



Shenzhen CTL Testing Technology Co., Ltd.

Fl. A1, Bldg. A3, No. 2533 GuanGuang Road, Fenghuang Community

Fenghuang Street, Guangming District Shenzhen, Guangdong, People' s Republic of China

Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Annex for Bluetooth

Test Report No.: CTL2603182081-WF

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FCC ID: 2BLKS-GKS61

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	0.845	/	Pass
		2441	DH5	1	0.859	/	Pass
		2480	DH5	1	0.861	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.182	/	Pass
		2441	2DH5	1	1.175	/	Pass
		2480	2DH5	1	1.178	/	Pass
8DPSK	SISO	2402	3DH5	1	1.178	/	Pass
		2441	3DH5	1	1.179	/	Pass
		2480	3DH5	1	1.181	/	Pass

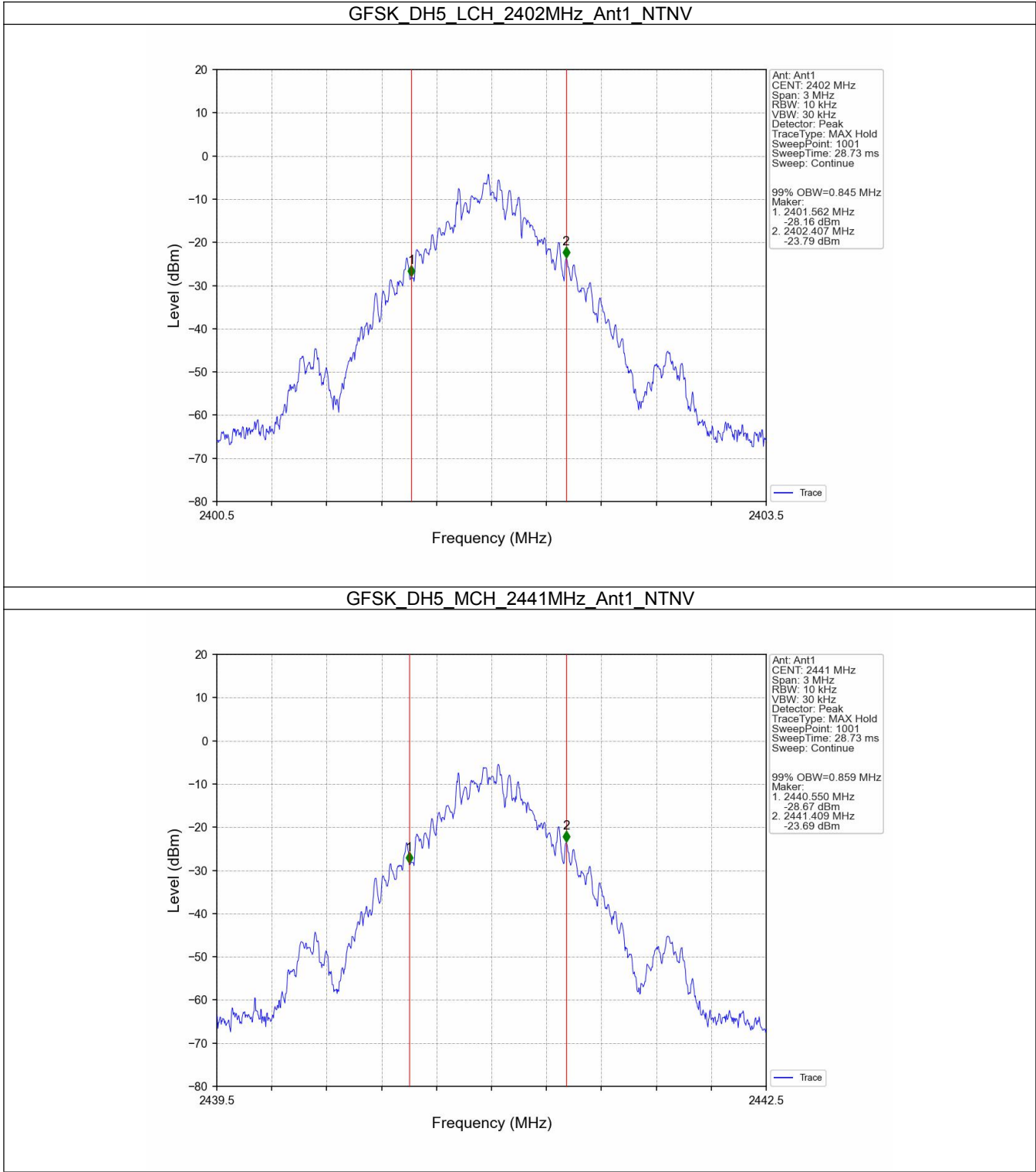
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.882	/	Pass
		2441	DH5	1	0.880	/	Pass
		2480	DH5	1	0.880	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.258	/	Pass
		2441	2DH5	1	1.258	/	Pass
		2480	2DH5	1	1.258	/	Pass
8DPSK	SISO	2402	3DH5	1	1.260	/	Pass
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		2480	3DH5	1	1.261	/	Pass

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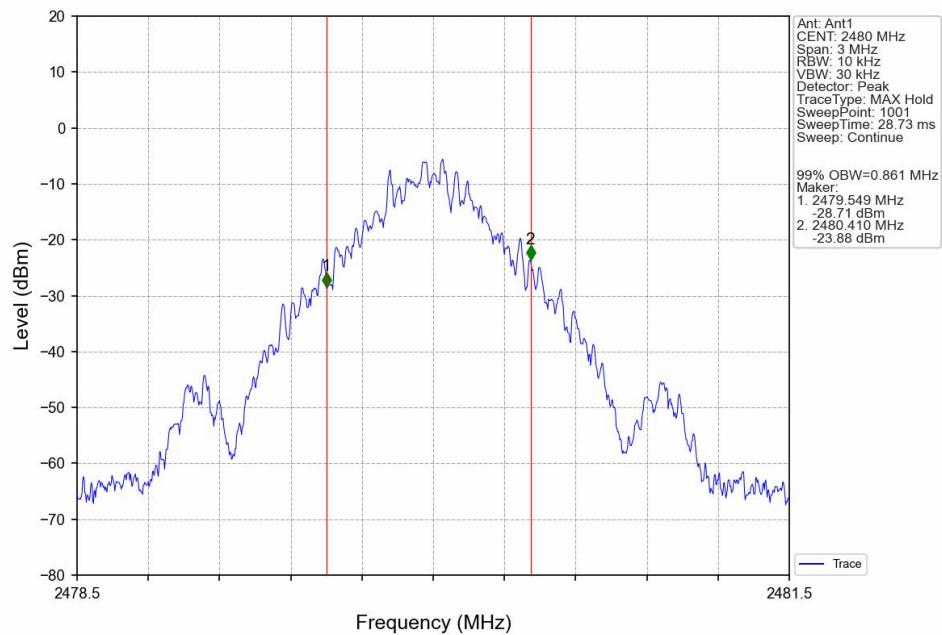
1.2 Test Graph

1.2.1 OBW

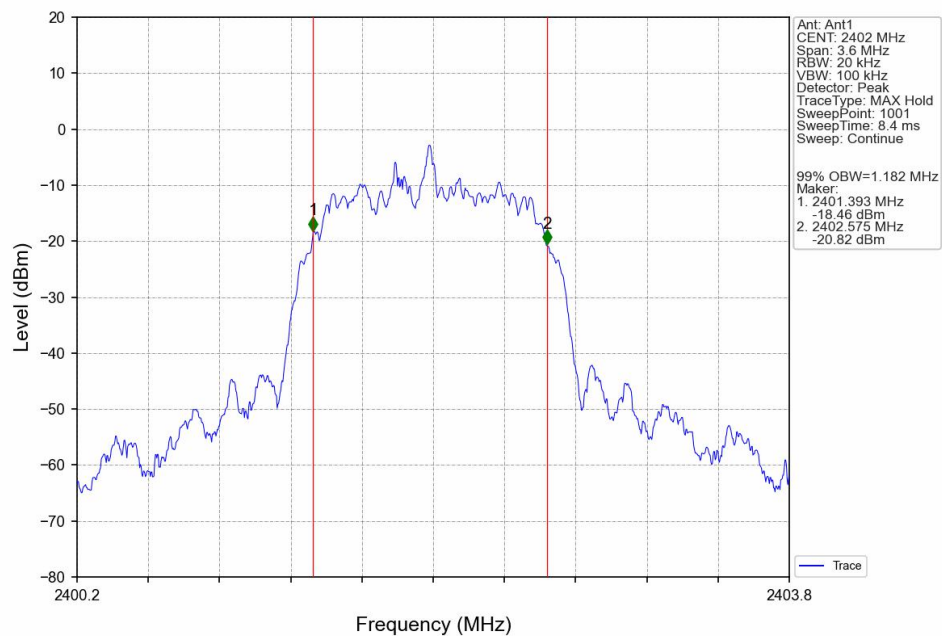


FCC ID: 2BLKS-GKS61

GFSK_DH5_HCH_2480MHz_Ant1_NTNV

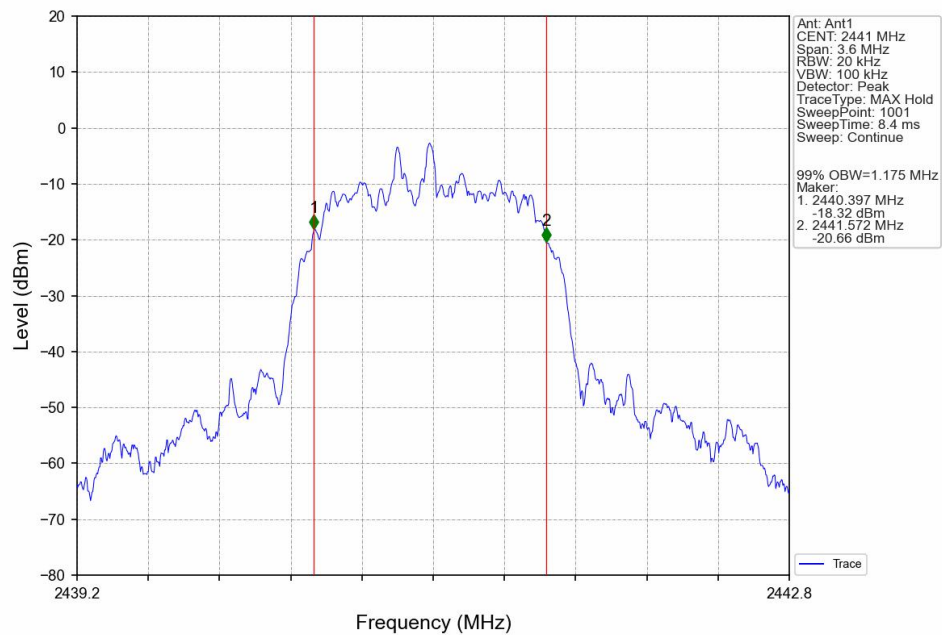


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

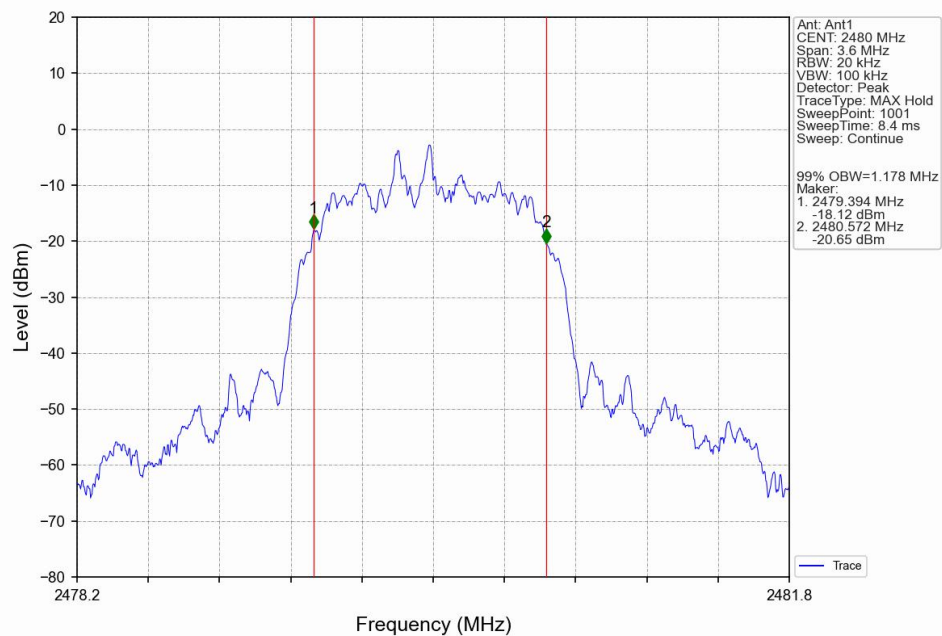


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Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

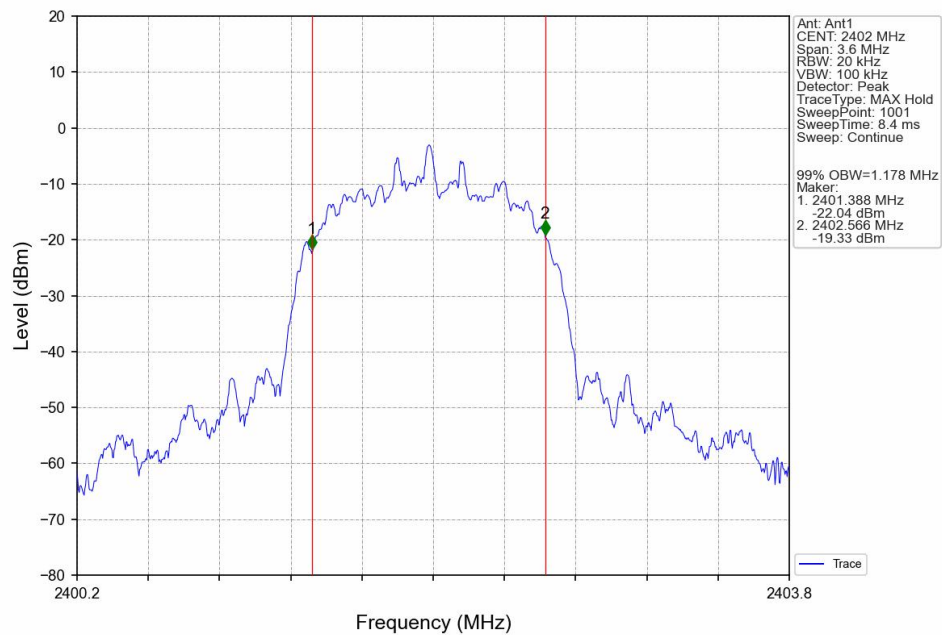


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

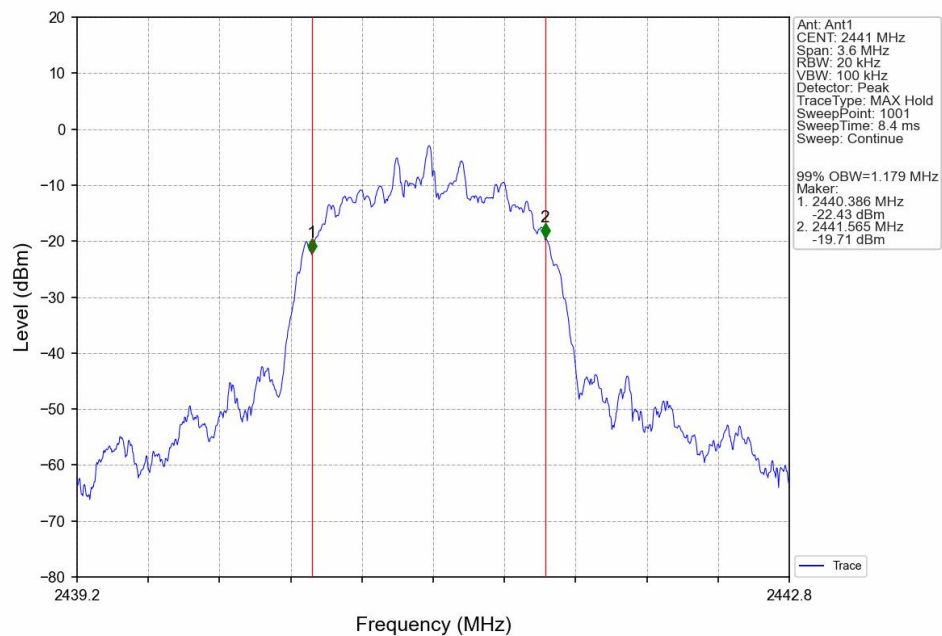


FCC ID: 2BLKS-GKS61

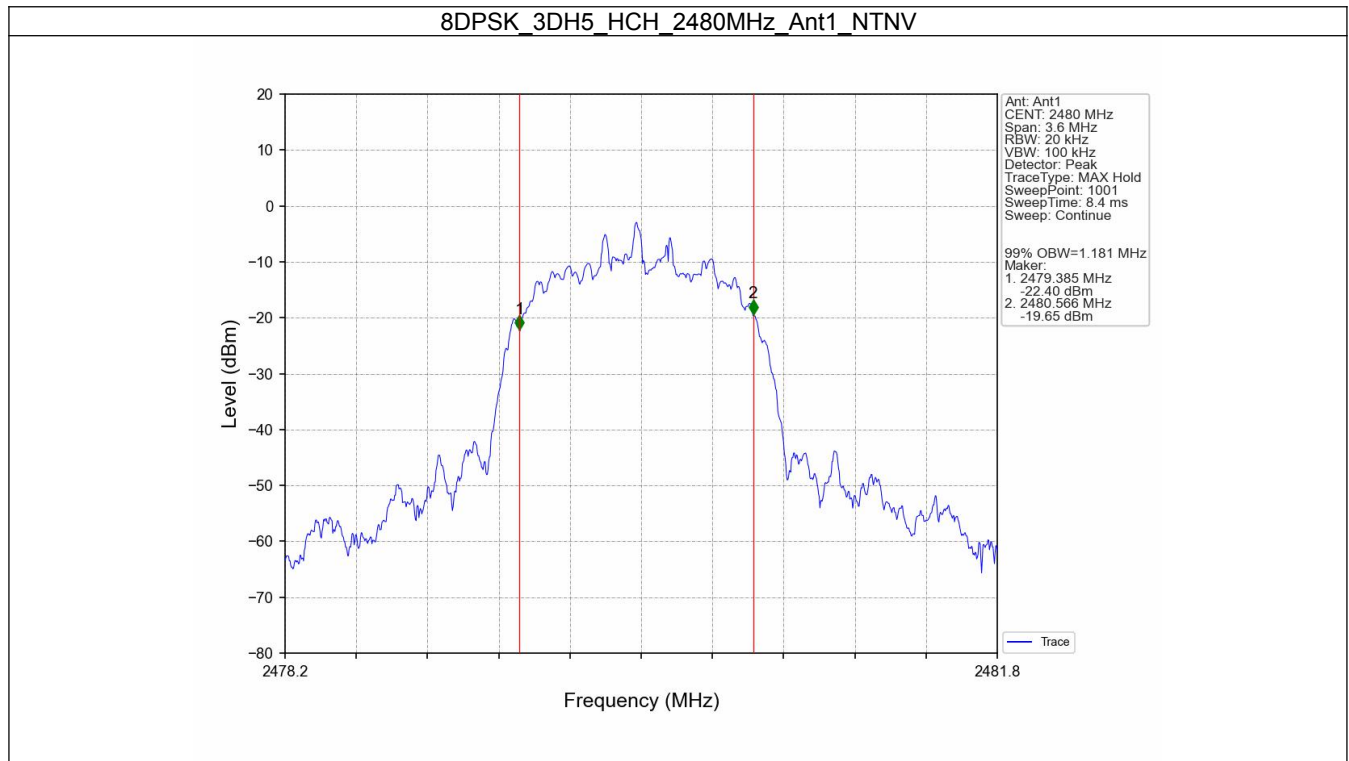
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV

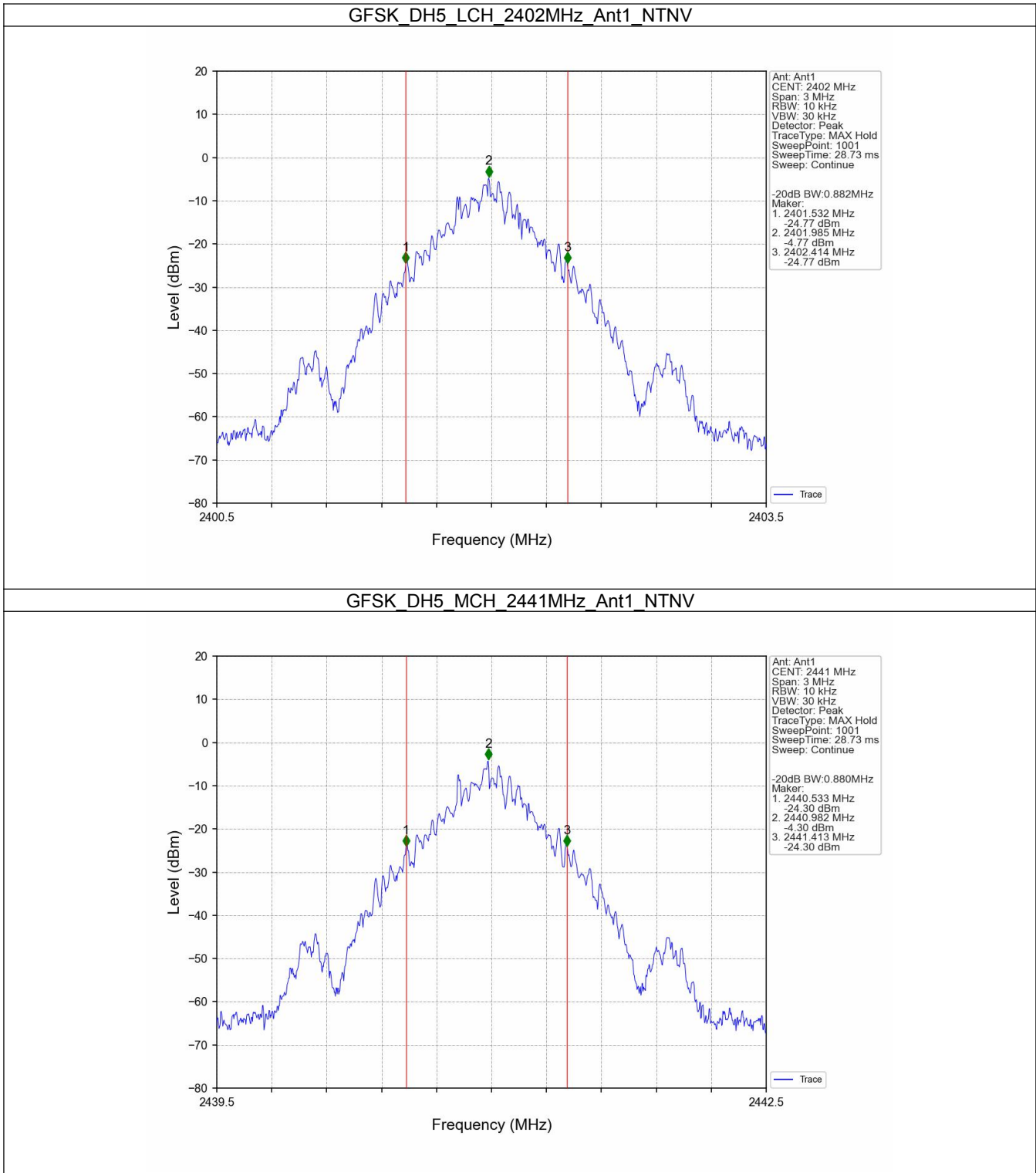


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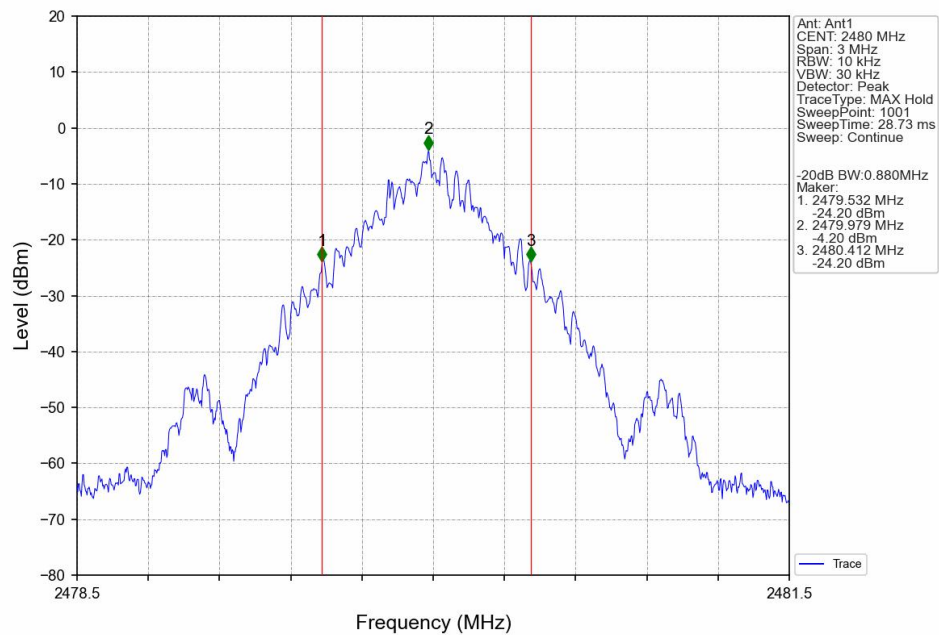
FCC ID: 2BLKS-GKS61

1.2.2 20dB BW

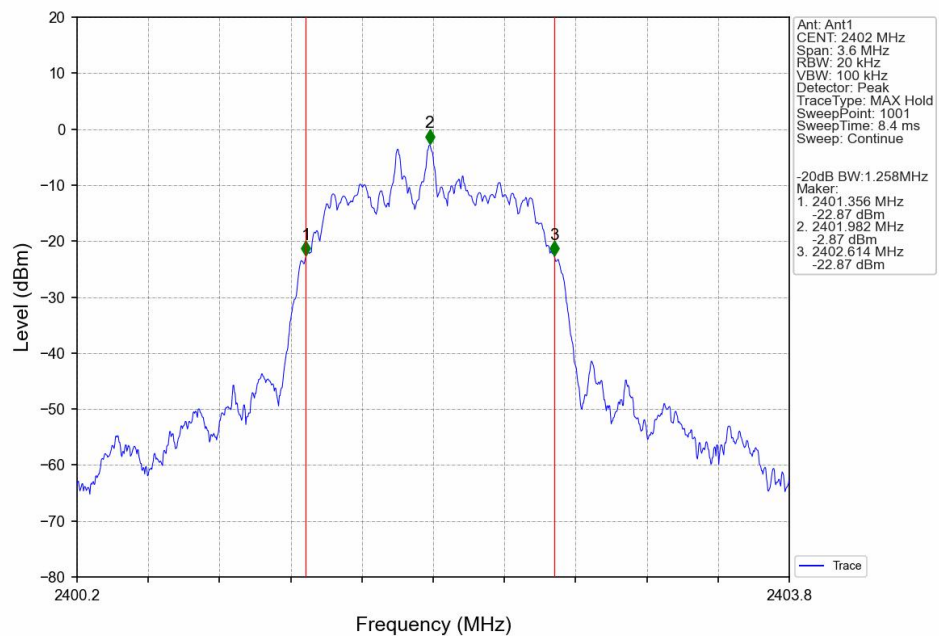


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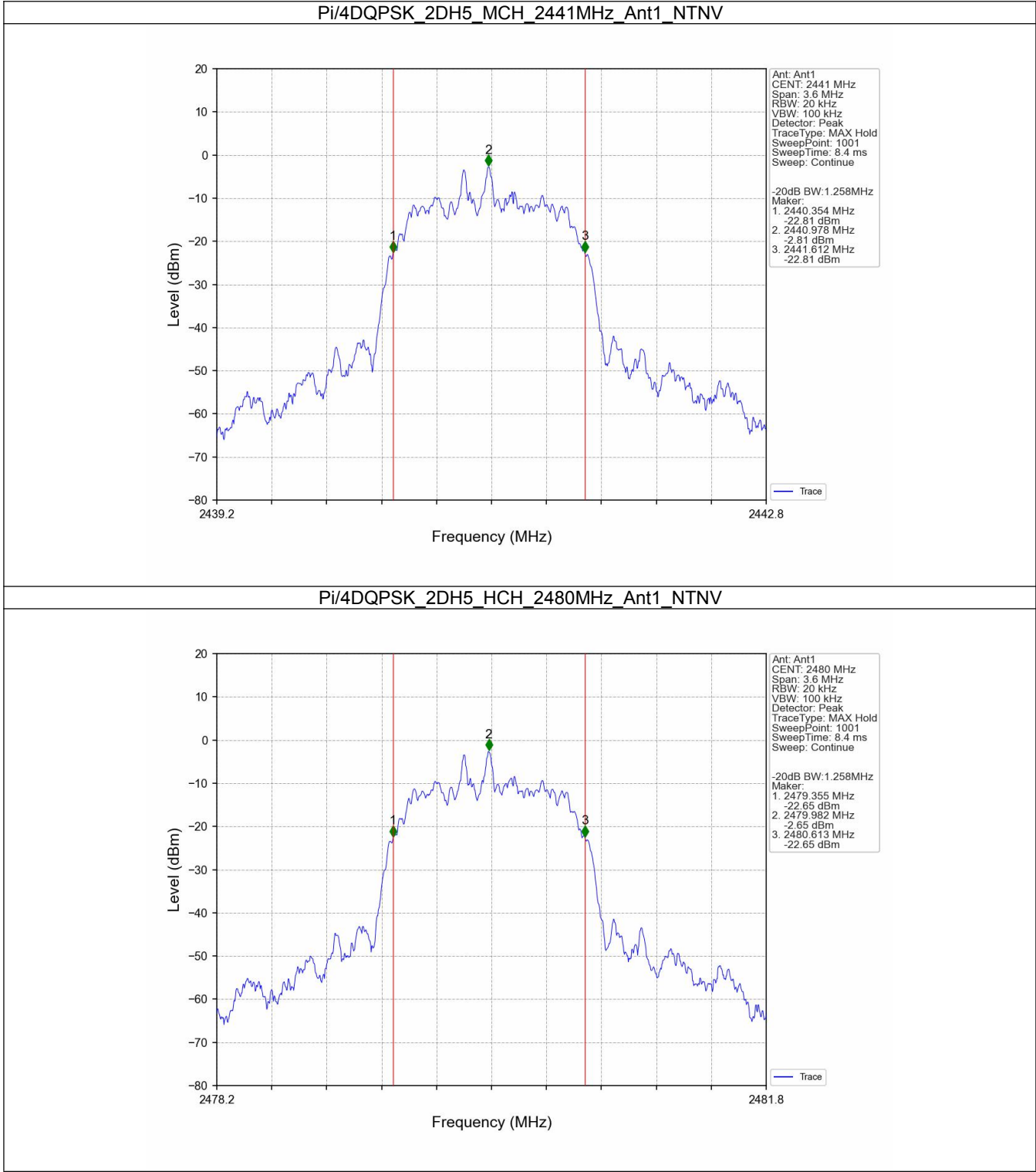
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

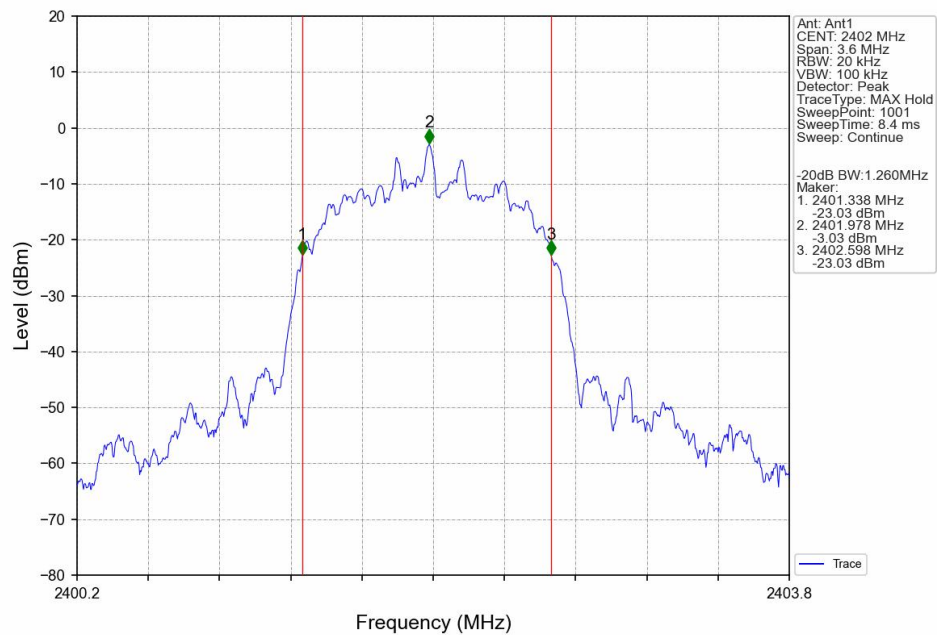


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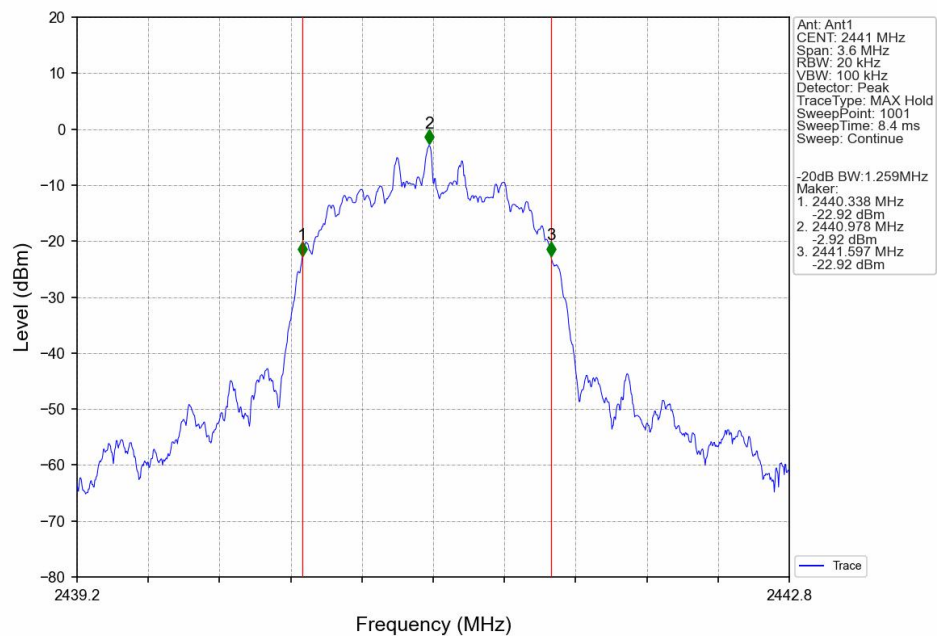


FCC ID: 2BLKS-GKS61

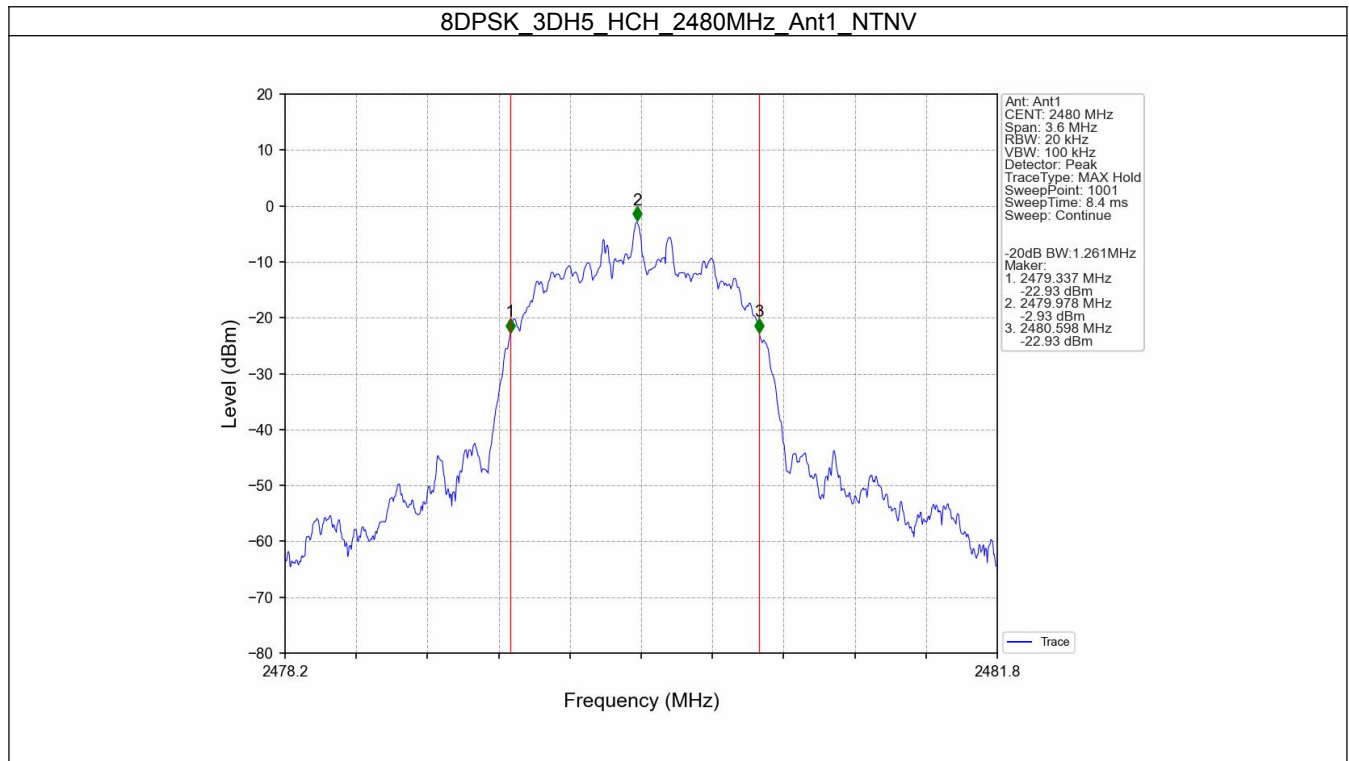
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



FCC ID: 2BLKS-GKS61



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2. Maximum Conducted Output Power

2.1 Test Result

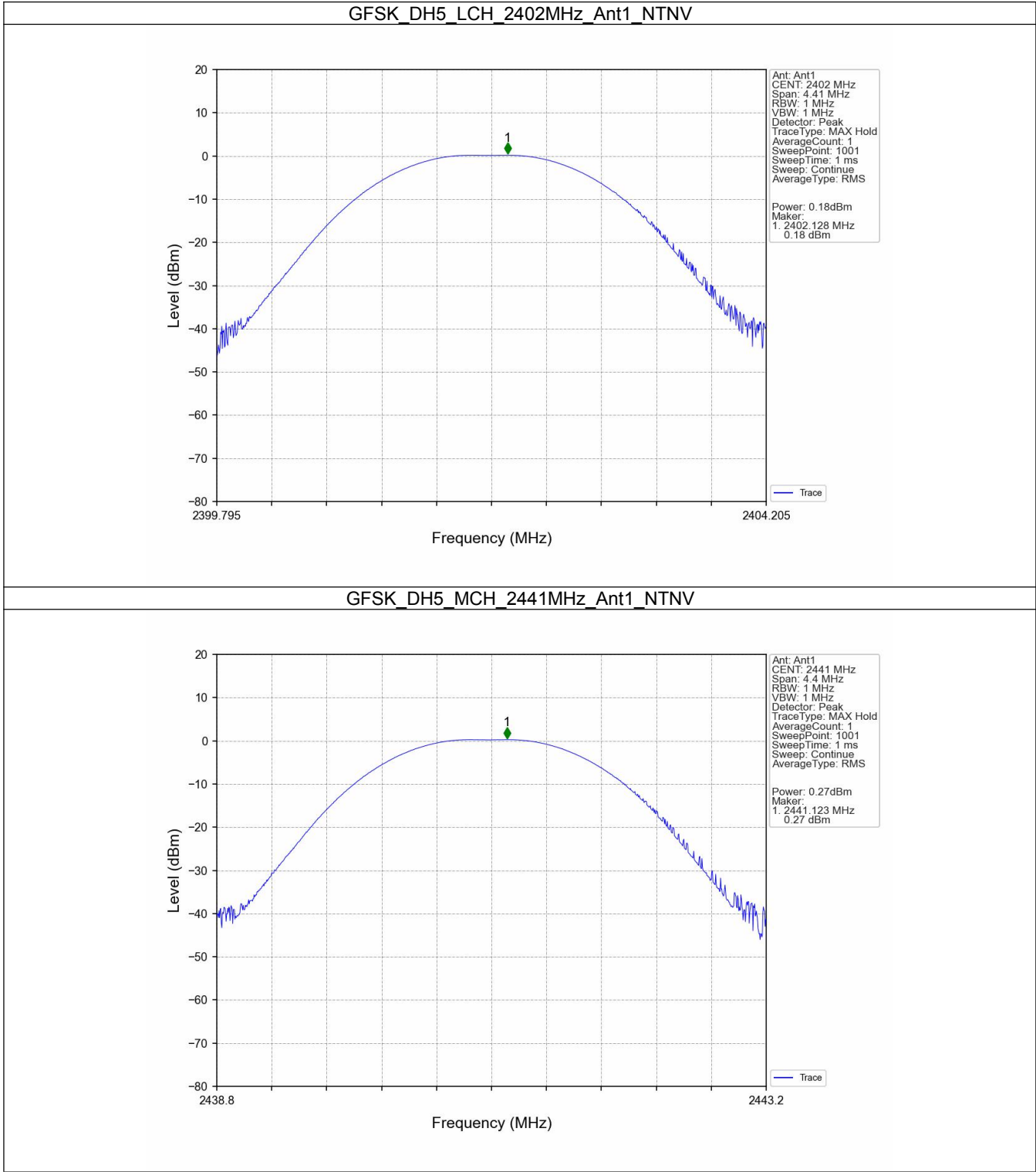
2.1.1 Power

Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	0.18	<=30	Pass
		2441	DH5	0.27	<=30	Pass
		2480	DH5	0.34	<=30	Pass
Pi/4DQPSK	SISO	2402	2DH5	1.06	<=20.97	Pass
		2441	2DH5	1.27	<=20.97	Pass
		2480	2DH5	1.25	<=20.97	Pass
8DPSK	SISO	2402	3DH5	1.37	<=20.97	Pass
		2441	3DH5	1.50	<=20.97	Pass
		2480	3DH5	1.51	<=20.97	Pass
Note1: Antenna Gain: Ant1: 2.81dBi;						

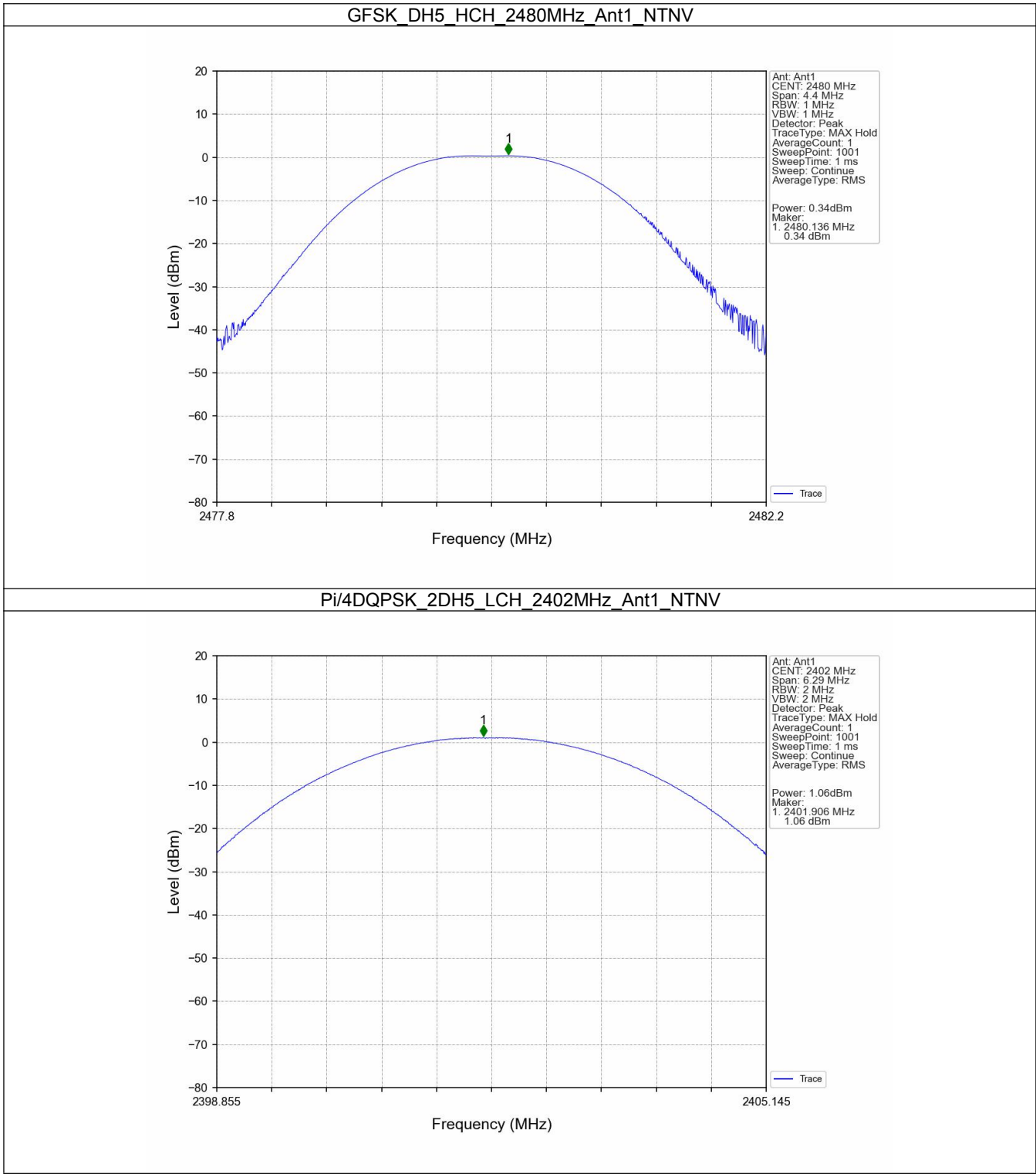
FCC ID: 2BLKS-GKS61

2.2 Test Graph

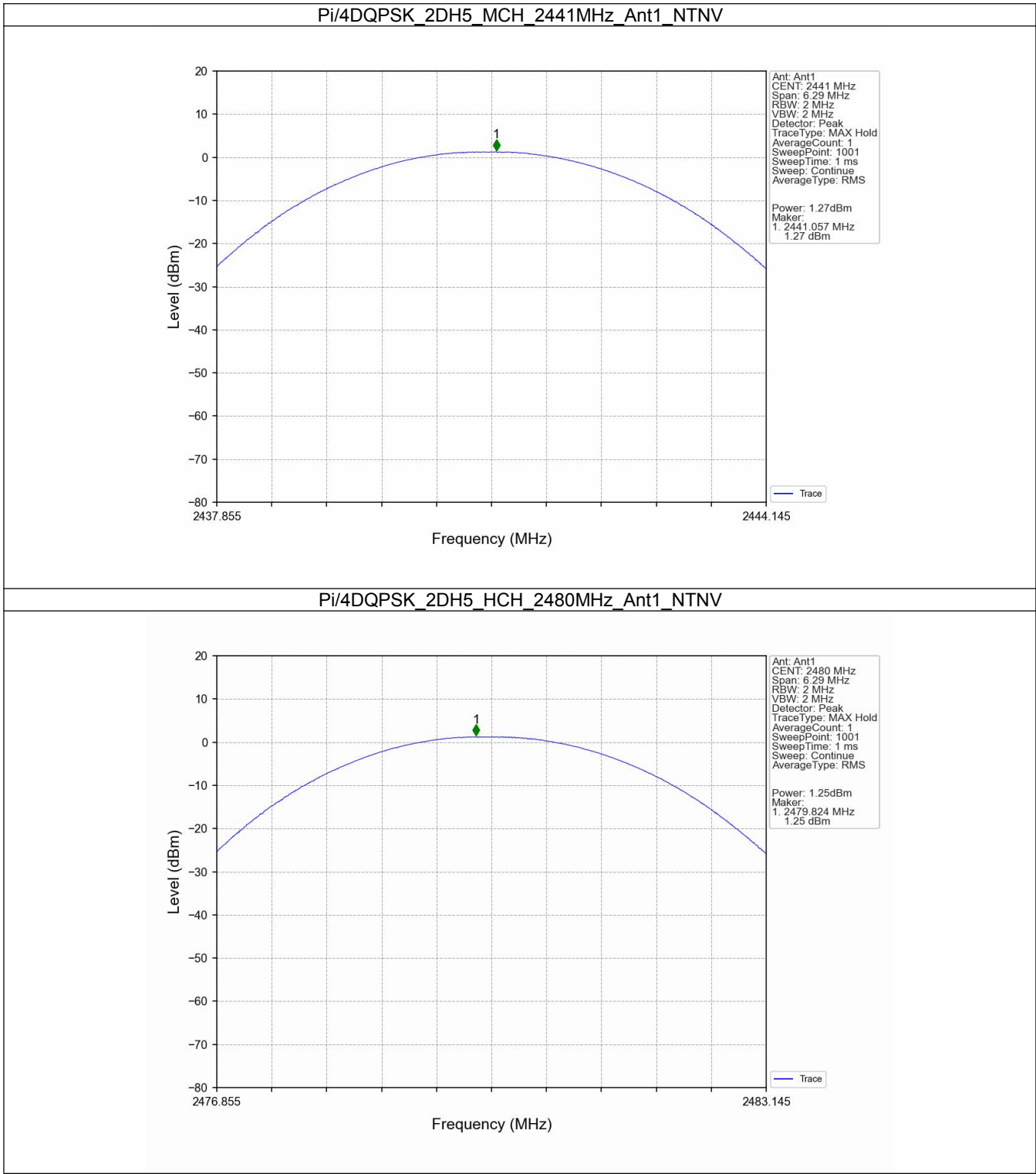
2.2.1 Power



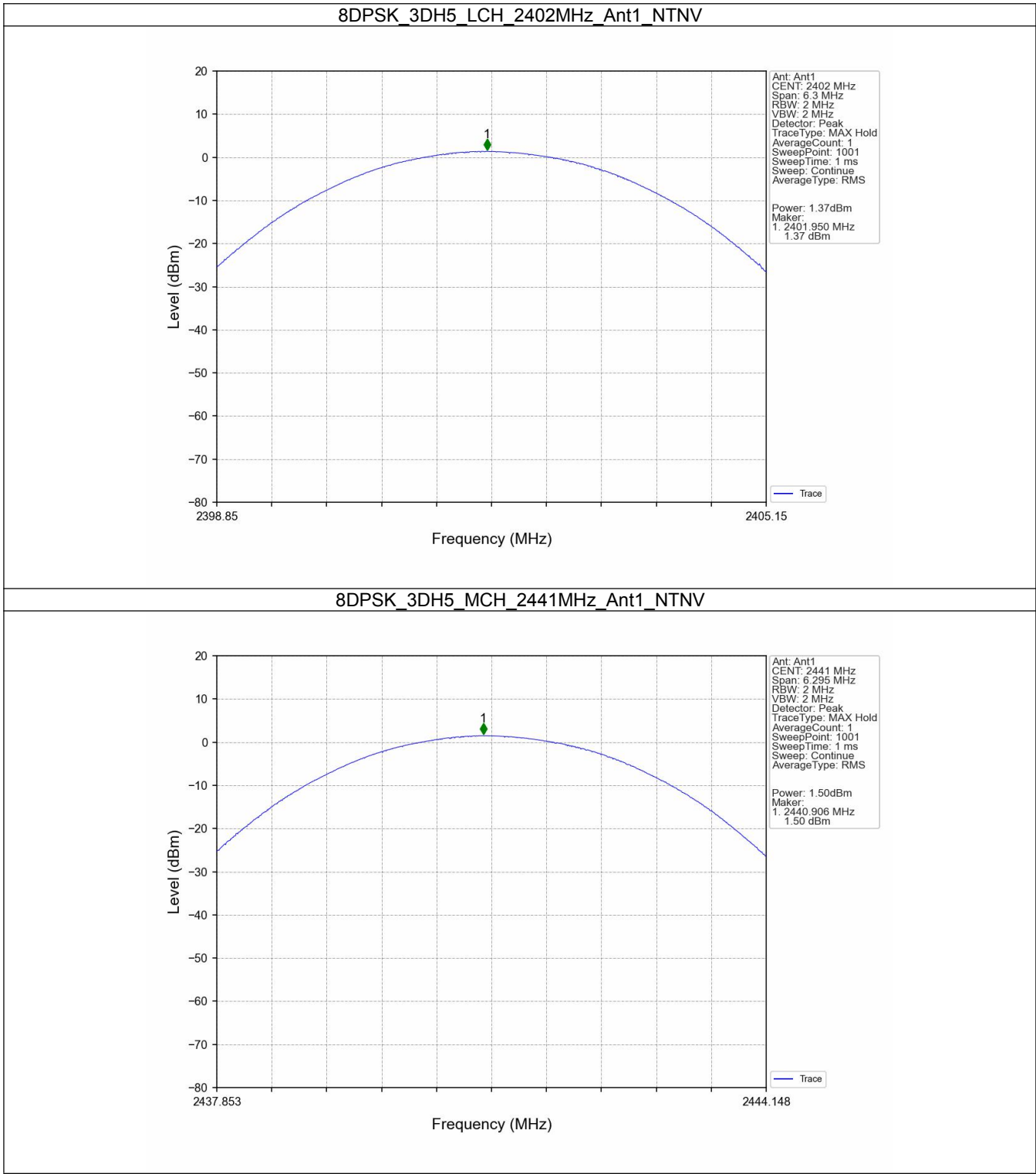
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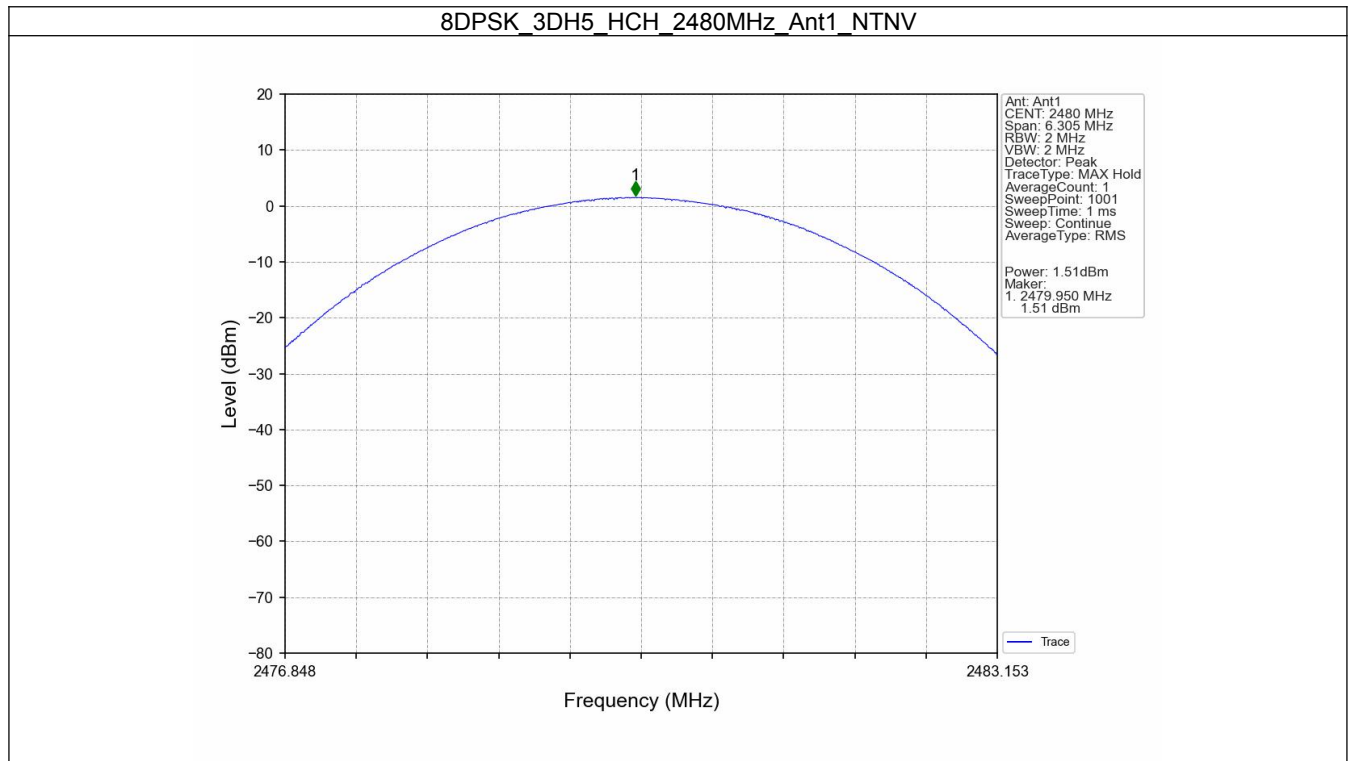
FCC ID: 2BLKS-GKS61



FCC ID: 2BLKS-GKS61



FCC ID: 2BLKS-GKS61



FCC ID: 2BLKS-GKS61

3. Carrier Frequency Separation

3.1 Test Result

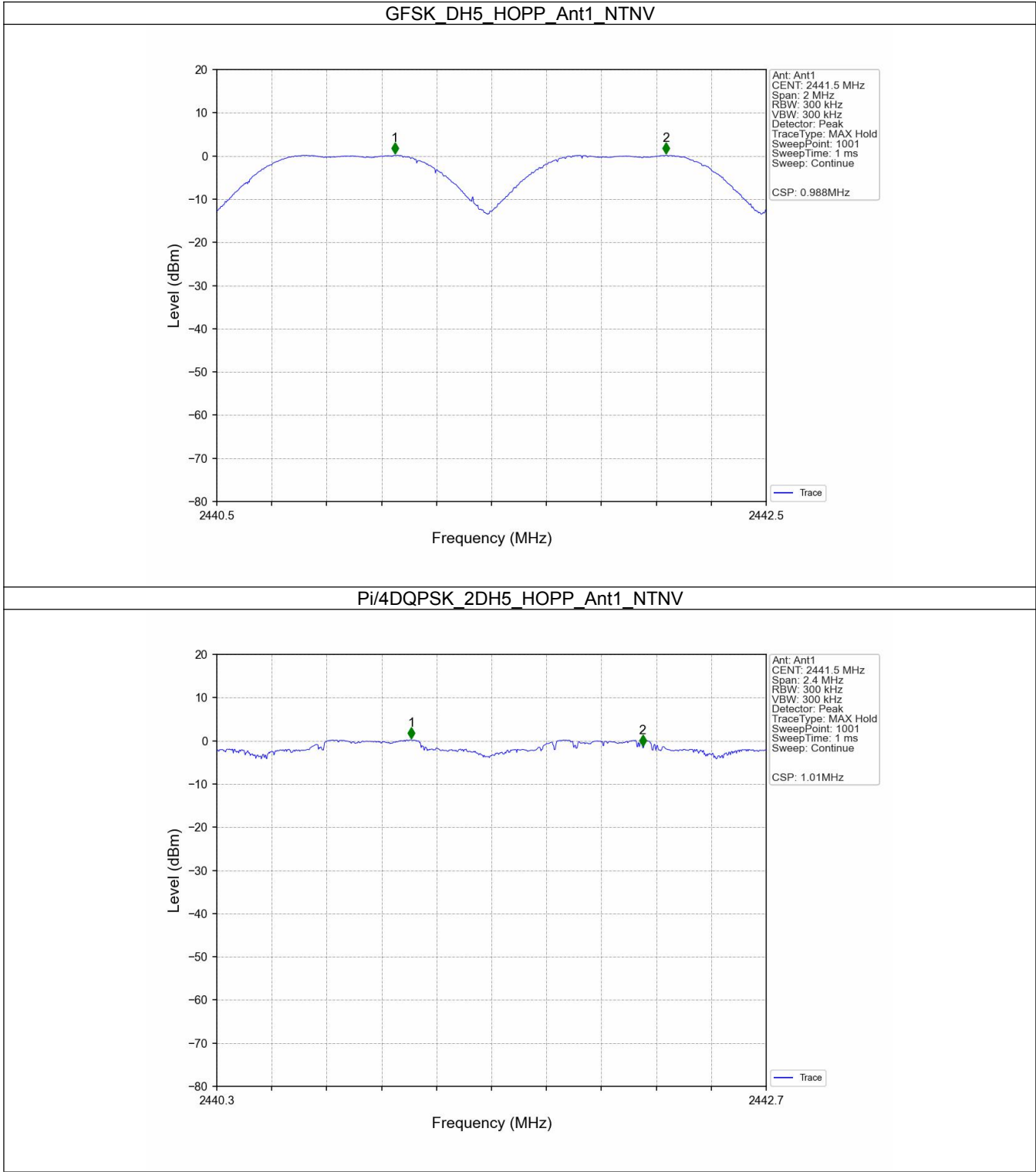
3.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	0.988	0.882	≥ 0.882	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	1.010	1.258	≥ 0.839	Pass
8DPSK	SISO	HOPP	3DH5	0.996	1.261	≥ 0.841	Pass

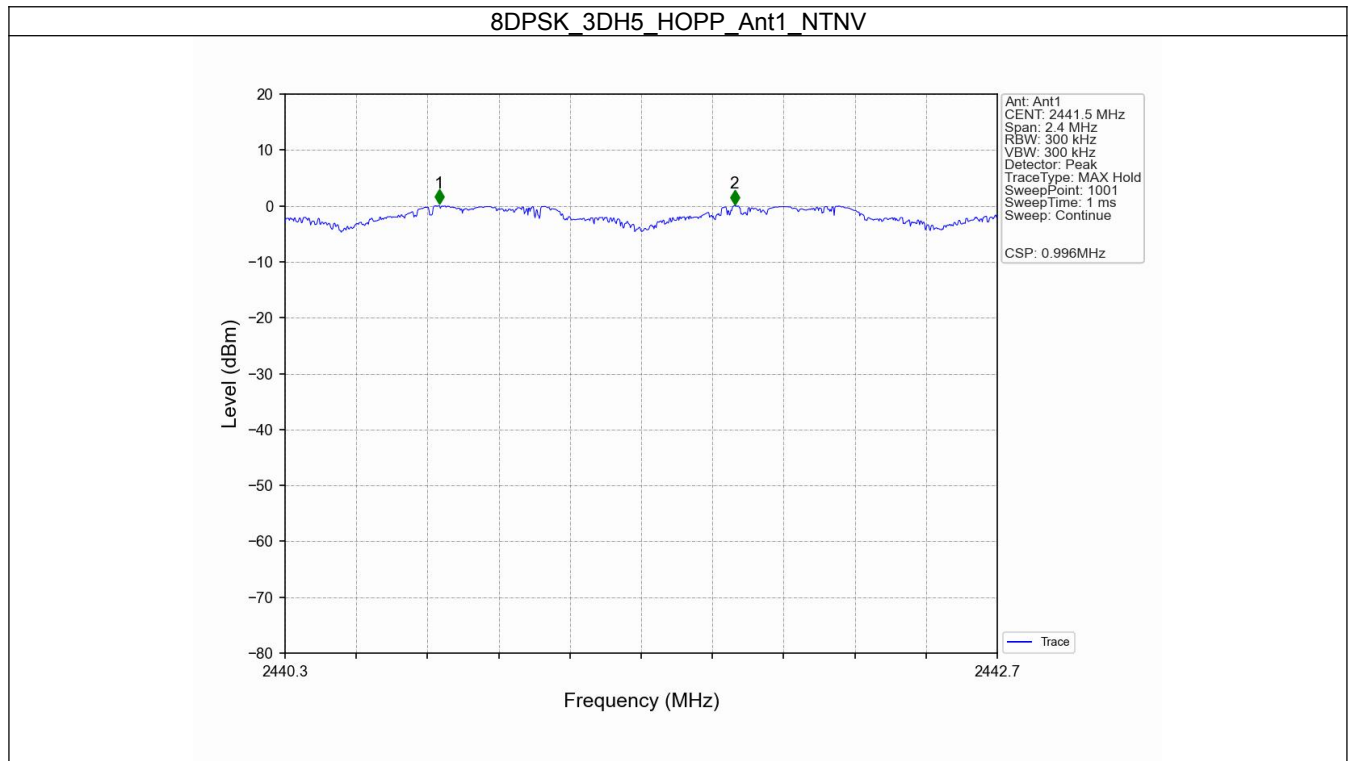
FCC ID: 2BLKS-GKS61

3.2 Test Graph

3.2.1 Ant1



FCC ID: 2BLKS-GKS61



FCC ID: 2BLKS-GKS61

4. Number of Hopping Frequencies

4.1 Test Result

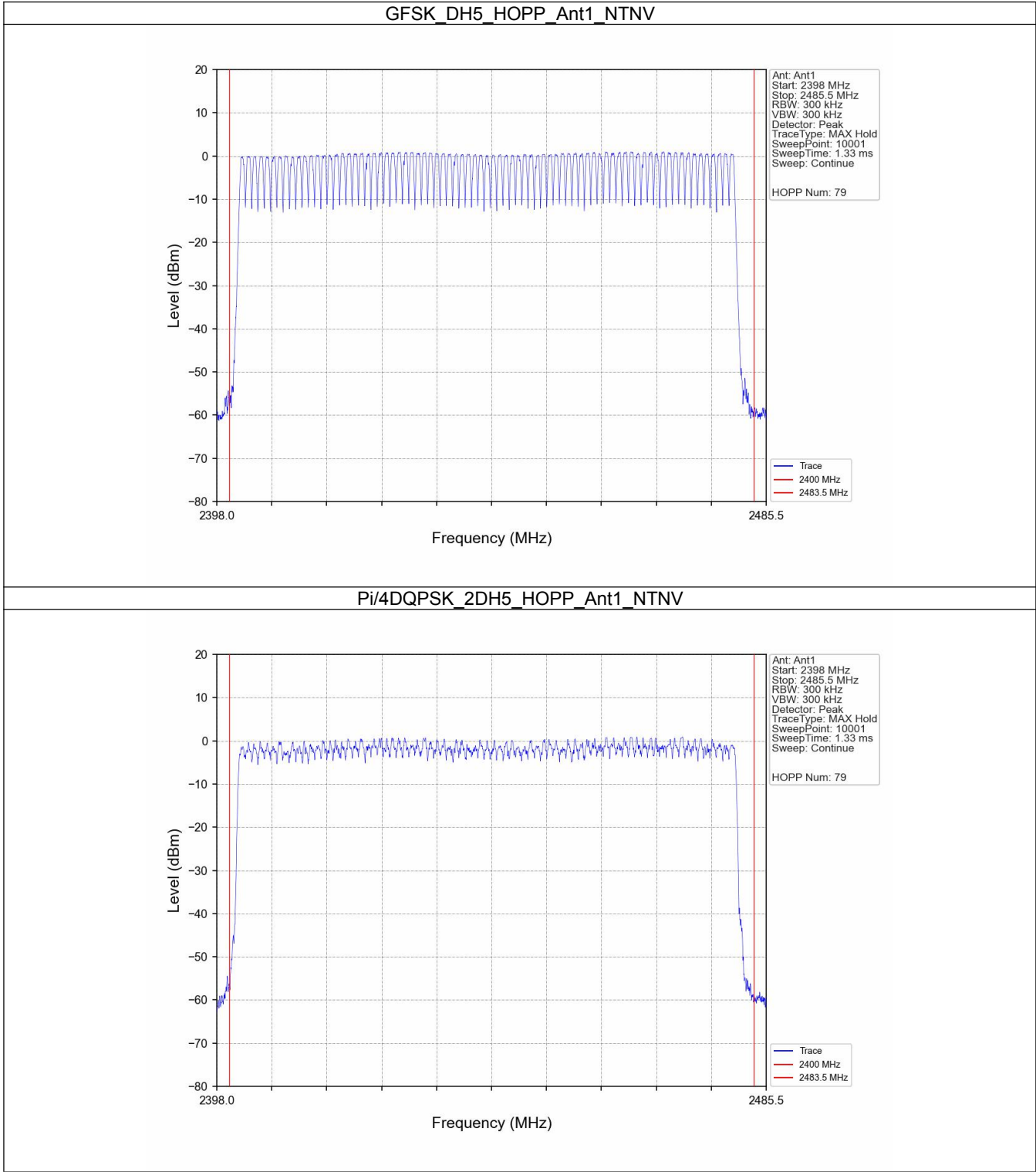
4.1.1 HoppNum

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

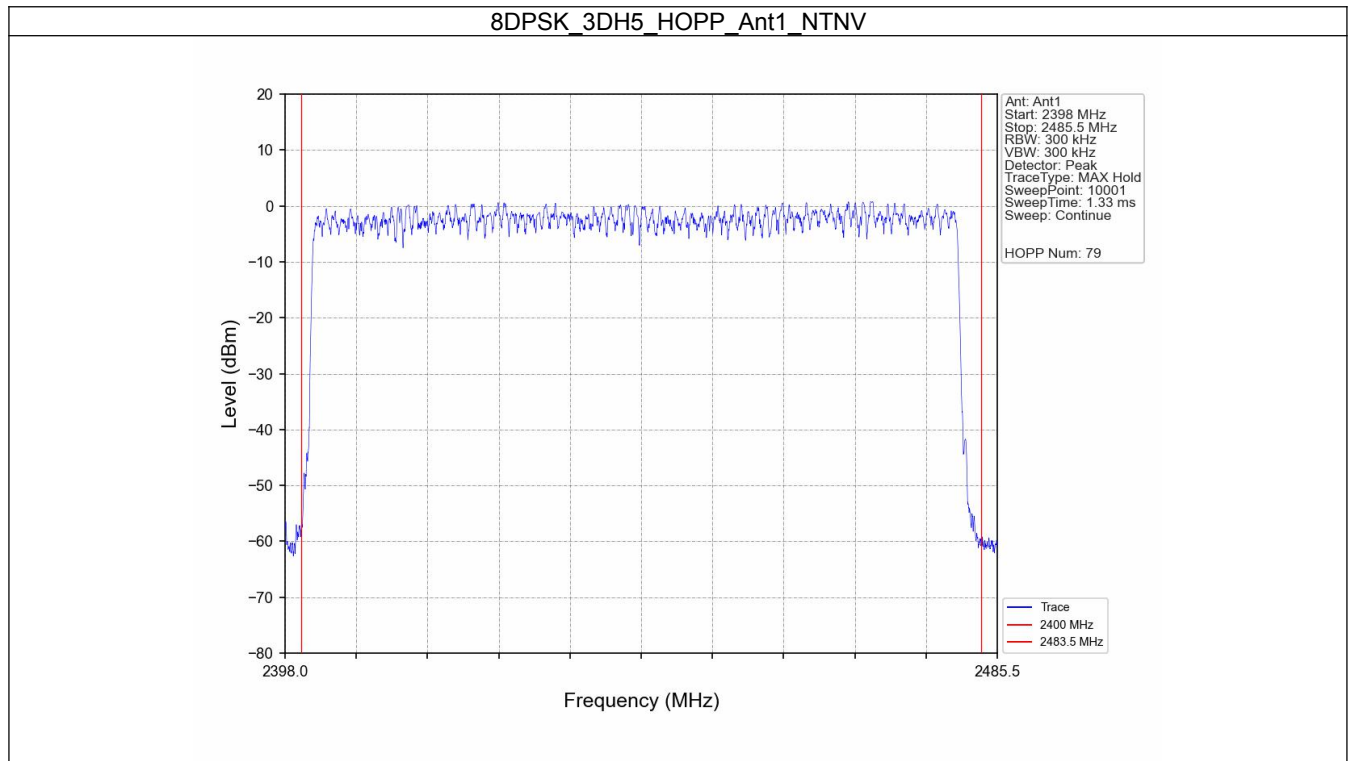
FCC ID: 2BLKS-GKS61

4.2 Test Graph

4.2.1 HoppNum



FCC ID: 2BLKS-GKS61



FCC ID: 2BLKS-GKS61

5. Time of Occupancy (Dwell Time)

5.1 Test Result

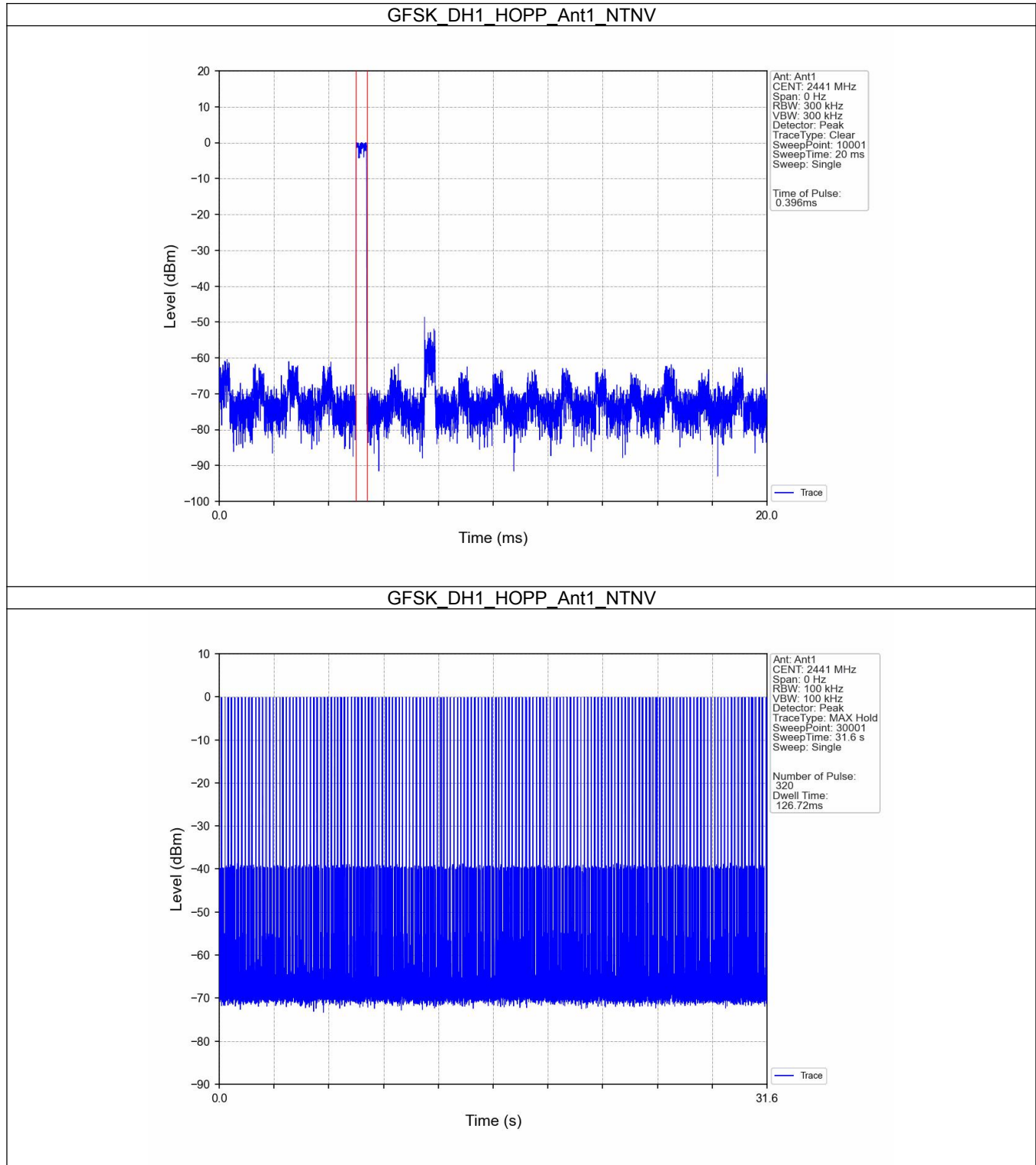
5.1.1 Ant1

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	0.396	31.600	320	126.720	<=400	Pass
			DH3	1.652	31.600	165	272.580	<=400	Pass
			DH5	2.900	31.600	106	307.400	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH1	0.398	31.600	319	126.962	<=400	Pass
			2DH3	1.656	31.600	160	264.960	<=400	Pass
			2DH5	2.902	31.600	109	316.318	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.404	31.600	320	129.280	<=400	Pass
			3DH3	1.658	31.600	161	266.938	<=400	Pass
			3DH5	2.910	31.600	118	343.380	<=400	Pass

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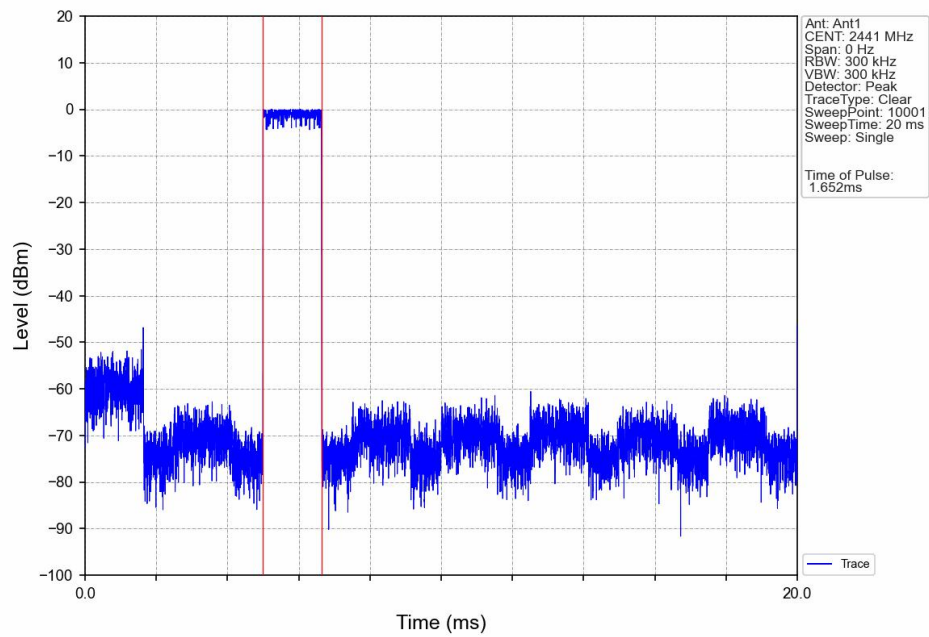
5.2 Test Graph

5.2.1 Ant1

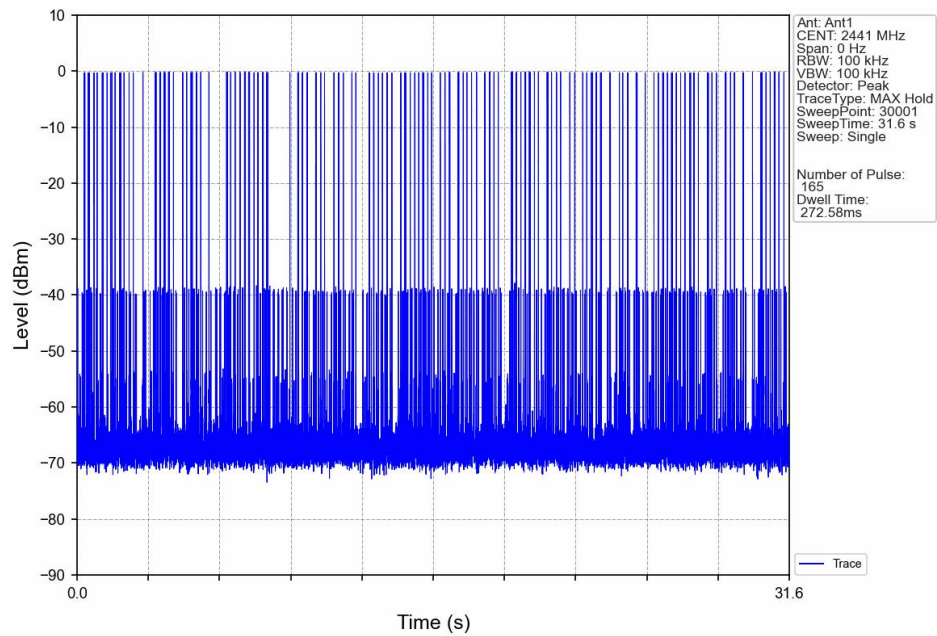


FCC ID: 2BLKS-GKS61

GFSK_DH3_HOPP_Ant1_NTNV

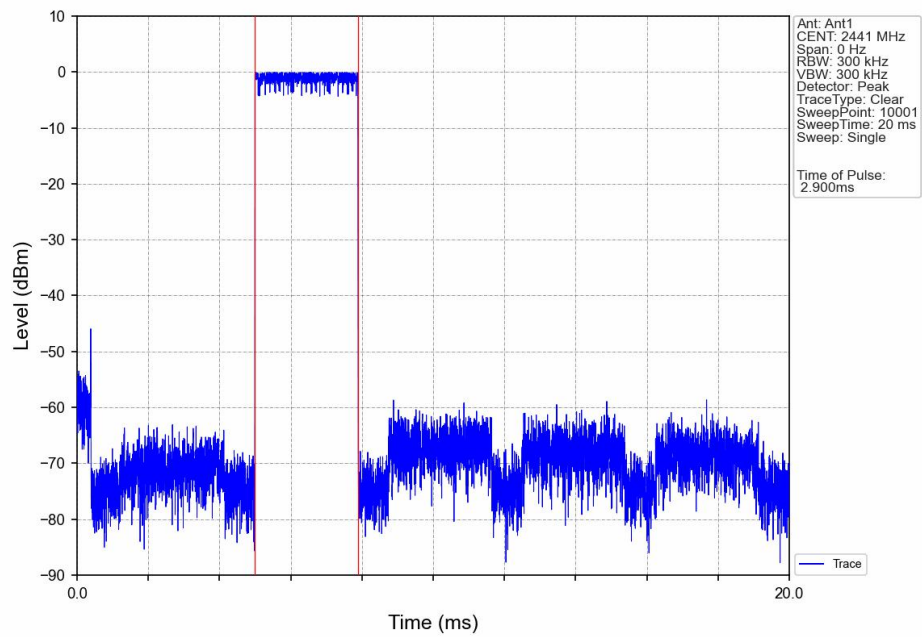


GFSK_DH3_HOPP_Ant1_NTNV

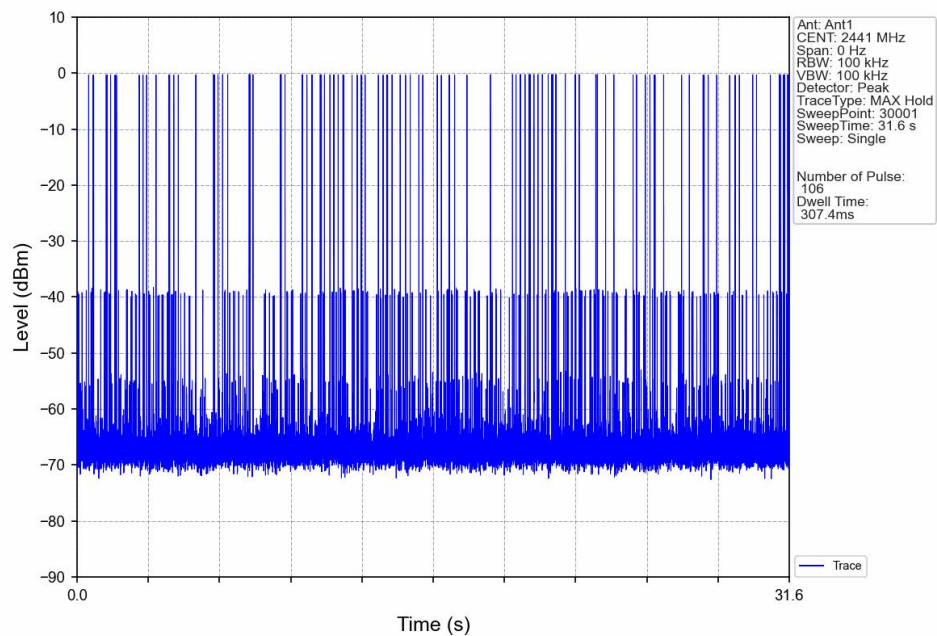


FCC ID: 2BLKS-GKS61

GFSK_DH5_HOPP_Ant1_NTNV

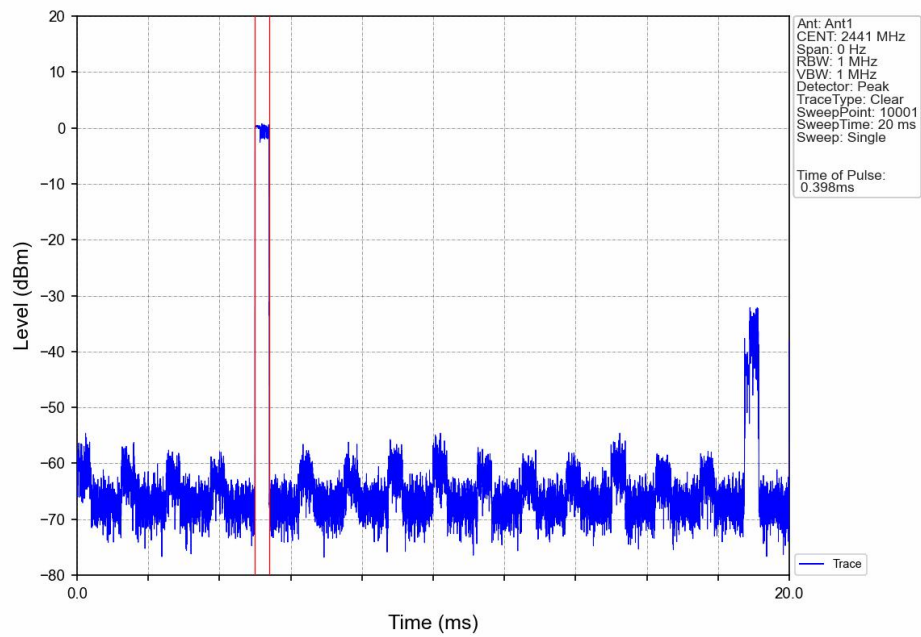


GFSK_DH5_HOPP_Ant1_NTNV

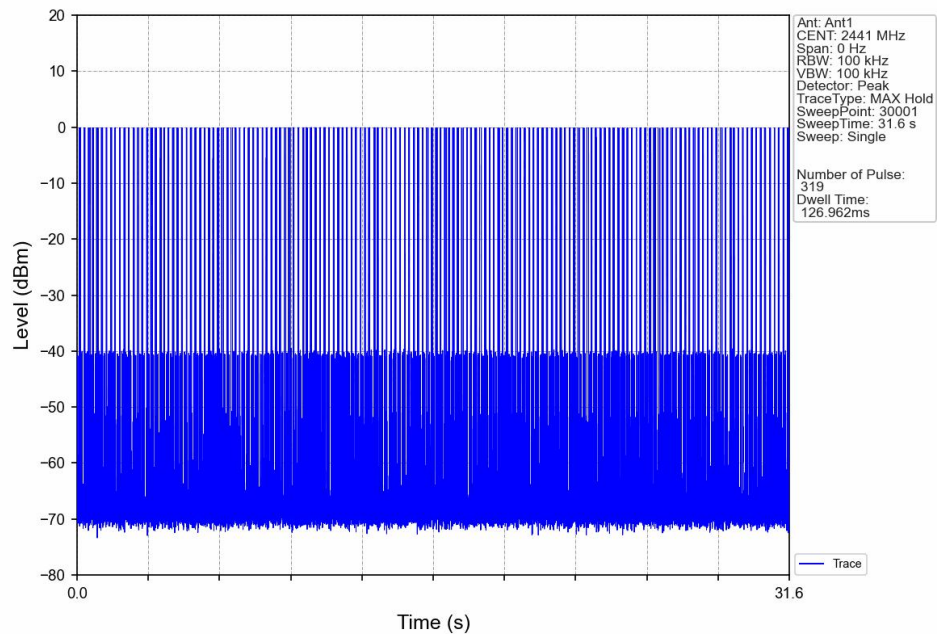


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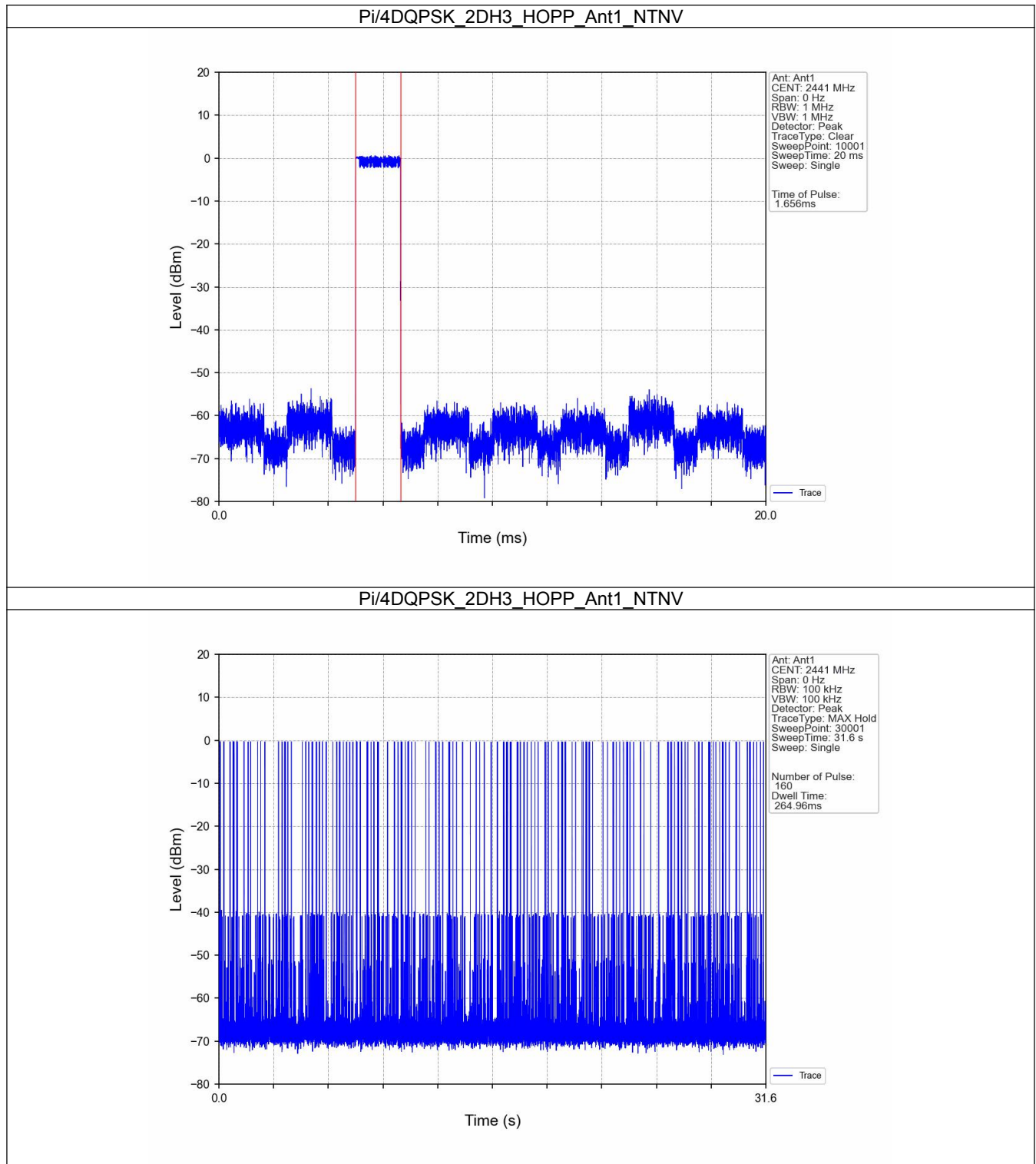
Pi/4DQPSK_2DH1_HOPP_Ant1_NTNV



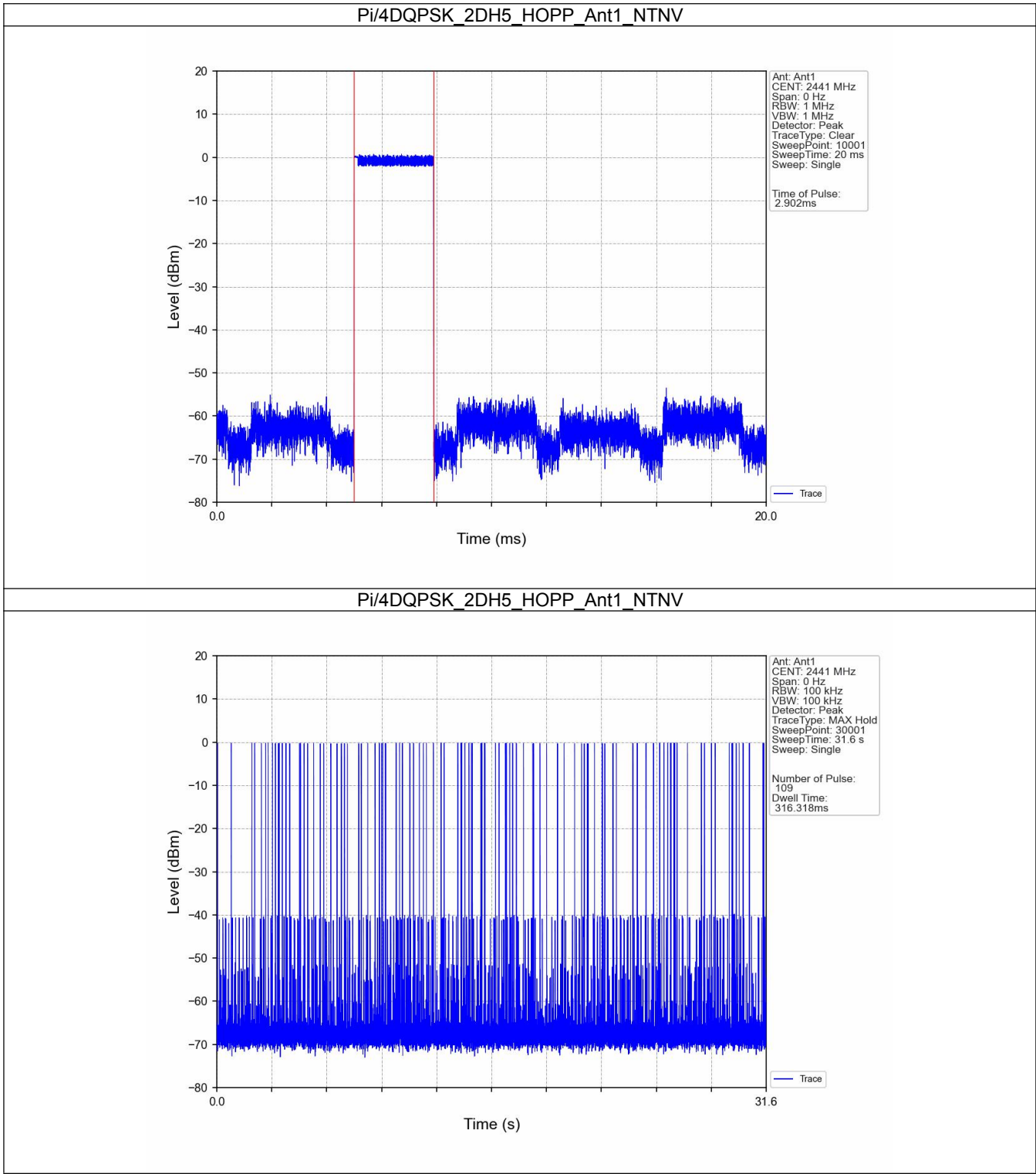
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FCC ID: 2BLKS-GKS61

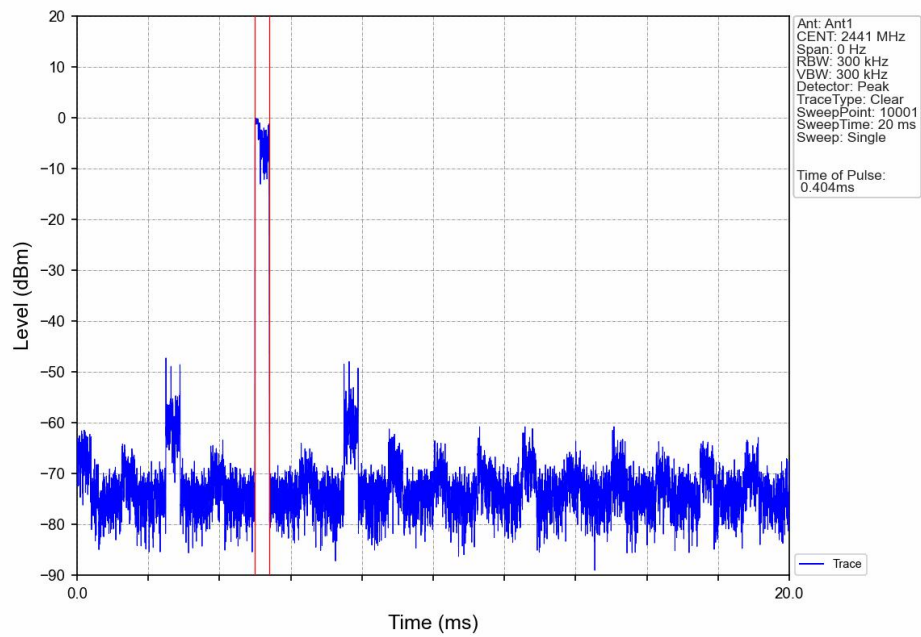


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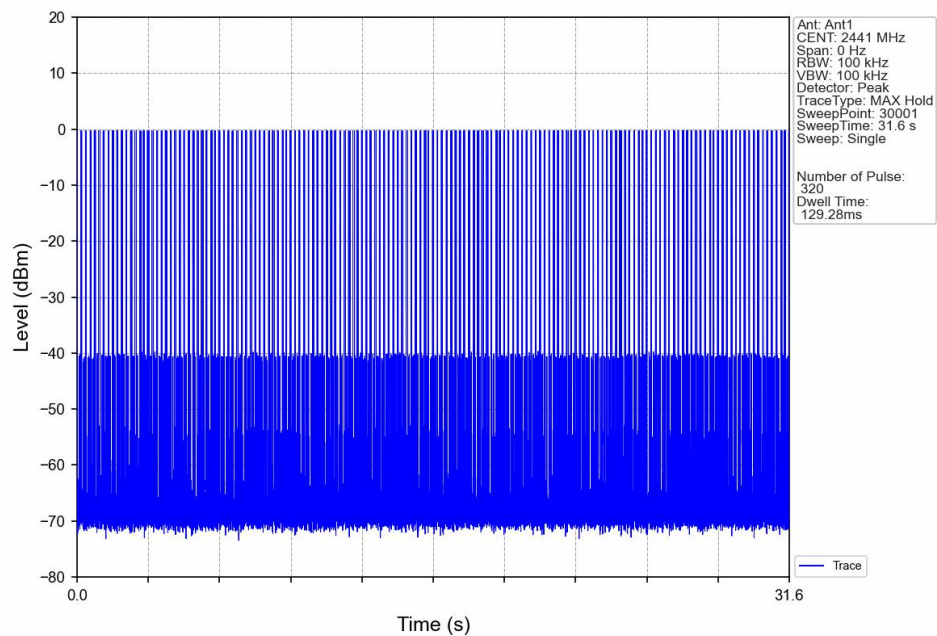


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8DPSK_3DH1_HOPP_Ant1_NTNV

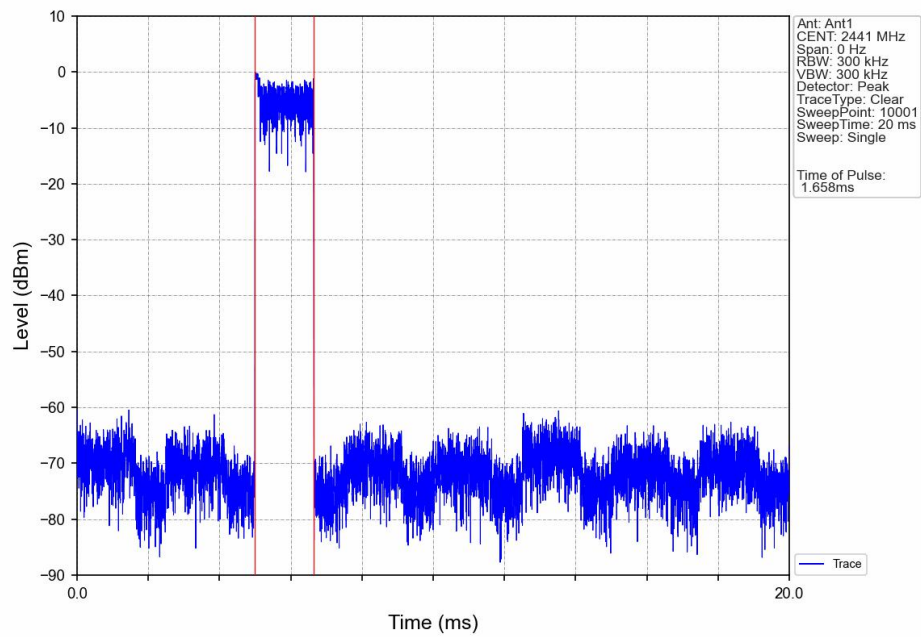


8DPSK_3DH1_HOPP_Ant1_NTNV



FCC ID: 2BLKS-GKS61

8DPSK_3DH3_HOPP_Ant1_NTNV



8DPSK_3DH3_HOPP_Ant1_NTNV

