

ANNEX D

Test Report

For

Project No.:	8135EU010414W
Client:	Shenzhen Telmall Electronic Co., Ltd
Manufacturer:	Shenzhen Telmall Electronic Co., Ltd
Product Description:	Dual 10 inches Party Speaker / T1021
Test Engineer:	<i>Mikey zhu</i>
Test Date:	2023-12-11

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Carrier Frequency Separation	Pass
Number of Hopping Frequencies	Pass
Time of Occupancy (Dwell Time)	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass

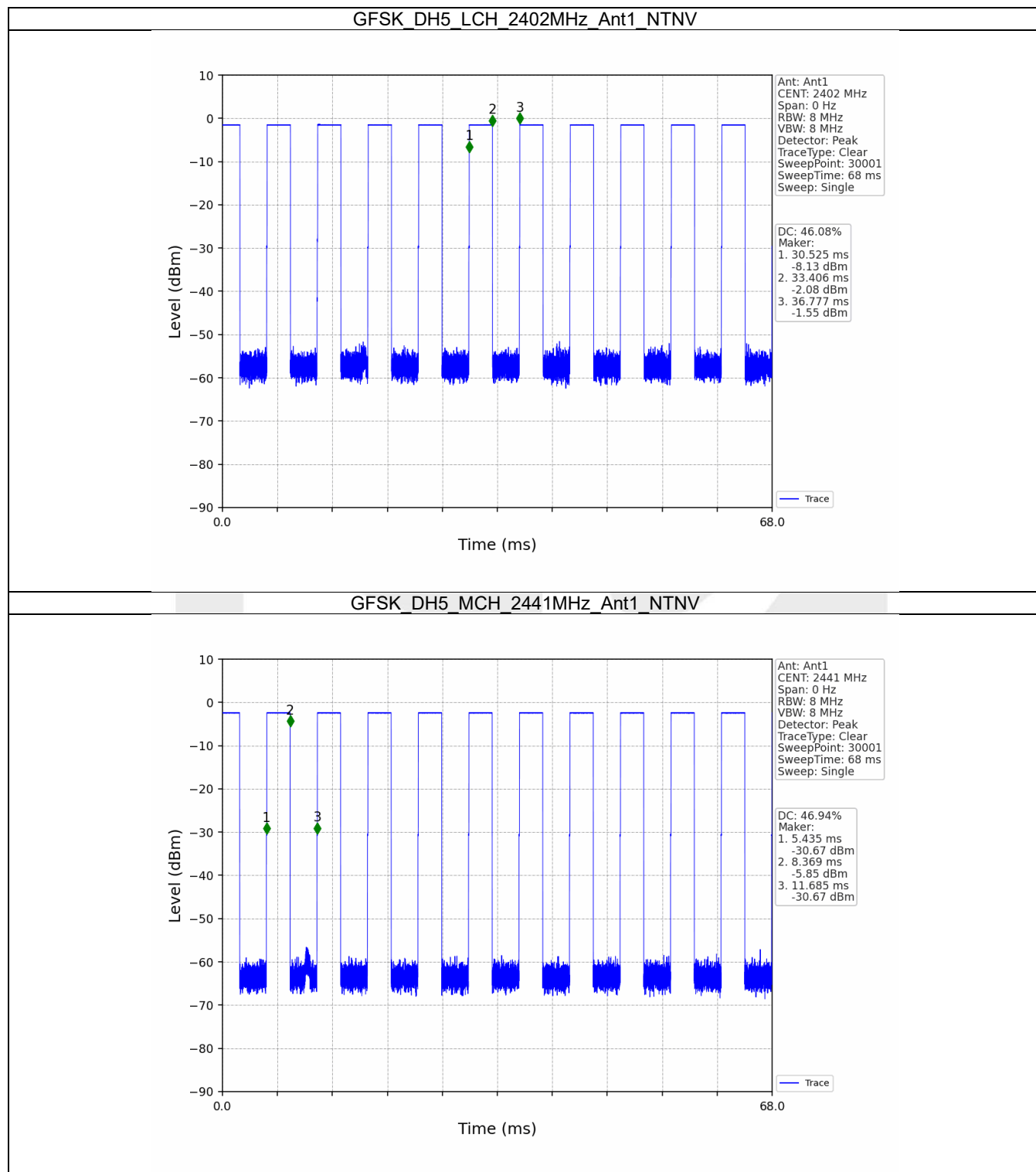
1. Duty Cycle

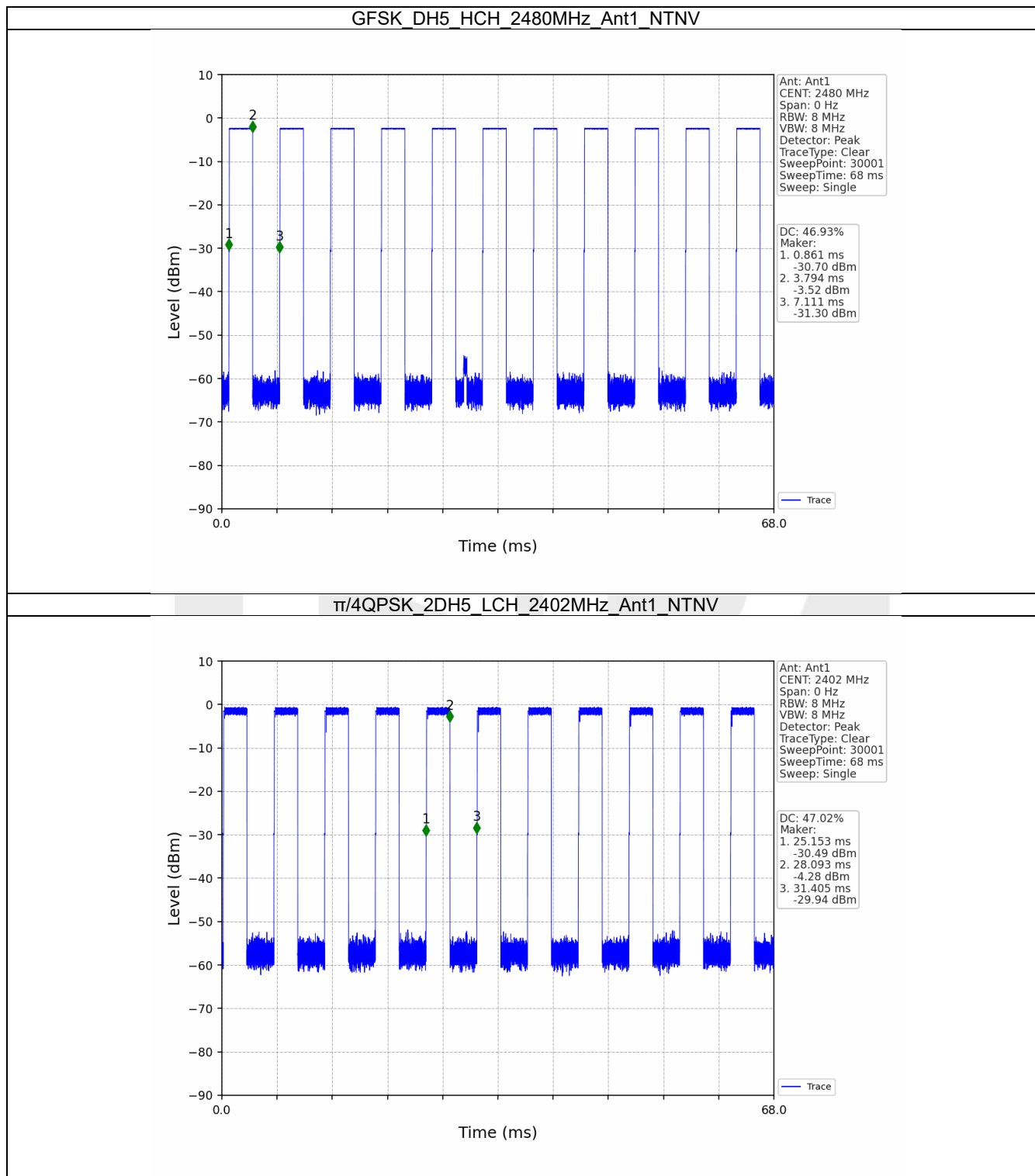
1.1 Ant1

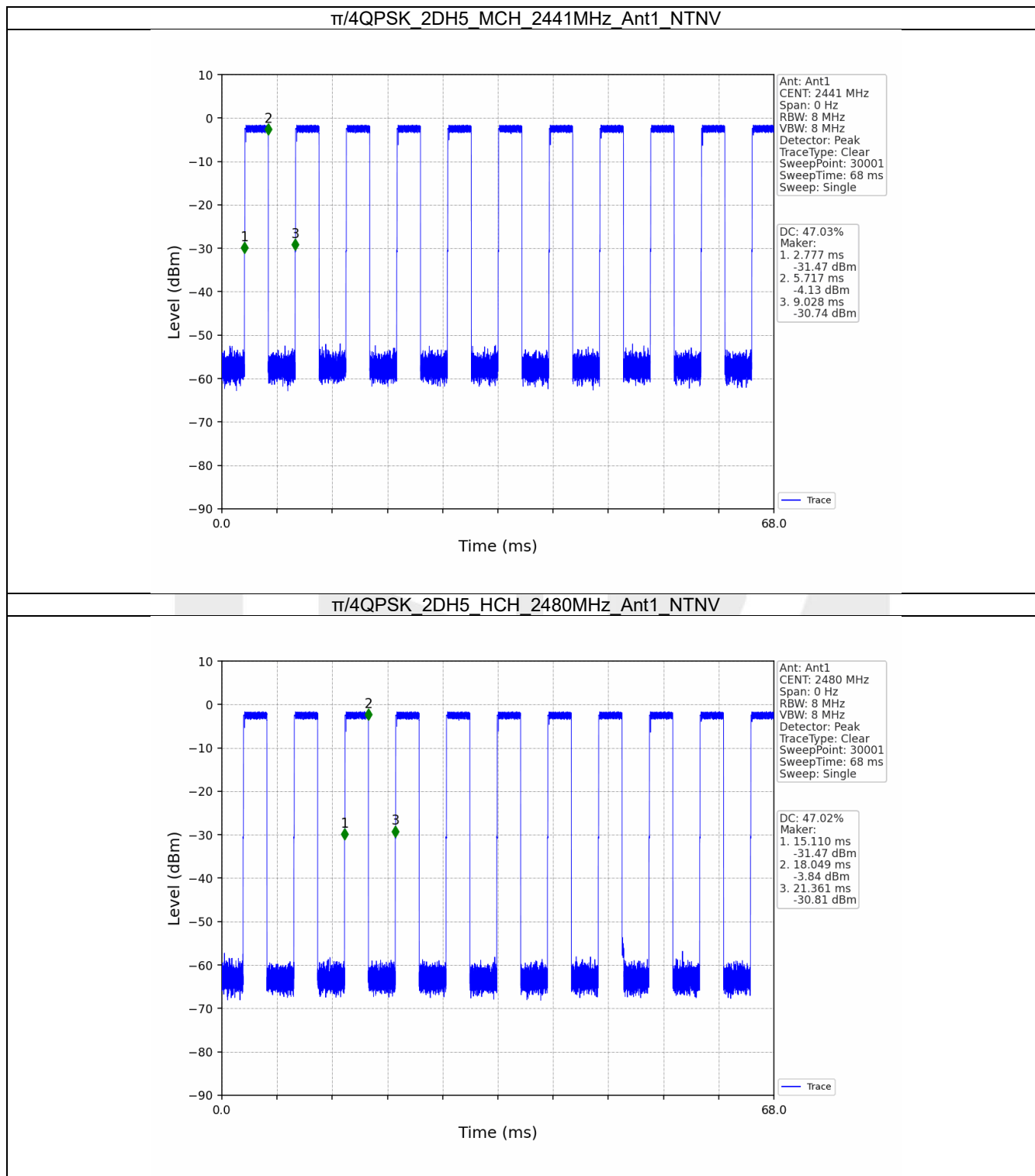
1.1.1 Test Result

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	2.881	6.252	46.08	3.36	0.04
		2441	DH5	2.934	6.250	46.94	3.28	0.04
		2480	DH5	2.933	6.250	46.93	3.29	0.02
$\pi/4$ QPSK	SISO	2402	2DH5	2.940	6.252	47.02	3.28	0.04
		2441	2DH5	2.940	6.251	47.03	3.28	0.04
		2480	2DH5	2.939	6.251	47.02	3.28	0.04

1.1.2 Test Graph







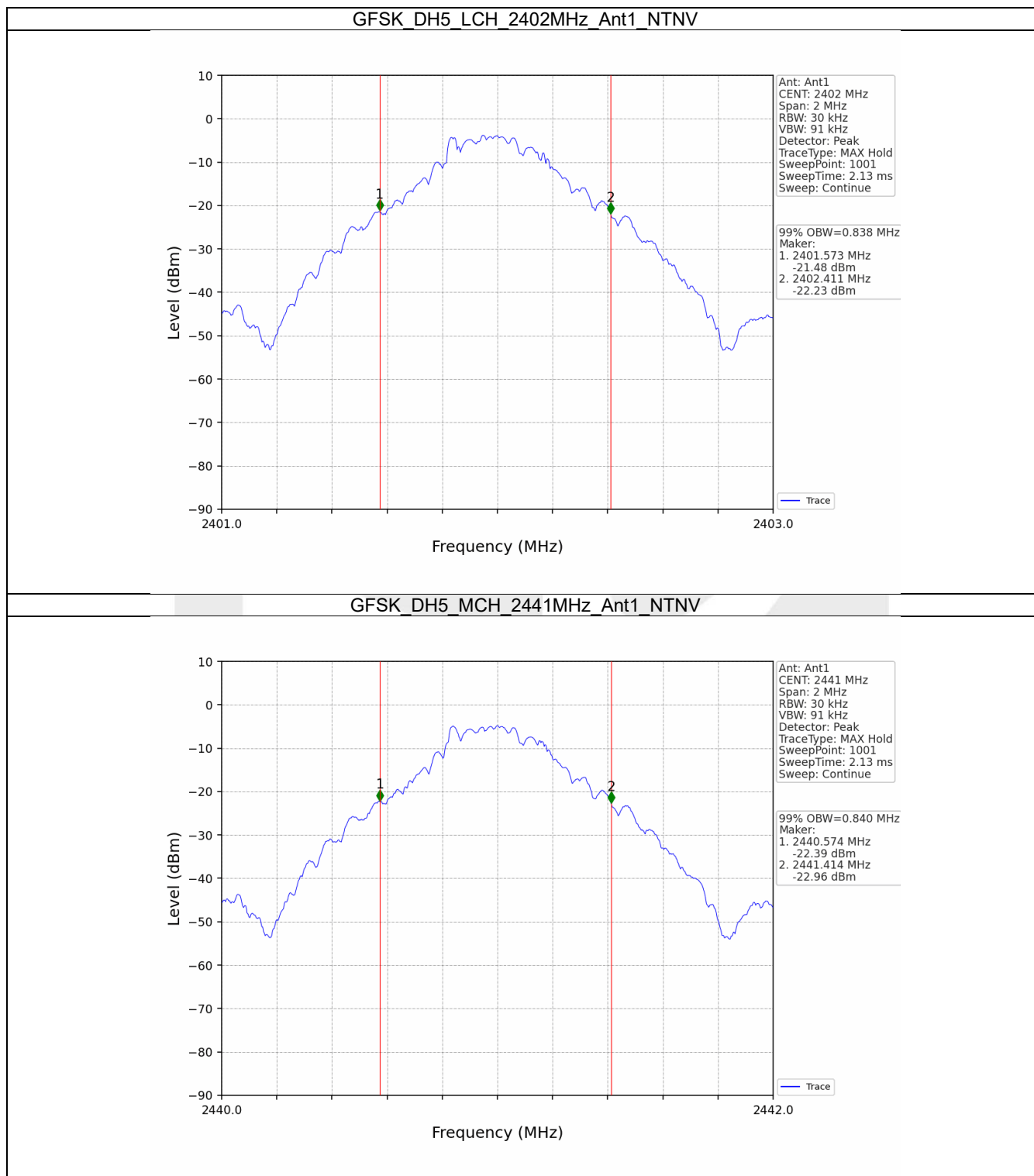
2. Bandwidth

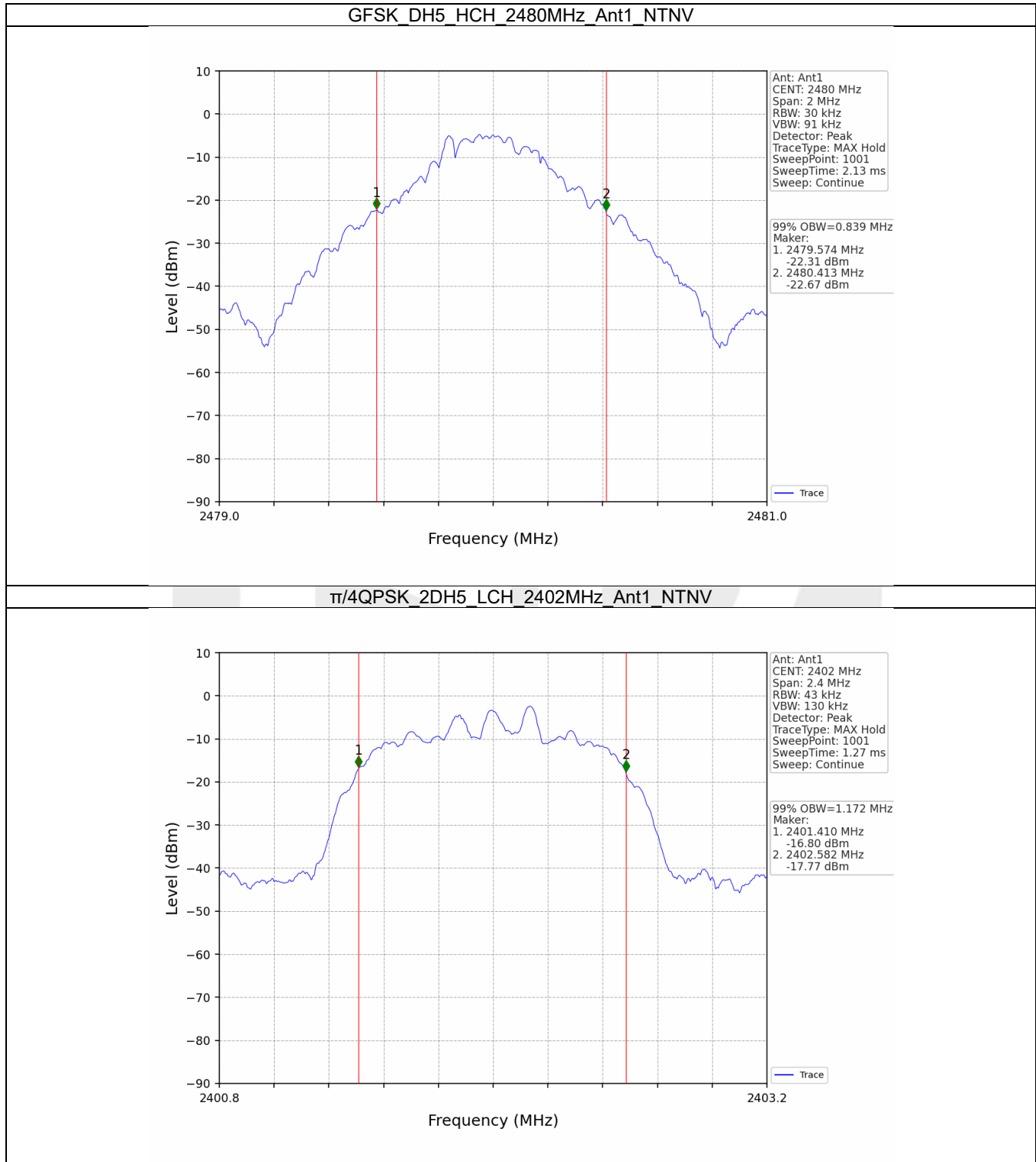
2.1 OBW

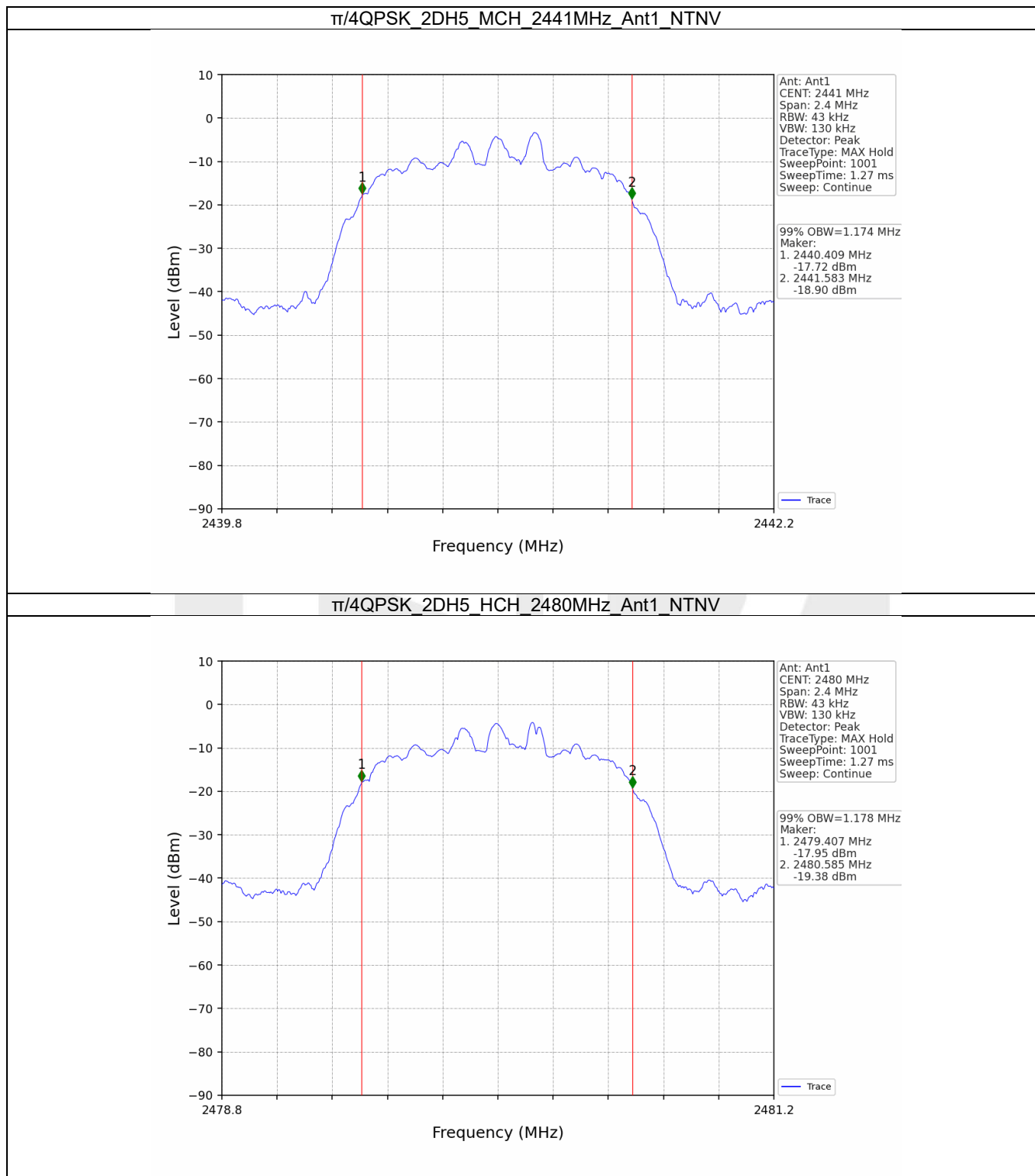
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	0.838	Pass
		2441	DH5	1	0.840	Pass
		2480	DH5	1	0.839	Pass
π /4QPSK	SISO	2402	2DH5	1	1.172	Pass
		2441	2DH5	1	1.174	Pass
		2480	2DH5	1	1.178	Pass

2.1.2 Test Graph





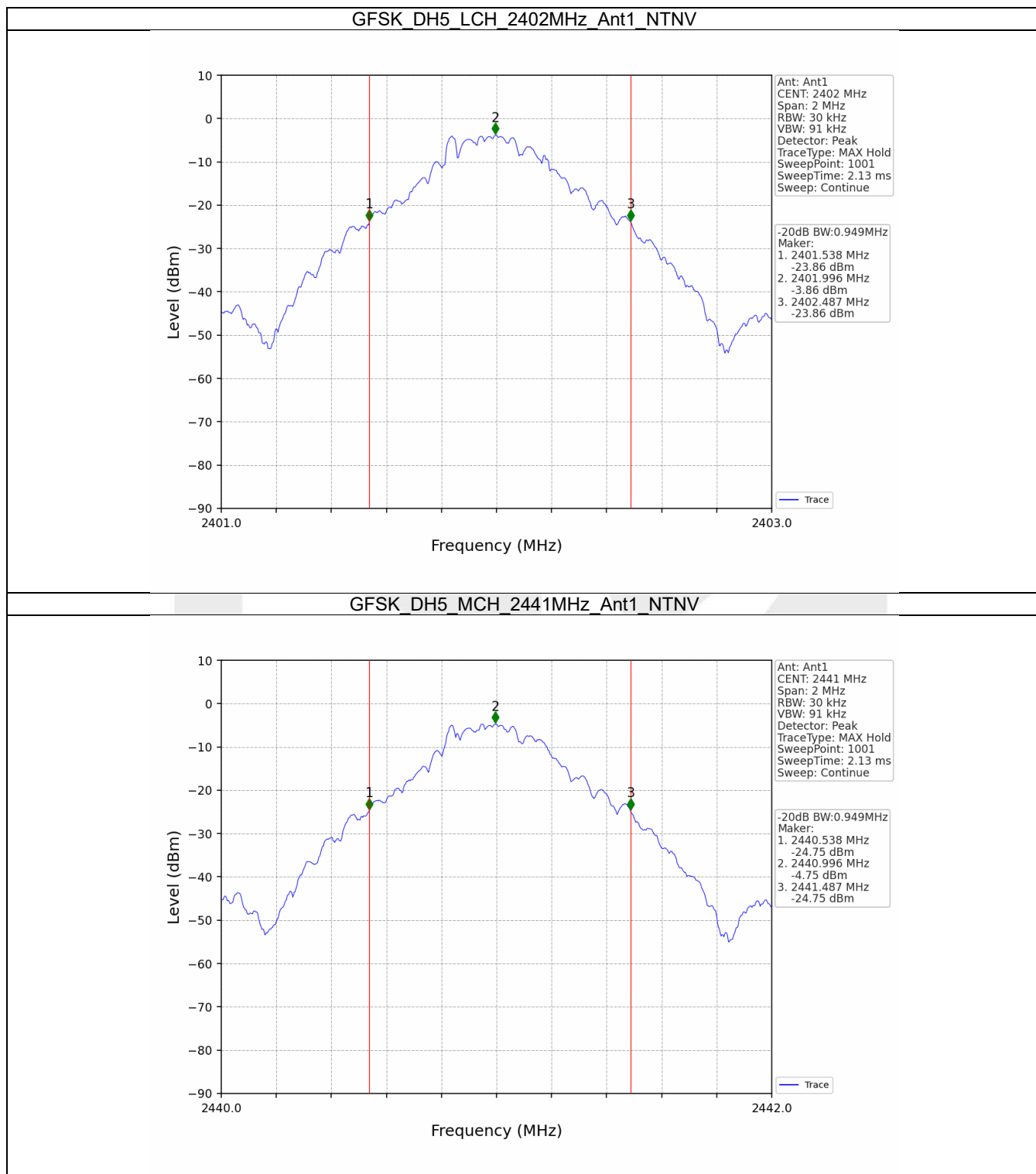


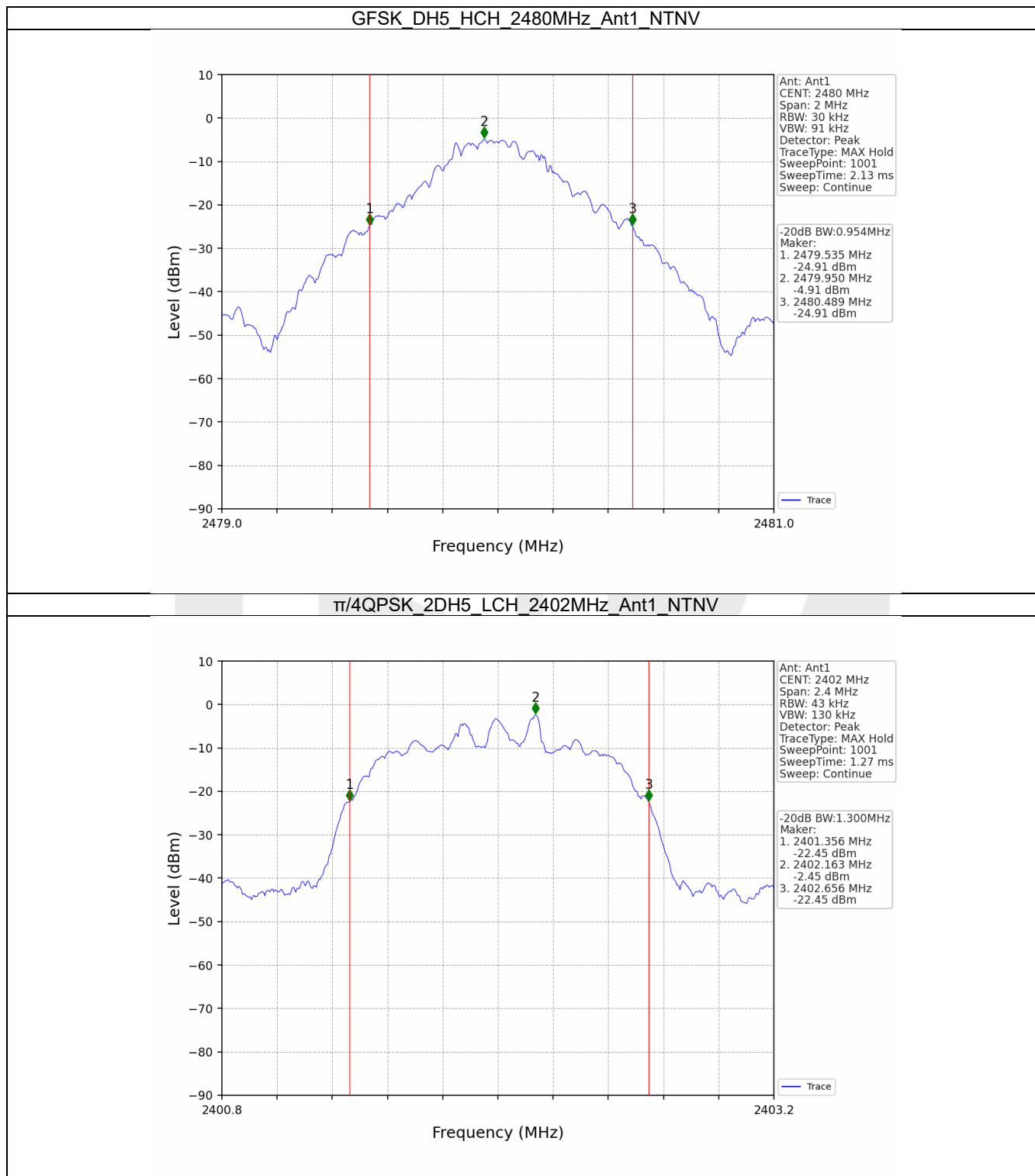
2.2 20dB BW

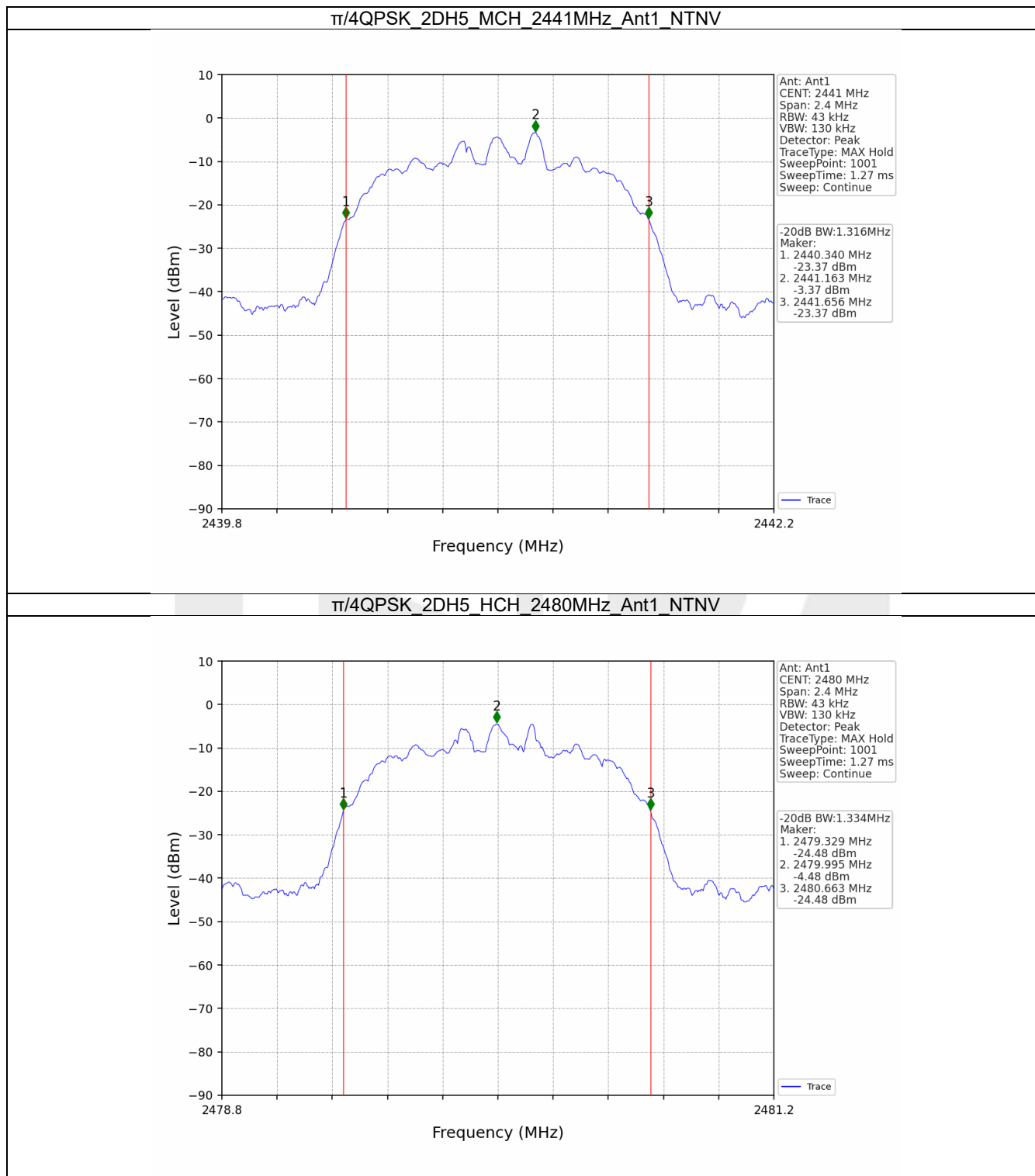
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)	Verdict
					Result	
GFSK	SISO	2402	DH5	1	0.949	Pass
		2441	DH5	1	0.949	Pass
		2480	DH5	1	0.954	Pass
$\pi/4$ QPSK	SISO	2402	2DH5	1	1.300	Pass
		2441	2DH5	1	1.316	Pass
		2480	2DH5	1	1.334	Pass

2.2.2 Test Graph







3. Maximum Conducted Output Power

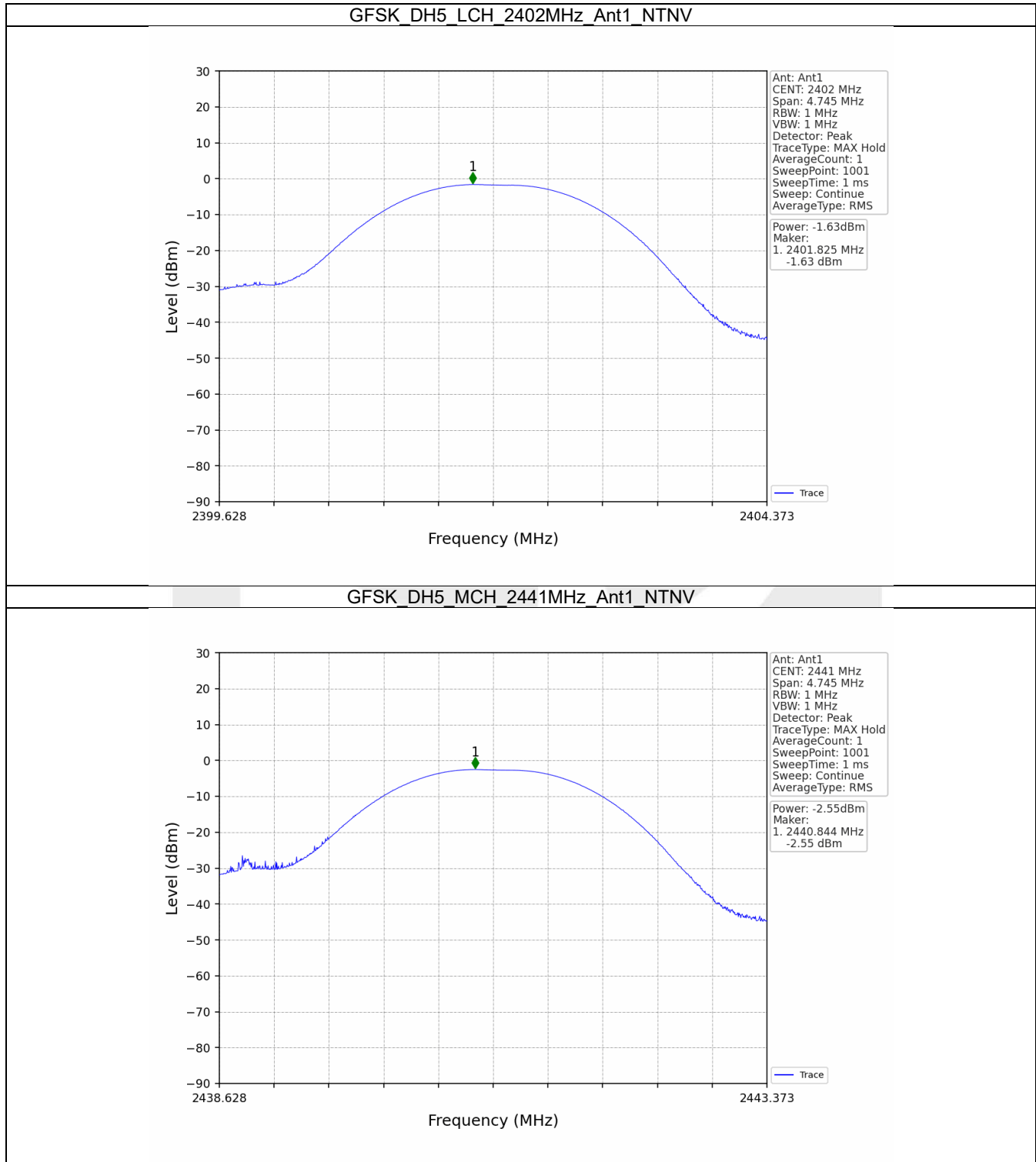
3.1 Power

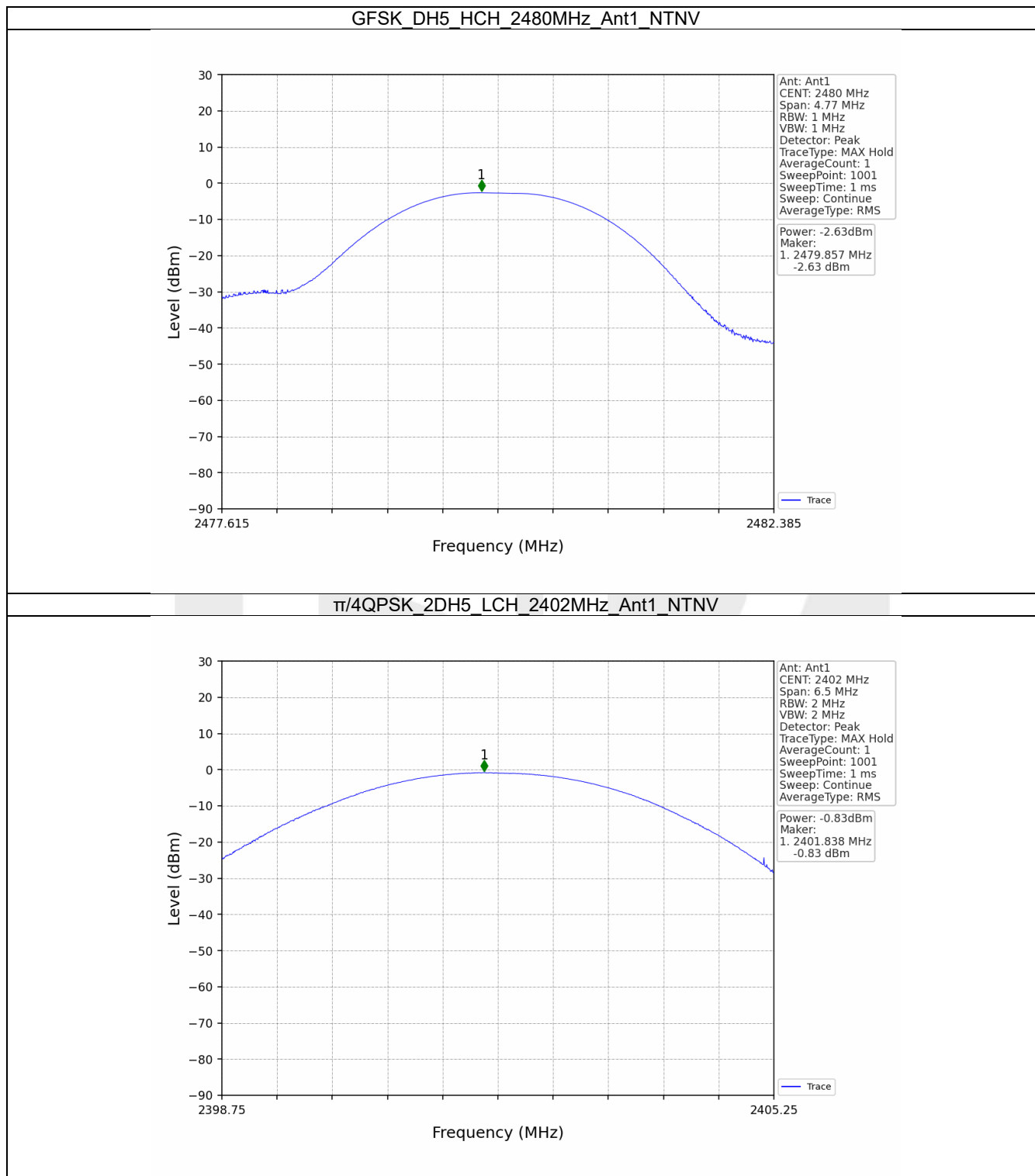
3.1.1 Test Result

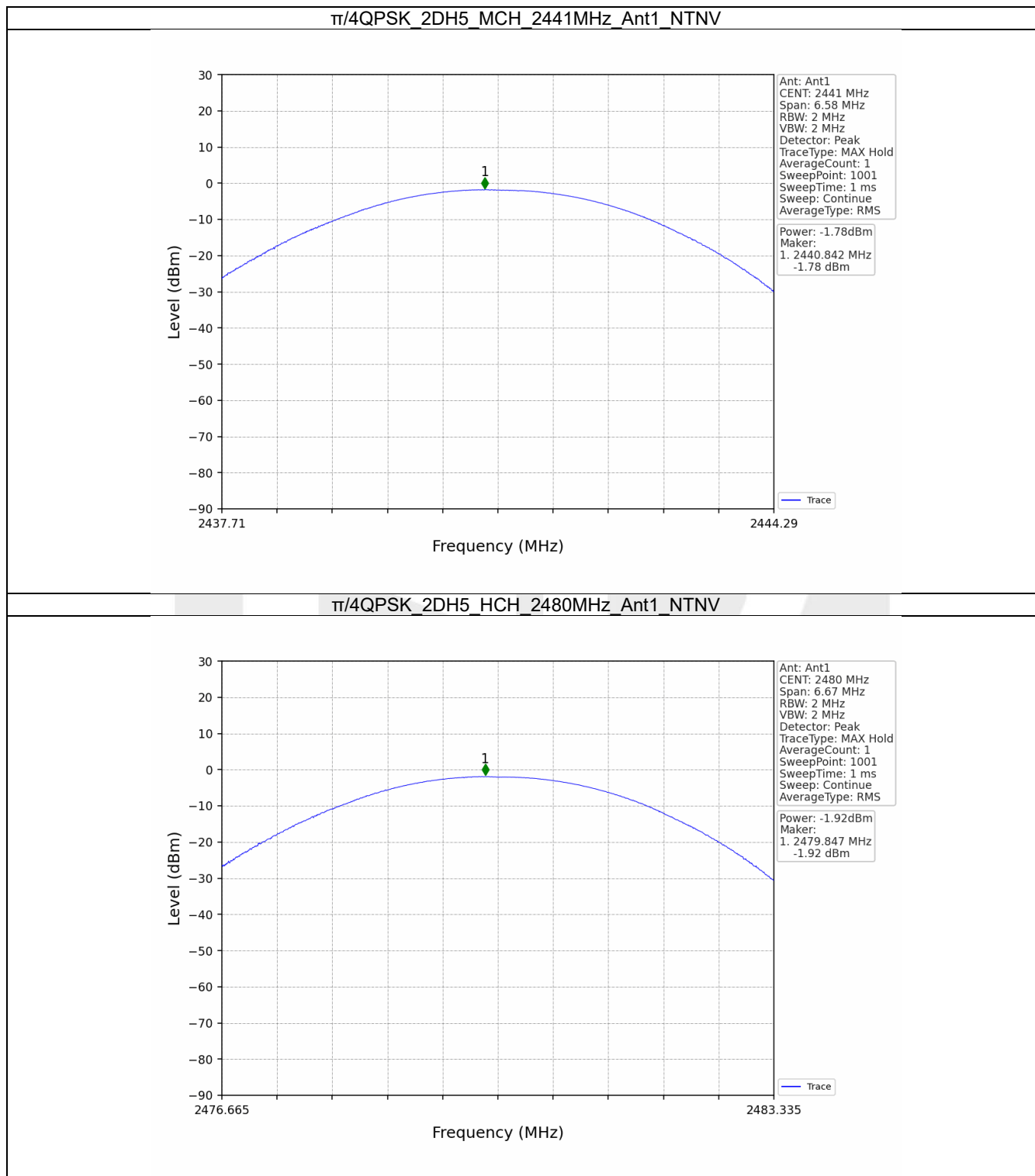
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-1.63	≤ 30	Pass
		2441	DH5	-2.55	≤ 30	Pass
		2480	DH5	-2.63	≤ 30	Pass
$\pi/4$ QPSK	SISO	2402	2DH5	-0.83	≤ 20.97	Pass
		2441	2DH5	-1.78	≤ 20.97	Pass
		2480	2DH5	-1.92	≤ 20.97	Pass

Note1: Antenna Gain: Ant1: -0.58dBi;

3.1.2 Test Graph







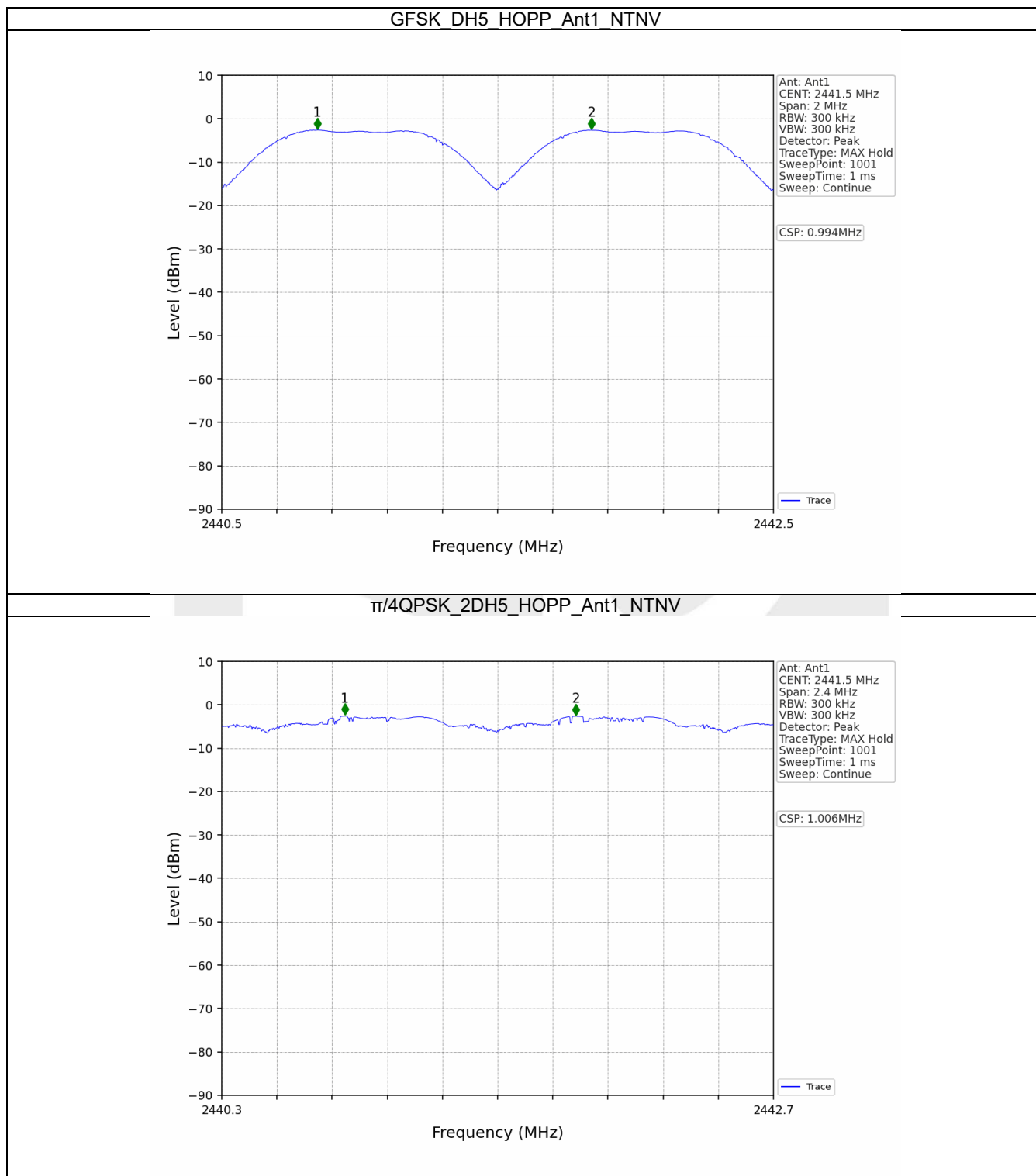
4. Carrier Frequency Separation

4.1 Ant1

4.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	0.994	0.954	≥ 0.954	Pass
$\pi/4$ QPSK	SISO	HOPP	2DH5	1.006	1.334	≥ 0.889	Pass

4.1.2 Test Graph



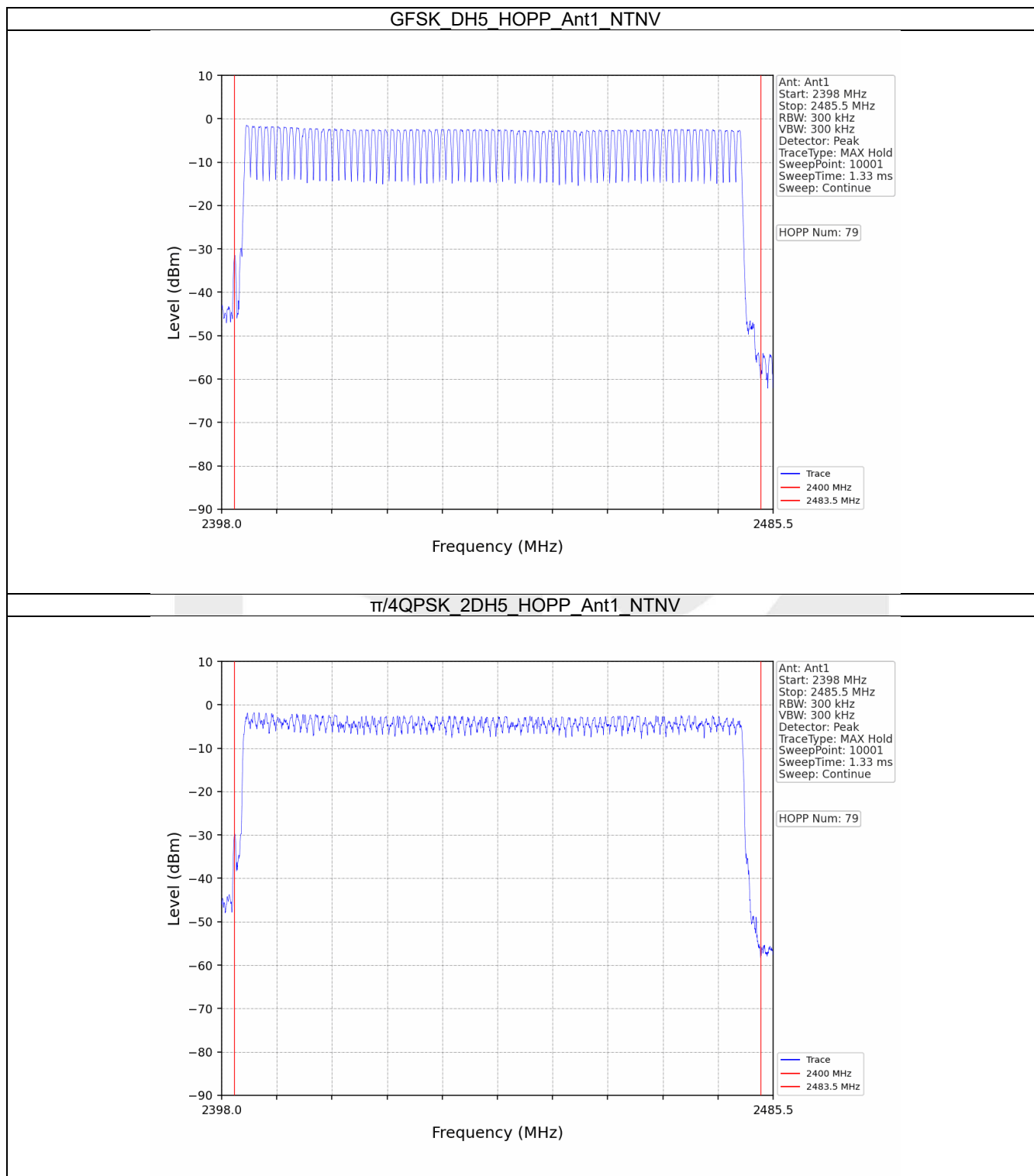
5. Number of Hopping Frequencies

5.1 HoppNum

5.1.1 Test Result

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

5.1.2 Test Graph



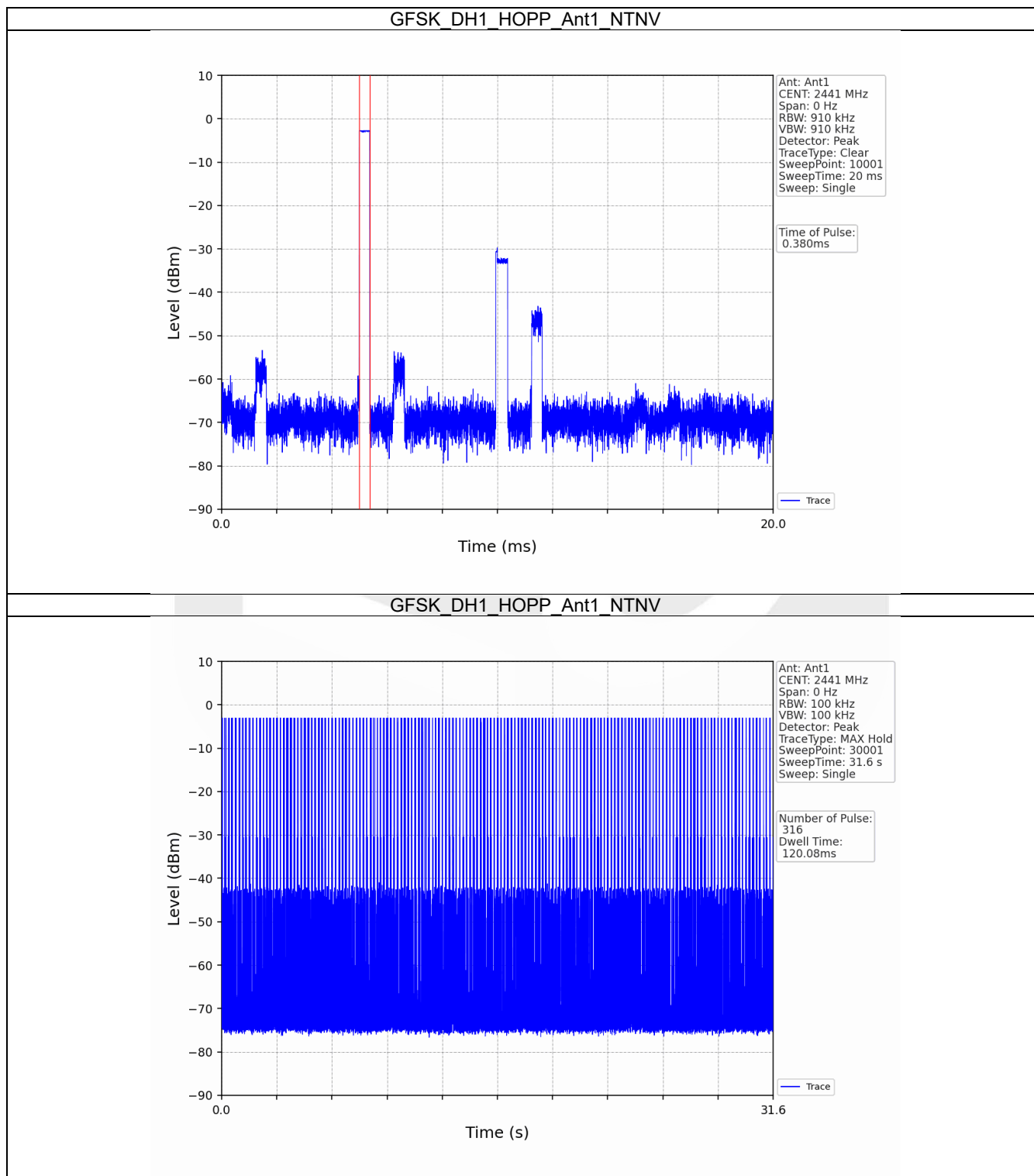
6. Time of Occupancy (Dwell Time)

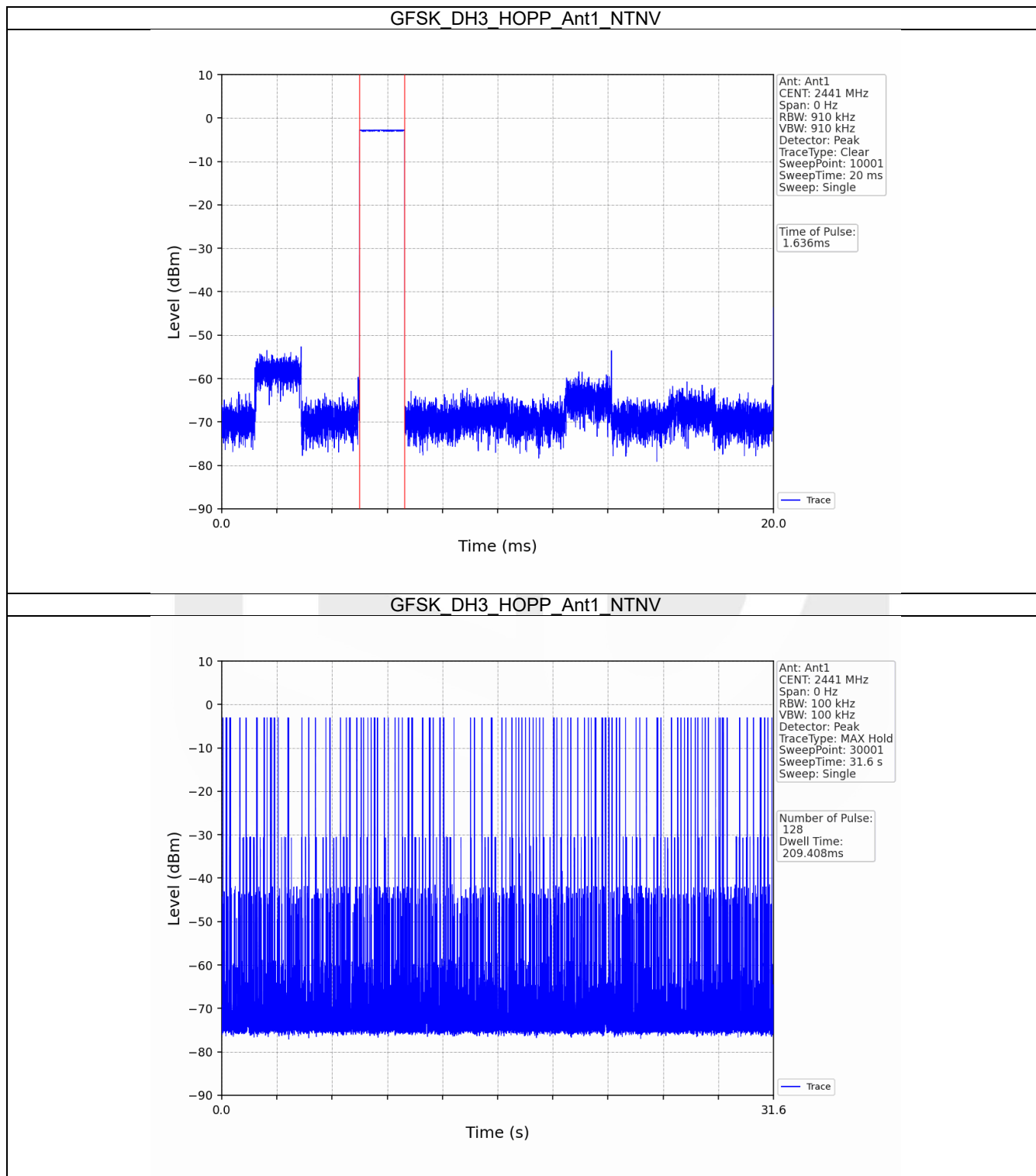
6.1 Ant1

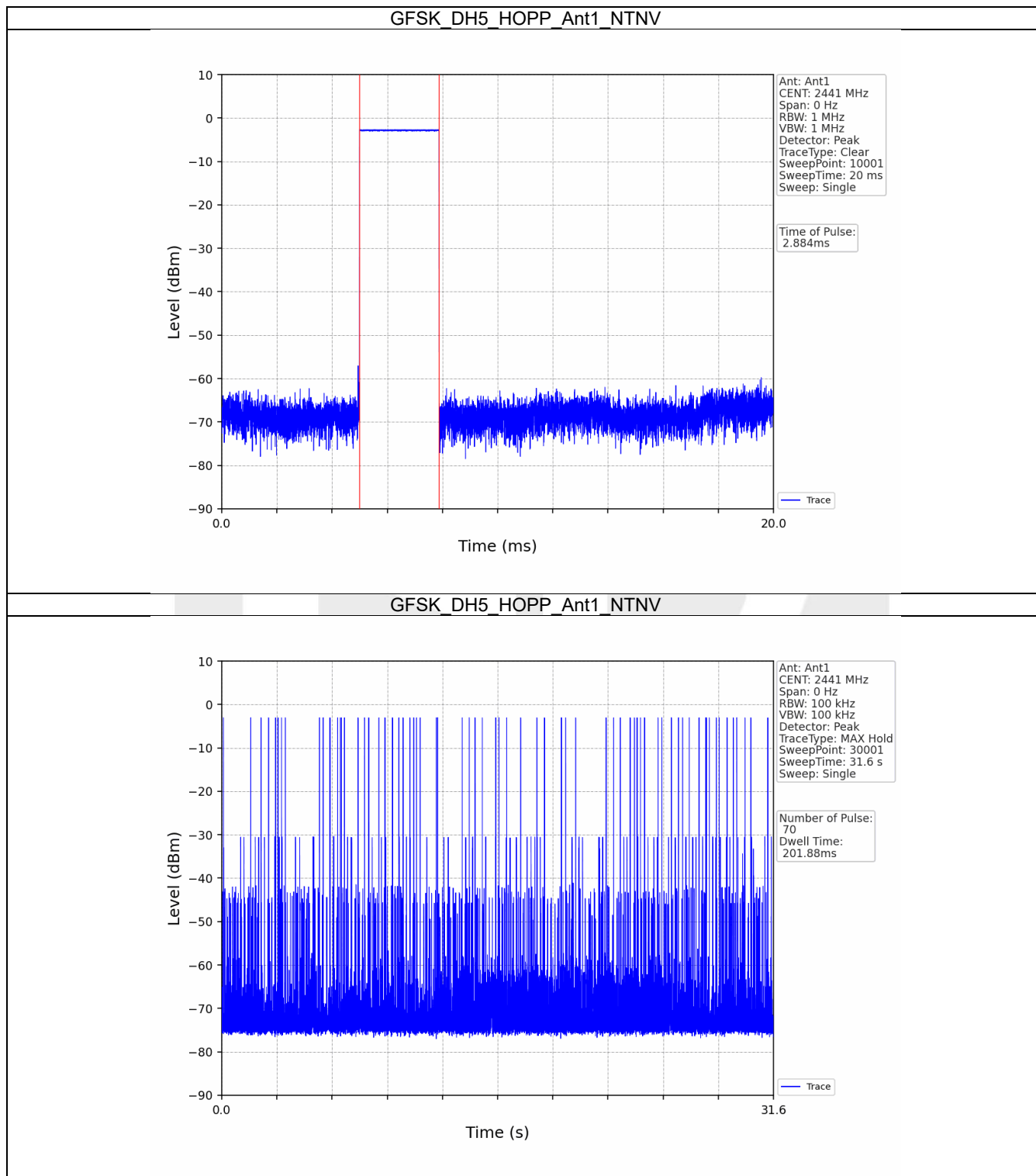
6.1.1 Test Result

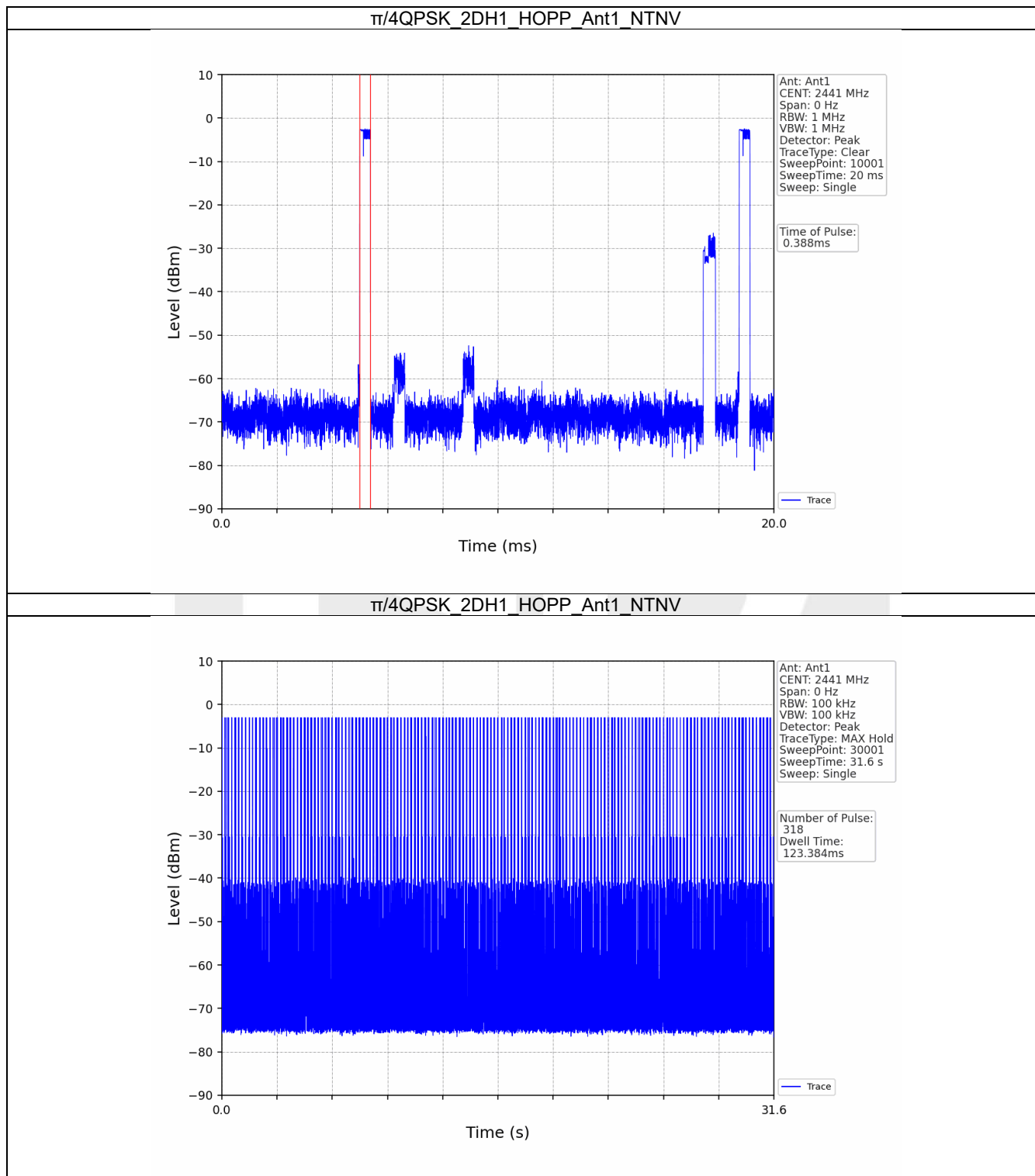
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.380	31.600	316	120.080	<=400	Pass
			DH3	1.636	31.600	128	209.408	<=400	Pass
			DH5	2.884	31.600	70	201.880	<=400	Pass
$\pi/4$ QPSK	SISO	HOPP	2DH1	0.388	31.600	318	123.384	<=400	Pass
			2DH3	1.642	31.600	96	157.632	<=400	Pass
			2DH5	2.890	31.600	75	216.750	<=400	Pass

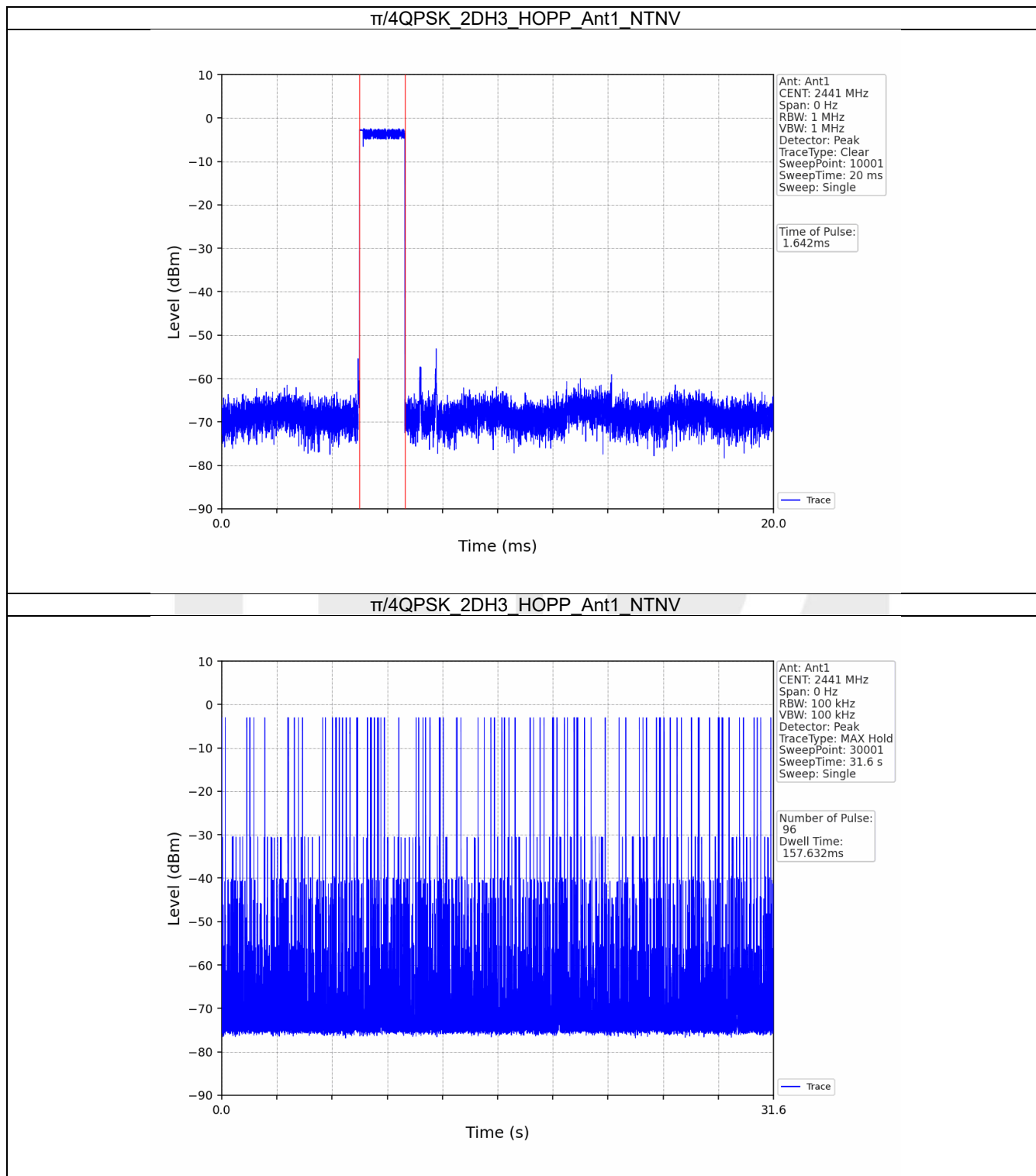
6.1.2 Test Graph

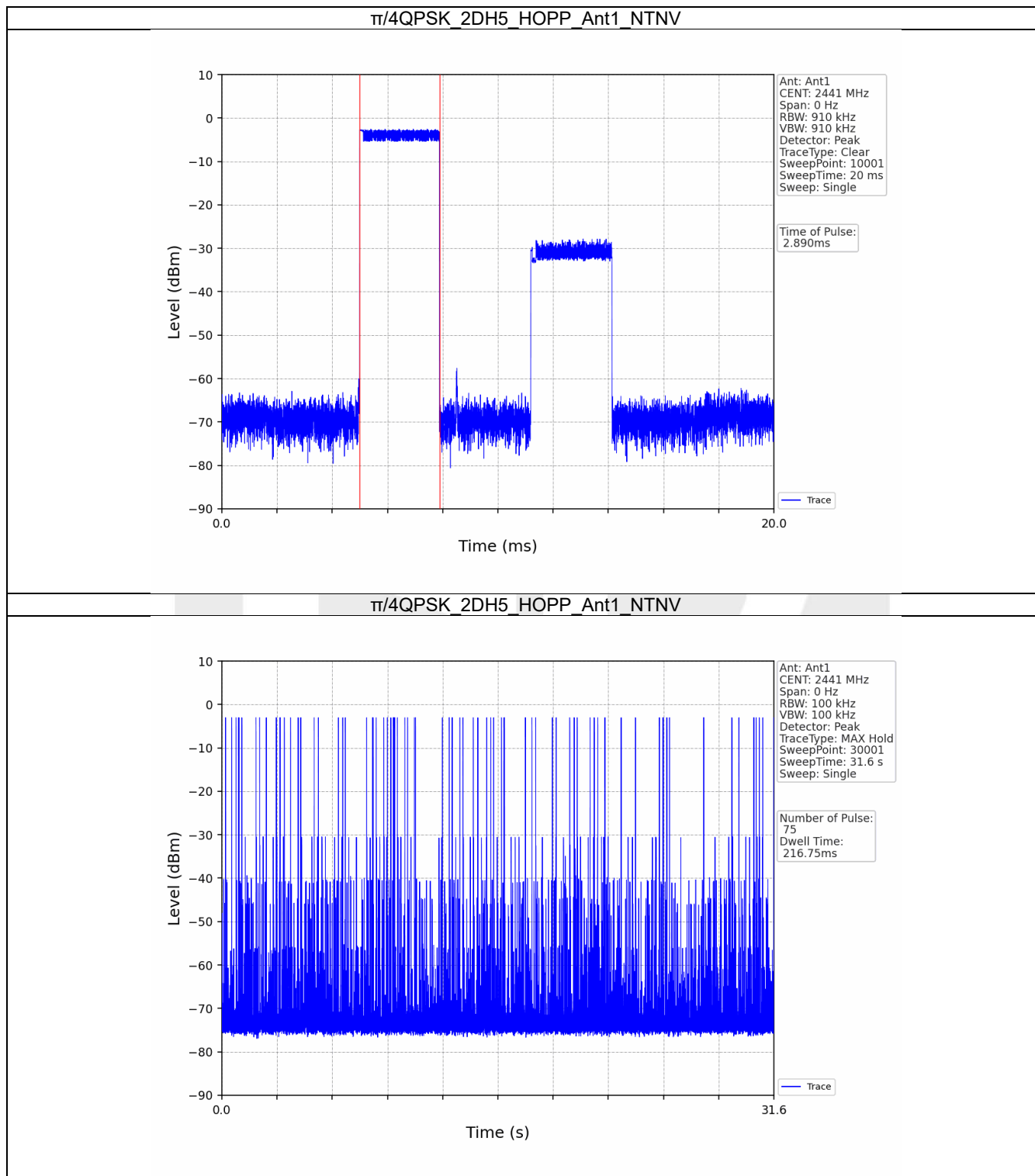












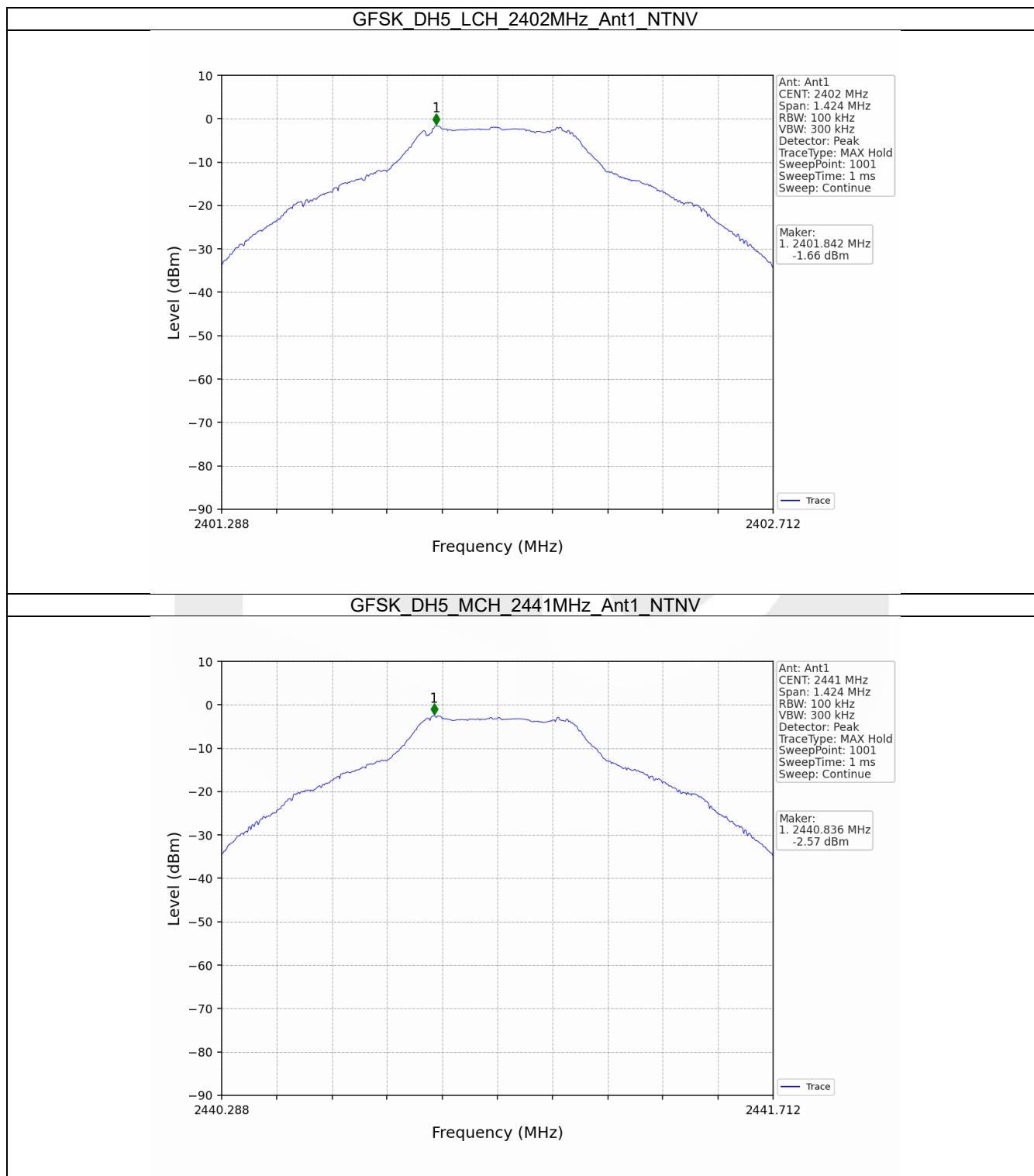
7. Unwanted Emissions In Non-restricted Frequency Bands

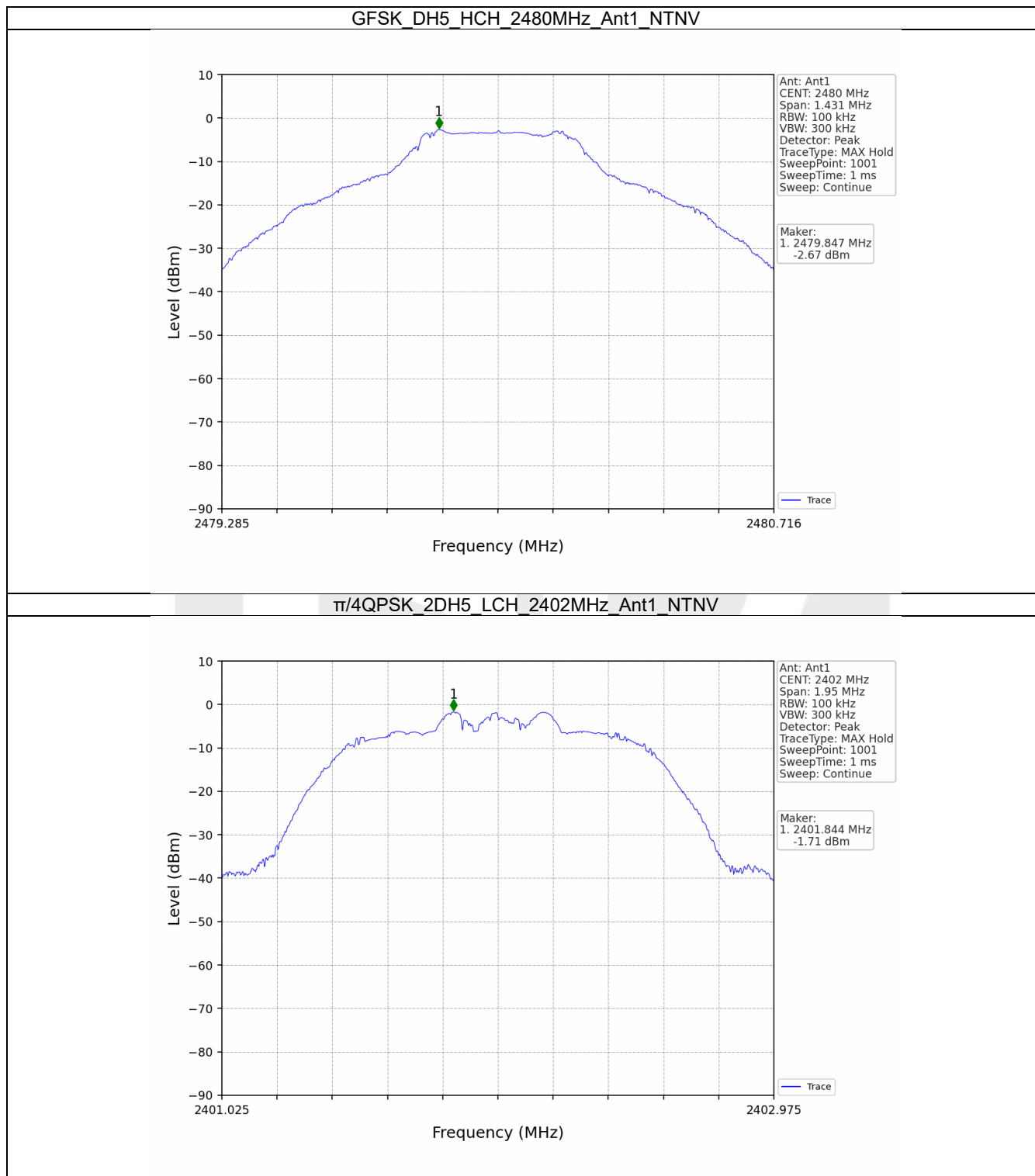
7.1 Ref

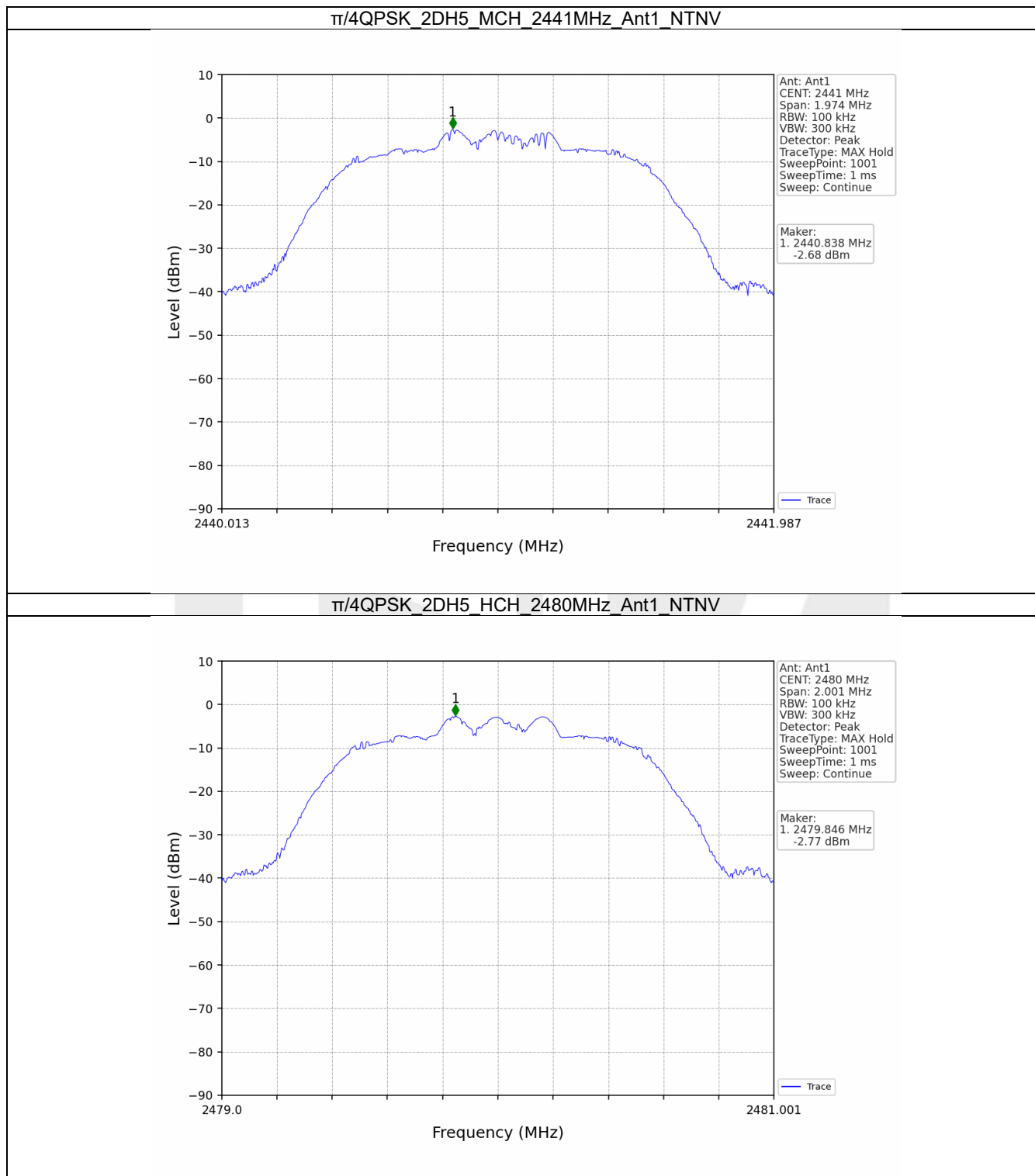
7.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	-1.66
		2441	DH5	1	-2.57
		2480	DH5	1	-2.67
π/4QPSK	SISO	2402	2DH5	1	-1.71
		2441	2DH5	1	-2.68
		2480	2DH5	1	-2.77
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.					

7.1.2 Test Graph





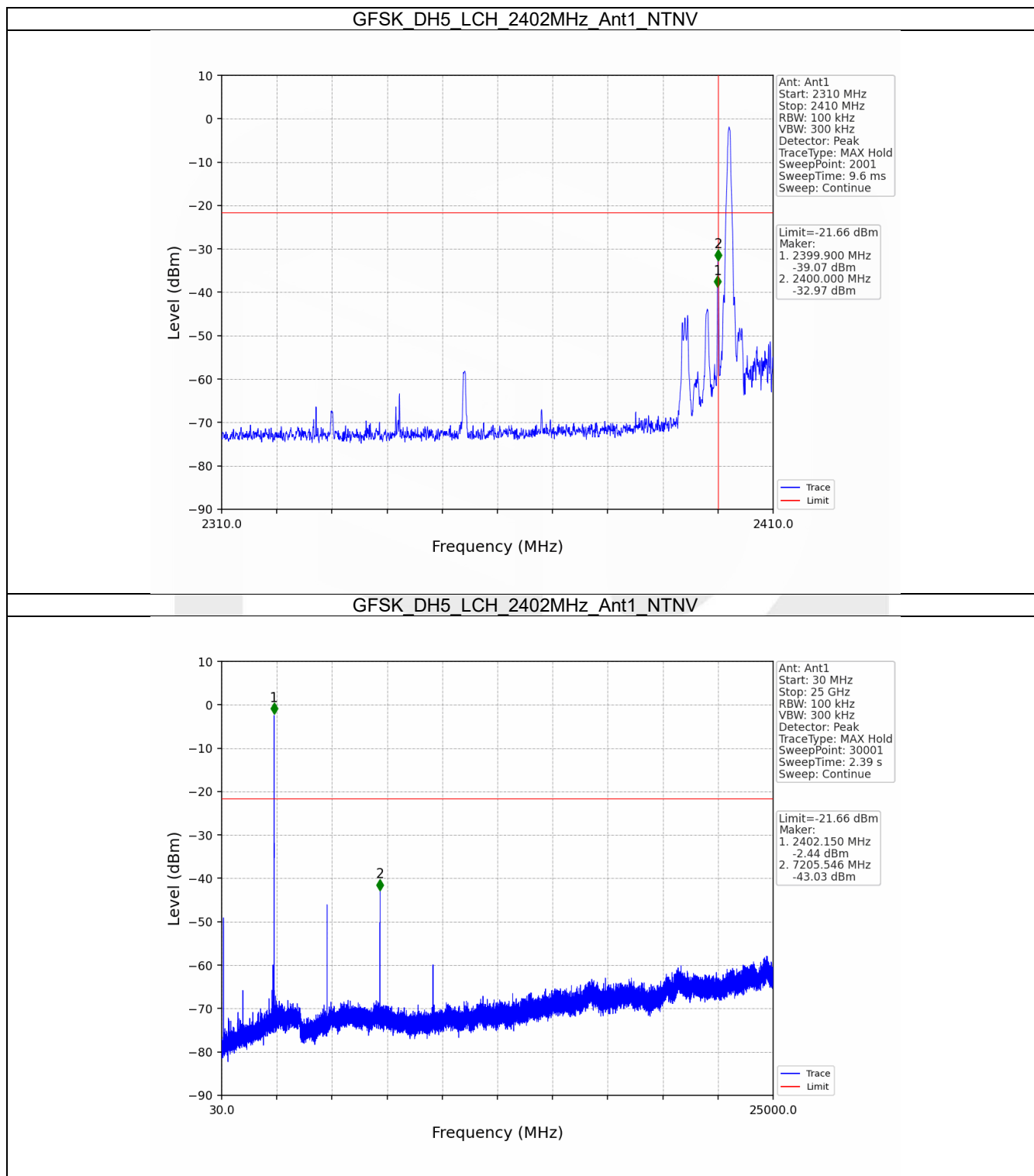


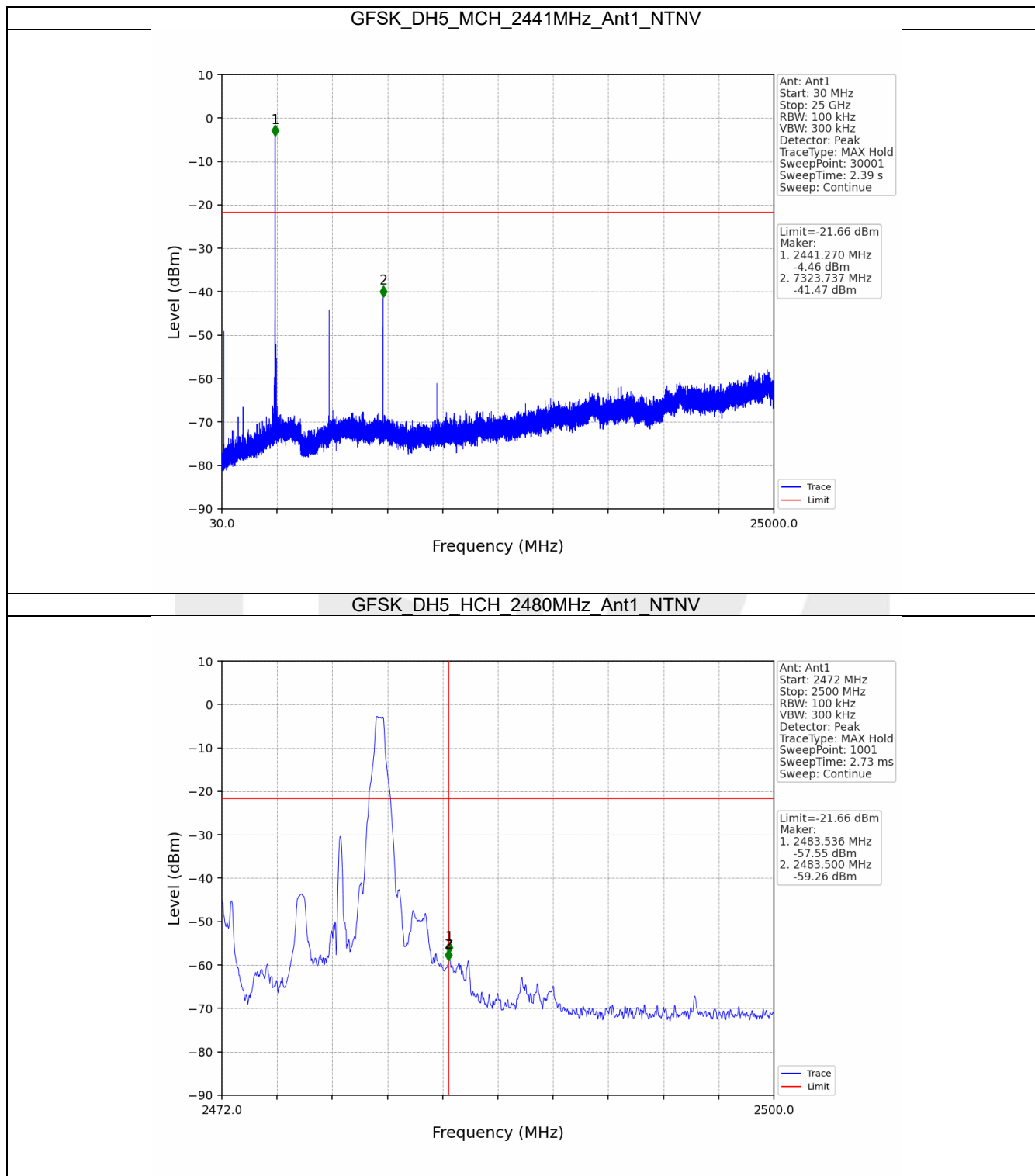
7.2 CSE

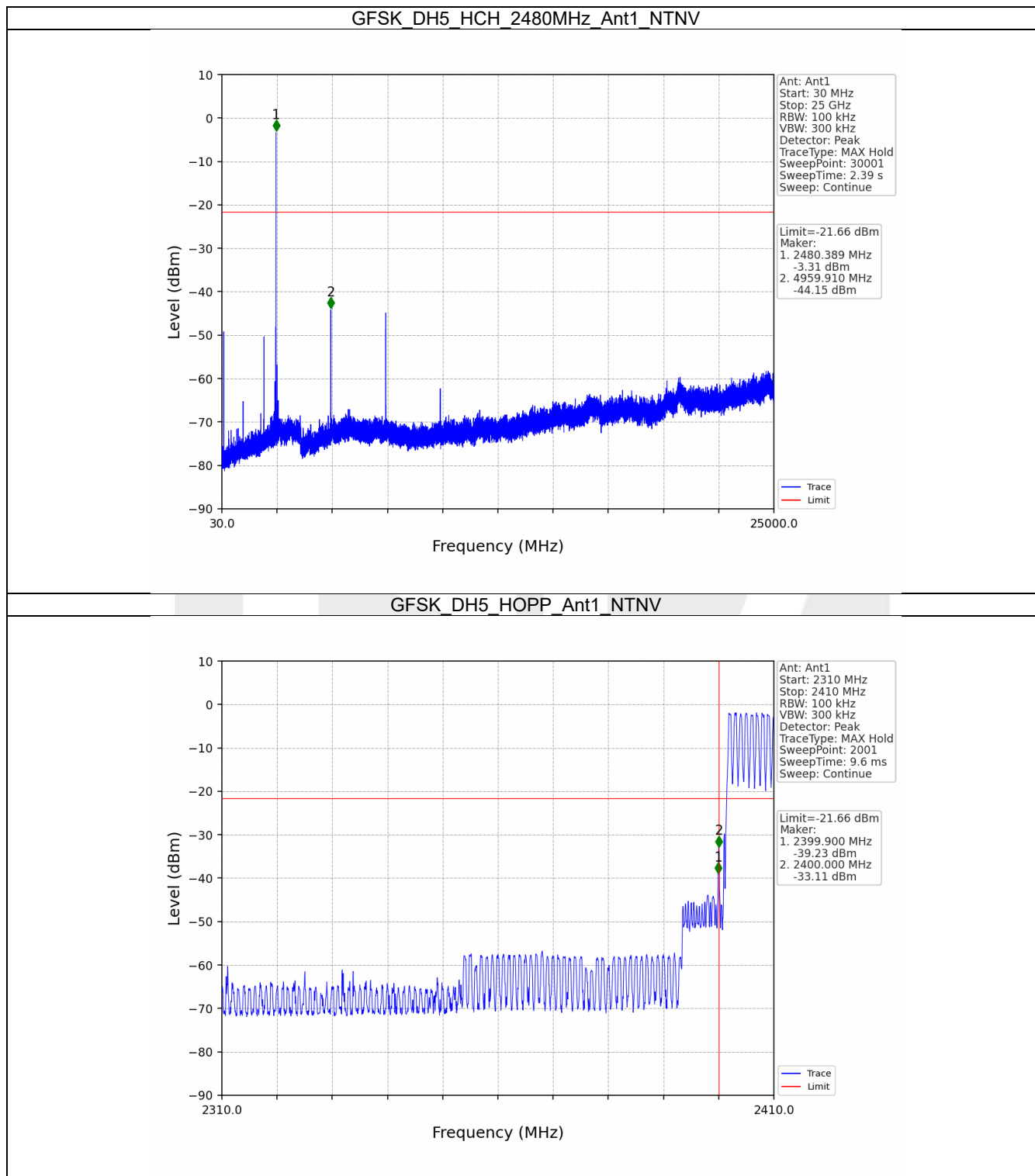
7.2.1 Test Result

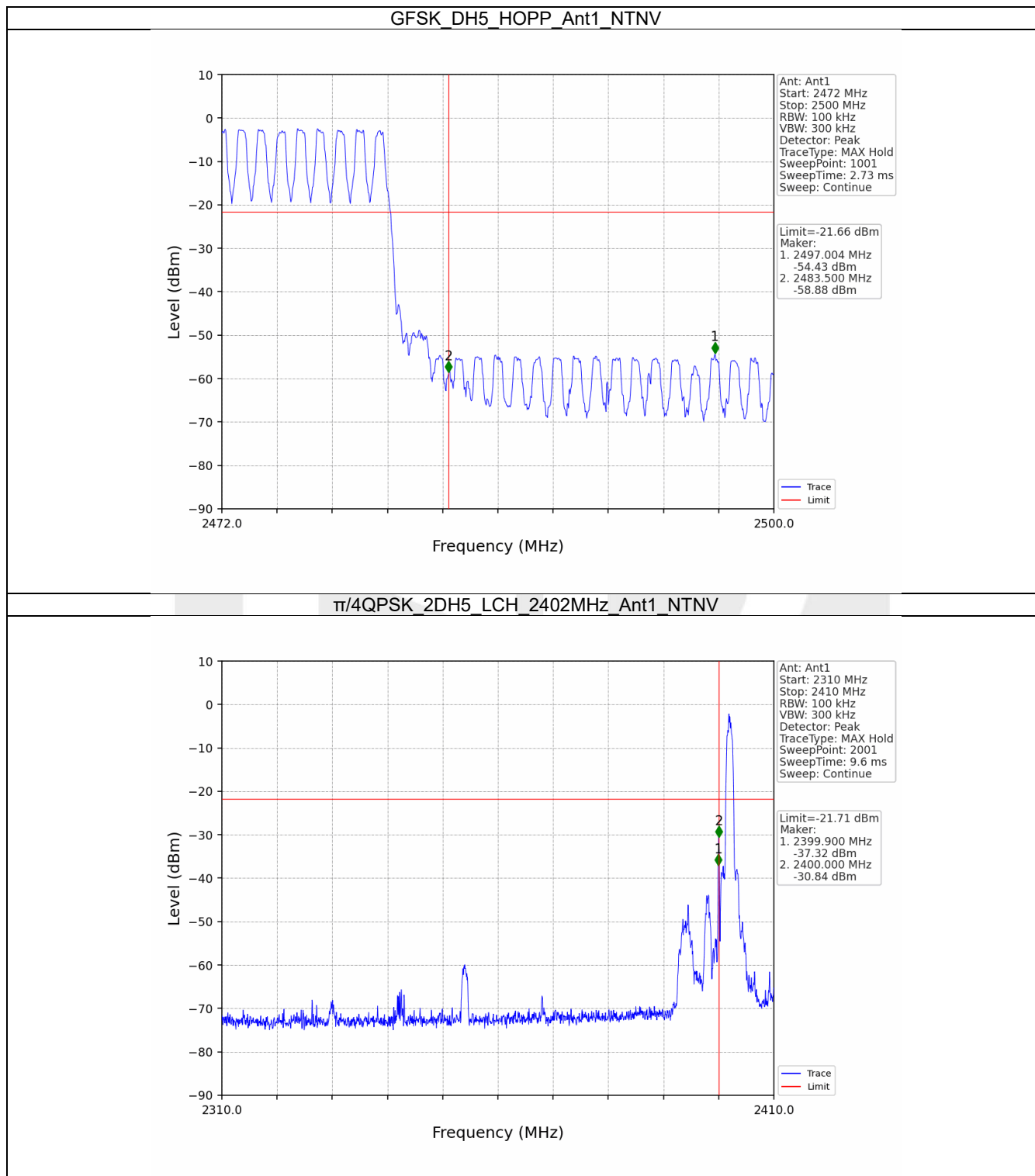
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-1.66	-21.66	Pass
		2441	DH5	1	-1.66	-21.66	Pass
		2480	DH5	1	-1.66	-21.66	Pass
		HOPP	DH5	1	-1.66	-21.66	Pass
π /4QPSK	SISO	2402	2DH5	1	-1.71	-21.71	Pass
		2441	2DH5	1	-1.71	-21.71	Pass
		2480	2DH5	1	-1.71	-21.71	Pass
		HOPP	2DH5	1	-1.71	-21.71	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.							

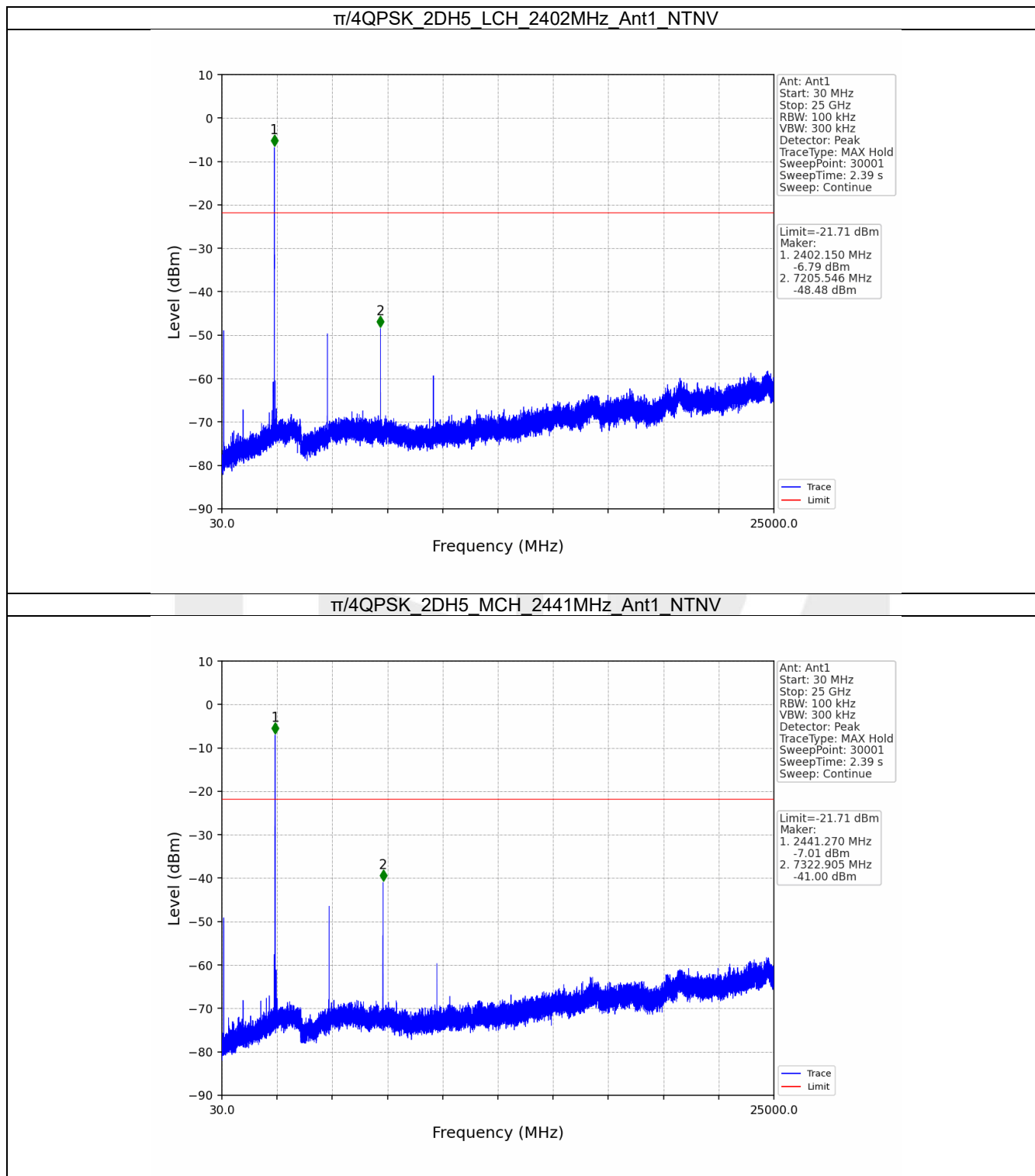
7.2.2 Test Graph

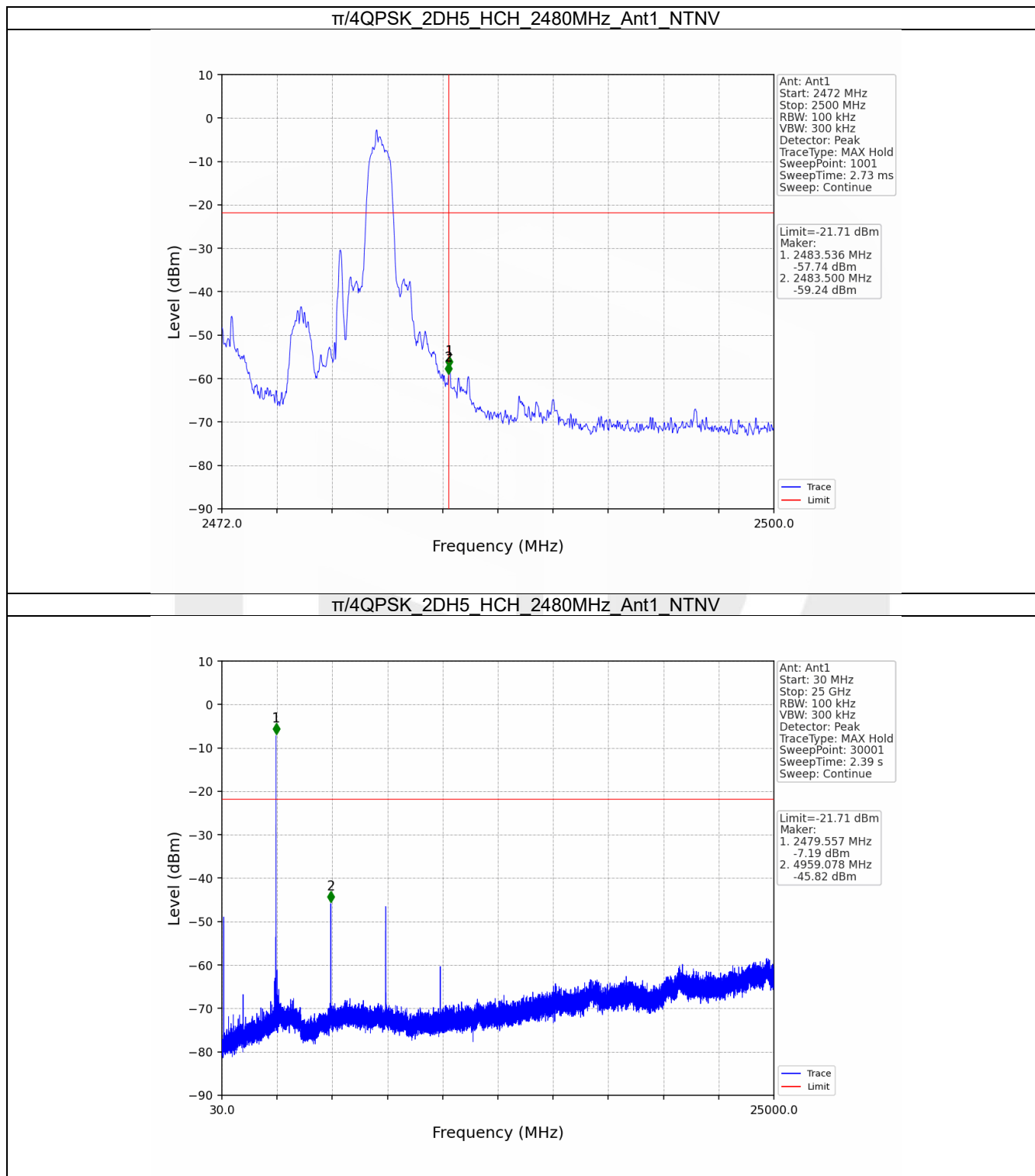


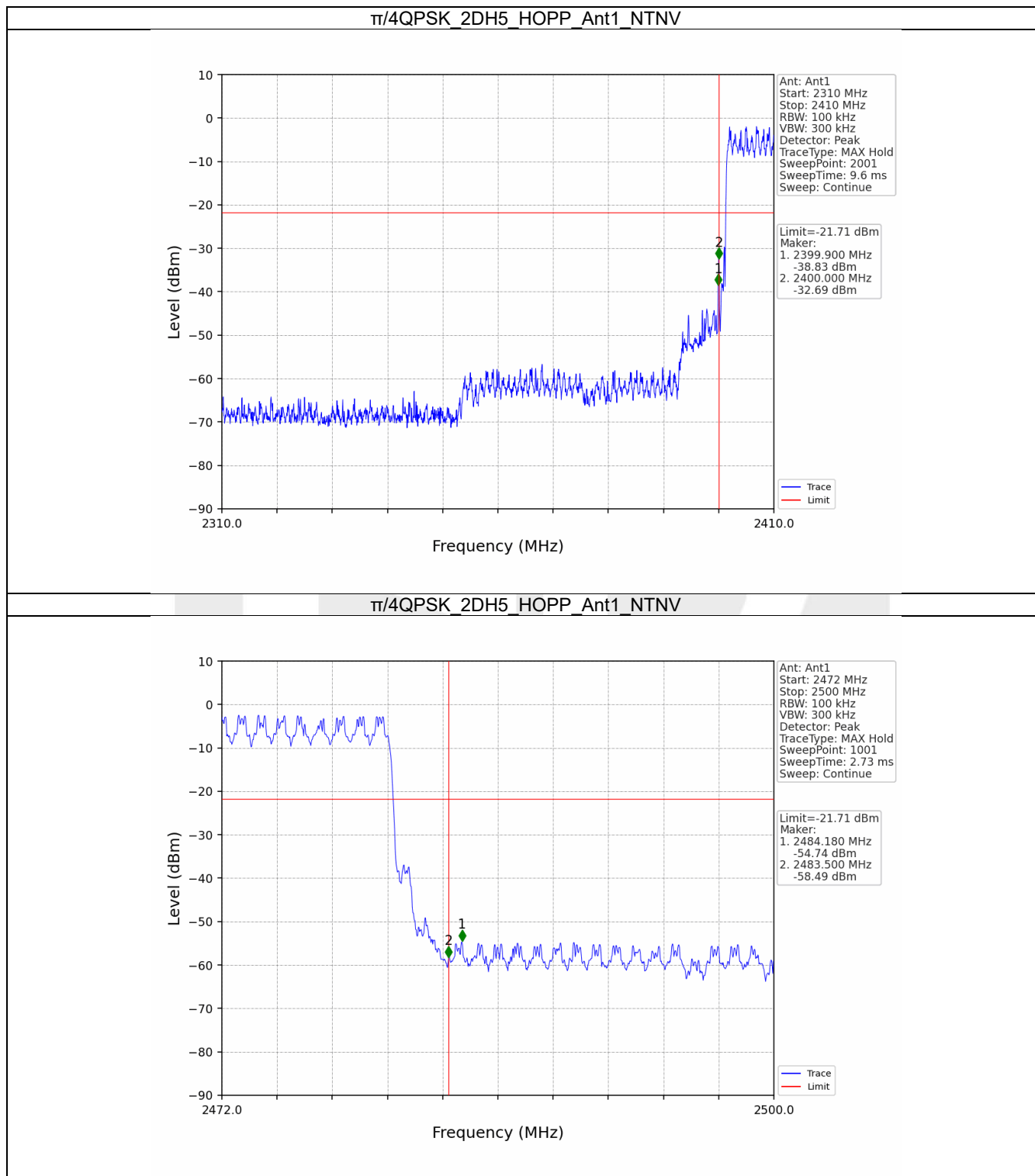












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