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Annex for Bluetooth

Test Report No.: CTL2506185011-WF01

TABLE OF CONTENTS

1. Bandwidth.....	3
1.1 Test Result	3
1.1.1 OBW	3
1.1.2 20dB BW	3
1.2 Test Graph.....	4
1.2.1 OBW	4
1.2.2 20dB BW	9
2. Maximum Conducted Output Power	14
2.1 Test Result	14
2.1.1 Power	14
3. Carrier Frequency Separation.....	15
3.1 Test Result	15
3.1.1 Ant1	15
3.2 Test Graph.....	16
3.2.1 Ant1	16
4. Number of Hopping Frequencies	18
4.1 Test Result	18
4.1.1 HoppNum	18
4.2 Test Graph.....	19
4.2.1 HoppNum	19

FCC ID: 2BKJZ-Y-02

5. Time of Occupancy (Dwell Time)	21
5.1 Test Result	21
5.1.1 Ant1	21
5.2 Test Graph.....	22
5.2.1 Ant1	22
6. Unwanted Emissions In Non-restricted Frequency Bands.....	31
6.1 Test Result	31
6.1.1 Ref.....	31
6.1.2 CSE	31
6.2 Test Graph.....	32
6.2.1 Ref.....	32
6.2.2 CSE	37

FCC ID: 2BKJZ-Y-02

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	0.850	/	Pass
		2441	DH5	1	0.850	/	Pass
		2480	DH5	1	0.852	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.170	/	Pass
		2441	2DH5	1	1.170	/	Pass
		2480	2DH5	1	1.168	/	Pass
8DPSK	SISO	2402	3DH5	1	1.180	/	Pass
		2441	3DH5	1	1.183	/	Pass
		2480	3DH5	1	1.181	/	Pass

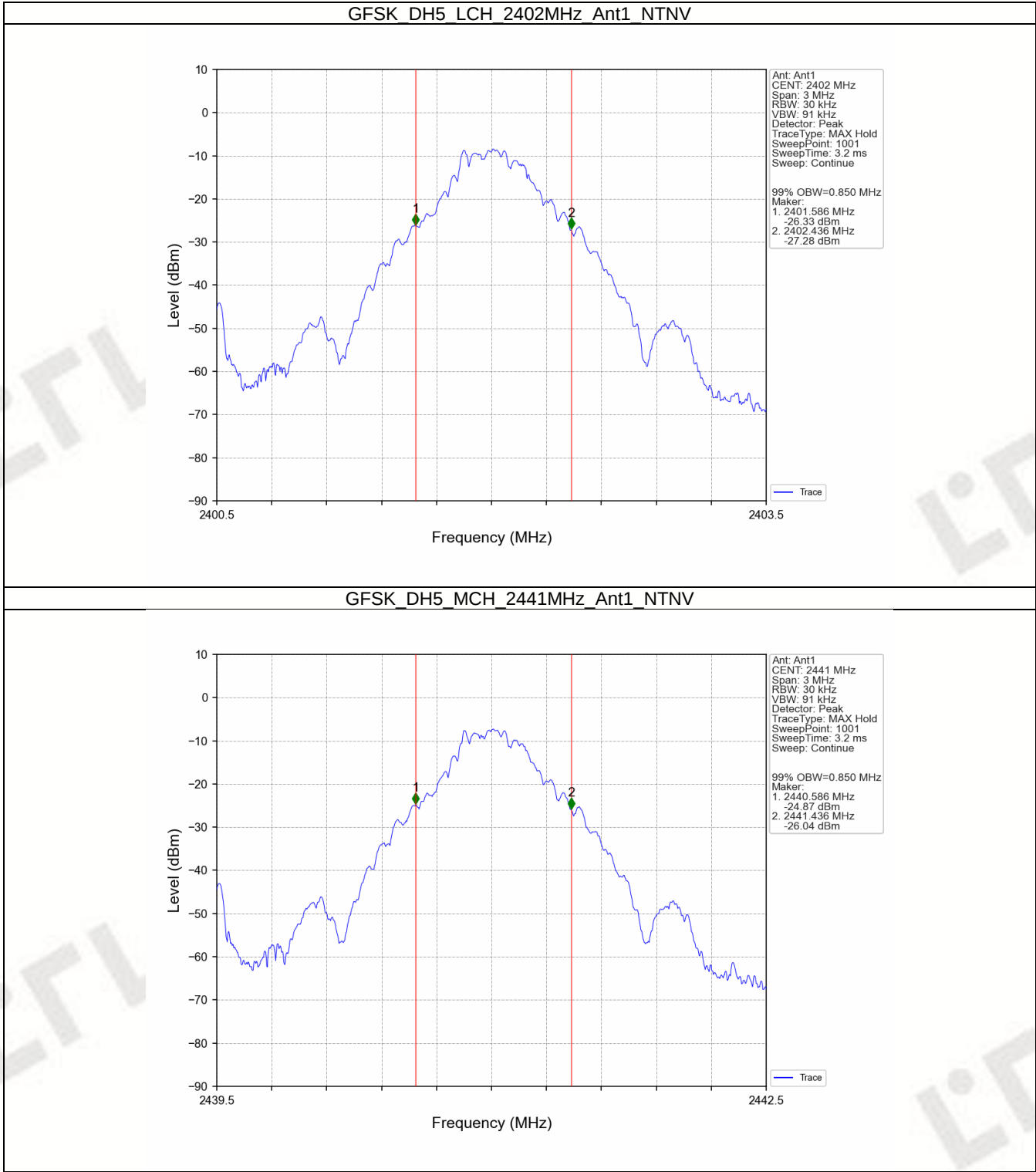
1.1.2 20dB BW

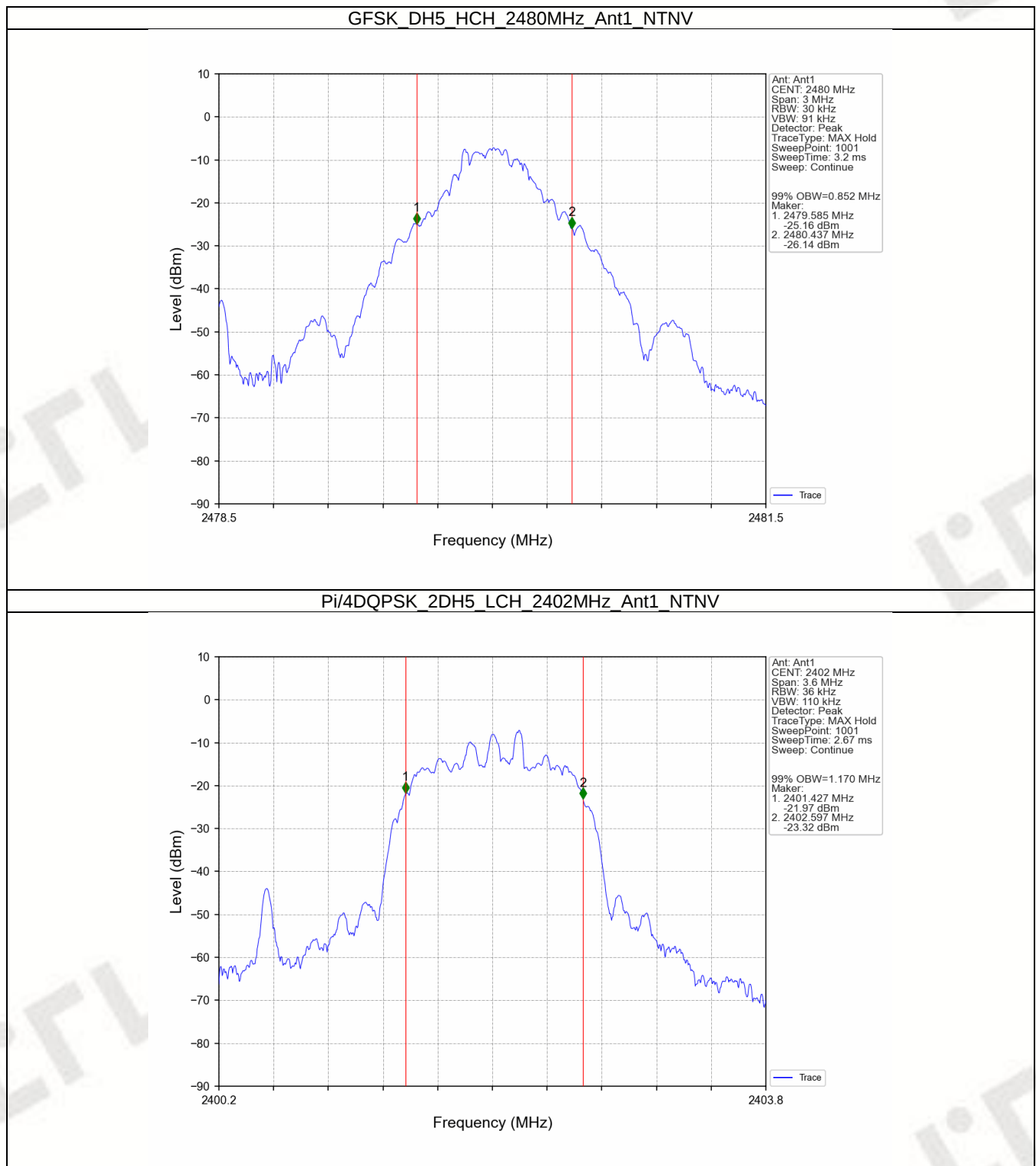
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.955	/	Pass
		2441	DH5	1	0.952	/	Pass
		2480	DH5	1	0.955	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.283	/	Pass
		2441	2DH5	1	1.283	/	Pass
		2480	2DH5	1	1.285	/	Pass
8DPSK	SISO	2402	3DH5	1	1.307	/	Pass
		2441	3DH5	1	1.307	/	Pass
		2480	3DH5	1	1.306	/	Pass

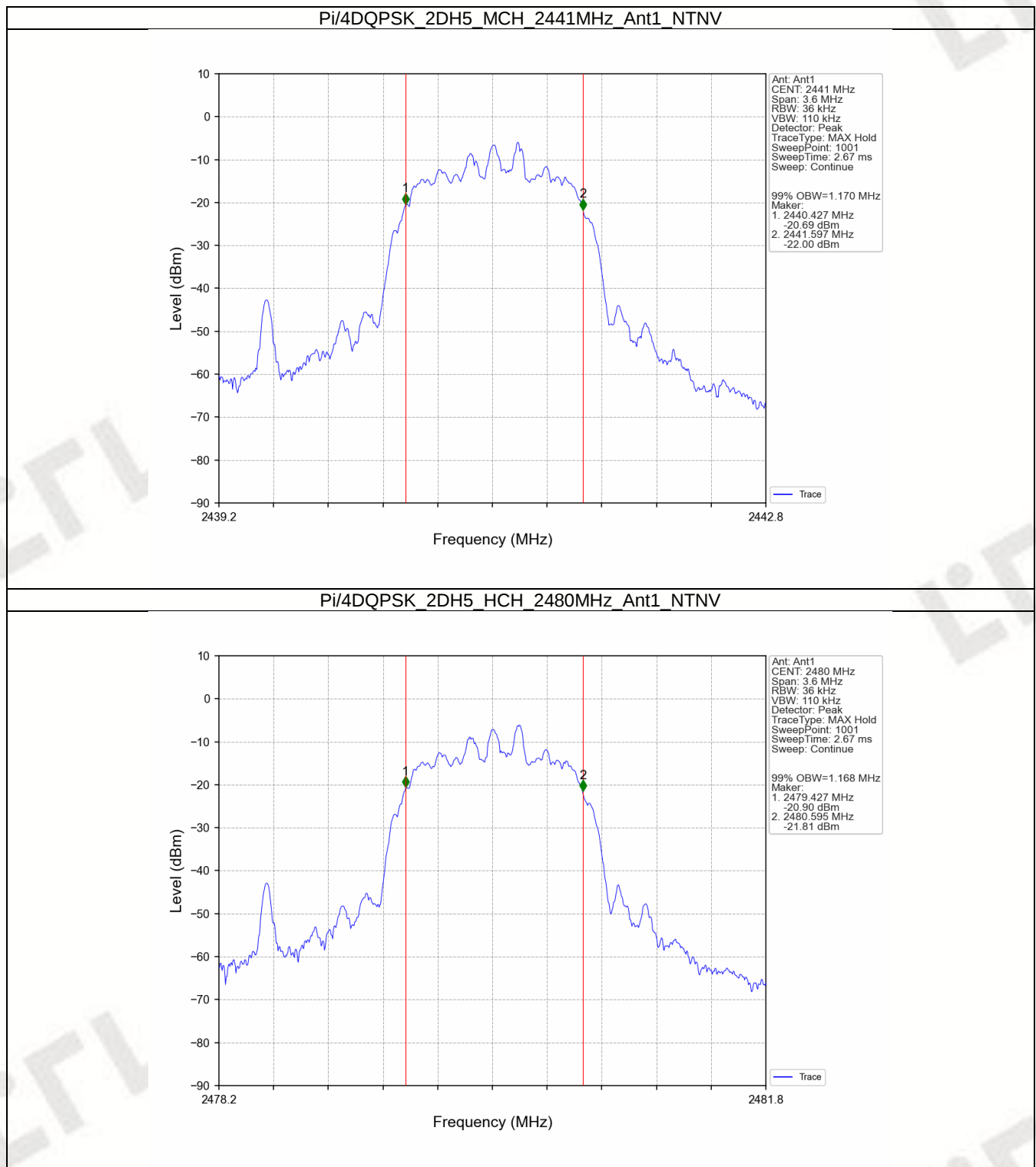
FCC ID: 2BKJZ-Y-02

1.2 Test Graph

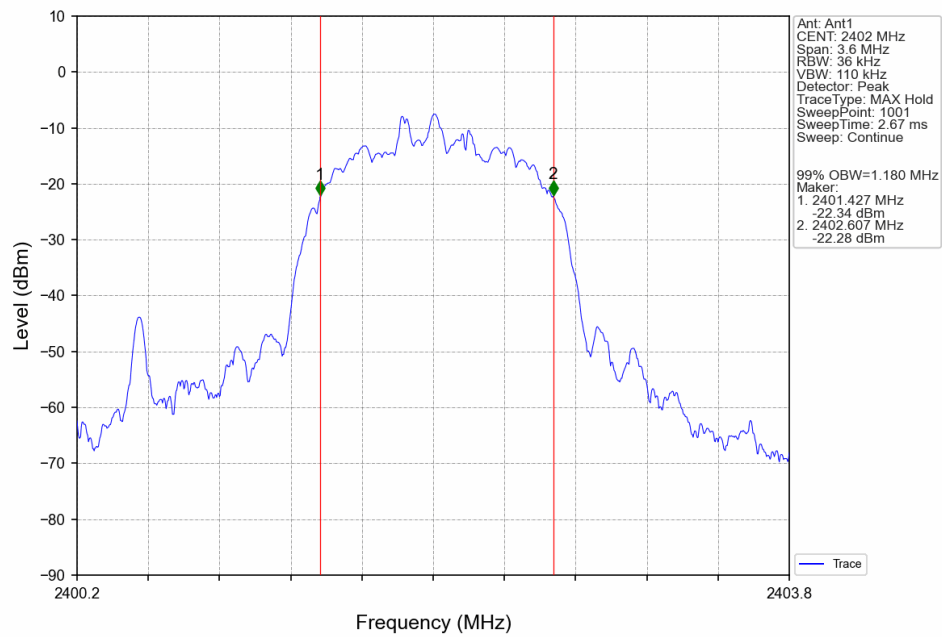
1.2.1 OBW



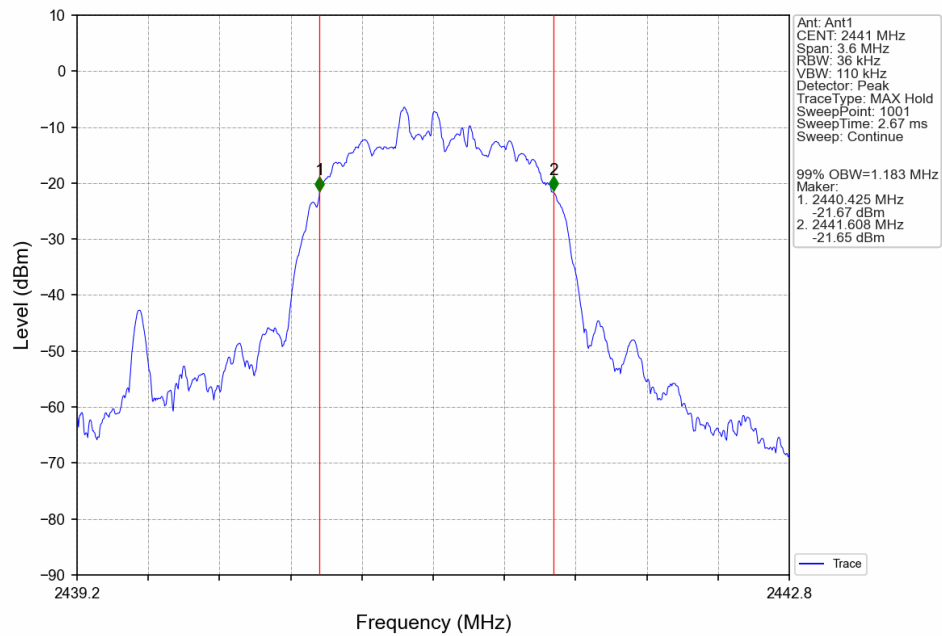


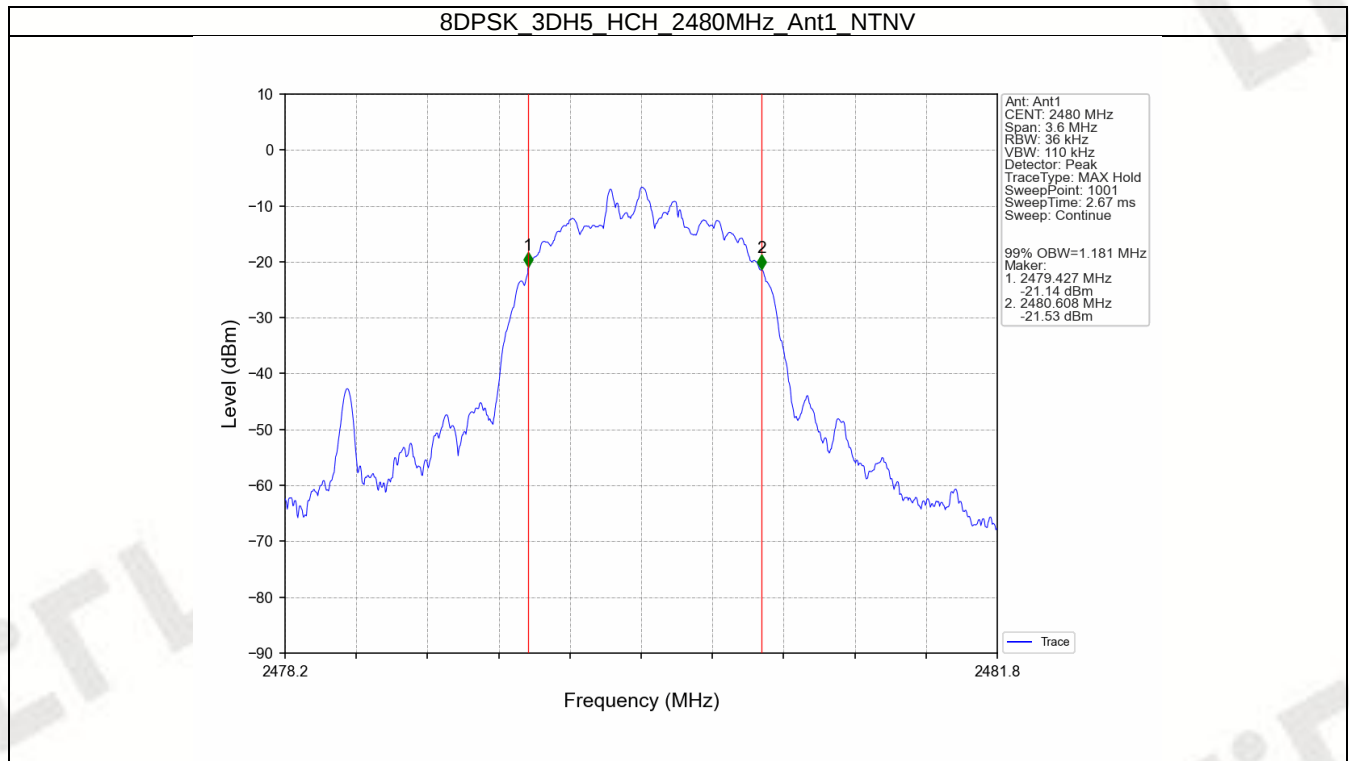


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV

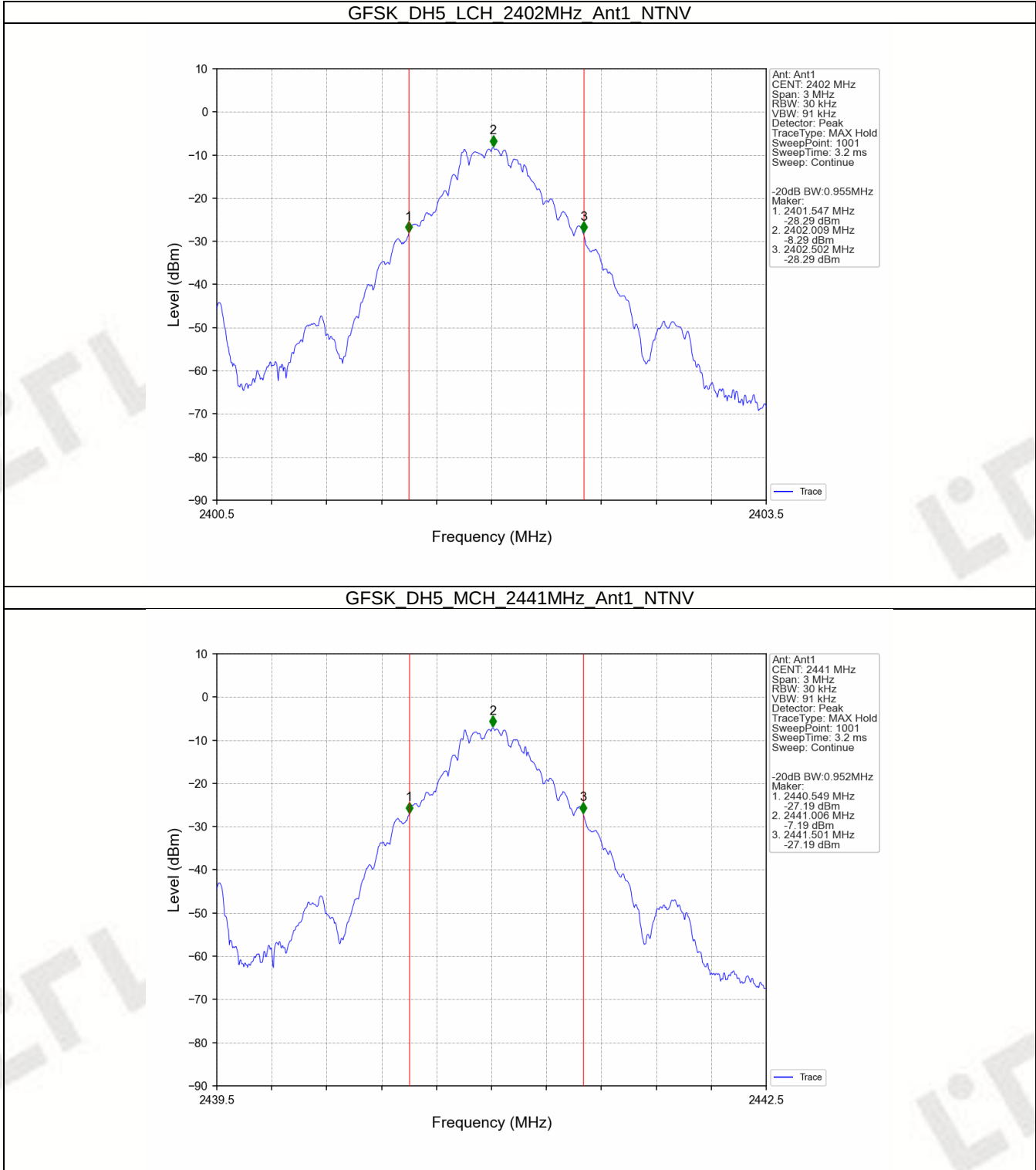


8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV

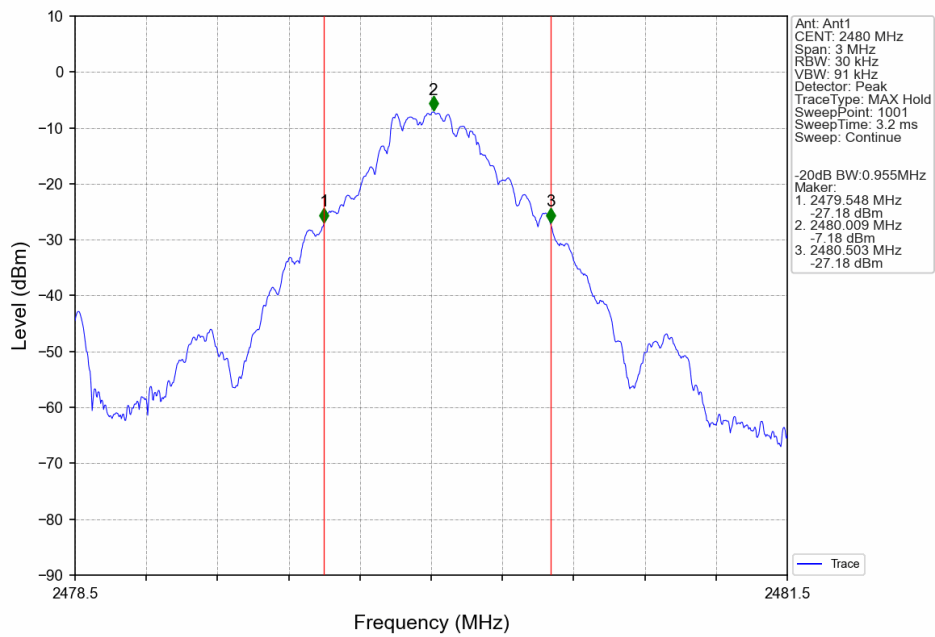




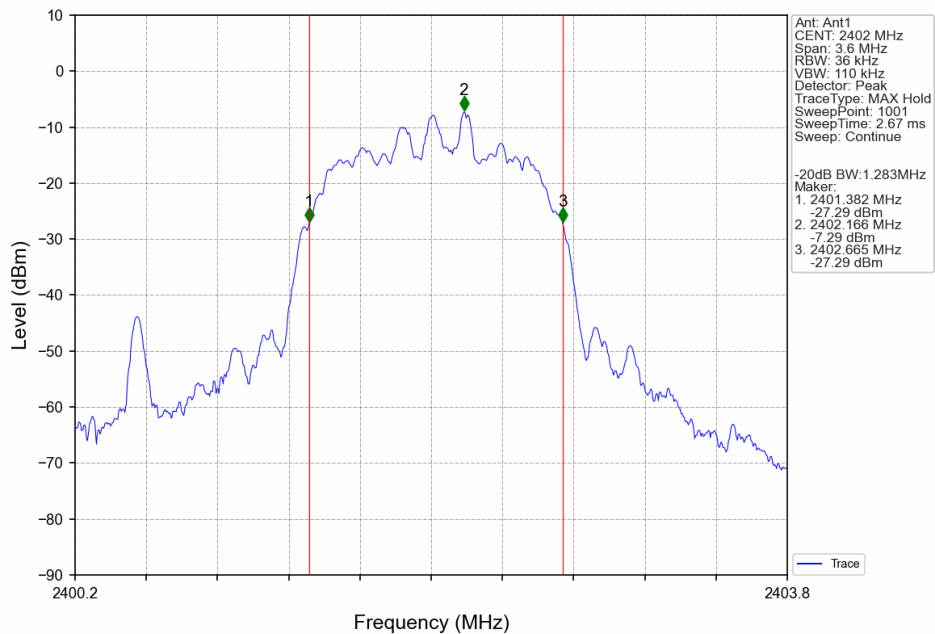
1.2.2 20dB BW



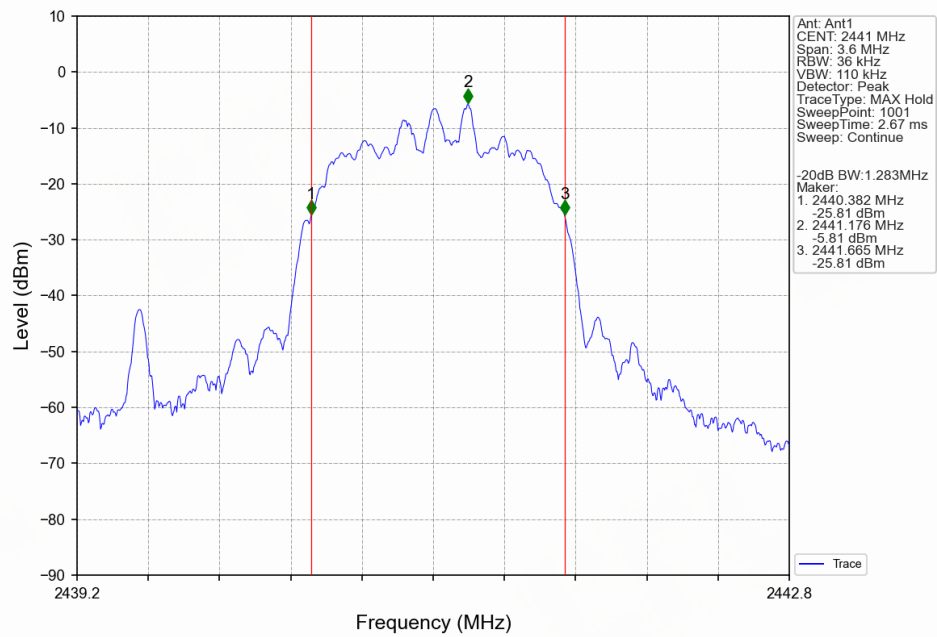
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



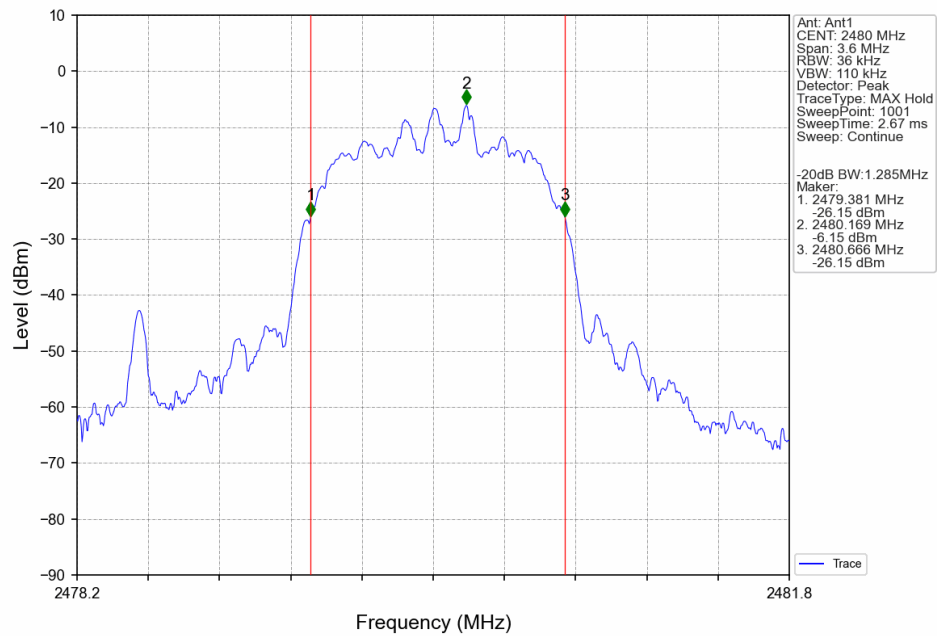
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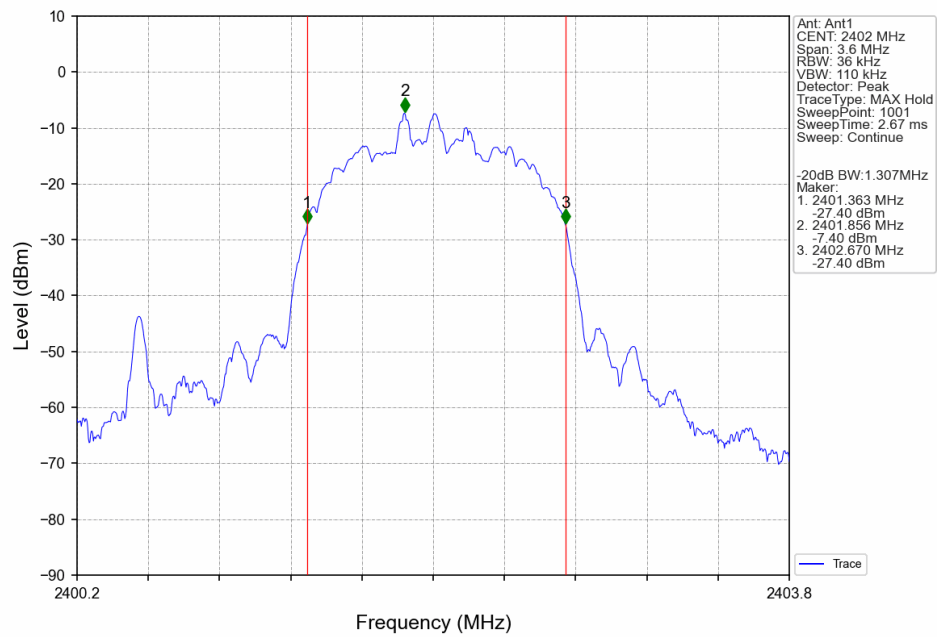
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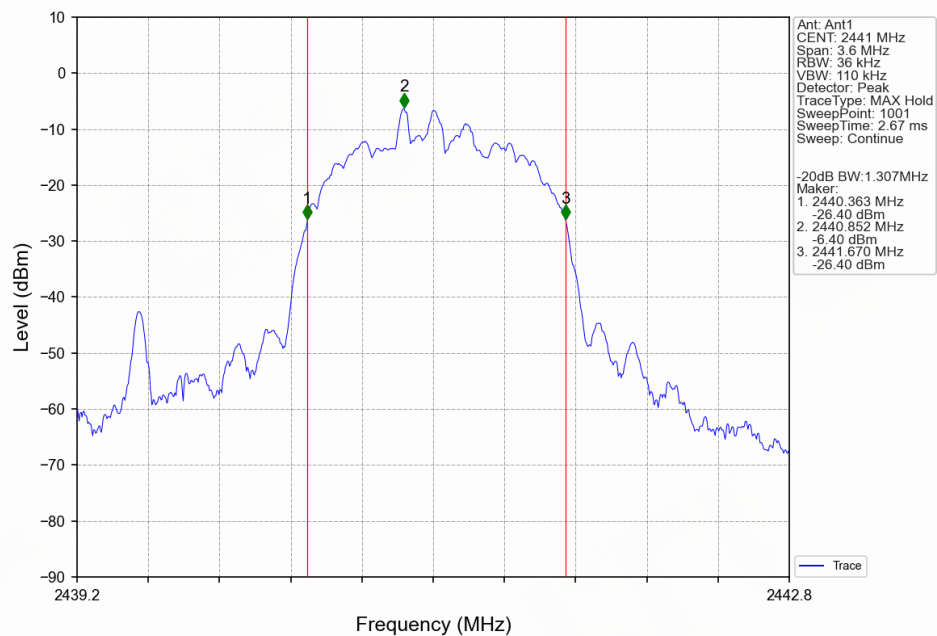
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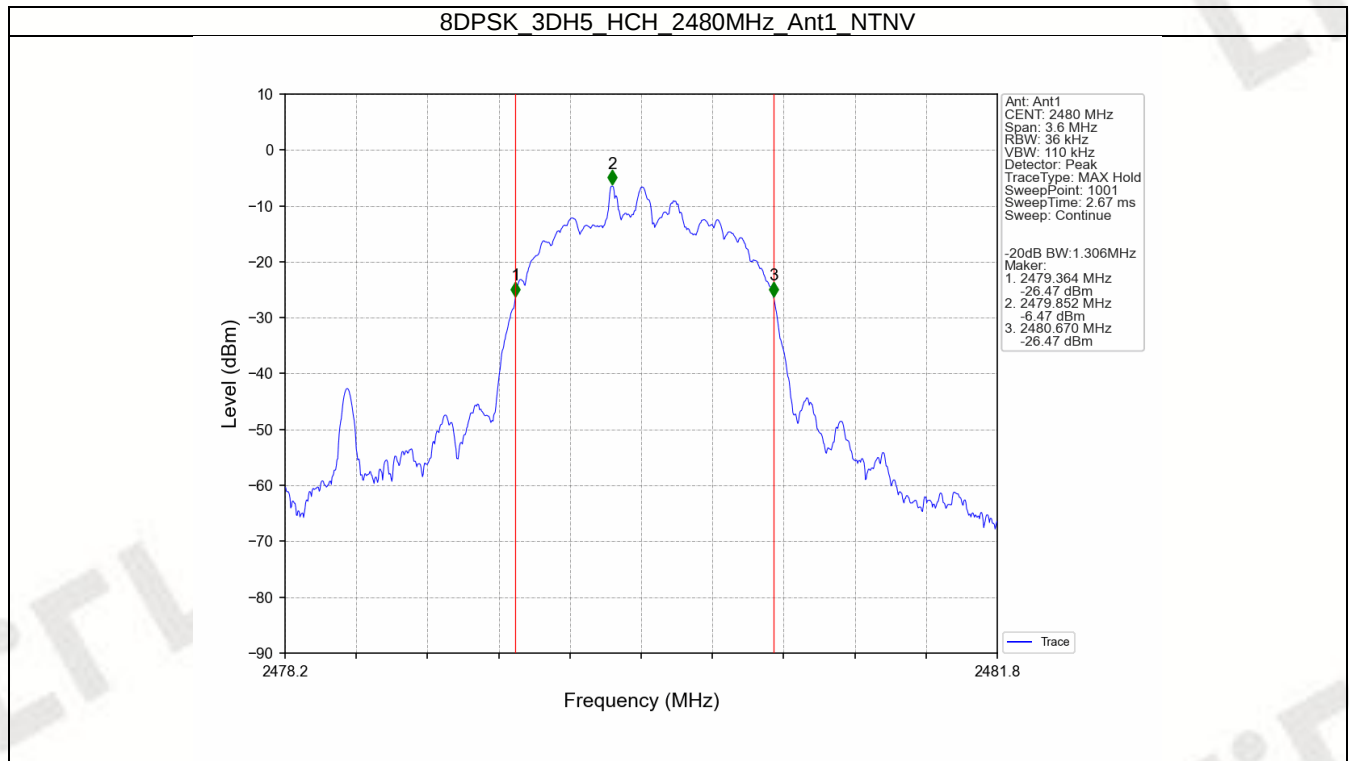
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



FCC ID: 2BKJZ-Y-02



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	-6.00	≤ 30	Pass
		2441	DH5	-4.84	≤ 30	Pass
		2480	DH5	-4.82	≤ 30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-4.79	≤ 20.97	Pass
		2441	2DH5	-3.44	≤ 20.97	Pass
		2480	2DH5	-3.62	≤ 20.97	Pass
8DPSK	SISO	2402	3DH5	-4.02	≤ 20.97	Pass
		2441	3DH5	-3.10	≤ 20.97	Pass
		2480	3DH5	-3.13	≤ 20.97	Pass

Note1: Antenna Gain: Ant1: -0.58dBi;

FCC ID: 2BKJZ-Y-02

3. Carrier Frequency Separation

3.1 Test Result

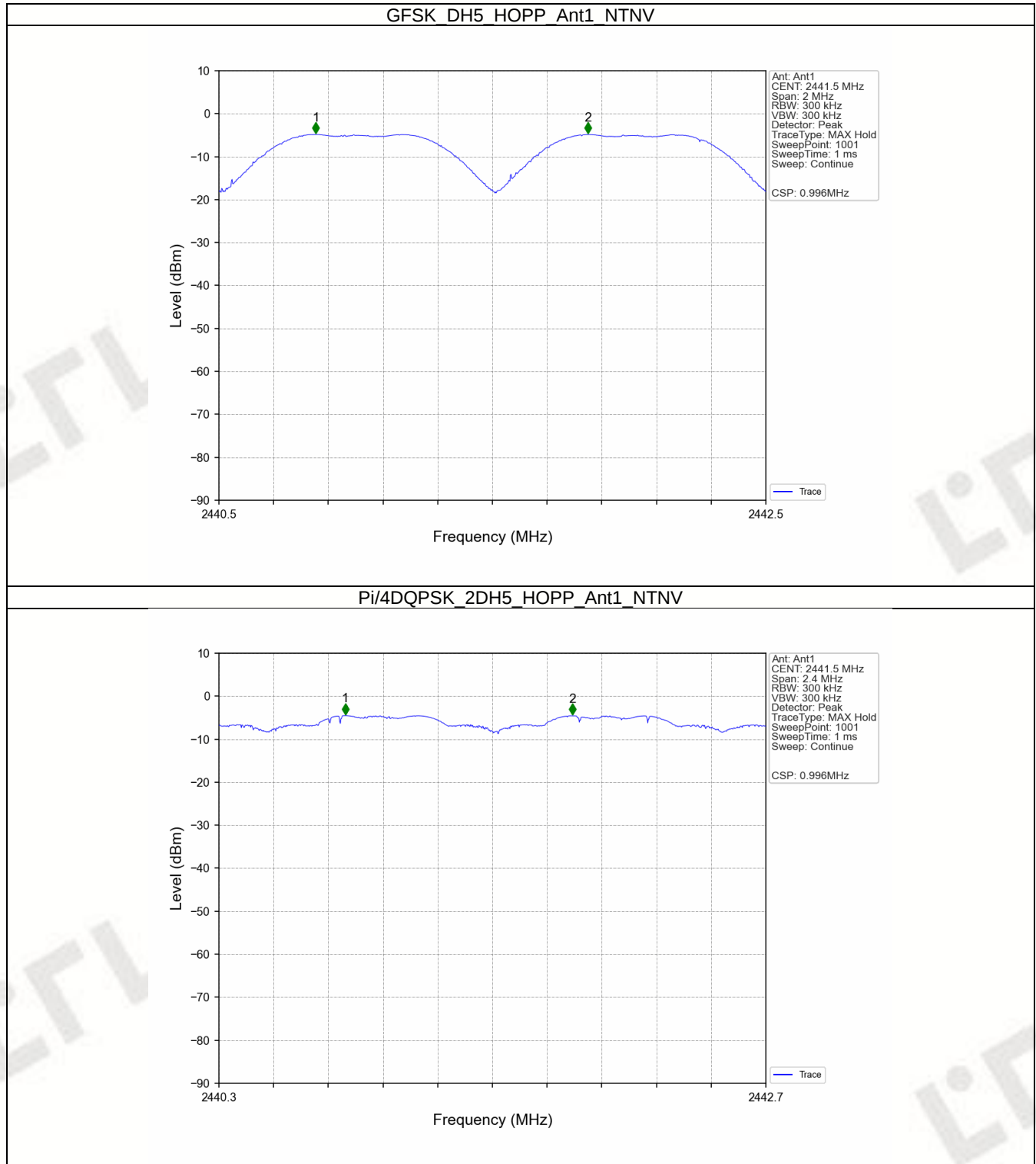
3.1.1 Ant1

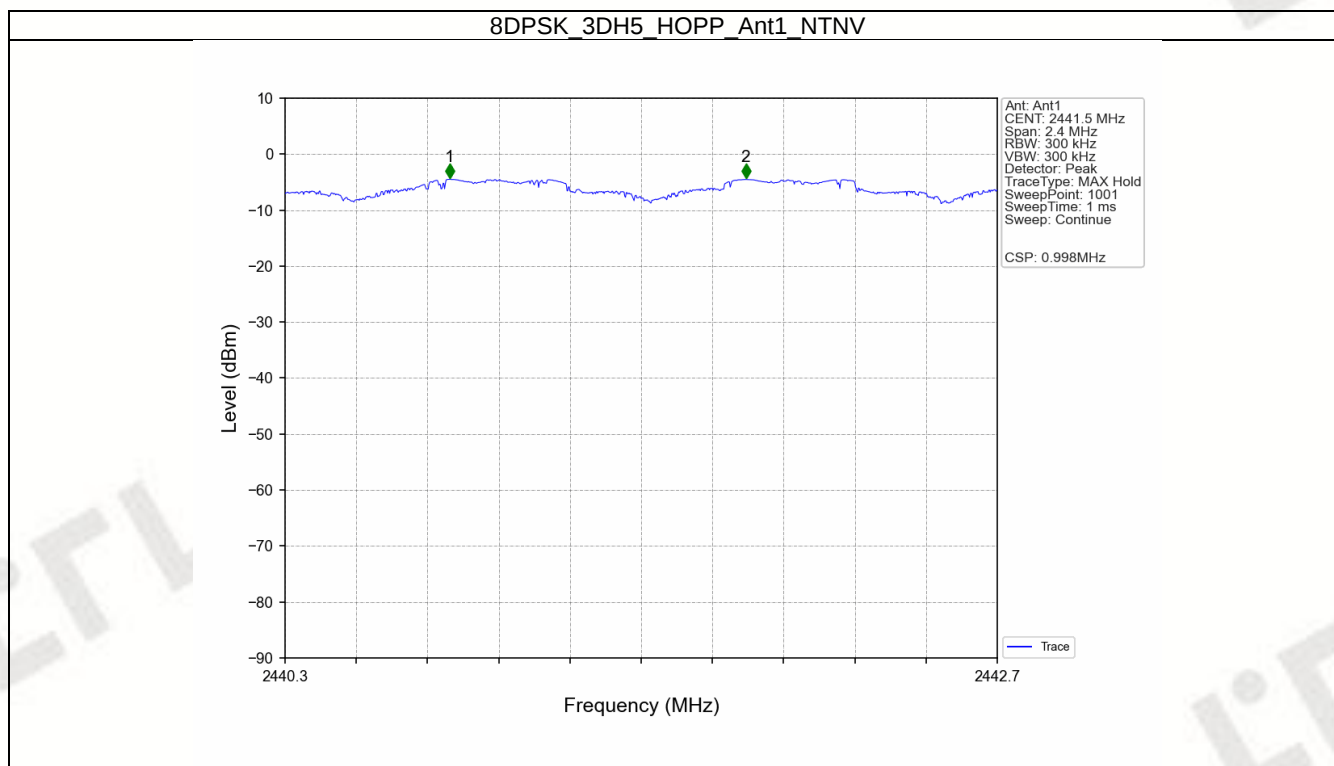
Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	0.996	0.955	≥ 0.955	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	0.996	1.285	≥ 0.857	Pass
8DPSK	SISO	HOPP	3DH5	0.998	1.307	≥ 0.871	Pass

FCC ID: 2BKJZ-Y-02

3.2 Test Graph

3.2.1 Ant1





4. Number of Hopping Frequencies

4.1 Test Result

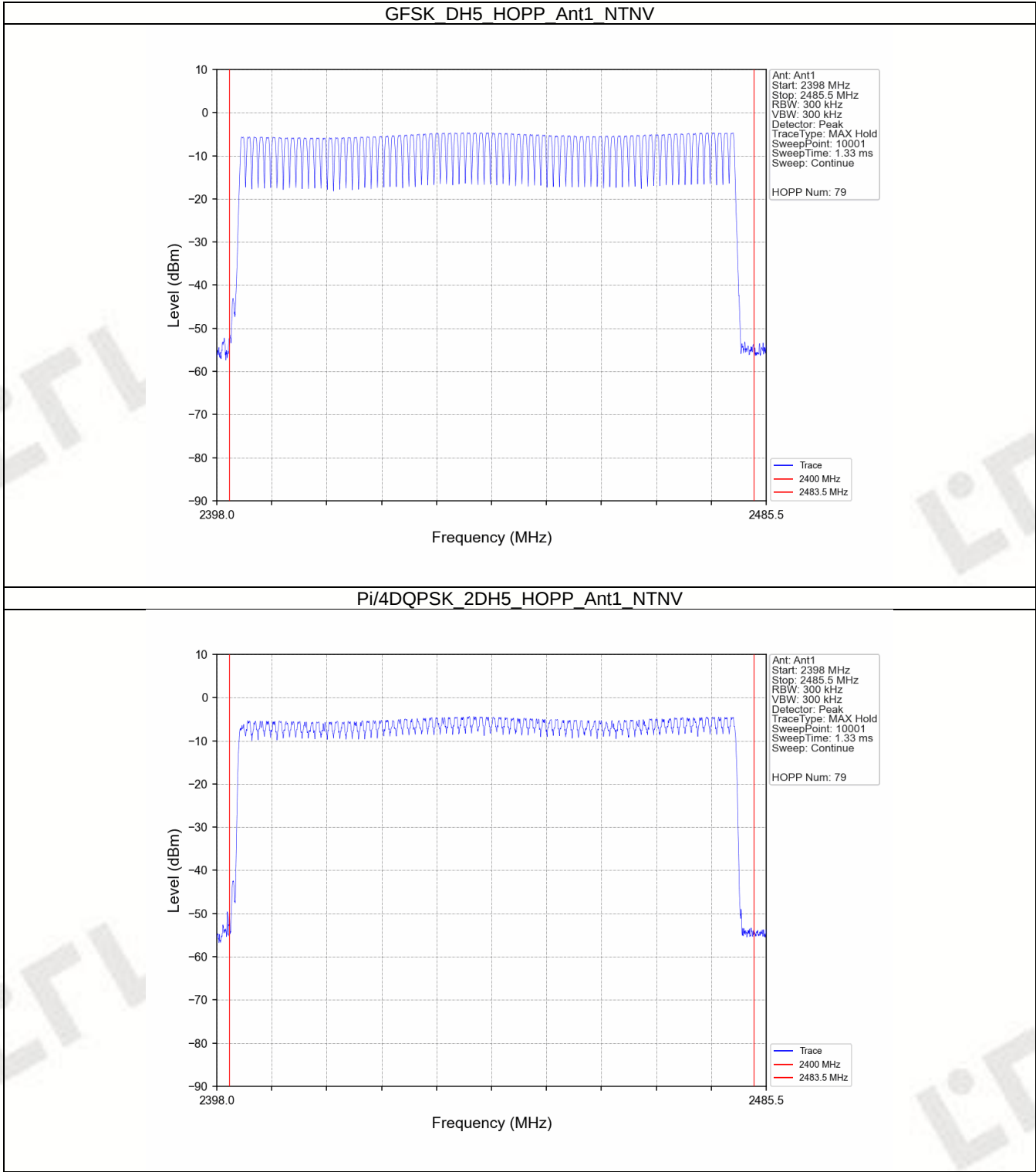
4.1.1 HoppNum

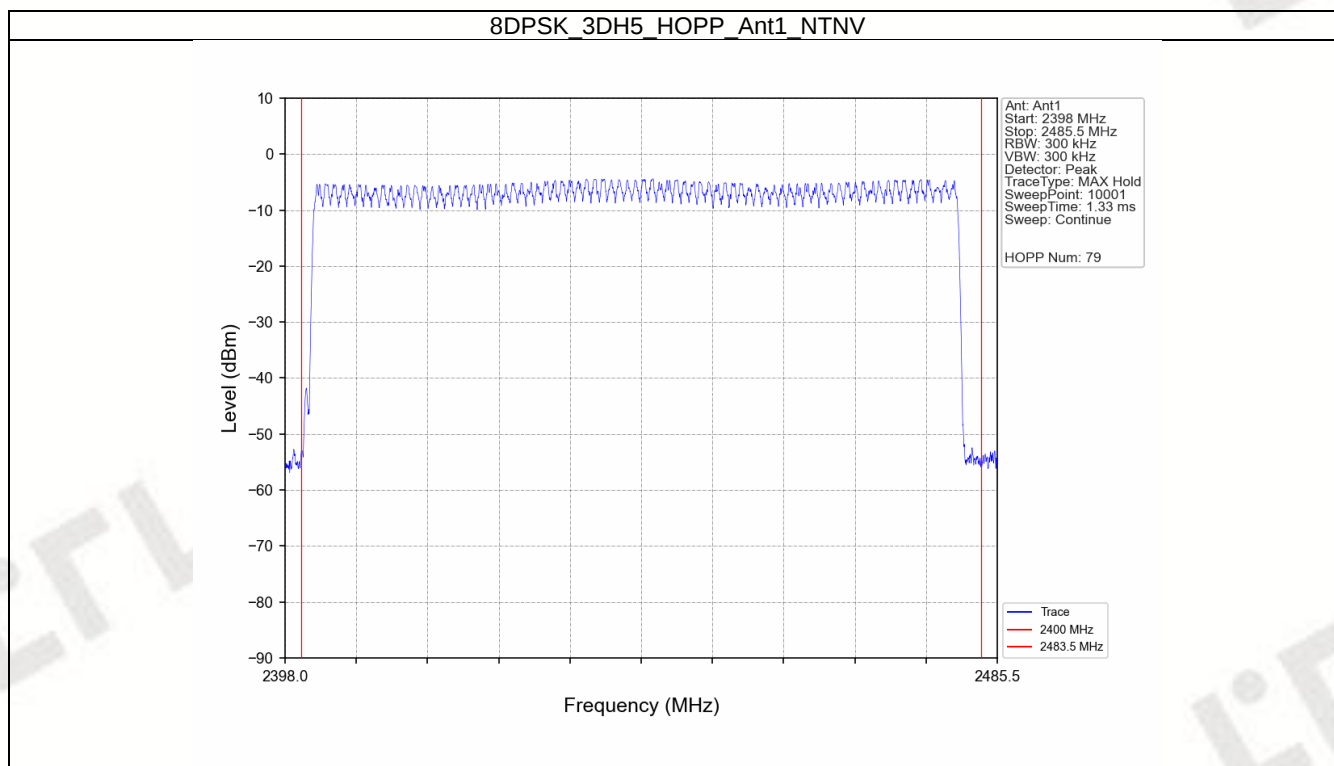
Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies		Verdict
				ANT1	Limit	
GFSK	SISO	HOPP	DH5	79	>=15	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	79	>=15	Pass
8DPSK	SISO	HOPP	3DH5	79	>=15	Pass

FCC ID: 2BKJZ-Y-02

4.2 Test Graph

4.2.1 HoppNum





5. Time of Occupancy (Dwell Time)

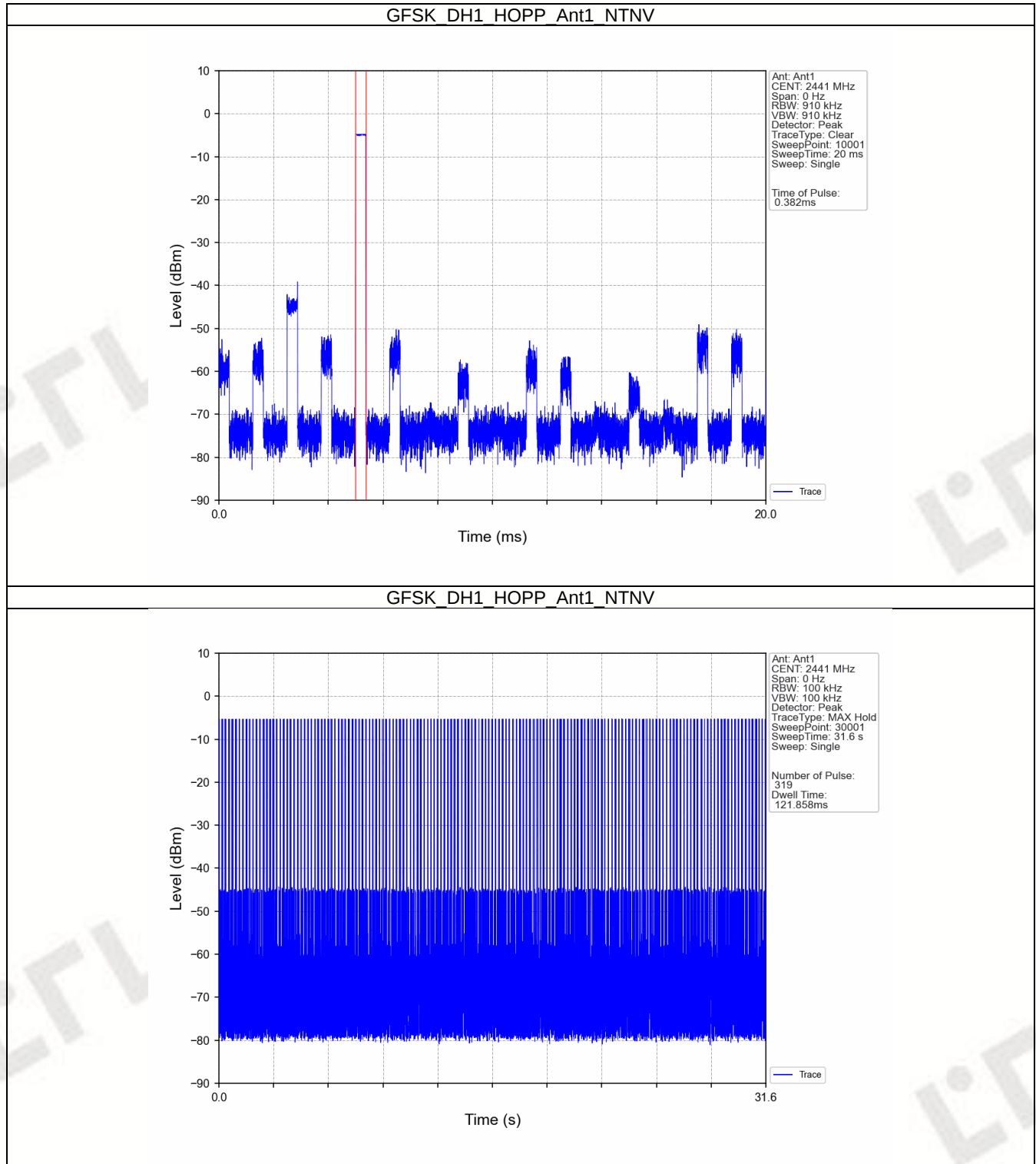
5.1 Test Result

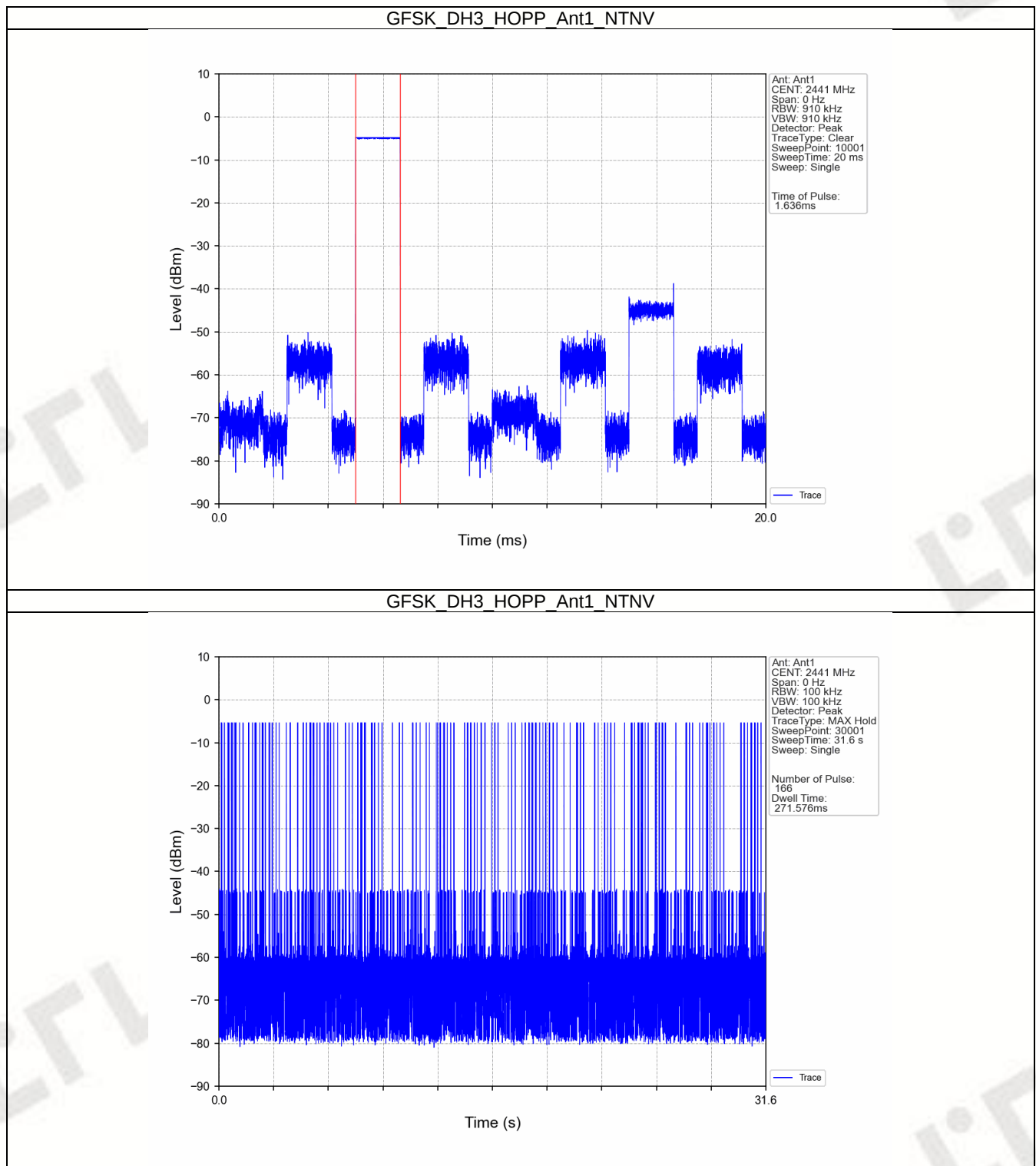
5.1.1 Ant1

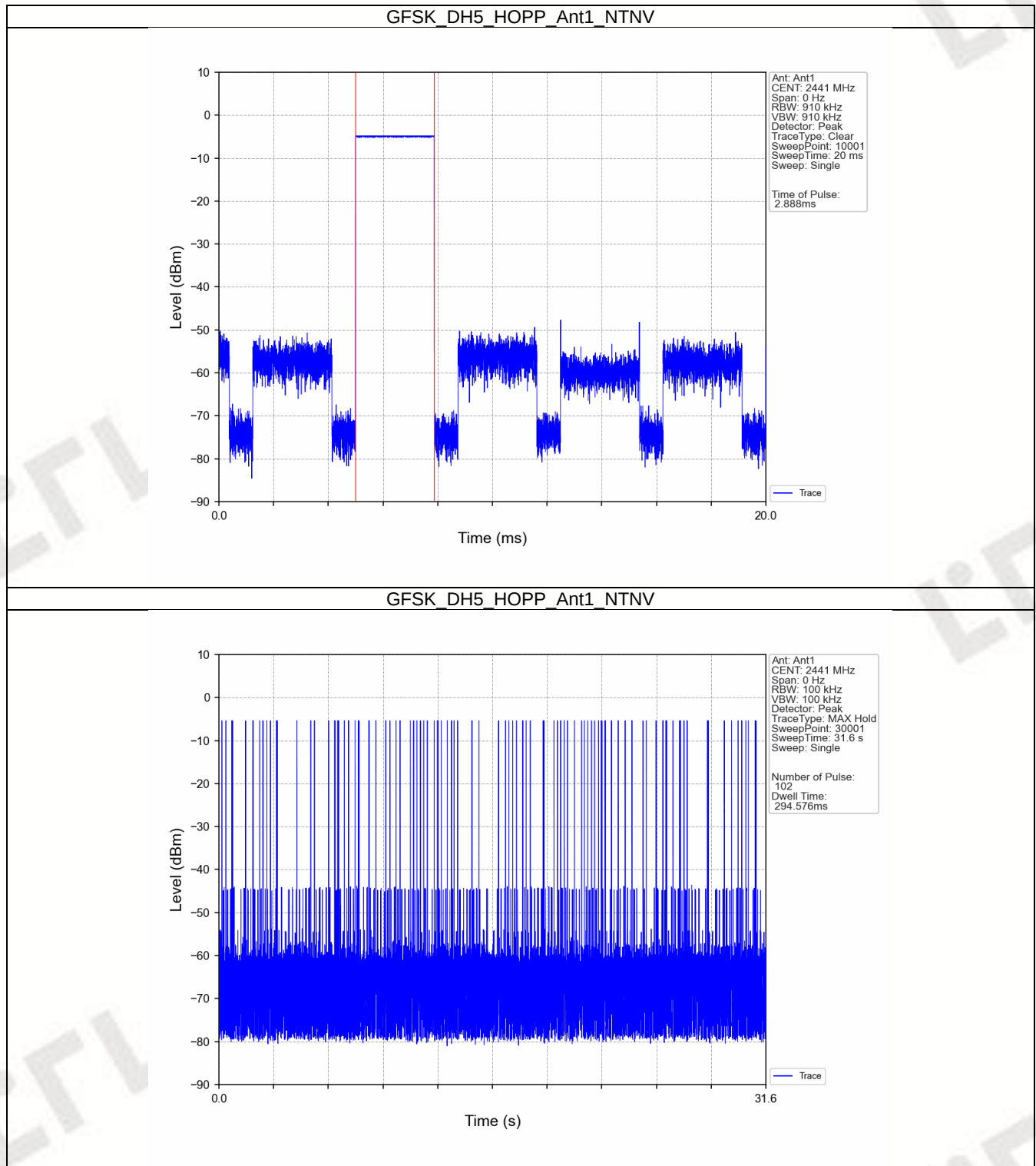
Ant1									
Mode	Tx Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.382	31.600	319	121.858	<=400	Pass
			DH3	1.636	31.600	166	271.576	<=400	Pass
			DH5	2.888	31.600	102	294.576	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.394	31.600	320	126.080	<=400	Pass
			2DH3	1.644	31.600	158	259.752	<=400	Pass
			2DH5	2.896	31.600	111	321.456	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.392	31.600	320	125.440	<=400	Pass
			3DH3	1.642	31.600	164	269.288	<=400	Pass
			3DH5	2.892	31.600	106	306.552	<=400	Pass

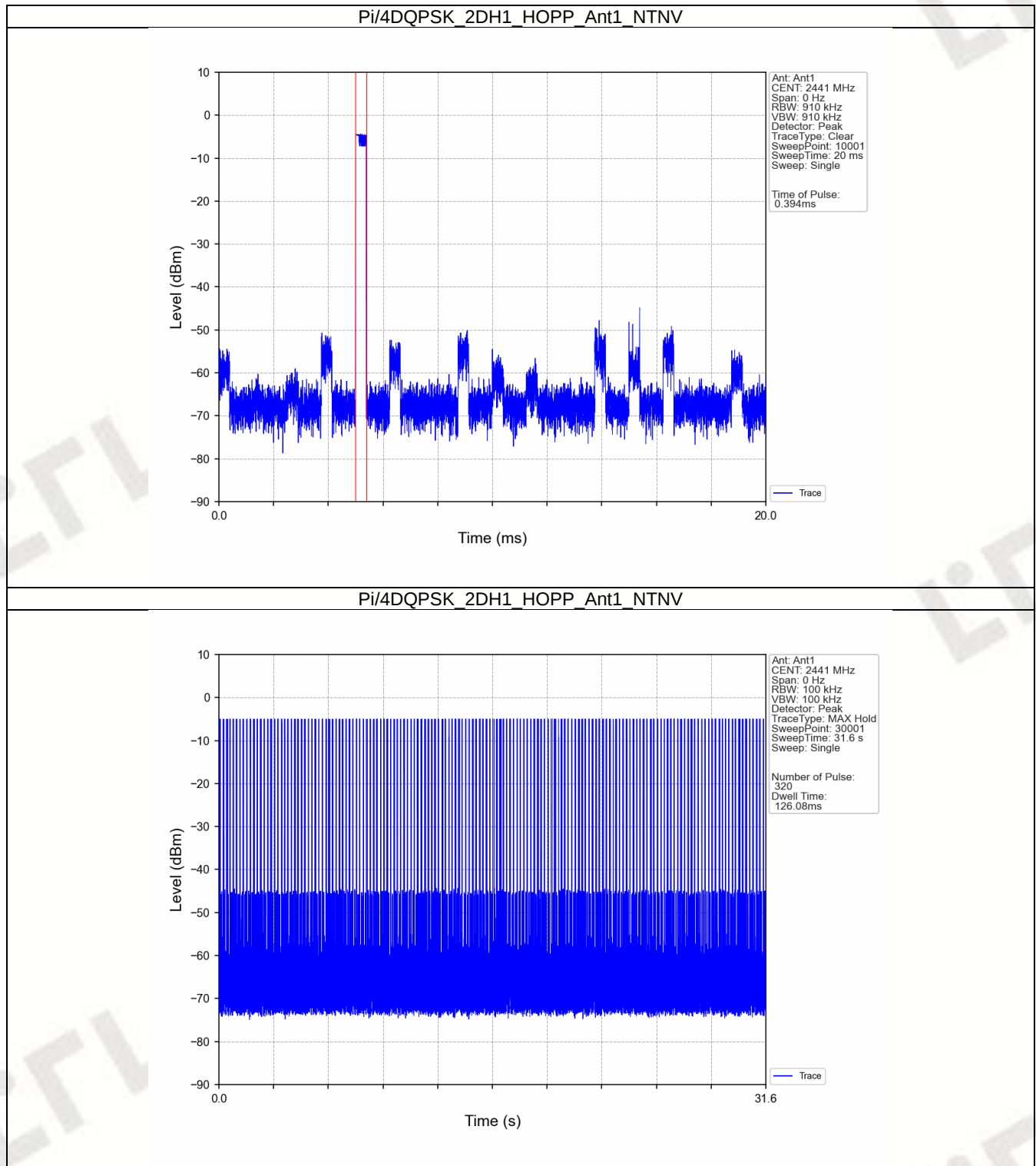
5.2 Test Graph

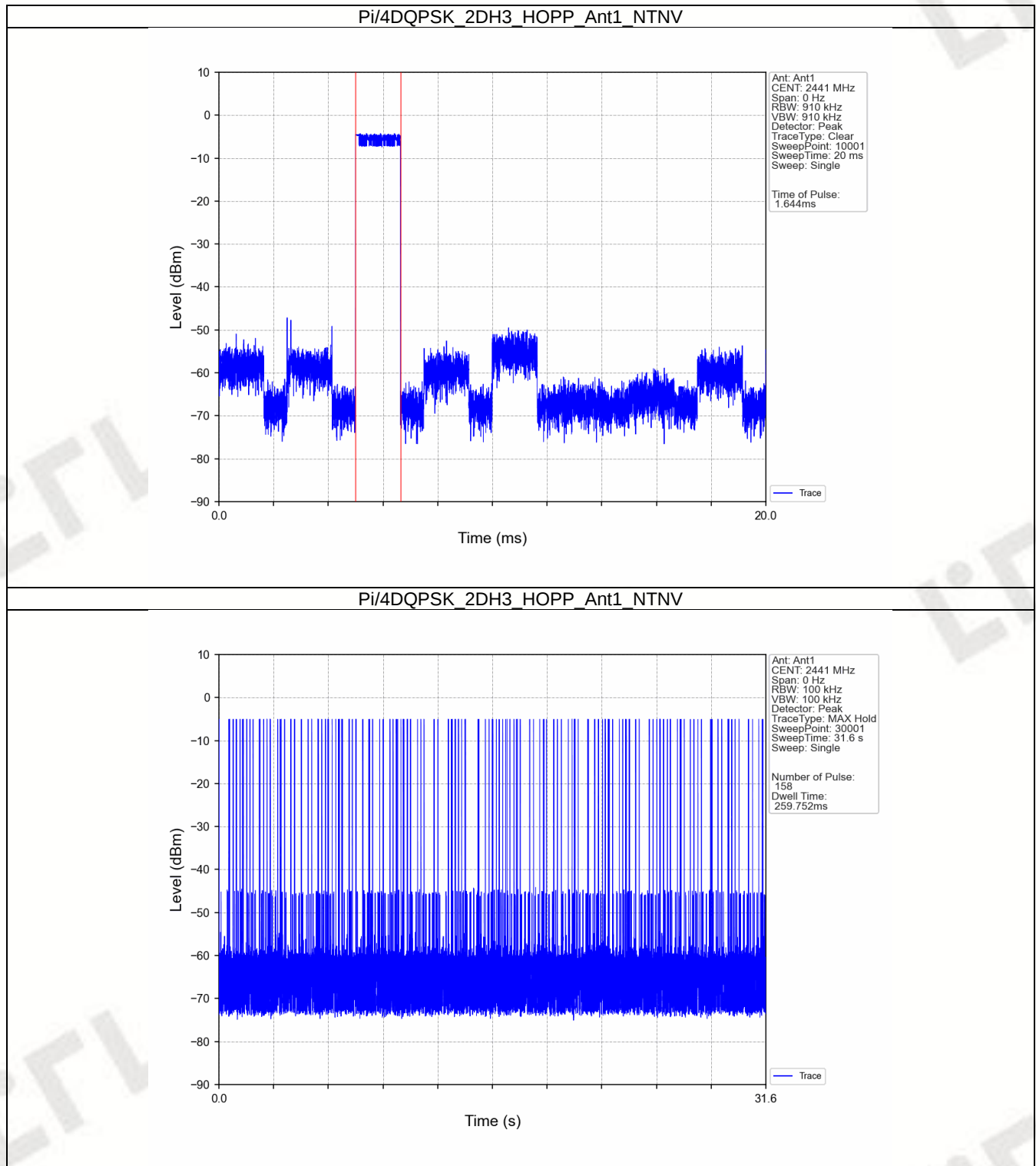
5.2.1 Ant1

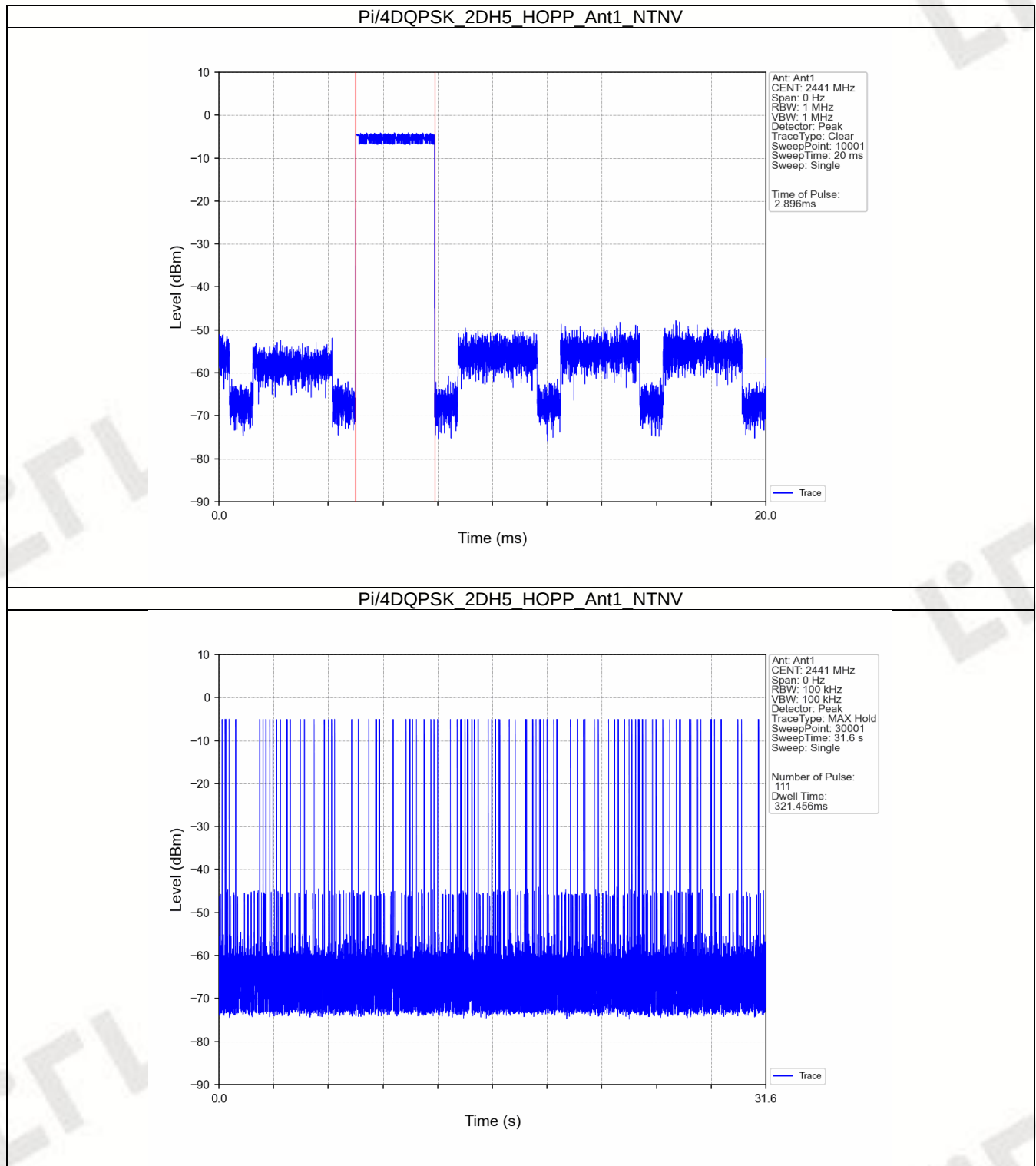


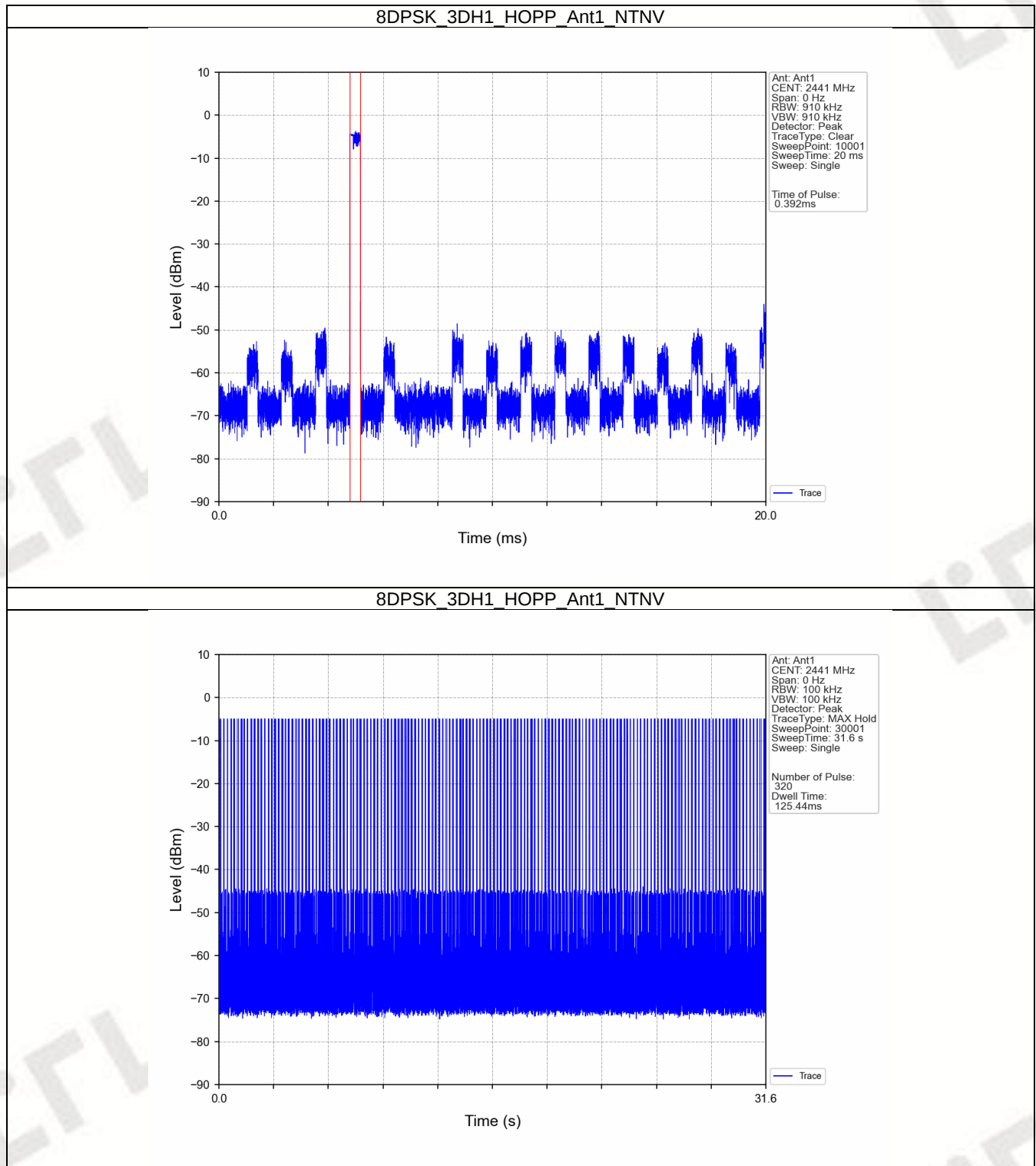


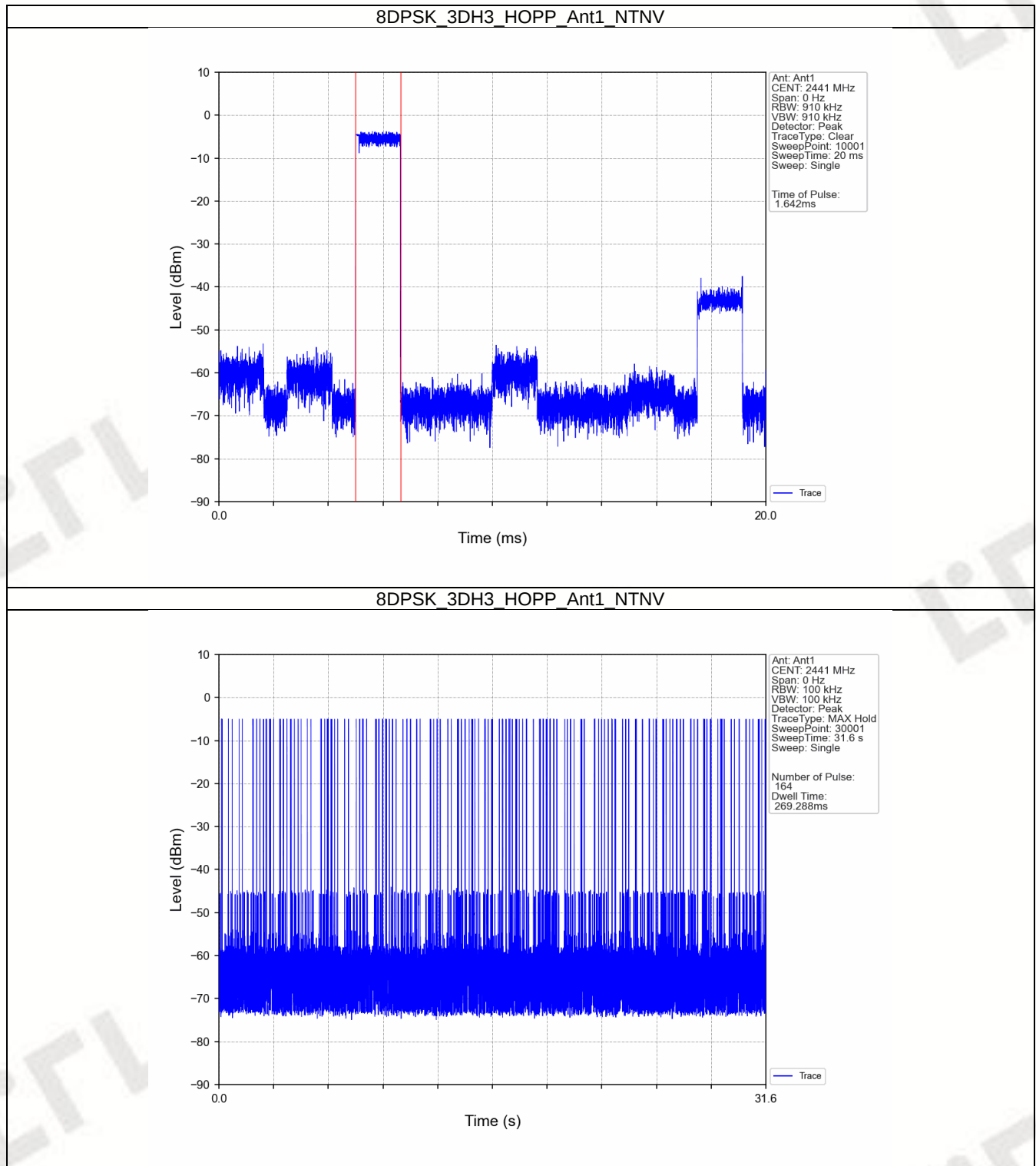


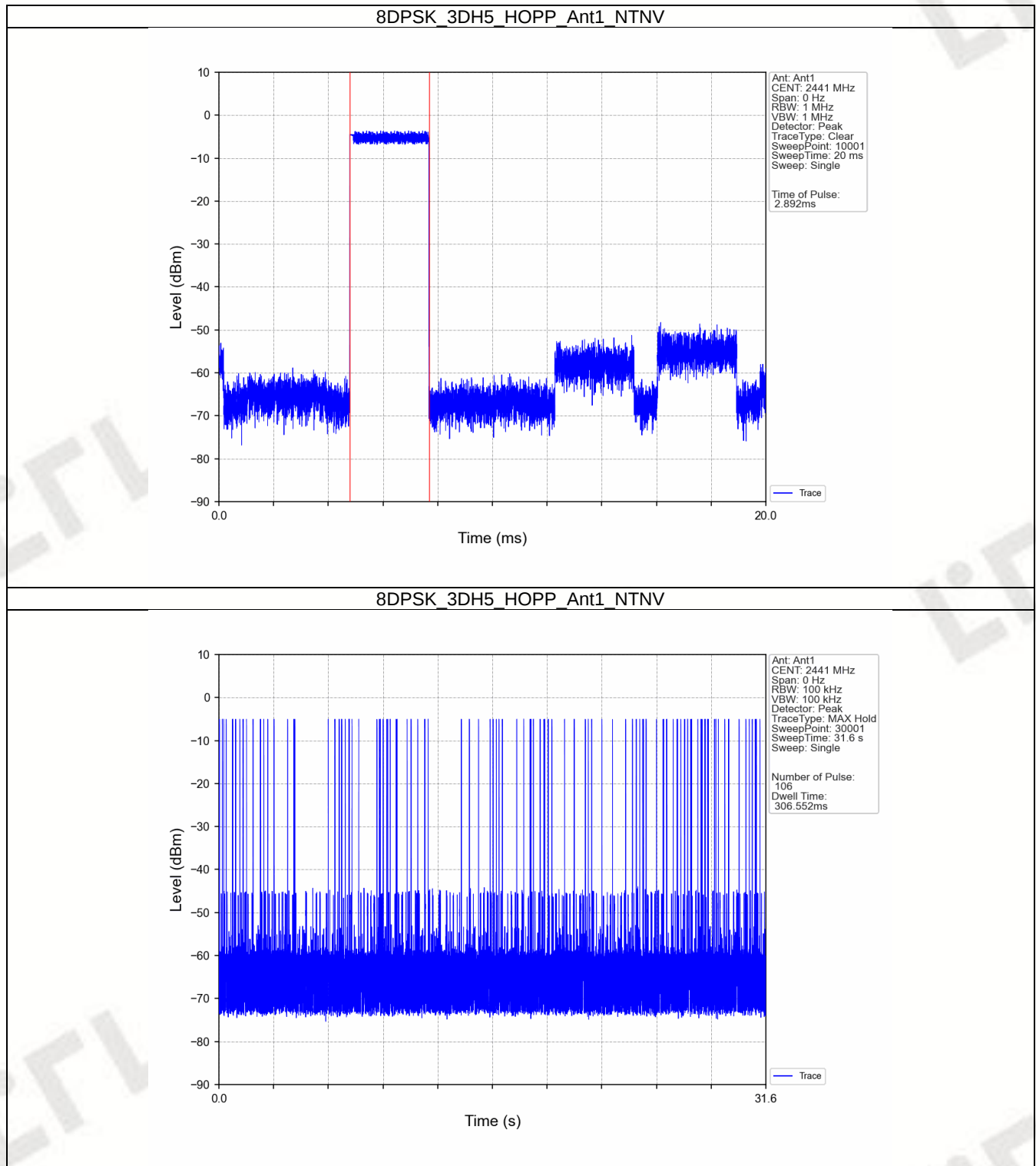












6. Unwanted Emissions In Non-restricted Frequency Bands

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	-6.12
		2441	DH5	1	-4.98
		2480	DH5	1	-4.97
Pi/4DQPSK	SISO	2402	2DH5	1	-5.93
		2441	2DH5	1	-4.56
		2480	2DH5	1	-4.74
8DPSK	SISO	2402	3DH5	1	-5.51
		2441	3DH5	1	-4.60
		2480	3DH5	1	-4.63

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

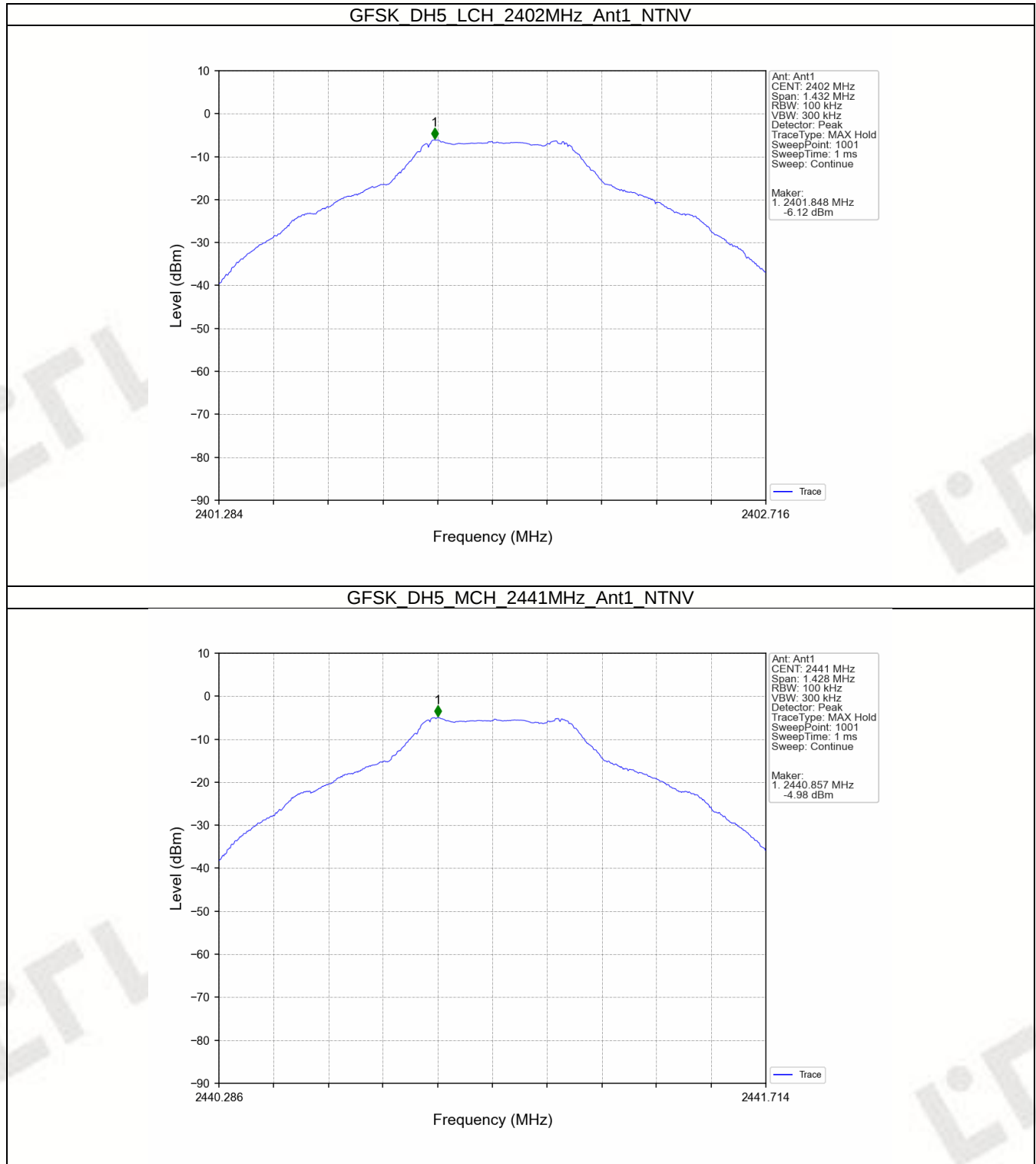
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-4.97	-24.97	Pass
		2441	DH5	1	-4.97	-24.97	Pass
		2480	DH5	1	-4.97	-24.97	Pass
		HOPP	DH5	1	-4.97	-24.97	Pass
					-4.97	-24.97	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-4.56	-24.56	Pass
		2441	2DH5	1	-4.56	-24.56	Pass
		2480	2DH5	1	-4.56	-24.56	Pass
		HOPP	2DH5	1	-4.56	-24.56	Pass
					-4.56	-24.56	Pass
8DPSK	SISO	2402	3DH5	1	-4.60	-24.60	Pass
		2441	3DH5	1	-4.60	-24.60	Pass
		2480	3DH5	1	-4.60	-24.60	Pass
		HOPP	3DH5	1	-4.60	-24.60	Pass
					-4.60	-24.60	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.

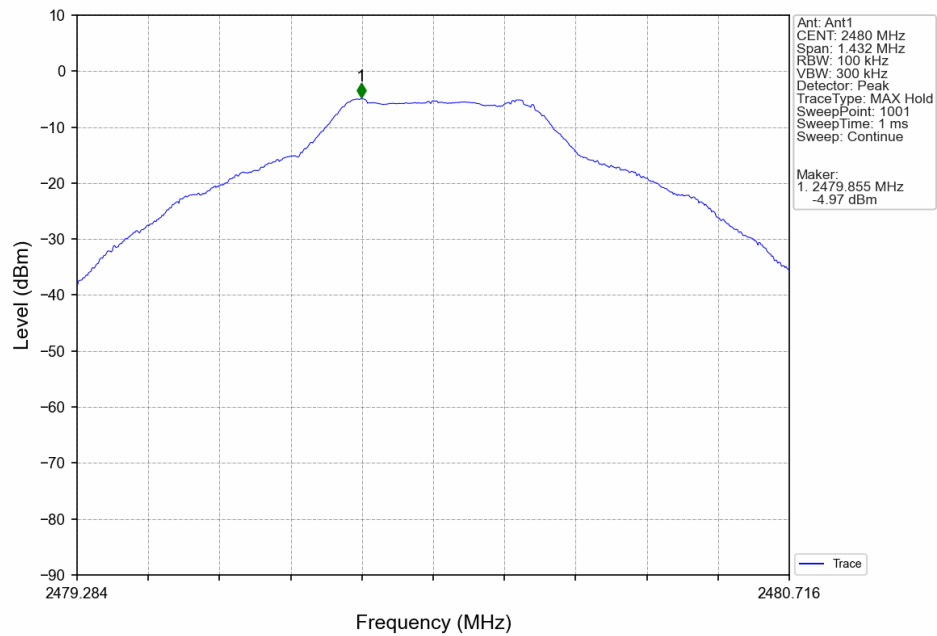
FCC ID: 2BKJZ-Y-02

6.2 Test Graph

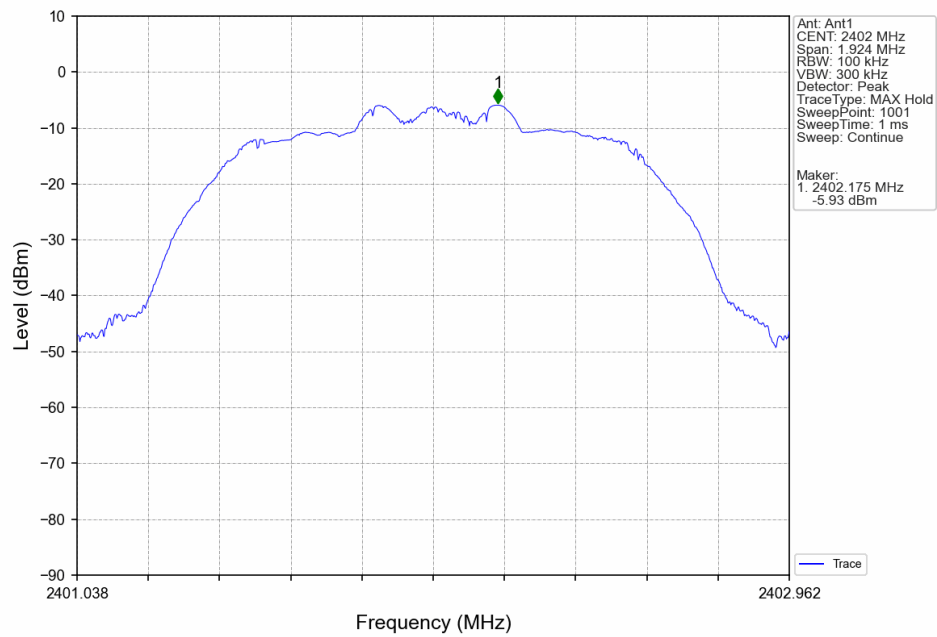
6.2.1 Ref

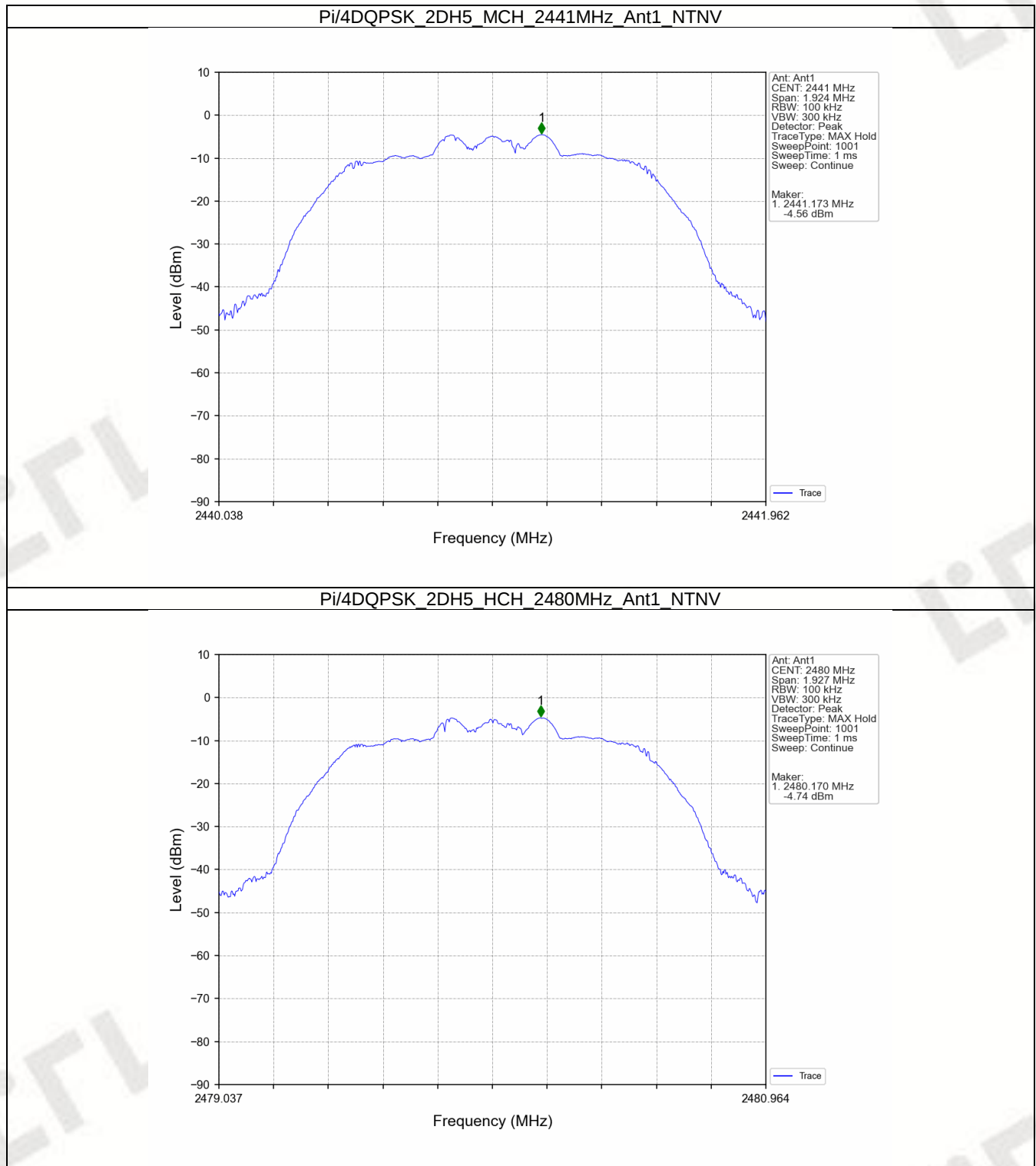


GFSK DH5 HCH 2480MHz_Ant1_NTNV

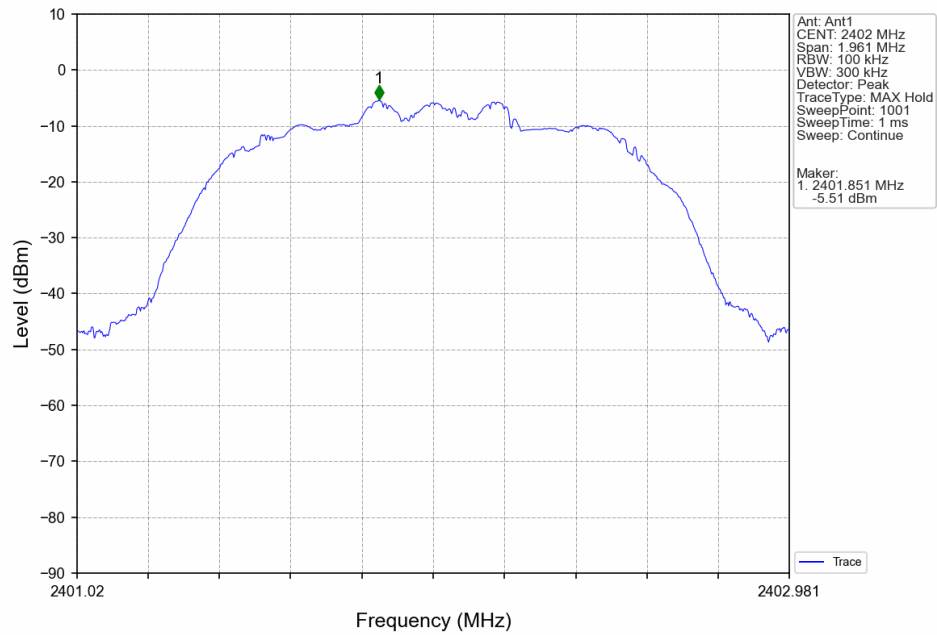


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

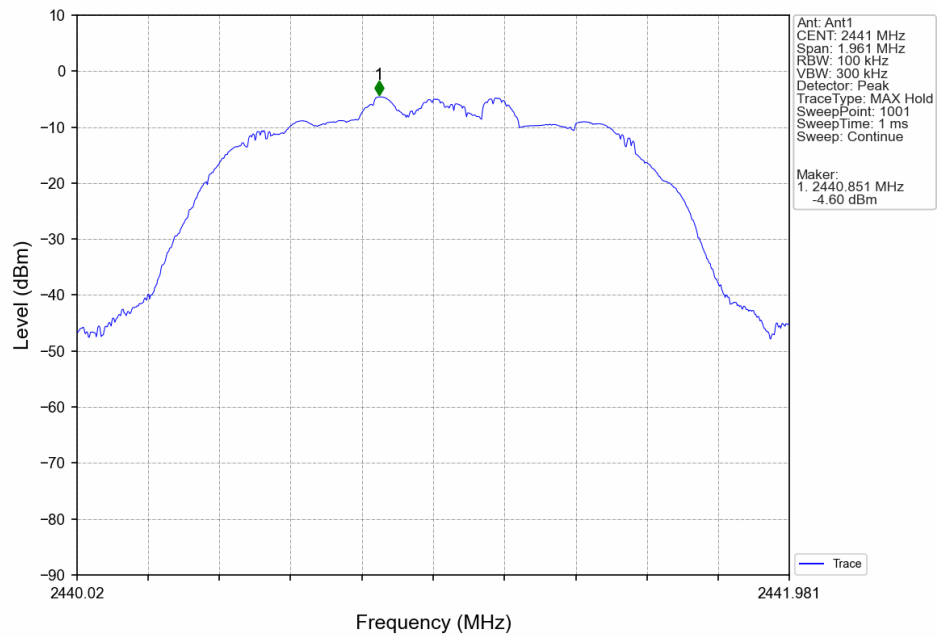




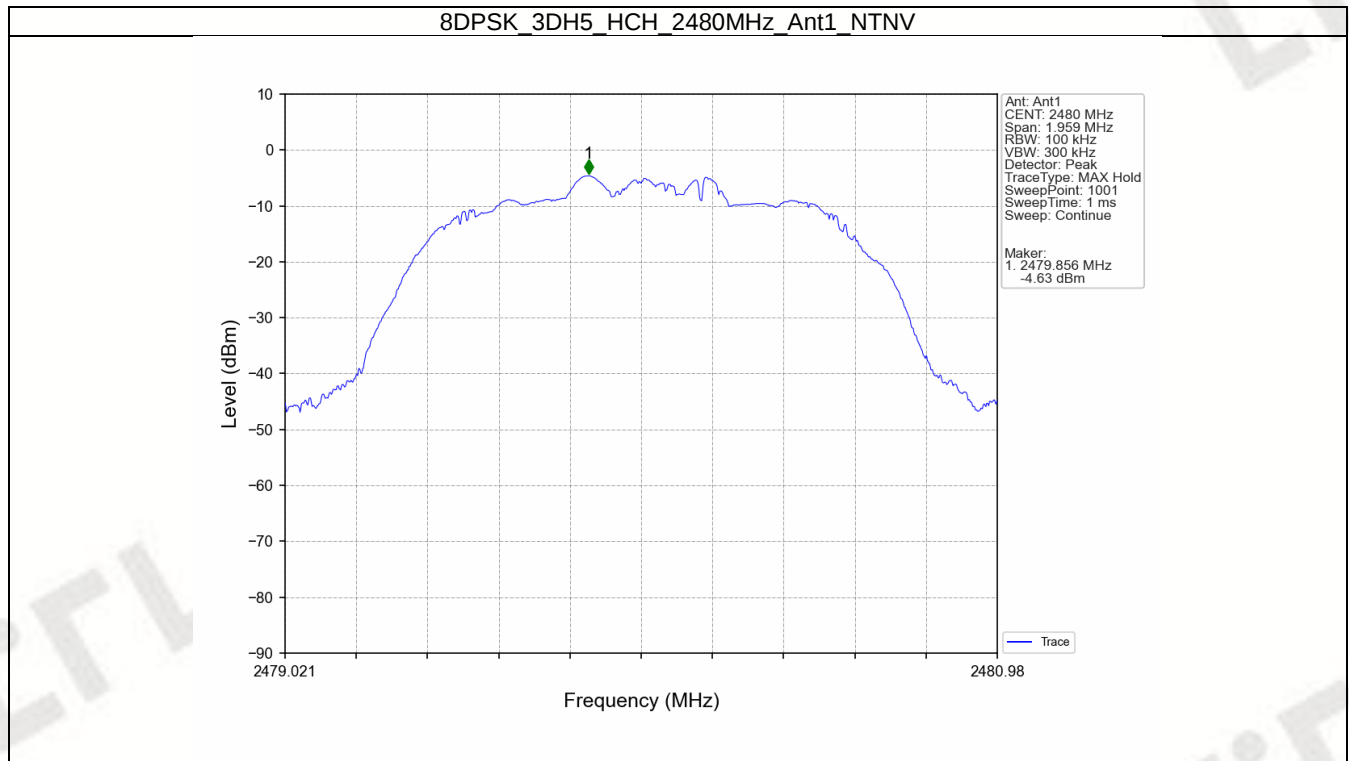
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



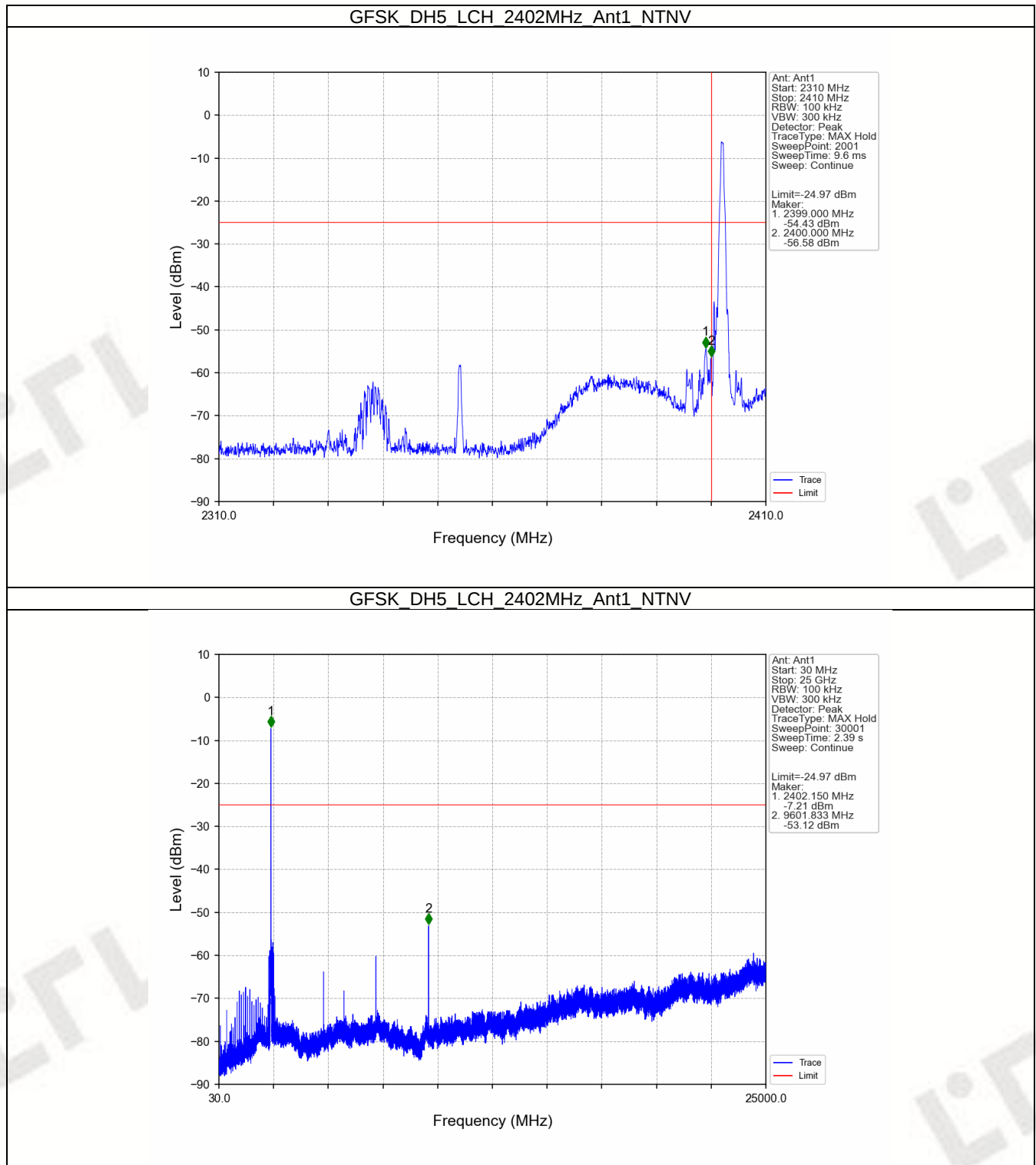
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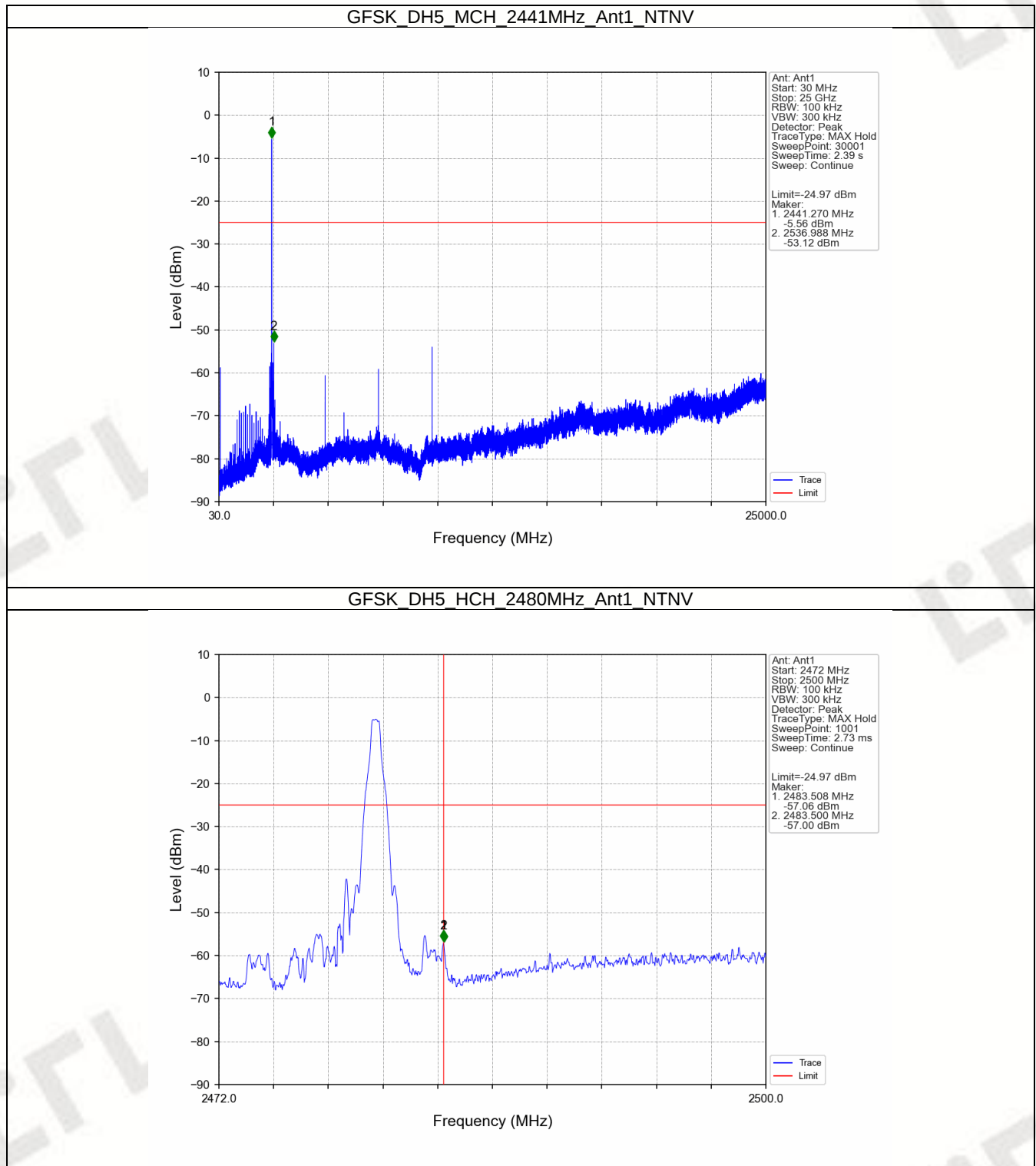


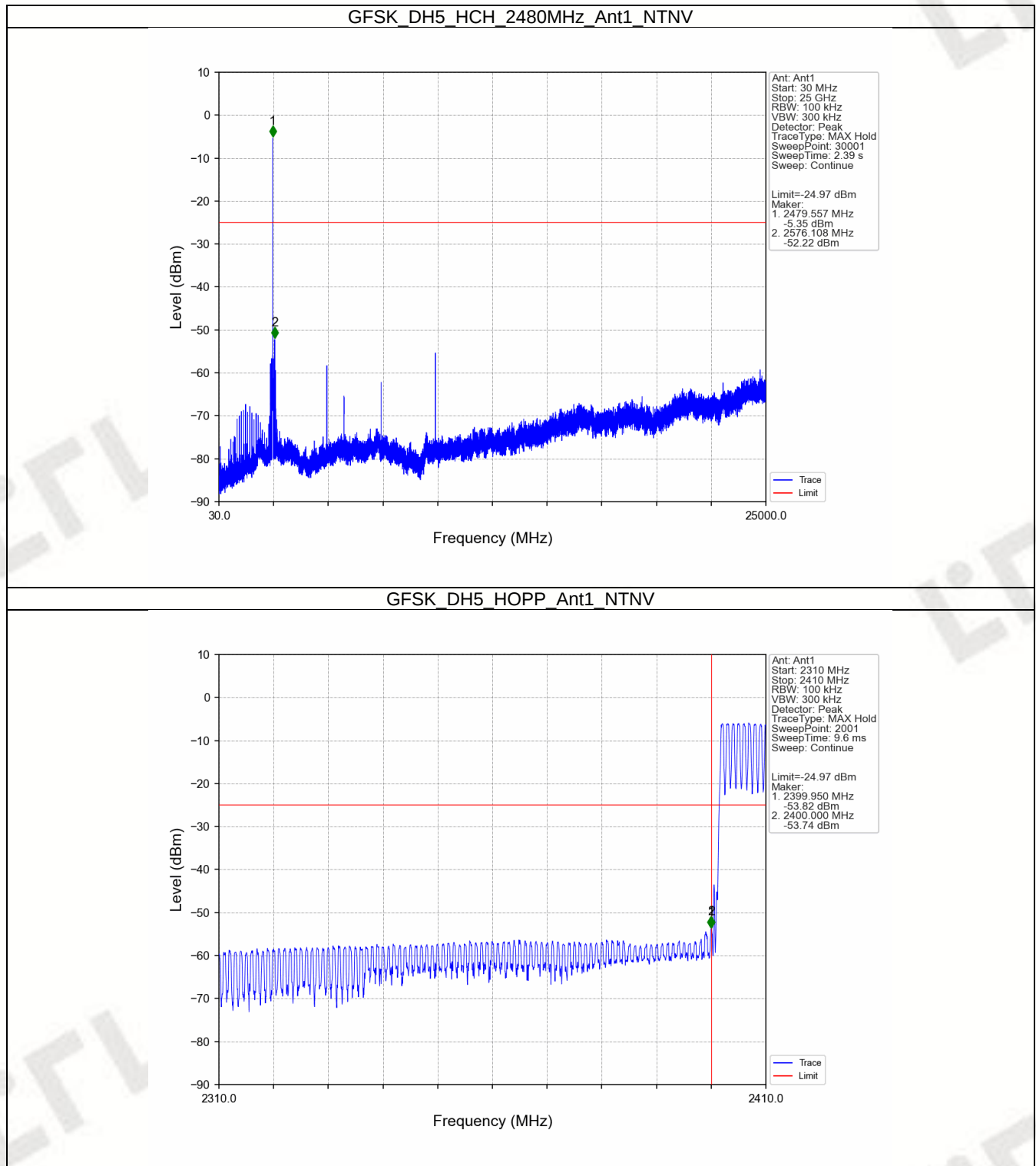
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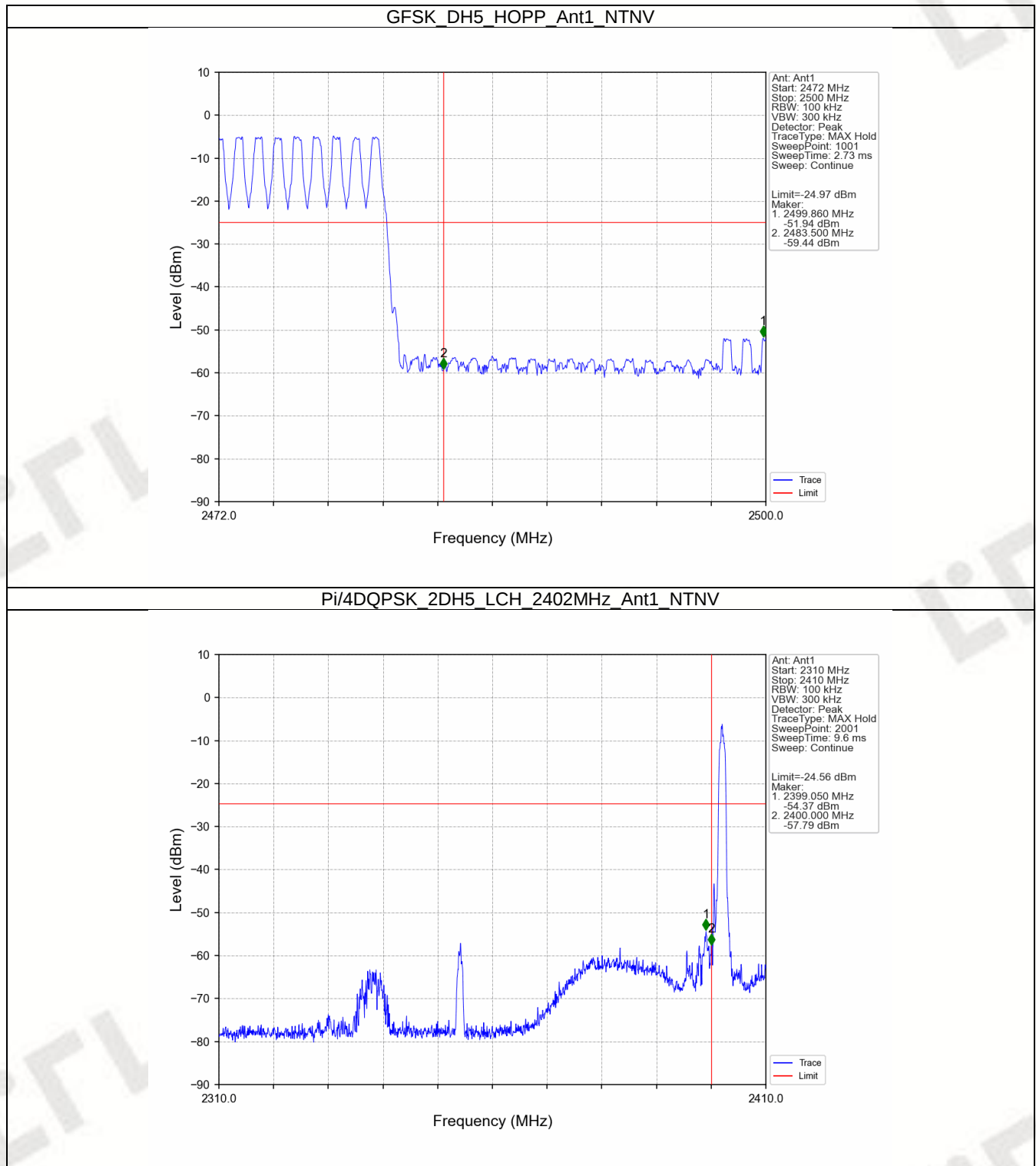


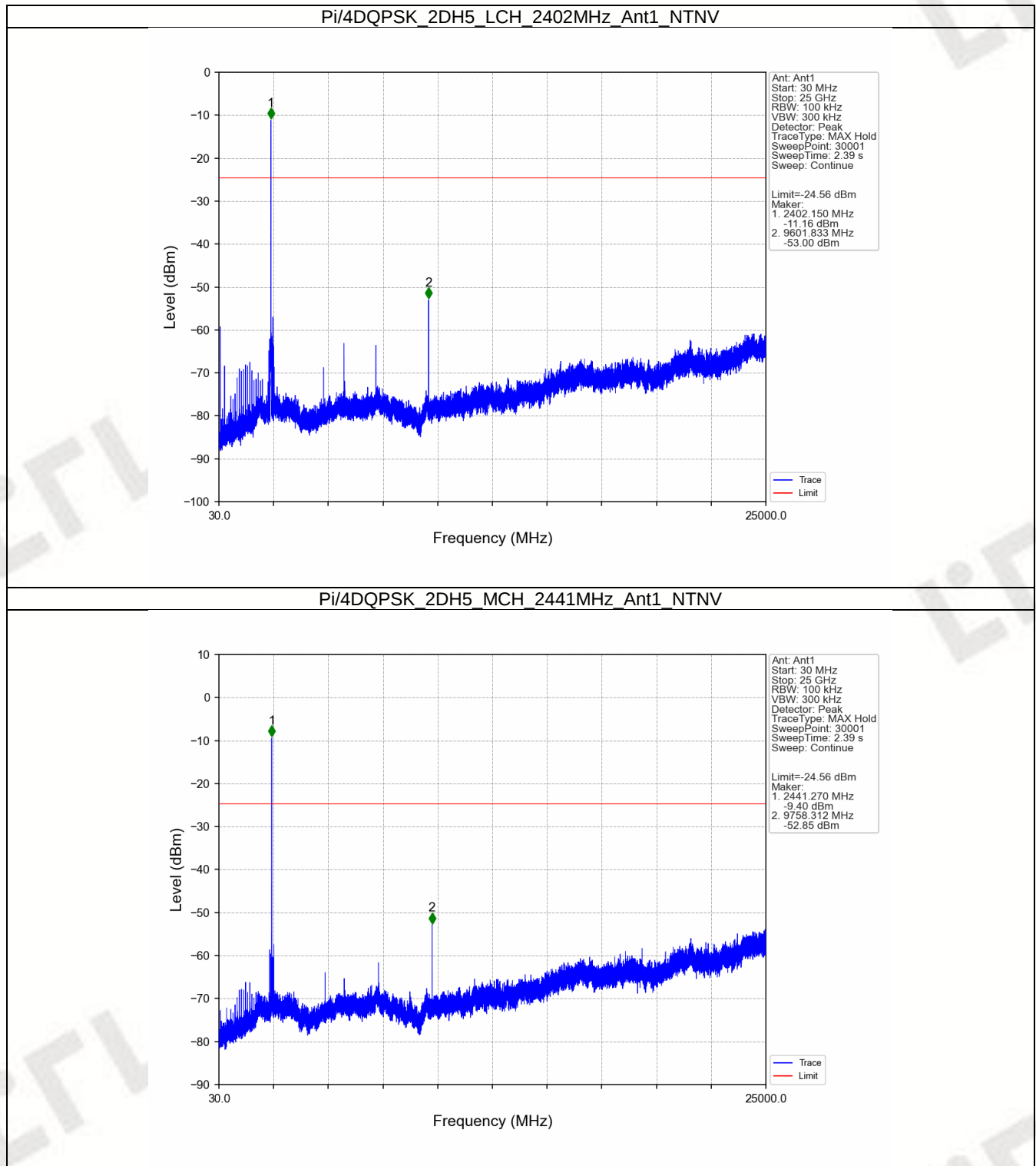
6.2.2 CSE

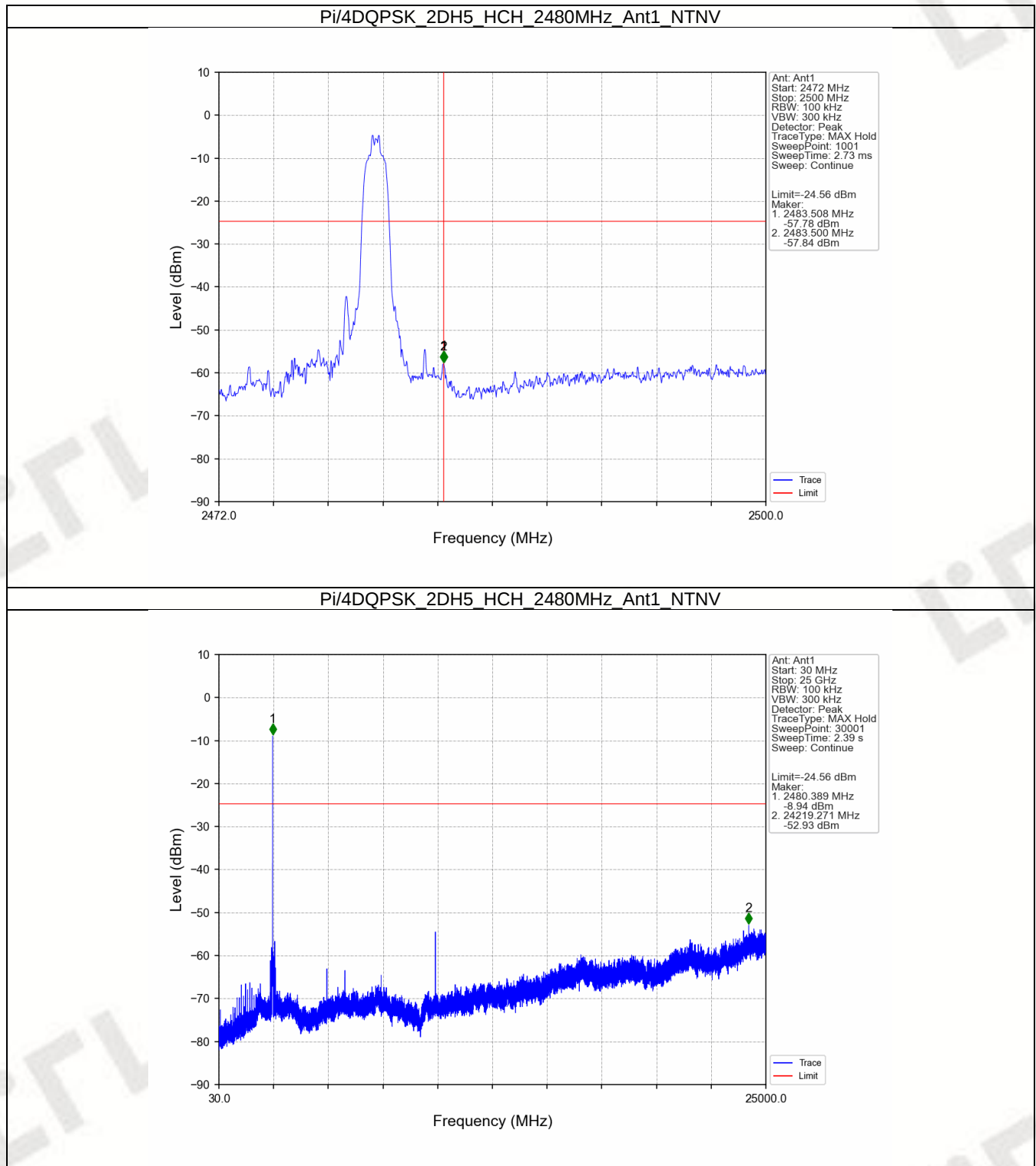


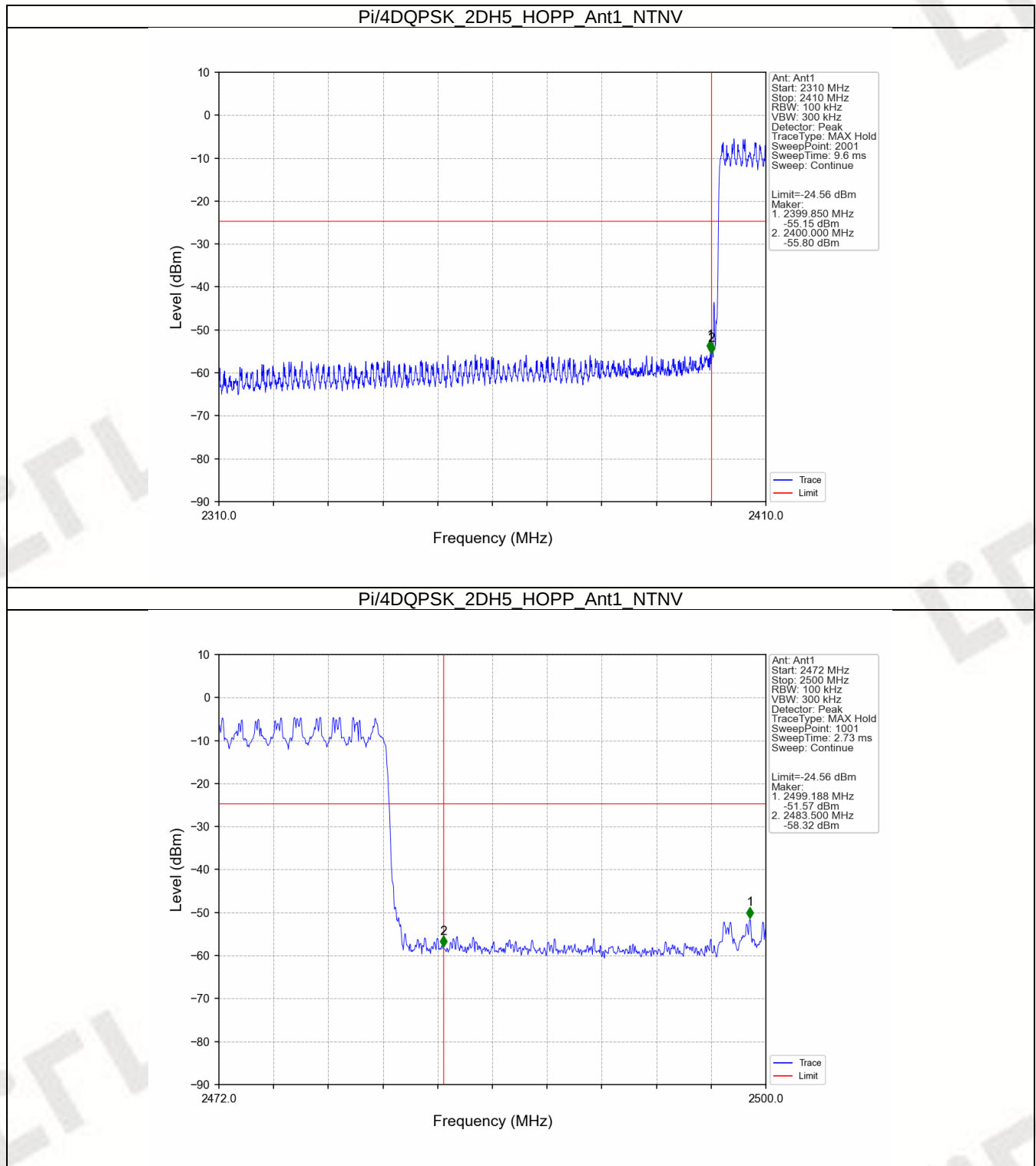


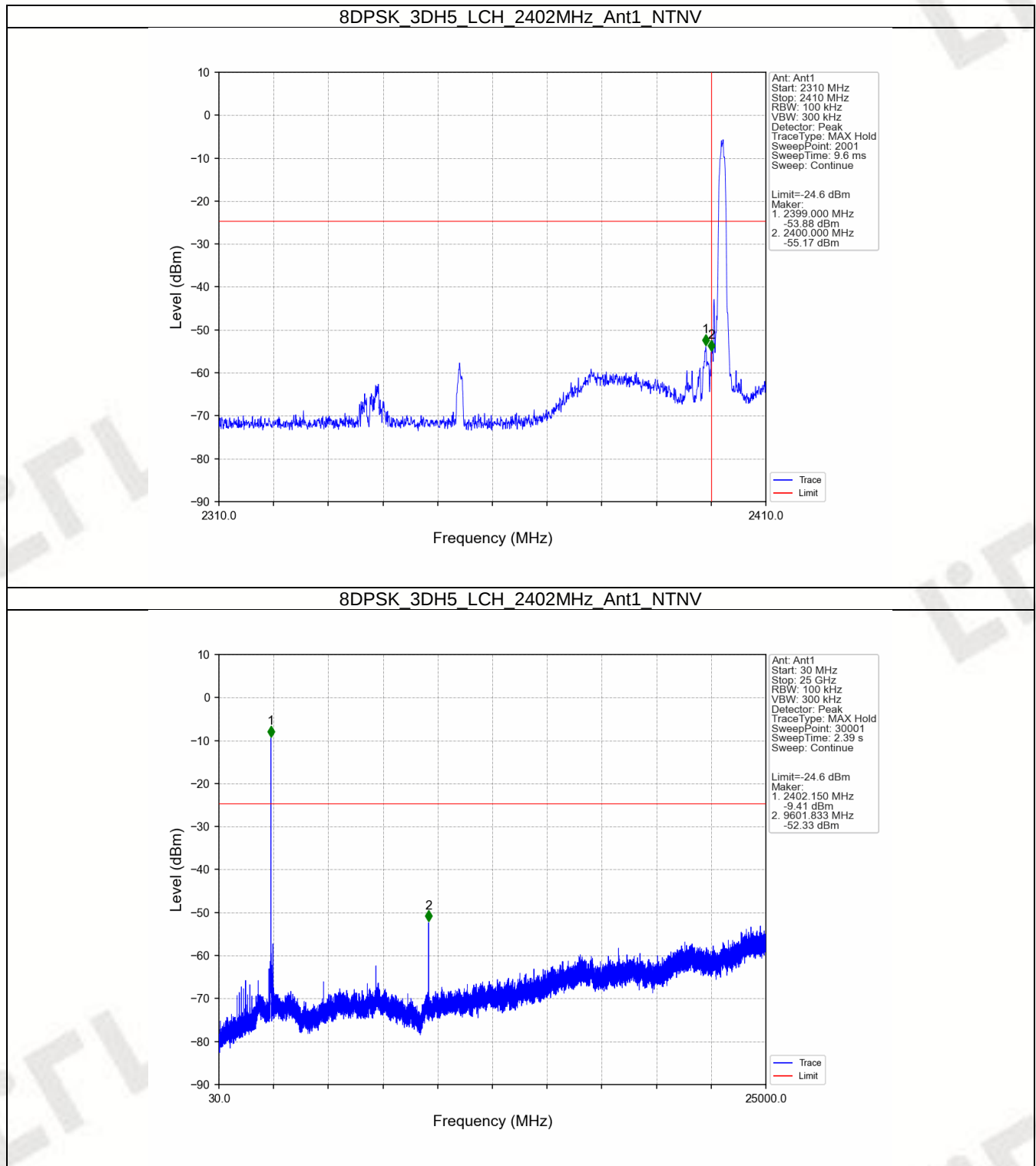


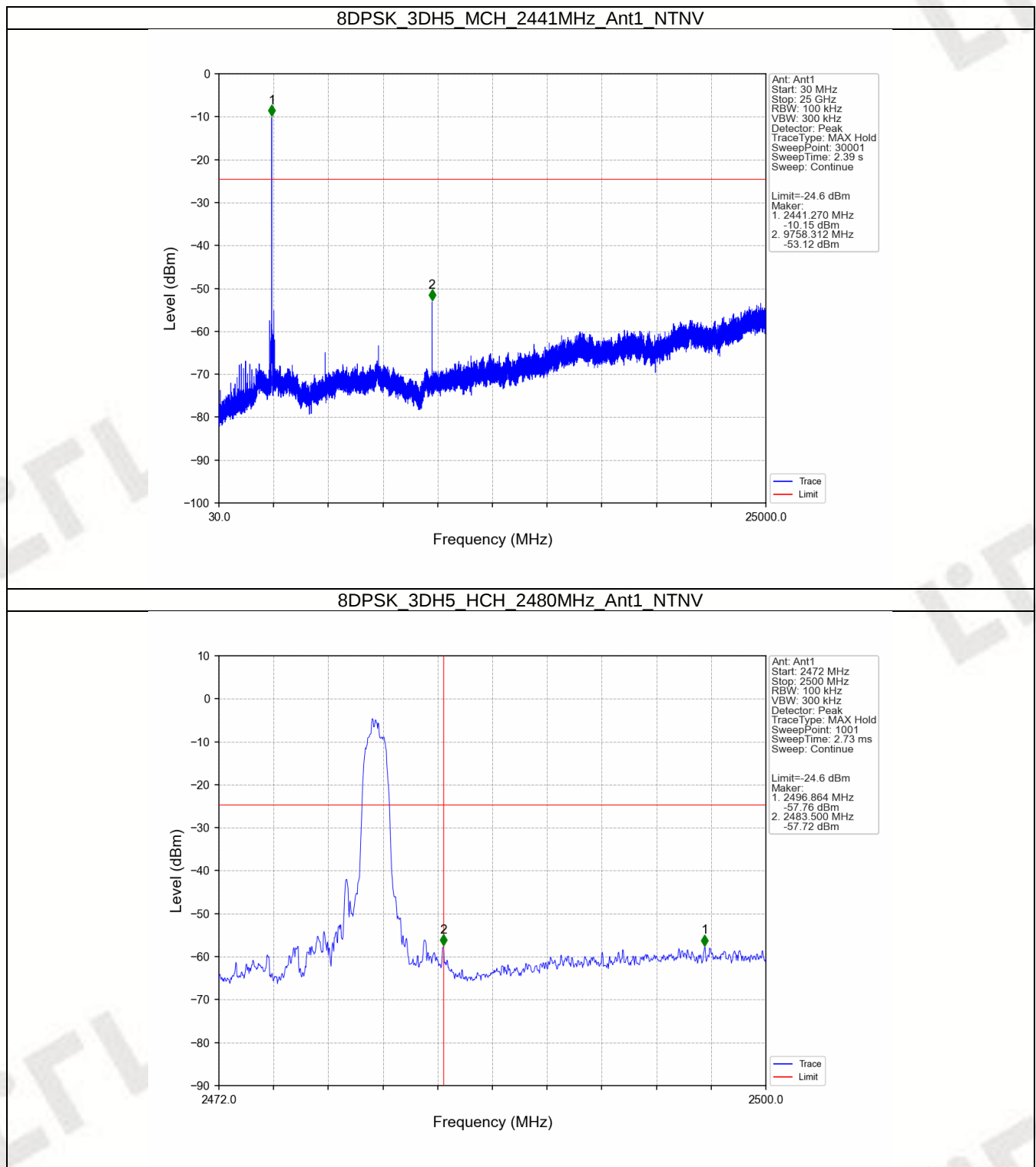


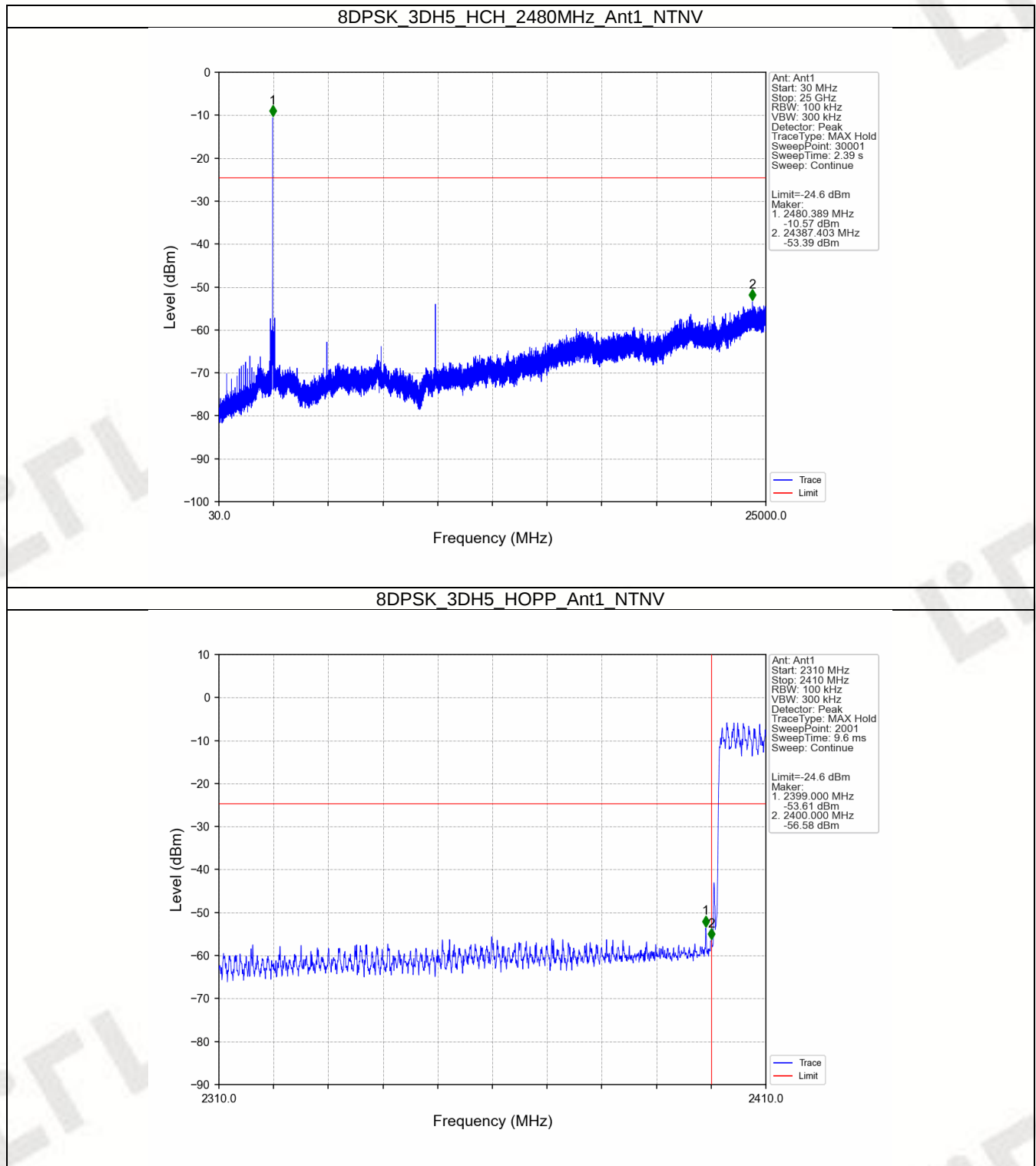












FCC ID: 2BKJZ-Y-02

