

Test Data for Bluetooth

Product Name: Mini Printer

Test Model: Q2

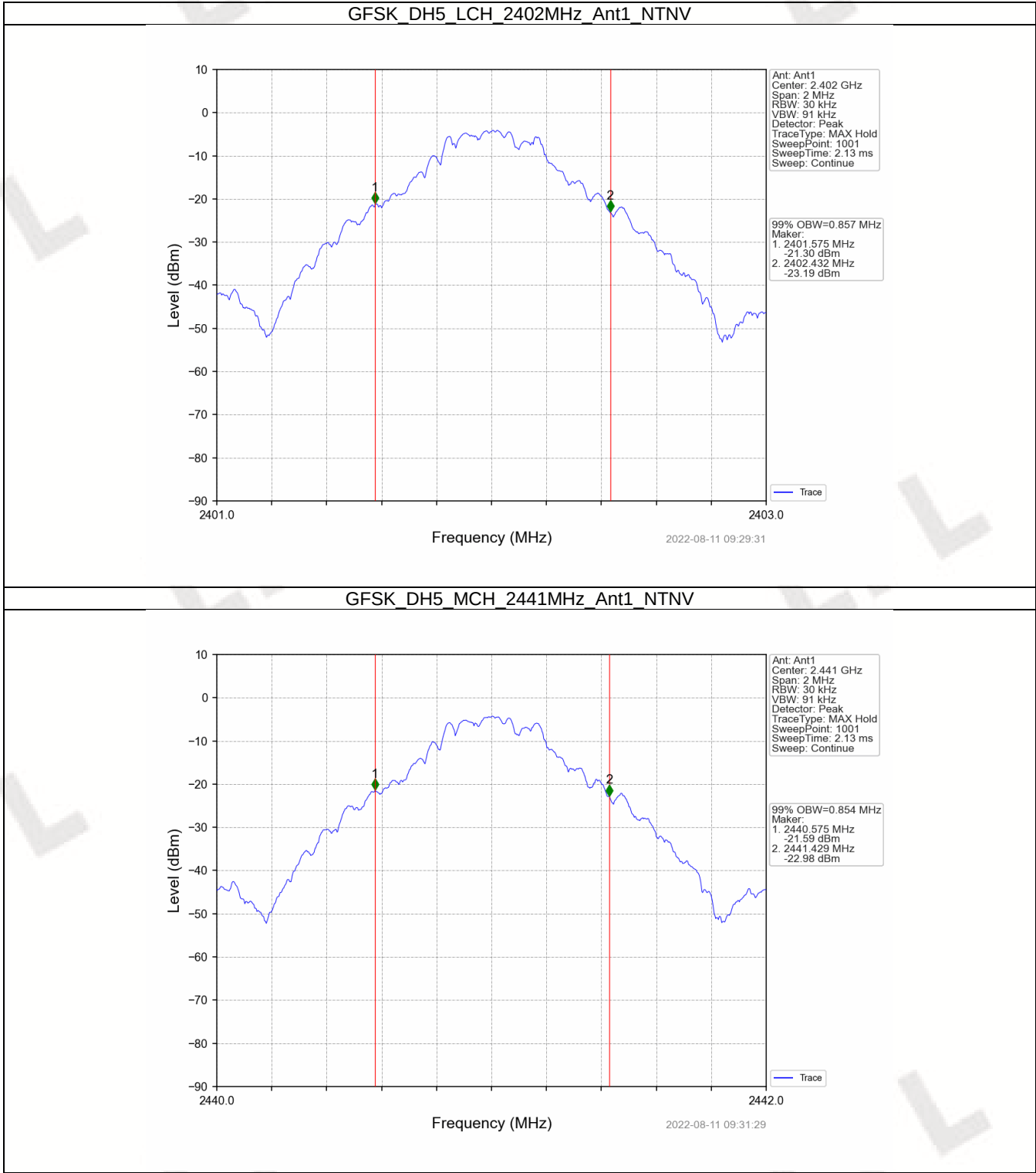
1. Bandwidth

1.1 OBW

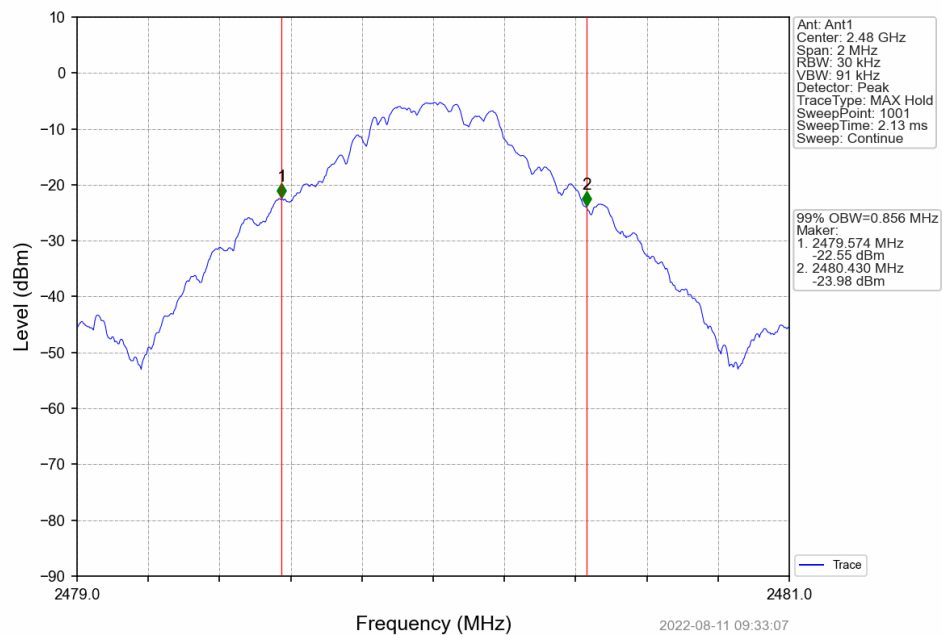
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	0.857	Pass
		2441	DH5	1	0.854	Pass
		2480	DH5	1	0.856	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.163	Pass
		2441	2DH5	1	1.165	Pass
		2480	2DH5	1	1.166	Pass
8DPSK	SISO	2402	3DH5	1	1.160	Pass
		2441	3DH5	1	1.161	Pass
		2480	3DH5	1	1.159	Pass

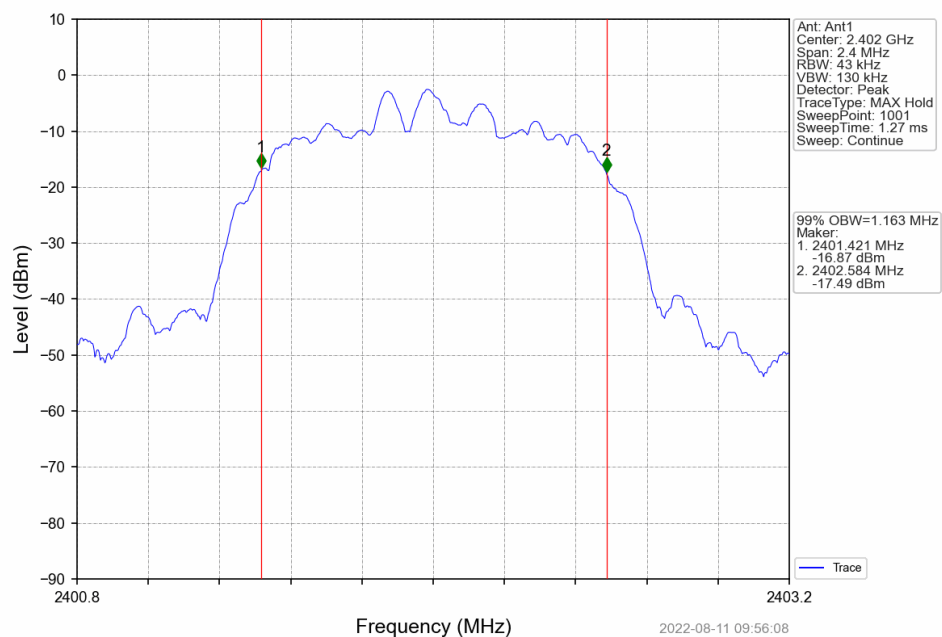
1.1.2 Test Graph

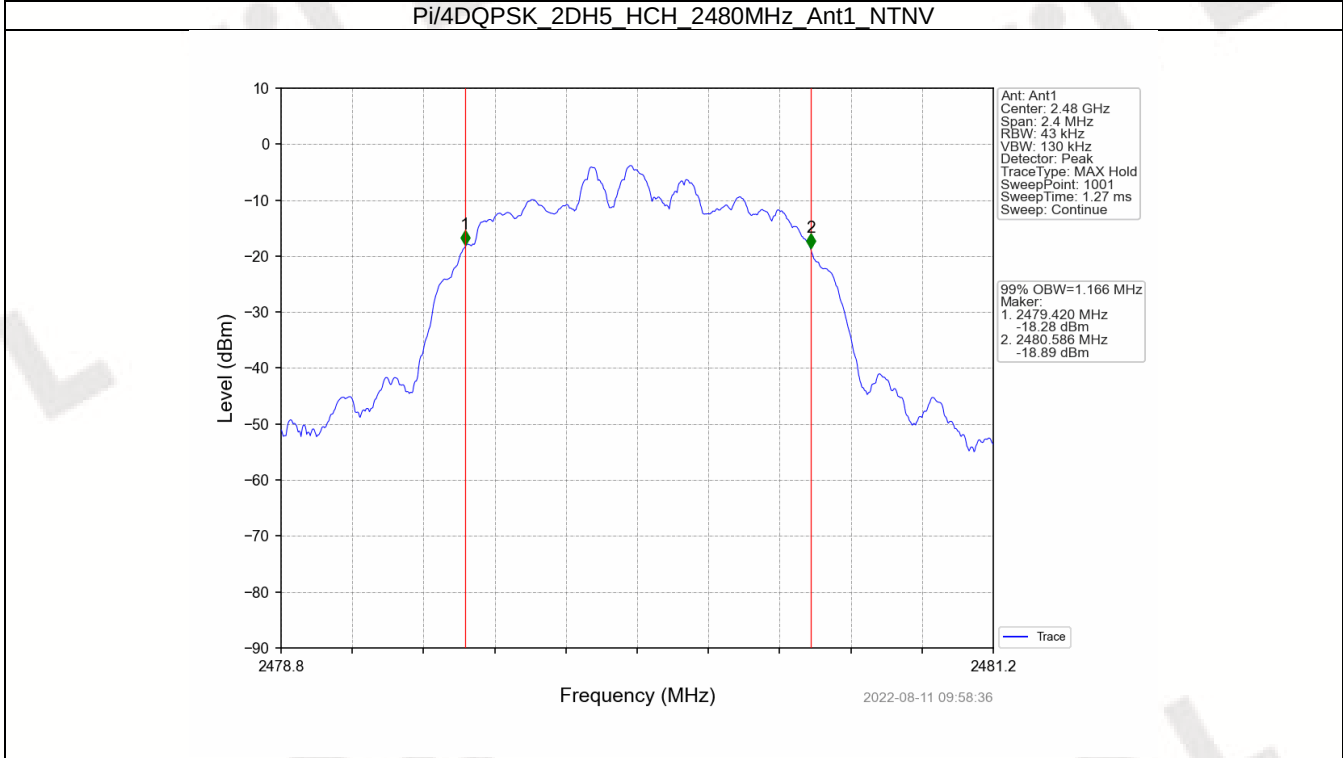
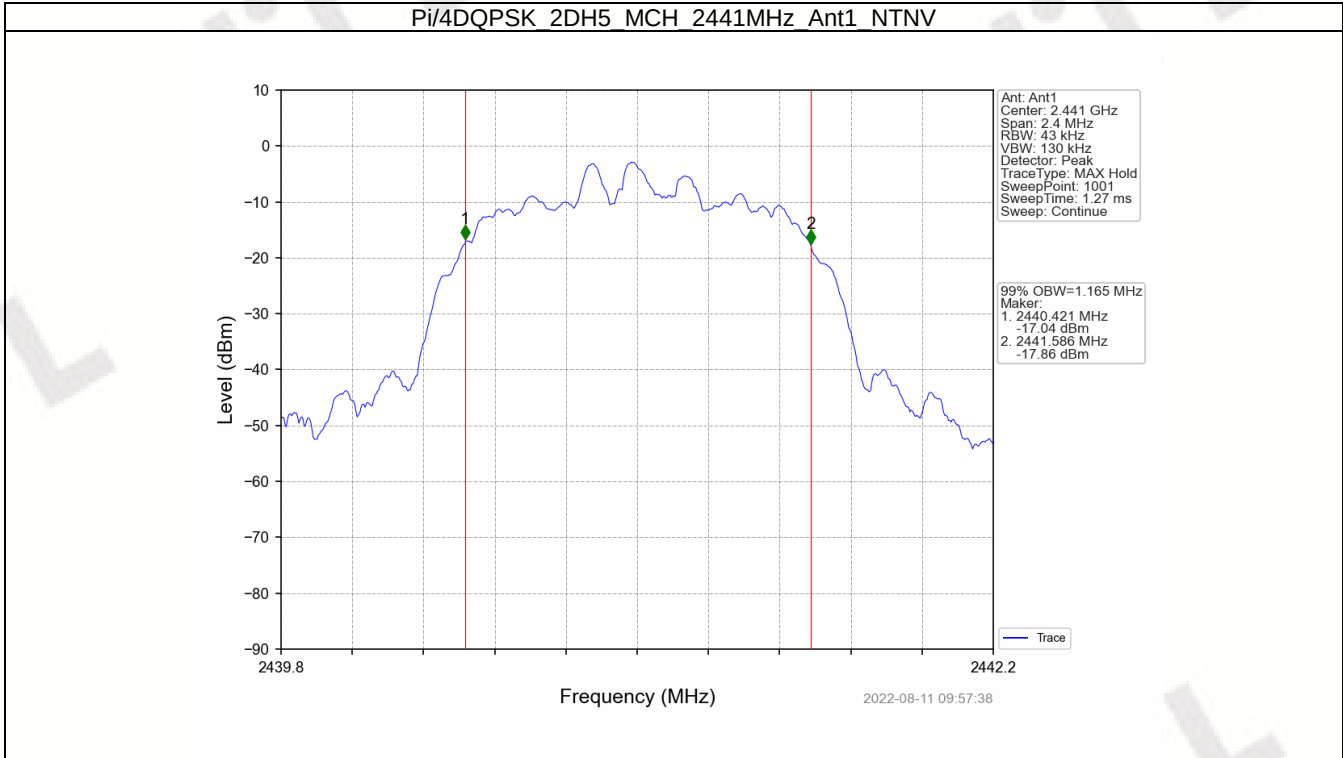


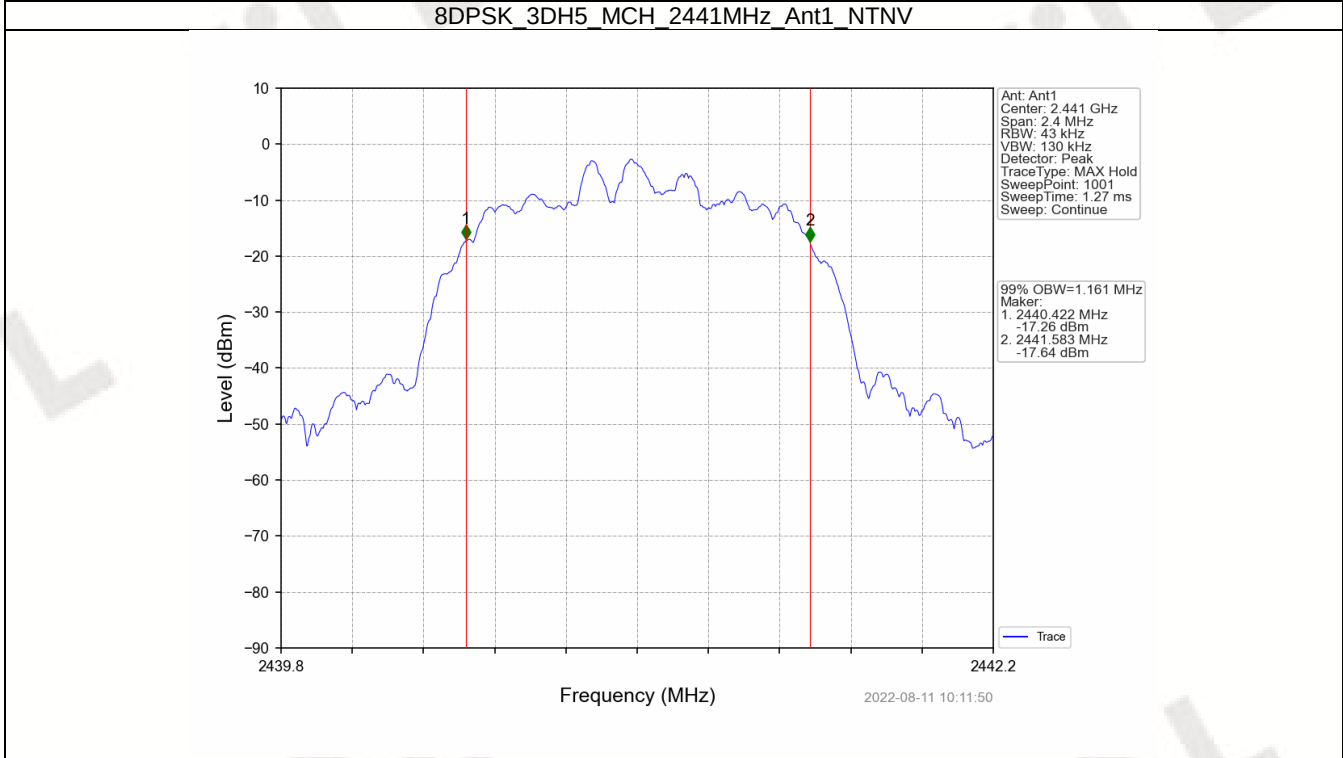
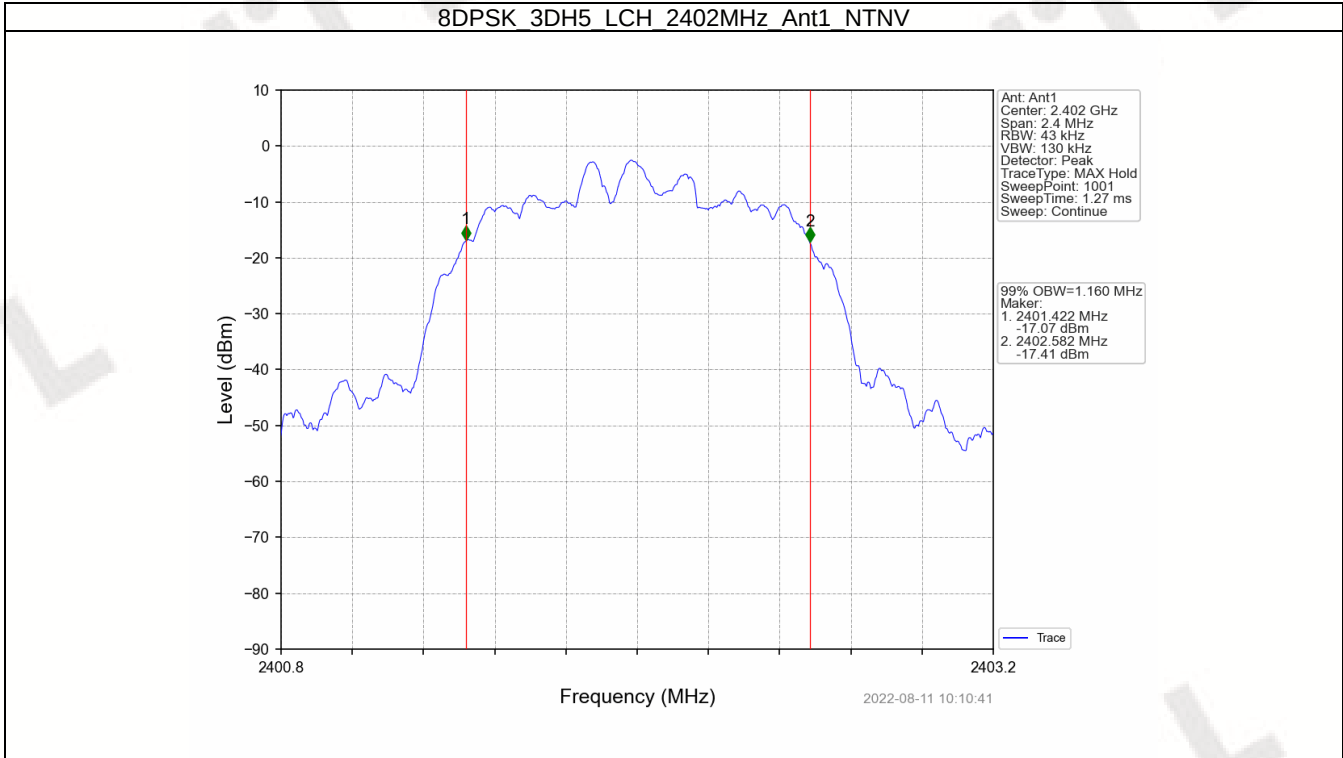
GFSK DH5 HCH 2480MHz Ant1 NTN

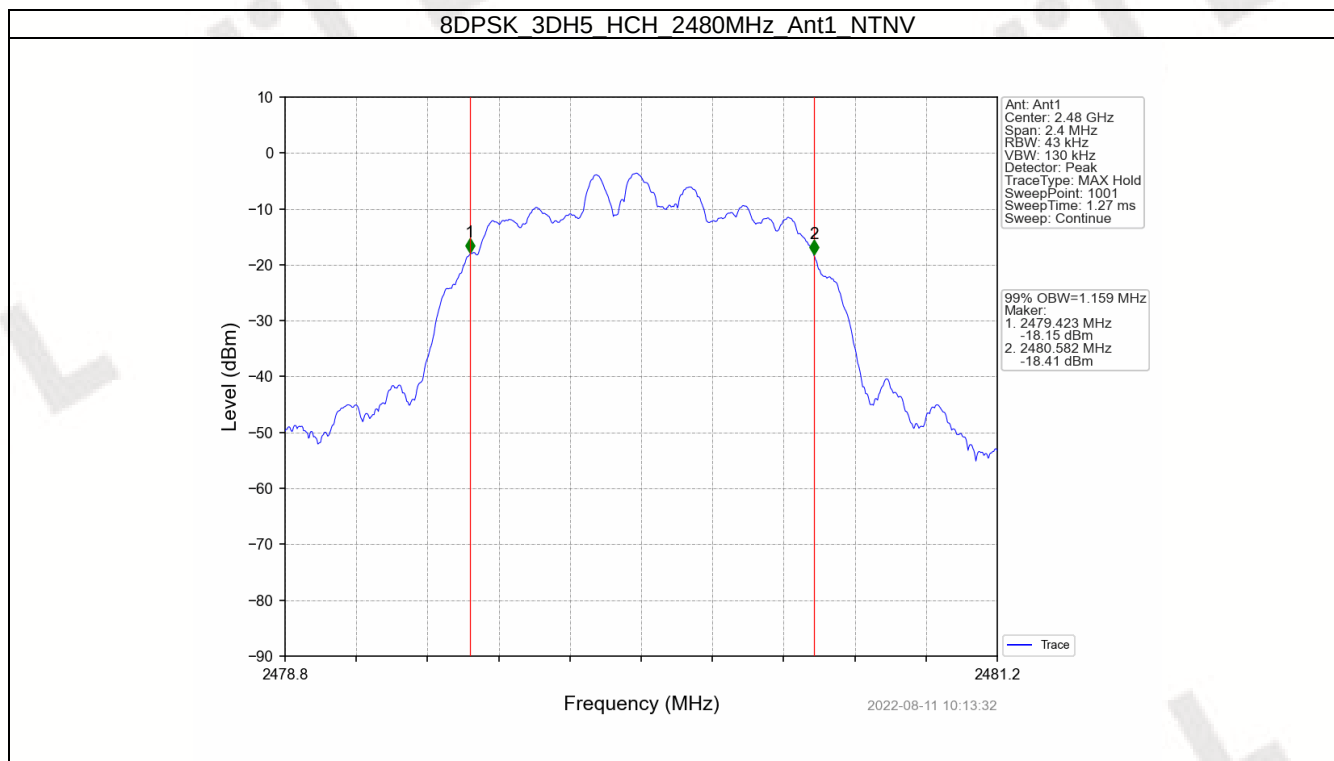


PI/4DQPSK 2DH5 LCH 2402MHz Ant1 NTN







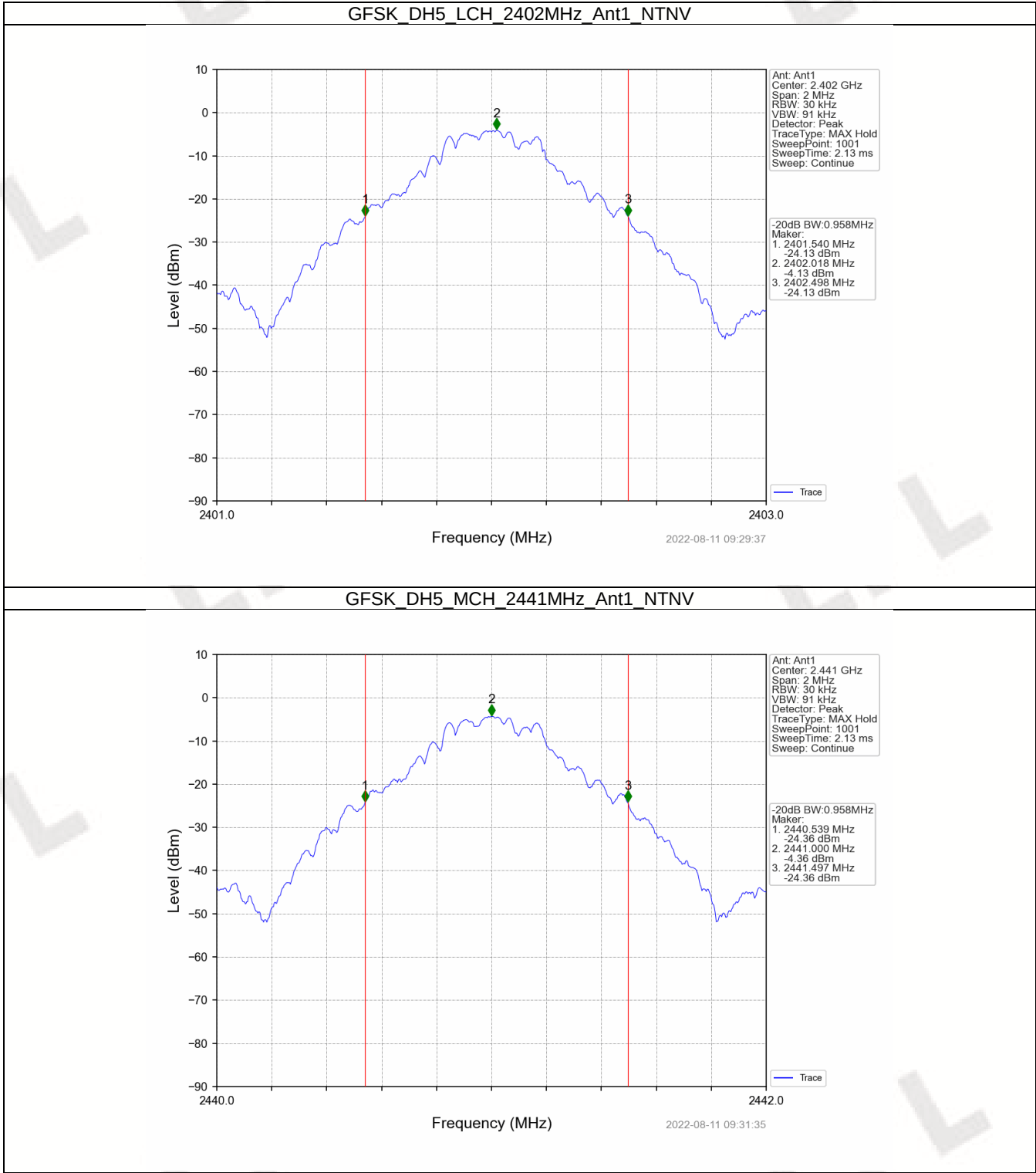


1.2 20dB BW

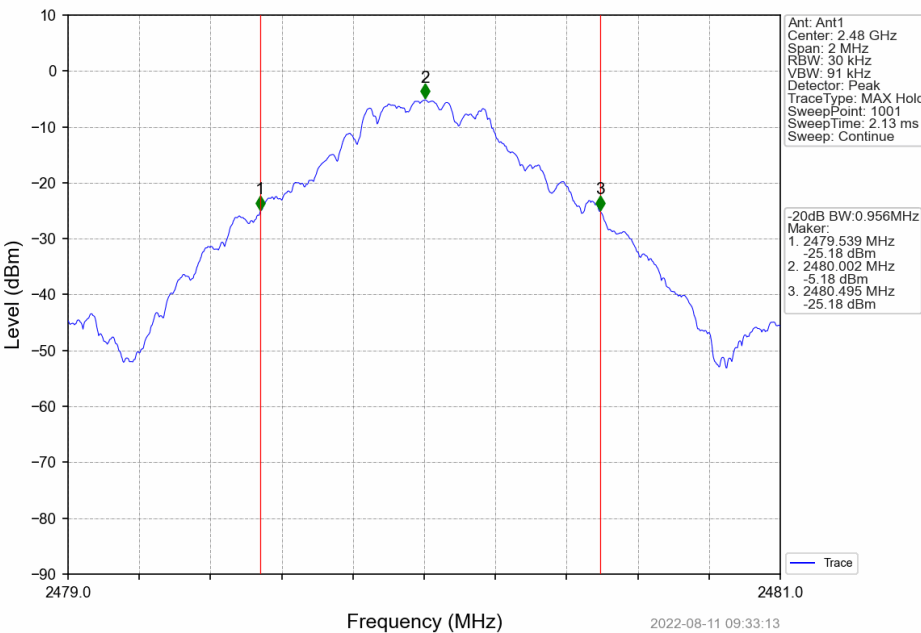
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	0.958	Pass
		2441	DH5	1	0.958	Pass
		2480	DH5	1	0.956	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.292	Pass
		2441	2DH5	1	1.290	Pass
		2480	2DH5	1	1.286	Pass
8DPSK	SISO	2402	3DH5	1	1.308	Pass
		2441	3DH5	1	1.289	Pass
		2480	3DH5	1	1.286	Pass

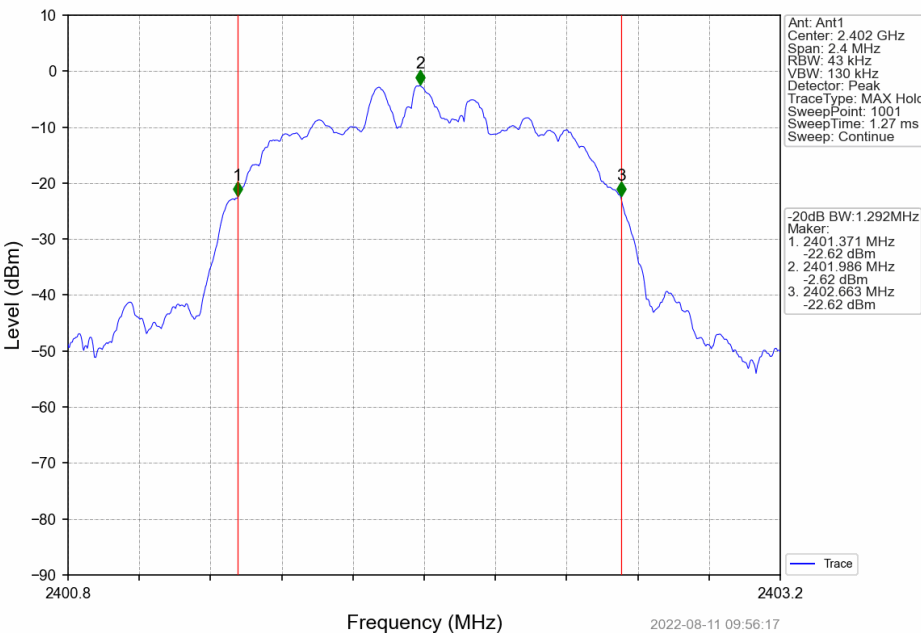
1.2.2 Test Graph



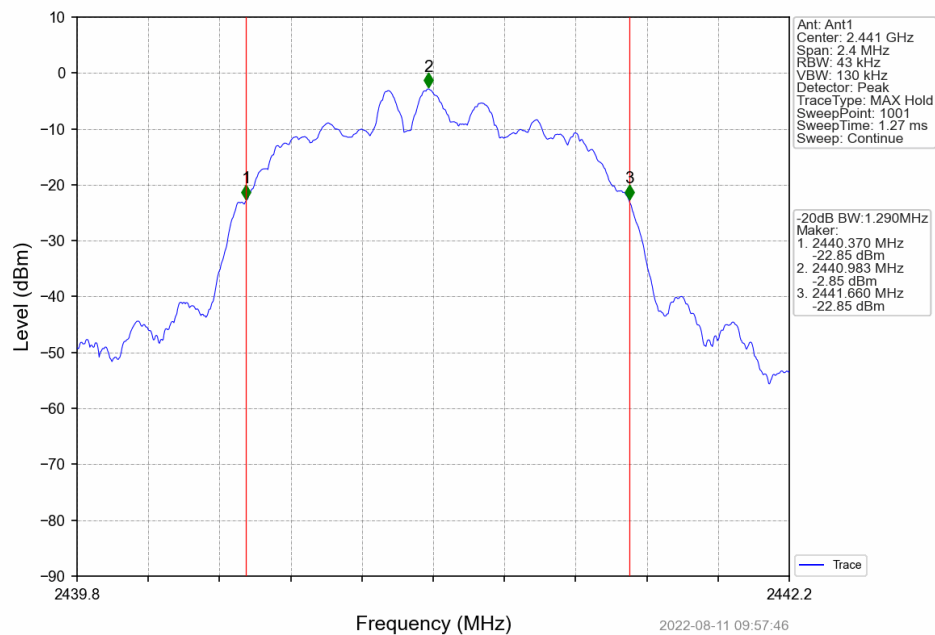
GFSK DH5 HCH 2480MHz Ant1 NTN



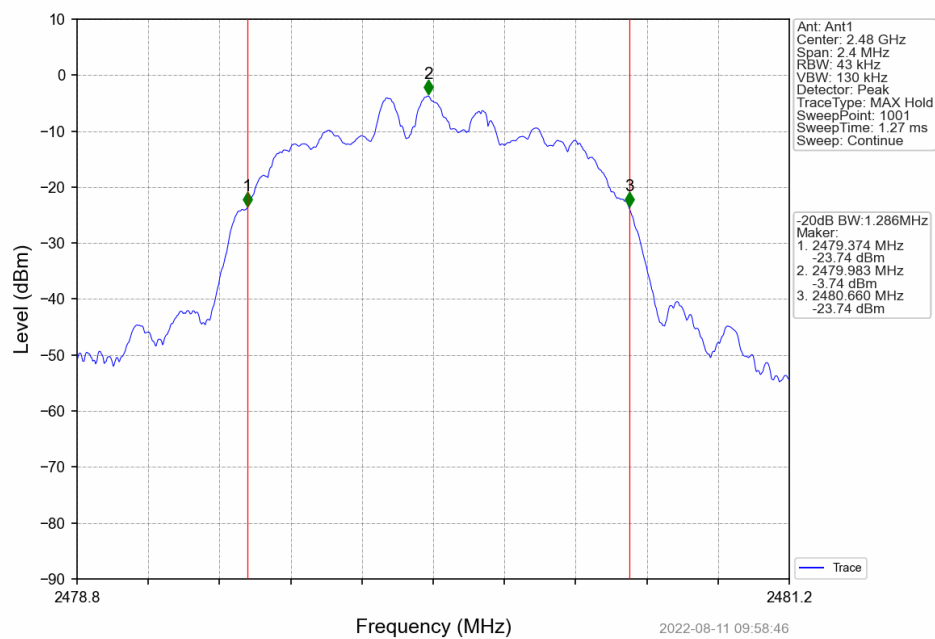
PI/4DQPSK 2DH5 LCH 2402MHz Ant1 NTN



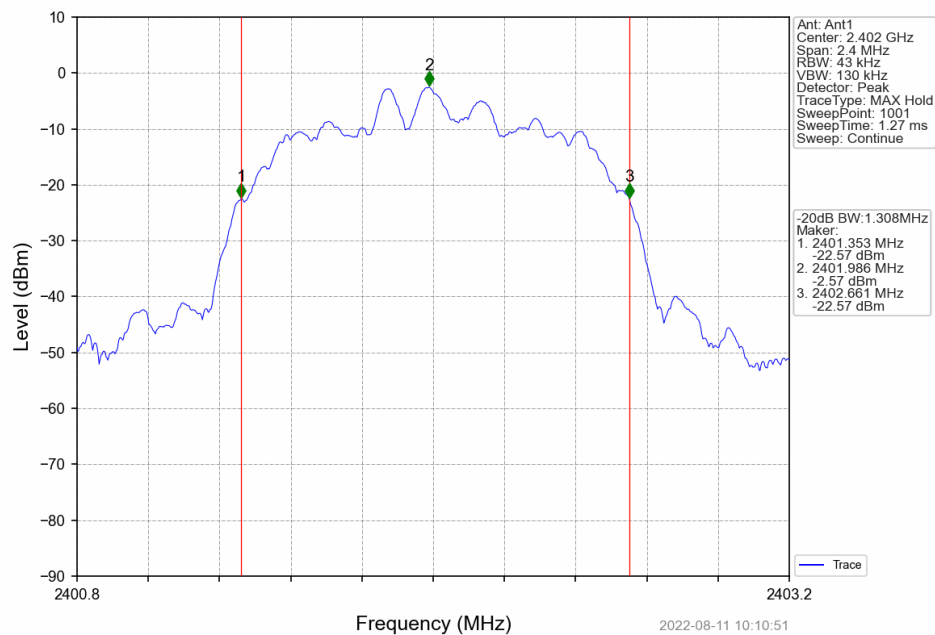
Pi/4DQPSK 2DH5 MCH 2441MHz Ant1 NTN



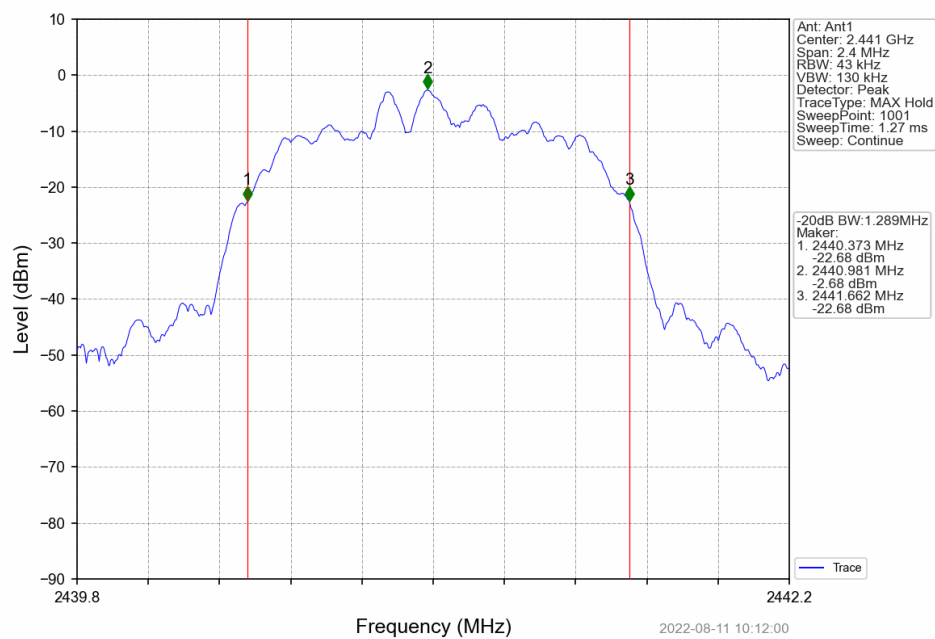
Pi/4DQPSK 2DH5 HCH 2480MHz Ant1 NTN

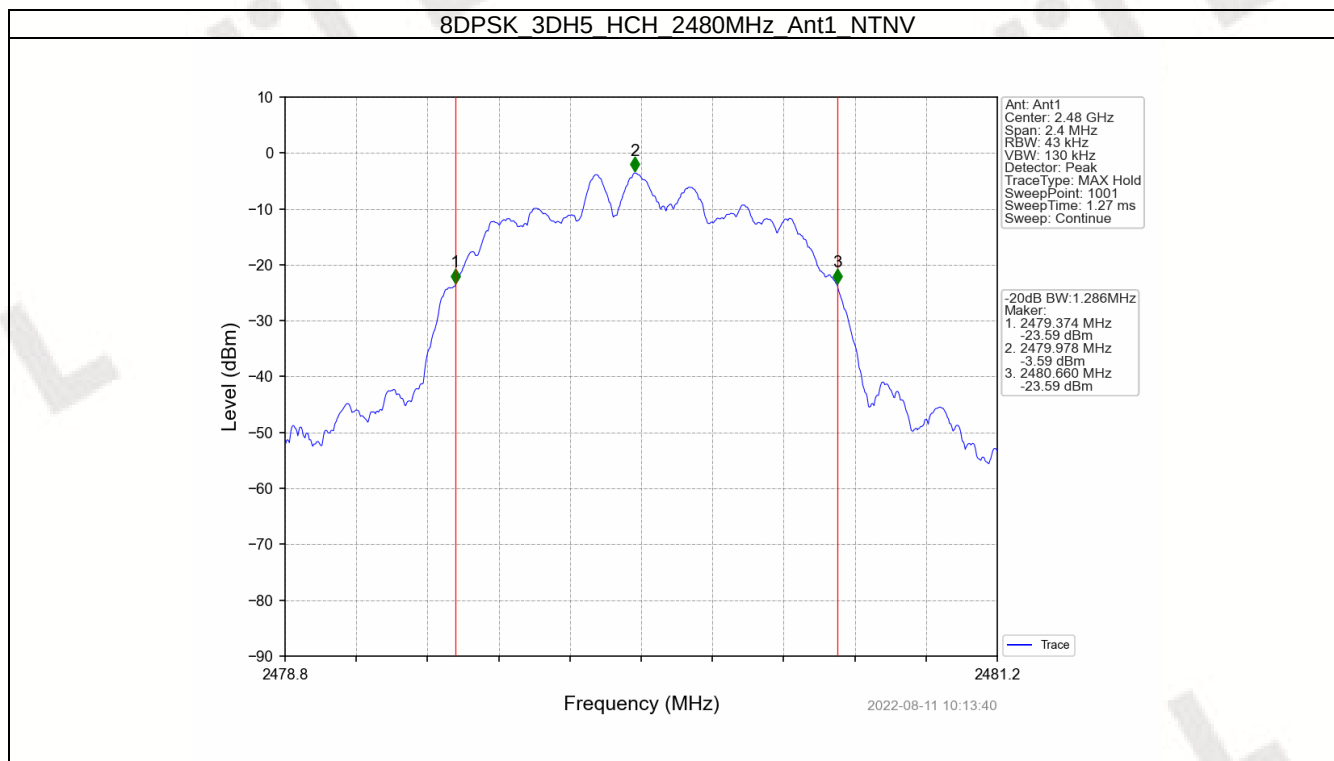


8DPSK 3DH5 LCH 2402MHz Ant1 NTV



8DPSK 3DH5 MCH 2441MHz Ant1 NTV





2. Maximum Conducted Output Power

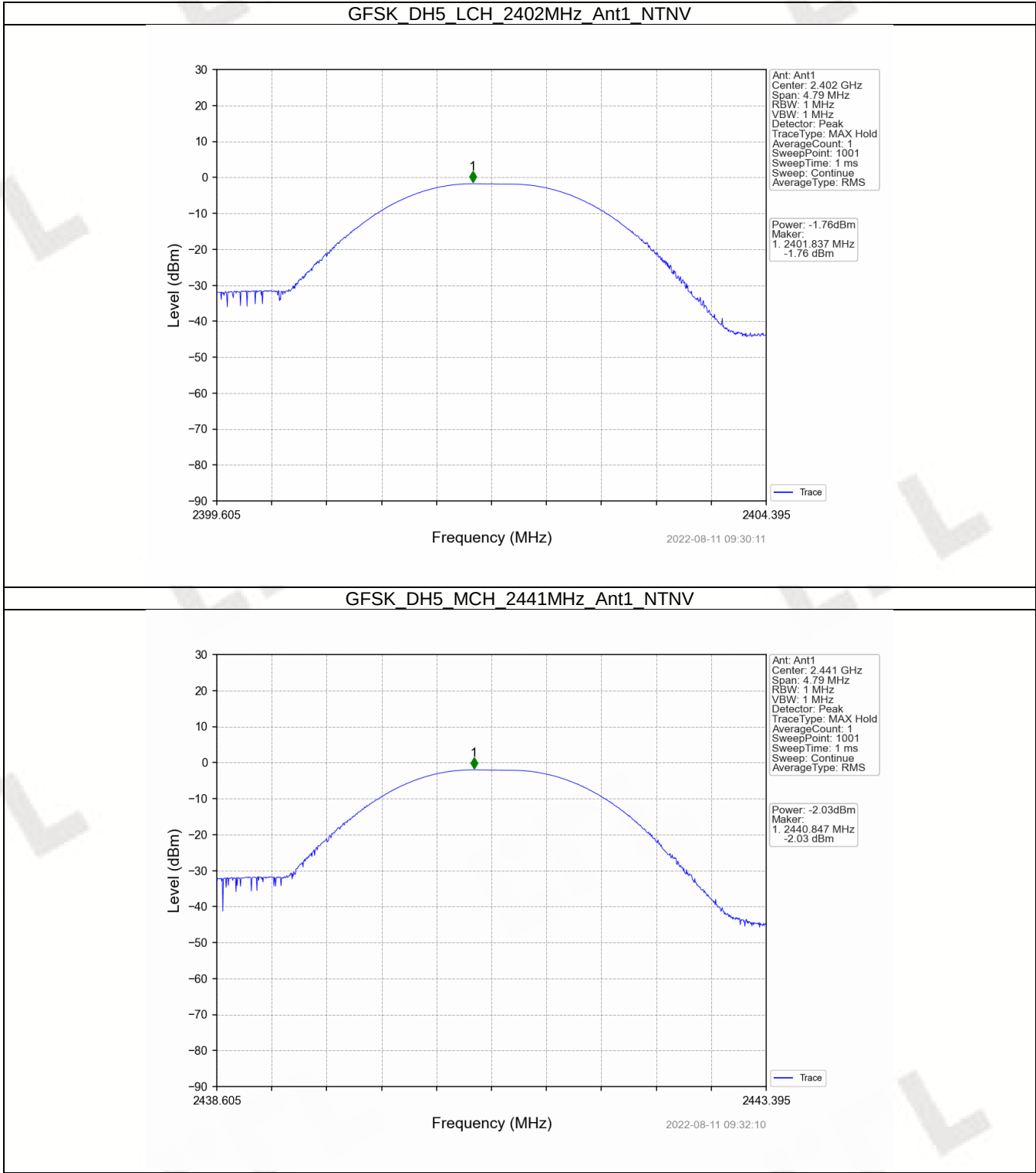
2.1 Power

2.1.1 Test Result

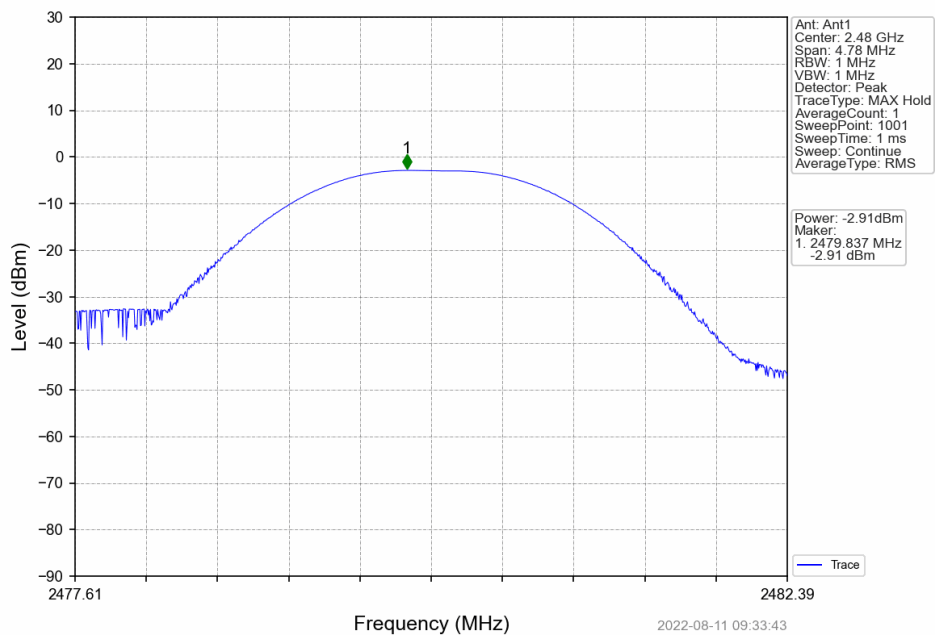
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-1.76	<=30	Pass
		2441	DH5	-2.03	<=30	Pass
		2480	DH5	-2.91	<=30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-0.84	<=20.97	Pass
		2441	2DH5	-1.09	<=20.97	Pass
		2480	2DH5	-1.97	<=20.97	Pass
8DPSK	SISO	2402	3DH5	-0.76	<=20.97	Pass
		2441	3DH5	-0.96	<=20.97	Pass
		2480	3DH5	-1.85	<=20.97	Pass

Note1: Antenna Gain: Ant1: -4.73dBi;

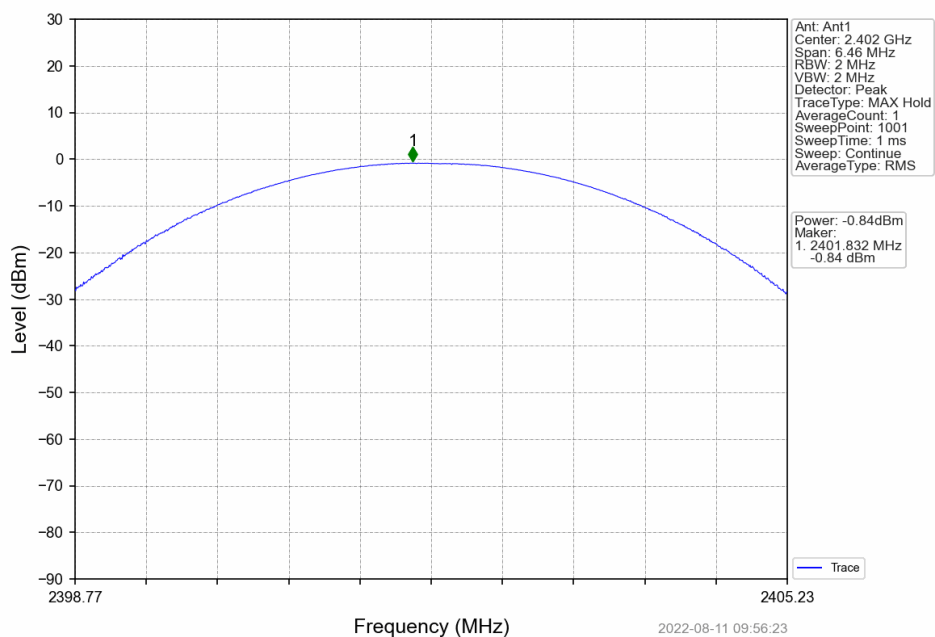
2.1.2 Test Graph



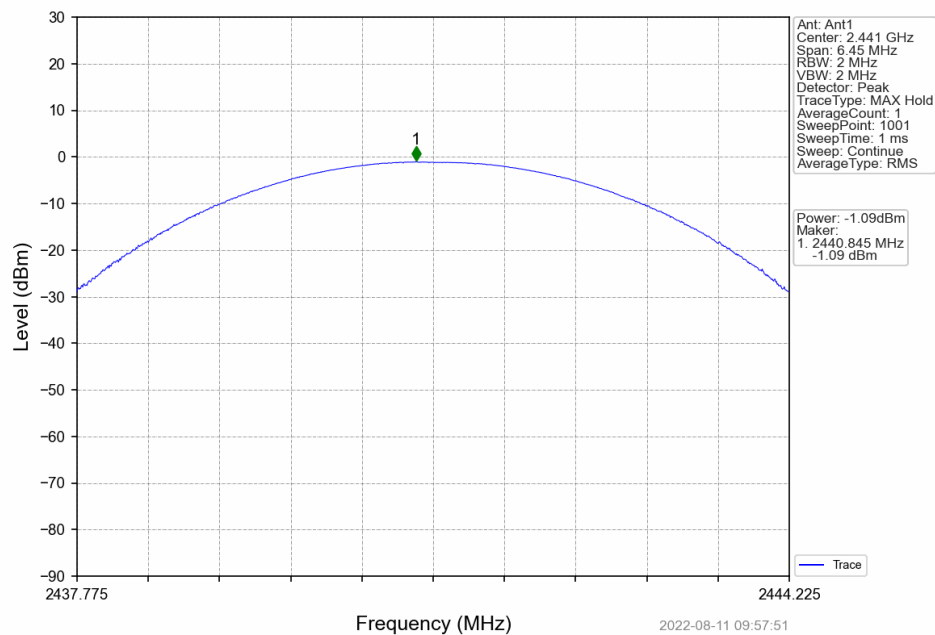
GFSK DH5 HCH 2480MHz Ant1 NTN



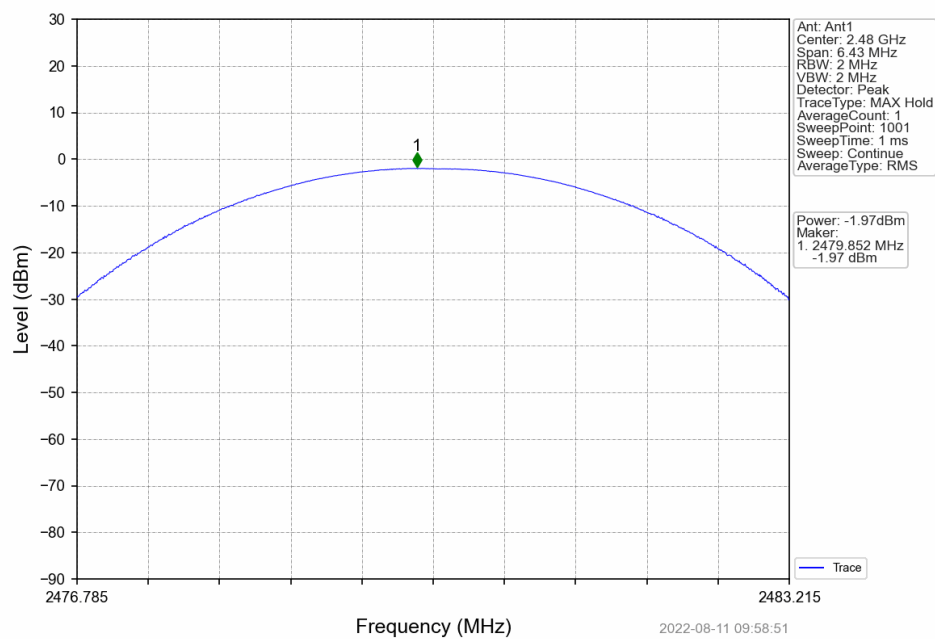
Pi/4DQPSK 2DH5 LCH 2402MHz Ant1 NTN



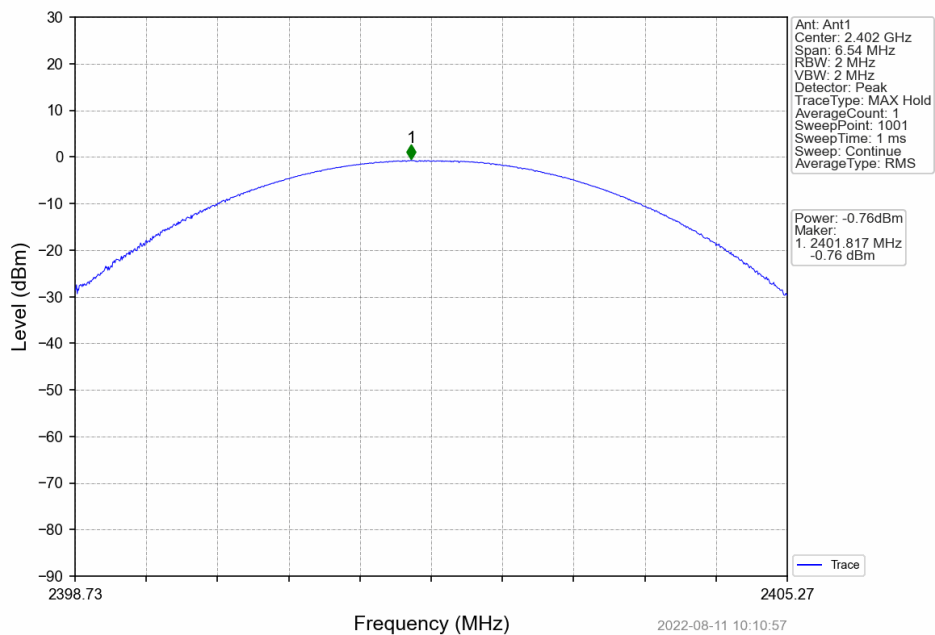
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



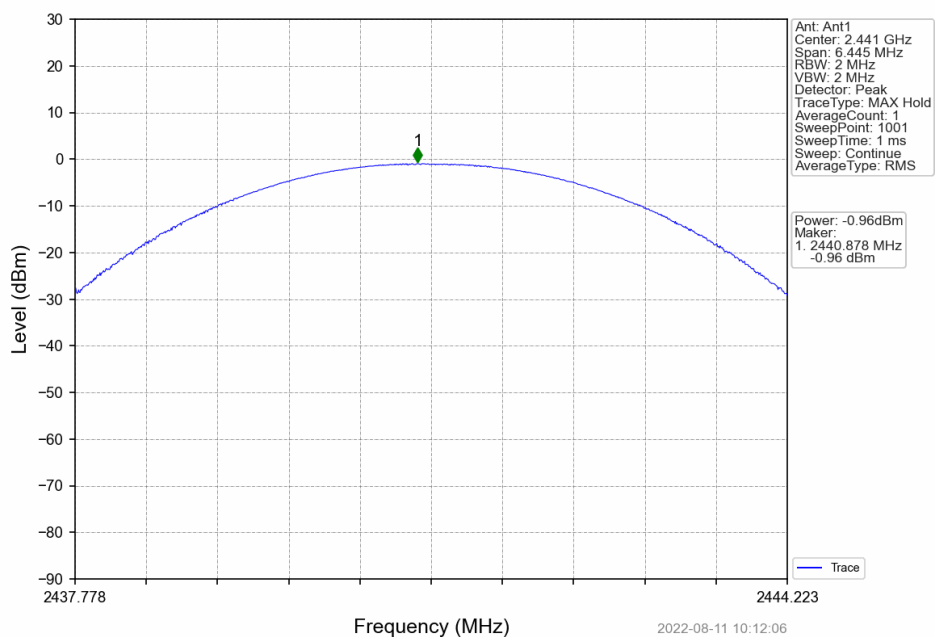
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

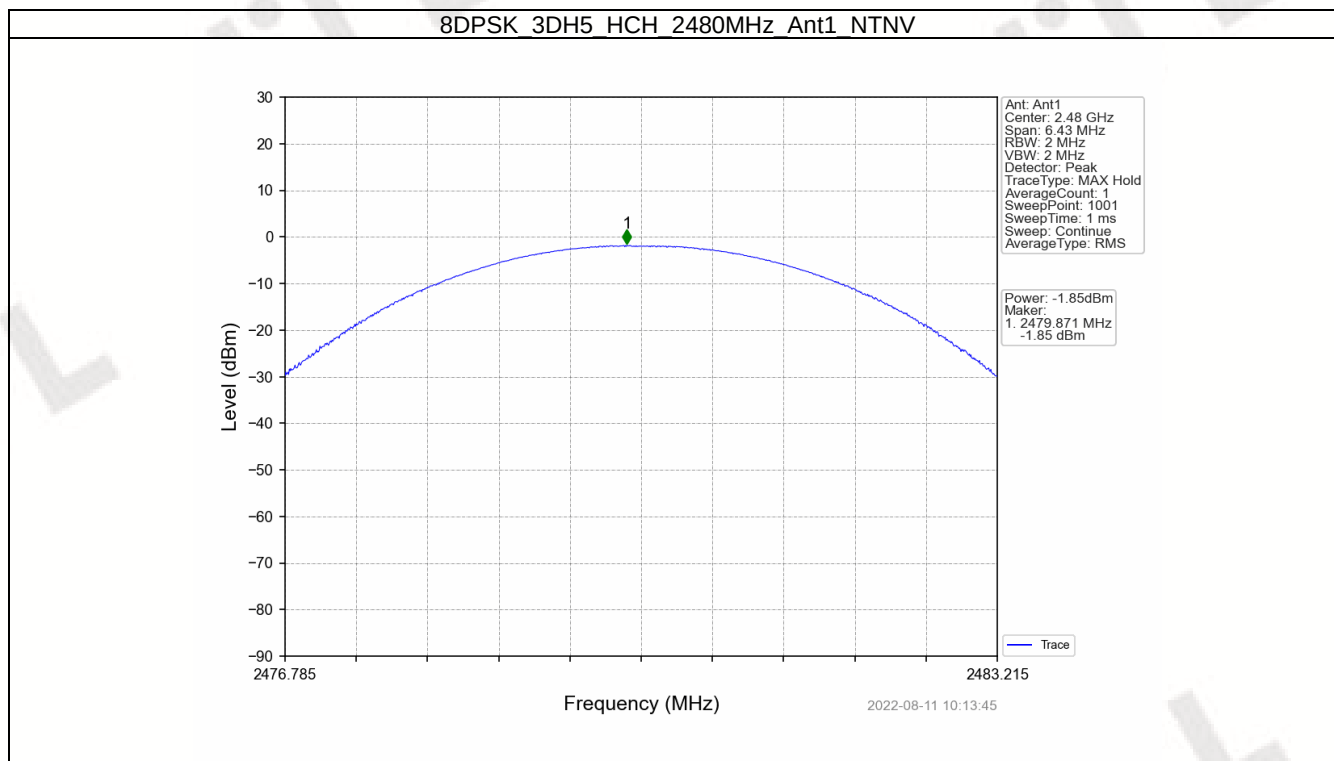


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





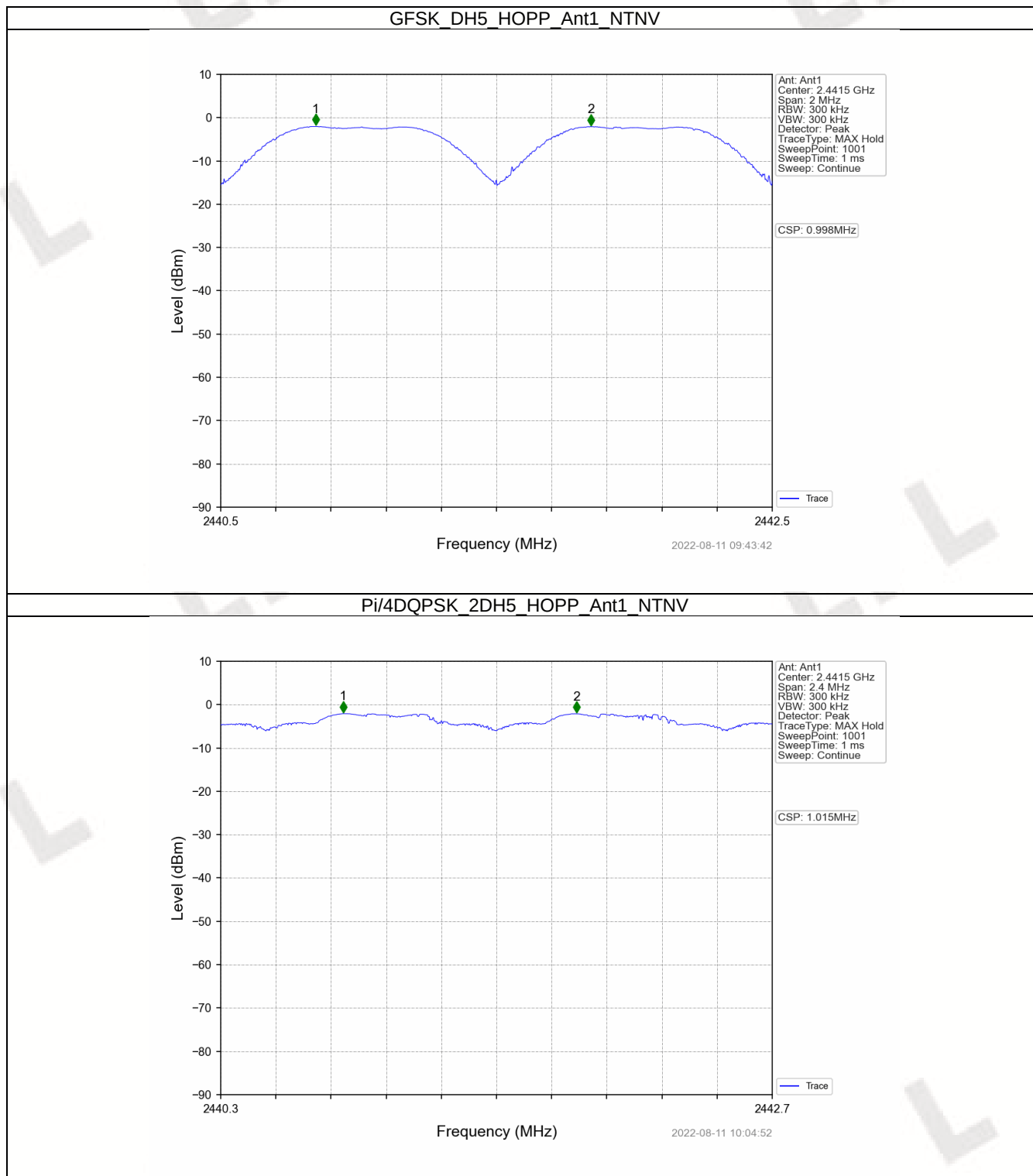
3. Carrier Frequency Separation

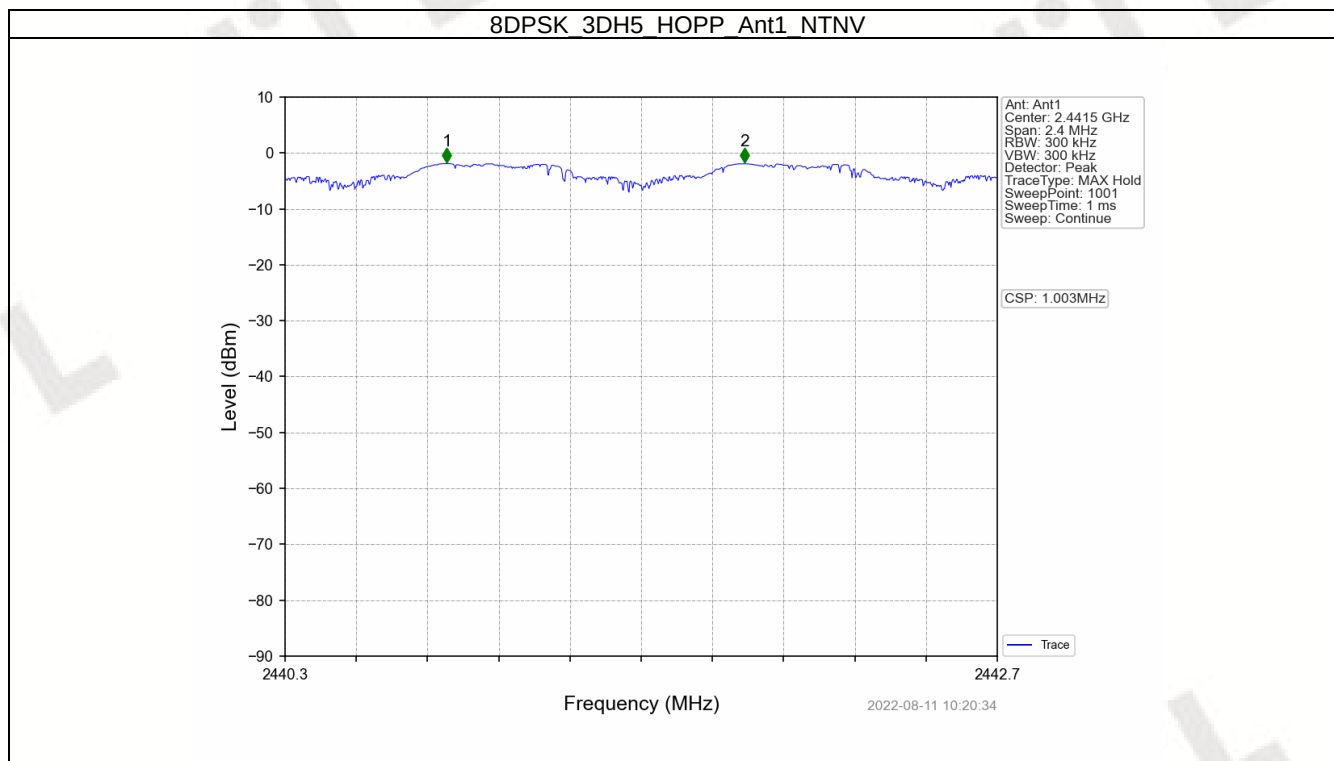
3.1 Ant1

3.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	0.998	0.958	≥ 0.958	Pass
PI/4DQPSK	SISO	HOPP	2DH5	1.015	1.292	≥ 0.861	Pass
8DPSK	SISO	HOPP	3DH5	1.003	1.308	≥ 0.872	Pass

3.1.2 Test Graph





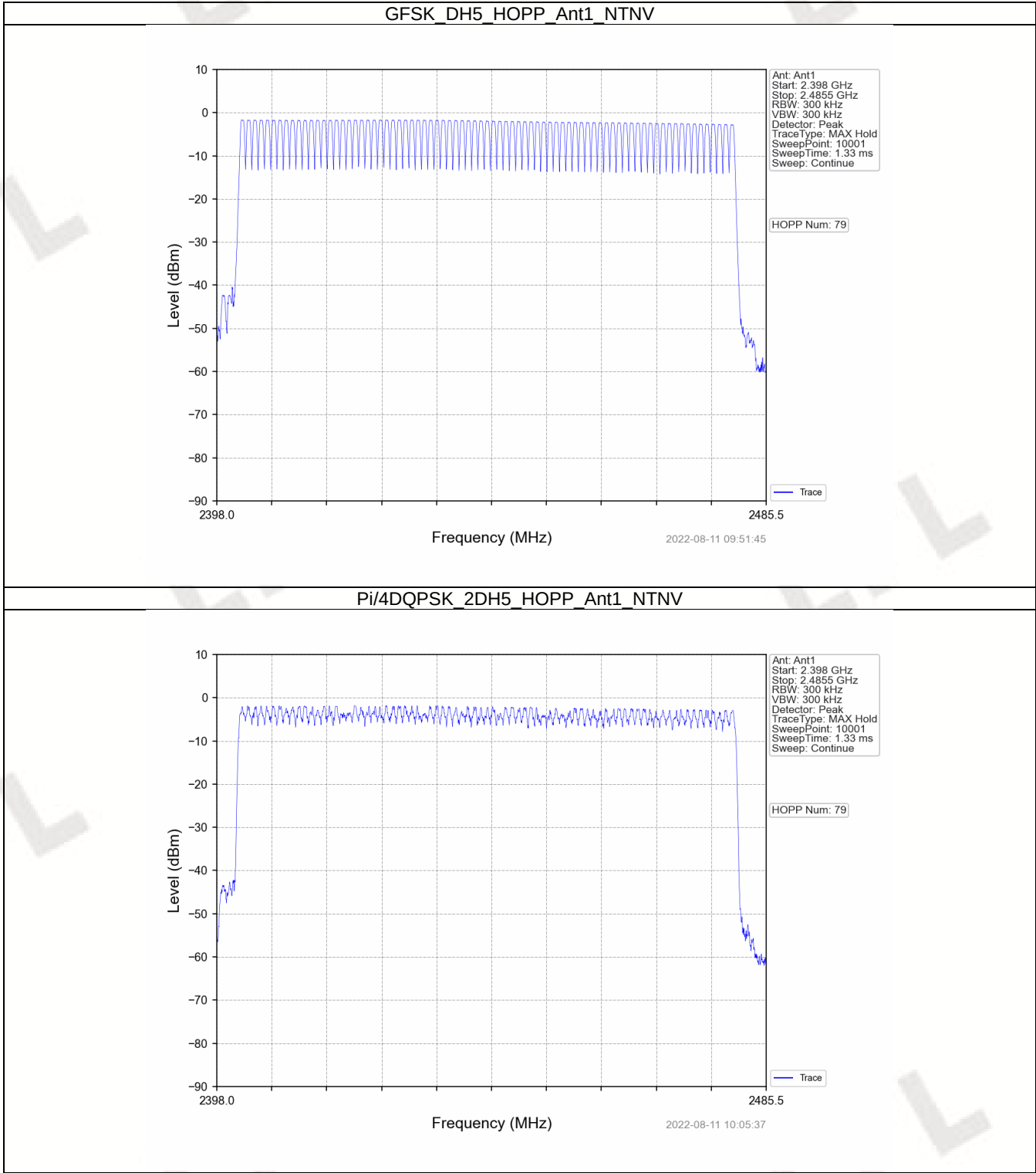
4. Number of Hopping Frequencies

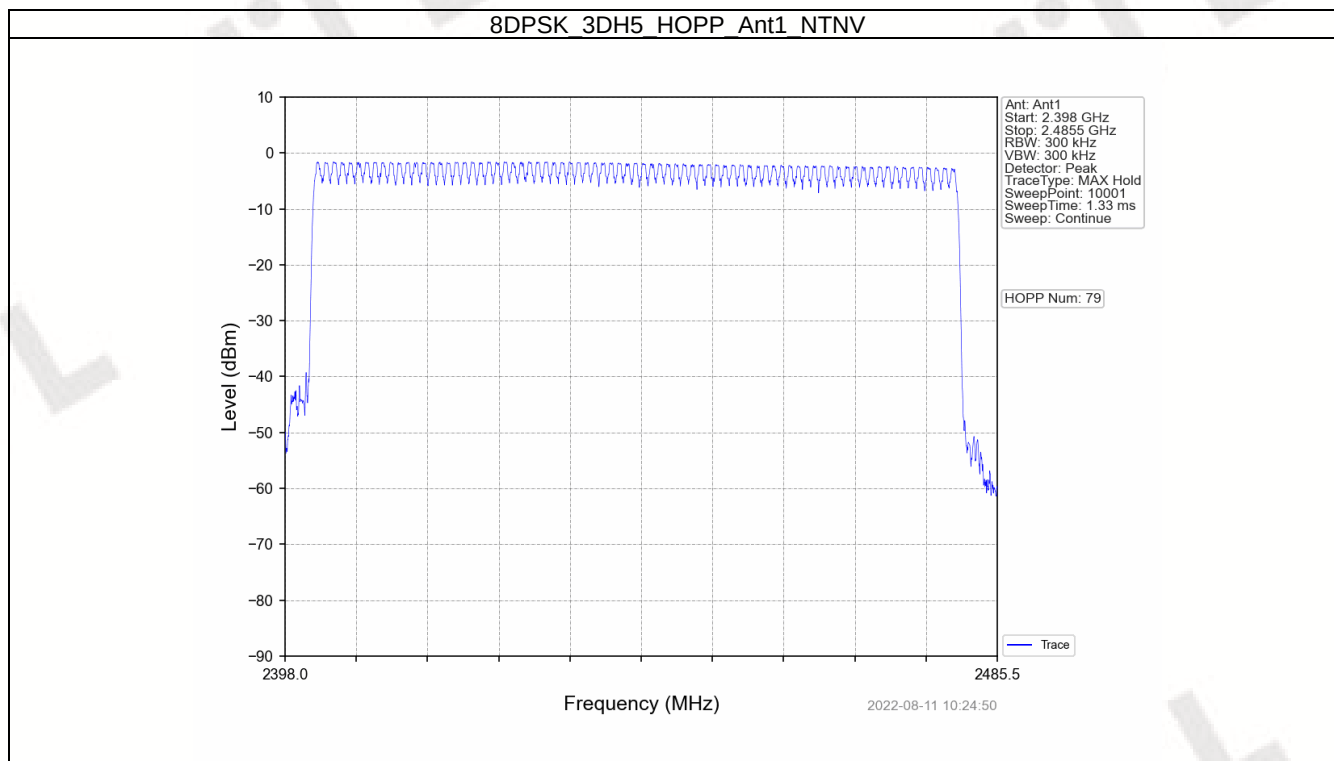
4.1 HoppNum

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/4DQPSK	SISO	HOPP	2DH5	79	>=15	Pass
8DPSK	SISO	HOPP	3DH5	79	>=15	Pass

4.1.2 Test Graph





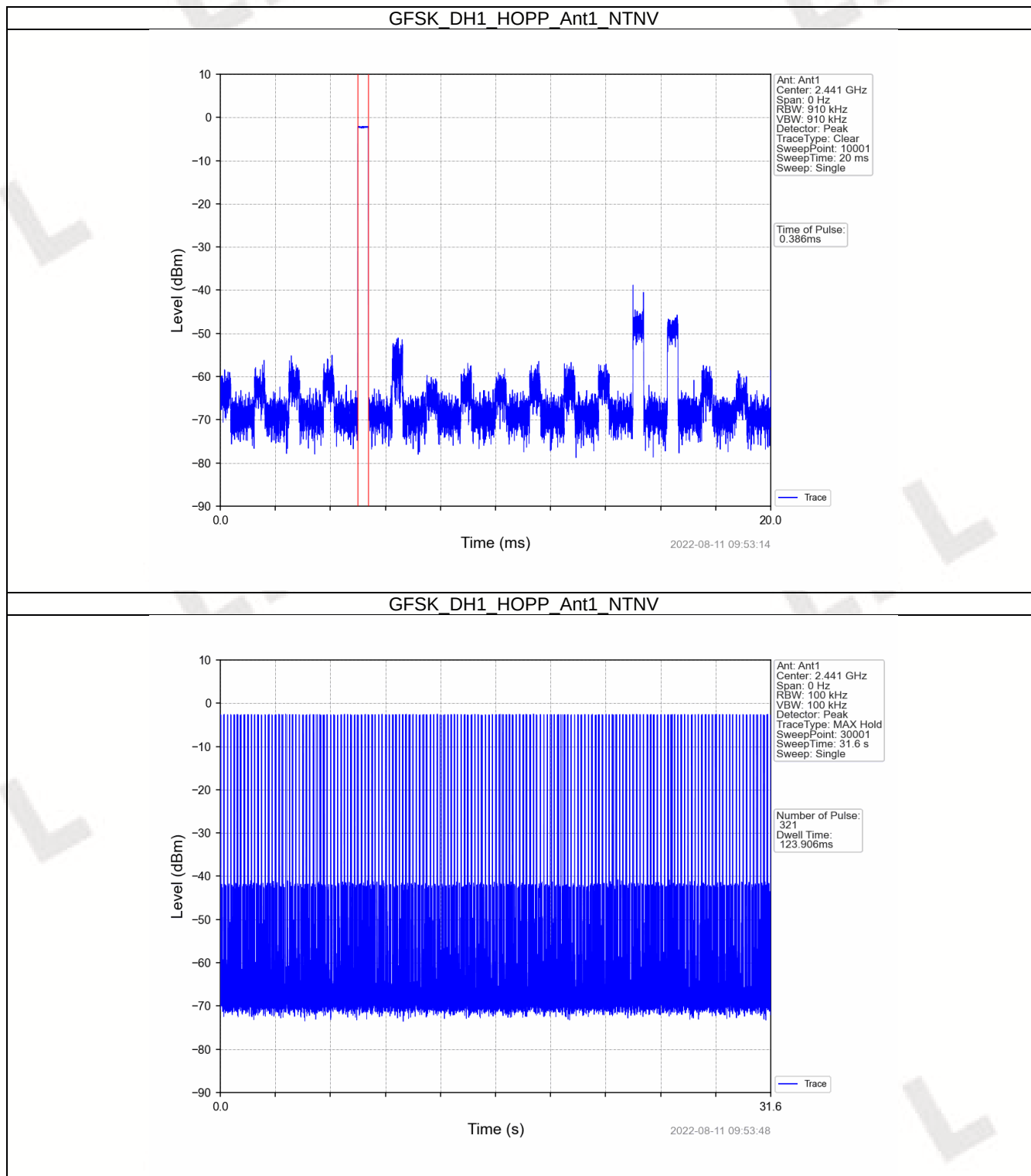
5. Time of Occupancy (Dwell Time)

5.1 Ant1

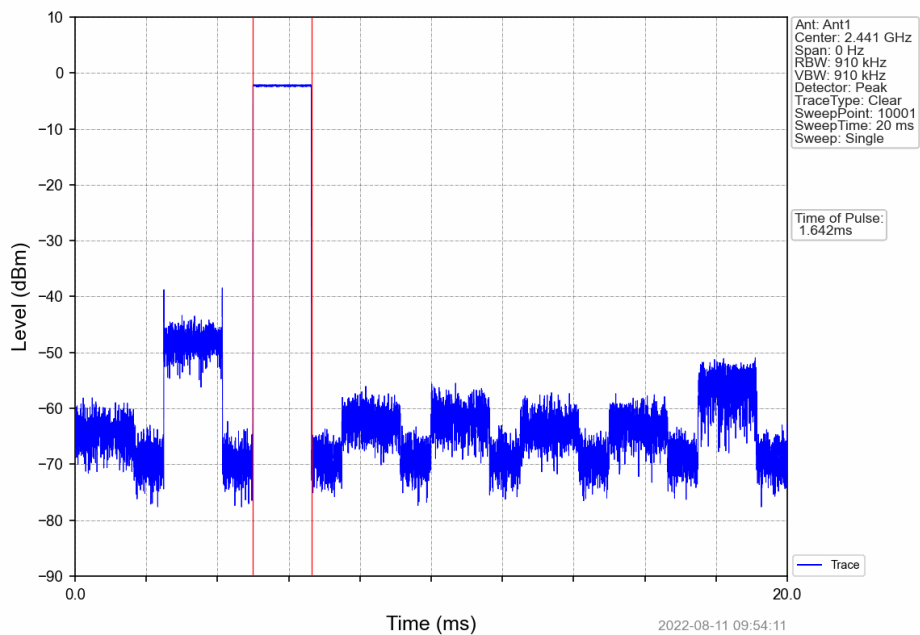
5.1.1 Test Result

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	0.386	31.600	321	123.906	<=400	Pass
			DH3	1.642	31.600	159	261.078	<=400	Pass
			DH5	2.896	31.600	113	327.248	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.394	31.600	319	125.686	<=400	Pass
			2DH3	1.646	31.600	156	256.776	<=400	Pass
			2DH5	2.896	31.600	108	312.768	<=400	Pass
8DPSK	SISO	HOPP	3DH1	6.672	31.600	51	340.272	<=400	Pass
			3DH3	0.658	31.600	159	104.622	<=400	Pass
			3DH5	0.904	31.600	113	102.152	<=400	Pass

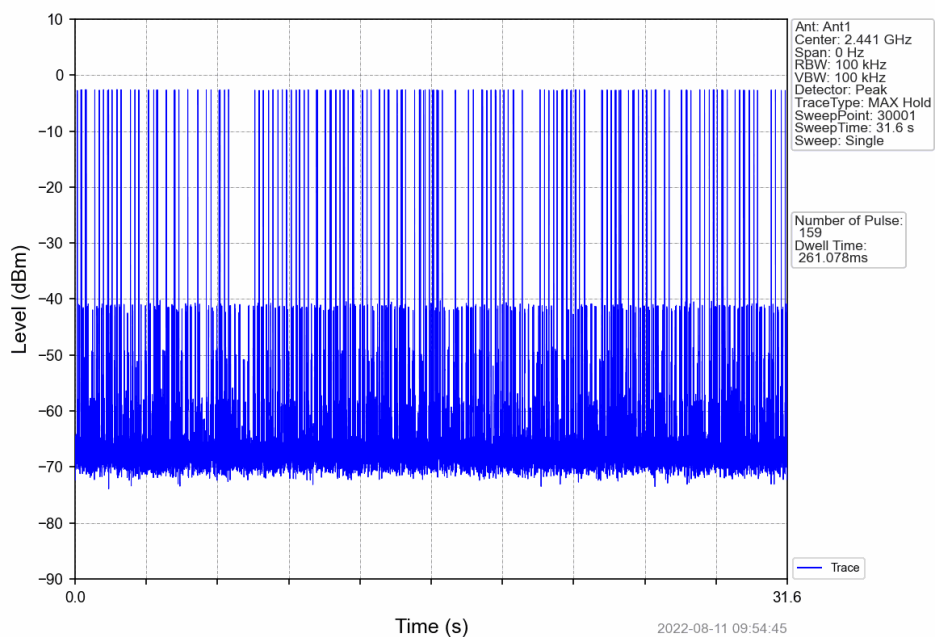
5.1.2 Test Graph



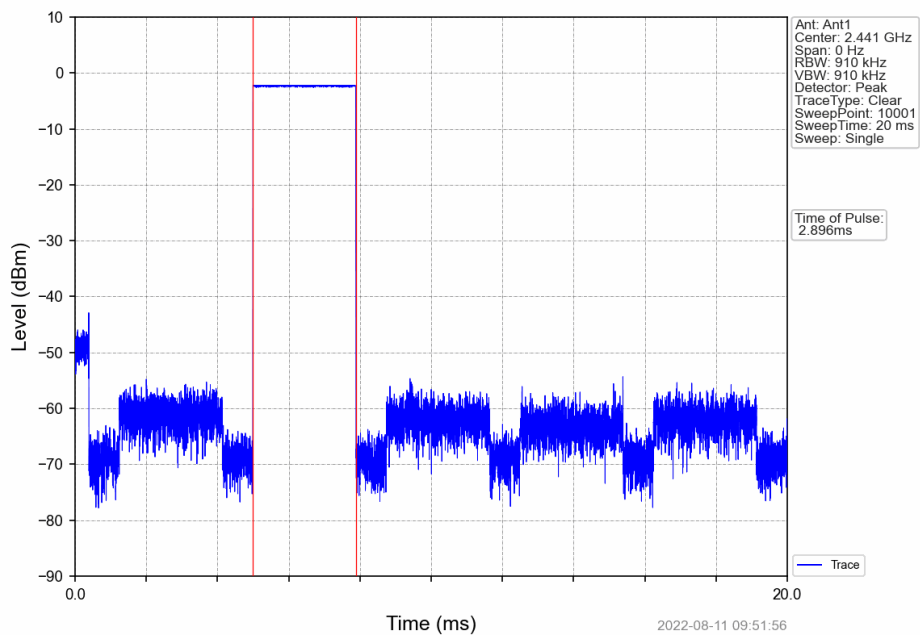
GFSK DH3 HOPP Ant1 NTN



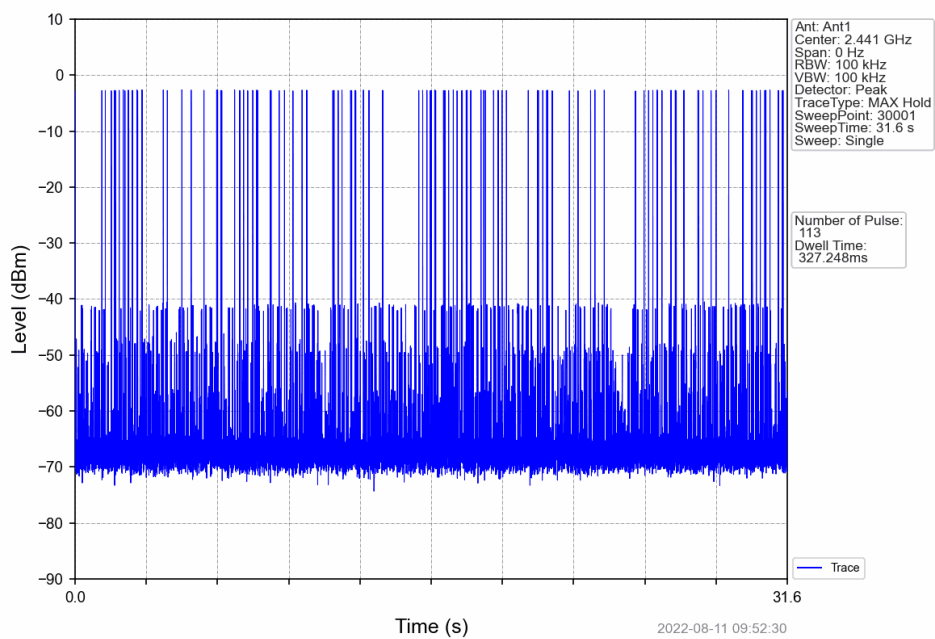
GFSK_DH3_HOPP_Ant1_NTNV



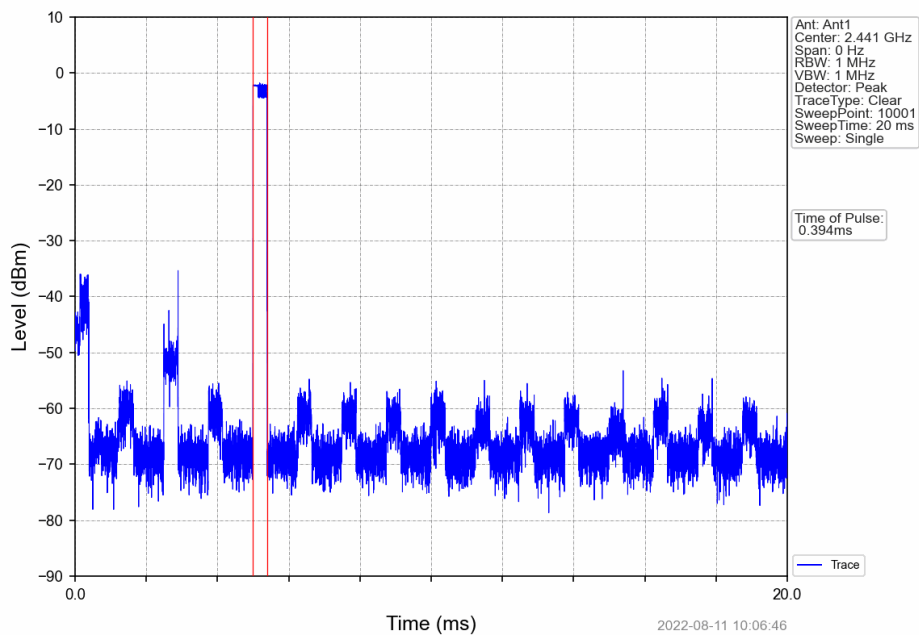
GFSK DH5 HOPP Ant1 NTN



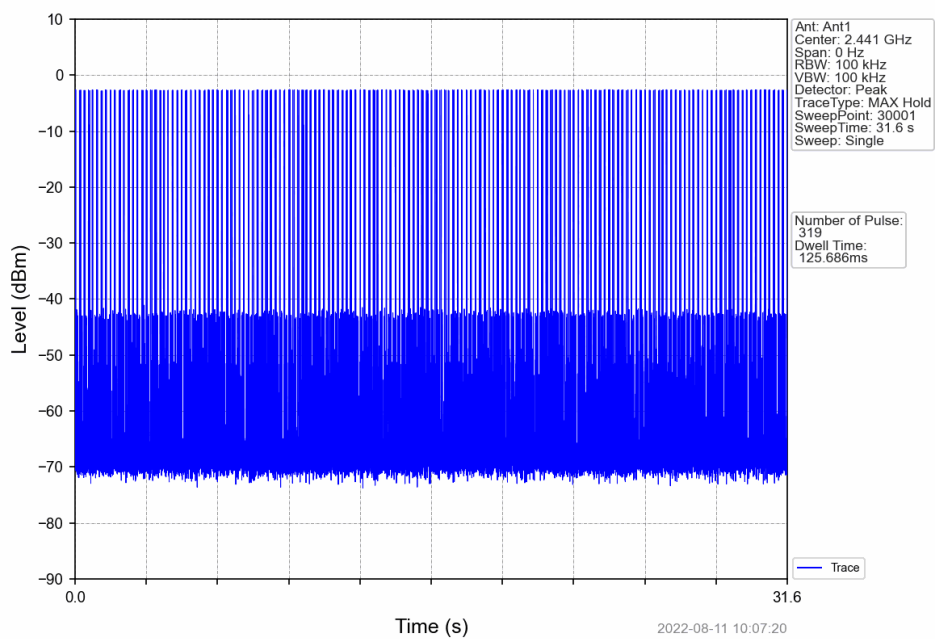
GFSK_DH5_HOPP_Ant1_NTNV



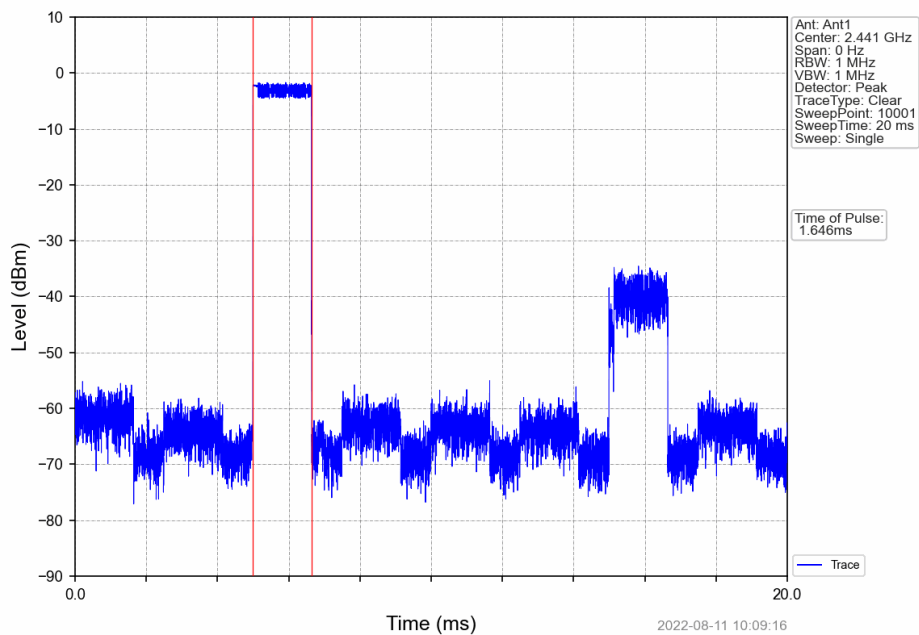
Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV



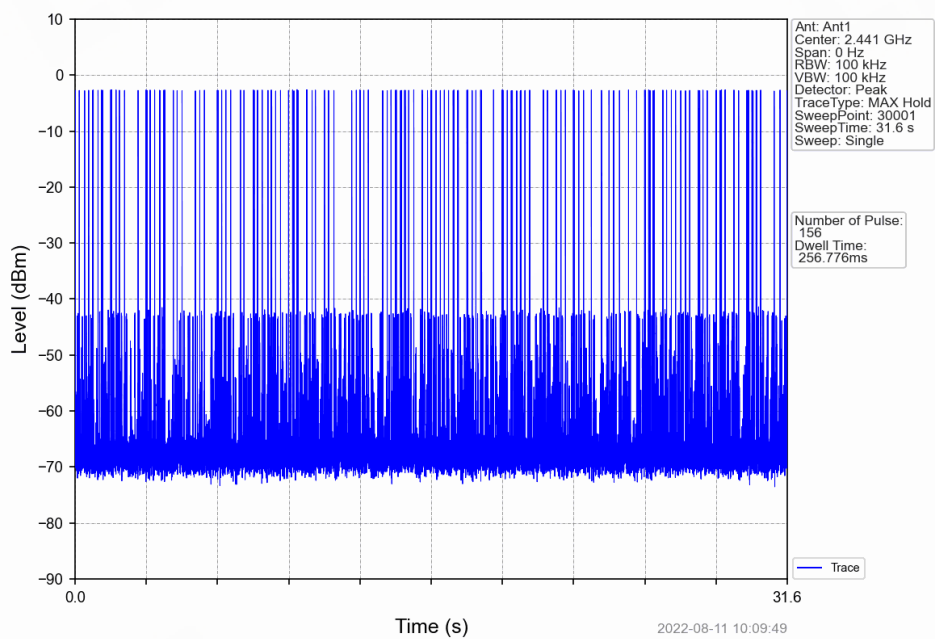
Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV



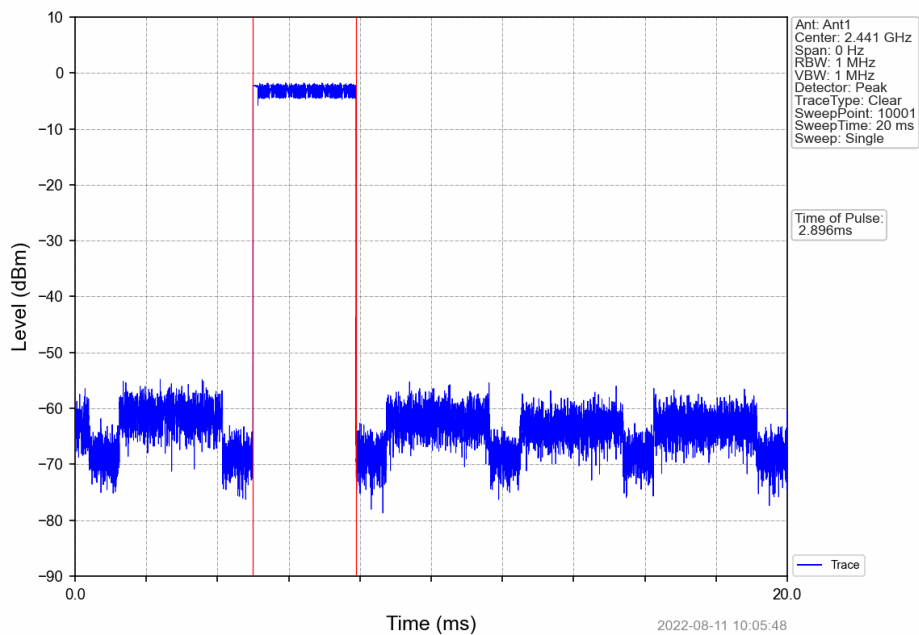
Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV



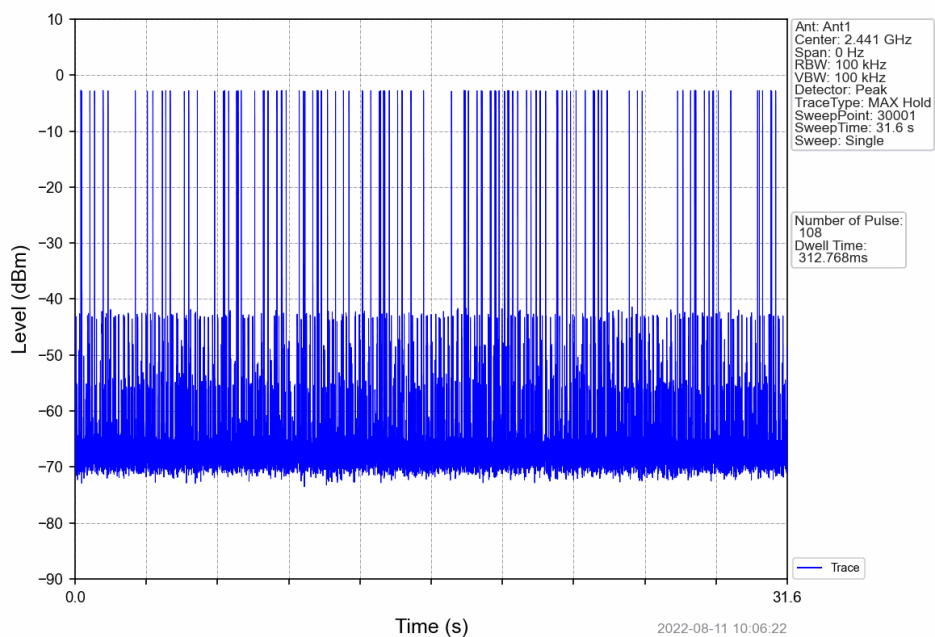
Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV



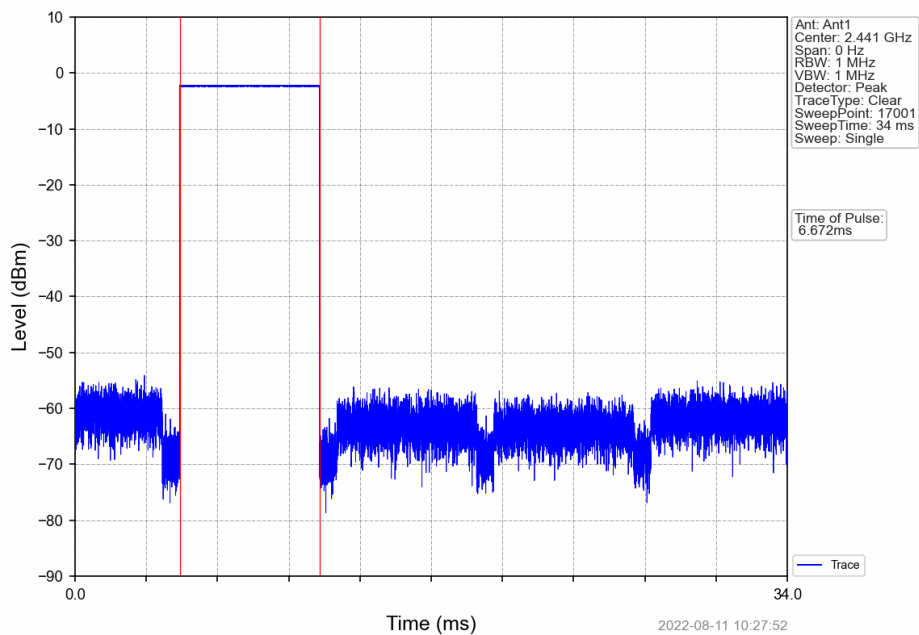
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



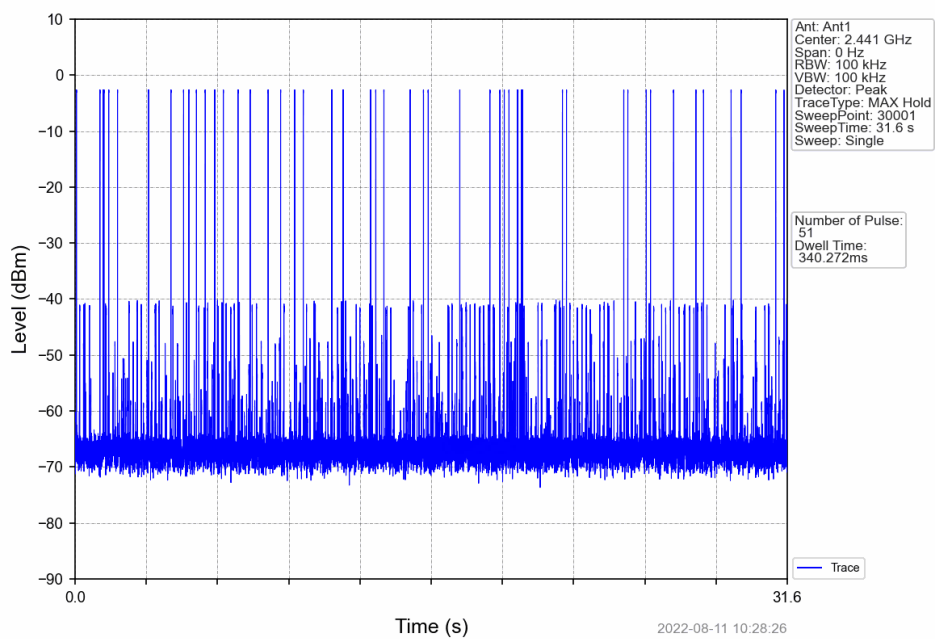
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



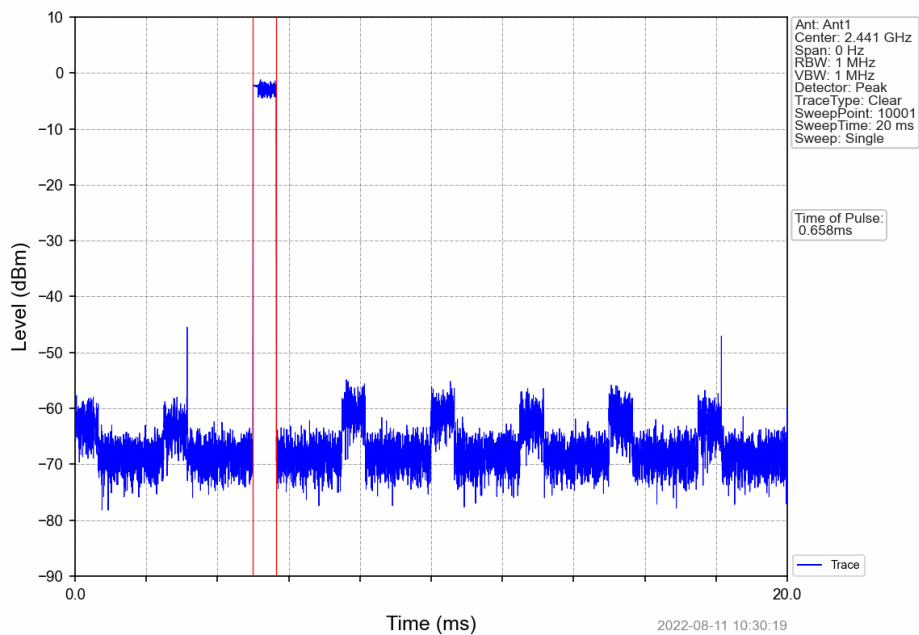
8DPSK 3DH1 HOPP Ant1 NTN



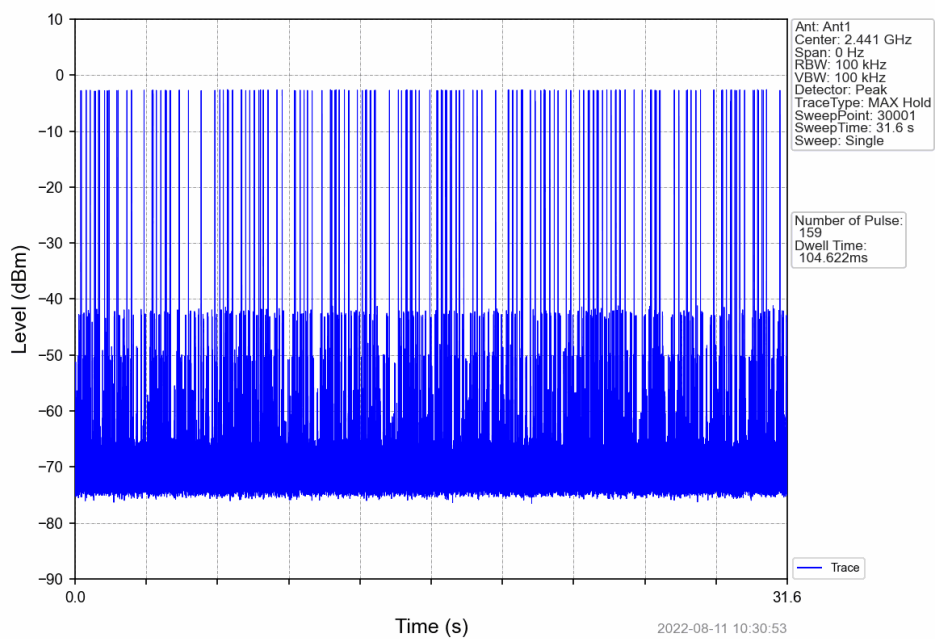
8DPSK 3DH1 HOPP Ant1 NTN



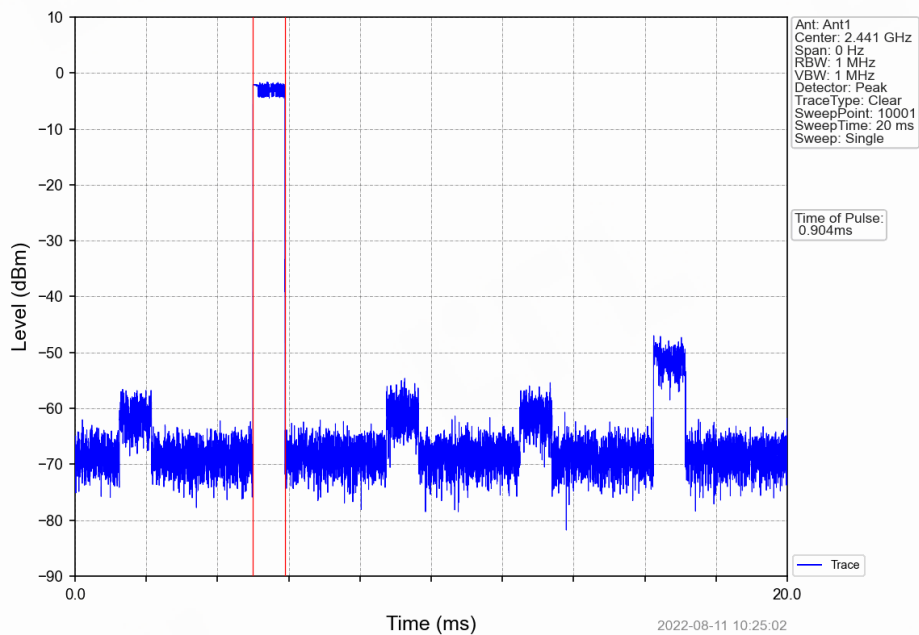
8DPSK 3DH3 HOPP Ant1 NTN



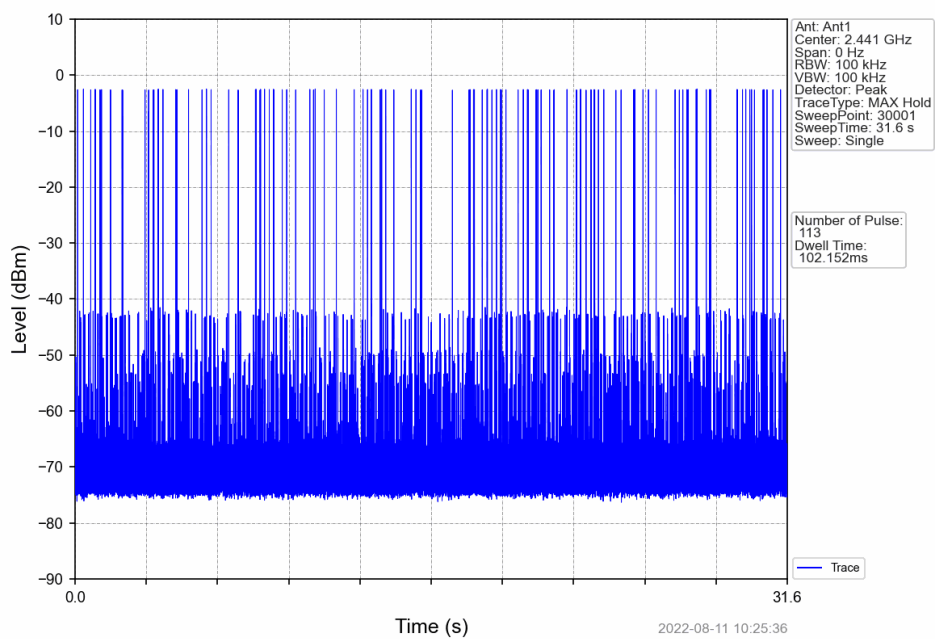
8DPSK 3DH3 HOPP Ant1 NTN



8DPSK 3DH5 HOPP Ant1 NTN



8DPSK 3DH5 HOPP Ant1 NTN



6. Unwanted Emissions InStandard Non-restricted Frequency Bands

6.1 Ref

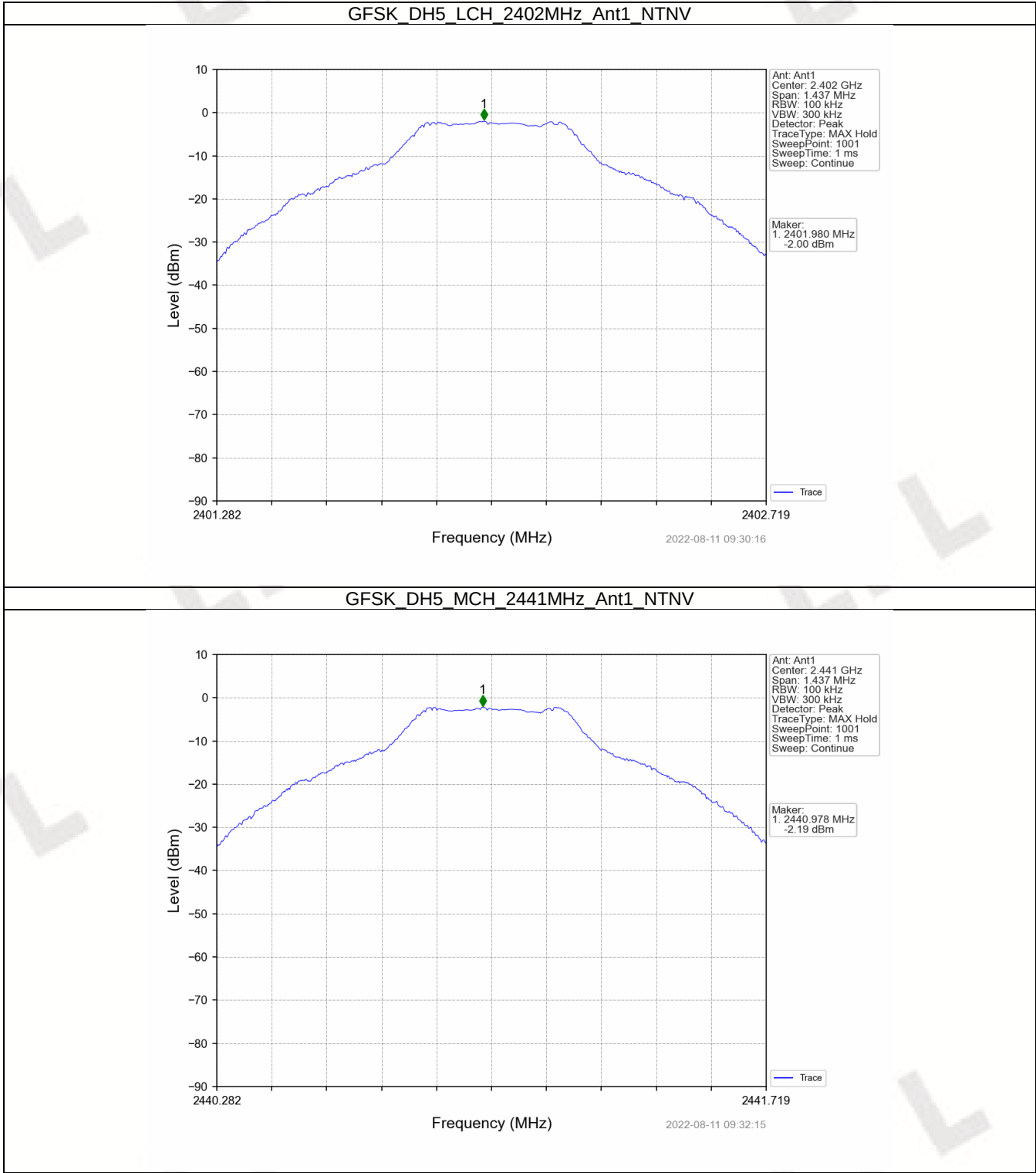
6.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	-2.00
		2441	DH5	1	-2.19
		2480	DH5	1	-3.06
Pi/4DQPSK	SISO	2402	2DH5	1	-1.85
		2441	2DH5	1	-2.09
		2480	2DH5	1	-2.97
8DPSK	SISO	2402	3DH5	1	-1.75
		2441	3DH5	1	-1.96
		2480	3DH5	1	-2.85

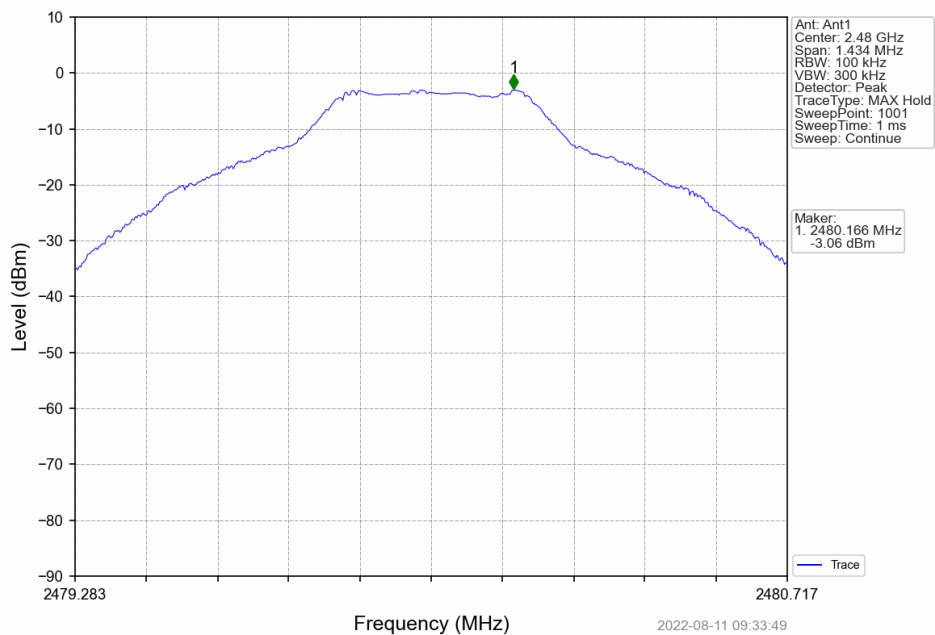
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

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.

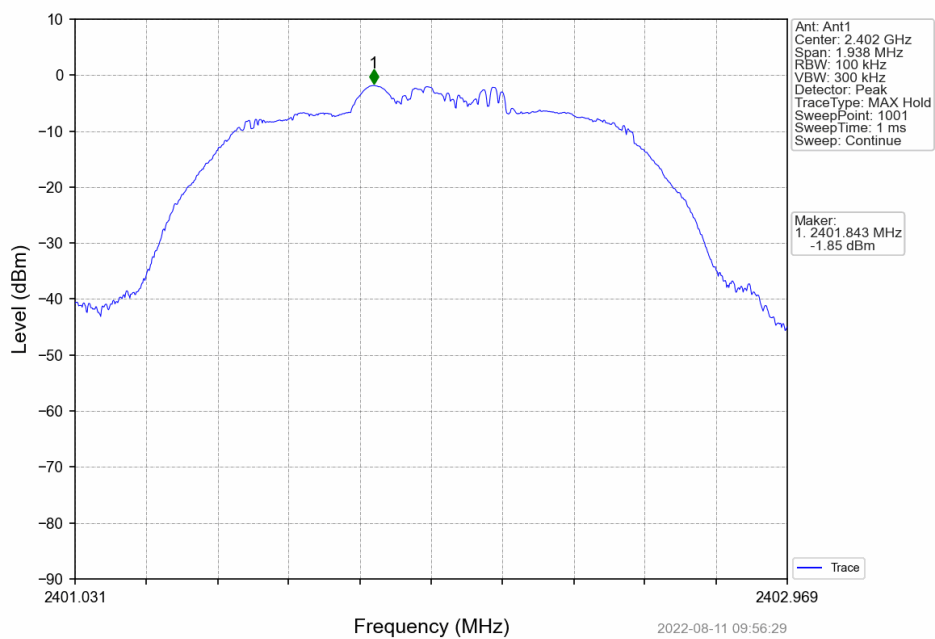
6.1.2 Test Graph



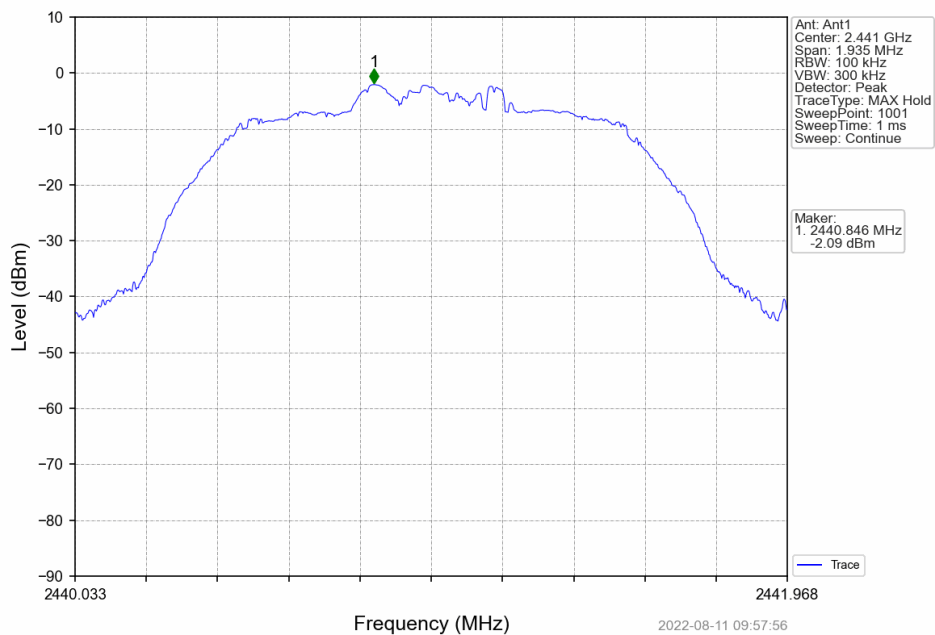
GFSK DH5 HCH 2480MHz Ant1 NTN



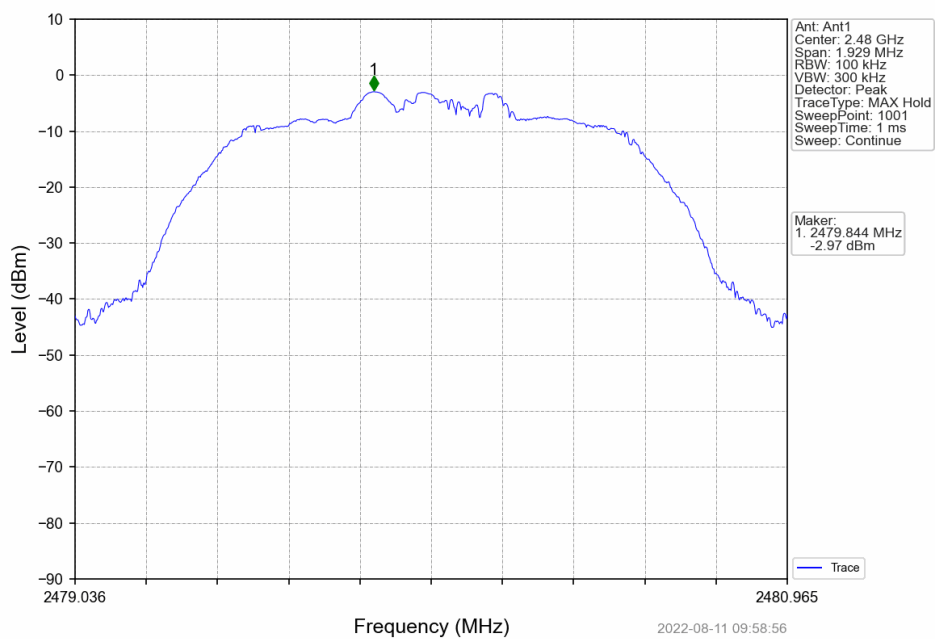
Pi/4DQPSK 2DH5 LCH 2402MHz Ant1 NTN



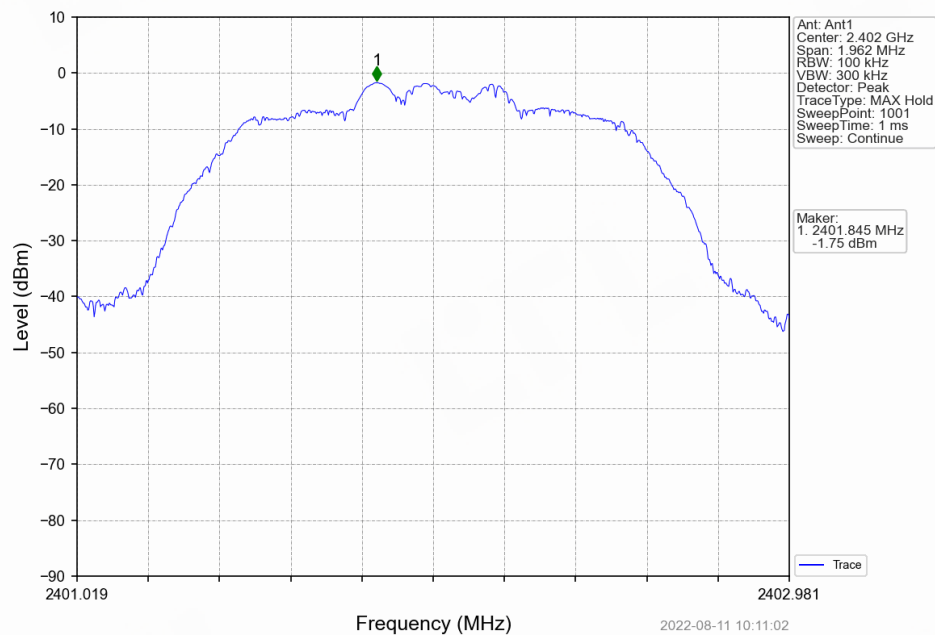
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



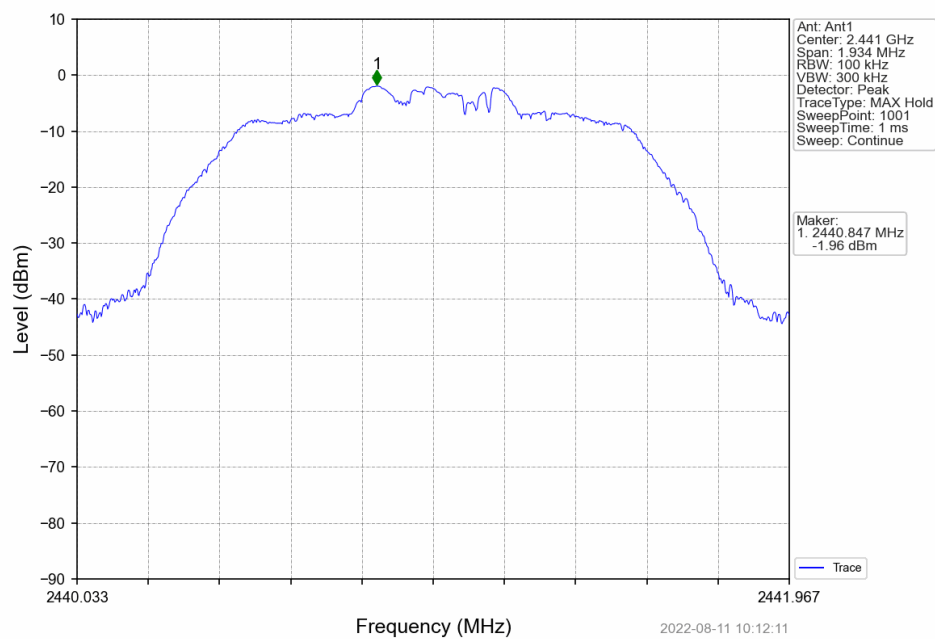
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

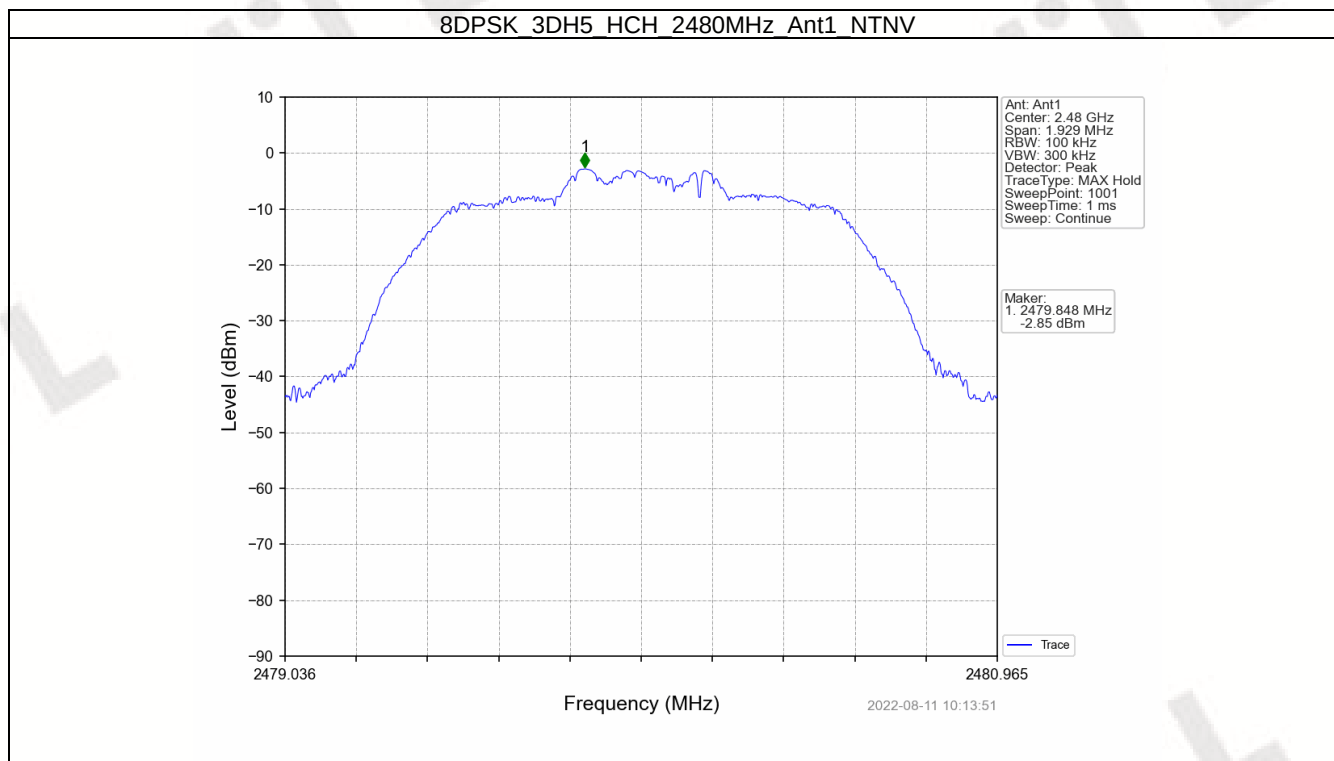


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV





6.2 CSE

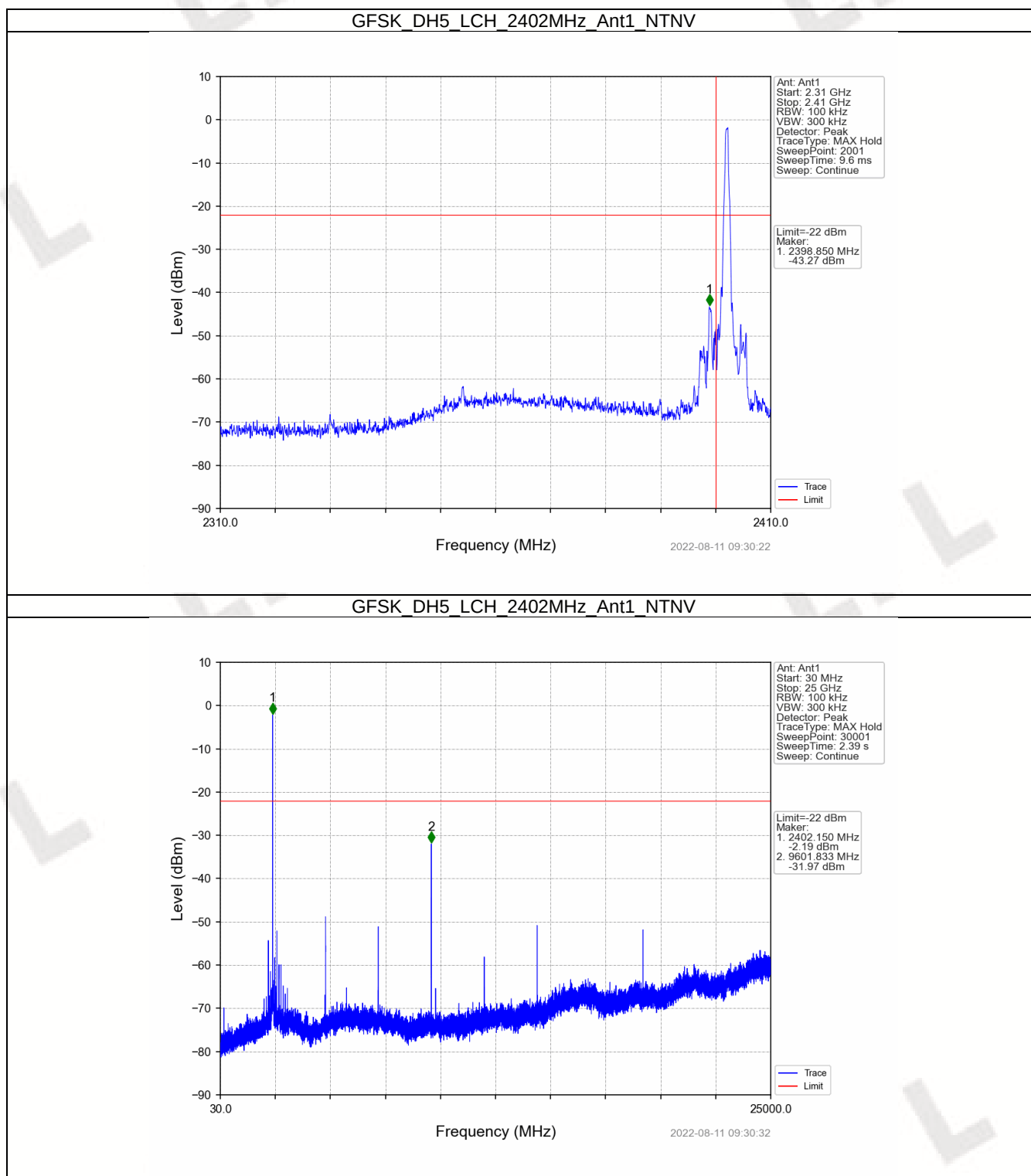
6.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-2.00	-22.00	Pass
		2441	DH5	1	-2.00	-22.00	Pass
		2480	DH5	1	-2.00	-22.00	Pass
		HOPP	DH5	1	-2.00	-22.00	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-1.85	-21.85	Pass
		2441	2DH5	1	-1.85	-21.85	Pass
		2480	2DH5	1	-1.85	-21.85	Pass
		HOPP	2DH5	1	-1.85	-21.85	Pass
8DPSK	SISO	2402	3DH5	1	-1.75	-21.75	Pass
		2441	3DH5	1	-1.75	-21.75	Pass
		2480	3DH5	1	-1.75	-21.75	Pass
		HOPP	3DH5	1	-1.75	-21.75	Pass

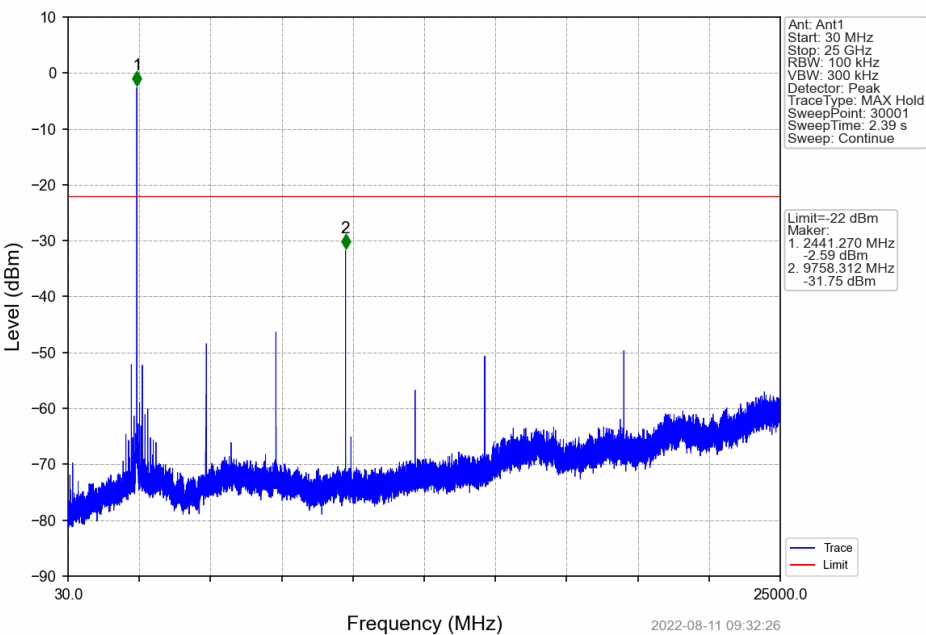
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

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.

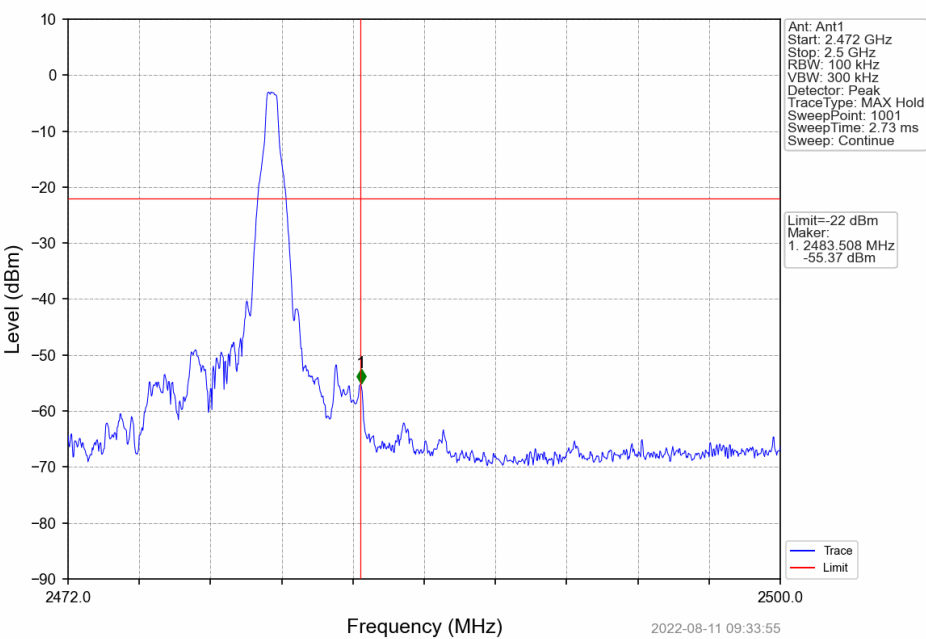
6.2.2 Test Graph

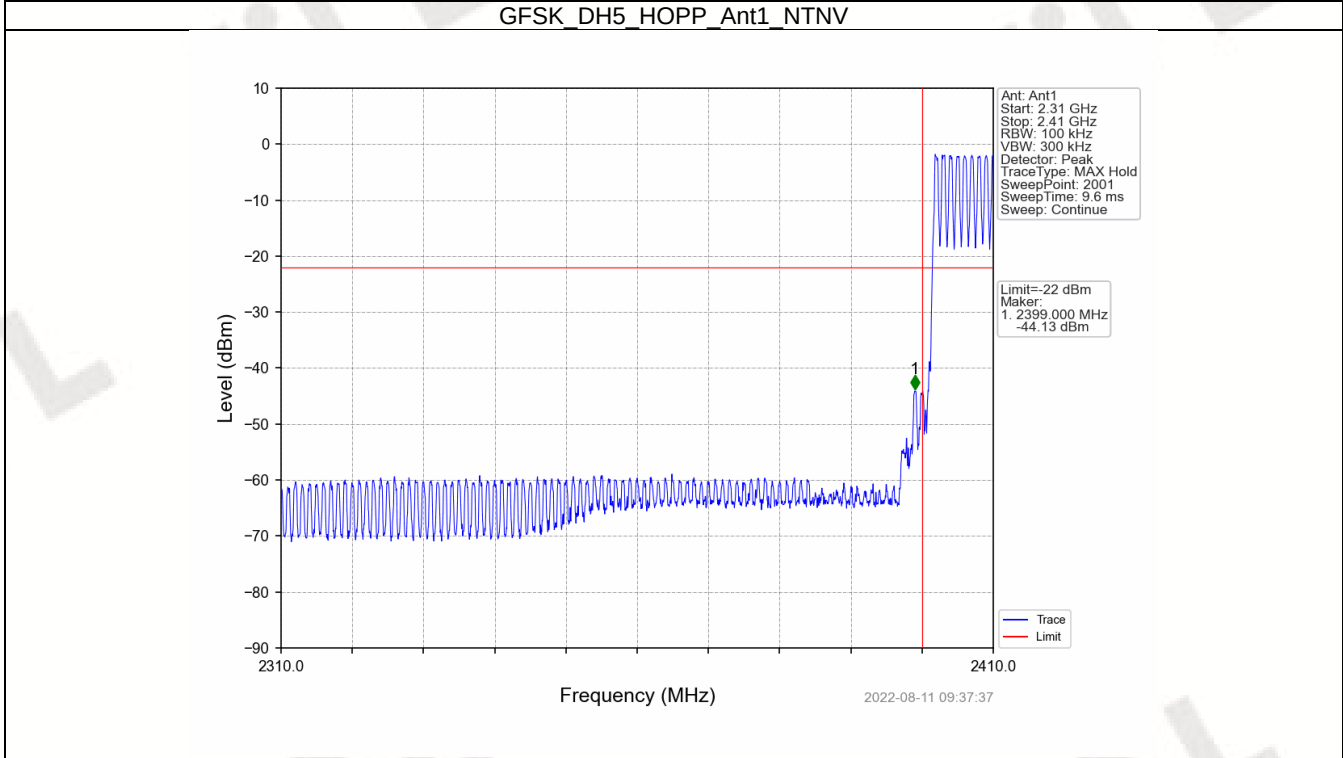
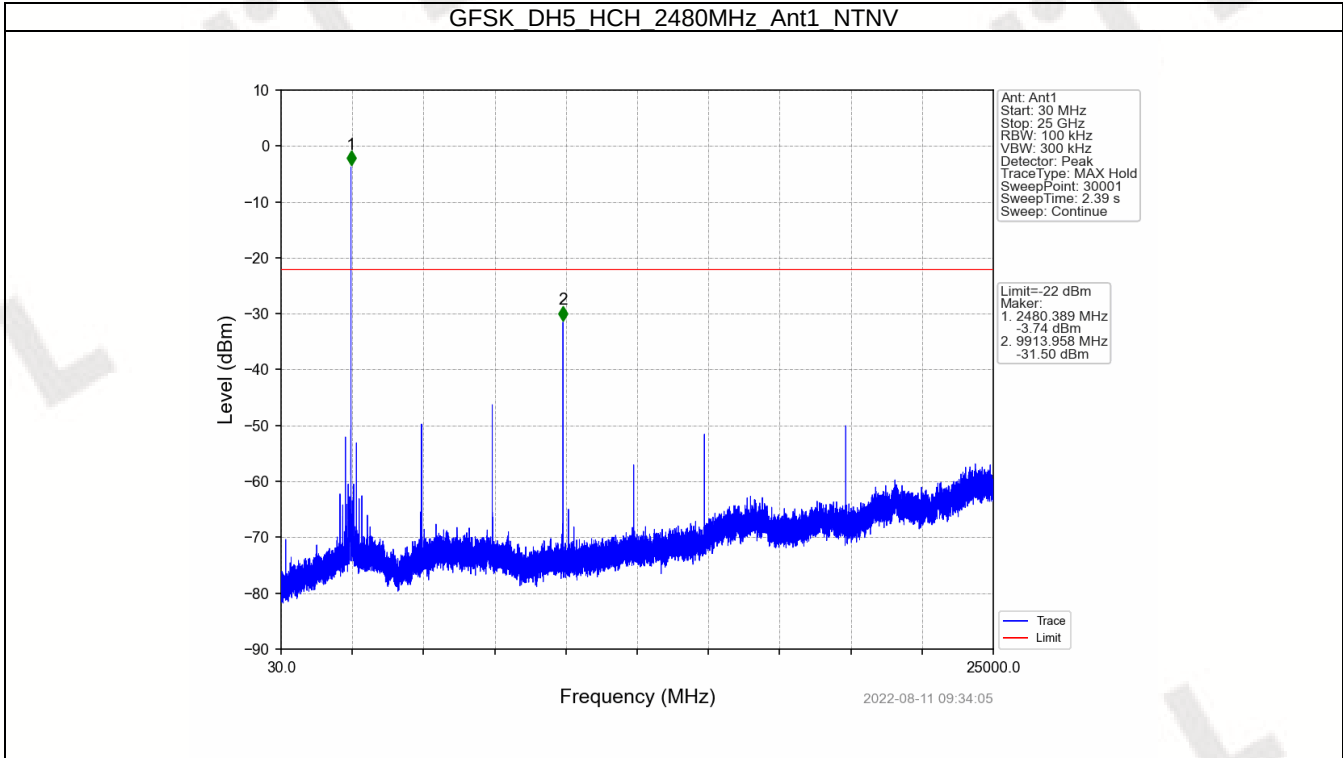


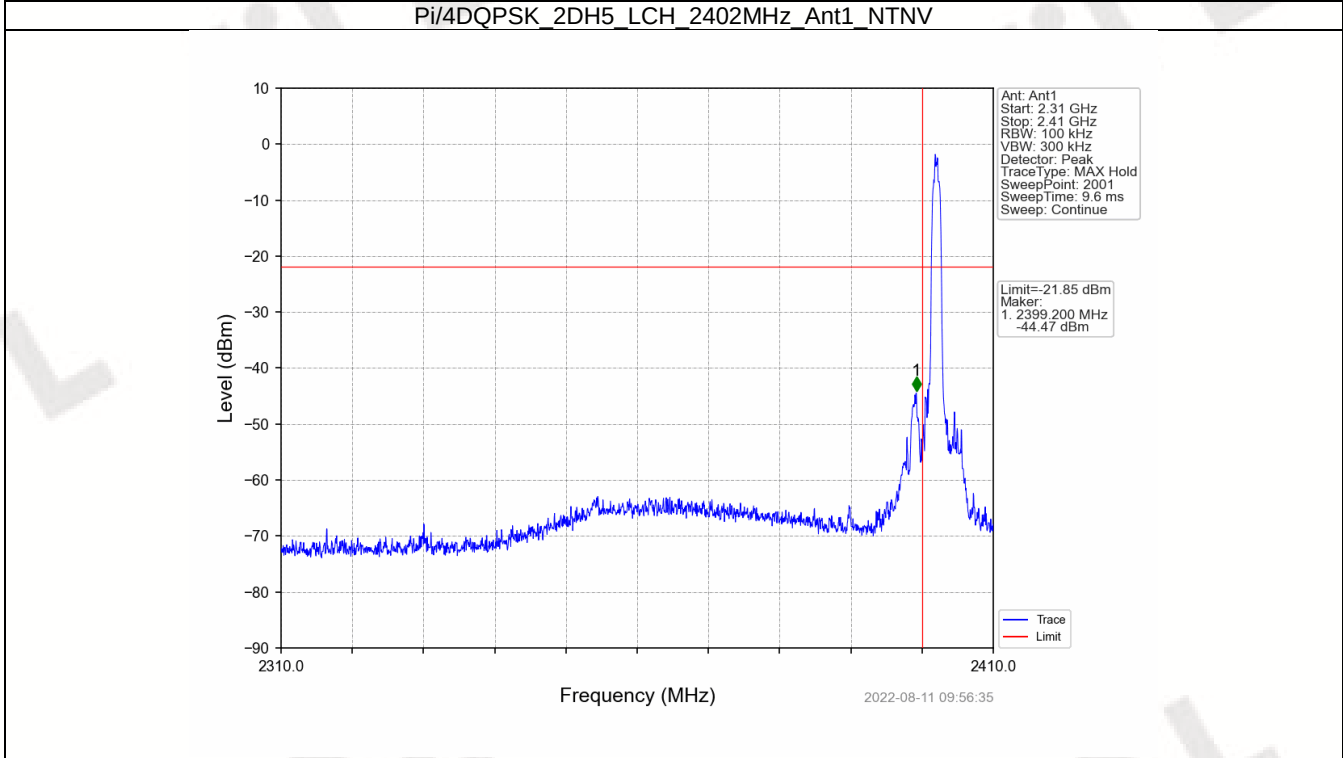
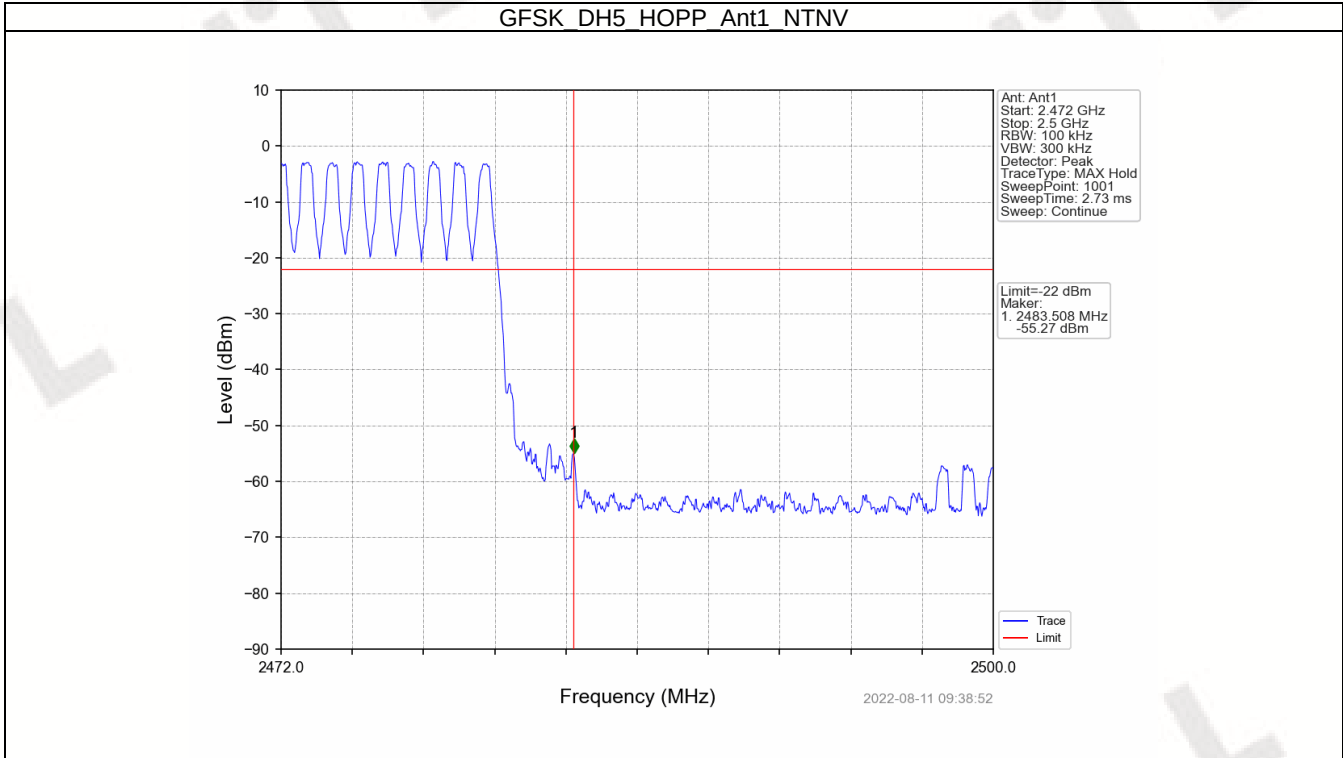
GFSK DH5 MCH 2441MHz Ant1 NTN



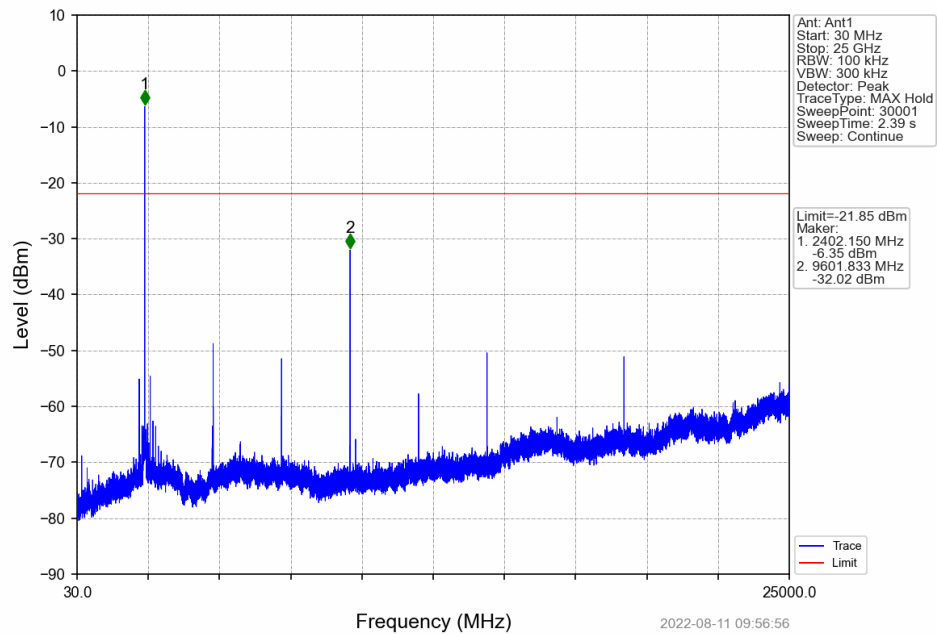
GFSK_DH5_HCH_2480MHz_Ant1_NTN



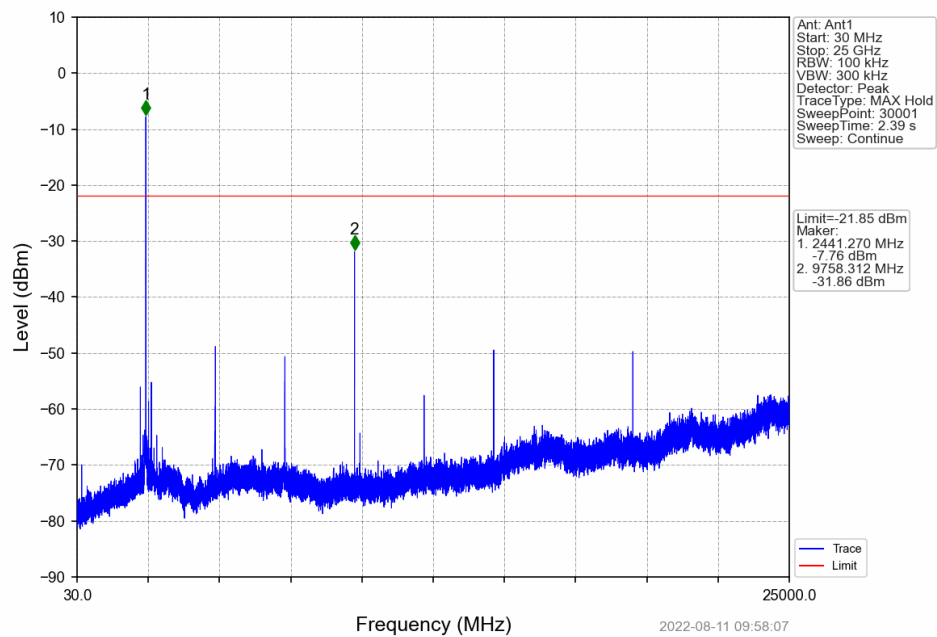




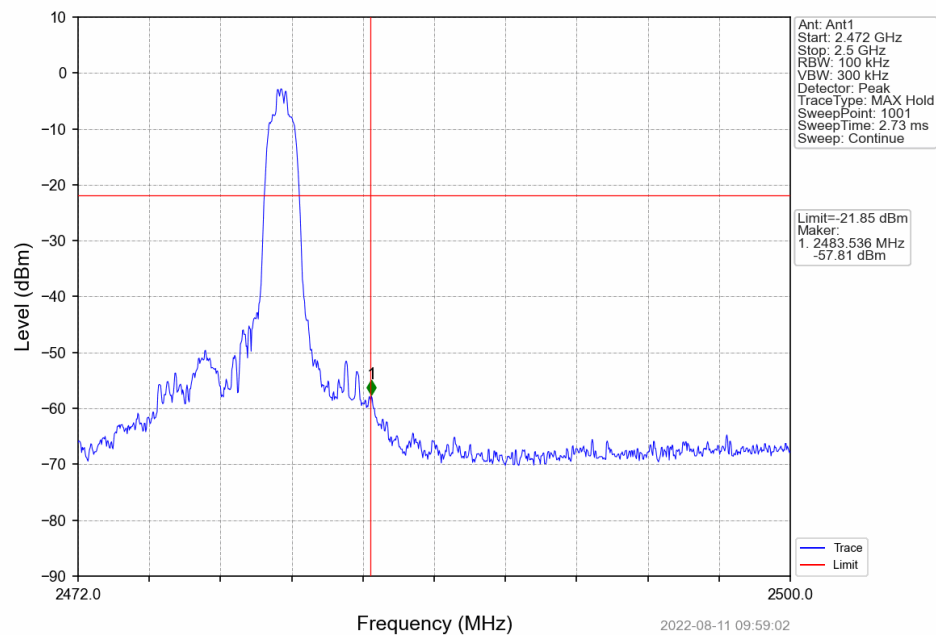
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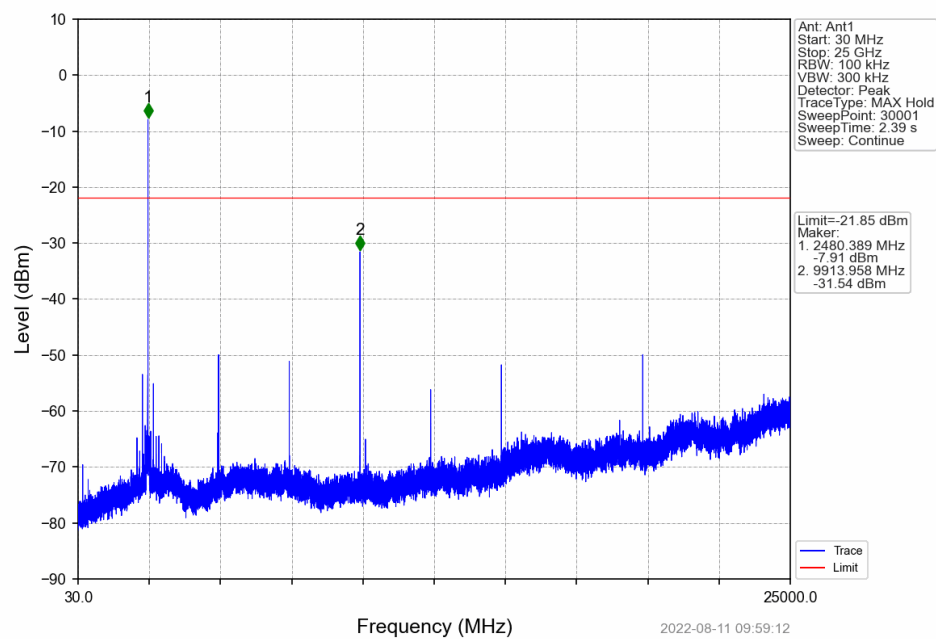
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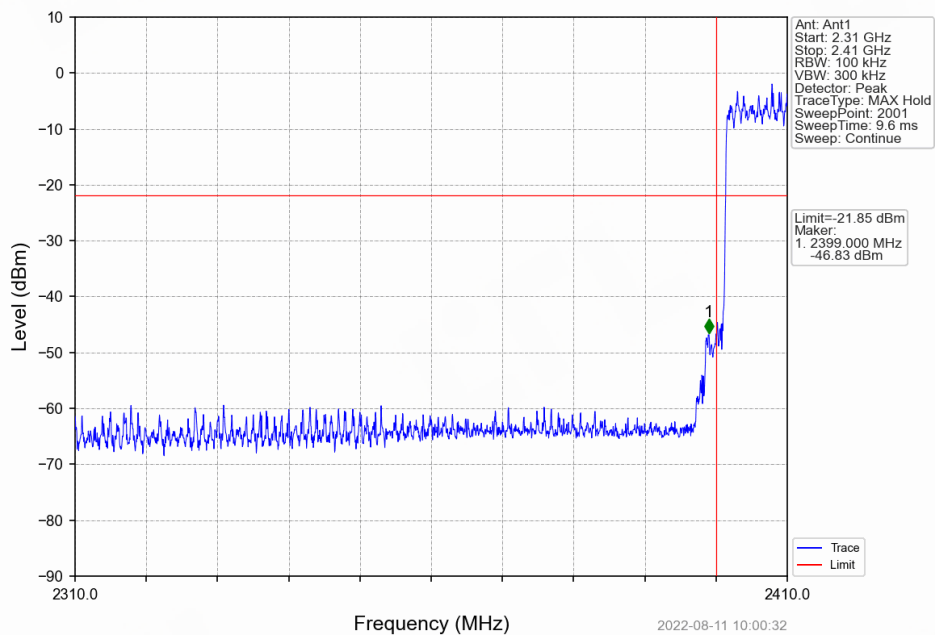
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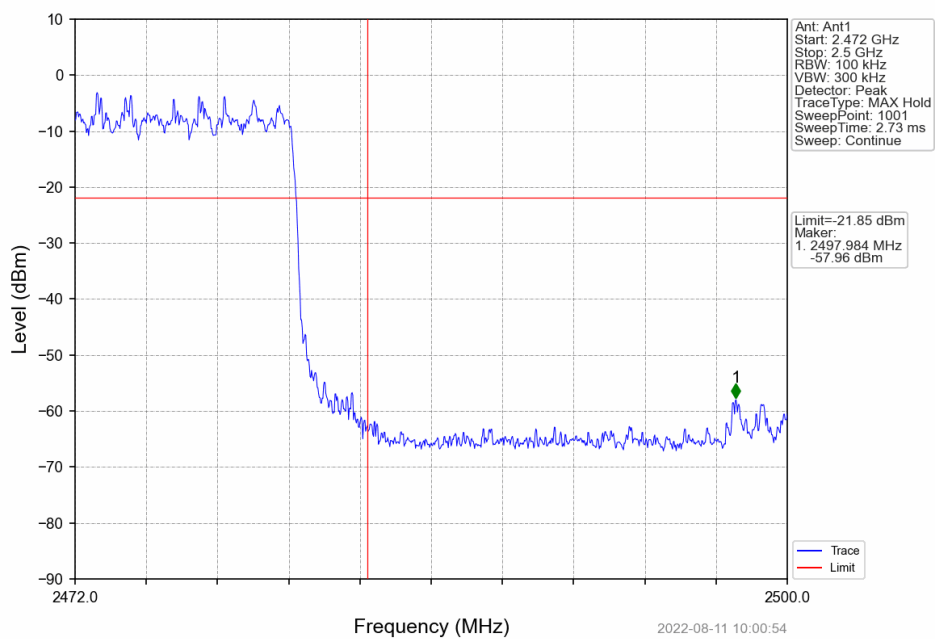
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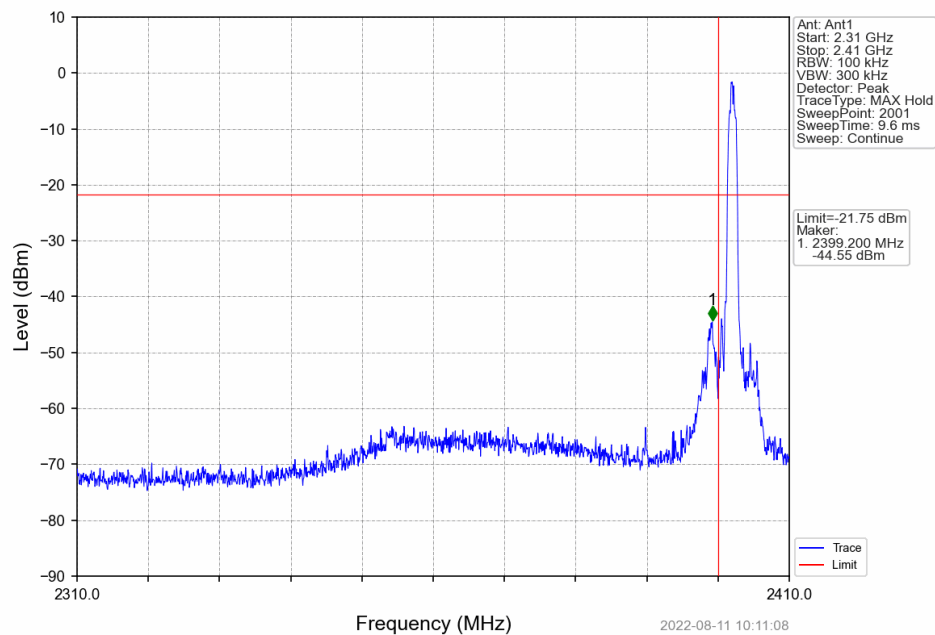
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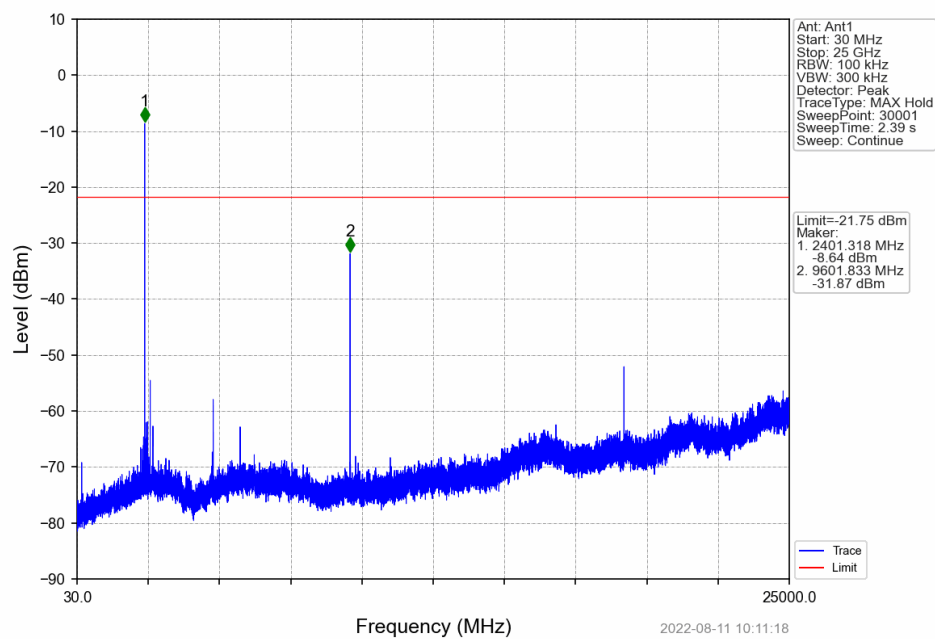
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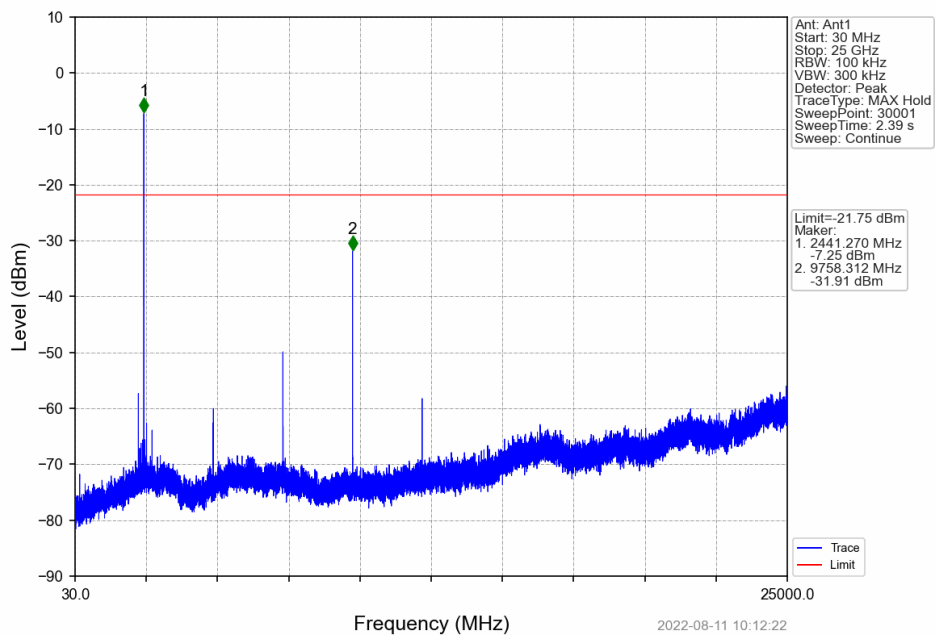
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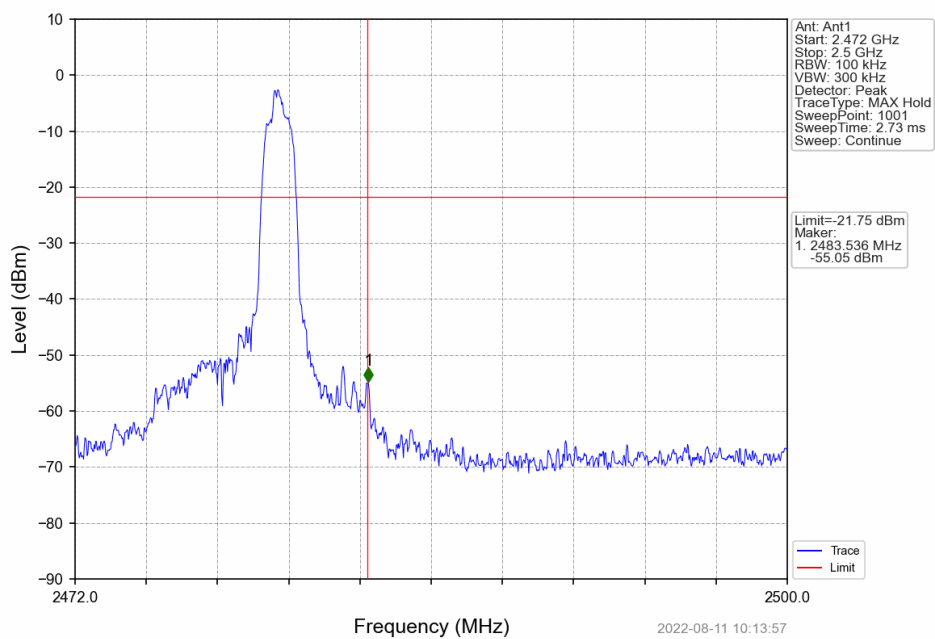
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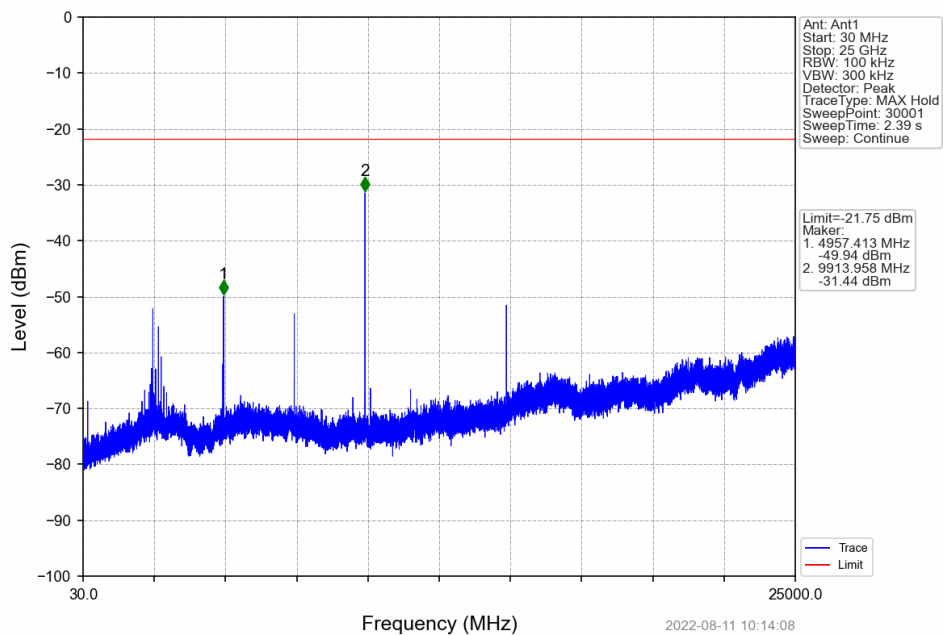
8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



8DPSK 3DH5 HCH 2480MHz Ant1 NTN



8DPSK 3DH5 HOPP Ant1 NTN

