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Annex for Bluetooth

Test Report No.: CTL2604012071-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	0.867	/	Pass
		2441	DH5	1	0.869	/	Pass
		2480	DH5	1	0.865	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.194	/	Pass
		2441	2DH5	1	1.194	/	Pass
		2480	2DH5	1	1.192	/	Pass
8DPSK	SISO	2402	3DH5	1	1.197	/	Pass
		2441	3DH5	1	1.191	/	Pass
		2480	3DH5	1	1.195	/	Pass

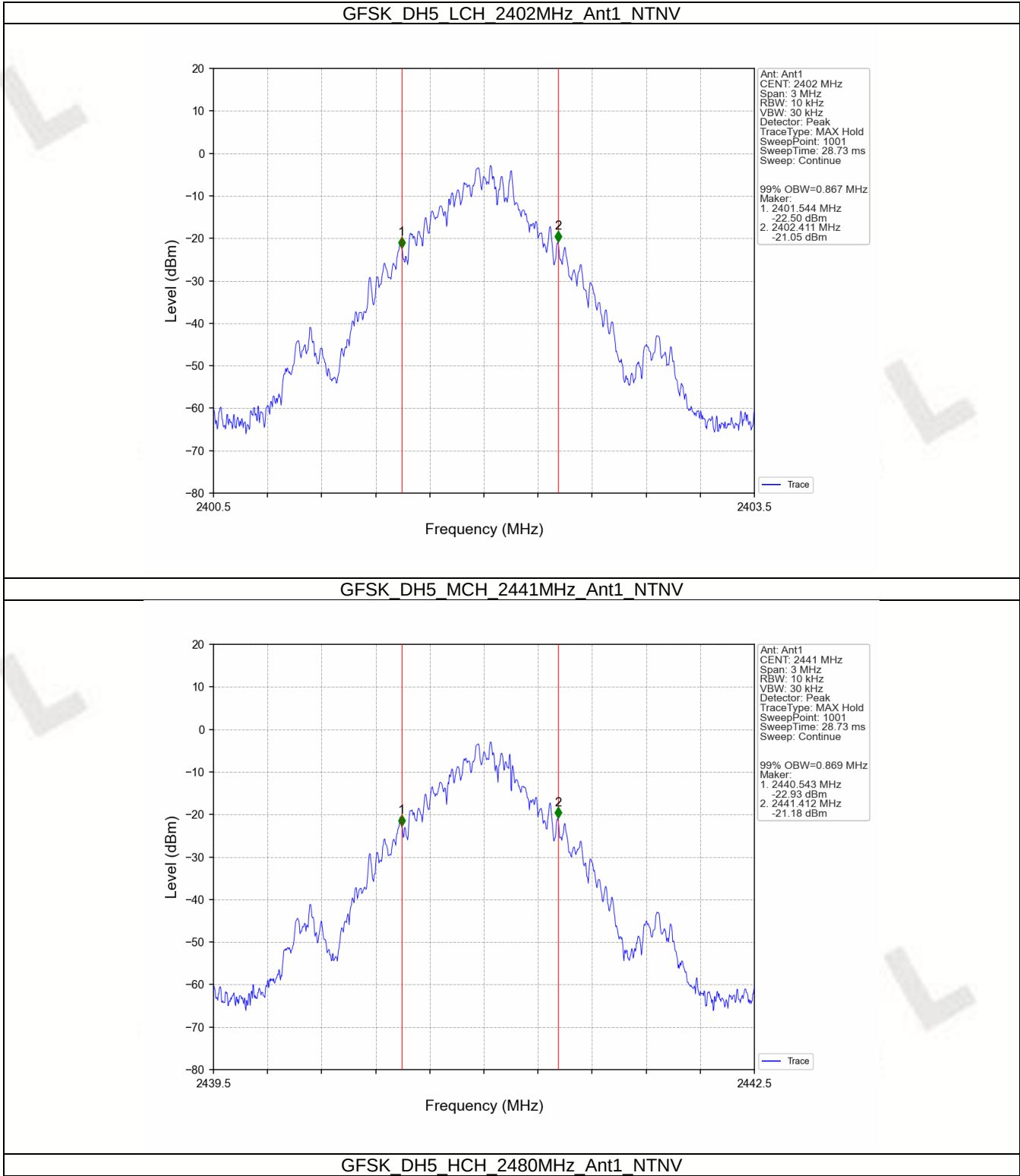
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.927	/	Pass
		2441	DH5	1	0.924	/	Pass
		2480	DH5	1	0.924	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.335	/	Pass
		2441	2DH5	1	1.333	/	Pass
		2480	2DH5	1	1.329	/	Pass
8DPSK	SISO	2402	3DH5	1	1.324	/	Pass
		2441	3DH5	1	1.320	/	Pass
		2480	3DH5	1	1.331	/	Pass

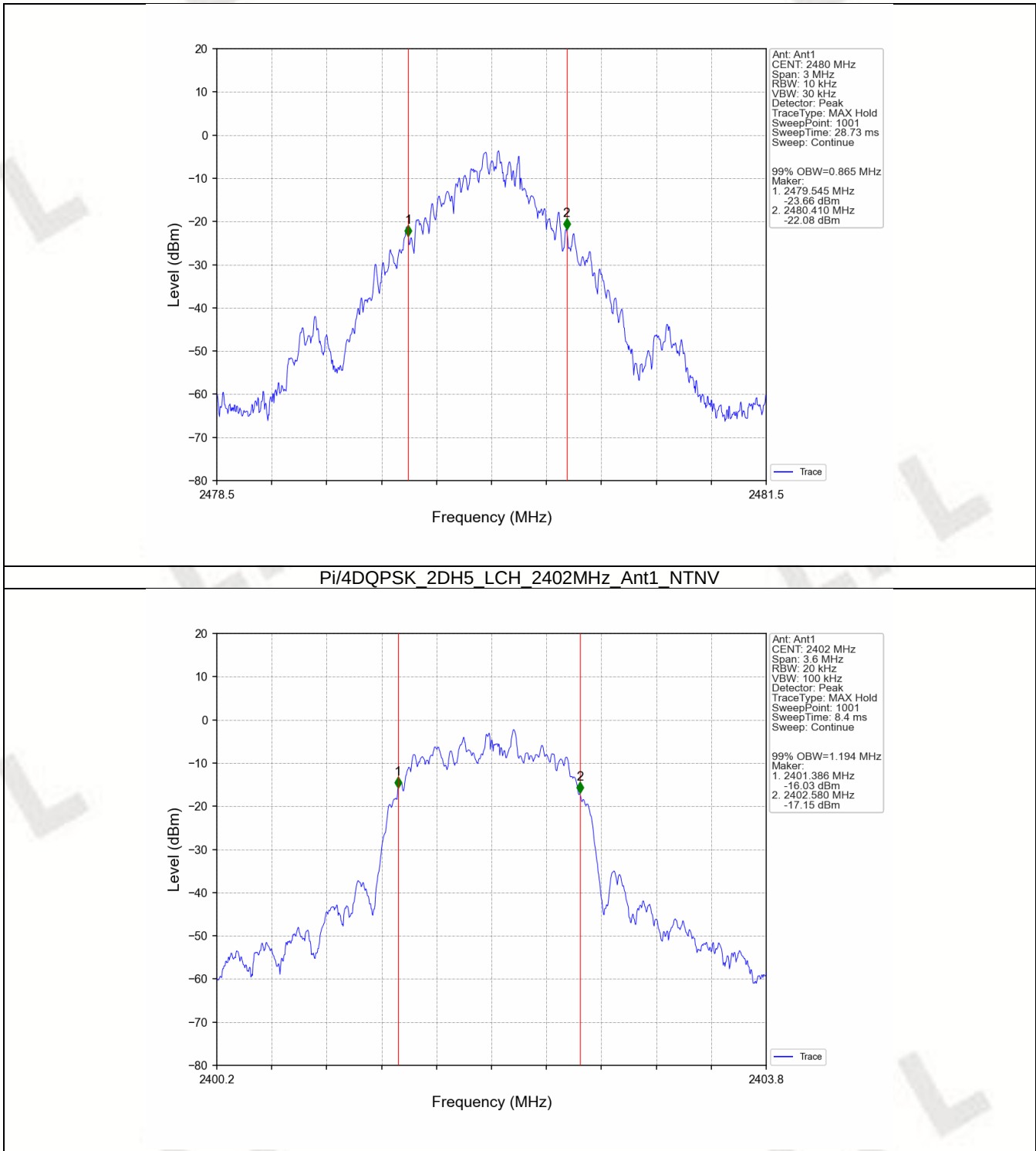
FCCID: 2APQC-TIDE16

1.2 Test Graph

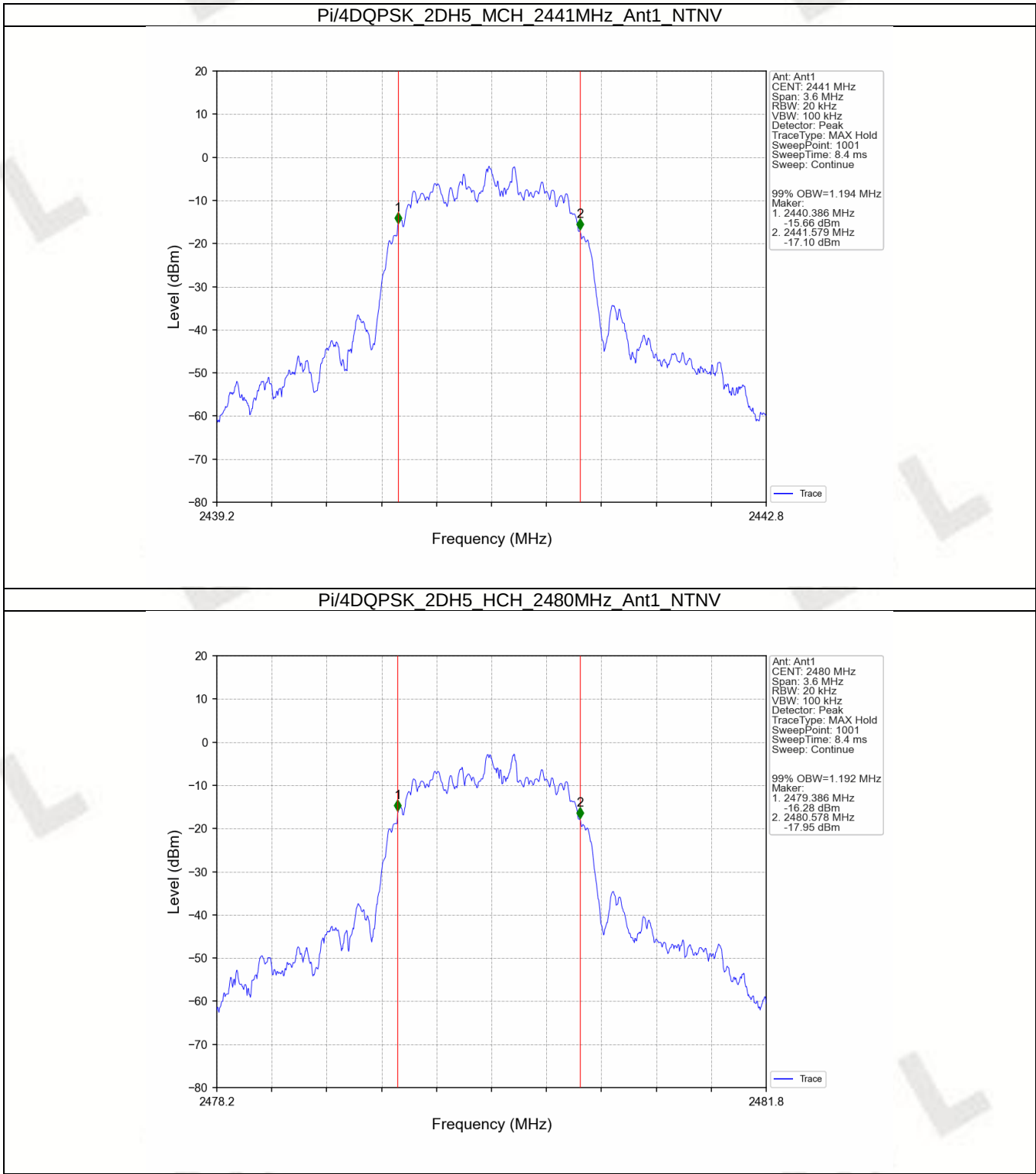
1.2.1 OBW



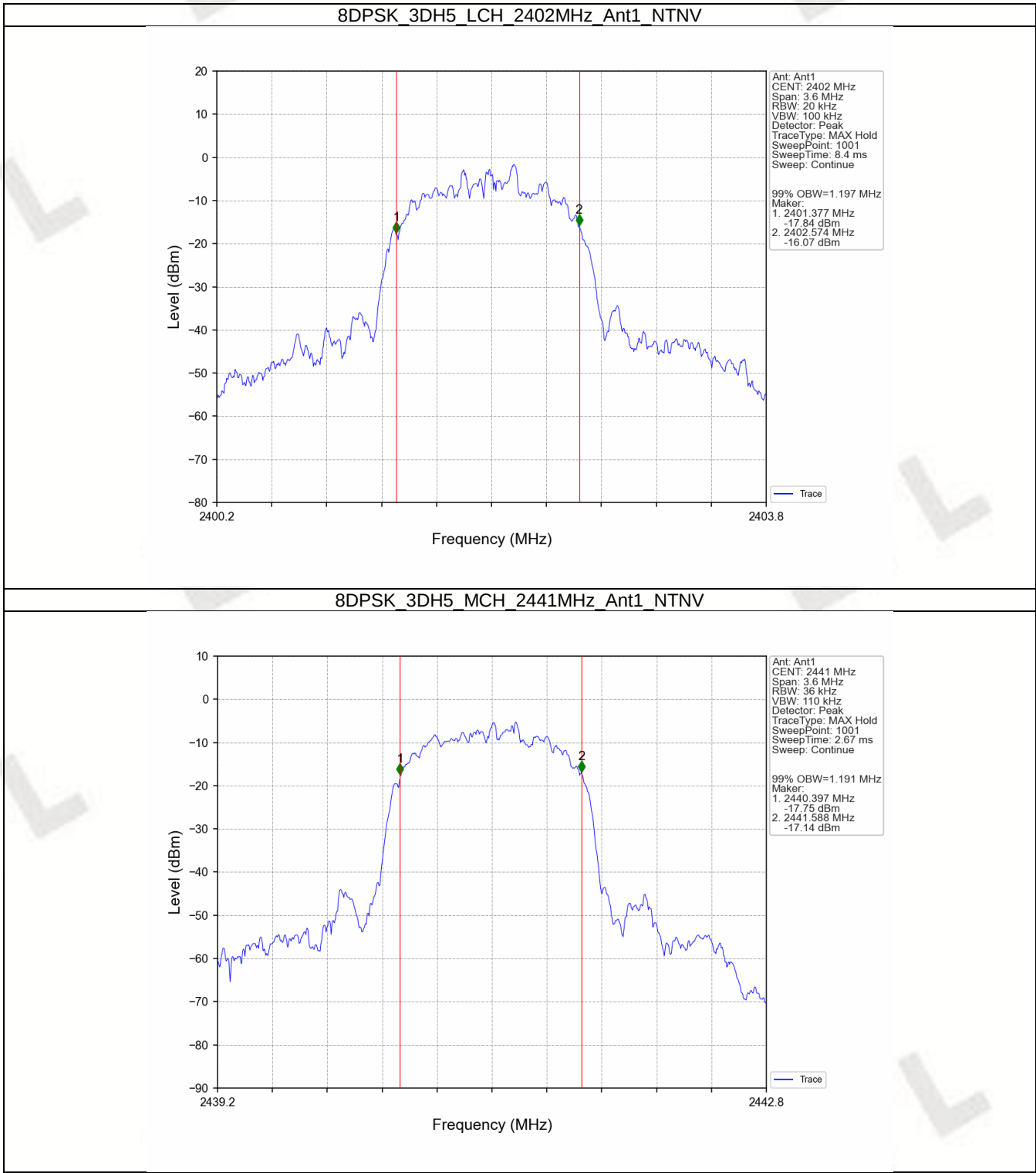
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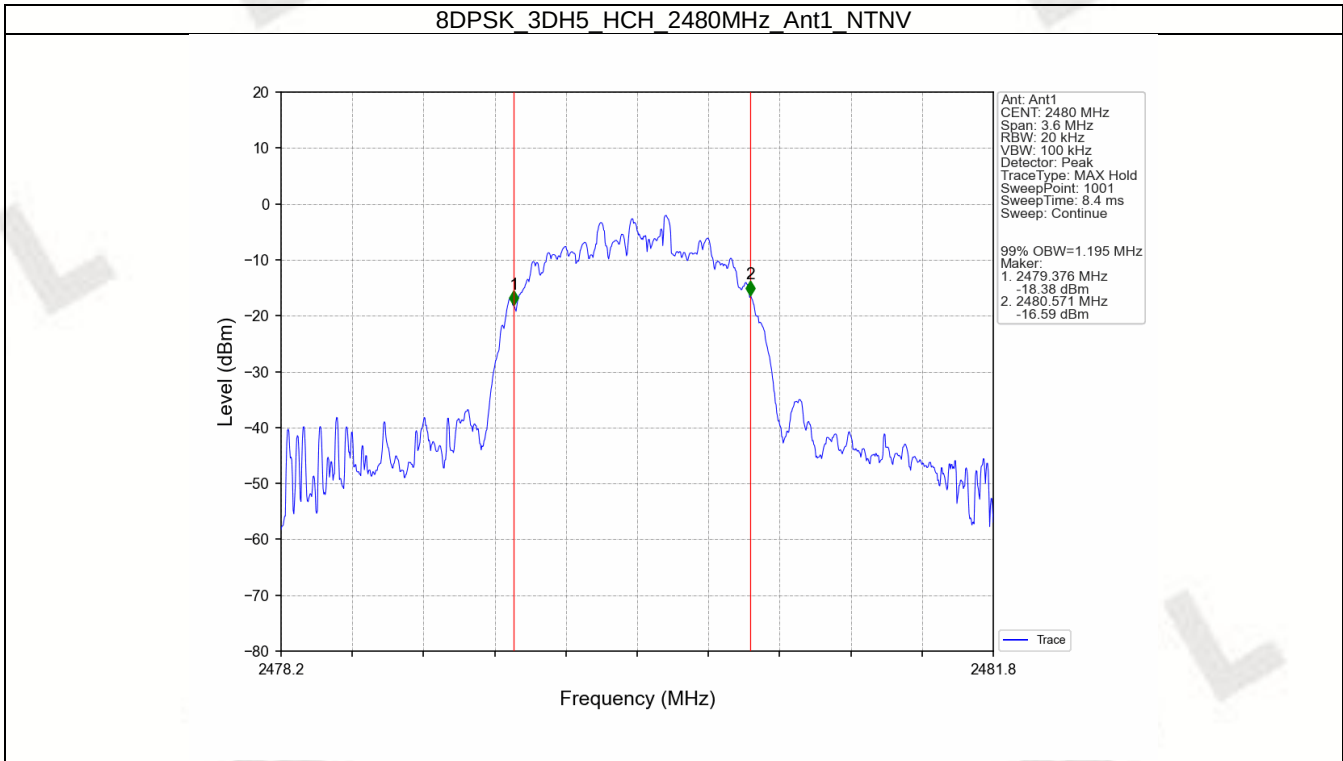
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FCCID: 2APQC-TIDE16

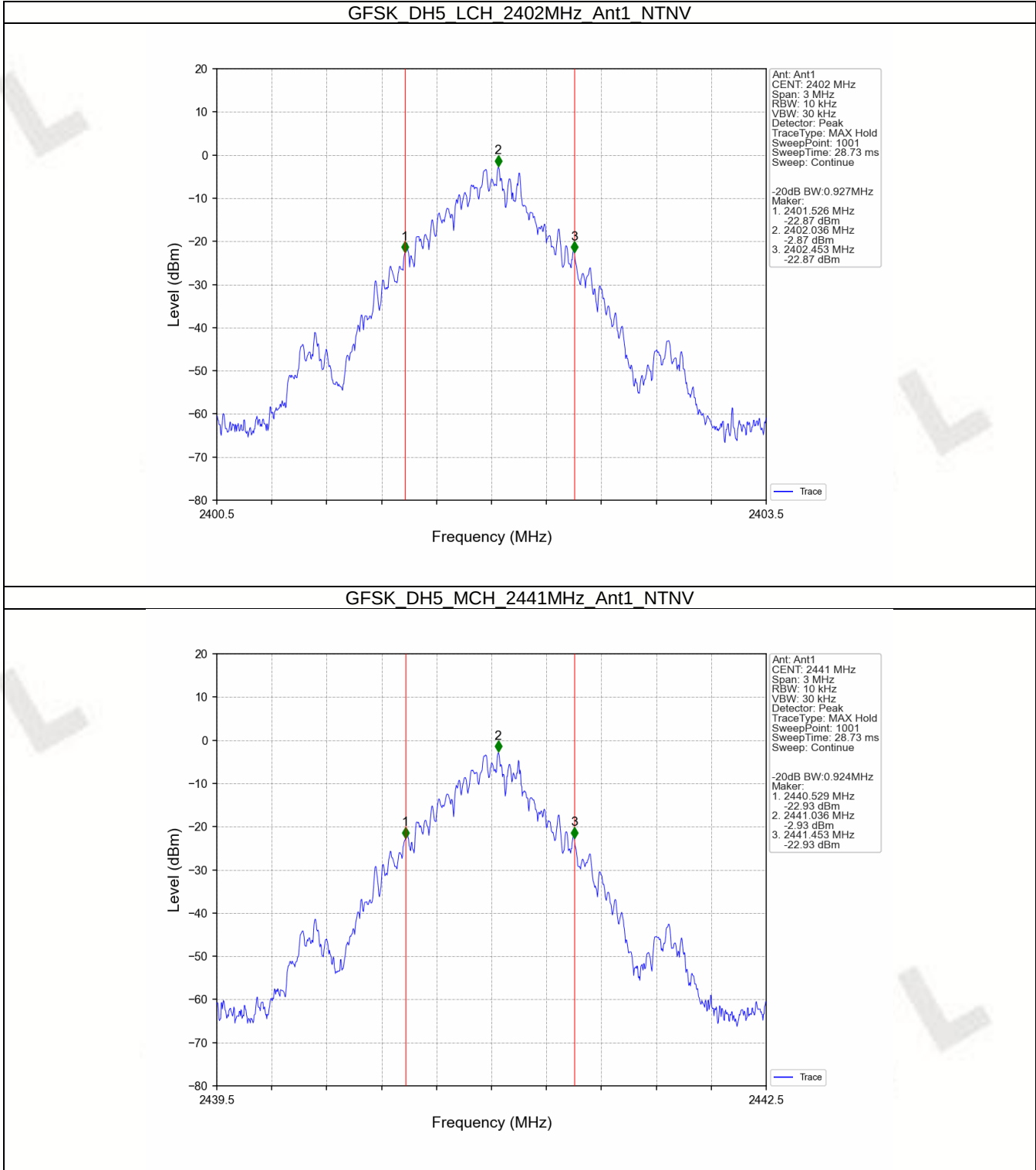


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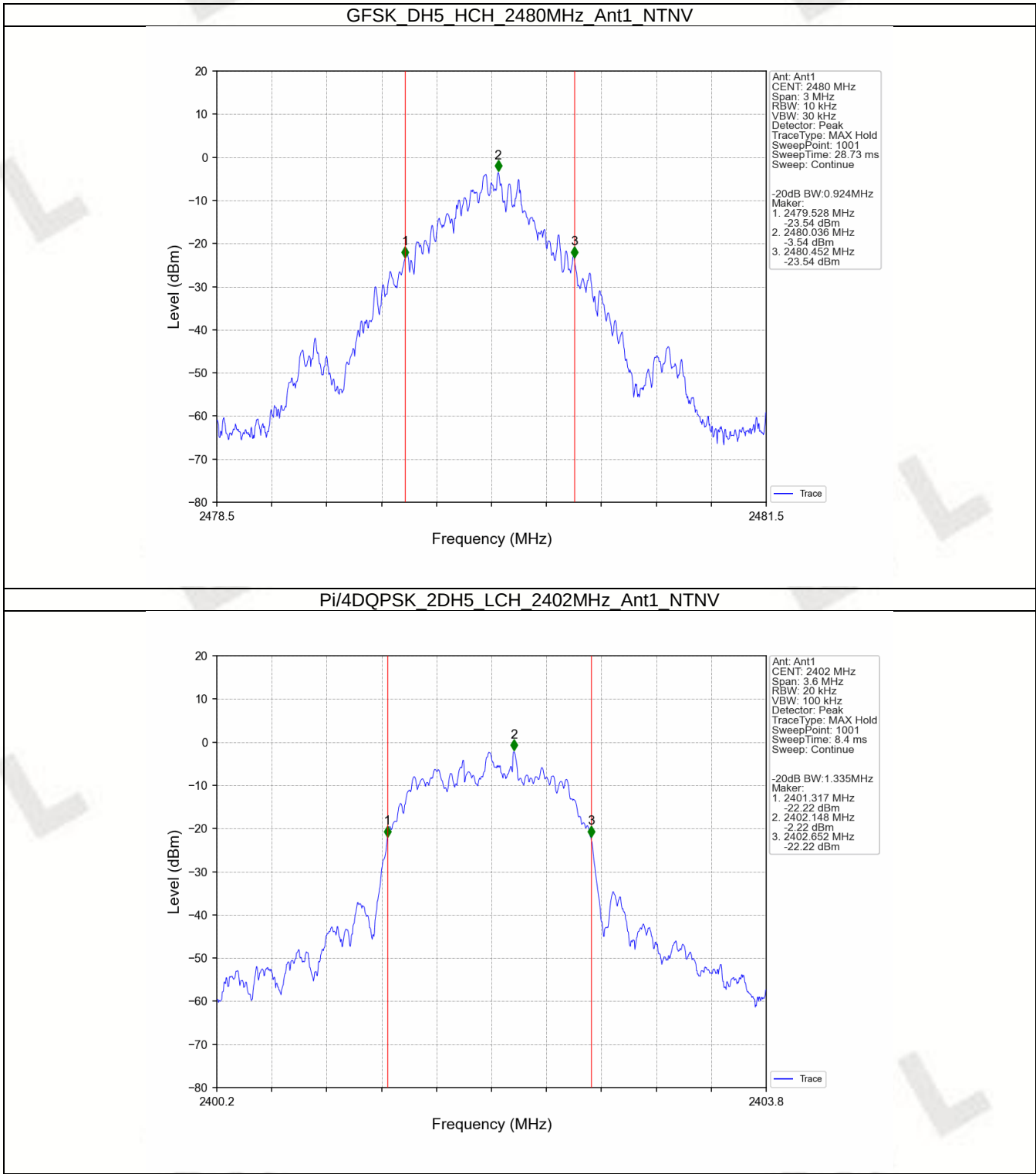


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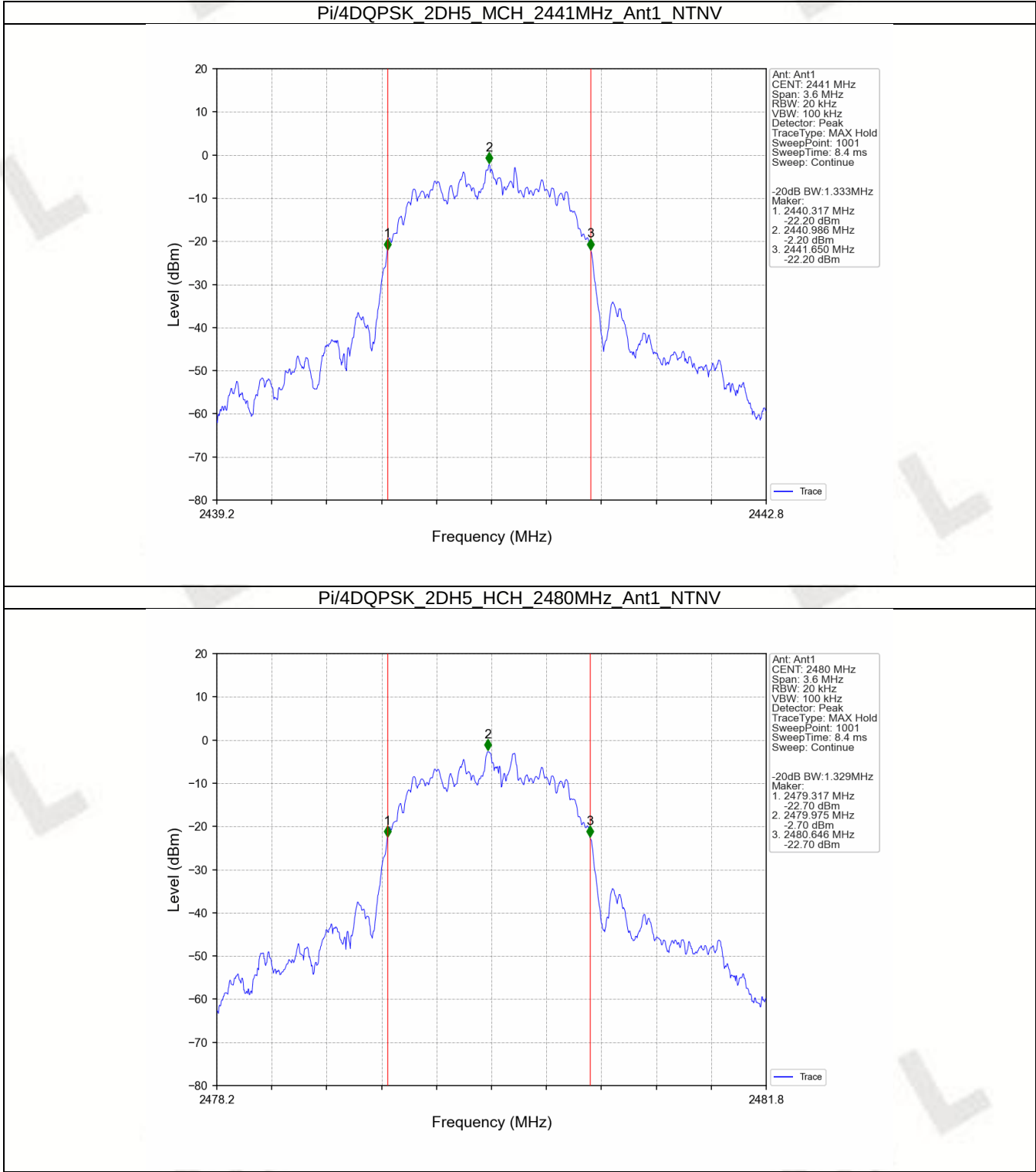
1.2.2 20dB BW



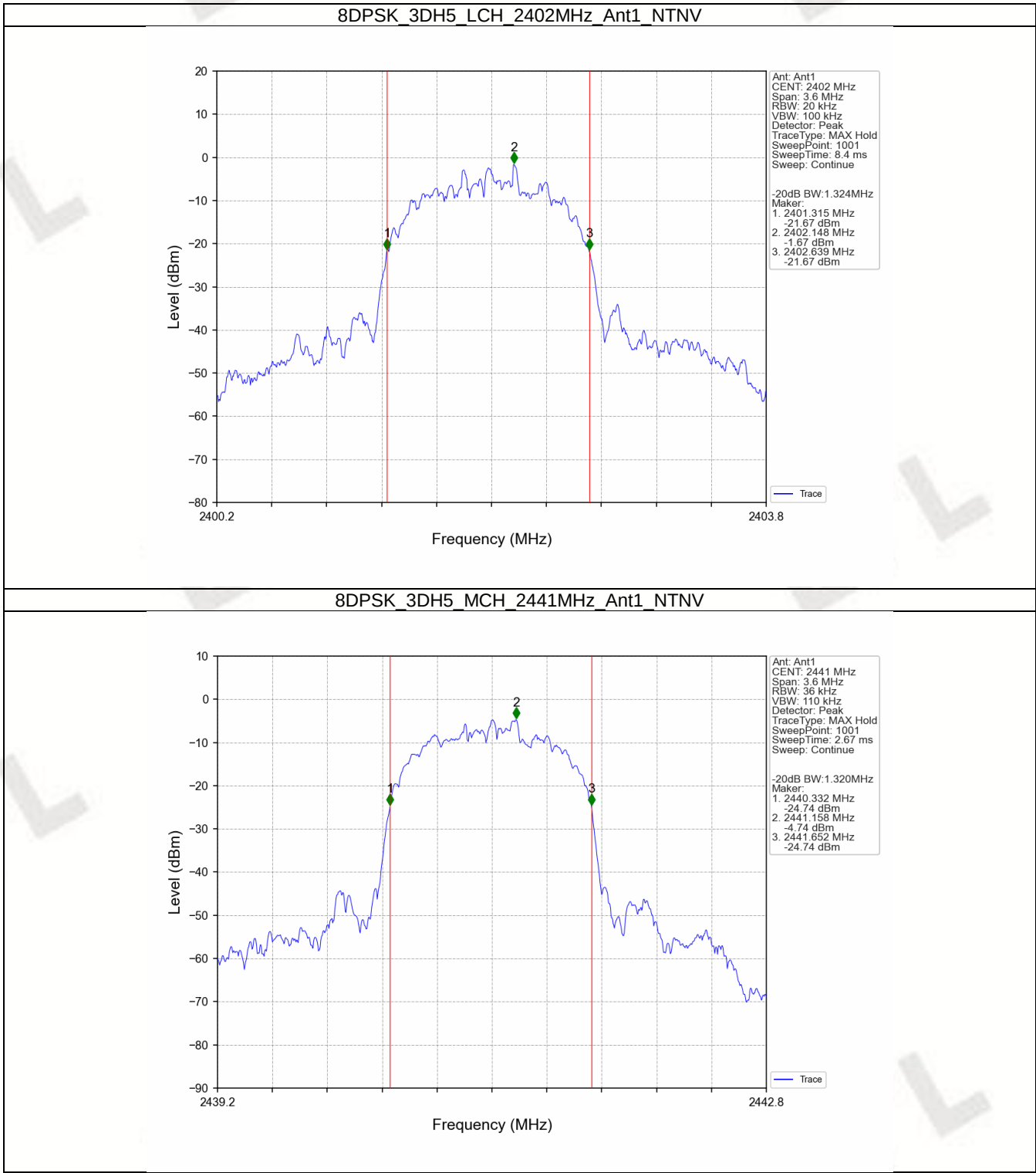
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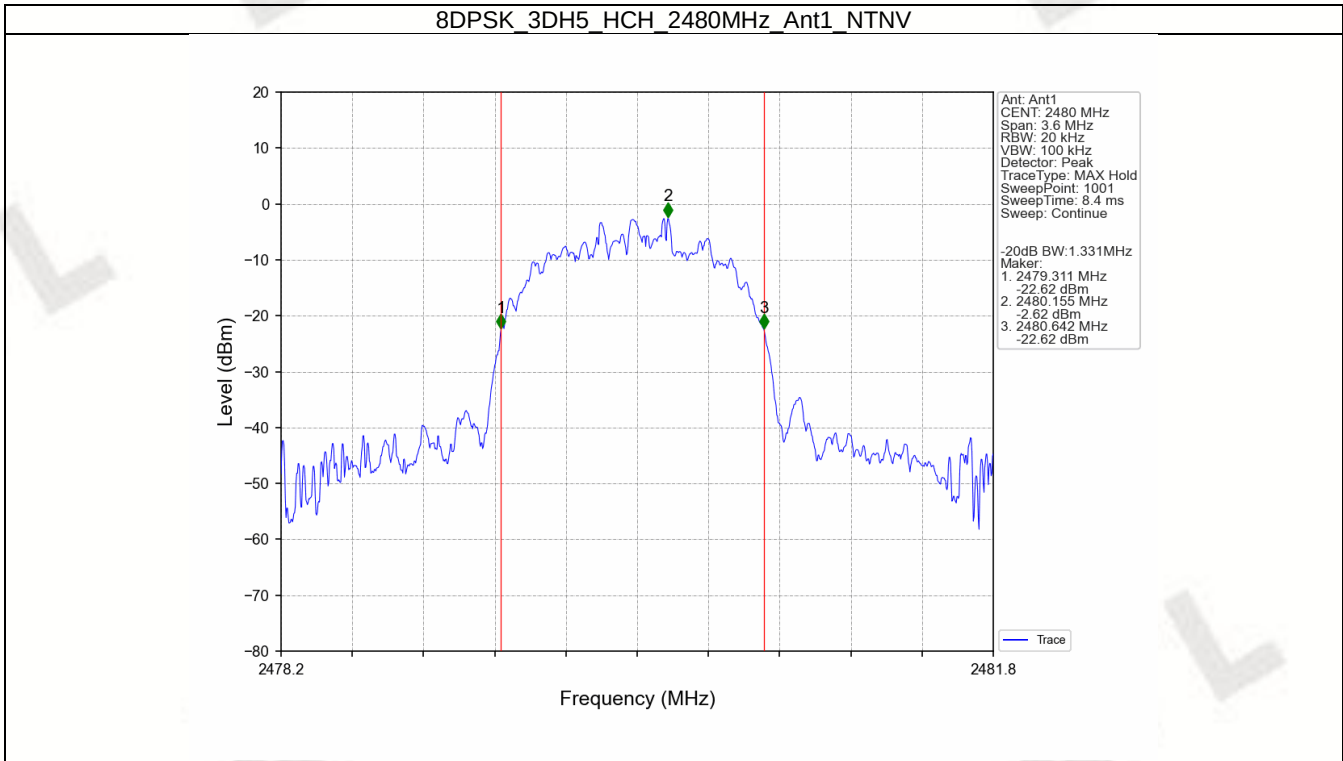
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2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

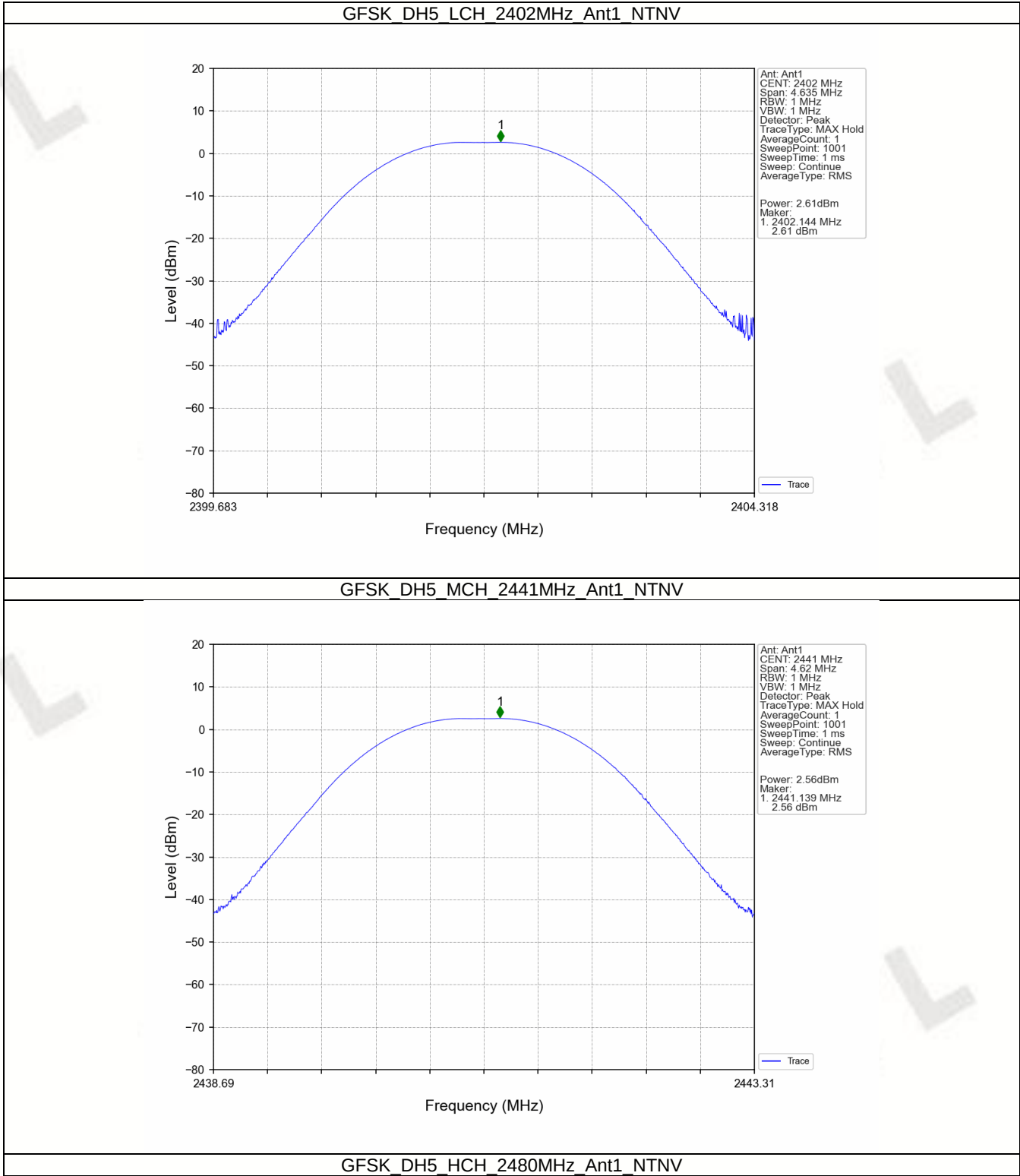
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	2.61	≤ 30	Pass
		2441	DH5	2.56	≤ 30	Pass
		2480	DH5	1.95	≤ 30	Pass
Pi/4DQPSK	SISO	2402	2DH5	4.66	≤ 20.97	Pass
		2441	2DH5	4.84	≤ 20.97	Pass
		2480	2DH5	4.24	≤ 20.97	Pass
8DPSK	SISO	2402	3DH5	5.27	≤ 20.97	Pass
		2441	3DH5	5.36	≤ 20.97	Pass
		2480	3DH5	4.78	≤ 20.97	Pass

Note1: Antenna Gain: Ant1: 3.00dBi;

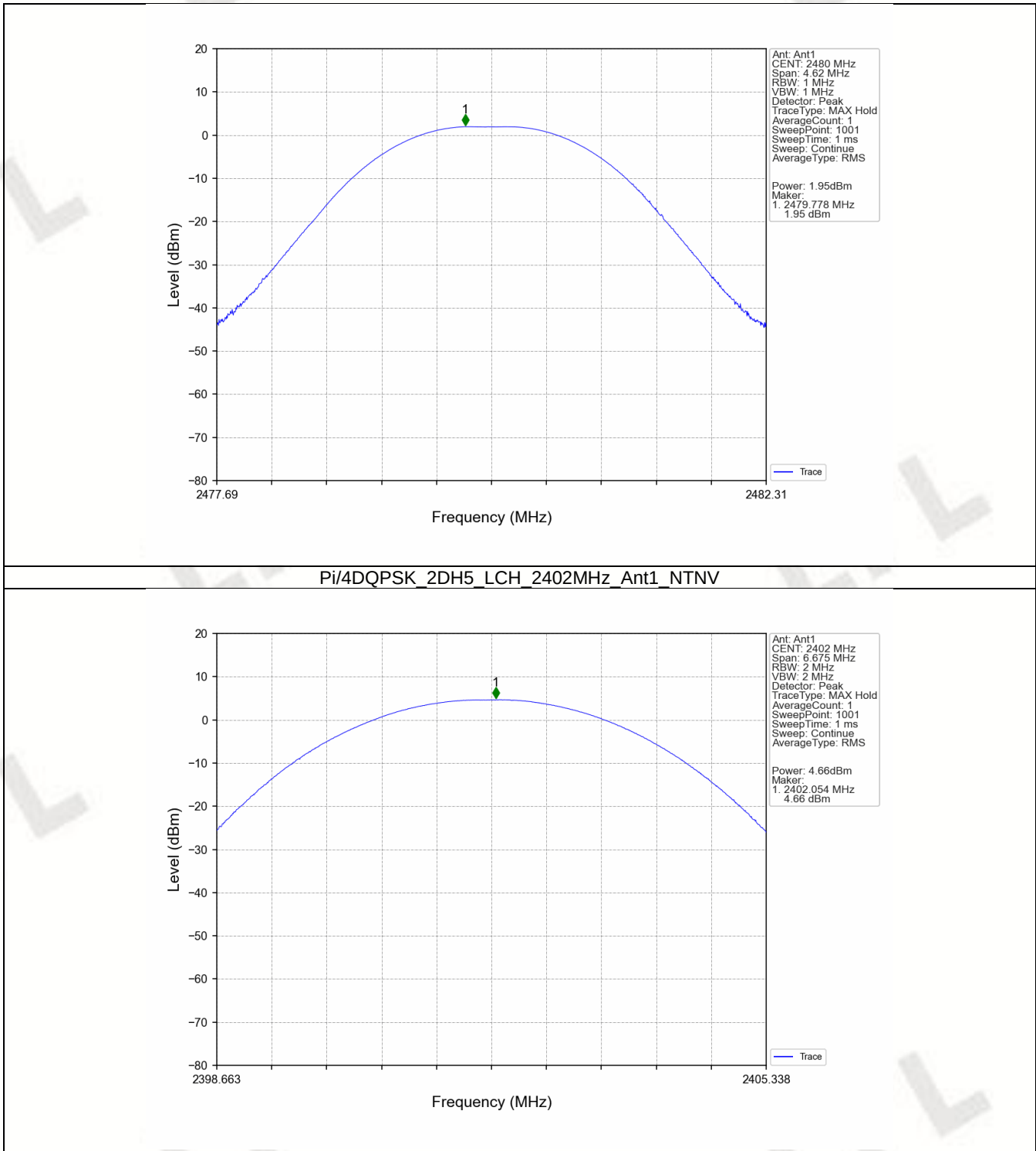
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2.2 Test Graph

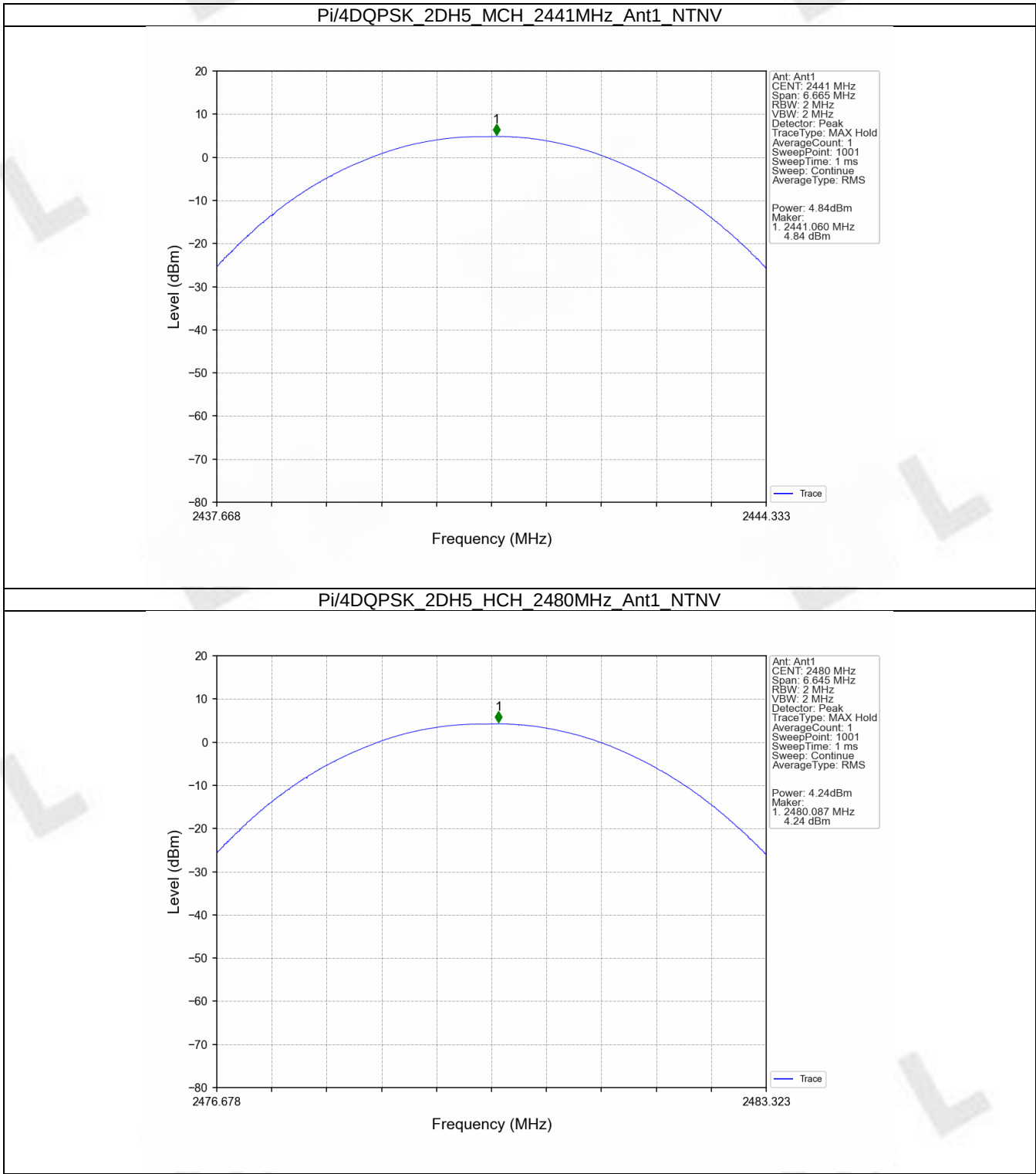
2.2.1 Power



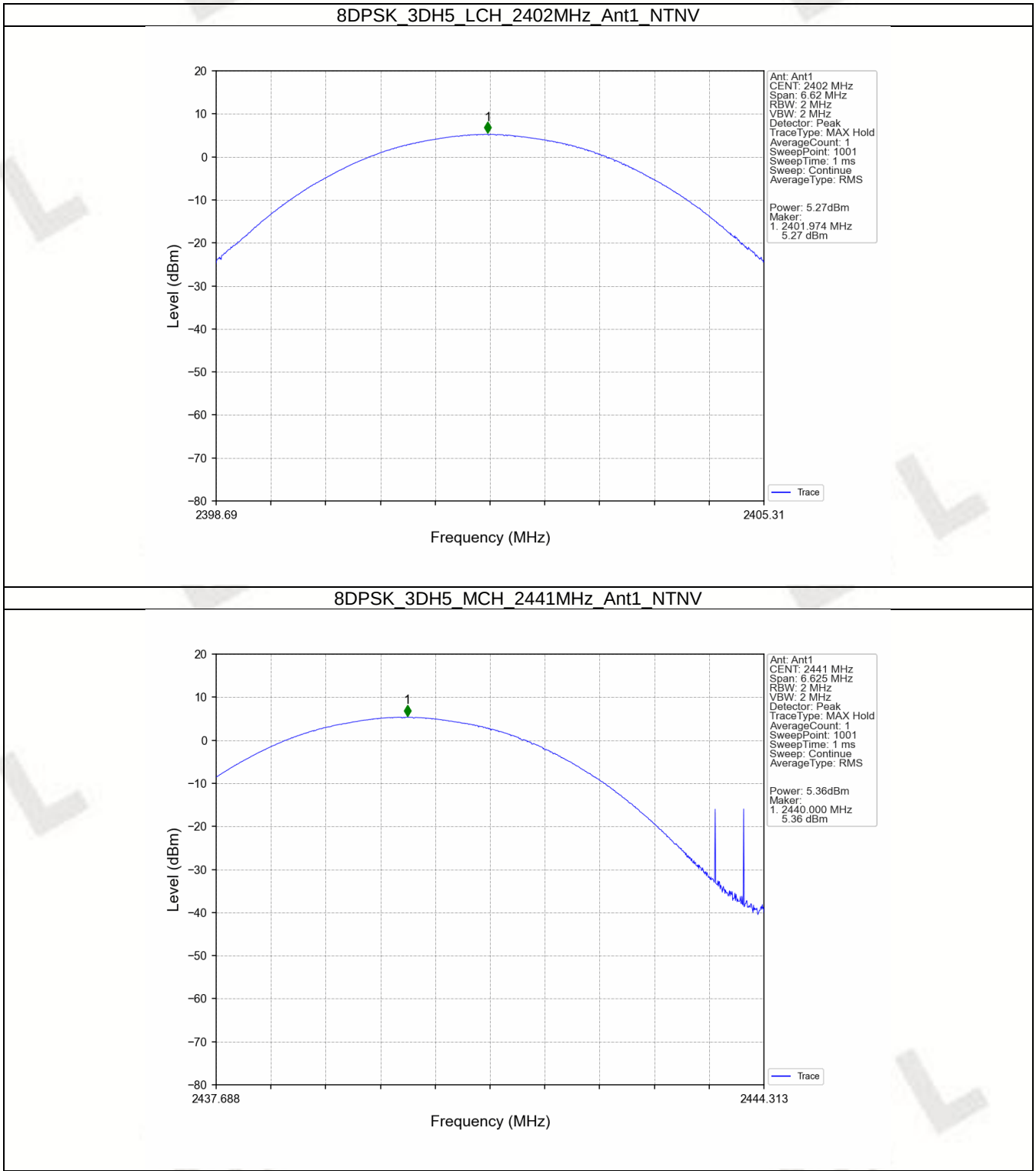
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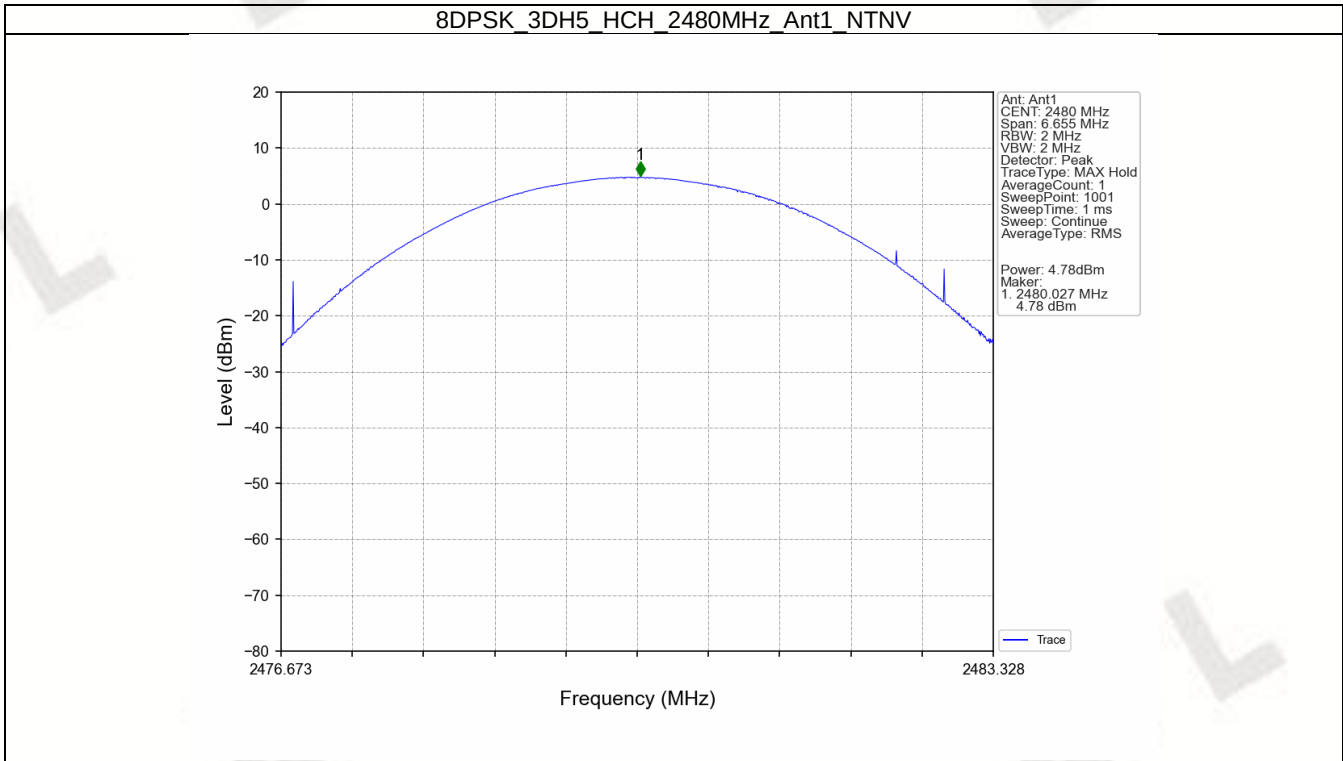
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FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



3. Carrier Frequency Separation

3.1 Test Result

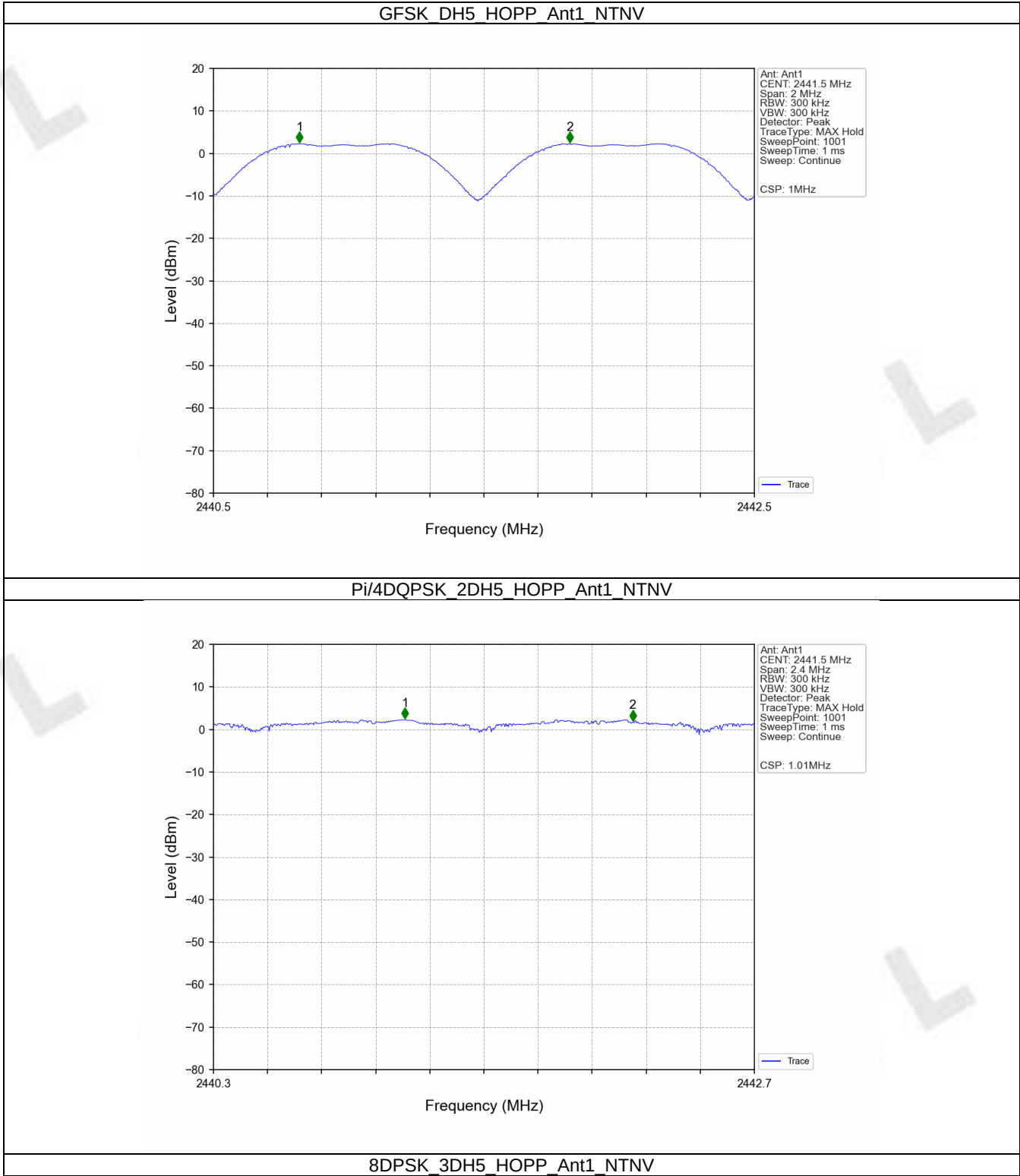
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.000	0.927	≥ 0.927	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.010	1.335	≥ 0.89	Pass
8DPSK	SISO	HOPP	3DH5	1.010	1.331	≥ 0.887	Pass

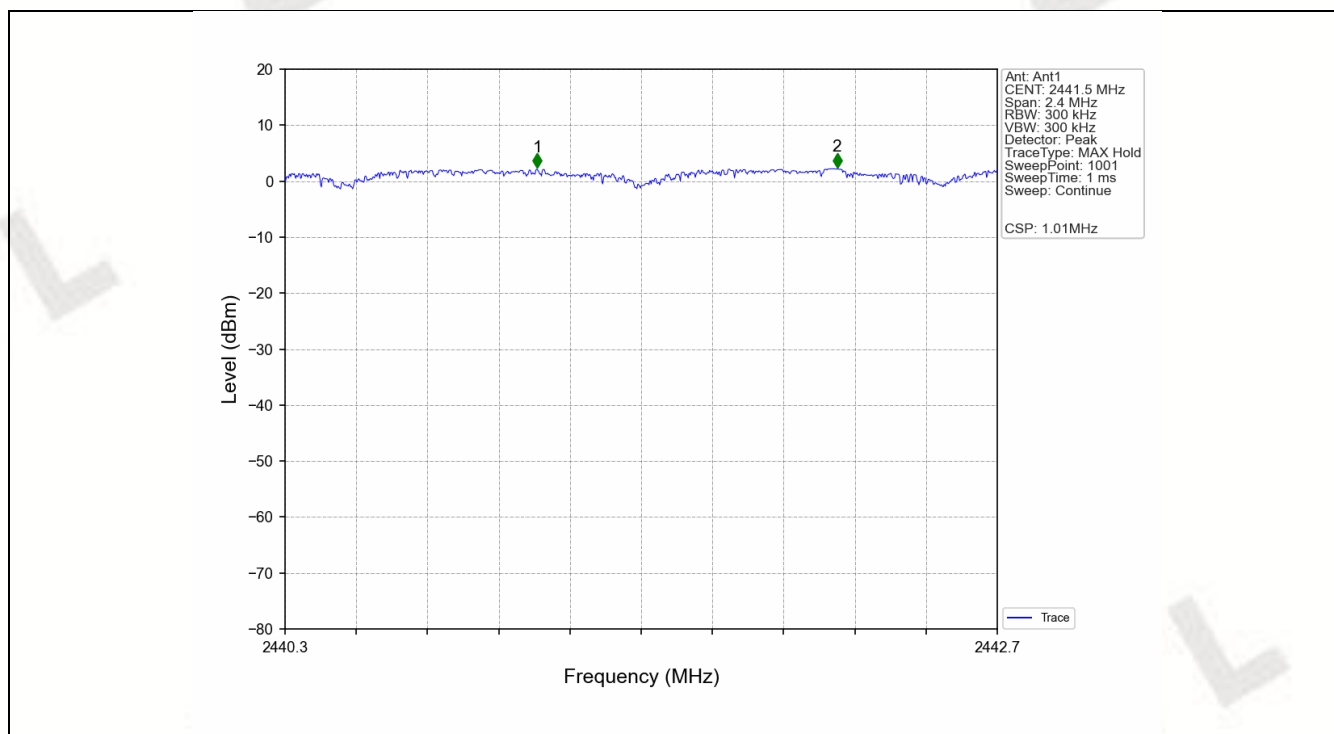
FCCID: 2APQC-TIDE16

3.2 Test Graph

3.2.1 Ant1



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

4. Number of Hopping Frequencies

4.1 Test Result

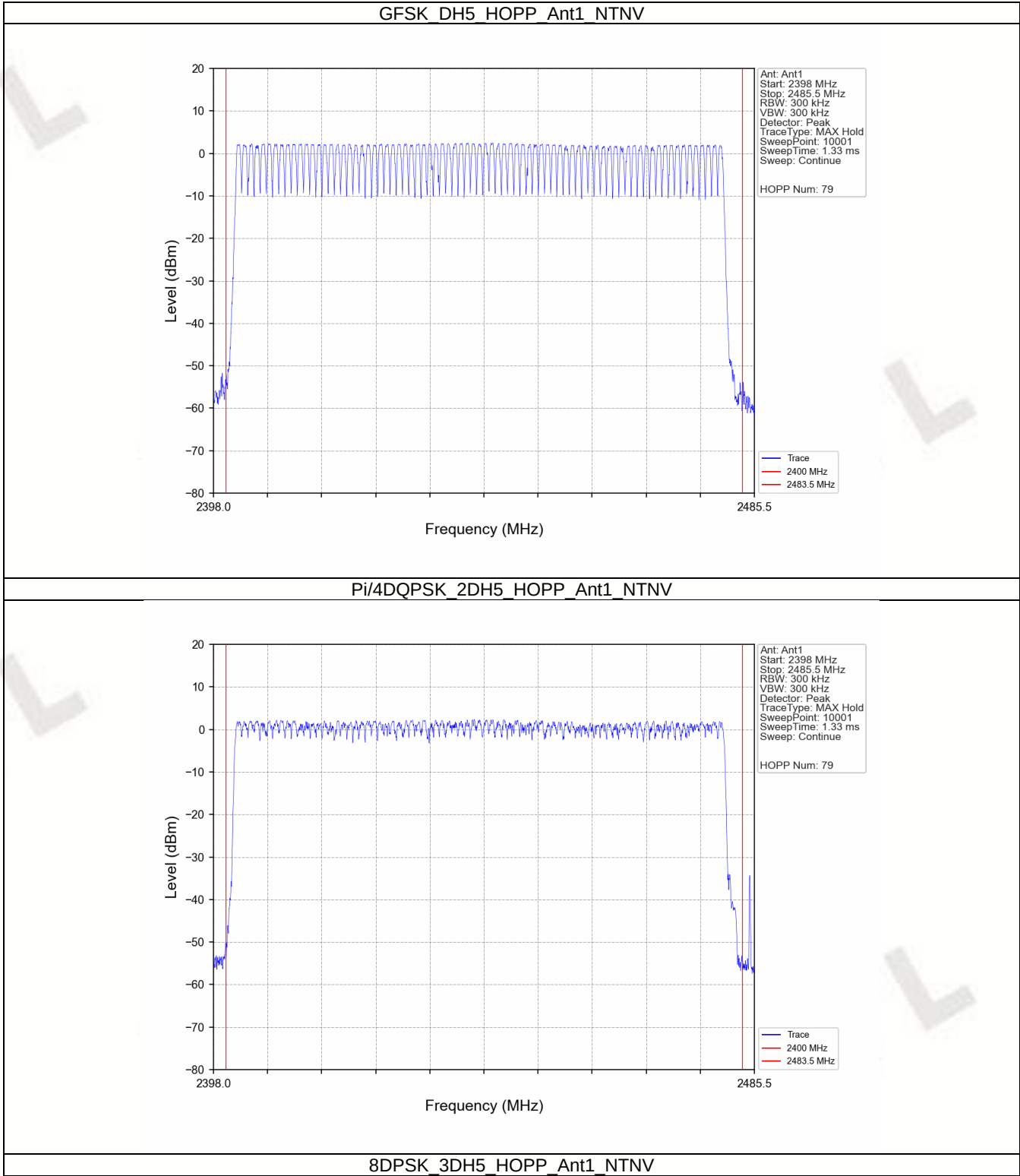
4.1.1 HoppNum

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

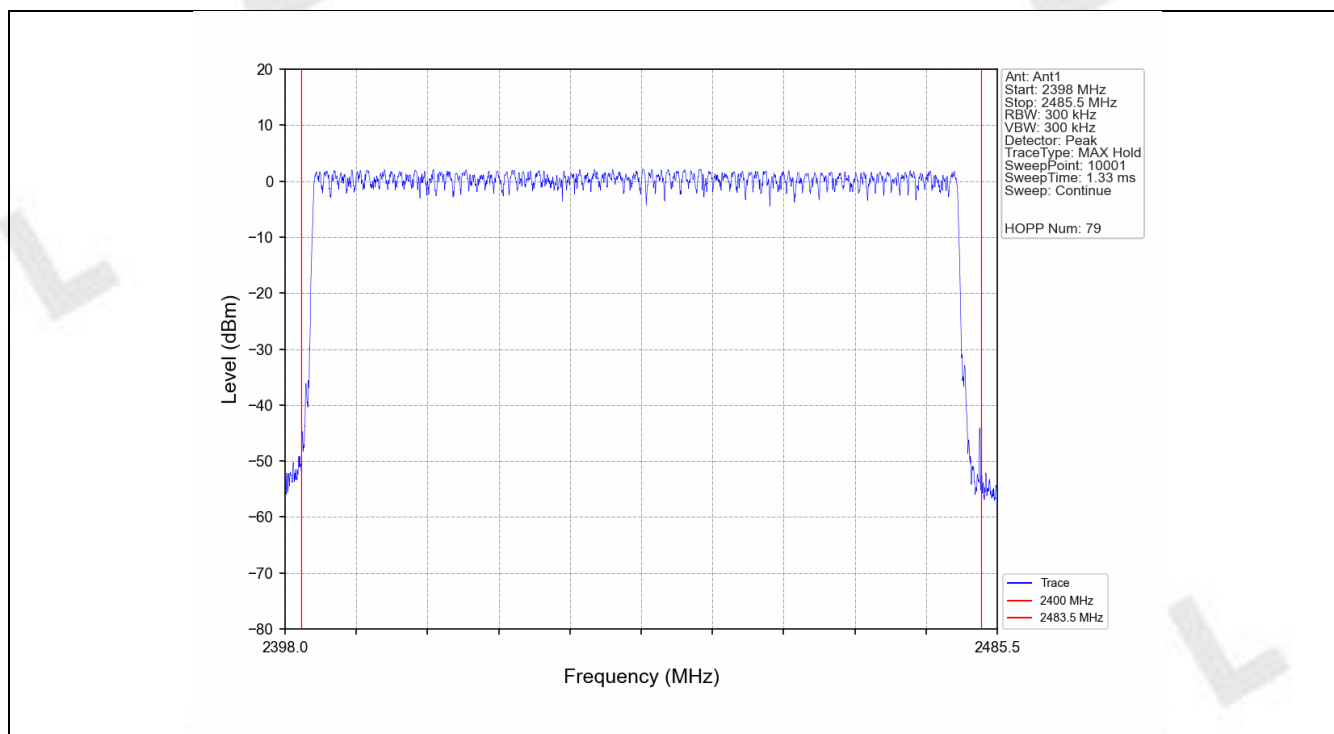
FCCID: 2APQC-TIDE16

4.2 Test Graph

4.2.1 HoppNum



FCCID: 2APQC-TIDE16



5. Time of Occupancy (Dwell Time)

5.1 Test Result

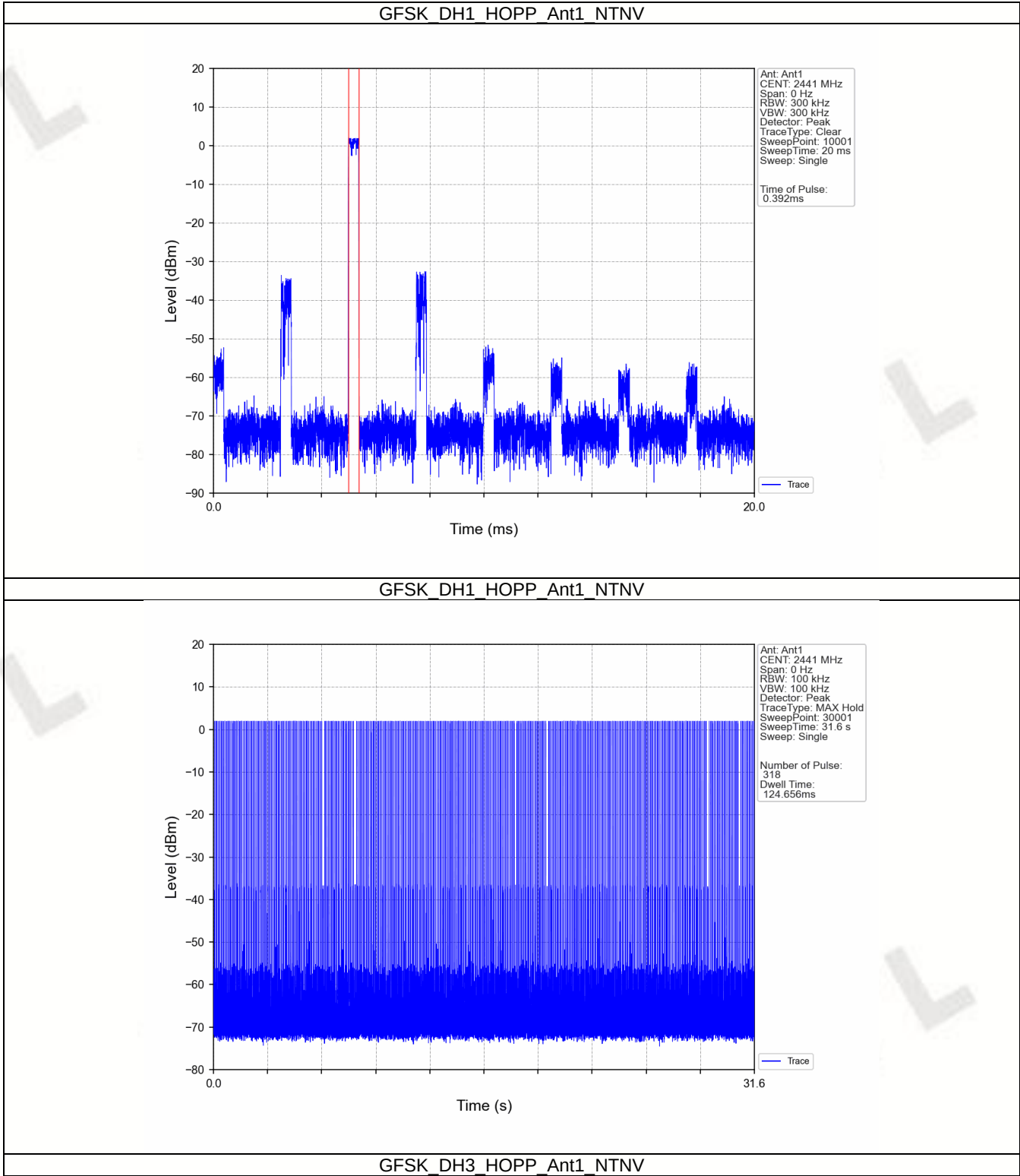
5.1.1 Ant1

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	0.392	31.600	318	124.656	<=400	Pass
			DH3	1.646	31.600	159	261.714	<=400	Pass
			DH5	2.898	31.600	110	318.780	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.392	31.600	318	124.656	<=400	Pass
			2DH3	1.644	31.600	160	263.040	<=400	Pass
			2DH5	2.892	31.600	111	321.012	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.390	31.600	317	123.630	<=400	Pass
			3DH3	1.640	31.600	158	259.120	<=400	Pass
			3DH5	2.892	31.600	110	318.120	<=400	Pass

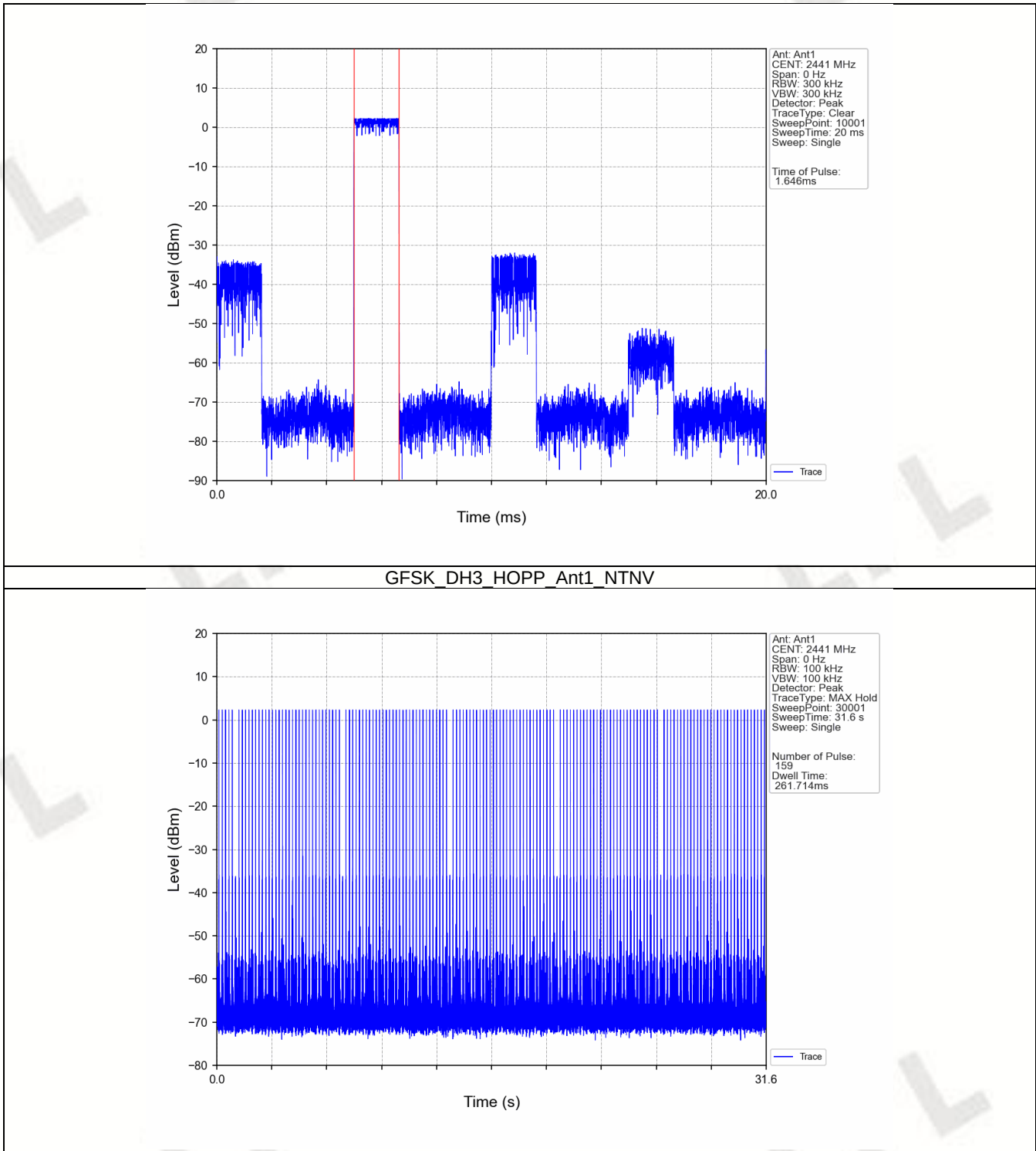
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5.2 Test Graph

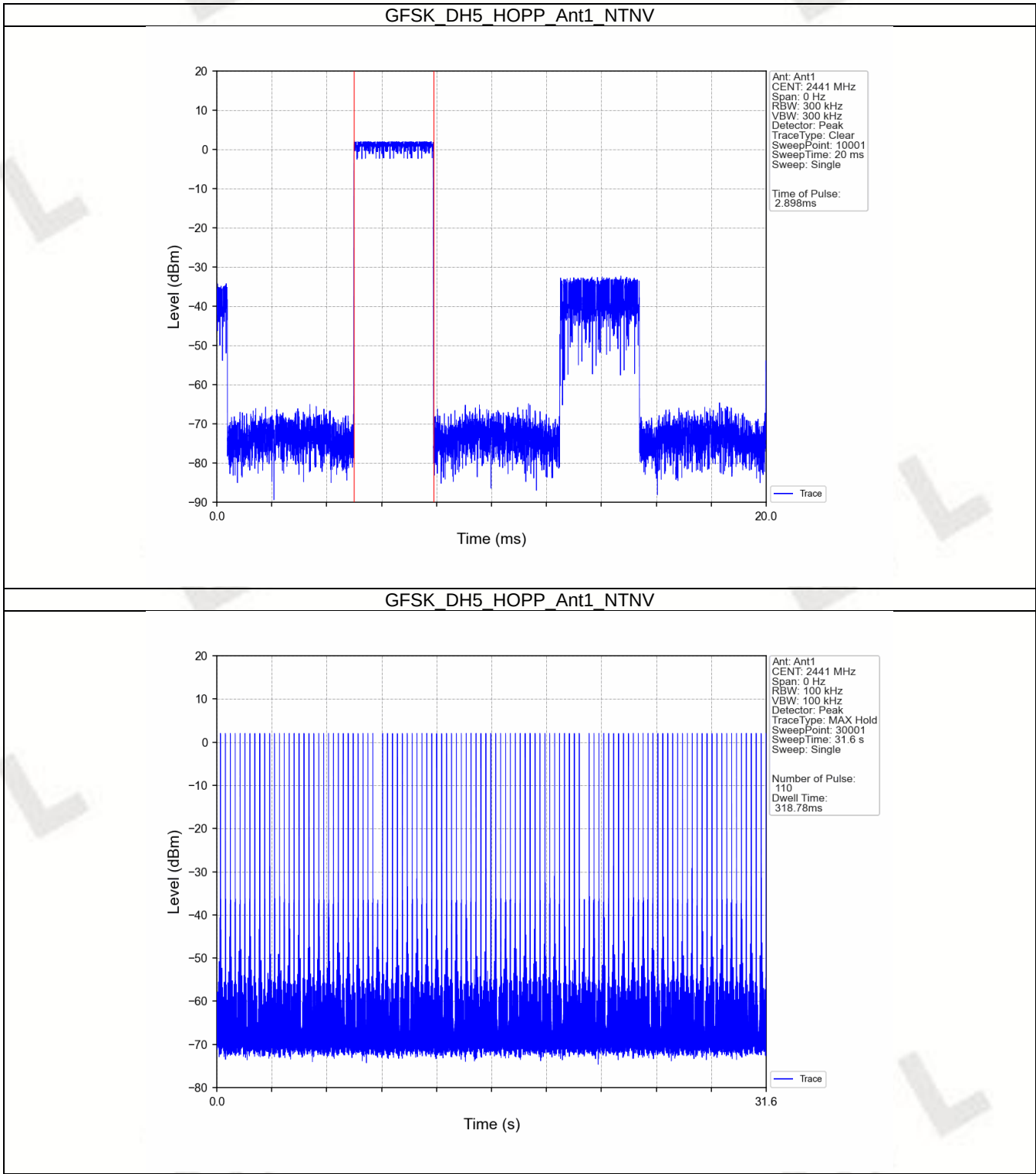
5.2.1 Ant1



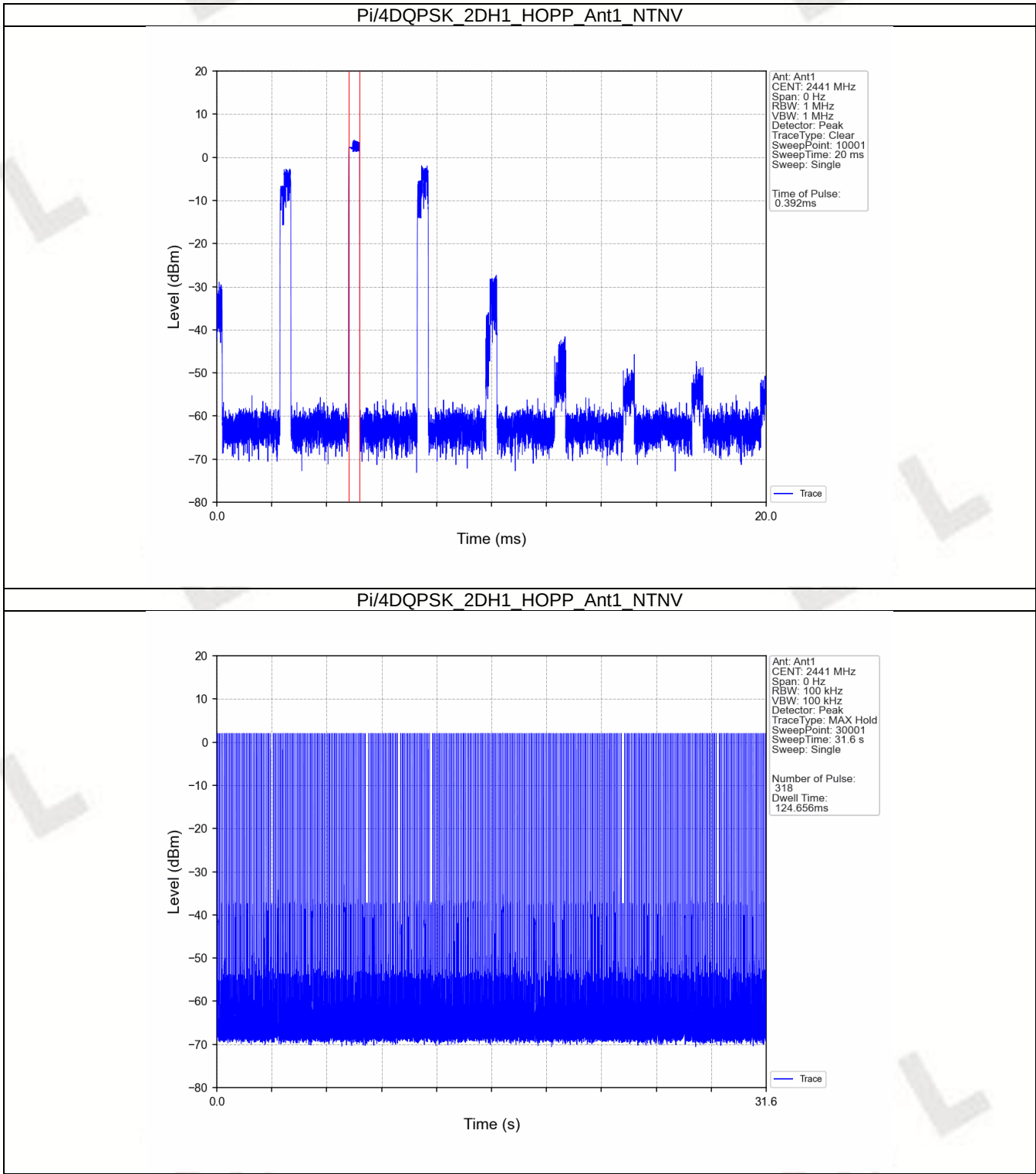
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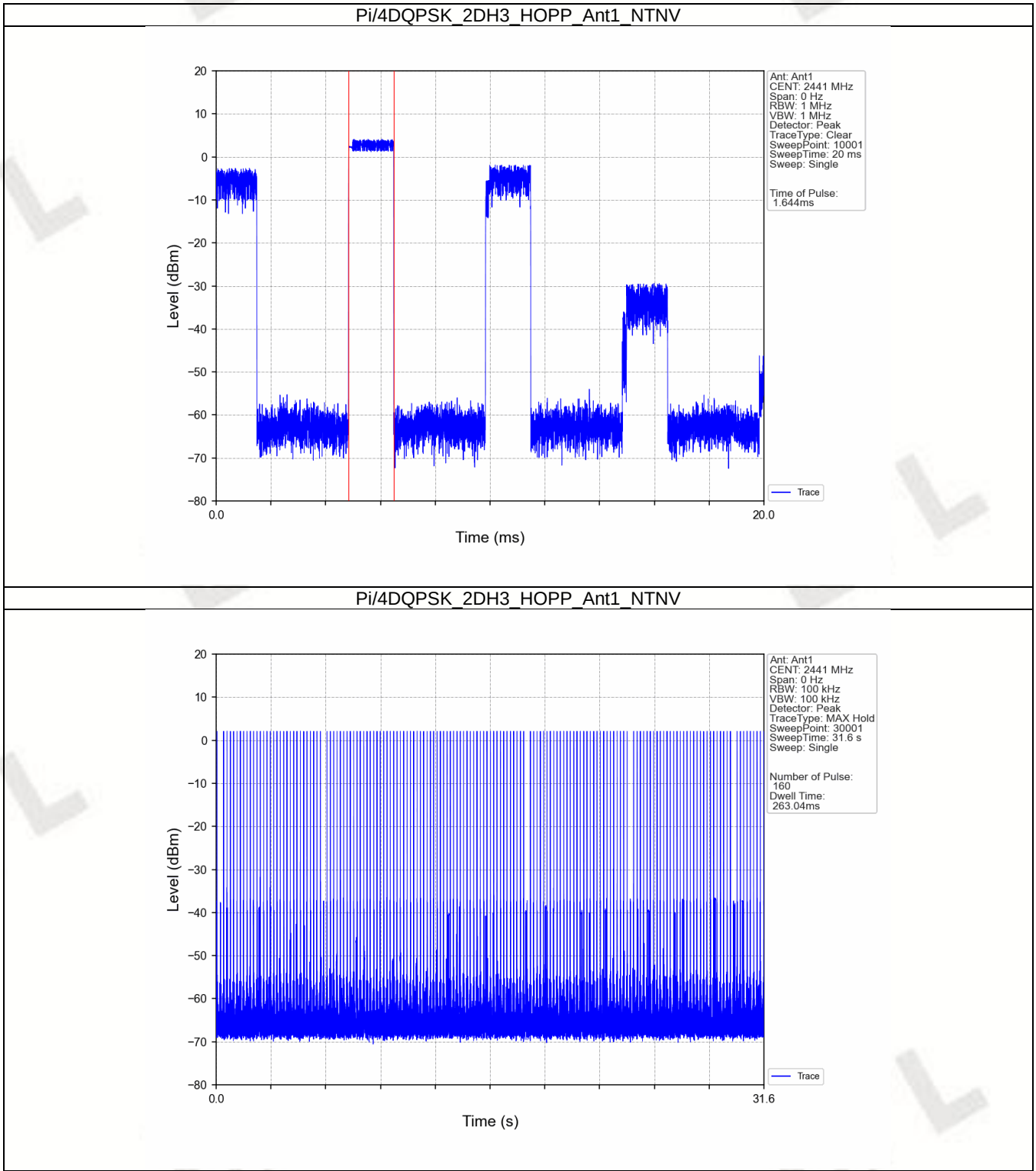
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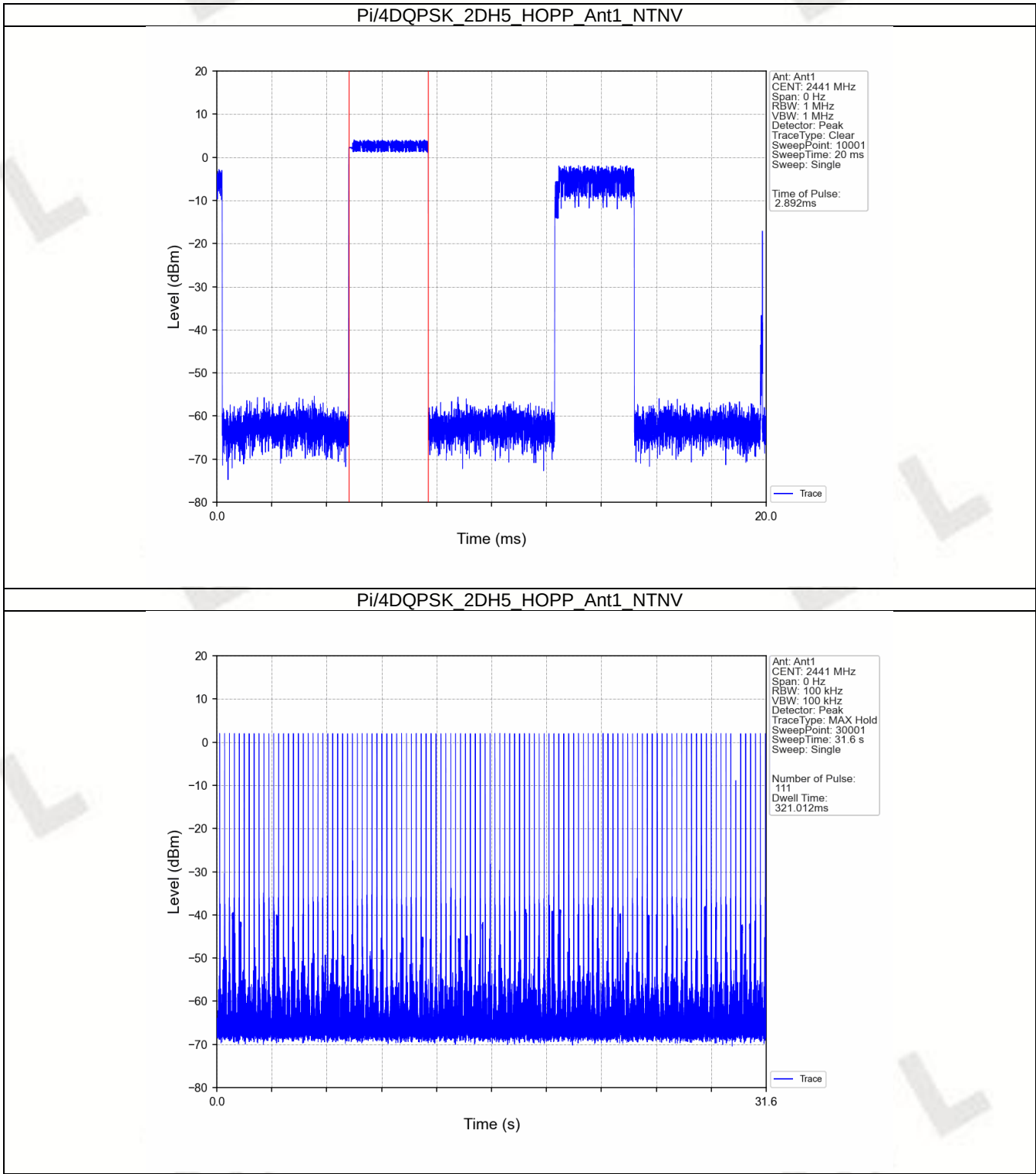
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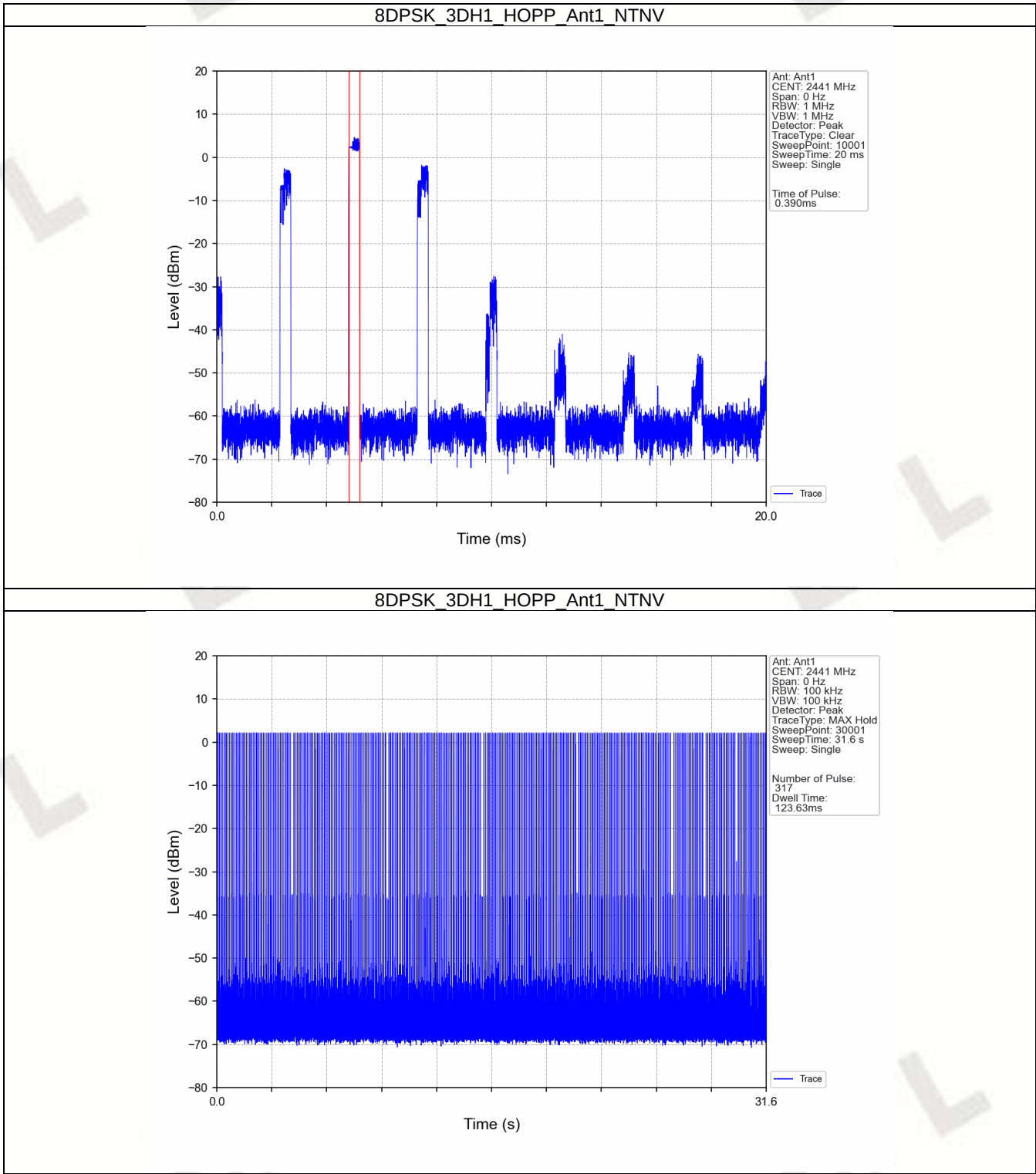
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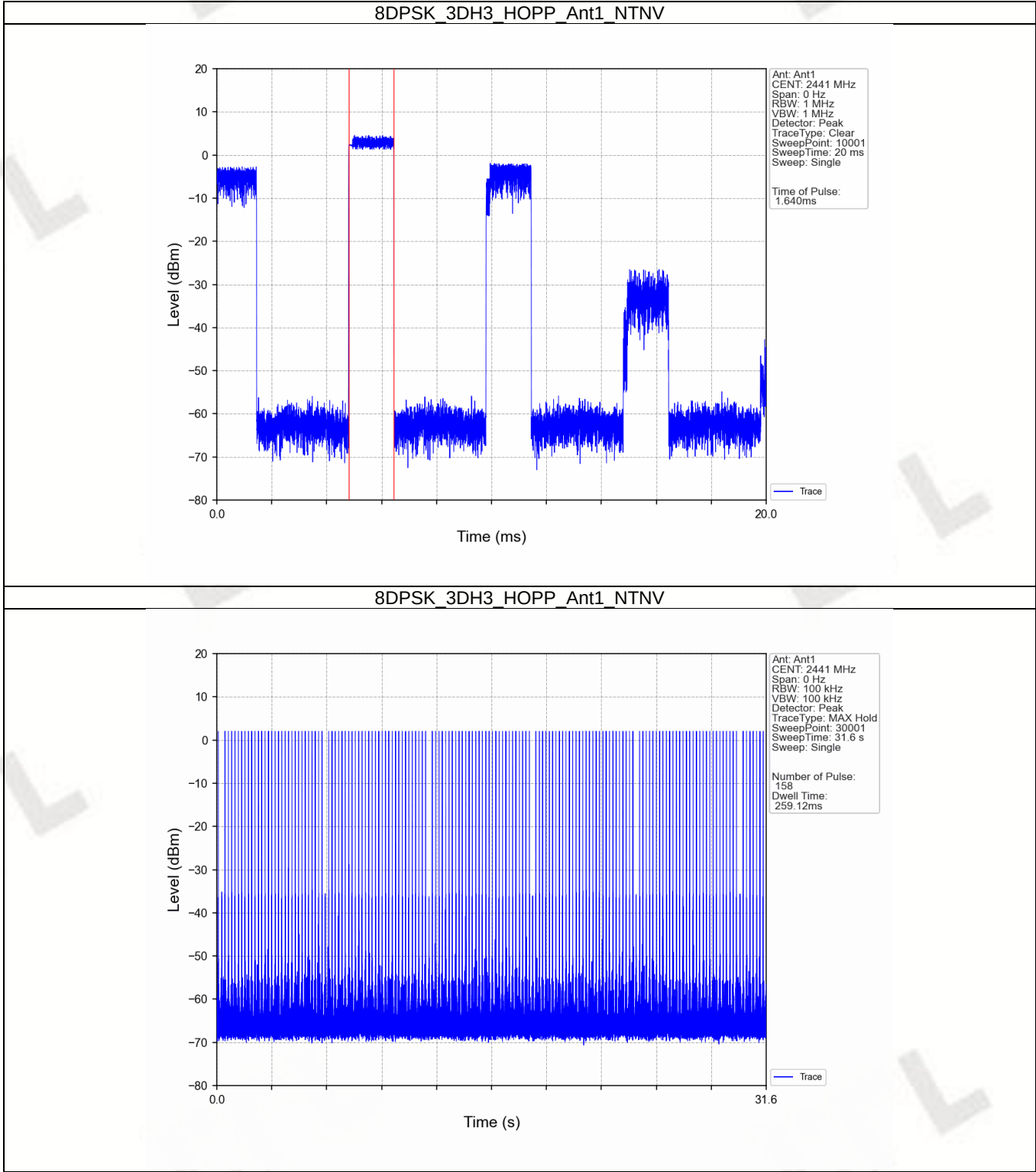
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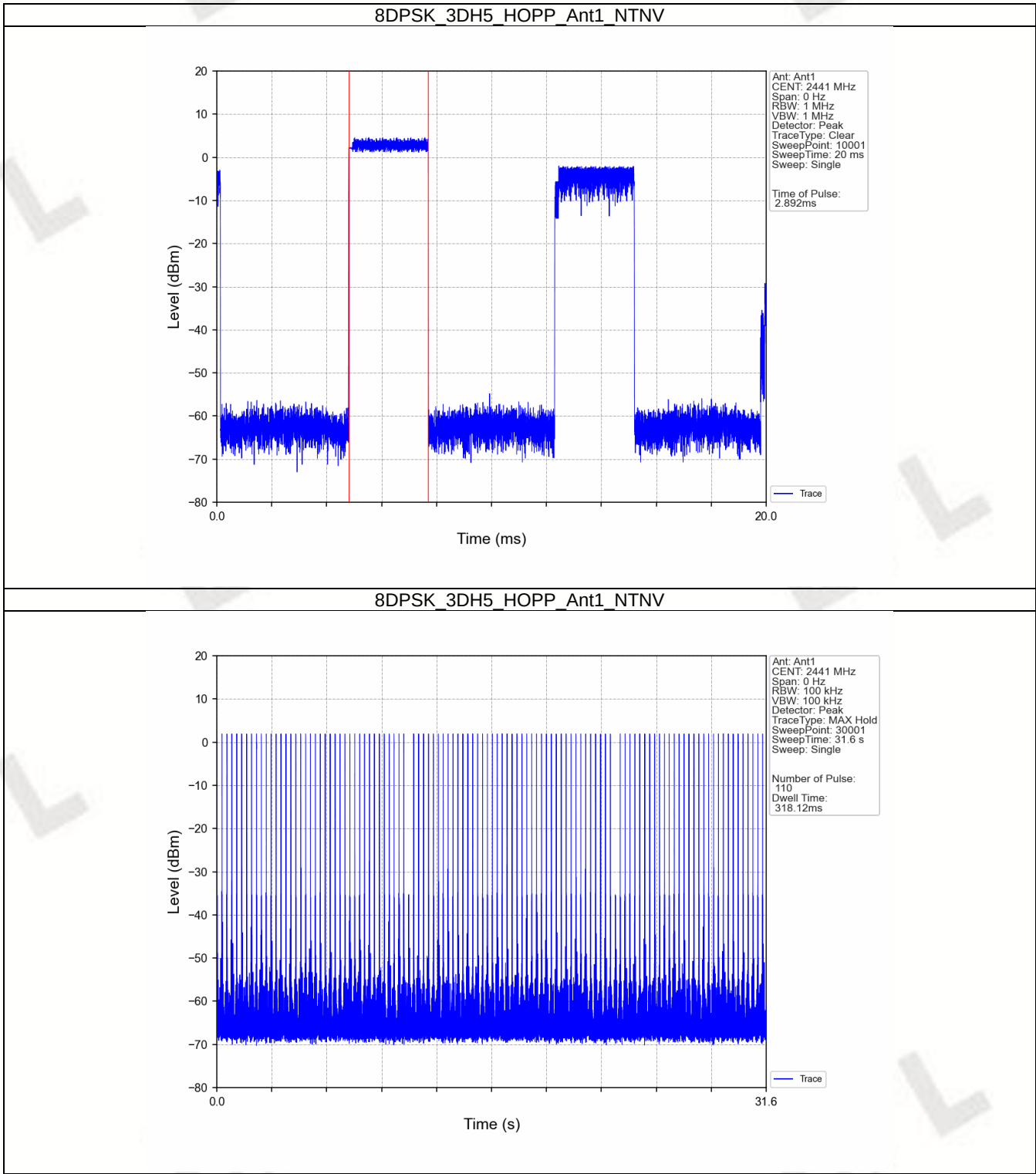
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FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



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	2.35
		2441	DH5	1	2.40
		2480	DH5	1	1.63
		HOPP	DH5	1	1.76
					1.76
Pi/4DQPSK	SISO	2402	2DH5	1	2.30
		2441	2DH5	1	2.43
		2480	2DH5	1	-28.74
		HOPP	2DH5	1	1.72
					1.72
8DPSK	SISO	2402	3DH5	1	2.30
		2441	3DH5	1	2.45
		2480	3DH5	1	1.85
		HOPP	3DH5	1	1.66
					1.66

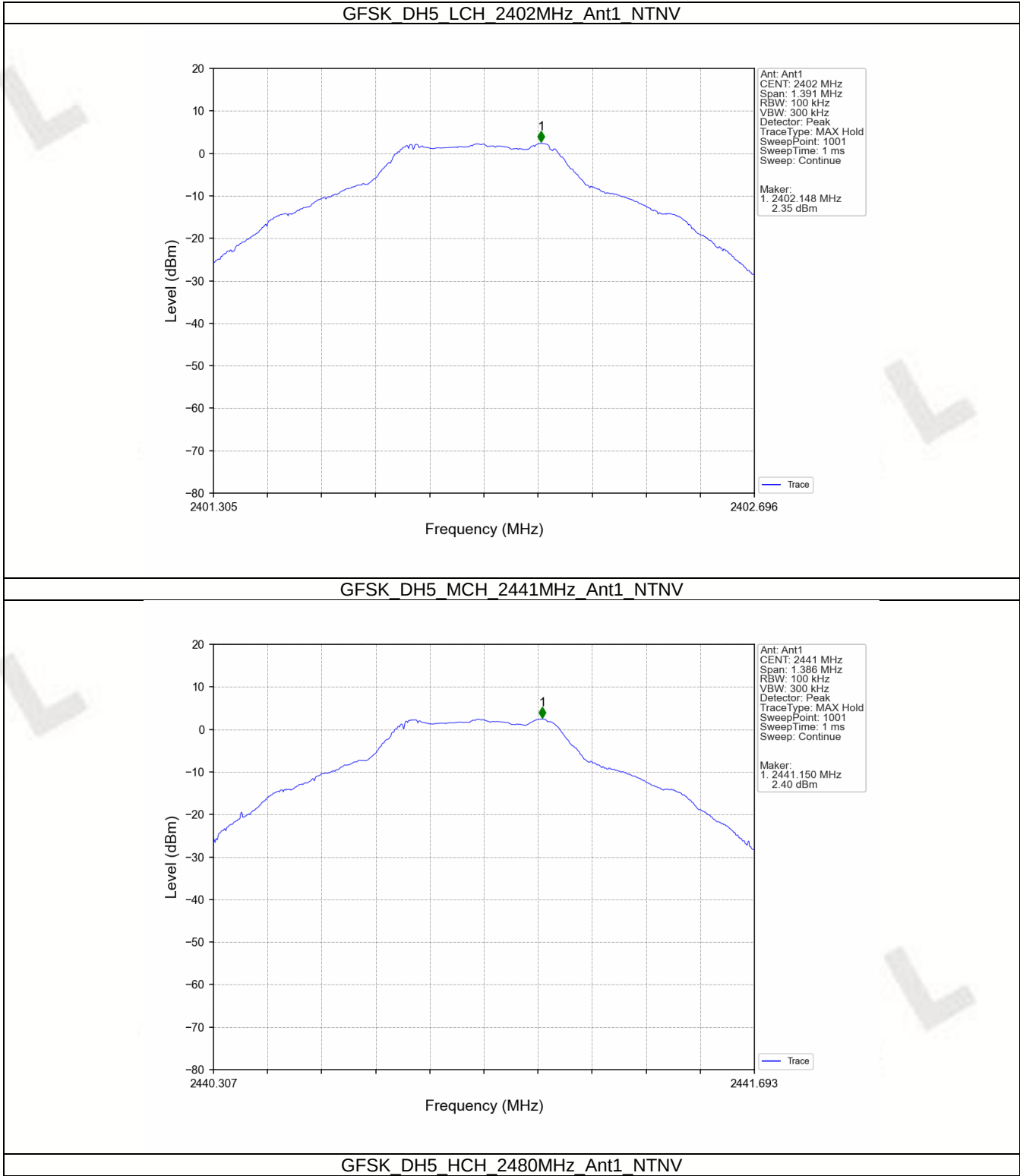
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	2.35	-17.65	Pass
		2441	DH5	1	2.40	-17.60	Pass
		2480	DH5	1	1.63	-18.37	Pass
		HOPP	DH5	1	1.76	-18.24	Pass
					1.76	-18.24	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	2.30	-17.70	Pass
		2441	2DH5	1	2.43	-17.57	Pass
		2480	2DH5	1	-28.74	-48.74	Pass
		HOPP	2DH5	1	1.72	-18.28	Pass
					1.72	-18.28	Pass
8DPSK	SISO	2402	3DH5	1	2.30	-17.70	Pass
		2441	3DH5	1	2.45	-17.55	Pass
		2480	3DH5	1	1.85	-18.15	Pass
		HOPP	3DH5	1	1.66	-18.34	Pass
					1.66	-18.34	Pass

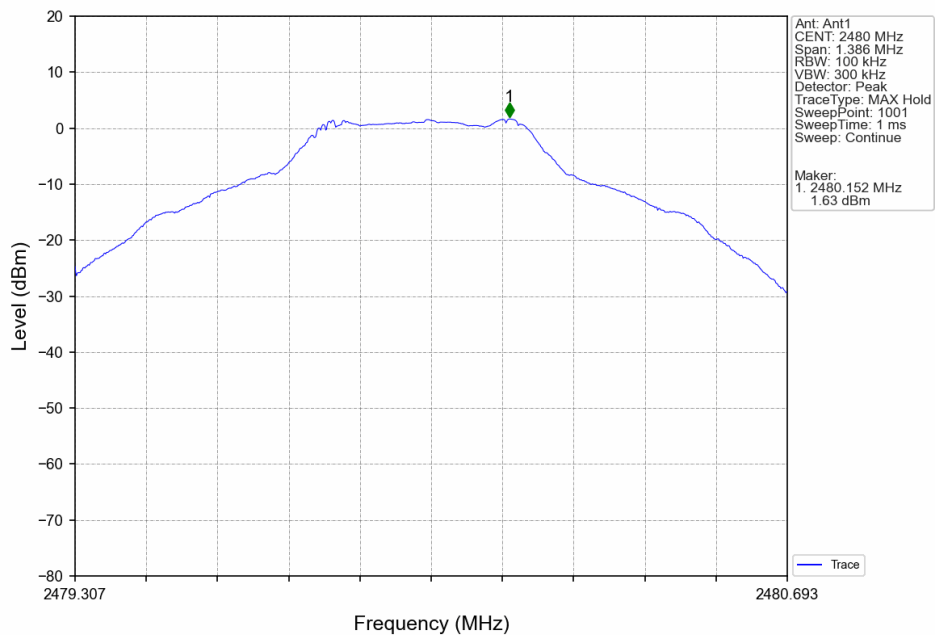
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6.2 Test Graph

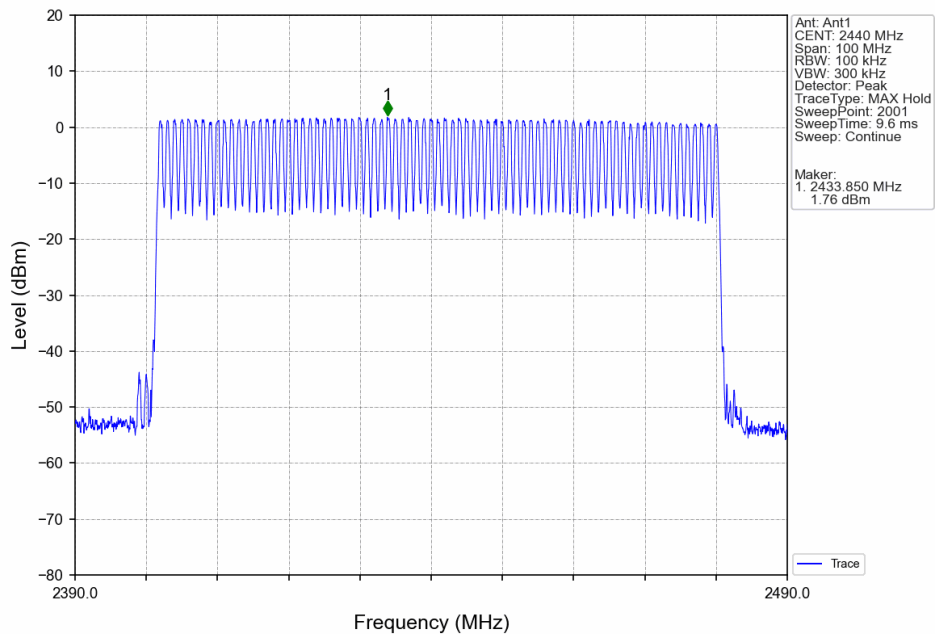
6.2.1 Ref



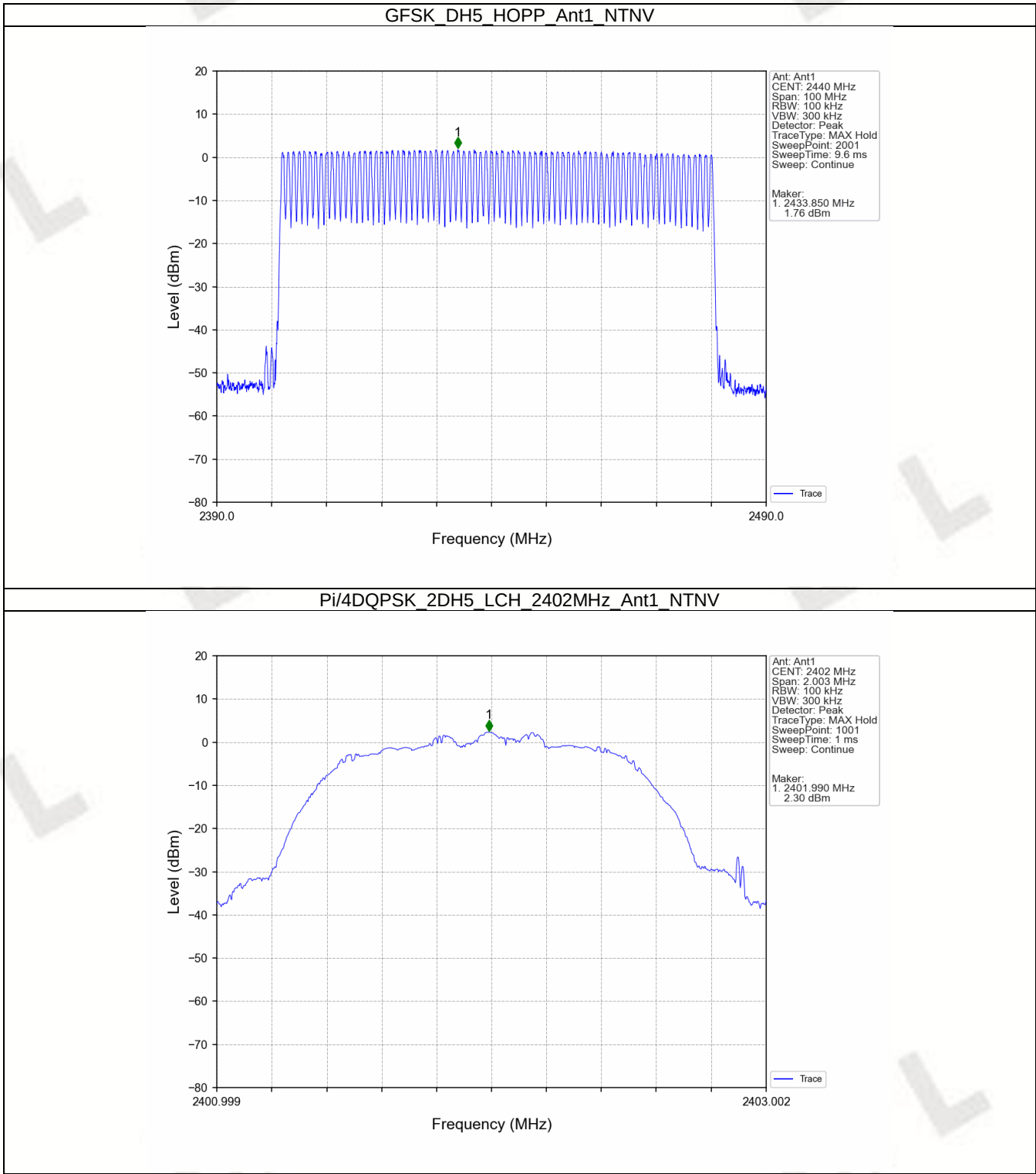
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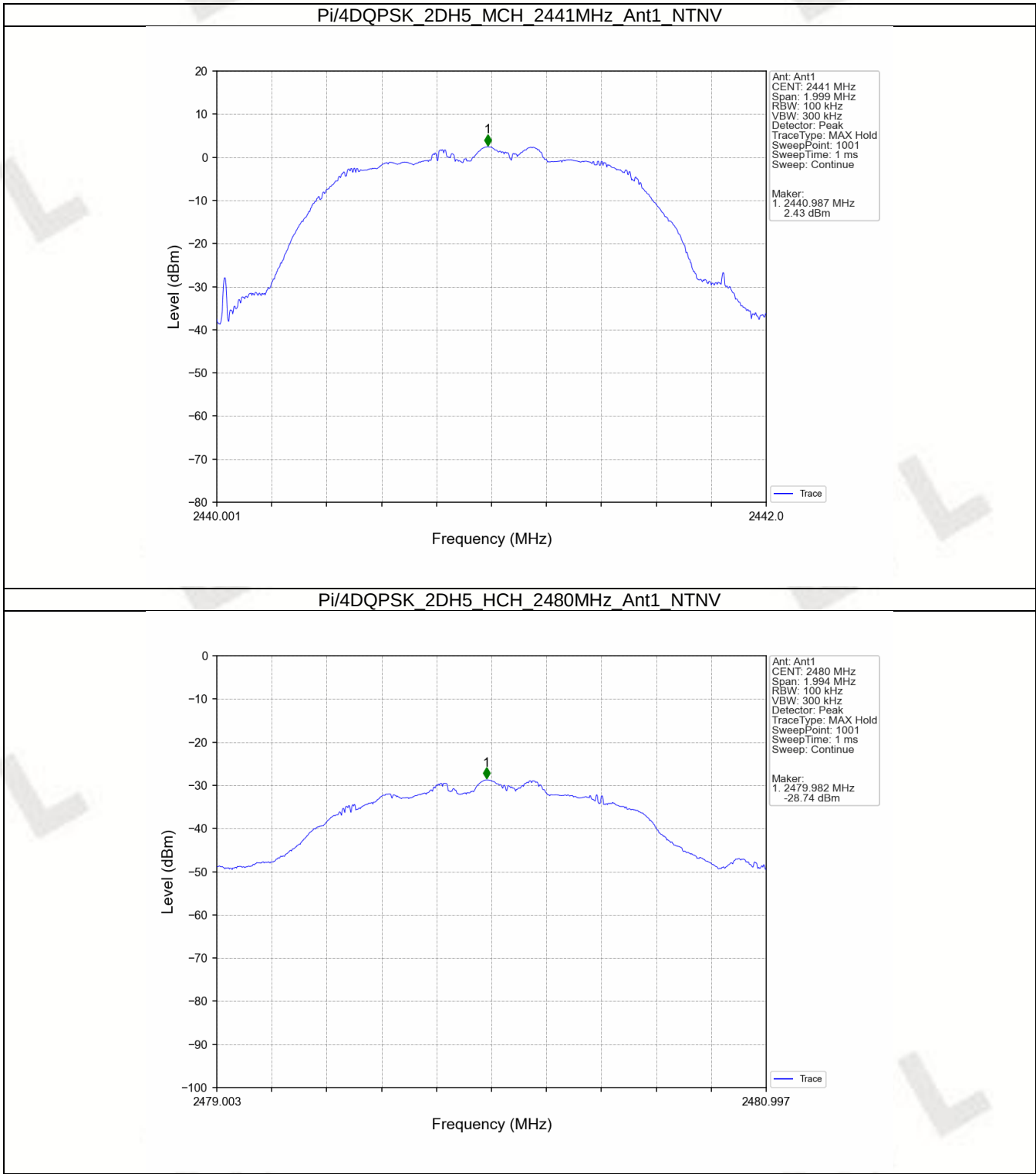
GFSK_DH5_HOPP_Ant1_NTNV



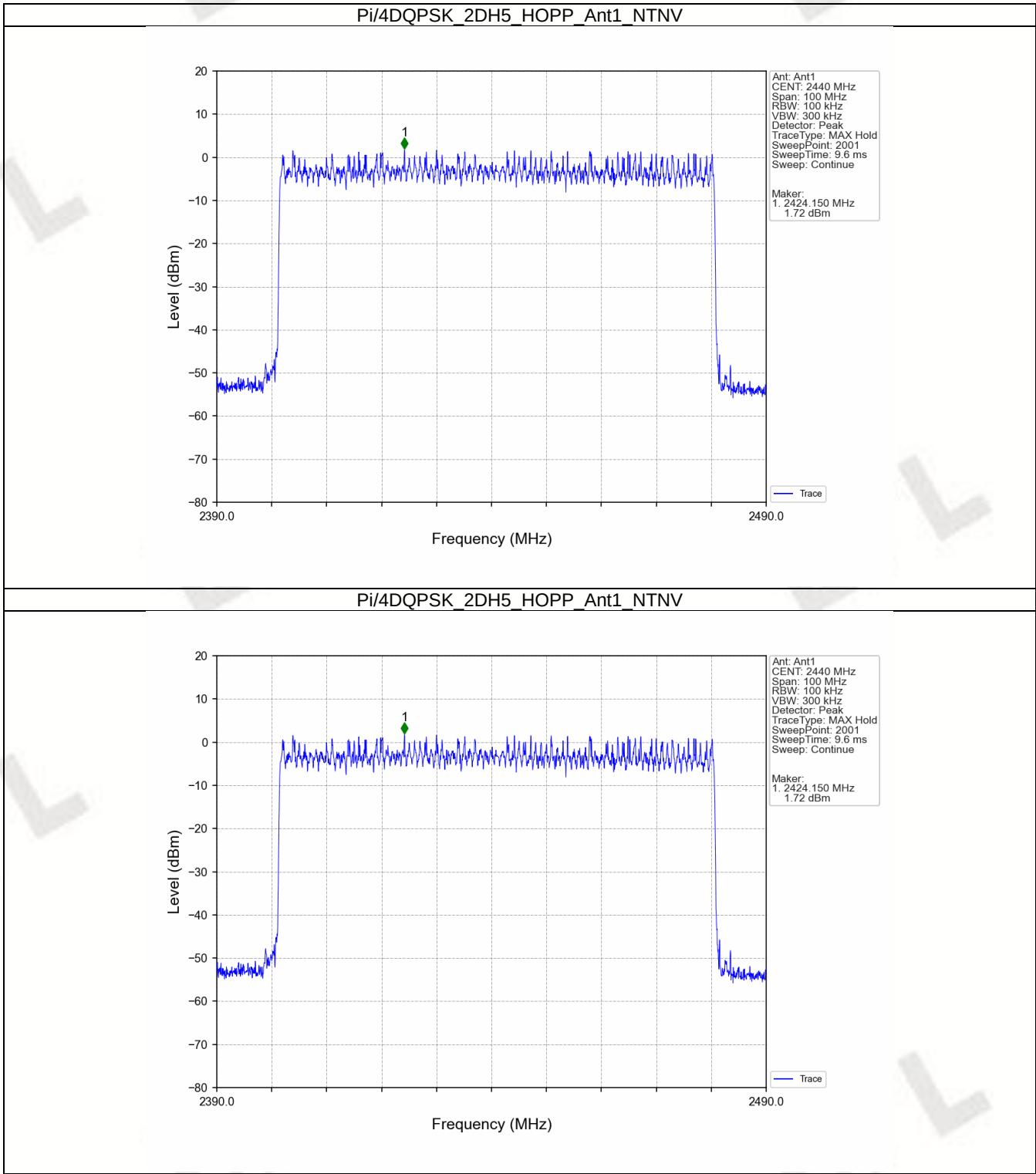
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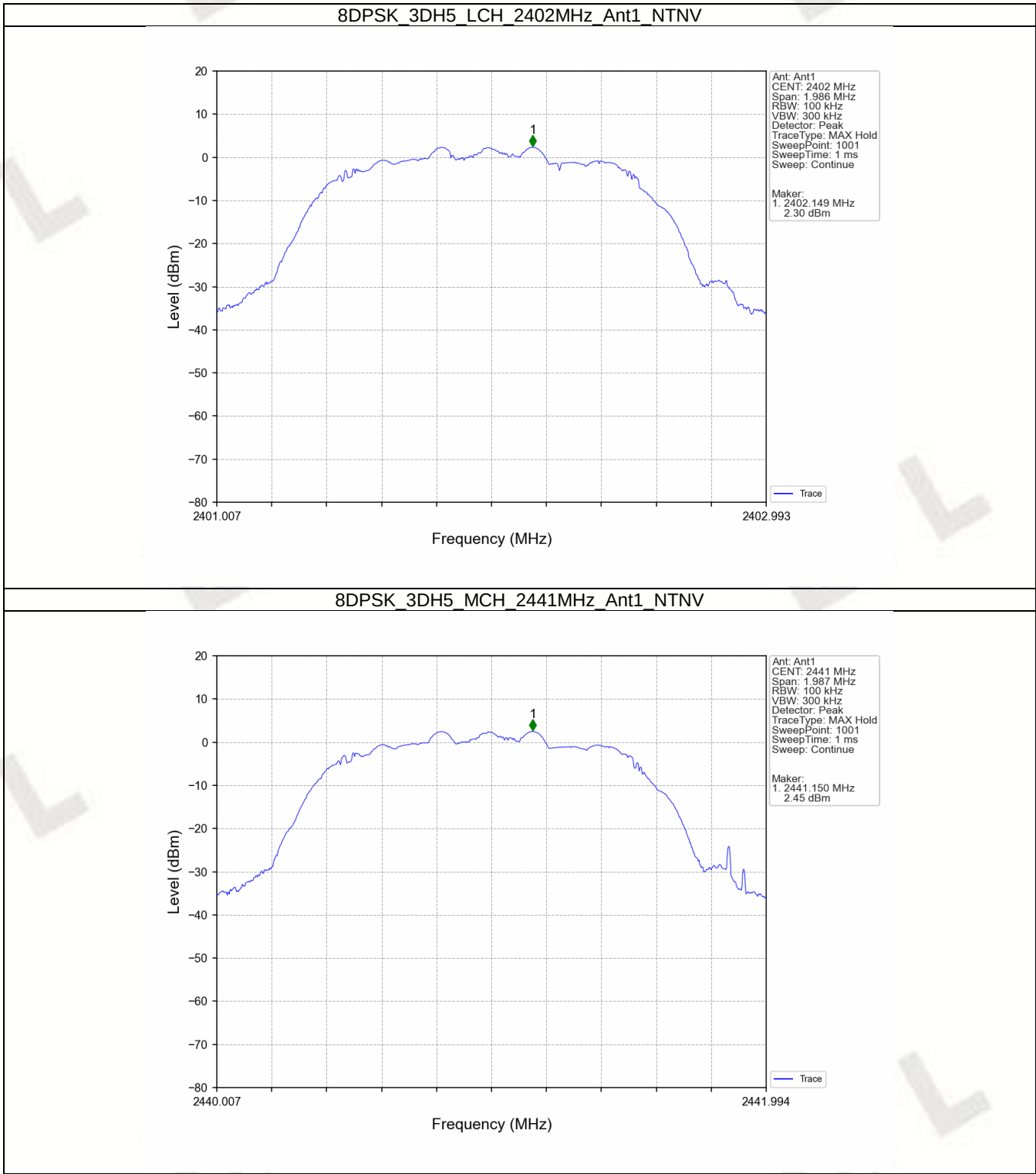
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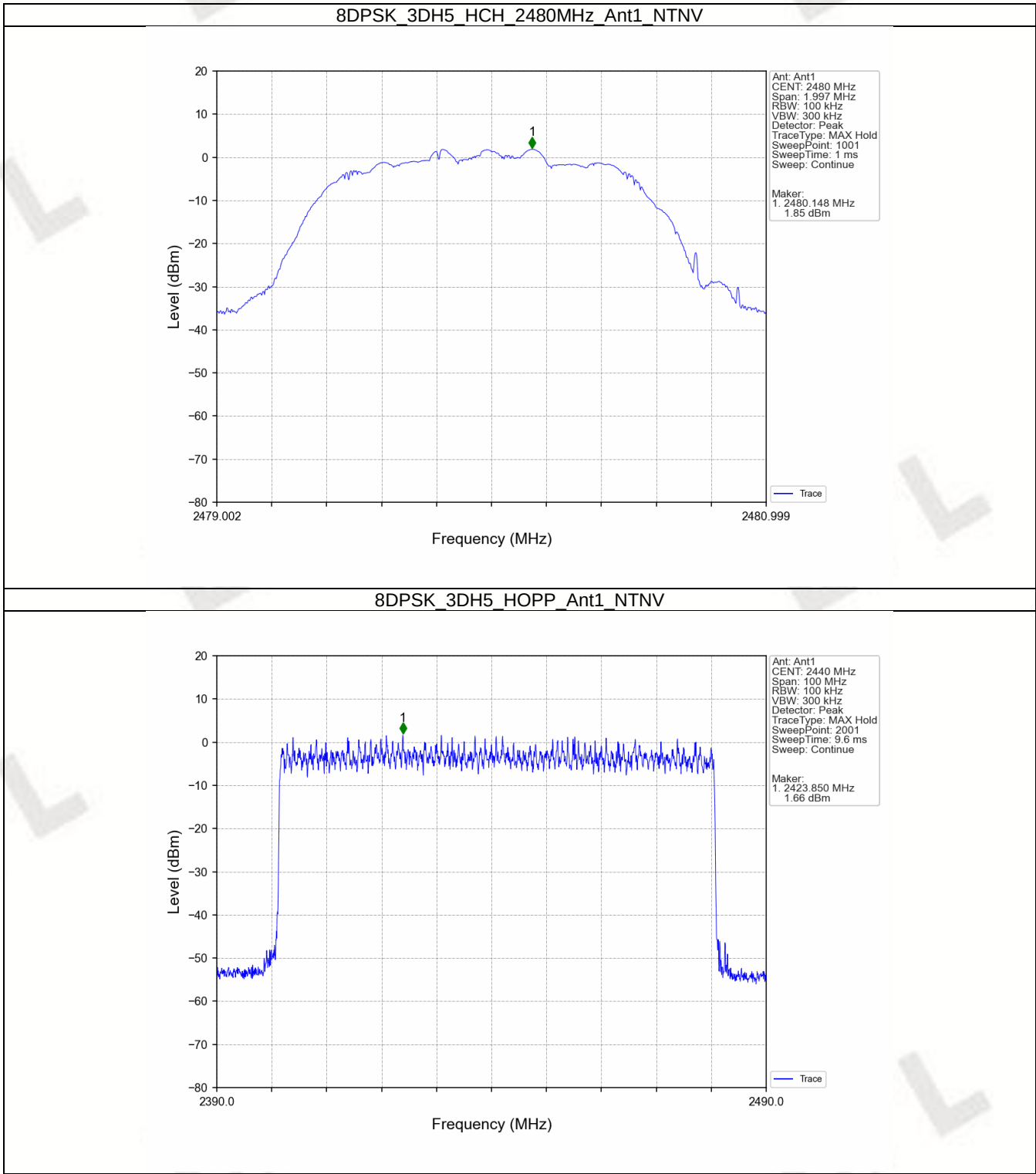
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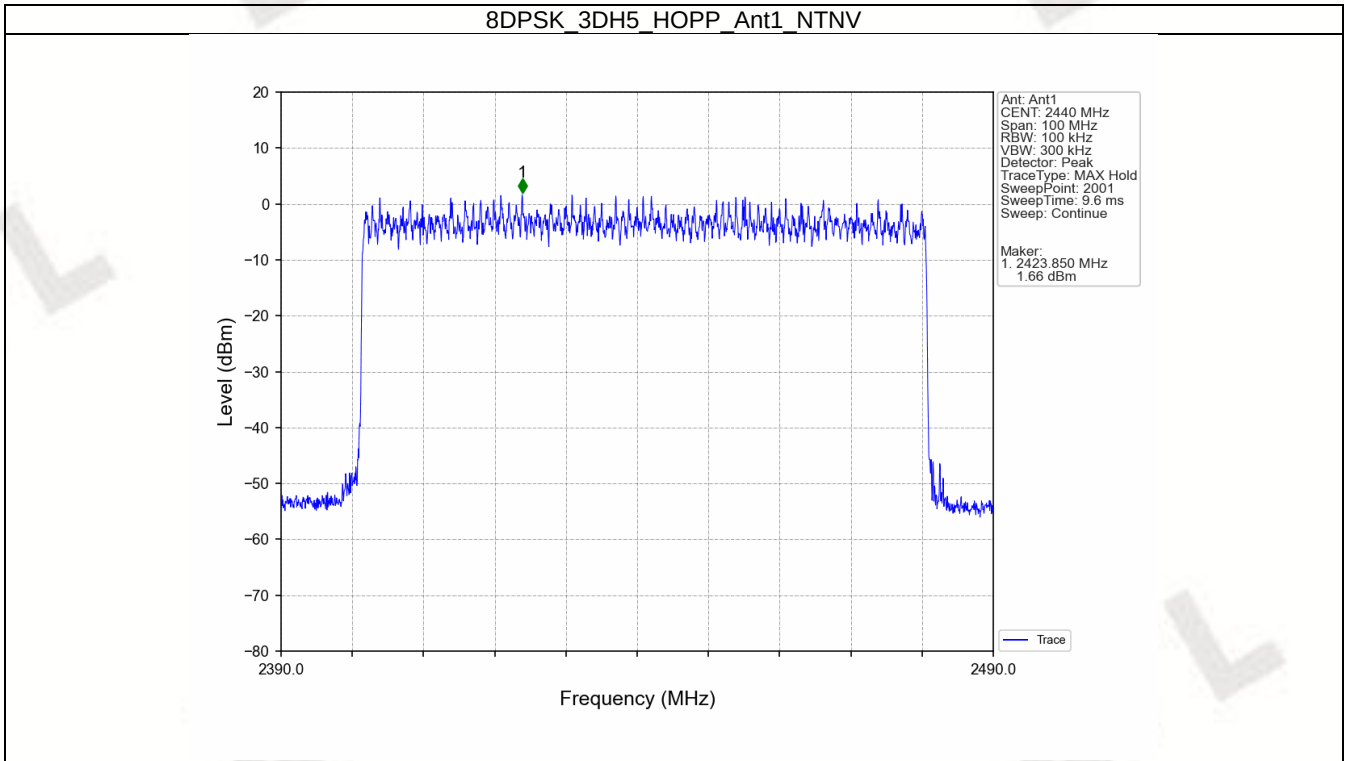
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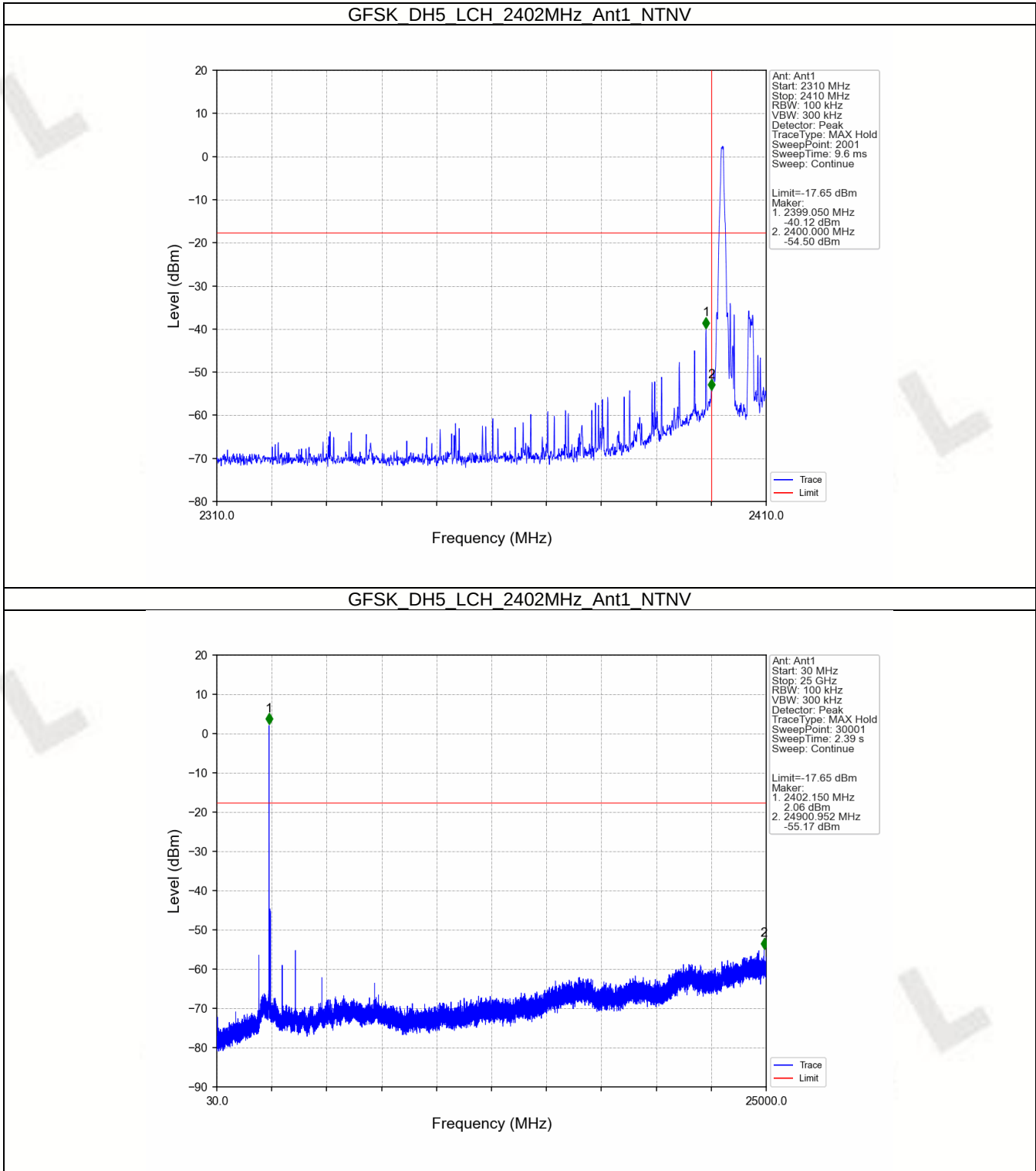


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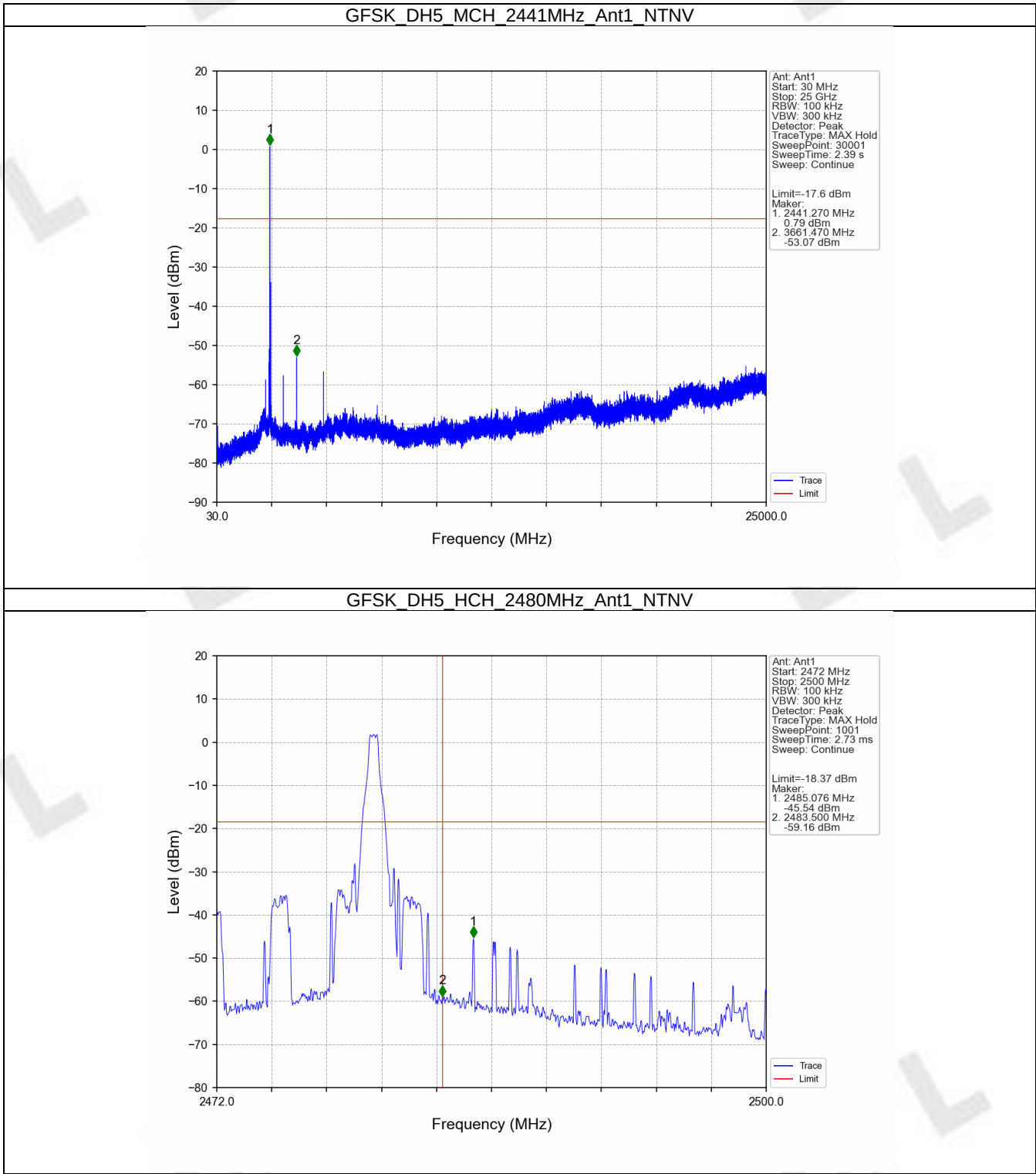


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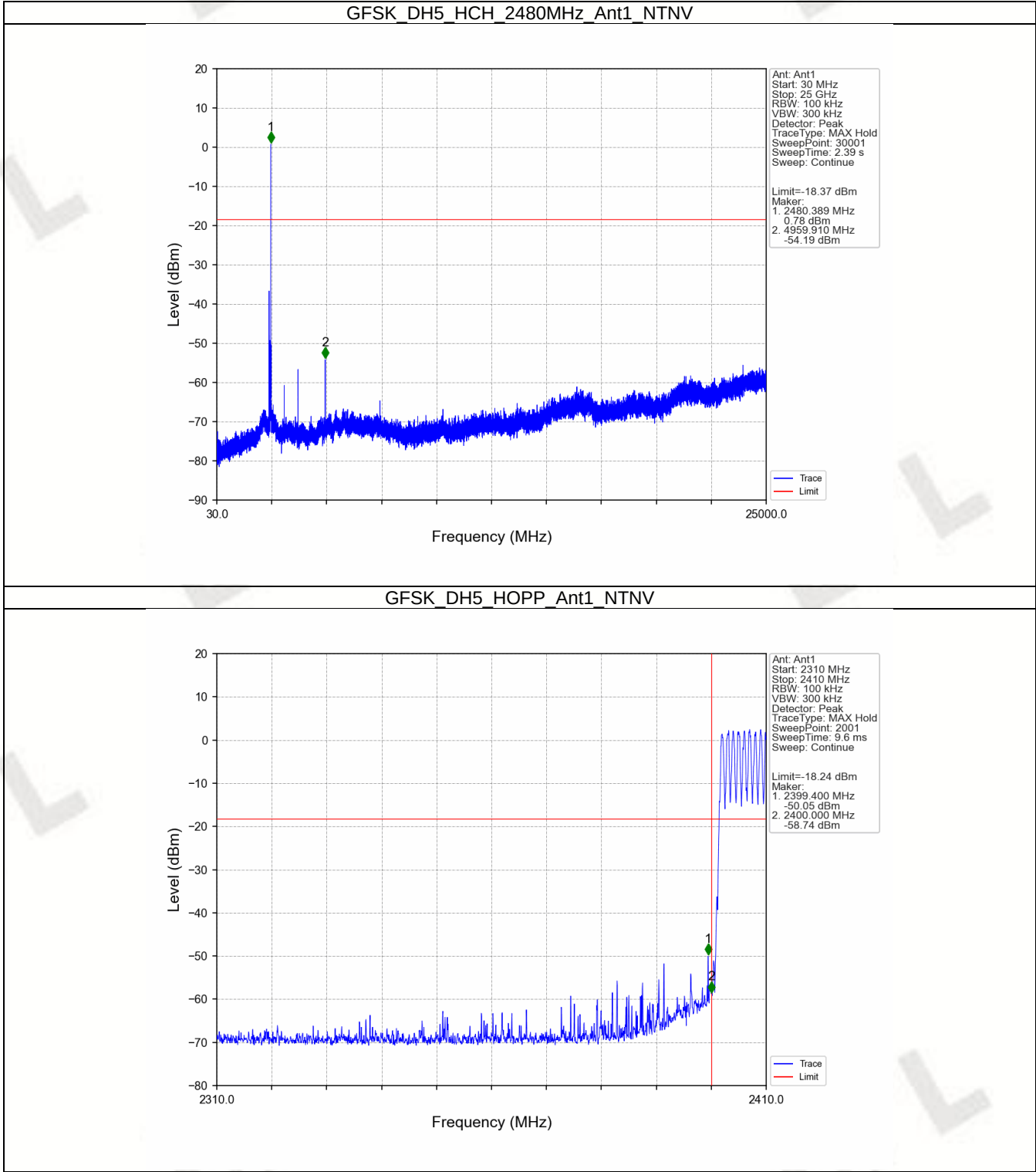
6.2.2 CSE



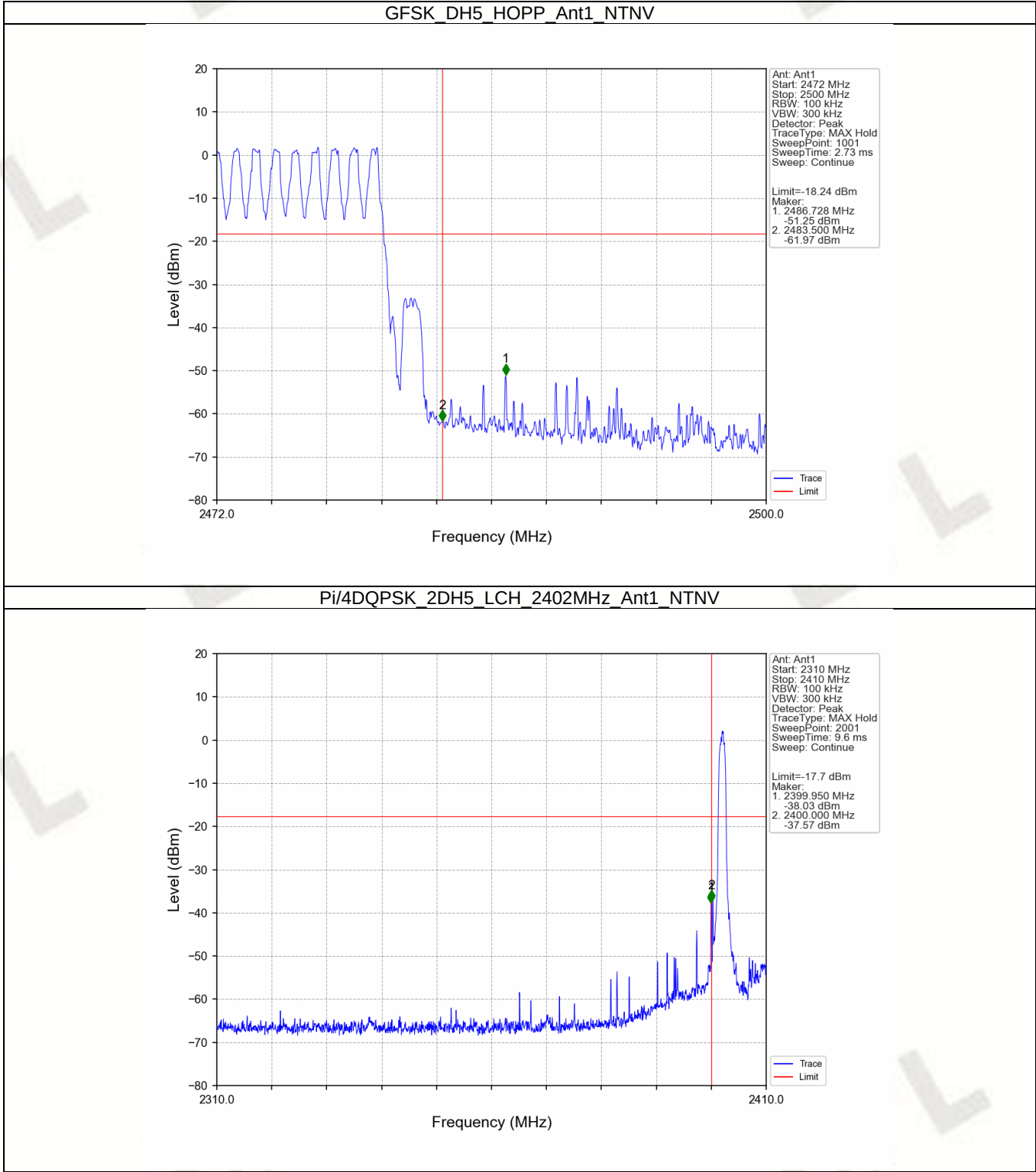
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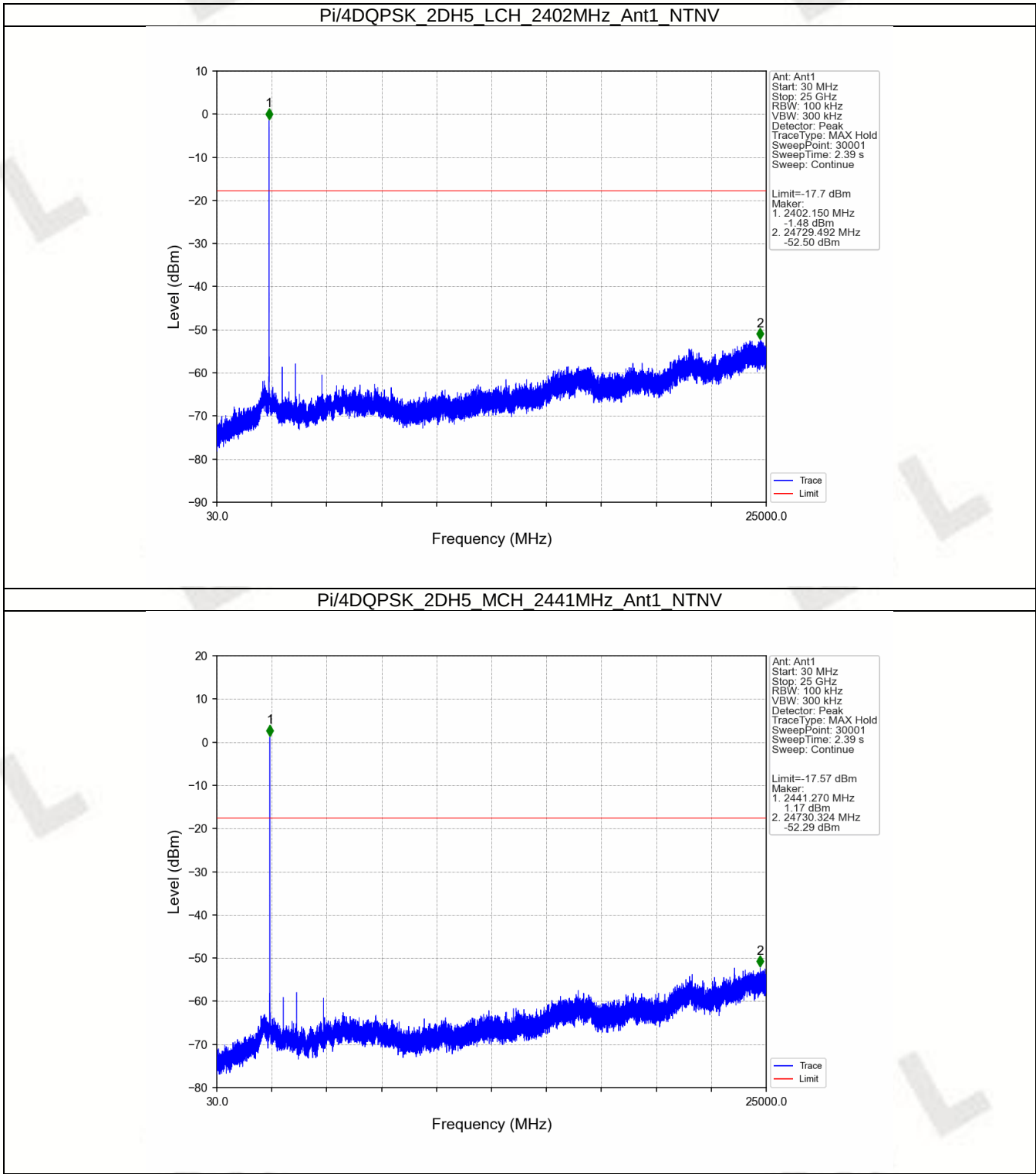
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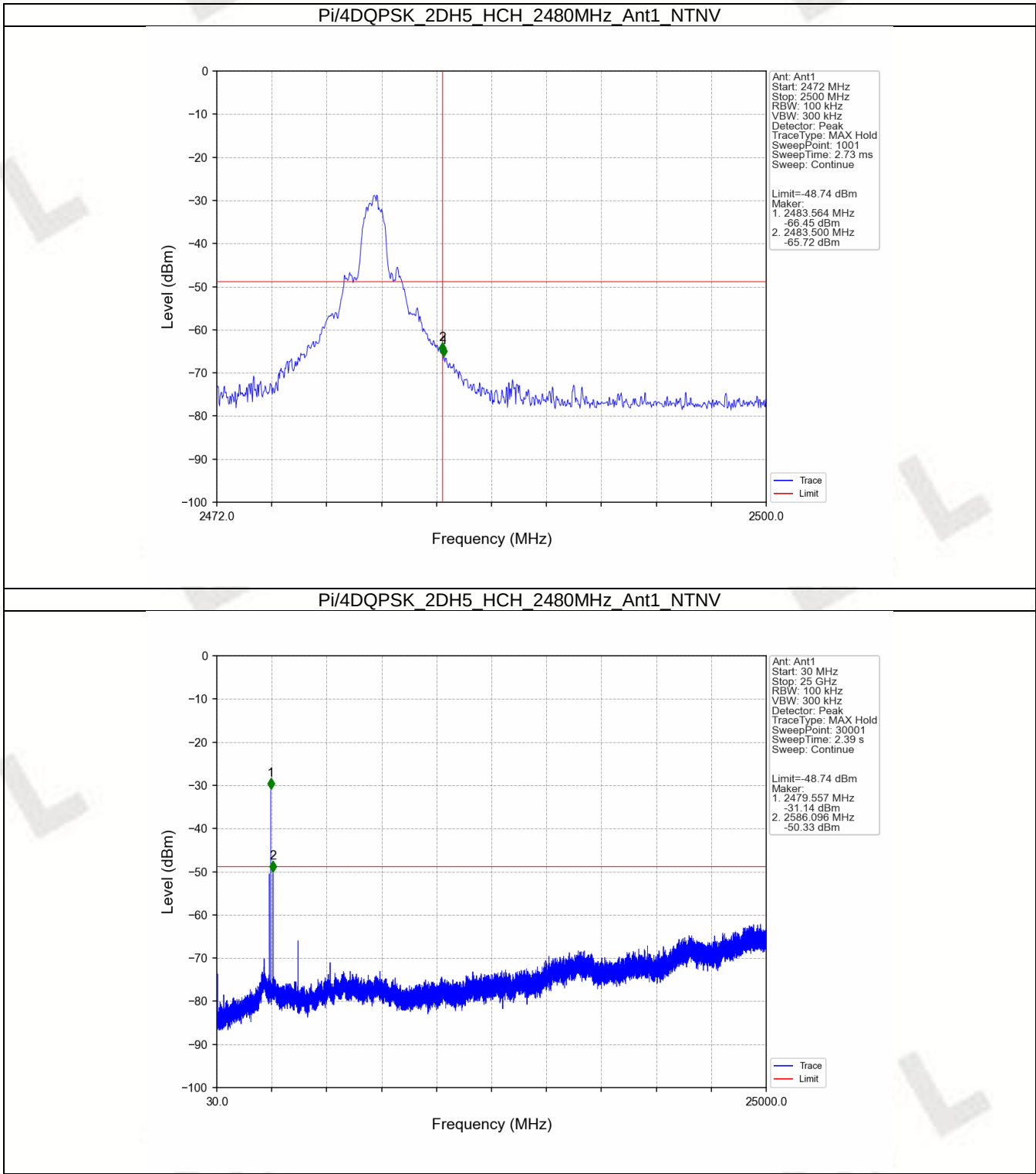
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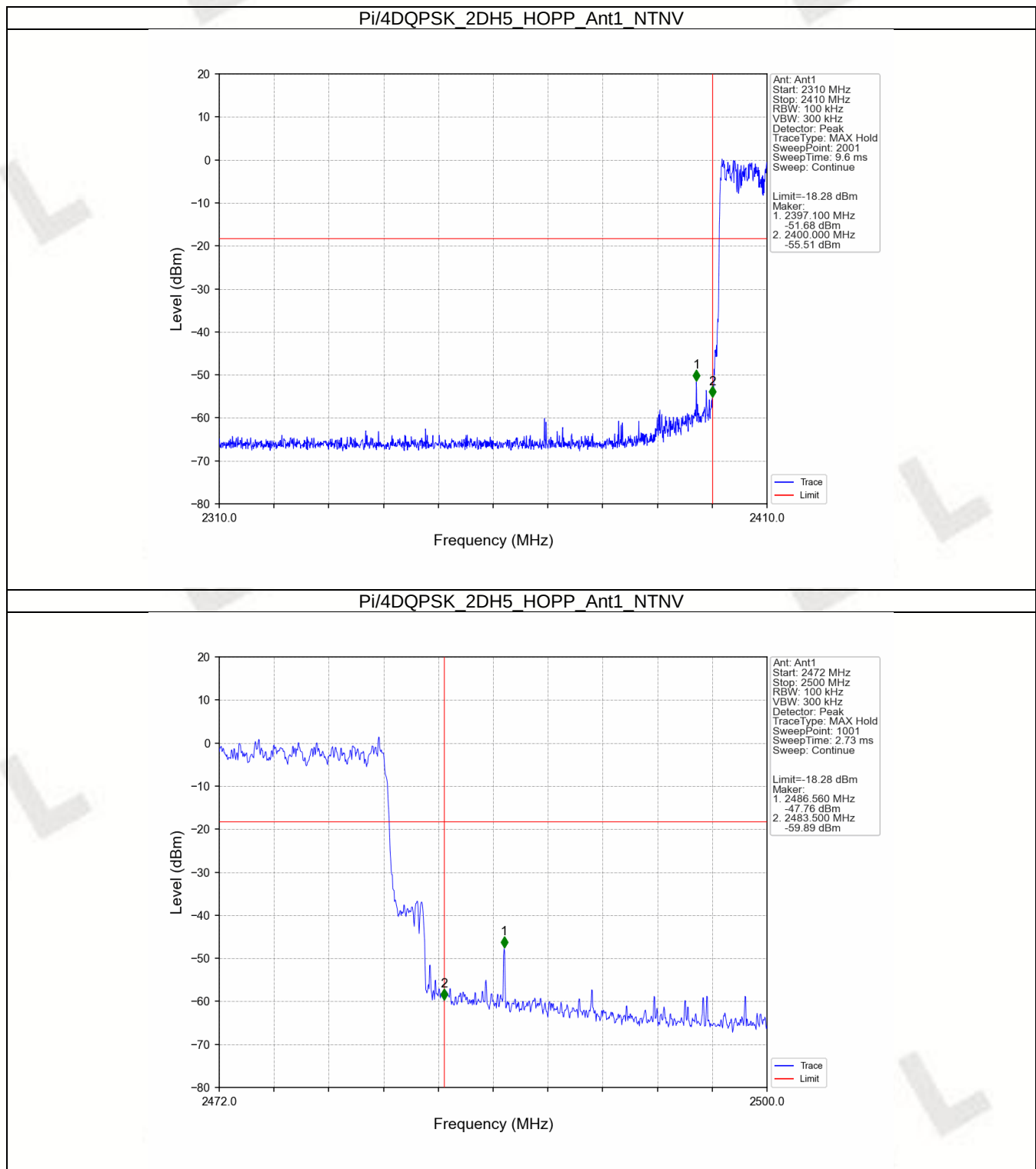
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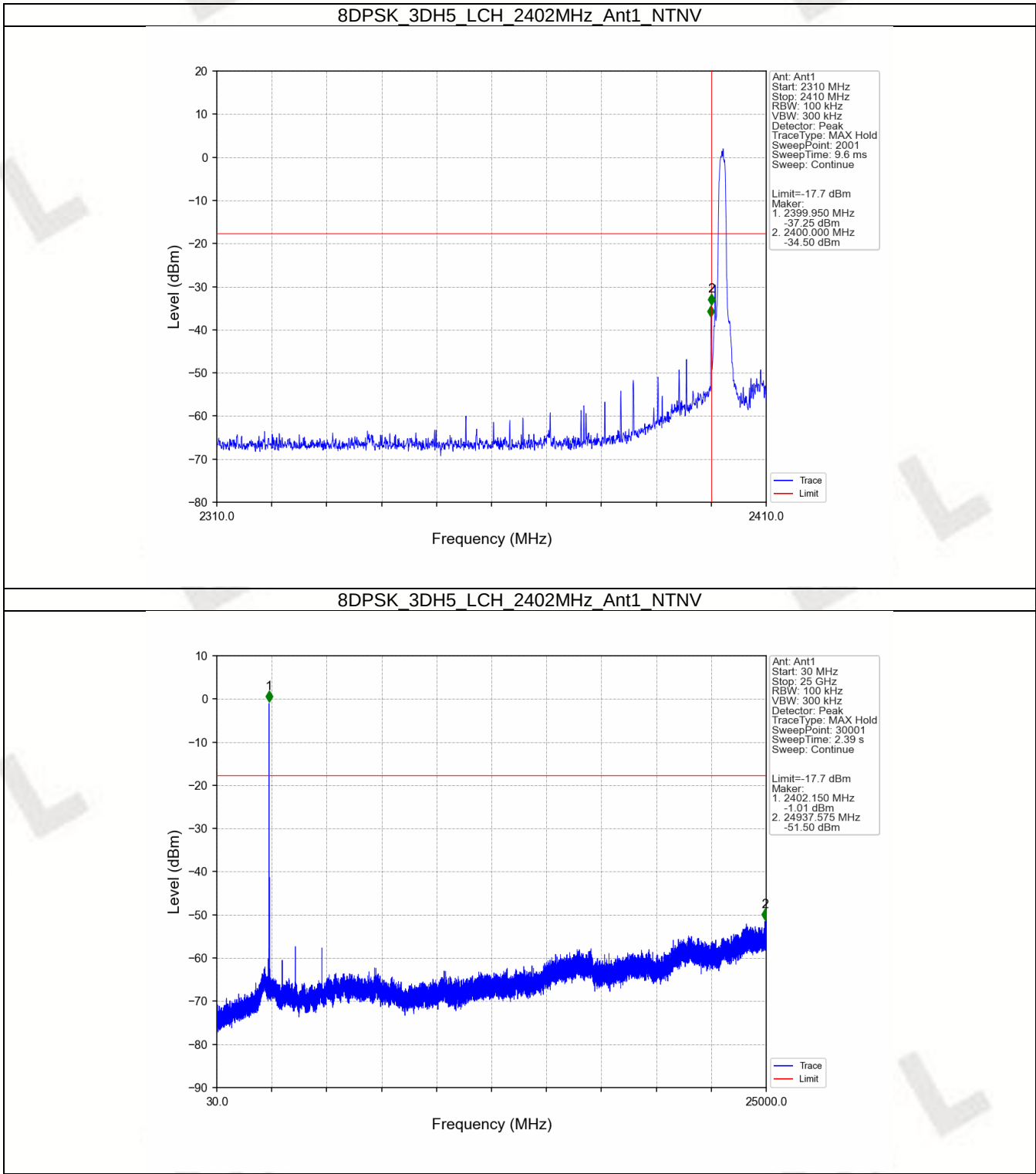
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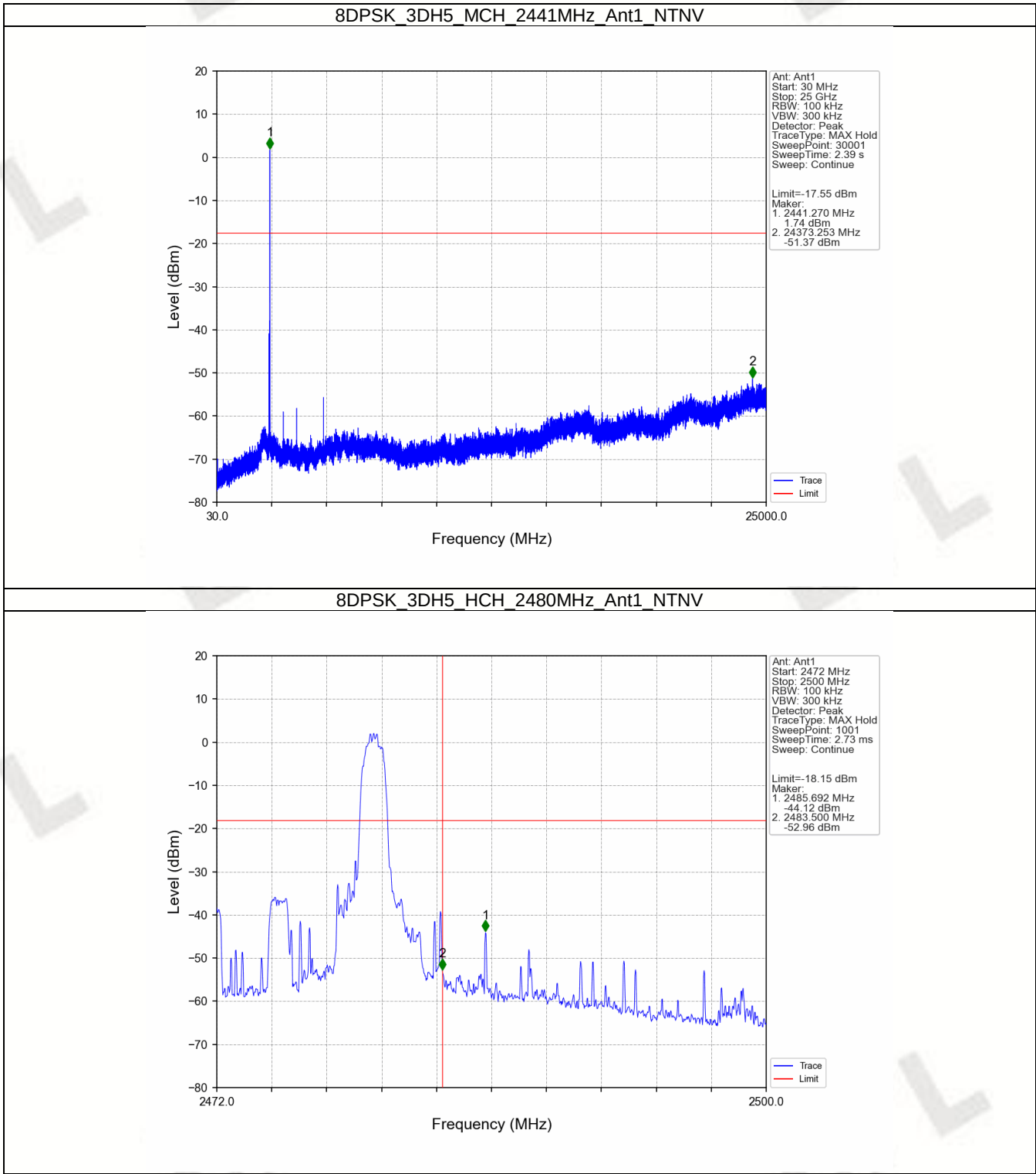
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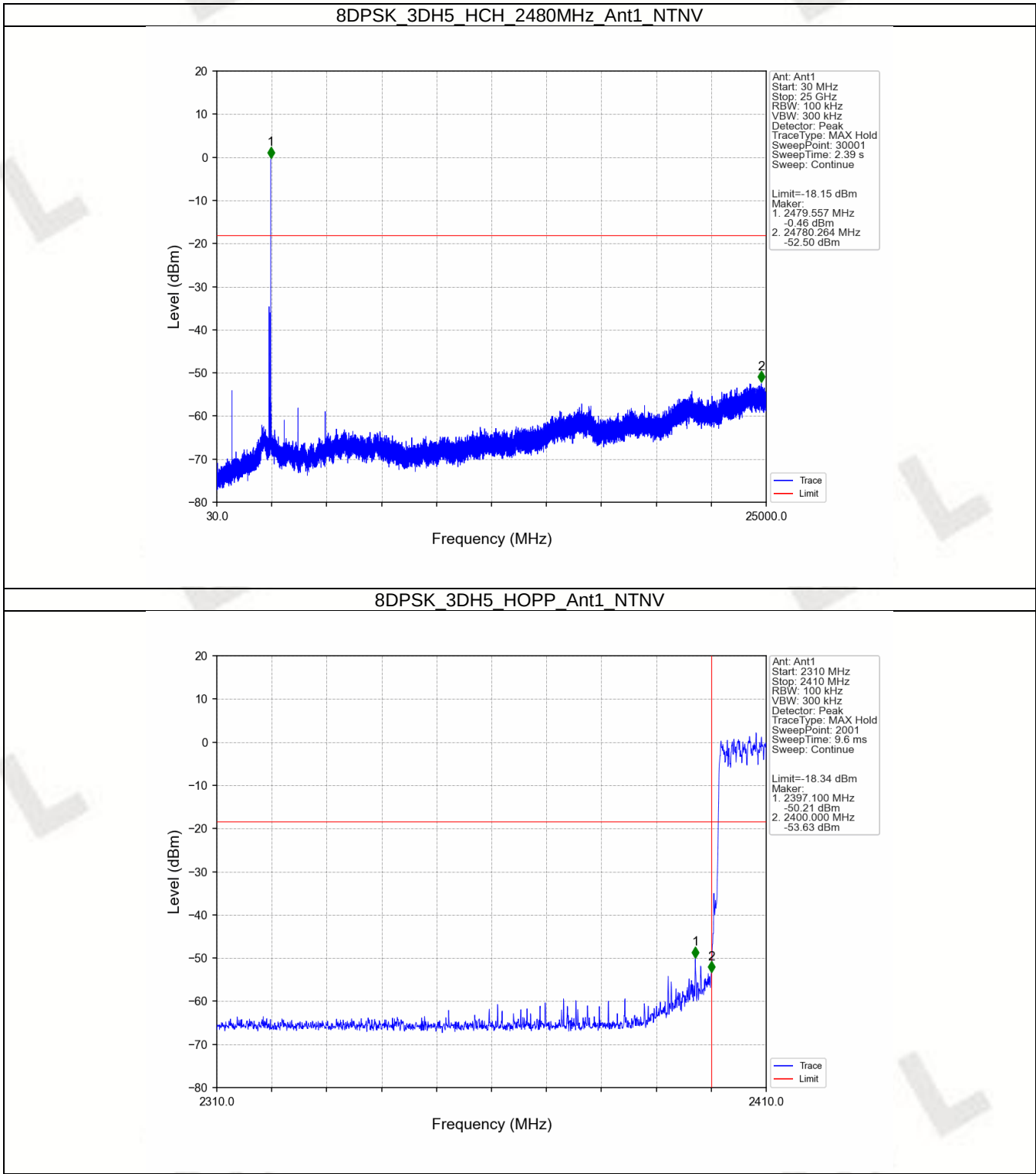
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FCCID: 2APQC-TIDE16



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