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Annex for BT

Test Report No.: CTL2407242113-WF

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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	0.884	/	Pass
		2441	DH5	1	0.884	/	Pass
		2480	DH5	1	0.882	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.144	/	Pass
		2441	2DH5	1	1.145	/	Pass
		2480	2DH5	1	1.144	/	Pass
8DPSK	SISO	2402	3DH5	1	1.152	/	Pass
		2441	3DH5	1	1.152	/	Pass
		2480	3DH5	1	1.152	/	Pass

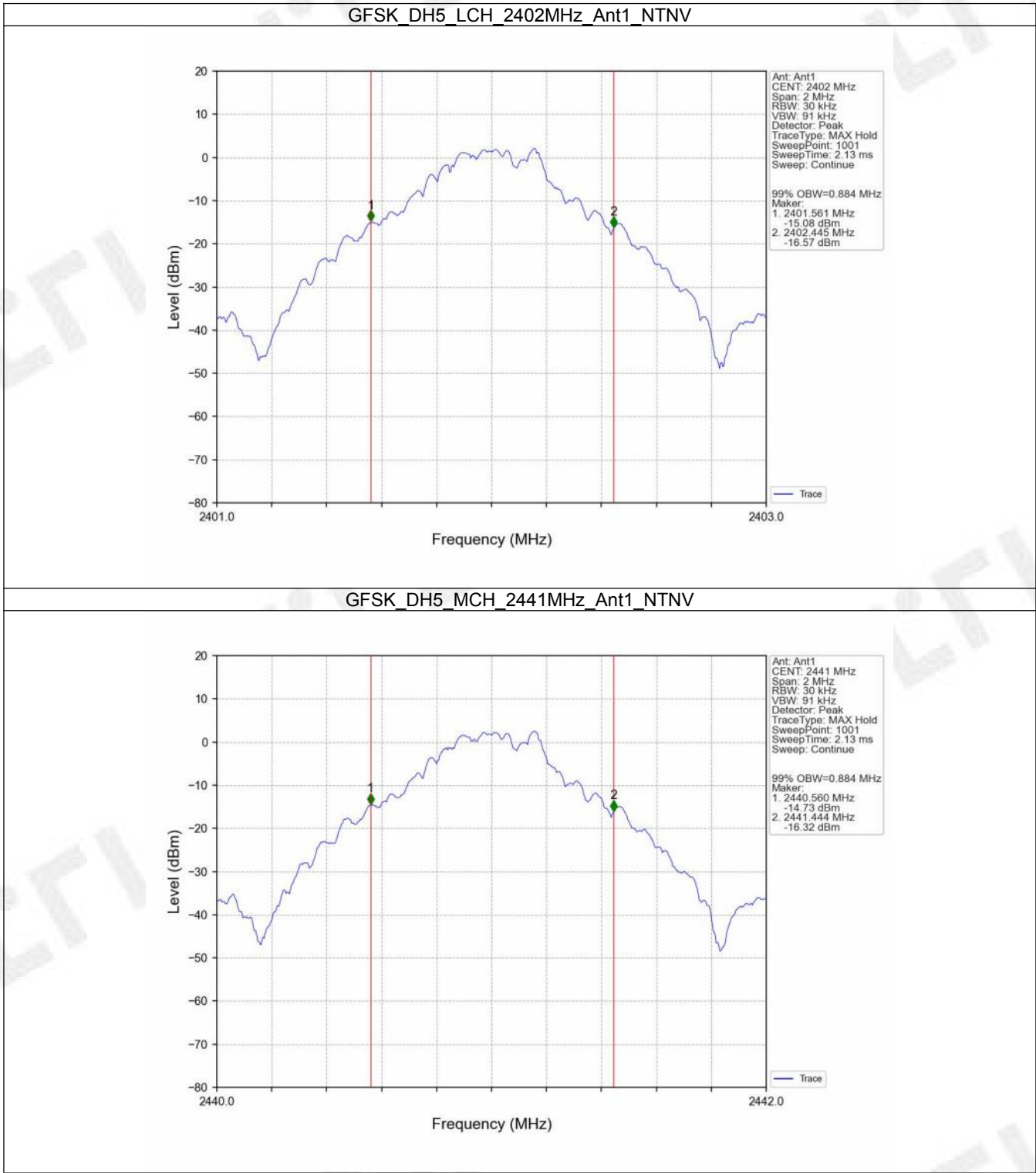
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.966	/	Pass
		2441	DH5	1	0.968	/	Pass
		2480	DH5	1	1.019	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.262	/	Pass
		2441	2DH5	1	1.261	/	Pass
		2480	2DH5	1	1.261	/	Pass
8DPSK	SISO	2402	3DH5	1	1.274	/	Pass
		2441	3DH5	1	1.273	/	Pass
		2480	3DH5	1	1.271	/	Pass

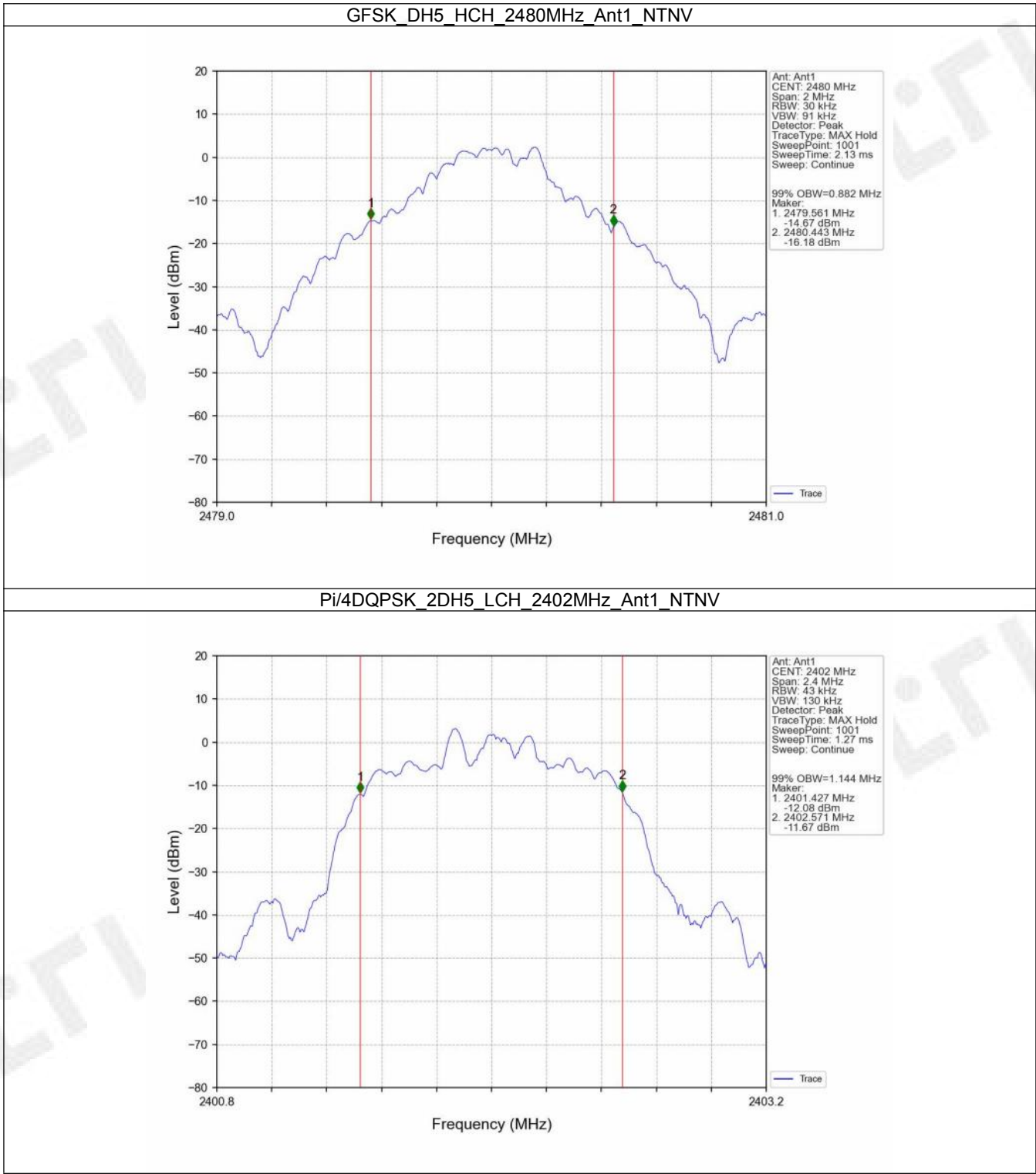
FCCID: 2ADH6-1902097R

1.2 Test Graph

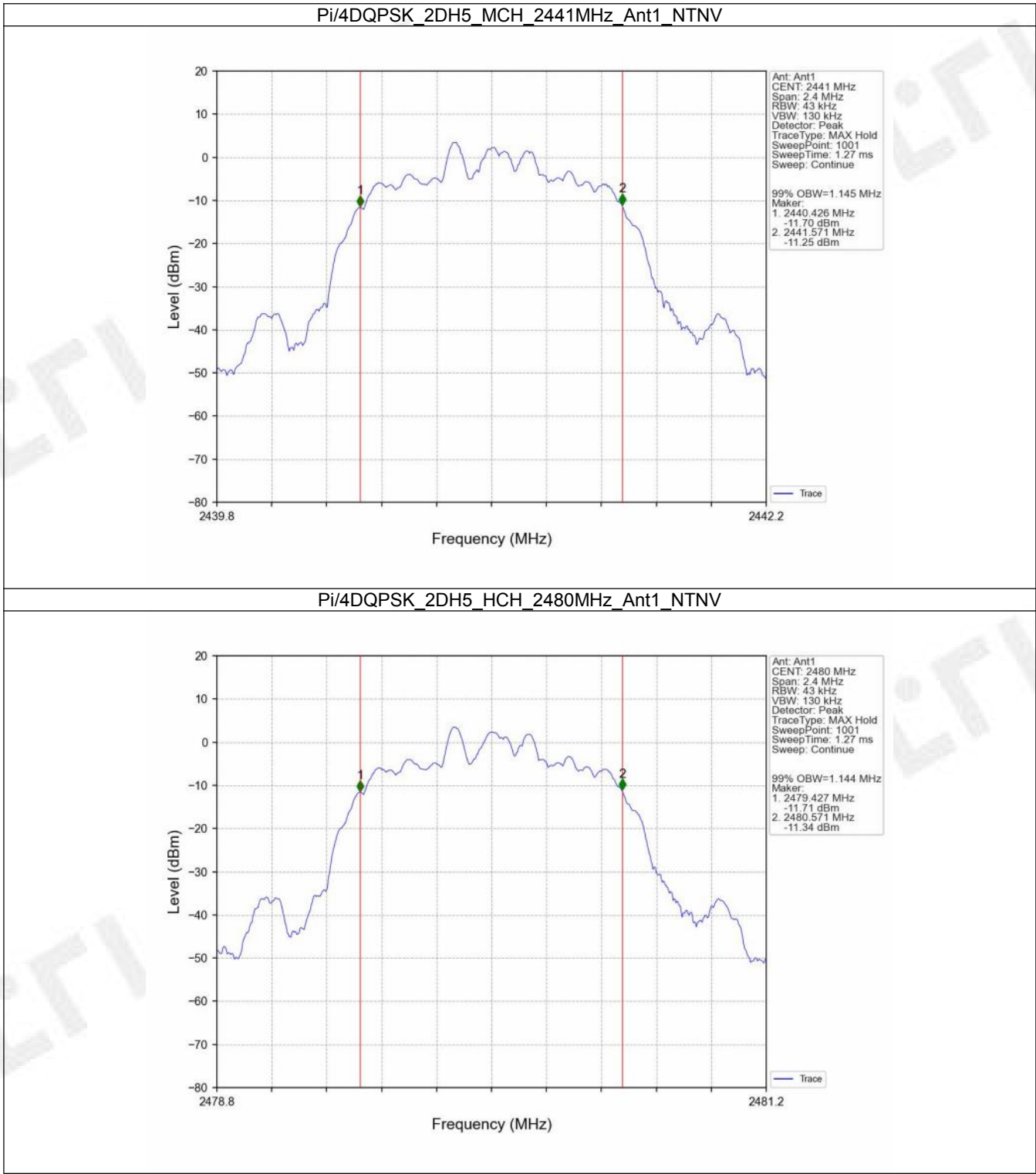
1.2.1 OBW



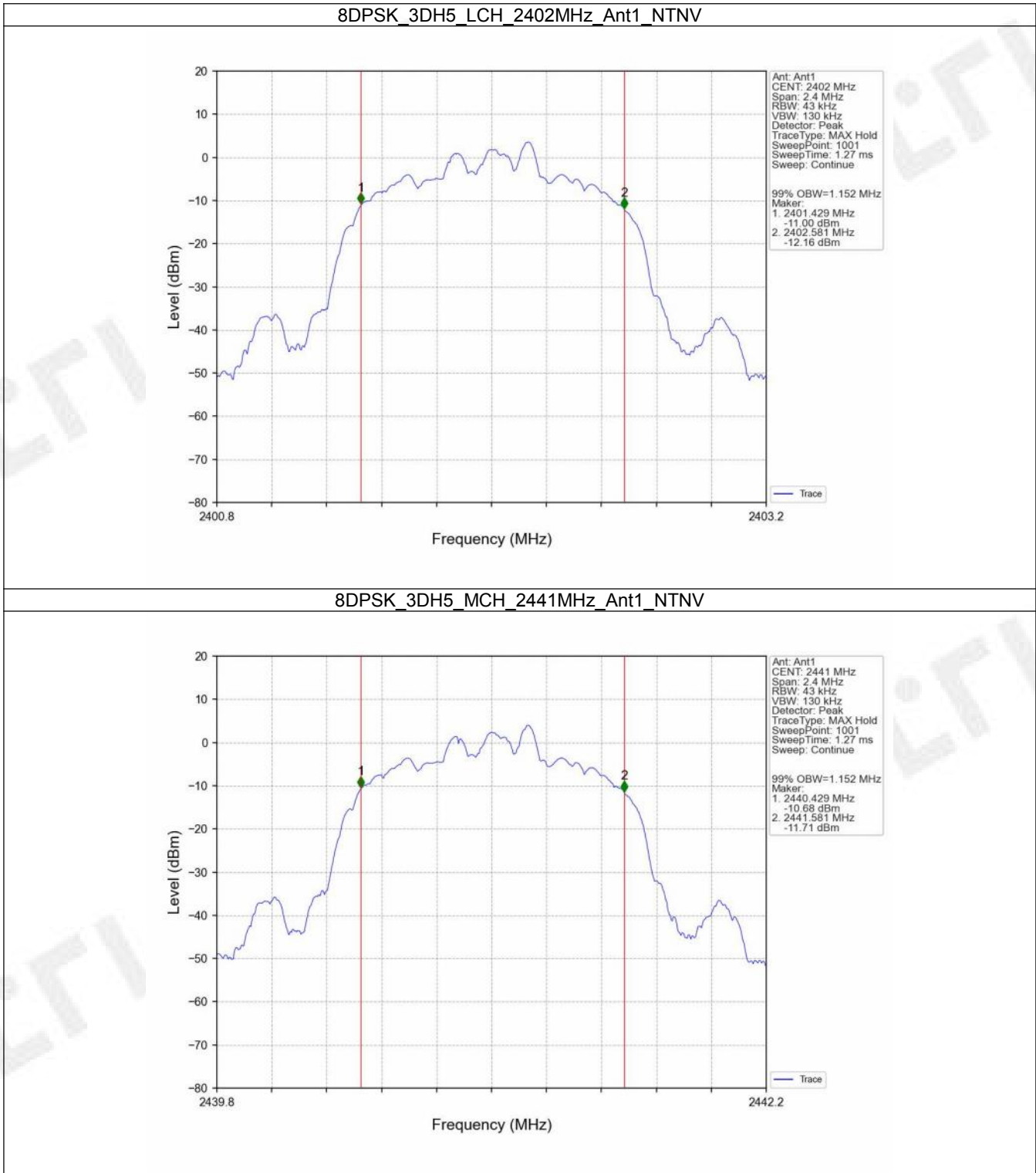
FCCID: 2ADH6-1902097R



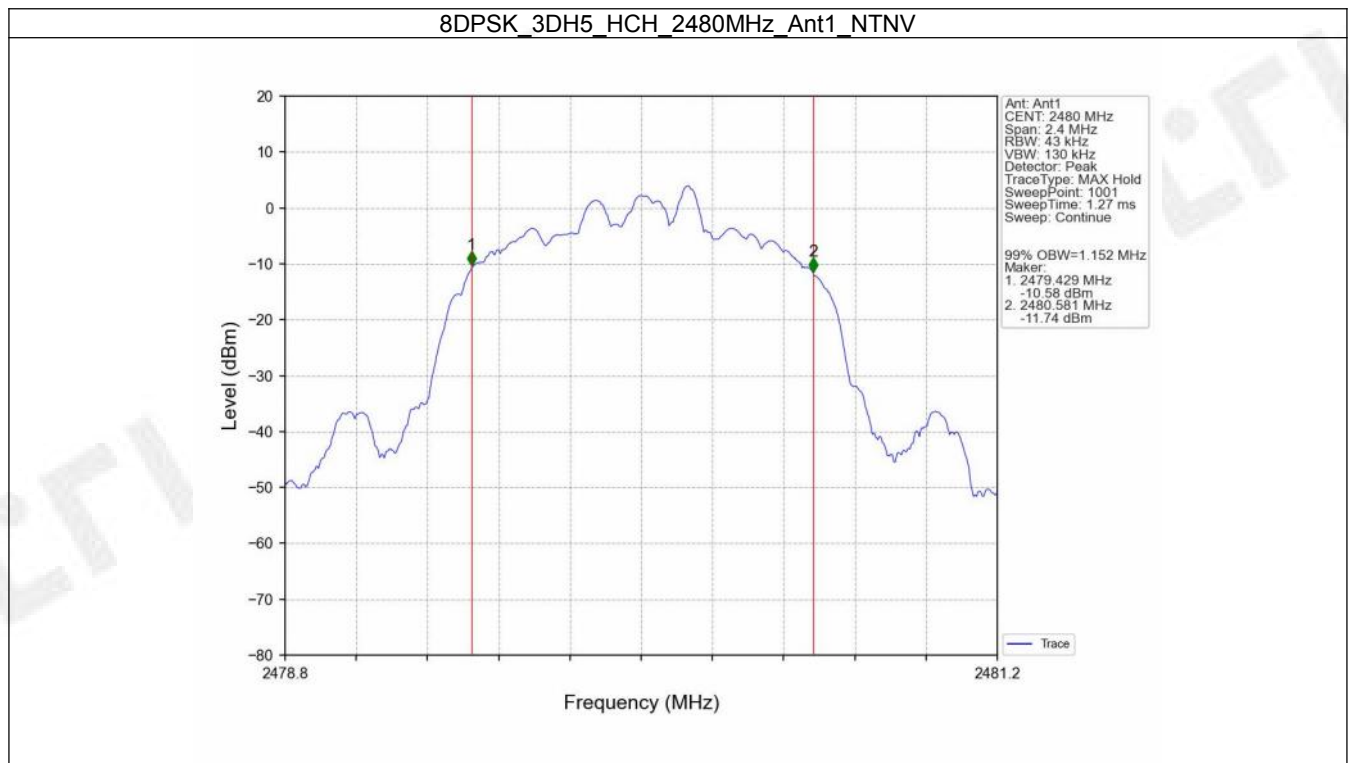
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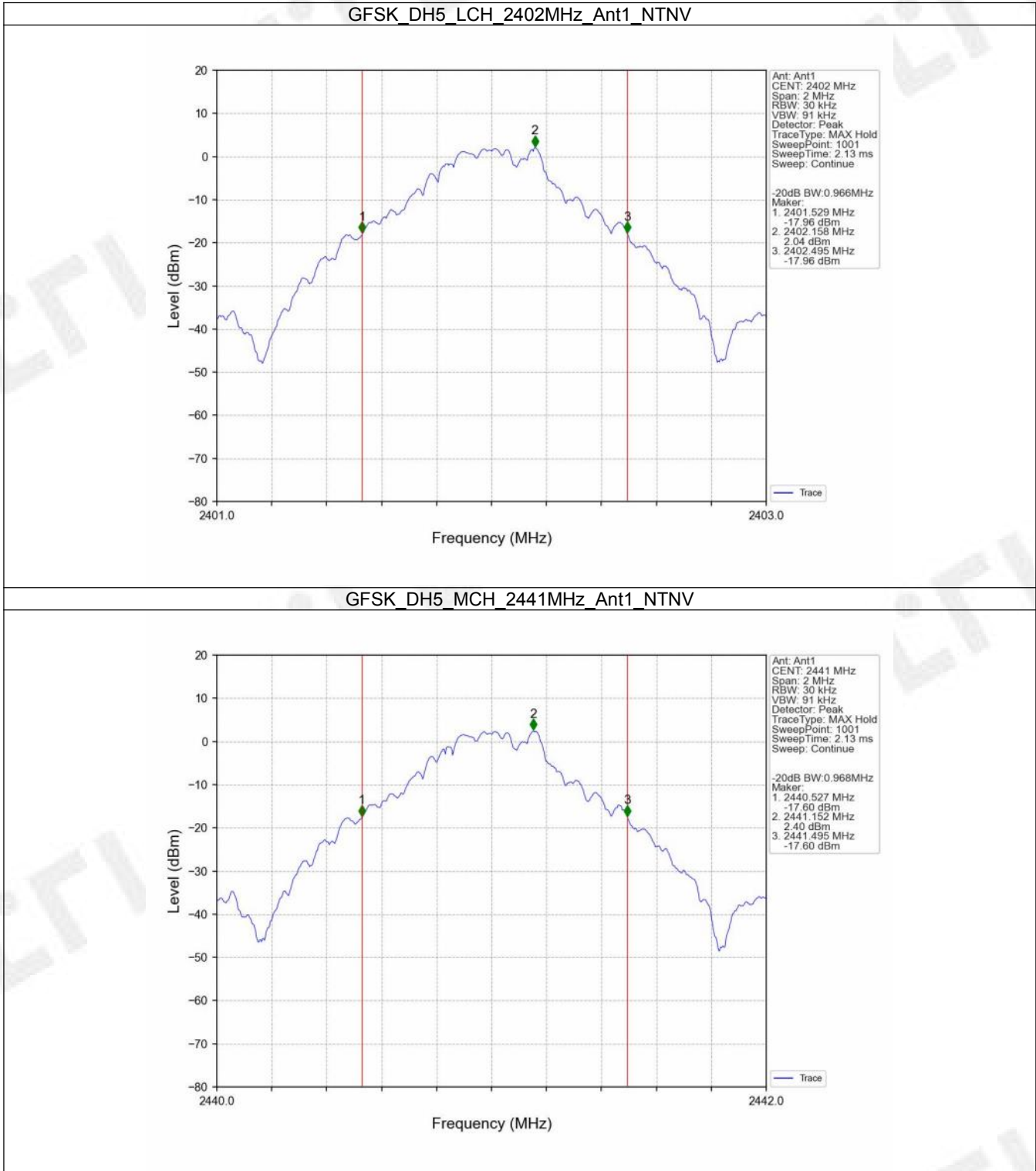


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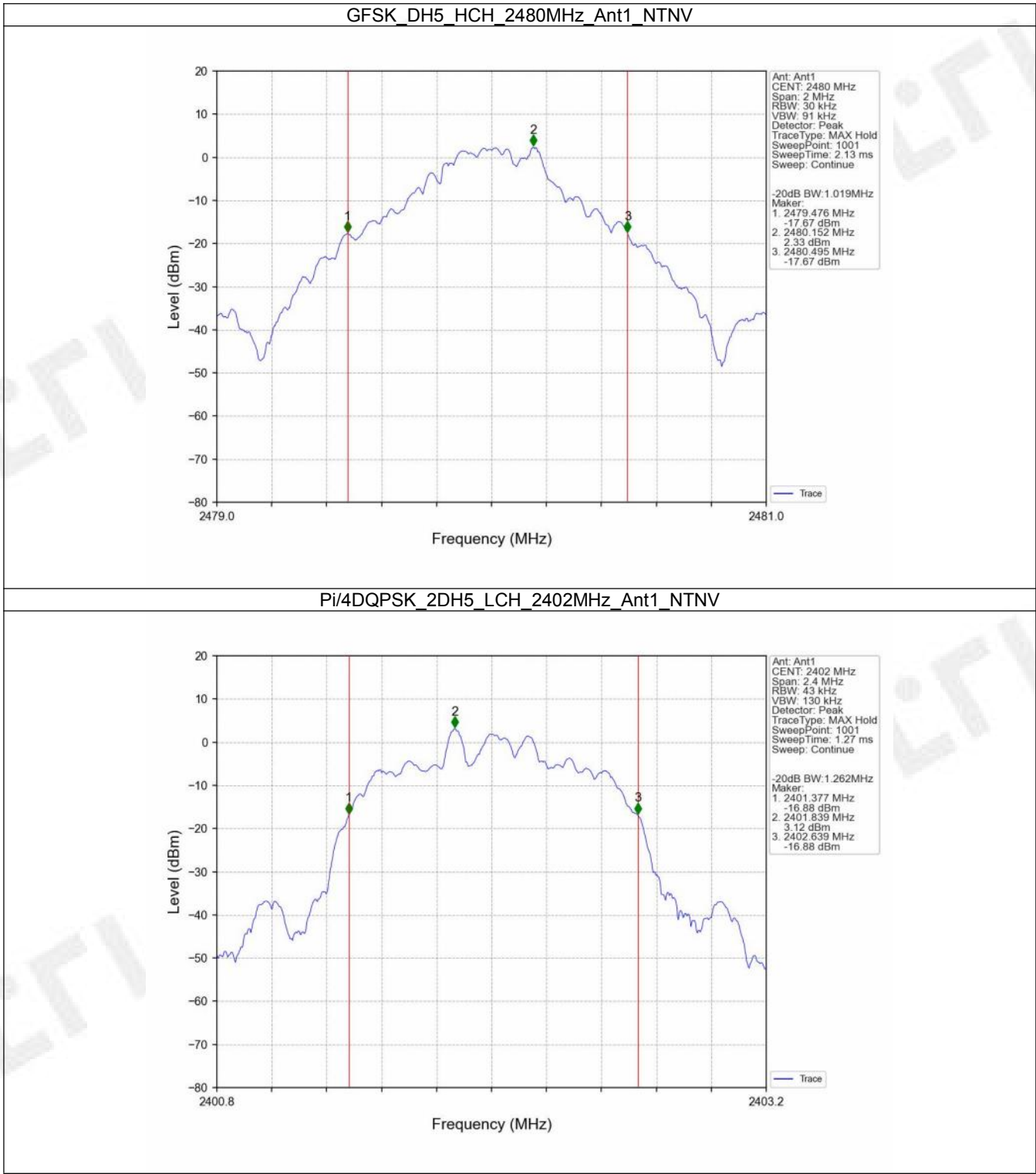


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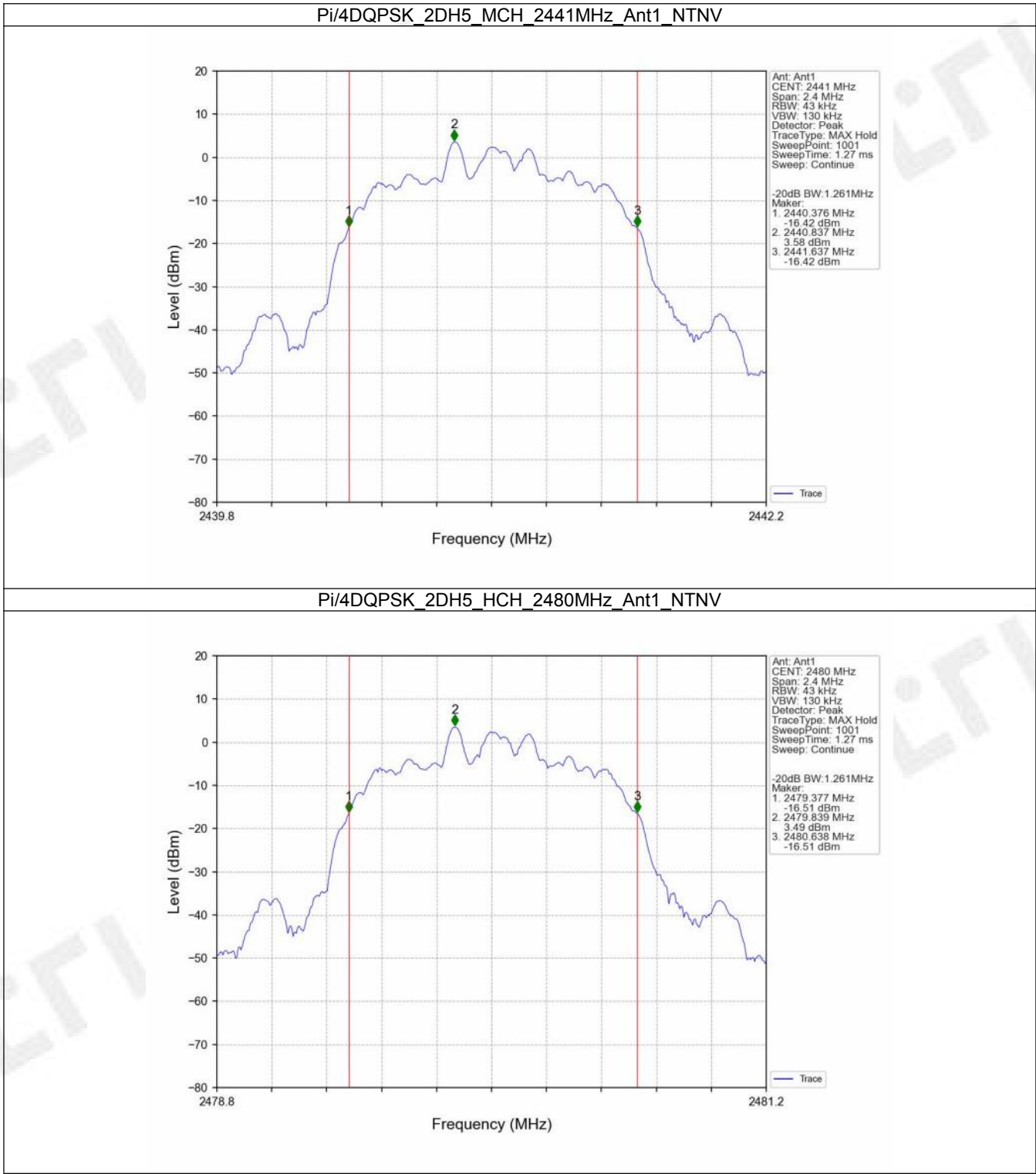
1.2.2 20dB BW



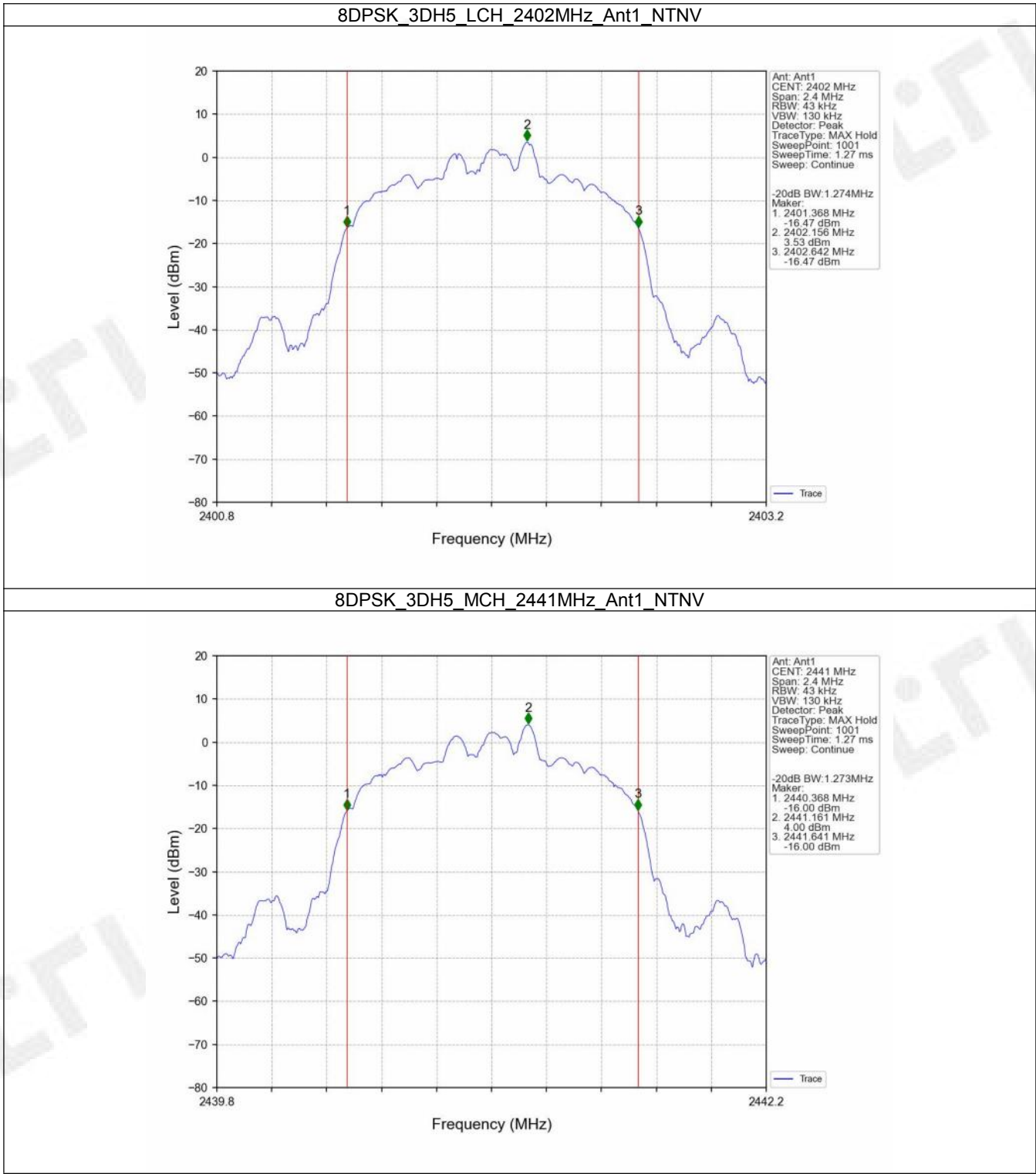
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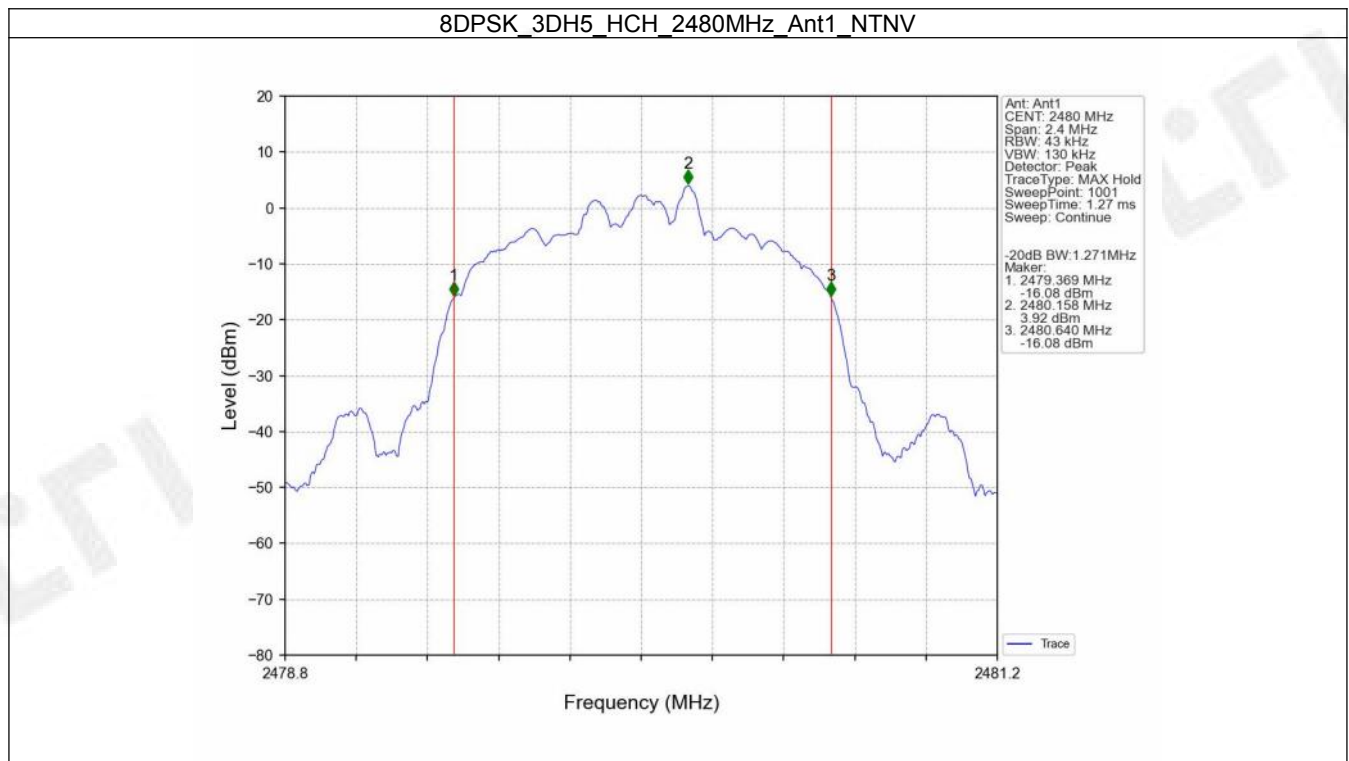
FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R

2. Maximum Conducted Output Power

2.1 Test Result

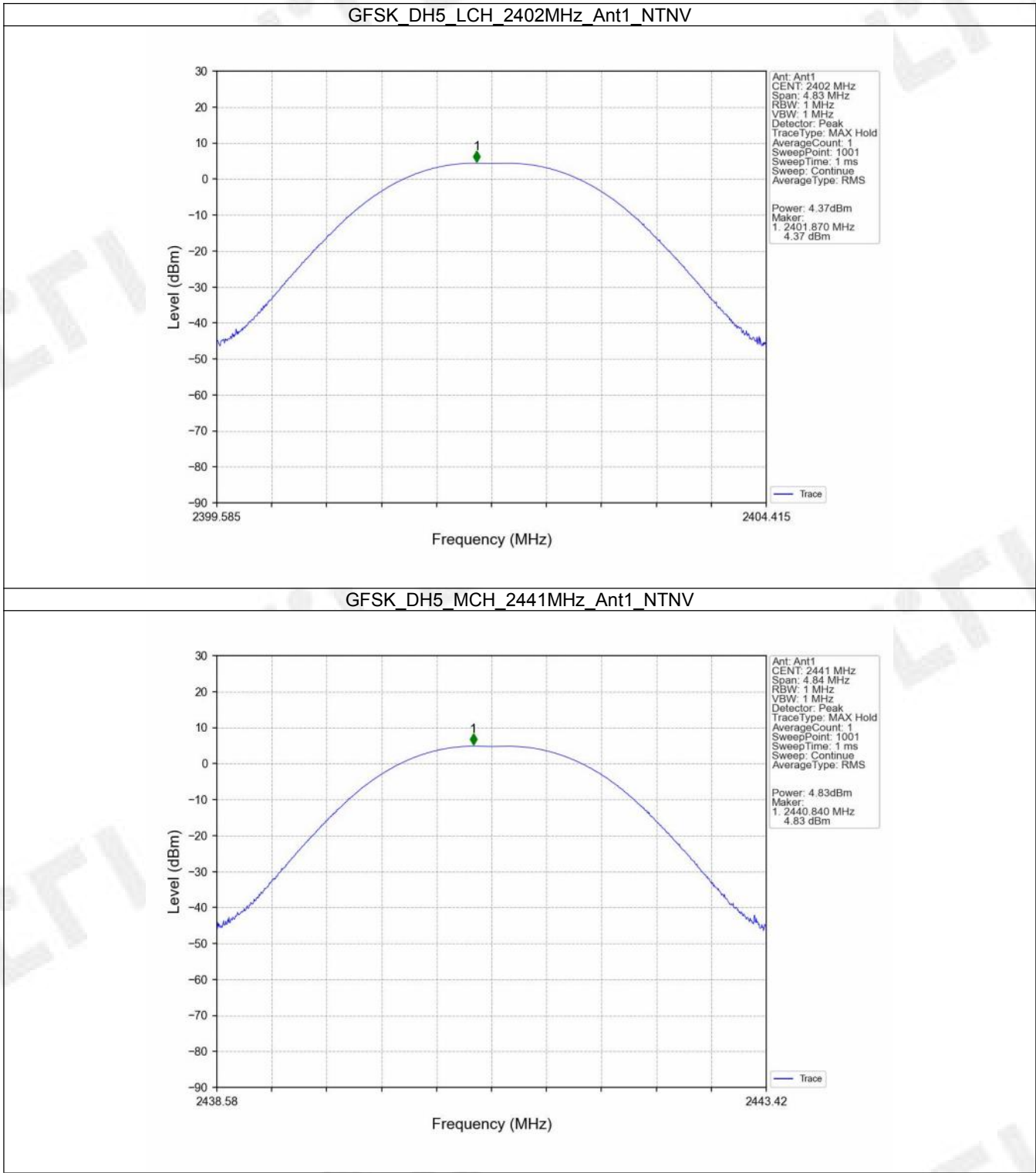
2.1.1 Power

Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	4.37	<=20.97	Pass
		2441	DH5	4.83	<=20.97	Pass
		2480	DH5	4.77	<=20.97	Pass
Pi/4DQPSK	SISO	2402	2DH5	4.37	<=20.97	Pass
		2441	2DH5	4.81	<=20.97	Pass
		2480	2DH5	4.75	<=20.97	Pass
8DPSK	SISO	2402	3DH5	4.35	<=20.97	Pass
		2441	3DH5	4.80	<=20.97	Pass
		2480	3DH5	4.73	<=20.97	Pass
Note1: Antenna Gain: Ant1: -0.85dBi;						

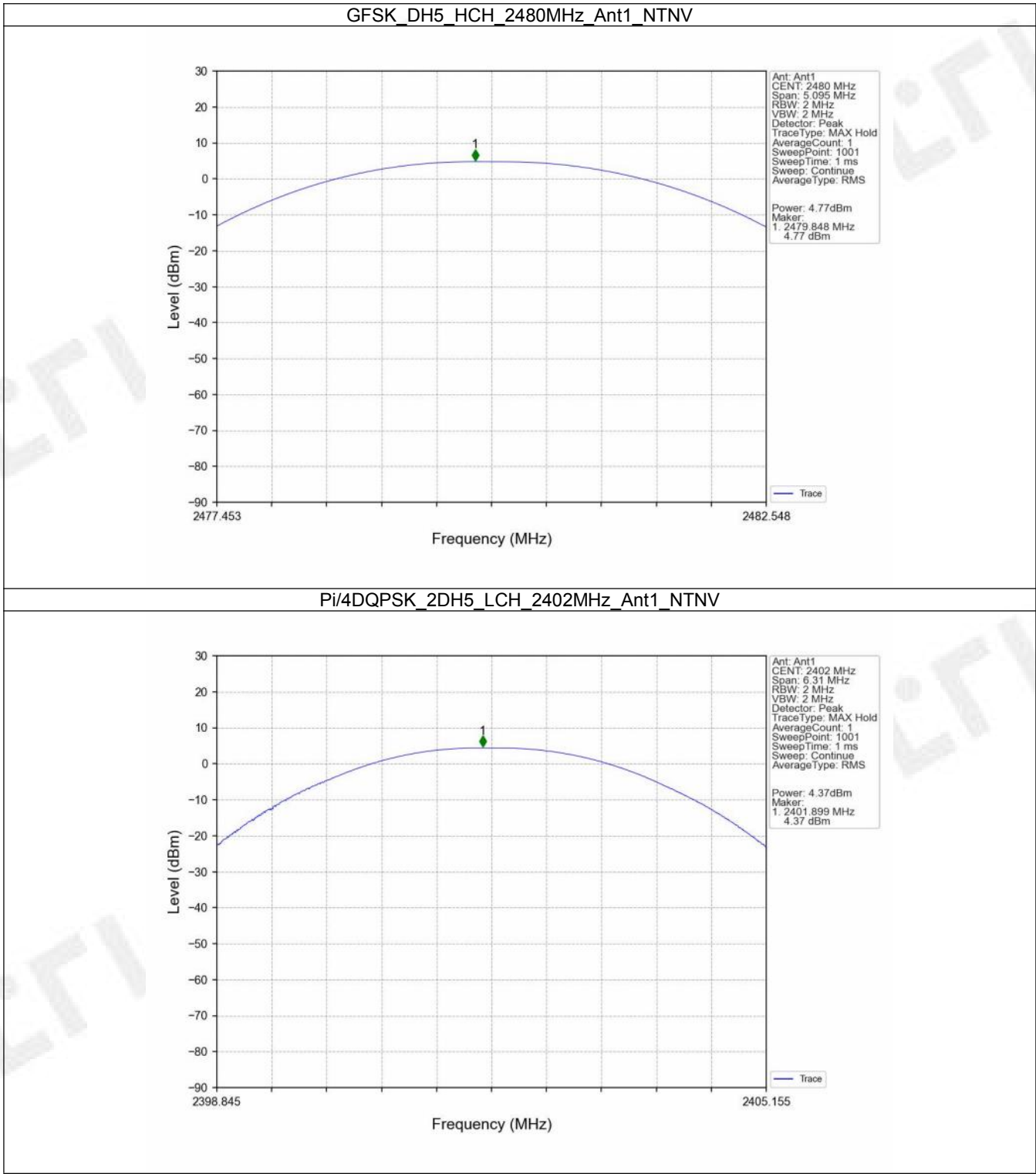
FCCID: 2ADH6-1902097R

2.2 Test Graph

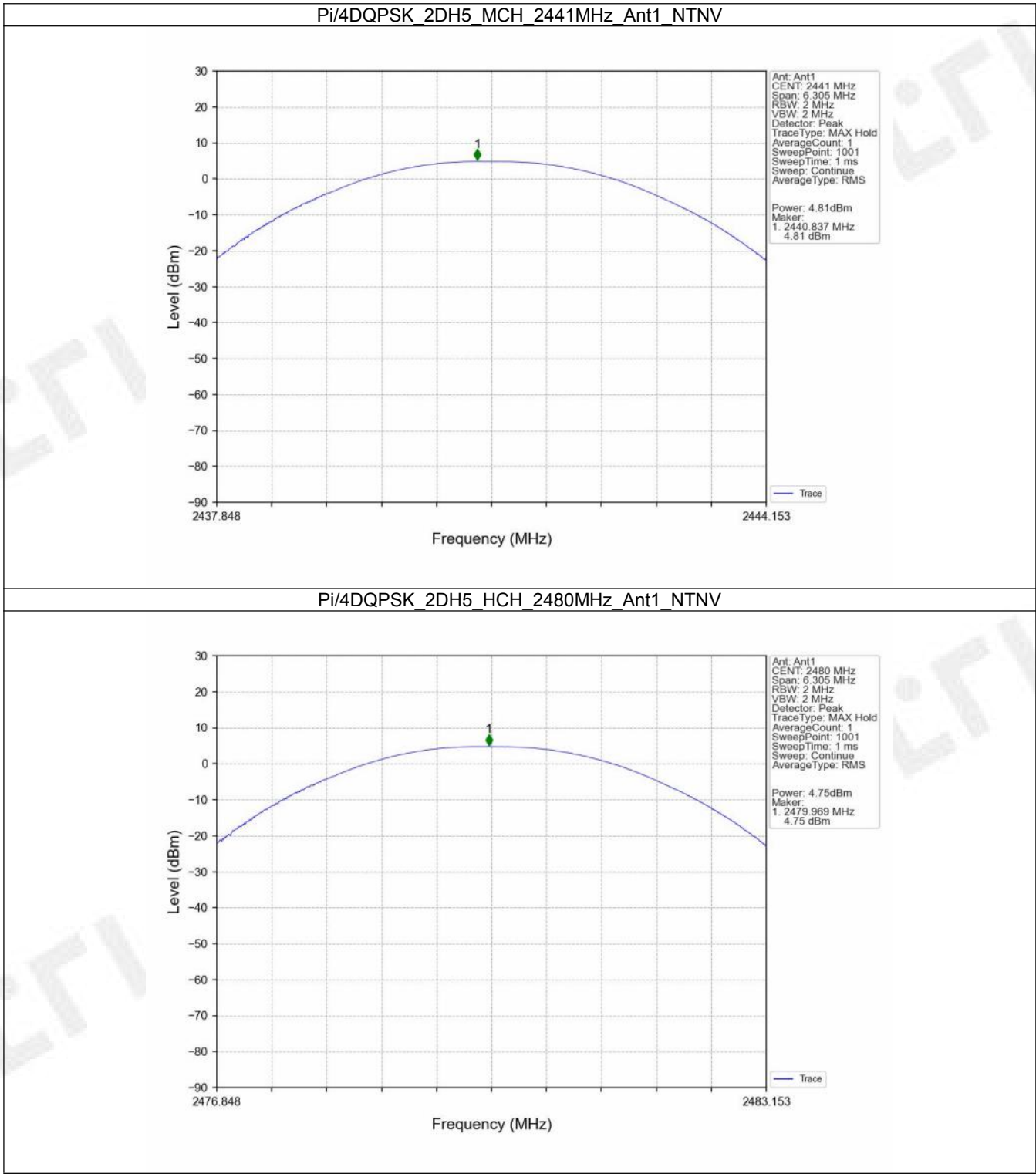
2.2.1 Power



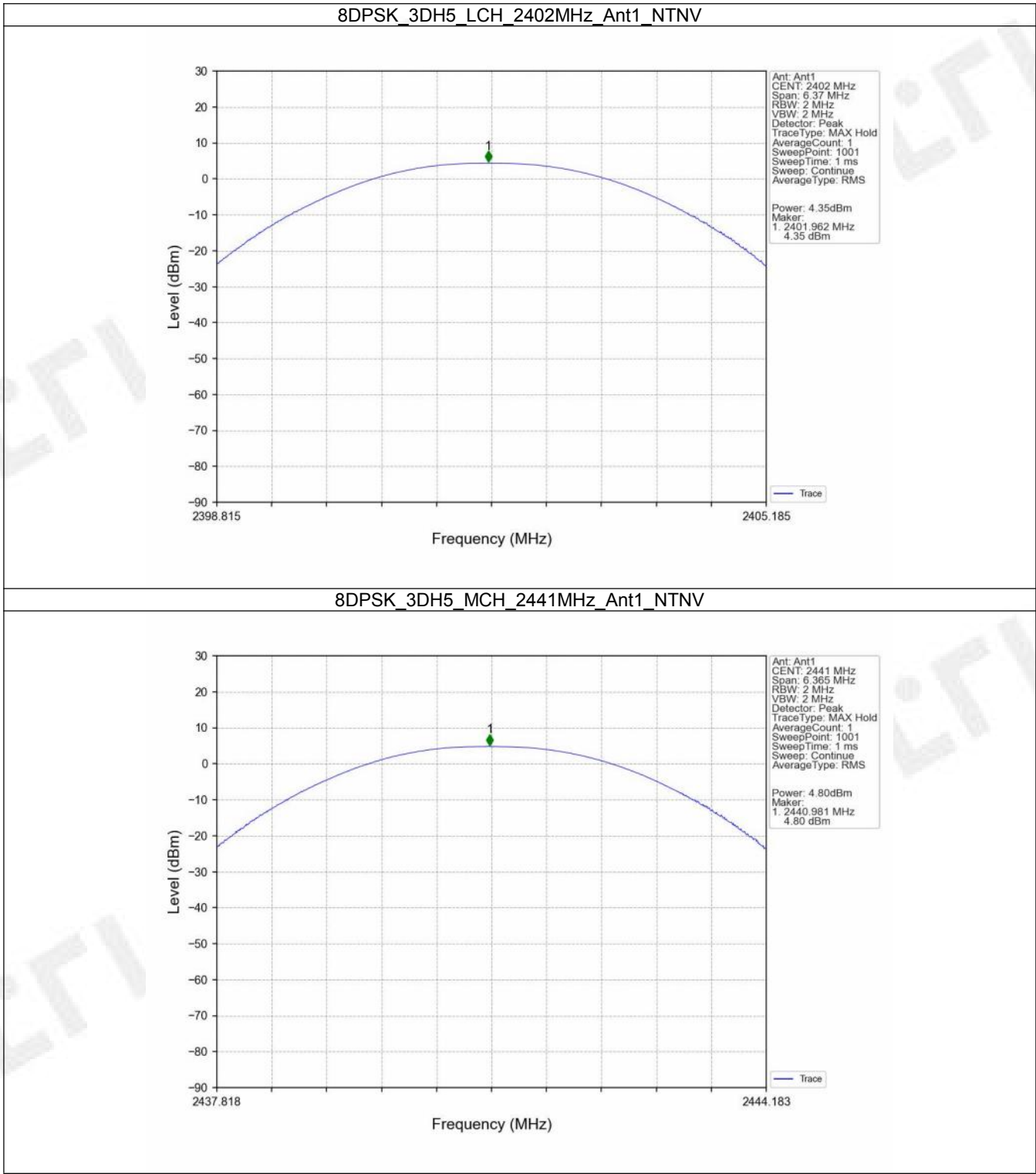
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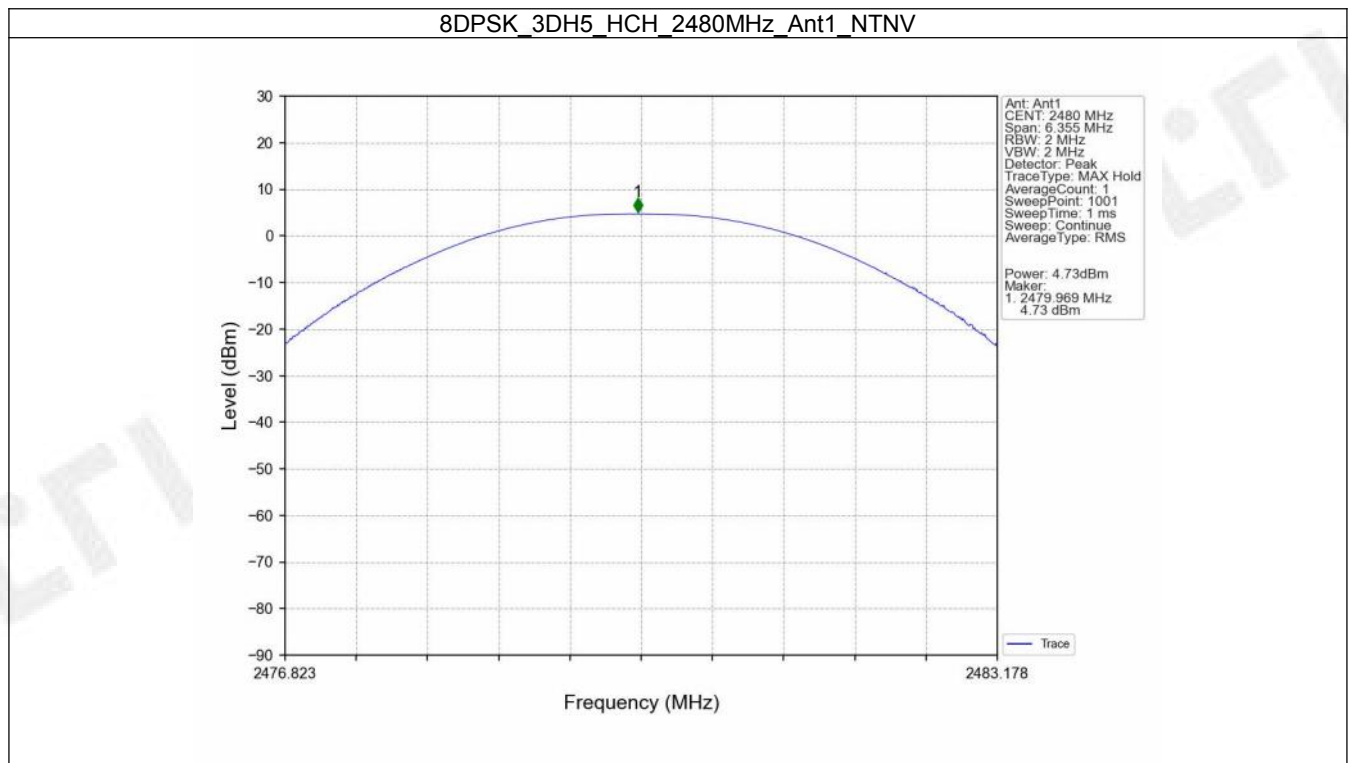
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FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R

3. Carrier Frequency Separation

3.1 Test Result

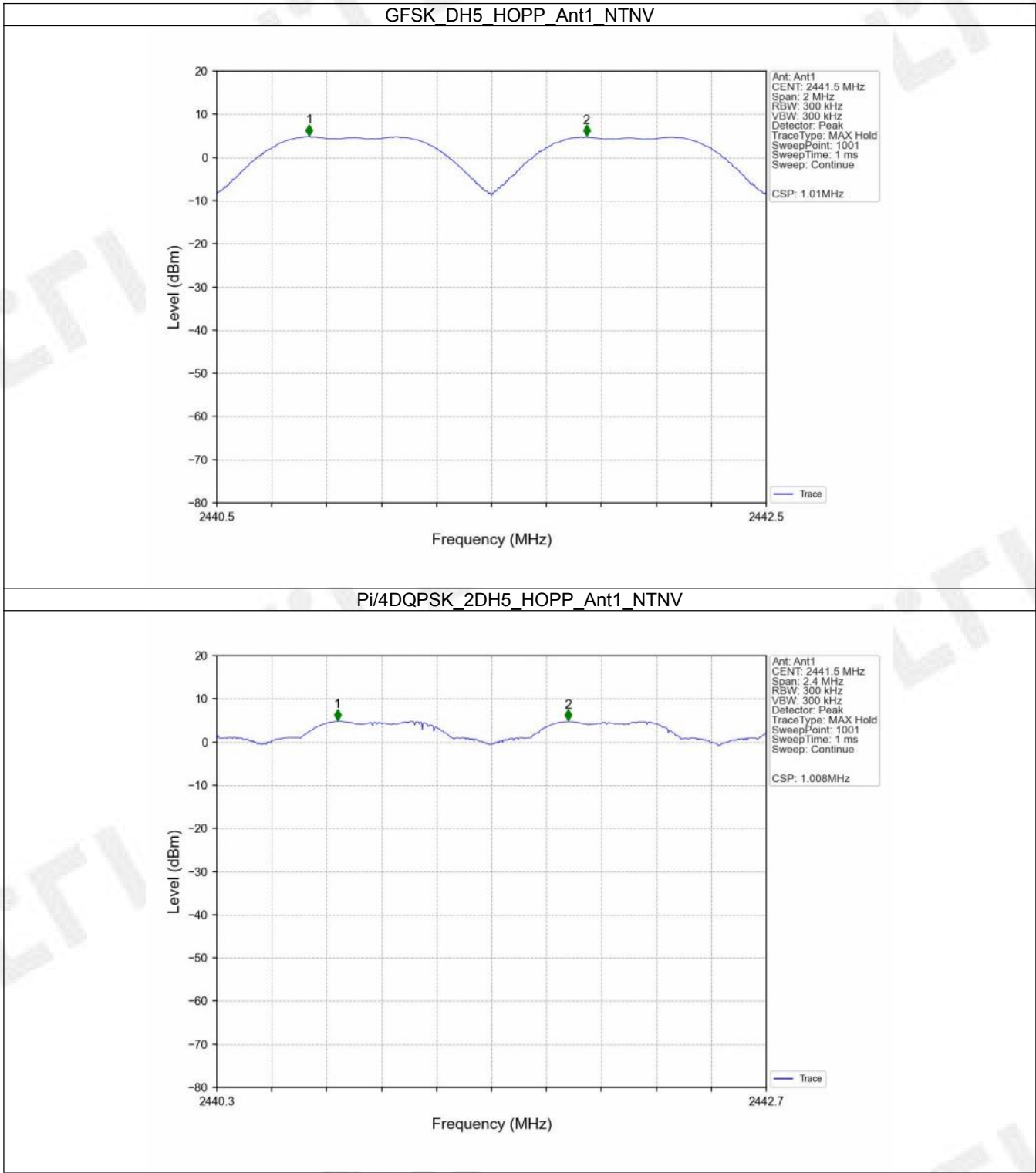
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.010	1.019	≥ 0.679	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.008	1.262	≥ 0.841	Pass
8DPSK	SISO	HOPP	3DH5	1.001	1.274	≥ 0.849	Pass

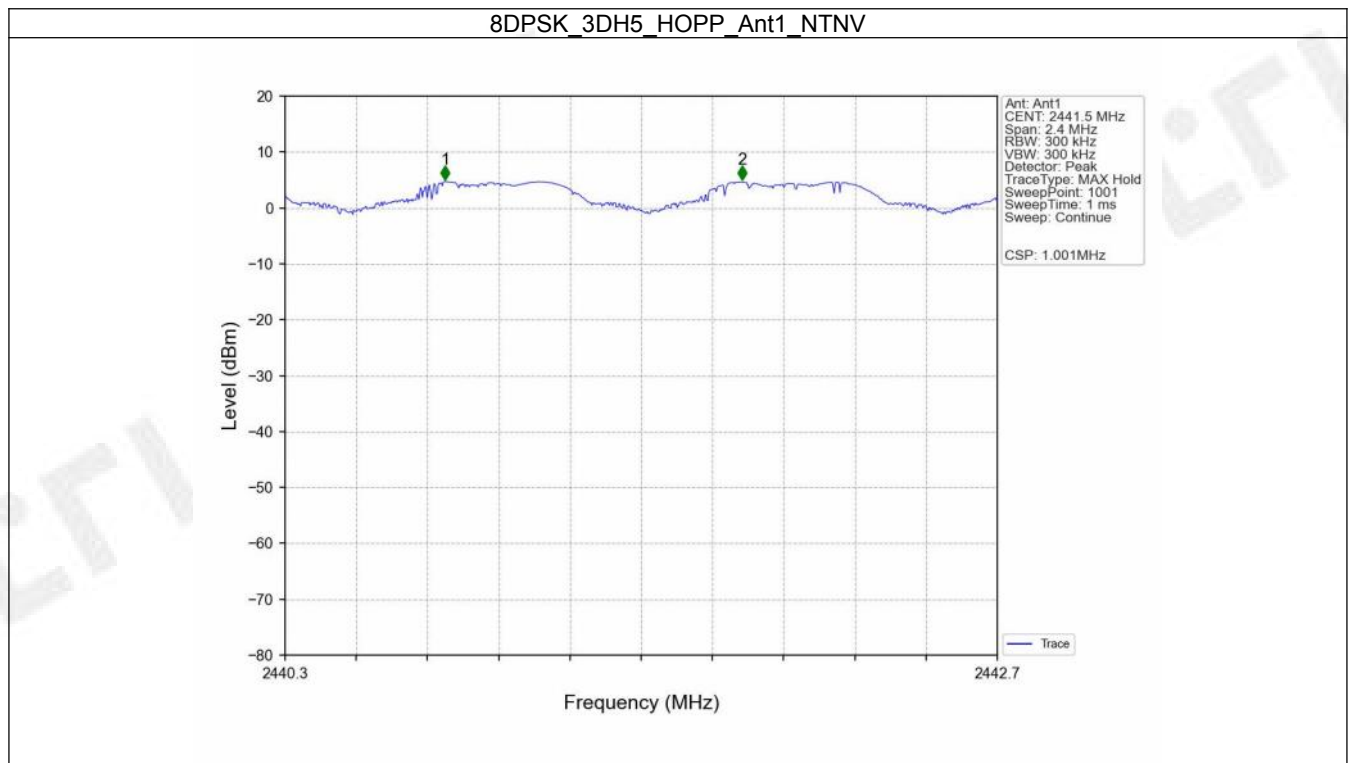
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3.2 Test Graph

3.2.1 Ant1



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R

4. Number of Hopping Frequencies

4.1 Test Result

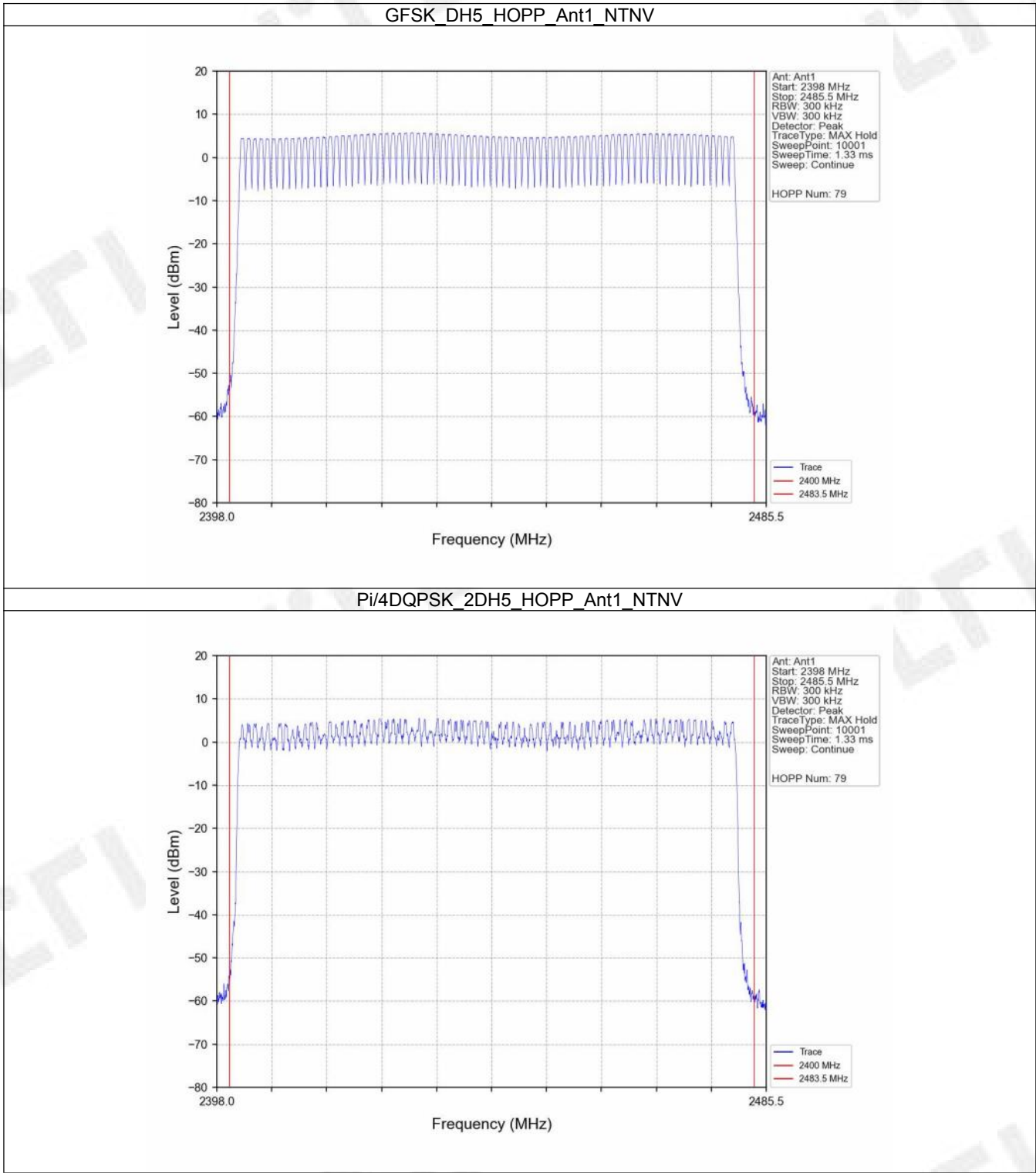
4.1.1 HoppNum

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

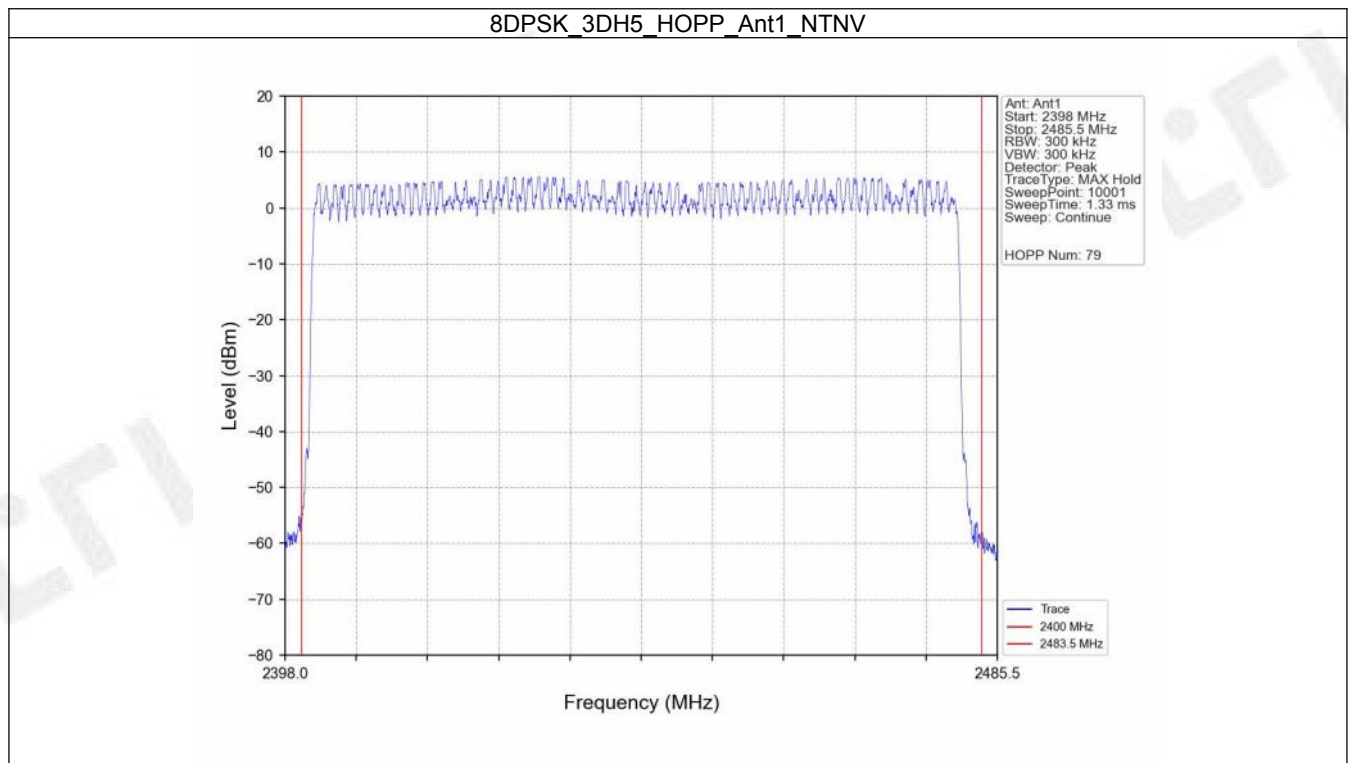
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4.2 Test Graph

4.2.1 HoppNum



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R

5. Time of Occupancy (Dwell Time)

5.1 Test Result

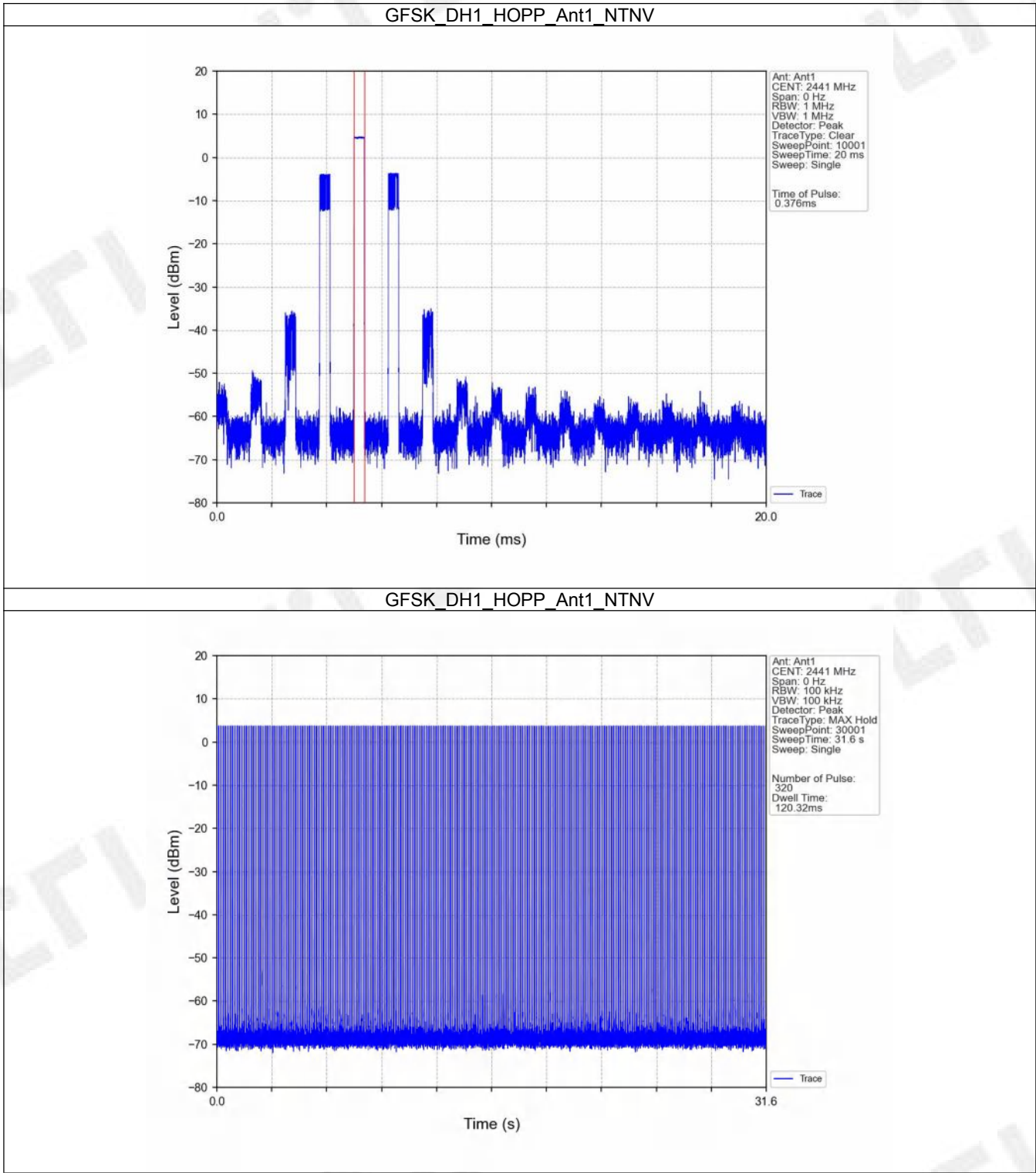
5.1.1 Ant1

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	0.376	31.600	320	120.320	<=400	Pass
			DH3	1.634	31.600	160	261.440	<=400	Pass
			DH5	2.882	31.600	107	308.374	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.382	31.600	320	122.240	<=400	Pass
			2DH3	1.634	31.600	160	261.440	<=400	Pass
			2DH5	2.882	31.600	107	308.374	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.384	31.600	320	122.880	<=400	Pass
			3DH3	1.634	31.600	160	261.440	<=400	Pass
			3DH5	2.886	31.600	107	308.802	<=400	Pass

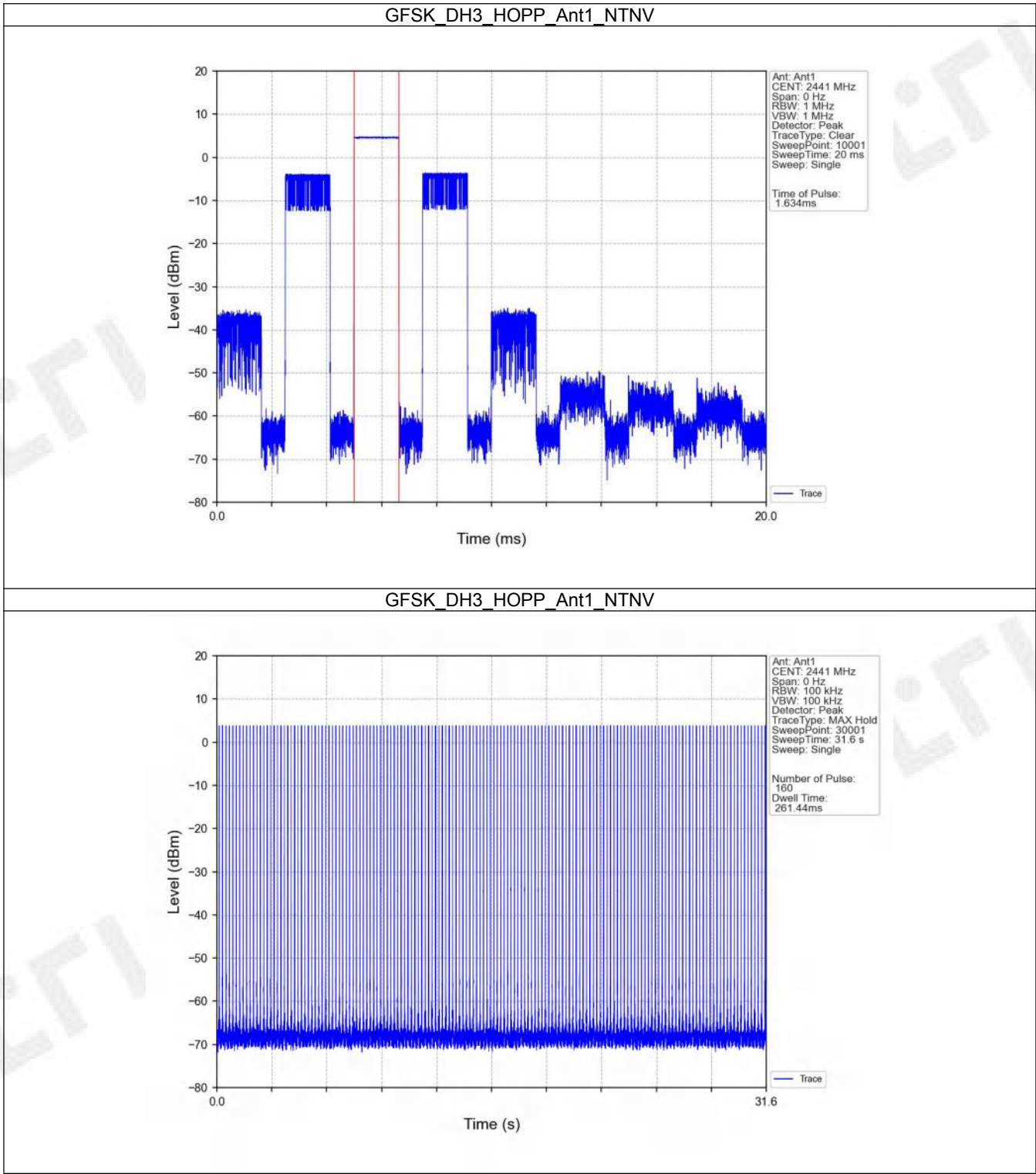
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5.2 Test Graph

5.2.1 Ant1

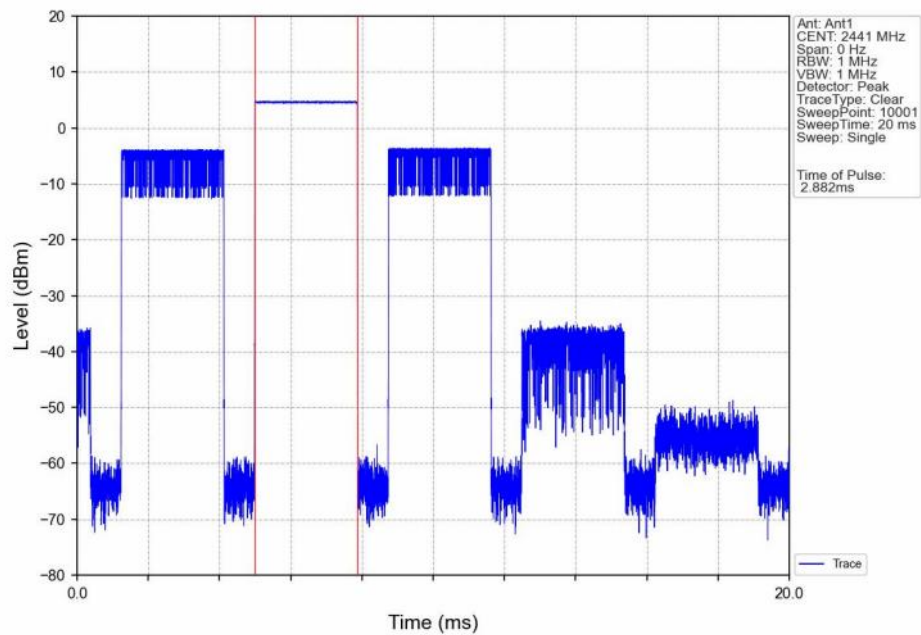


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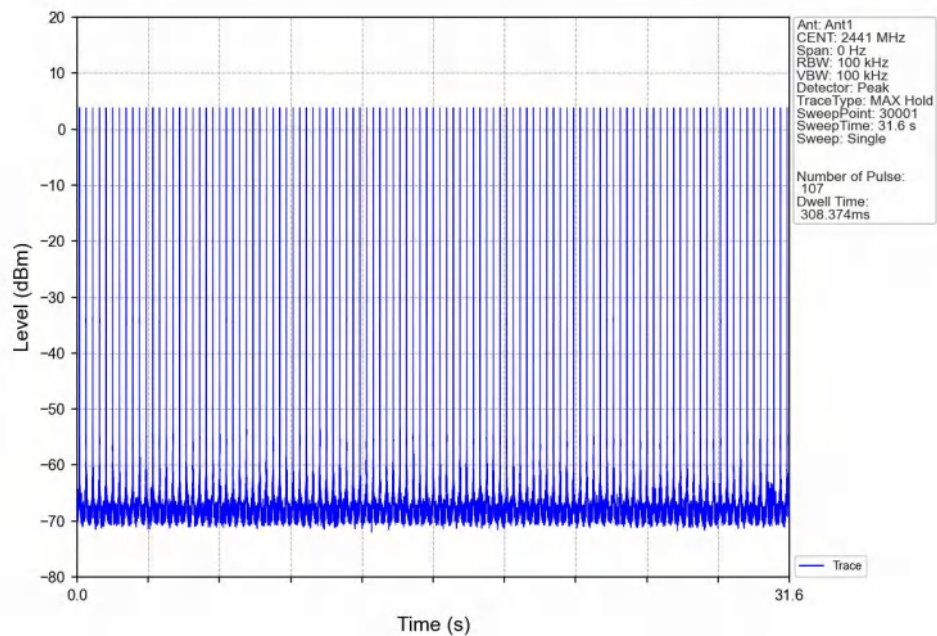


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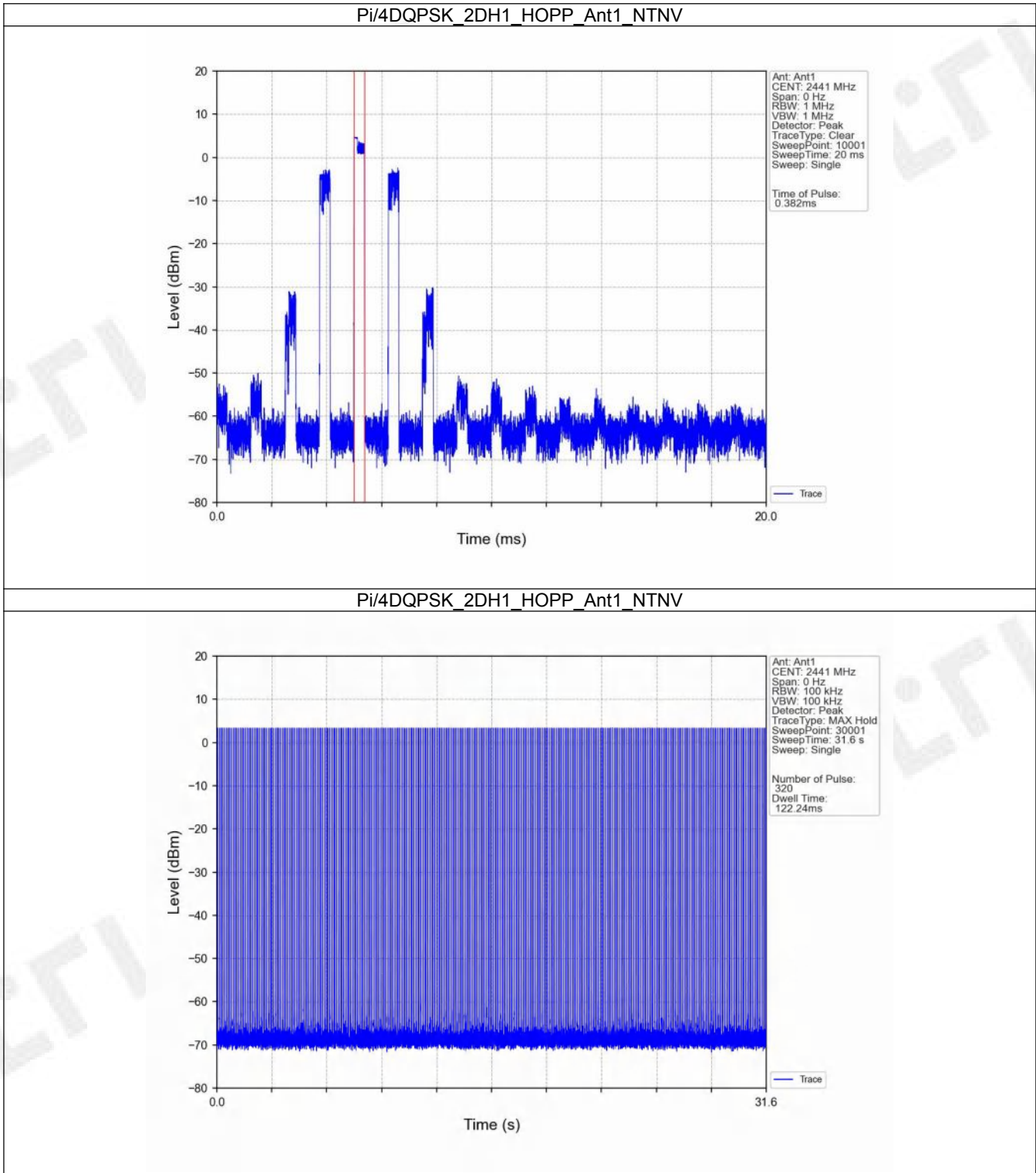
GFSK_DH5_HOPP_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV

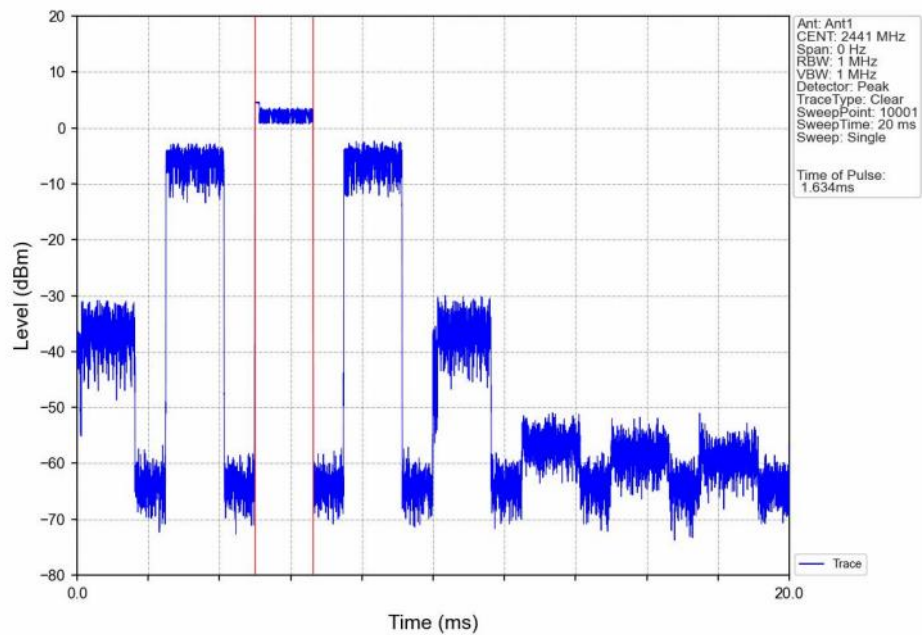


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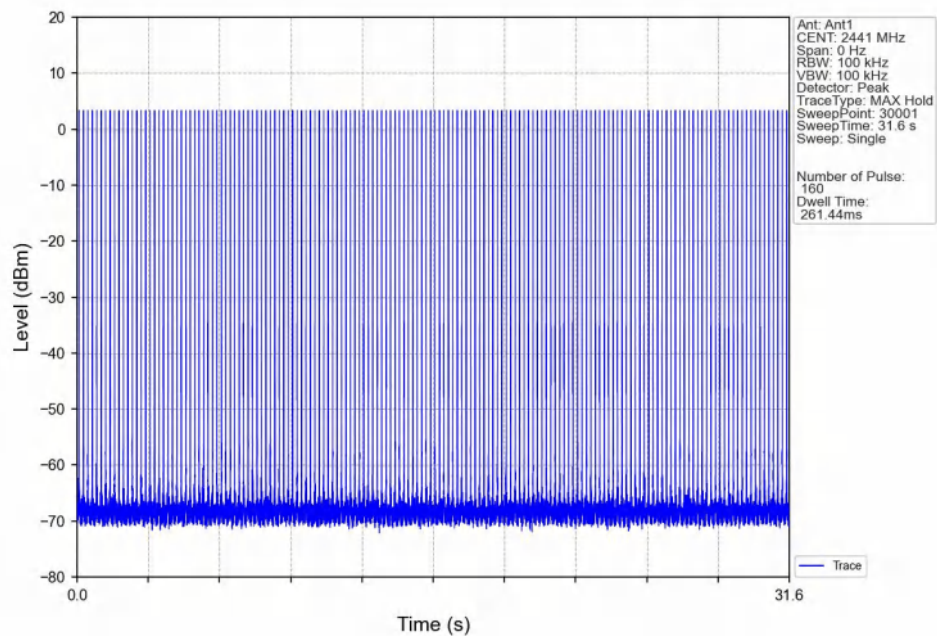


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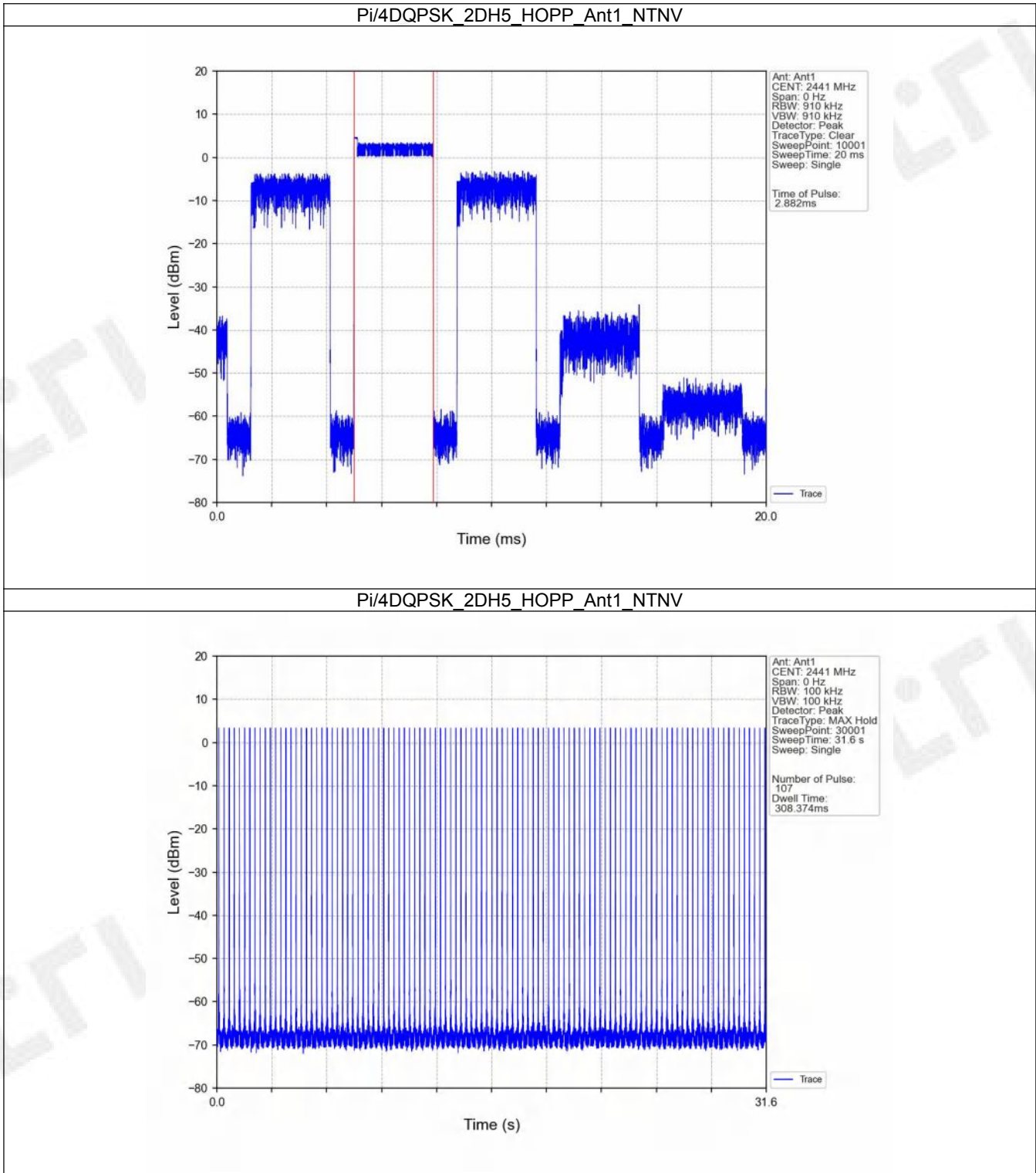
Pi/4DQPSK_2DH3_HOPP_Ant1_NTNV



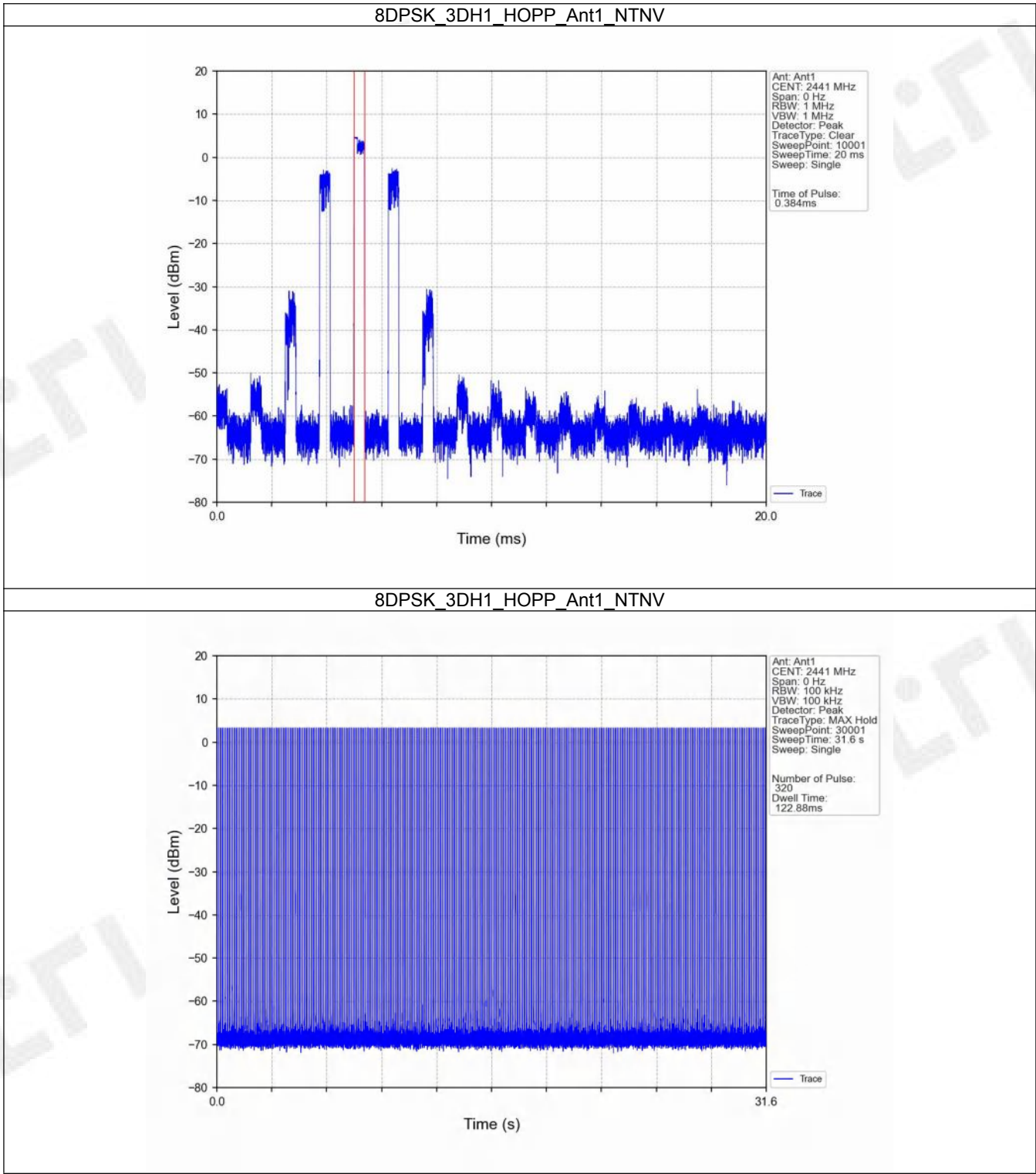
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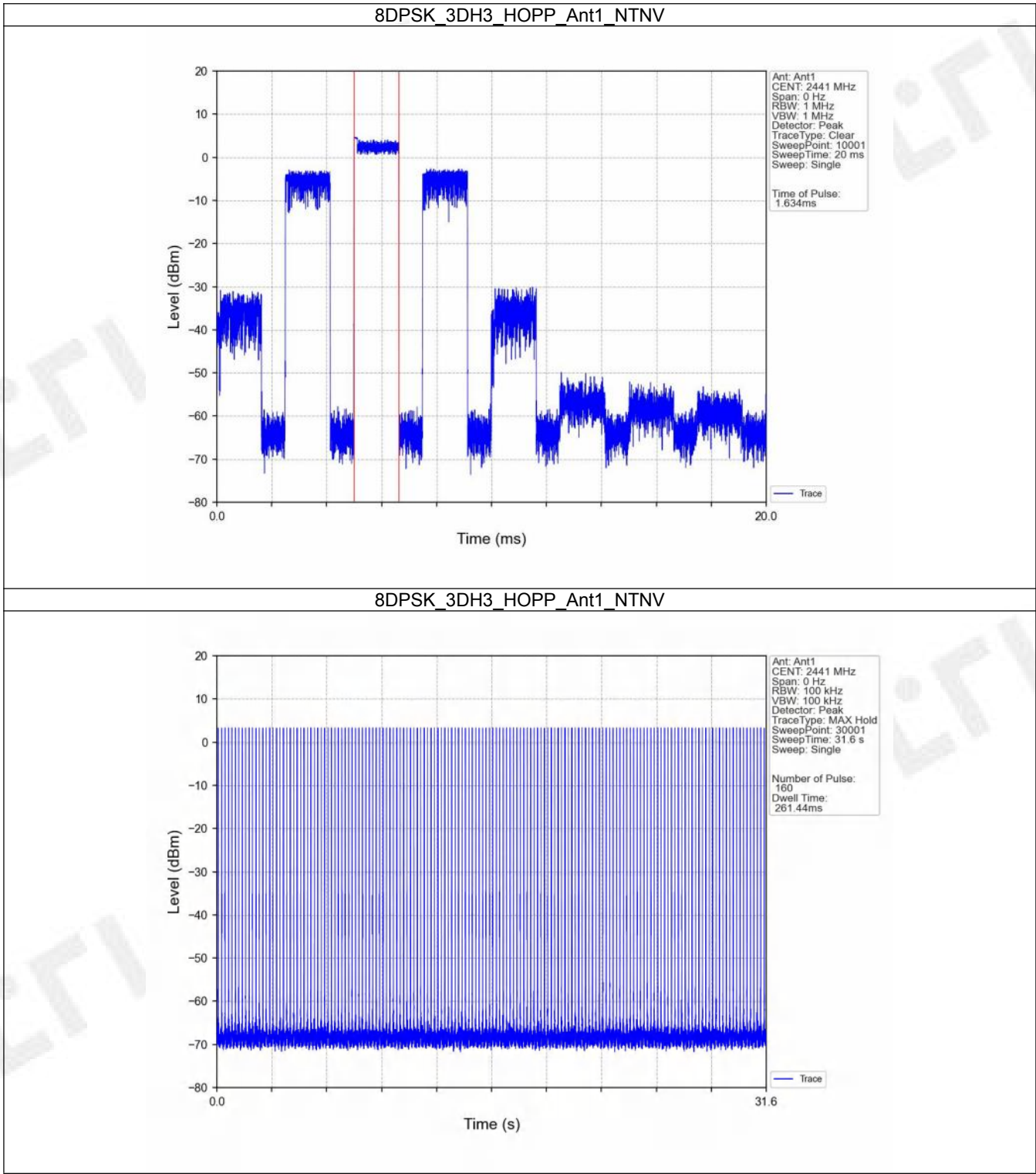
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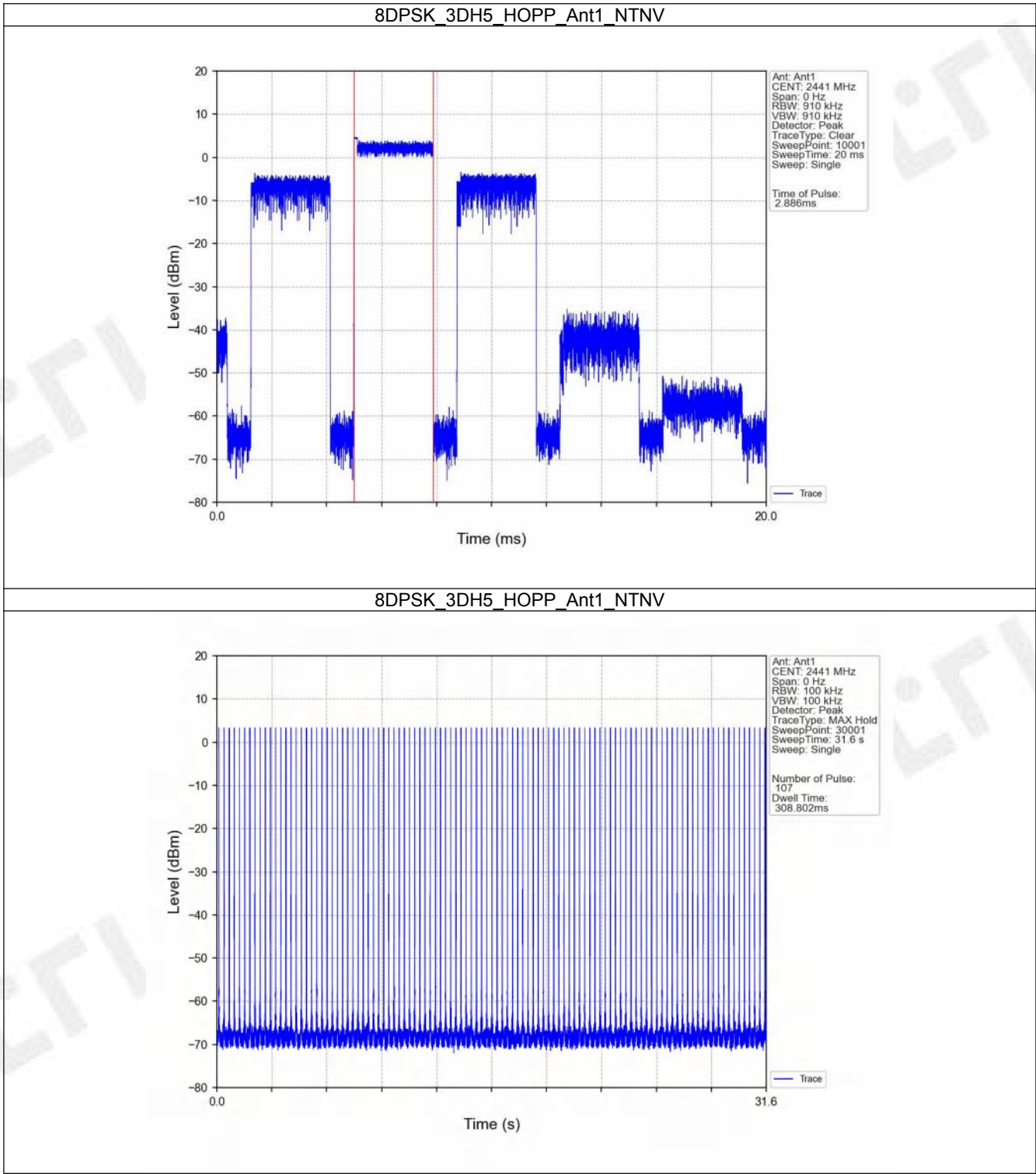
FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R



FCCID: 2ADH6-1902097R

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	4.23
		2441	DH5	1	4.68
		2480	DH5	1	4.60
Pi/4DQPSK	SISO	2402	2DH5	1	4.20
		2441	2DH5	1	4.63
		2480	2DH5	1	4.58
8DPSK	SISO	2402	3DH5	1	4.11
		2441	3DH5	1	4.57
		2480	3DH5	1	4.50
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.					

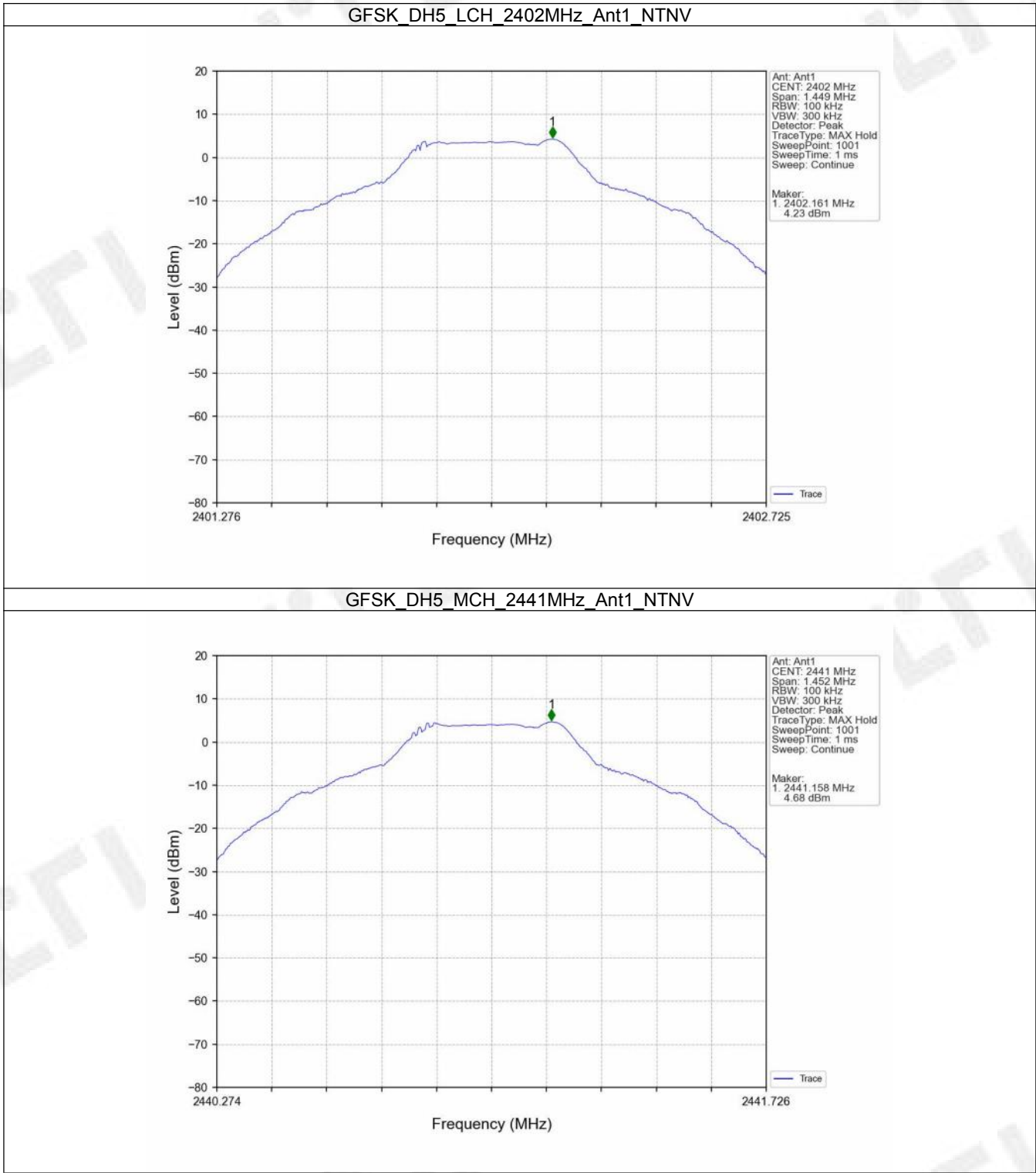
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	4.68	-15.32	Pass
		2441	DH5	1	4.68	-15.32	Pass
		2480	DH5	1	4.68	-15.32	Pass
		HOPP	DH5	1	4.68	-15.32	Pass
					4.68	-15.32	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	4.63	-15.37	Pass
		2441	2DH5	1	4.63	-15.37	Pass
		2480	2DH5	1	4.63	-15.37	Pass
		HOPP	2DH5	1	4.63	-15.37	Pass
					4.63	-15.37	Pass
8DPSK	SISO	2402	3DH5	1	4.57	-15.43	Pass
		2441	3DH5	1	4.57	-15.43	Pass
		2480	3DH5	1	4.57	-15.43	Pass
		HOPP	3DH5	1	4.57	-15.43	Pass
					4.57	-15.43	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.							

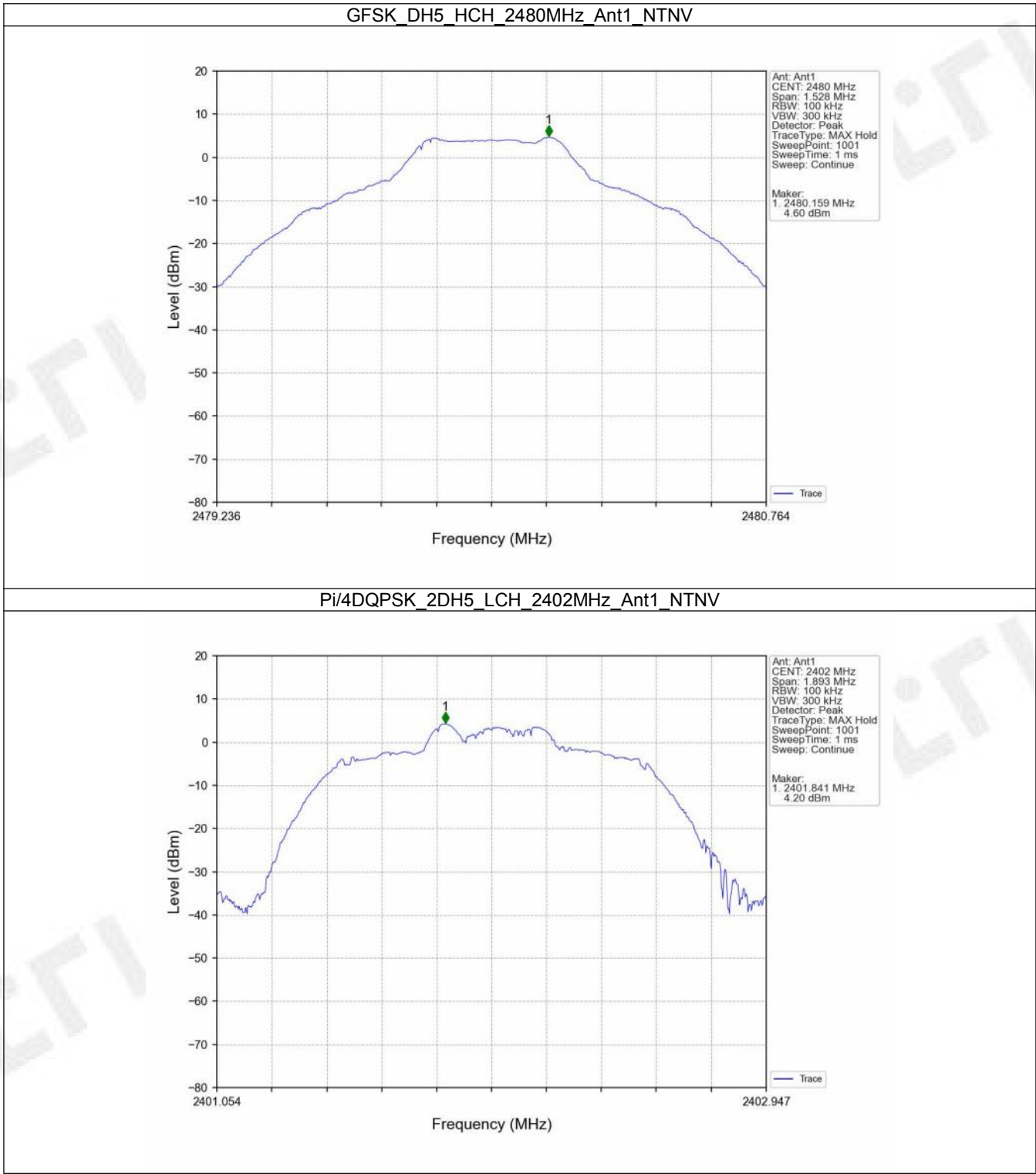
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6.2 Test Graph

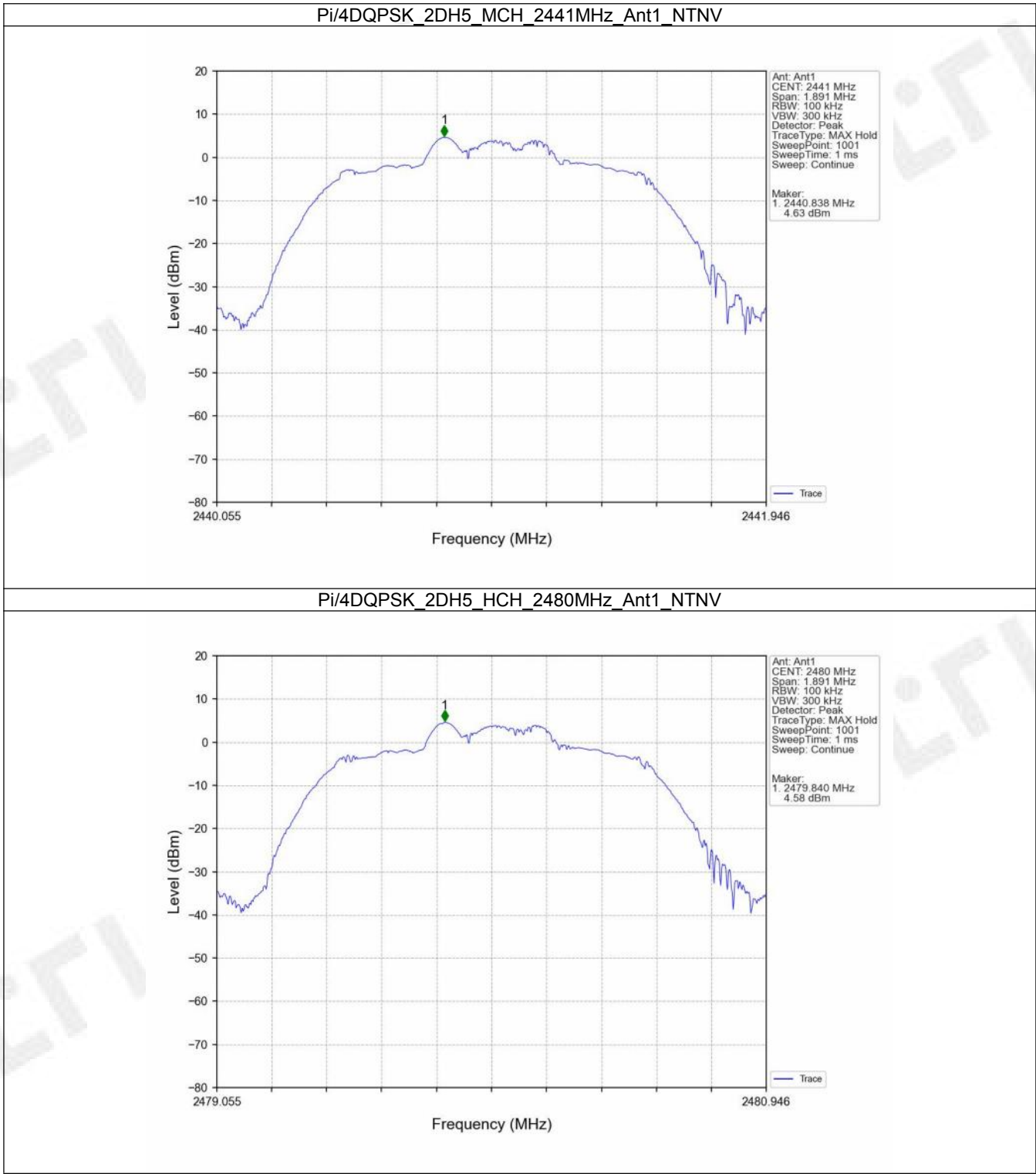
6.2.1 Ref



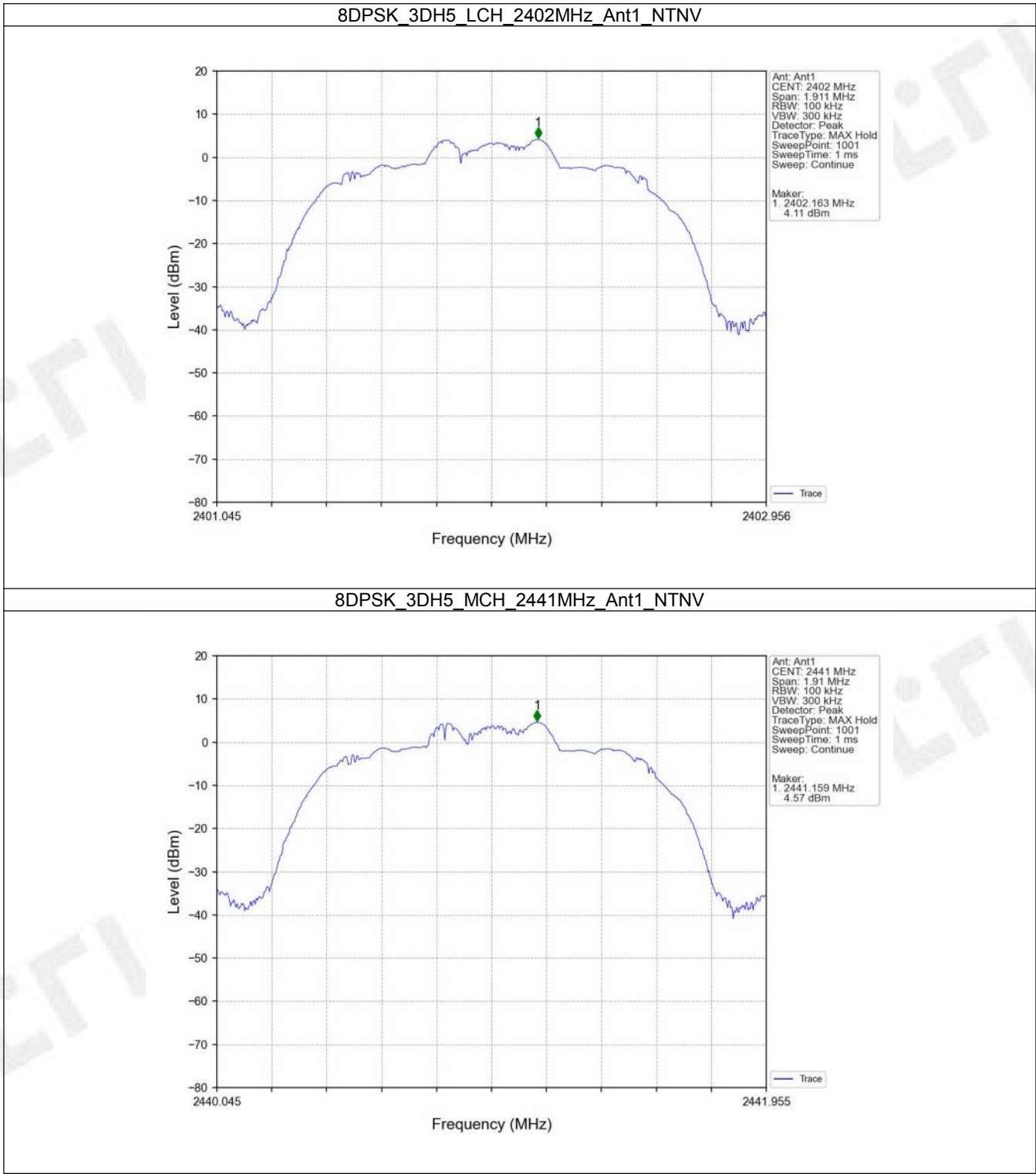
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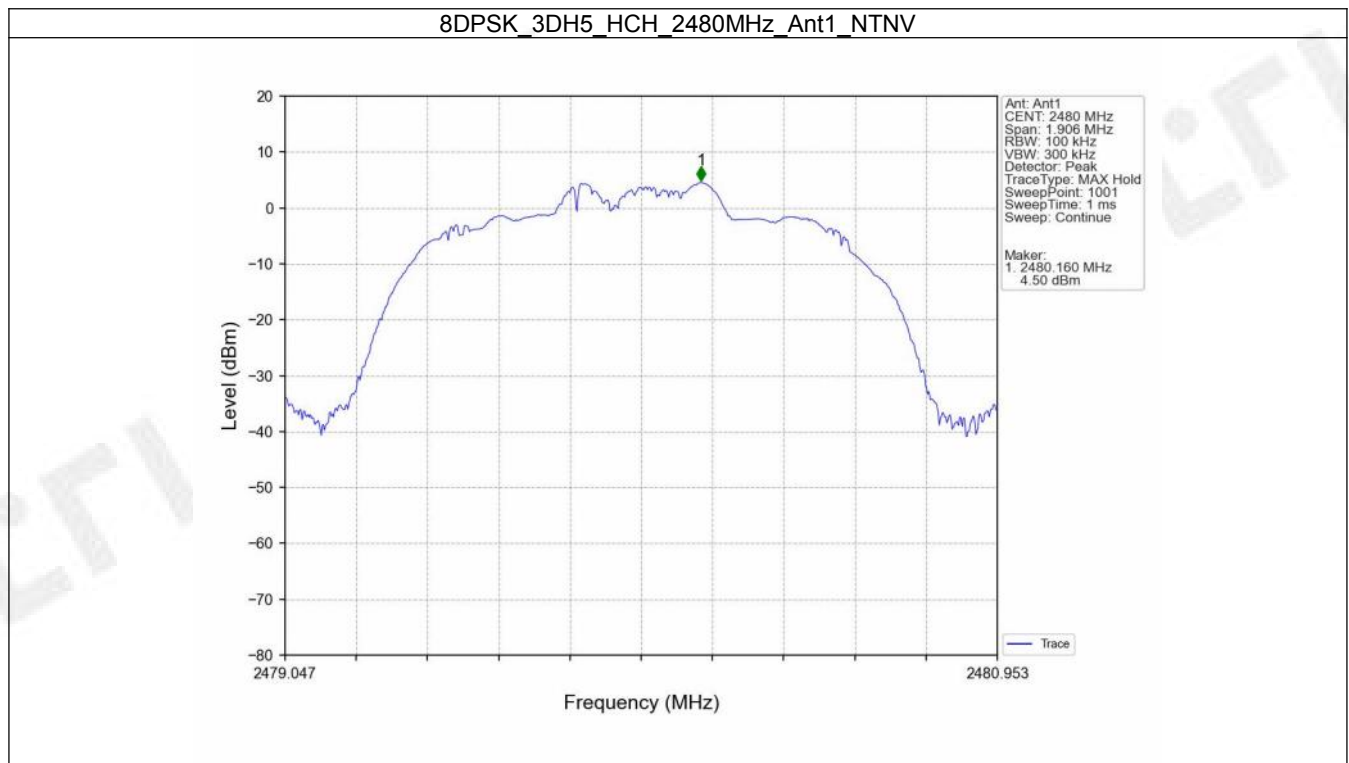
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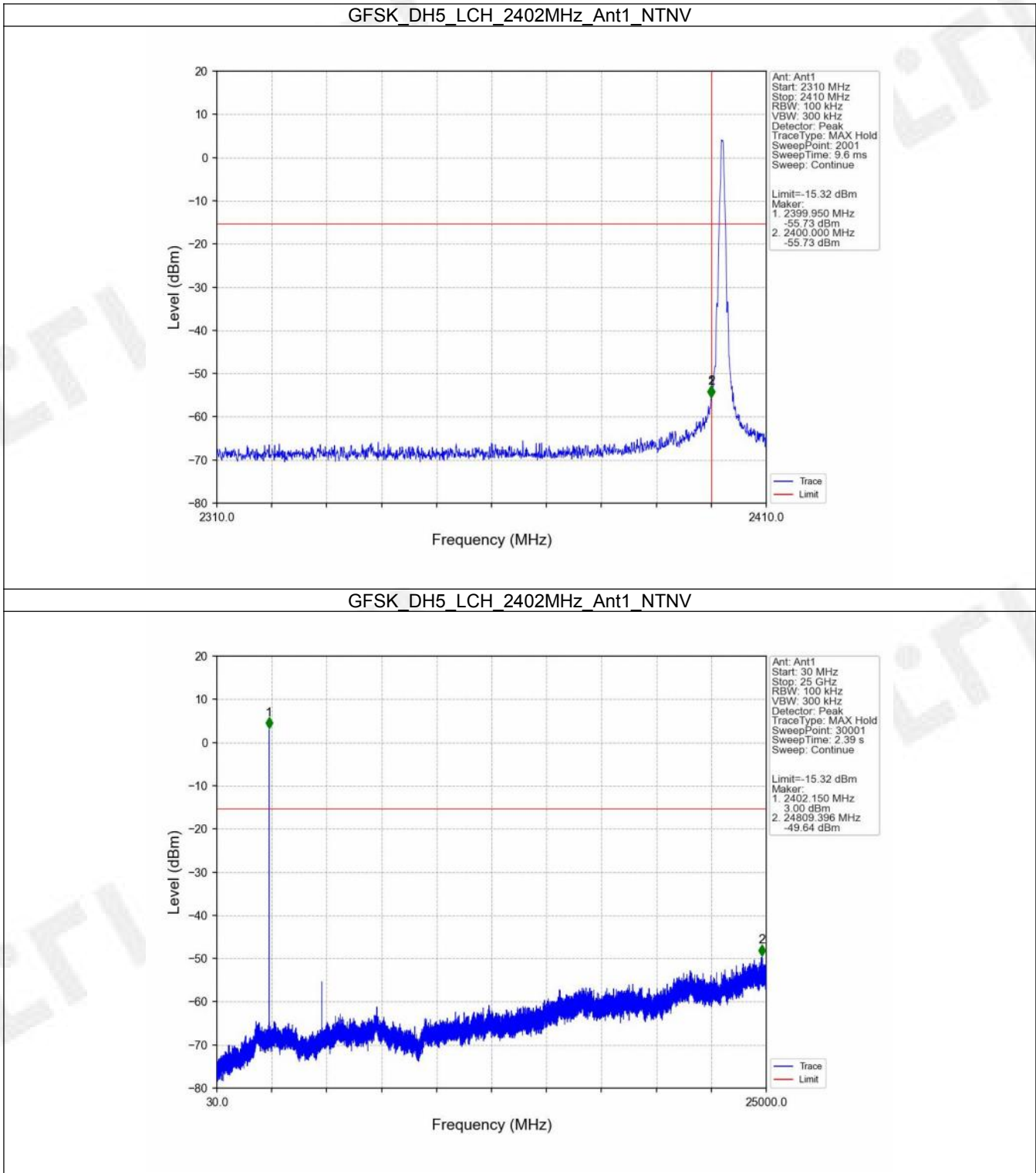


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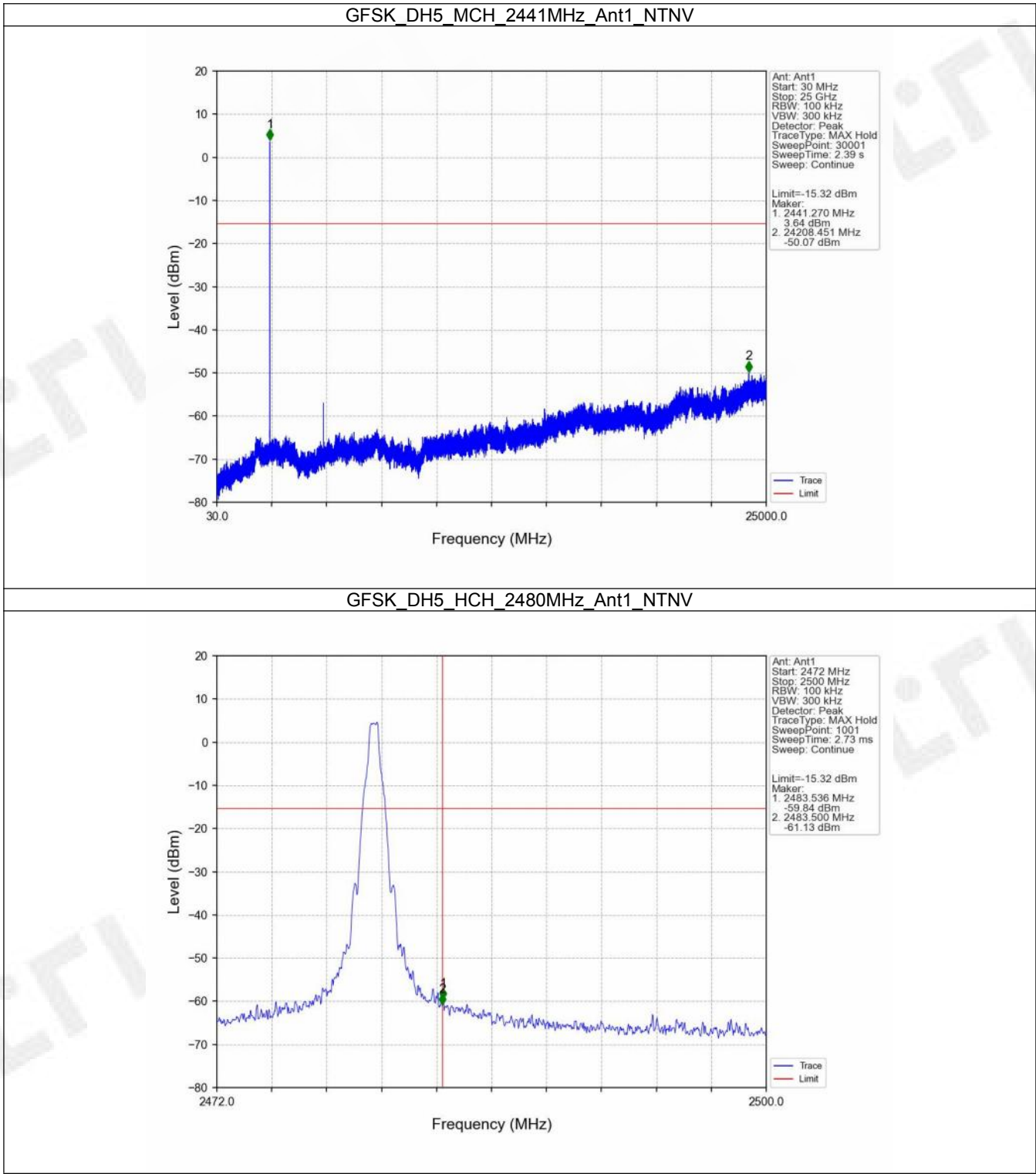


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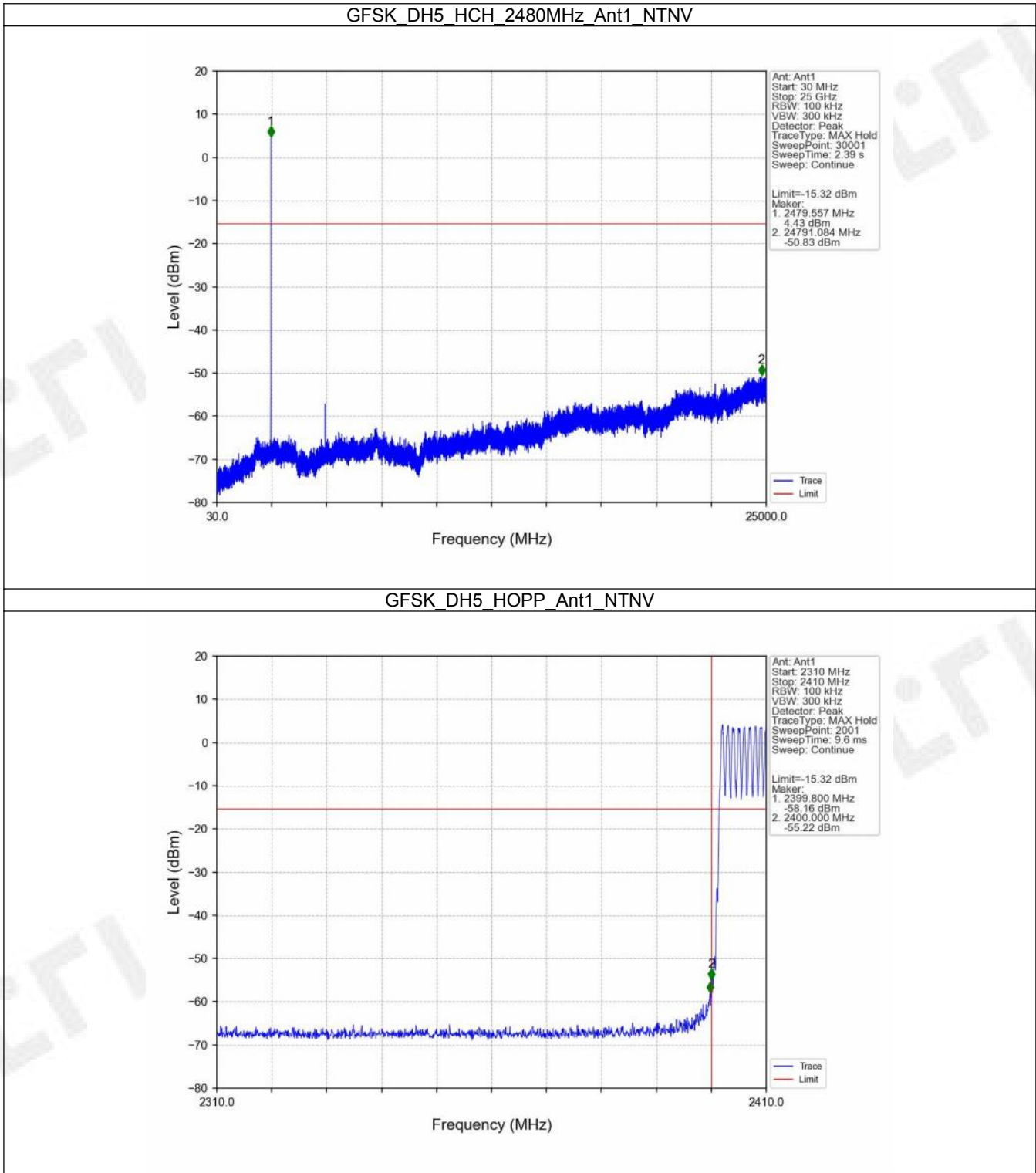
6.2.2 CSE



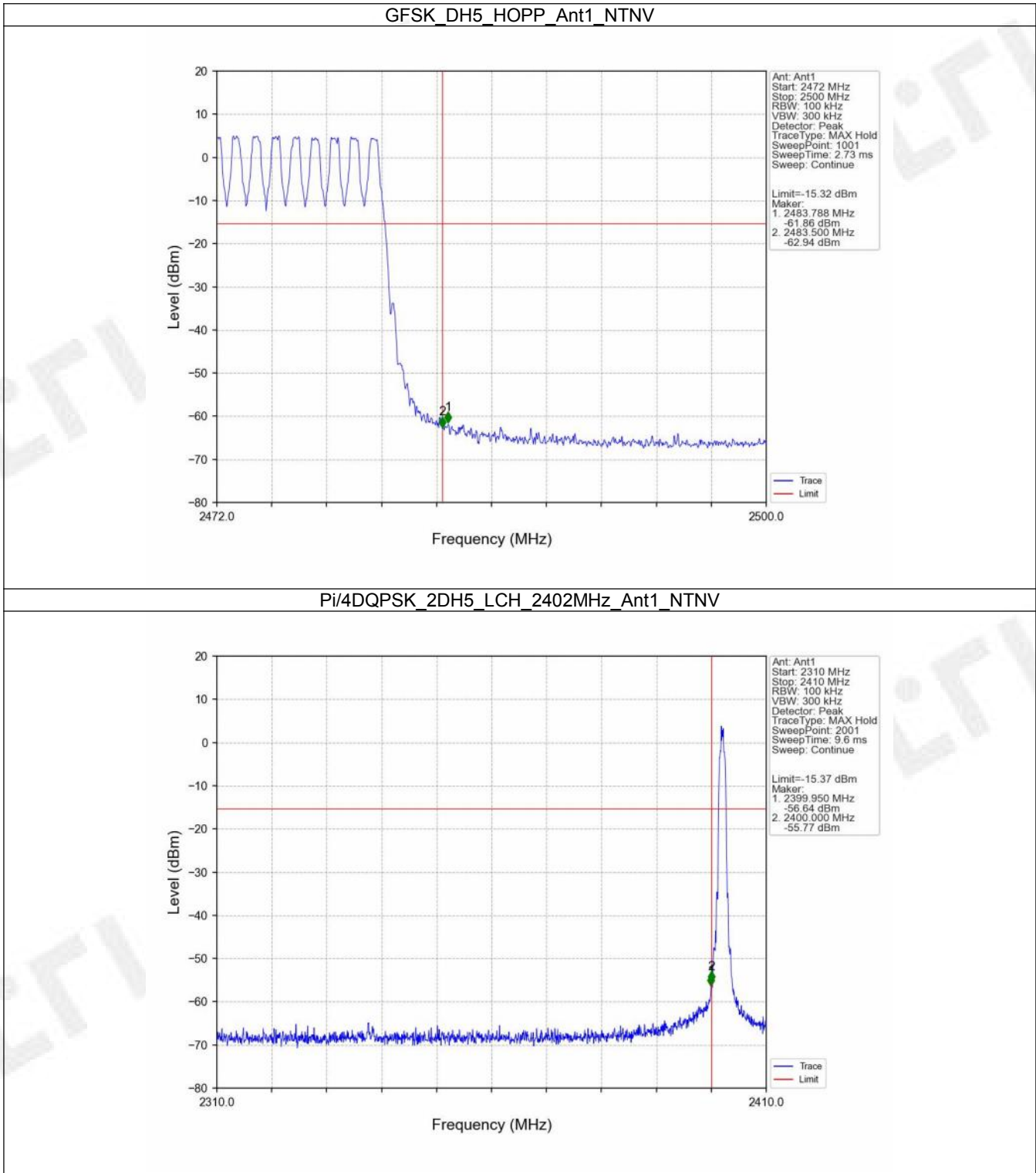
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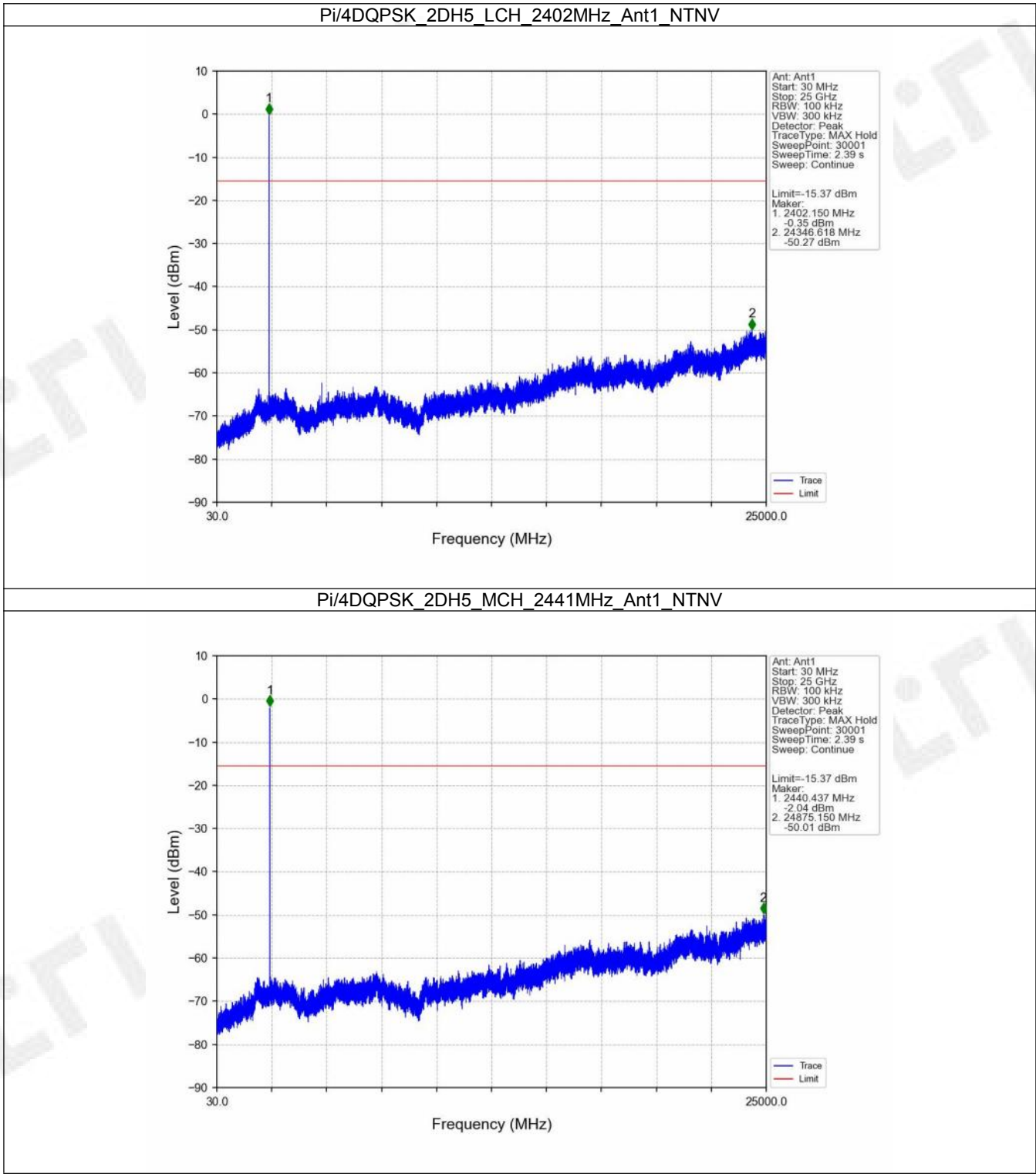
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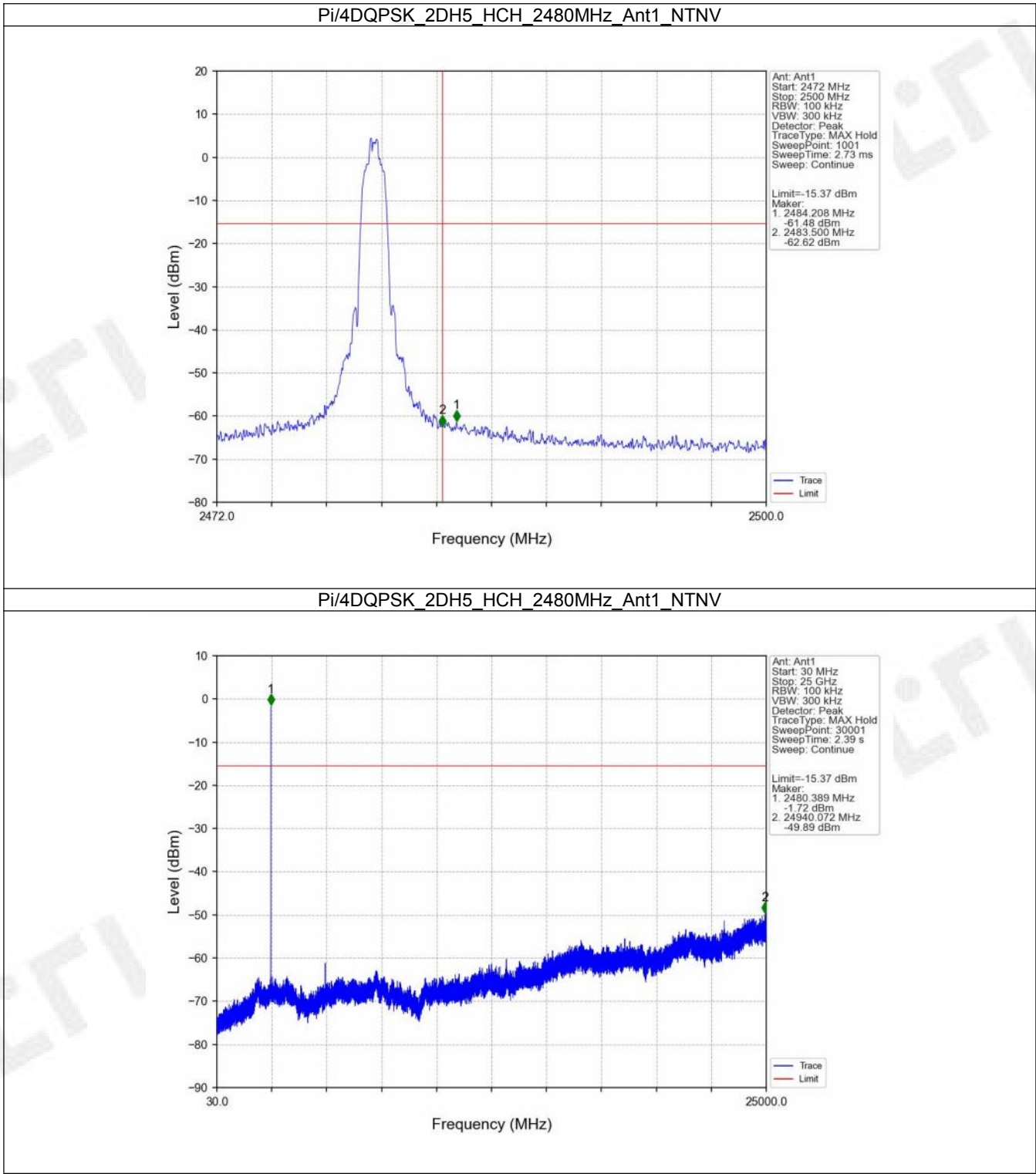
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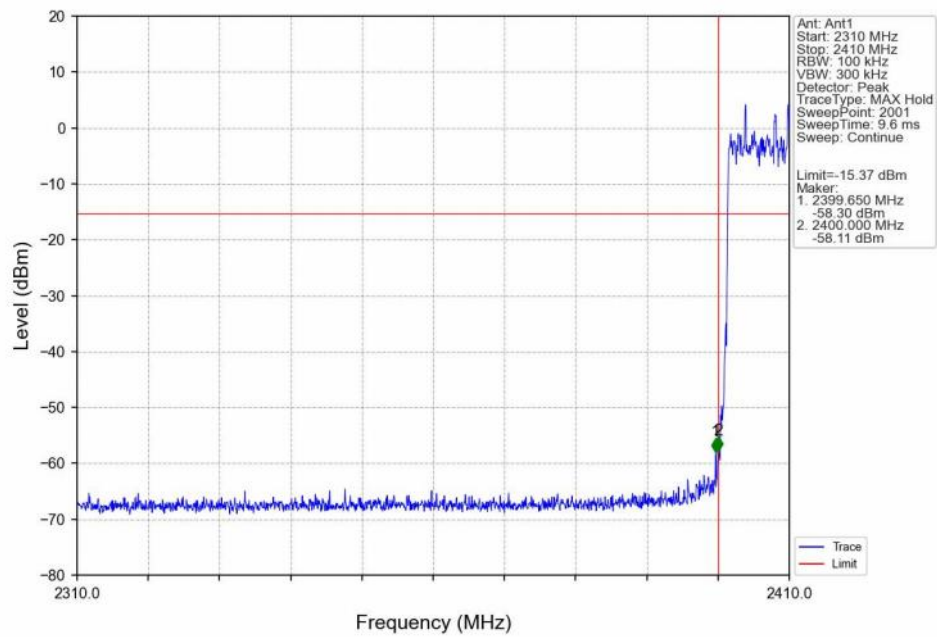


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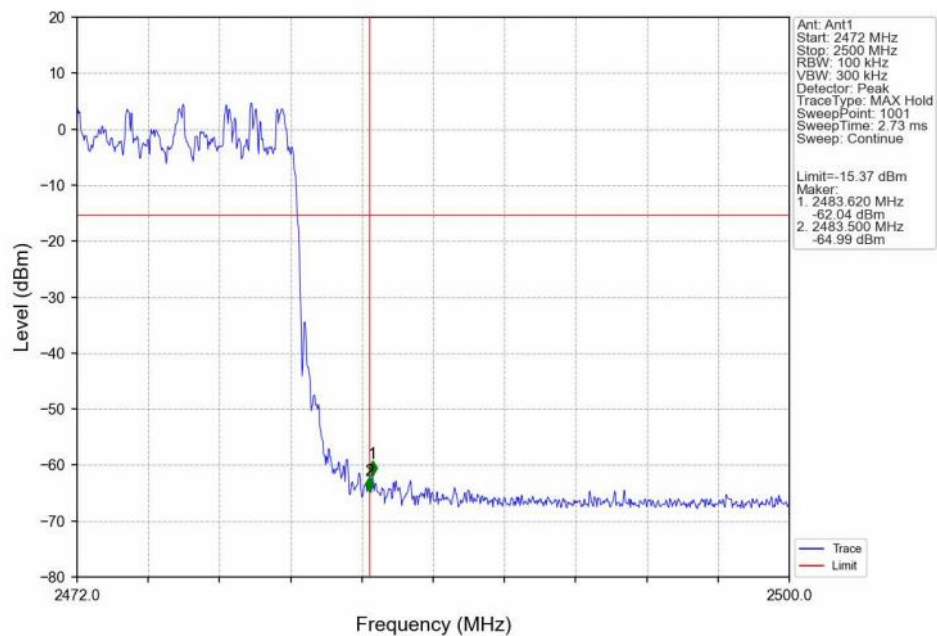


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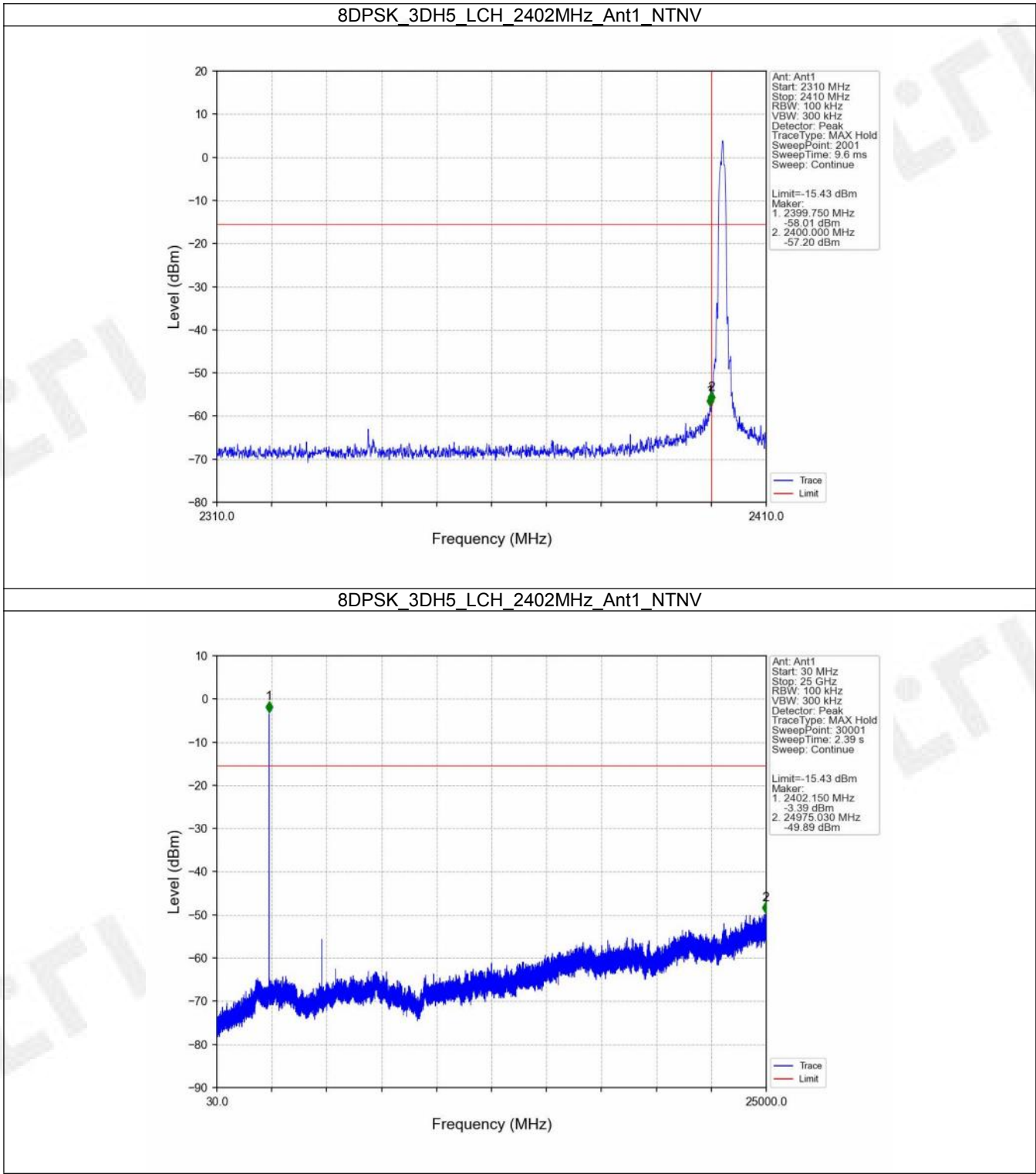
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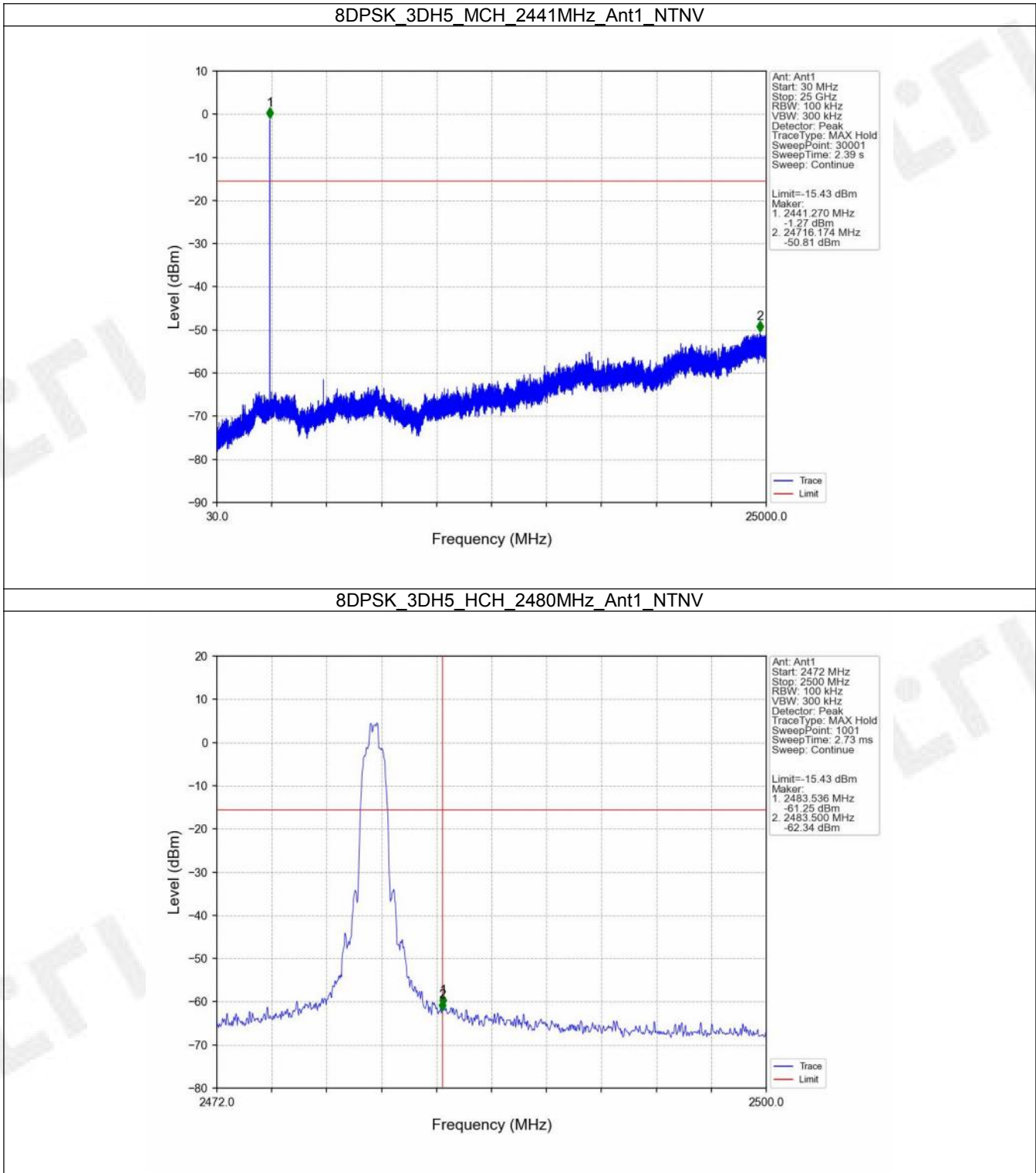
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



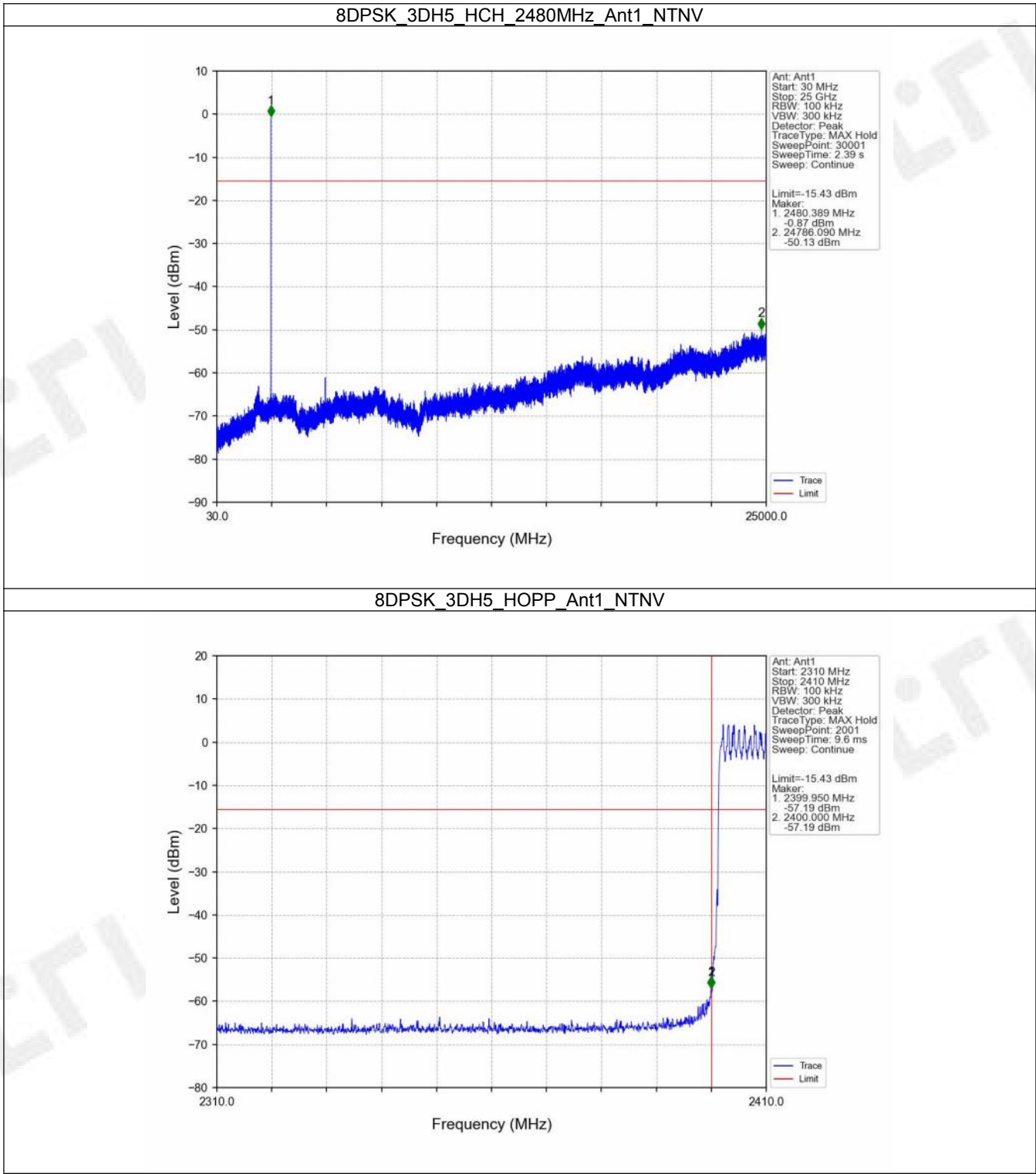
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