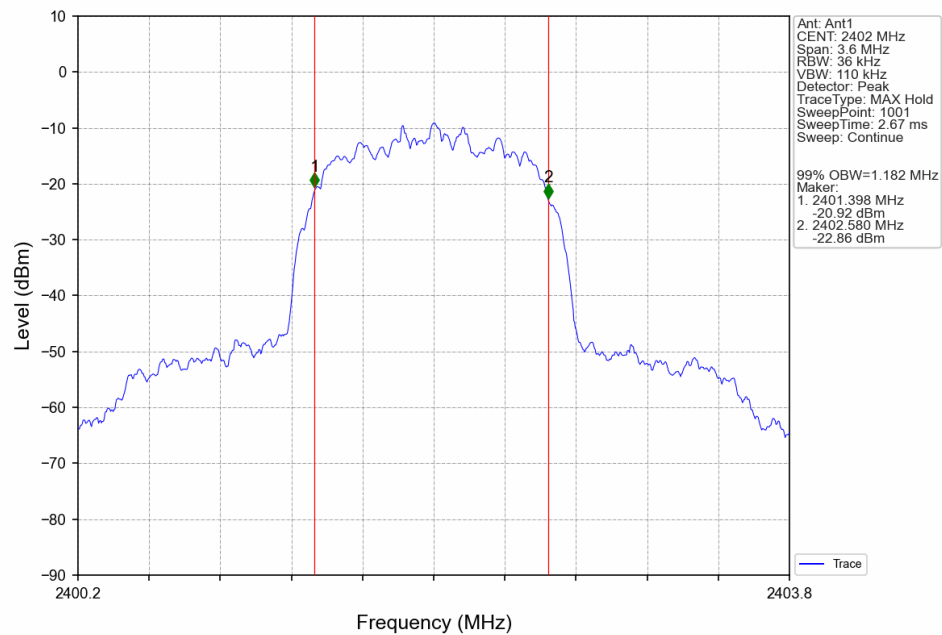




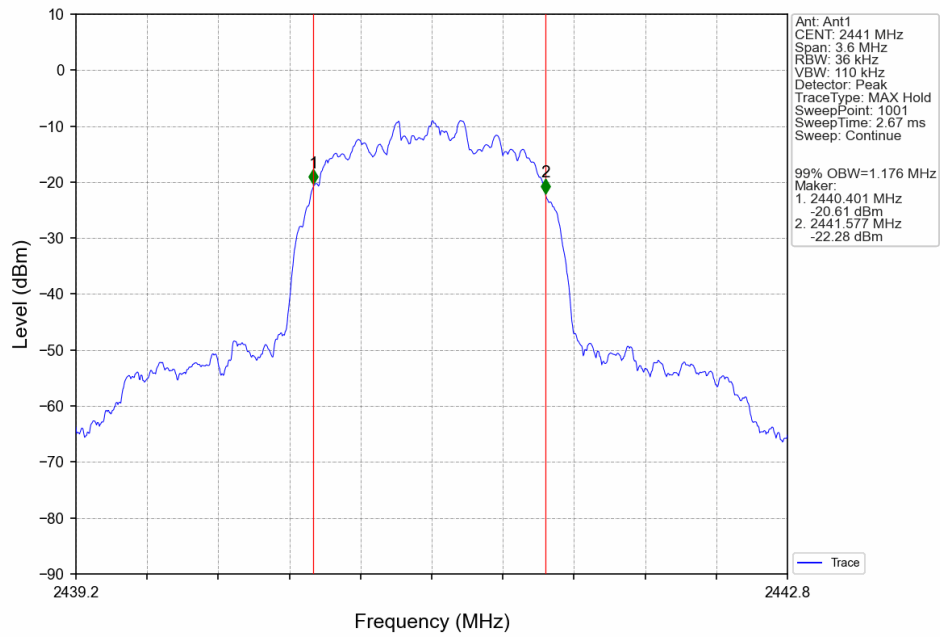
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



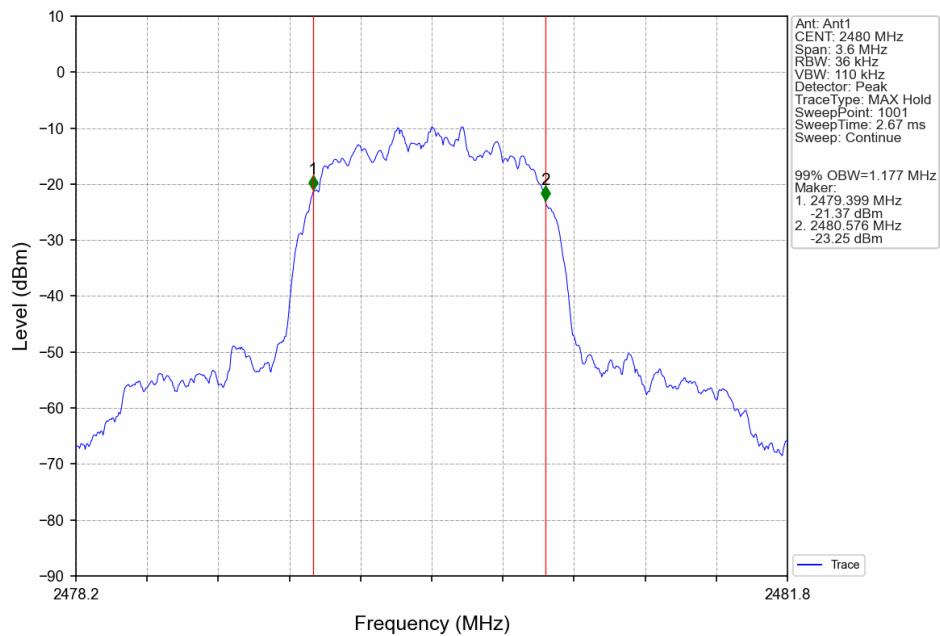
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



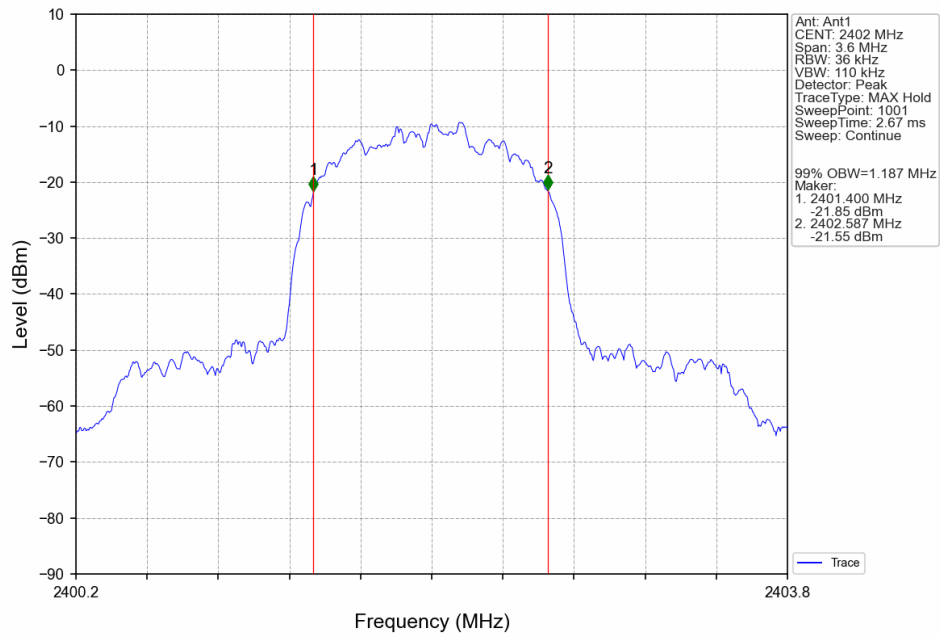
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



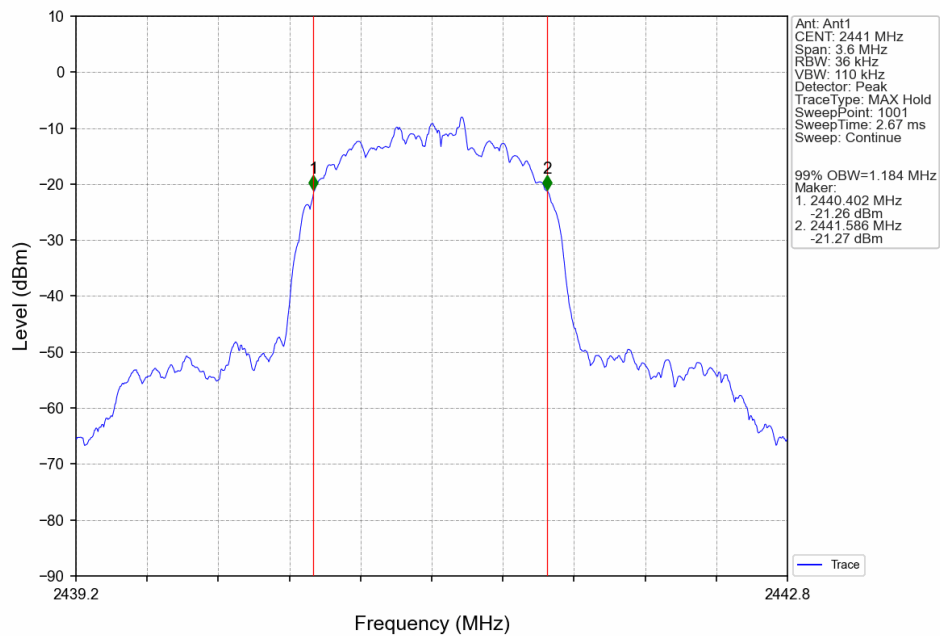
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

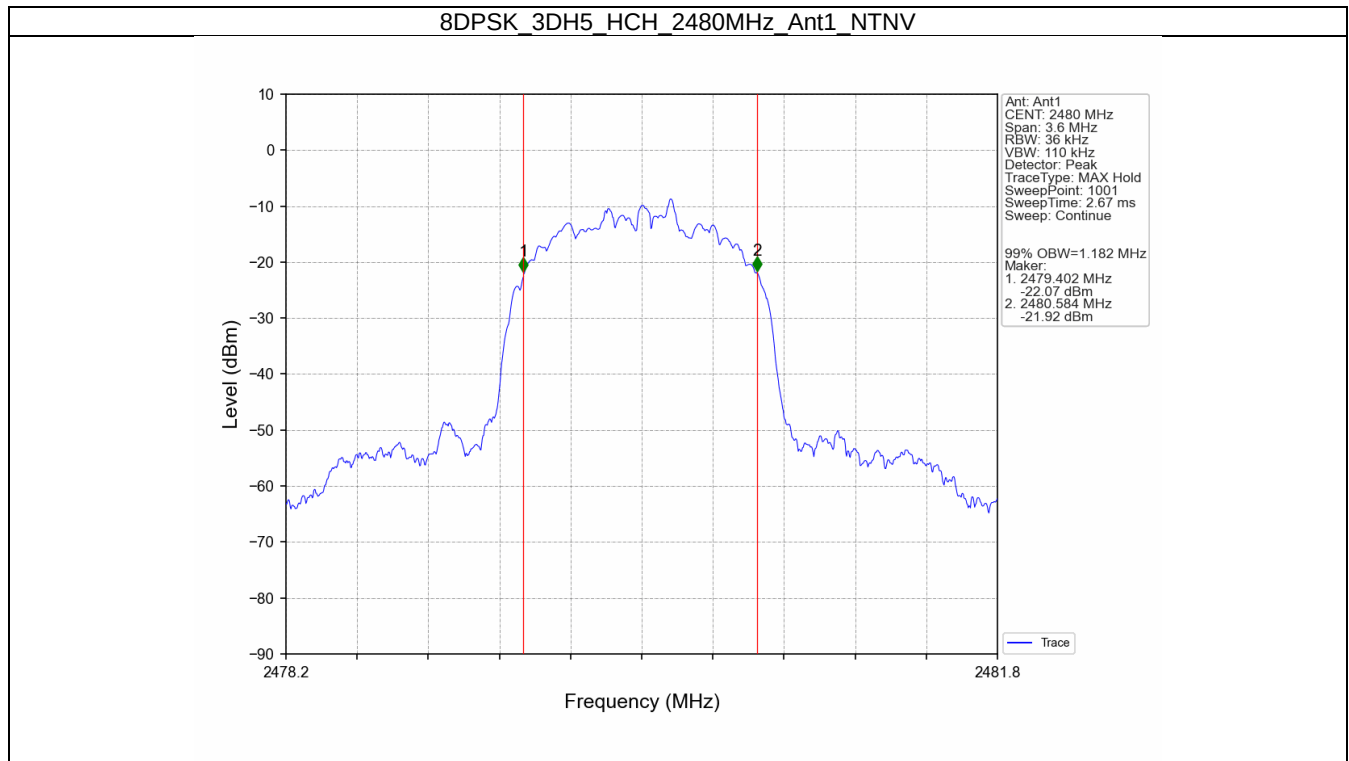


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



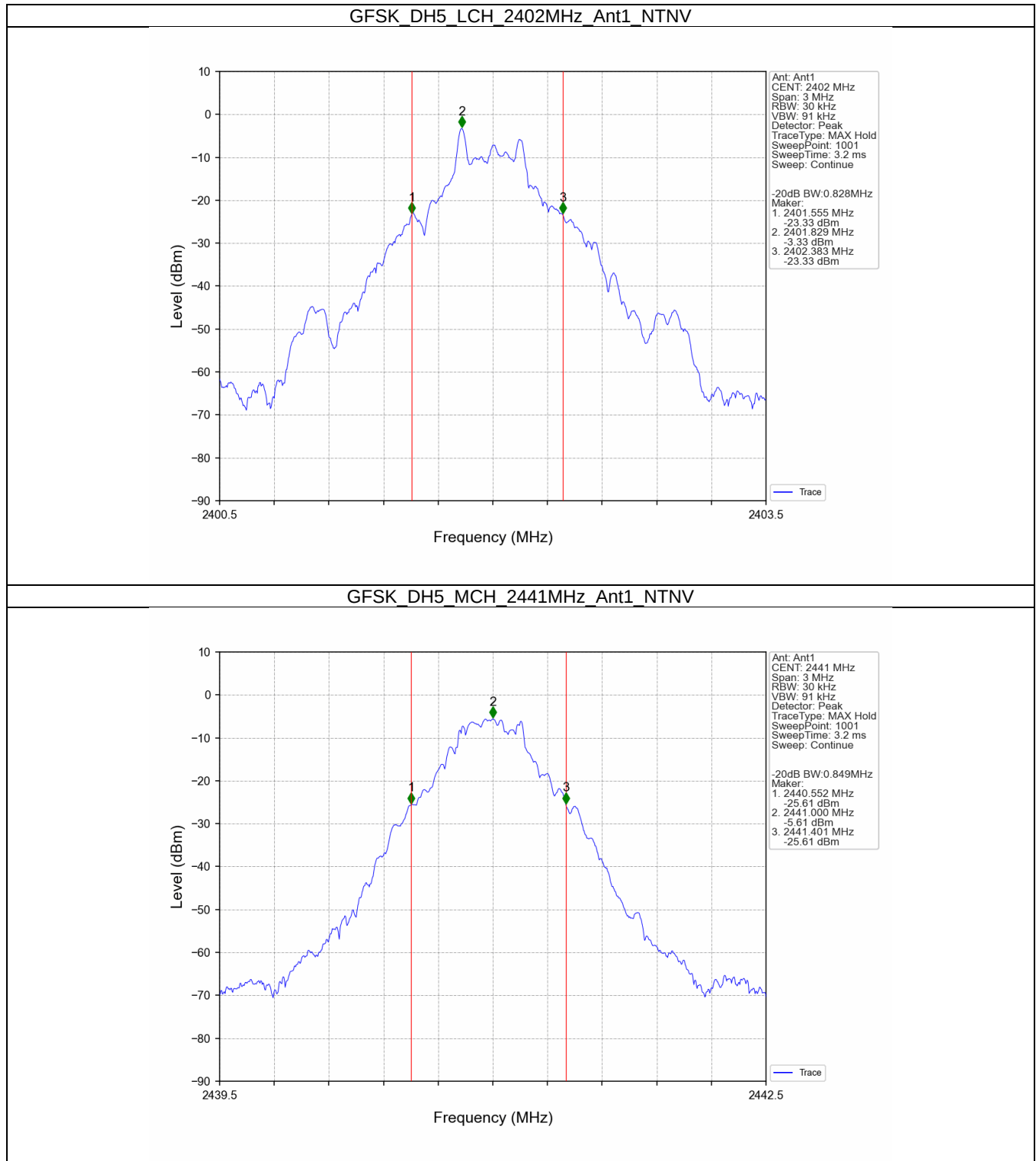
8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



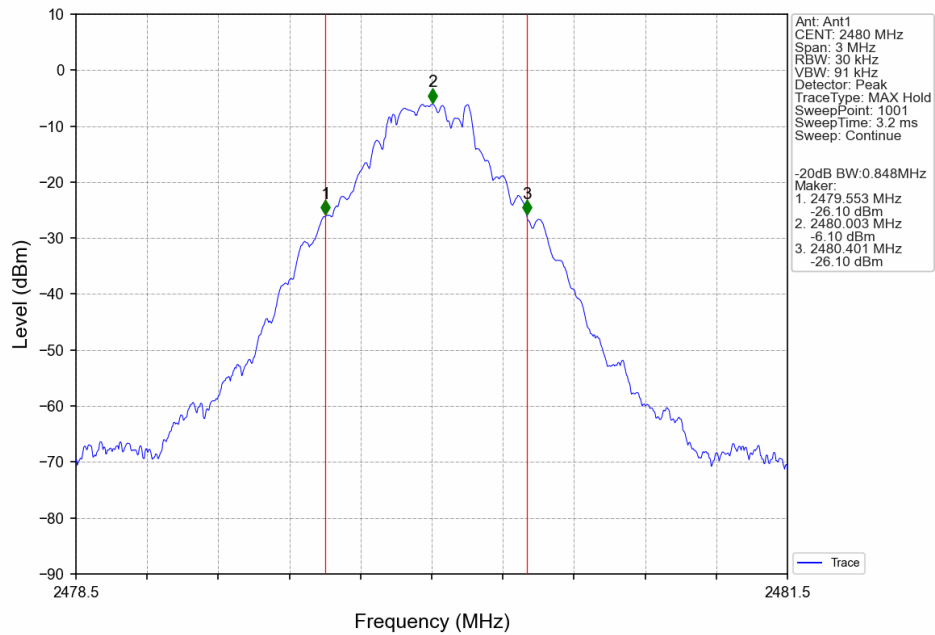




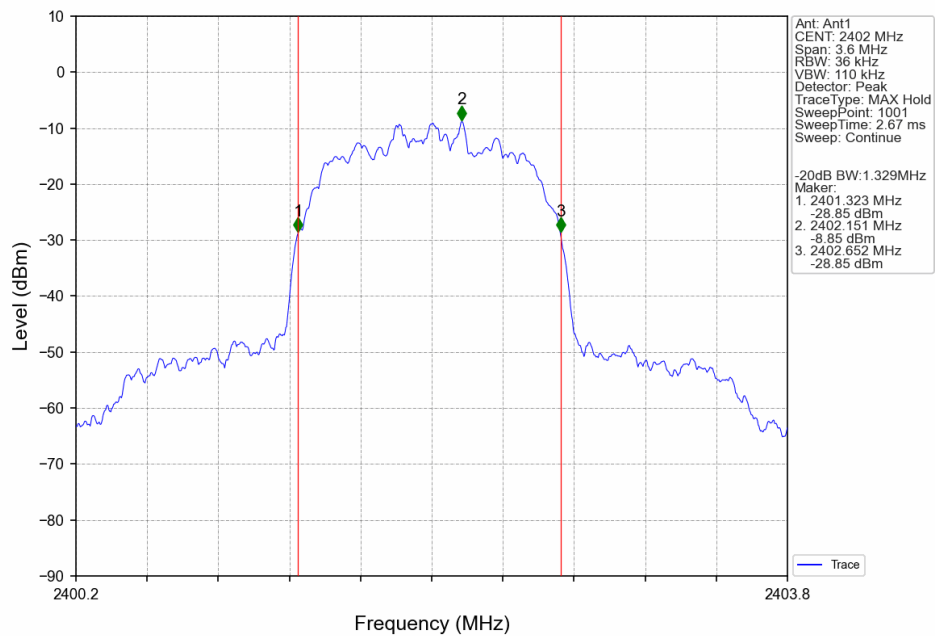
2.2.2 20dB BW



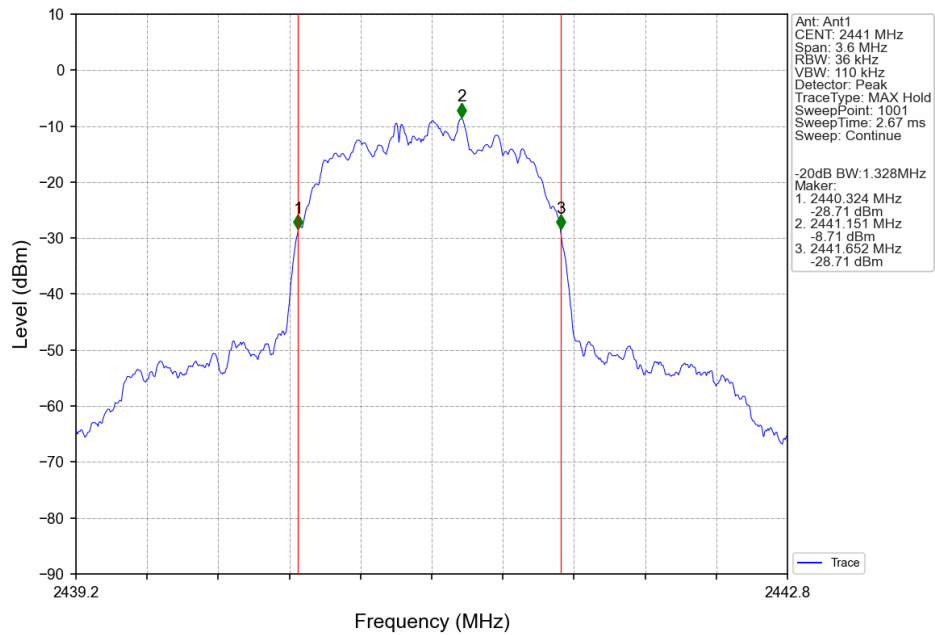
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



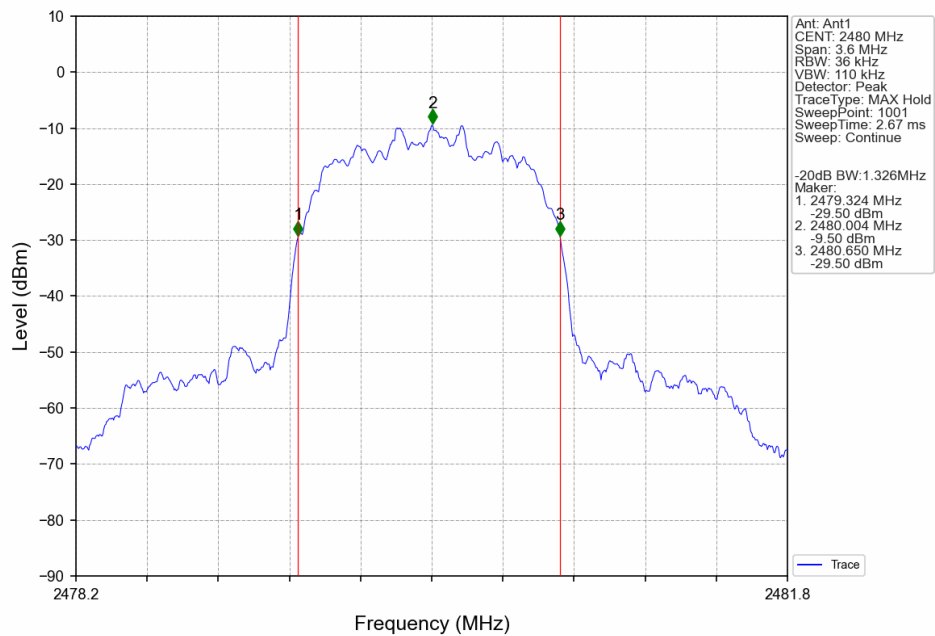
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



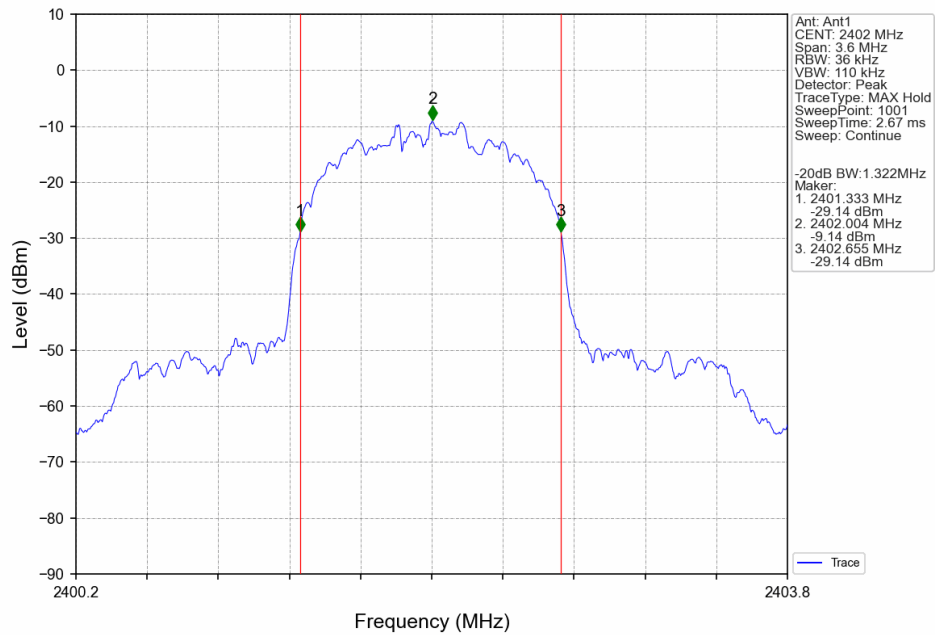
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



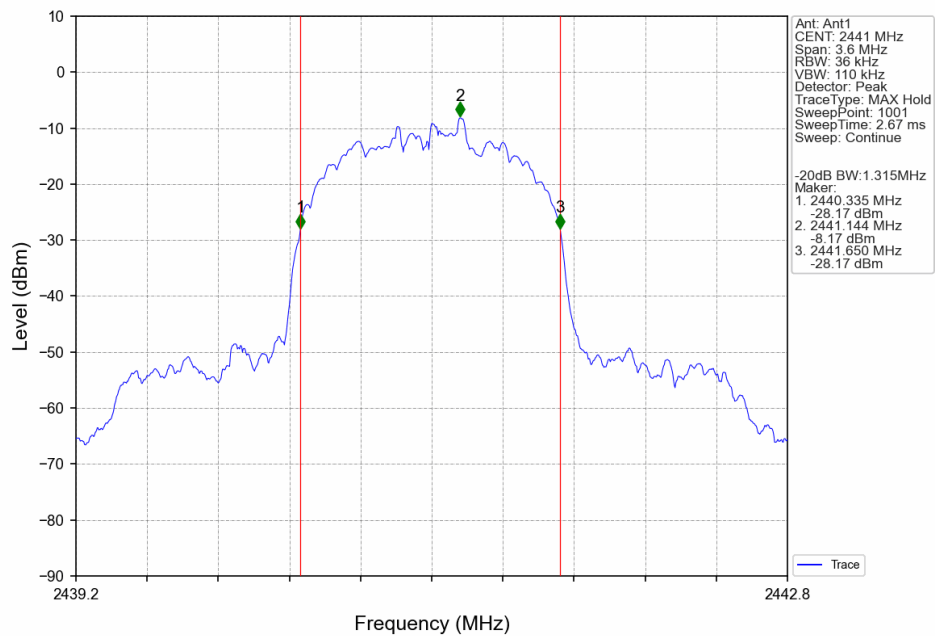
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

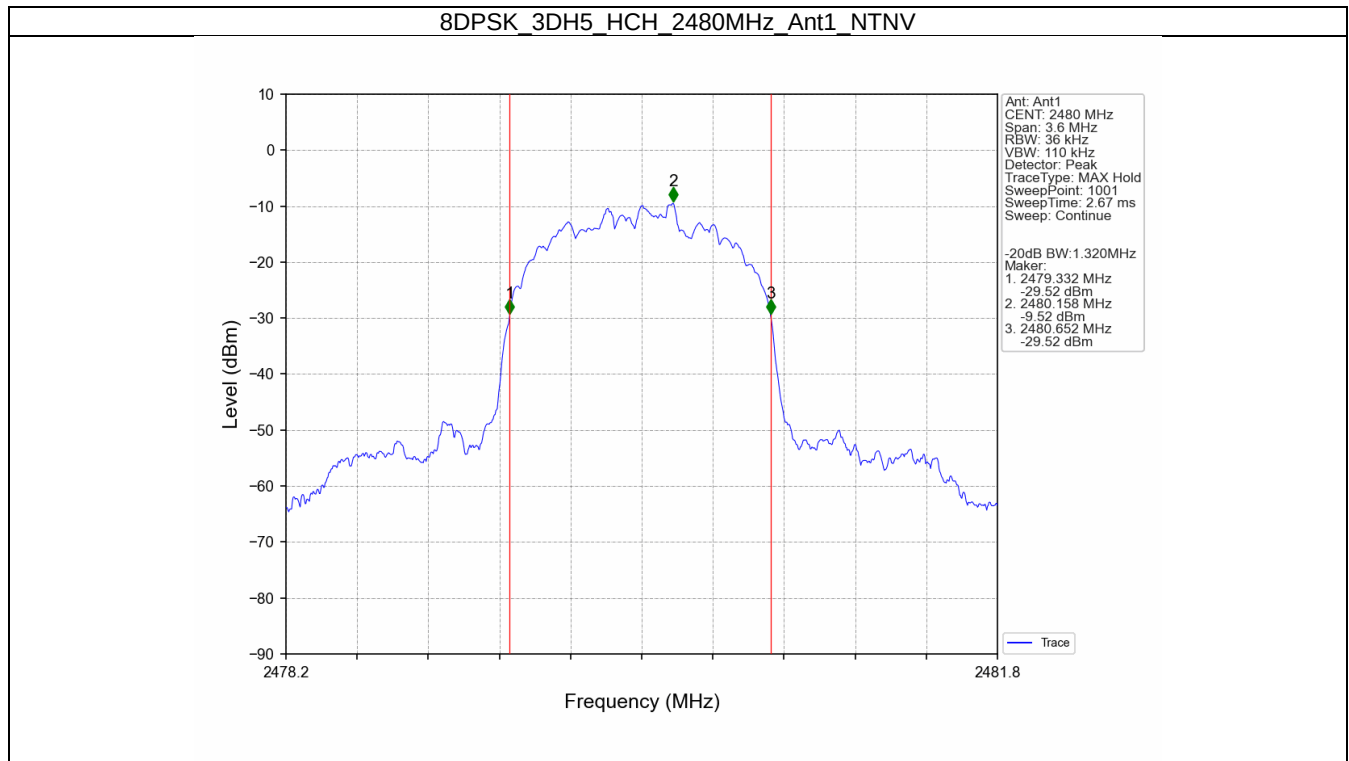


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV







3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-3.33	<=30	Pass
		2441	DH5	-3.01	<=30	Pass
		2480	DH5	-3.77	<=30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-3.60	<=20.97	Pass
		2441	2DH5	-3.38	<=20.97	Pass
		2480	2DH5	-3.93	<=20.97	Pass
8DPSK	SISO	2402	3DH5	-3.11	<=20.97	Pass
		2441	3DH5	-3.07	<=20.97	Pass
		2480	3DH5	-3.62	<=20.97	Pass

Note1: Antenna Gain: Ant1: 4.10dBi;

3.1.2 EIRP

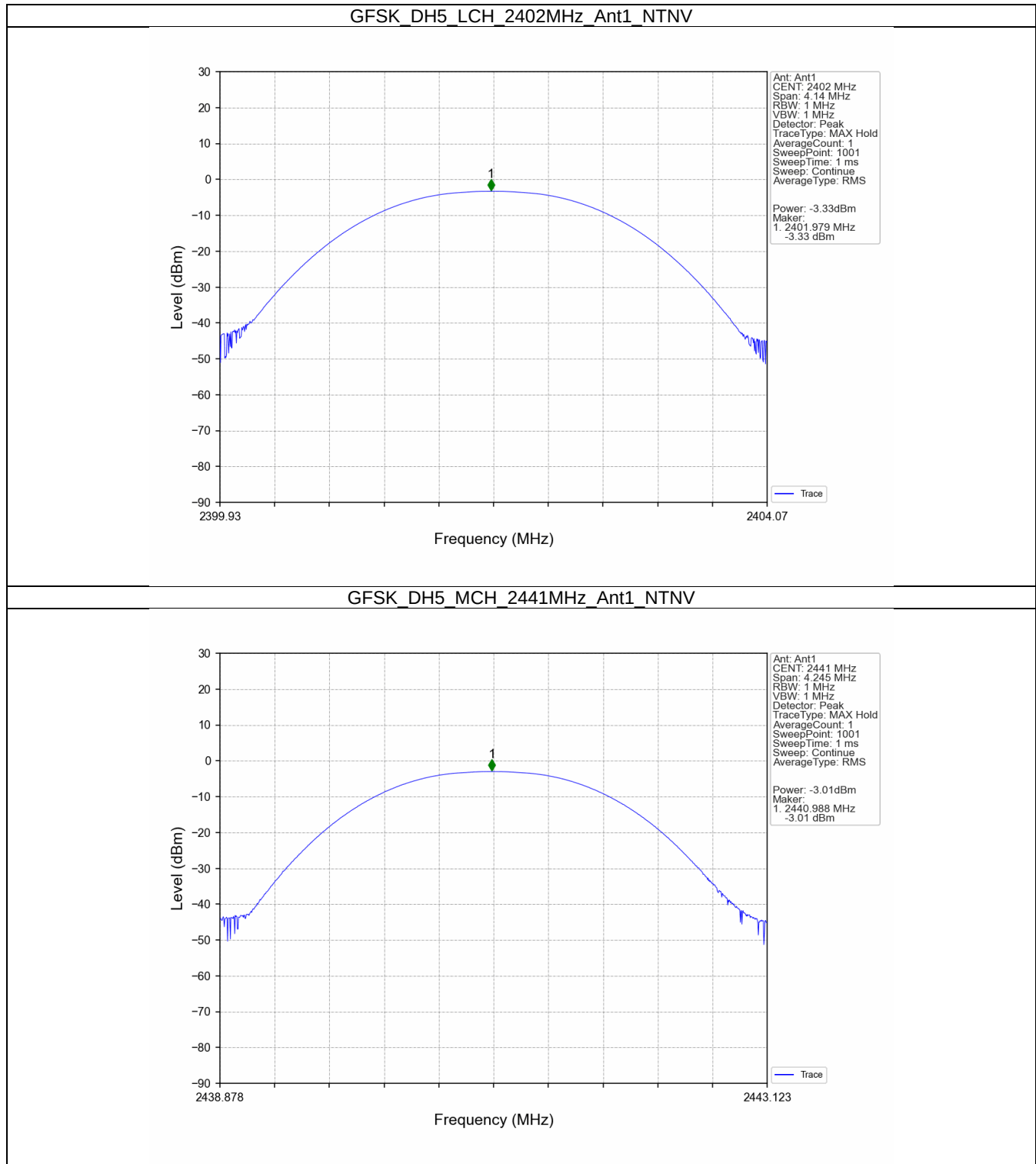
Mode	TX Type	Frequency (MHz)	Packet Type	E.I.R.P (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	0.77	<=36.02	Pass
		2441	DH5	1.09	<=36.02	Pass
		2480	DH5	0.33	<=36.02	Pass
Pi/4DQPSK	SISO	2402	2DH5	0.50	<=36.02	Pass
		2441	2DH5	0.72	<=36.02	Pass
		2480	2DH5	0.17	<=36.02	Pass
8DPSK	SISO	2402	3DH5	0.99	<=36.02	Pass
		2441	3DH5	1.03	<=36.02	Pass
		2480	3DH5	0.48	<=36.02	Pass

Note1: Antenna Gain: Ant1: 4.10dBi;
Note2: E.I.R.P = Measured Power + Antenna Gain

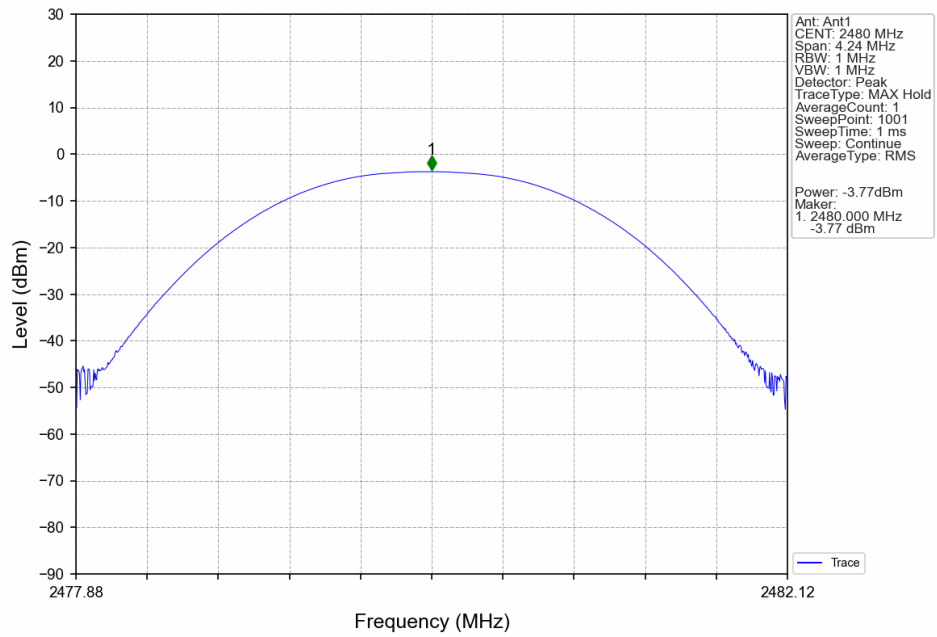


3.2 Test Graph

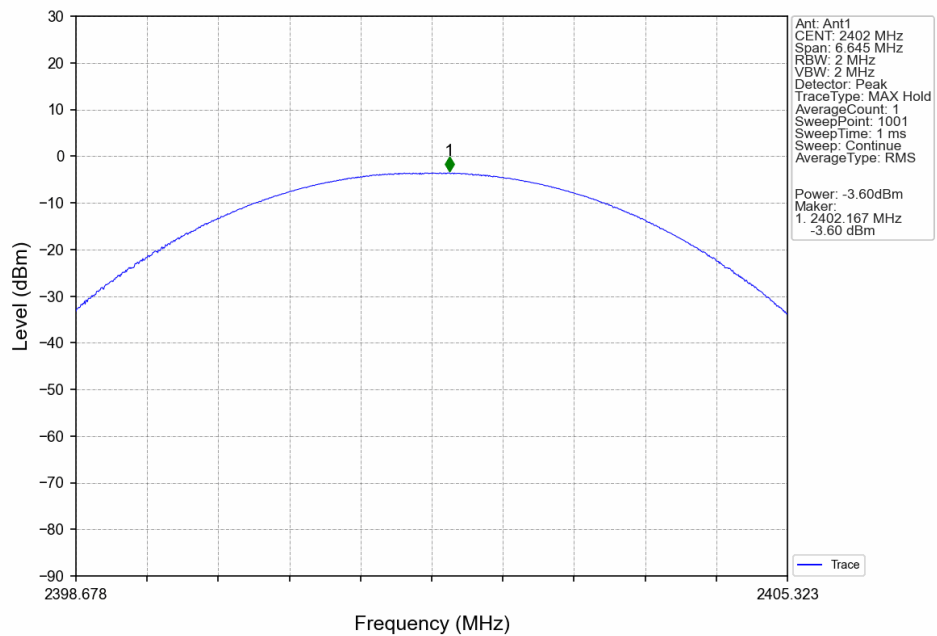
3.2.1 Power



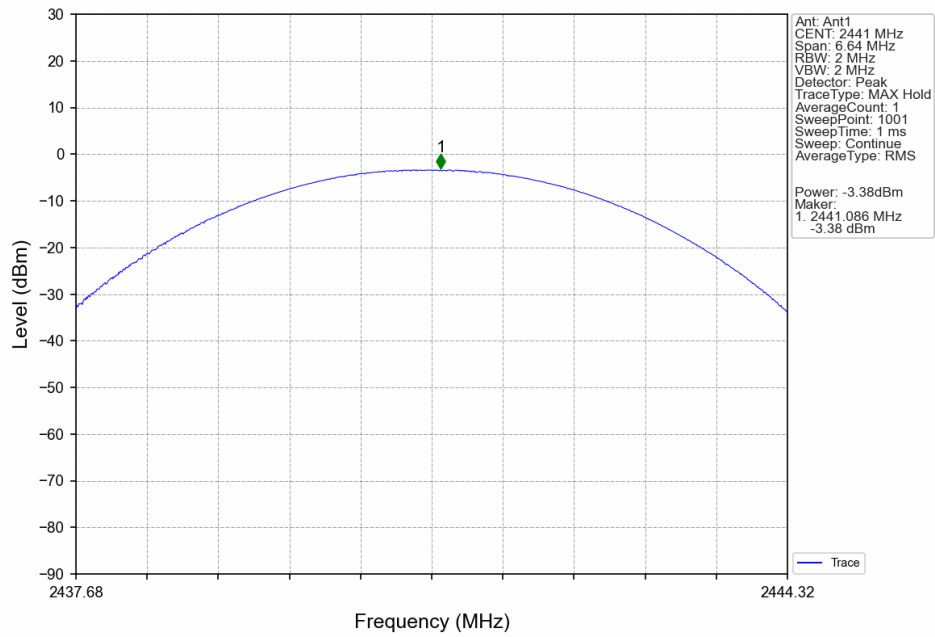
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



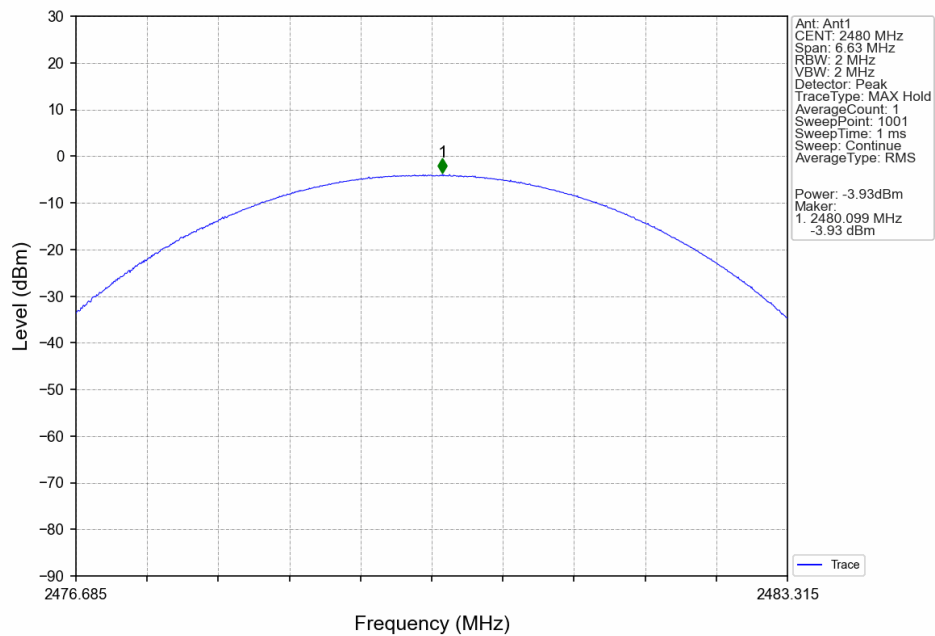
PI/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



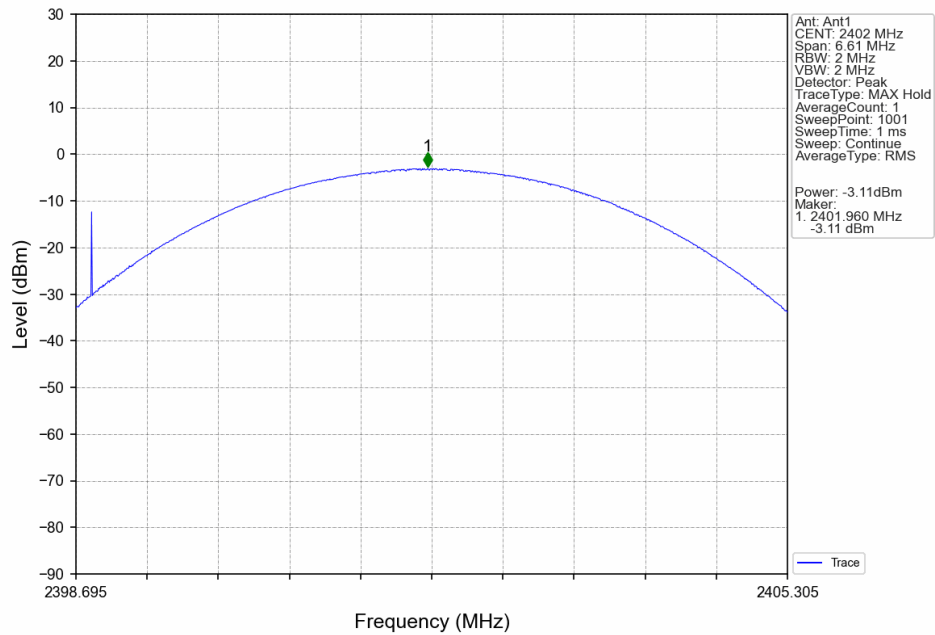
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



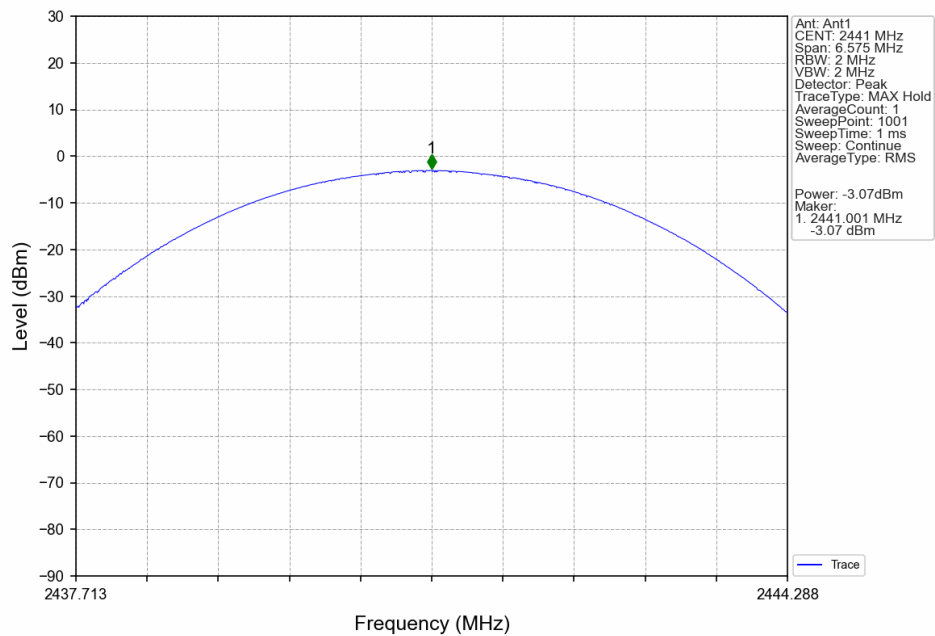
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

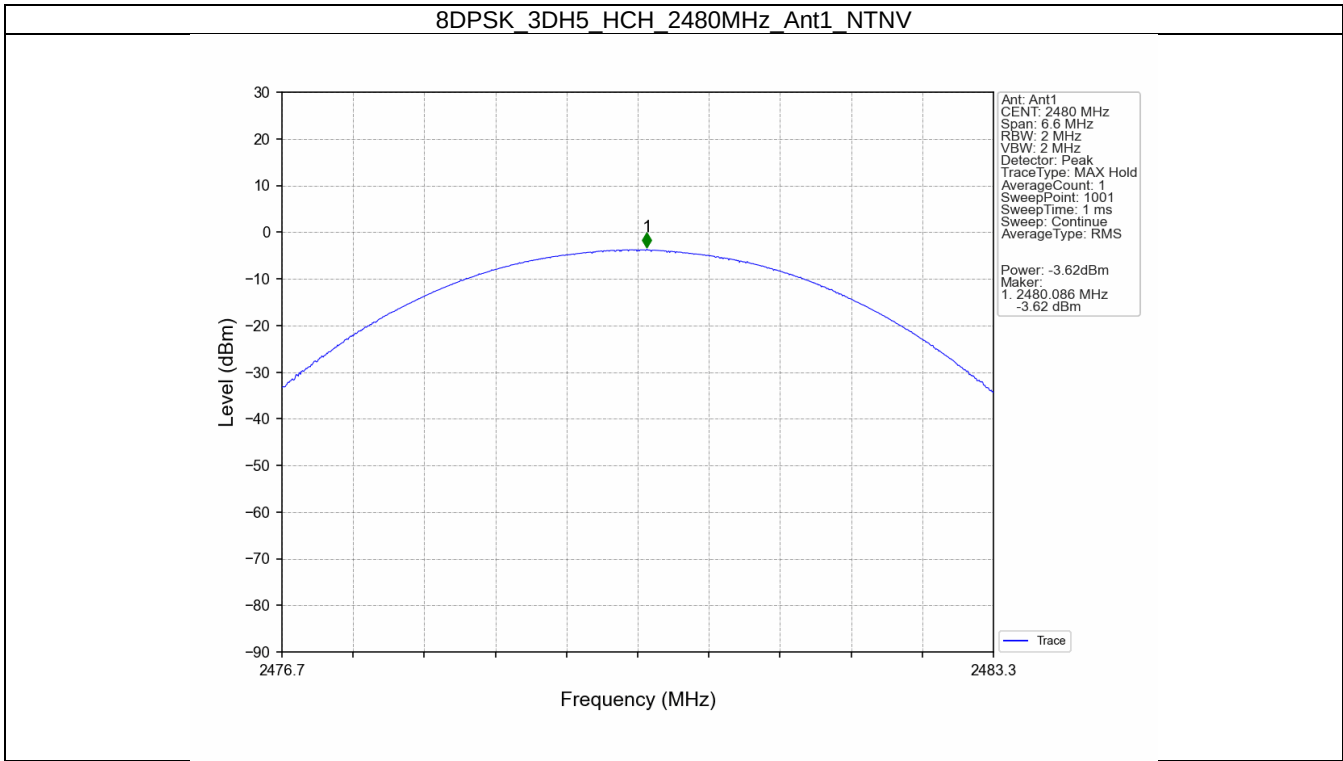


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV







4. Carrier Frequency Separation

4.1 Test Result

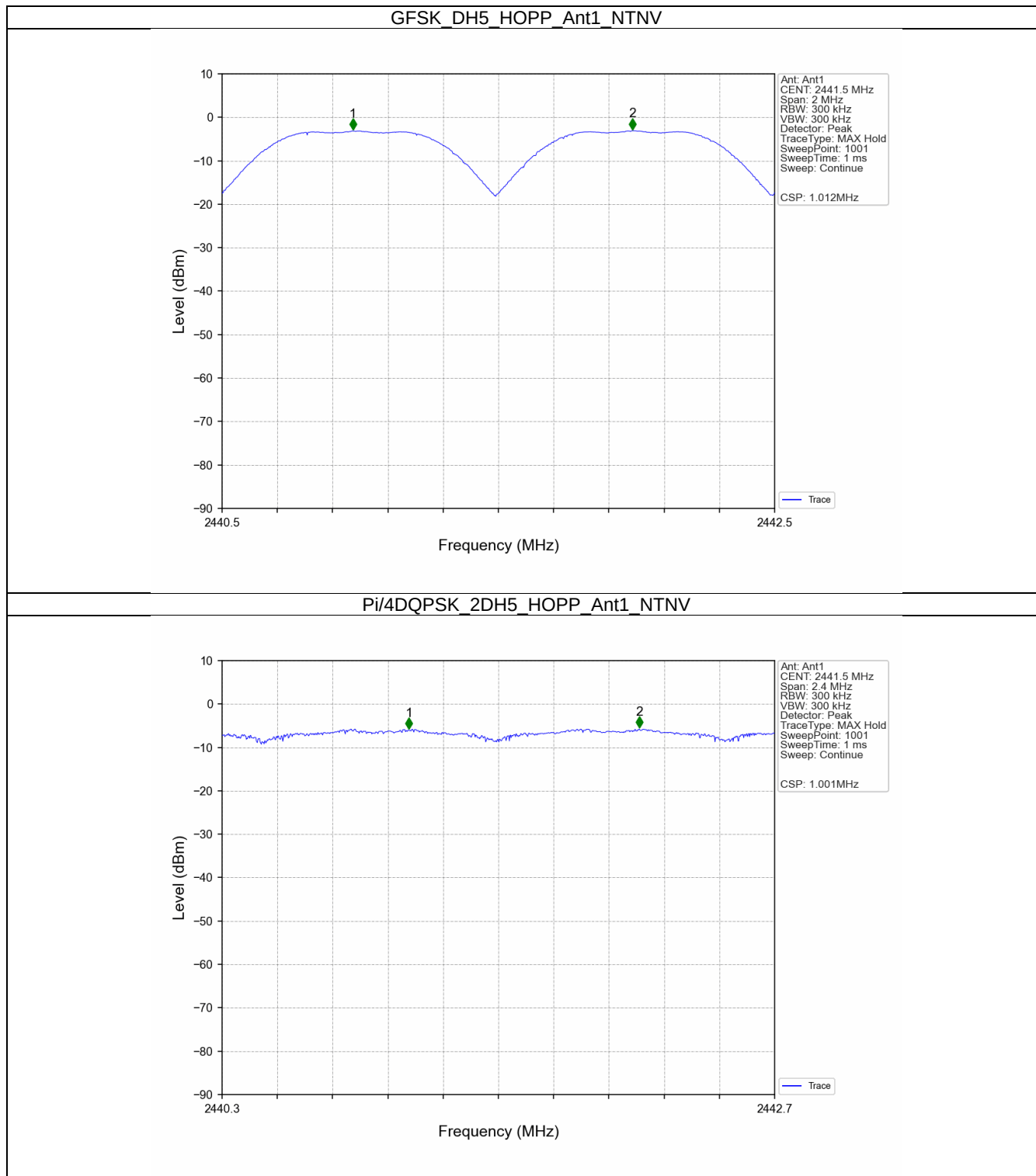
4.1.1 Ant1

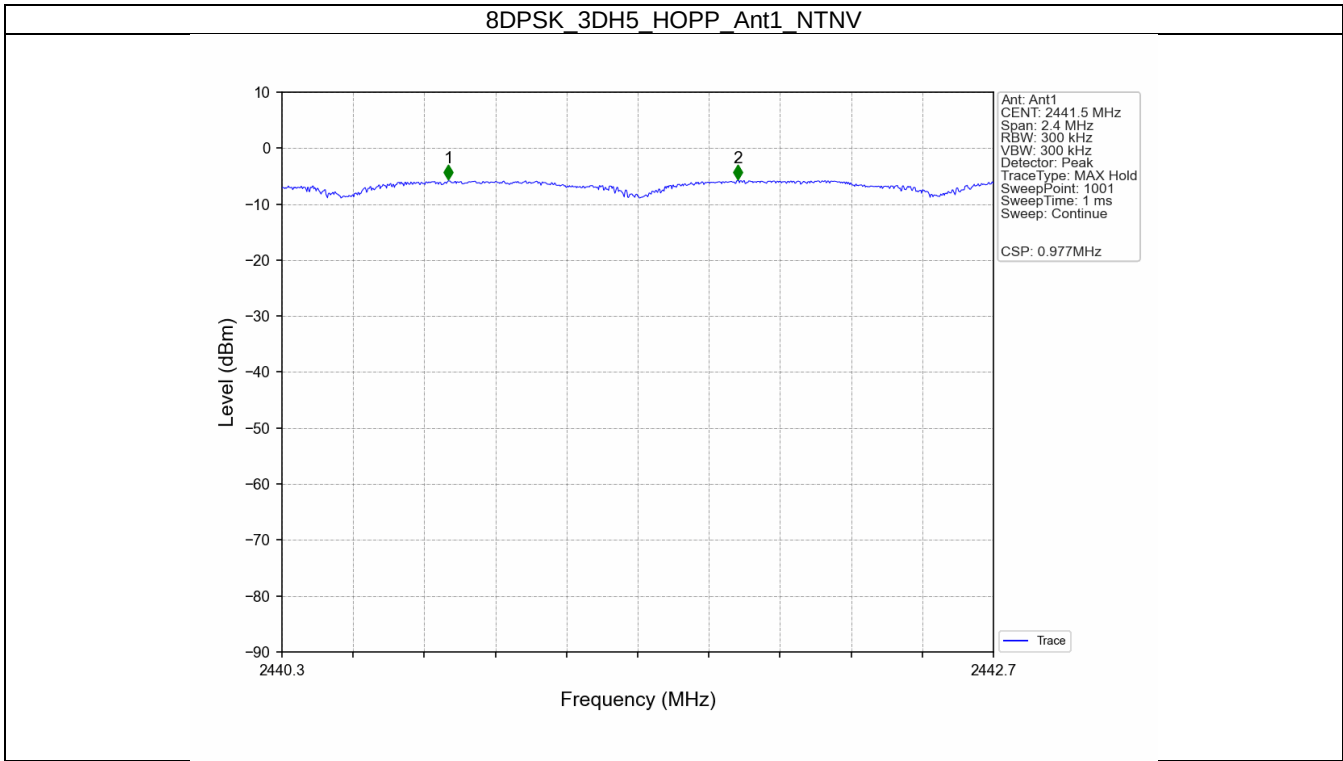
Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.012	0.849	≥ 0.849	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.001	1.329	≥ 0.886	Pass
8DPSK	SISO	HOPP	3DH5	0.977	1.322	≥ 0.881	Pass



4.2 Test Graph

4.2.1 Ant1







5. Number of Hopping Frequencies

5.1 Test Result

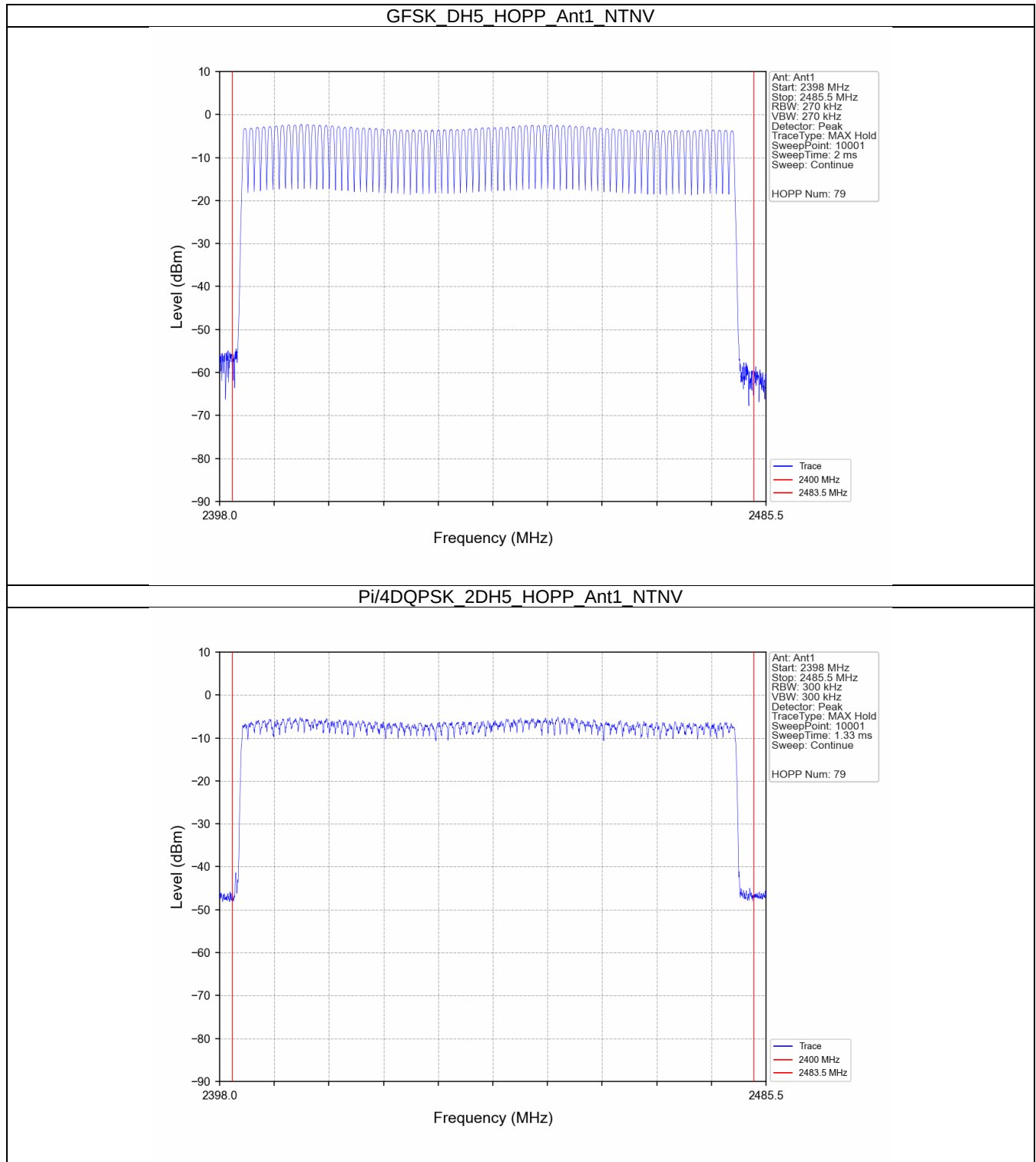
5.1.1 HoppNum

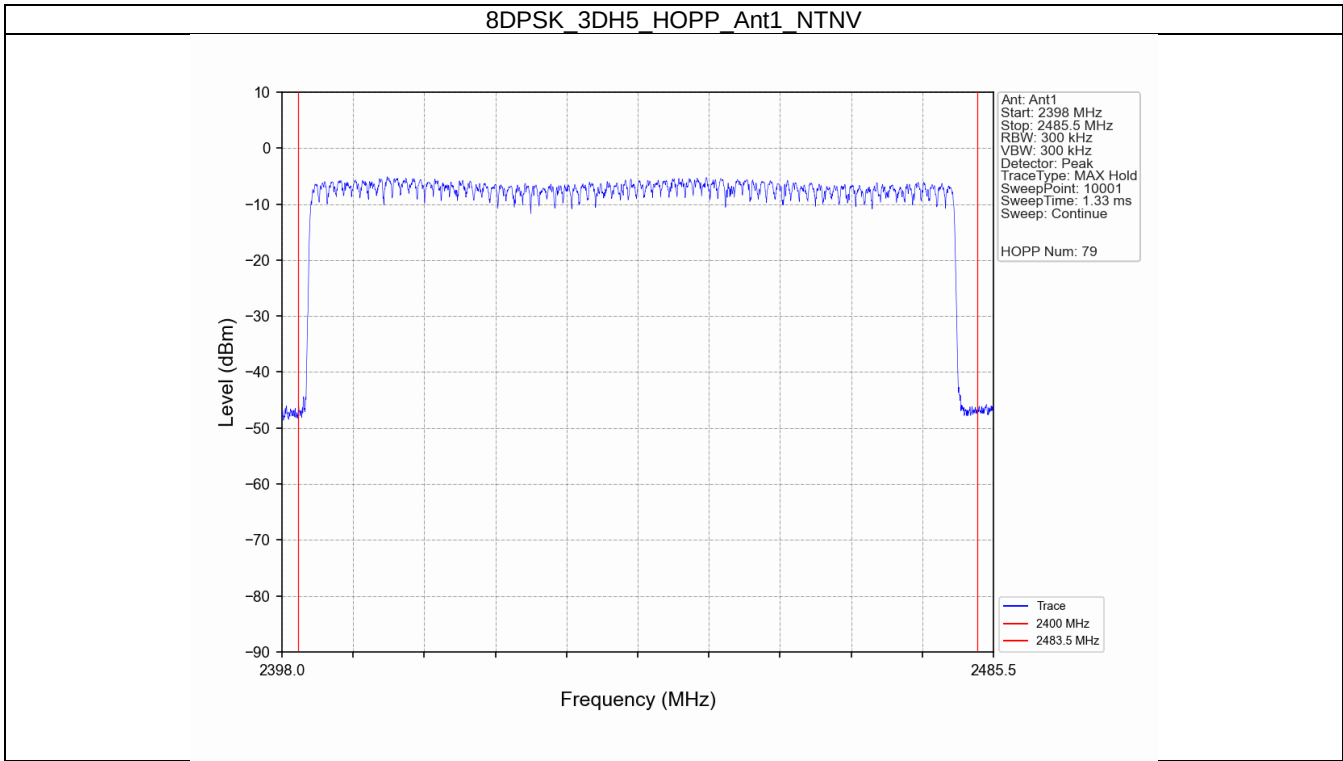
Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies		Verdict
				ANT1	Limit	
GFSK	SISO	HOPP	DH5	79	≥ 15	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	79	≥ 15	Pass
8DPSK	SISO	HOPP	3DH5	79	≥ 15	Pass



5.2 Test Graph

5.2.1 HoppNum





6. Time of Occupancy (Dwell Time)

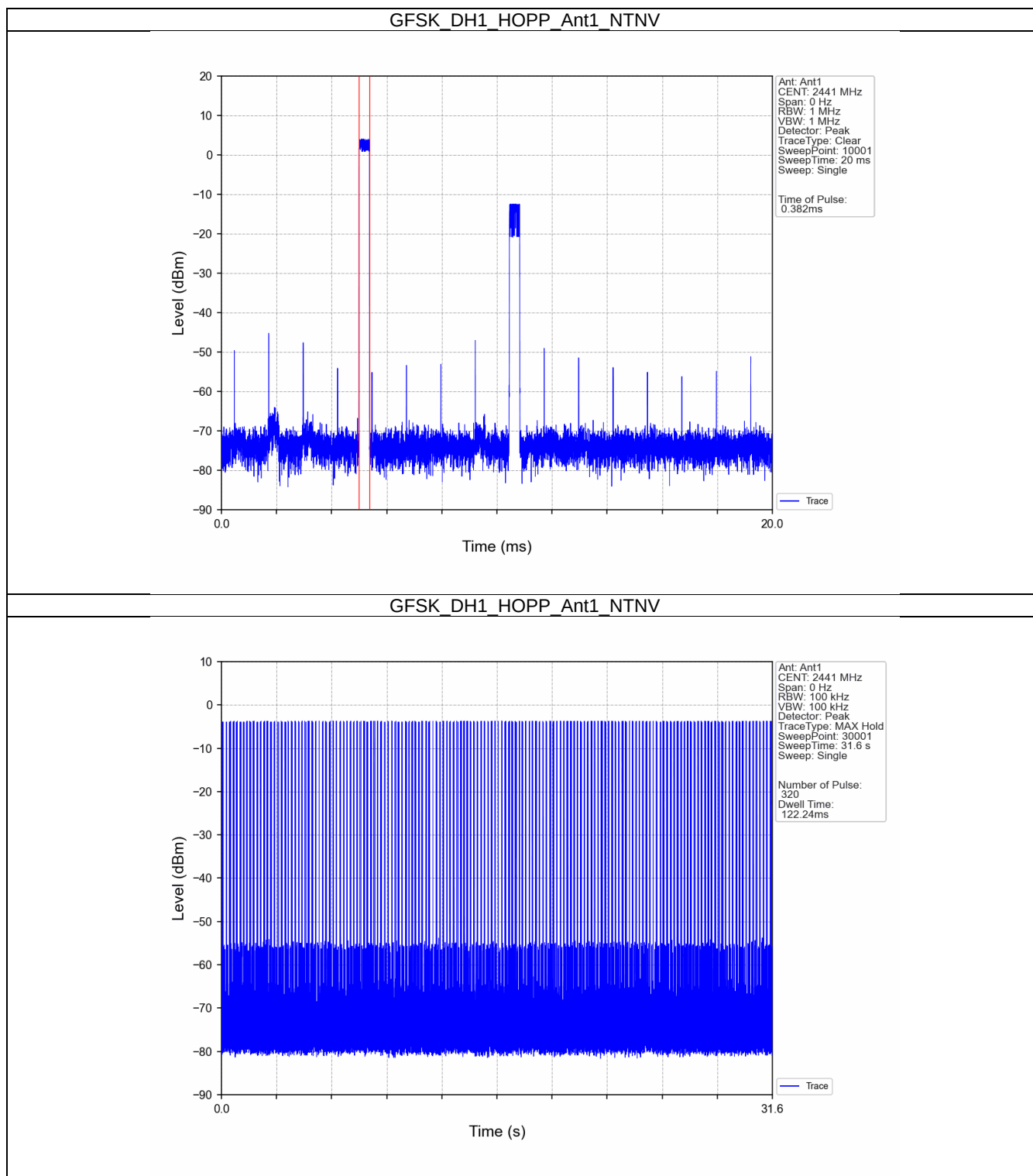
6.1 Test Result

6.1.1 Ant1

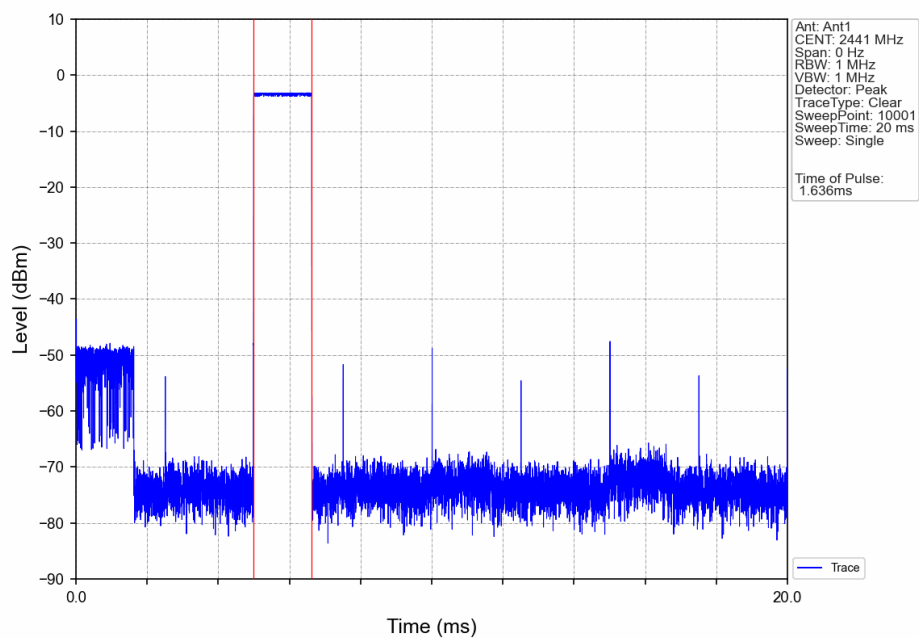
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.382	31.600	320	122.240	<=400	Pass
			DH3	1.636	31.600	160	261.760	<=400	Pass
			DH5	2.898	31.600	110	318.780	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.380	31.600	6	2.280	<=400	Pass
			2DH3	1.636	31.600	168	274.848	<=400	Pass
			2DH5	2.886	31.600	28	80.808	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.388	31.600	320	124.160	<=400	Pass
			3DH3	1.640	31.600	6	9.840	<=400	Pass
			3DH5	2.890	31.600	97	280.330	<=400	Pass

6.2 Test Graph

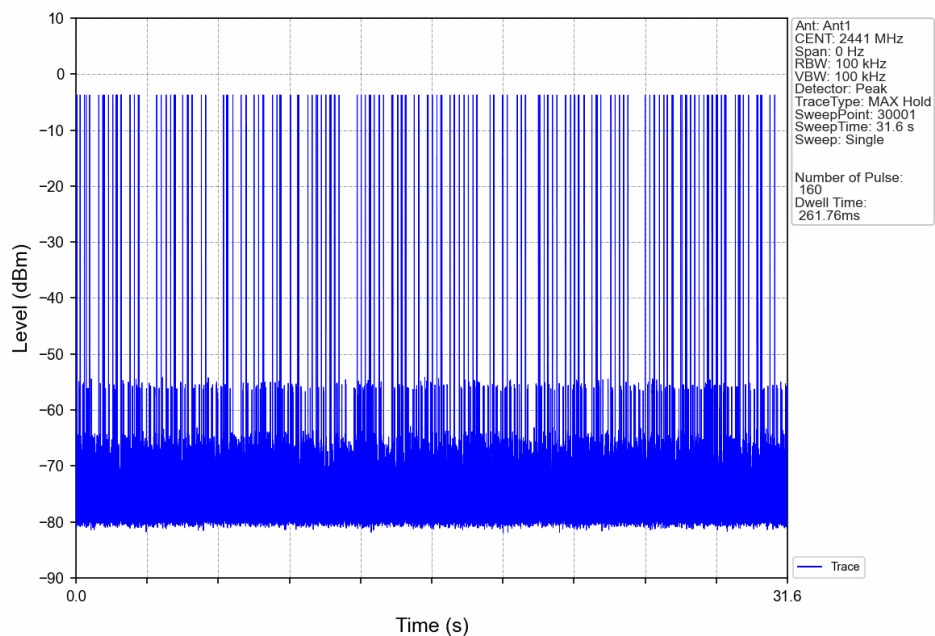
6.2.1 Ant1



GFSK_DH3_HOPP_Ant1_NTNV

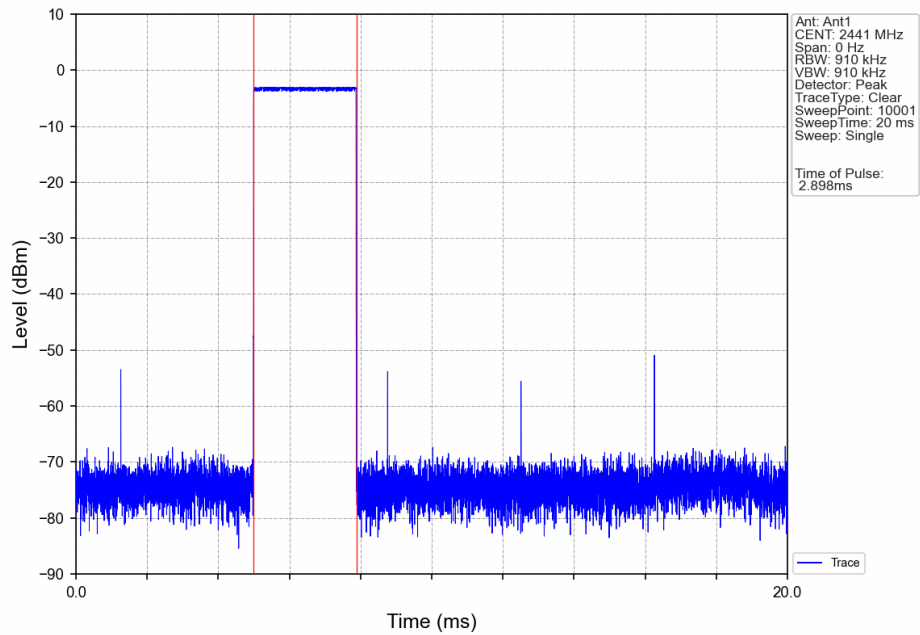


GFSK_DH3_HOPP_Ant1_NTNV

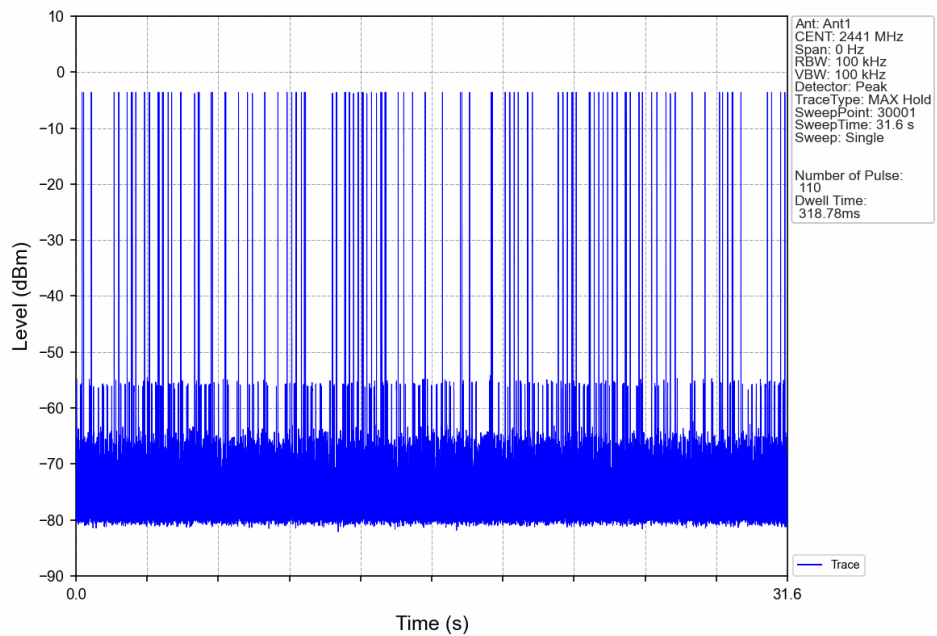




GFSK_DH5_HOPP_Ant1_NTNV

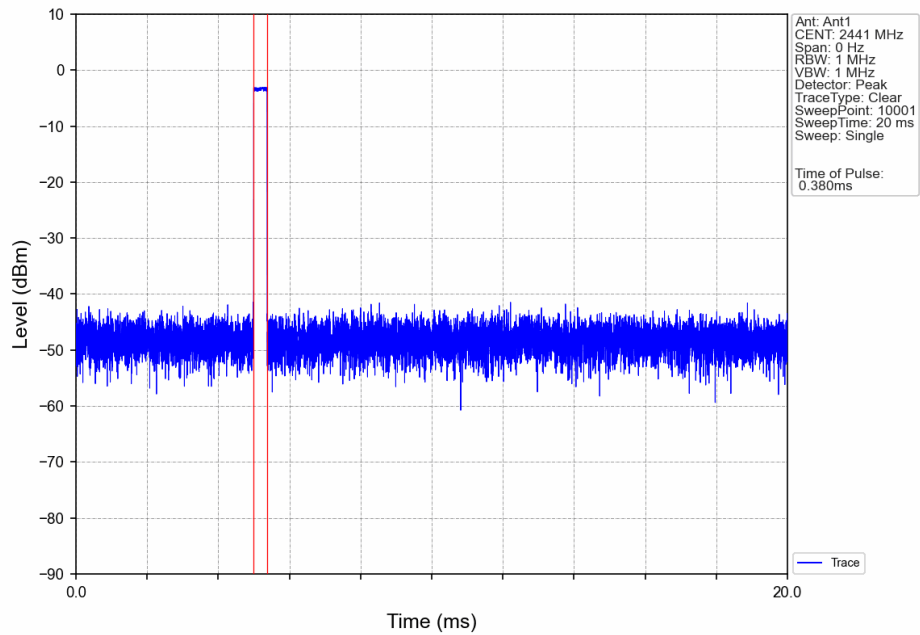


GFSK_DH5_HOPP_Ant1_NTNV

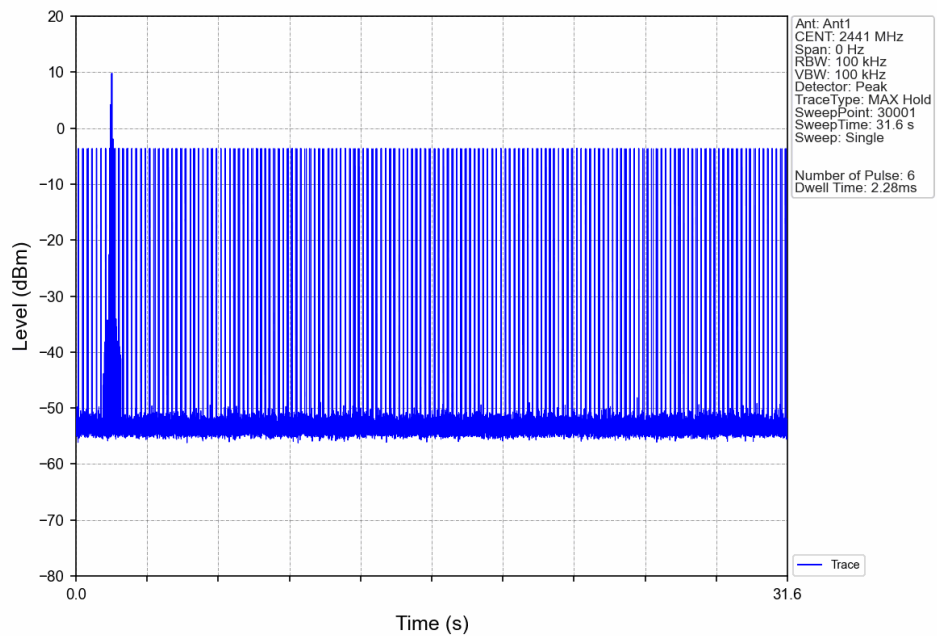




Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV

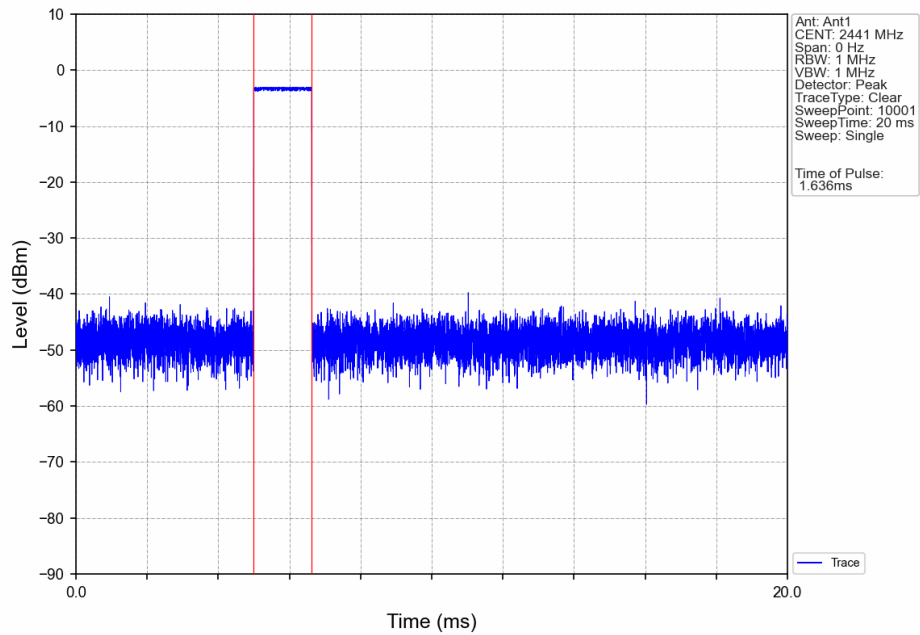


Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV

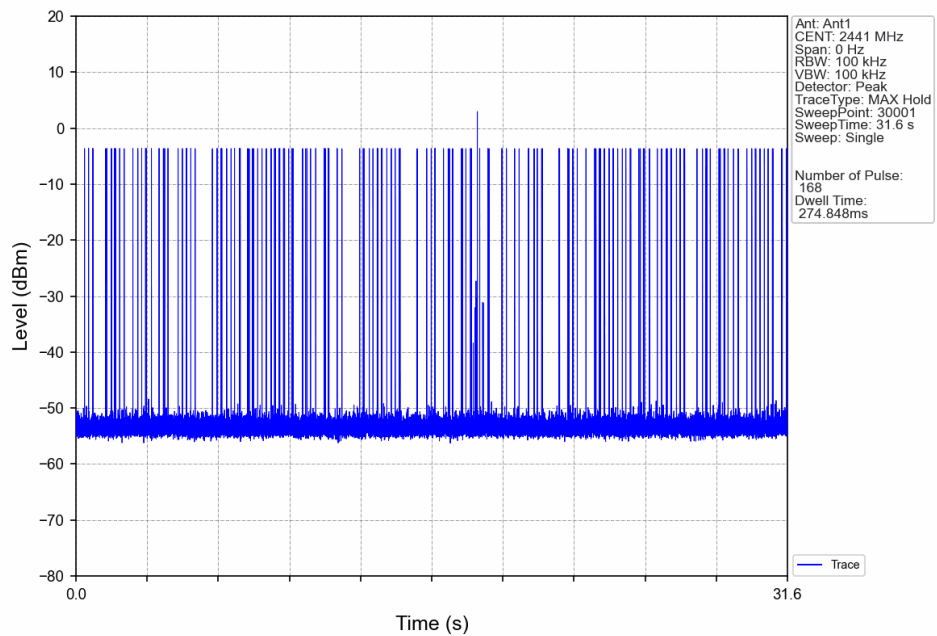




Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV

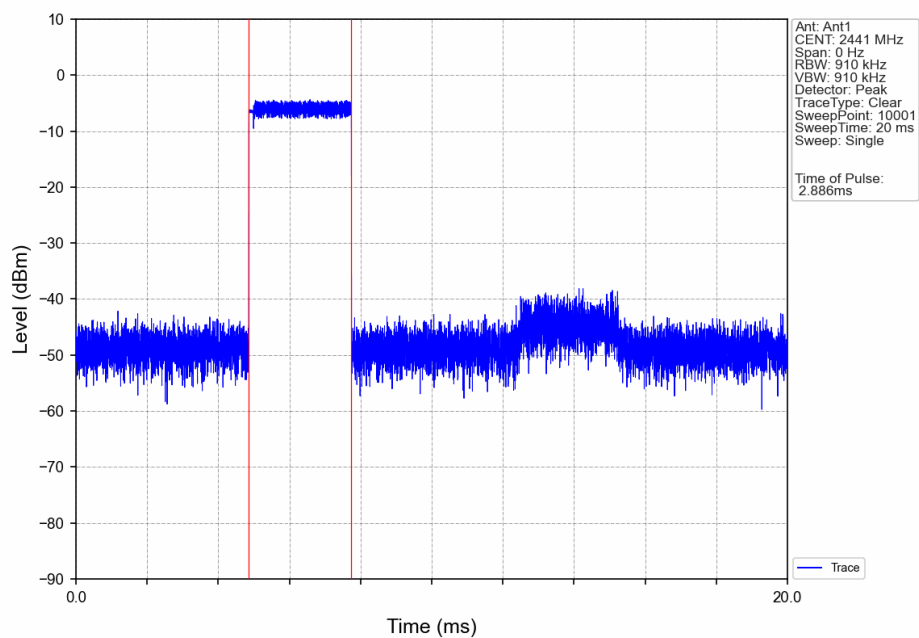


Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV

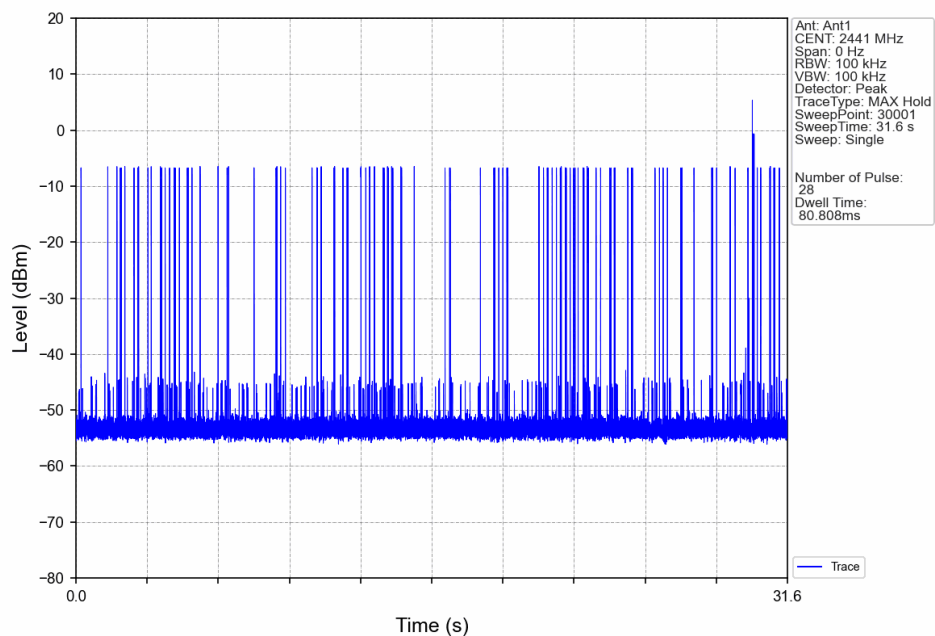




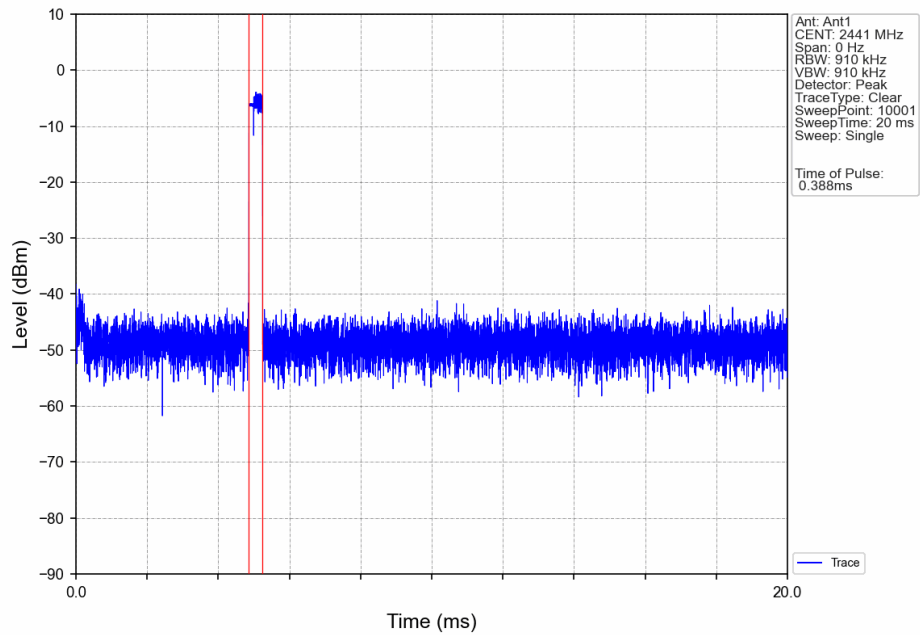
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



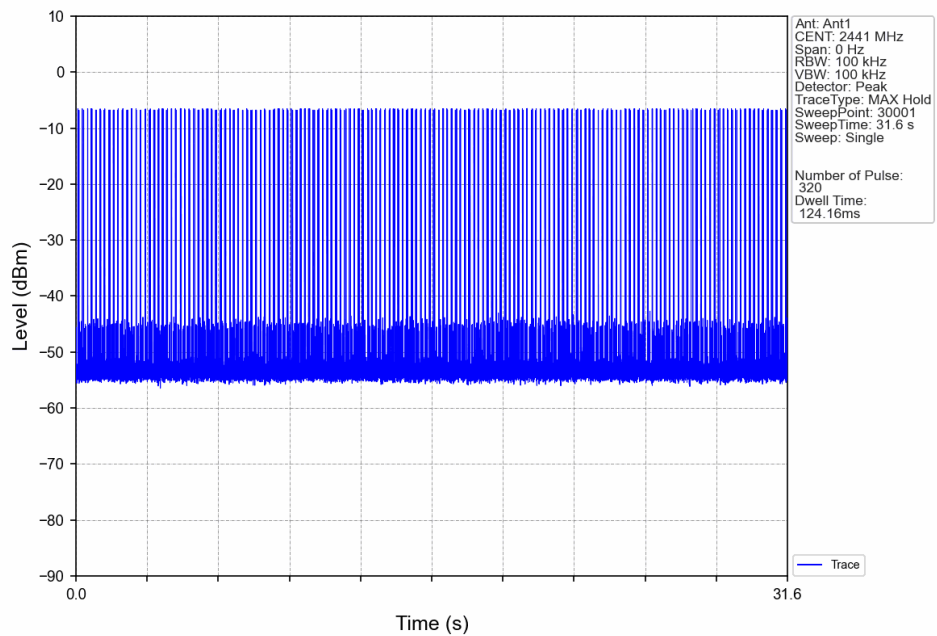
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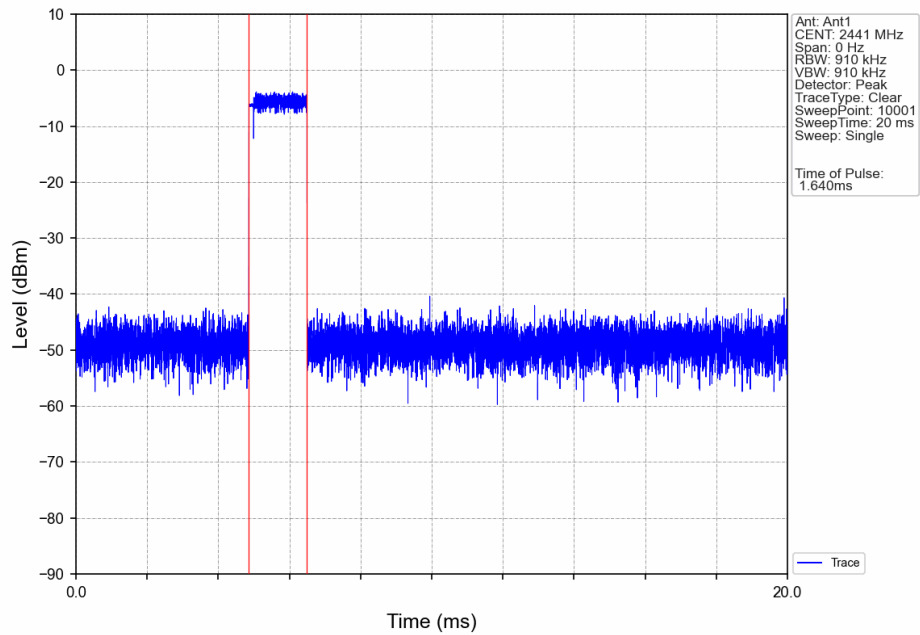
8DPSK_3DH1_HOPP_Ant1_NTNV



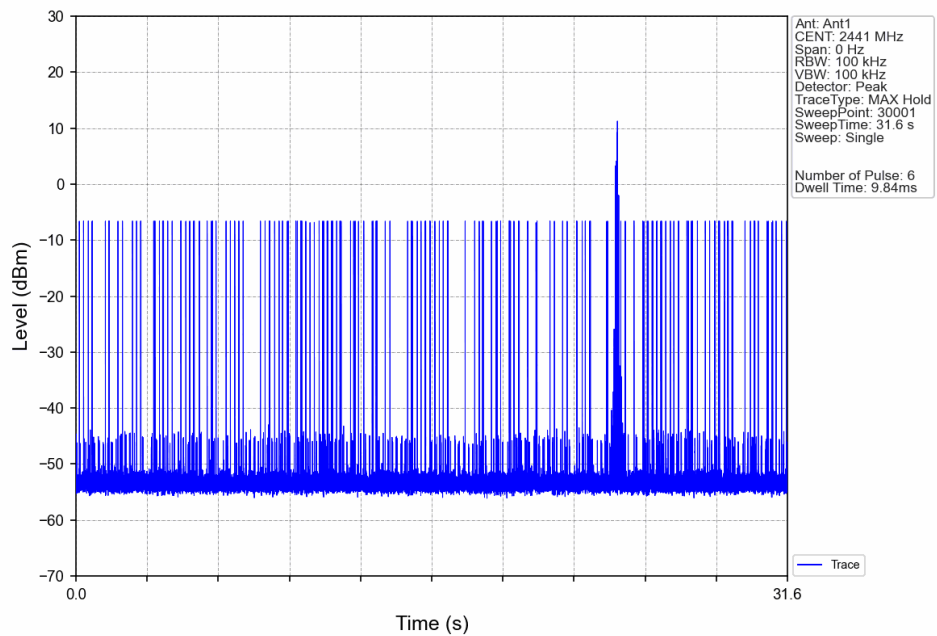
8DPSK_3DH1_HOPP_Ant1_NTNV



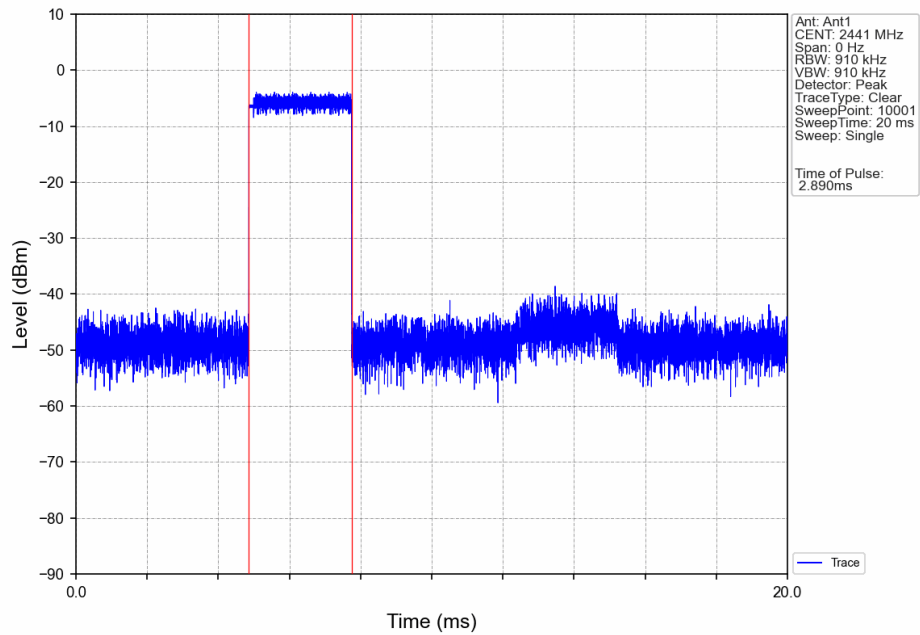
8DPSK_3DH3_HOPP_Ant1_NTNV



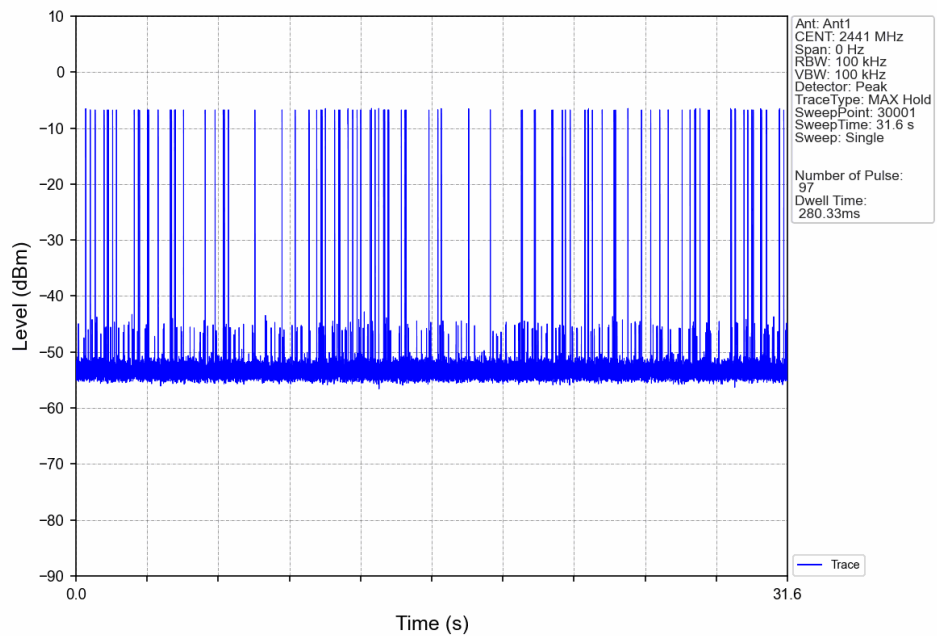
8DPSK_3DH3_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



7. Unwanted Emissions In Non-restricted Frequency Bands

7.1 Test Result

7.1.1 Ref

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	-3.34
		2441	DH5	1	-3.51
		2480	DH5	1	15.85
		HOPP	DH5	1	6.77
					6.77
Pi/4DQPSK	SISO	2402	2DH5	1	-6.55
		2441	2DH5	1	-6.11
		2480	2DH5	1	-6.89
		HOPP	2DH5	1	-5.73
					-5.73
8DPSK	SISO	2402	3DH5	1	-6.25
		2441	3DH5	1	-6.23
		2480	3DH5	1	-6.95
		HOPP	3DH5	1	-5.68
					-5.68

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.

7.1.2 CSE

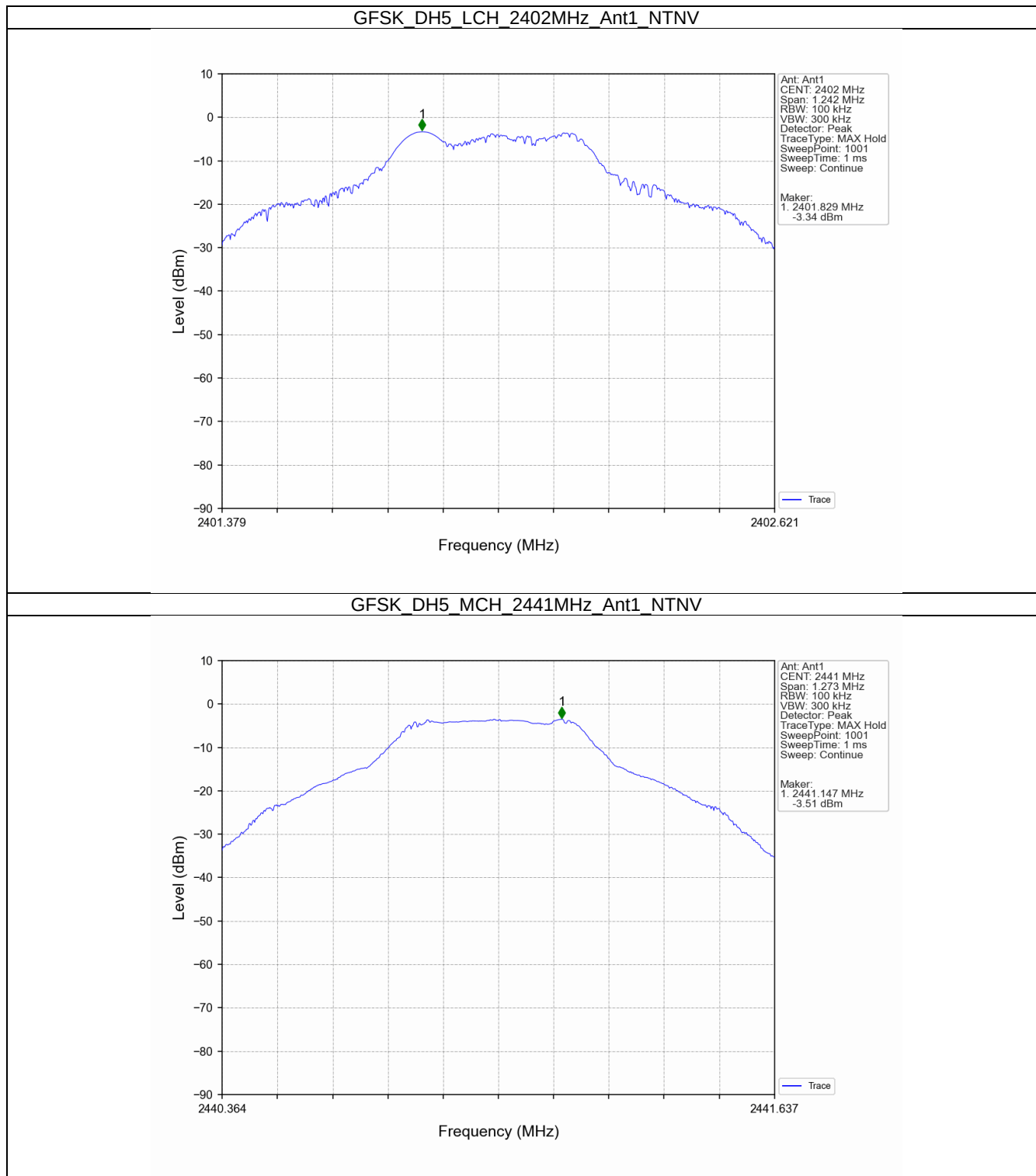
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-3.34	-23.34	Pass
		2441	DH5	1	-3.51	-23.51	Pass
		2480	DH5	1	15.85	-4.15	Pass
		HOPP	DH5	1	6.77	-13.23	Pass
					6.77	-13.23	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-6.55	-26.55	Pass
		2441	2DH5	1	-6.11	-26.11	Pass
		2480	2DH5	1	-6.89	-26.89	Pass
		HOPP	2DH5	1	-5.73	-25.73	Pass
					-5.73	-25.73	Pass
8DPSK	SISO	2402	3DH5	1	-6.25	-26.25	Pass
		2441	3DH5	1	-6.23	-26.23	Pass
		2480	3DH5	1	-6.95	-26.95	Pass
		HOPP	3DH5	1	-5.68	-25.68	Pass
					-5.68	-25.68	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.



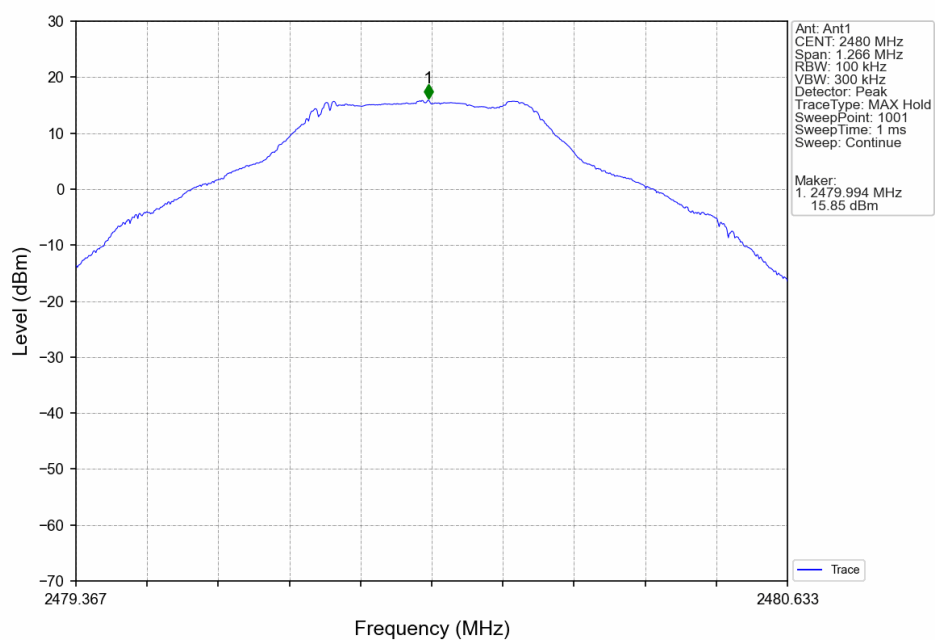
7.2 Test Graph

7.2.1 Ref

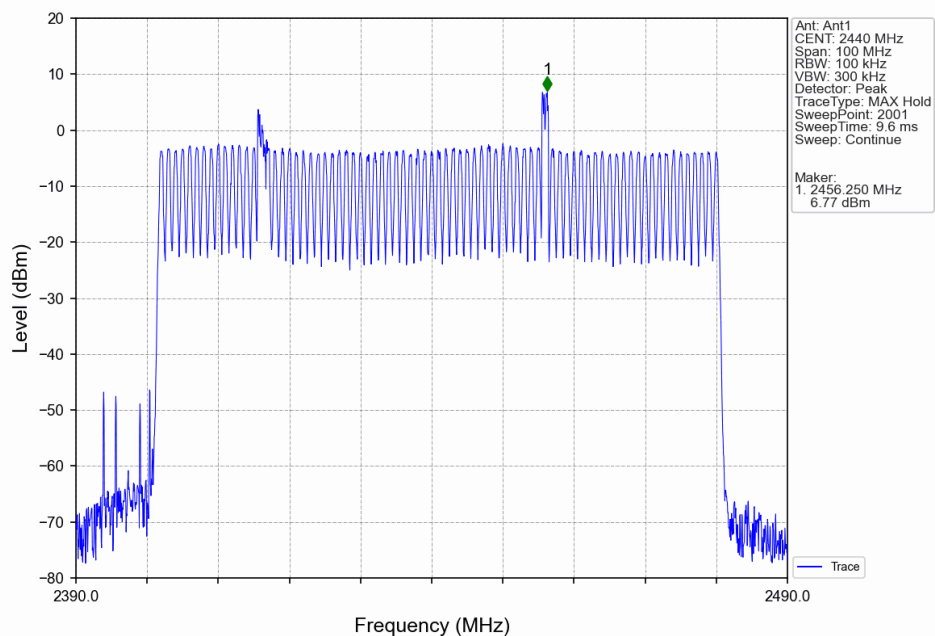




GFSK_DH5_HCH_2480MHz_Ant1_NTNV

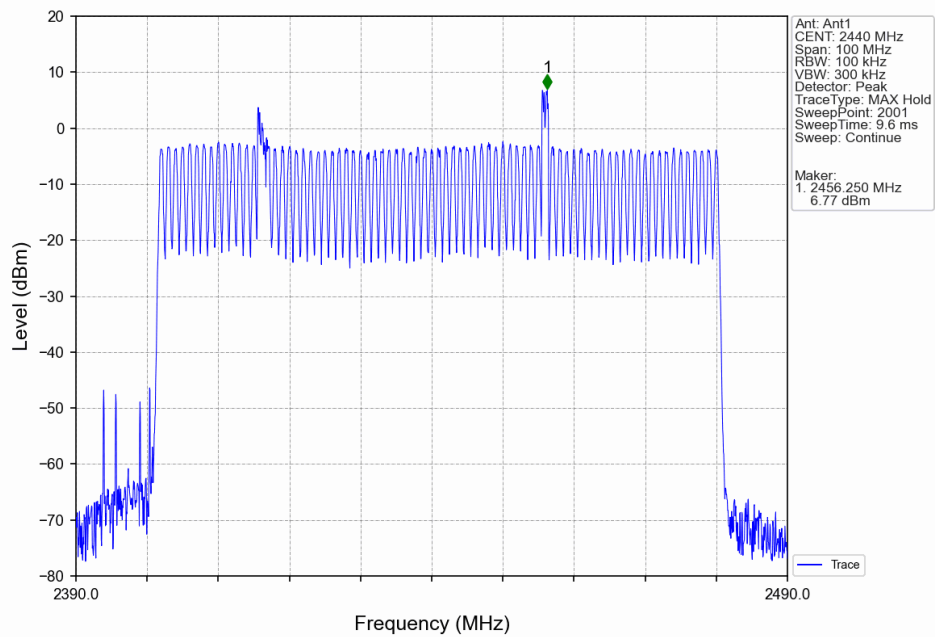


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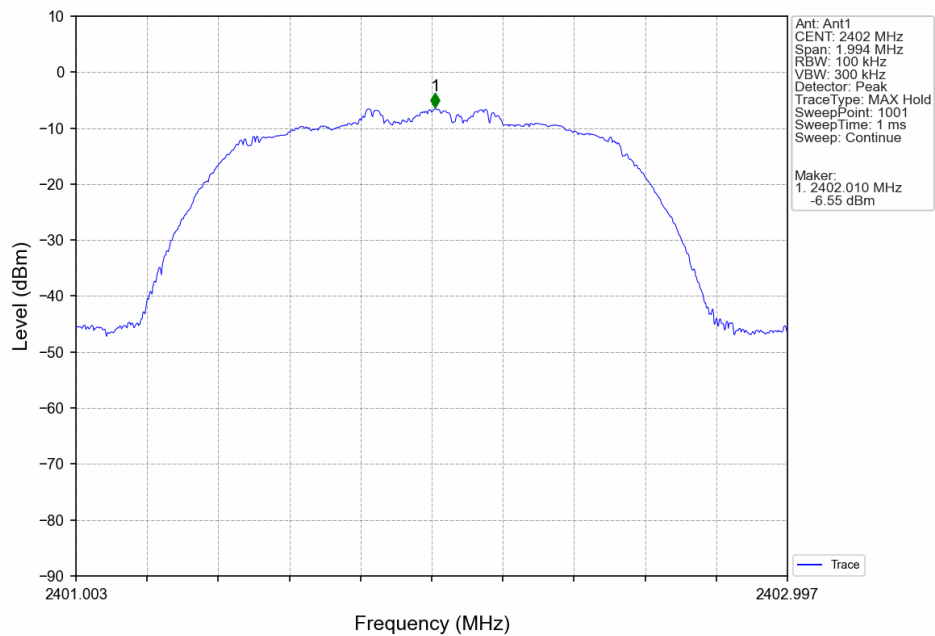




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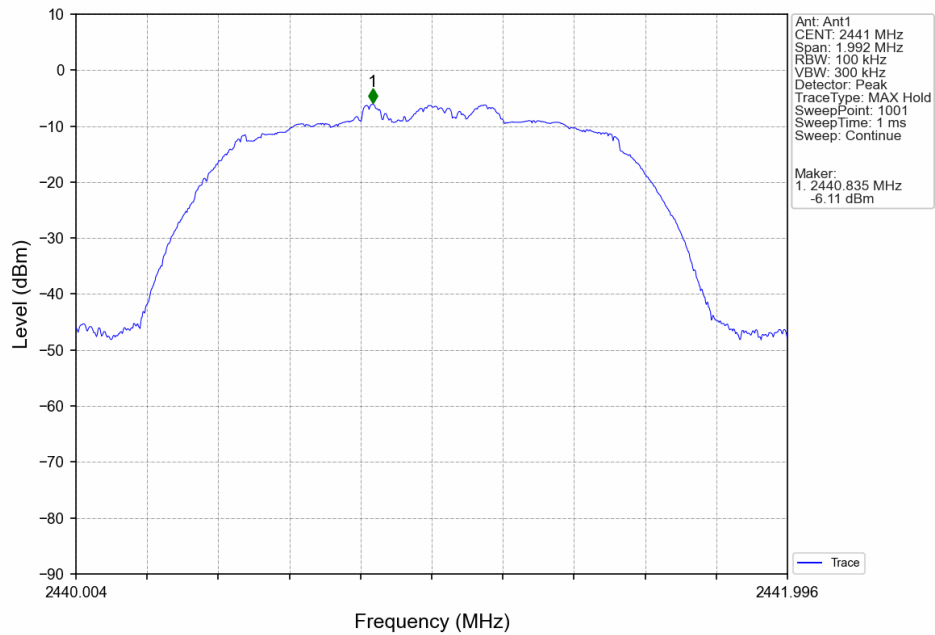


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

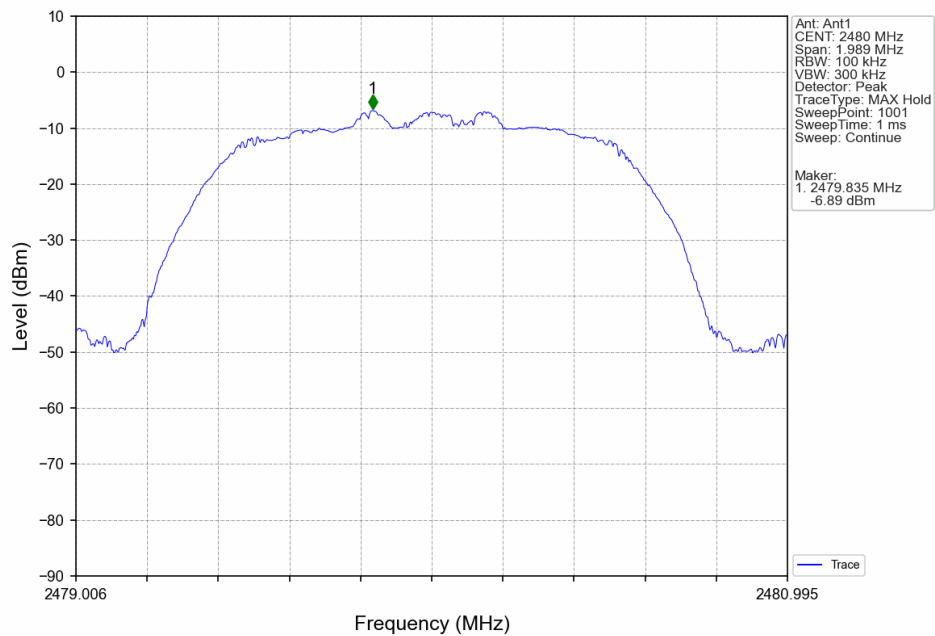




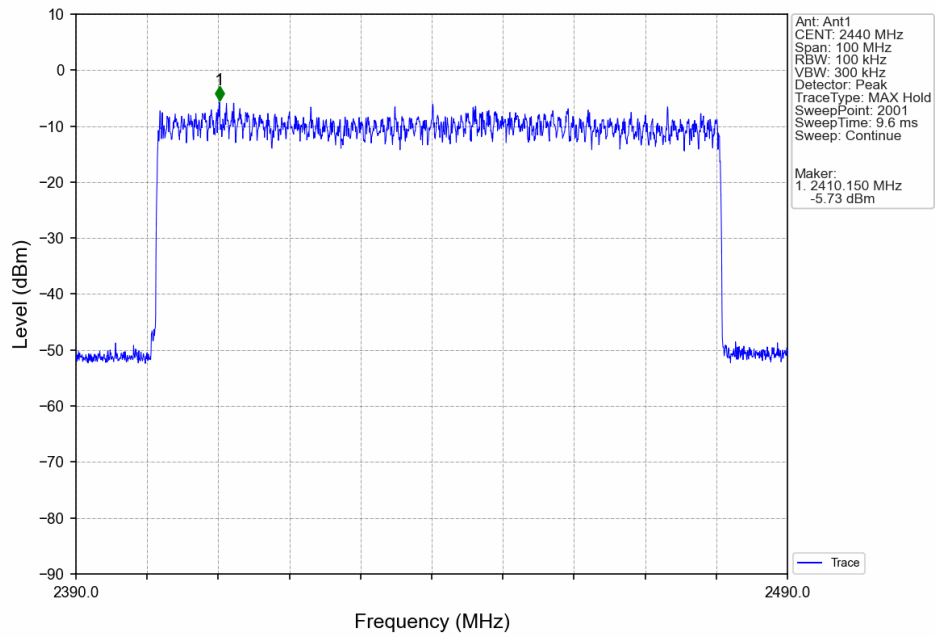
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



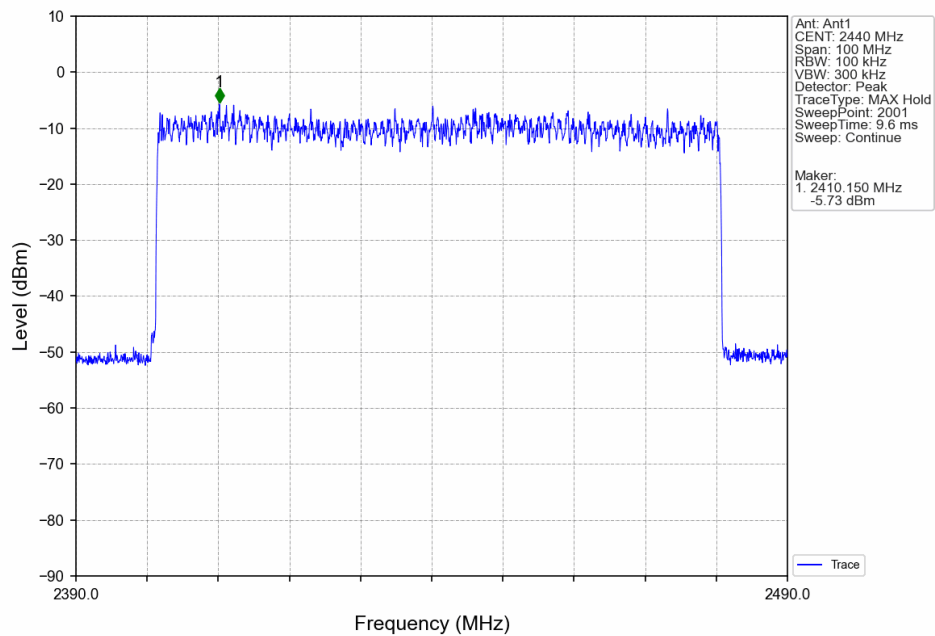
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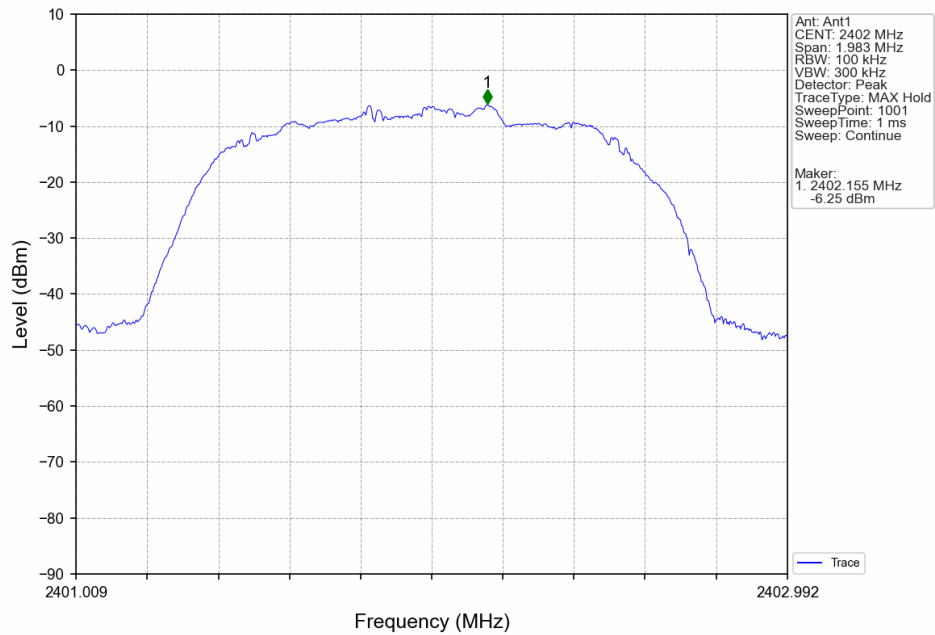
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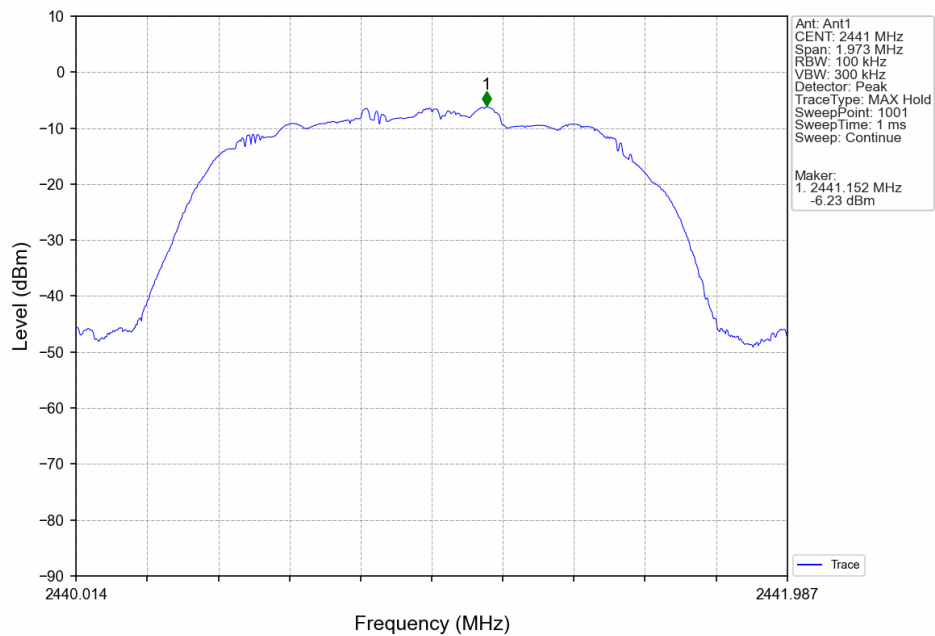
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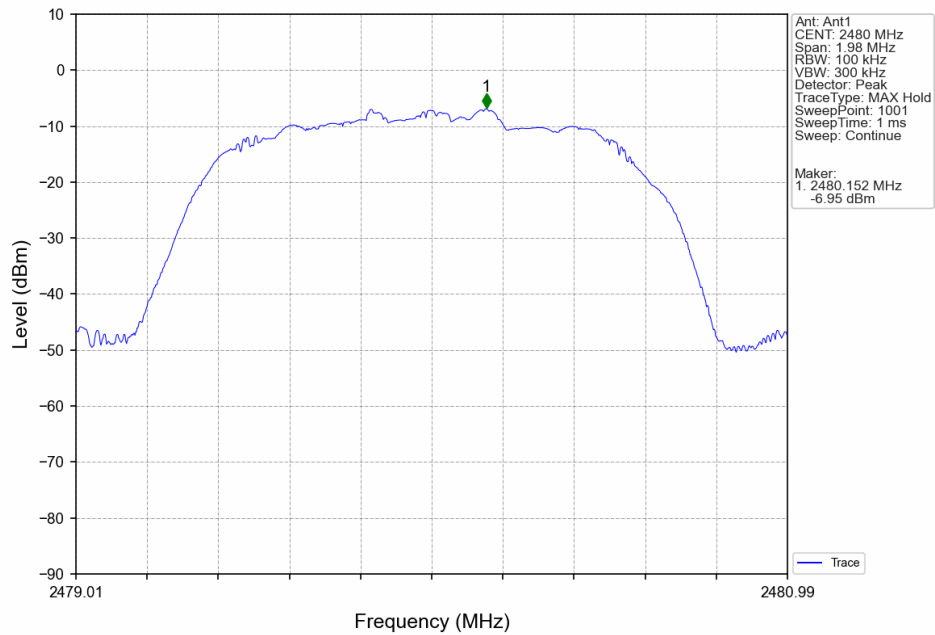
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



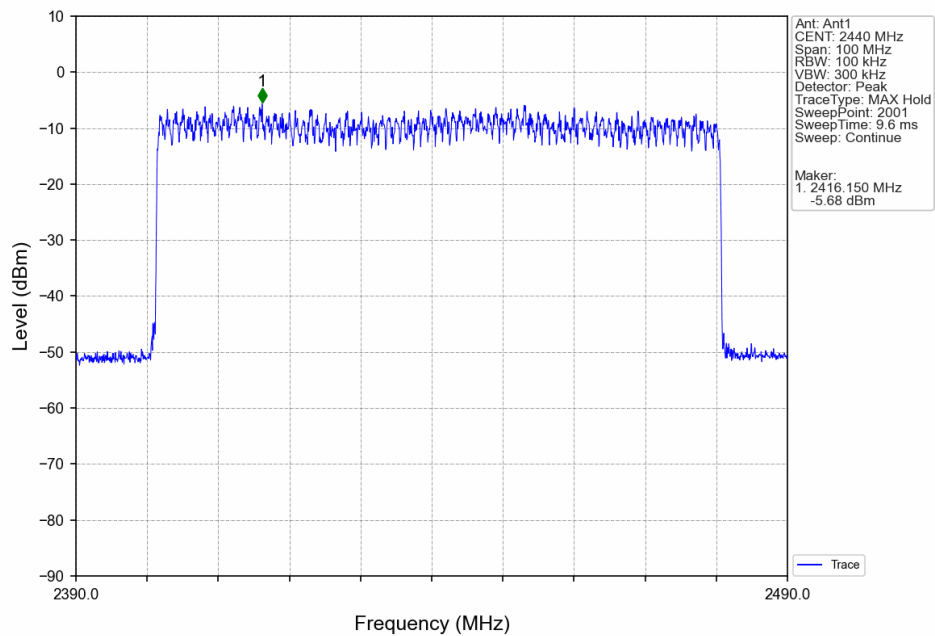
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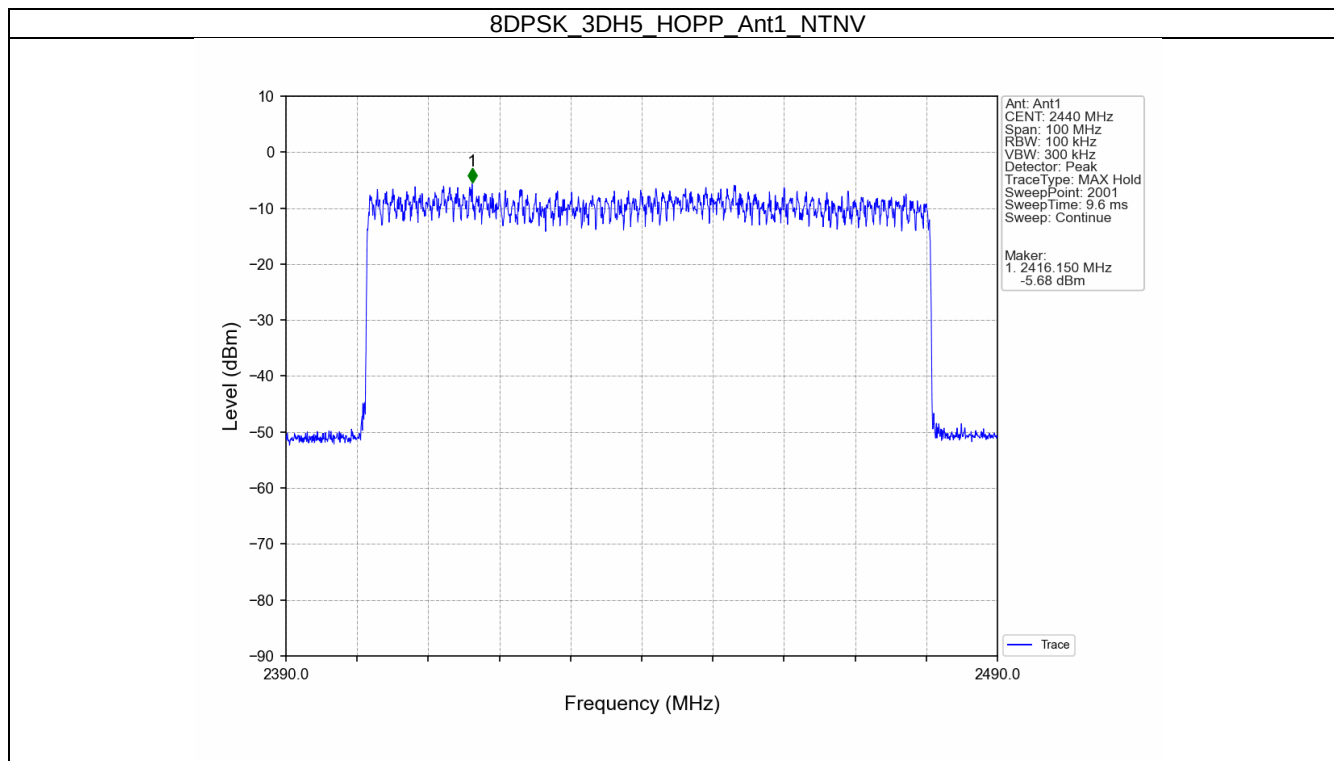


8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

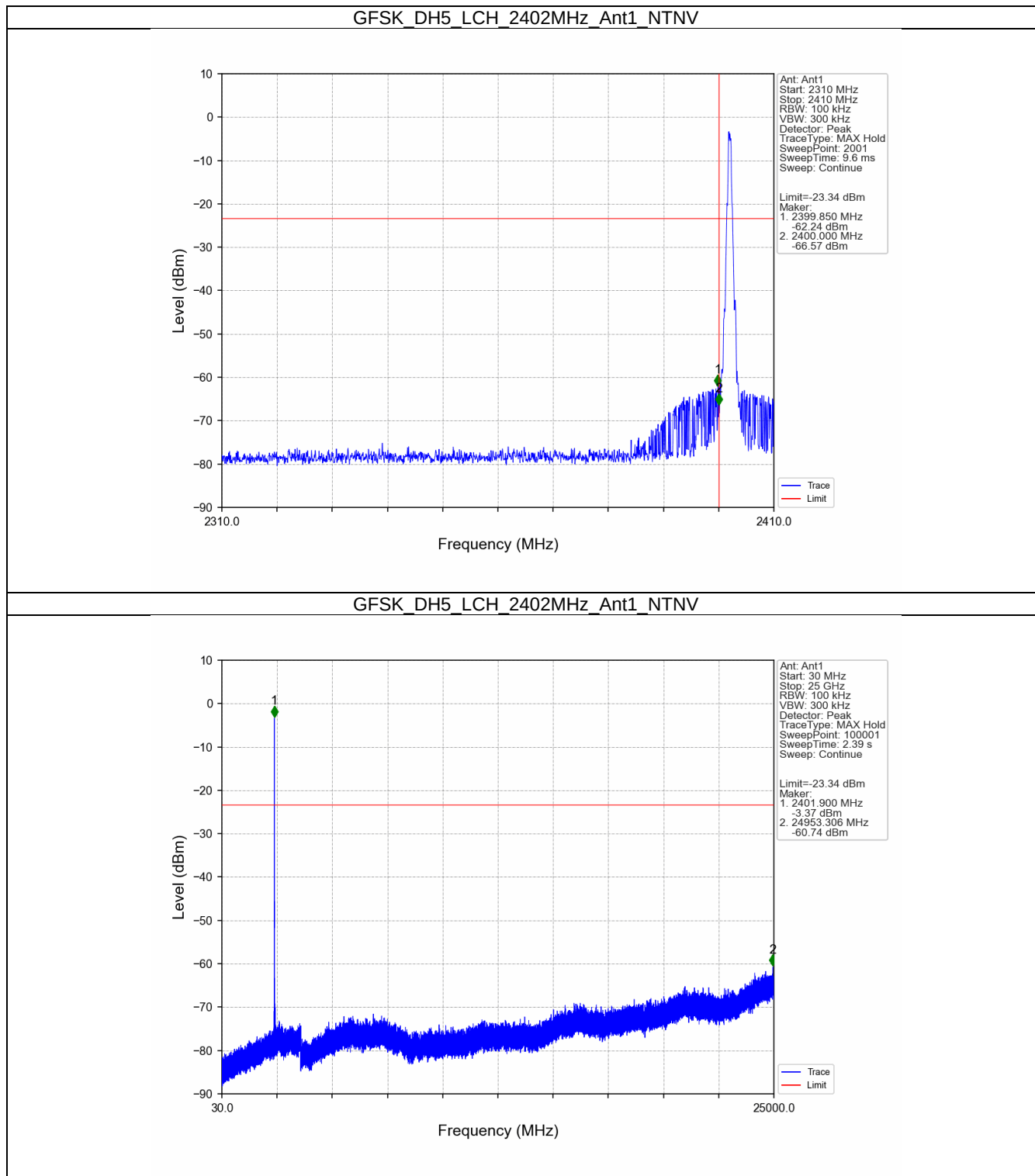


8DPSK_3DH5_HOPP_Ant1_NTNV

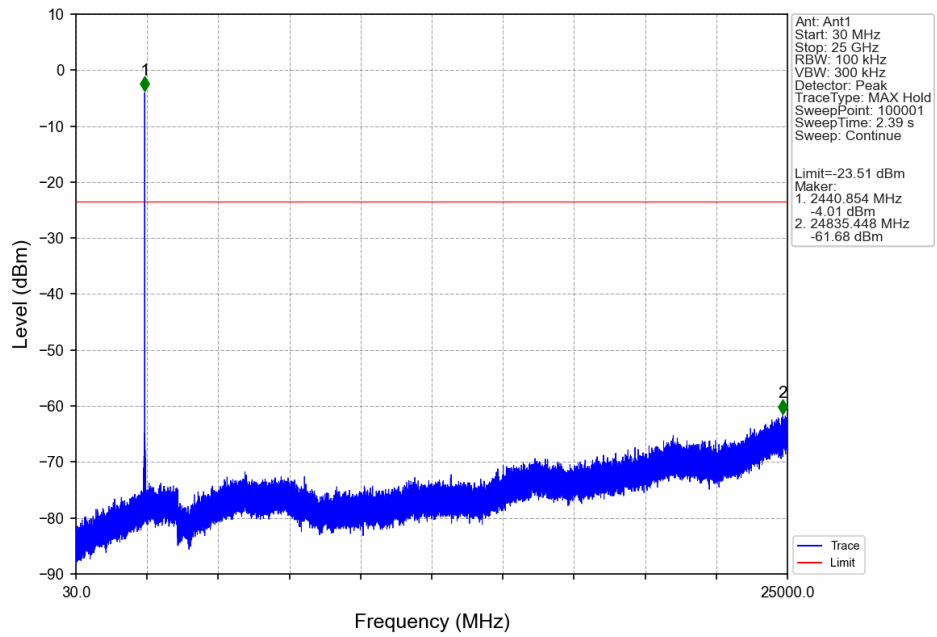




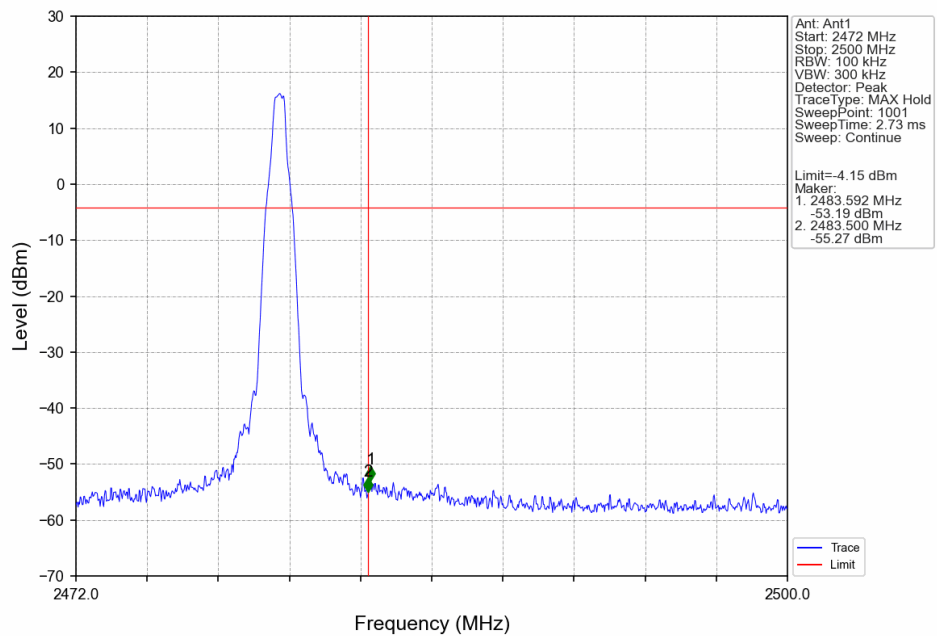
7.2.2 CSE



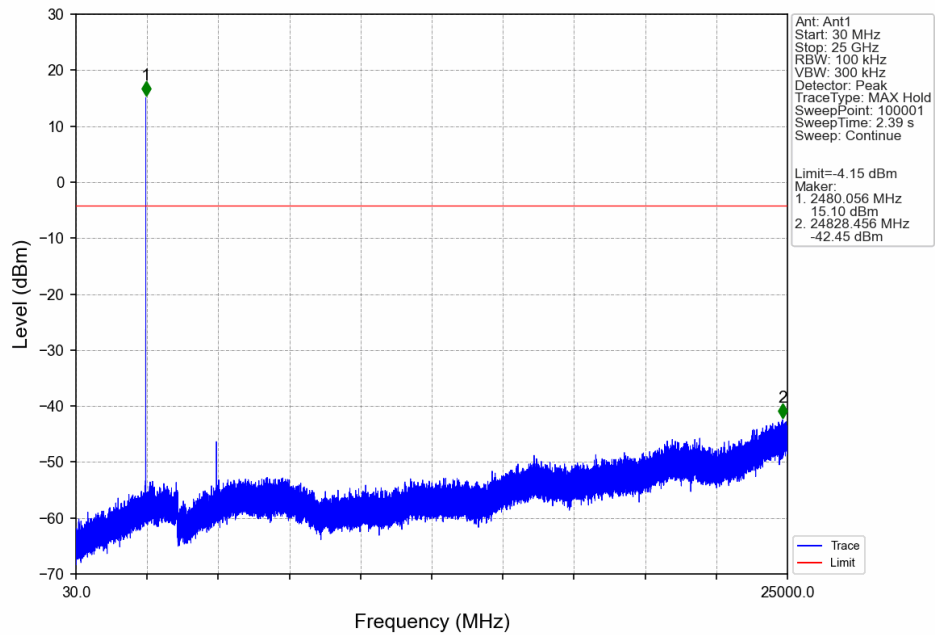
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



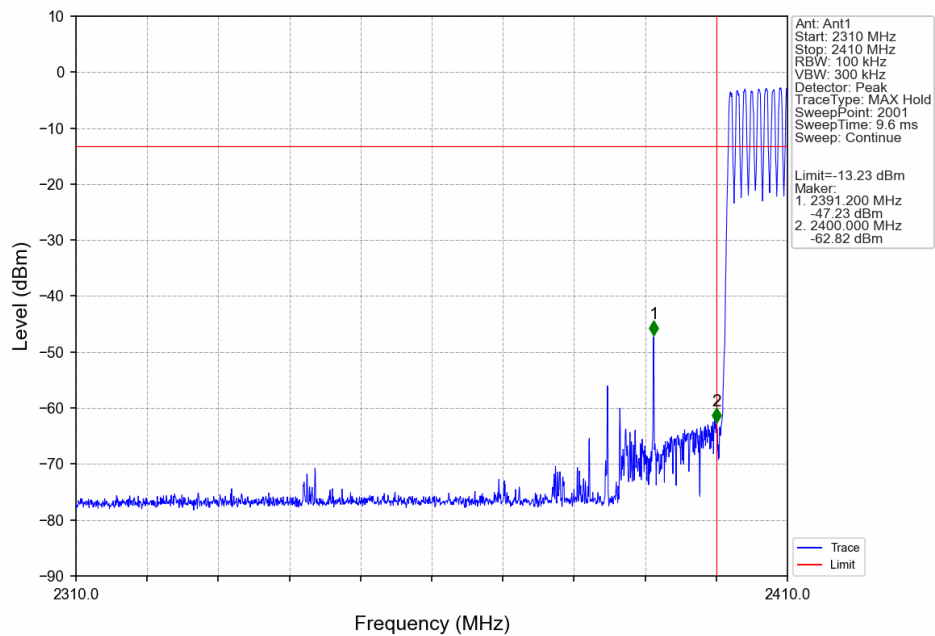
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



GFSK_DH5_HCH_2480MHz_Ant1_NTNV

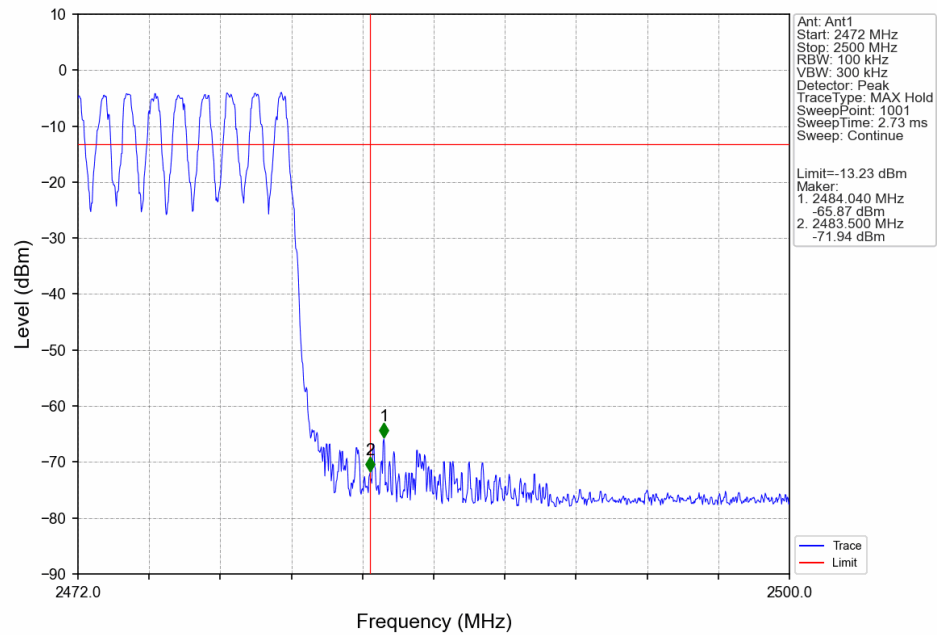


GFSK_DH5_HOPP_Ant1_NTNV

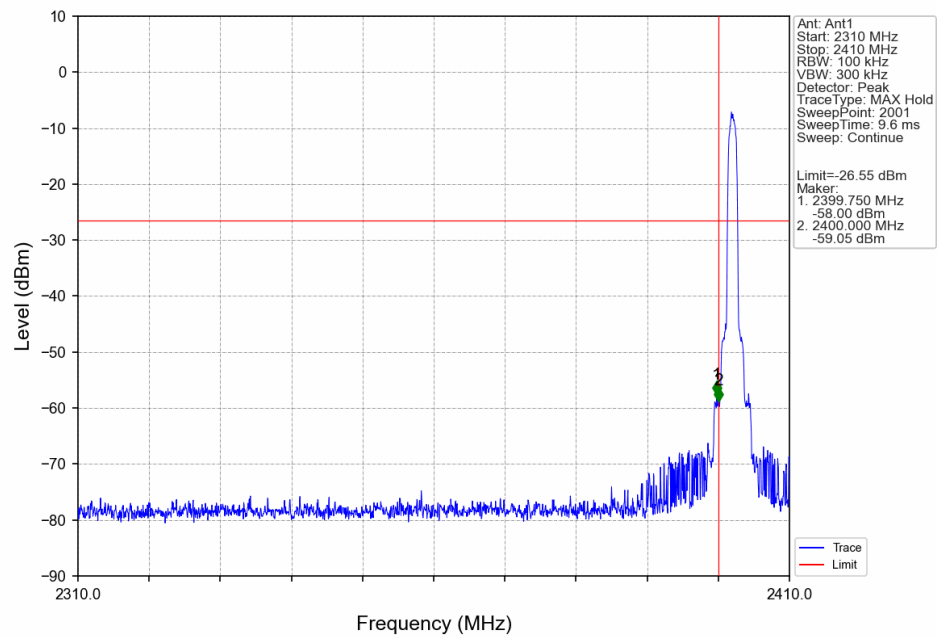




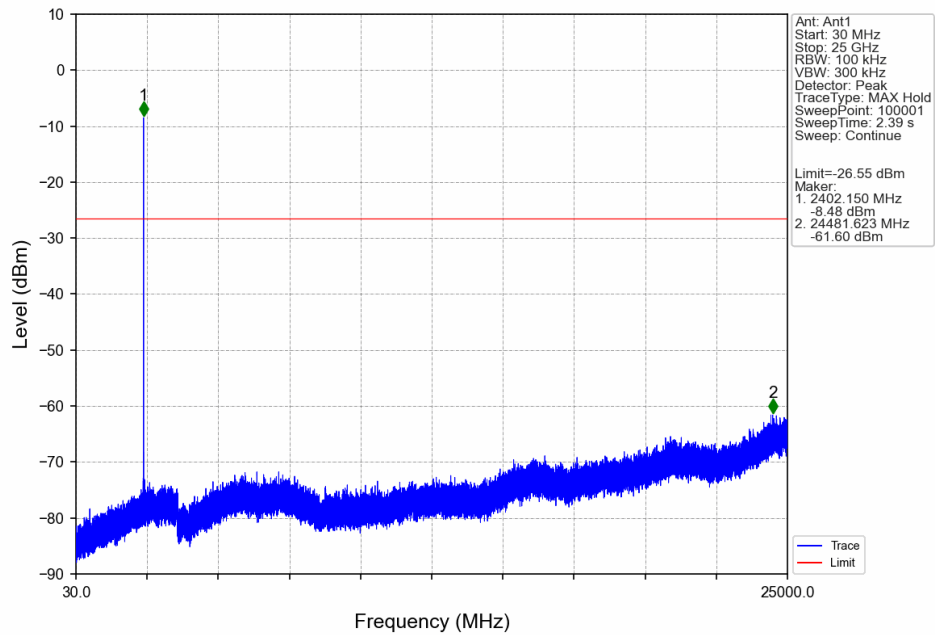
GFSK_DH5_HOPP_Ant1_NTNV



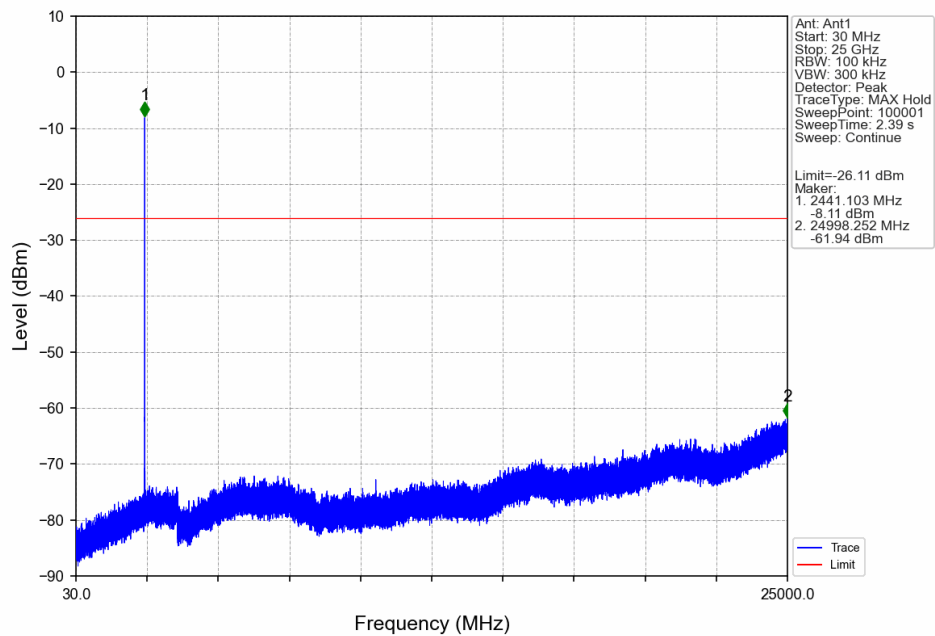
Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

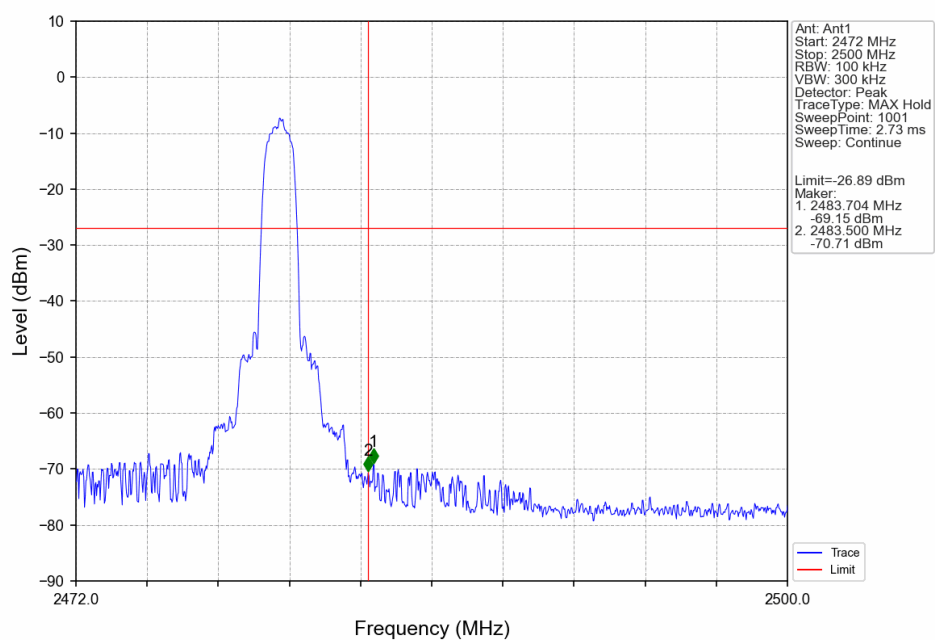


Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

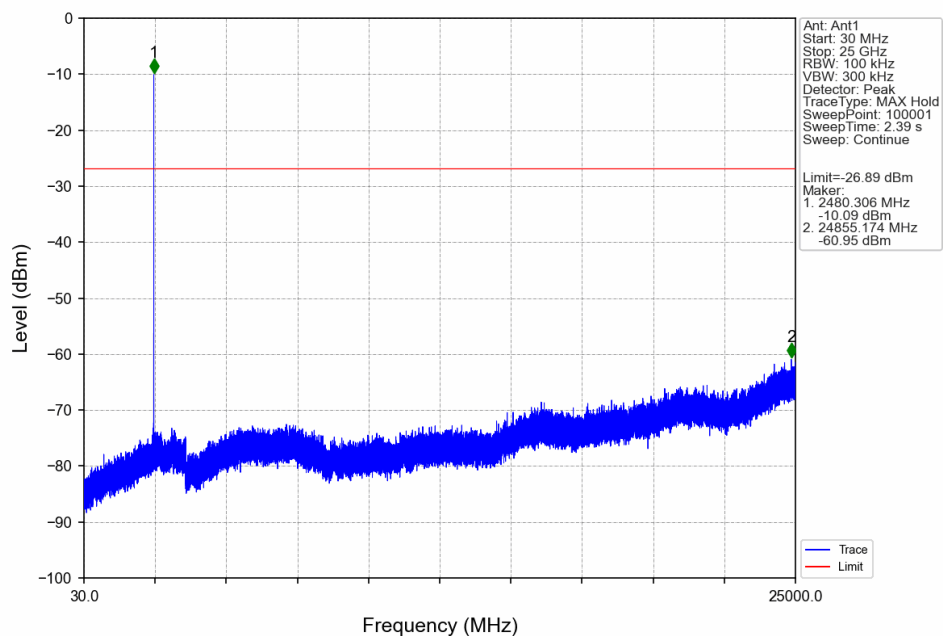




Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

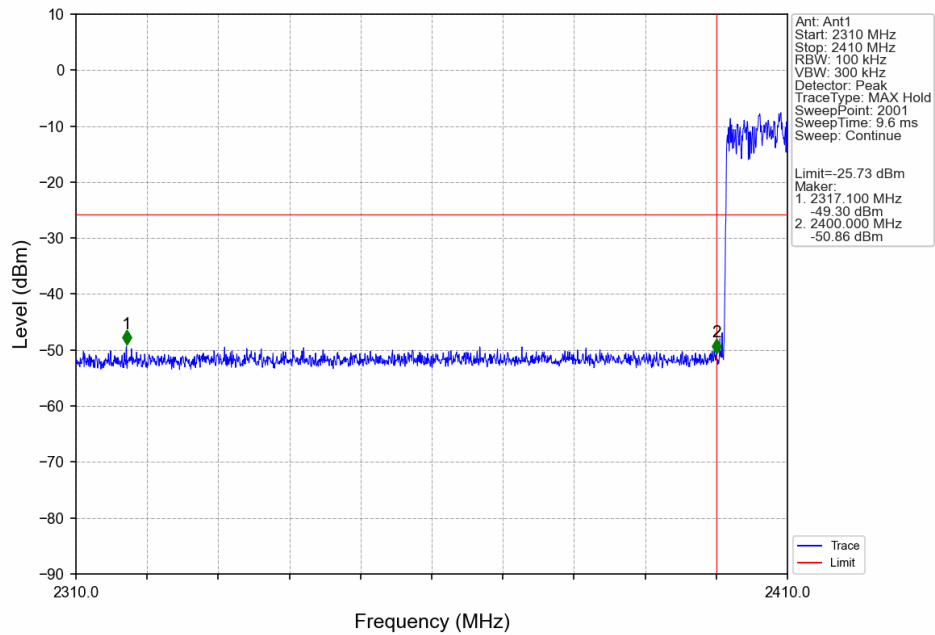


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

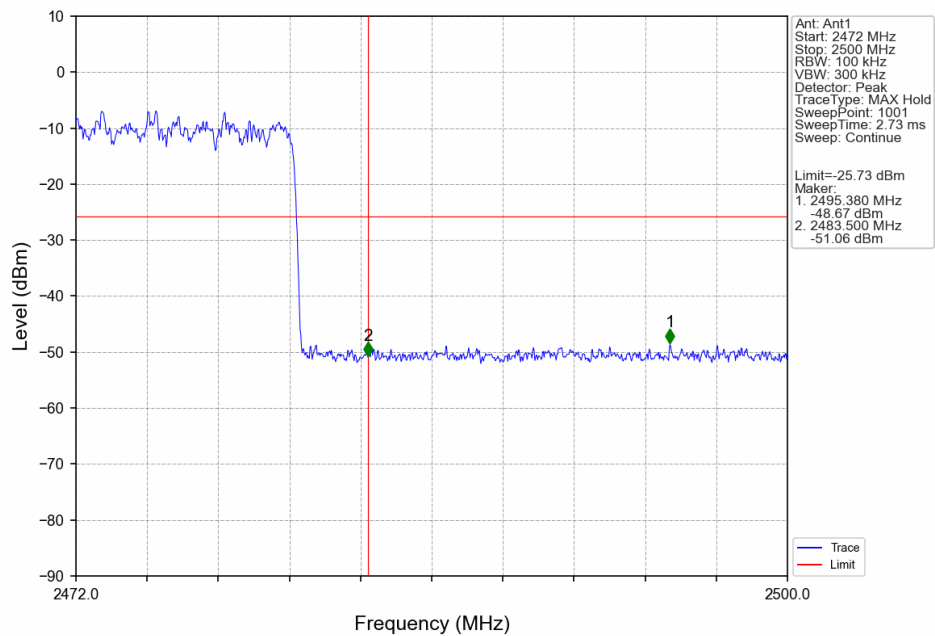




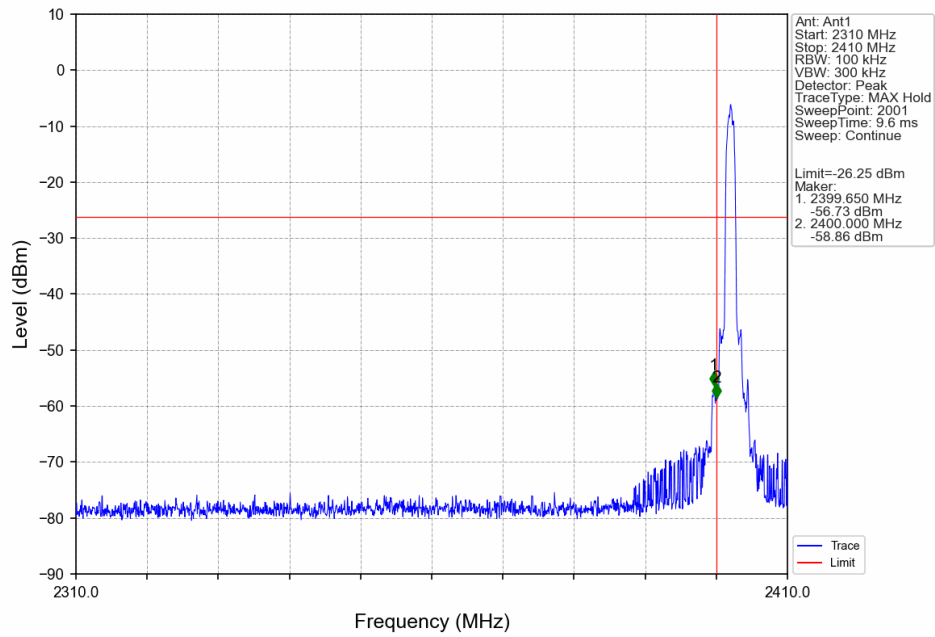
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



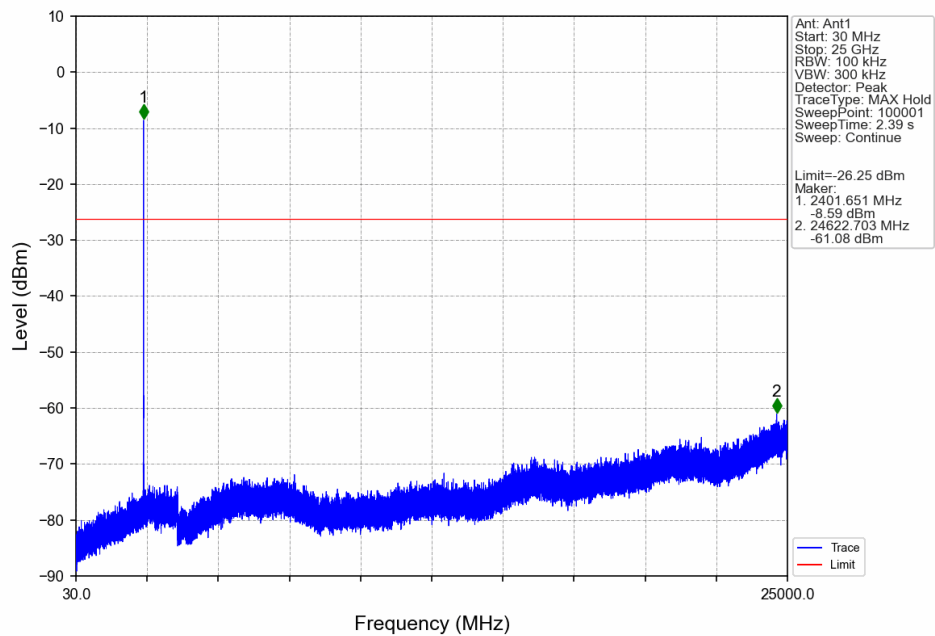
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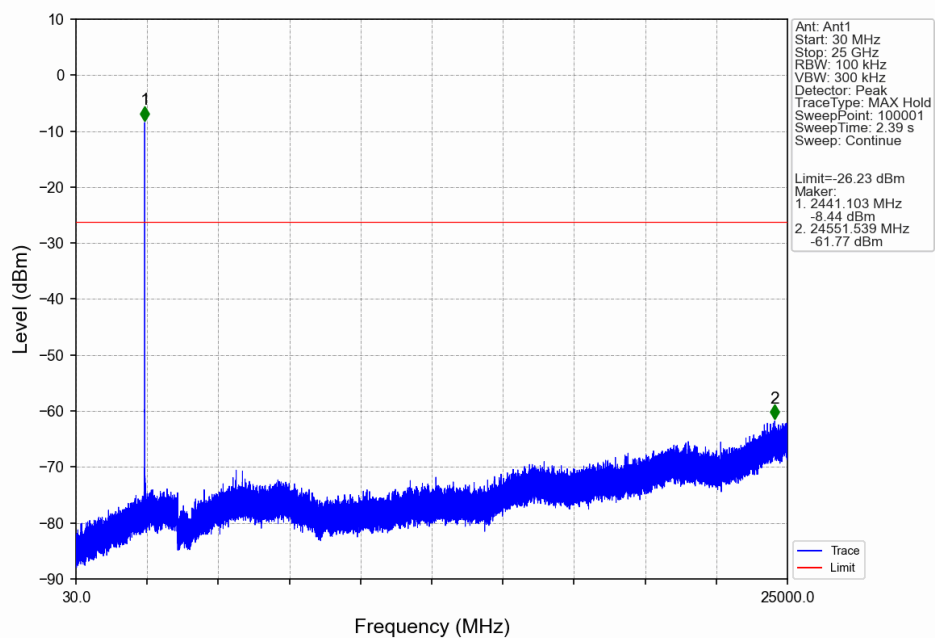
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



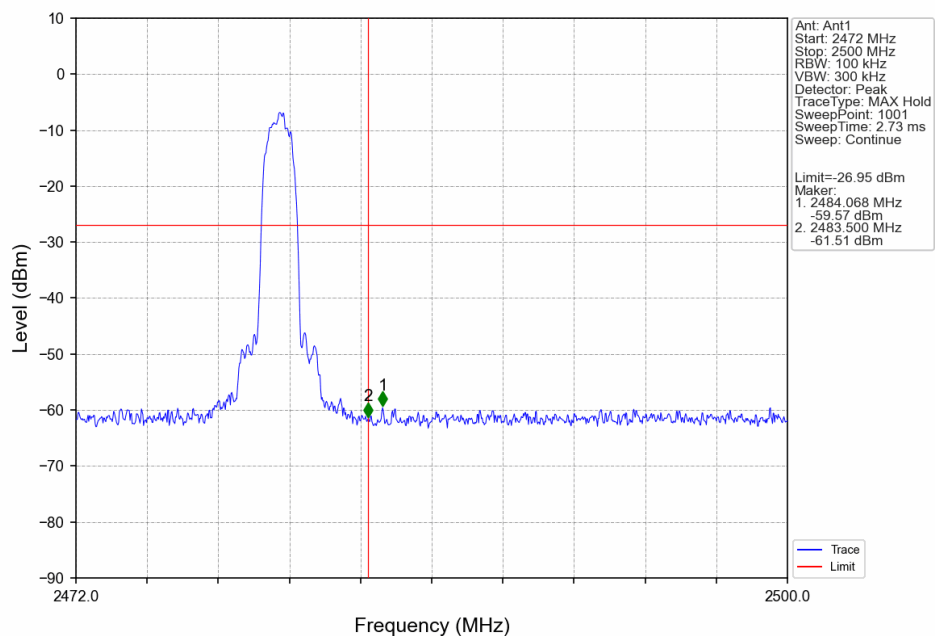
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



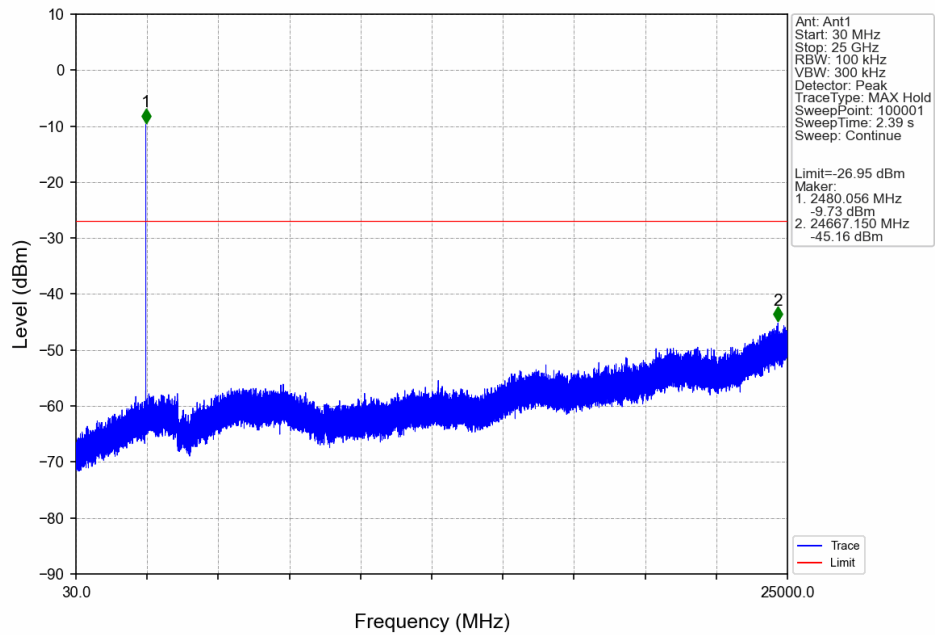
8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



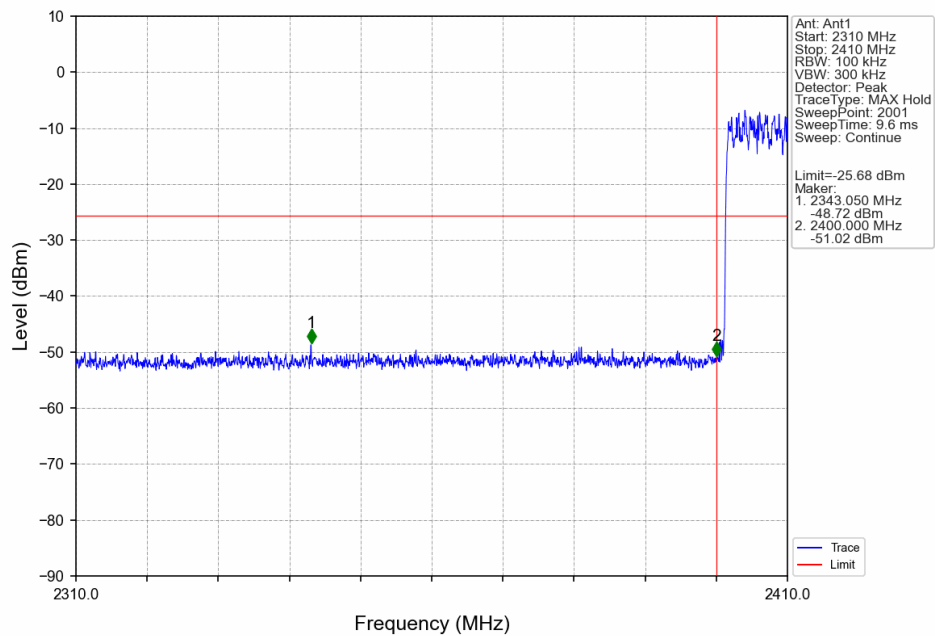
8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV

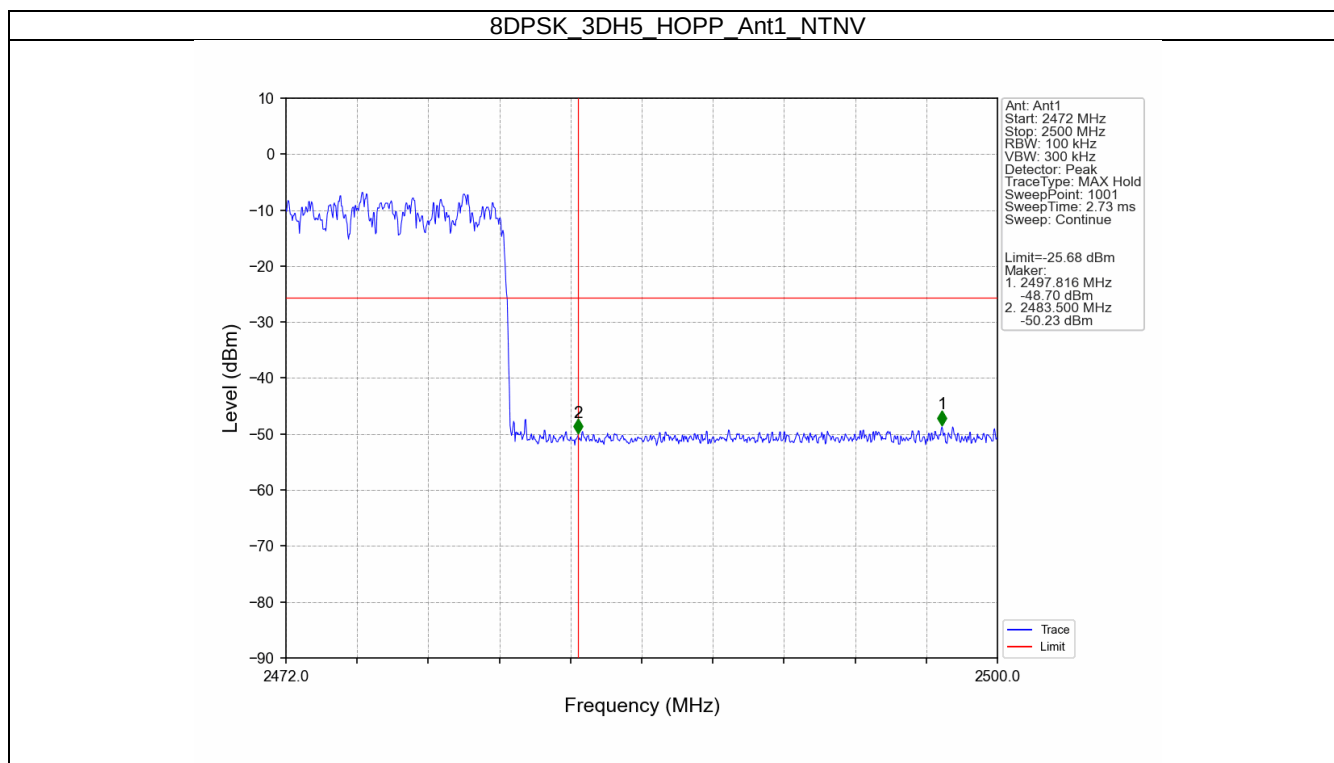


8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV





8. Form731

8.1 Test Result

8.1.1 Form731

For FCC

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
2402	2480	0.0005	-3.01

For ISCED

Mode	Lower Freq. (MHz)	High Freq. (MHz)	MAX Power (W)	MAX Power (dBm)	MIN Power (W)	MIN Power (dBm)	Emission Designator	MAX OBW (MHz)
GFSK	2402	2480	0.0005	-3.01	0.0004	-3.77	852KF1D	0.852
Pi/4DQPSK	2402	2480	0.0005	-3.38	0.0004	-3.93	1M18F1D	1.182
8DPSK	2402	2480	0.0005	-3.07	0.0004	-3.62	1M19F1D	1.187