



Shenzhen BANTEK Testing Co., Ltd.

Report No.: BTEK260416006A01E0102

RF Test Report

For BTEK260416006A01E01

Project No.:	BTEK260416006A01E0102
Product Description:	21.8 °C, 62%, 101.4kPa
Test Engineer:	Zora
Test Date:	2026-06-03



Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Carrier Frequency Separation	Pass
Number of Hopping Frequencies	Pass
Time of Occupancy (Dwell Time)	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass
Unwanted Emissions In Restricted Frequency Bands	Pass



1. Duty Cycle

1.1 Test Result

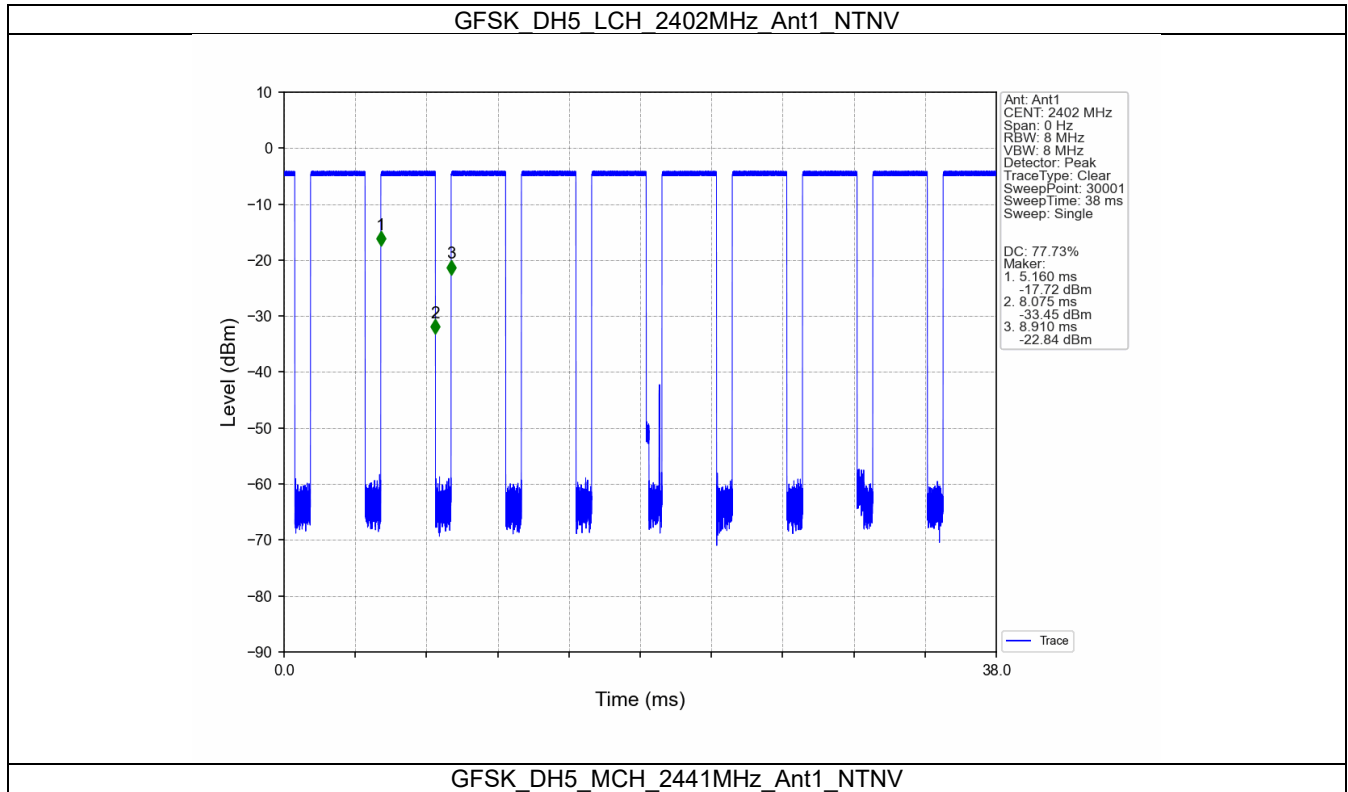
1.1.1 Ant1

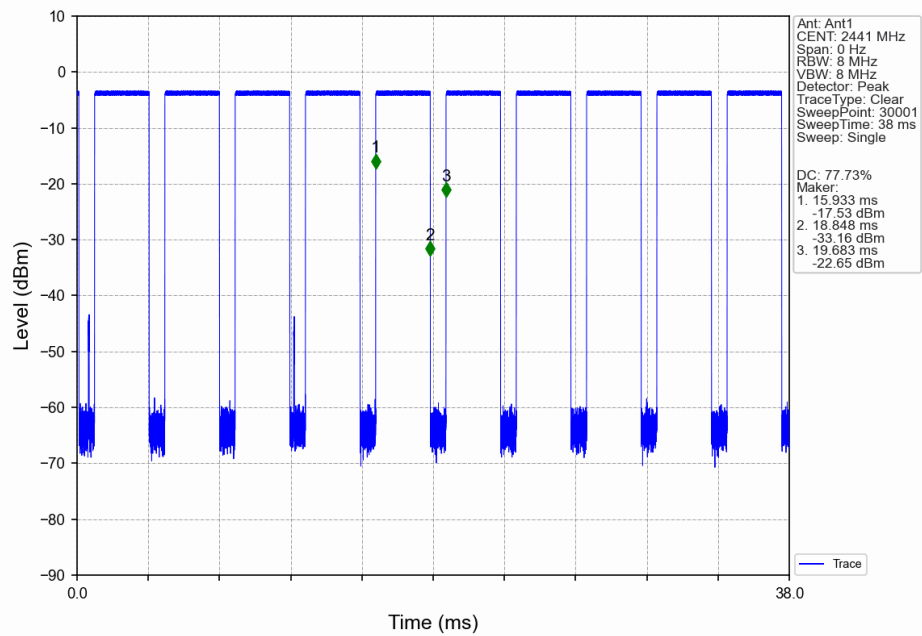
Ant1								
Mode	TX Type	Frequency (MHz)	Packet Type	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
GFSK	SISO	2402	DH5	2.915	3.750	77.73	1.09	0.01
		2441	DH5	2.915	3.750	77.73	1.09	0.03
		2480	DH5	2.915	3.749	77.75	1.09	0.03
PI/4DQPSK	SISO	2402	2DH5	2.921	3.750	77.89	1.08	0.04
		2441	2DH5	2.922	3.751	77.90	1.08	0.03
		2480	2DH5	2.921	3.749	77.91	1.08	0.03



1.2 Test Graph

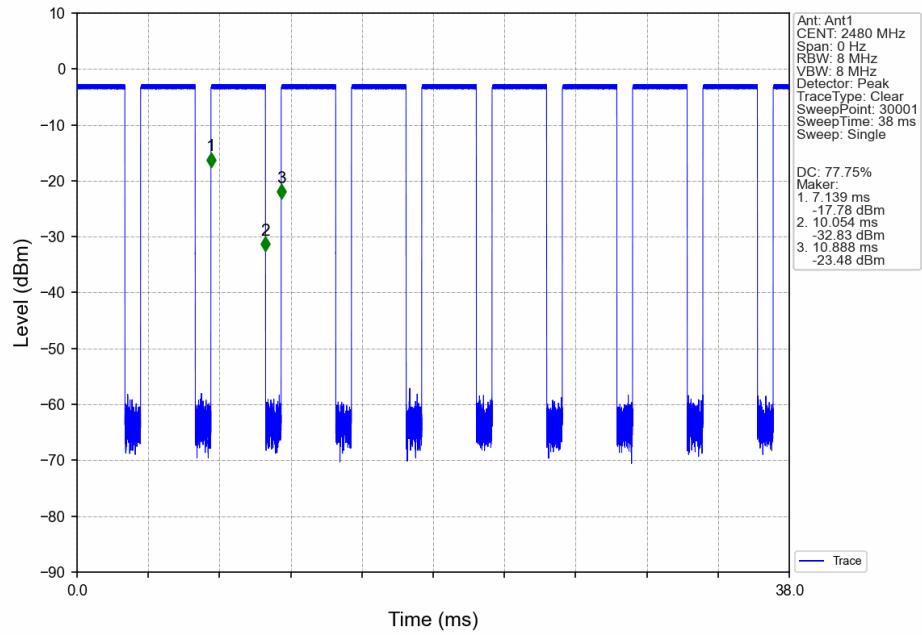
1.2.1 Ant1



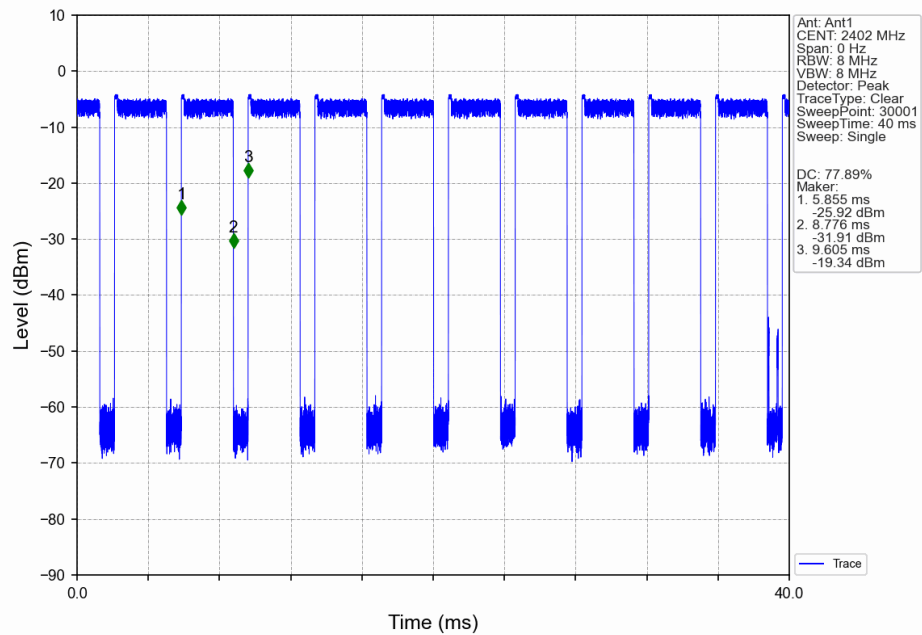




GFSK DH5_HCH_2480MHz_Ant1_NTNV

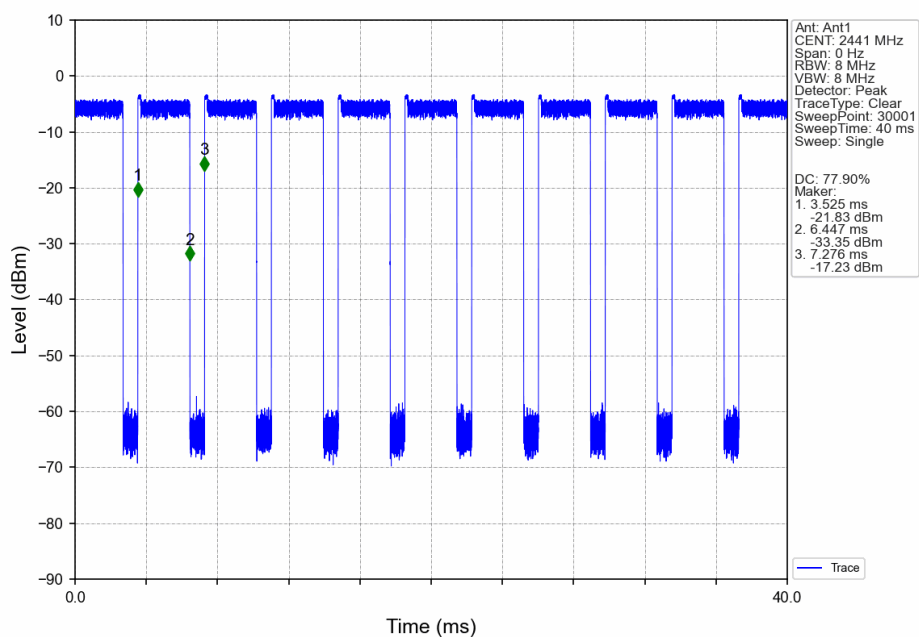


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

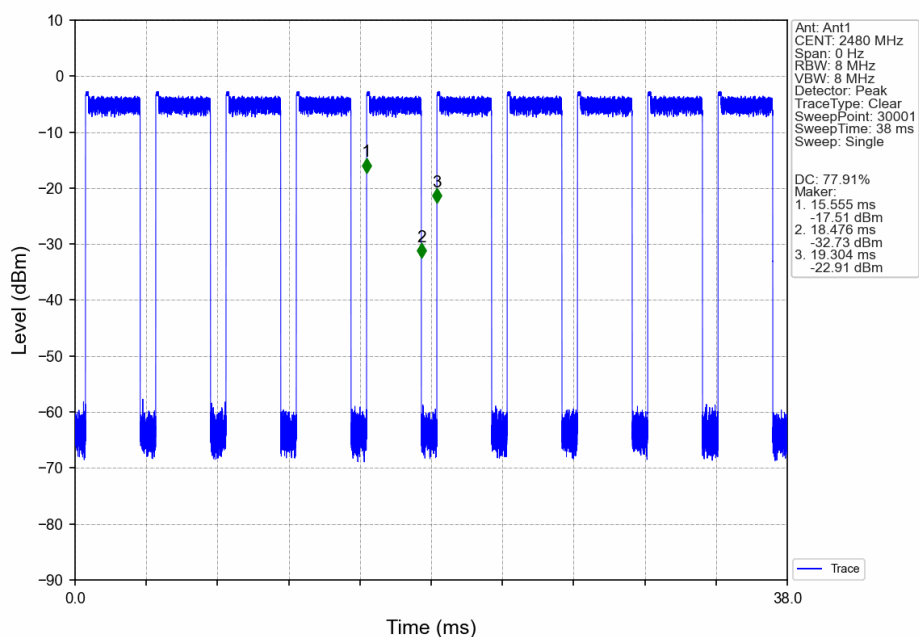




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV





2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	99% Occupied Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.858	/	Pass
		2441	DH5	1	0.859	/	Pass
		2480	DH5	1	0.857	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.140	/	Pass
		2441	2DH5	1	1.137	/	Pass
		2480	2DH5	1	1.137	/	Pass

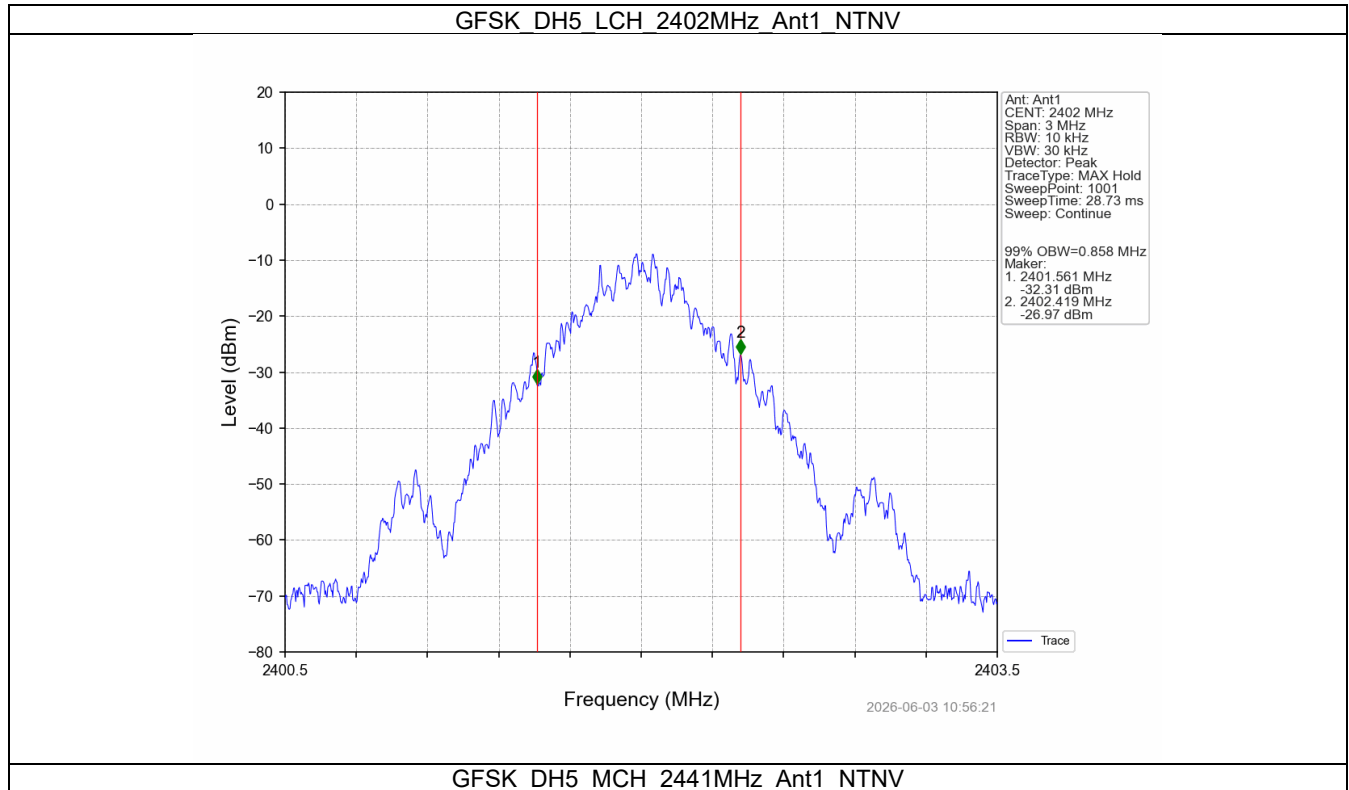
2.1.2 20dB BW

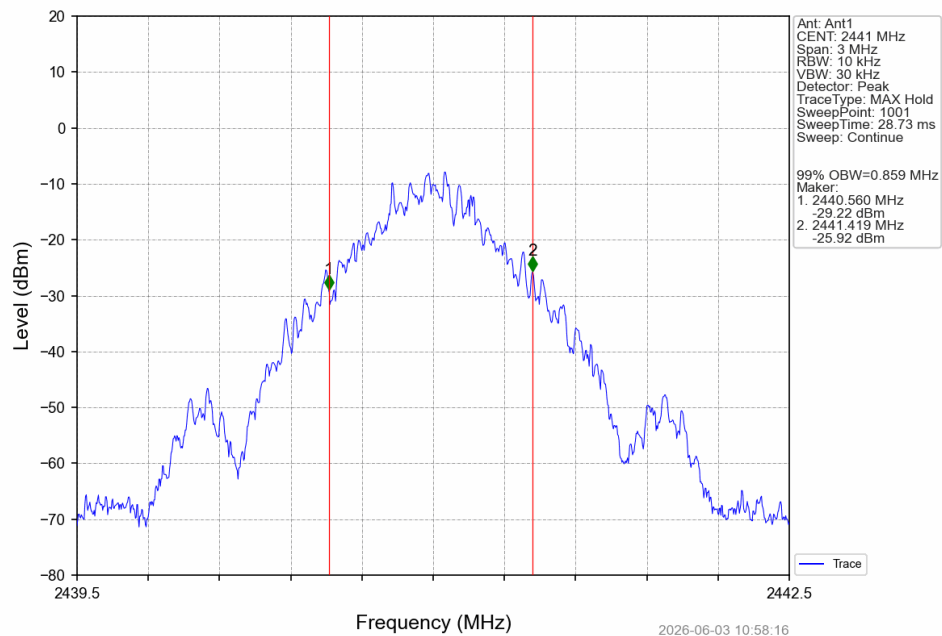
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	20dB Bandwidth (MHz)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	0.934	/	Pass
		2441	DH5	1	0.928	/	Pass
		2480	DH5	1	0.929	/	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	1.182	/	Pass
		2441	2DH5	1	1.180	/	Pass
		2480	2DH5	1	1.179	/	Pass



2.2 Test Graph

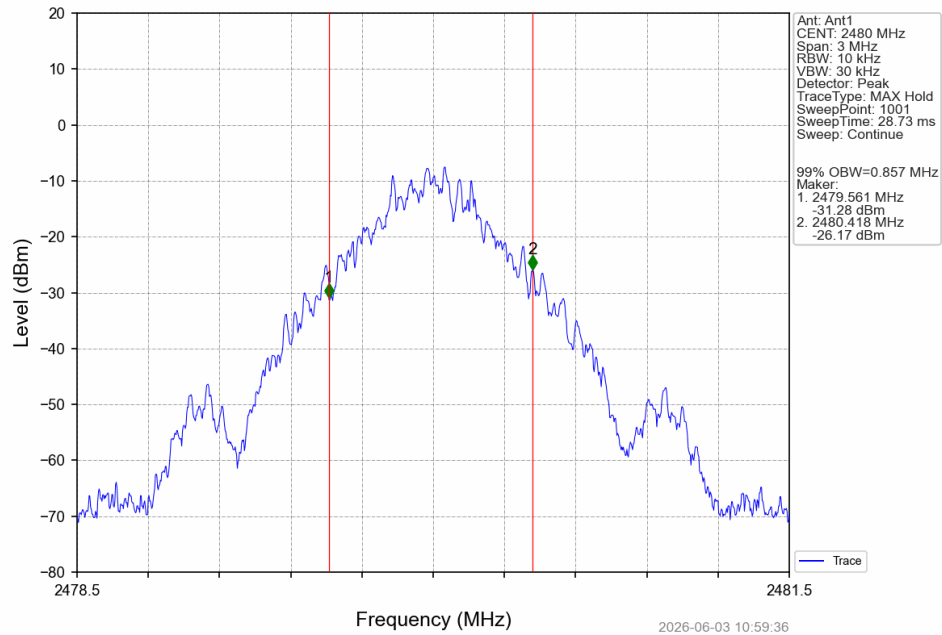
2.2.1 OBW



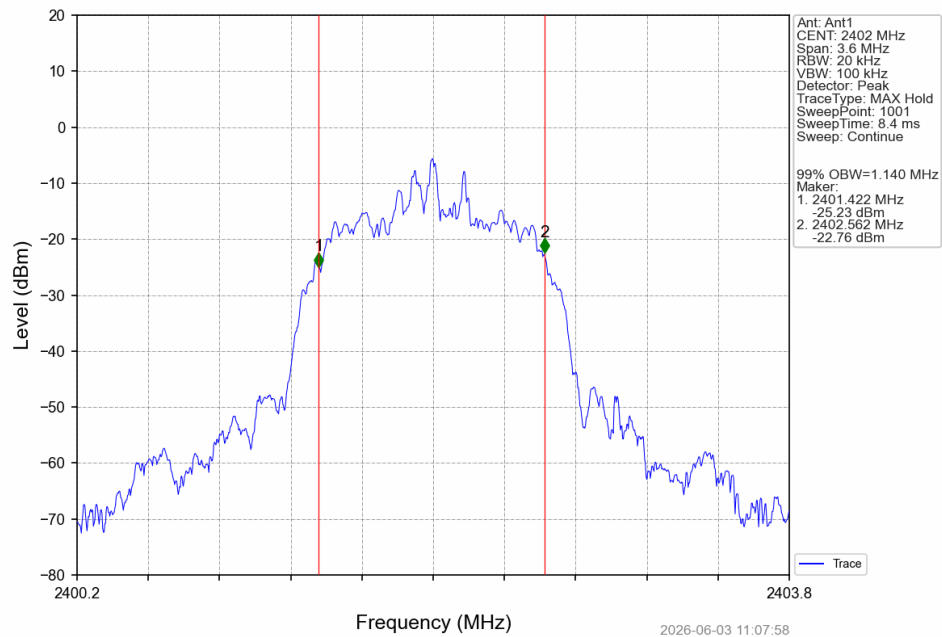




GFSK DH5_HCH_2480MHz_Ant1_NTNV

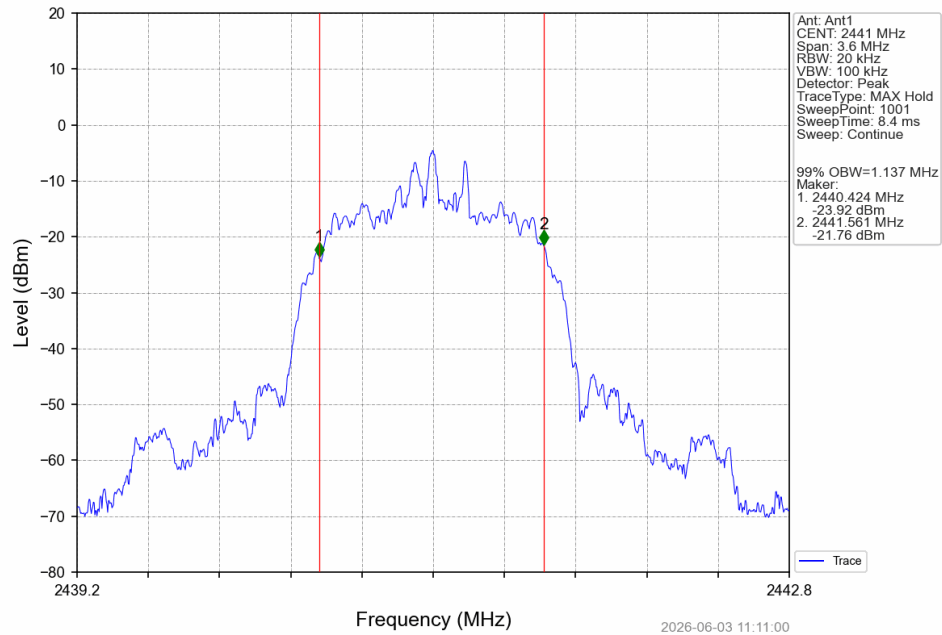


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

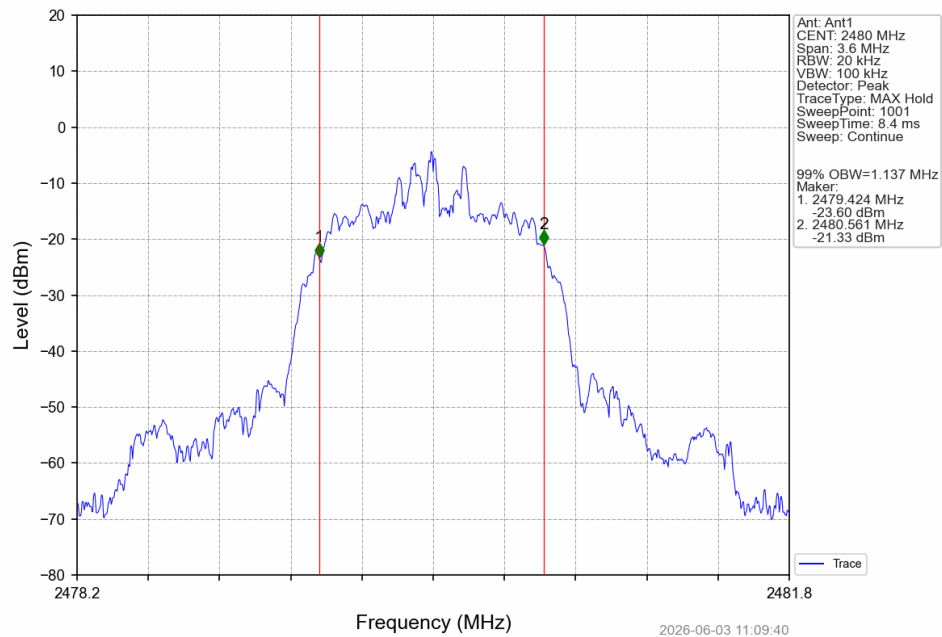




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

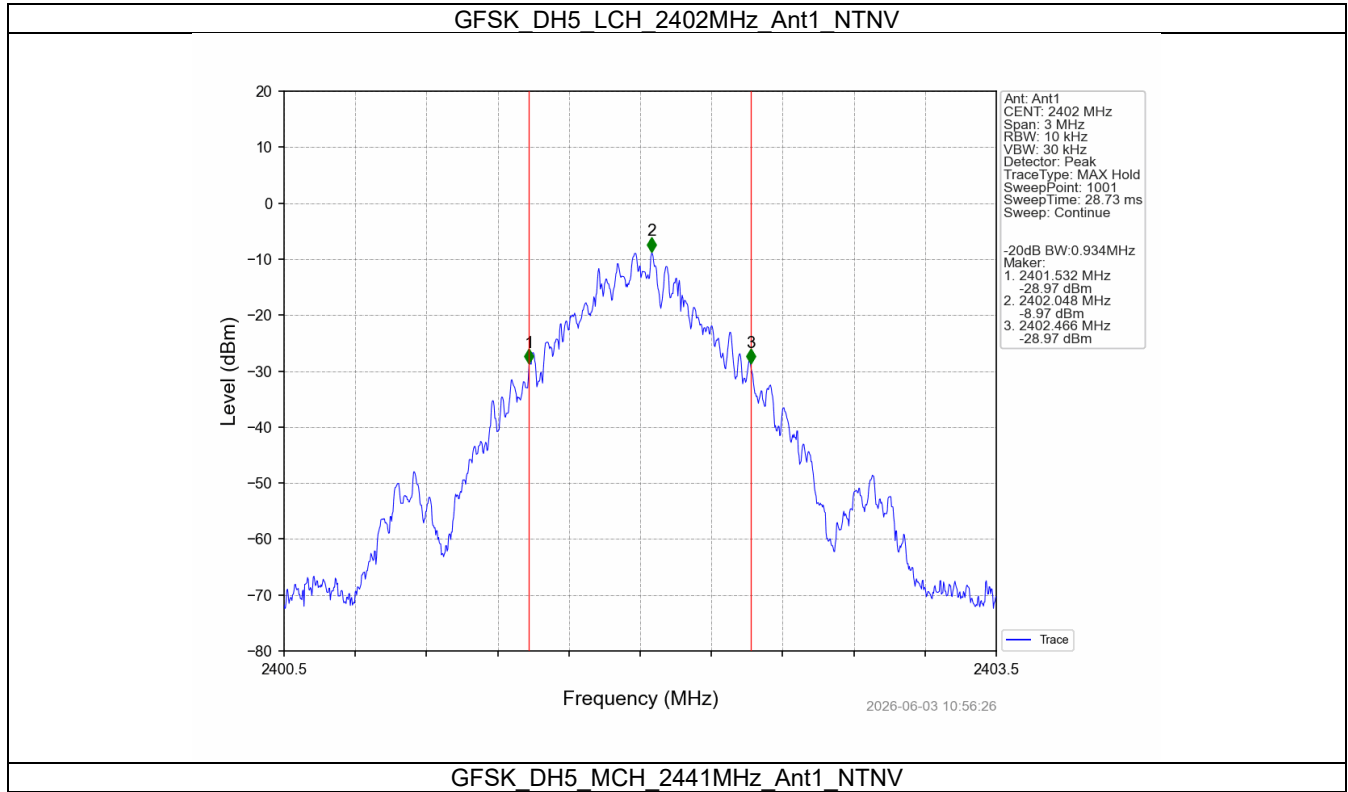


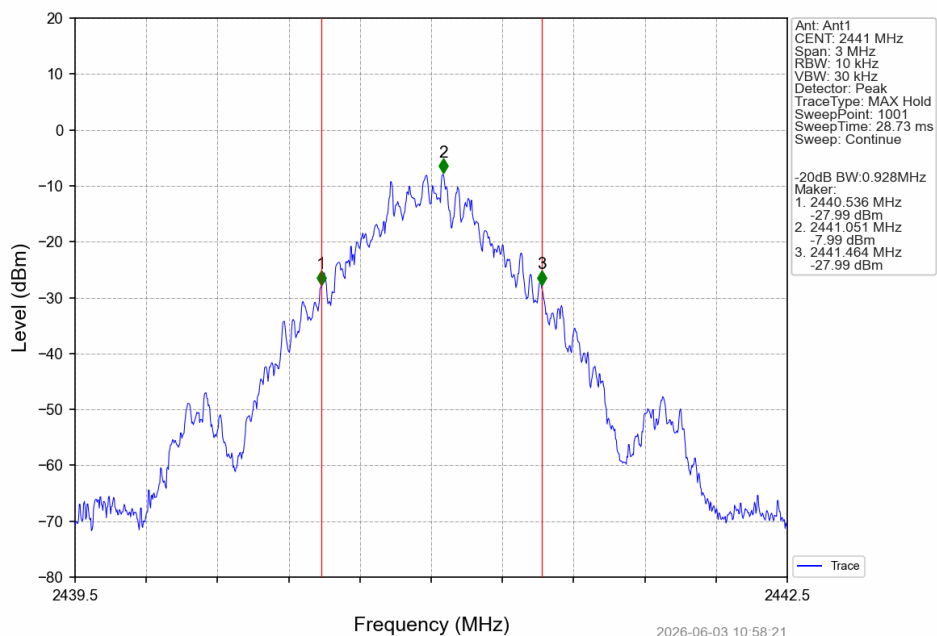
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV





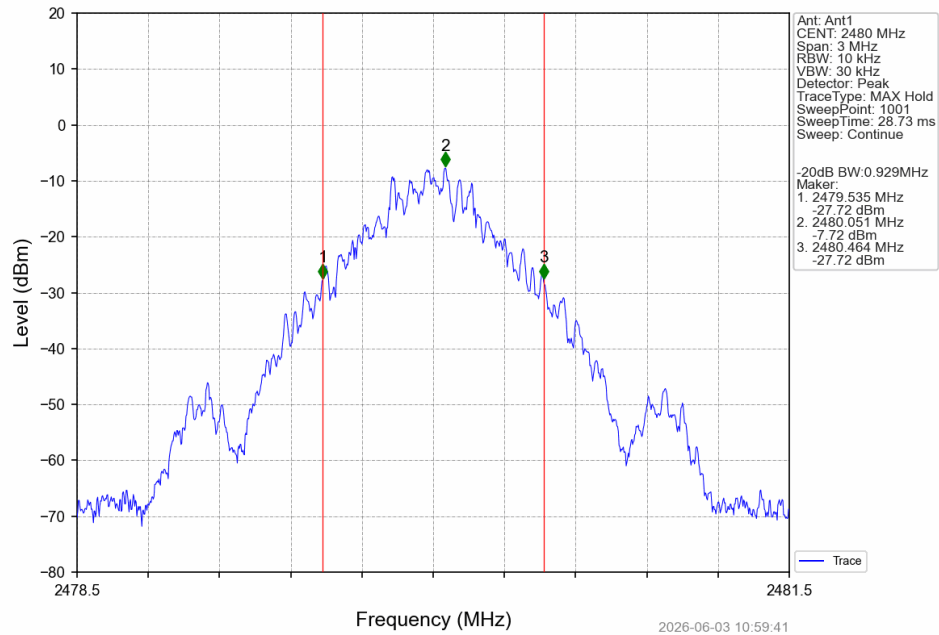
2.2.2 20dB BW



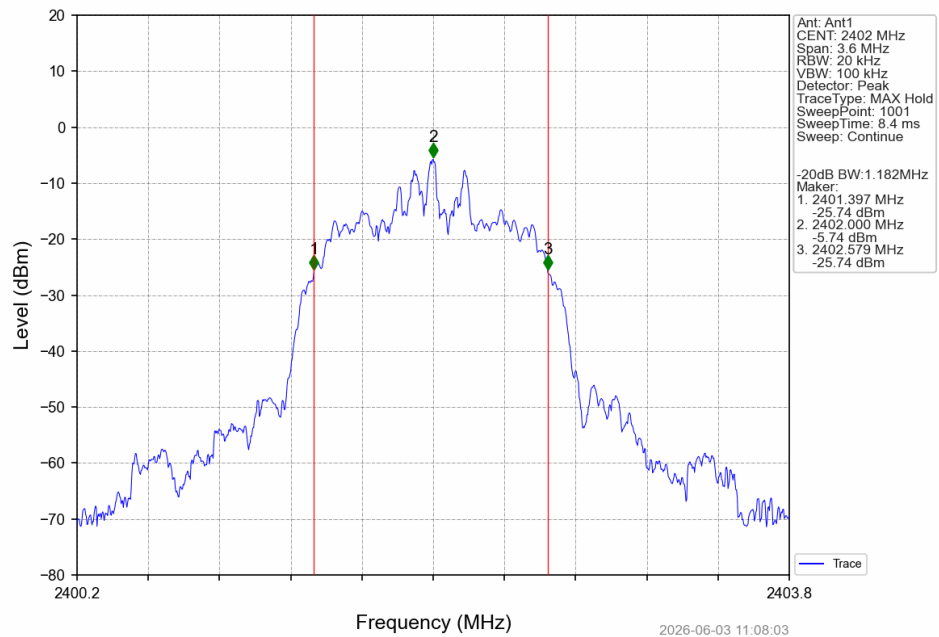




GFSK DH5 HCH 2480MHz Ant1 NTN

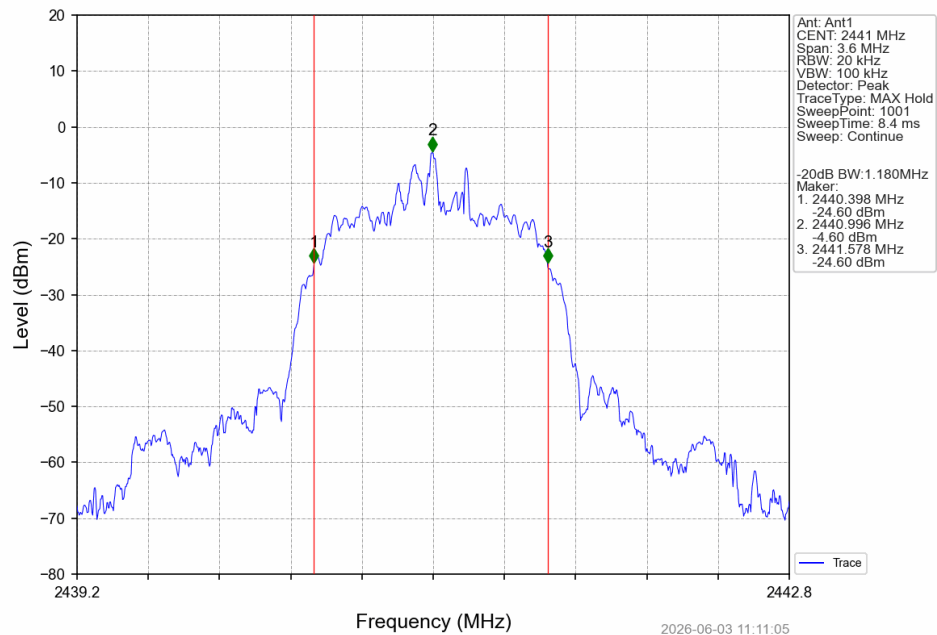


Pi/4DQPSK 2DH5 LCH 2402MHz Ant1 NTN

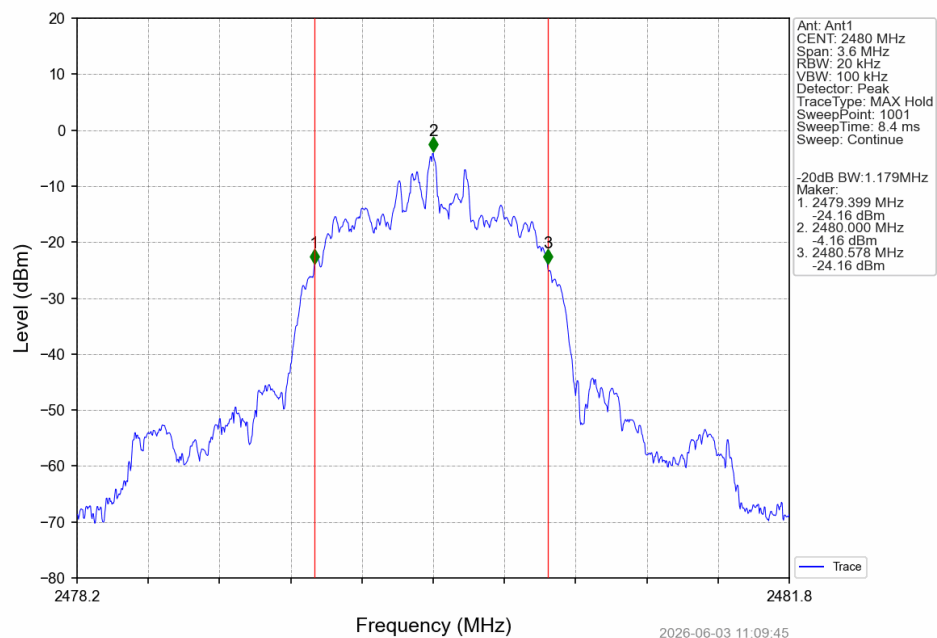




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV





3. Maximum Conducted Output Power

3.1 Test Result

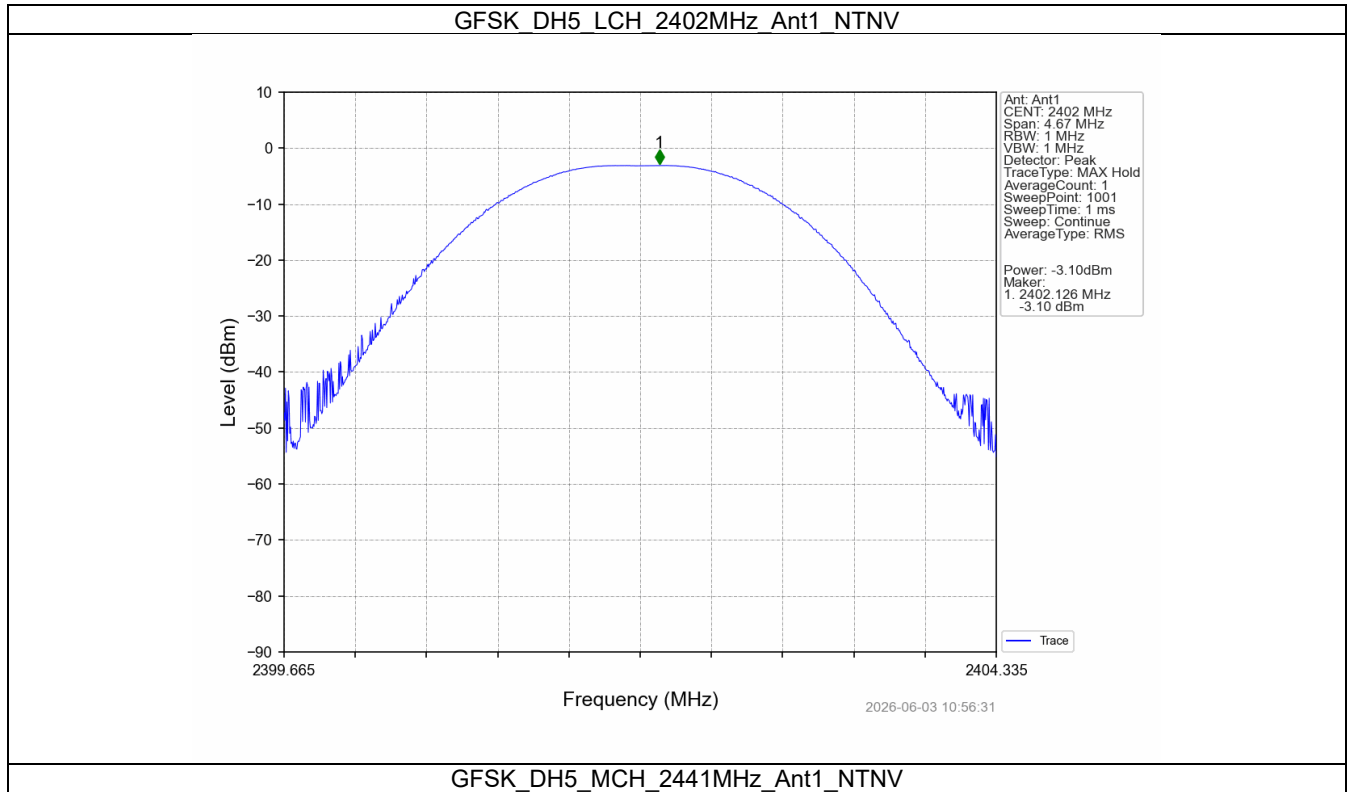
3.1.1 Power

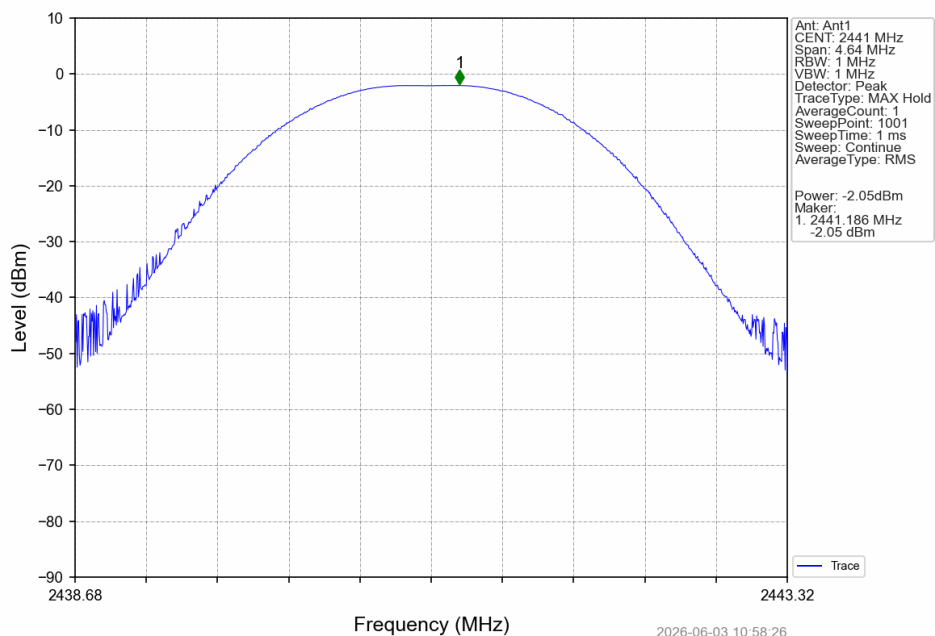
Mode	TX Type	Frequency (MHz)	Packet Type	Maximum Peak Conducted Output Power (dBm)		Verdict
				ANT1	Limit	
GFSK	SISO	2402	DH5	-3.10	<=30	Pass
		2441	DH5	-2.05	<=30	Pass
		2480	DH5	-1.69	<=30	Pass
Pi/4DQPSK	SISO	2402	2DH5	-3.06	<=20.97	Pass
		2441	2DH5	-2.00	<=20.97	Pass
		2480	2DH5	-1.60	<=20.97	Pass
Note1: Antenna Gain: Ant1: 2.7dBi;						



3.2 Test Graph

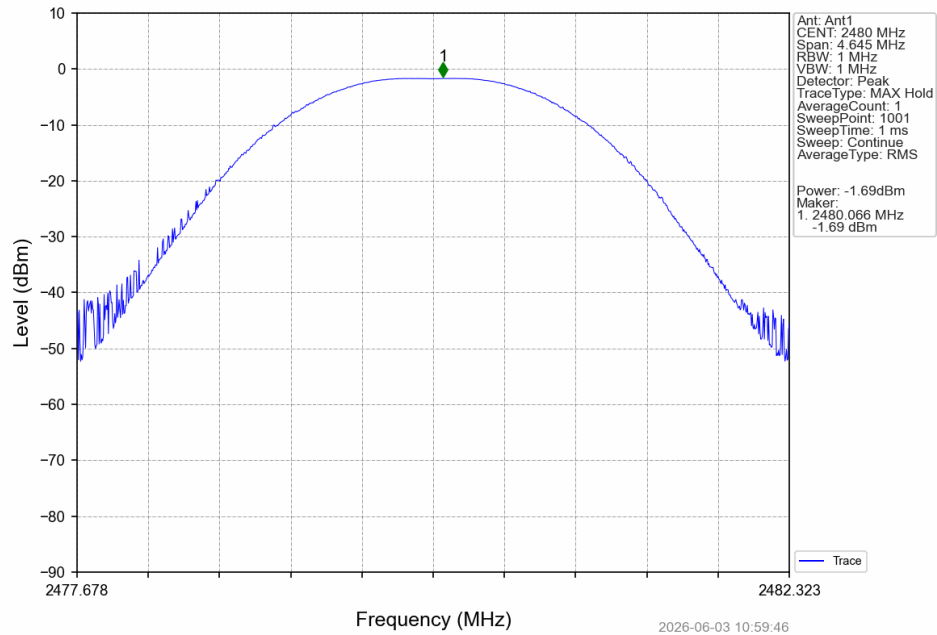
3.2.1 Power



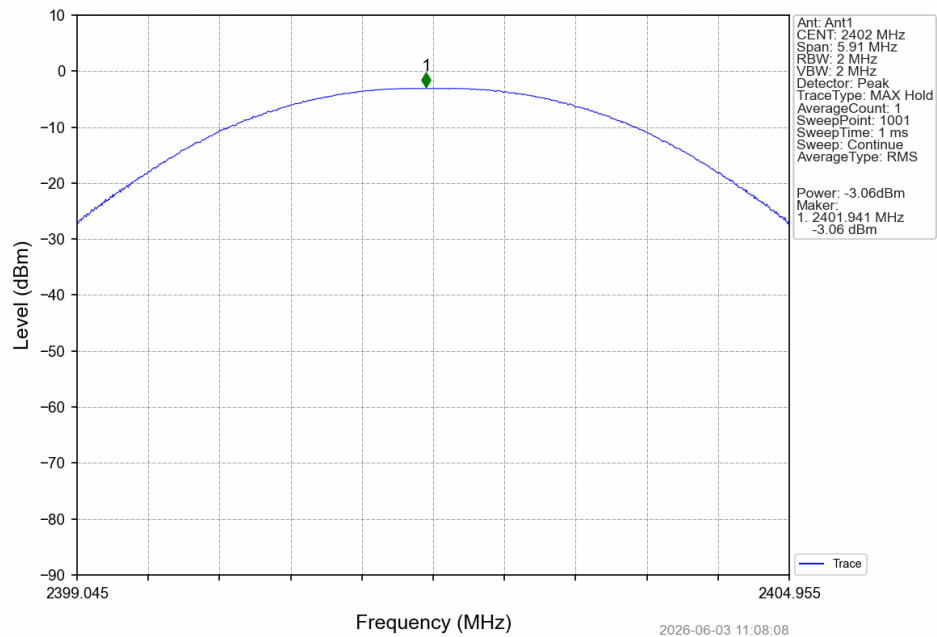




GFSK DH5_HCH_2480MHz_Ant1_NTNV

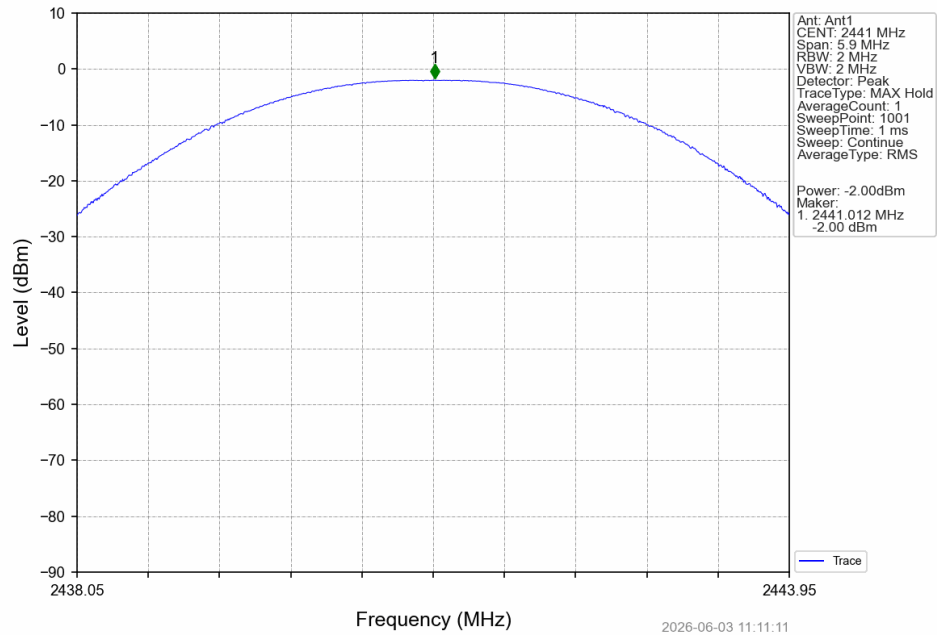


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

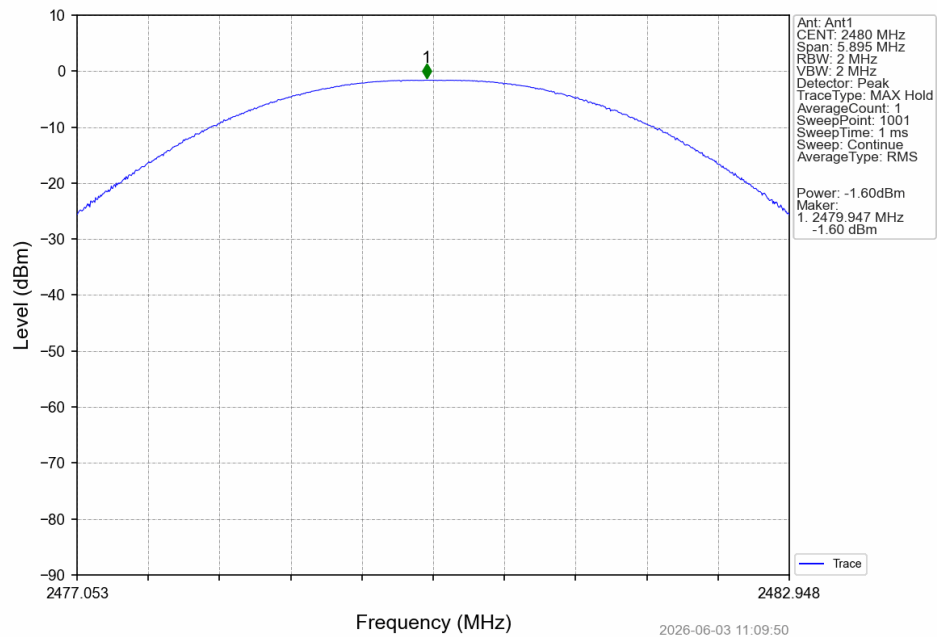




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV





4. Carrier Frequency Separation

4.1 Test Result

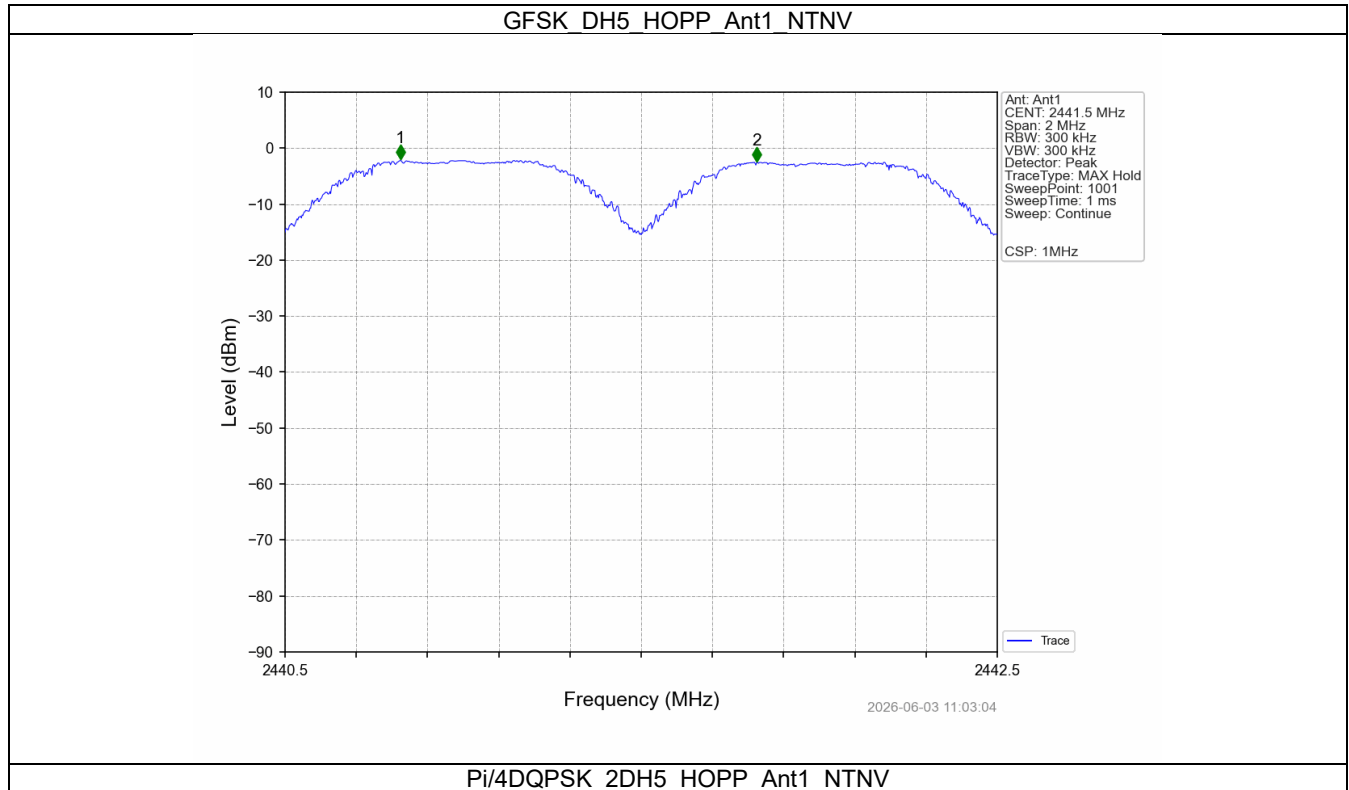
4.1.1 Ant1

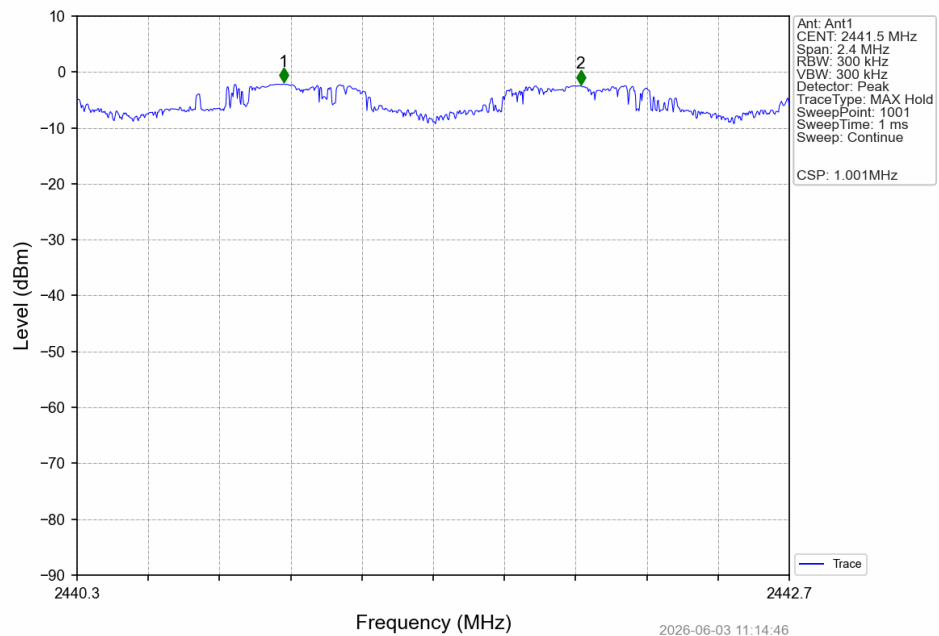
Ant1							
Mode	TX Type	Frequency (MHz)	Packet Type	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
GFSK	SISO	HOPP	DH5	1.000	0.934	≥ 0.934	Pass
PI/4DQPSK	SISO	HOPP	2DH5	1.001	1.182	≥ 0.788	Pass



4.2 Test Graph

4.2.1 Ant1







5. Number of Hopping Frequencies

5.1 Test Result

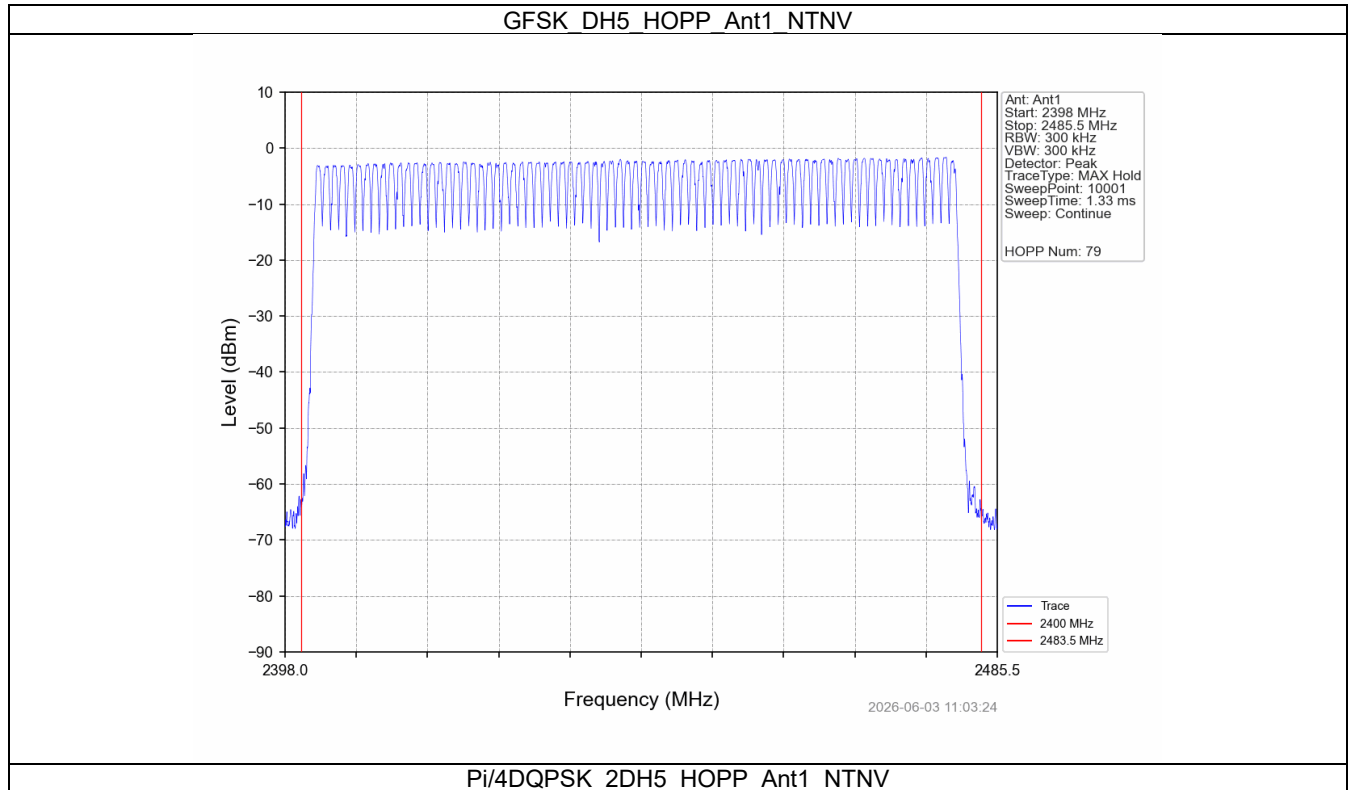
5.1.1 HoppNum

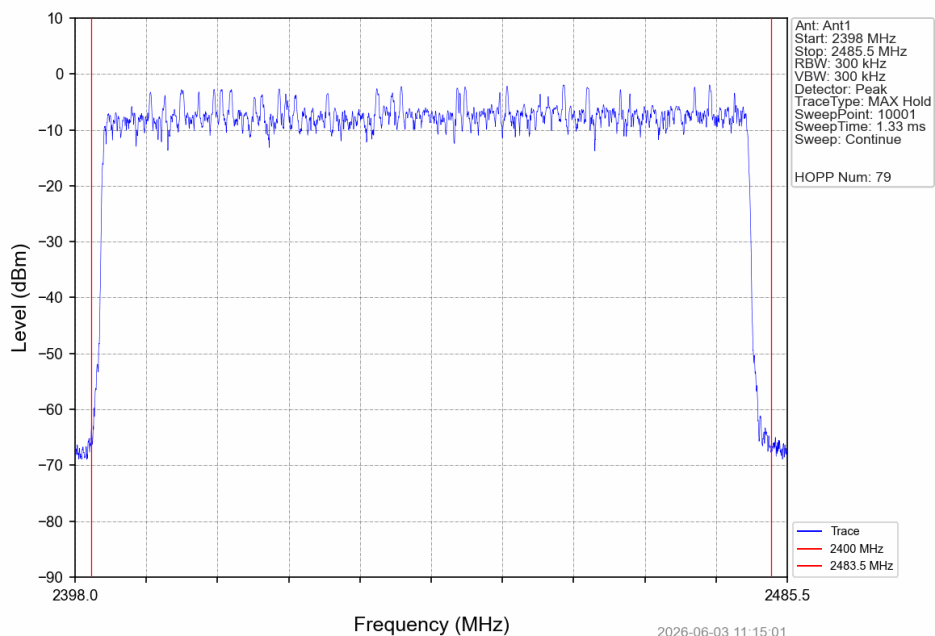
Mode	TX Type	Frequency (MHz)	Packet Type	Num of Hopping Frequencies		Verdict
				ANT1	Limit	
GFSK	SISO	HOPP	DH5	79	≥ 15	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	79	≥ 15	Pass



5.2 Test Graph

5.2.1 HoppNum







6. Time of Occupancy (Dwell Time)

6.1 Test Result

6.1.1 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	DH5	2.924	31.600	90	263.160	<=400	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	2.926	31.600	108	316.008	<=400	Pass

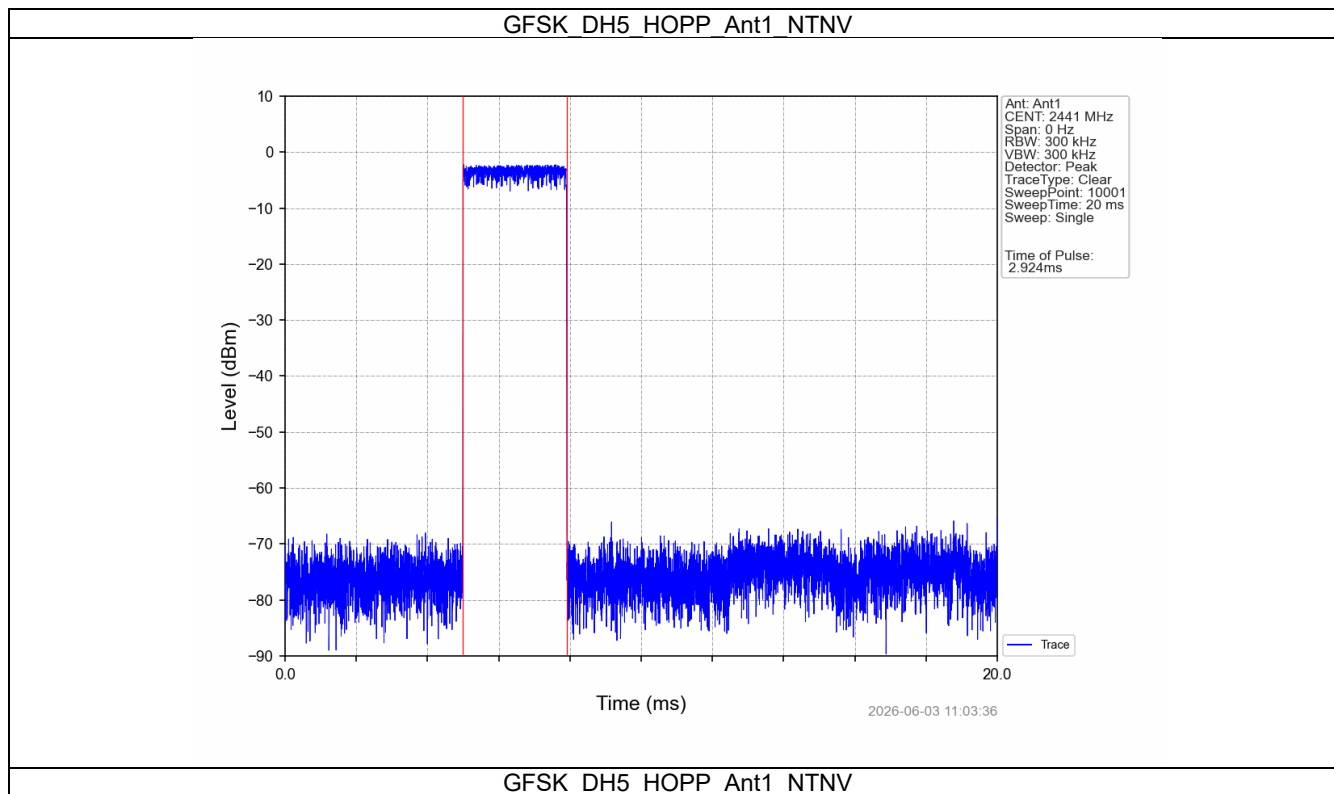
6.1.2 DwellTime_Ant1

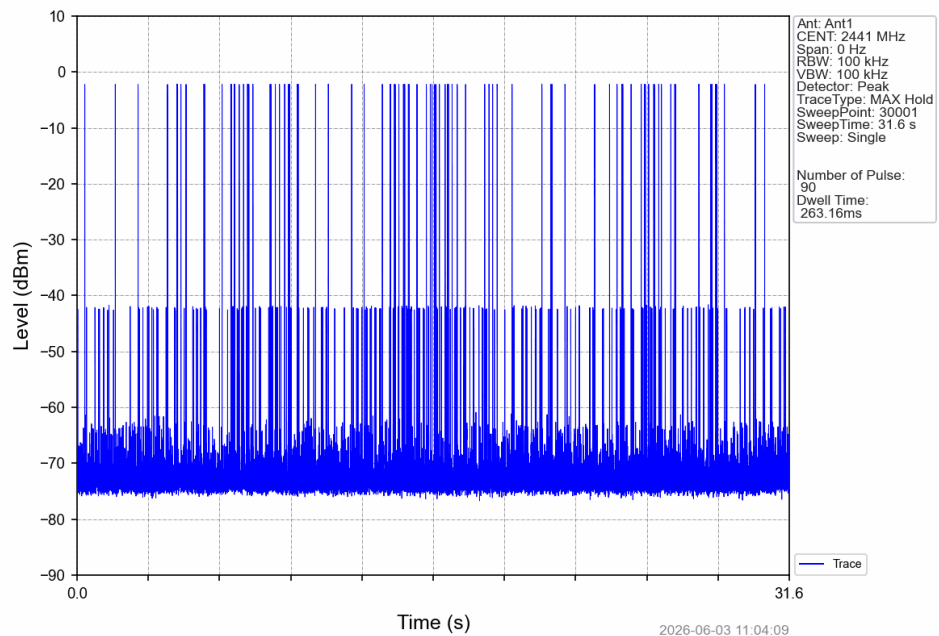
Ant1						
Mode	TX Type	Frequency (MHz)	Packet Type	Dwell Time (ms)	Limit (ms)	Verdict
GFSK	SISO	HOPP	DH5	2.916	/	Pass
Pi/4DQPSK	SISO	HOPP	2DH5	5.839	/	Pass



6.2 Test Graph

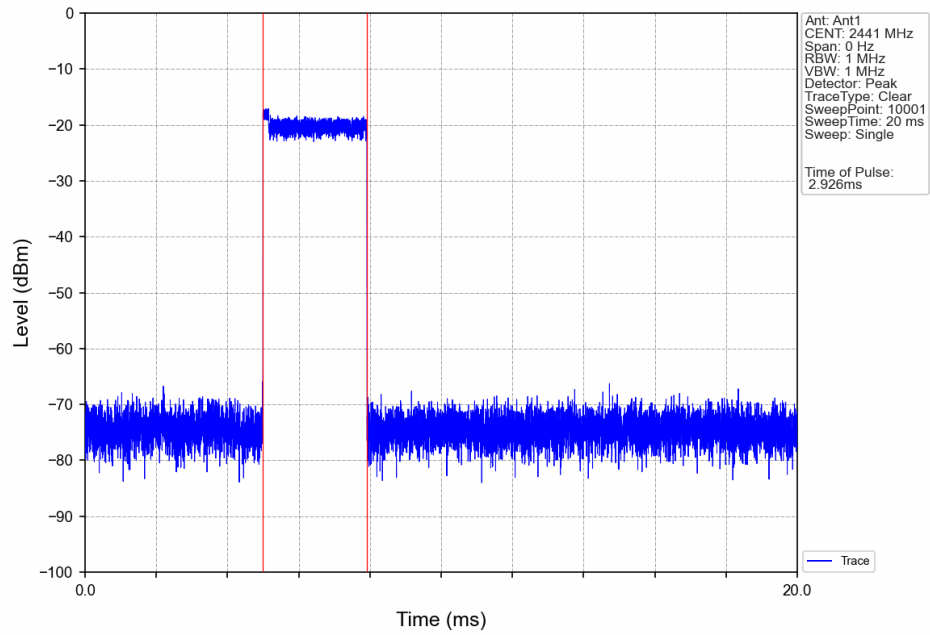
6.2.1 Ant1



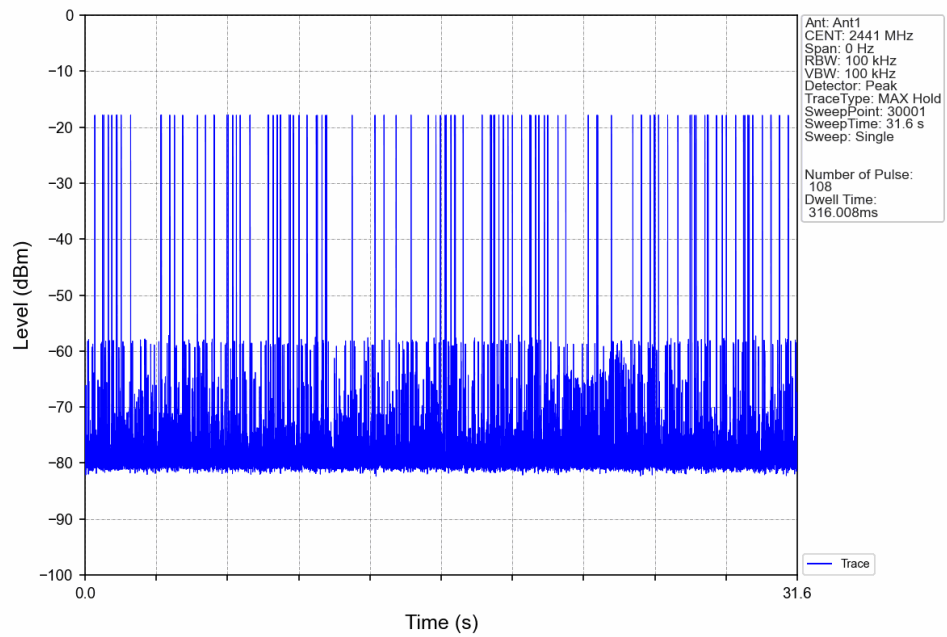




Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV

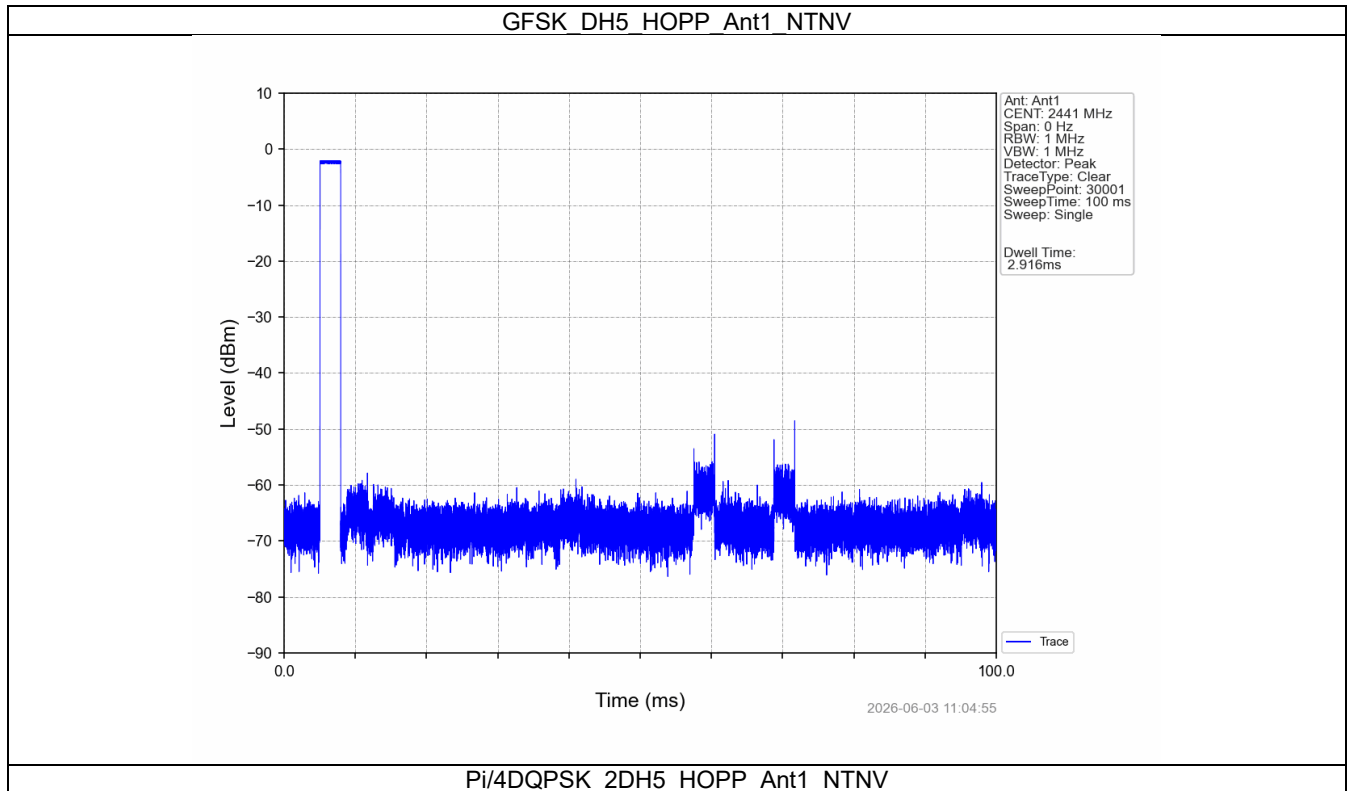


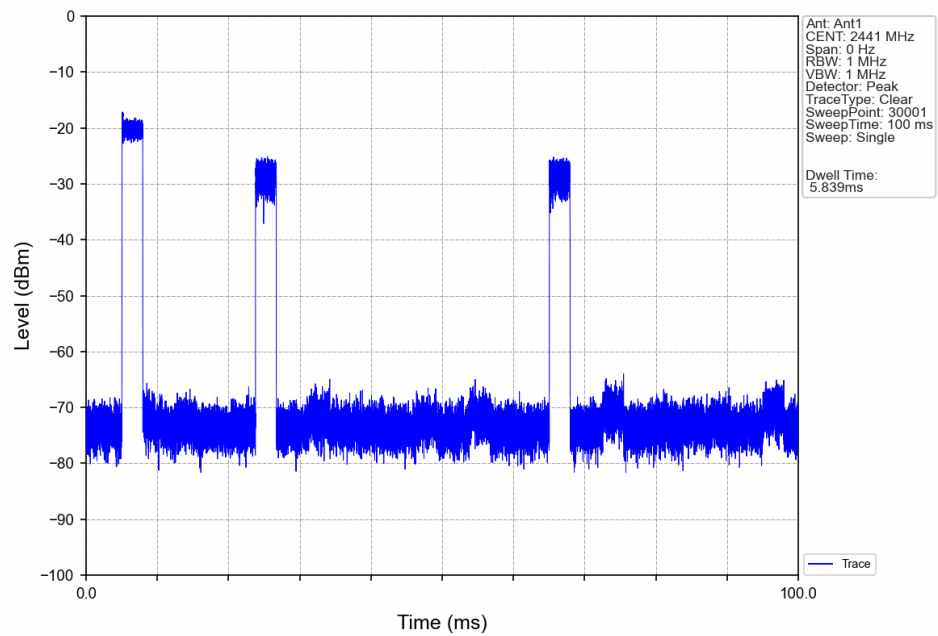
Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV





6.2.2 DwellTime_Ant1







7. Unwanted Emissions In Non-restricted Frequency Bands

7.1 Test Result

7.1.1 Ref

Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)
GFSK	SISO	2402	DH5	1	-3.37
		2441	DH5	1	-2.18
		2480	DH5	1	-1.81
Pi/4DQPSK	SISO	2402	2DH5	1	-3.24
		2441	2DH5	1	-2.14
		2480	2DH5	1	-1.74

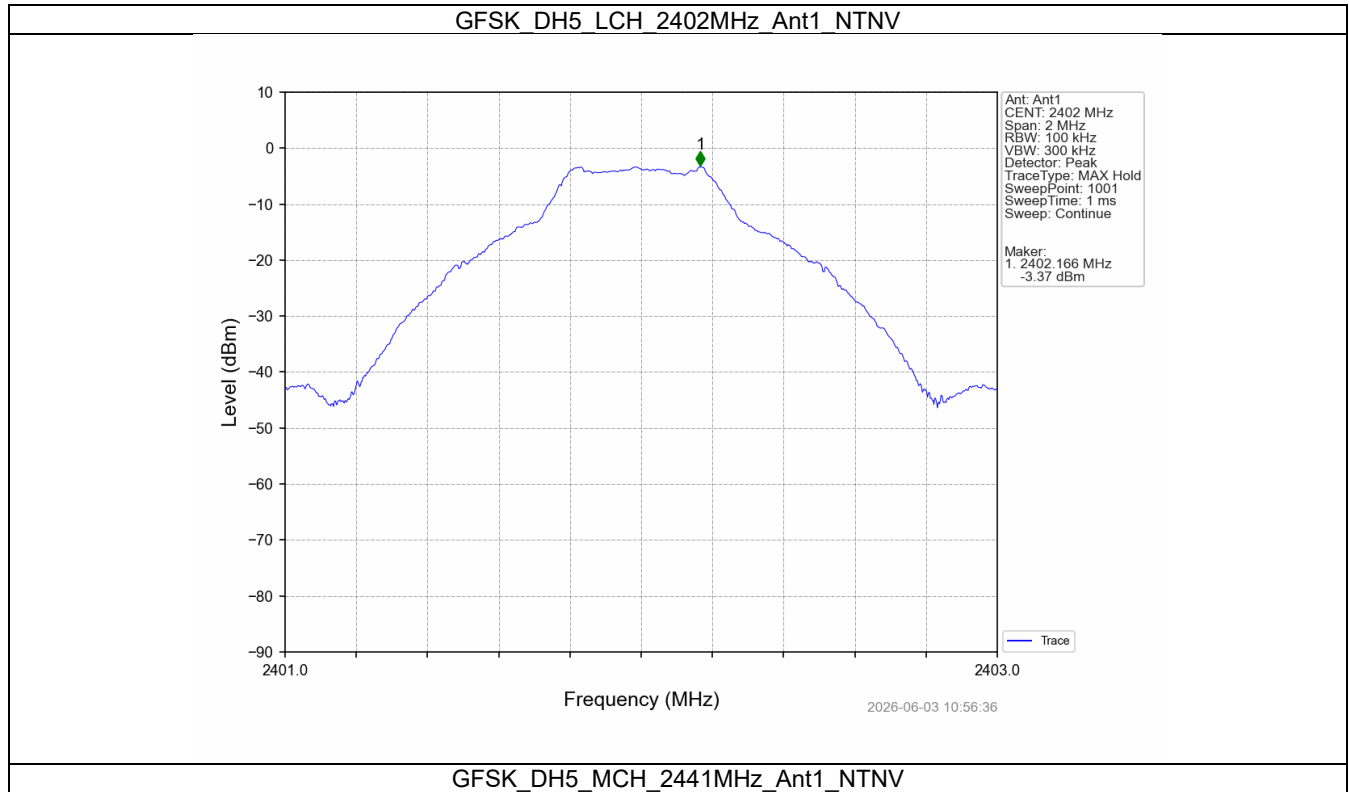
7.1.2 CSE

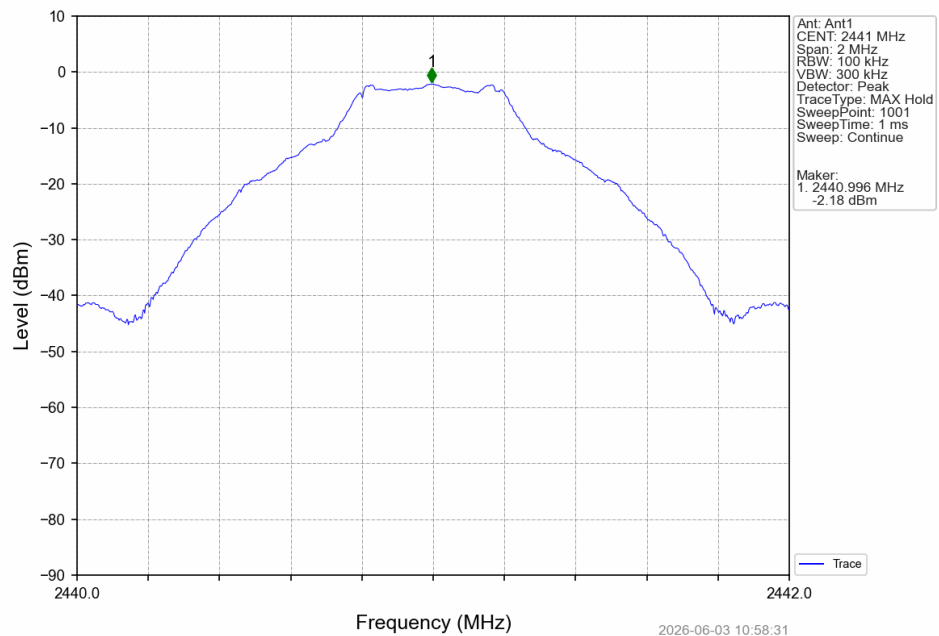
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
GFSK	SISO	2402	DH5	1	-1.81	-21.81	Pass
		2441	DH5	1	-1.81	-21.81	Pass
		2480	DH5	1	-1.81	-21.81	Pass
		HOPP	DH5	1	-1.81	-21.81	Pass
					-1.81	-21.81	Pass
Pi/4DQPSK	SISO	2402	2DH5	1	-1.74	-21.74	Pass
		2441	2DH5	1	-1.74	-21.74	Pass
		2480	2DH5	1	-1.74	-21.74	Pass
		HOPP	2DH5	1	-1.74	-21.74	Pass
					-1.74	-21.74	Pass



7.2 Test Graph

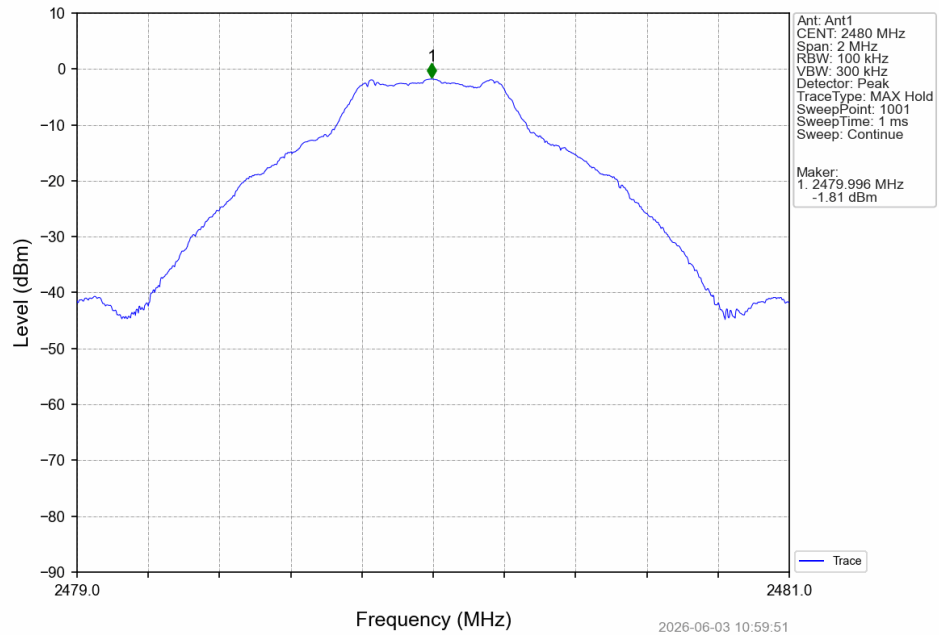
7.2.1 Ref



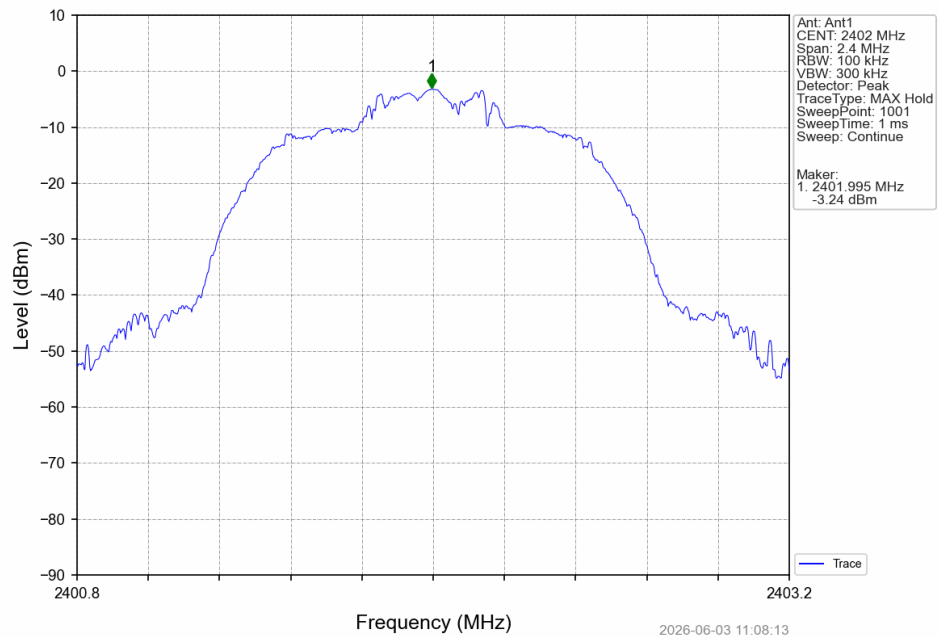




GFSK DH5 HCH 2480MHz_Ant1_NTNV

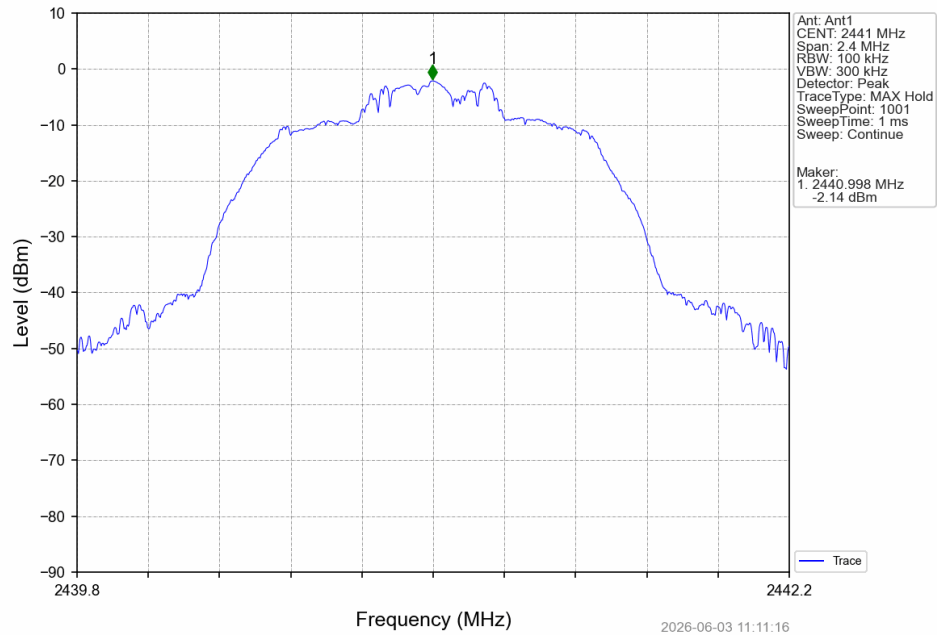


Pi/4DQPSK 2DH5 LCH 2402MHz_Ant1_NTNV

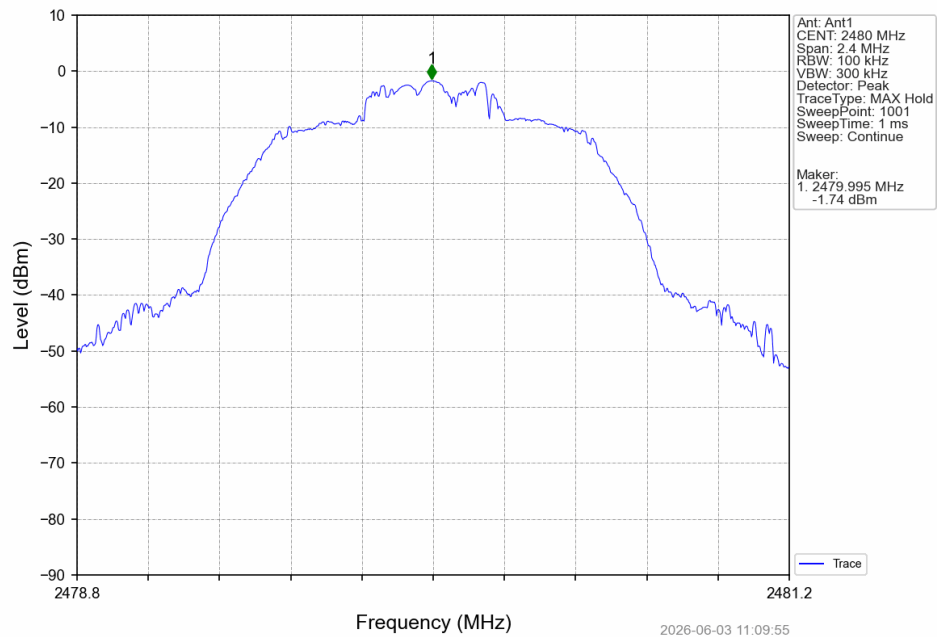




Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

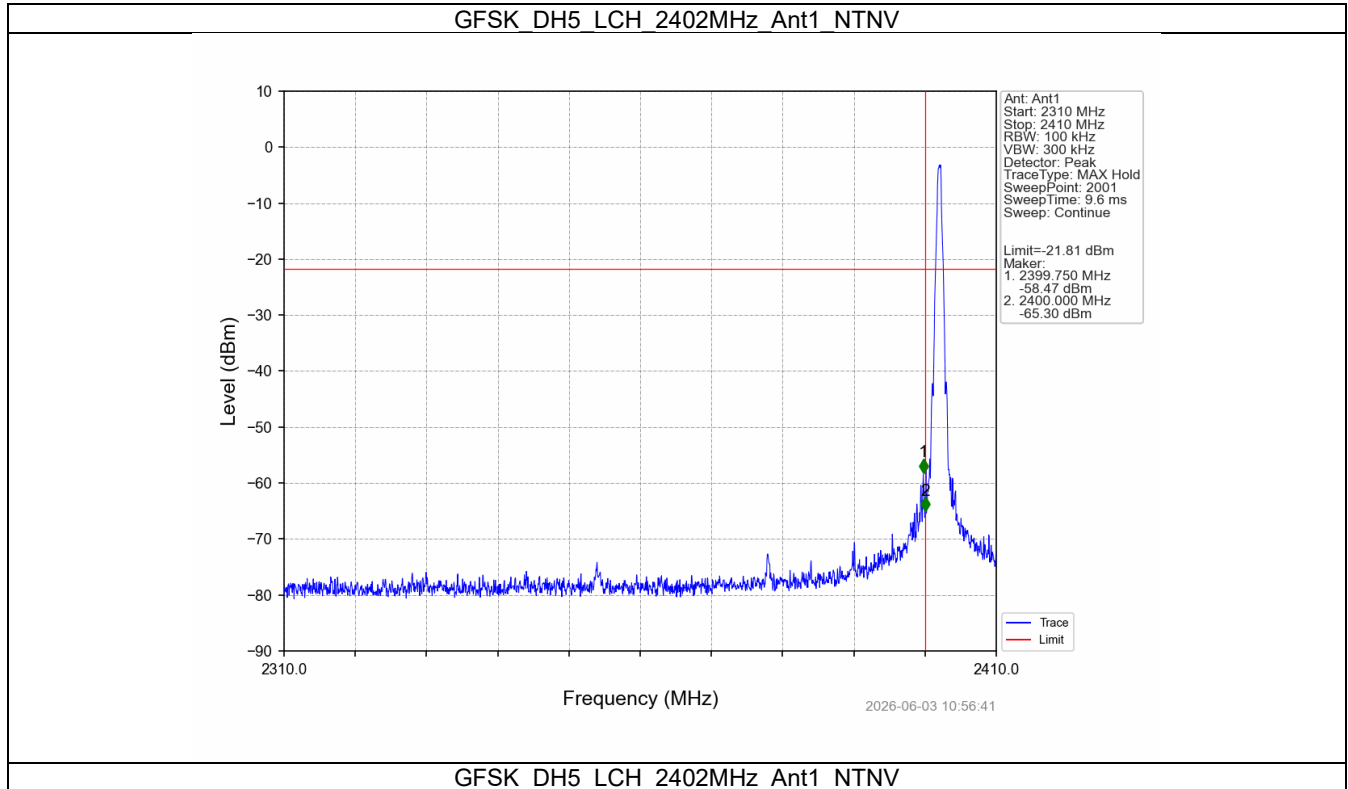


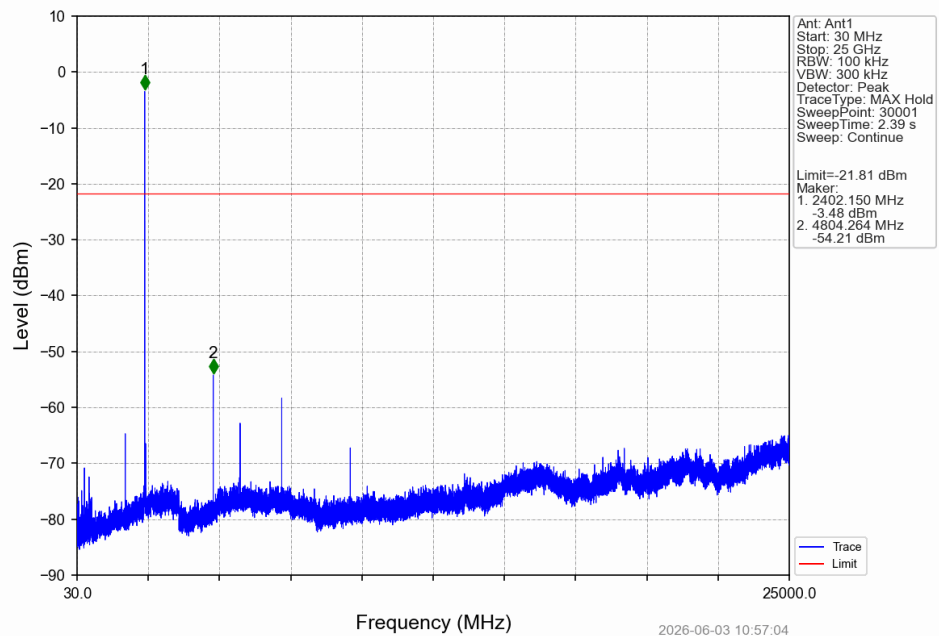
Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV





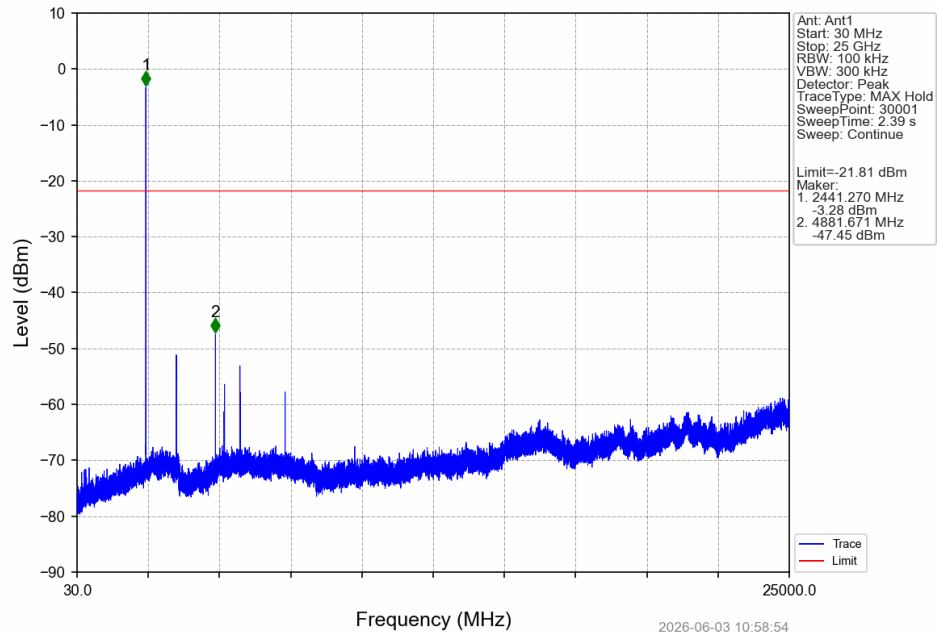
7.2.2 CSE



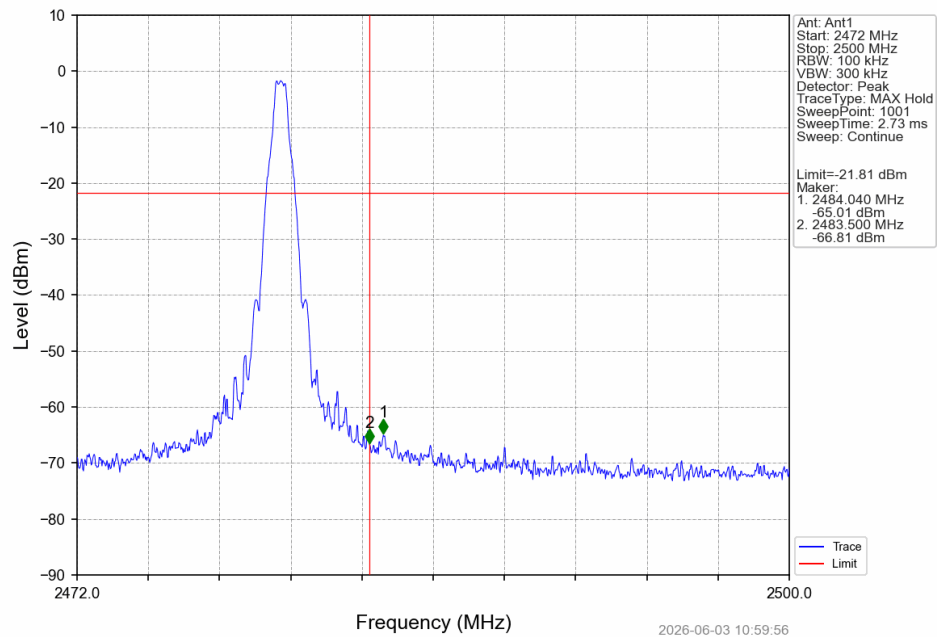




GFSK_DH5_MCH_2441MHz_Ant1_NTNV

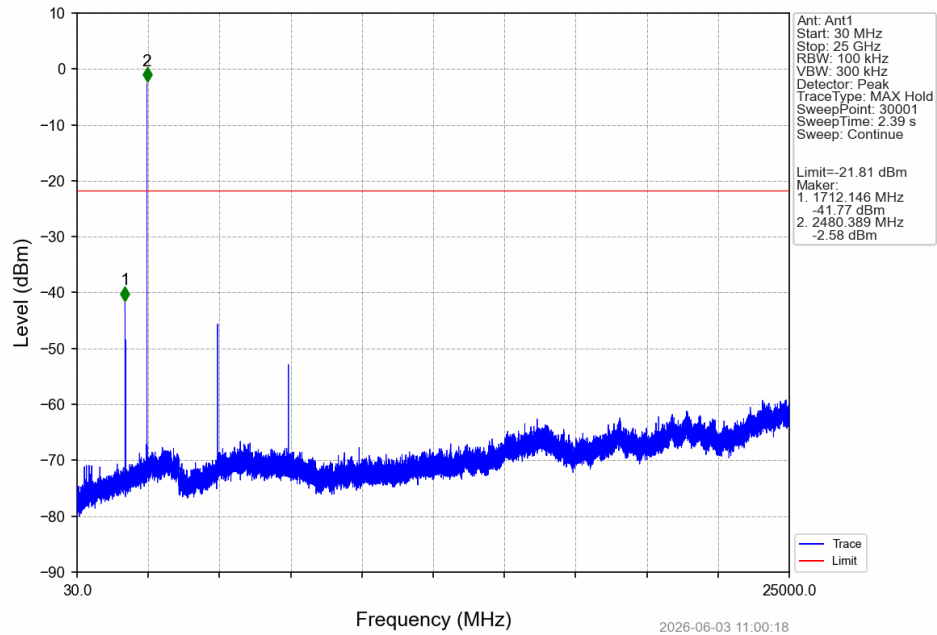


GFSK_DH5_HCH_2480MHz_Ant1_NTNV

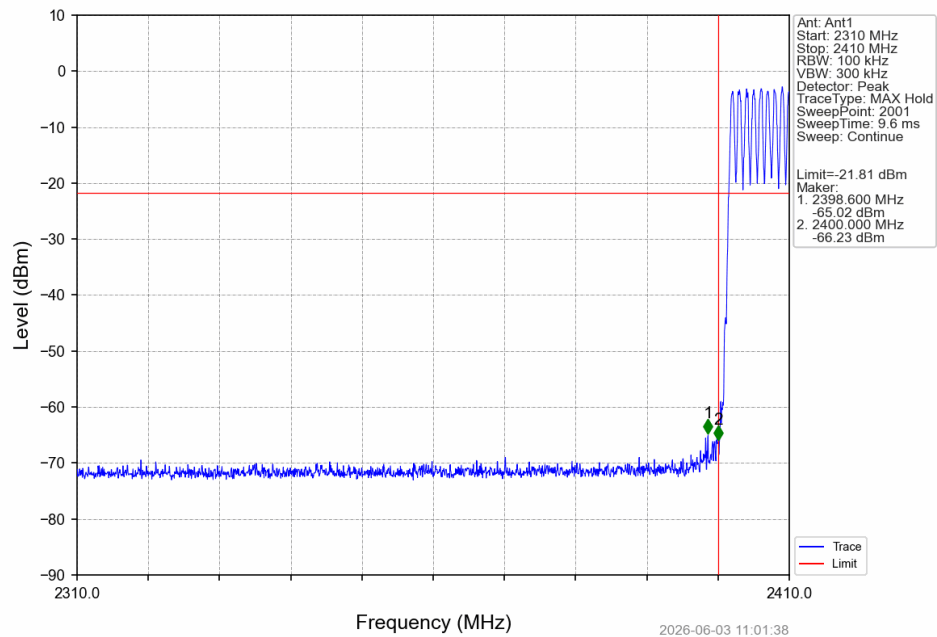




GFSK_DH5_HCH_2480MHz_Ant1_NTNV

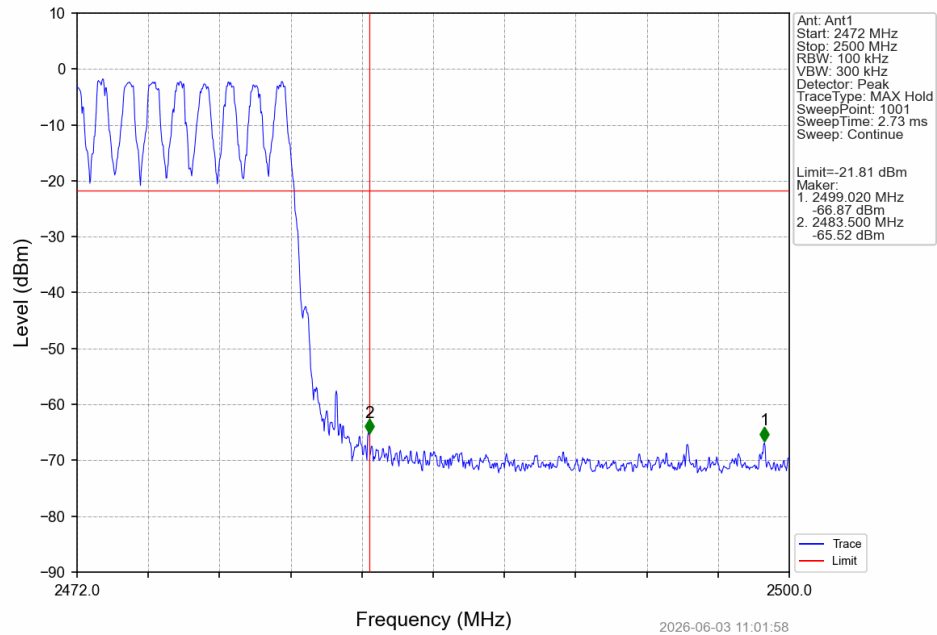


GFSK_DH5_HOPP_Ant1_NTNV

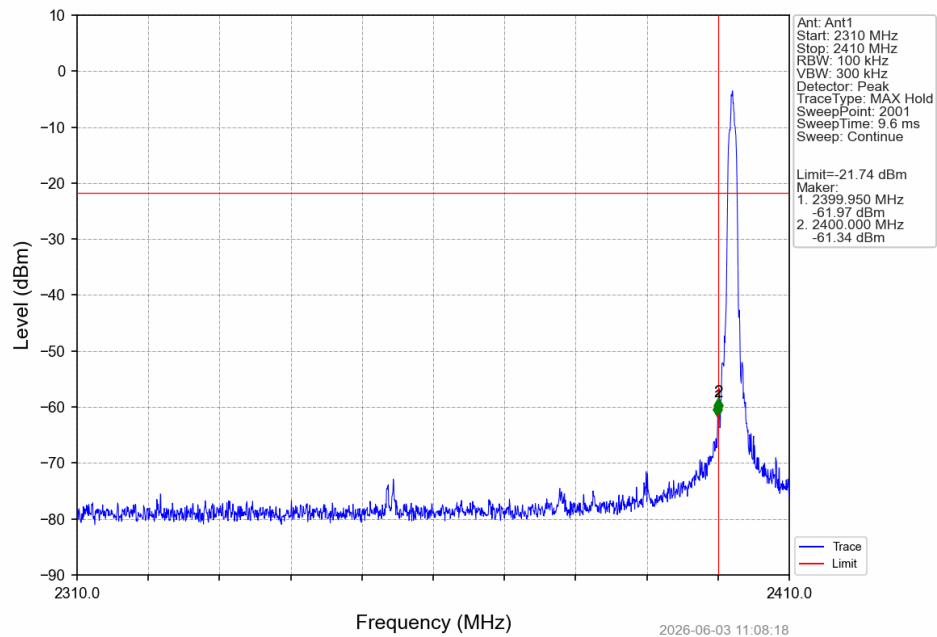




GFSK_DH5_HOPP_Ant1_NTNV

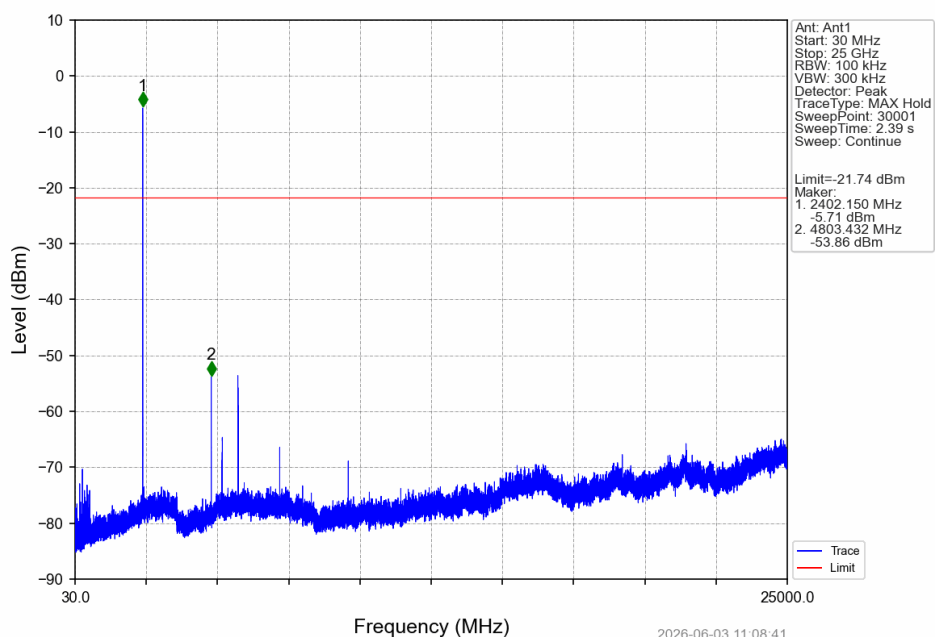


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

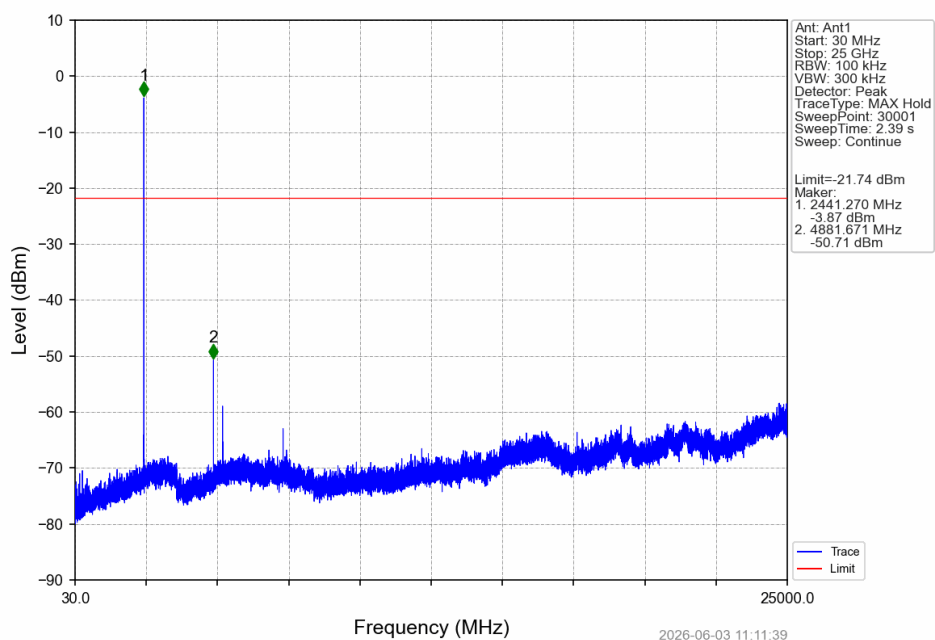




Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV

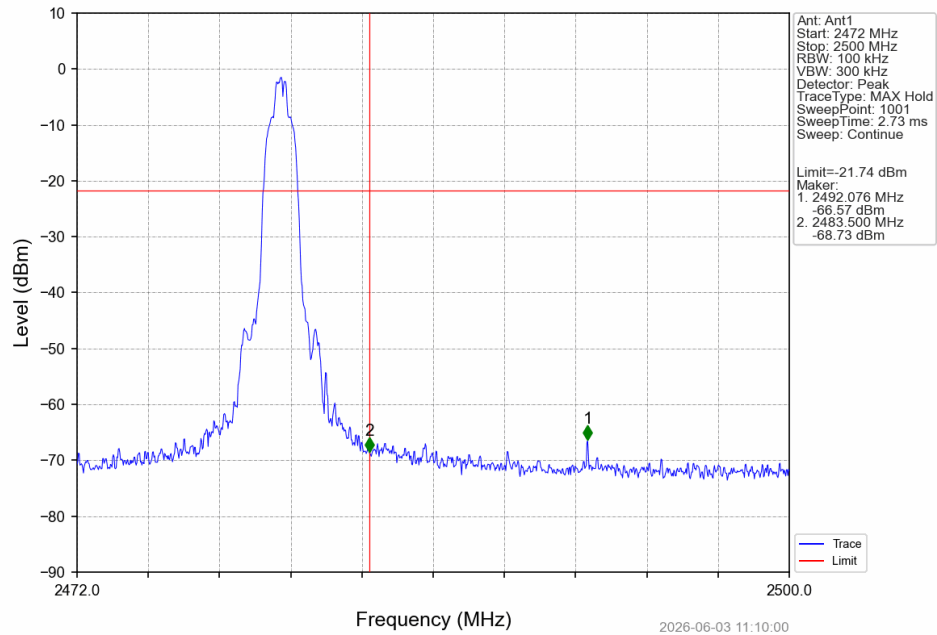


Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV

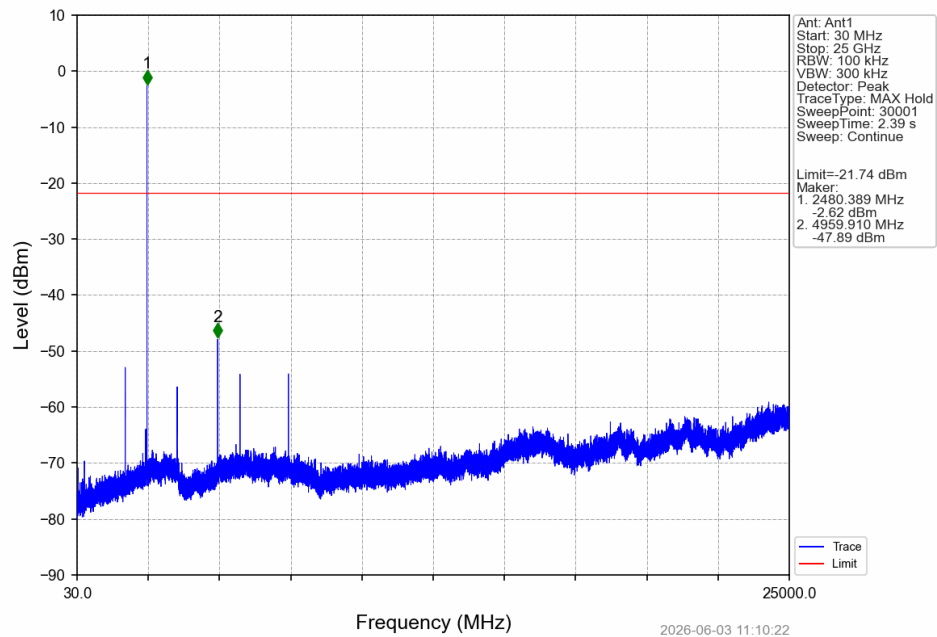




Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

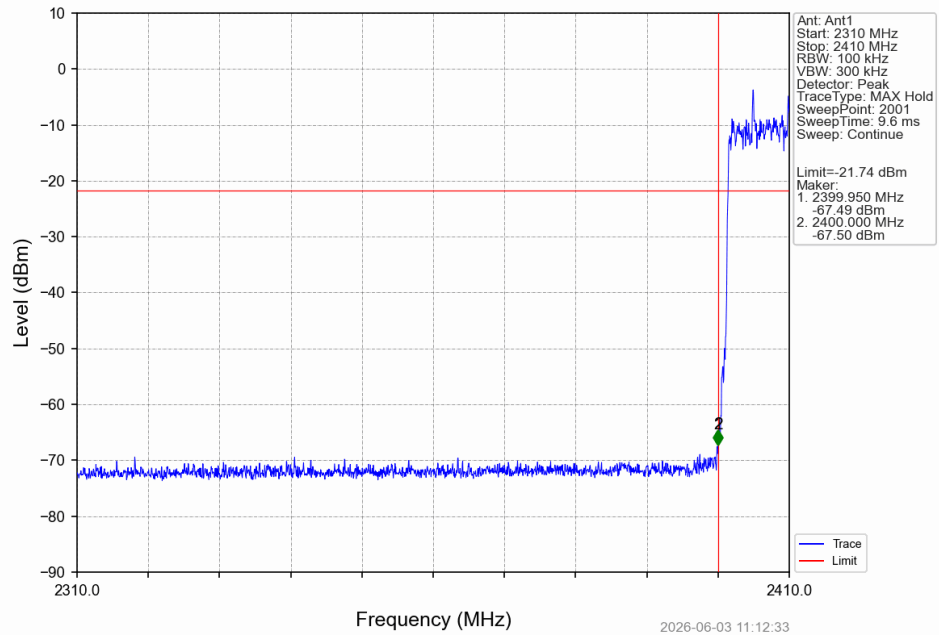


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV

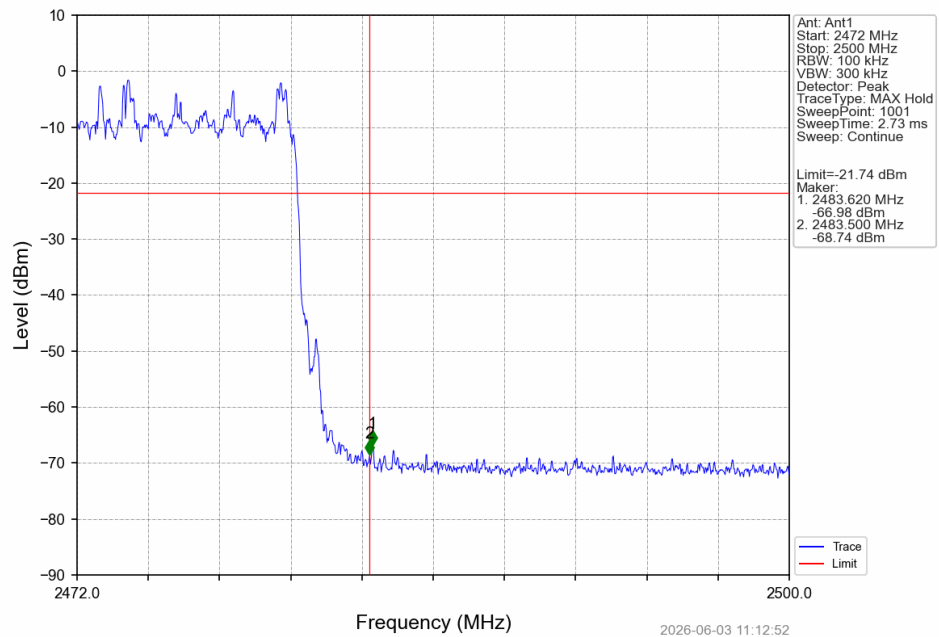




Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV



Pi/4DQPSK_2DH5_HOPP_Ant1_NTNV





8. Unwanted Emissions In Restricted Frequency Bands

8.1 Test Result

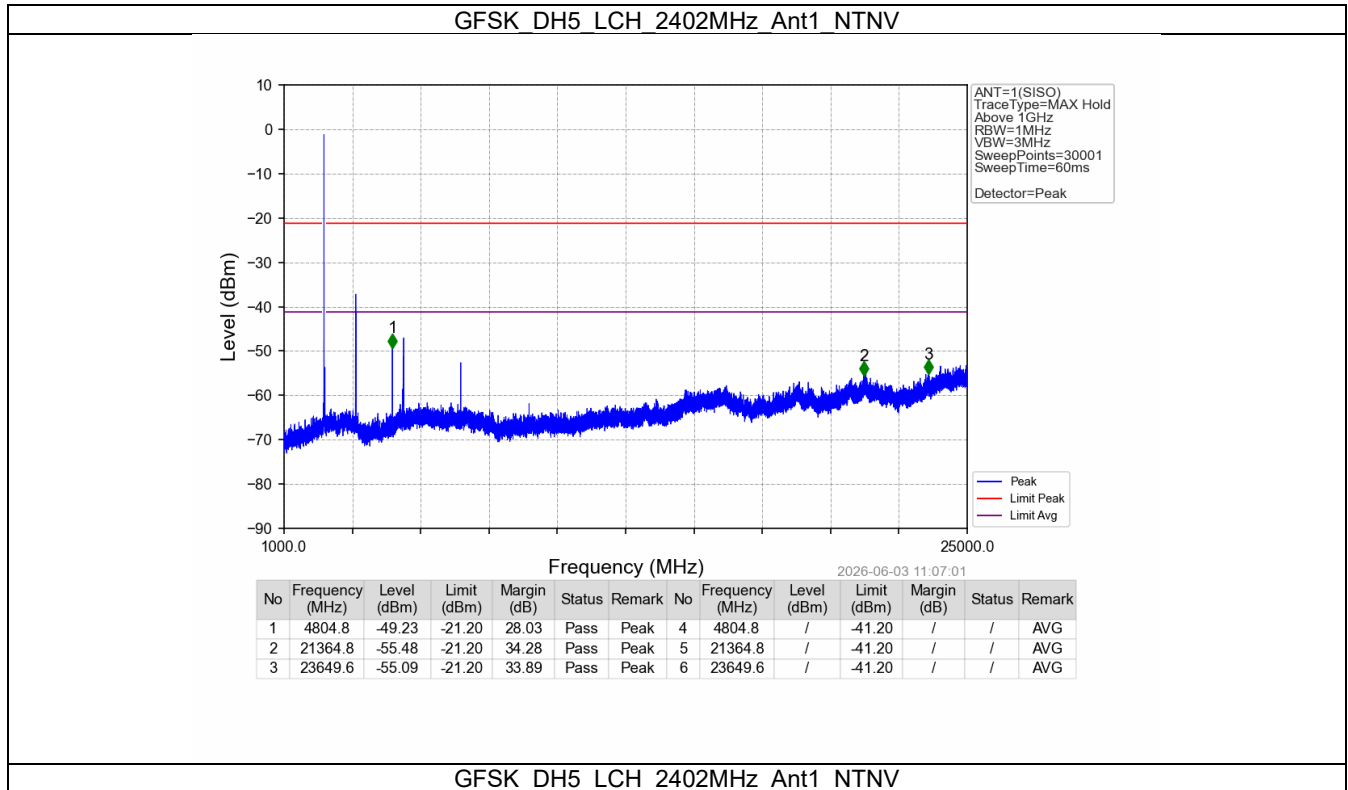
8.1.1 RSE

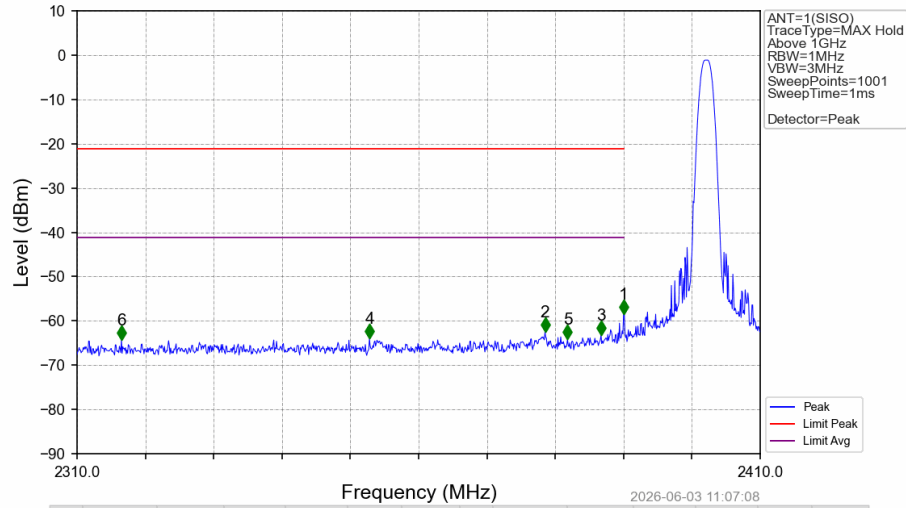
Mode	TX Type	Frequency (MHz)	Packet Type	ANT	Level of Unwanted Emissions (dBm)		Verdict
					Result	Limit	
GFSK	SISO	2402	DH5	1	Refer To Test Graph		Pass
		2441	DH5	1	Refer To Test Graph		Pass
		2480	DH5	1	Refer To Test Graph		Pass
Pi/4DQPSK	SISO	2402	2DH5	1	Refer To Test Graph		Pass
		2441	2DH5	1	Refer To Test Graph		Pass
		2480	2DH5	1	Refer To Test Graph		Pass



8.2 Test Graph

8.2.1 RSE

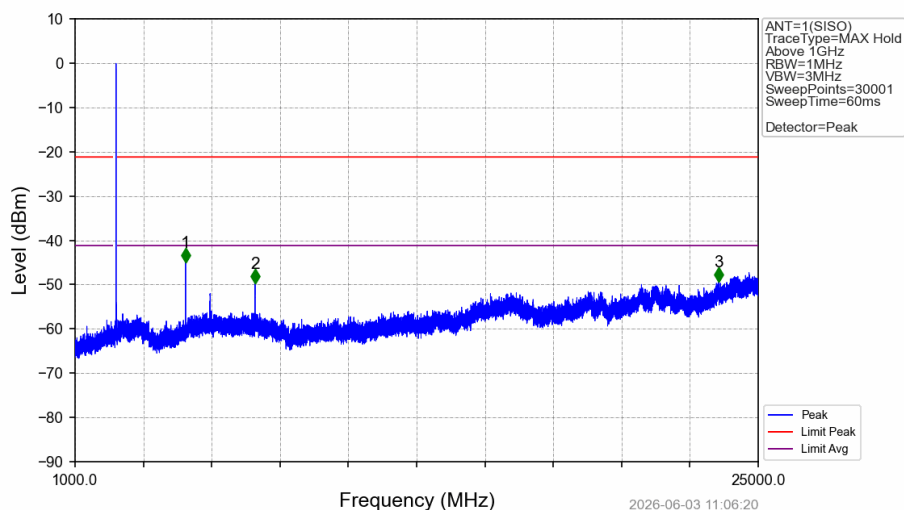




No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2390	-58.45	-21.20	37.25	Pass	Peak	7	2390	/	-41.20	/	/	AVG
2	2378.5	-62.46	-21.20	41.26	Pass	Peak	8	2378.5	/	-41.20	/	/	AVG
3	2386.7	-63.18	-21.20	41.98	Pass	Peak	9	2386.7	/	-41.20	/	/	AVG
4	2352.8	-63.92	-21.20	42.72	Pass	Peak	10	2352.8	/	-41.20	/	/	AVG
5	2381.8	-64.12	-21.20	42.92	Pass	Peak	11	2381.8	/	-41.20	/	/	AVG
6	2316.5	-64.20	-21.20	43.00	Pass	Peak	12	2316.5	/	-41.20	/	/	AVG

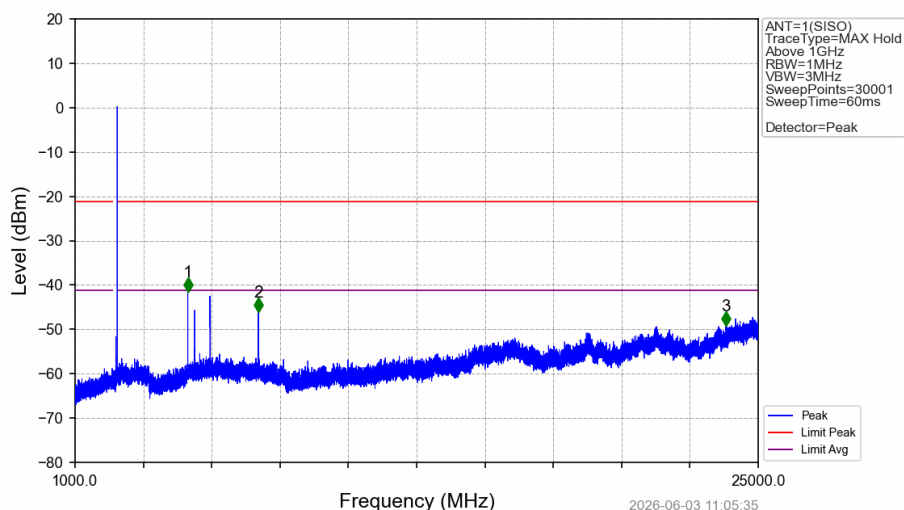


GFSK_DH5_MCH_2441MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4882.4	-44.91	-21.20	23.71	Pass	Peak	4	4882.4	/	-41.20	/	/	AVG
2	7324	-49.64	-21.20	28.44	Pass	Peak	5	7324	/	-41.20	/	/	AVG
3	23606.4	-49.39	-21.20	28.19	Pass	Peak	6	23606.4	/	-41.20	/	/	AVG

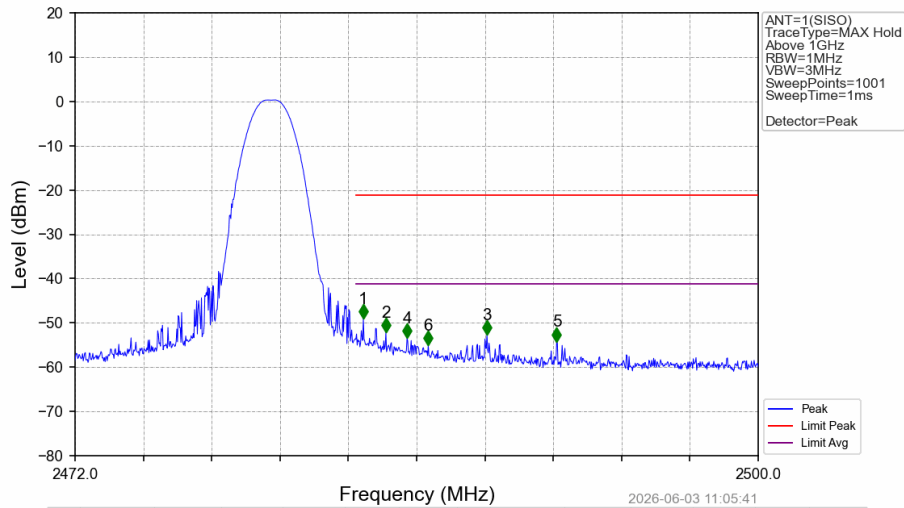
GFSK_DH5_HCH_2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4960	-41.56	-21.20	20.36	Pass	Peak	4	4960	/	-41.20	/	/	AVG
2	7440.8	-46.05	-21.20	24.85	Pass	Peak	5	7440.8	/	-41.20	/	/	AVG
3	23863.2	-49.22	-21.20	28.02	Pass	Peak	6	23863.2	/	-41.20	/	/	AVG

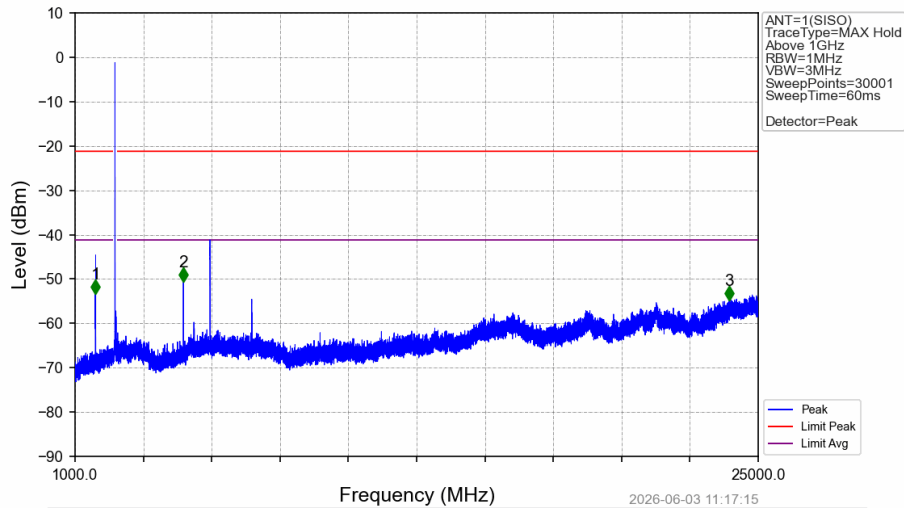


GFSK DH5 HCH 2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2483.816	-49.04	-21.20	27.84	Pass	Peak	7	2483.816	/	-41.20	/	/	AVG
2	2484.74	-52.14	-21.20	30.94	Pass	Peak	8	2484.74	/	-41.20	/	/	AVG
3	2488.884	-52.55	-21.20	31.35	Pass	Peak	9	2488.884	/	-41.20	/	/	AVG
4	2485.608	-53.36	-21.20	32.16	Pass	Peak	10	2485.608	/	-41.20	/	/	AVG
5	2491.74	-54.17	-21.20	32.97	Pass	Peak	11	2491.74	/	-41.20	/	/	AVG
6	2486.476	-55.08	-21.20	33.88	Pass	Peak	12	2486.476	/	-41.20	/	/	AVG

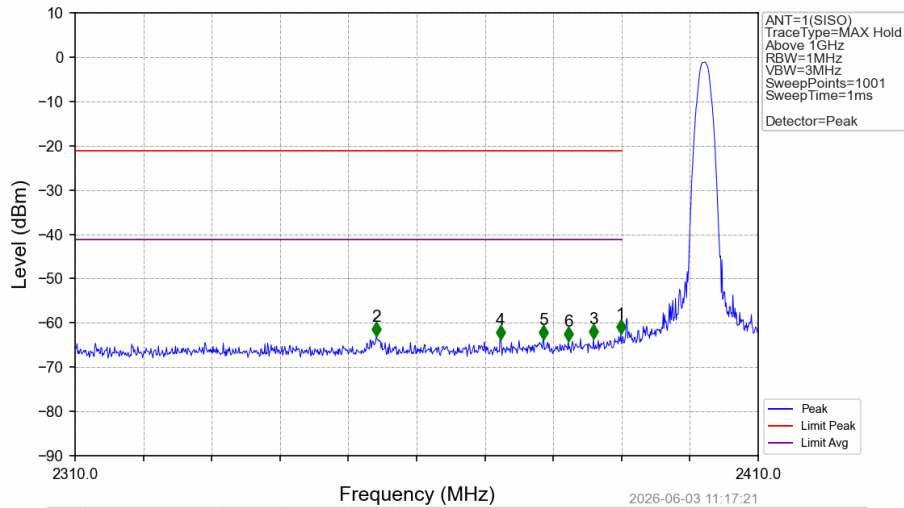
Pi/4DQPSK 2DH5 LCH 2402MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	1720.8	-53.26	-21.20	32.06	Pass	Peak	4	1720.8	/	-41.20	/	/	AVG
2	4804.8	-50.60	-21.20	29.40	Pass	Peak	5	4804.8	/	-41.20	/	/	AVG
3	23985.6	-54.85	-21.20	33.65	Pass	Peak	6	23985.6	/	-41.20	/	/	AVG

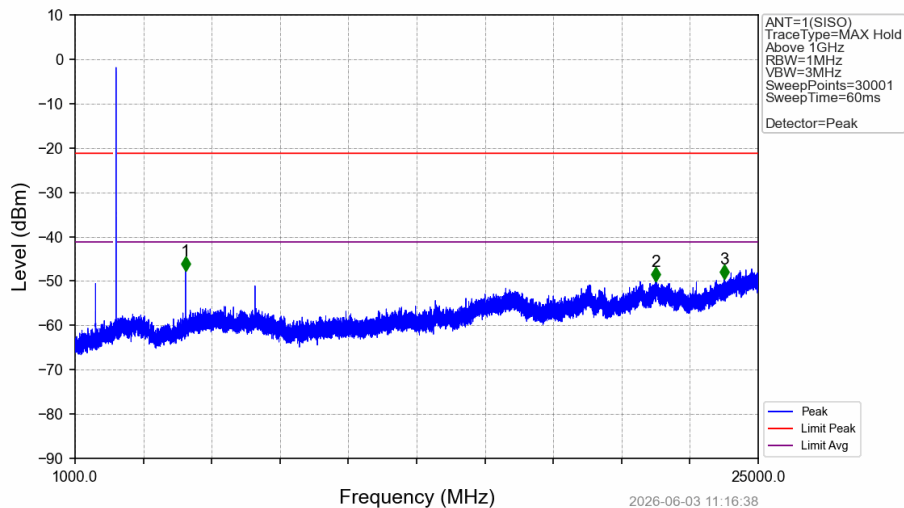


Pi/4DQPSK_2DH5_LCH_2402MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2389.9	-62.53	-21.20	41.33	Pass	Peak	7	2389.9	/	-41.20	/	/	AVG
2	2354.1	-63.03	-21.20	41.83	Pass	Peak	8	2354.1	/	-41.20	/	/	AVG
3	2385.9	-63.46	-21.20	42.26	Pass	Peak	9	2385.9	/	-41.20	/	/	AVG
4	2372.3	-63.65	-21.20	42.45	Pass	Peak	10	2372.3	/	-41.20	/	/	AVG
5	2378.6	-63.73	-21.20	42.53	Pass	Peak	11	2378.6	/	-41.20	/	/	AVG
6	2382.2	-64.01	-21.20	42.81	Pass	Peak	12	2382.2	/	-41.20	/	/	AVG

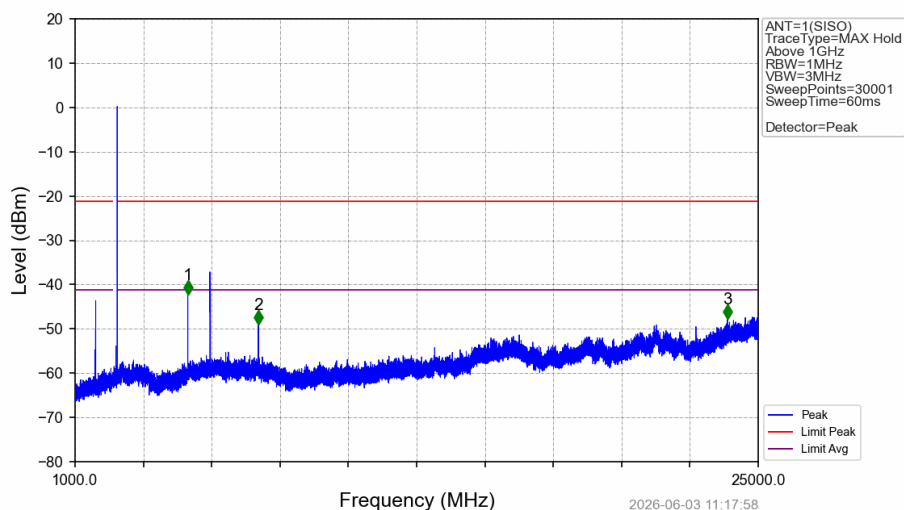
Pi/4DQPSK_2DH5_MCH_2441MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4882.4	-47.60	-21.20	26.40	Pass	Peak	4	4882.4	/	-41.20	/	/	AVG
2	21395.2	-50.10	-21.20	28.90	Pass	Peak	5	21395.2	/	-41.20	/	/	AVG
3	23807.2	-49.48	-21.20	28.28	Pass	Peak	6	23807.2	/	-41.20	/	/	AVG

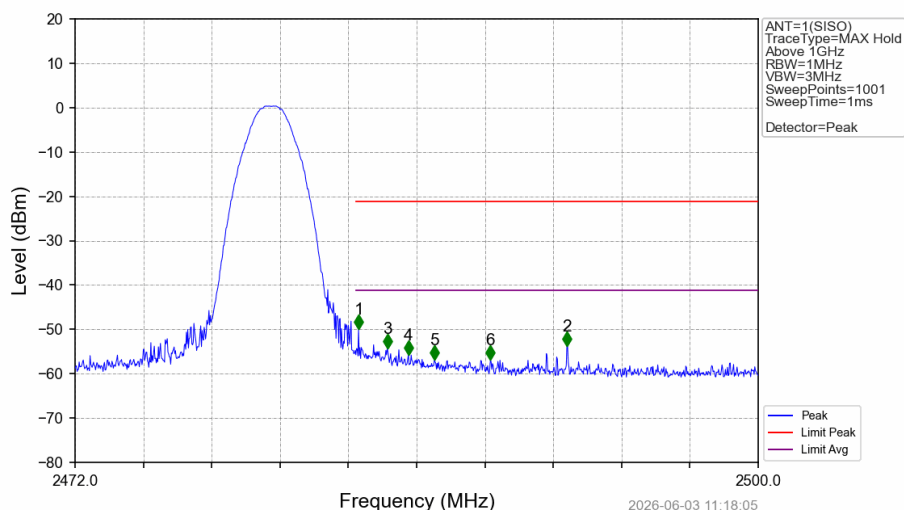


Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4960	-42.26	-21.20	21.06	Pass	Peak	4	4960	/	-41.20	/	/	AVG
2	7440	-48.92	-21.20	27.72	Pass	Peak	5	7440	/	-41.20	/	/	AVG
3	23920	-47.77	-21.20	26.57	Pass	Peak	6	23920	/	-41.20	/	/	AVG

Pi/4DQPSK_2DH5_HCH_2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2483.62	-49.94	-21.20	28.74	Pass	Peak	7	2483.62	/	-41.20	/	/	AVG
2	2492.16	-53.72	-21.20	32.52	Pass	Peak	8	2492.16	/	-41.20	/	/	AVG
3	2484.796	-54.26	-21.20	33.06	Pass	Peak	9	2484.796	/	-41.20	/	/	AVG
4	2485.664	-55.64	-21.20	34.44	Pass	Peak	10	2485.664	/	-41.20	/	/	AVG
5	2486.728	-56.76	-21.20	35.56	Pass	Peak	11	2486.728	/	-41.20	/	/	AVG
6	2489.024	-56.81	-21.20	35.61	Pass	Peak	12	2489.024	/	-41.20	/	/	AVG