Appendix Test Data

Report No.:	18220WC10125601	Test Date:	2021.6.18
Test Engineer:	Tony.He	Auditor:	Edward.Pan
Temperature:	24.3℃	Relative Humidity:	56%
Pressure:	1012 hPa		

1. Bandwidth

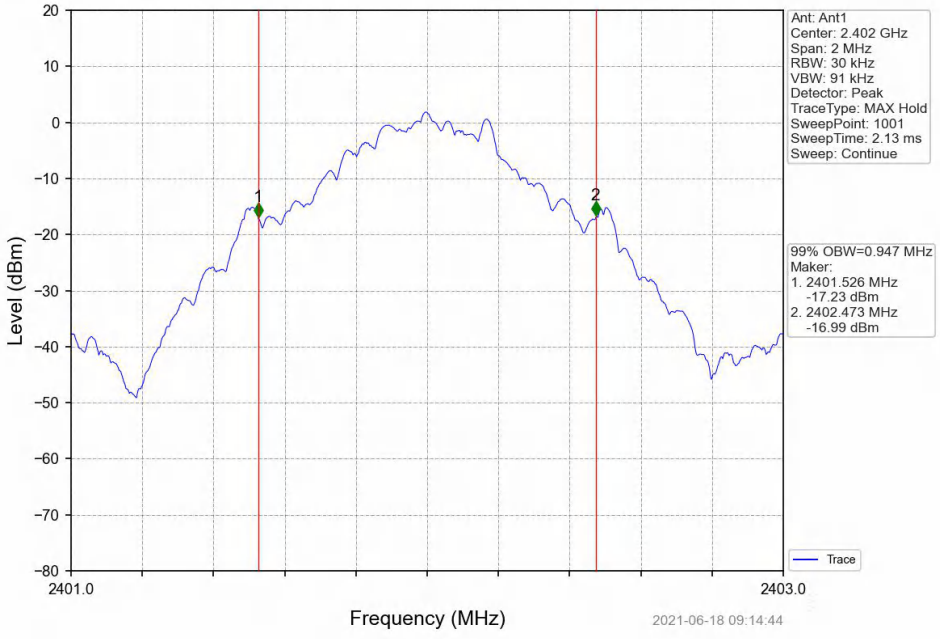
1.1 OBW

1.1.1 Test Result

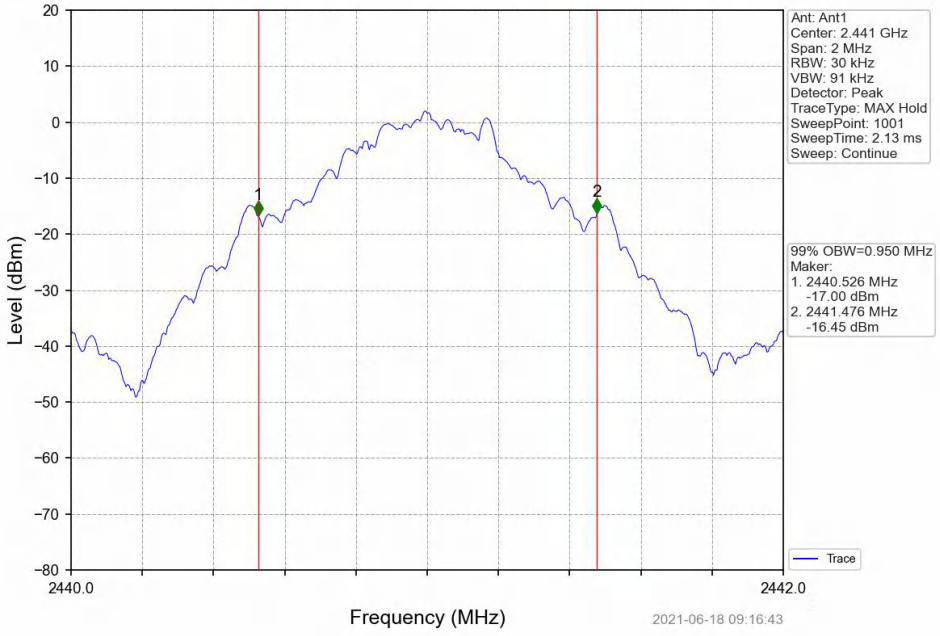
Mode	TX Type	Frequency (MHz)	Packet Type	Ant	99% Occupied Bandwidth (MHz)	Limit	Verdict
GFSK	SISO	2402	DH5	1	0.95	/	Note1
		2441	DH5	1	0.95	/	Note1
		2480	DH5	1	0.95	/	Note1
π/4-DQPSK	SISO	2402	2DH5	1	1.12	/	Note1
		2441	2DH5	1	1.12	/	Note1
		2480	2DH5	1	1.12	/	Note1
8DPSK	SISO	2402	3DH5	1	1.13	/	Note1
		2441	3DH5	1	1.13	/	Note1
		2480	3DH5	1	1.13	/	Note1
Note1: Only for Report Use							

1.1.2 Test Graph

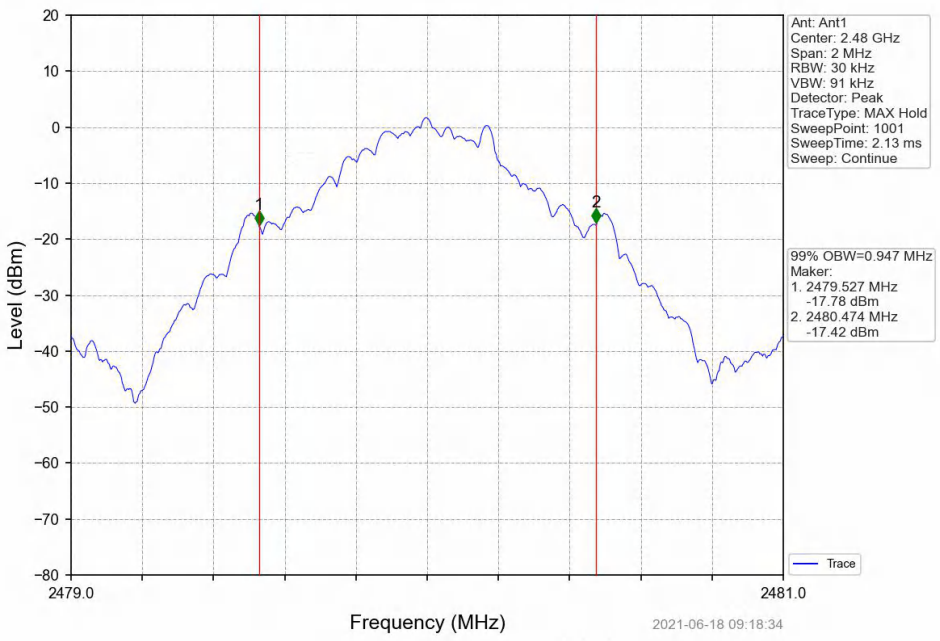
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



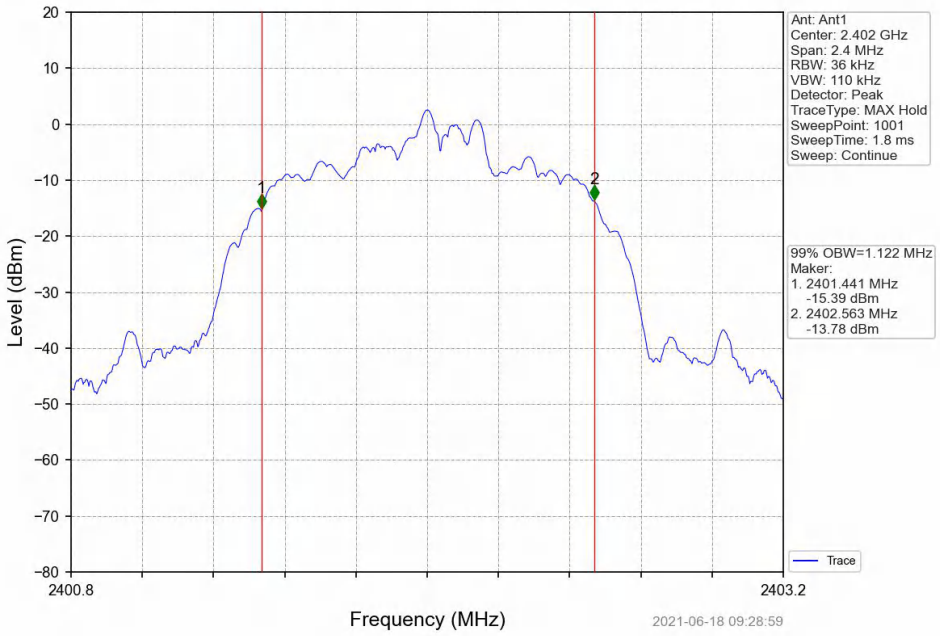
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



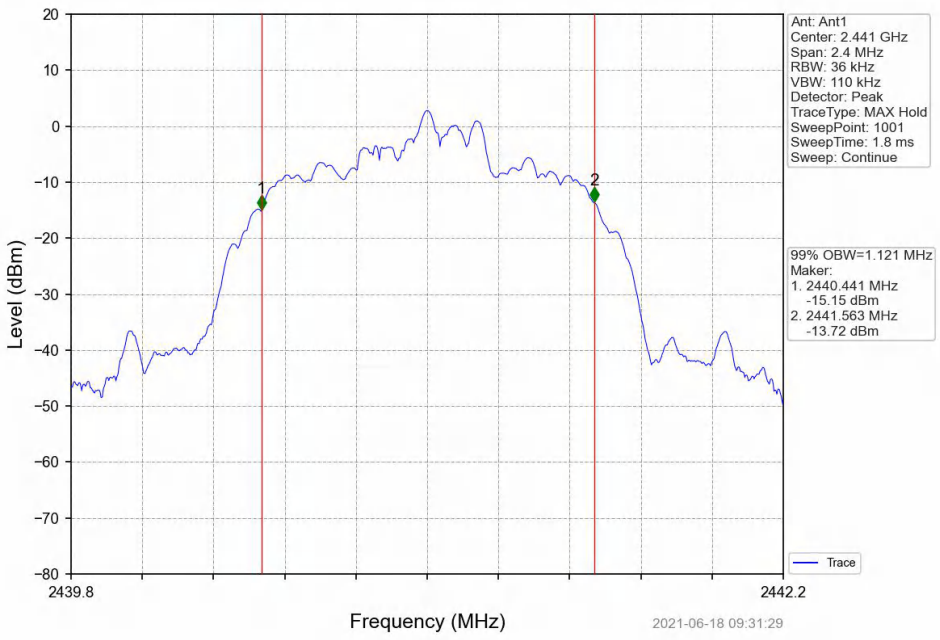
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



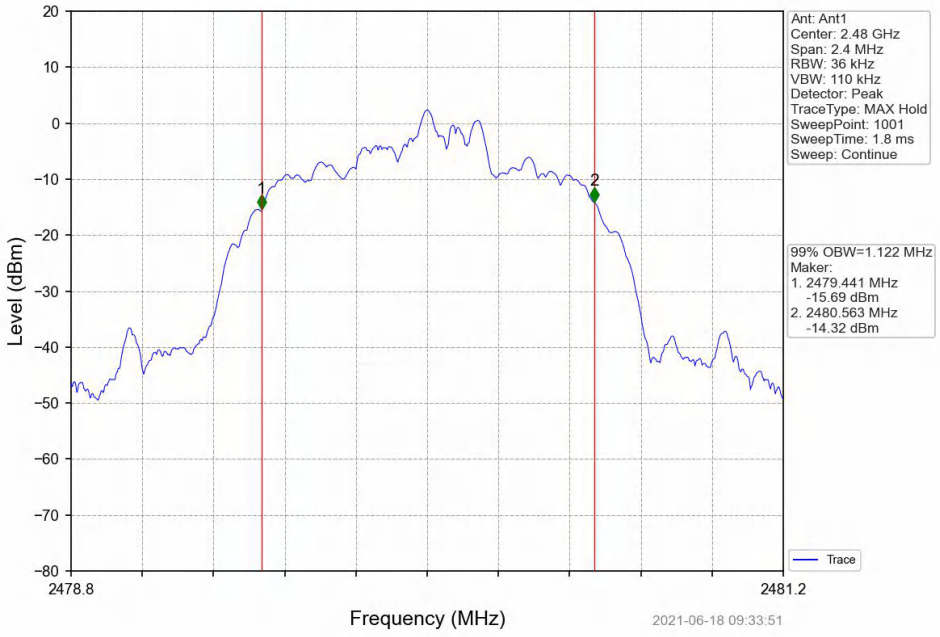
π /4-DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



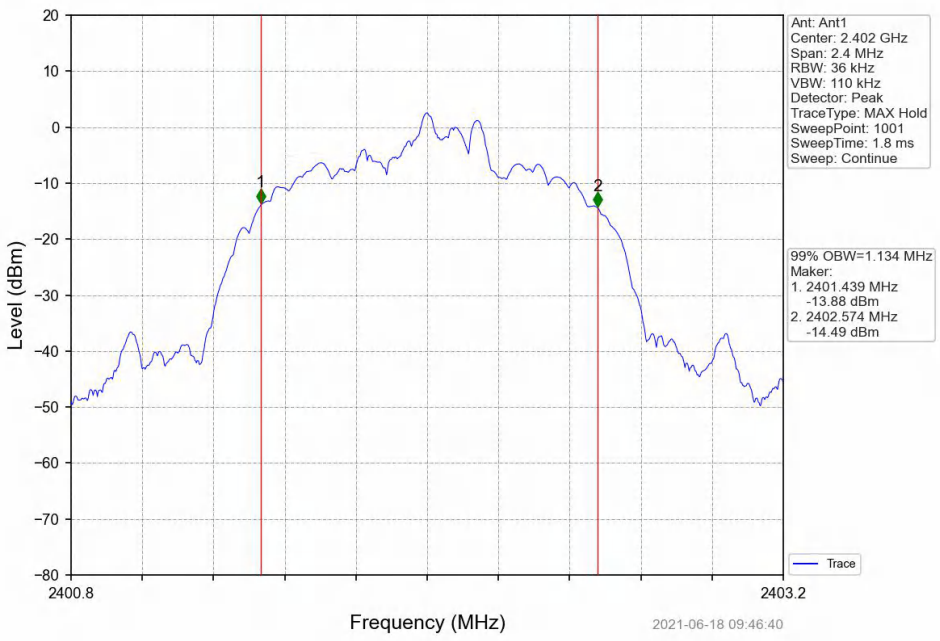
π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



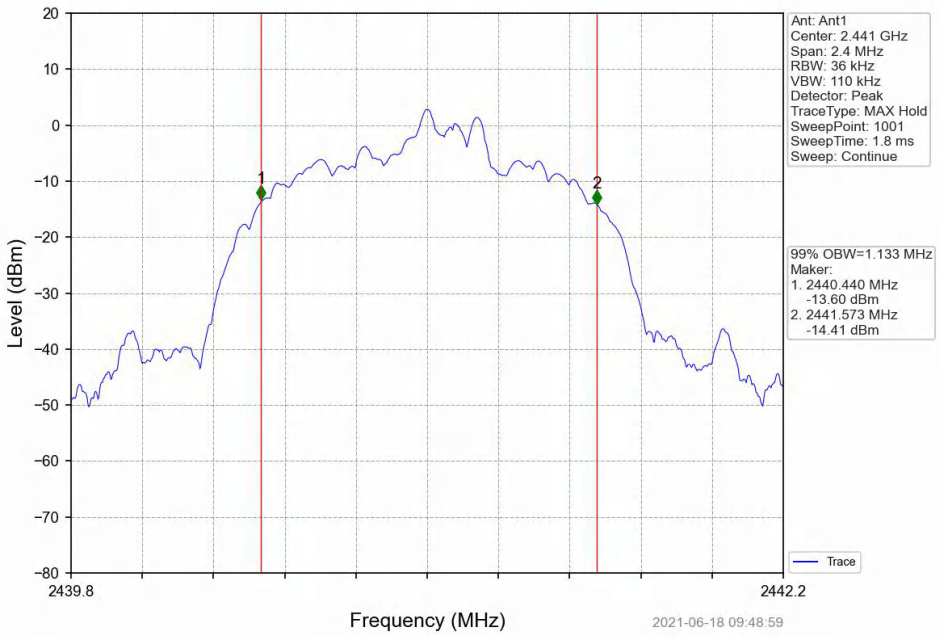
π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



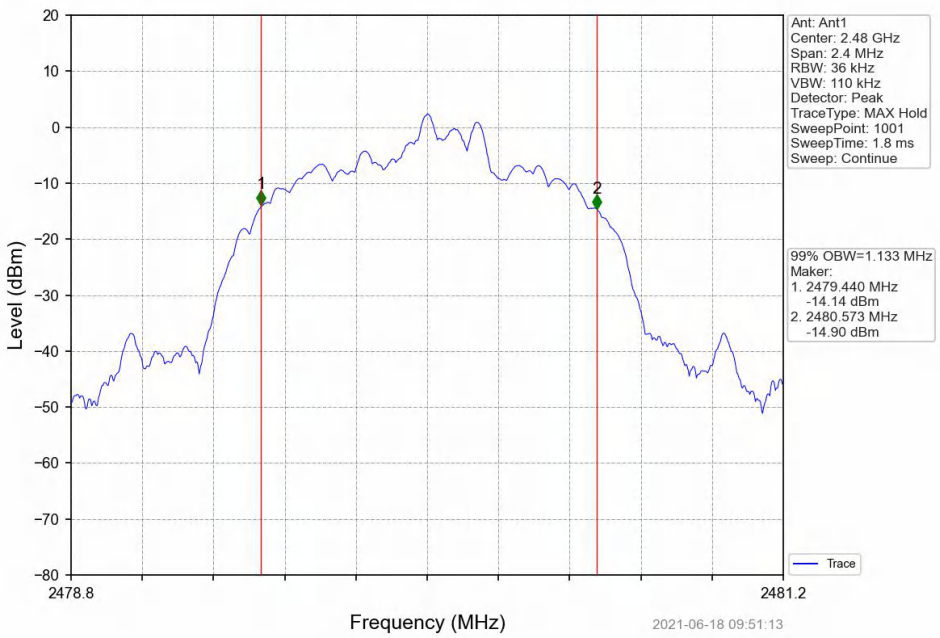
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



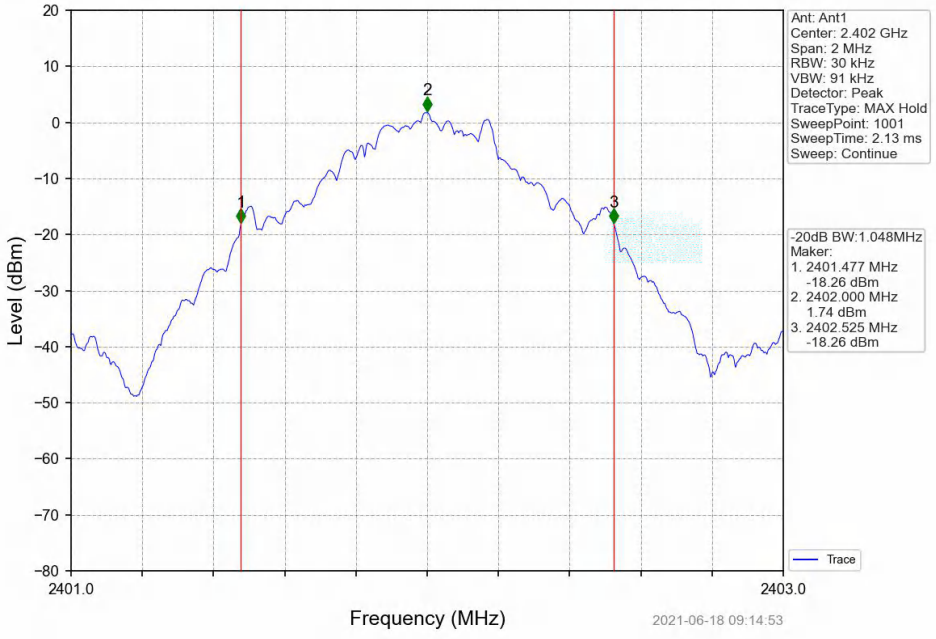
1.2 20dB BW

1.2.1 Test Result

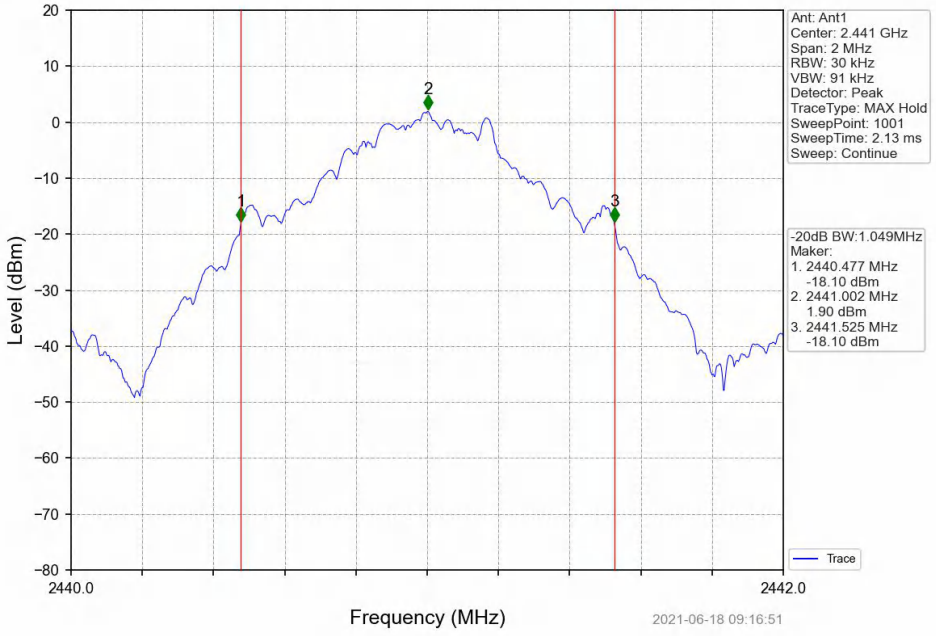
Mode	TX Type	Frequency (MHz)	Packet Type	Ant	20dB Bandwidth (MHz)	Limit	Verdict
GFSK	SISO	2402	DH5	1	1.05	/	Note1
		2441	DH5	1	1.05	/	Note1
		2480	DH5	1	1.05	/	Note1
π /4-DQPSK	SISO	2402	2DH5	1	1.19	/	Note1
		2441	2DH5	1	1.19	/	Note1
		2480	2DH5	1	1.19	/	Note1
8DPSK	SISO	2402	3DH5	1	1.22	/	Note1
		2441	3DH5	1	1.21	/	Note1
		2480	3DH5	1	1.20	/	Note1
Note1: Only for Report Use							

1.2.2 Test Graph

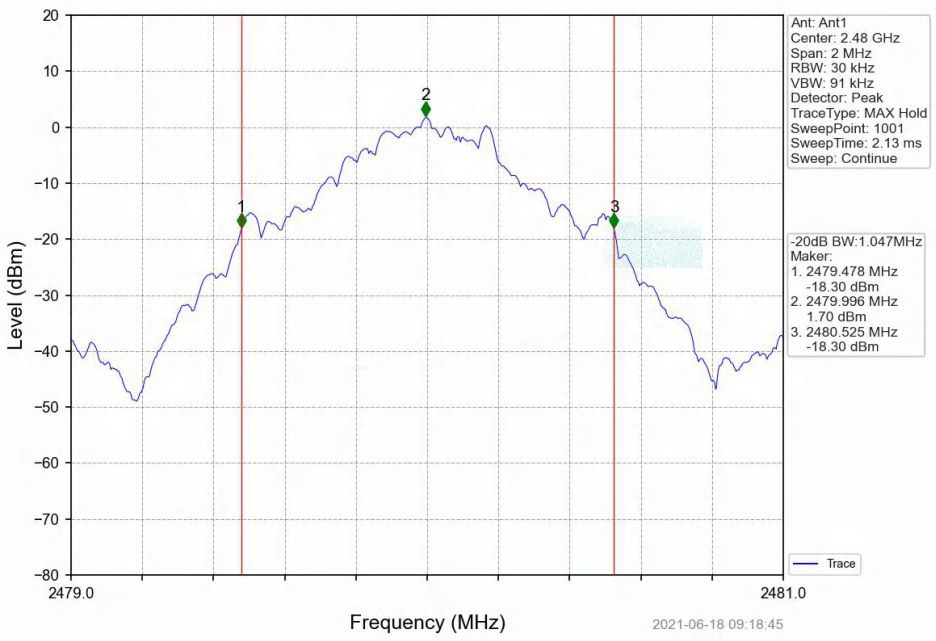
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



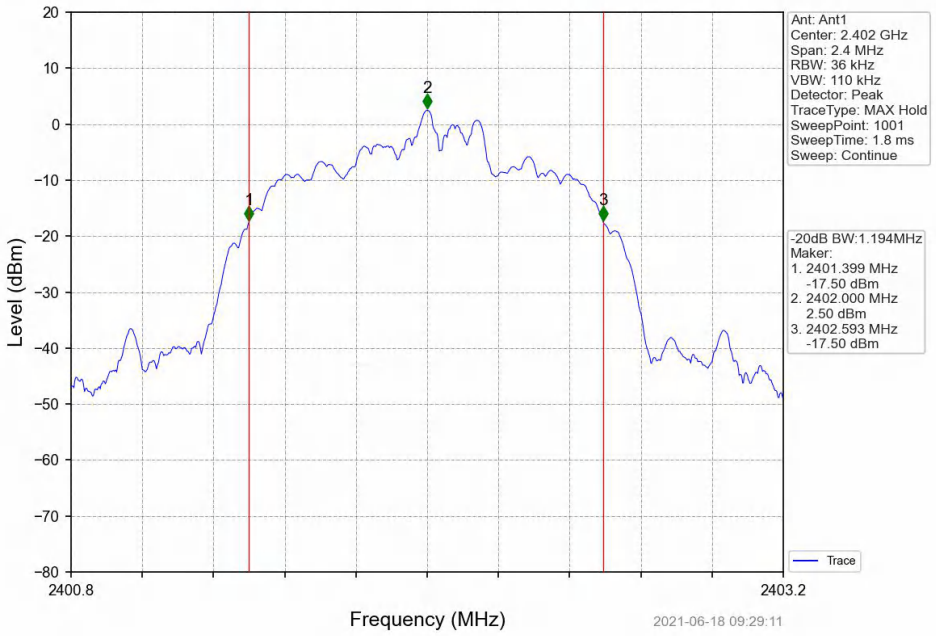
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



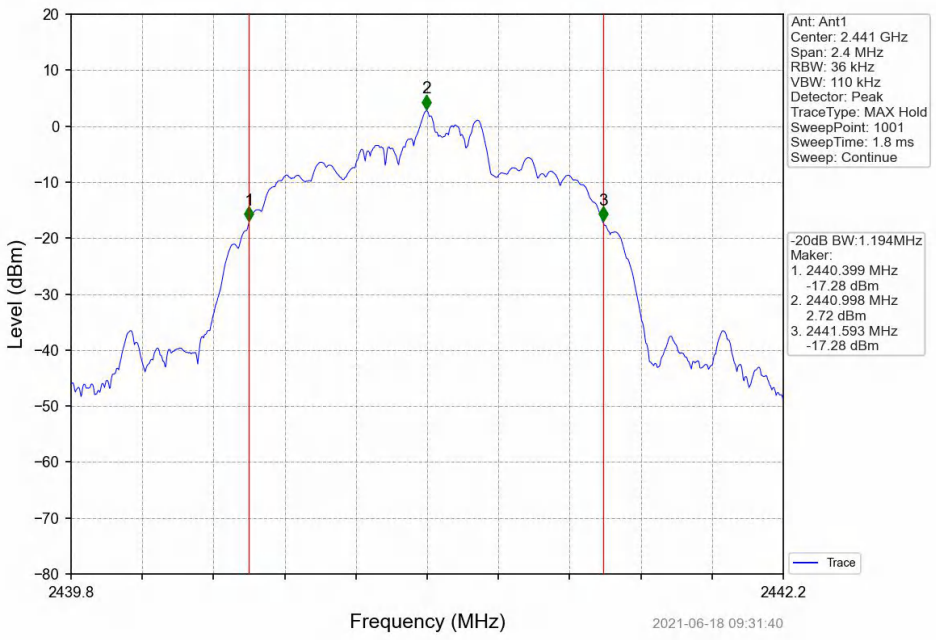
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



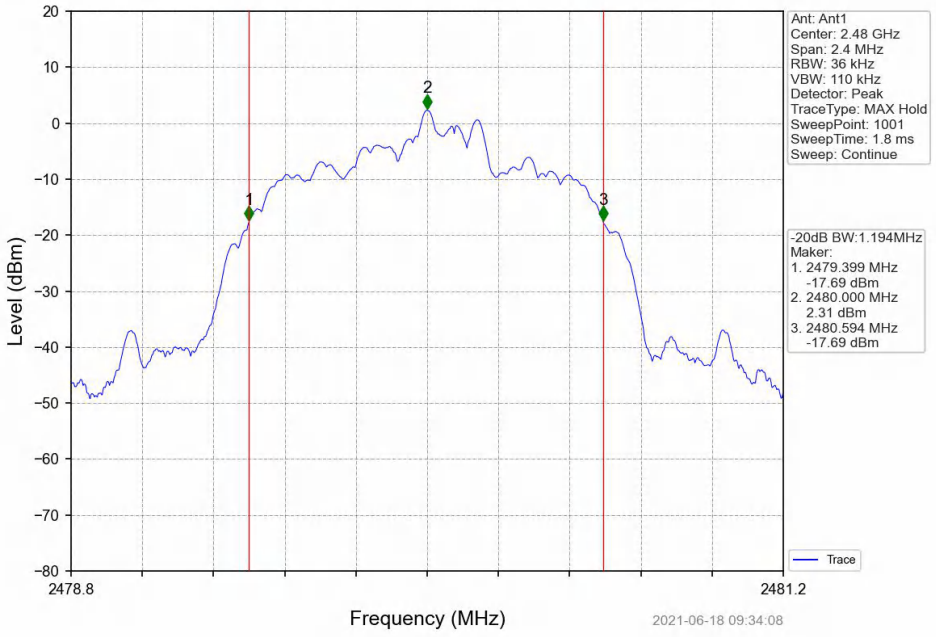
π /4-DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



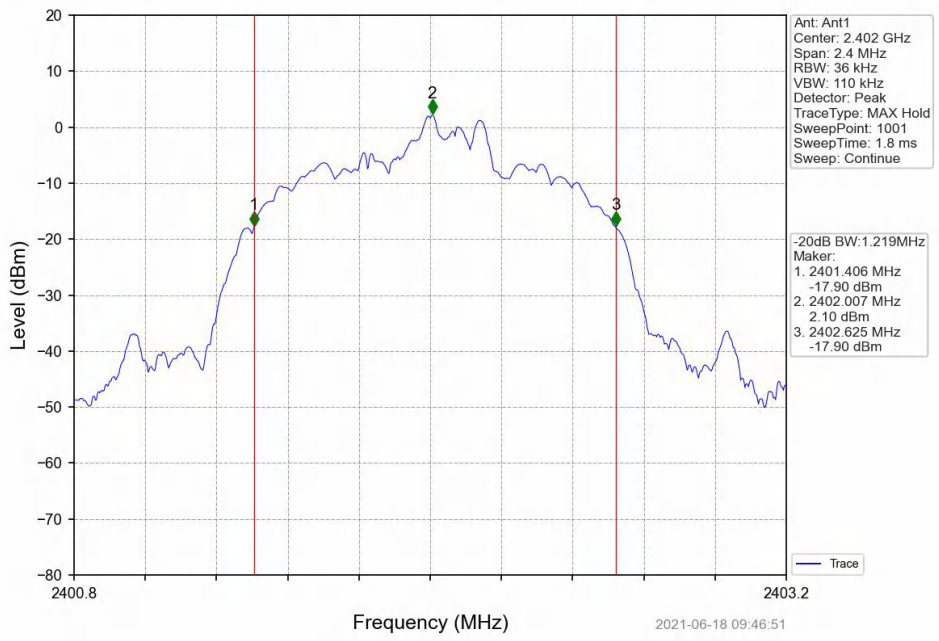
π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



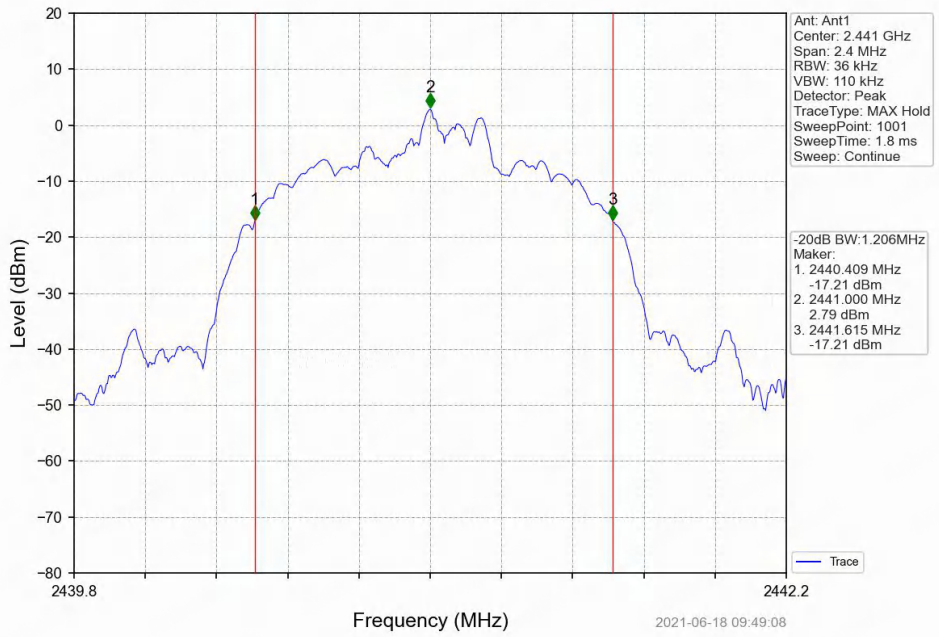
π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



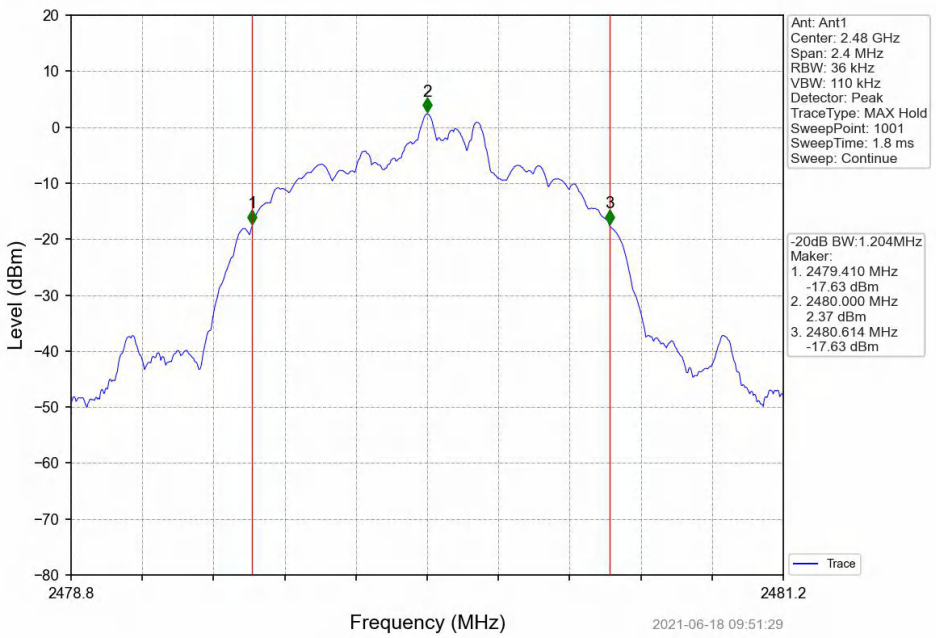
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



2. Maximum Conducted Output Power

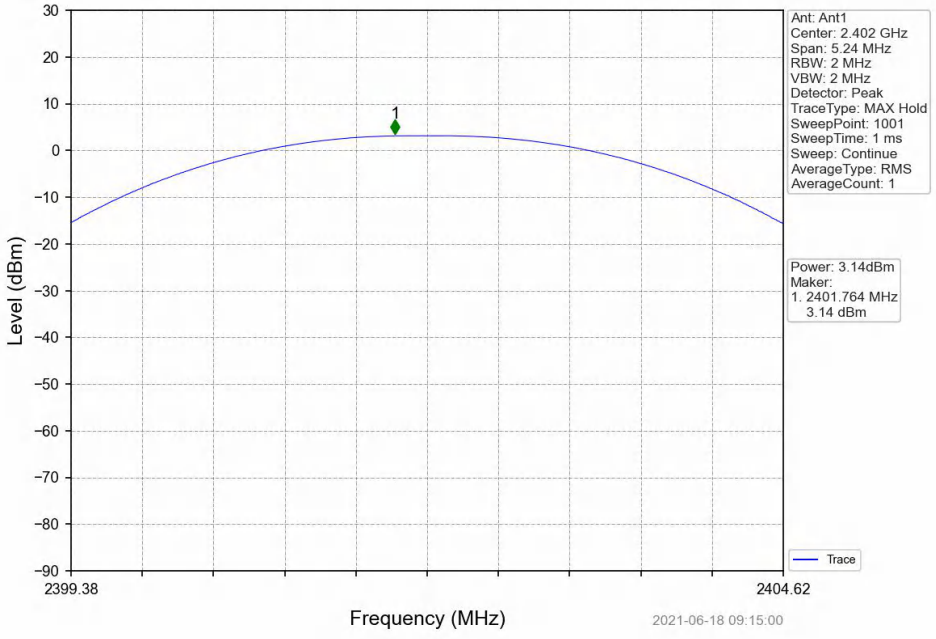
2.1 Power

2.1.1 Test Result

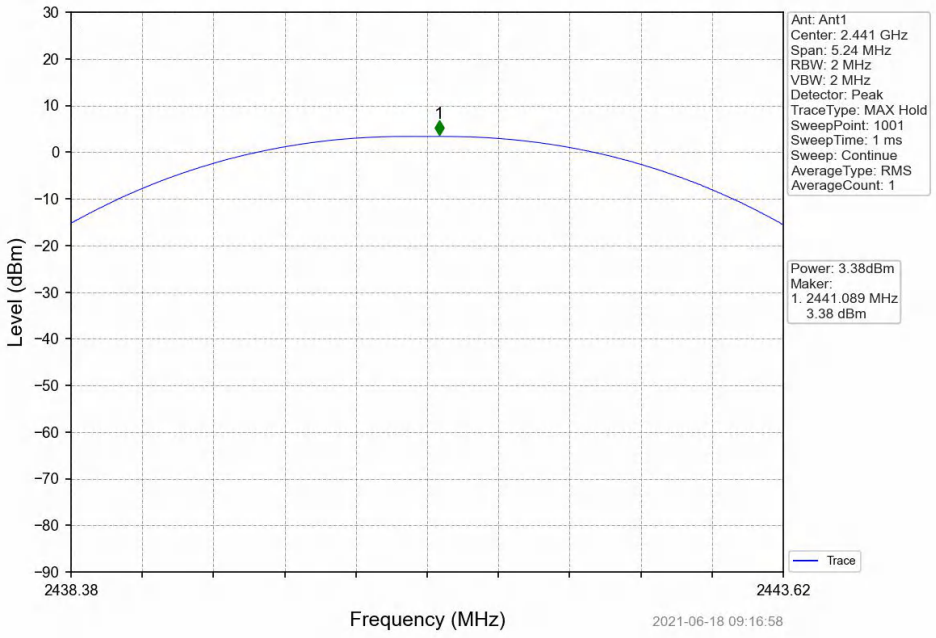
Mode	TX Type	Frequency (MHz)	Packet Type	Measured Peak Output Power (dBm)	Limit (dBm)	Verdict
				Ant1		
GFSK	SISO	2402	DH5	3.14	<=20.97	Pass
		2441	DH5	3.38	<=20.97	Pass
		2480	DH5	2.99	<=20.97	Pass
π/4-DQPSK	SISO	2402	2DH5	3.33	<=20.97	Pass
		2441	2DH5	3.59	<=20.97	Pass
		2480	2DH5	3.11	<=20.97	Pass
8DPSK	SISO	2402	3DH5	3.43	<=20.97	Pass
		2441	3DH5	3.64	<=20.97	Pass
		2480	3DH5	3.15	<=20.97	Pass
Note1: Antenna Gain: 1: 4.91dBi;						

2.1.2 Test Graph

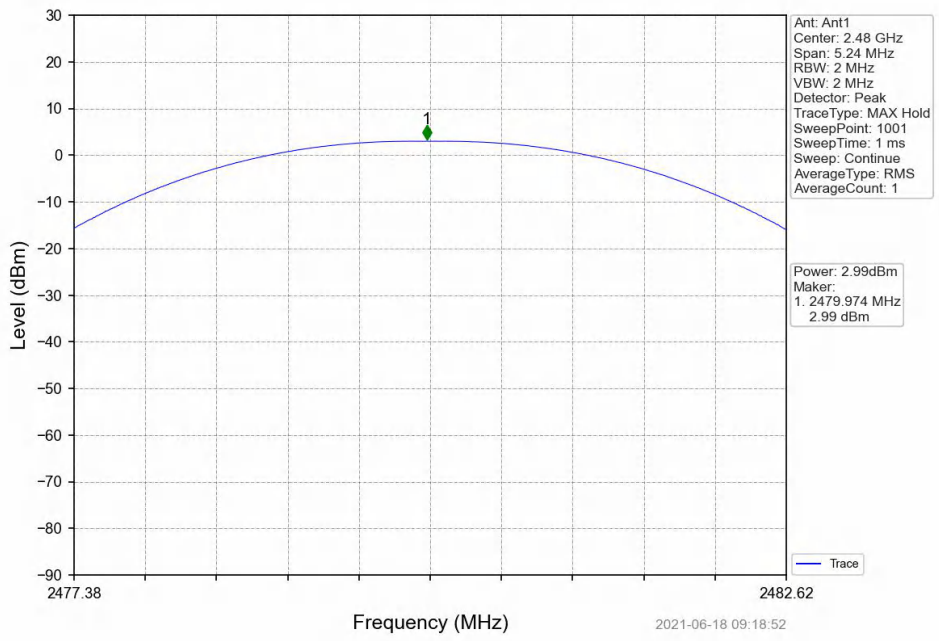
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



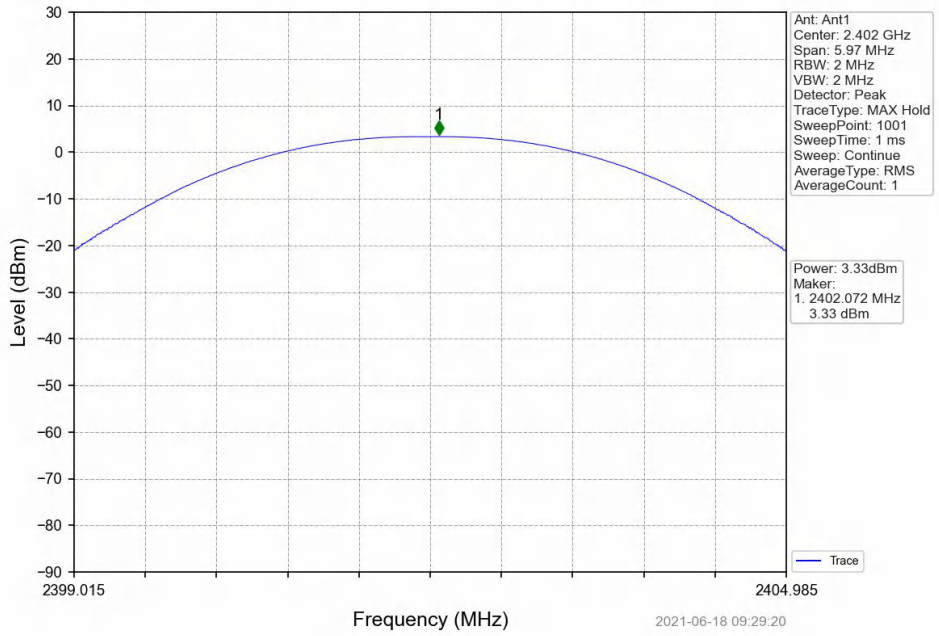
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



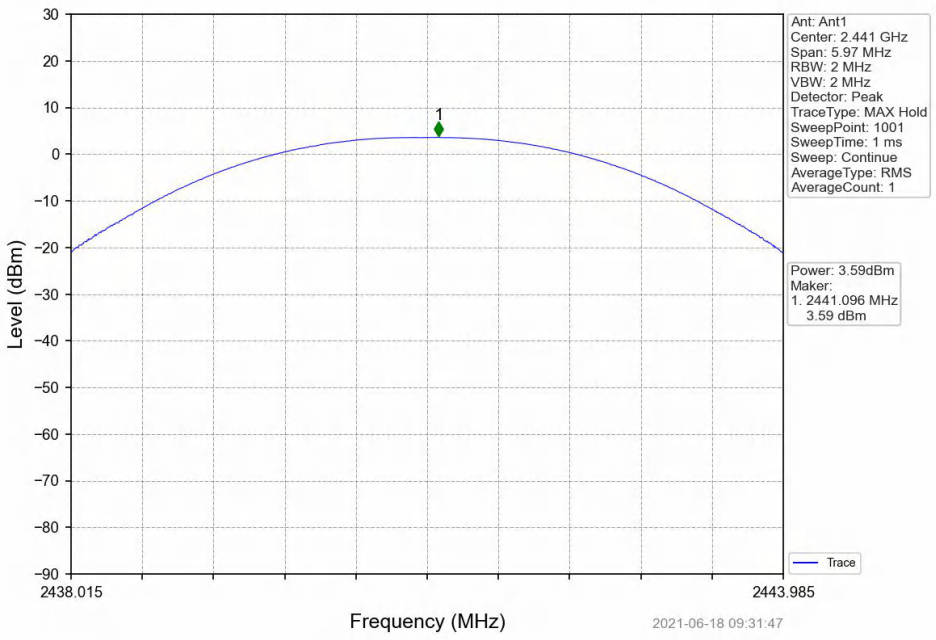
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



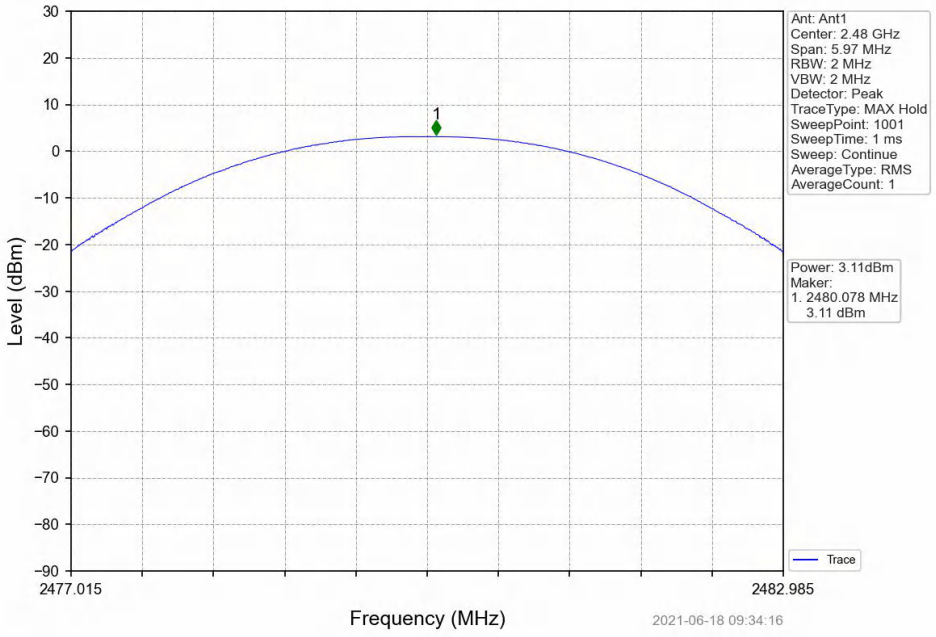
π /4-DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



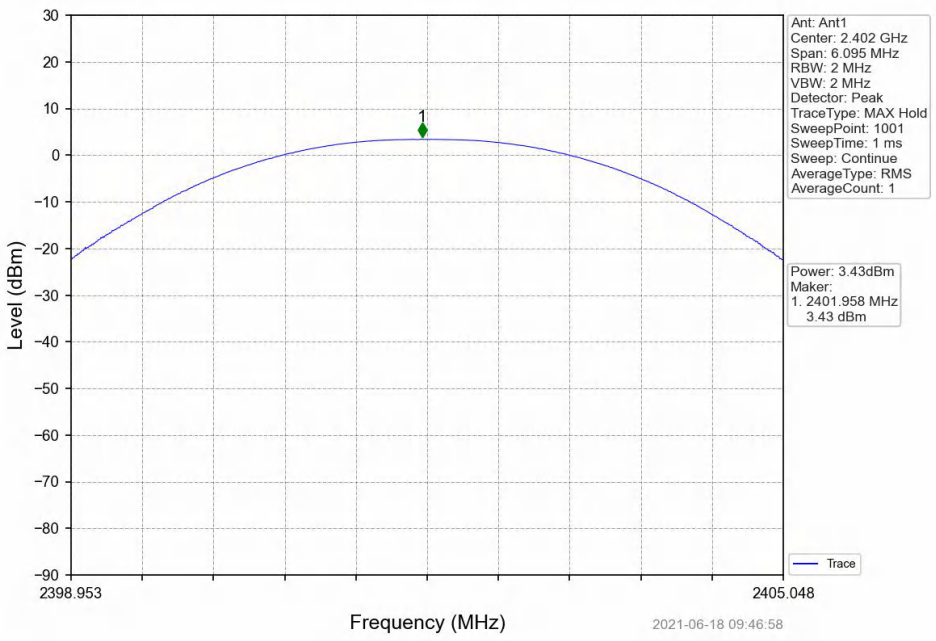
π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



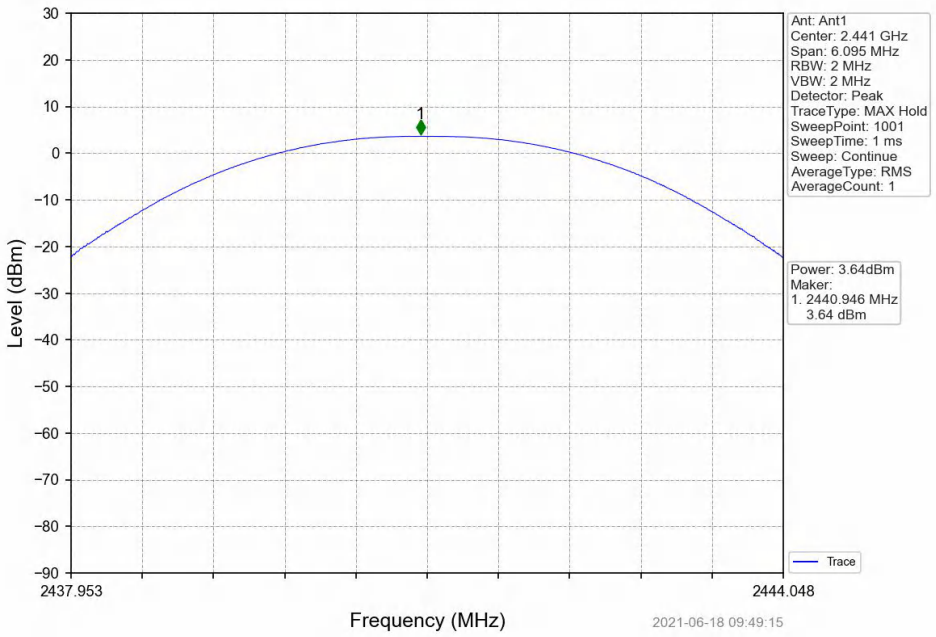
π /4-DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



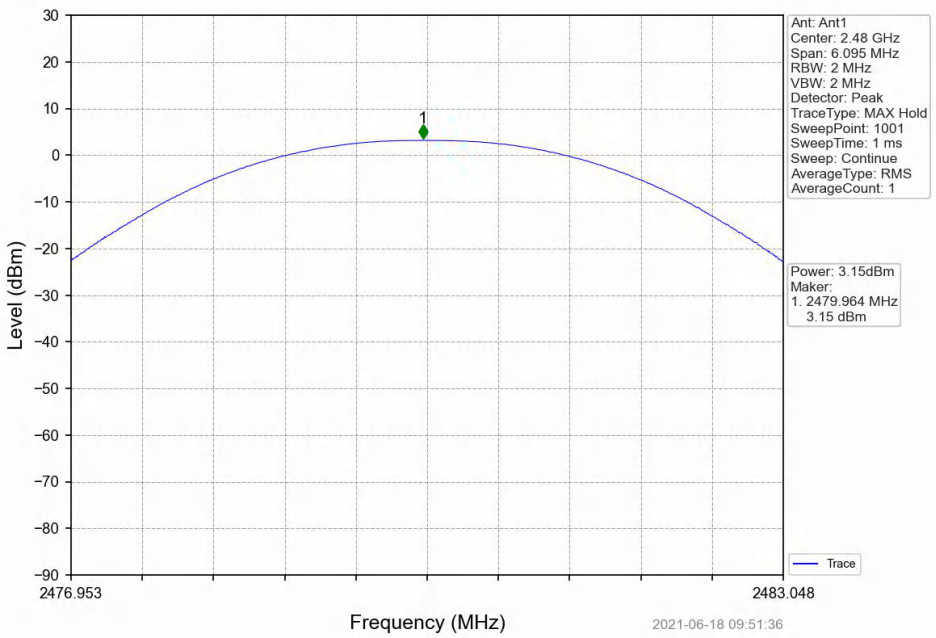
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



3. Carrier Frequency Separation

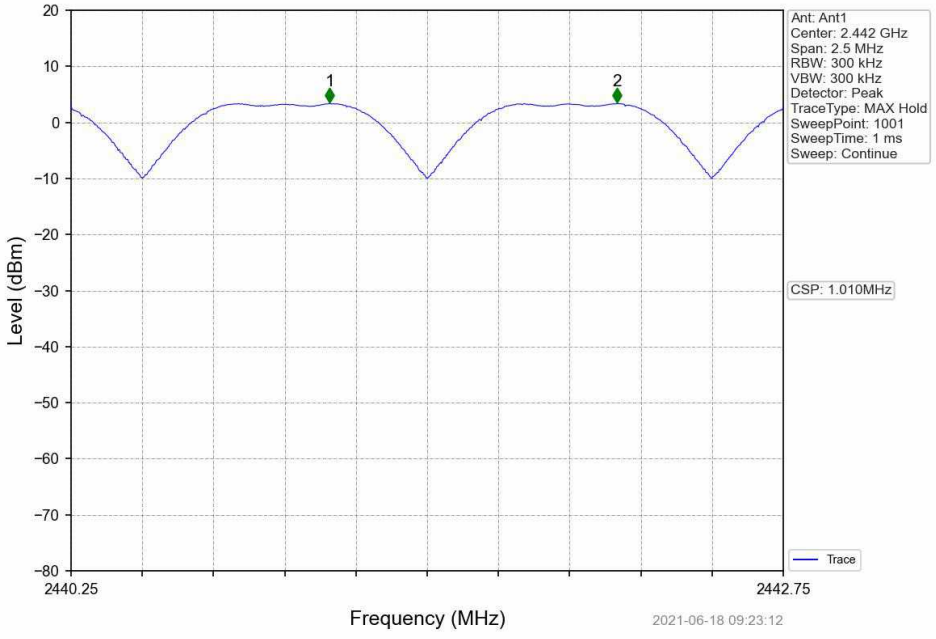
3.1 Ant1

3.1.1 Test Result

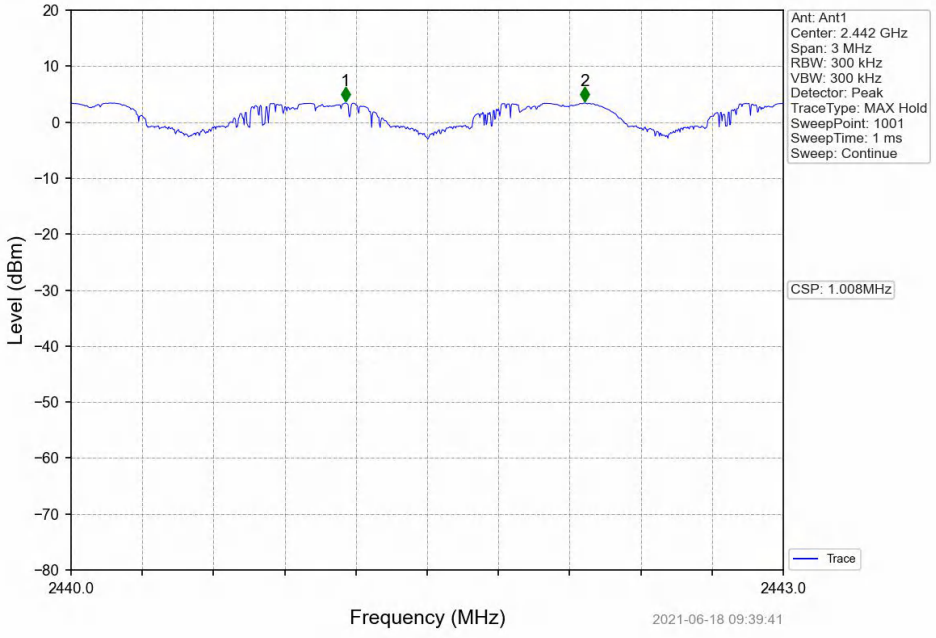
Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.01	1.05	>=0.699	Pass
π /4-DQPSK	SISO	HOPP	2DH5	1.01	1.19	>=0.796	Pass
8DPSK	SISO	HOPP	3DH5	1.00	1.22	>=0.813	Pass

3.1.2 Test Graph

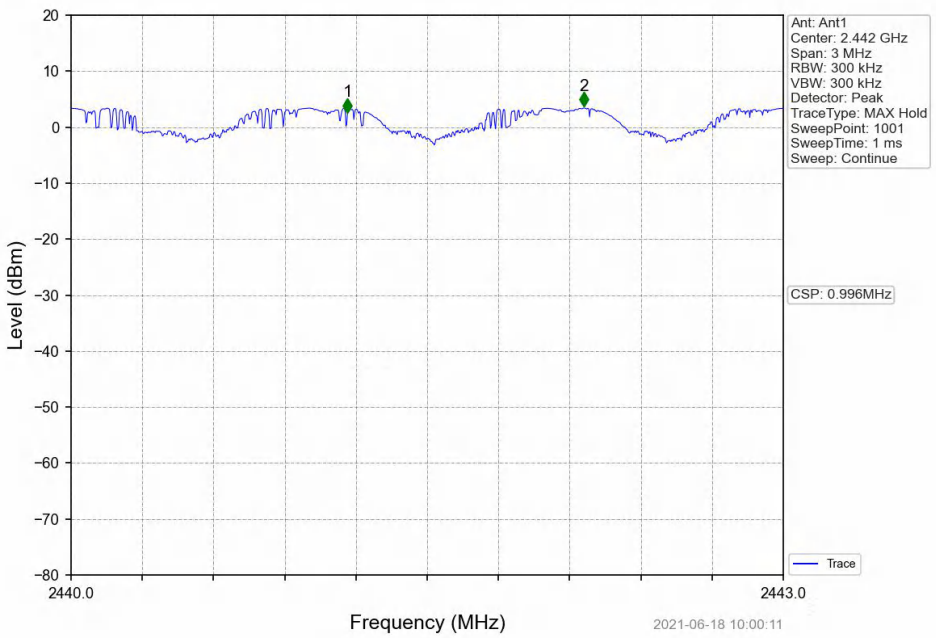
GFSK_DH5_HOPP_Ant1_NTNV



π /4-DQPSK_2DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



4. Number of Hopping Frequencies

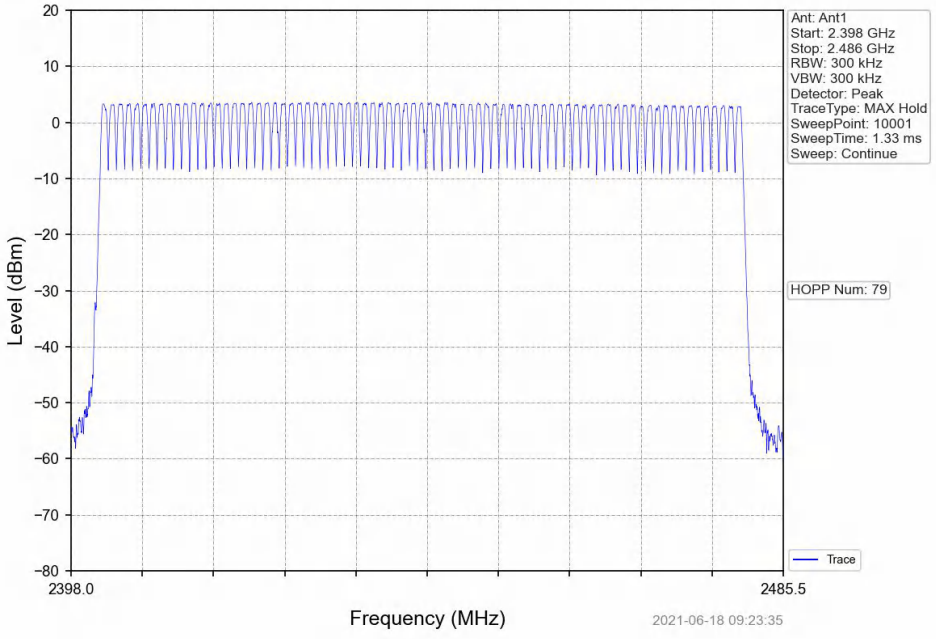
4.1 HoppNum

4.1.1 Test Result

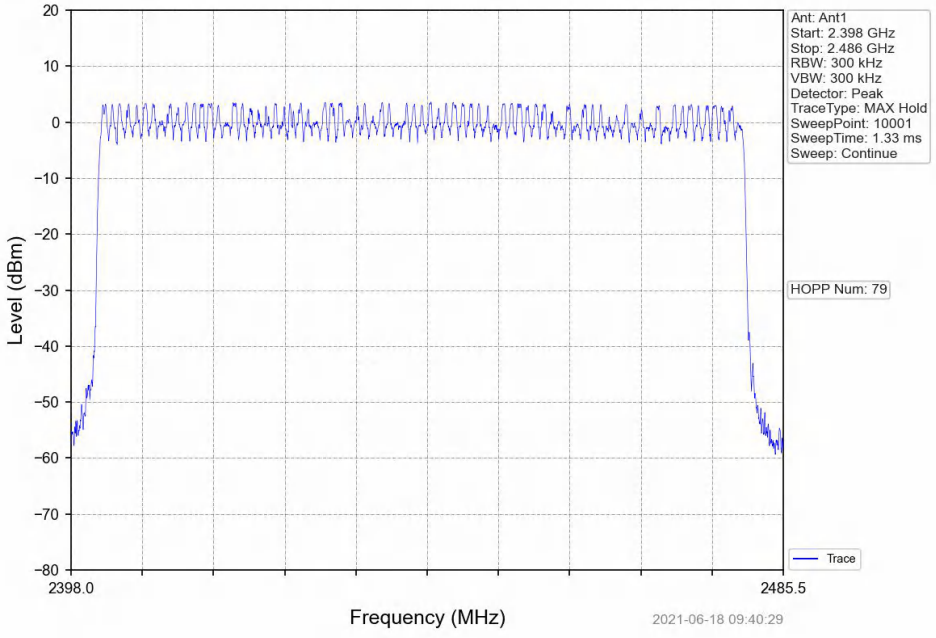
Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies	Limit	Verdict
				Ant1		
GFSK	SISO	HOPP	DH5	79	>=15	Pass
π /4-DQPSK	SISO	HOPP	2DH5	79	>=15	Pass
8DPSK	SISO	HOPP	3DH5	79	>=15	Pass

4.1.2 Test Graph

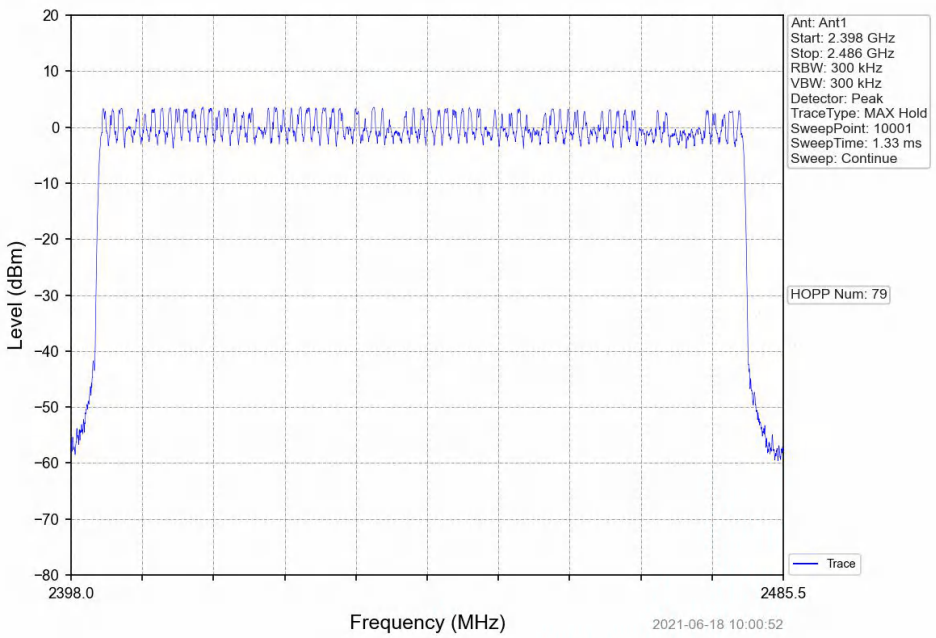
GFSK_DH5_HOPP_Ant1_NTNV



π /4-DQPSK_2DH5_HOPP_Ant1_NTNV



8DPSK_3DH5_HOPP_Ant1_NTNV



5. Time of Occupancy (Dwell Time)

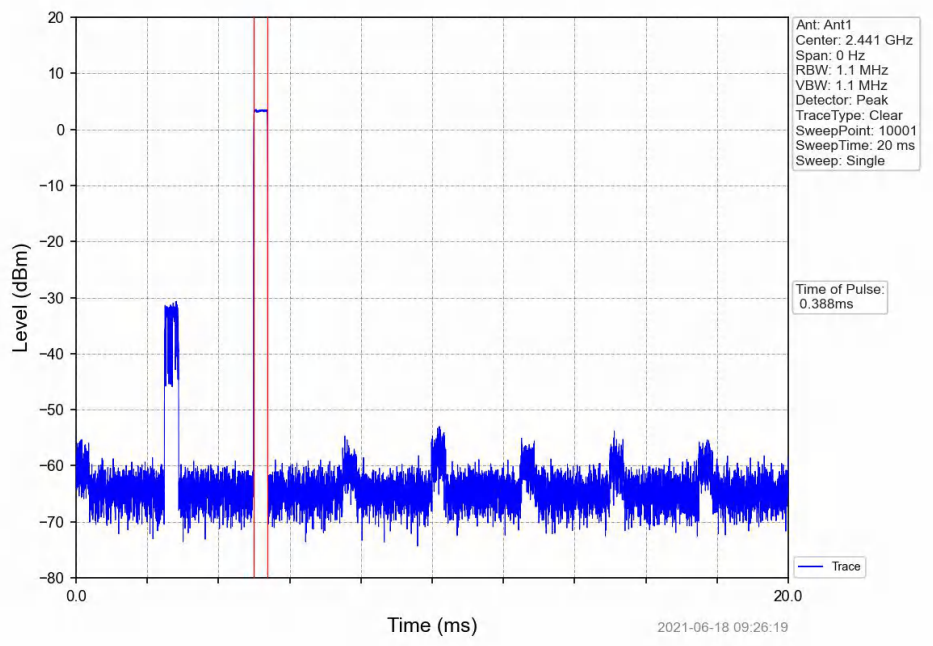
5.1 Ant1

5.1.1 Test Result

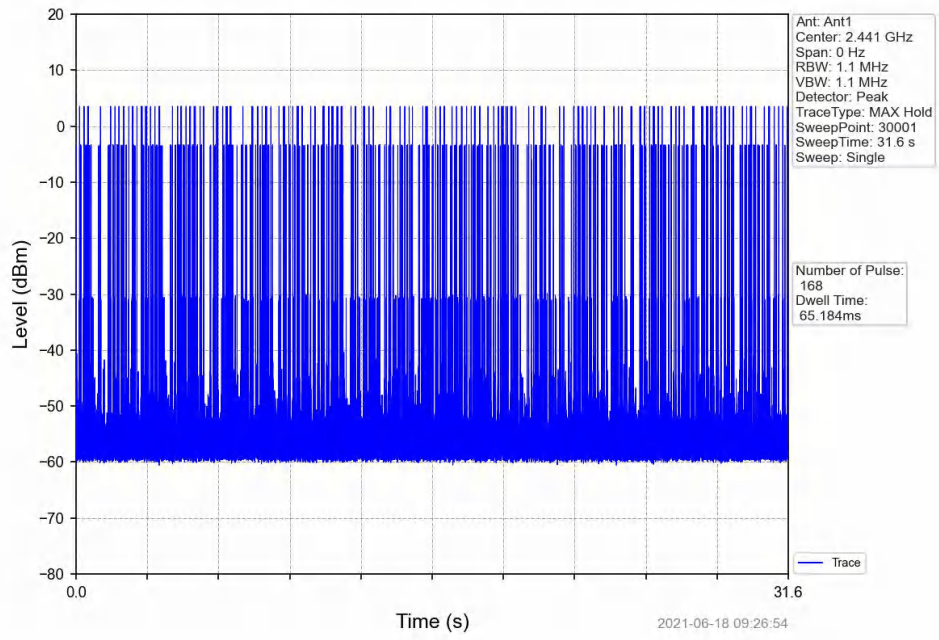
Ant1									
Mode	TX Type	Frequency (MHz)	Packet Type	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH1	0.39	31.60	168	65.18	<=400	Pass
			DH3	1.64	31.60	108	177.55	<=400	Pass
			DH5	2.89	31.60	80	231.20	<=400	Pass
π /4-DQPSK	SISO	HOPP	2DH1	0.40	31.60	168	67.20	<=400	Pass
			2DH3	1.65	31.60	106	175.11	<=400	Pass
			2DH5	2.90	31.60	80	232.00	<=400	Pass
8DPSK	SISO	HOPP	3DH1	0.40	31.60	169	67.60	<=400	Pass
			3DH3	1.65	31.60	105	173.46	<=400	Pass
			3DH5	2.90	31.60	80	232.16	<=400	Pass

5.1.2 Test Graph

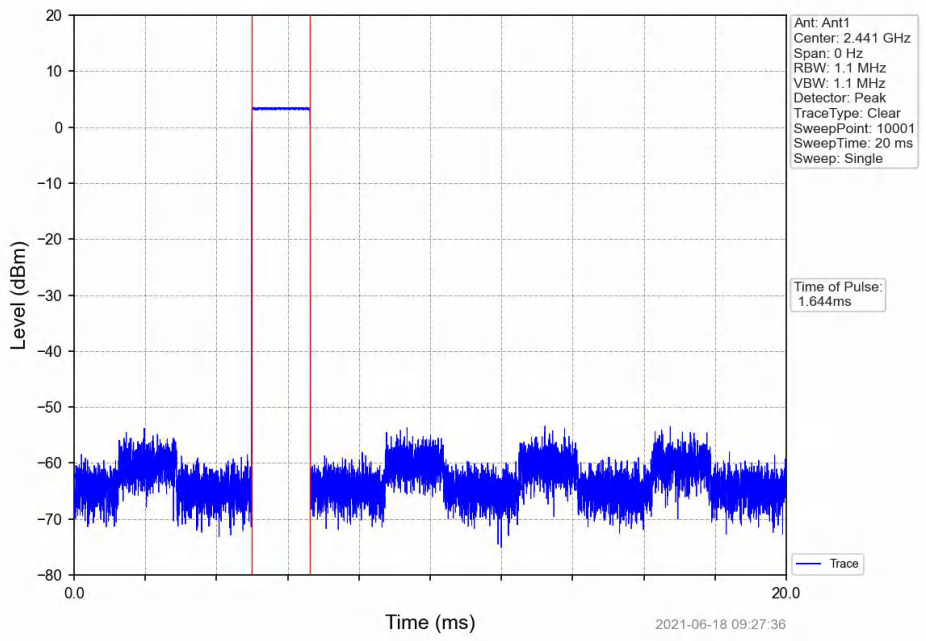
GFSK_DH1_HOPP_Ant1_NTNV



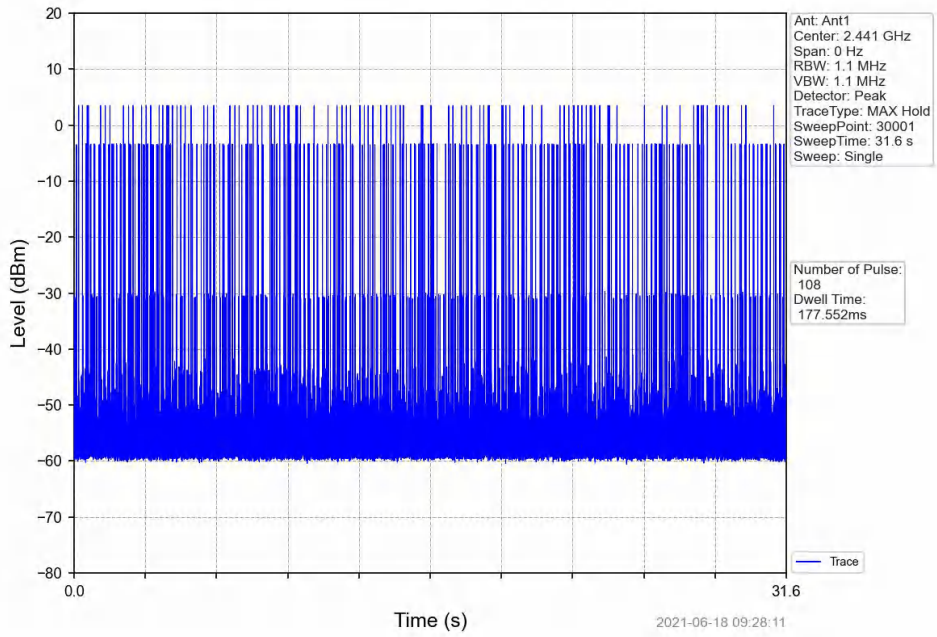
GFSK_DH1_HOPP_Ant1_NTNV



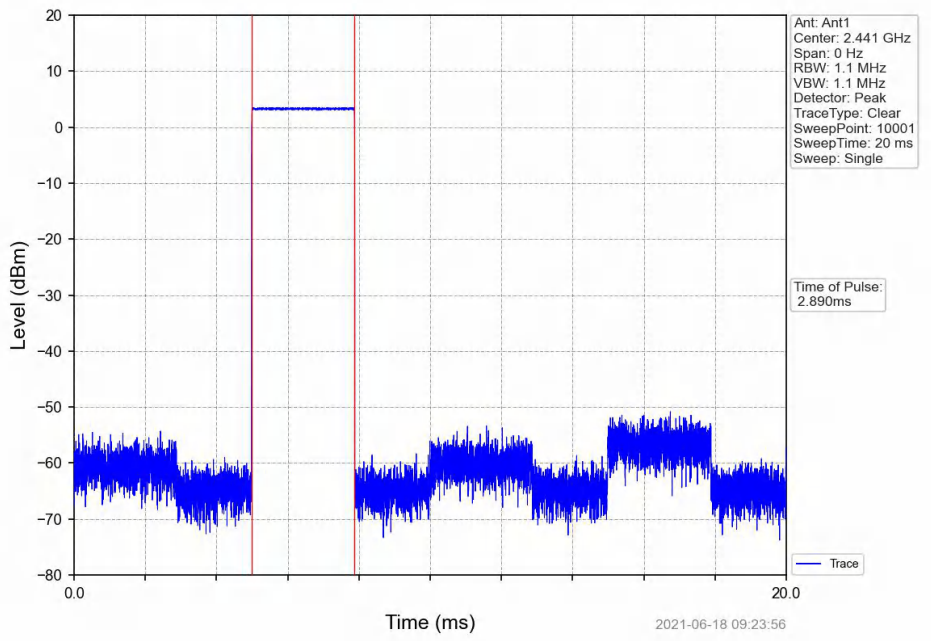
GFSK_DH3_HOPP_Ant1_NTNV



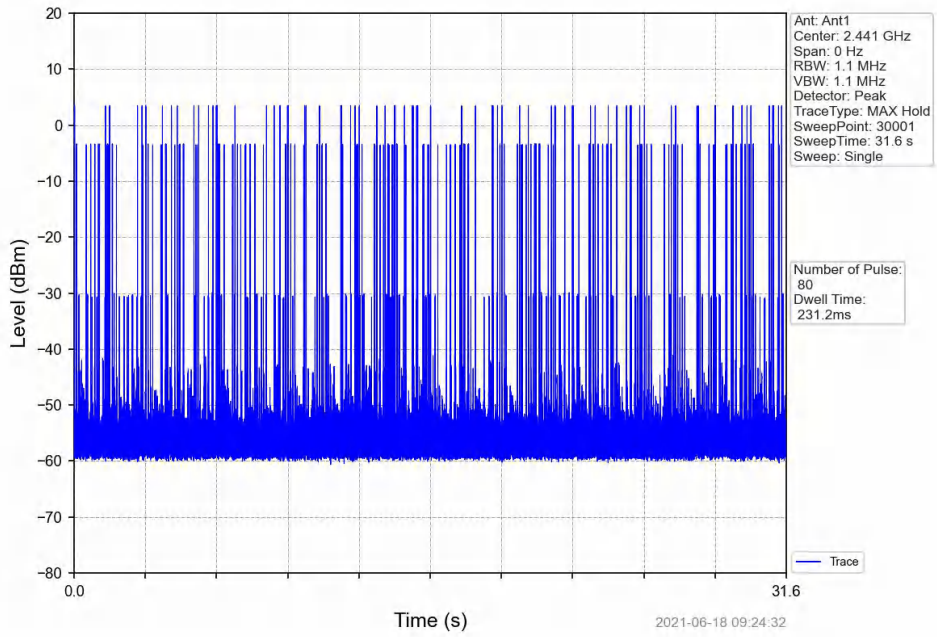
GFSK_DH3_HOPP_Ant1_NTNV



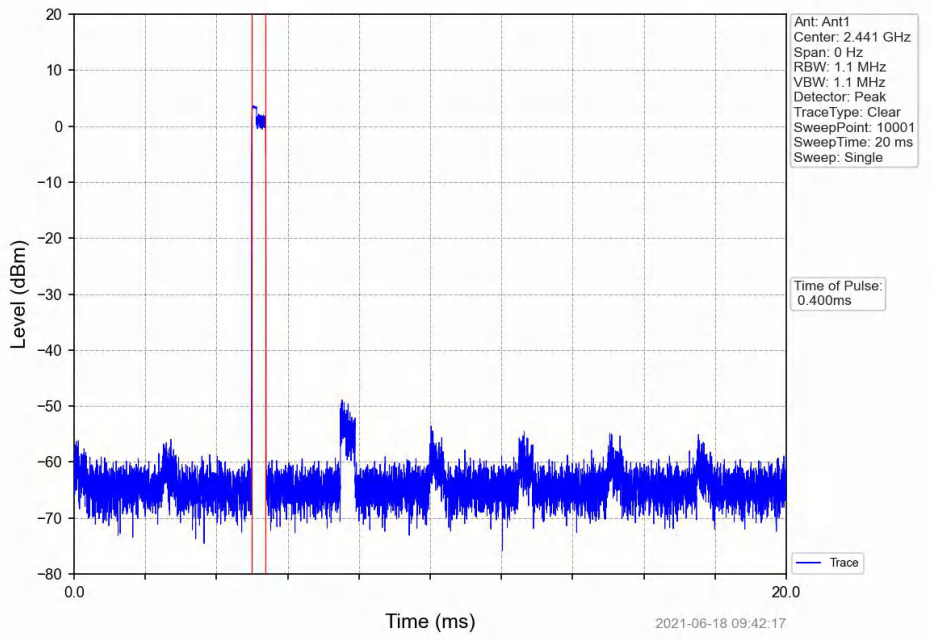
GFSK_DH5_HOPP_Ant1_NTNV



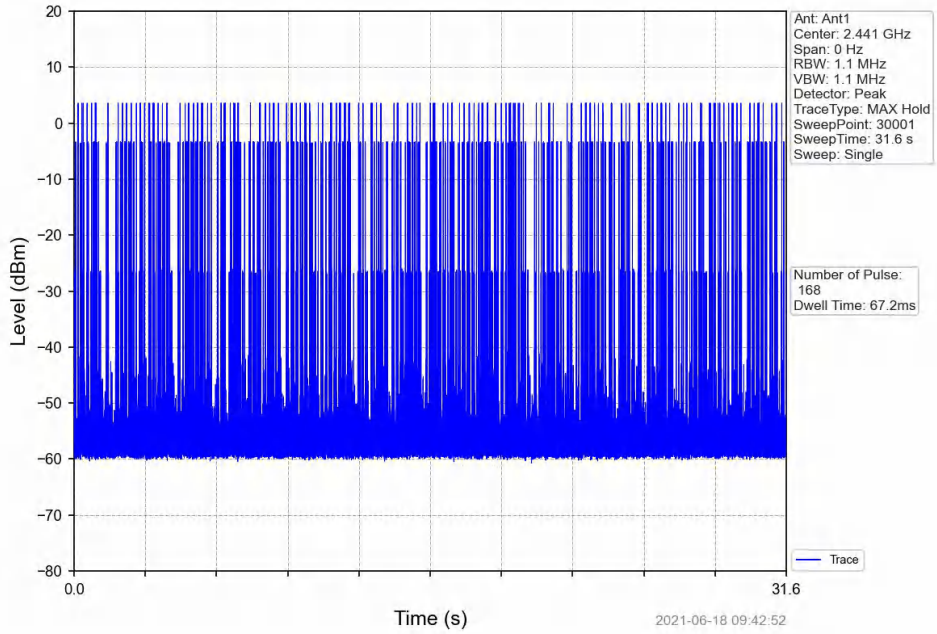
GFSK_DH5_HOPP_Ant1_NTNV



π /4-DQPSK_2DH1_HOPP_Ant1_NTNV



π /4-DQPSK_2DH1_HOPP_Ant1_NTNV



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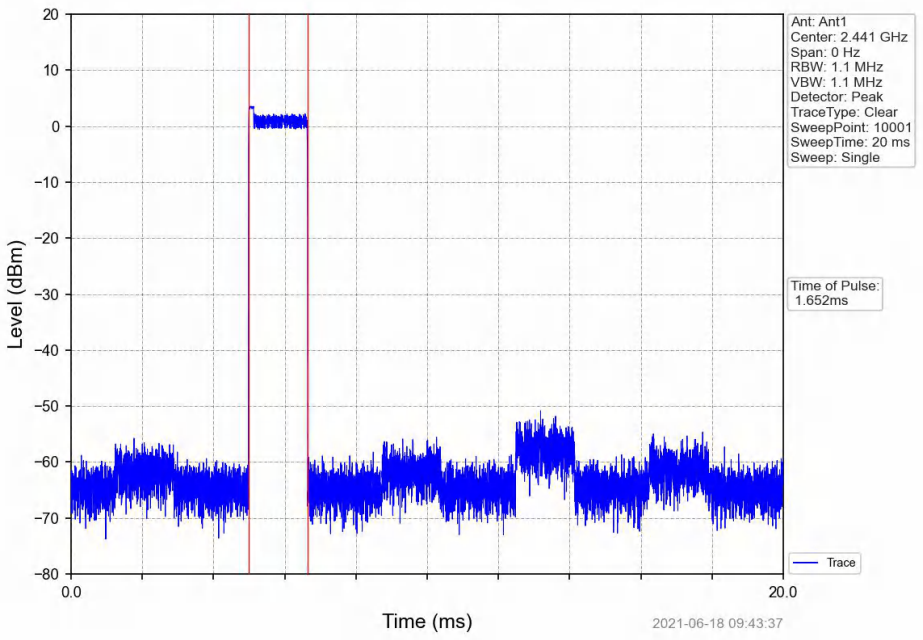

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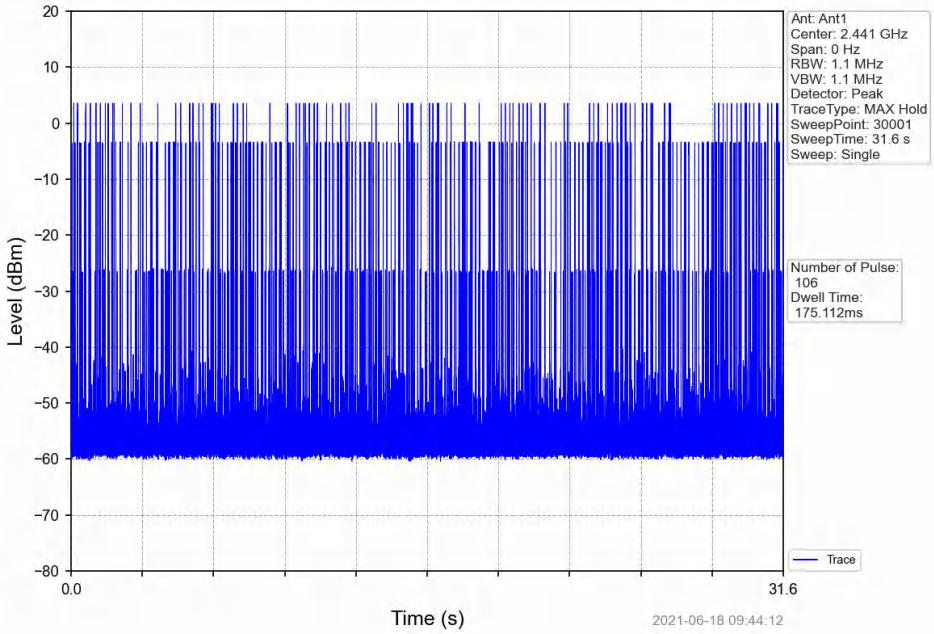

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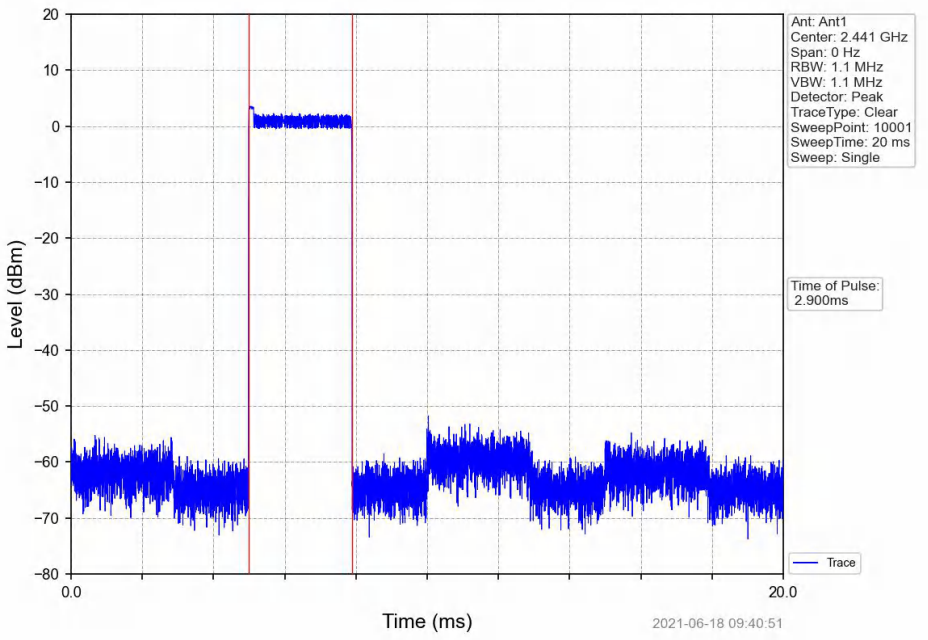

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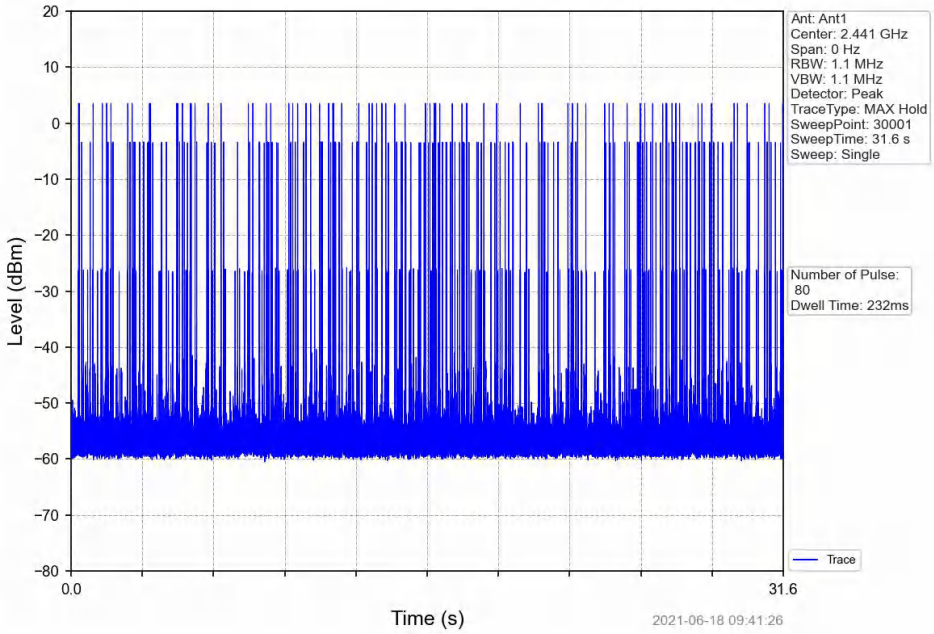

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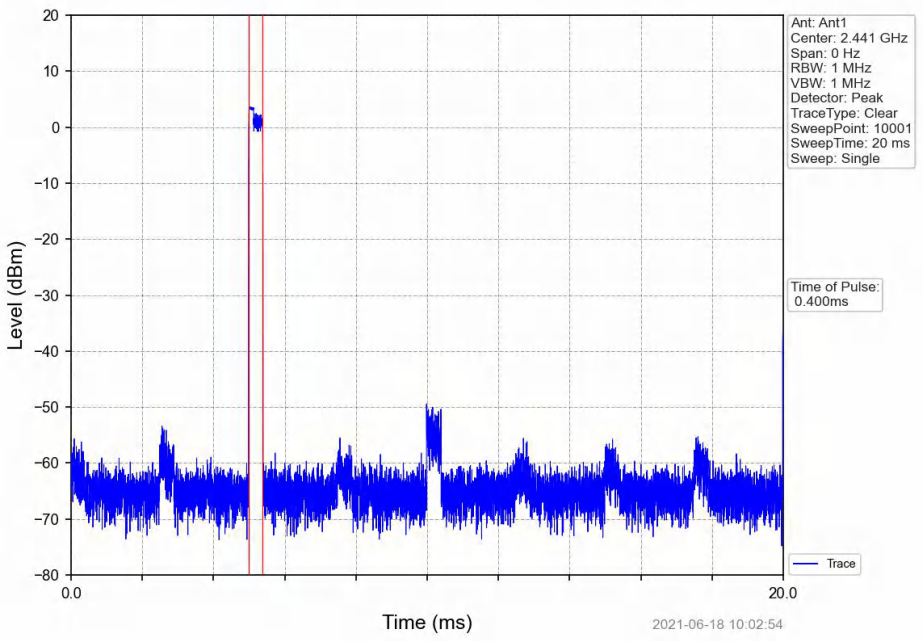

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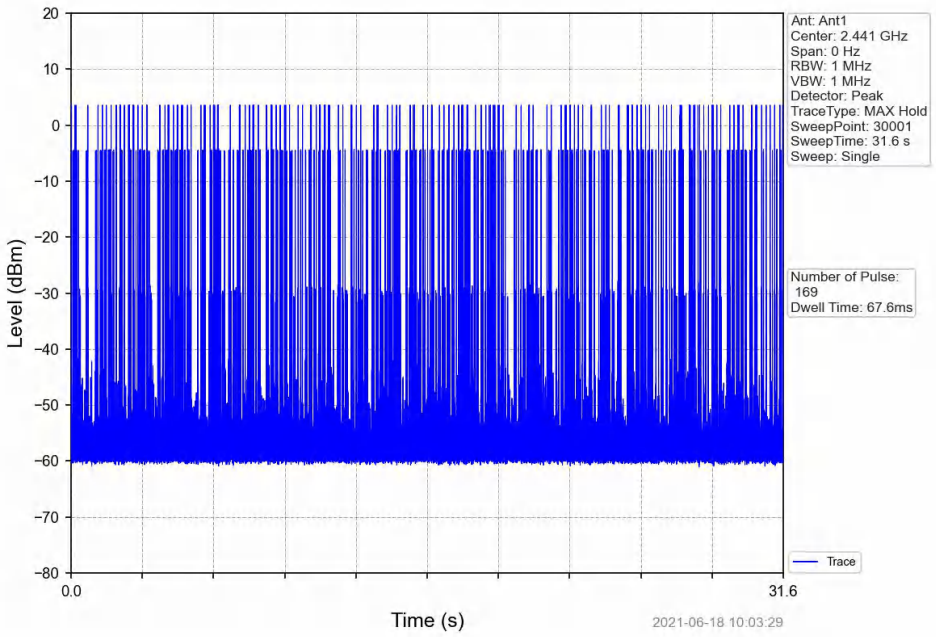

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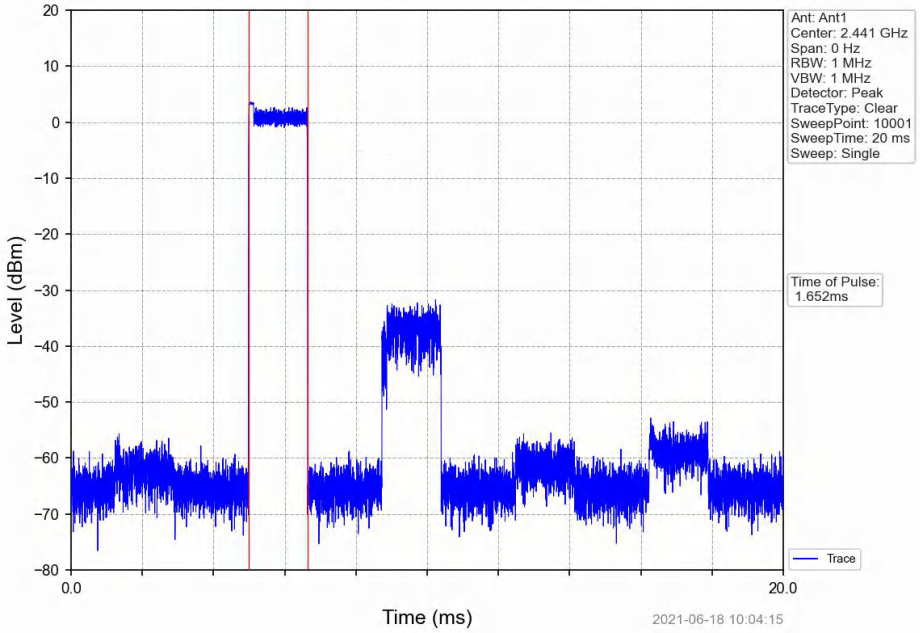

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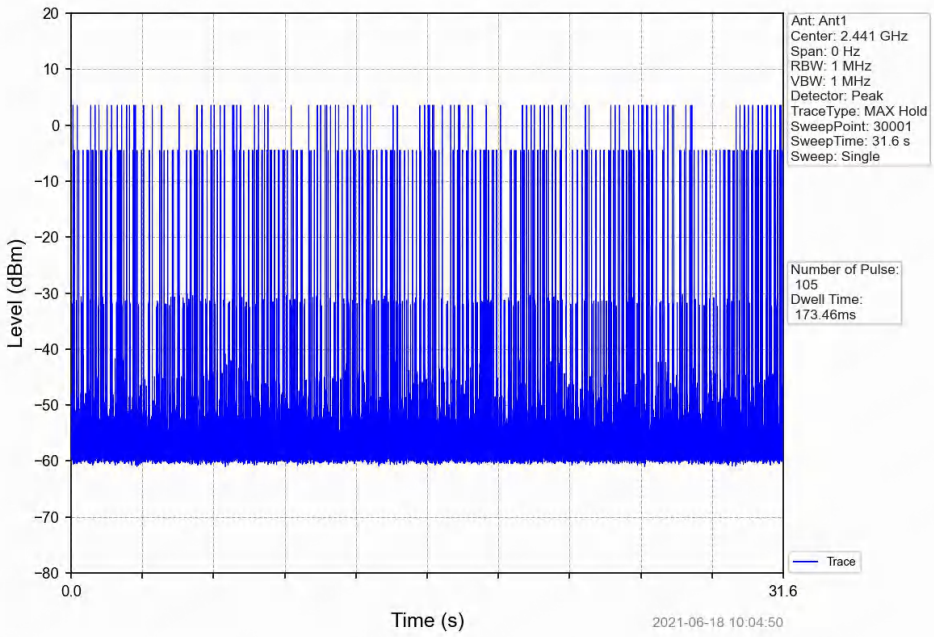

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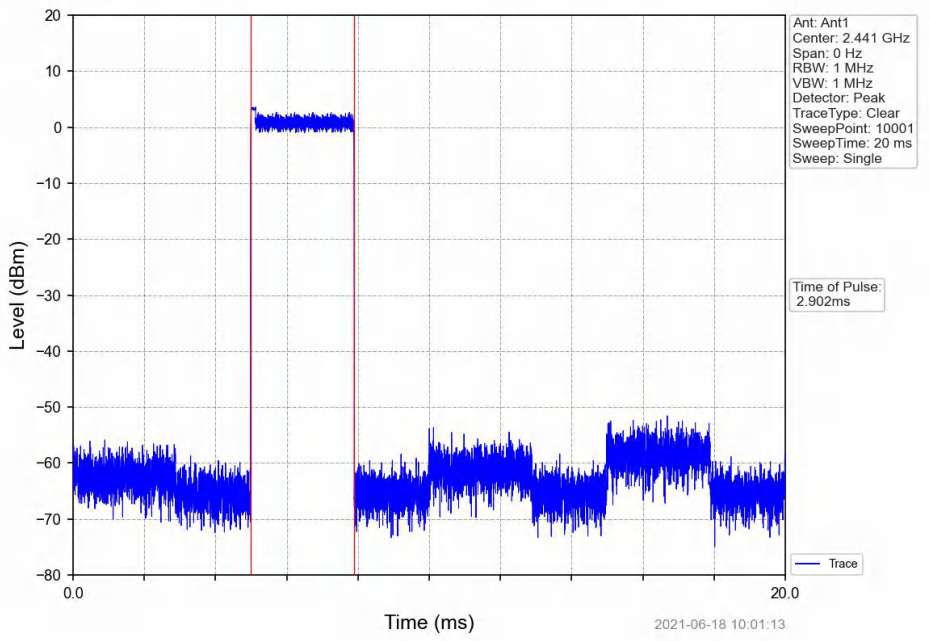
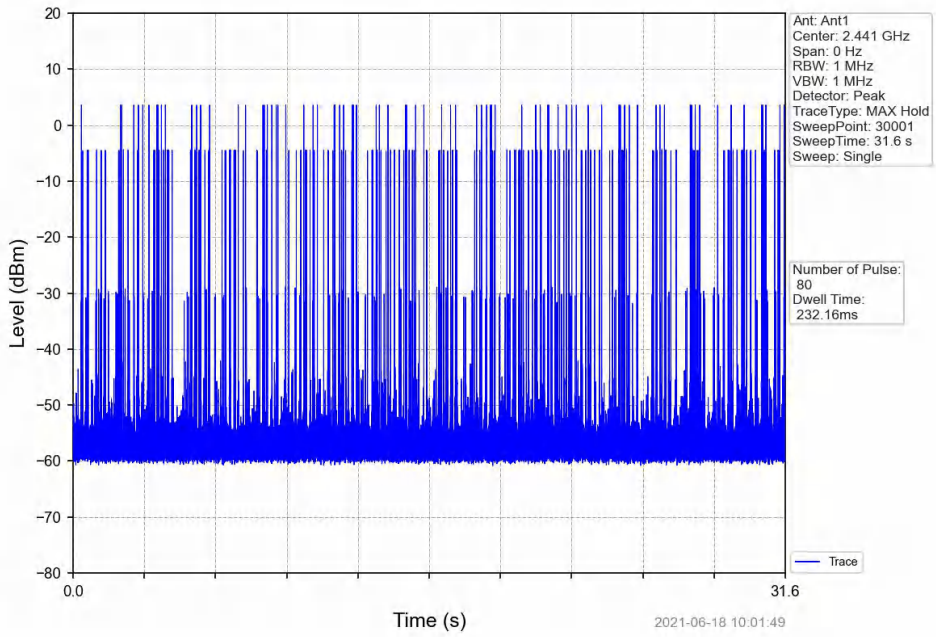


8DPSK_3DH5_HOPP_Ant1_NTNV



6. Unwanted Emissions In Non-restricted Frequency Bands

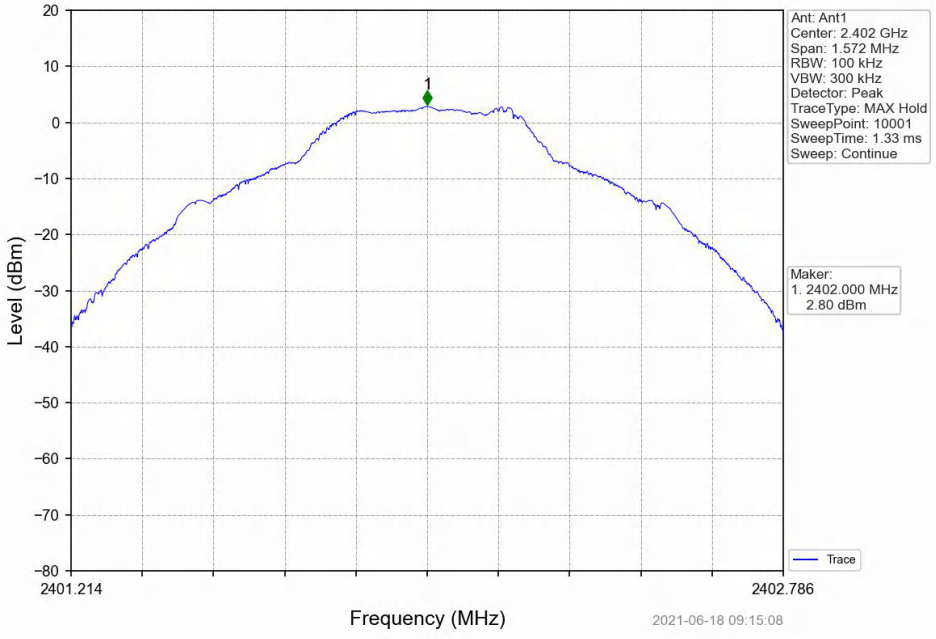
6.1 Ref

6.1.1 Test Result

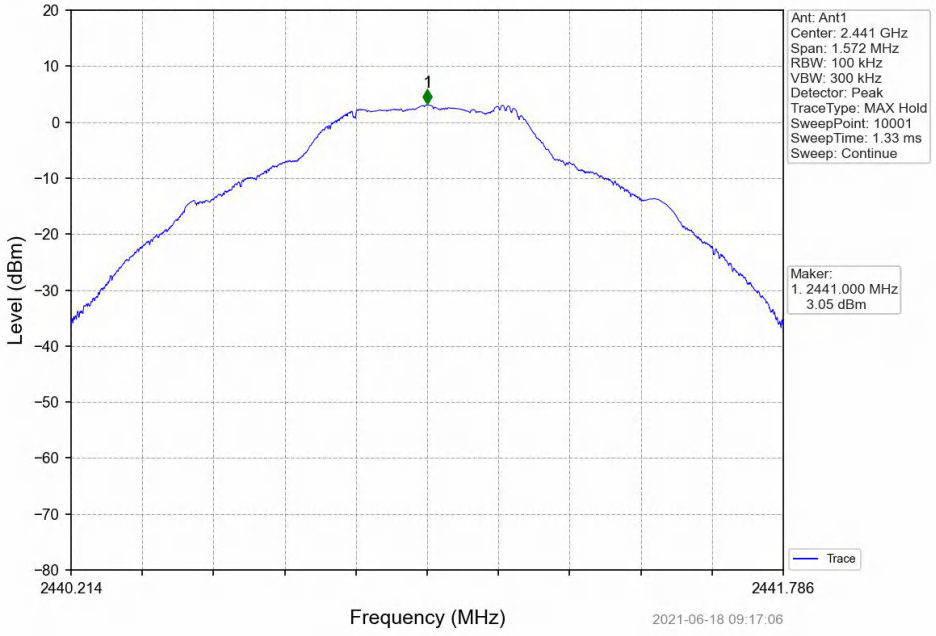
Mode	TX Type	Frequency (MHz)	Packet Type	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	2.80	/	/
		2441	DH5	1	3.05	/	/
		2480	DH5	1	2.65	/	/
π /4-DQPSK	SISO	2402	2DH5	1	3.00	/	/
		2441	2DH5	1	3.18	/	/
		2480	2DH5	1	2.74	/	/
8DPSK	SISO	2402	3DH5	1	3.05	/	/
		2441	3DH5	1	3.26	/	/
		2480	3DH5	1	2.82	/	/
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level. Note2: Only for Report Use							

6.1.2 Test Graph

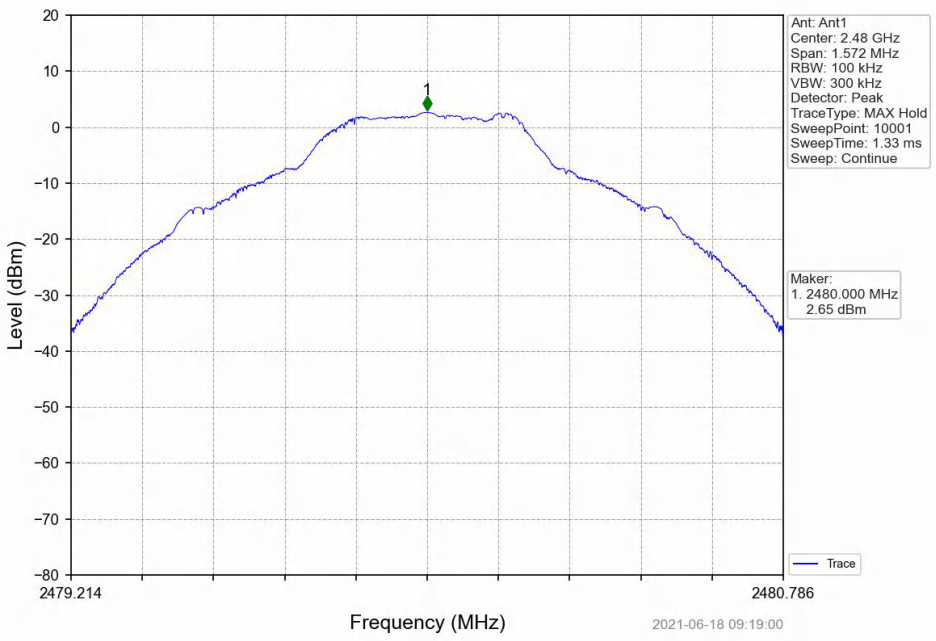
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



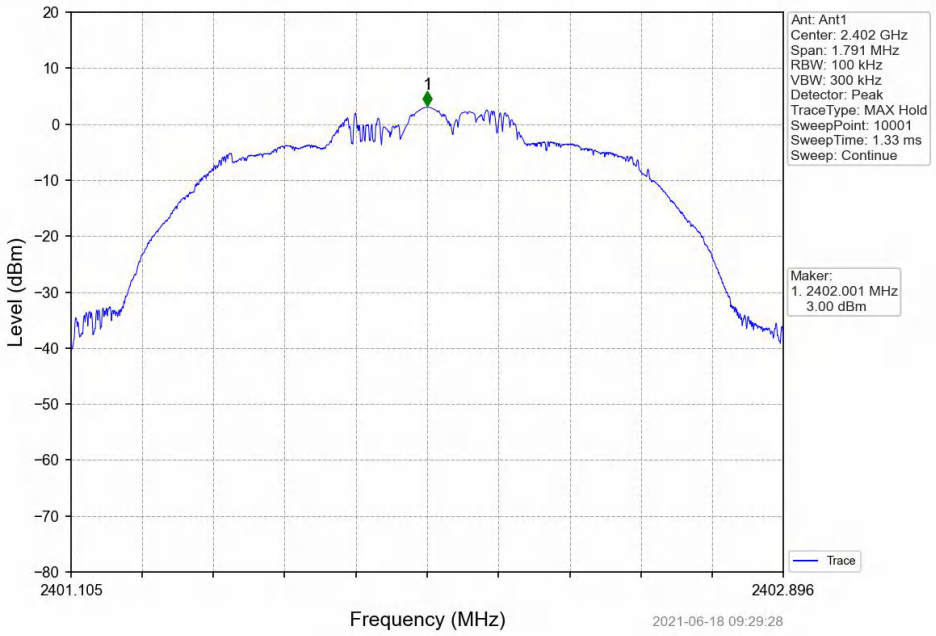
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



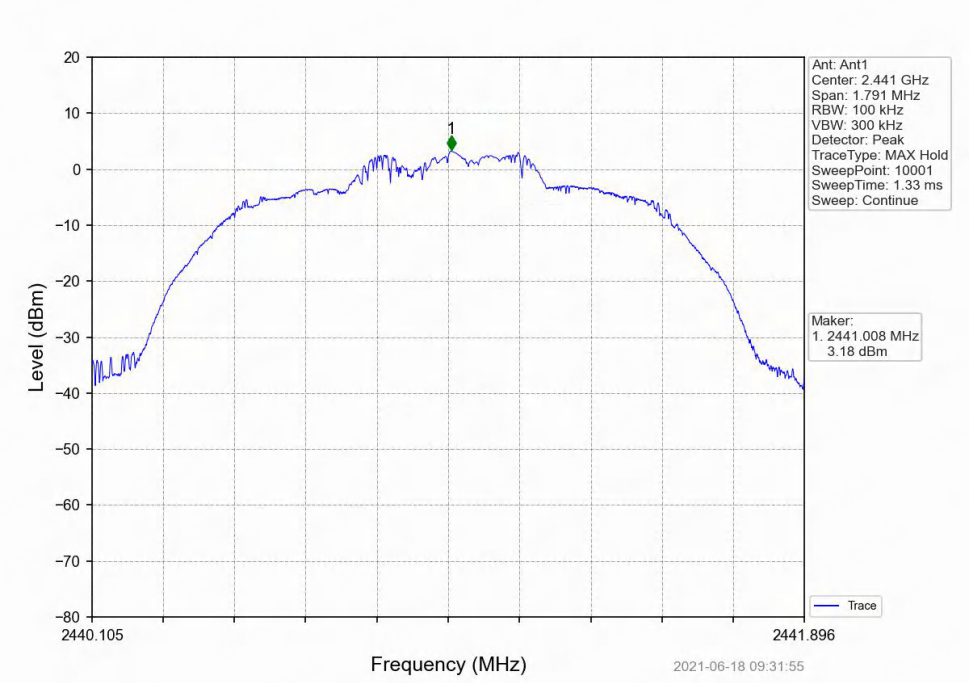
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



π /4-DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



π /4-DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



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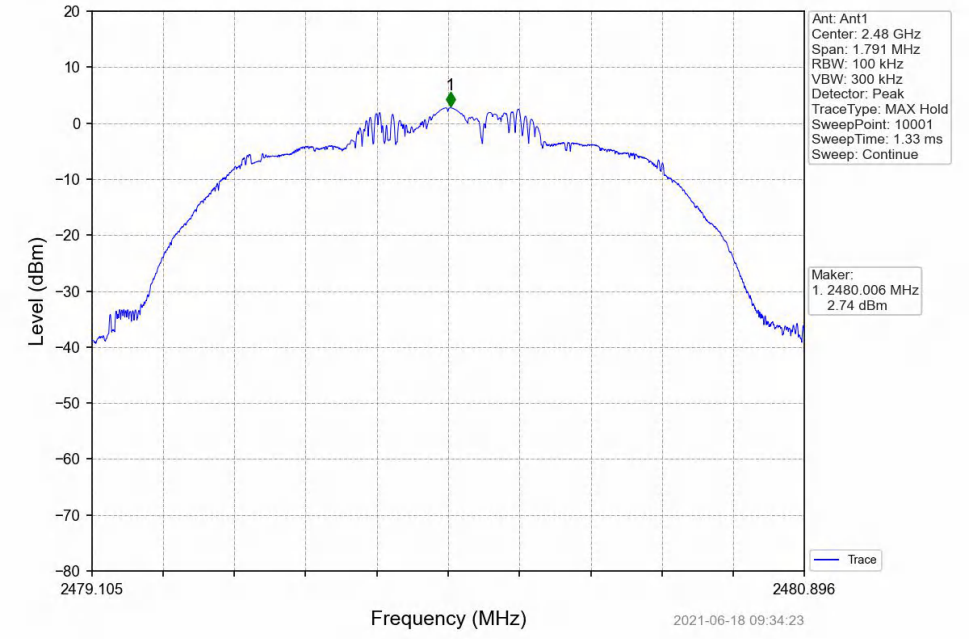
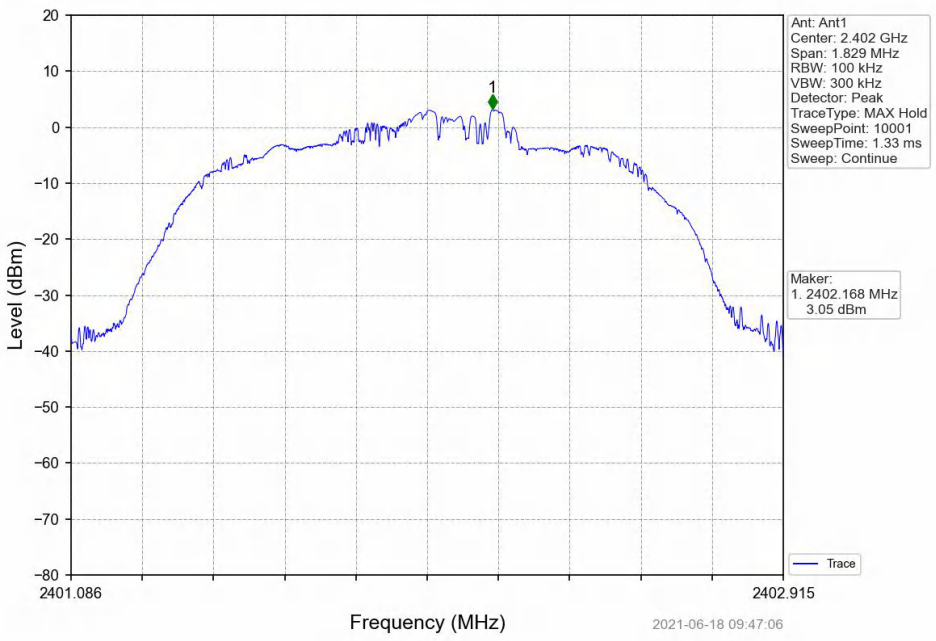
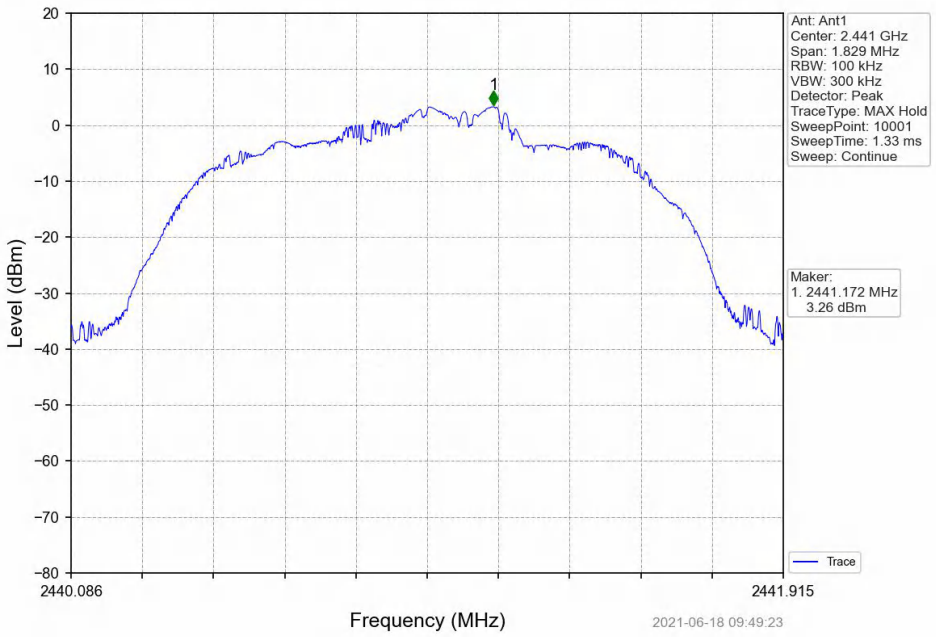


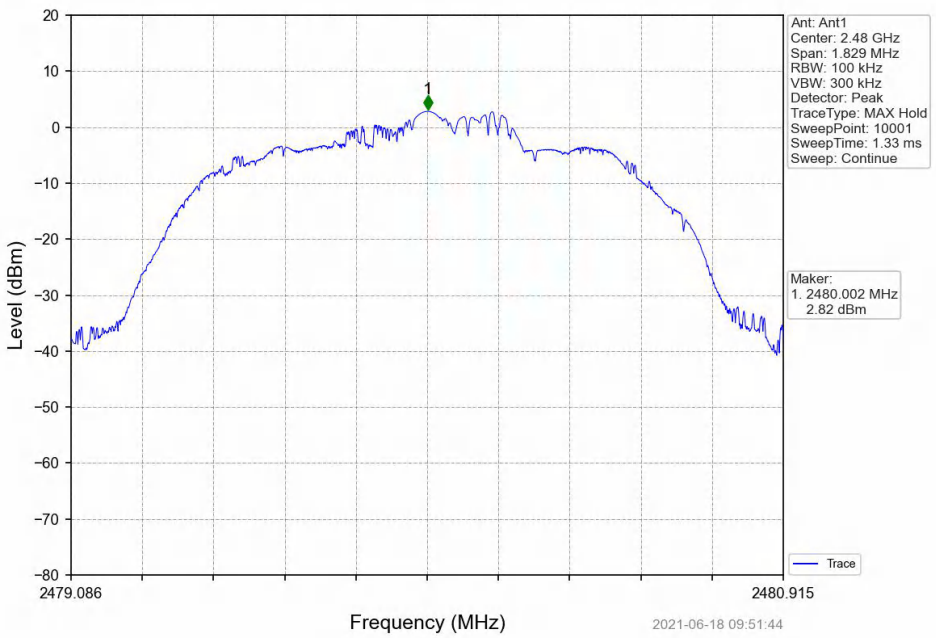
8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_MCH_2441MHz_Ant1_NTNV



8DPSK_3DH5_HCH_2480MHz_Ant1_NTNV



6.2 CSE

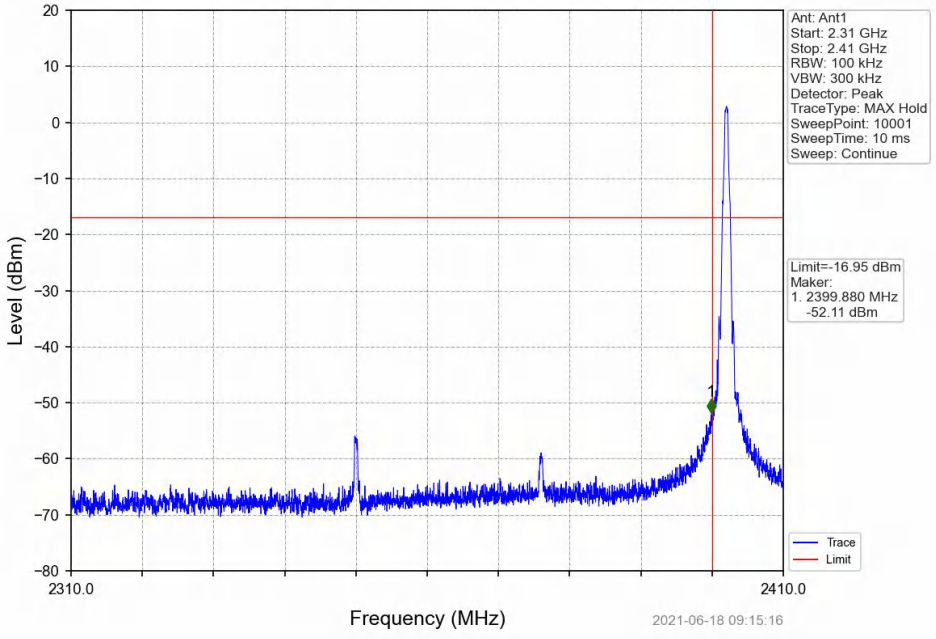
6.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Packet Type	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
π /4-DQPSK	SISO	2402	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	2DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
8DPSK	SISO	2402	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2441	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		2480	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2
		HOPP	3DH5	1	Refer To Test Graph	Refer To Test Graph	Note2

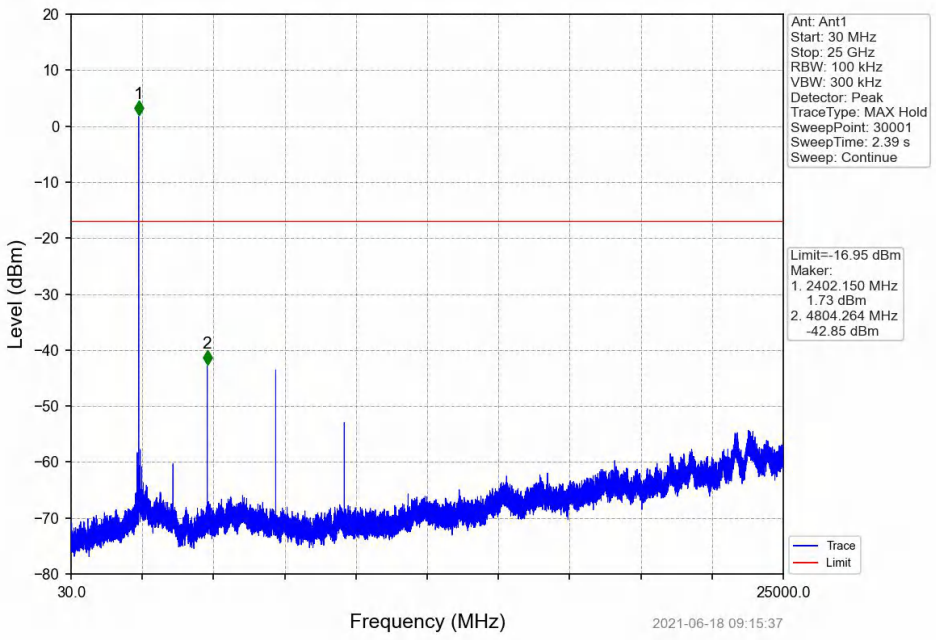
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.
Note2: Only for Report Use

6.2.2 Test Graph

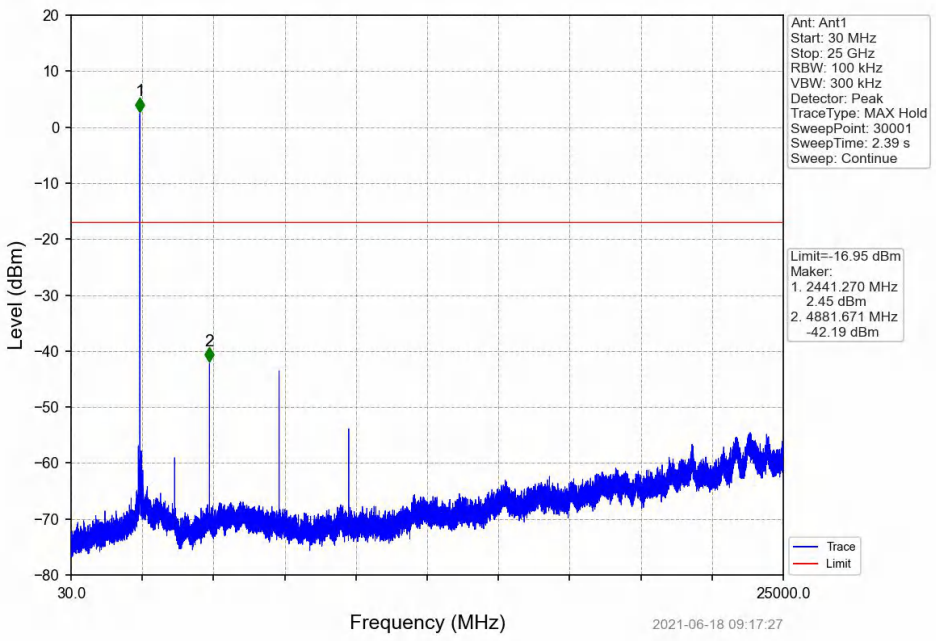
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



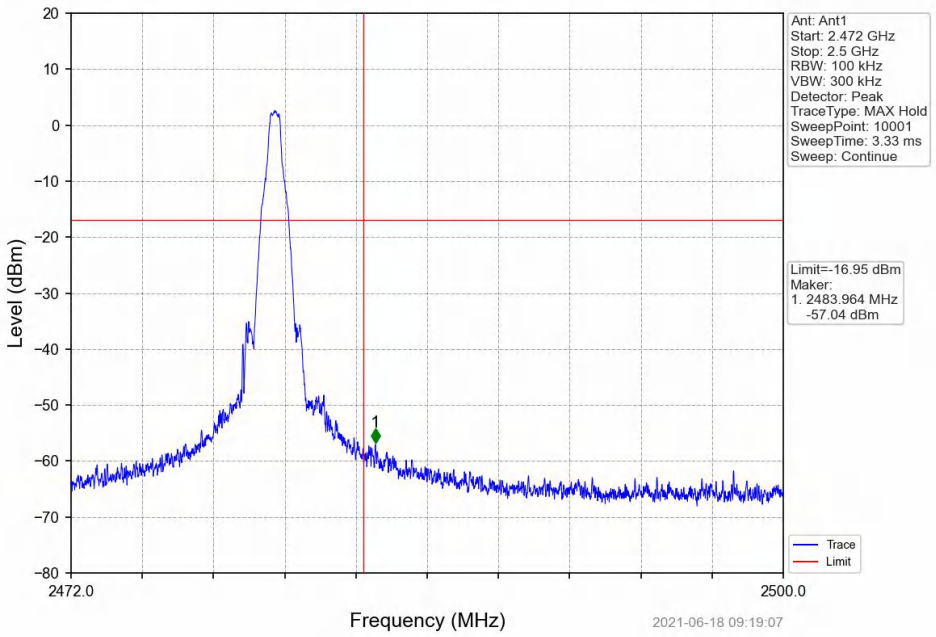
GFSK_DH5_LCH_2402MHz_Ant1_NTNV



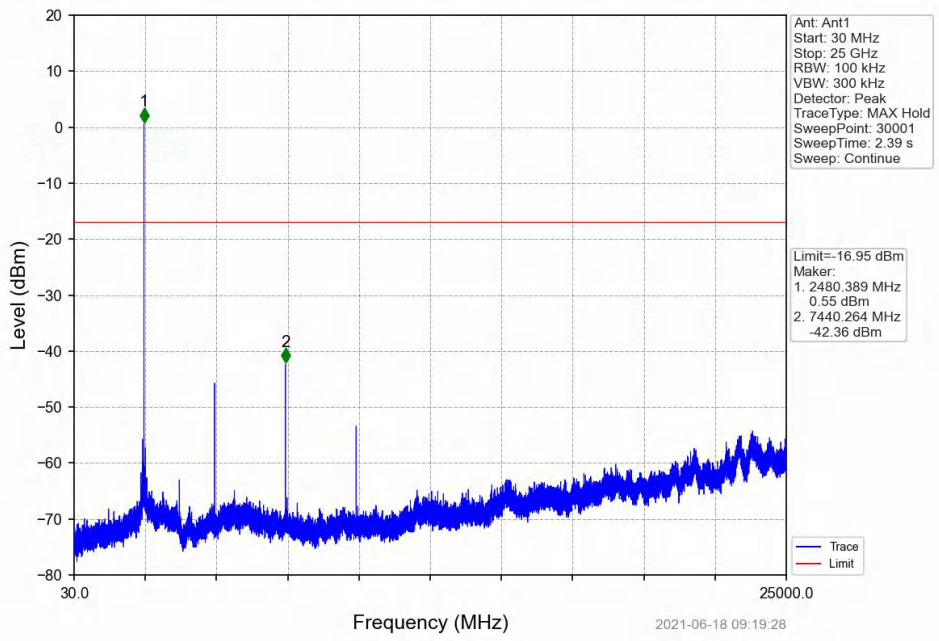
GFSK_DH5_MCH_2441MHz_Ant1_NTNV



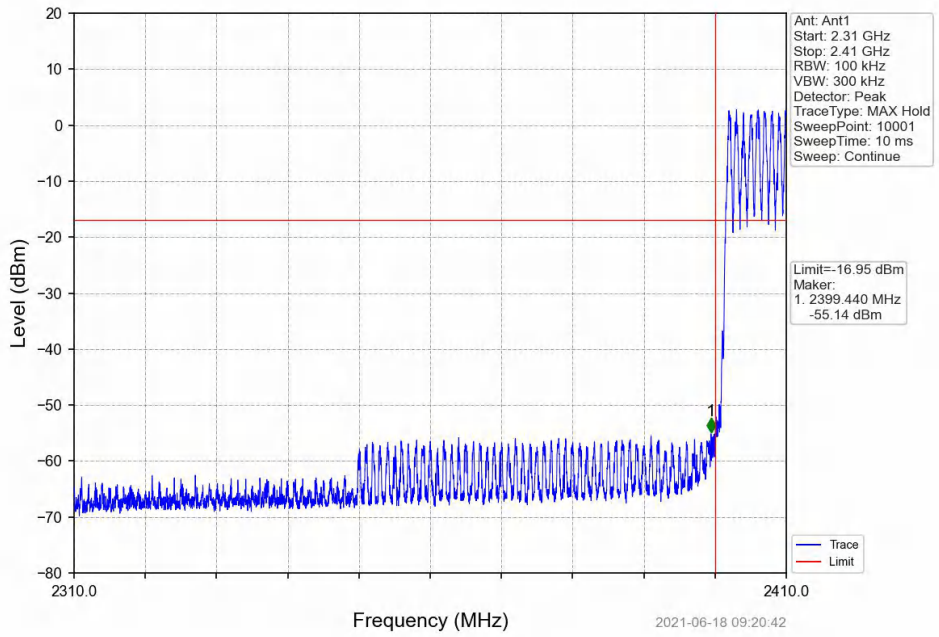
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



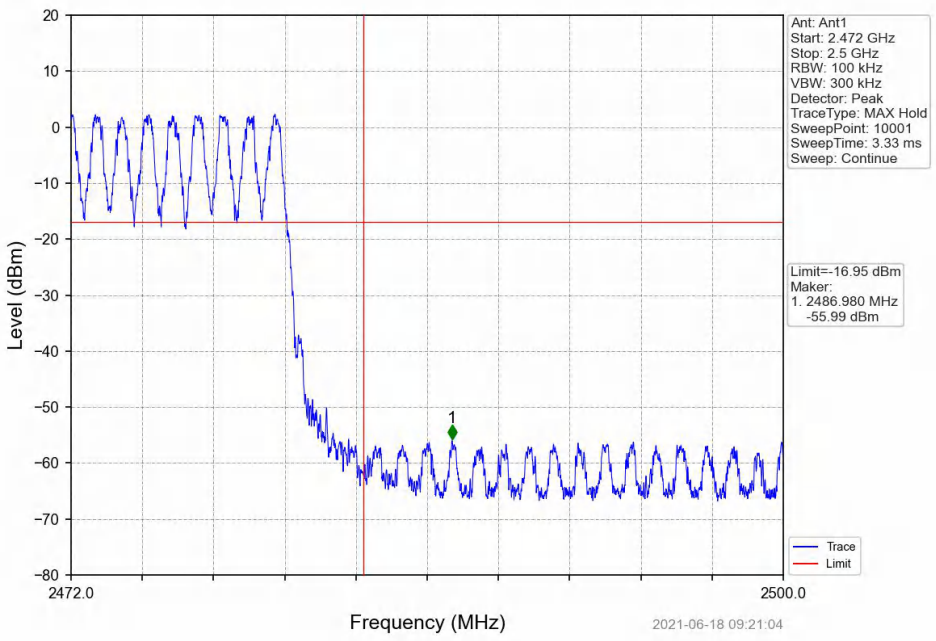
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV



GFSK_DH5_HOPP_Ant1_NTNV



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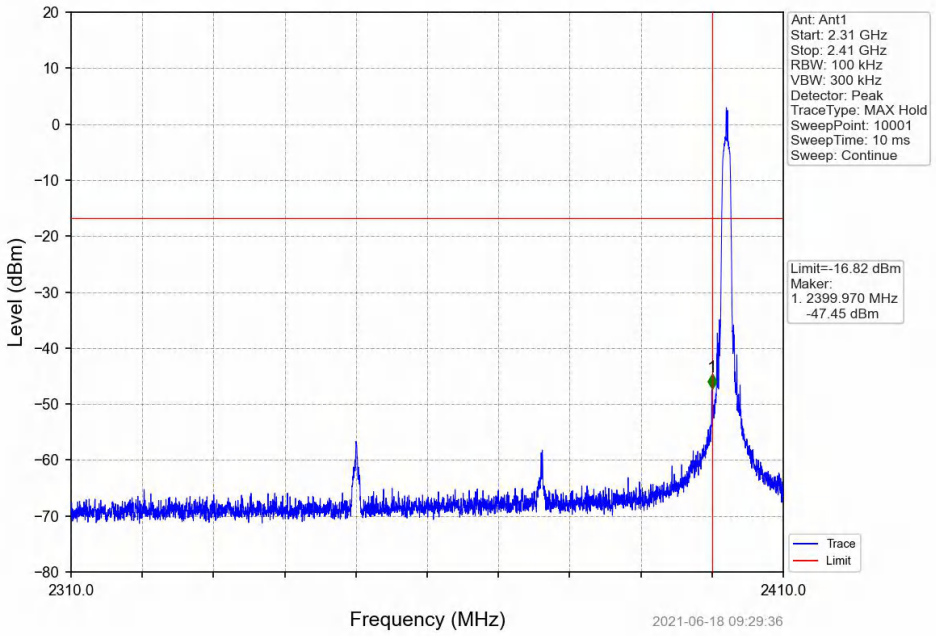

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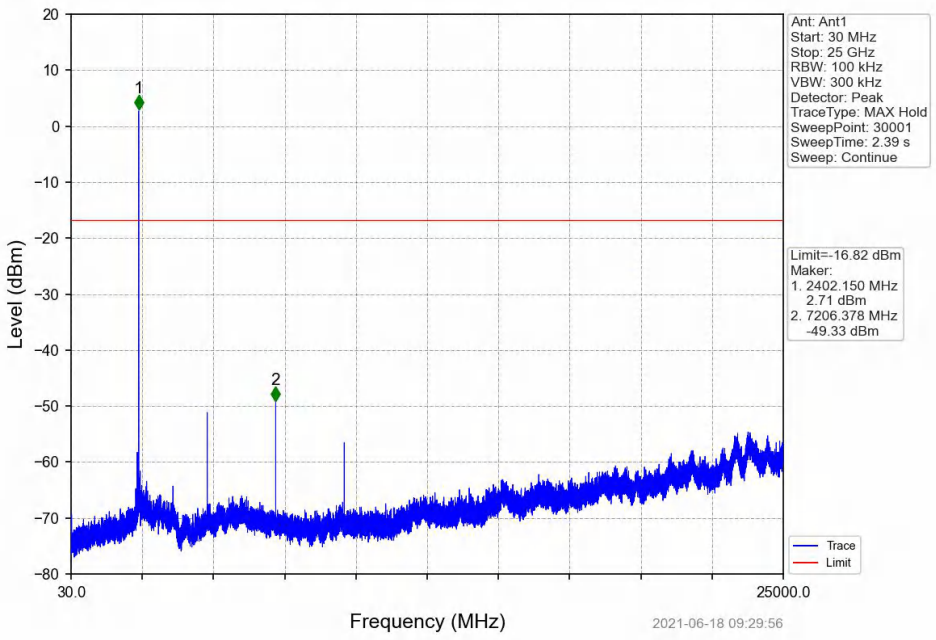

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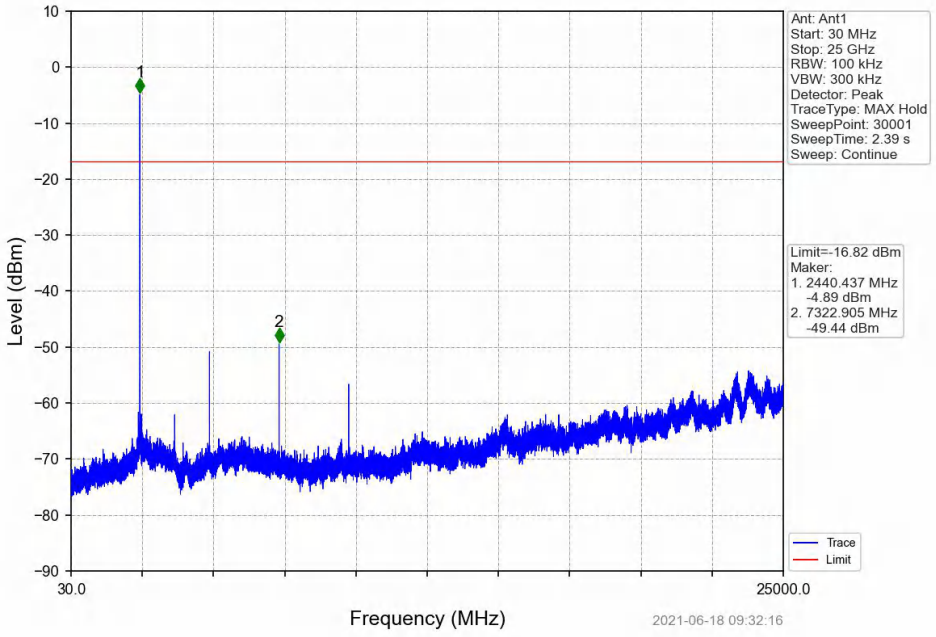

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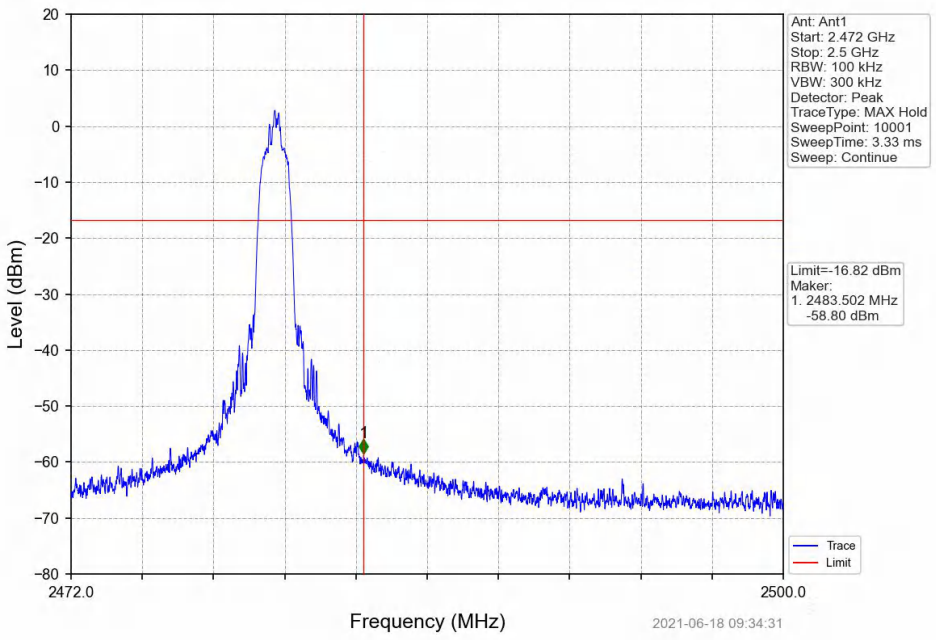

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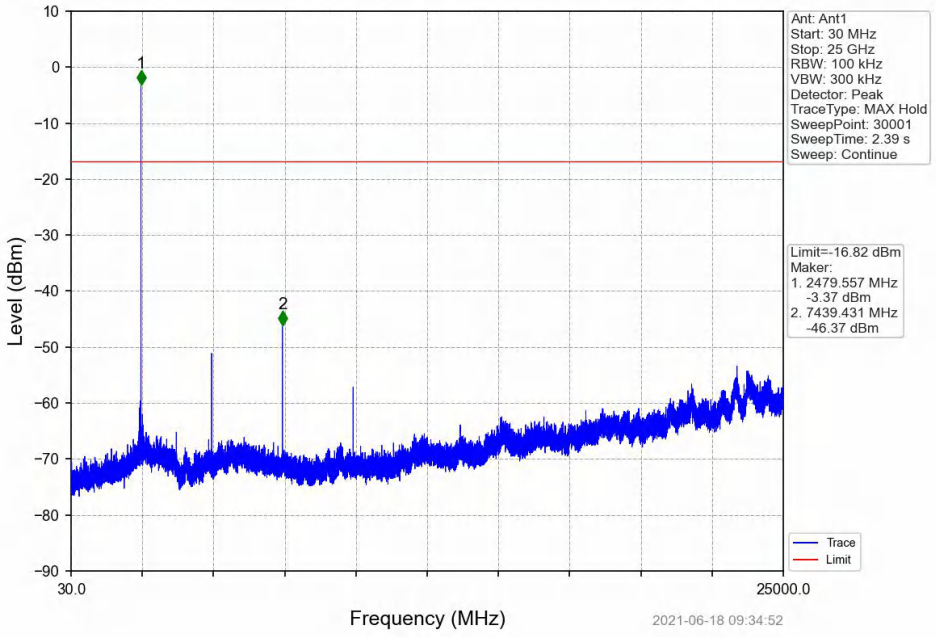

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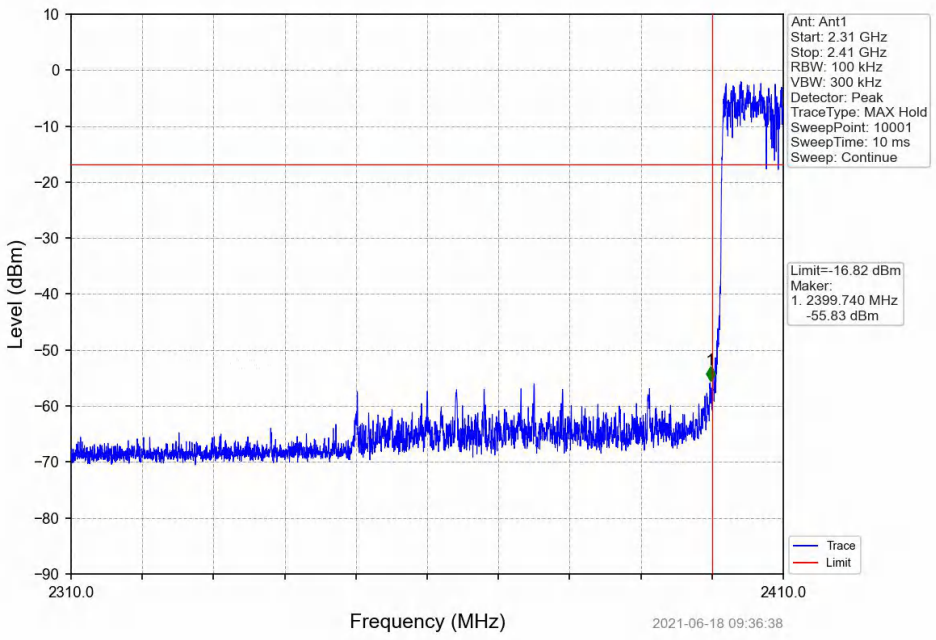

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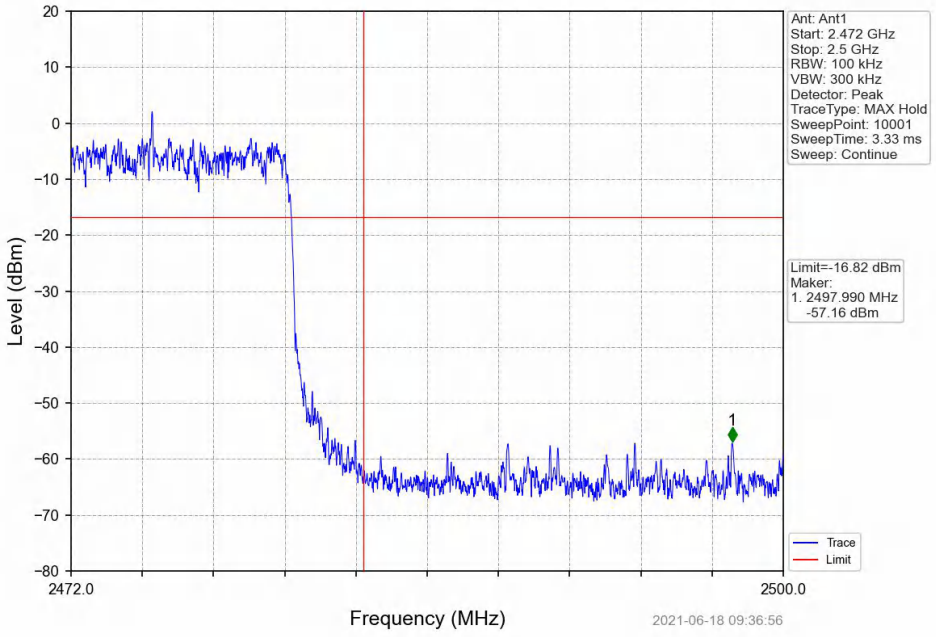
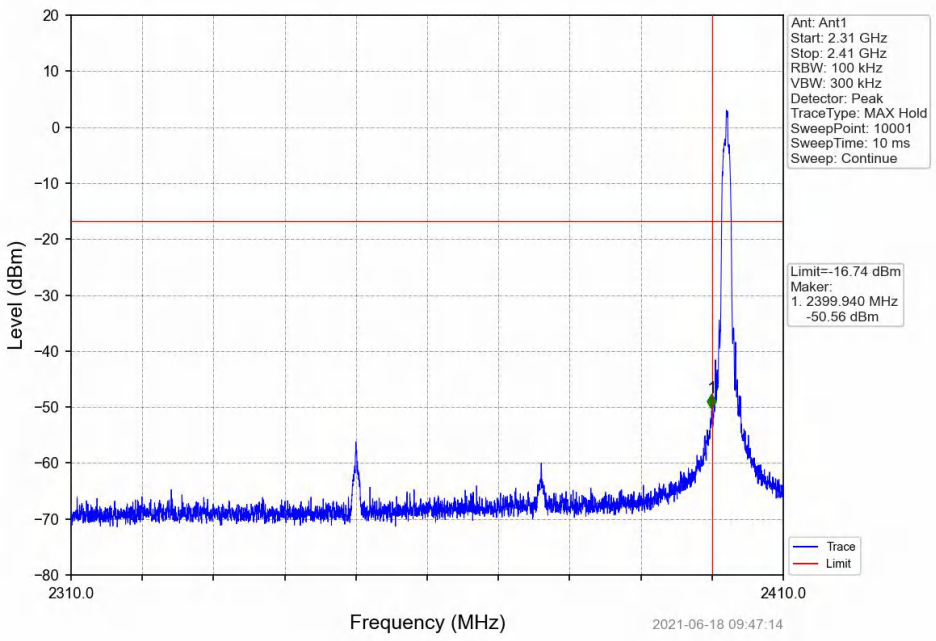
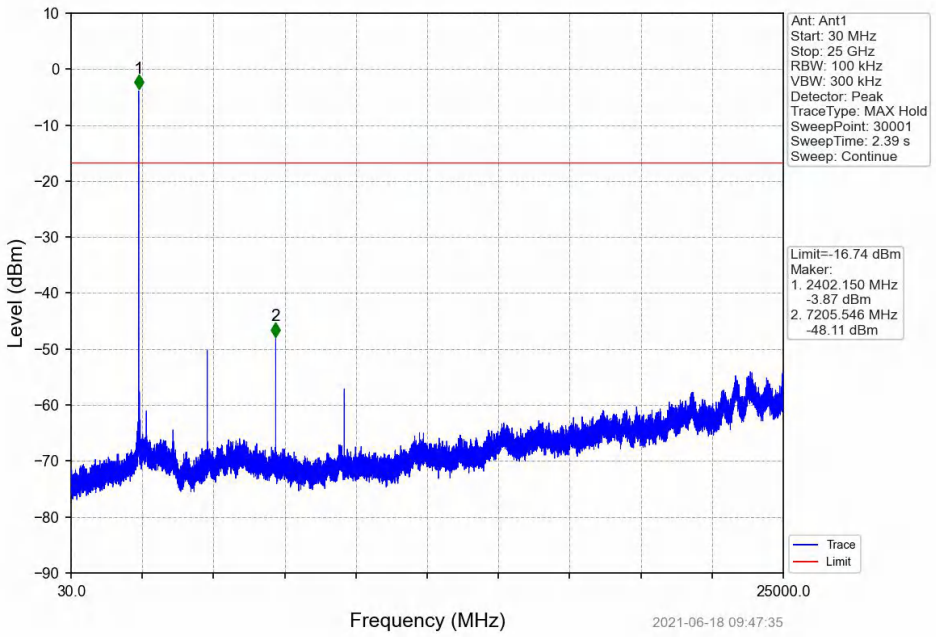


8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



8DPSK_3DH5_LCH_2402MHz_Ant1_NTNV



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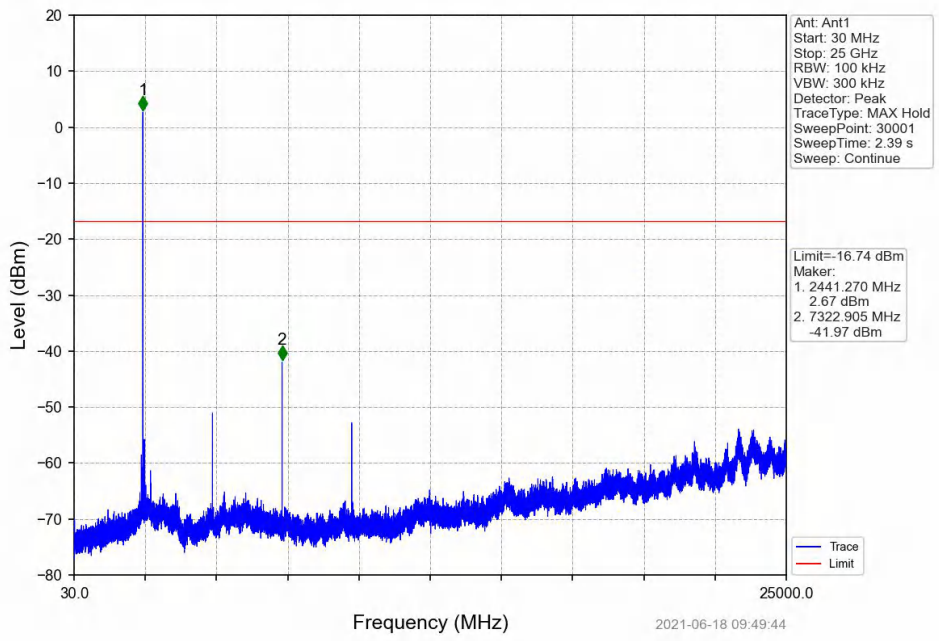

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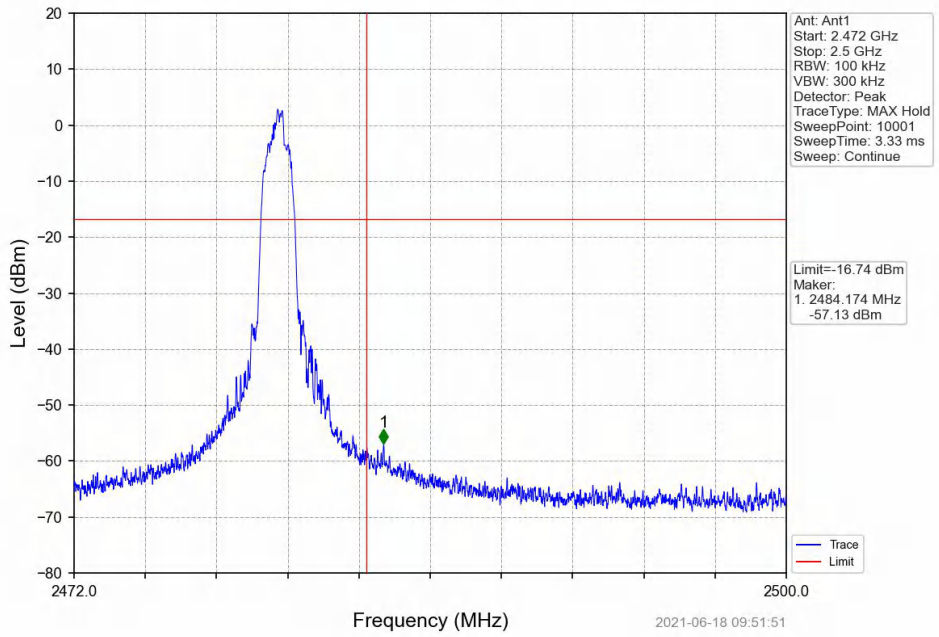

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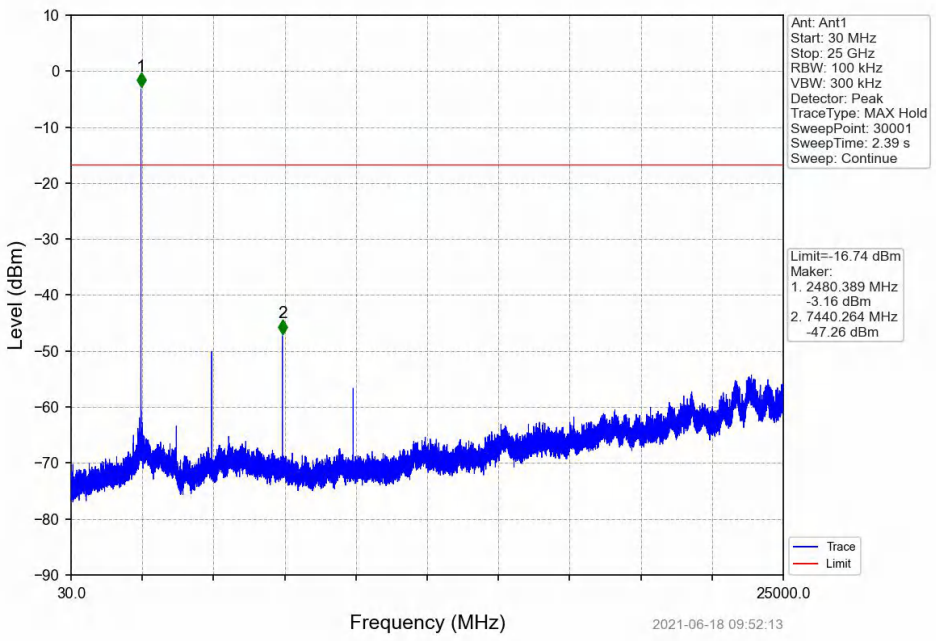

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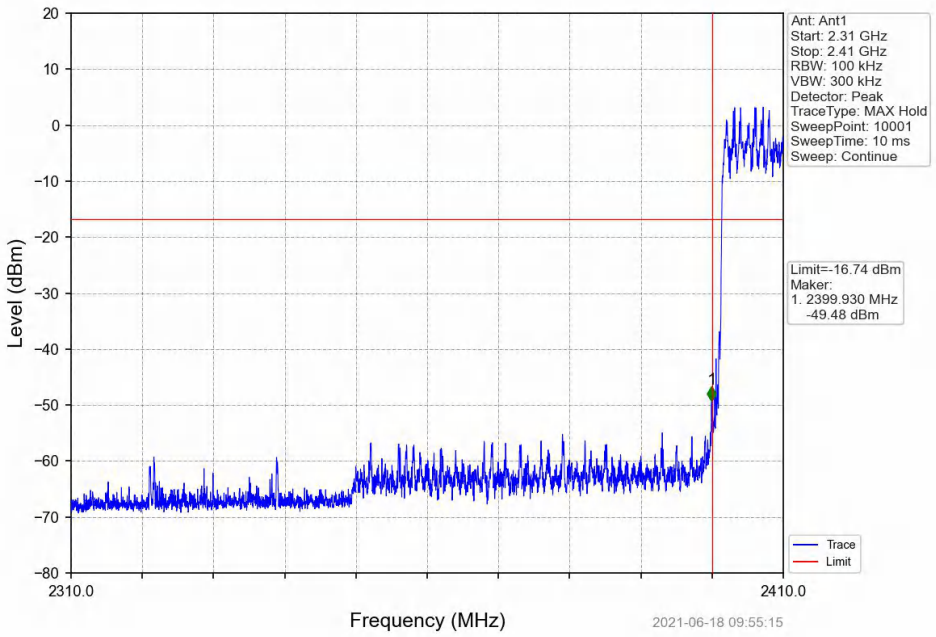

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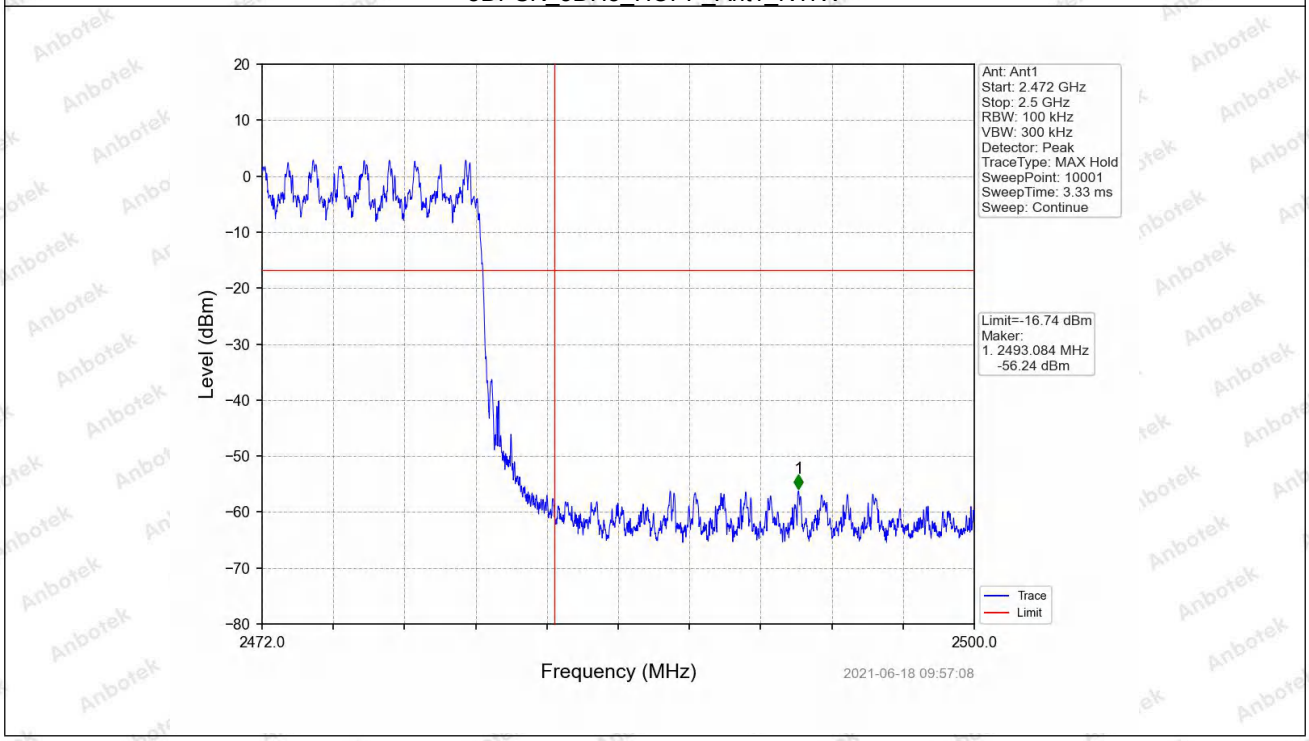

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