ANNEX D TEST DATA

For

Project No.:	8231EU010407W
Client:	Shenzhen Qianhai Biguan electronic Technology Co., LTD
Product Description:	Wireless Bluetooth mouse dongle
Model No.:	OGM 8K (X-203)
FCC ID:	2BCE8M-OGM8K
Technology:	2.4G ISM Proprietary Band
Test Engineer:	Mikey zhu
Test Date:	2024-07-24

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass
Unwanted Emissions In Restricted Frequency Bands	Pass

1. Duty Cycle

1.1 Test Result

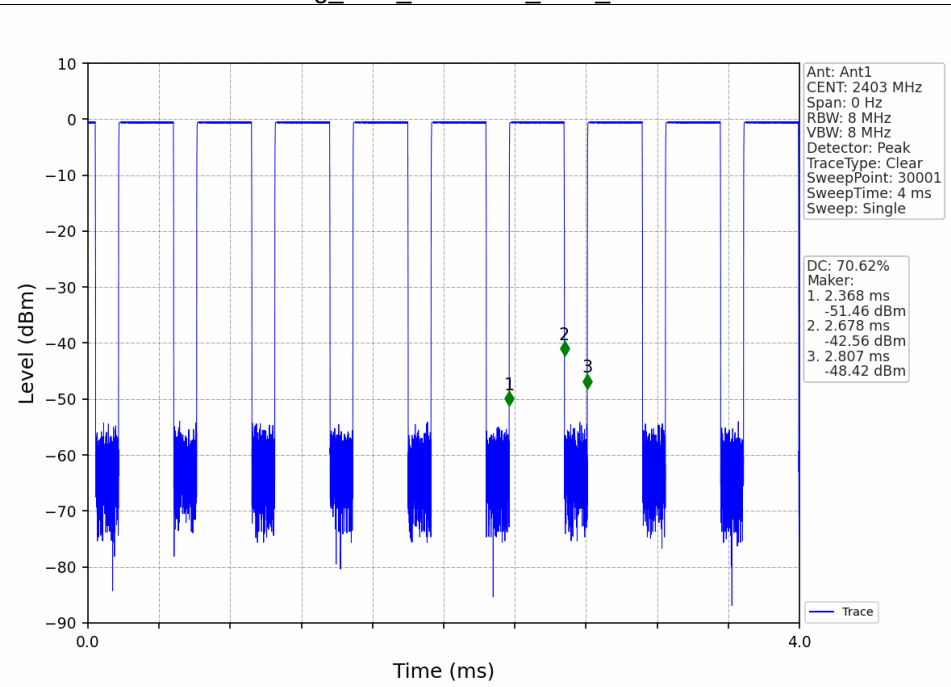
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
2.4g	SISO	2403	0.310	0.439	70.62	1.51	0.05
		2441	0.311	0.440	70.68	1.51	0.05
		2477	0.311	0.440	70.68	1.51	0.04

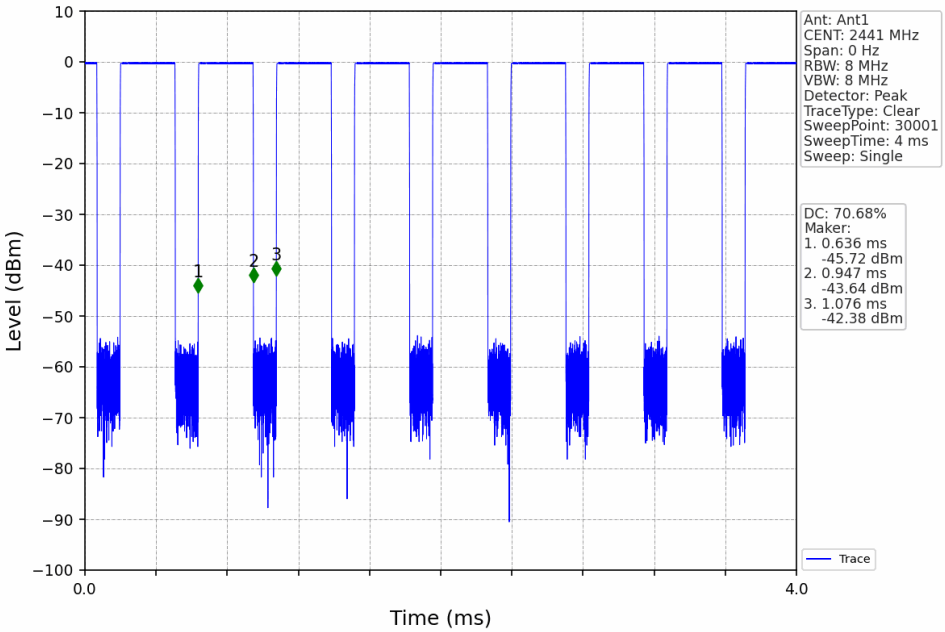
1.2 Test Graph

1.2.1 Ant1

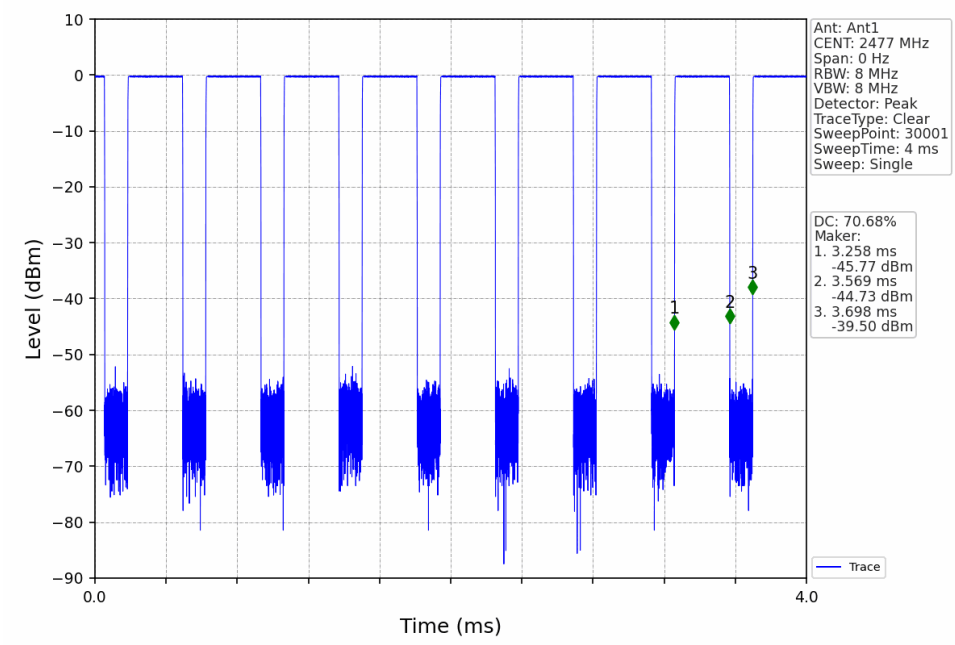
2.4g_LCH_2403MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2477MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
2.4g	SISO	2403	1	2.018	/	Pass
		2441	1	2.025	/	Pass
		2477	1	2.027	/	Pass

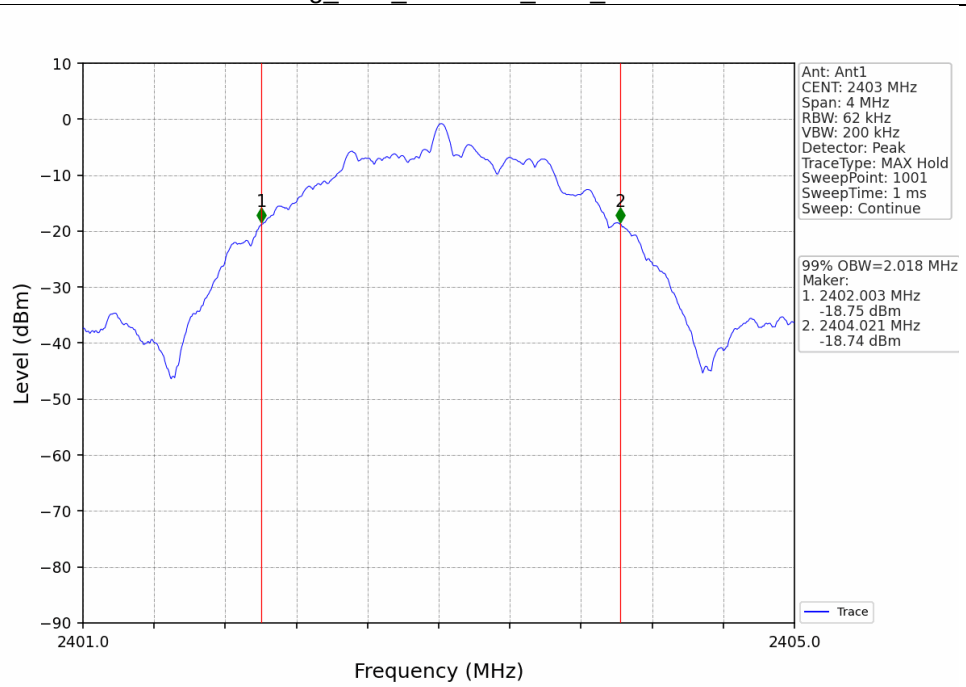
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
2.4g	SISO	2403	1	1.142	>=0.5	Pass
		2441	1	1.144	>=0.5	Pass
		2477	1	1.141	>=0.5	Pass

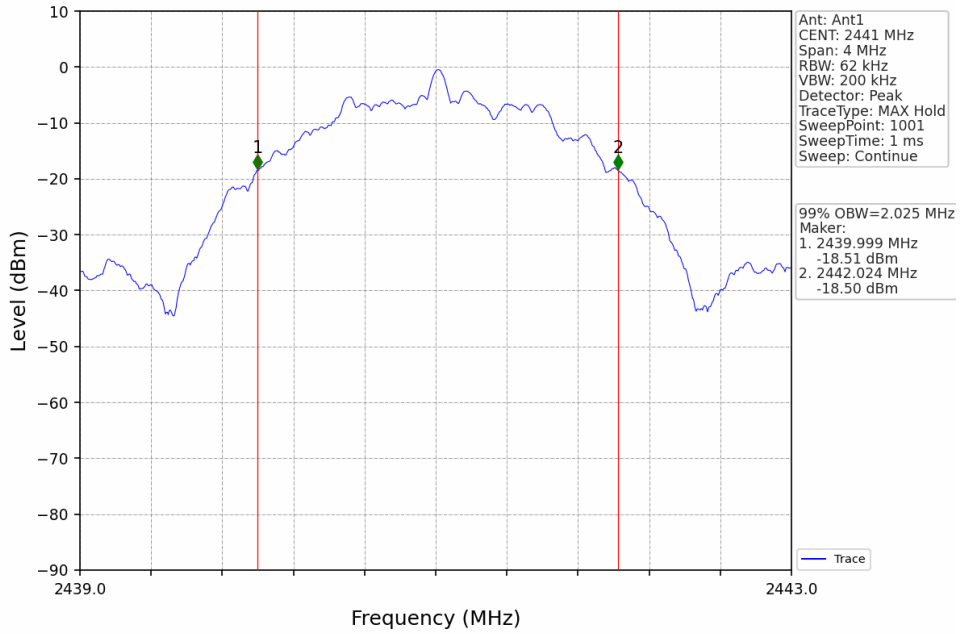
2.2 Test Graph

2.2.1 OBW

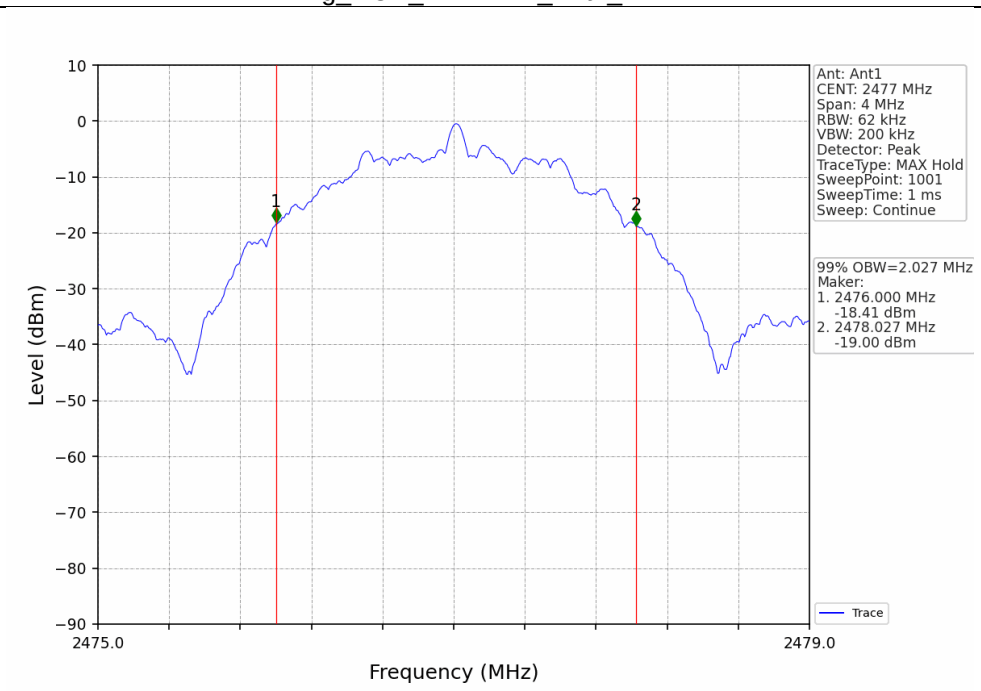
2.4g_LCH_2403MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV

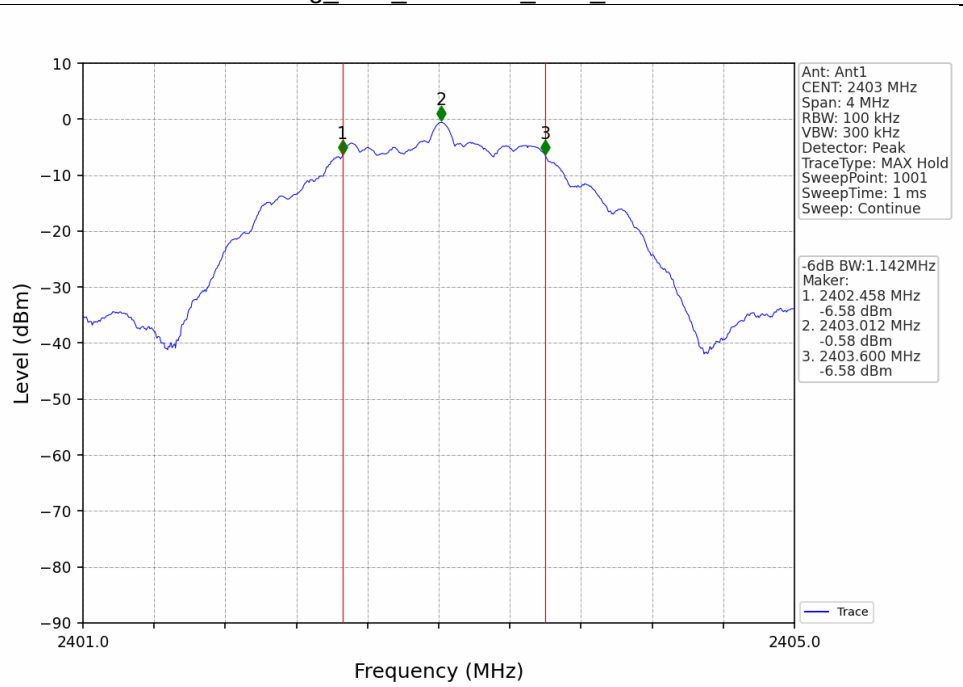


2.4g_HCH_2477MHz_Ant1_NTNV

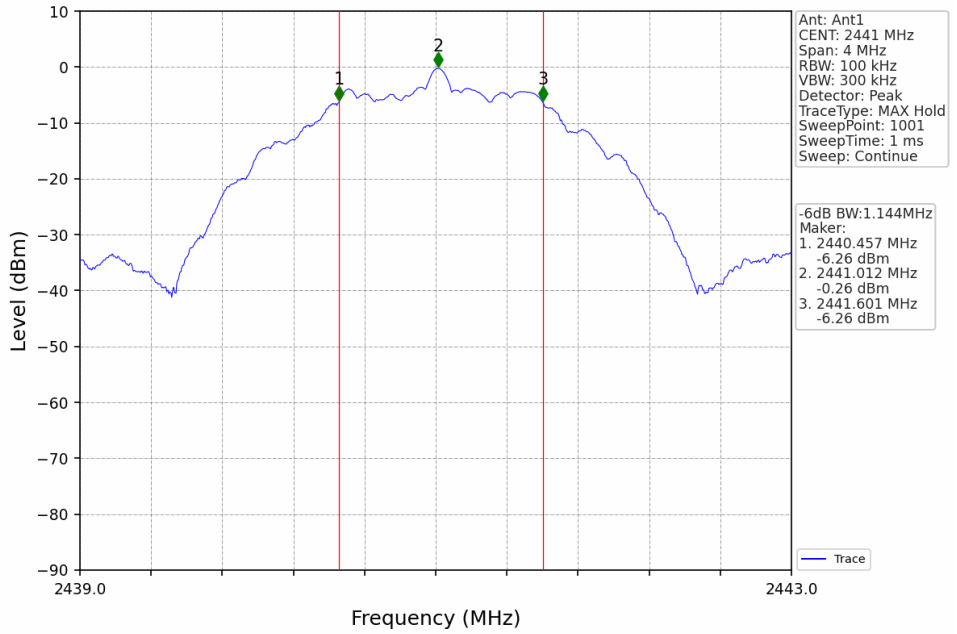


2.2.2 6dB BW

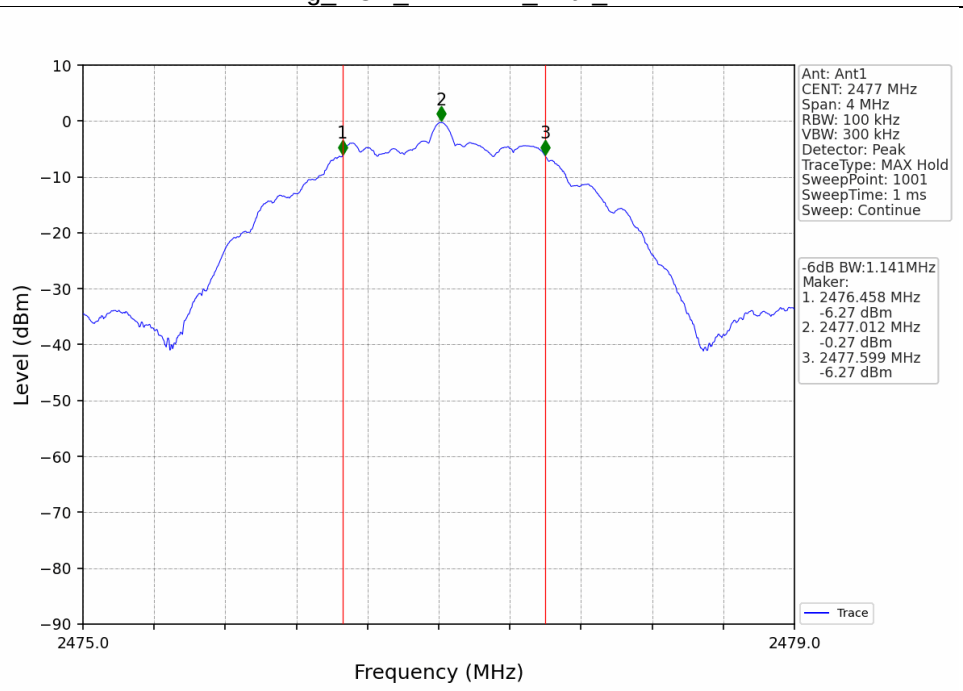
2.4g_LCH_2403MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2477MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
2.4g	SISO	2403	-0.55	<=30	Pass
		2441	-0.24	<=30	Pass
		2477	-0.25	<=30	Pass

4. Maximum Power Spectral Density

4.1 Test Result

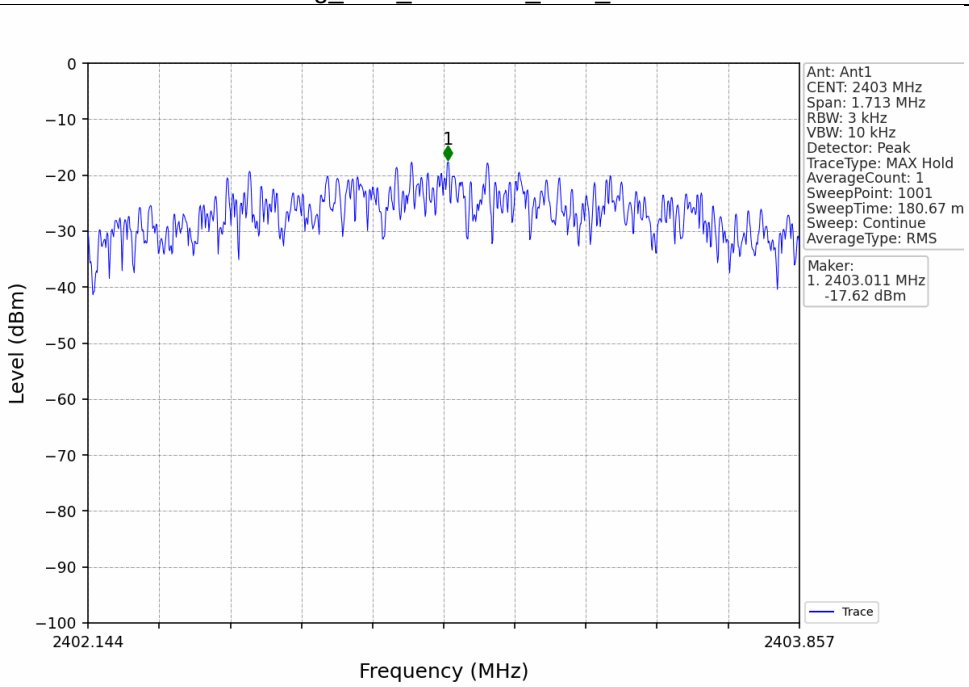
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
2.4g	SISO	2403	-17.62	<=8	Pass
		2441	-17.24	<=8	Pass
		2477	-17.32	<=8	Pass

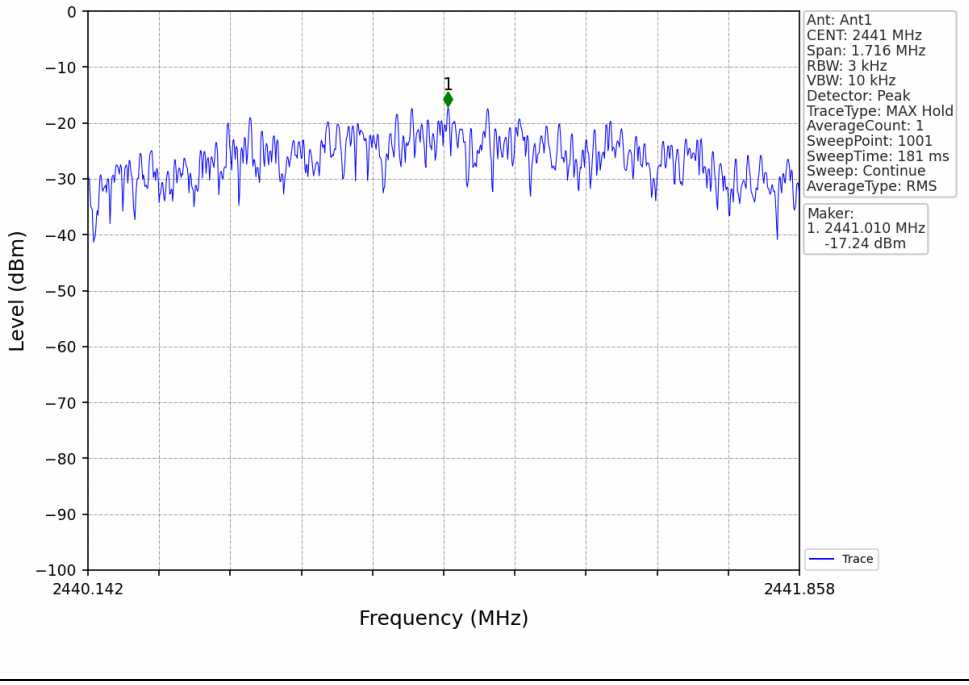
4.2 Test Graph

4.2.1 PSD

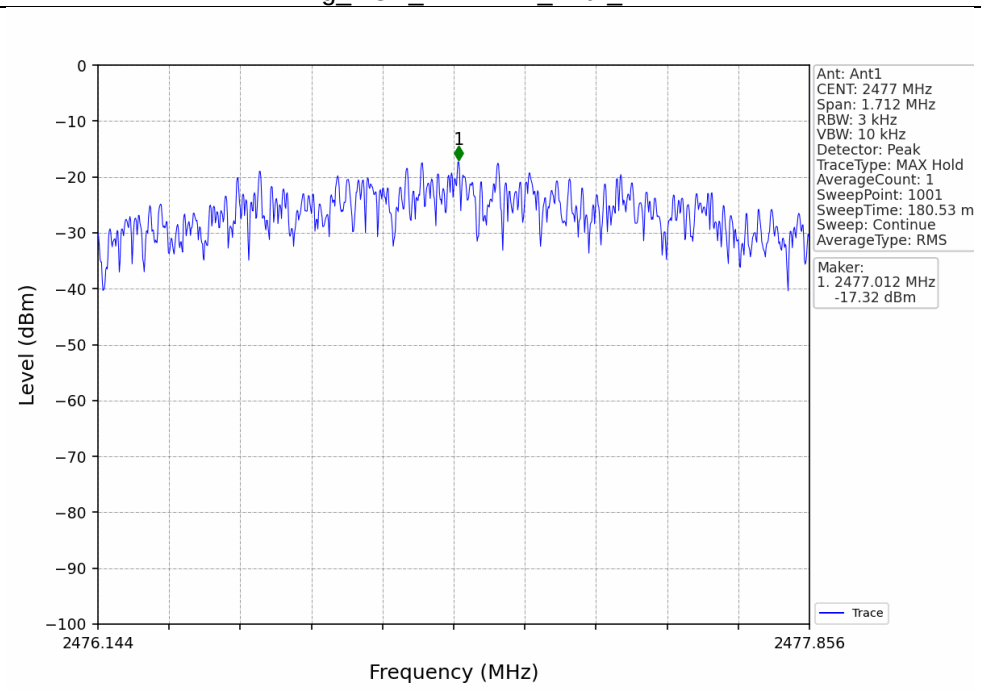
2.4g_LCH_2403MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2477MHz_Ant1_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
2.4g	SISO	2403	1	-0.62
		2441	1	-0.31
		2477	1	-0.32
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.				

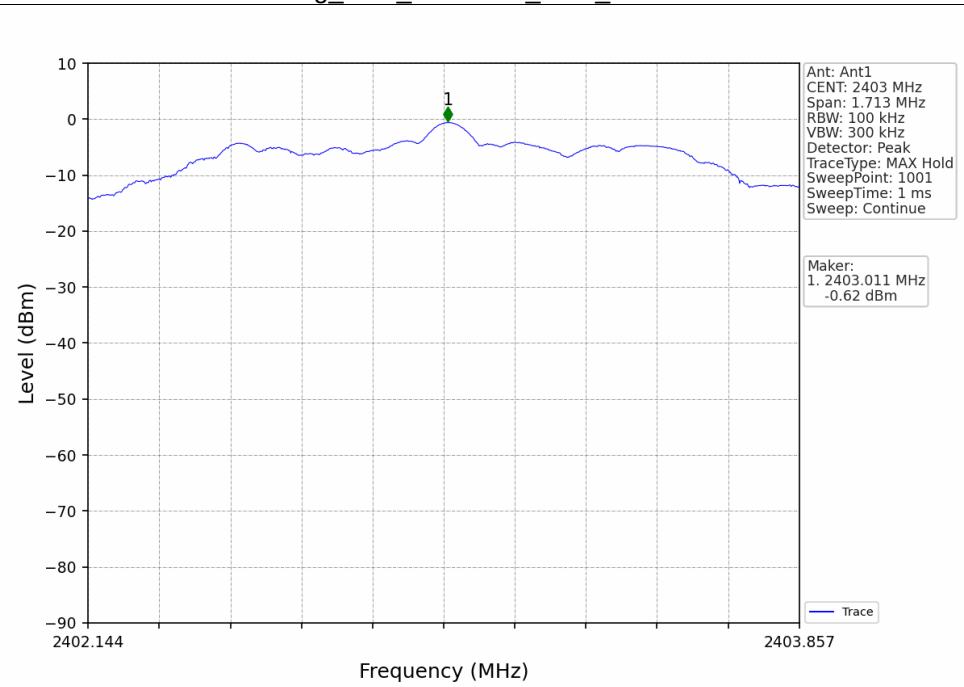
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
2.4g	SISO	2403	1	-0.62	-20.62	Pass
		2441	1	-0.31	-20.31	Pass
		2477	1	-0.32	-20.32	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.						

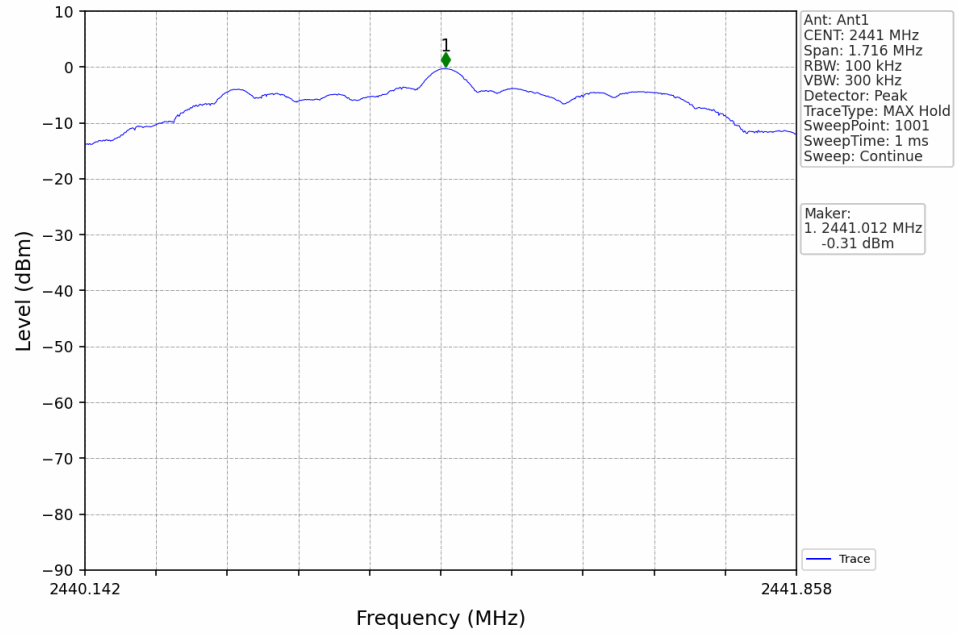
5.2 Test Graph

5.2.1 Ref

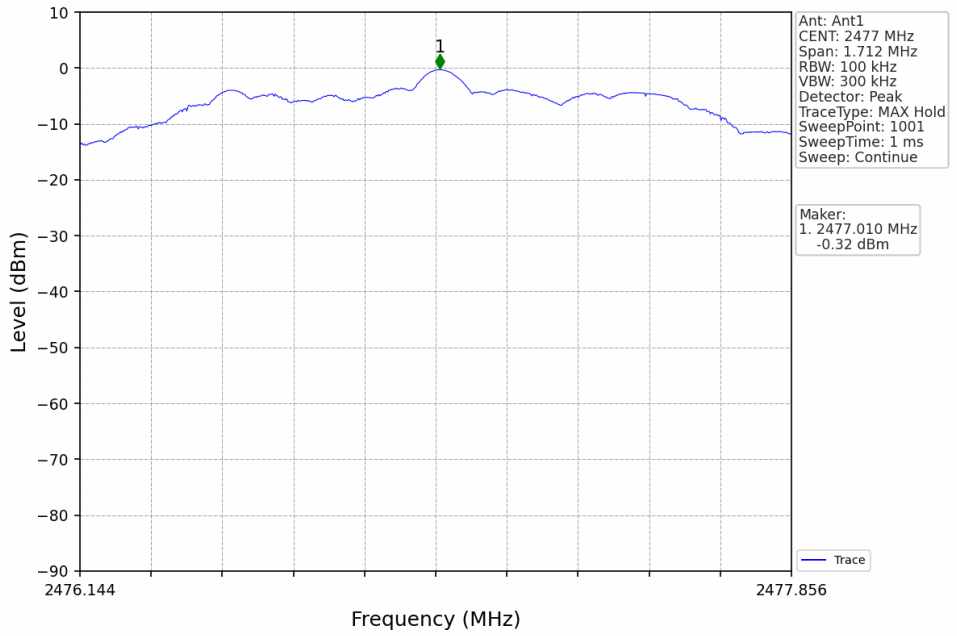
2.4g_LCH_2403MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV

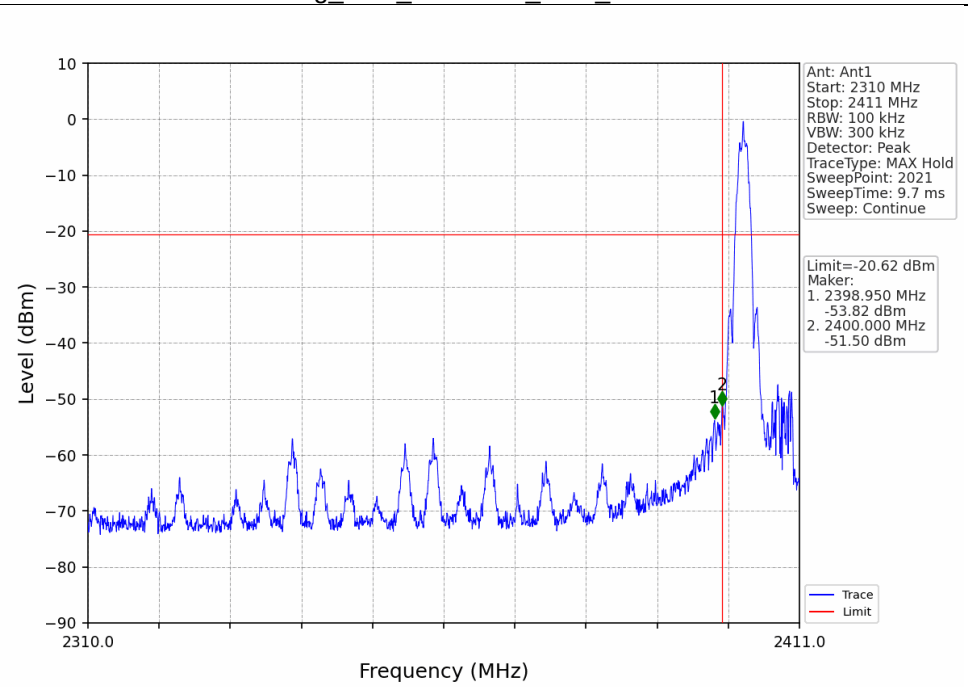


2.4g_HCH_2477MHz_Ant1_NTNV

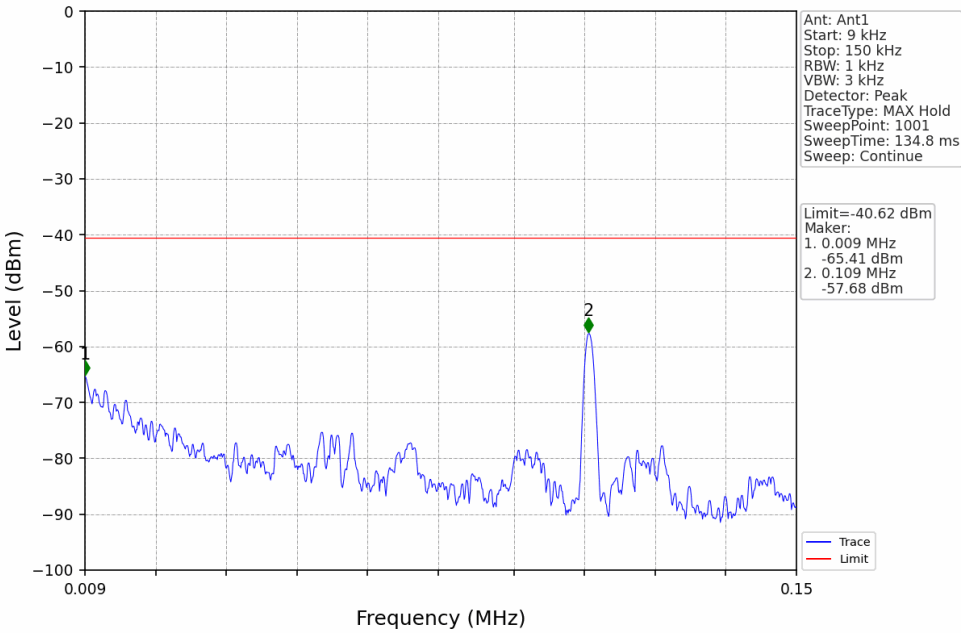


5.2.2 CSE

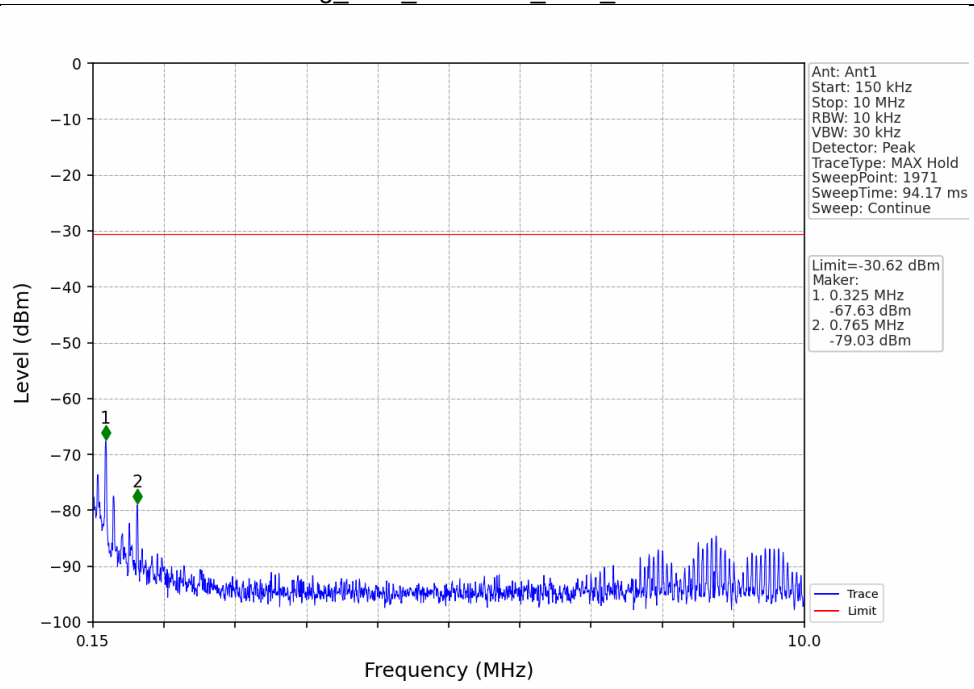
2.4g_LCH_2403MHz_Ant1_NTNV



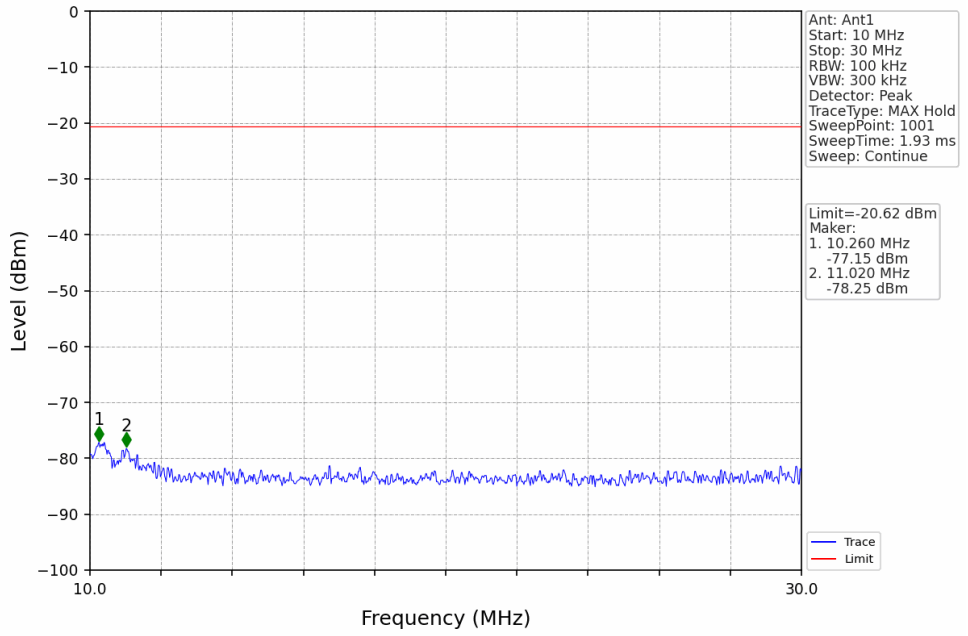
2.4g_LCH_2403MHz_Ant1_NTNV



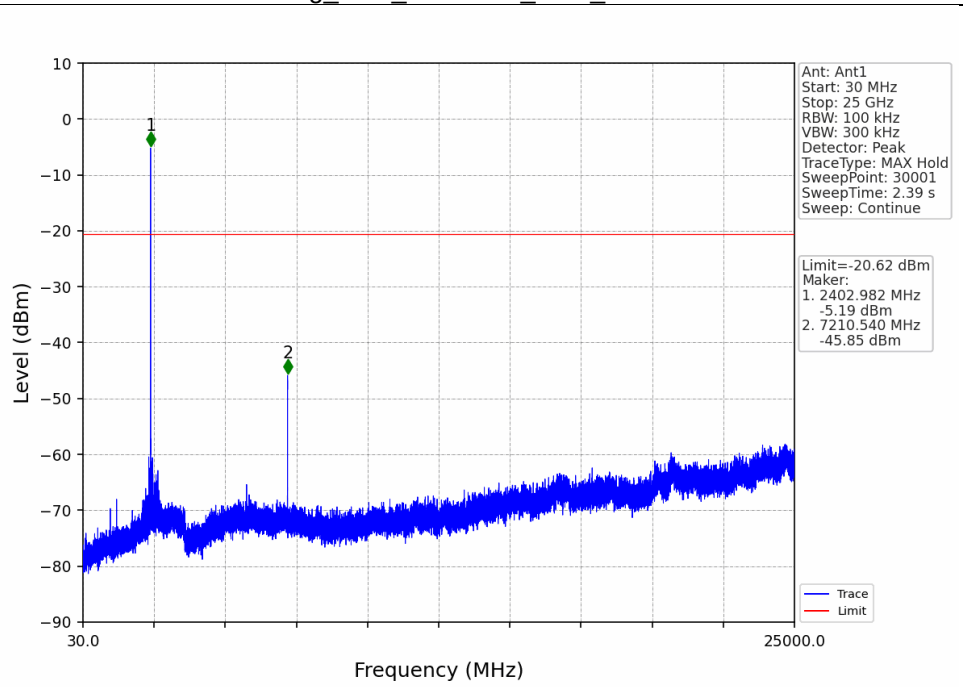
2.4g_LCH_2403MHz_Ant1_NTNV



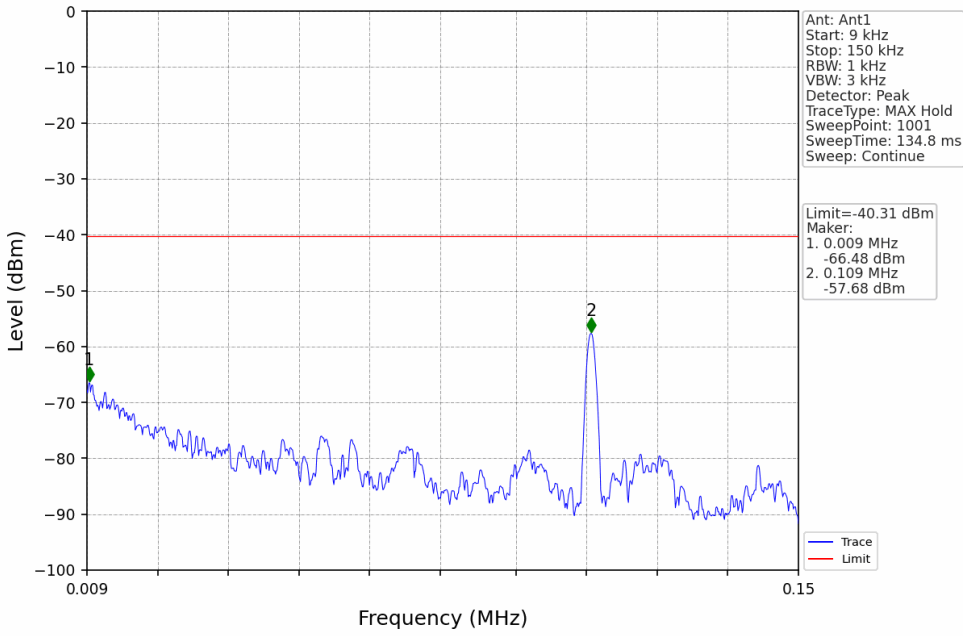
2.4g_LCH_2403MHz_Ant1_NTNV



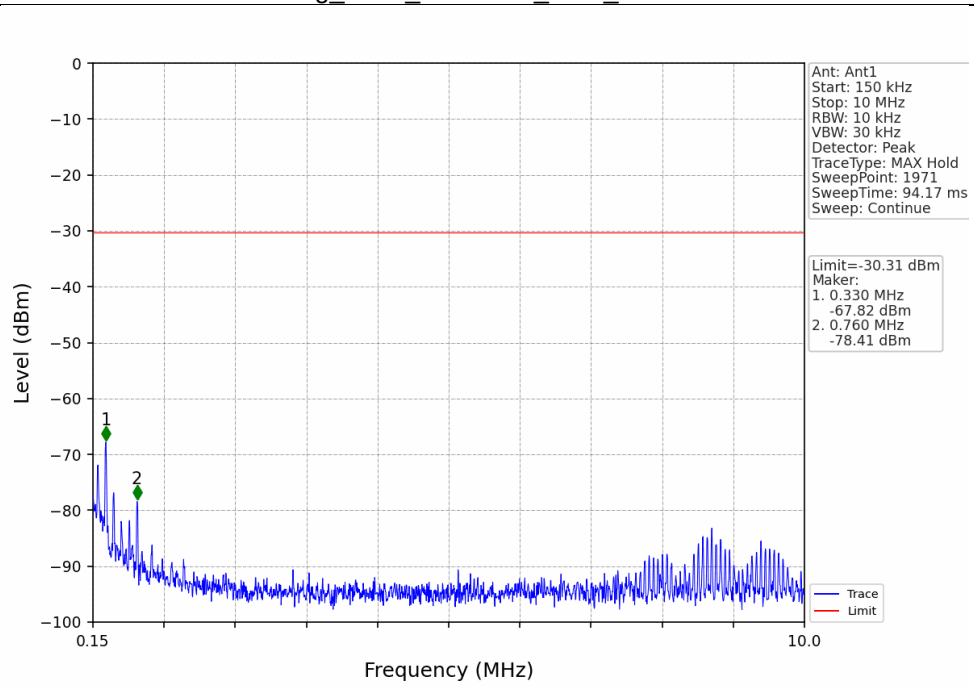
2.4g_LCH_2403MHz_Ant1_NTNV



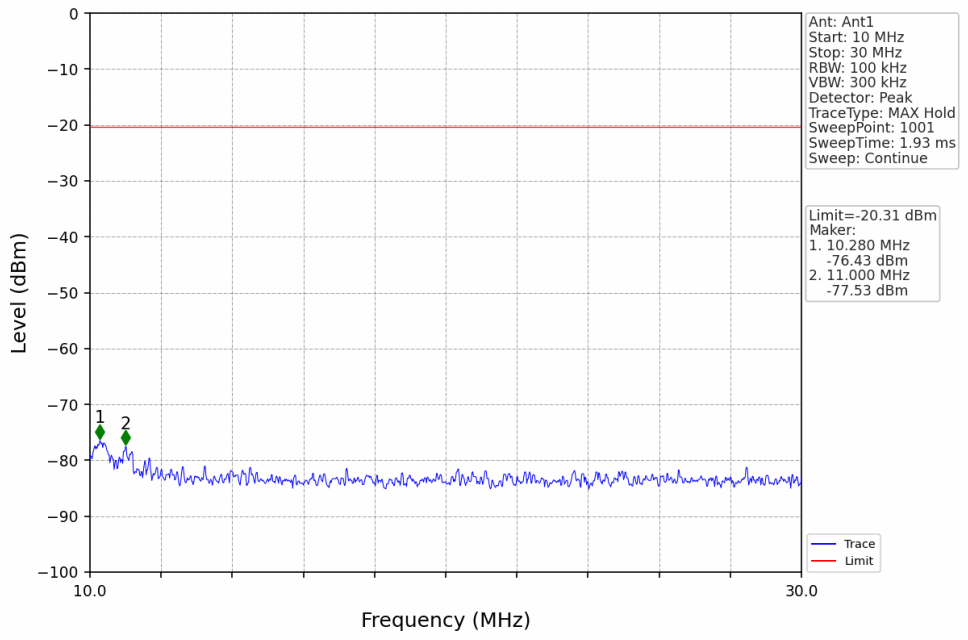
2.4g_MCH_2441MHz_Ant1_NTNV



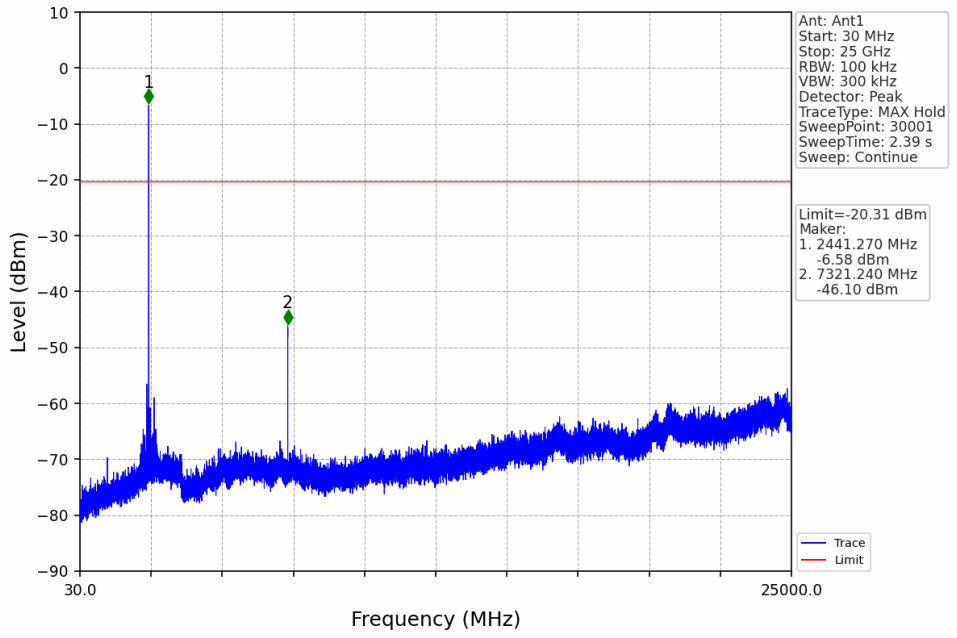
2.4g_MCH_2441MHz_Ant1_NTNV



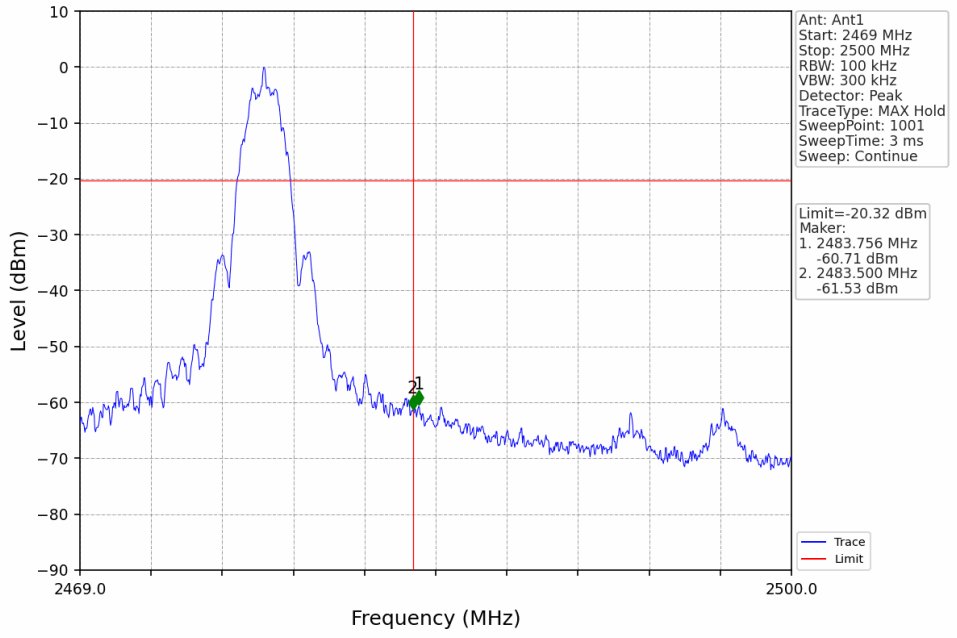
2.4g_MCH_2441MHz_Ant1_NTNV



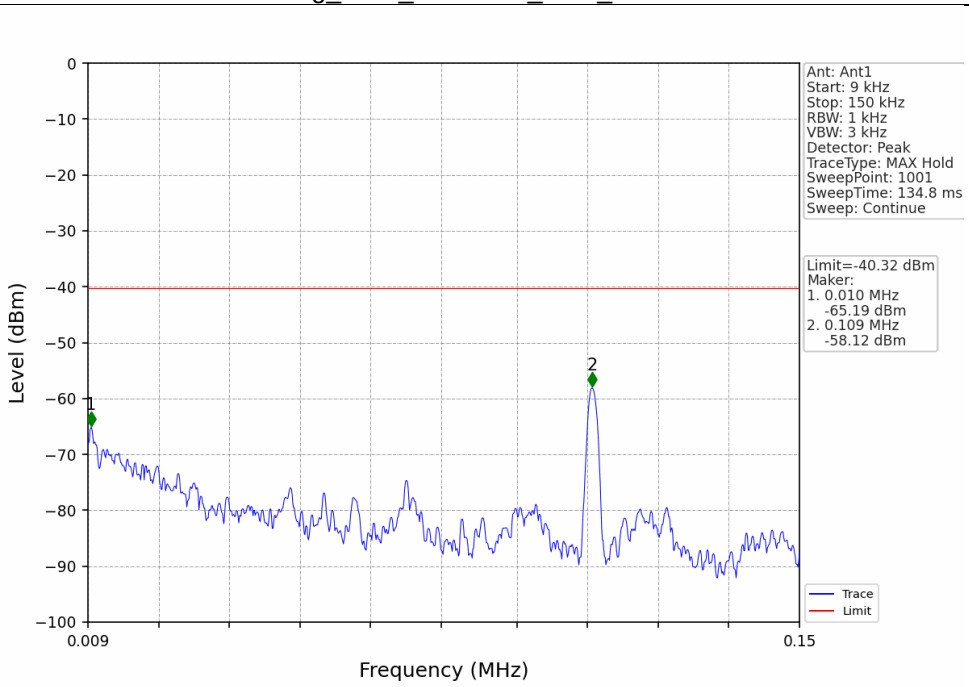
2.4g_MCH_2441MHz_Ant1_NTNV



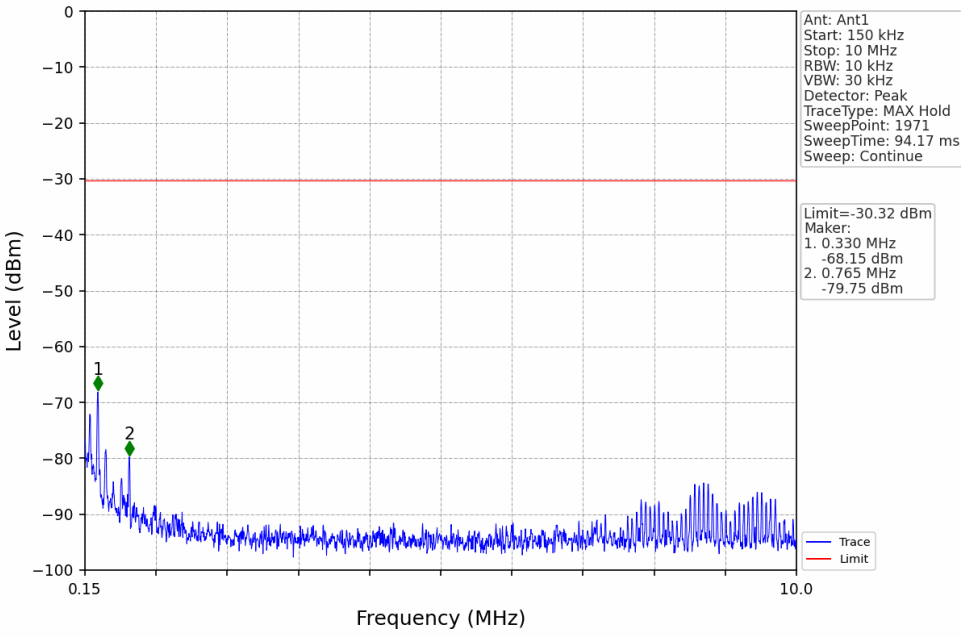
2.4g_HCH_2477MHz_Ant1_NTNV



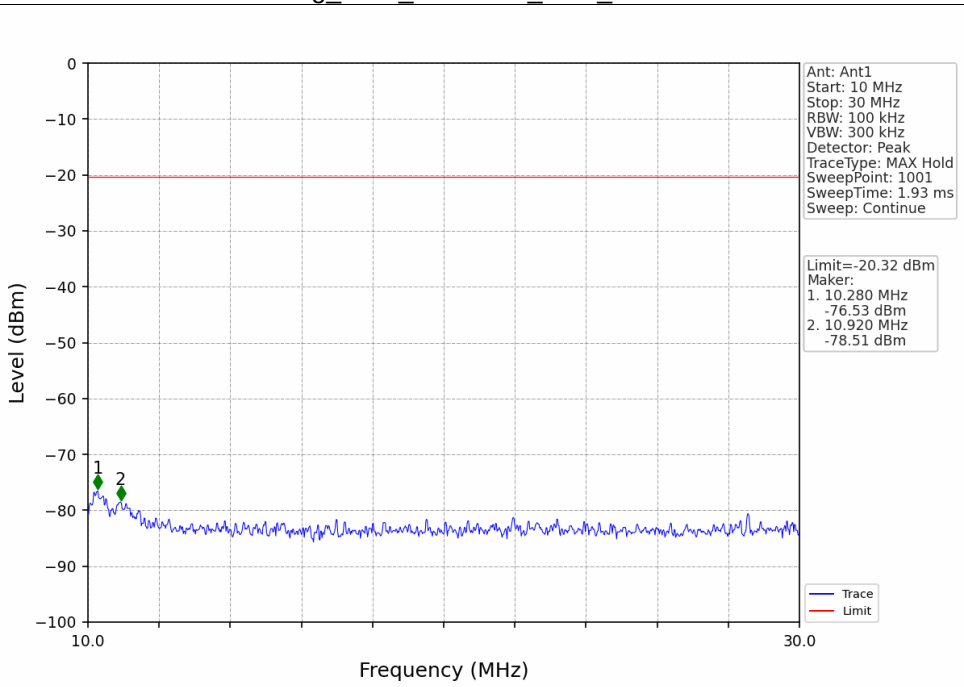
2.4g_HCH_2477MHz_Ant1_NTNV



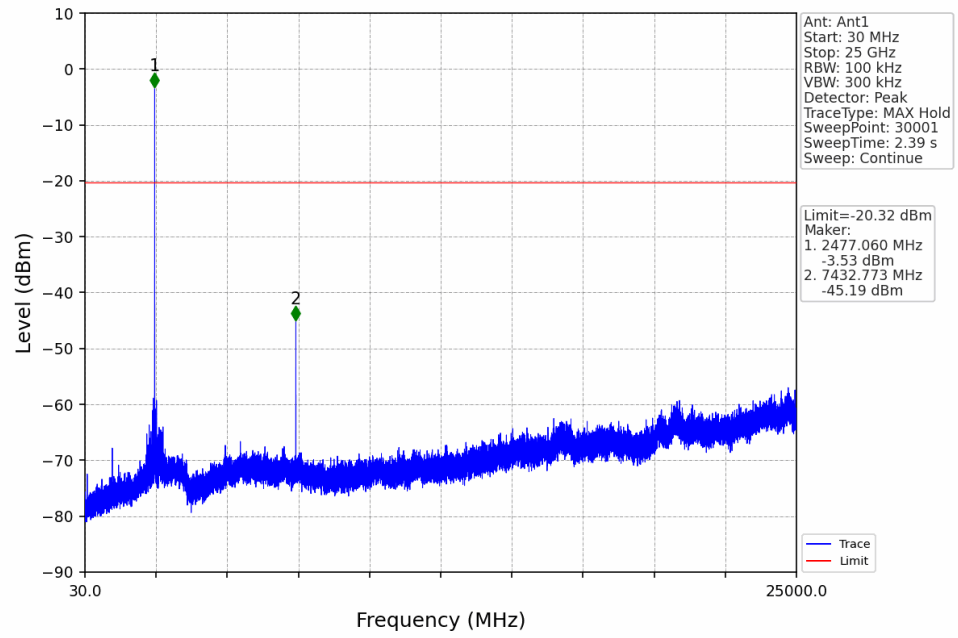
2.4g_HCH_2477MHz_Ant1_NTNV



2.4g_HCH_2477MHz_Ant1_NTNV



2.4g_HCH_2477MHz_Ant1_NTNV



6. Unwanted Emissions In Restricted Frequency Bands

6.1 Test Result

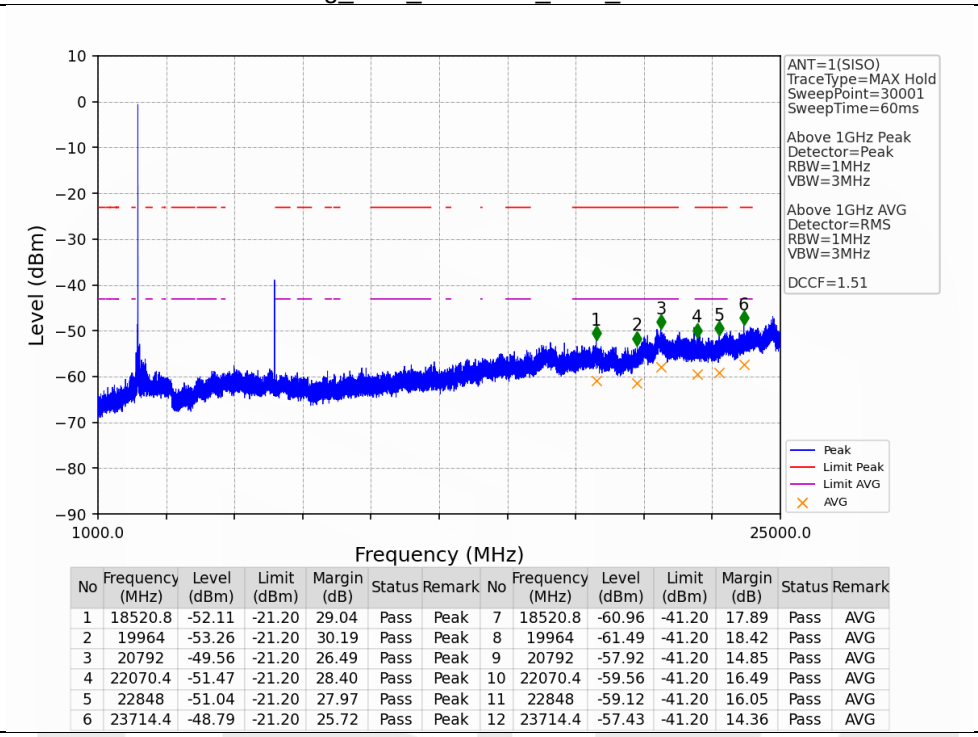
6.1.1 RSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
2.4g	SISO	2403	1	Refer To Test Graph		Pass
		2441	1	Refer To Test Graph		Pass
		2477	1	Refer To Test Graph		Pass

6.2 Test Graph

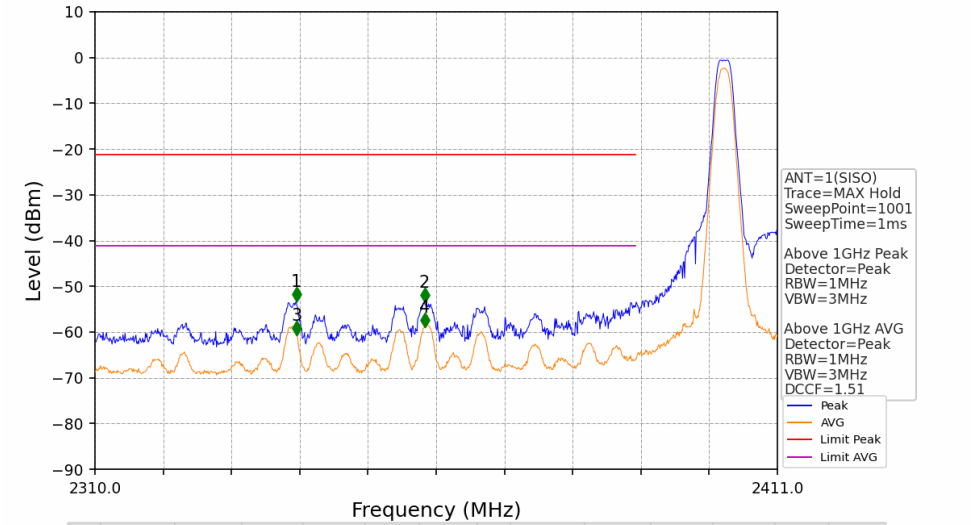
6.2.1 RSE

2.4g_LCH_2403MHz_Ant1_NTNV



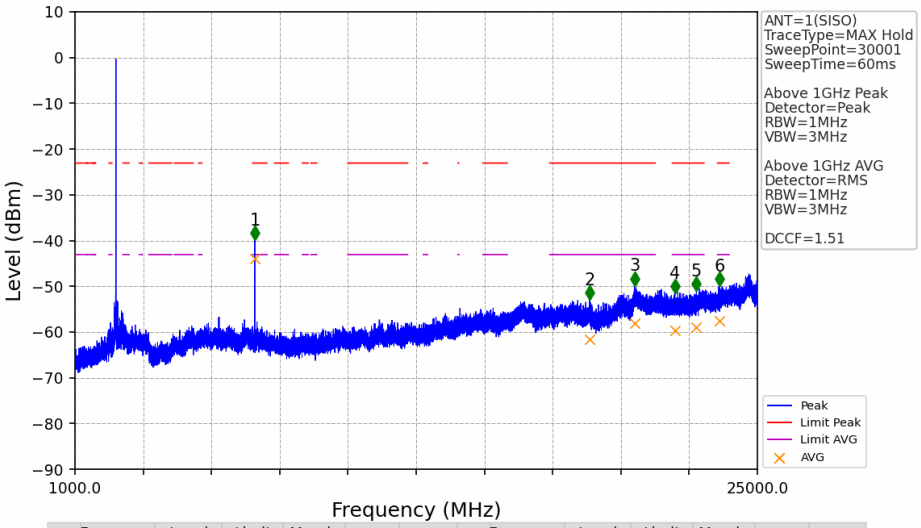
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	18520.8	-52.11	-21.20	29.04	Pass	Peak	7	18520.8	-60.96	-41.20	17.89	Pass	AVG
2	19964	-53.26	-21.20	30.19	Pass	Peak	8	19964	-61.49	-41.20	18.42	Pass	AVG
3	20792	-49.56	-21.20	26.49	Pass	Peak	9	20792	-57.92	-41.20	14.85	Pass	AVG
4	22070.4	-51.47	-21.20	28.40	Pass	Peak	10	22070.4	-59.56	-41.20	16.49	Pass	AVG
5	22848	-51.04	-21.20	27.97	Pass	Peak	11	22848	-59.12	-41.20	16.05	Pass	AVG
6	23714.4	-48.79	-21.20	25.72	Pass	Peak	12	23714.4	-57.43	-41.20	14.36	Pass	AVG

2.4g_LCH_2403MHz_Ant1_NTNV



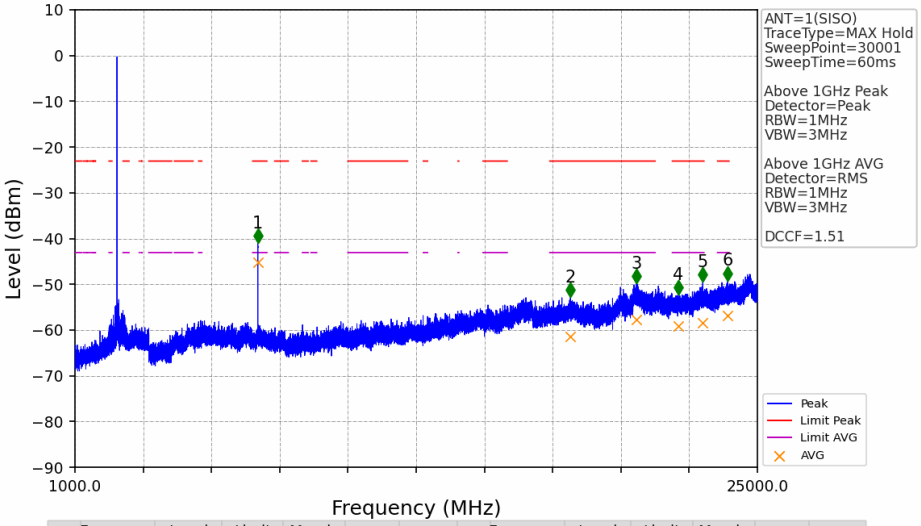
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2339.795	-53.36	-21.20	30.29	Pass	Peak	3	2339.795	/	-21.20	/	/	AVG
2	2358.783	-53.50	-21.20	30.43	Pass	Peak	4	2358.783	/	-21.20	/	/	AVG

2.4g_MCH_2441MHz_Ant1_NTNV



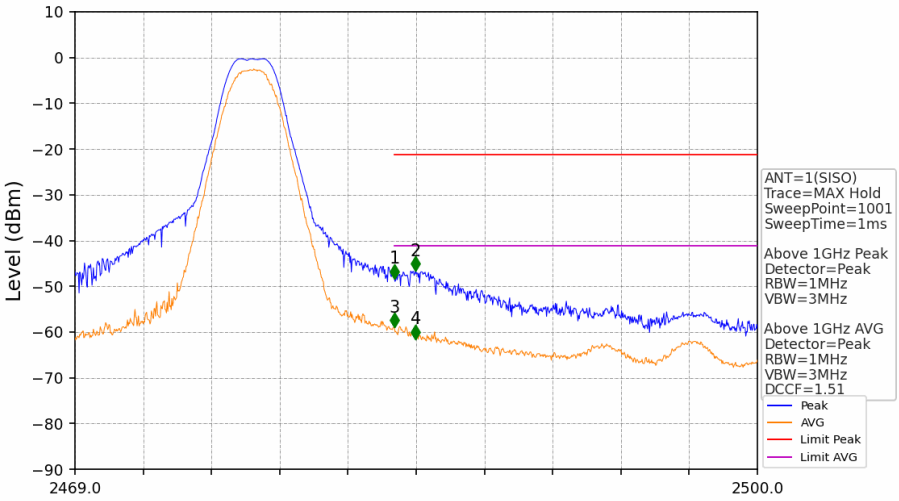
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	7321.6	-39.87	-21.20	16.80	Pass	Peak	7	7321.6	-43.96	-41.20	0.89	Pass	AVG
2	19100	-53.02	-21.20	29.95	Pass	Peak	8	19100	-61.65	-41.20	18.58	Pass	AVG
3	20676.8	-49.90	-21.20	26.83	Pass	Peak	9	20676.8	-58.10	-41.20	15.03	Pass	AVG
4	22100	-51.55	-21.20	28.48	Pass	Peak	10	22100	-59.62	-41.20	16.55	Pass	AVG
5	22856	-51.05	-21.20	27.98	Pass	Peak	11	22856	-59.04	-41.20	15.97	Pass	AVG
6	23668.8	-49.99	-21.20	26.92	Pass	Peak	12	23668.8	-57.59	-41.20	14.52	Pass	AVG

2.4g_HCH_2477MHz_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	7430.4	-41.04	-21.20	17.97	Pass	Peak	7	7430.4	-45.16	-41.20	2.09	Pass	AVG
2	18423.2	-52.85	-21.20	29.78	Pass	Peak	8	18423.2	-61.44	-41.20	18.37	Pass	AVG
3	20740	-49.86	-21.20	26.79	Pass	Peak	9	20740	-57.81	-41.20	14.74	Pass	AVG
4	22213.6	-52.23	-21.20	29.16	Pass	Peak	10	22213.6	-59.21	-41.20	16.14	Pass	AVG
5	23076.8	-49.43	-21.20	26.36	Pass	Peak	11	23076.8	-58.49	-41.20	15.42	Pass	AVG
6	23952.8	-49.19	-21.20	26.12	Pass	Peak	12	23952.8	-56.76	-41.20	13.69	Pass	AVG

2.4g_HCH_2477MHz_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	2483.508	-48.31	-21.20	25.24	Pass	Peak	3	2483.508	/	-21.20	/	/	AVG
2	2484.469	-46.62	-21.20	23.55	Pass	Peak	4	2484.469	/	-21.20	/	/	AVG

--------- End of Report -------