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Annex for Bluetooth

Test Report No.: CTL2608253051-WF01

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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	0.813	/	Pass
		2441	DH5	1	0.813	/	Pass
		2480	DH5	1	0.806	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.182	/	Pass
		2441	2DH5	1	1.178	/	Pass
		2480	2DH5	1	1.178	/	Pass
8DPSK	SISO	2402	3DH5	1	1.180	/	Pass
		2441	3DH5	1	1.185	/	Pass
		2480	3DH5	1	1.182	/	Pass

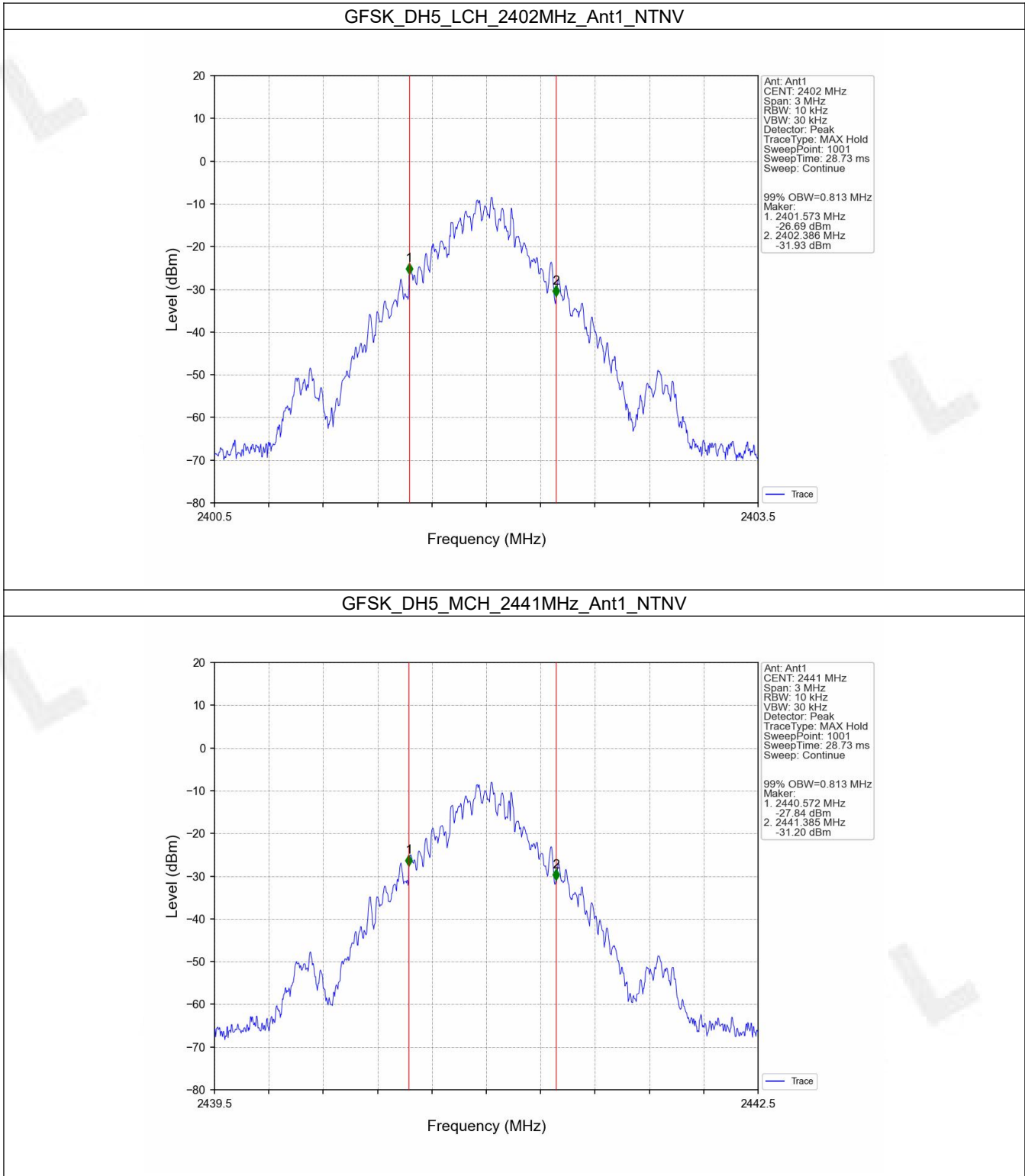
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.881	/	Pass
		2441	DH5	1	0.882	/	Pass
		2480	DH5	1	0.881	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.318	/	Pass
		2441	2DH5	1	1.321	/	Pass
		2480	2DH5	1	1.320	/	Pass
8DPSK	SISO	2402	3DH5	1	1.305	/	Pass
		2441	3DH5	1	1.298	/	Pass
		2480	3DH5	1	1.300	/	Pass

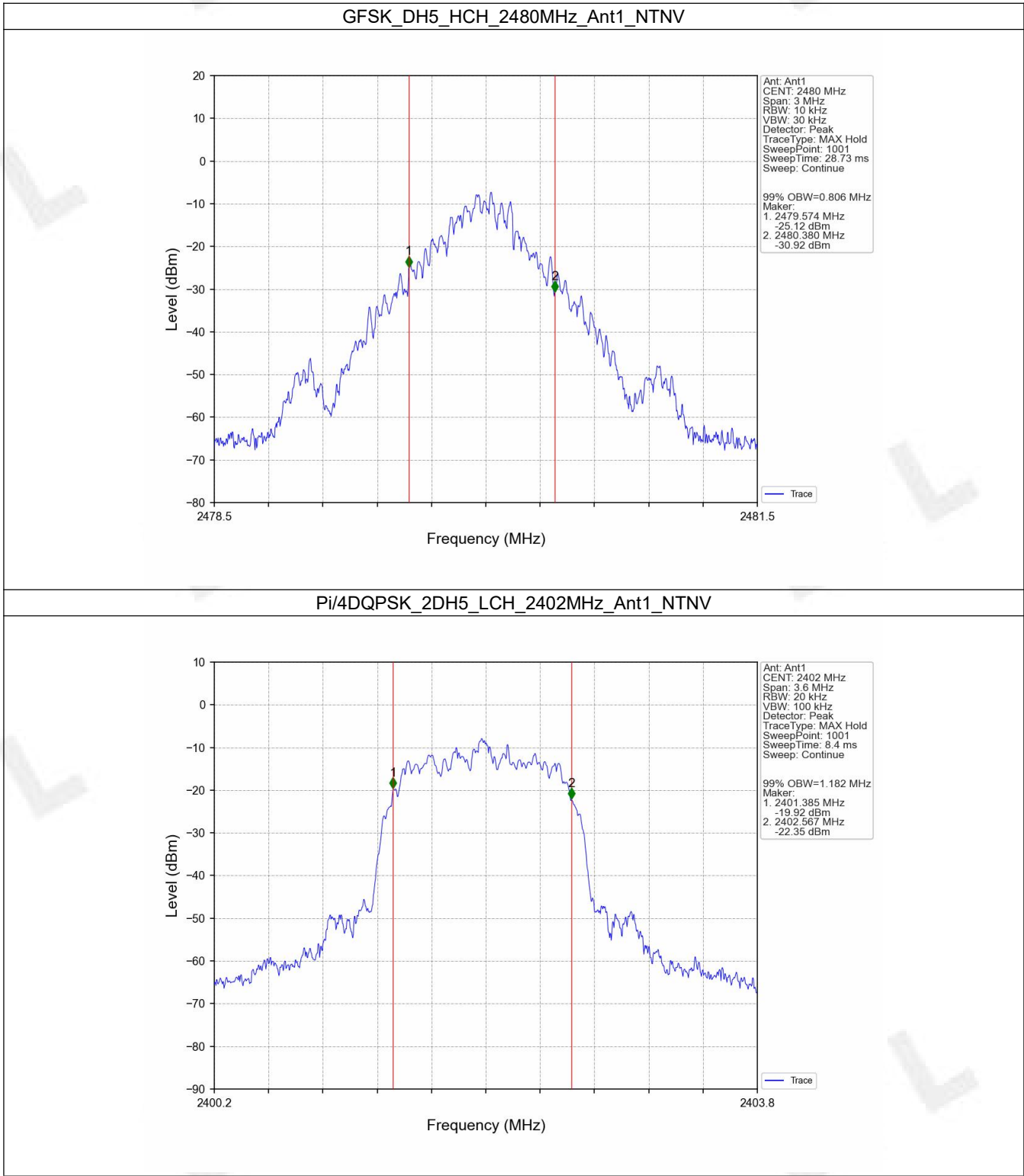
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1.2 Test Graph

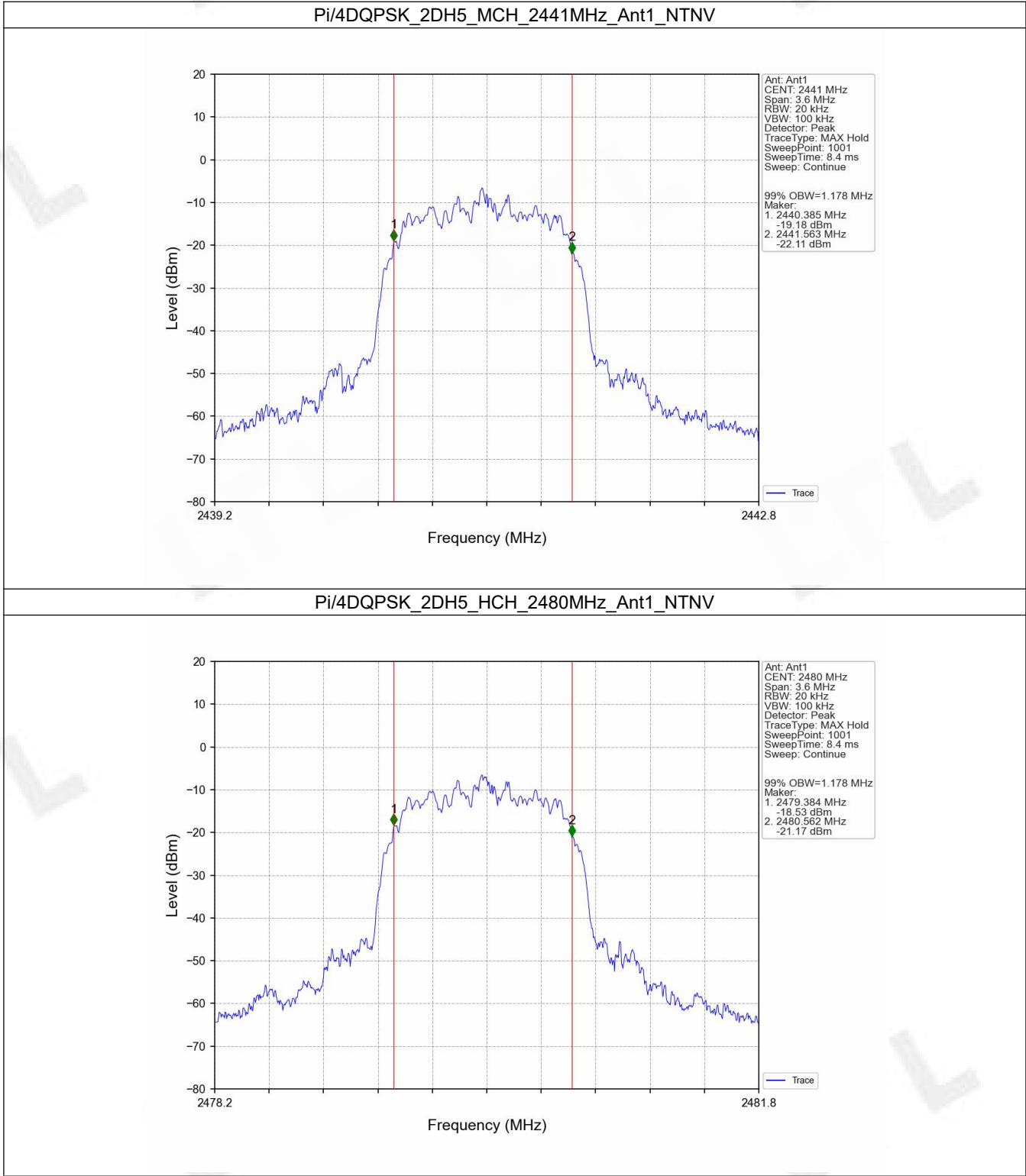
1.2.1 OBW



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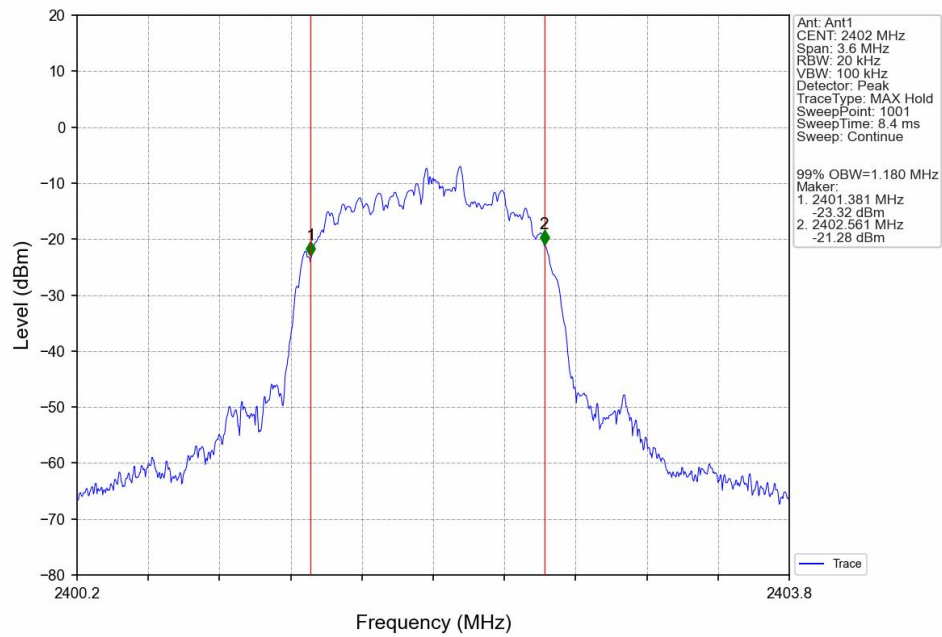


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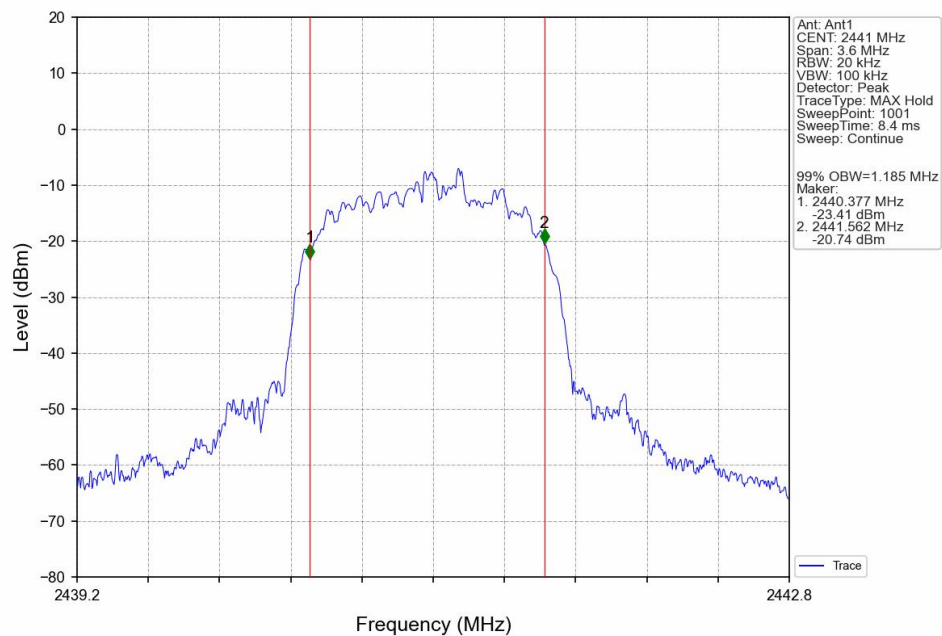


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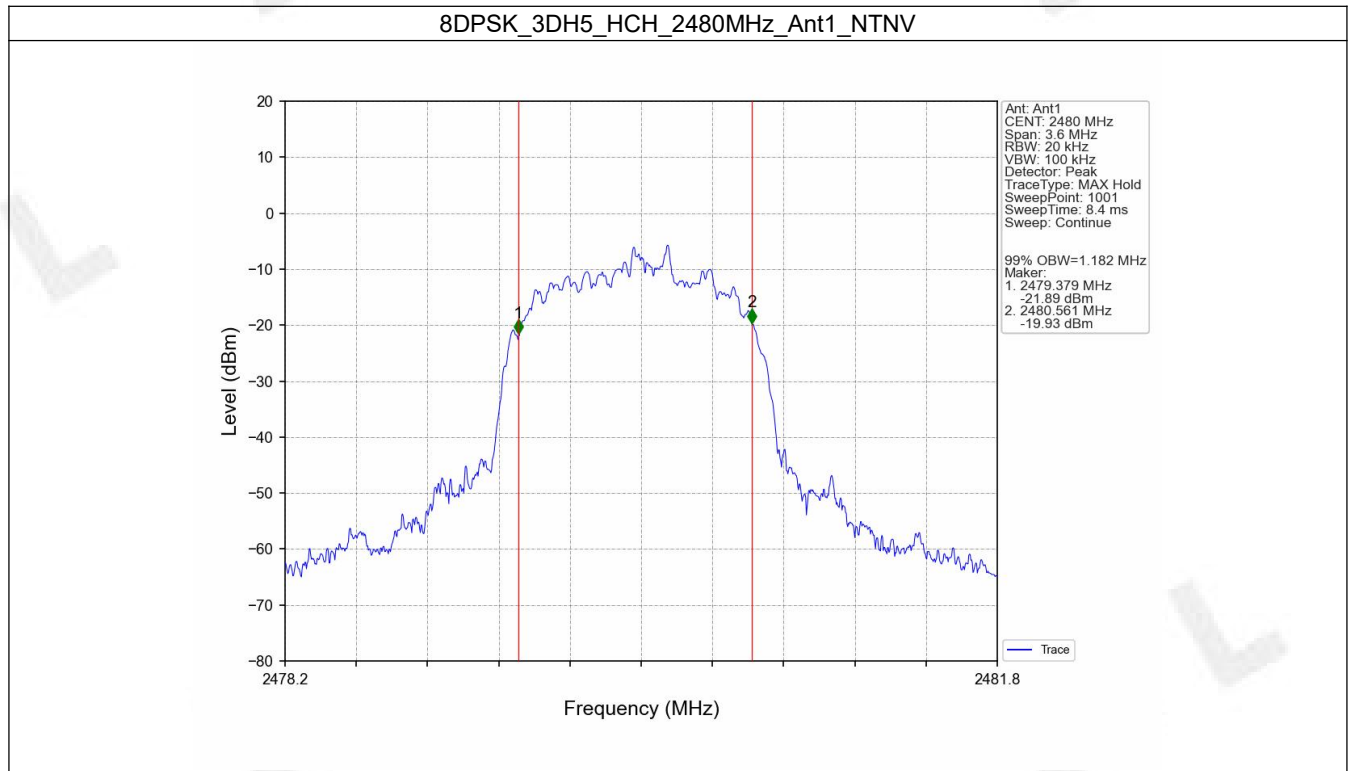
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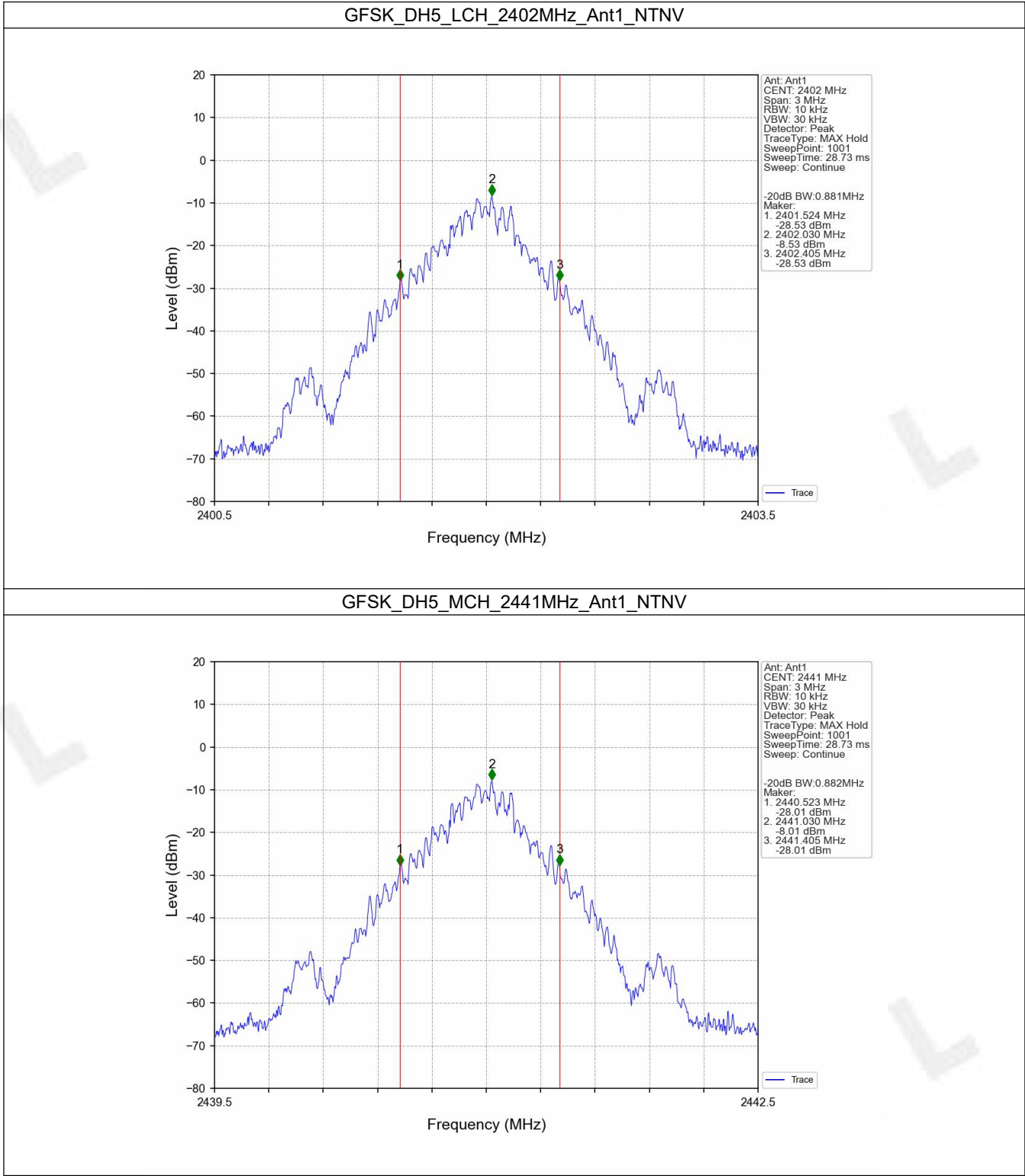


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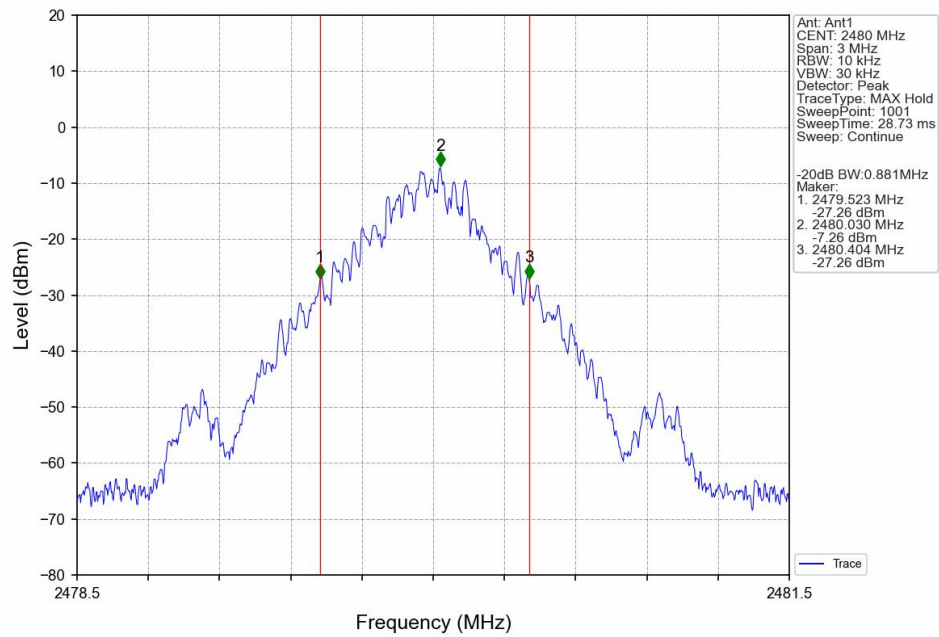
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1.2.2 20dB BW

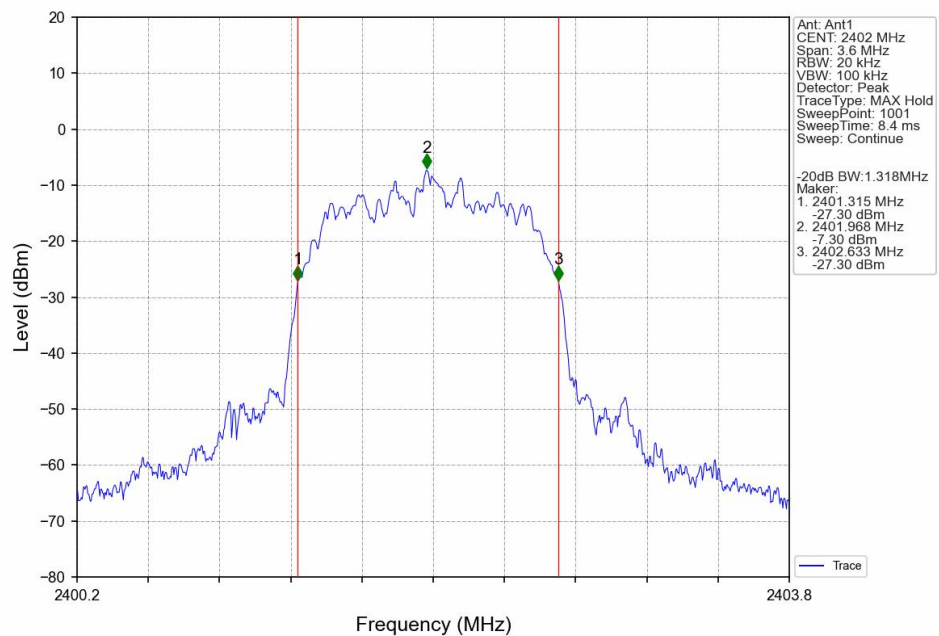


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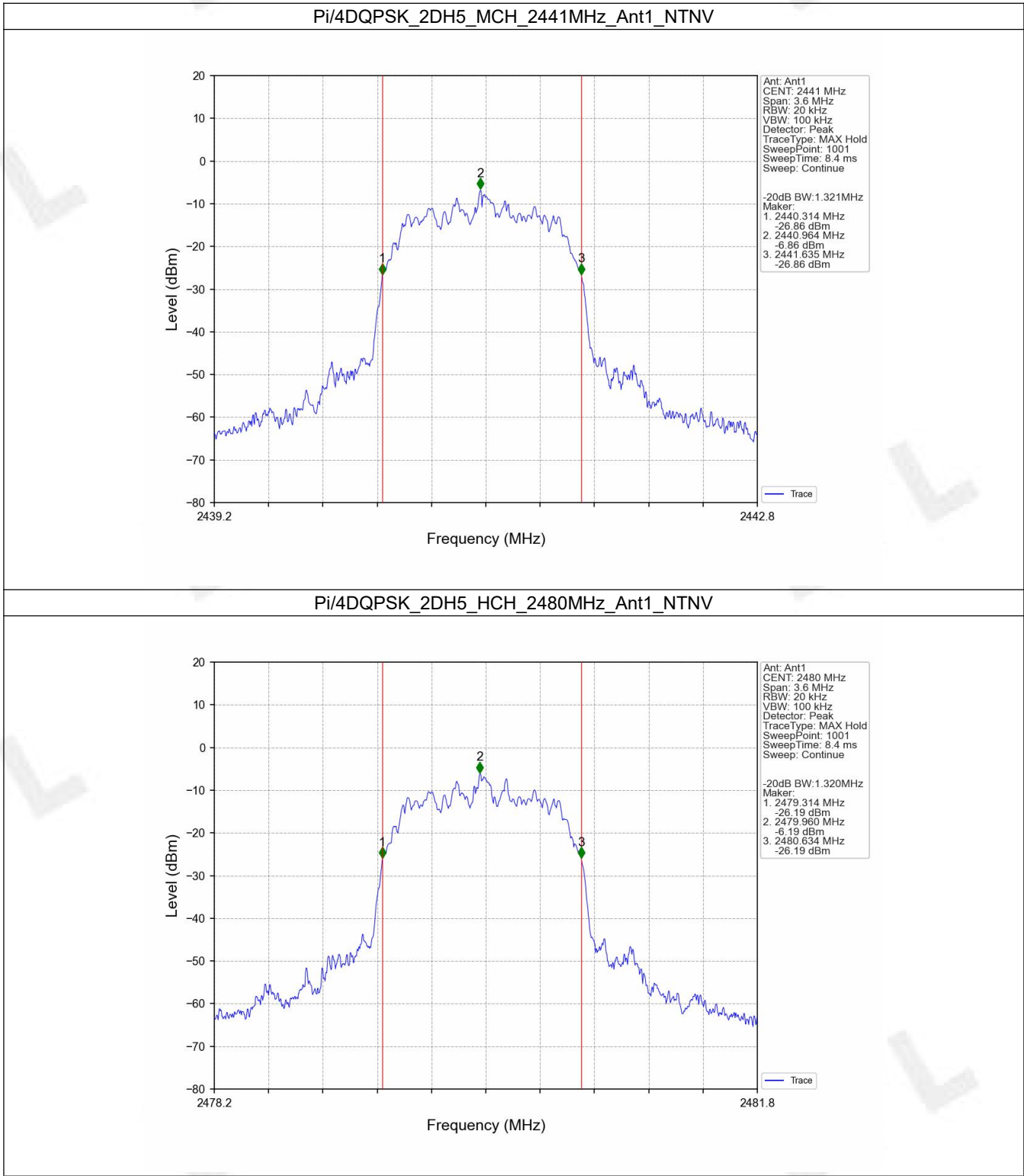
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



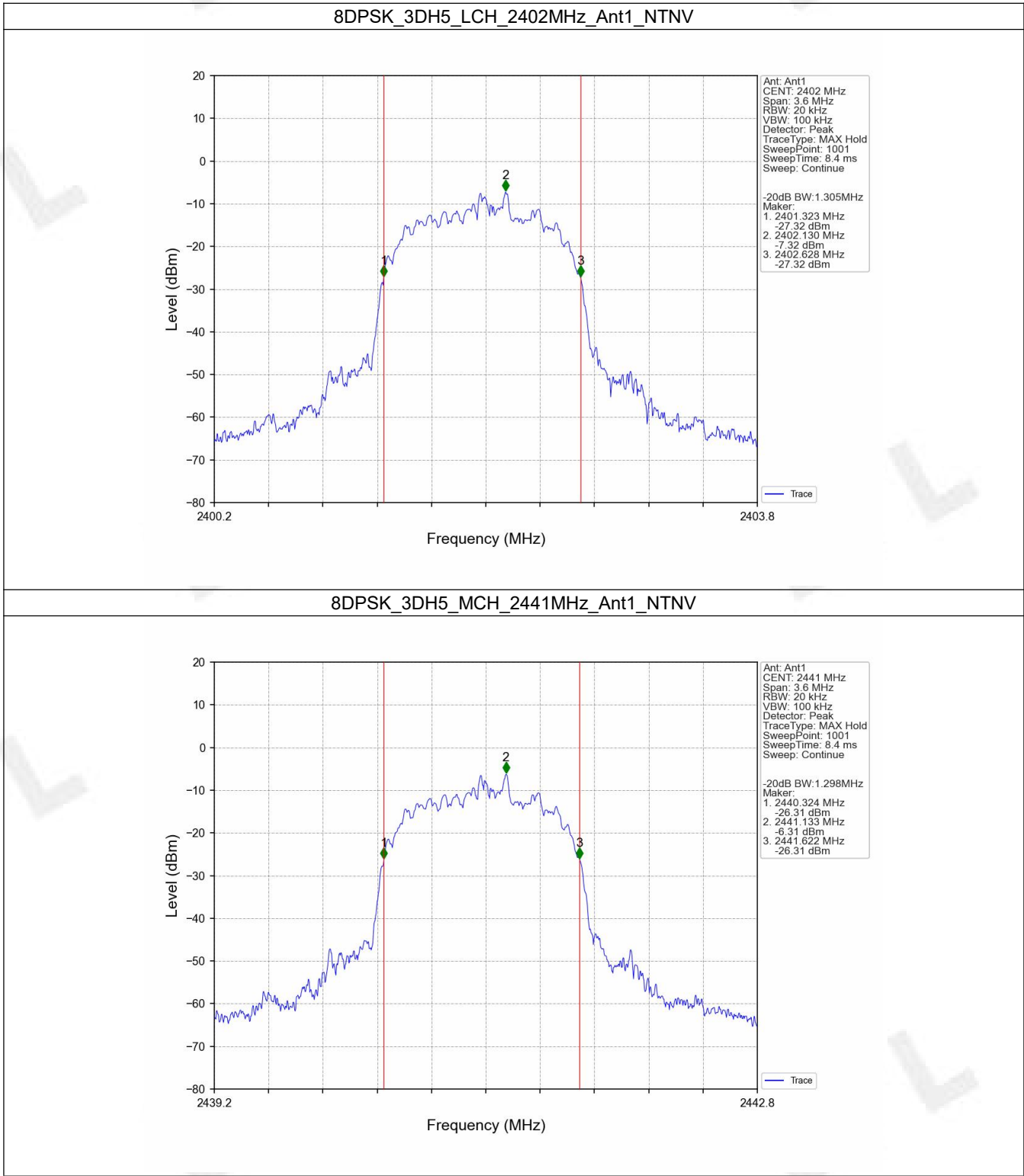
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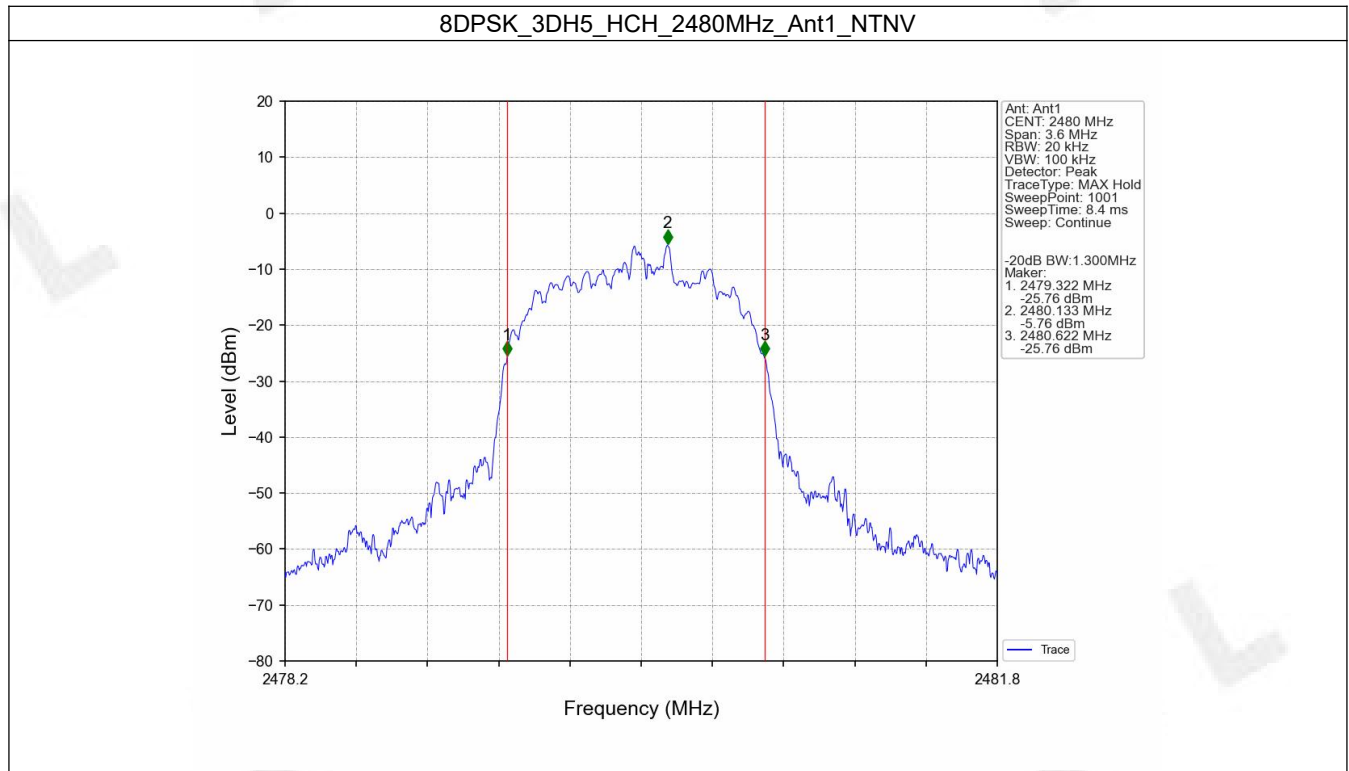
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2. Maximum Conducted Output Power

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	-2.76	≤ 30	Pass
		2441	DH5	-2.22	≤ 30	Pass
		2480	DH5	-1.45	≤ 30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-0.15	≤ 20.97	Pass
		2441	2DH5	0.55	≤ 20.97	Pass
		2480	2DH5	1.21	≤ 20.97	Pass
8DPSK	SISO	2402	3DH5	0.24	≤ 20.97	Pass
		2441	3DH5	0.90	≤ 20.97	Pass
		2480	3DH5	1.61	≤ 20.97	Pass

Note1: Antenna Gain: Ant1: -0.19dBi;

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3. Carrier Frequency Separation

3.1 Test Result

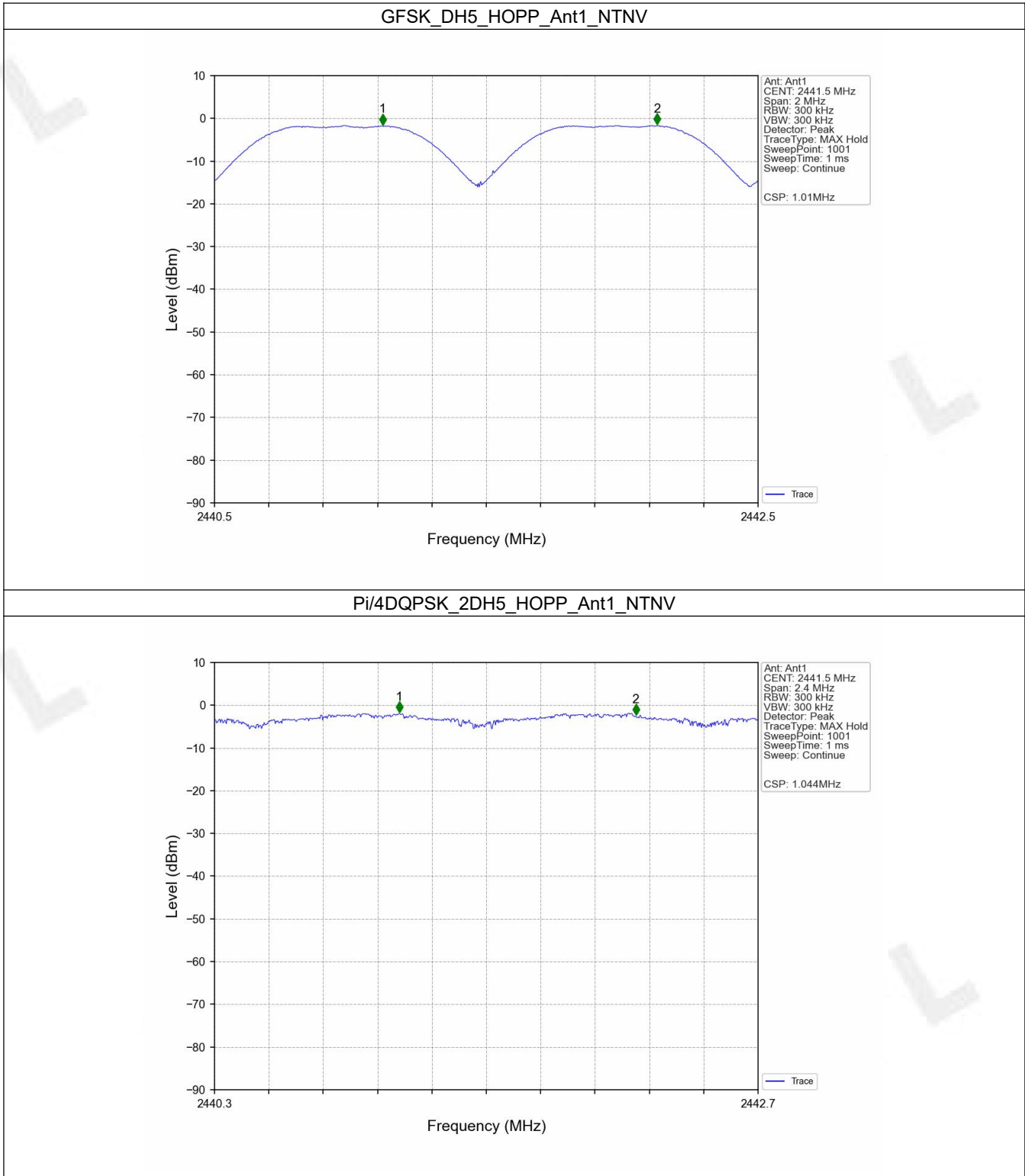
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.010	0.882	≥ 0.882	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.044	1.321	≥ 0.881	Pass
8DPSK	SISO	HOPP	3DH5	1.039	1.305	≥ 0.87	Pass

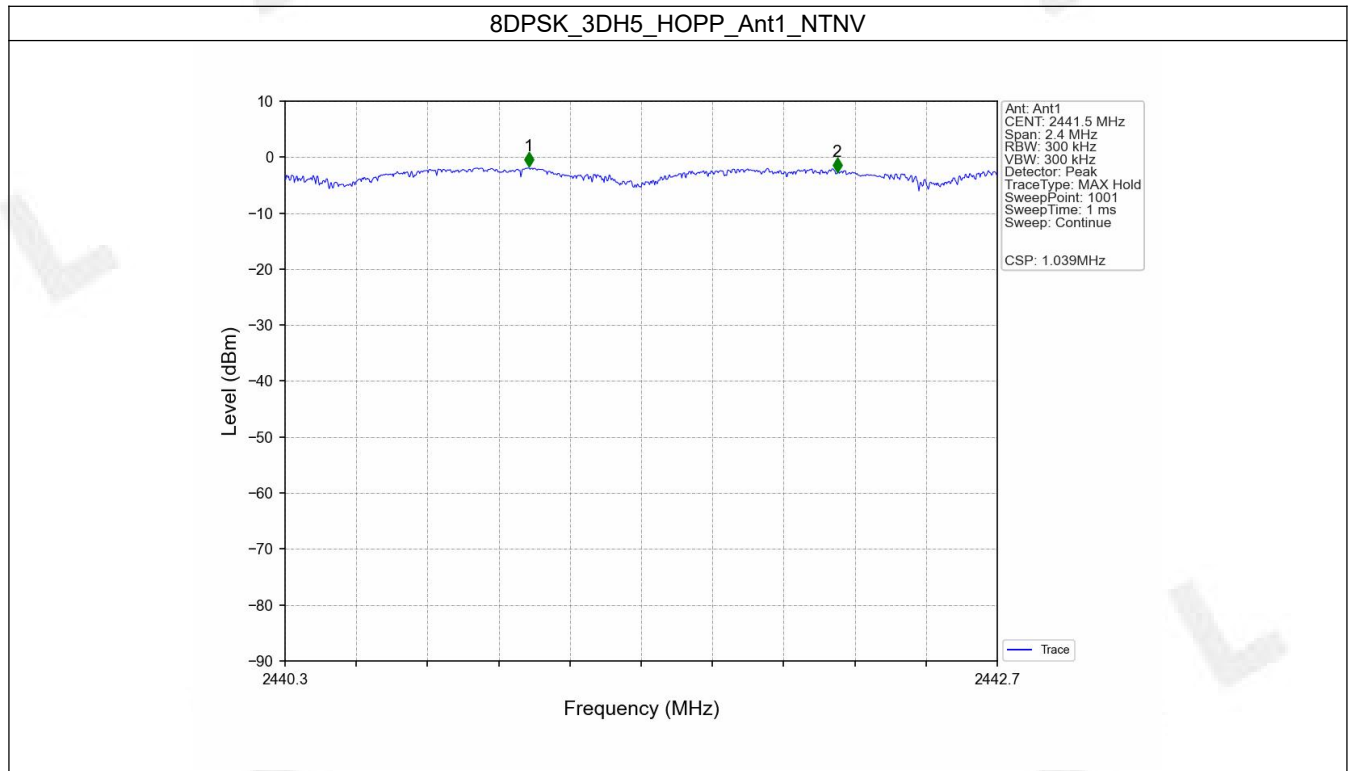
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3.2 Test Graph

3.2.1 Ant1



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4. Number of Hopping Frequencies

4.1 Test Result

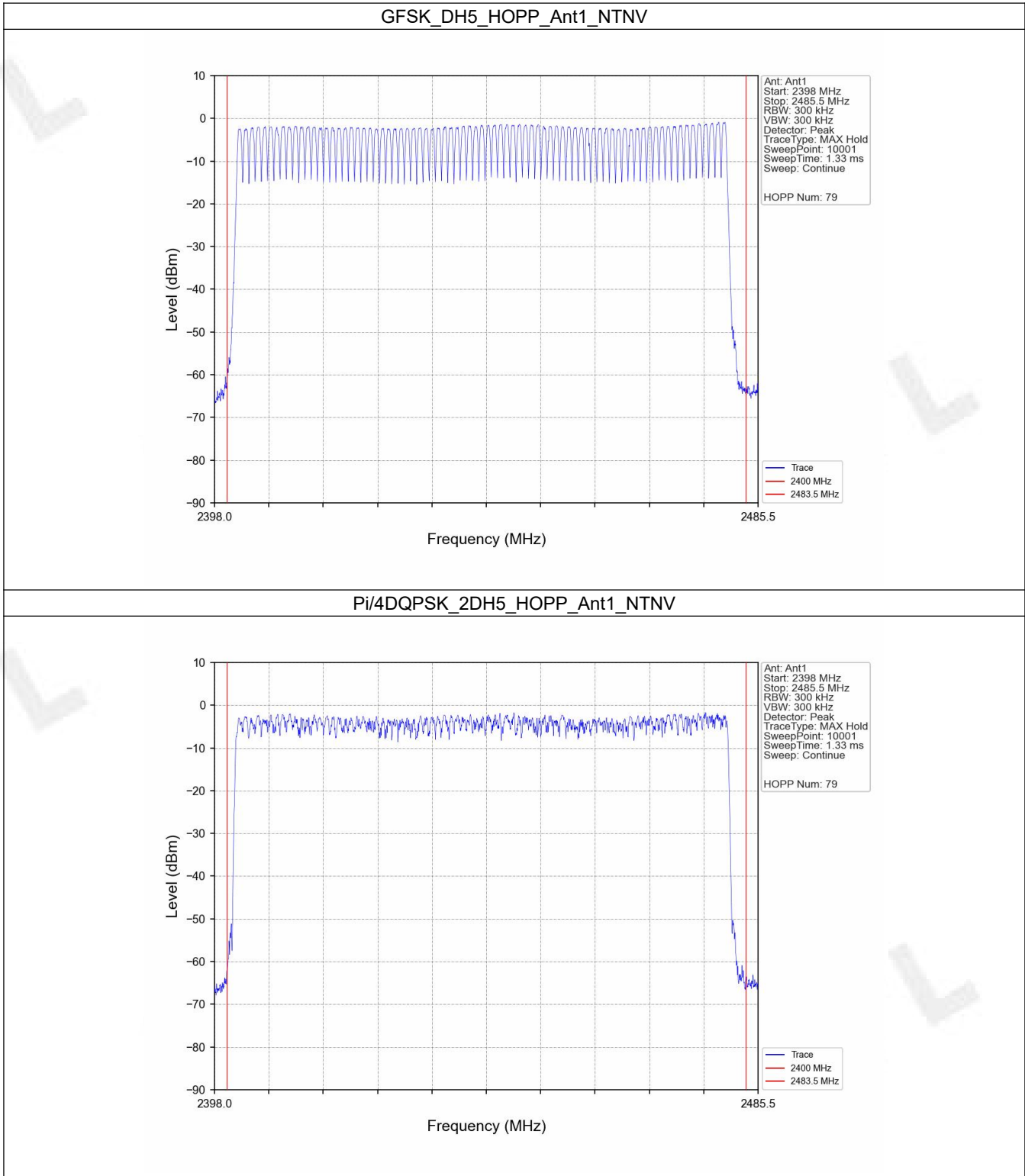
4.1.1 HoppNum

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

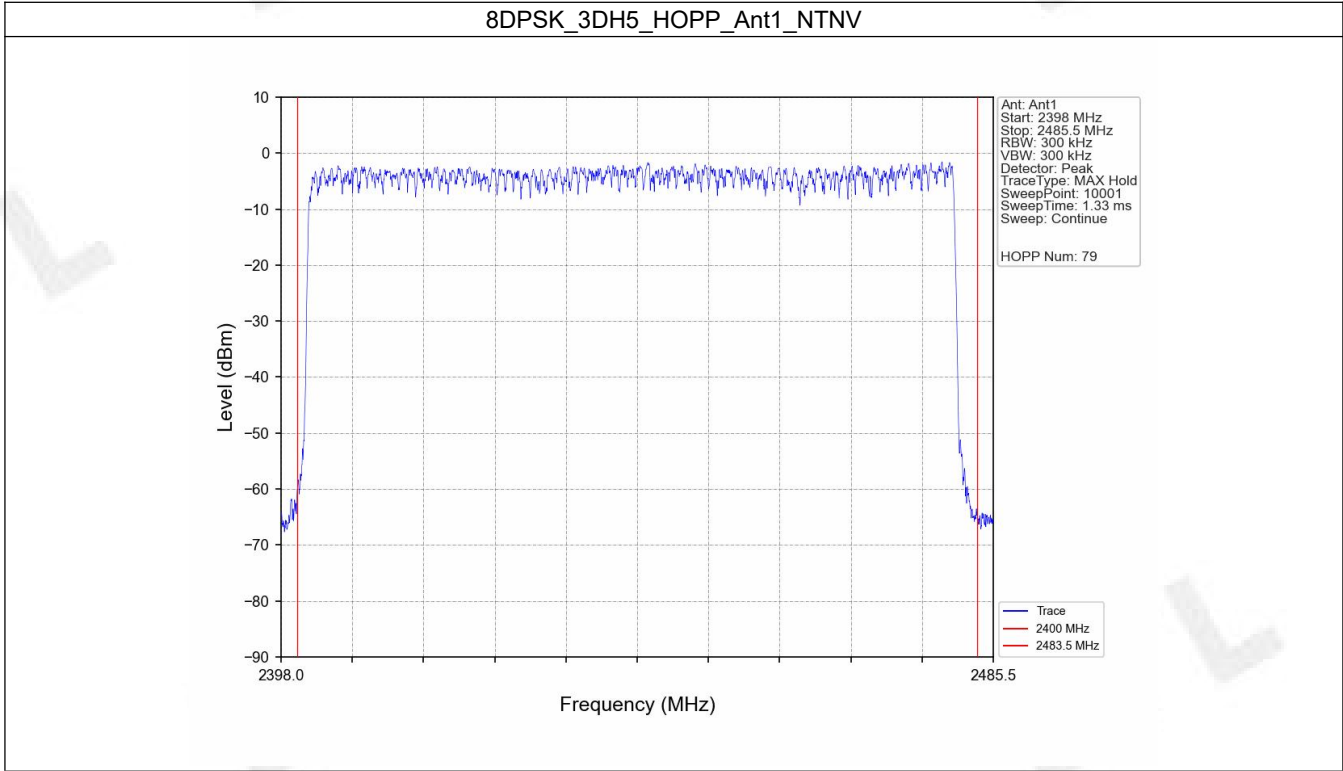
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4.2 Test Graph

4.2.1 HoppNum



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FCC ID: 2BYAF-XFIX-EX30

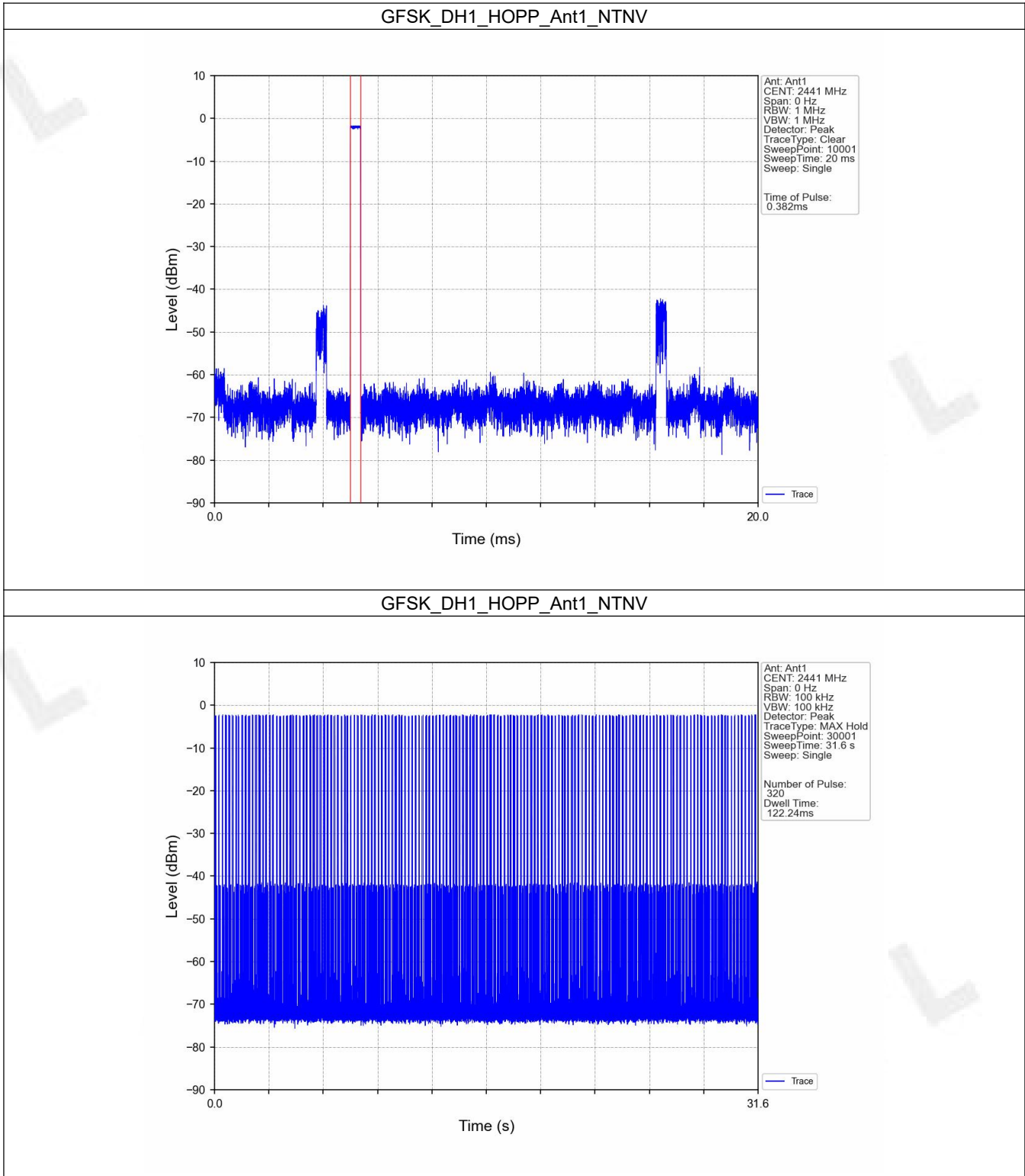
5. Time of Occupancy (Dwell Time)**5.1 Test Result****5.1.1 Ant1**

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	0.382	31.600	320	122.240	<=400	Pass
			DH3	1.640	31.600	163	267.320	<=400	Pass
			DH5	2.888	31.600	101	291.688	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.394	31.600	317	124.898	<=400	Pass
			2DH3	1.650	31.600	152	250.800	<=400	Pass
			2DH5	2.898	31.600	88	255.024	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.392	31.600	320	125.440	<=400	Pass
			3DH3	1.648	31.600	155	255.440	<=400	Pass
			3DH5	2.900	31.600	105	304.500	<=400	Pass

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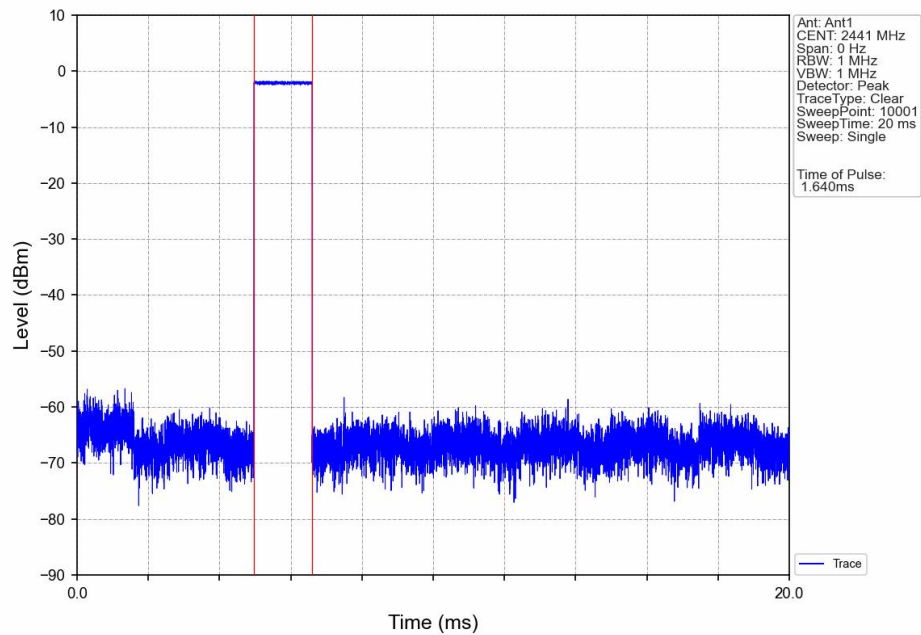
5.2 Test Graph

5.2.1 Ant1

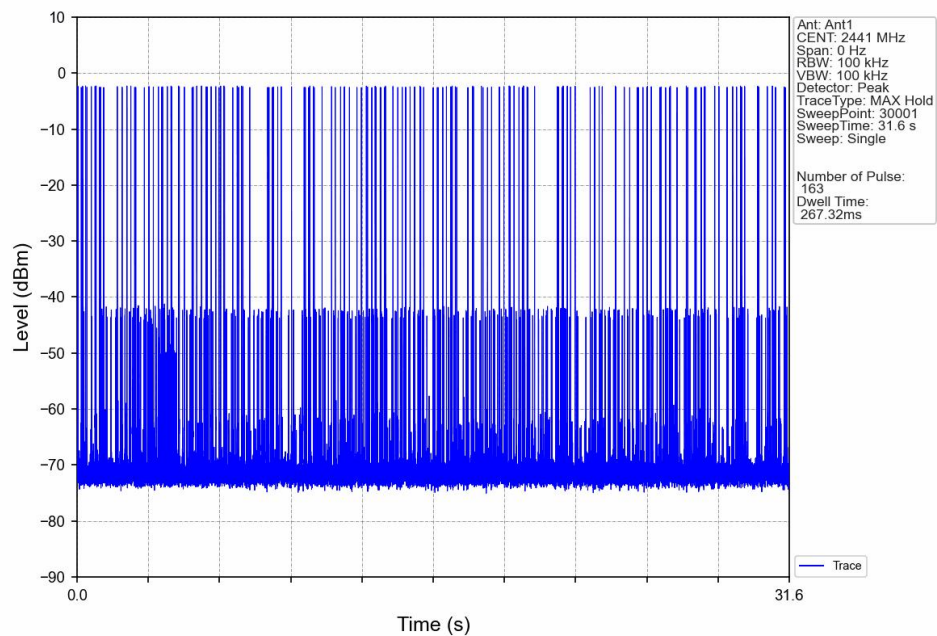


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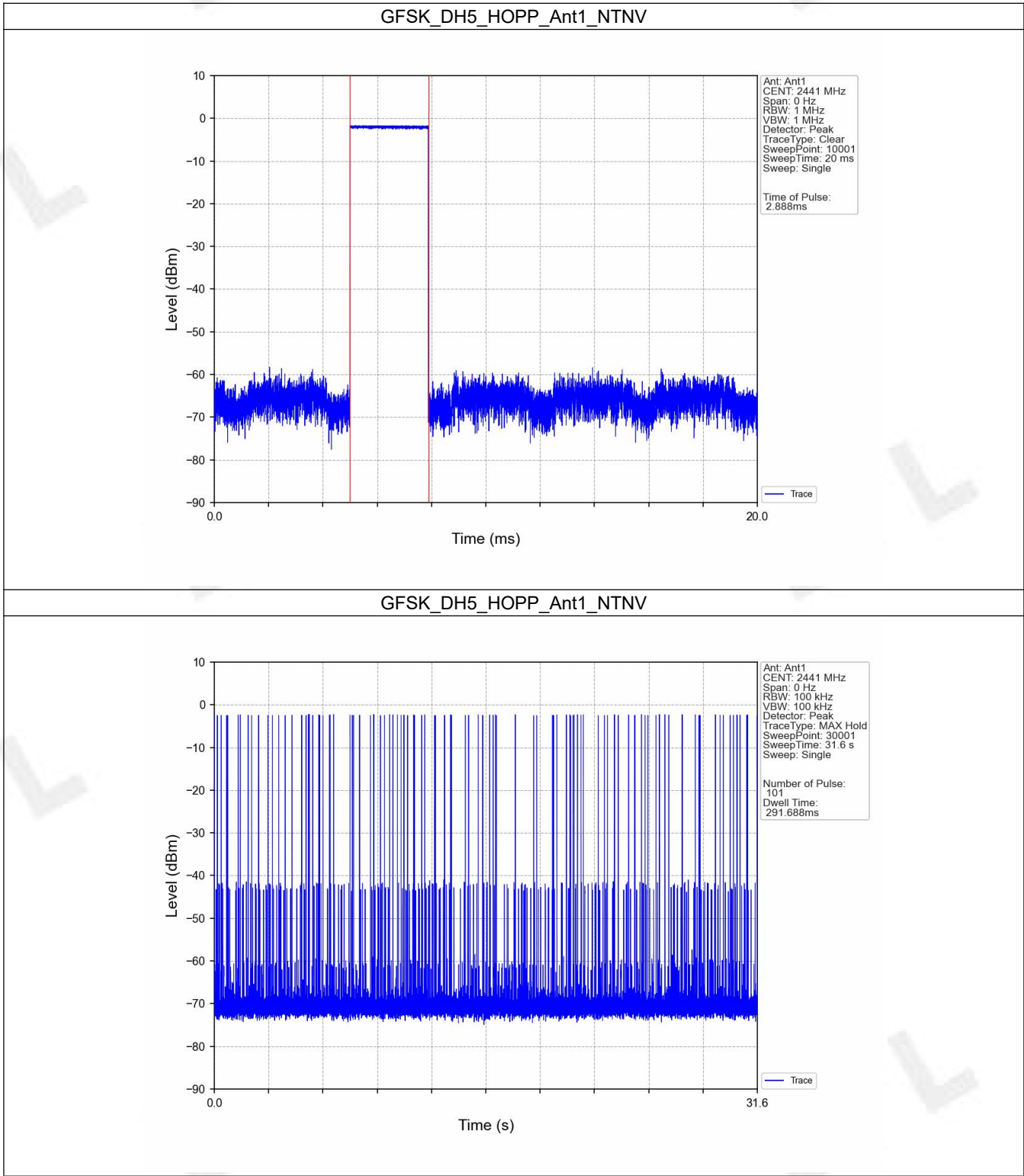
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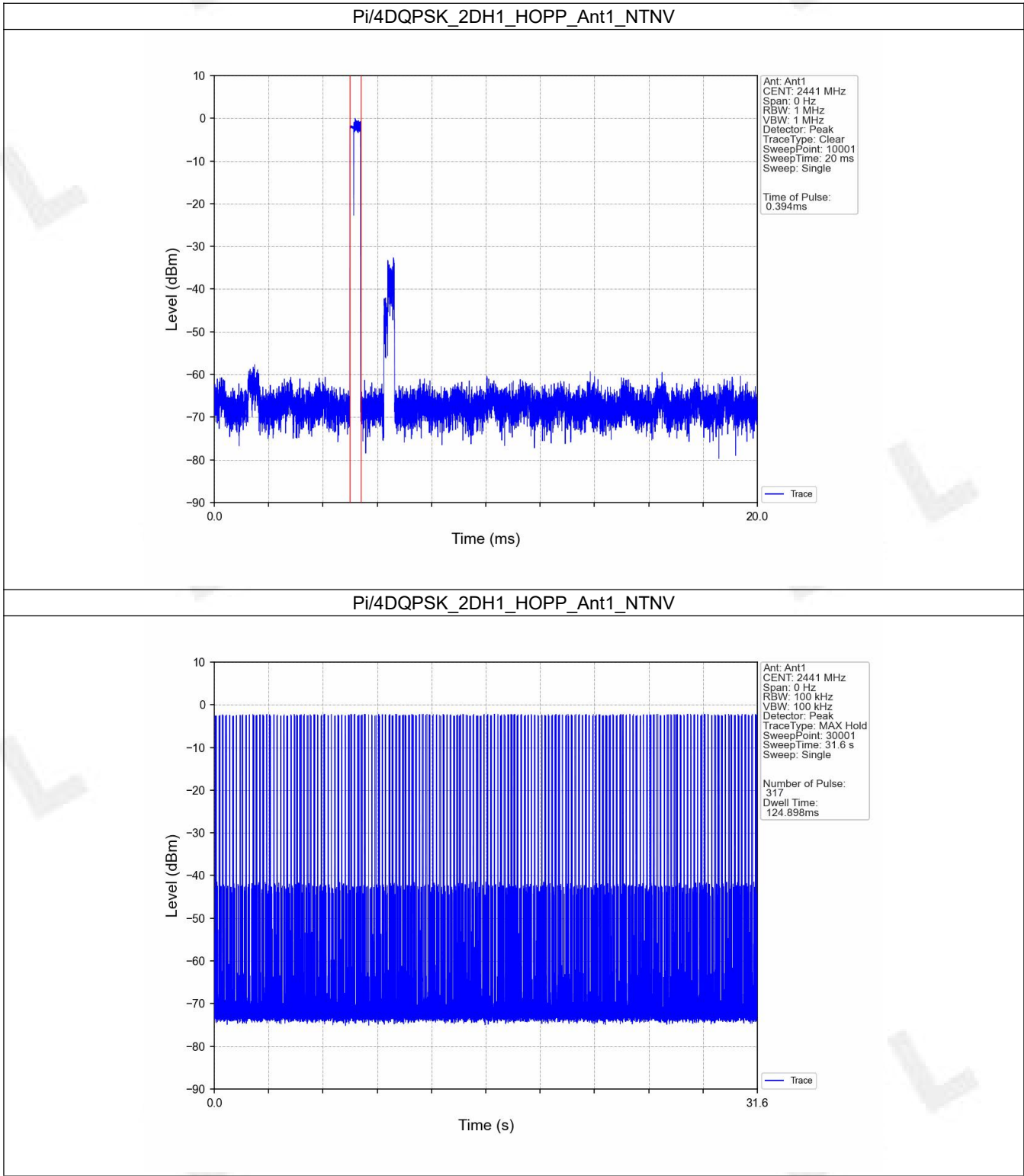
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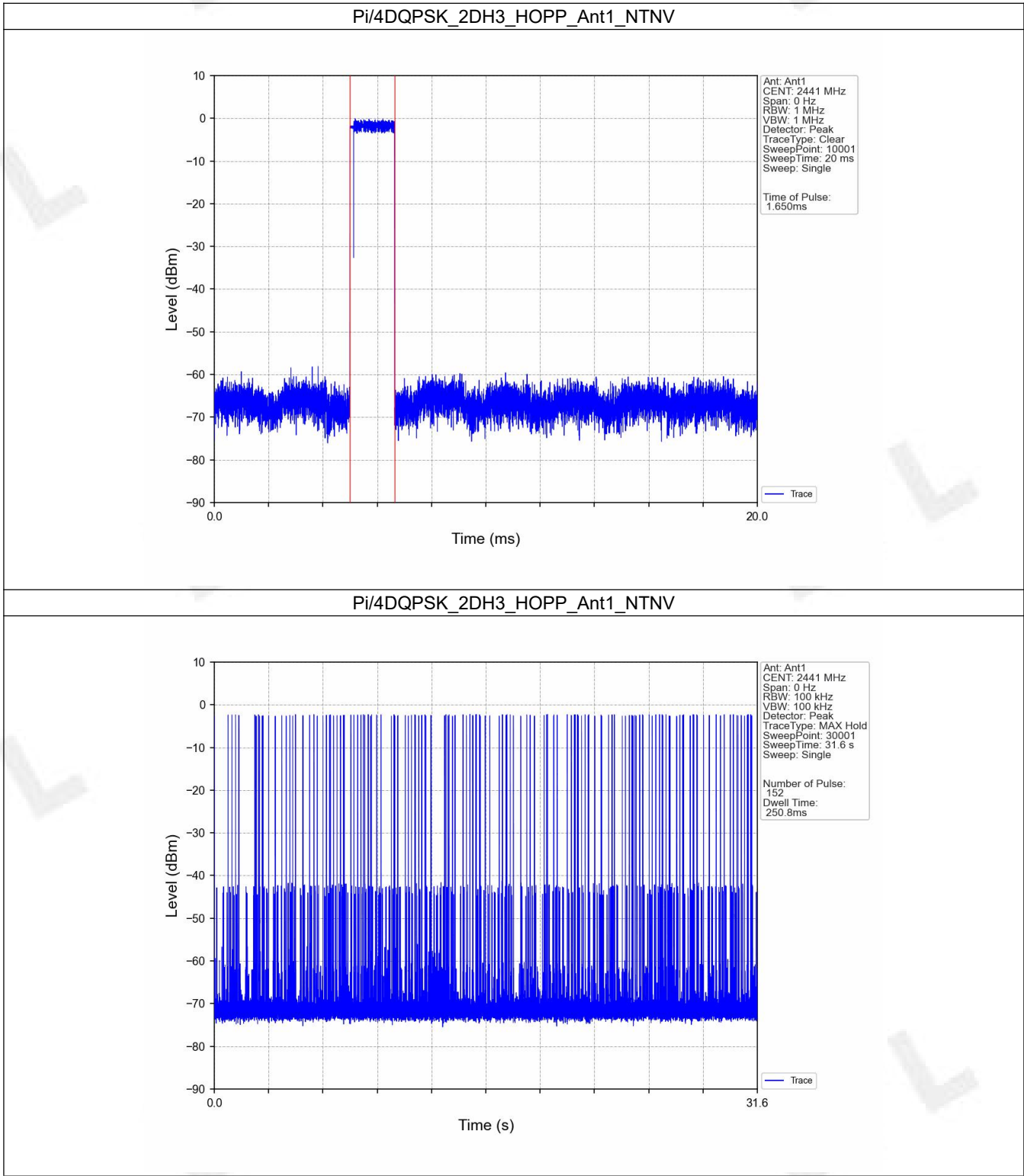
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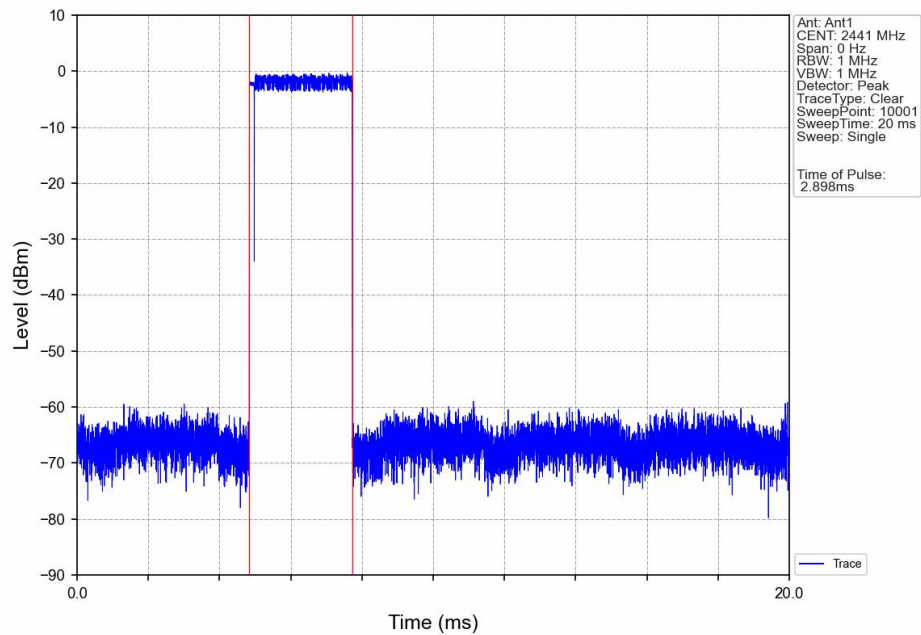


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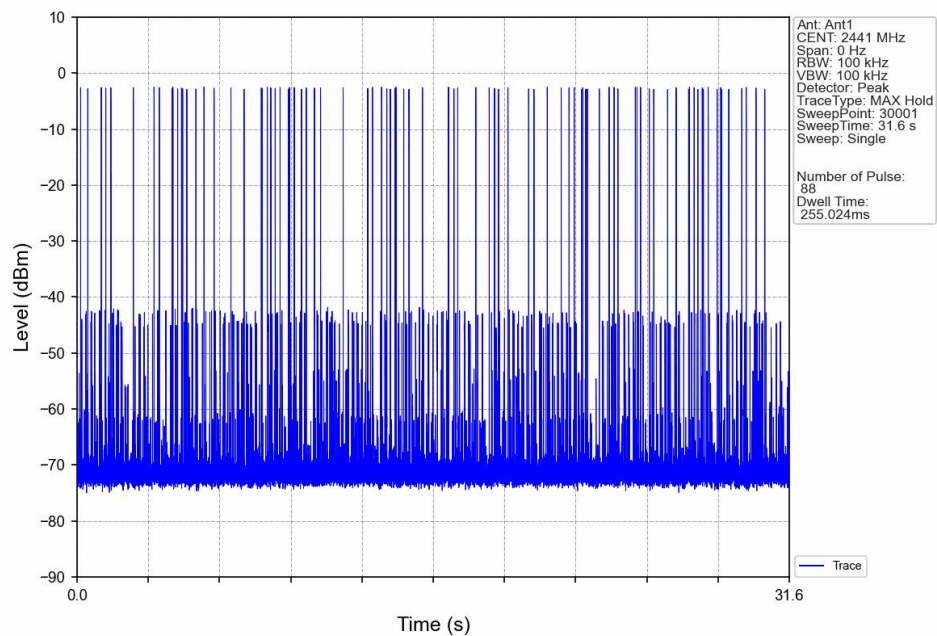


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Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

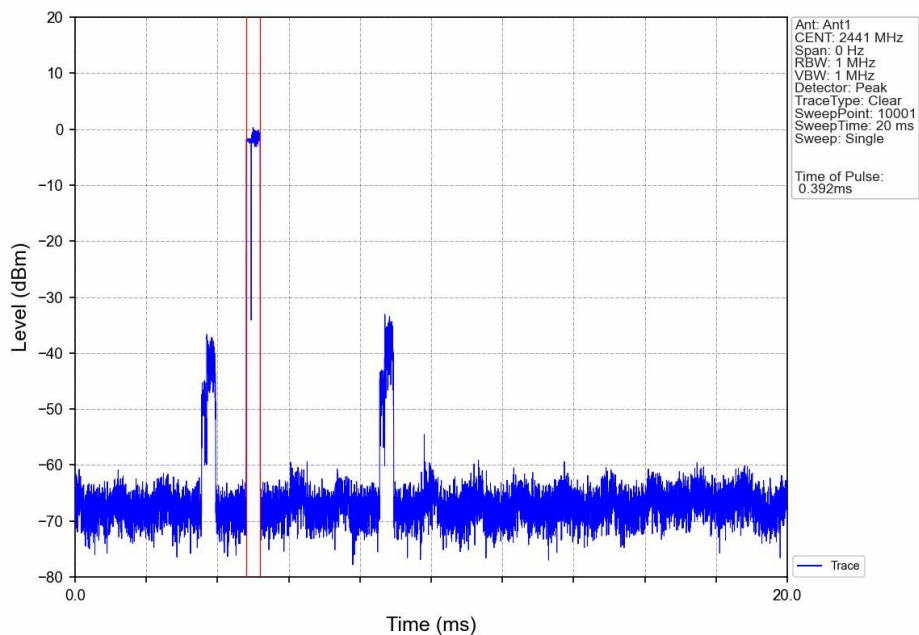


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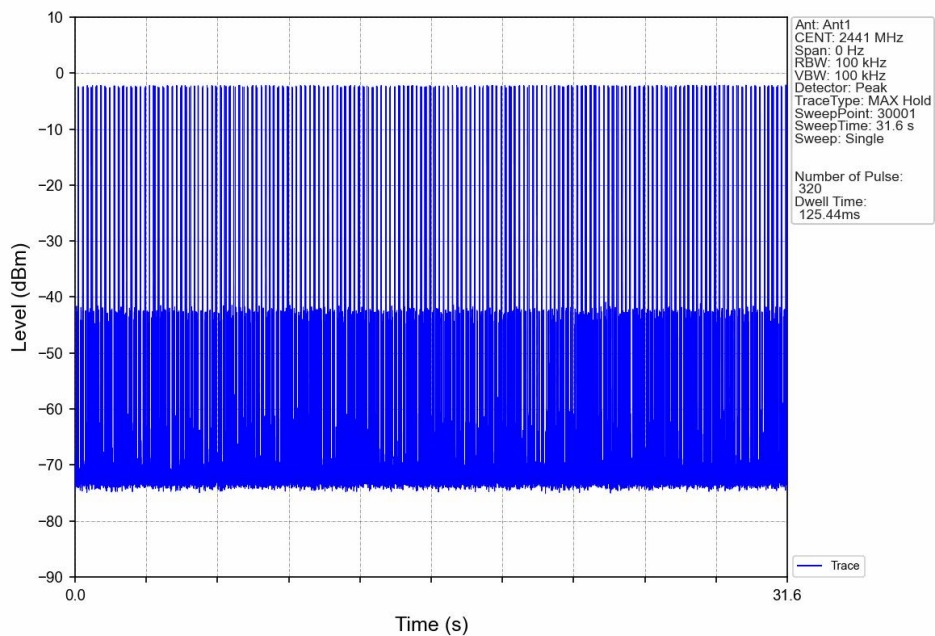


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8DPSK_3DH1_HOPP_Ant1_NTNV

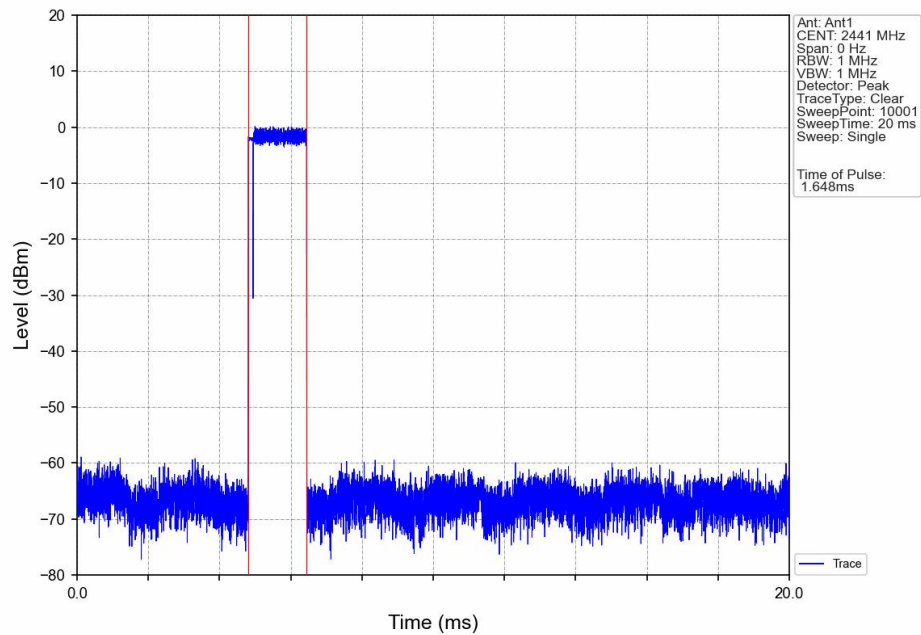


8DPSK_3DH1_HOPP_Ant1_NTNV

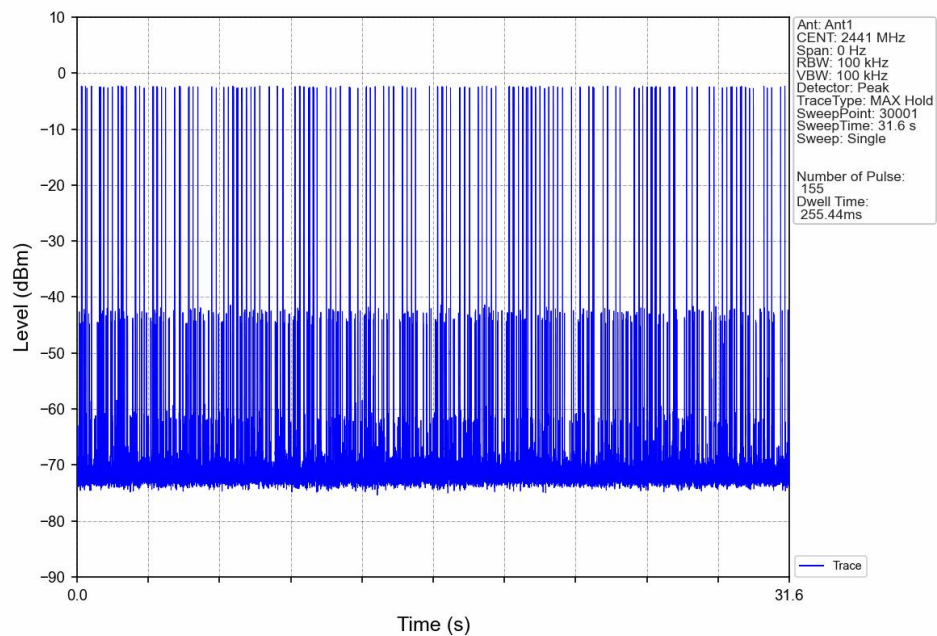


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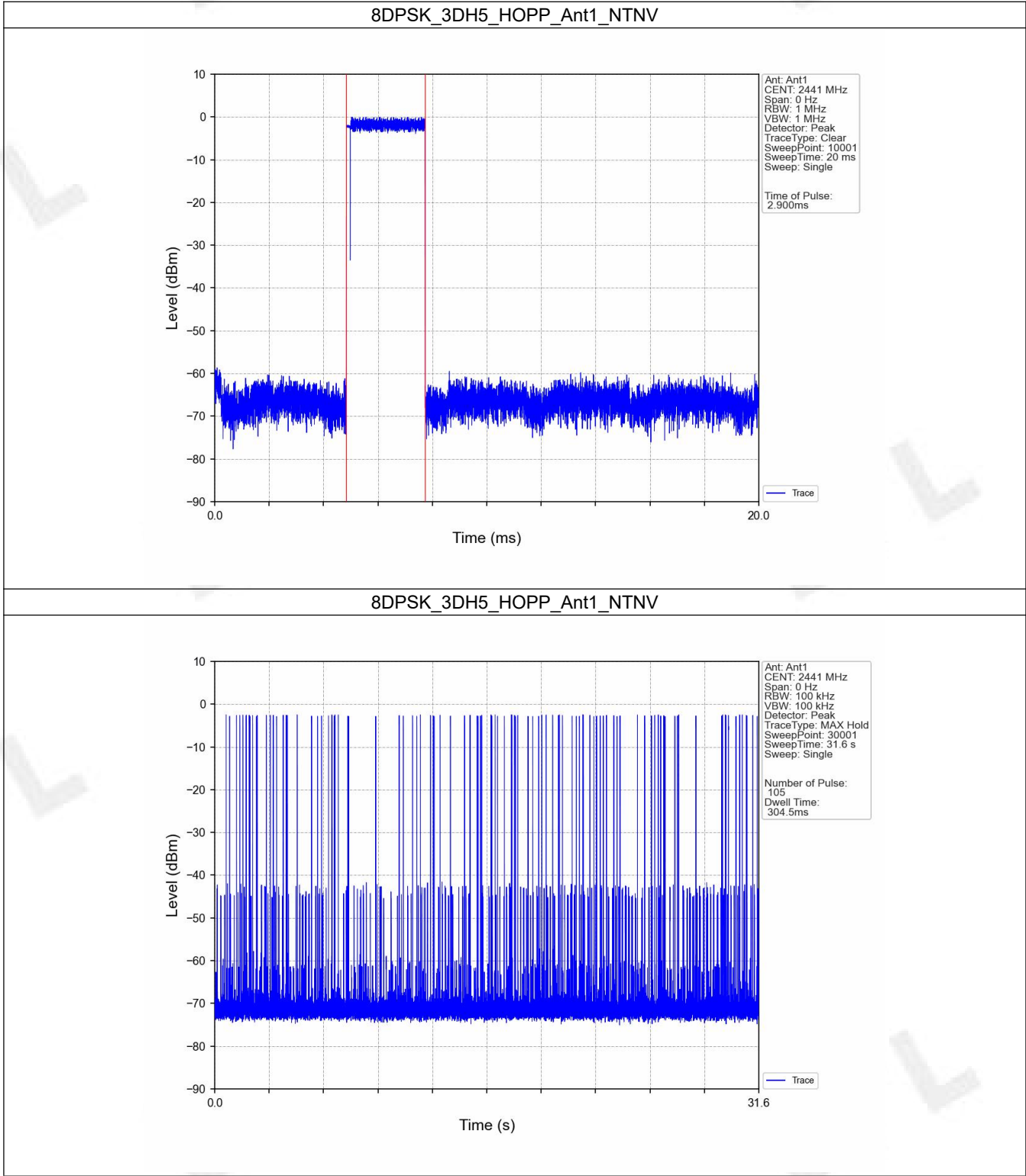
8DPSK_3DH3_HOPP_Ant1_NTNV



8DPSK_3DH3_HOPP_Ant1_NTNV



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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	-3.07
		2441	DH5	1	-2.42
		2480	DH5	1	-1.66
		HOPP	DH5	1	-1.59
					-1.59
Pi/4DQPSK	SISO	2402	2DH5	1	-2.67
		2441	2DH5	1	-2.29
		2480	2DH5	1	-1.74
		HOPP	2DH5	1	-2.02
					-2.02
8DPSK	SISO	2402	3DH5	1	-2.73
		2441	3DH5	1	-2.07
		2480	3DH5	1	-1.33
		HOPP	3DH5	1	-1.69
					-1.69

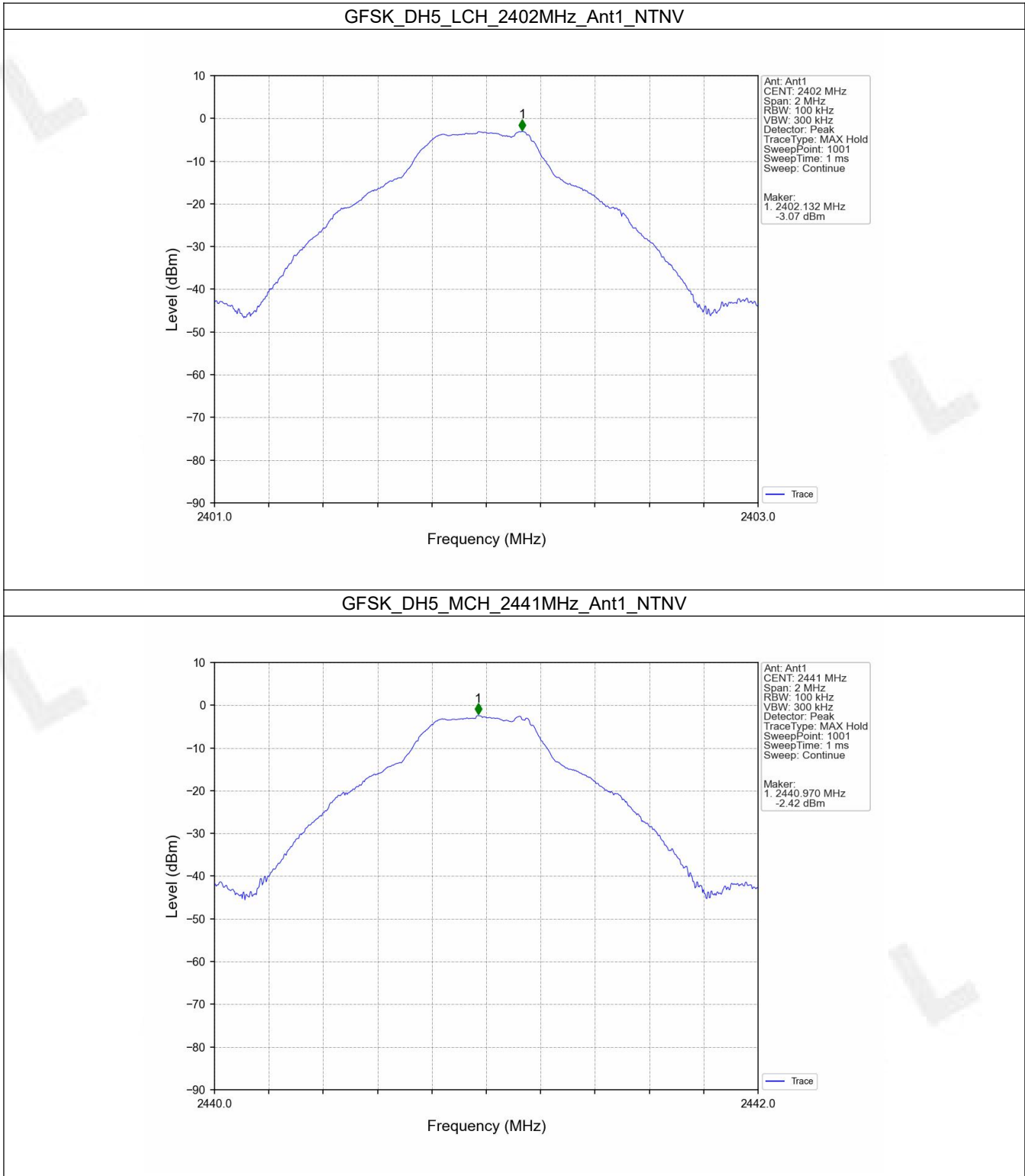
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-3.07	-23.07	Pass
		2441	DH5	1	-2.42	-22.42	Pass
		2480	DH5	1	-1.66	-21.66	Pass
		HOPP	DH5	1	-1.59	-21.59	Pass
					-1.59	-21.59	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-2.67	-22.67	Pass
		2441	2DH5	1	-2.29	-22.29	Pass
		2480	2DH5	1	-1.74	-21.74	Pass
		HOPP	2DH5	1	-2.02	-22.02	Pass
					-2.02	-22.02	Pass
8DPSK	SISO	2402	3DH5	1	-2.73	-22.73	Pass
		2441	3DH5	1	-2.07	-22.07	Pass
		2480	3DH5	1	-1.33	-21.33	Pass
		HOPP	3DH5	1	-1.69	-21.69	Pass
					-1.69	-21.69	Pass

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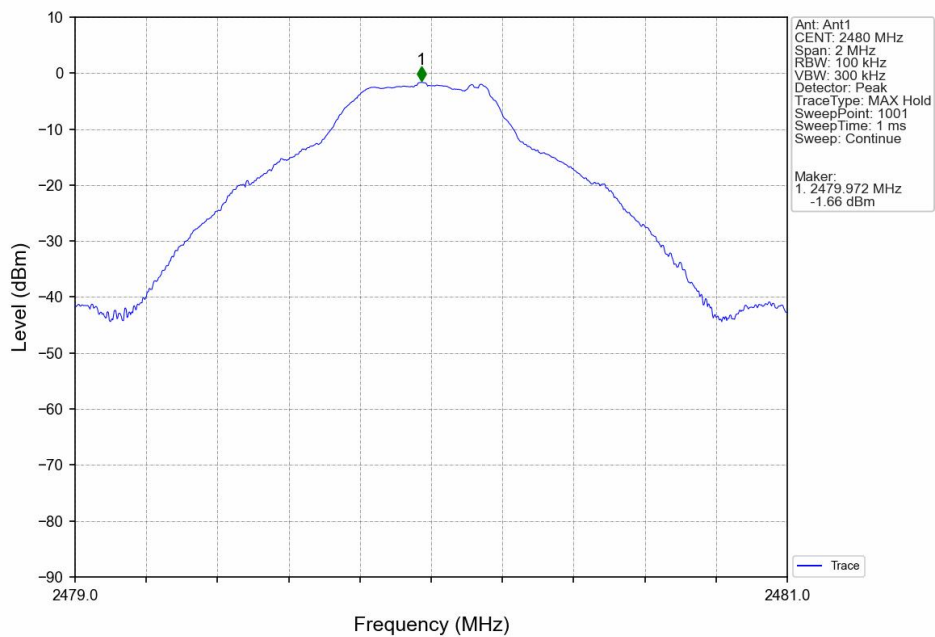
6.2 Test Graph

6.2.1 Ref

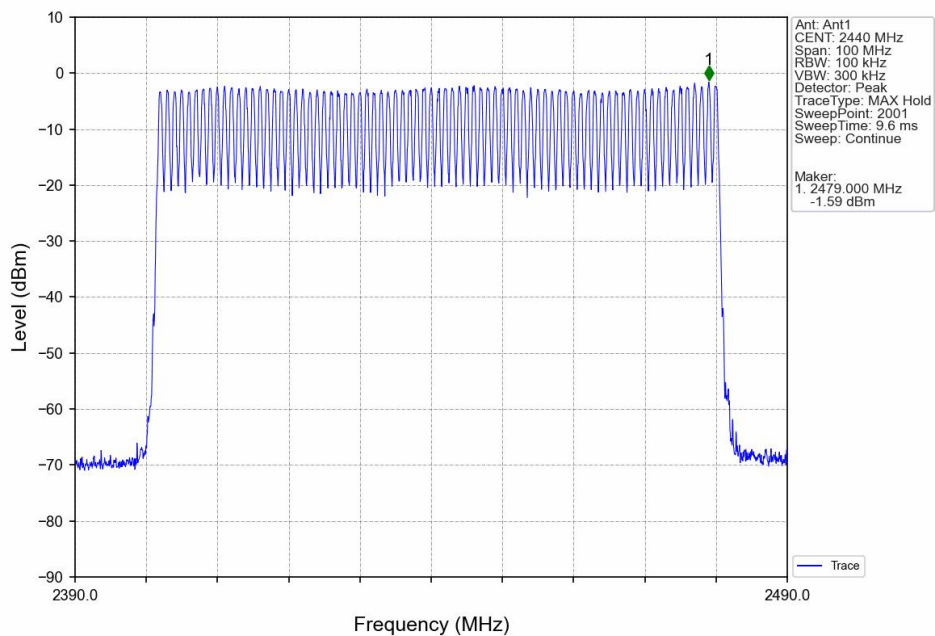


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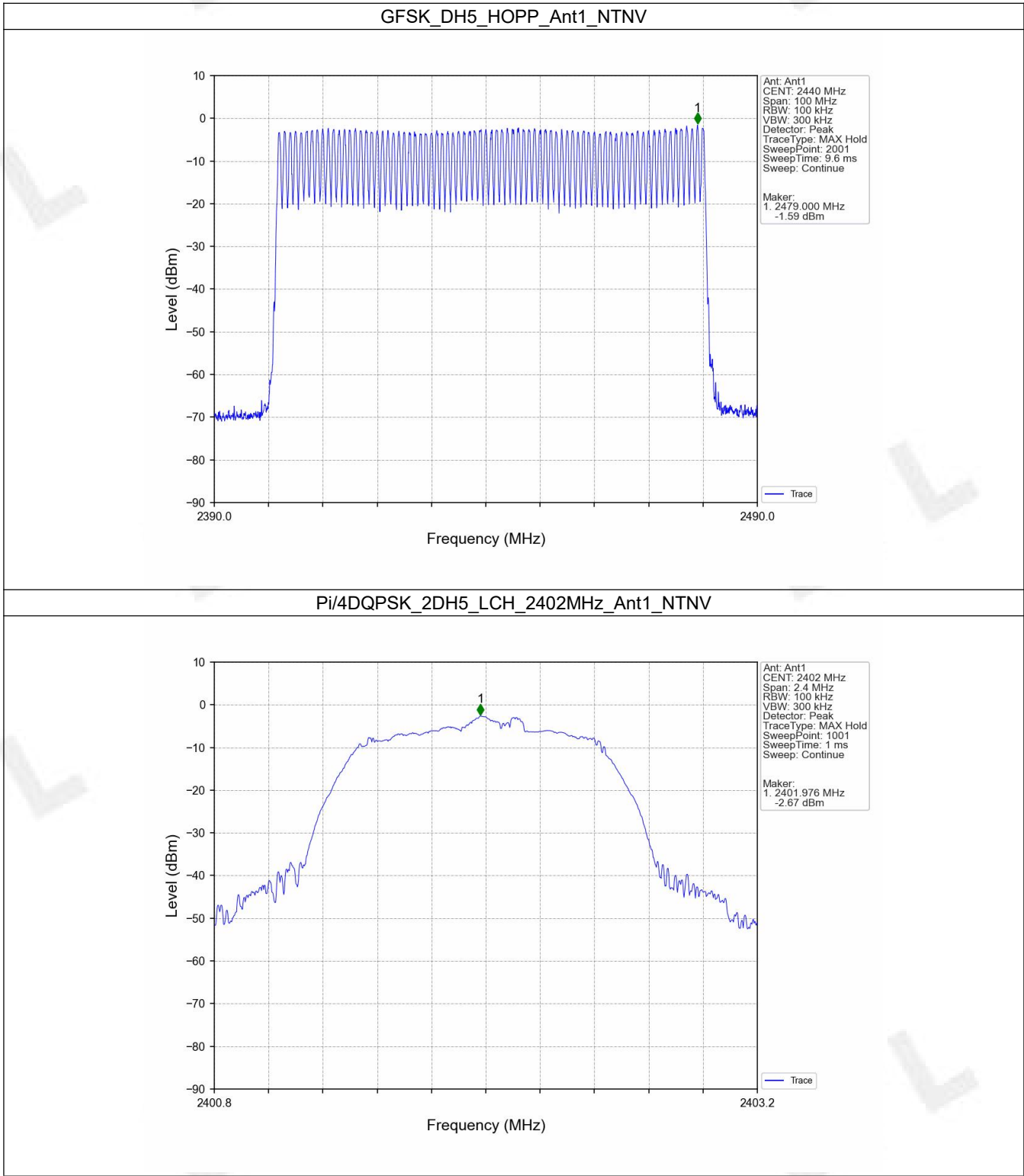
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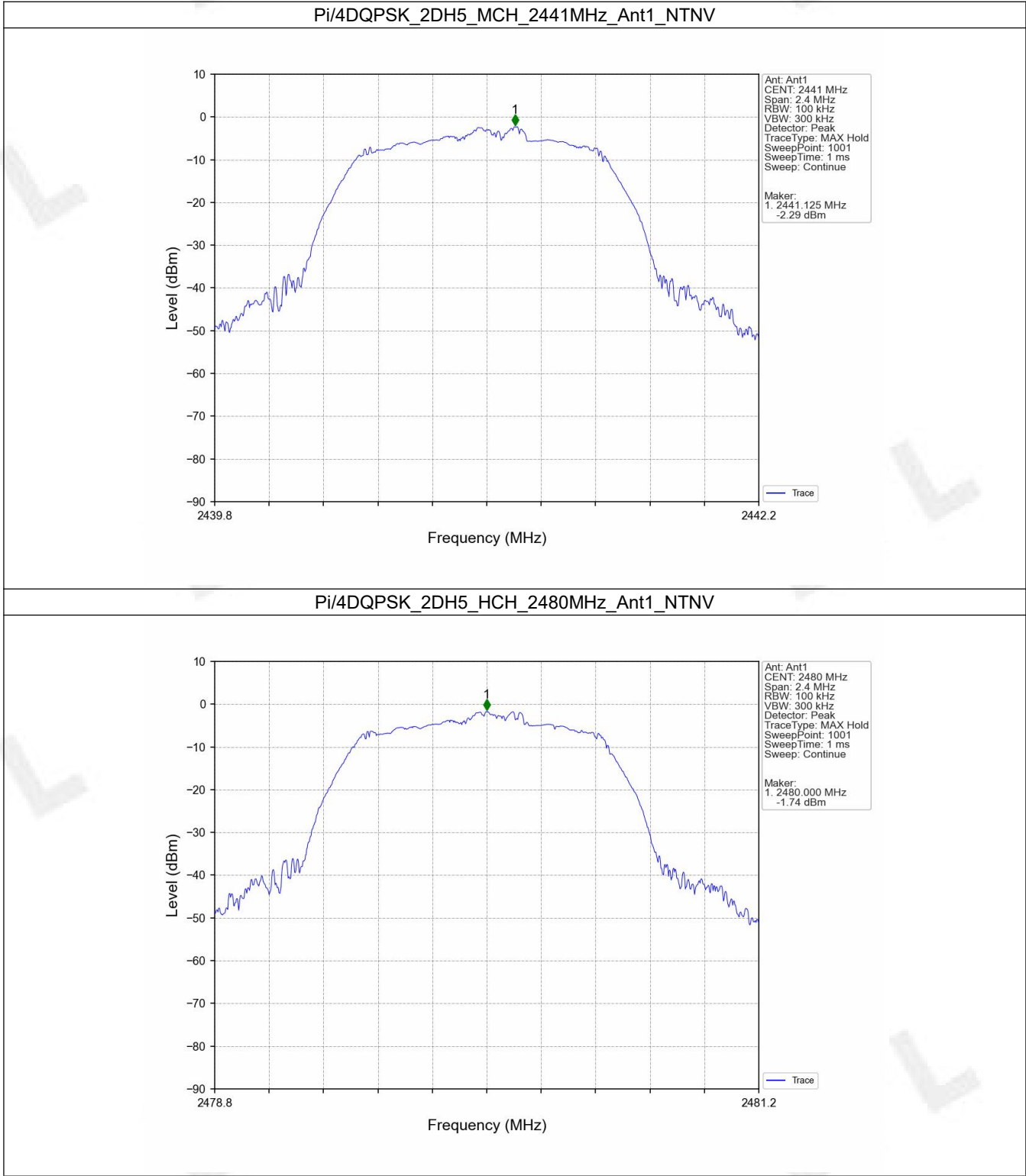
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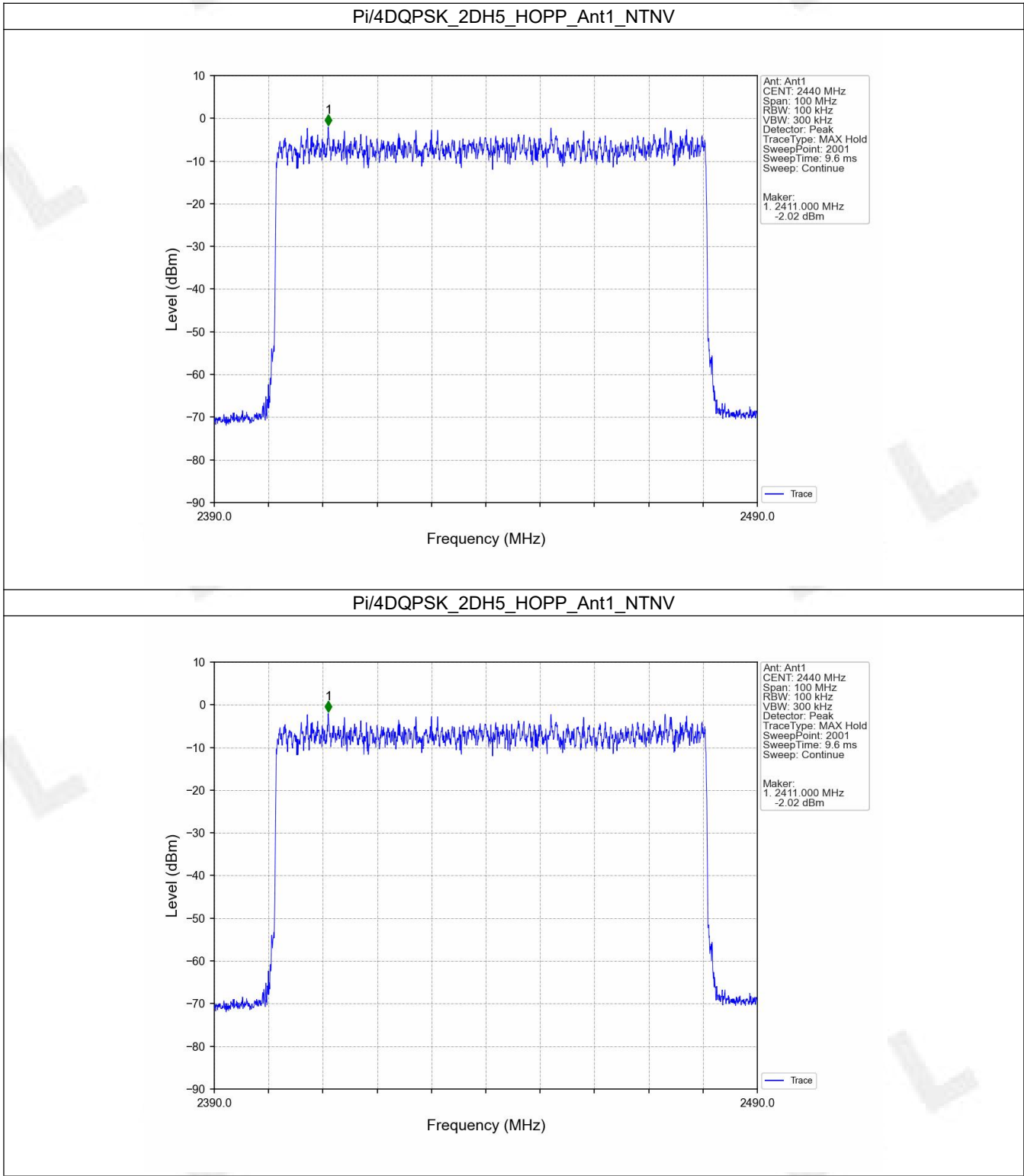
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