



Annex for Bluetooth

Test Report No.: CTL2505095041-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
2.2 Test Graph.....	15
2.2.1 Power	15
3. Carrier Frequency Separation.....	20
3.1 Test Result	20
3.1.1 Ant1	20
3.2 Test Graph.....	21
3.2.1 Ant1	21
4. Number of Hopping Frequencies	23
4.1 Test Result	23
4.1.1 HoppNum	23
4.2 Test Graph.....	24



4.2.1 HoppNum	24
5. Time of Occupancy (Dwell Time)	26
5.1 Test Result	26
5.1.1 Ant1	26
5.2 Test Graph.....	27
5.2.1 Ant1	27
6. Unwanted Emissions In Non-restricted Frequency Bands.....	36
6.1 Test Result	36
6.1.1 Ref.....	36
6.1.2 CSE	36
6.2 Test Graph.....	37
6.2.1 Ref.....	37
6.2.2 CSE	42

FCCID: 2AOM3-P107

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	0.853	/	Pass
		2441	DH5	1	0.855	/	Pass
		2480	DH5	1	0.859	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.172	/	Pass
		2441	2DH5	1	1.172	/	Pass
		2480	2DH5	1	1.173	/	Pass
8DPSK	SISO	2402	3DH5	1	1.184	/	Pass
		2441	3DH5	1	1.184	/	Pass
		2480	3DH5	1	1.188	/	Pass

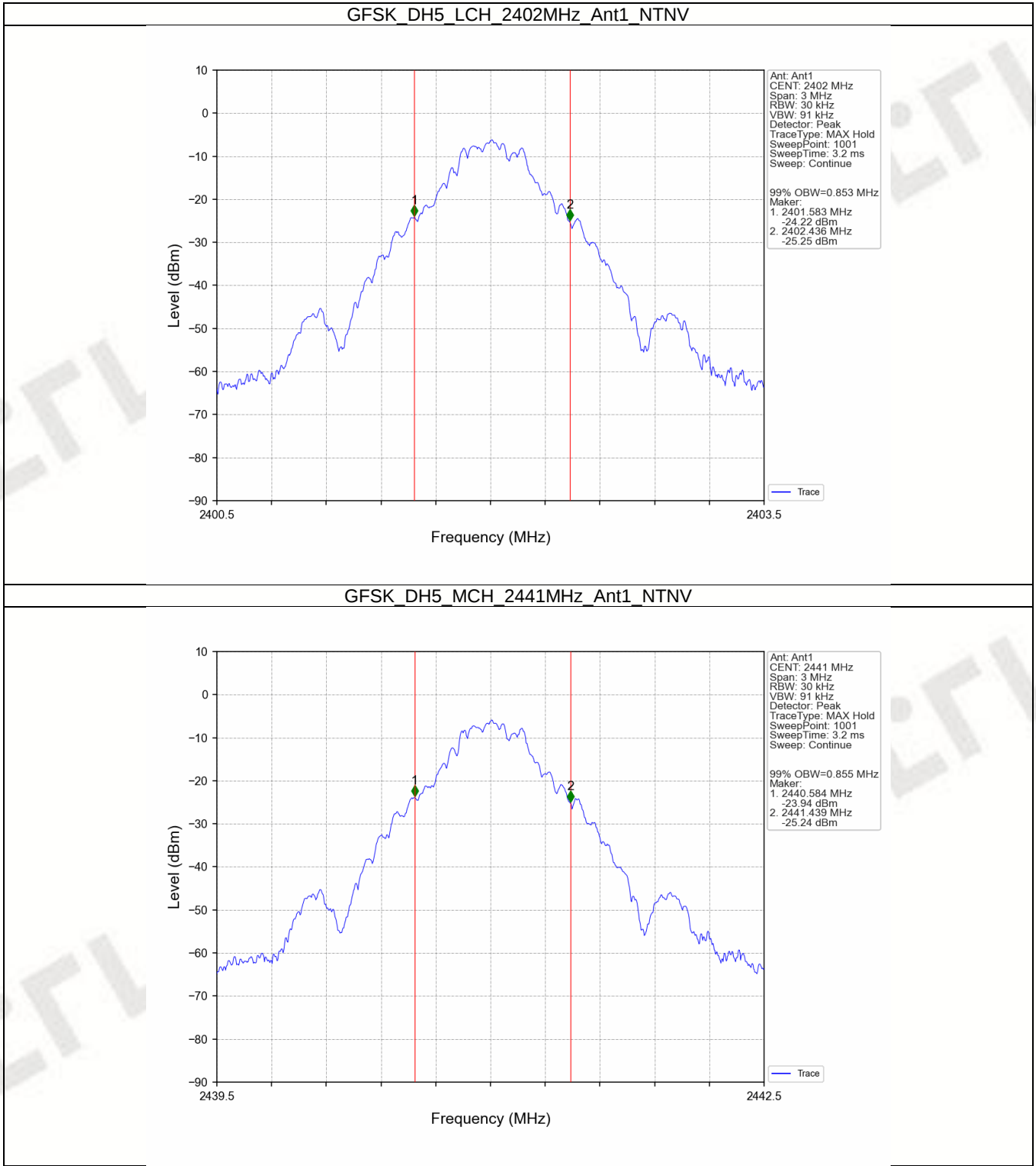
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.950	/	Pass
		2441	DH5	1	0.949	/	Pass
		2480	DH5	1	0.953	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.286	/	Pass
		2441	2DH5	1	1.285	/	Pass
		2480	2DH5	1	1.286	/	Pass
8DPSK	SISO	2402	3DH5	1	1.304	/	Pass
		2441	3DH5	1	1.306	/	Pass
		2480	3DH5	1	1.300	/	Pass

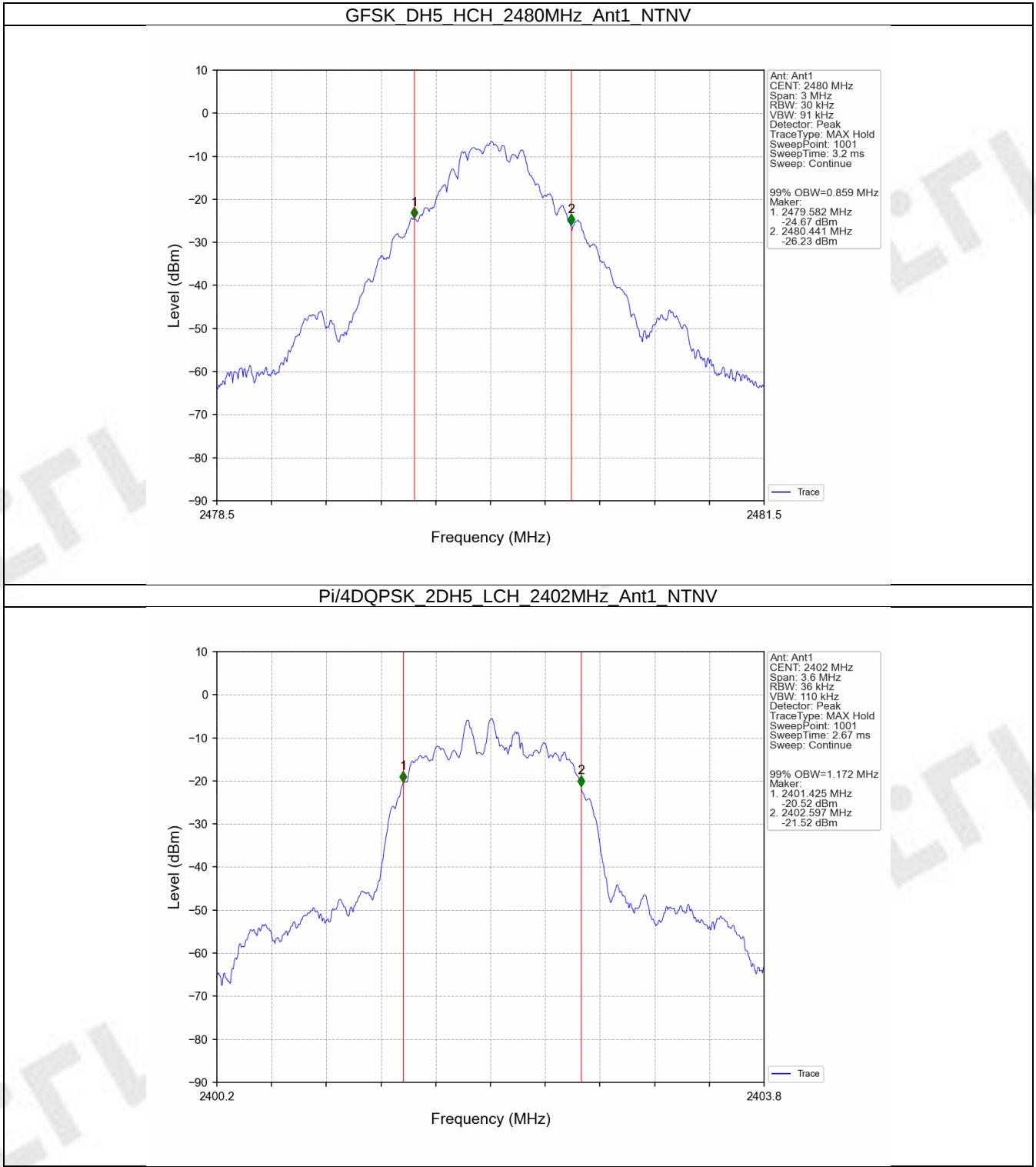
FCCID: 2AOM3-P107

1.2 Test Graph

1.2.1 OBW

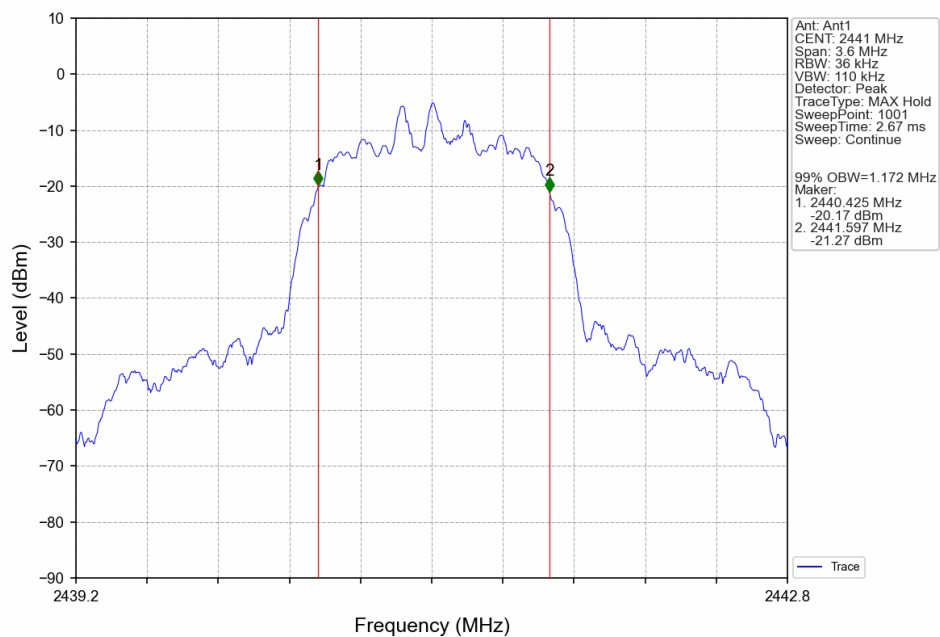


FCCID: 2AOM3-P107

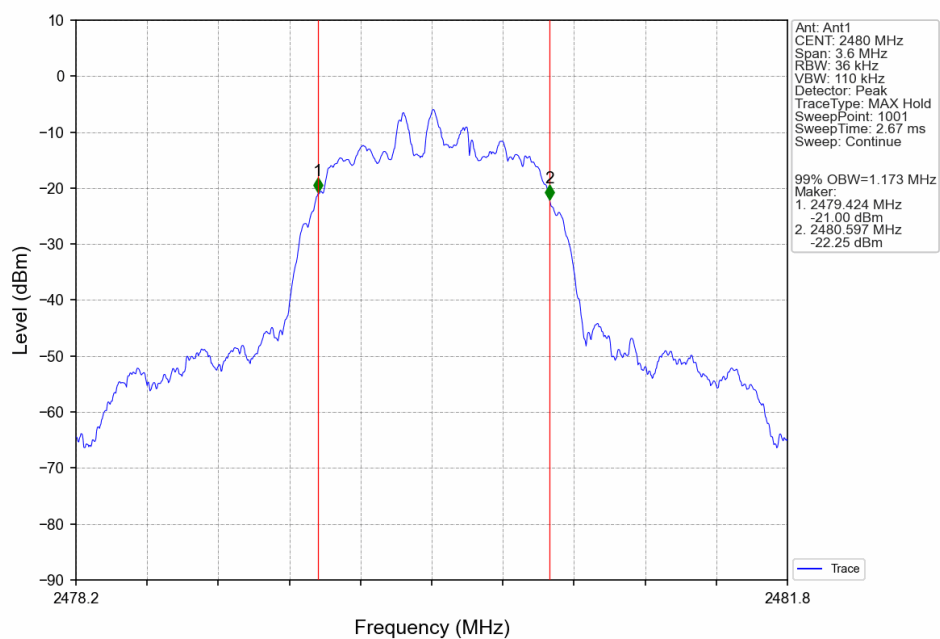


FCCID: 2AOM3-P107

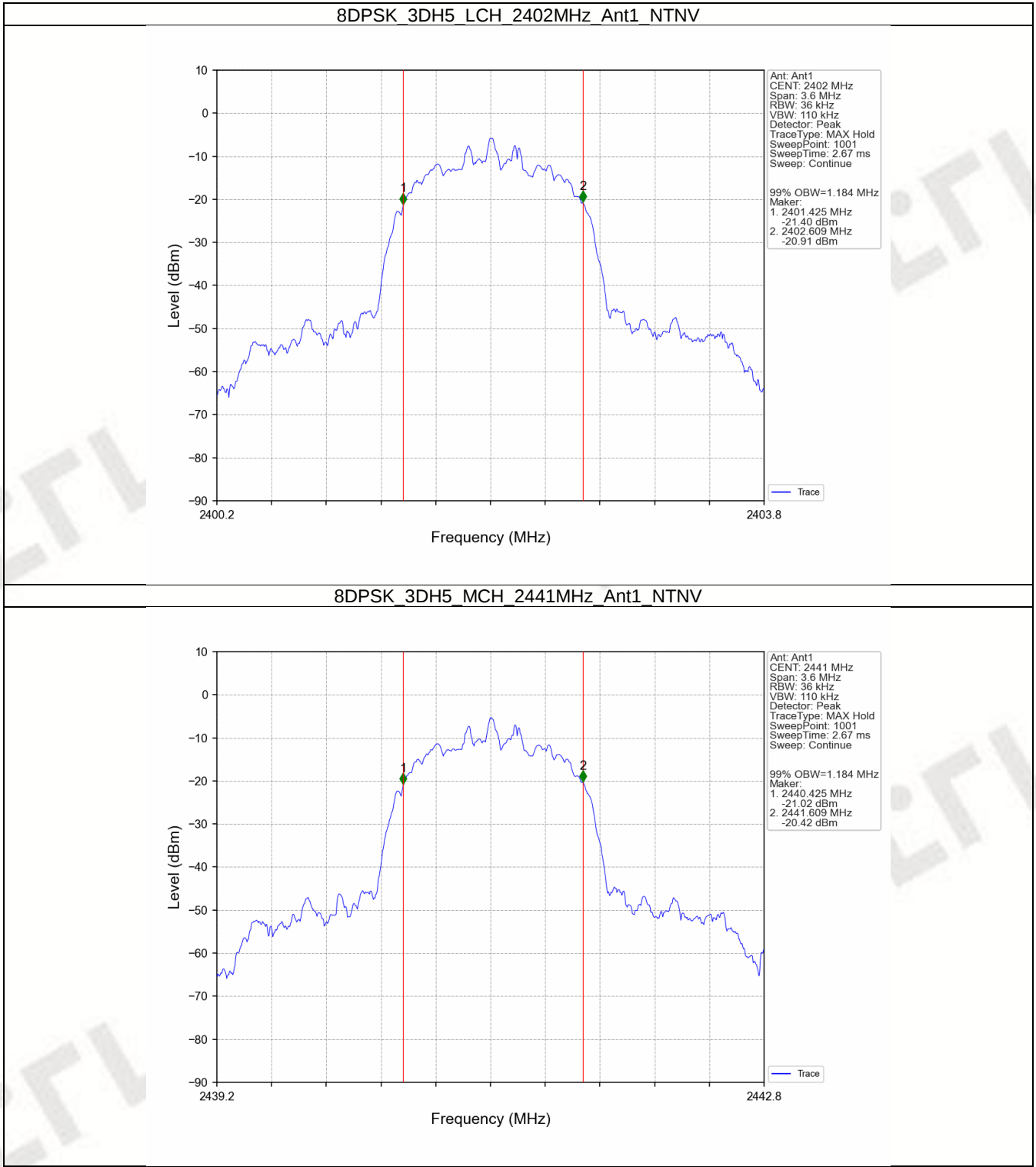
Pi/4DQPSK 2DH5 MCH 2441MHz Ant1 NTNV



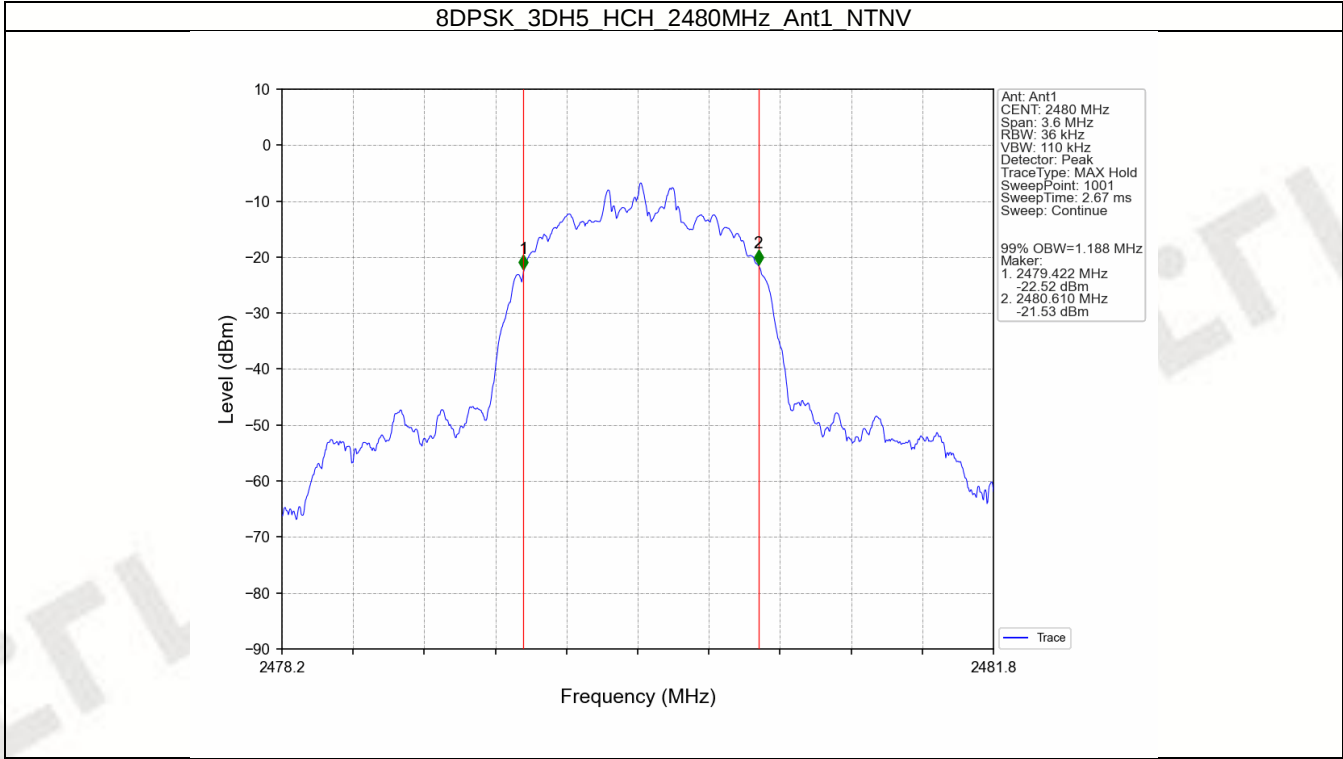
Pi/4DQPSK 2DH5 HCH 2480MHz Ant1 NTNV



FCCID: 2AOM3-P107

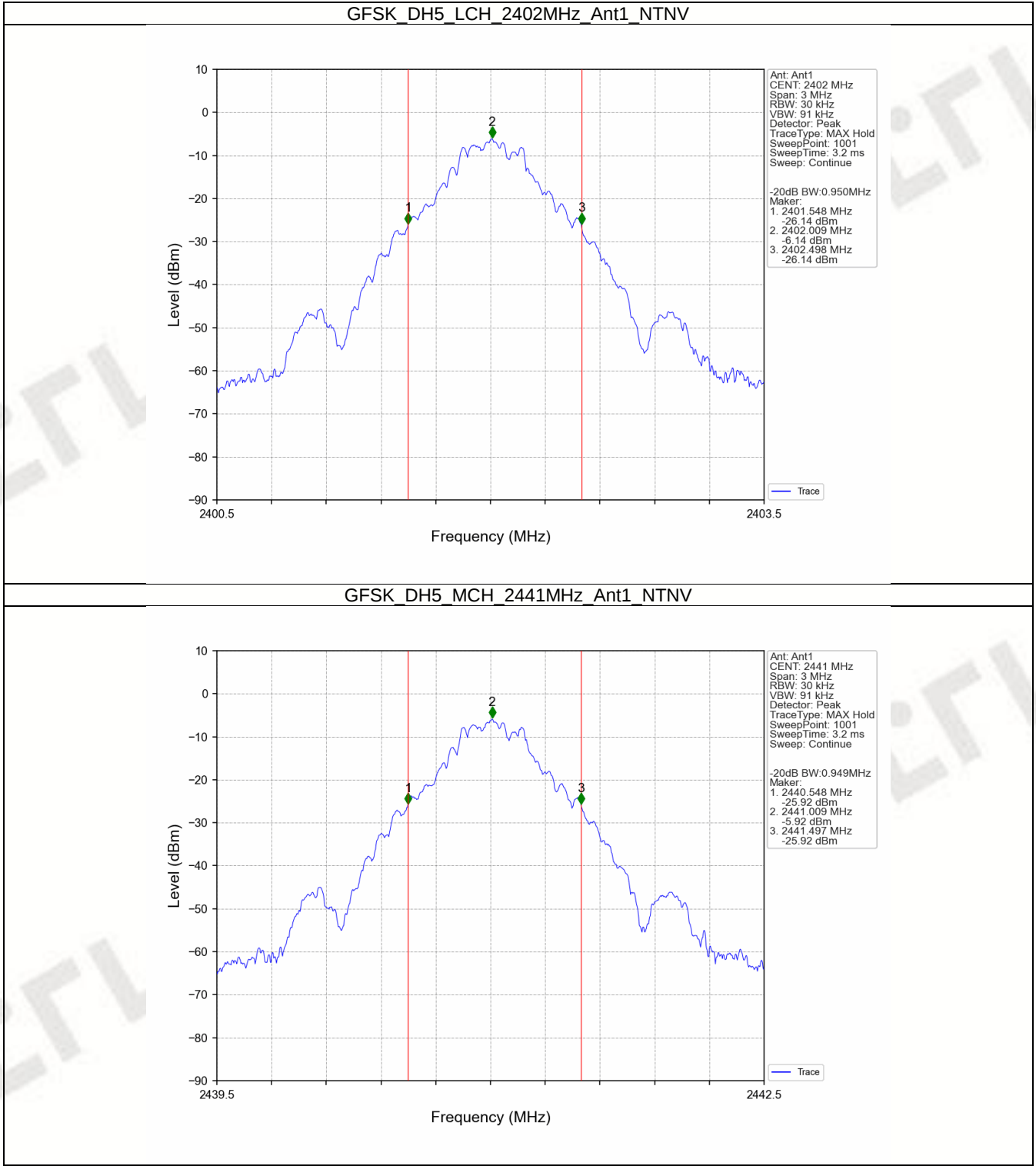


FCCID: 2AOM3-P107

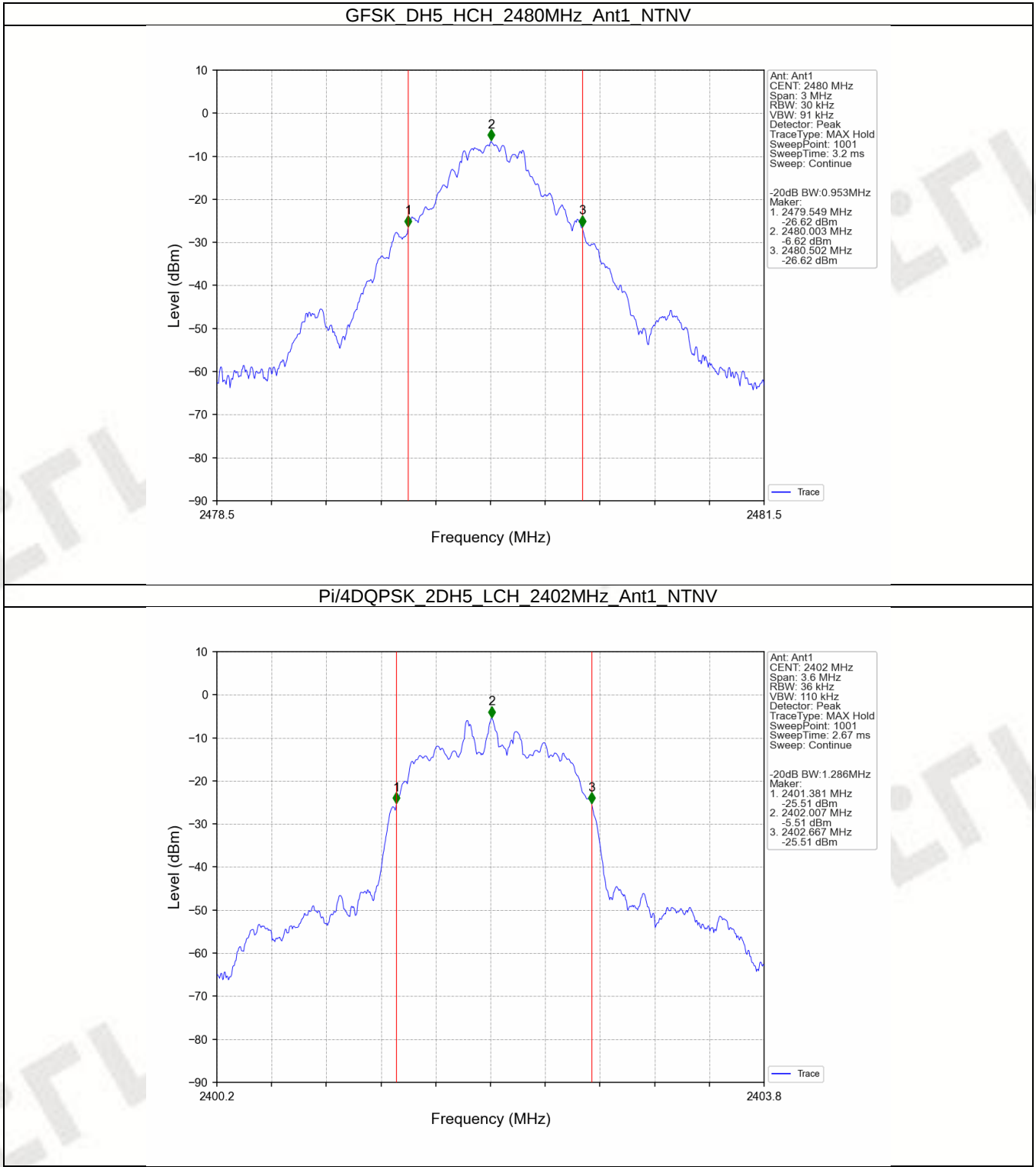


FCCID: 2AOM3-P107

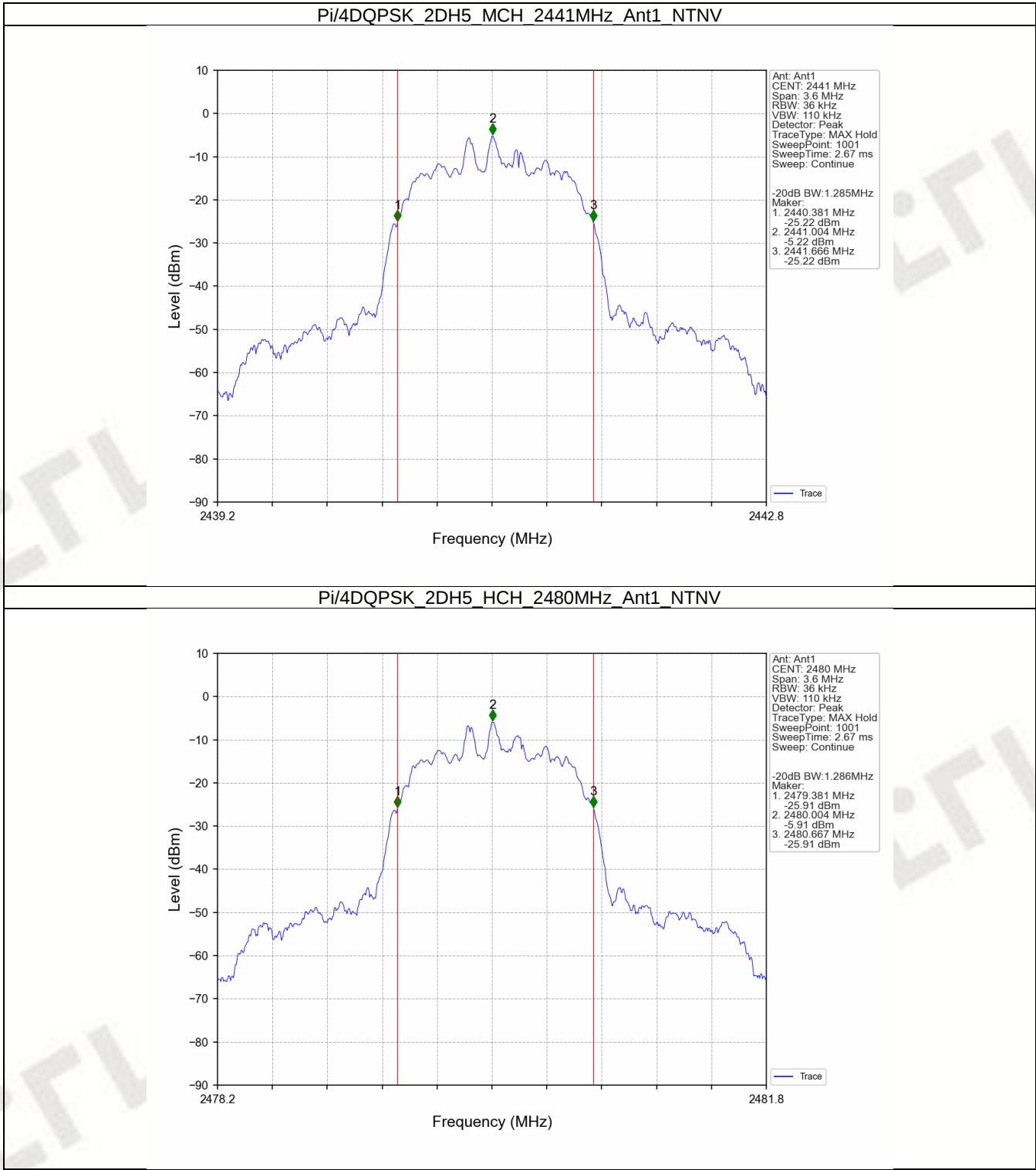
1.2.2 20dB BW



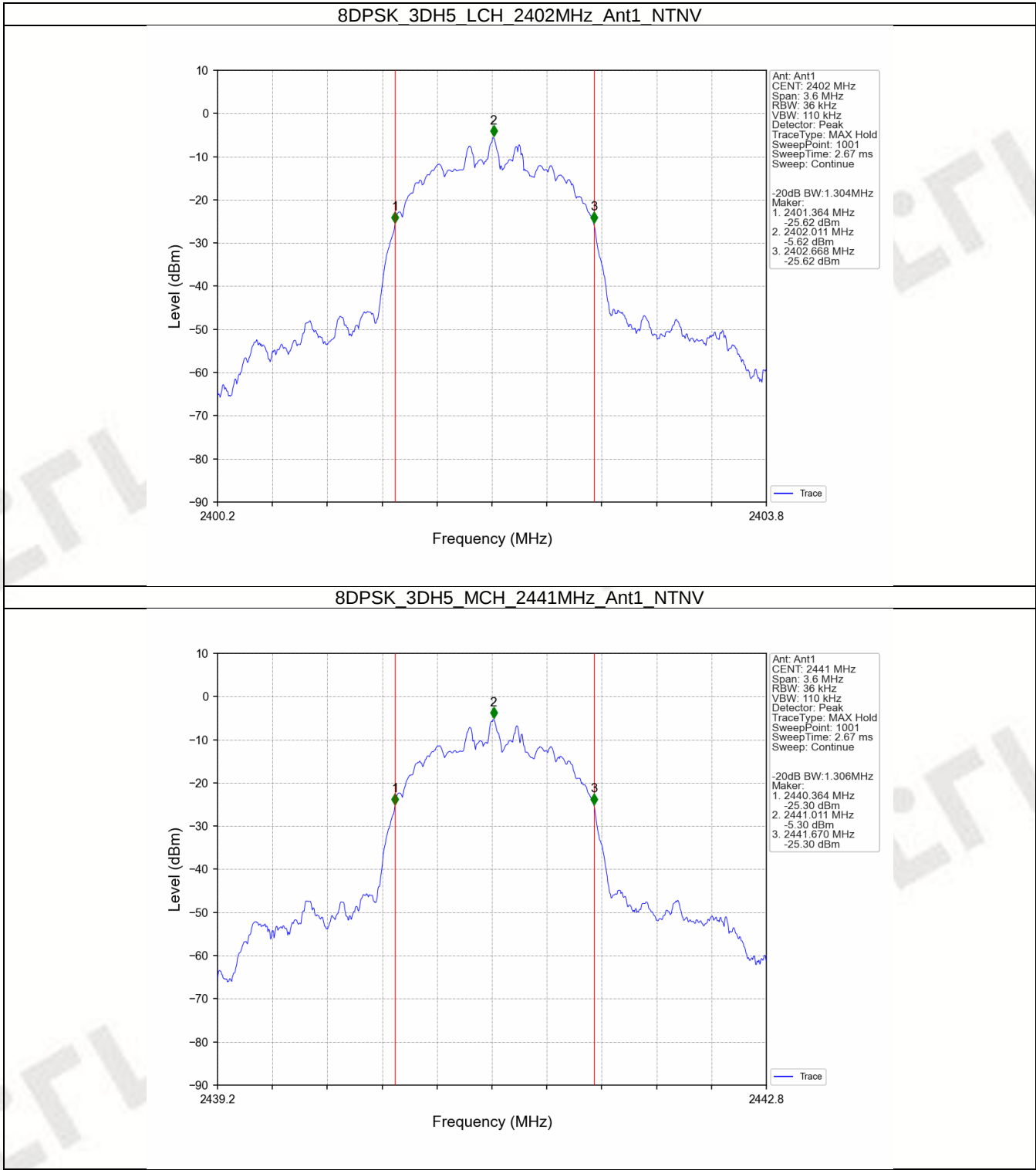
FCCID: 2AOM3-P107



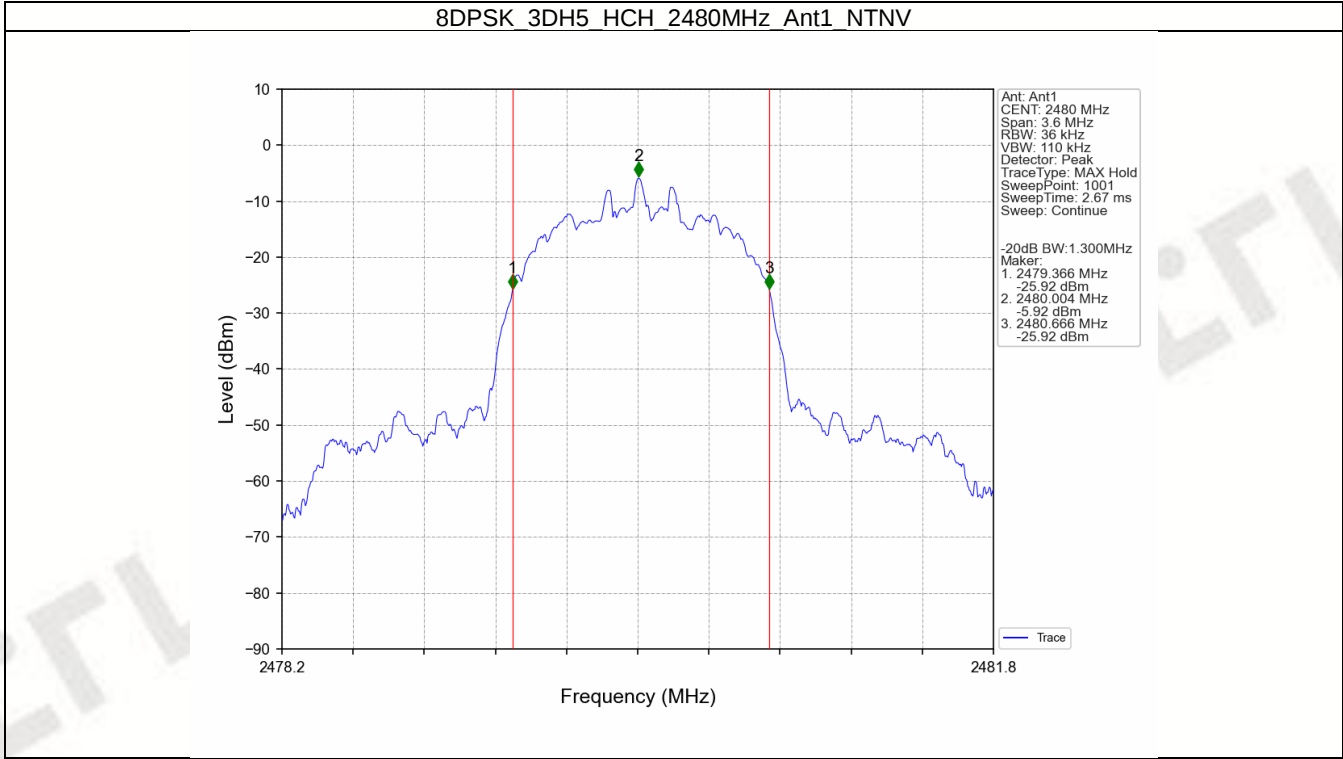
FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

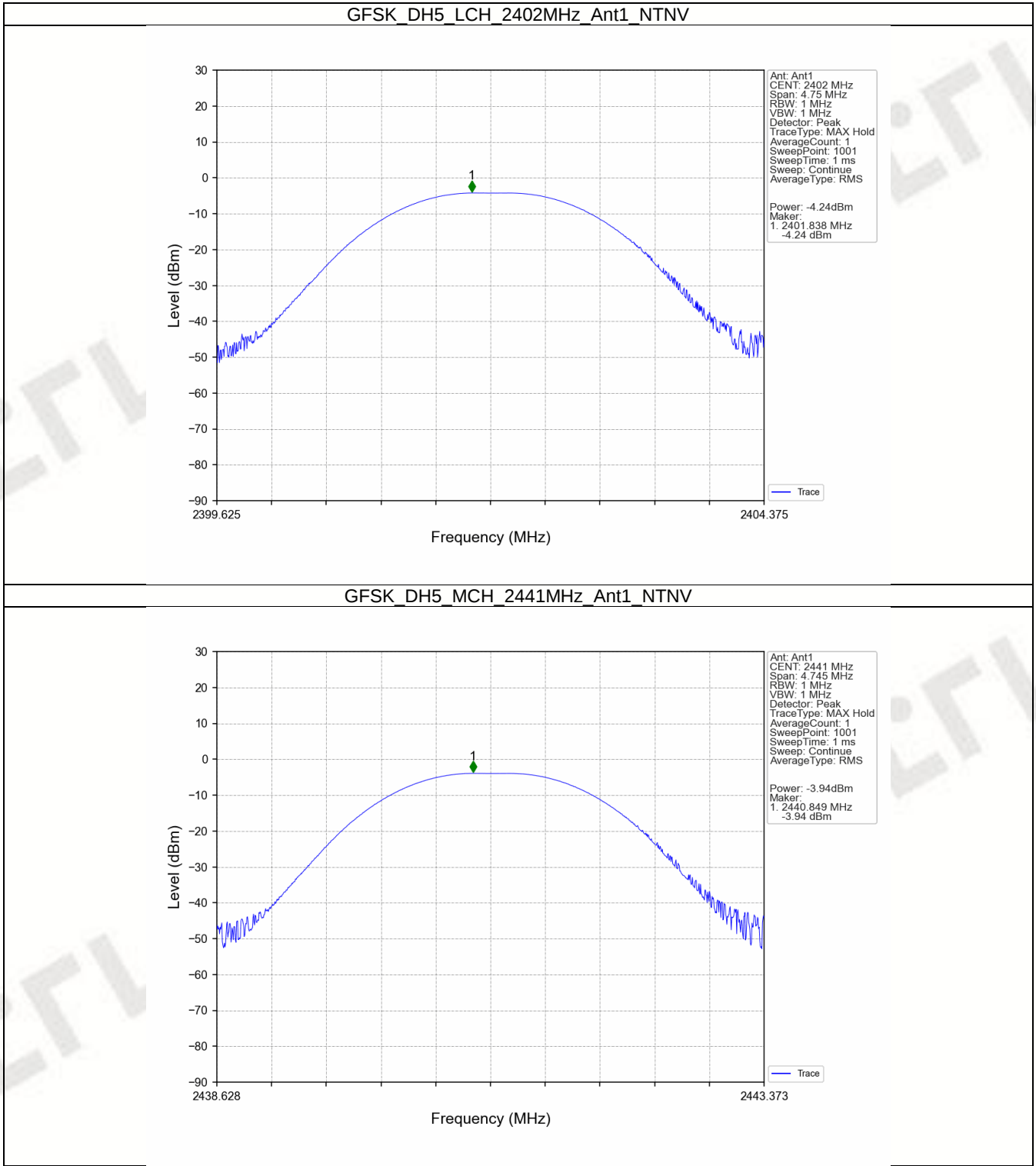
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-4.24	≤ 30	Pass
		2441	DH5	-3.94	≤ 30	Pass
		2480	DH5	-4.66	≤ 30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-3.11	≤ 20.97	Pass
		2441	2DH5	-2.84	≤ 20.97	Pass
		2480	2DH5	-3.58	≤ 20.97	Pass
8DPSK	SISO	2402	3DH5	-2.85	≤ 20.97	Pass
		2441	3DH5	-2.40	≤ 20.97	Pass
		2480	3DH5	-3.32	≤ 20.97	Pass

Note1: Antenna Gain: Ant1: 0.17dBi;

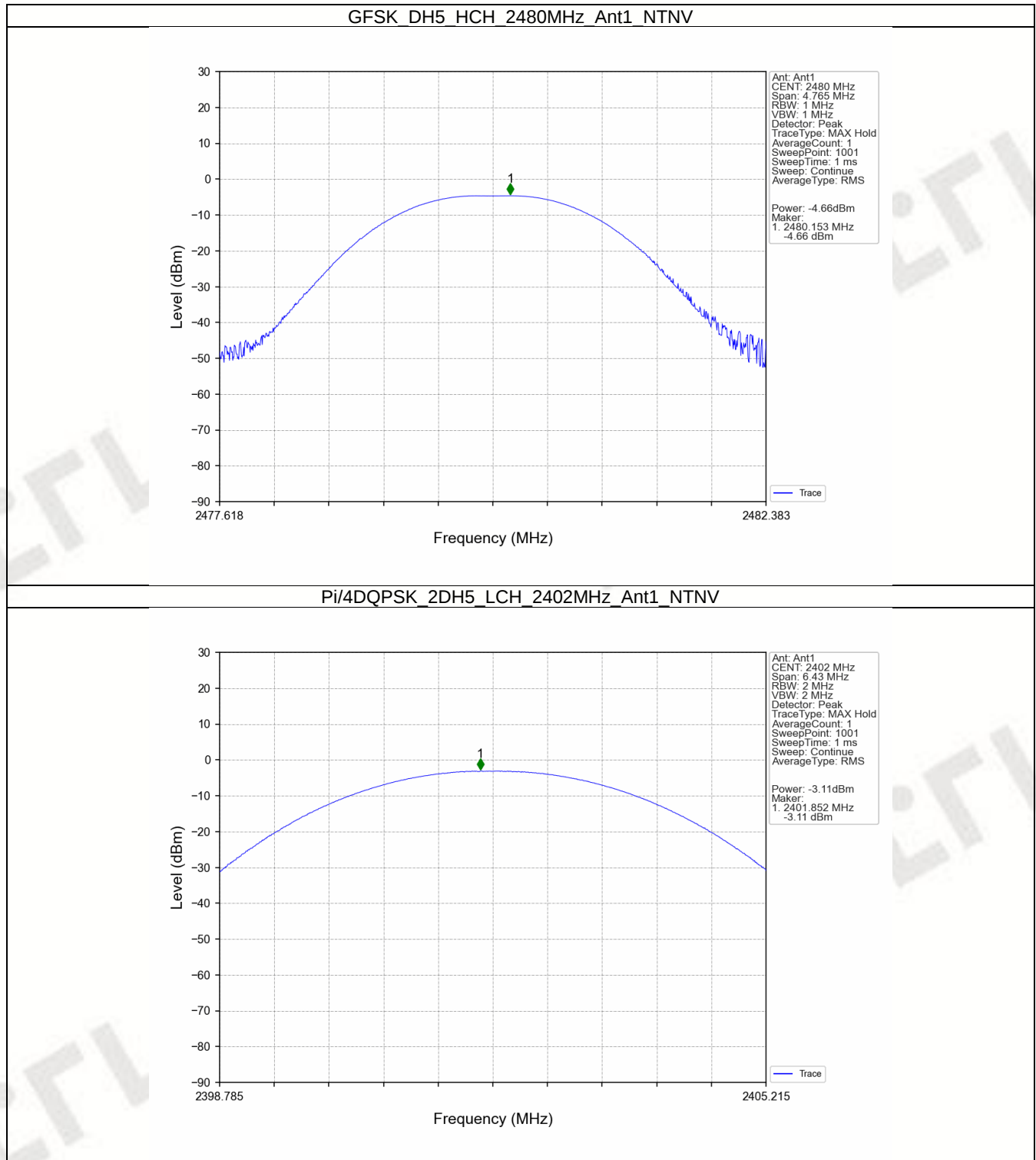
FCCID: 2AOM3-P107

2.2 Test Graph

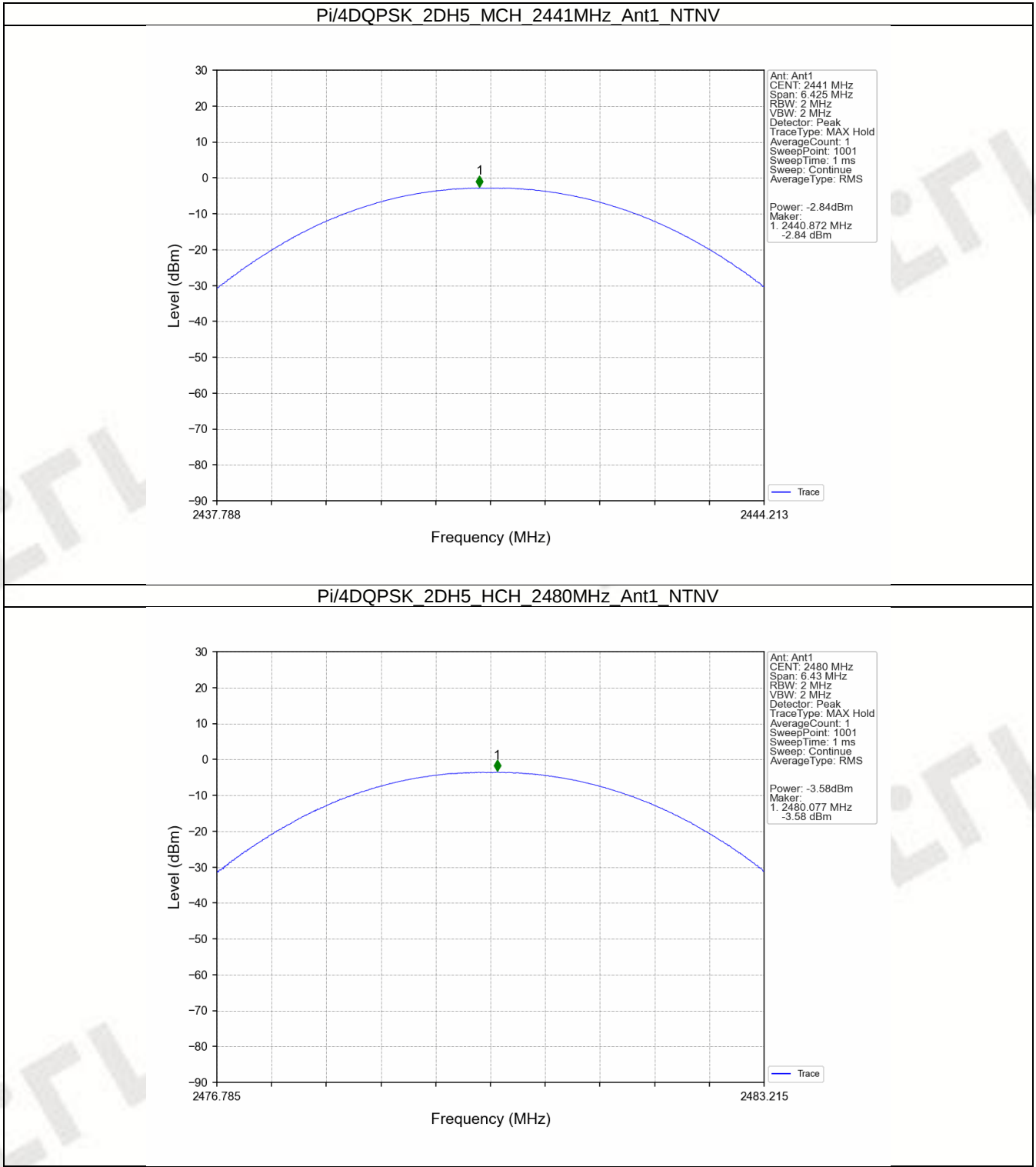
2.2.1 Power



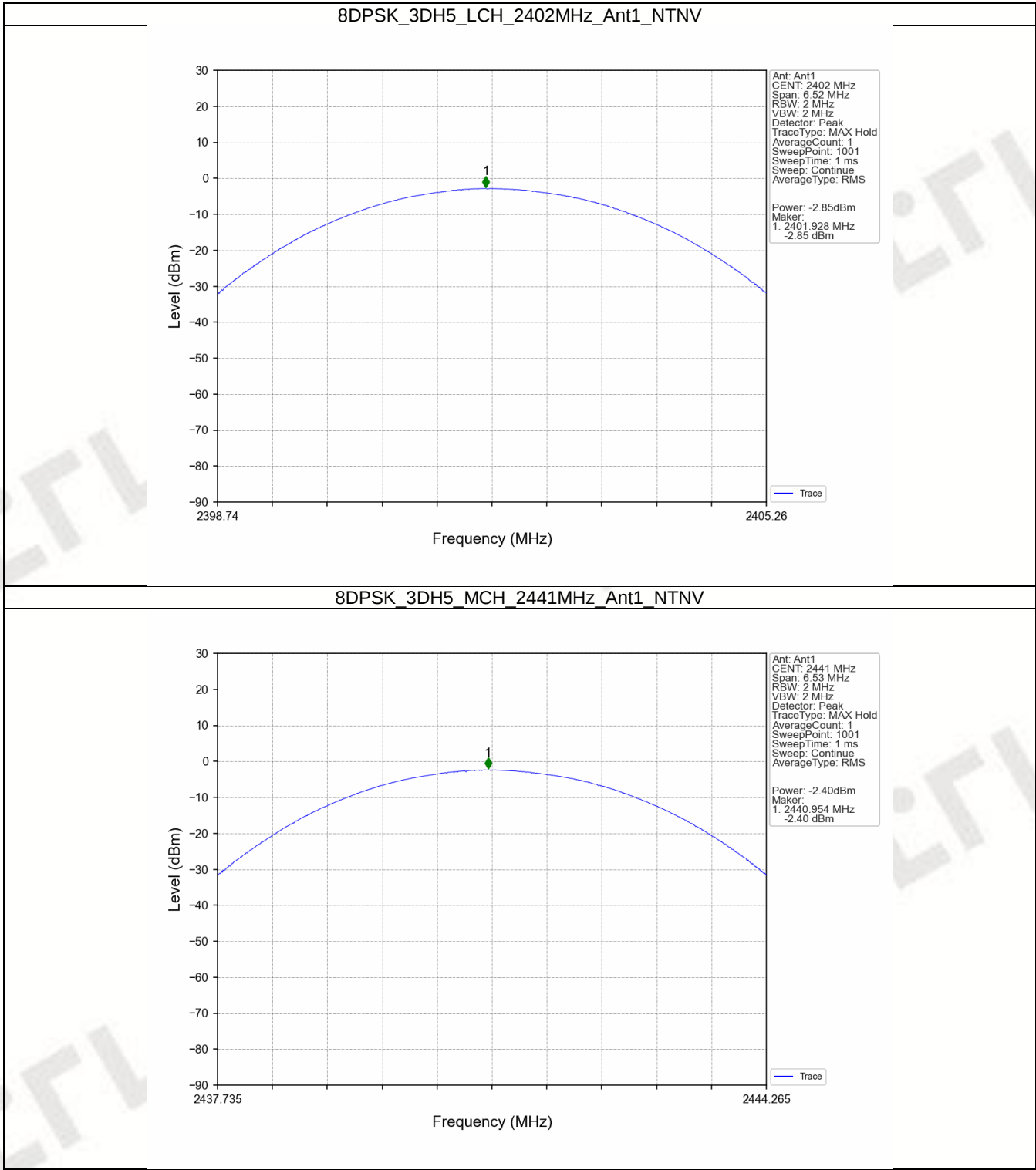
FCCID: 2AOM3-P107



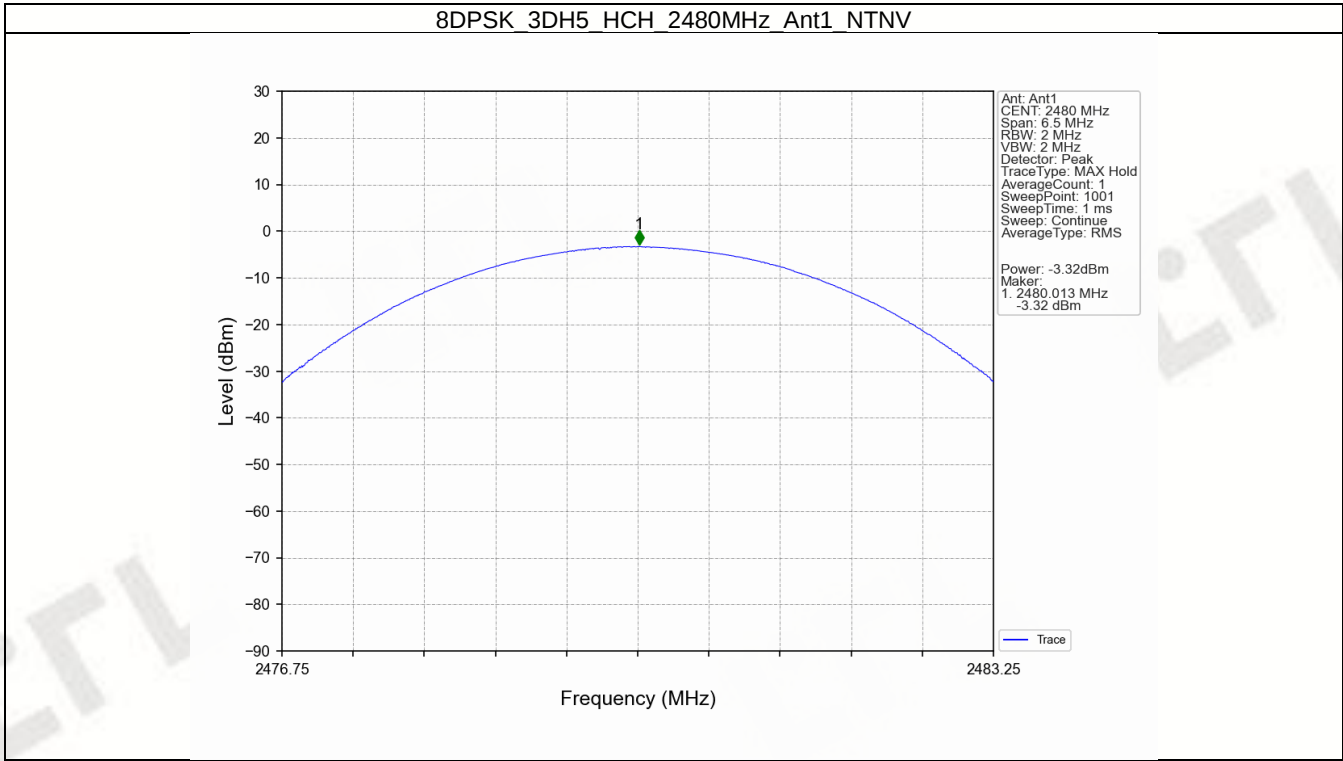
FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



3. Carrier Frequency Separation

3.1 Test Result

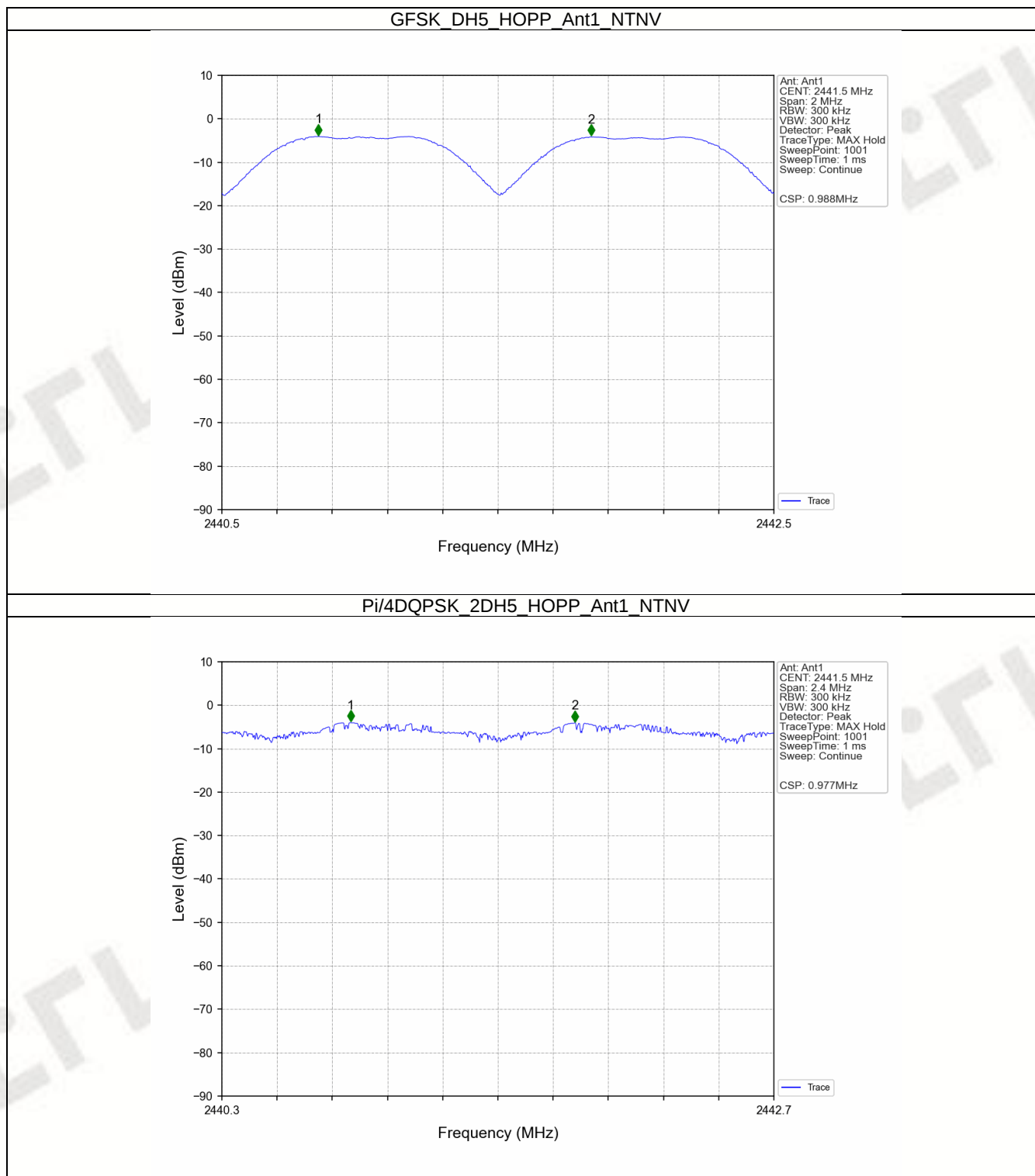
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	0.988	0.953	≥ 0.953	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	0.977	1.286	≥ 0.857	Pass
8DPSK	SISO	HOPP	3DH5	1.006	1.306	≥ 0.871	Pass

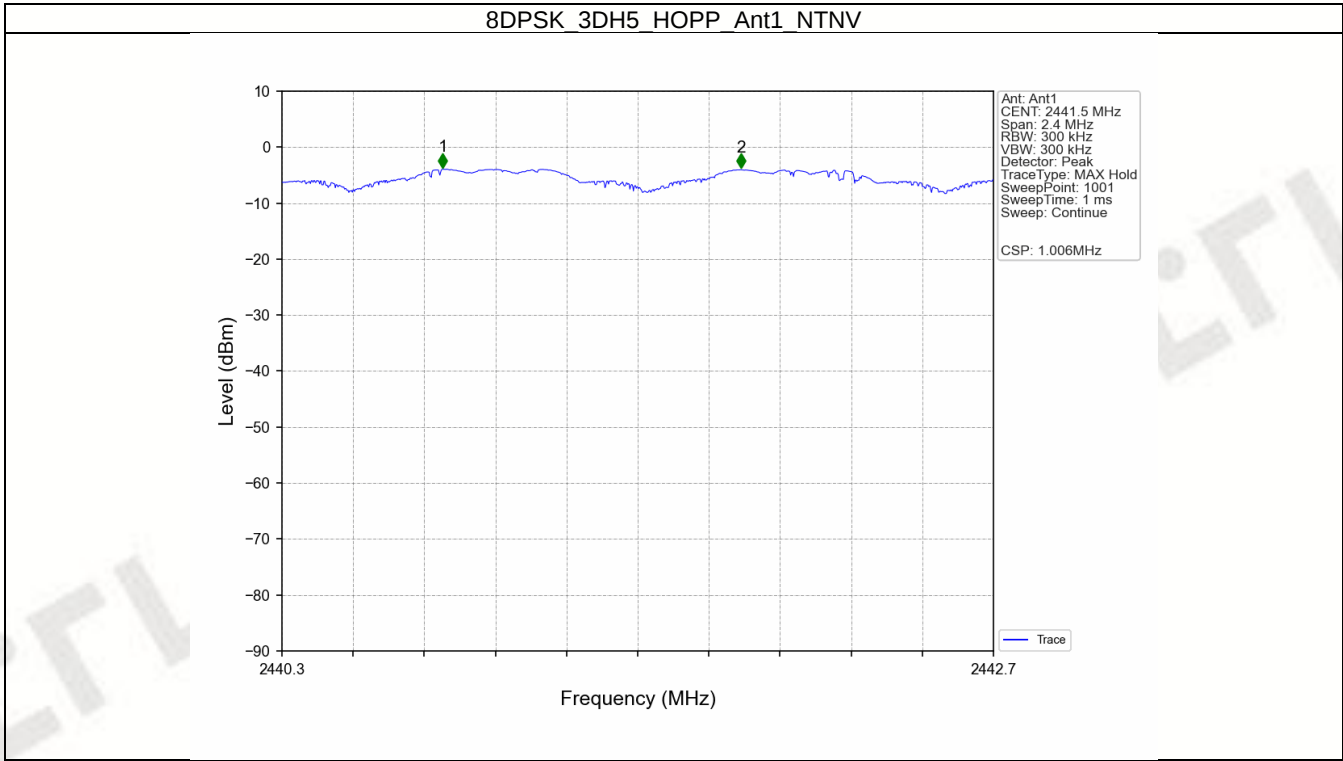
FCCID: 2AOM3-P107

3.2 Test Graph

3.2.1 Ant1



FCCID: 2AOM3-P107



4. Number of Hopping Frequencies

4.1 Test Result

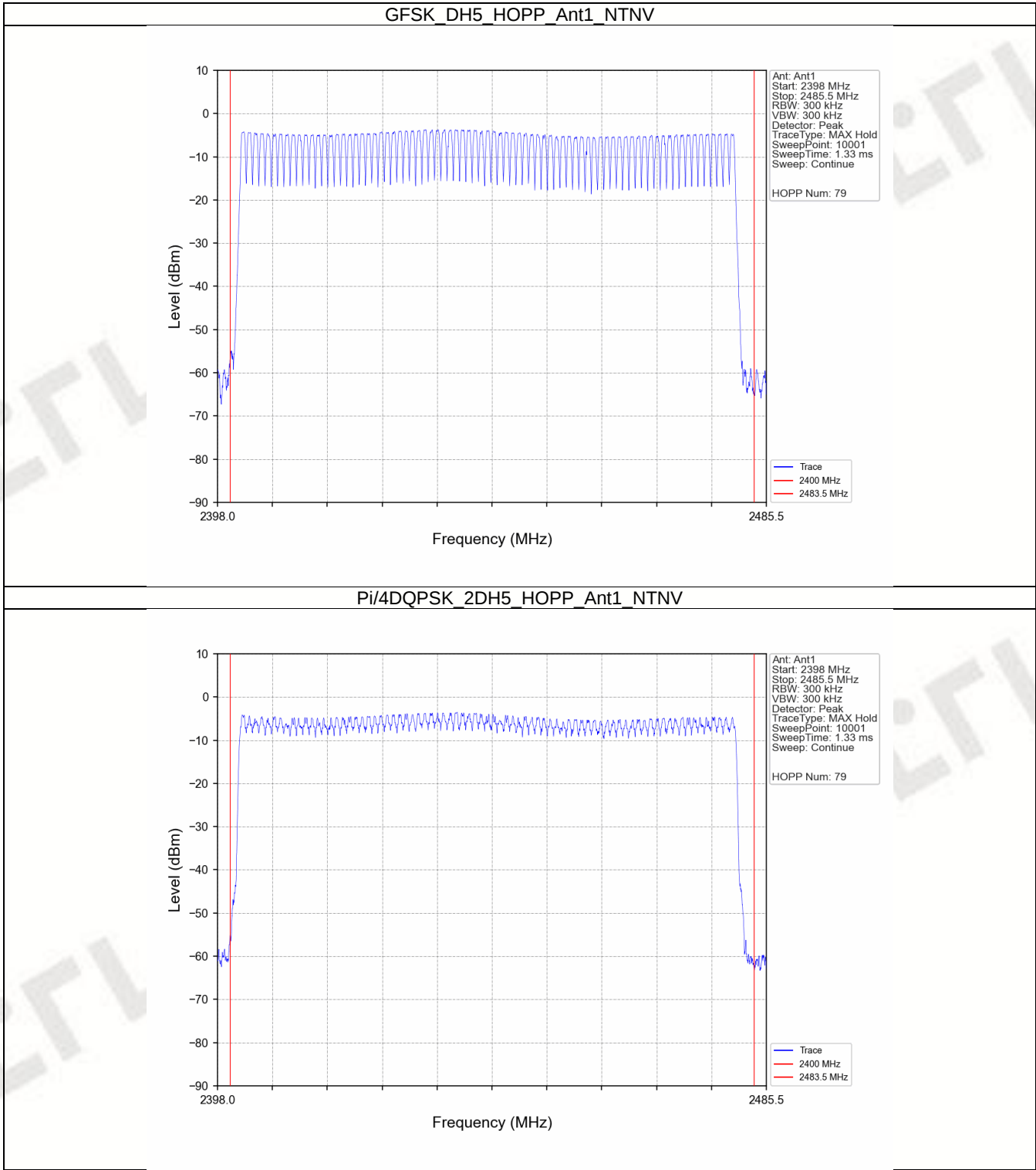
4.1.1 HoppNum

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

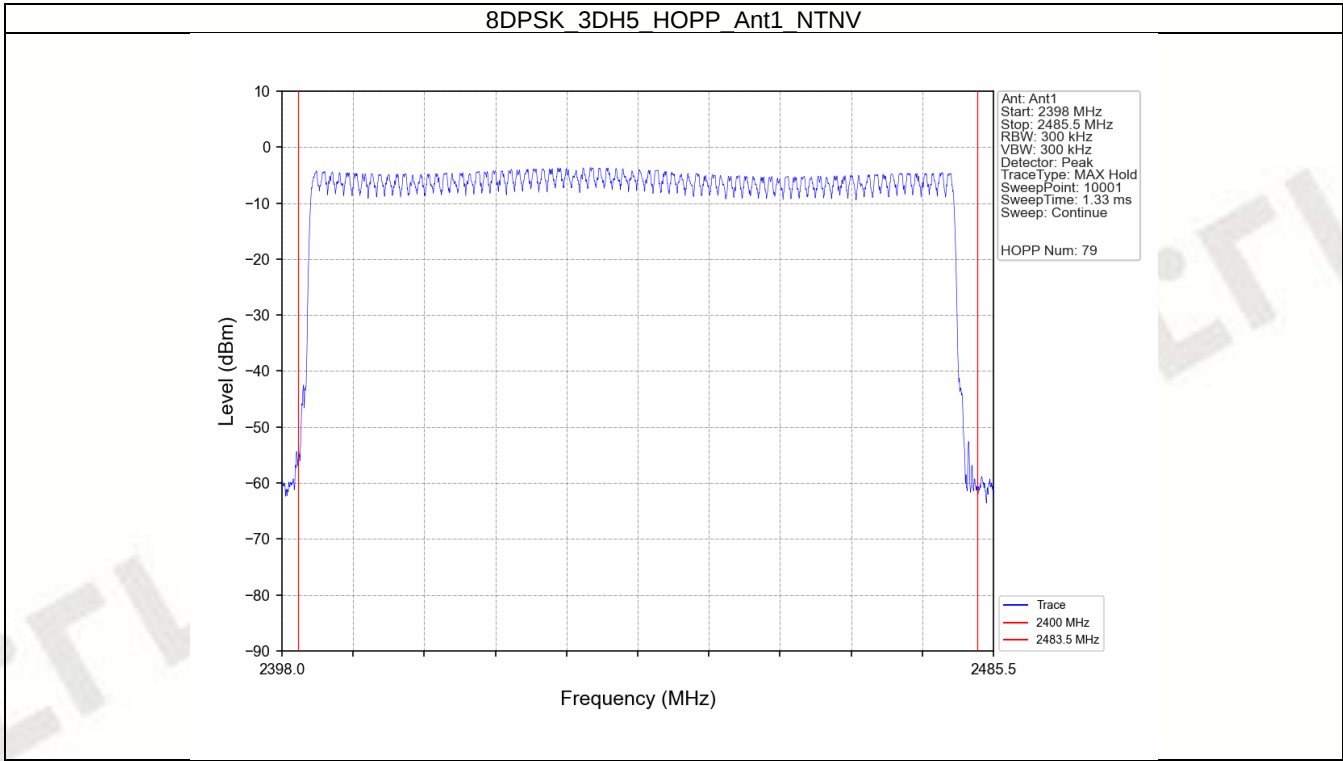
FCCID: 2AOM3-P107

4.2 Test Graph

4.2.1 HoppNum



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107

5. Time of Occupancy (Dwell Time)

5.1 Test Result

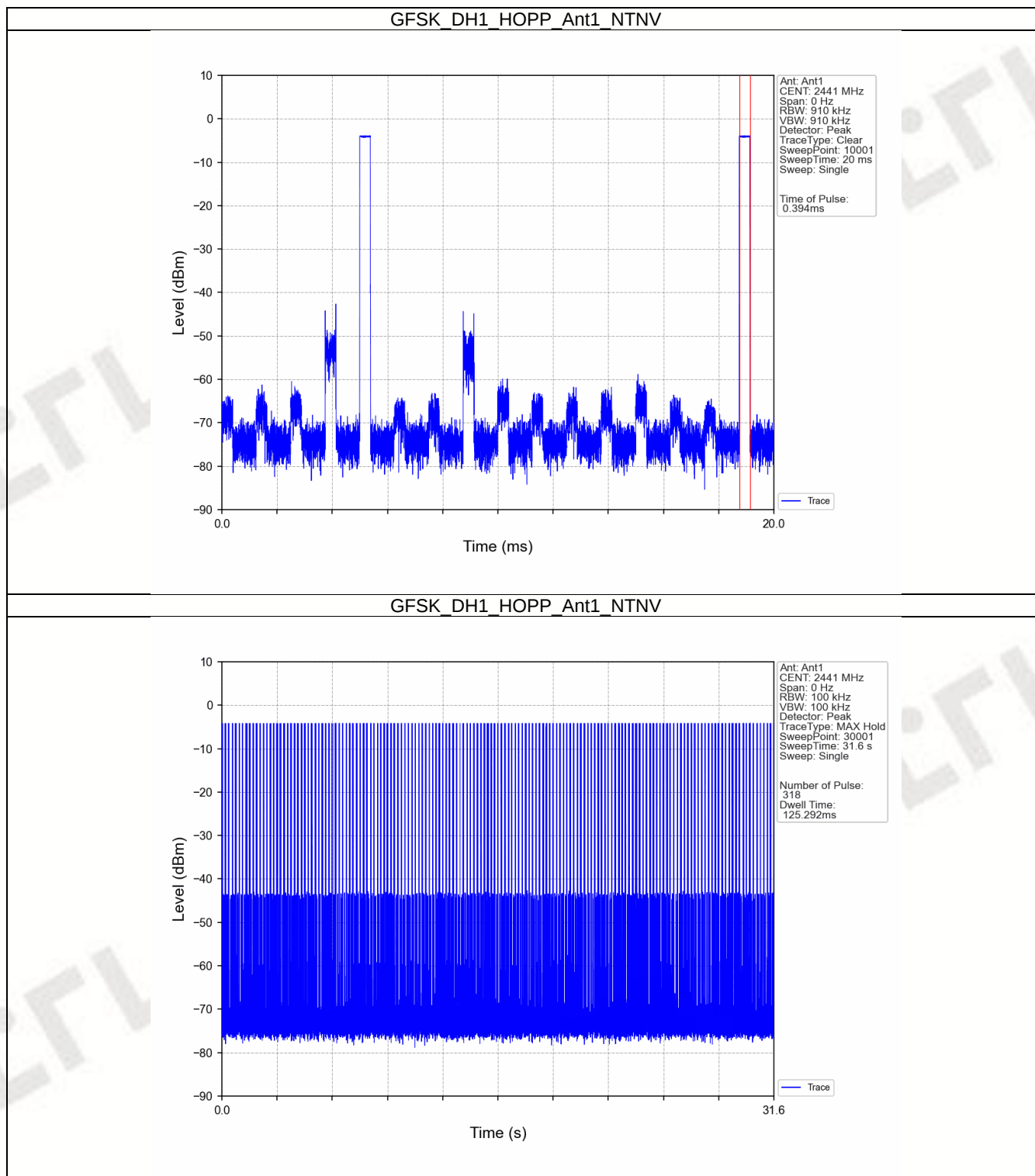
5.1.1 Ant1

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	0.394	31.600	318	125.292	<=400	Pass
			DH3	1.650	31.600	156	257.400	<=400	Pass
			DH5	2.898	31.600	114	330.372	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.398	31.600	318	126.564	<=400	Pass
			2DH3	1.656	31.600	161	266.616	<=400	Pass
			2DH5	2.904	31.600	102	296.208	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.398	31.600	319	126.962	<=400	Pass
			3DH3	1.650	31.600	165	272.250	<=400	Pass
			3DH5	2.906	31.600	107	310.942	<=400	Pass

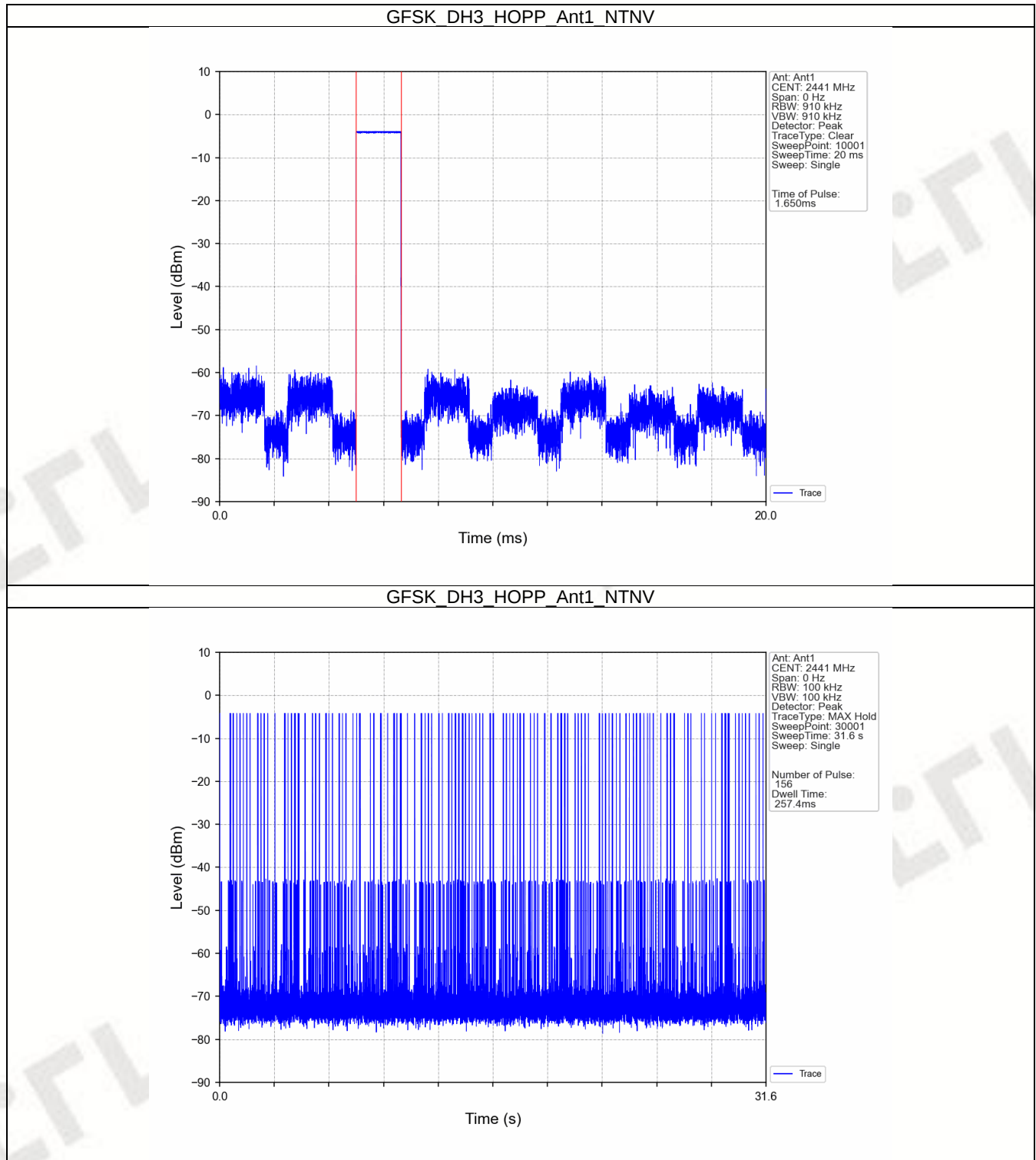
FCCID: 2AOM3-P107

5.2 Test Graph

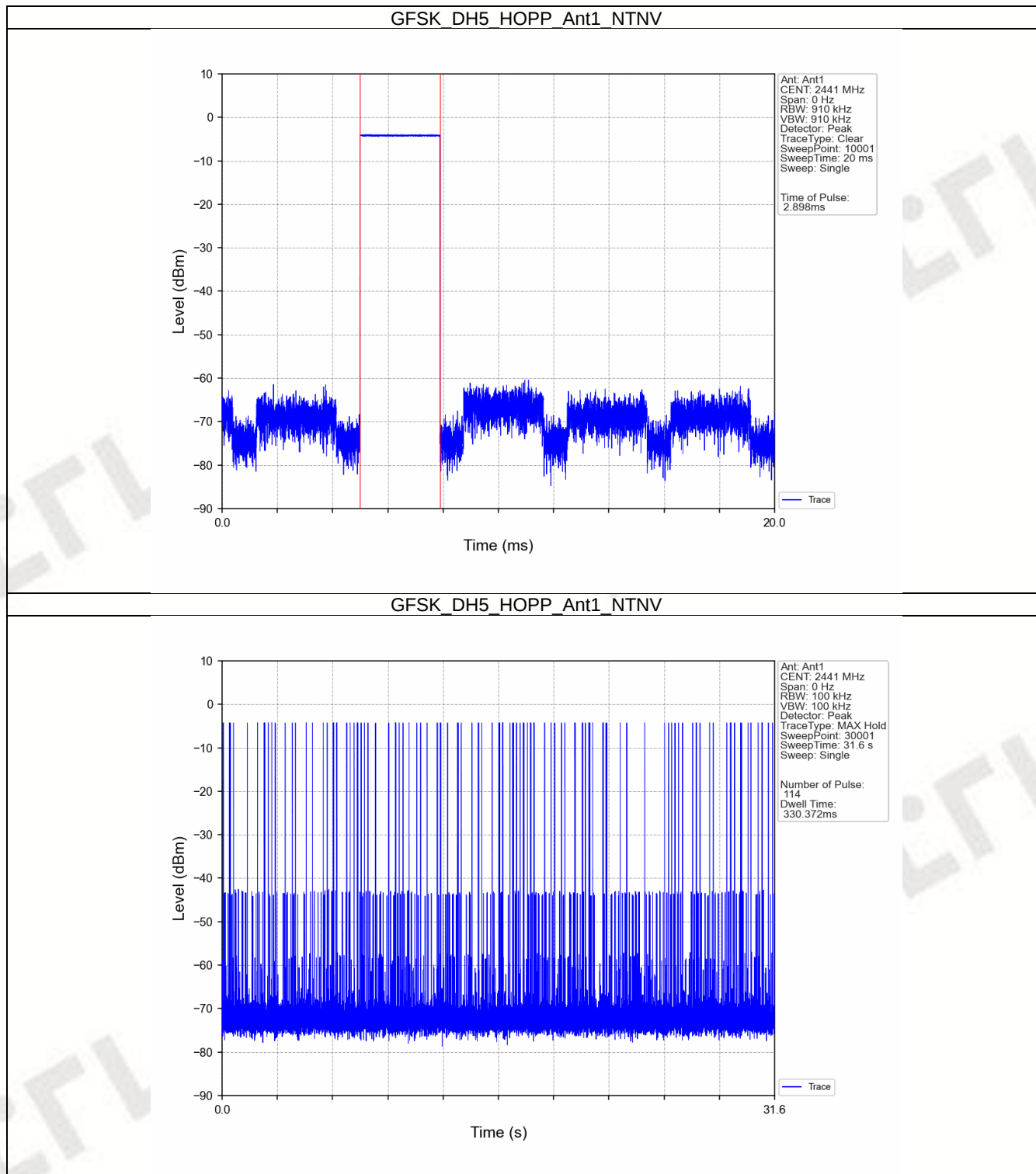
5.2.1 Ant1



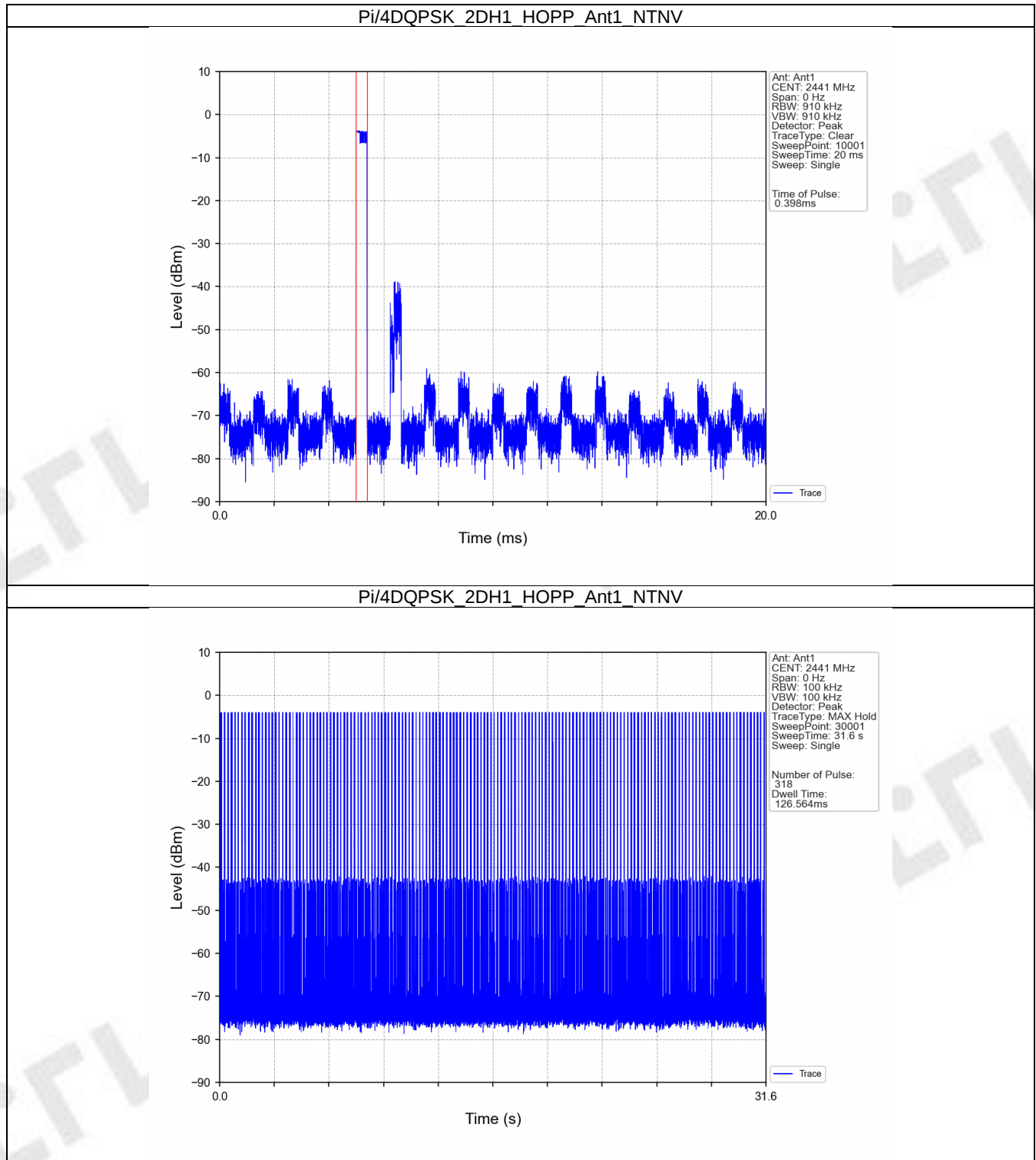
FCCID: 2AOM3-P107



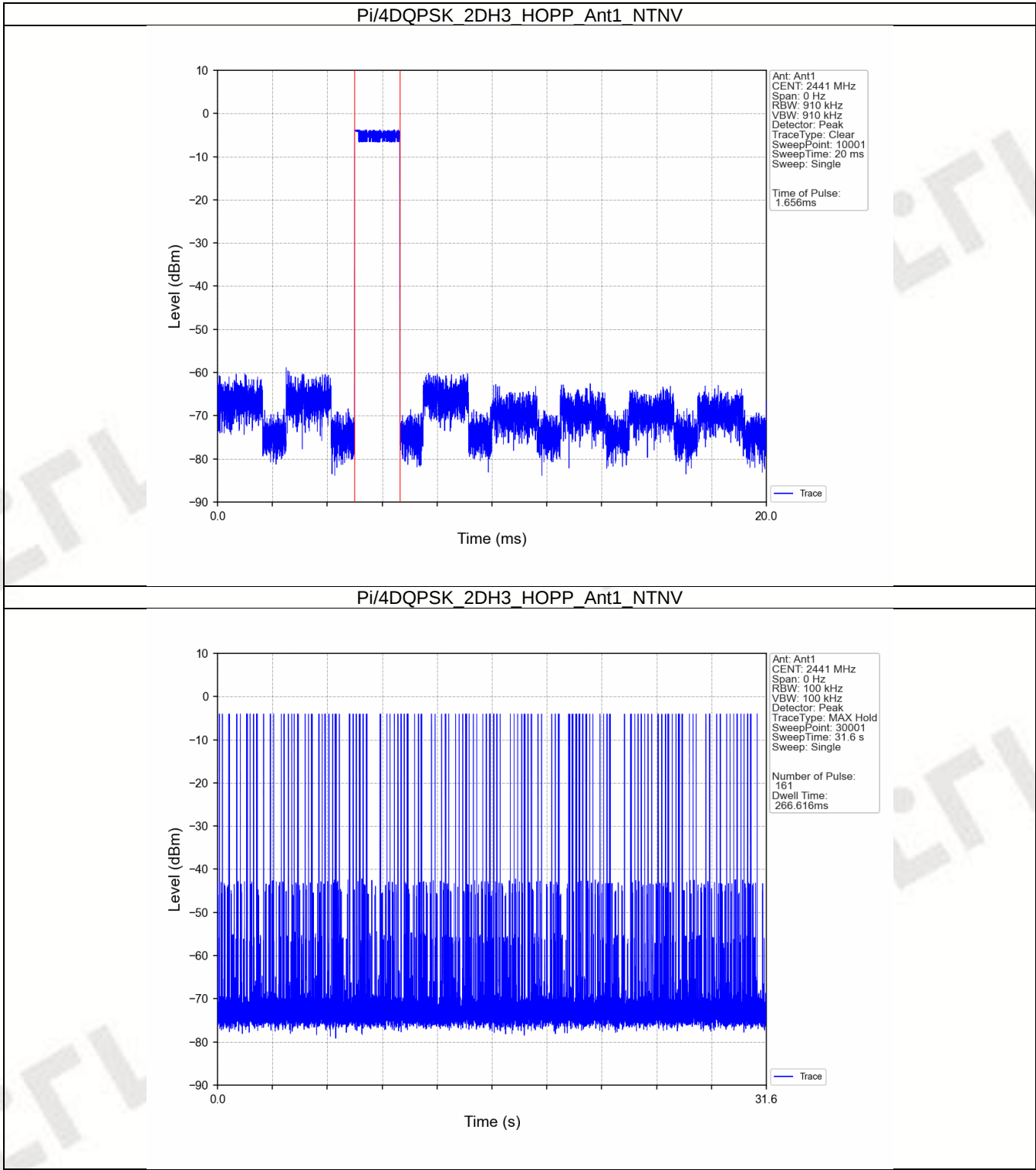
FCCID: 2AOM3-P107



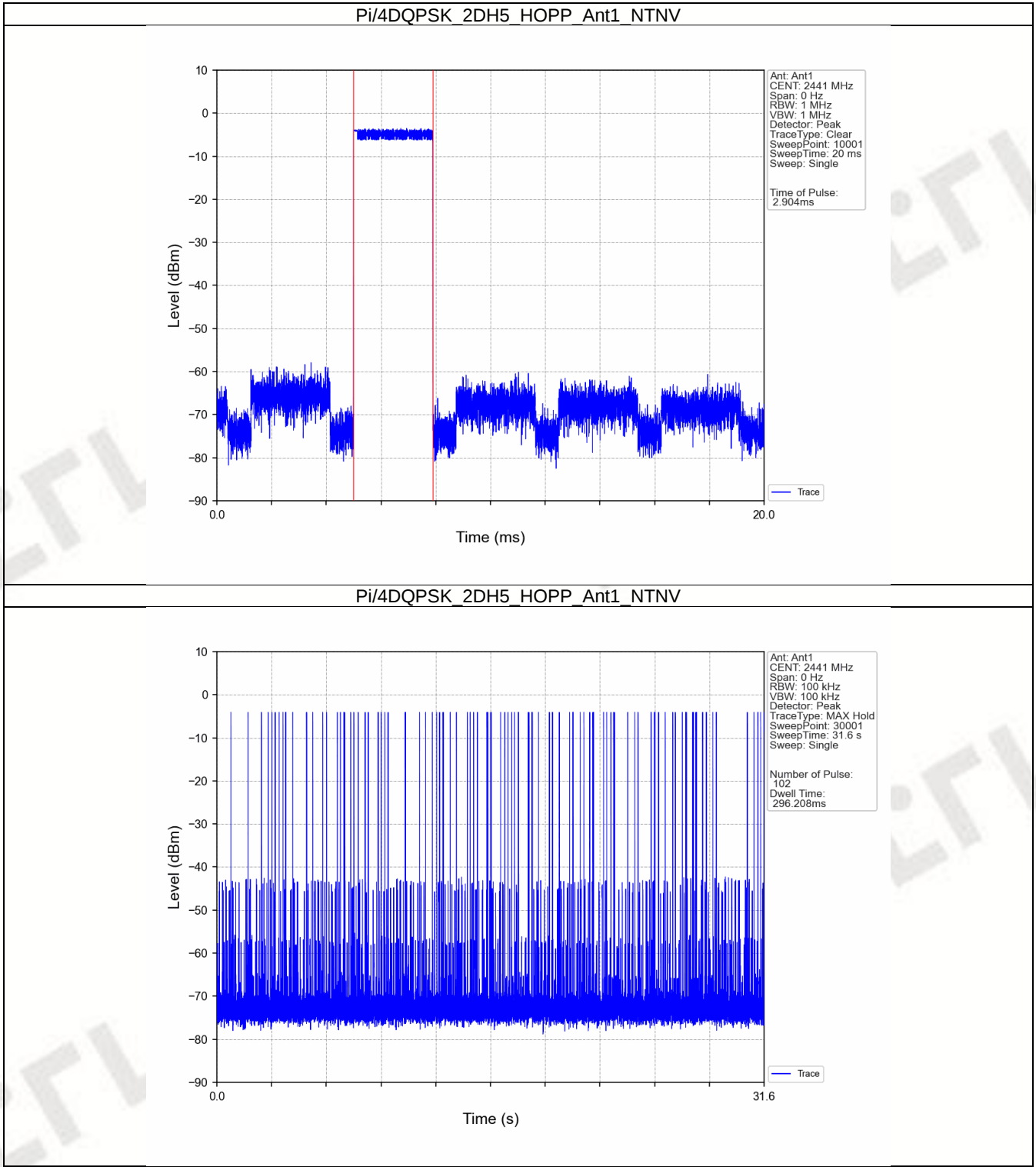
FCCID: 2AOM3-P107



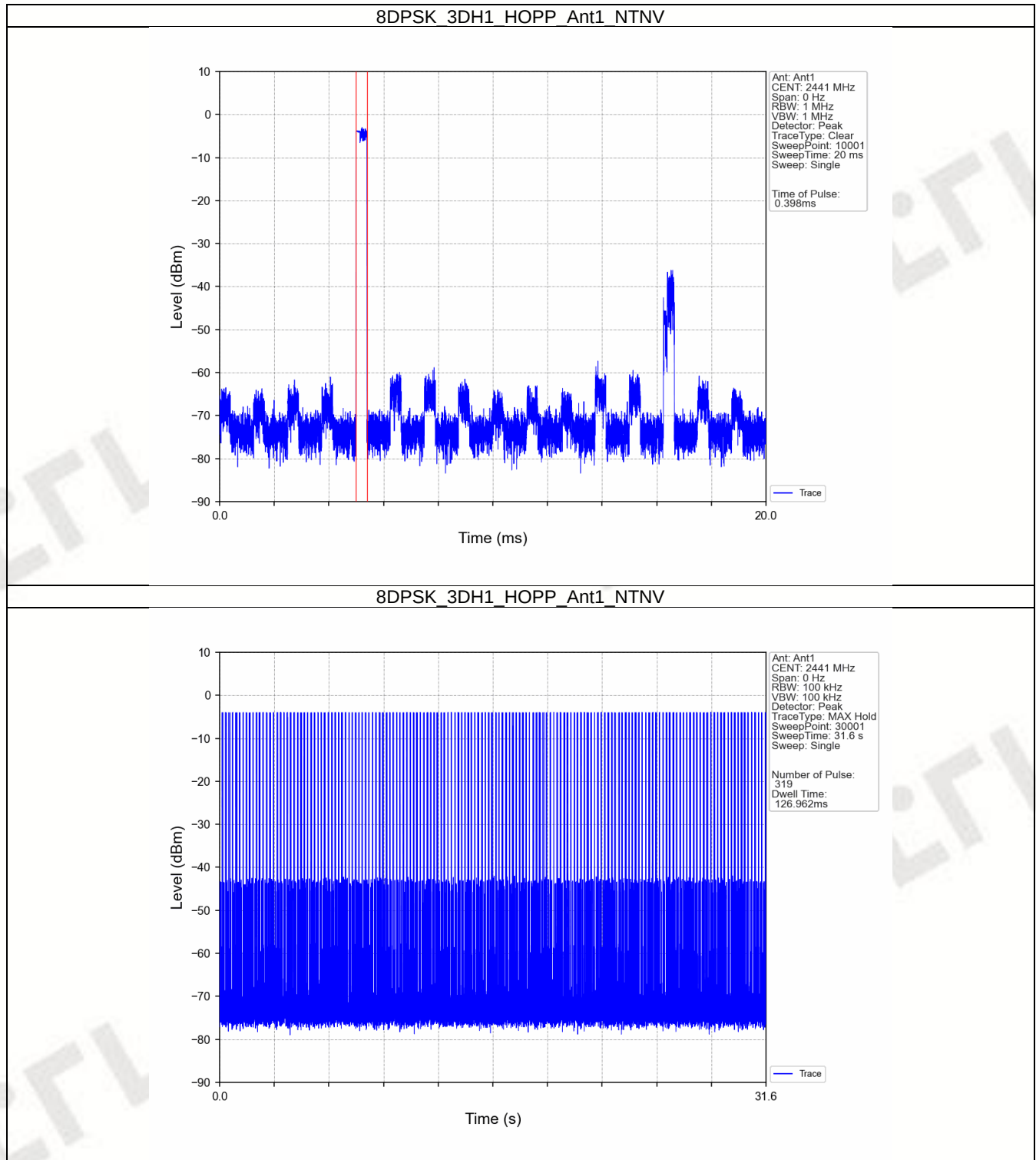
FCCID: 2AOM3-P107



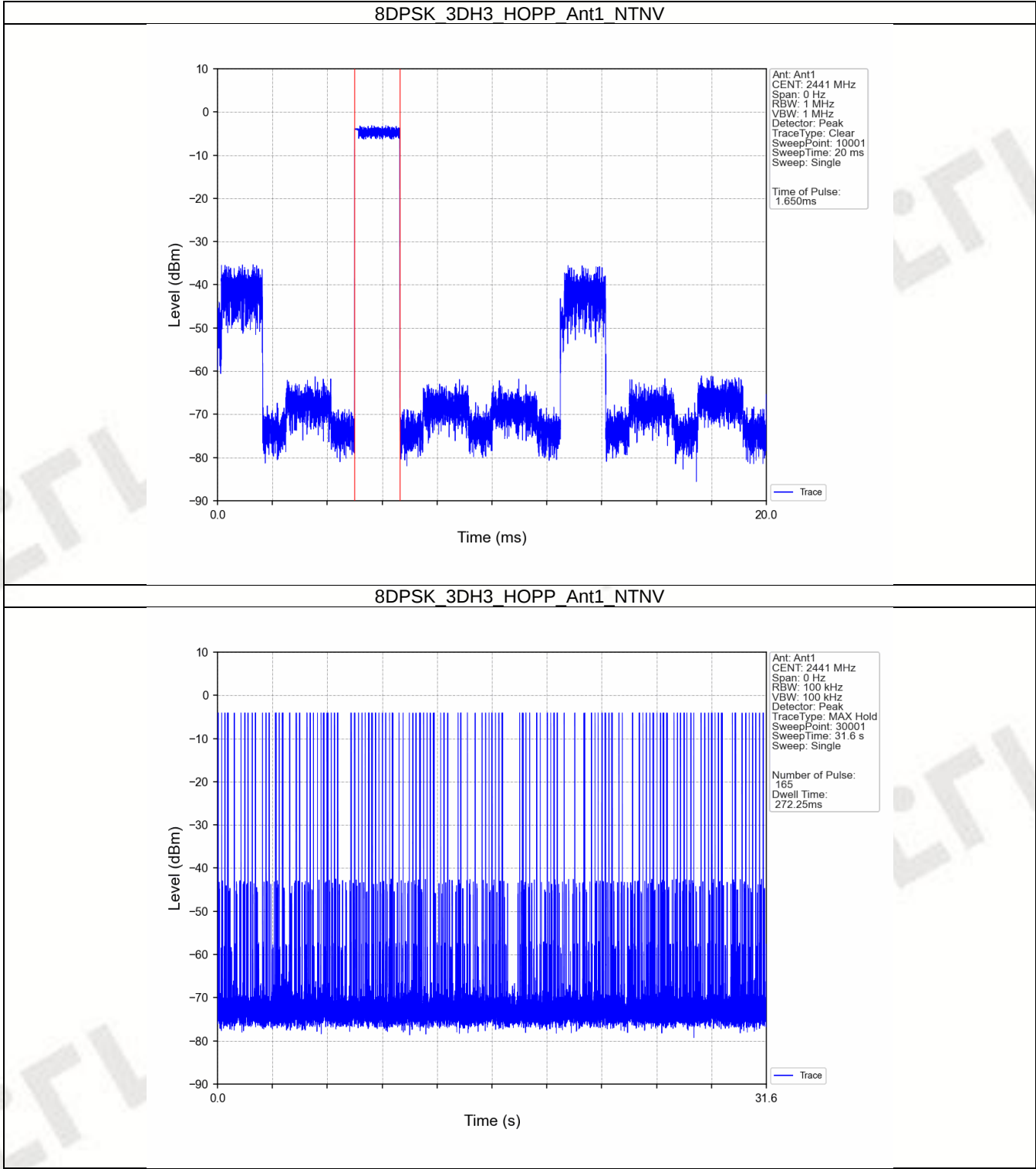
FCCID: 2AOM3-P107



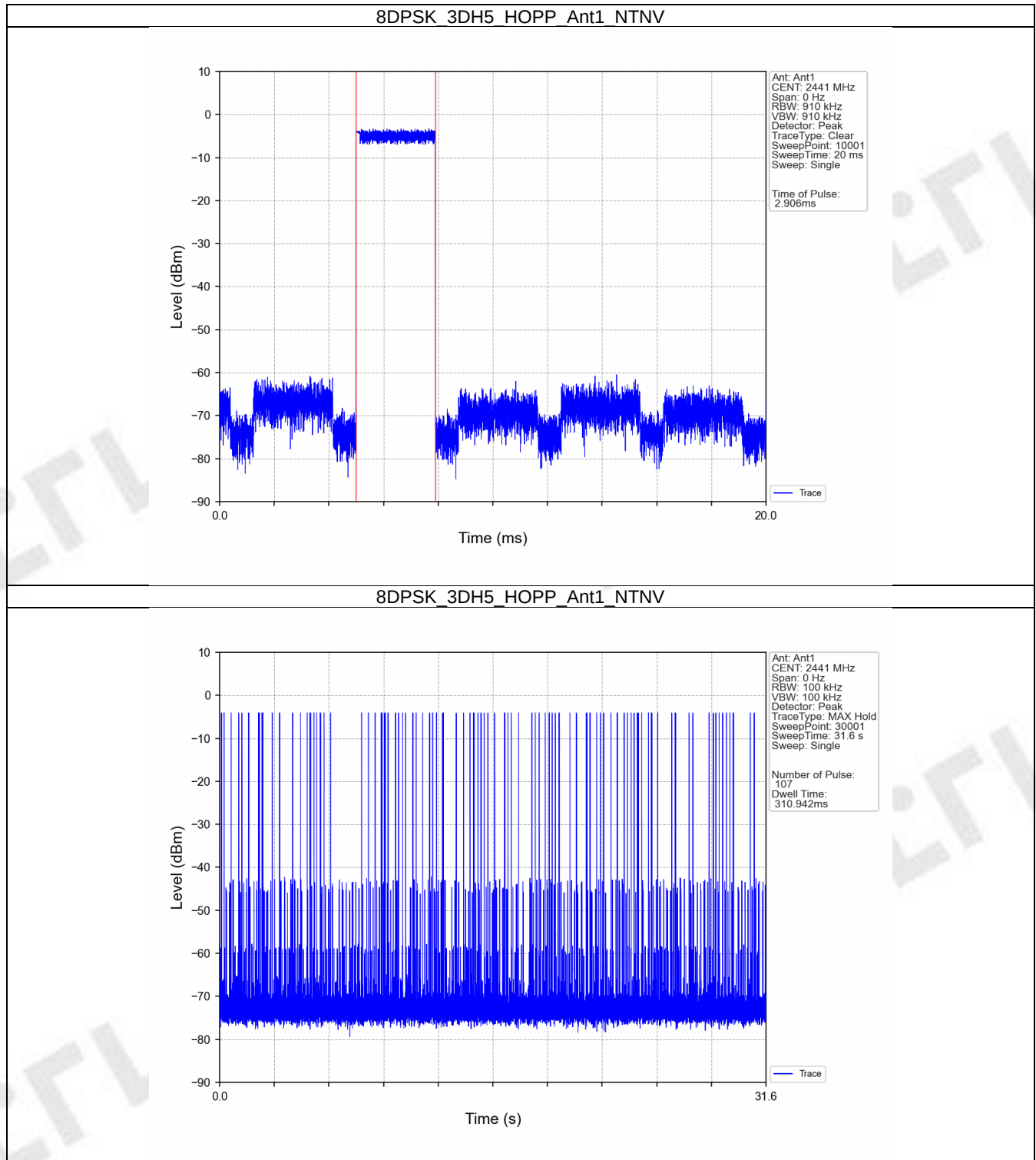
FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



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	-4.43
		2441	DH5	1	-4.16
		2480	DH5	1	-4.85
Pi/4DQPSK	SISO	2402	2DH5	1	-4.14
		2441	2DH5	1	-3.82
		2480	2DH5	1	-4.58
8DPSK	SISO	2402	3DH5	1	-4.25
		2441	3DH5	1	-3.79
		2480	3DH5	1	-4.73

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

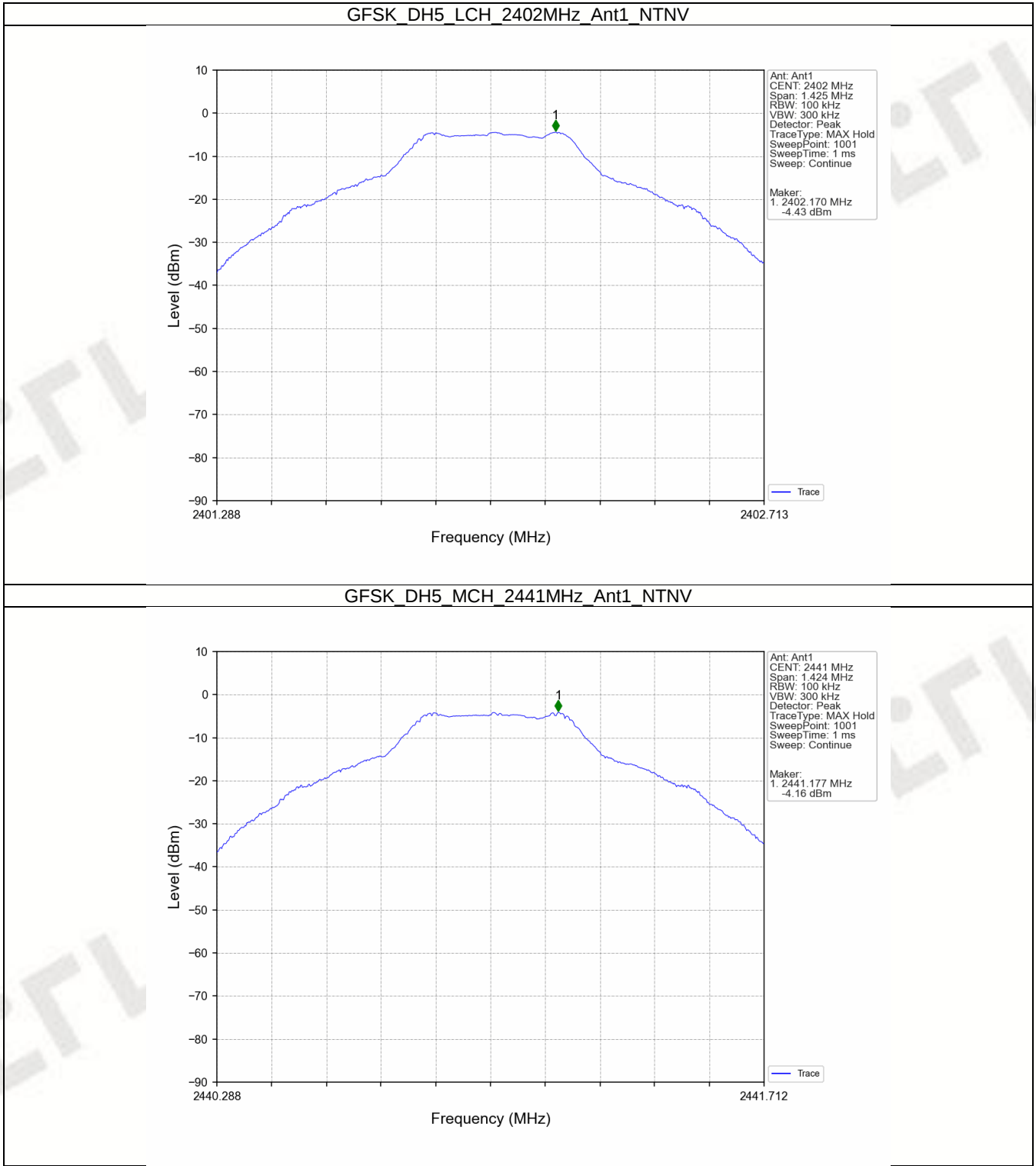
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-4.16	-24.16	Pass
		2441	DH5	1	-4.16	-24.16	Pass
		2480	DH5	1	-4.16	-24.16	Pass
		HOPP	DH5	1	-4.16	-24.16	Pass
					-4.16	-24.16	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-3.82	-23.82	Pass
		2441	2DH5	1	-3.82	-23.82	Pass
		2480	2DH5	1	-3.82	-23.82	Pass
		HOPP	2DH5	1	-3.82	-23.82	Pass
					-3.82	-23.82	Pass
8DPSK	SISO	2402	3DH5	1	-3.79	-23.79	Pass
		2441	3DH5	1	-3.79	-23.79	Pass
		2480	3DH5	1	-3.79	-23.79	Pass
		HOPP	3DH5	1	-3.79	-23.79	Pass
					-3.79	-23.79	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.

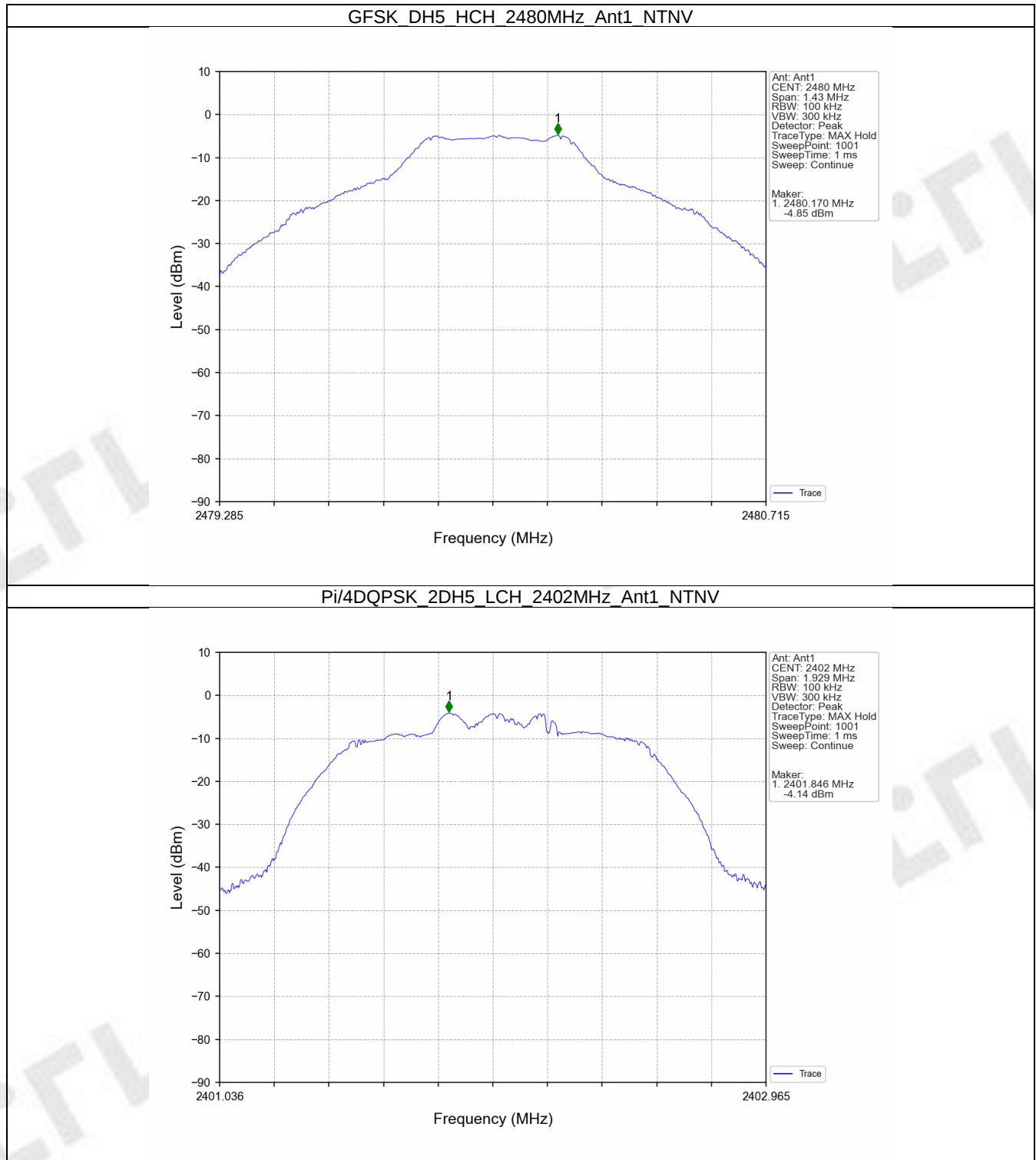
FCCID: 2AOM3-P107

6.2 Test Graph

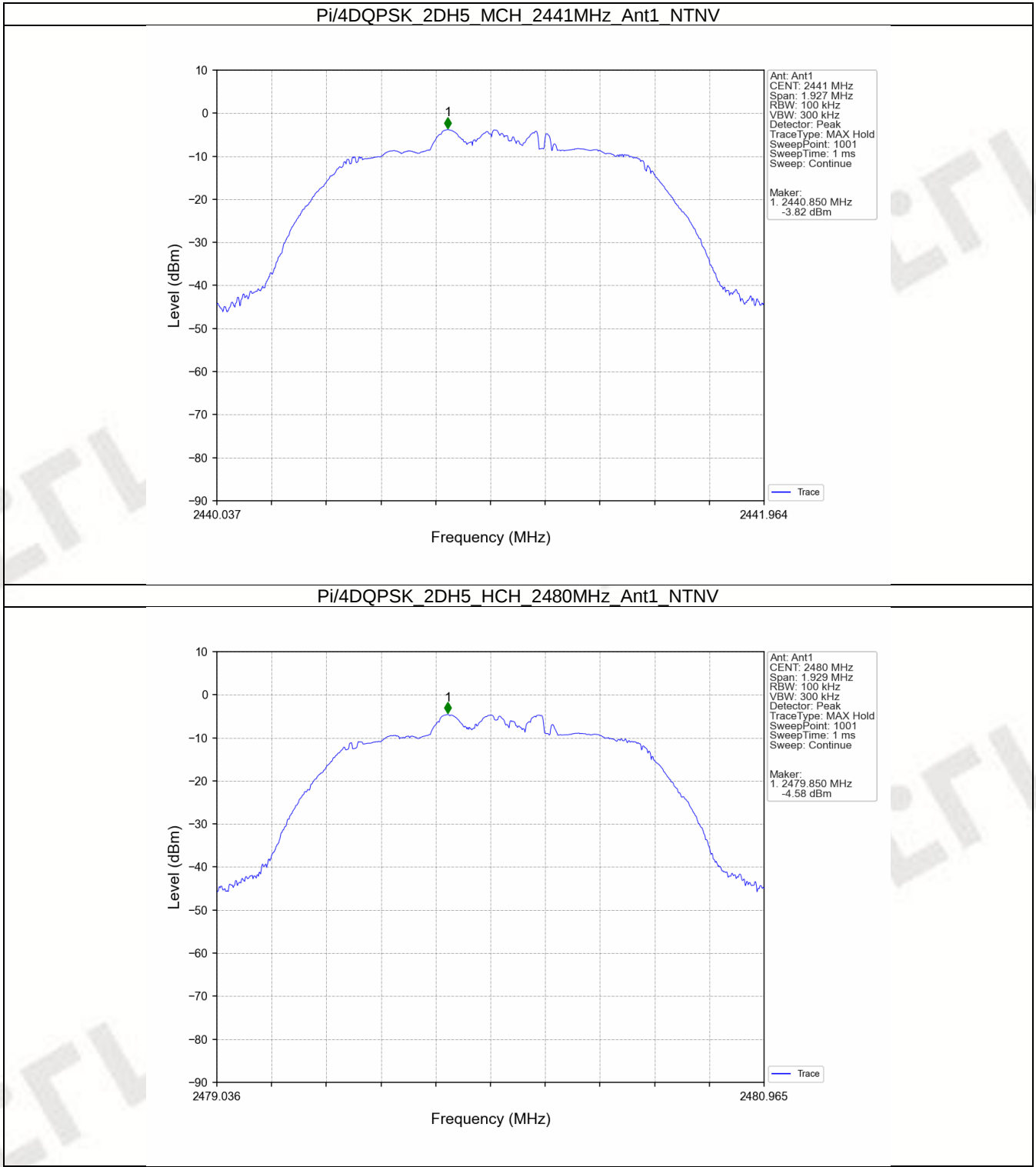
6.2.1 Ref



FCCID: 2AOM3-P107

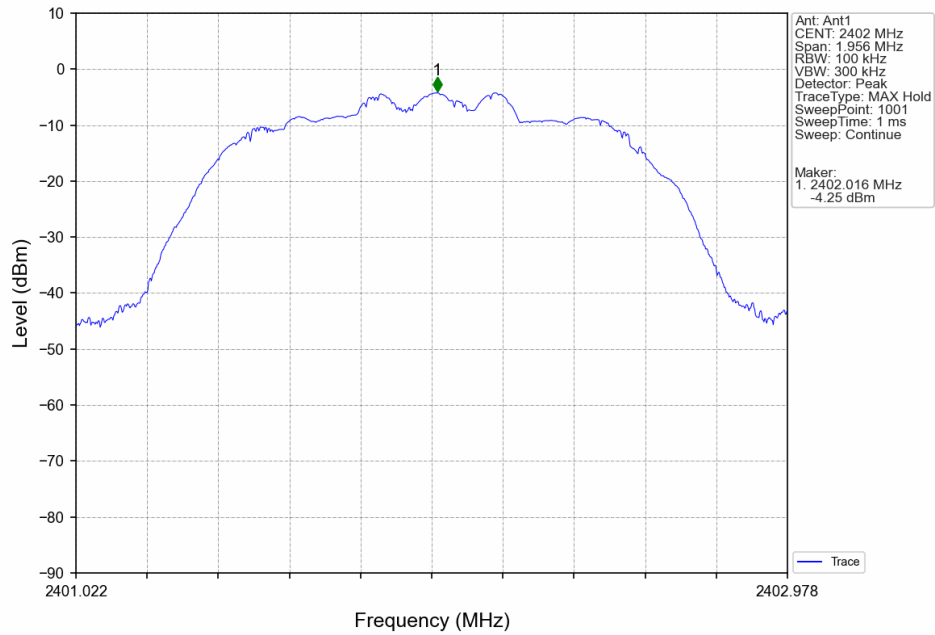


FCCID: 2AOM3-P107

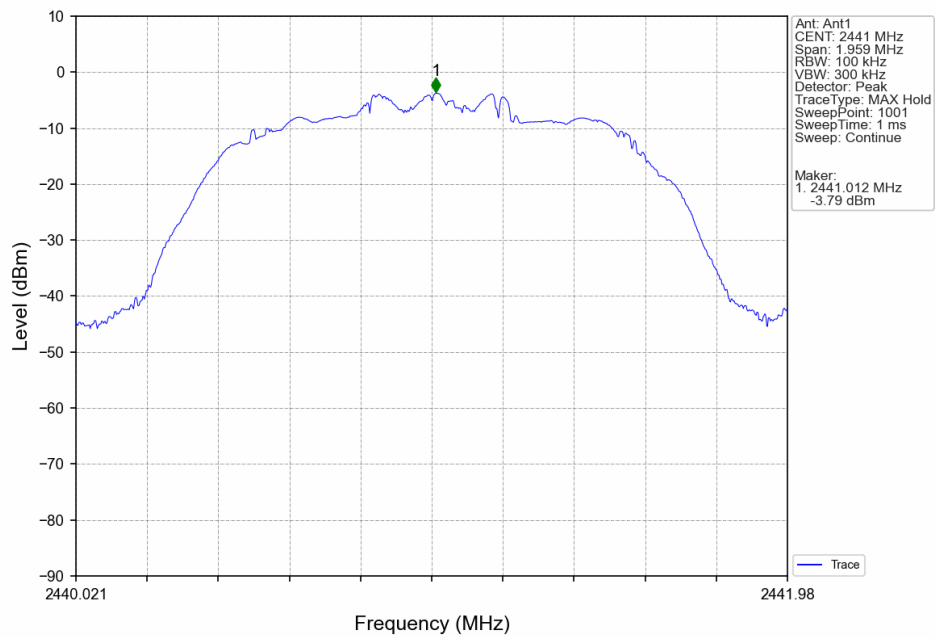


FCCID: 2AOM3-P107

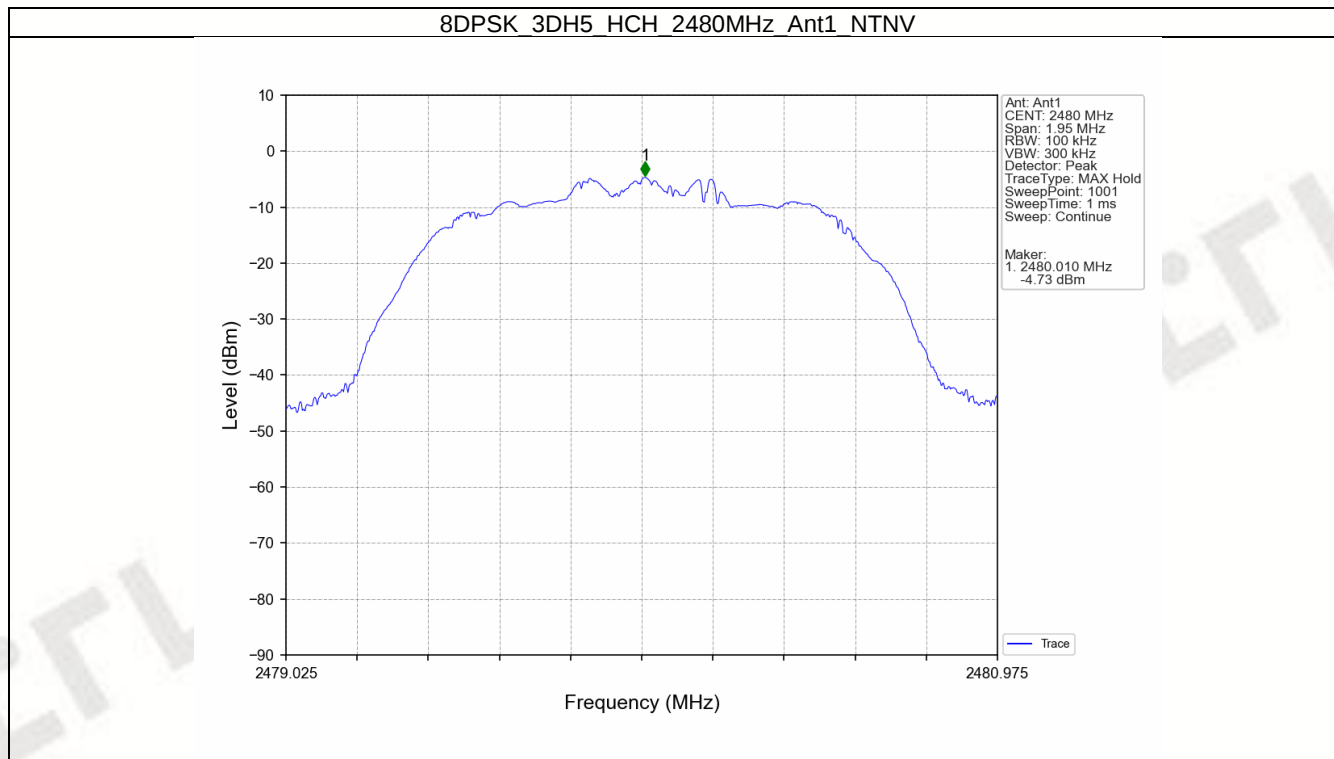
8DPSK 3DH5 LCH 2402MHz Ant1 NTN



8DPSK 3DH5 MCH 2441MHz Ant1 NTN

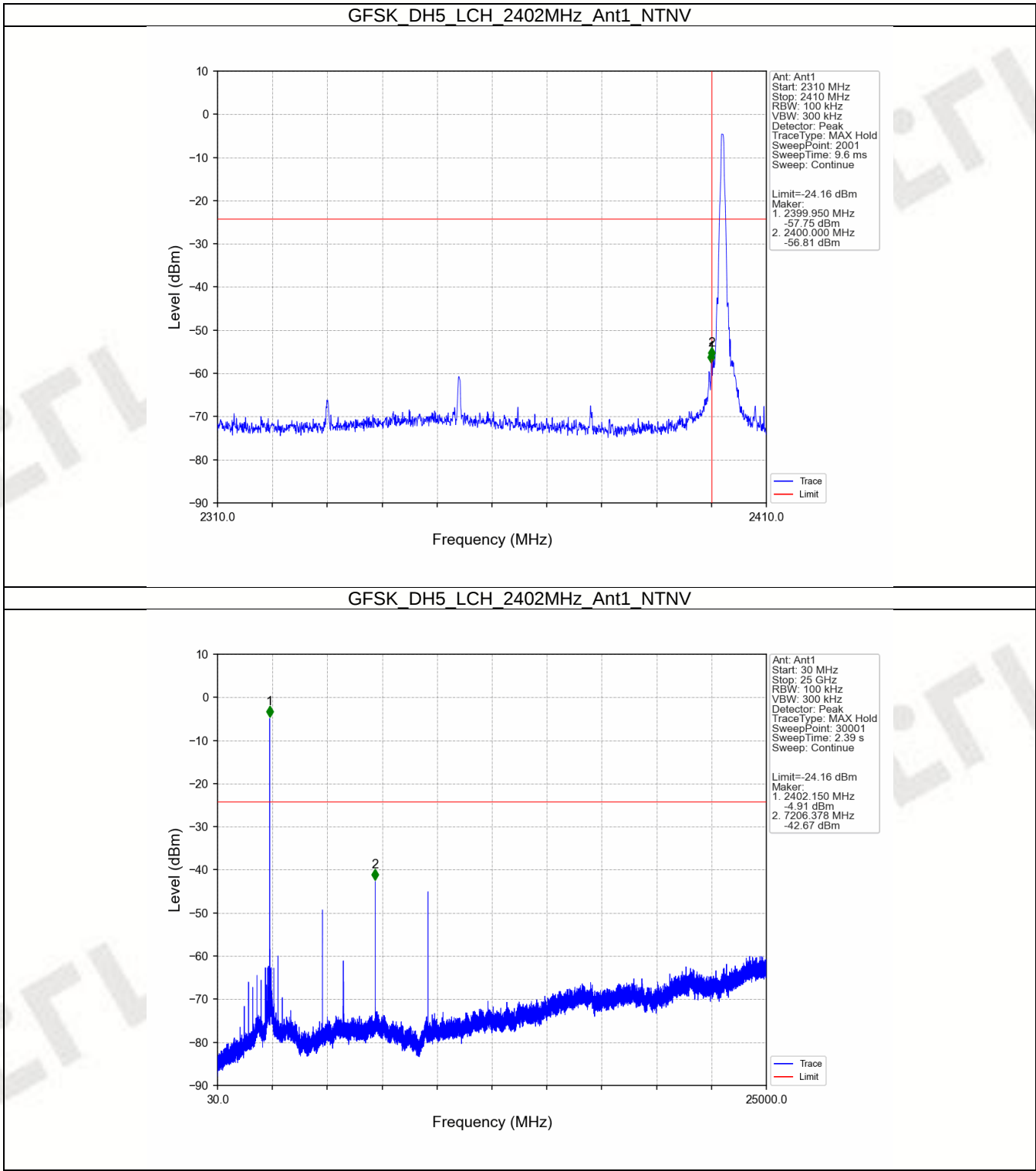


FCCID: 2AOM3-P107

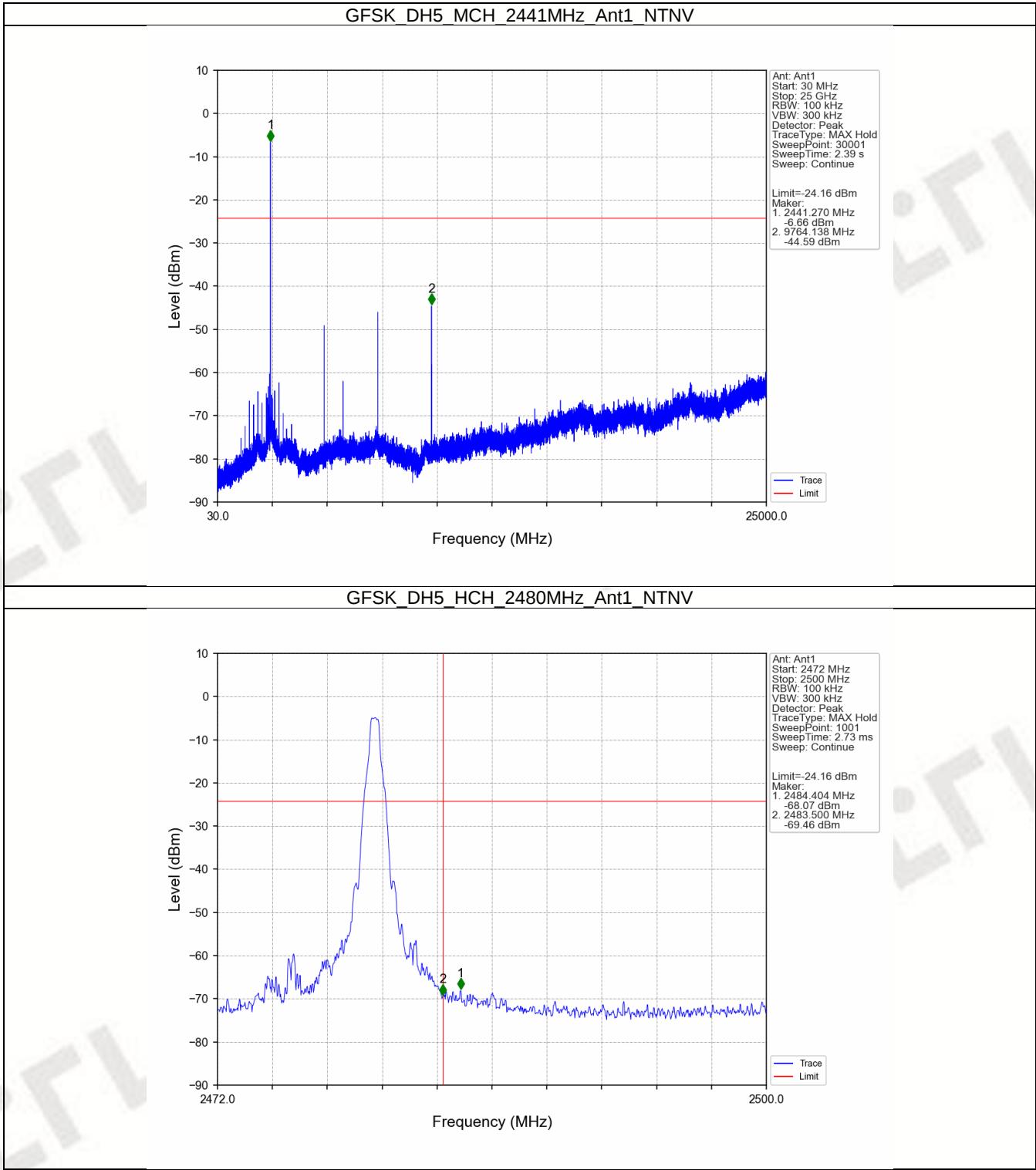


FCCID: 2AOM3-P107

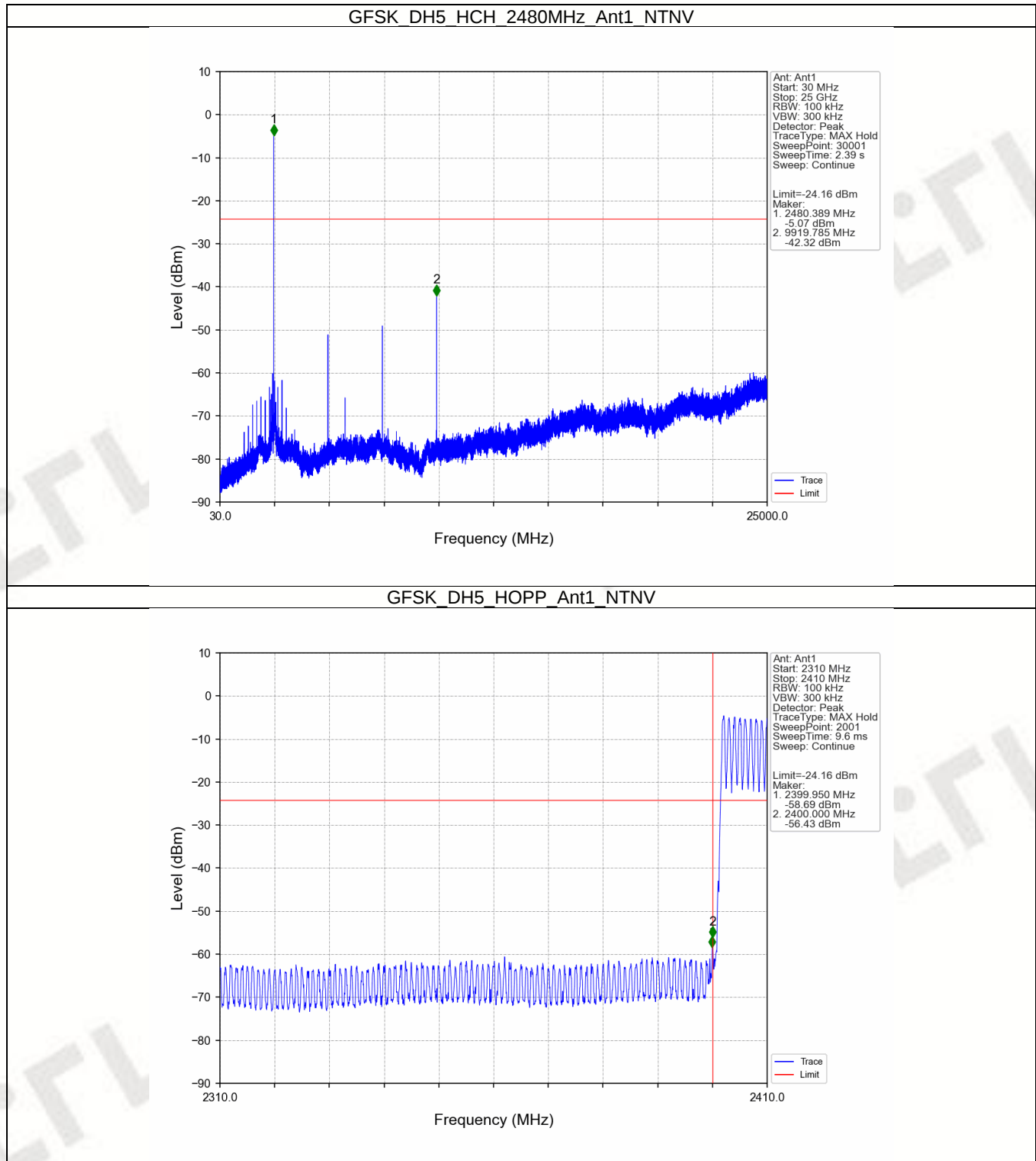
6.2.2 CSE



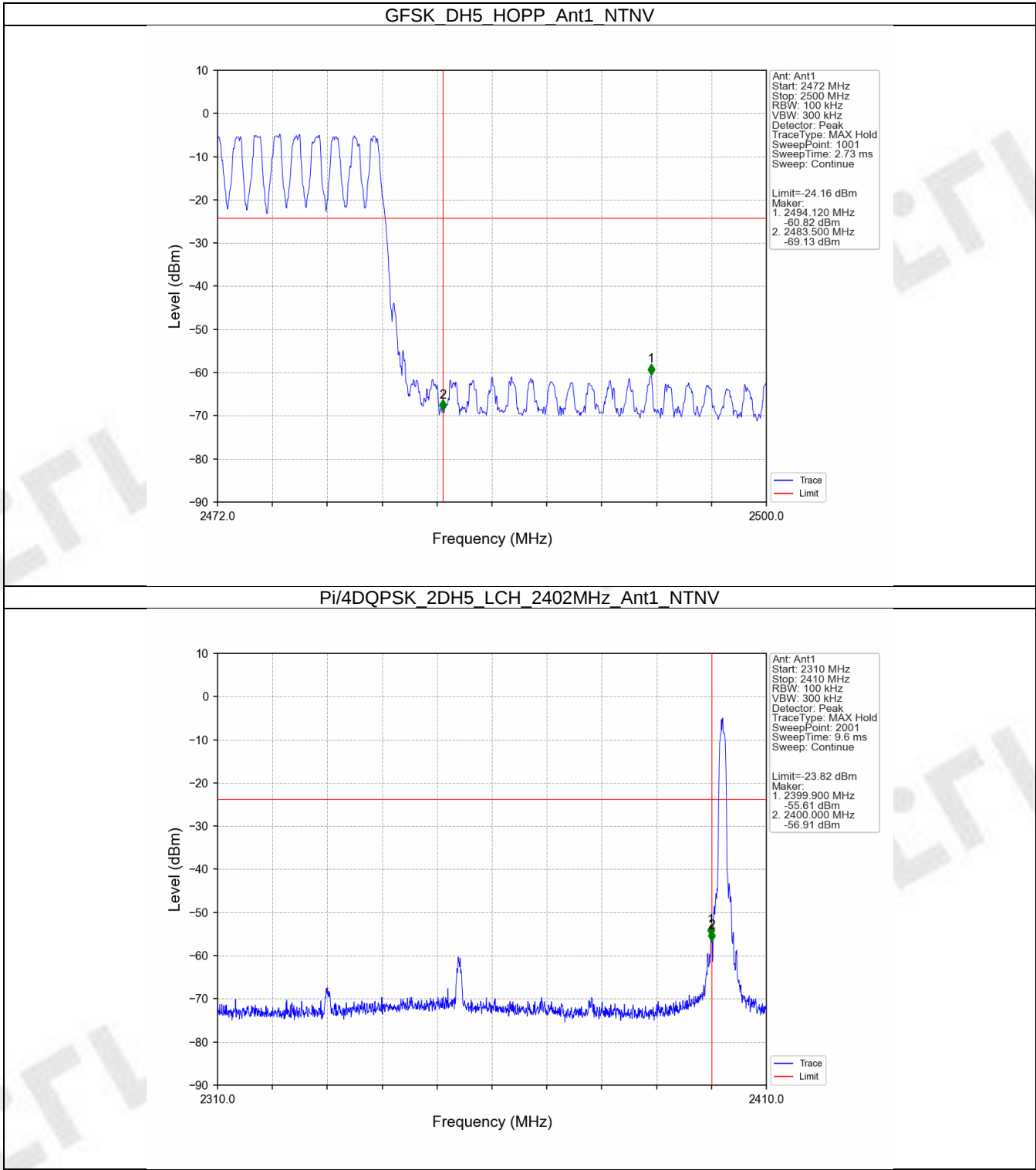
FCCID: 2AOM3-P107



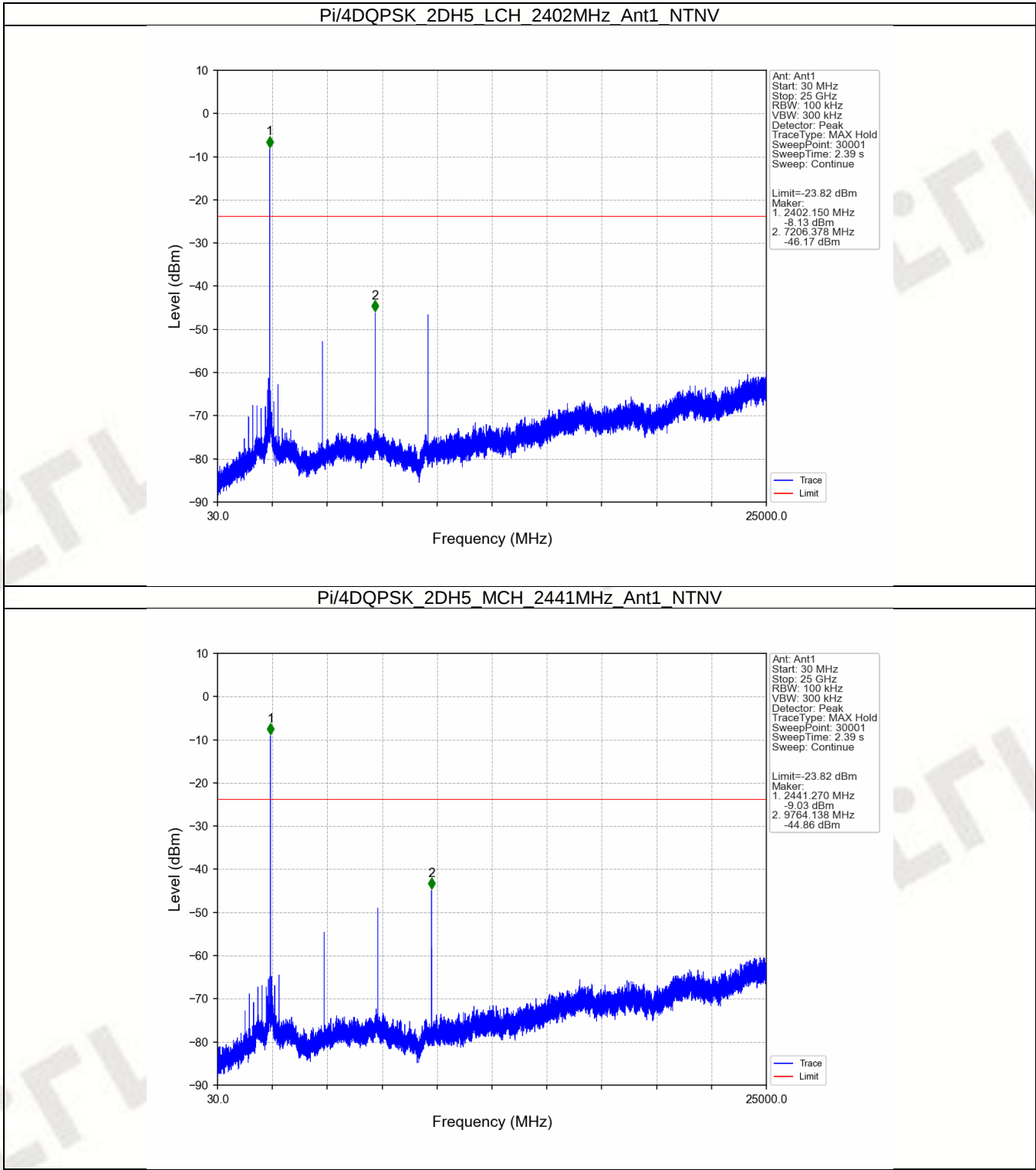
FCCID: 2AOM3-P107



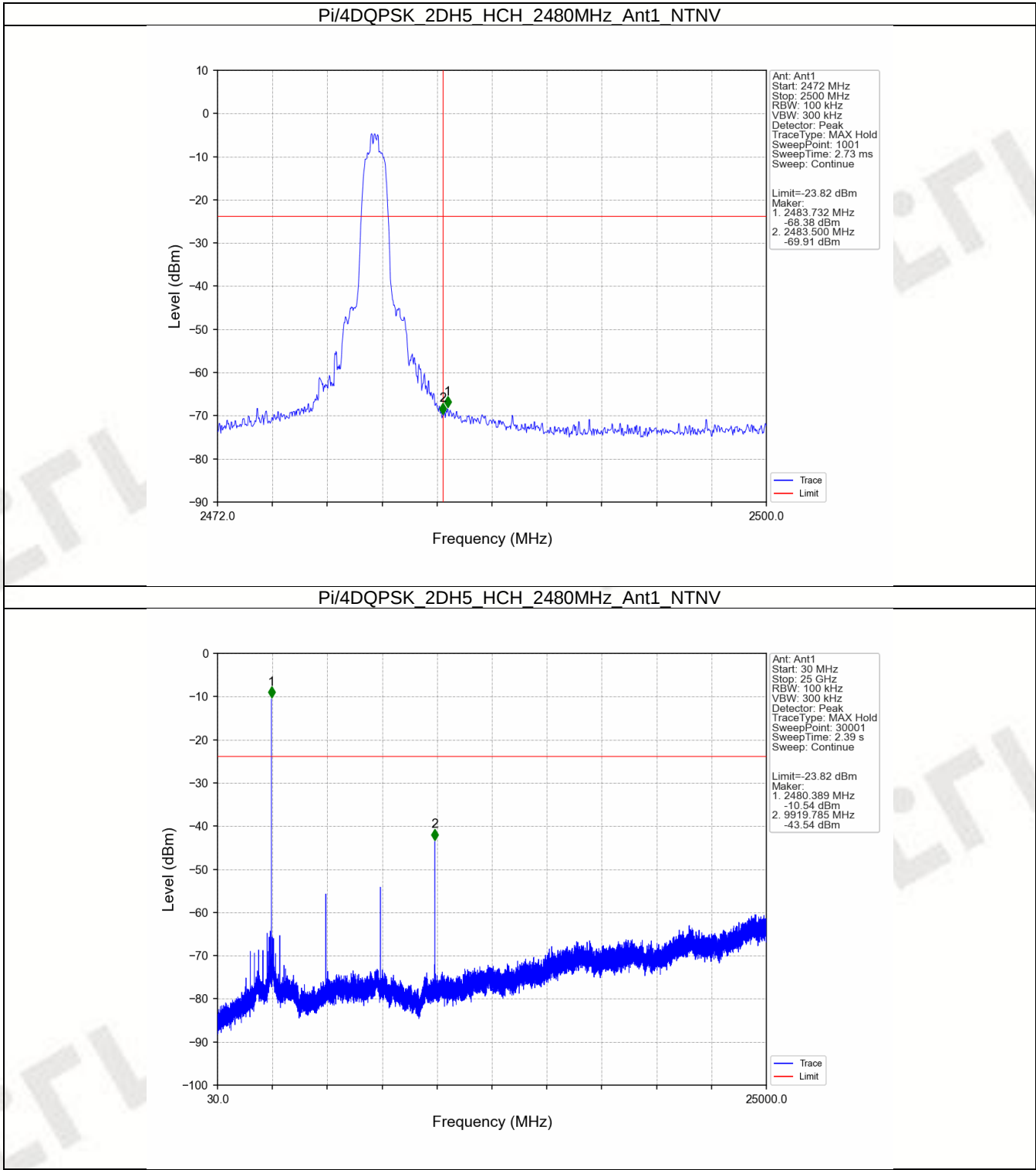
FCCID: 2AOM3-P107



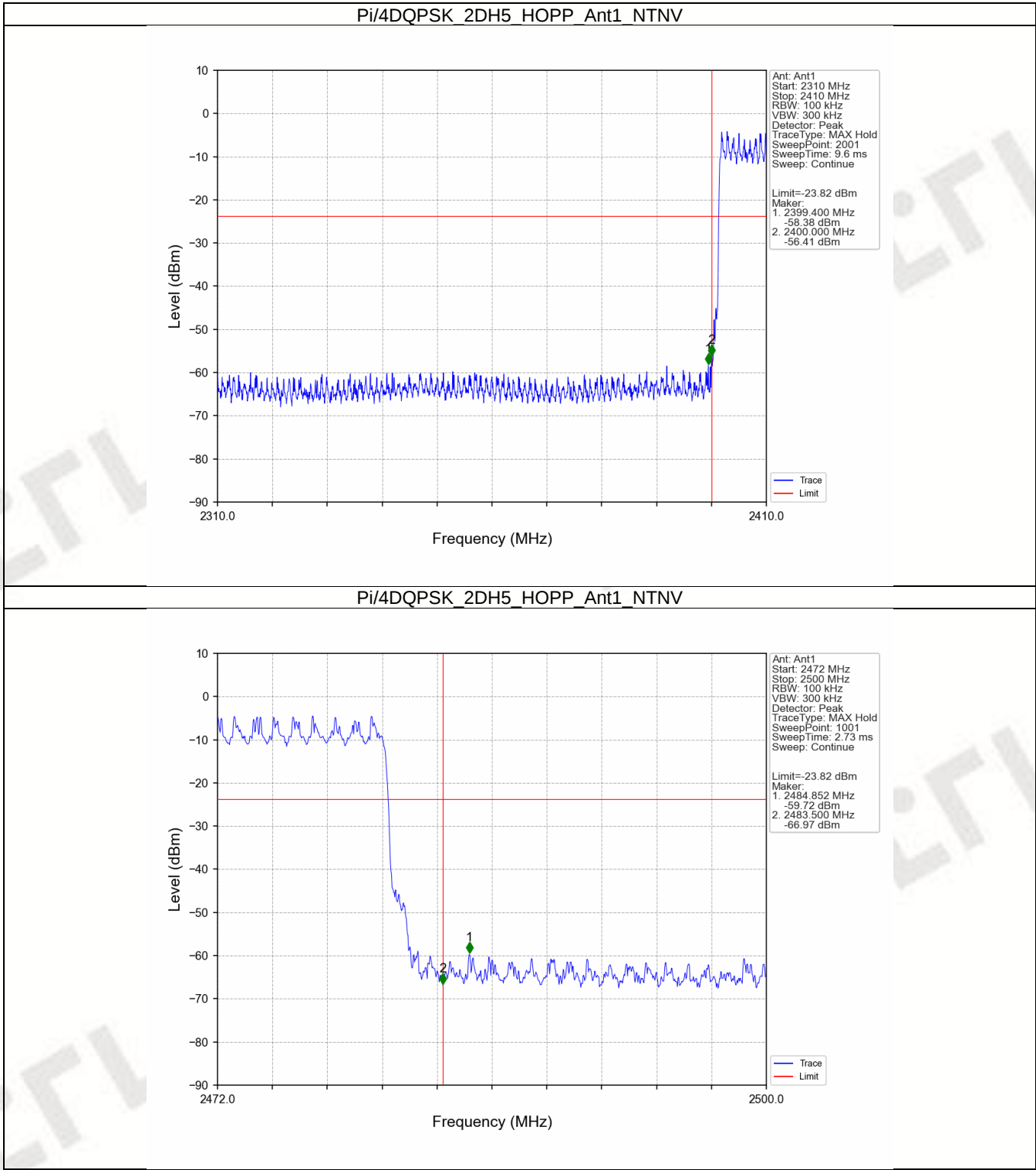
FCCID: 2AOM3-P107



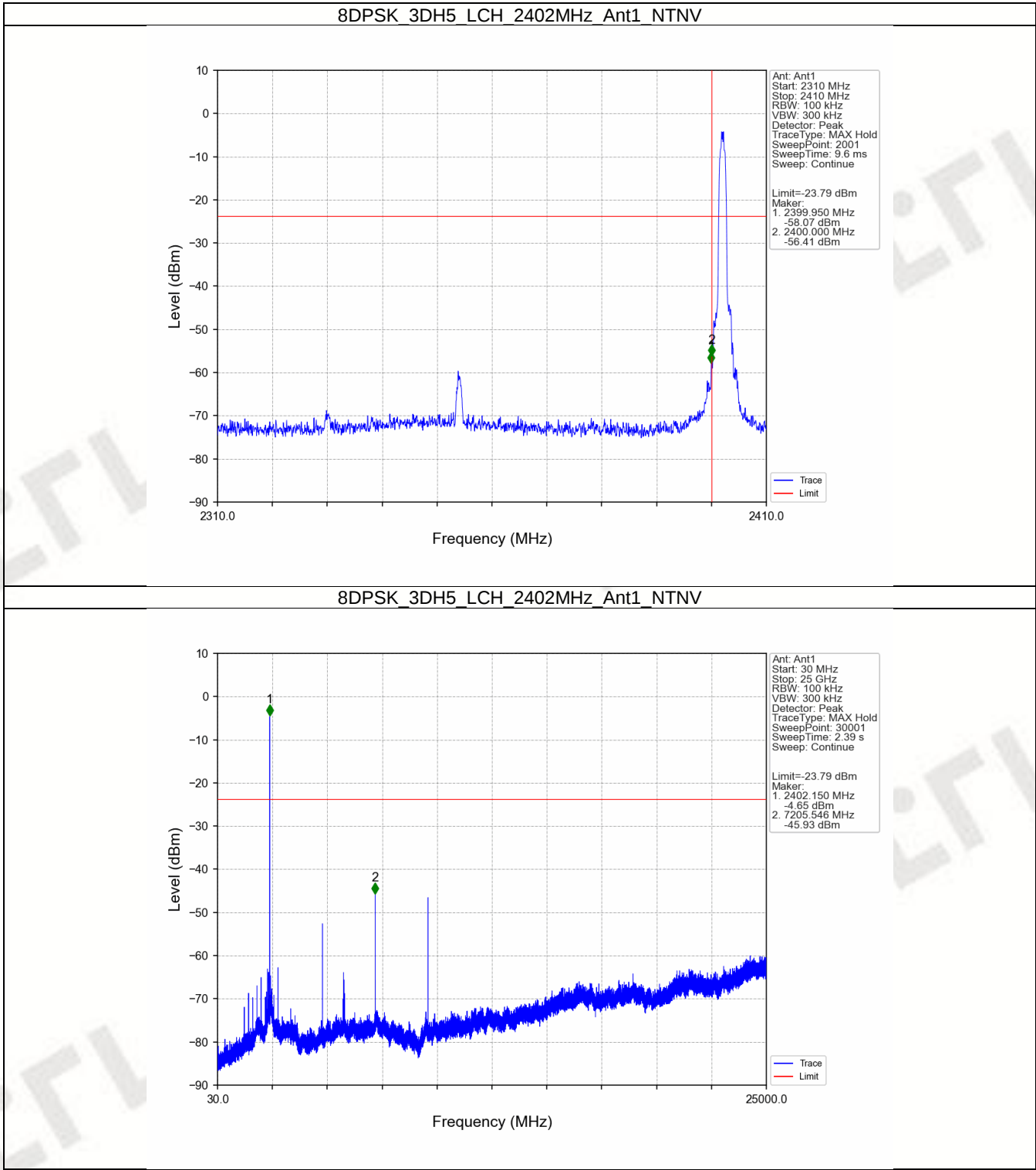
FCCID: 2AOM3-P107



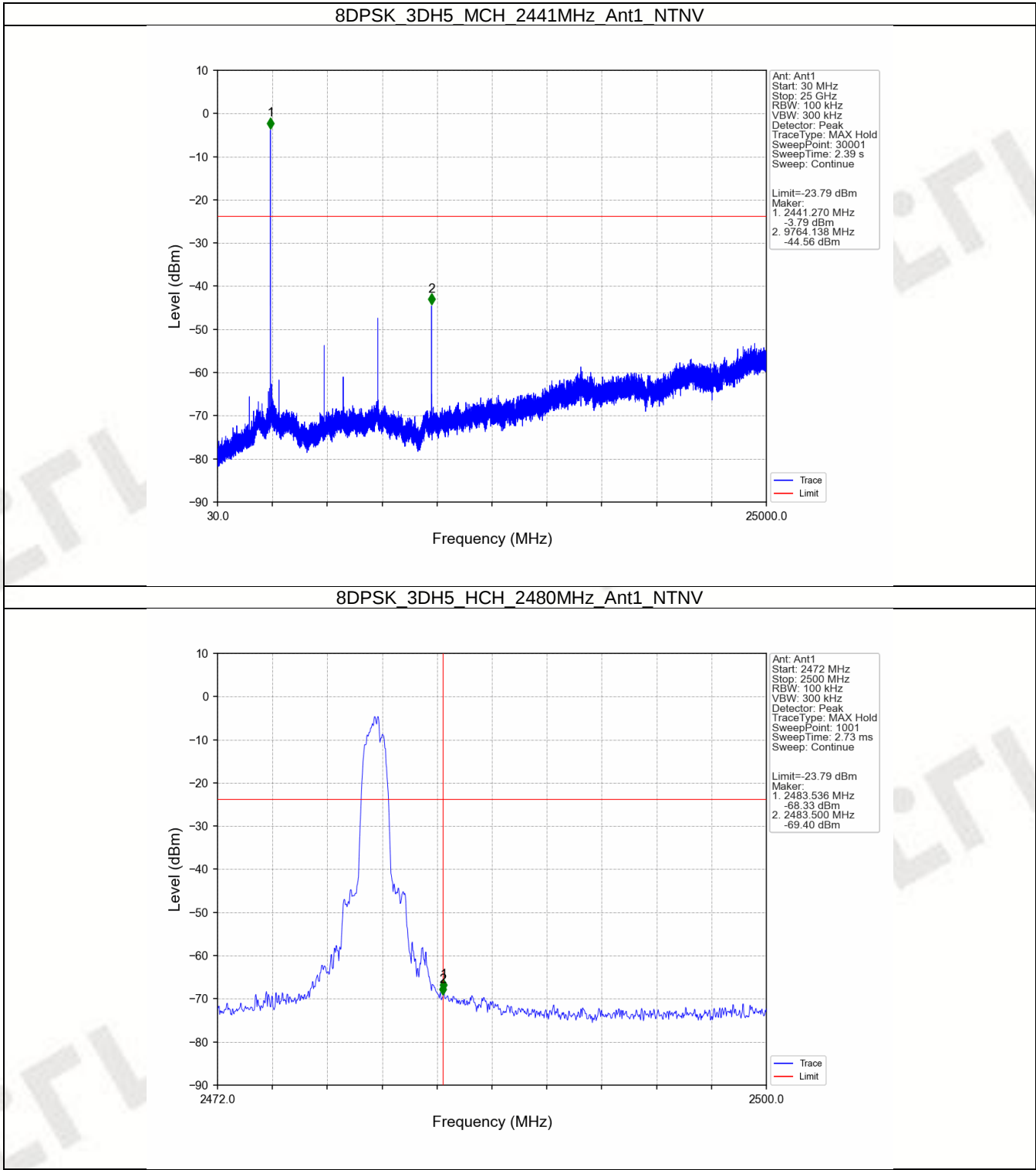
FCCID: 2AOM3-P107



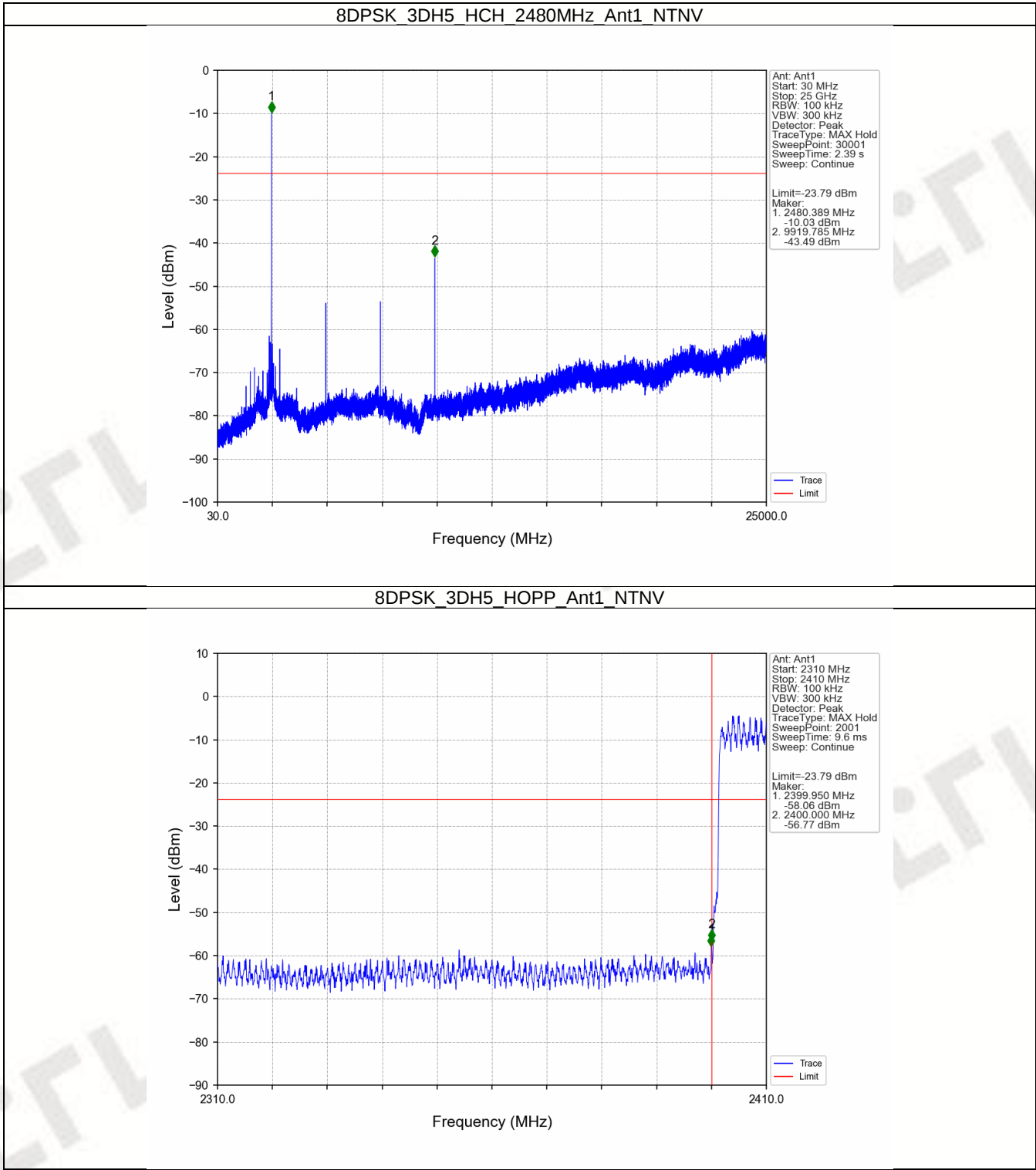
FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107



FCCID: 2AOM3-P107

