

Appendix RF Test Data for WIFI2.4G

Company: : **ShenZhen Doctors of Intelligence & Technology Co.,Ltd**

EUT : **WiFi&BLE Module**

FCC ID: : **2BB77-ESPC6-32**

Model Number : **ESPC6-32**

Report No. : **HTT202509970F01**

Reviewed By : **Heber He**

1. Duty Cycle

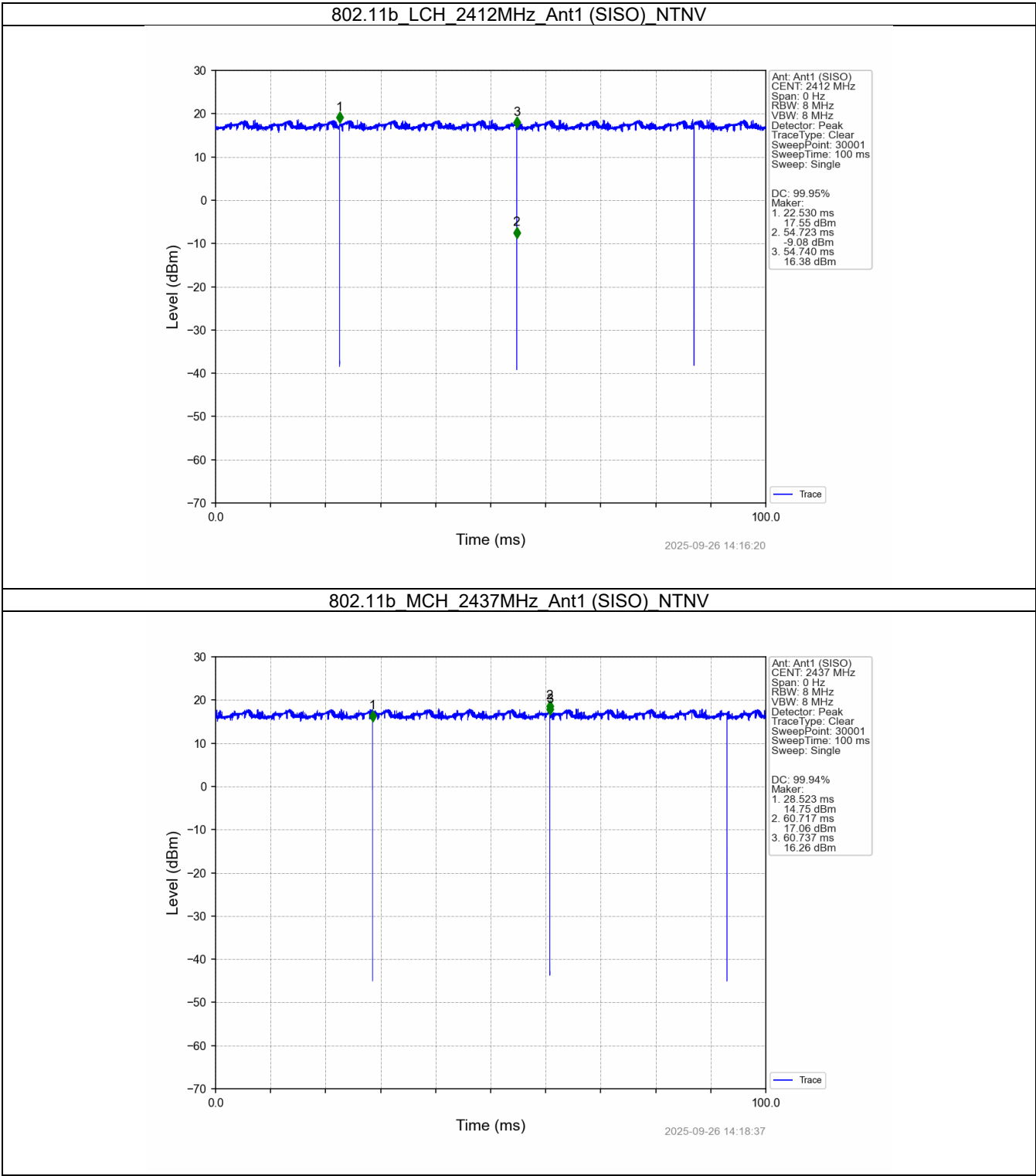
1.1 Test Result

1.1.1 Ant1

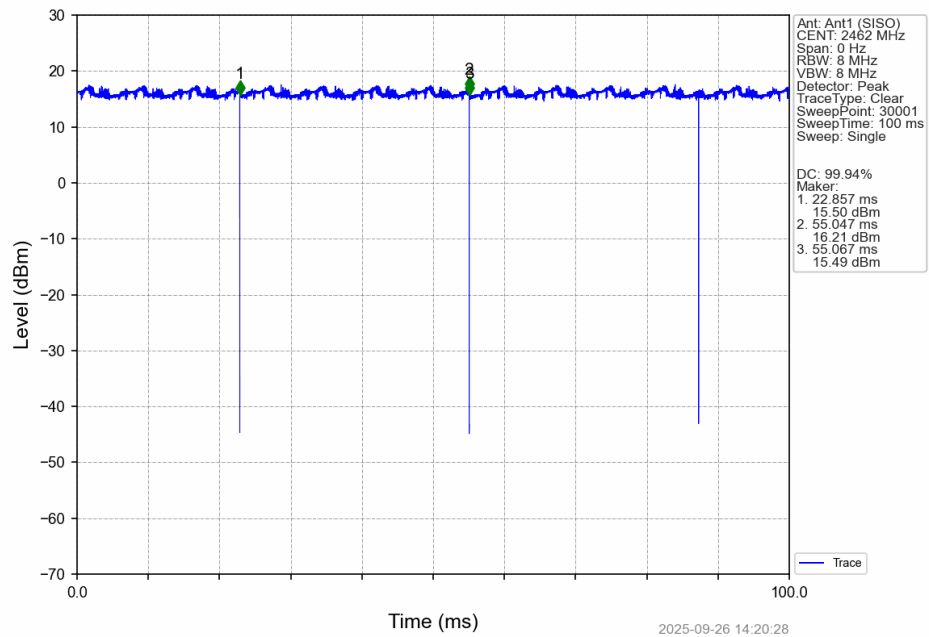
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	32.193	32.210	99.95	0.00	0.00
		2437	32.194	32.214	99.94	0.00	0.01
		2462	32.190	32.210	99.94	0.00	0.01
802.11g	SISO	2412	5.360	5.386	99.52	0.02	0.03
		2437	5.359	5.385	99.52	0.02	0.03
		2462	5.359	5.385	99.52	0.02	0.03
802.11n (HT20)	SISO	2412	4.964	4.989	99.50	0.02	0.04
		2437	4.965	4.990	99.50	0.02	0.04
		2462	4.964	4.989	99.50	0.02	0.04
802.11ax (HEW20)	SISO	2412	3.787	3.811	99.37	0.03	0.00
		2437	3.785	3.811	99.32	0.03	0.03
		2462	3.787	3.812	99.34	0.03	0.03

1.2 Test Graph

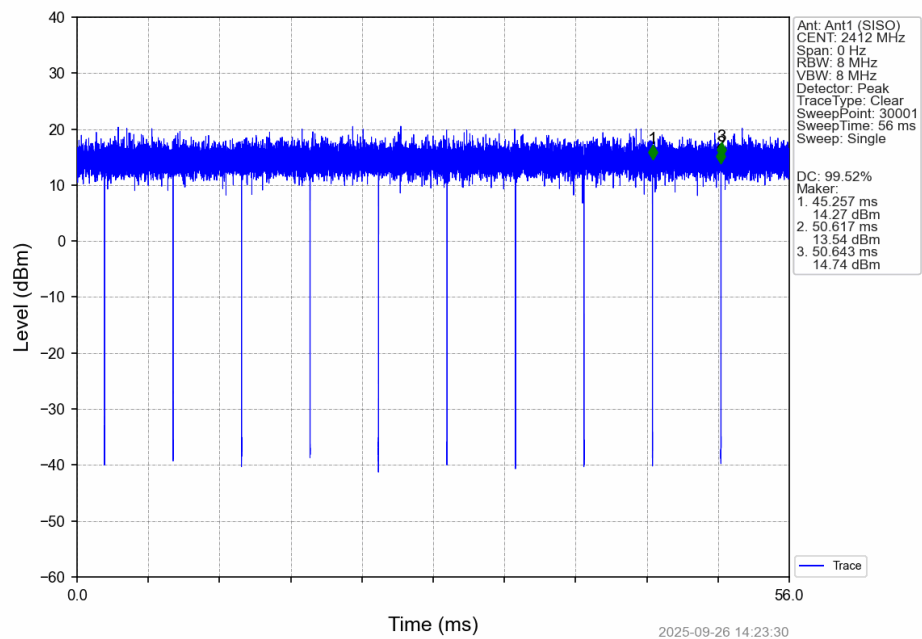
1.2.1 Ant1



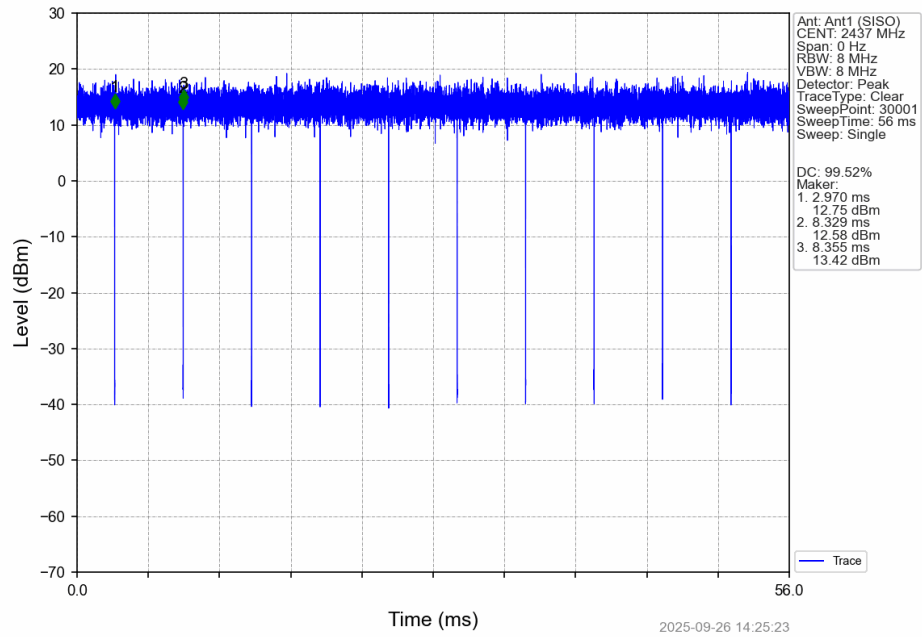
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



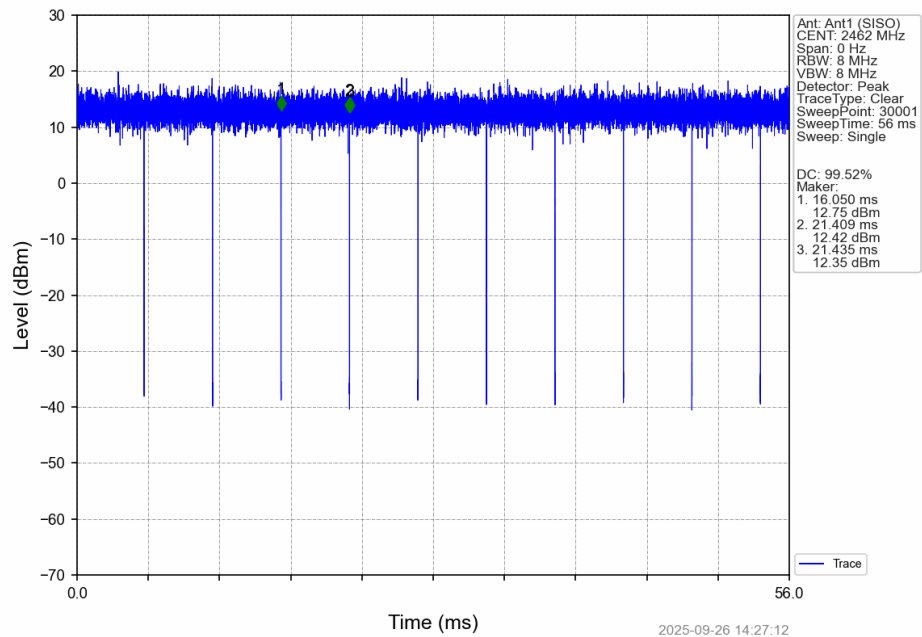
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



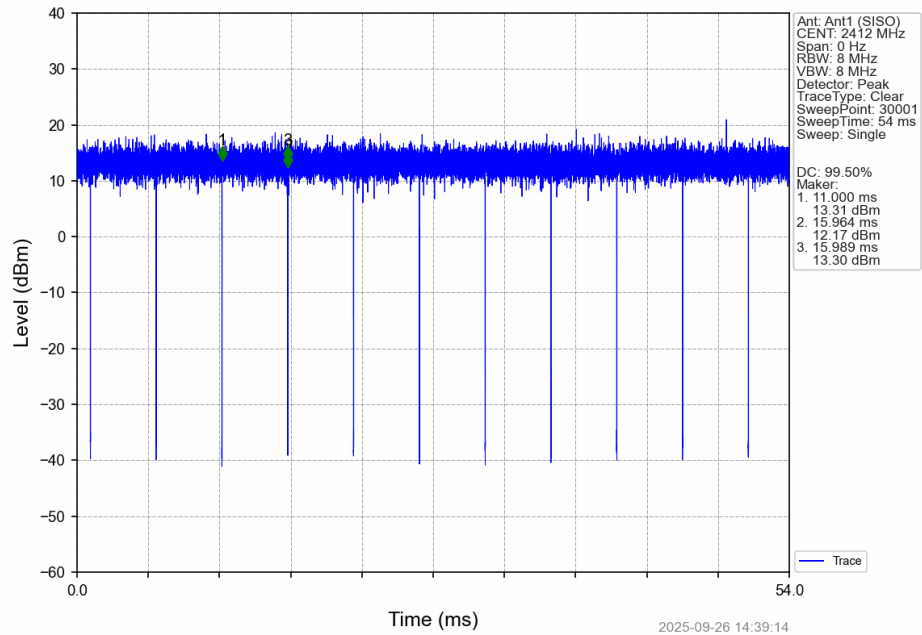
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



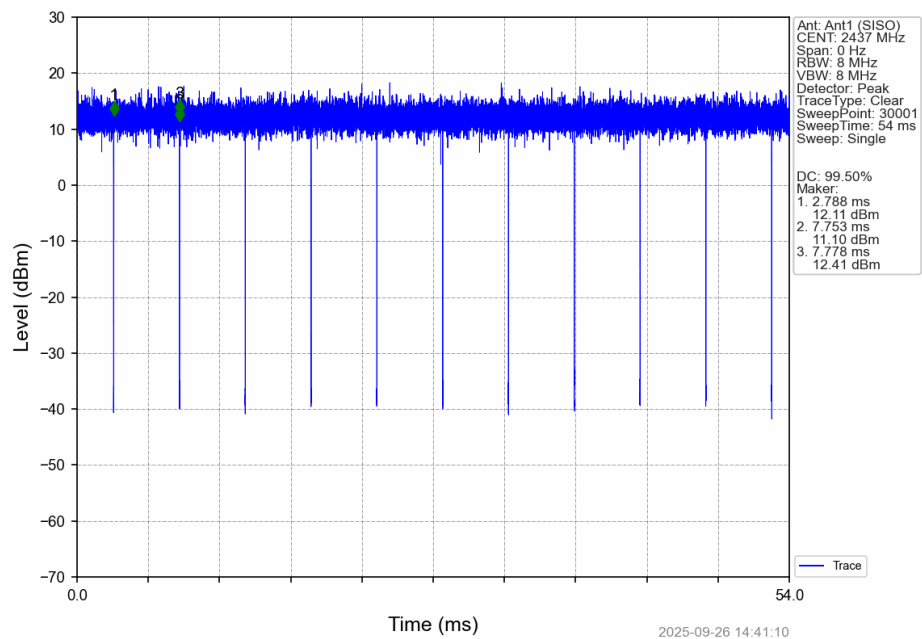
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



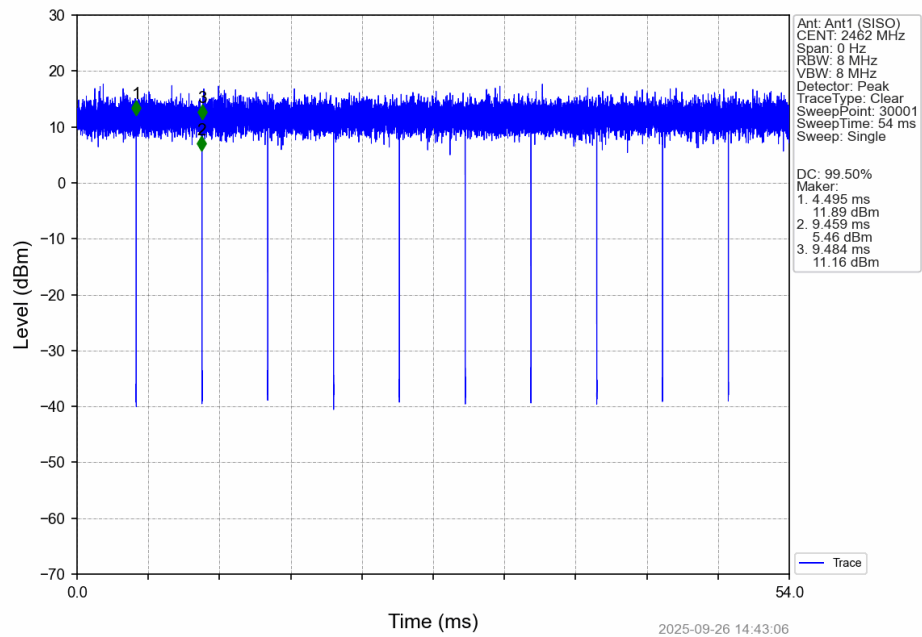
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



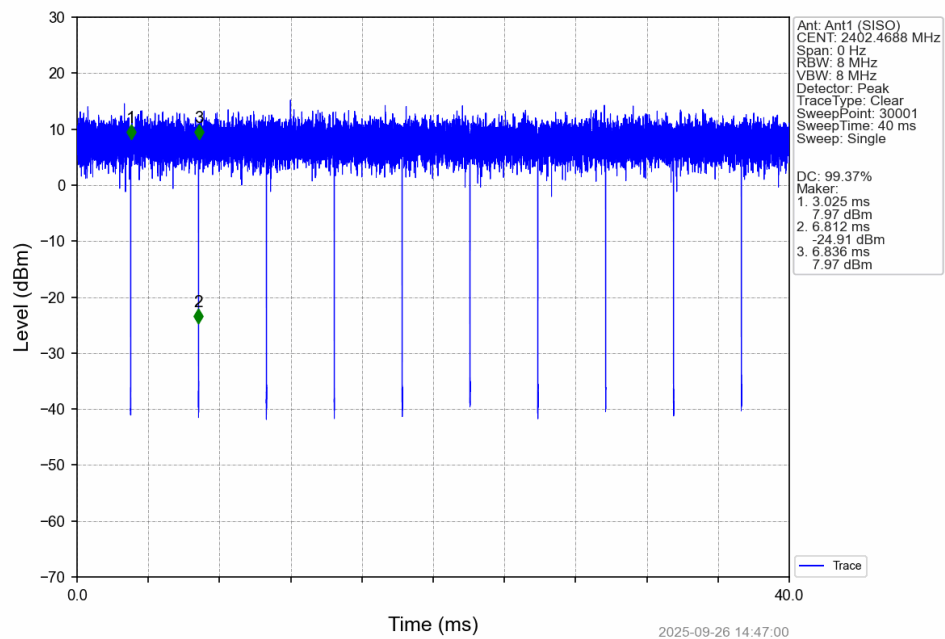
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



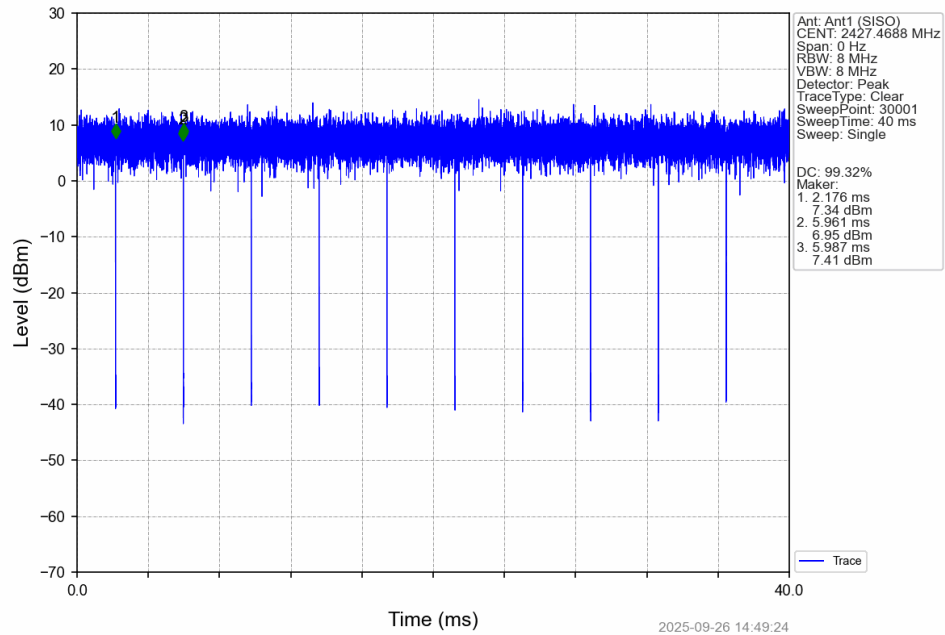
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



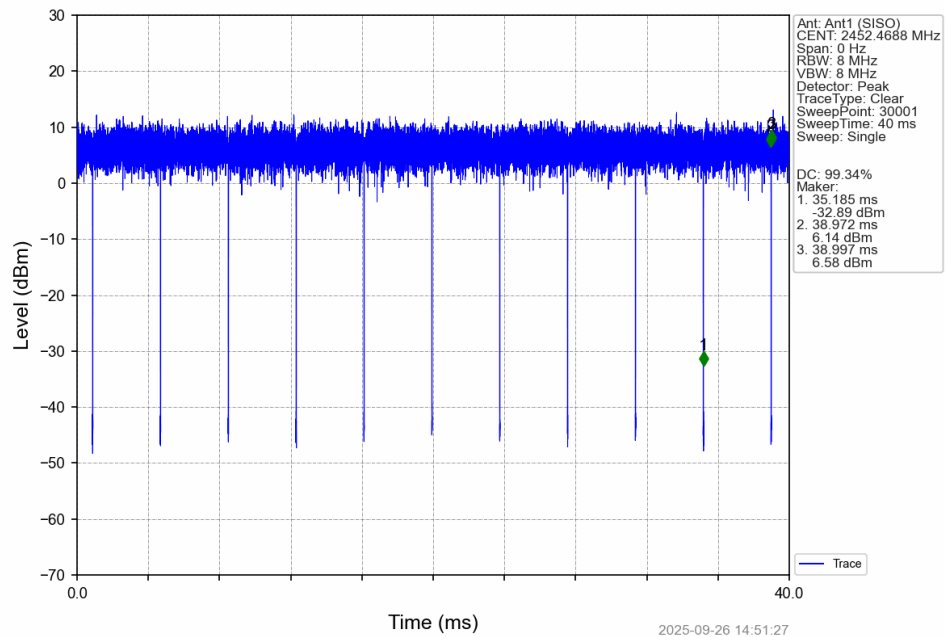
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

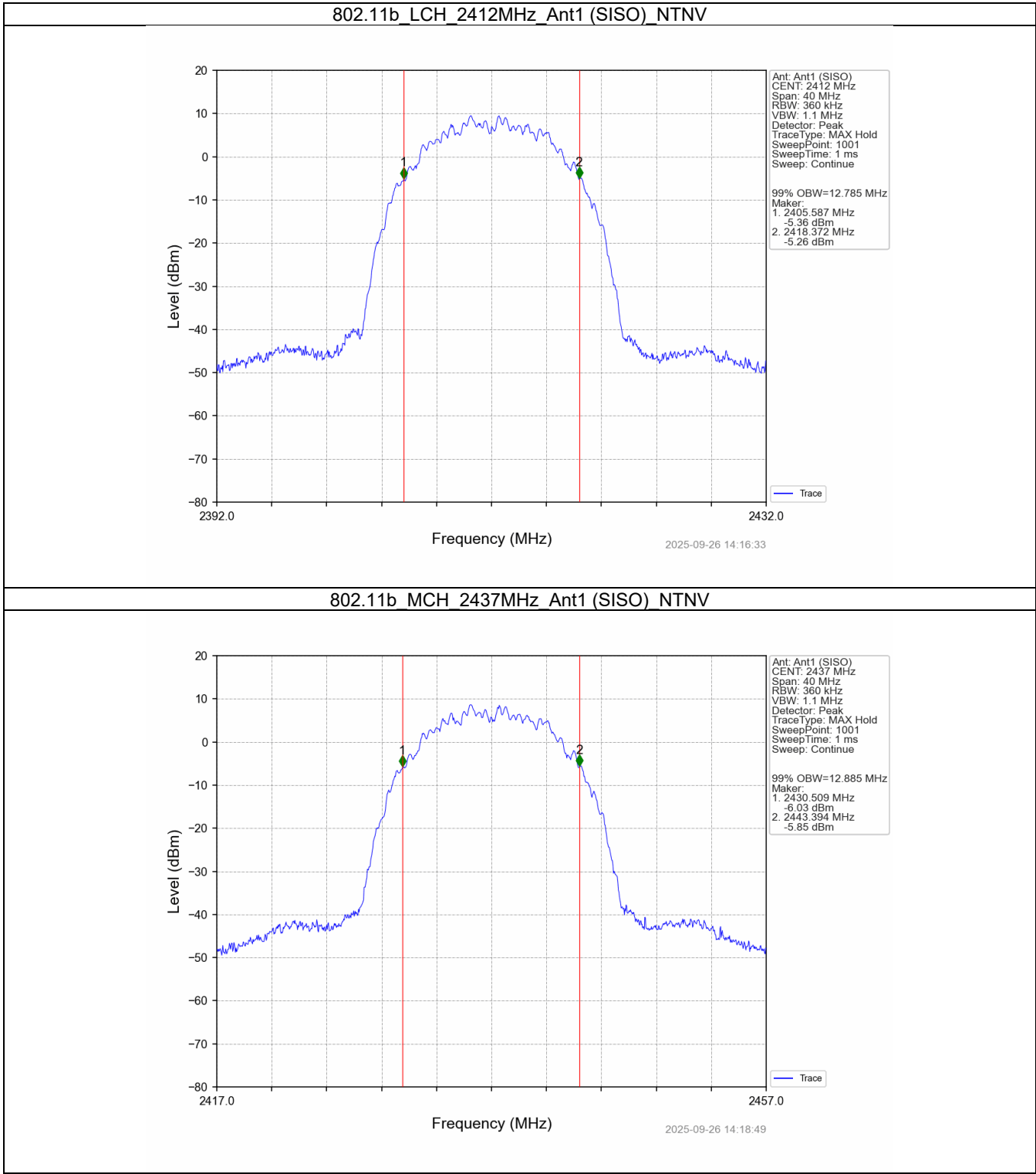
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	12.785	/	Pass
		2437	1	12.885	/	Pass
		2462	1	12.873	/	Pass
802.11g	SISO	2412	1	17.104	/	Pass
		2437	1	17.093	/	Pass
		2462	1	17.103	/	Pass
802.11n (HT20)	SISO	2412	1	17.918	/	Pass
		2437	1	17.914	/	Pass
		2462	1	17.909	/	Pass
802.11ax (HEW20)	SISO	2412	1	18.722	/	Pass
		2437	1	18.651	/	Pass
		2462	1	18.702	/	Pass

2.1.2 6dB BW

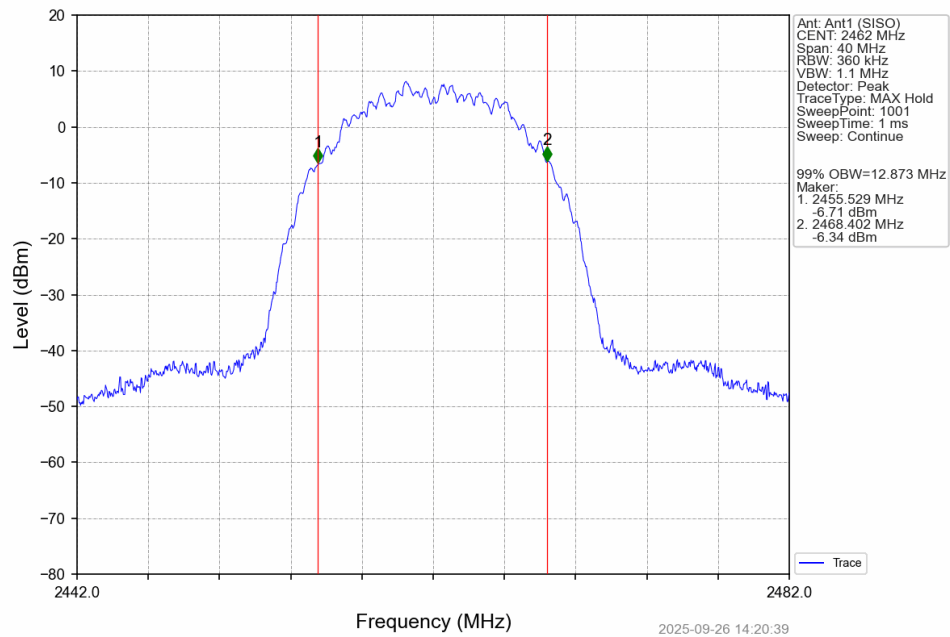
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	8.844	≥ 0.5	Pass
		2437	1	8.904	≥ 0.5	Pass
		2462	1	8.822	≥ 0.5	Pass
802.11g	SISO	2412	1	16.477	≥ 0.5	Pass
		2437	1	16.387	≥ 0.5	Pass
		2462	1	16.404	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.508	≥ 0.5	Pass
		2437	1	17.623	≥ 0.5	Pass
		2462	1	17.480	≥ 0.5	Pass
802.11ax (HEW20)	SISO	2412	1	18.451	≥ 0.5	Pass
		2437	1	18.228	≥ 0.5	Pass
		2462	1	18.194	≥ 0.5	Pass

2.2 Test Graph

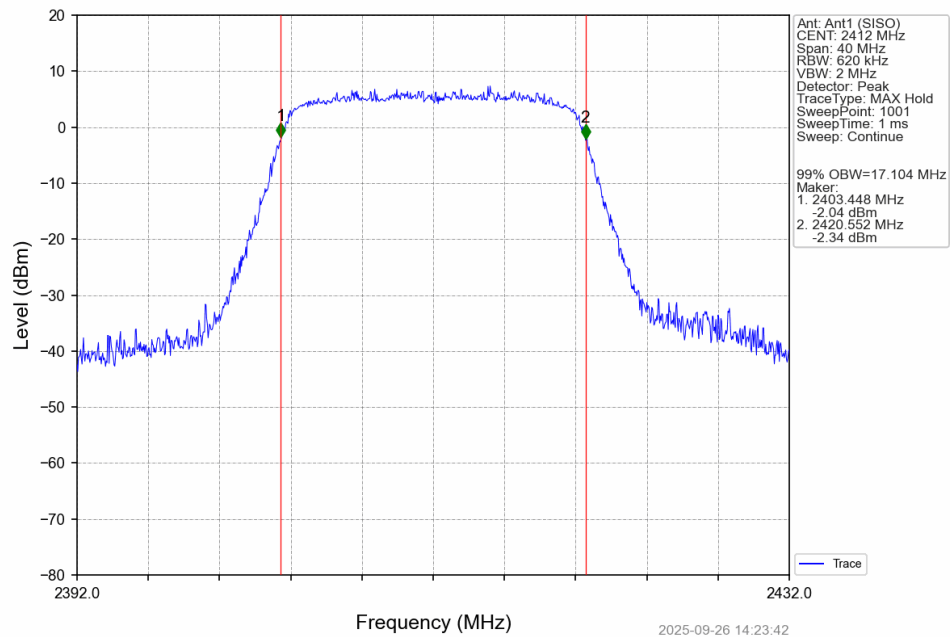
2.2.1 OBW



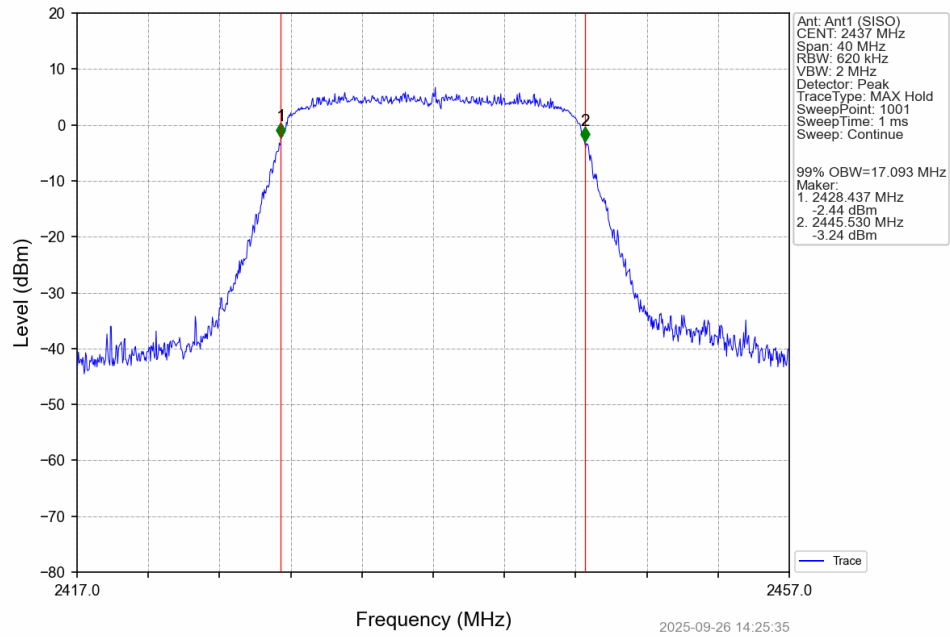
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



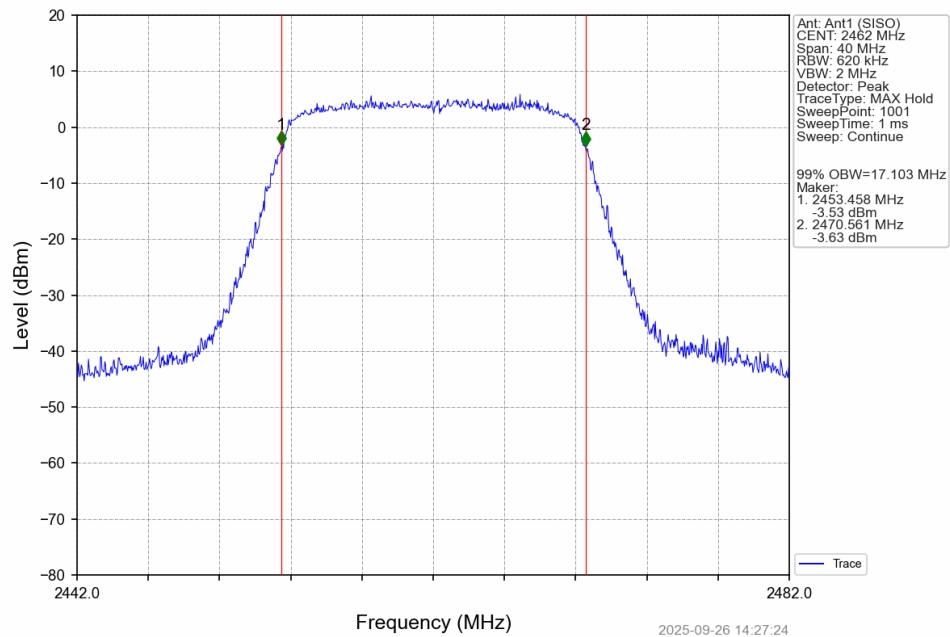
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



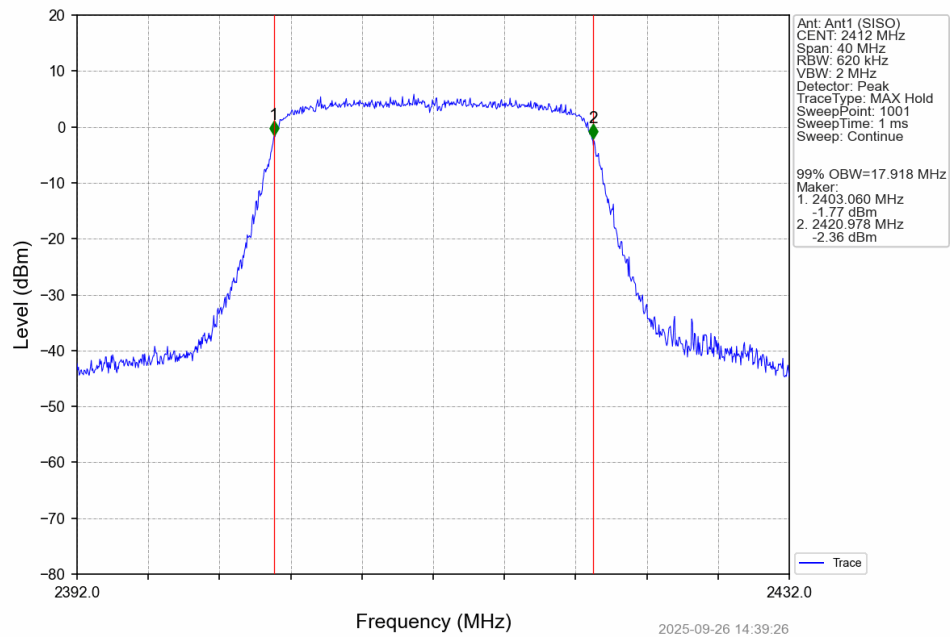
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



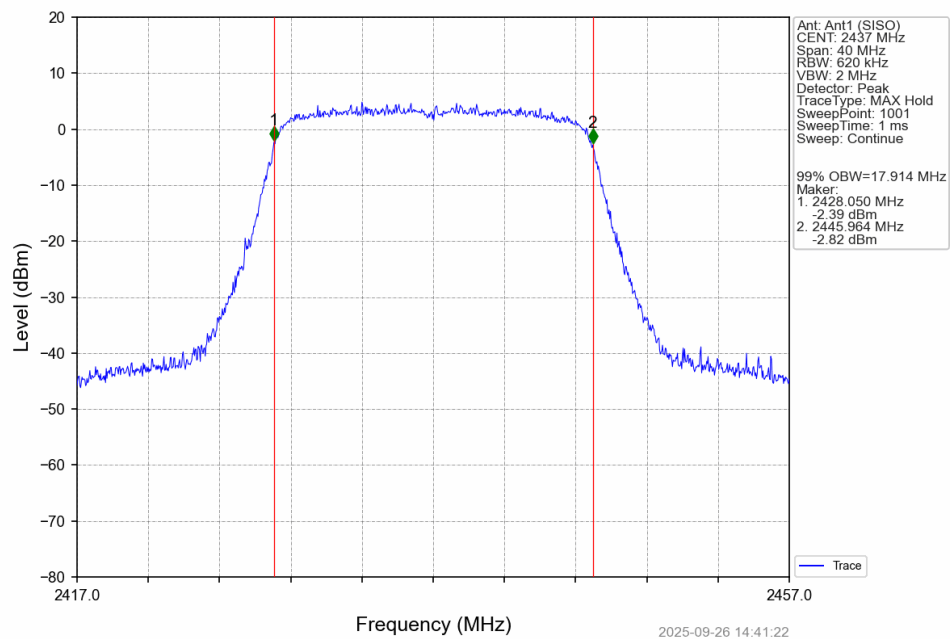
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



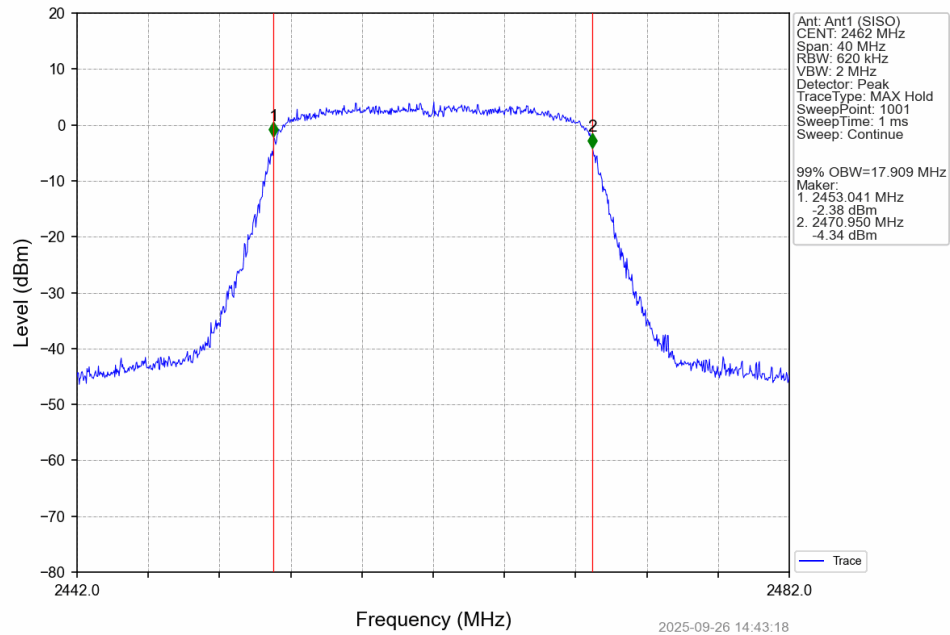
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



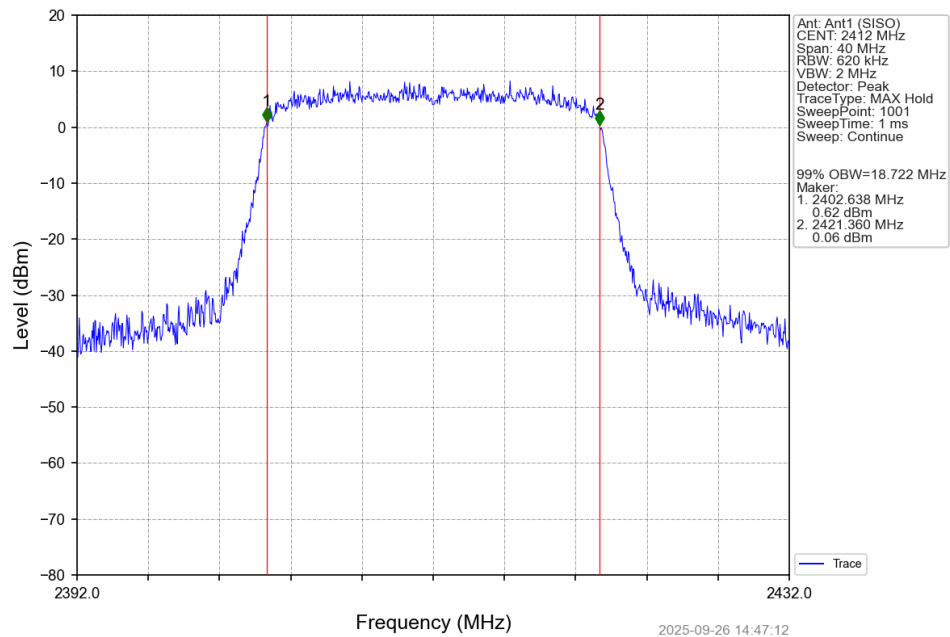
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



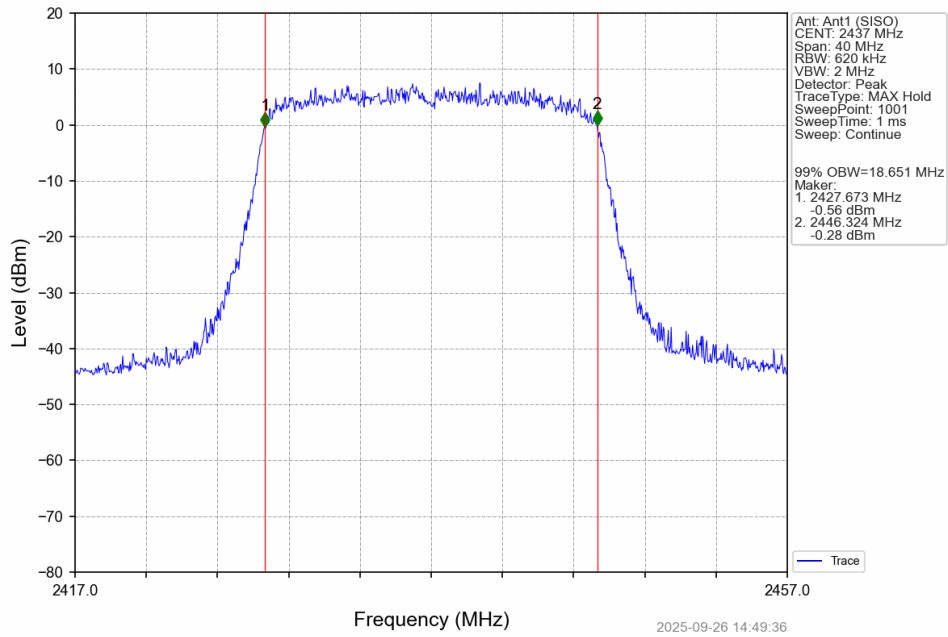
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



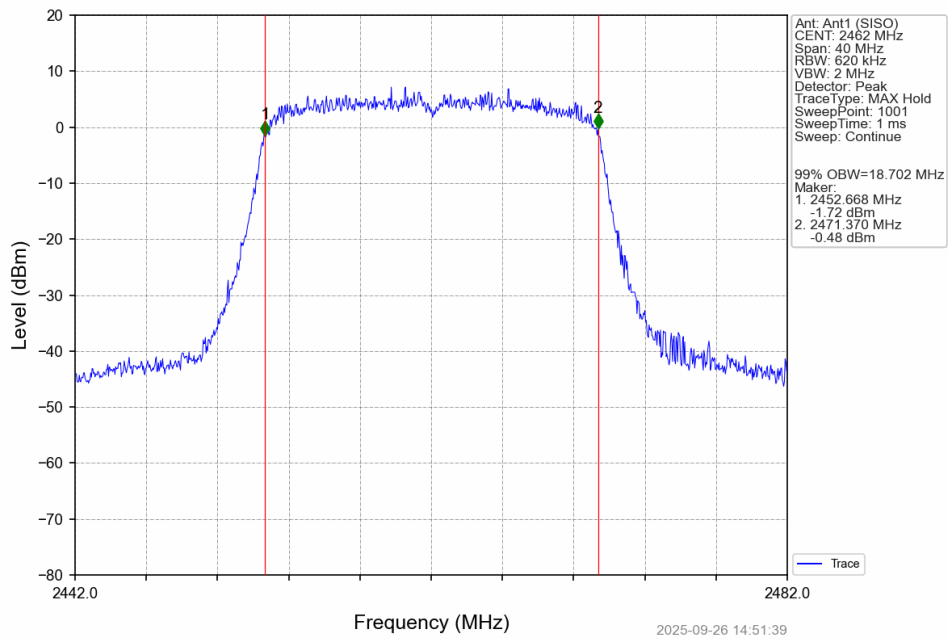
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



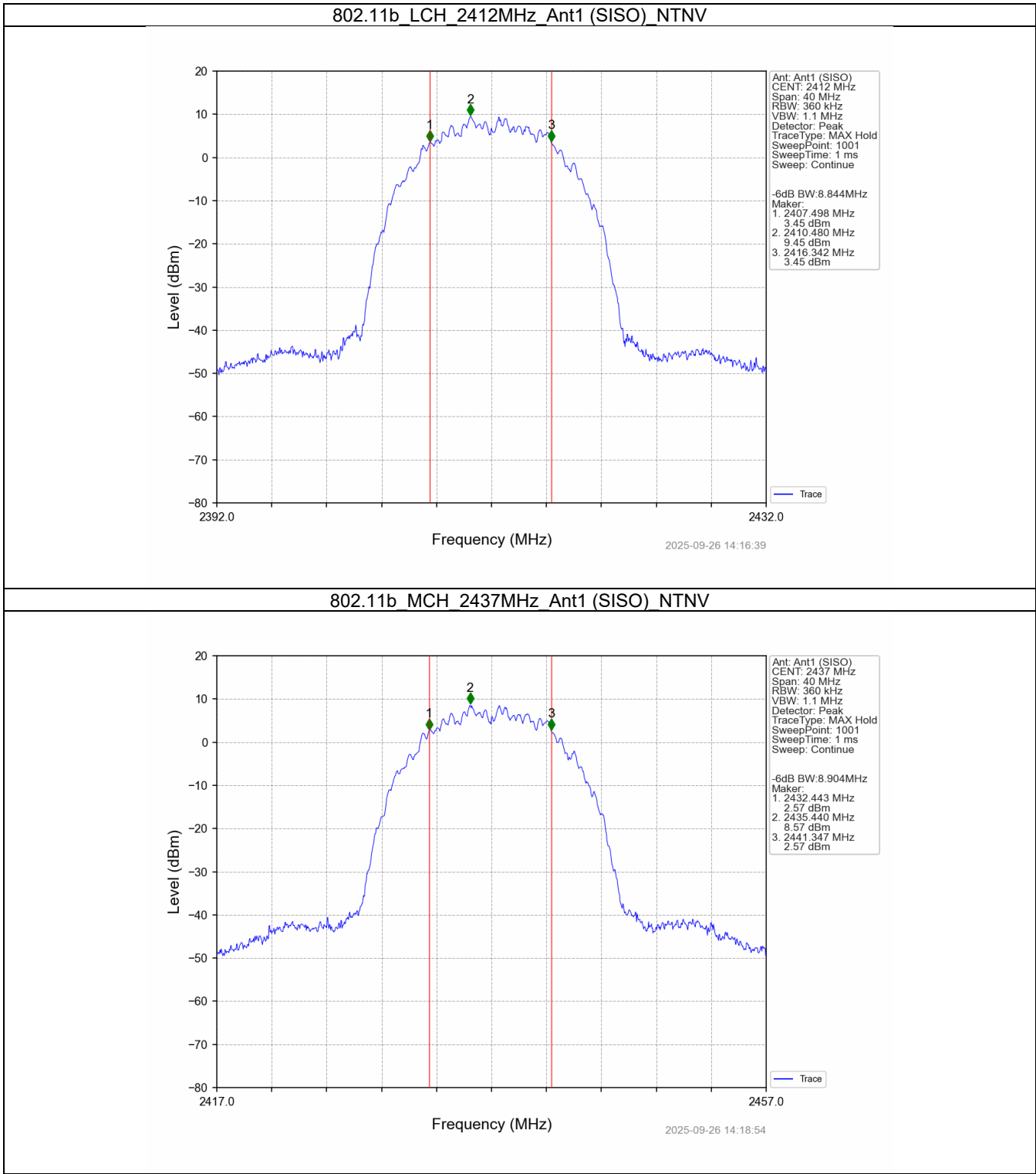
802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



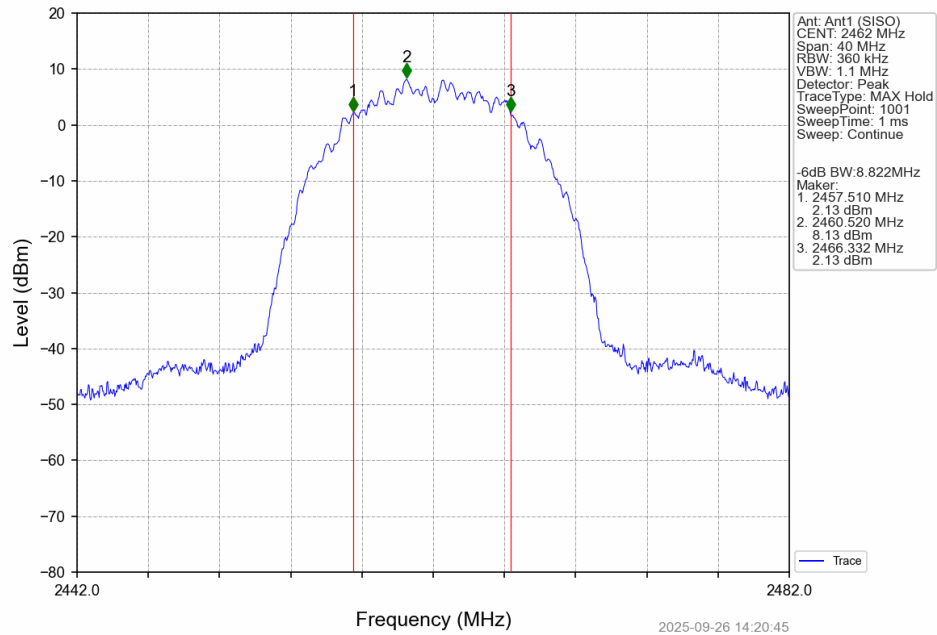
802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



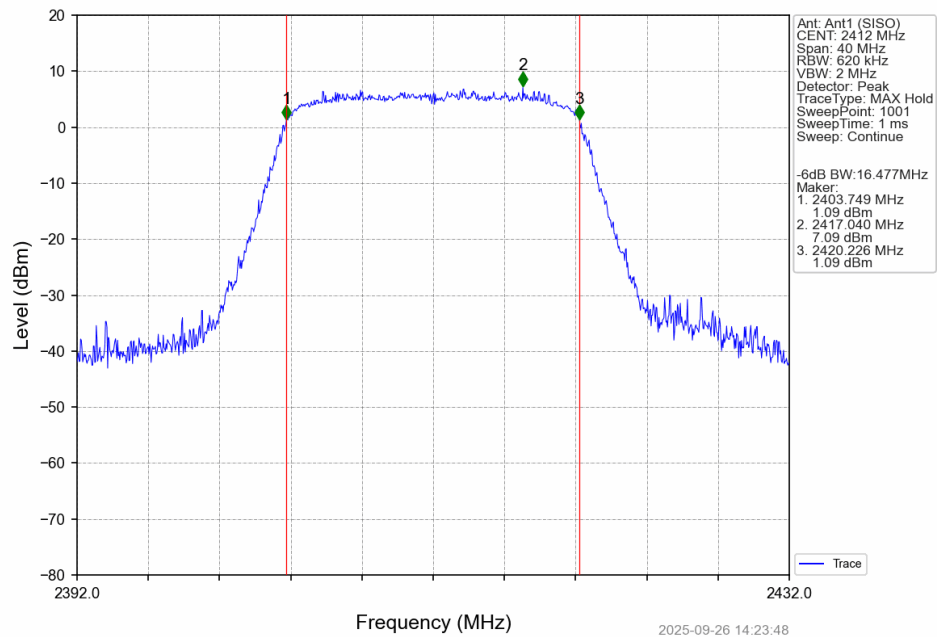
2.2.2 6dB BW



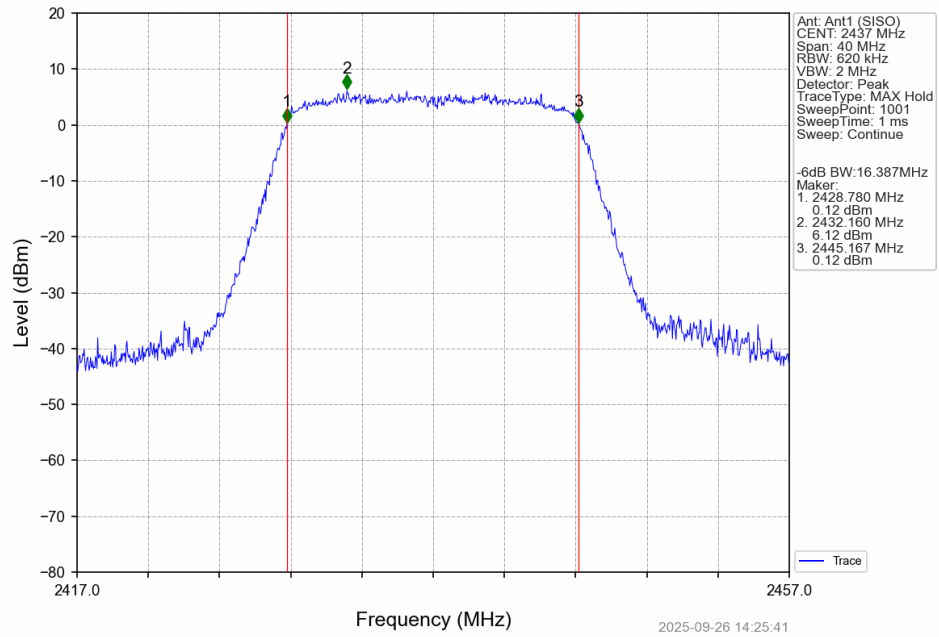
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



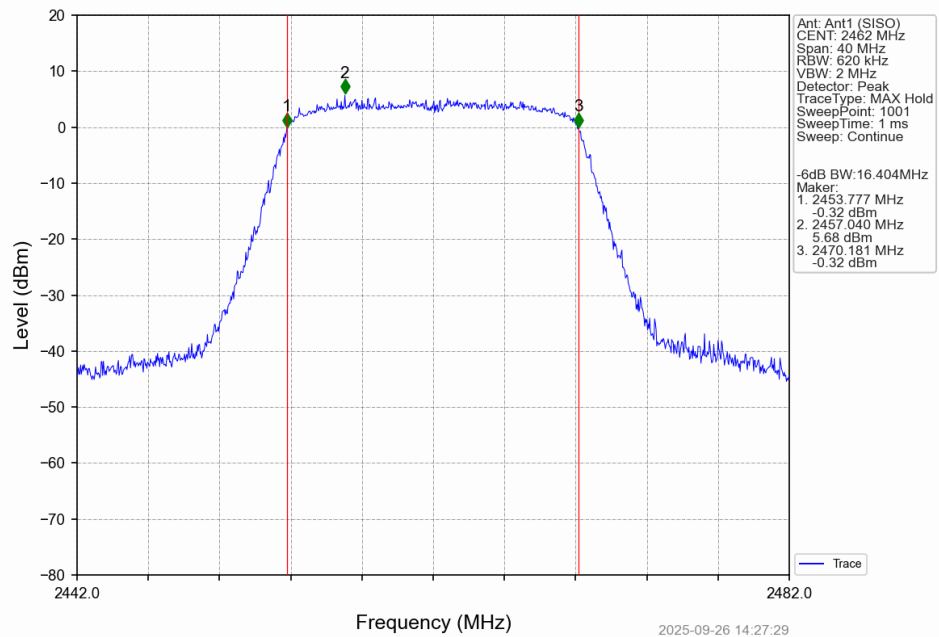
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



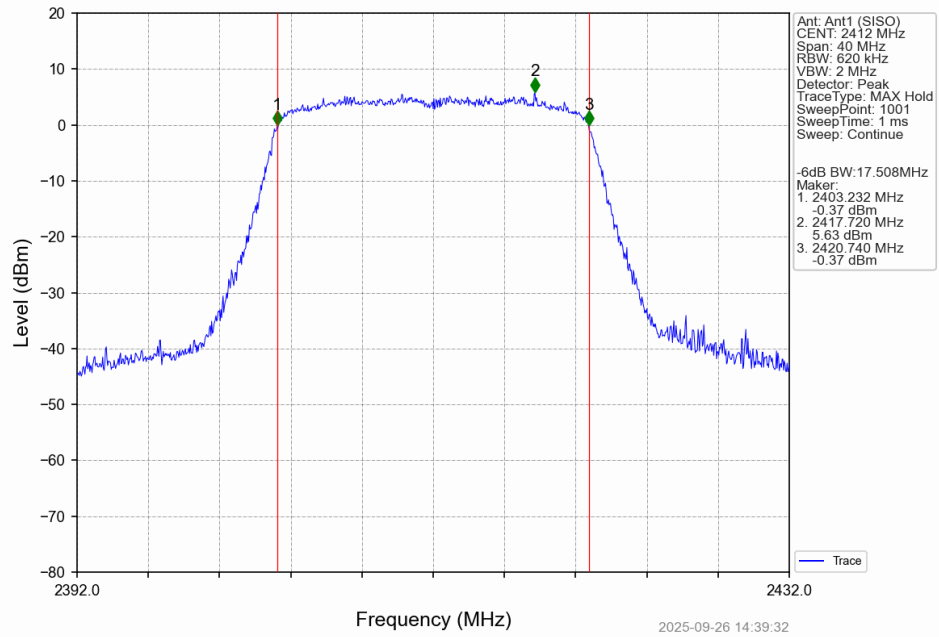
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



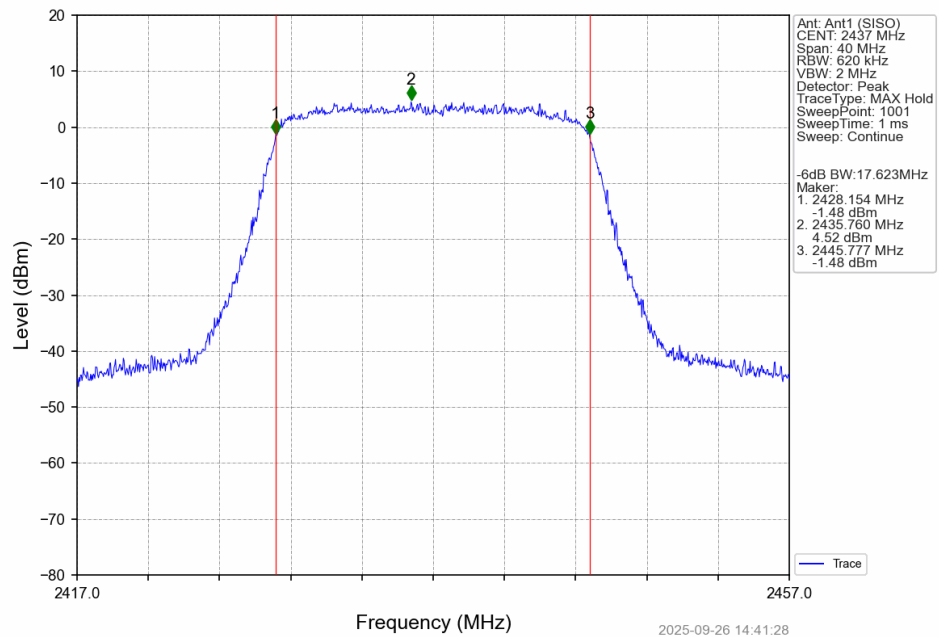
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



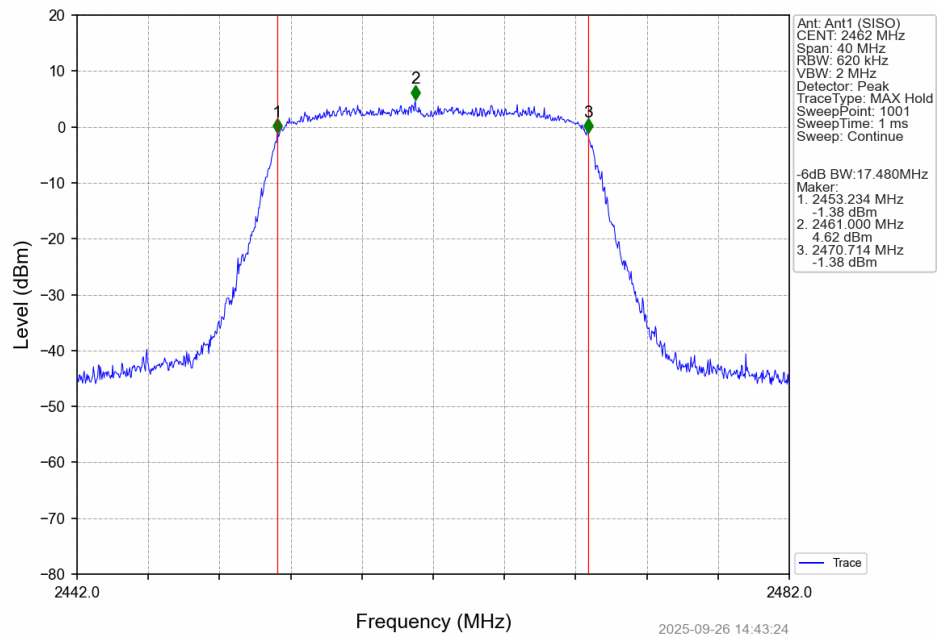
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



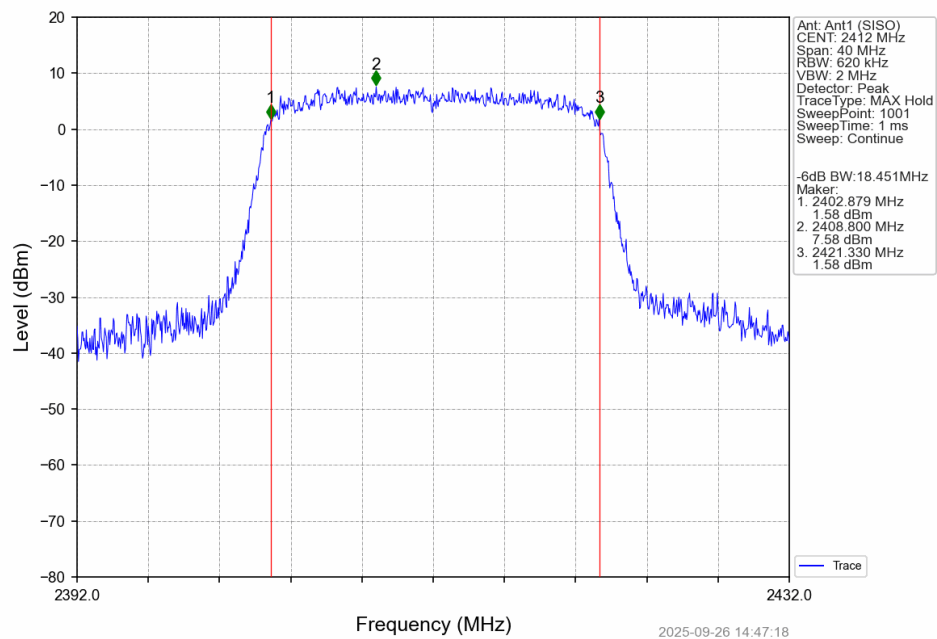
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



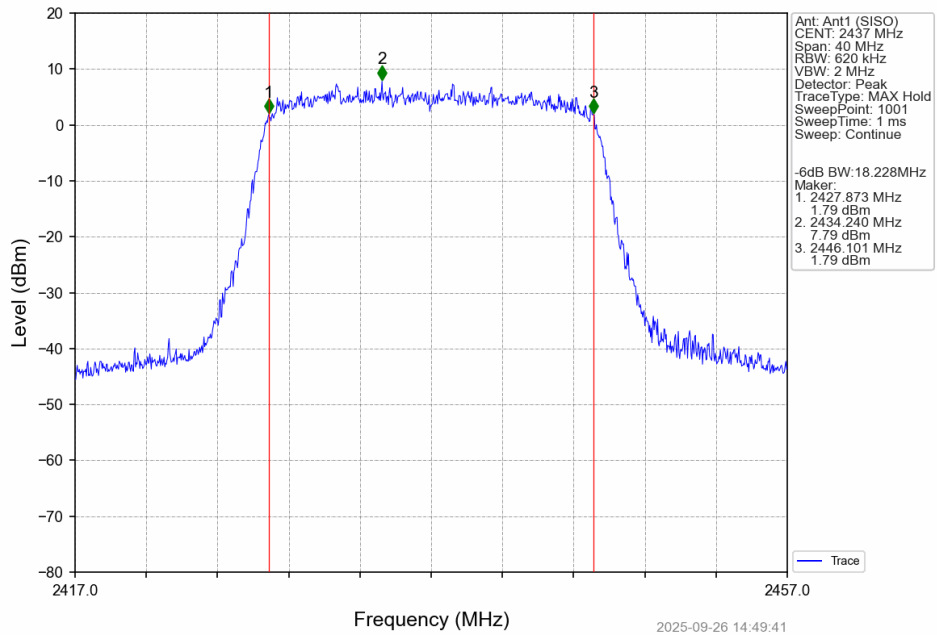
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



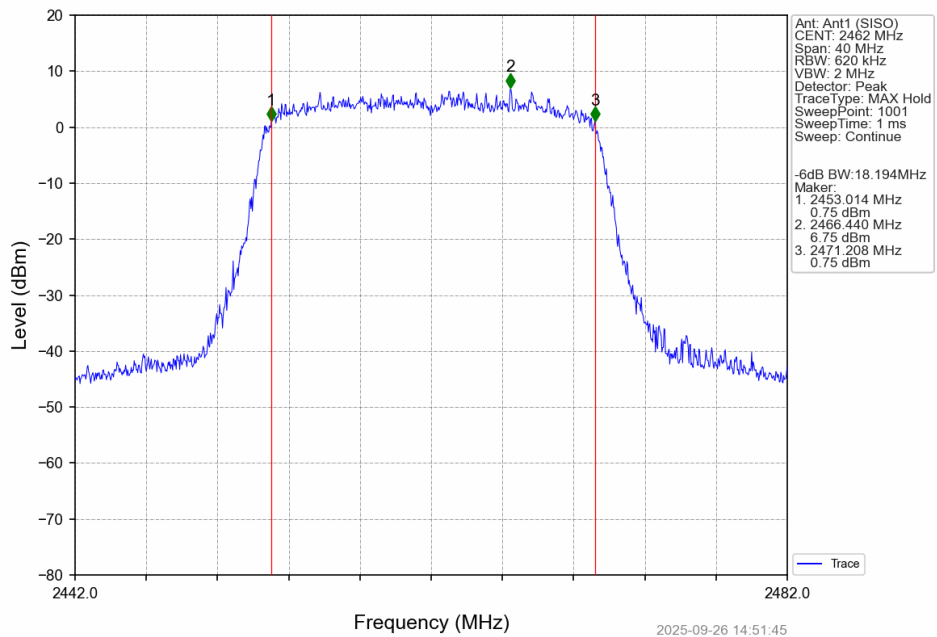
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_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	
802.11b	SISO	2412	19.75	<=30	Pass
		2437	18.97	<=30	Pass
		2462	18.43	<=30	Pass
802.11g	SISO	2412	19.86	<=30	Pass
		2437	18.89	<=30	Pass
		2462	18.30	<=30	Pass
802.11n (HT20)	SISO	2412	18.85	<=30	Pass
		2437	17.83	<=30	Pass
		2462	17.31	<=30	Pass
802.11ax (HEW20)	SISO	2412	20.01	<=30	Pass
		2437	19.15	<=30	Pass
		2462	18.48	<=30	Pass

4. Maximum Power Spectral Density

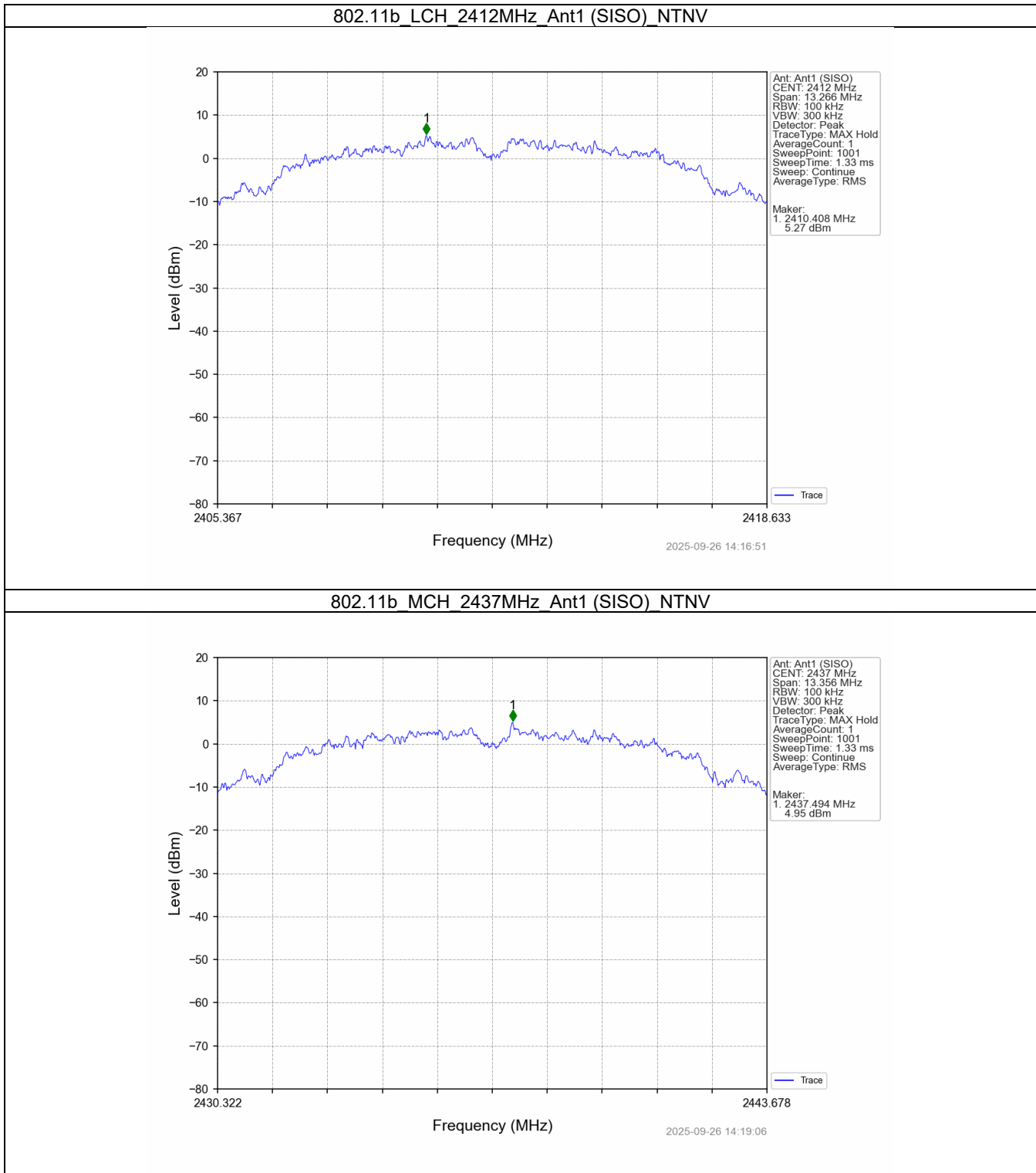
4.1 Test Result

4.1.1 PSD

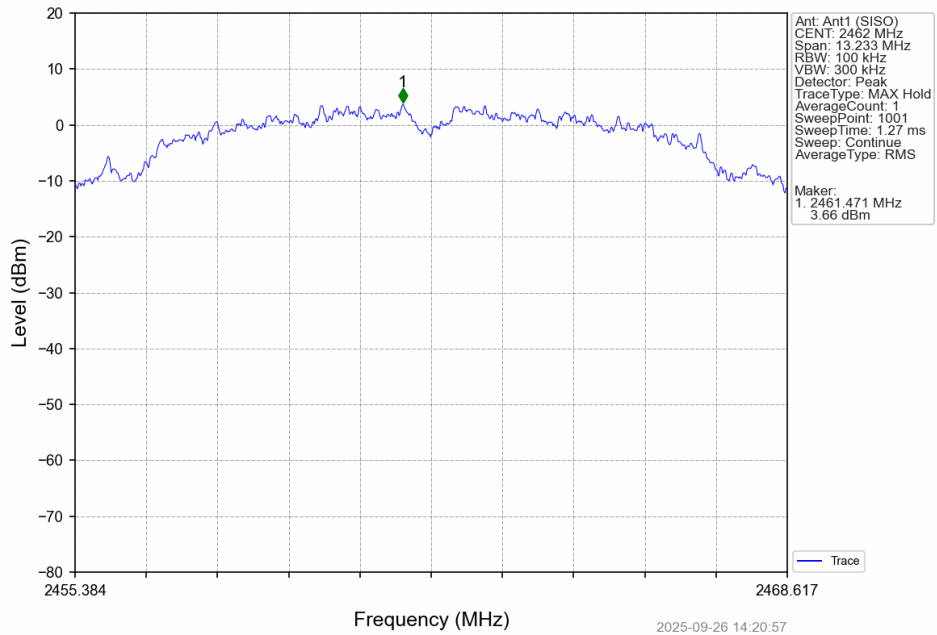
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	5.27	<=8	Pass
		2437	4.95	<=8	Pass
		2462	3.66	<=8	Pass
802.11g	SISO	2412	0.64	<=8	Pass
		2437	0.29	<=8	Pass
		2462	-0.36	<=8	Pass
802.11n (HT20)	SISO	2412	-0.22	<=8	Pass
		2437	-1.39	<=8	Pass
		2462	-1.95	<=8	Pass
802.11ax (HEW20)	SISO	2412	0.29	<=8	Pass
		2437	-1.58	<=8	Pass
		2462	-2.20	<=8	Pass

4.2 Test Graph

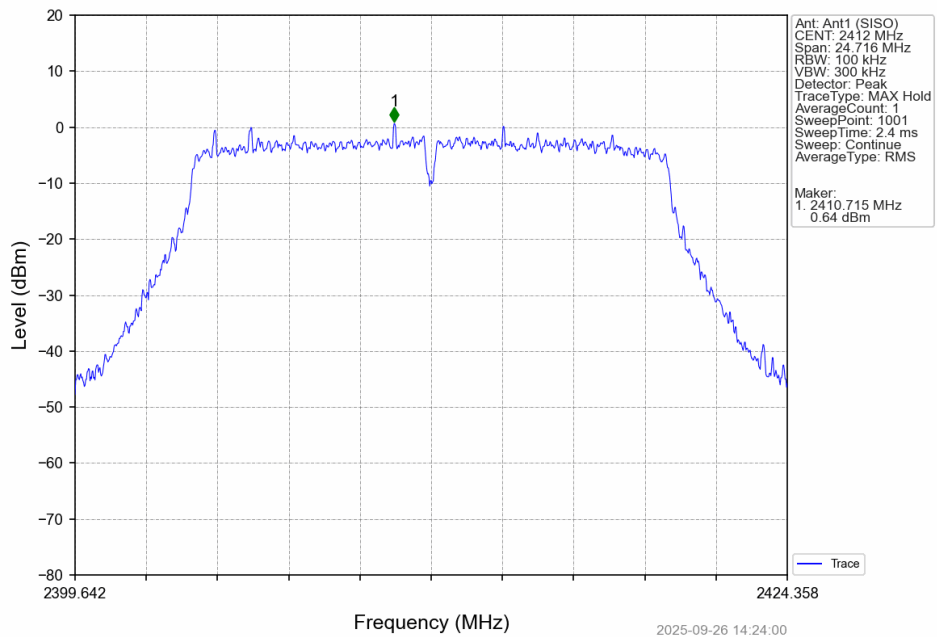
4.2.1 PSD



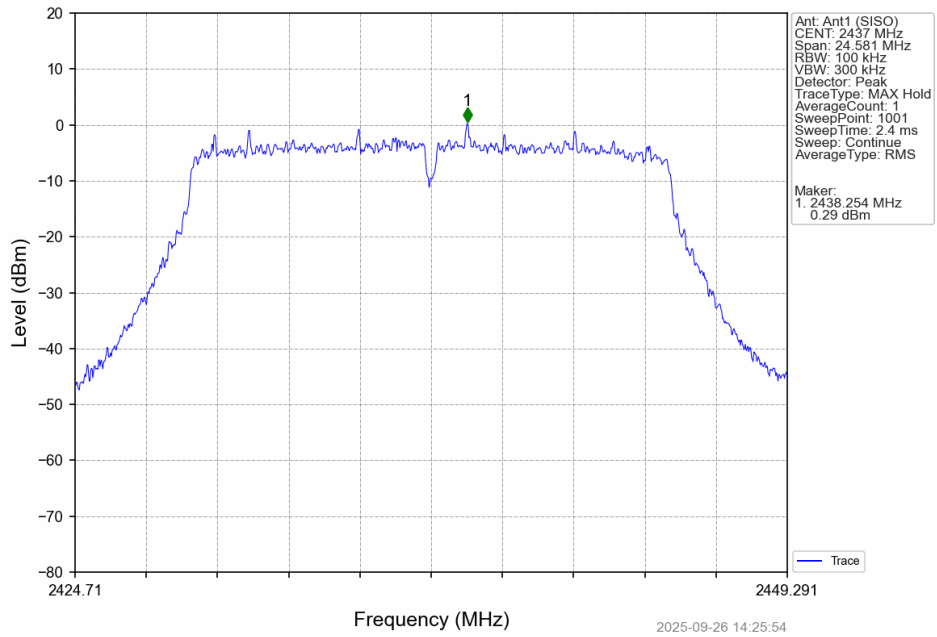
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



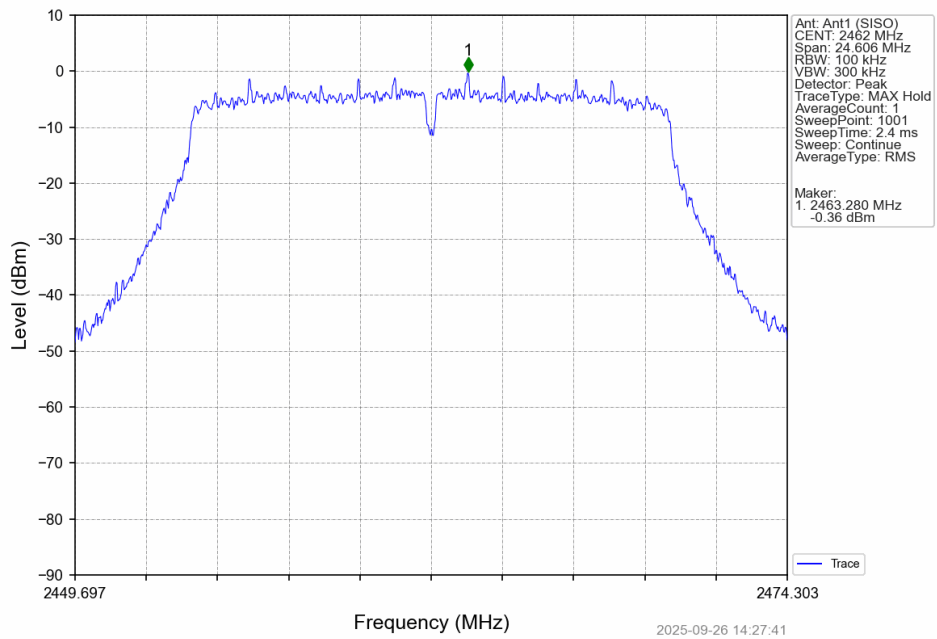
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



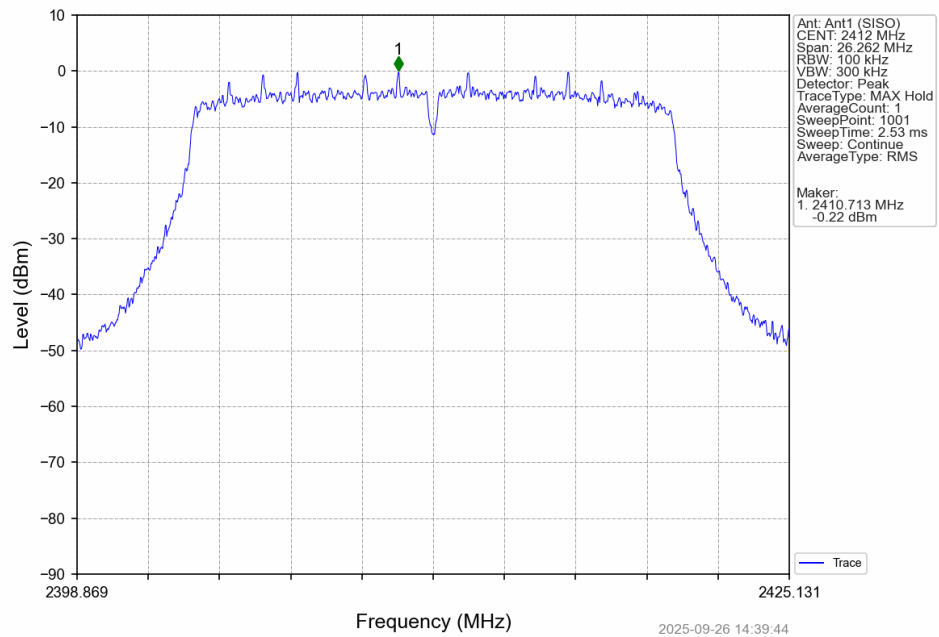
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



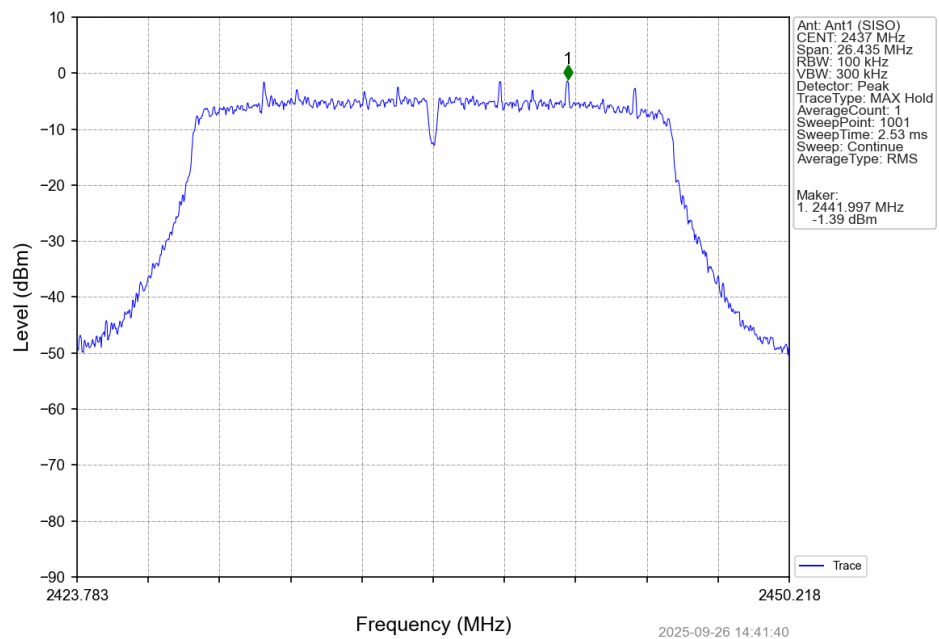
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



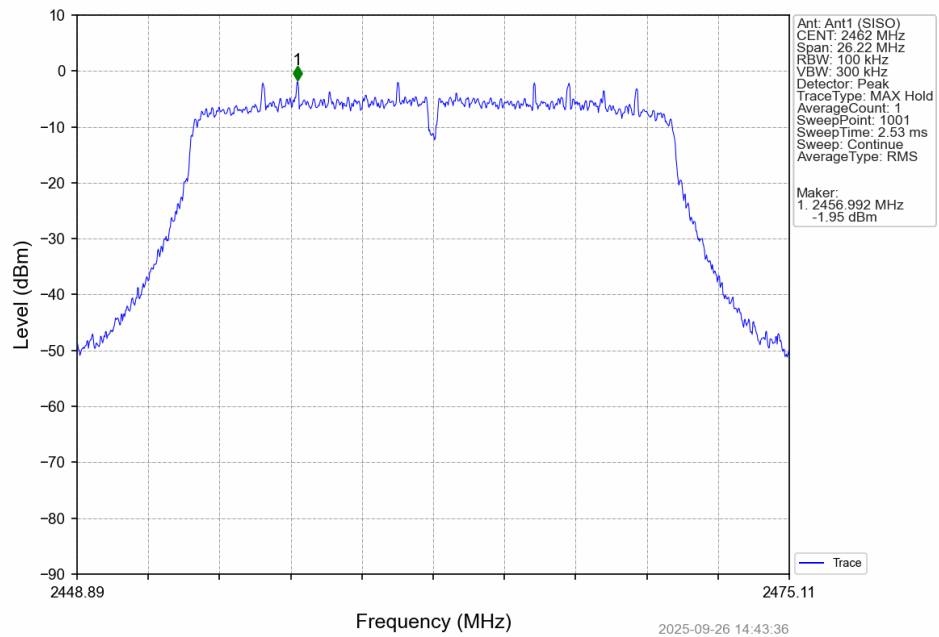
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



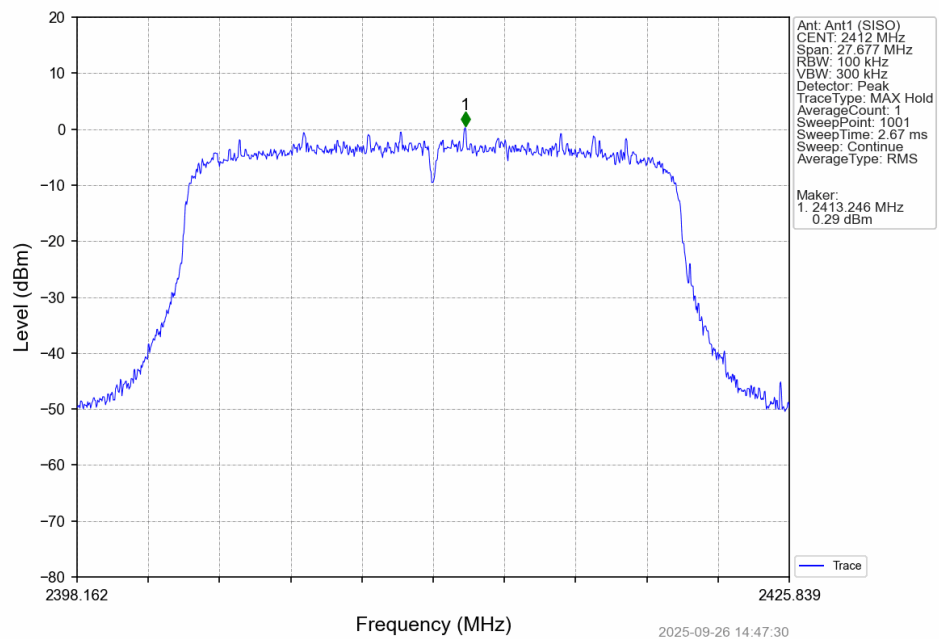
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



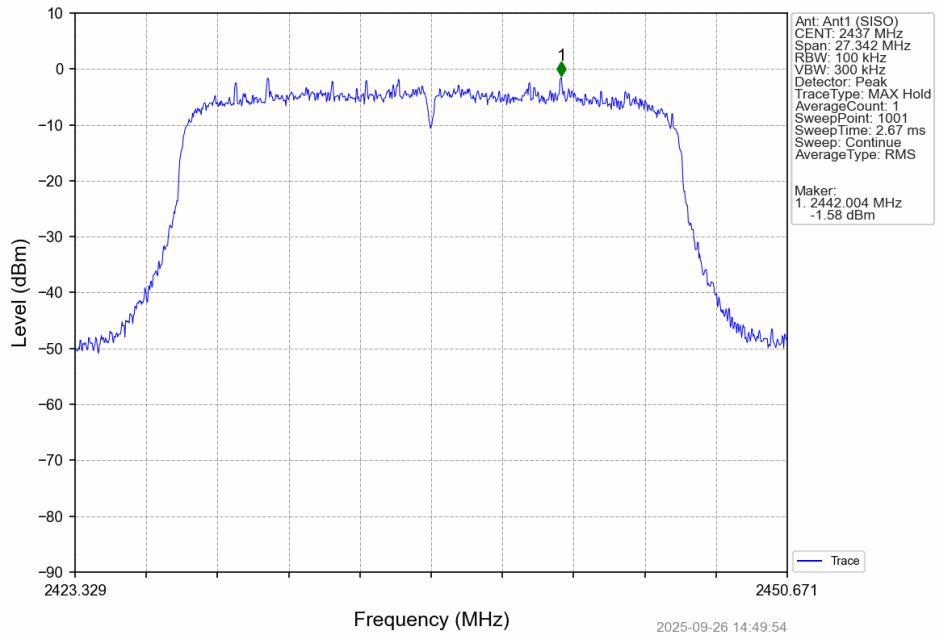
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



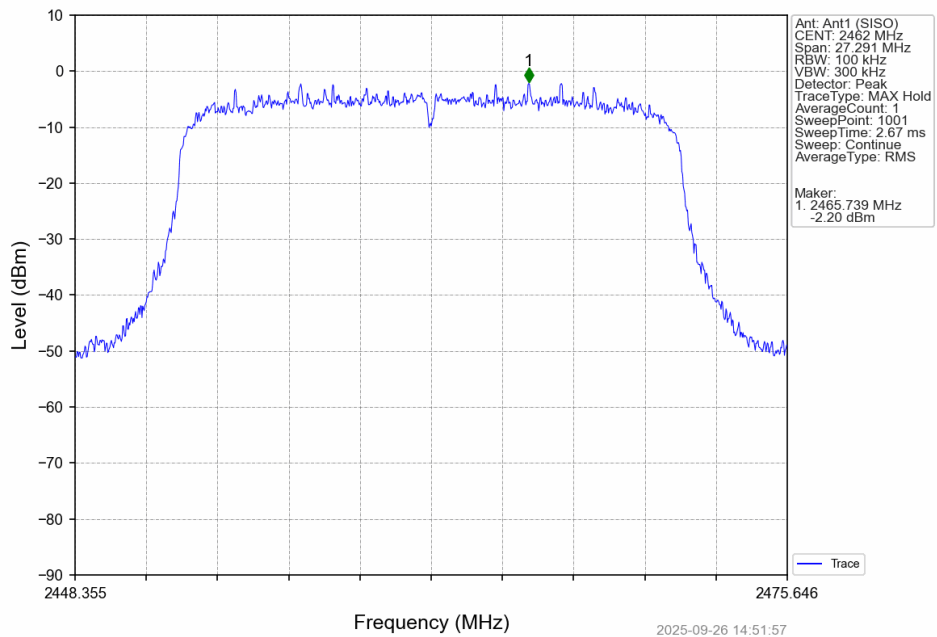
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

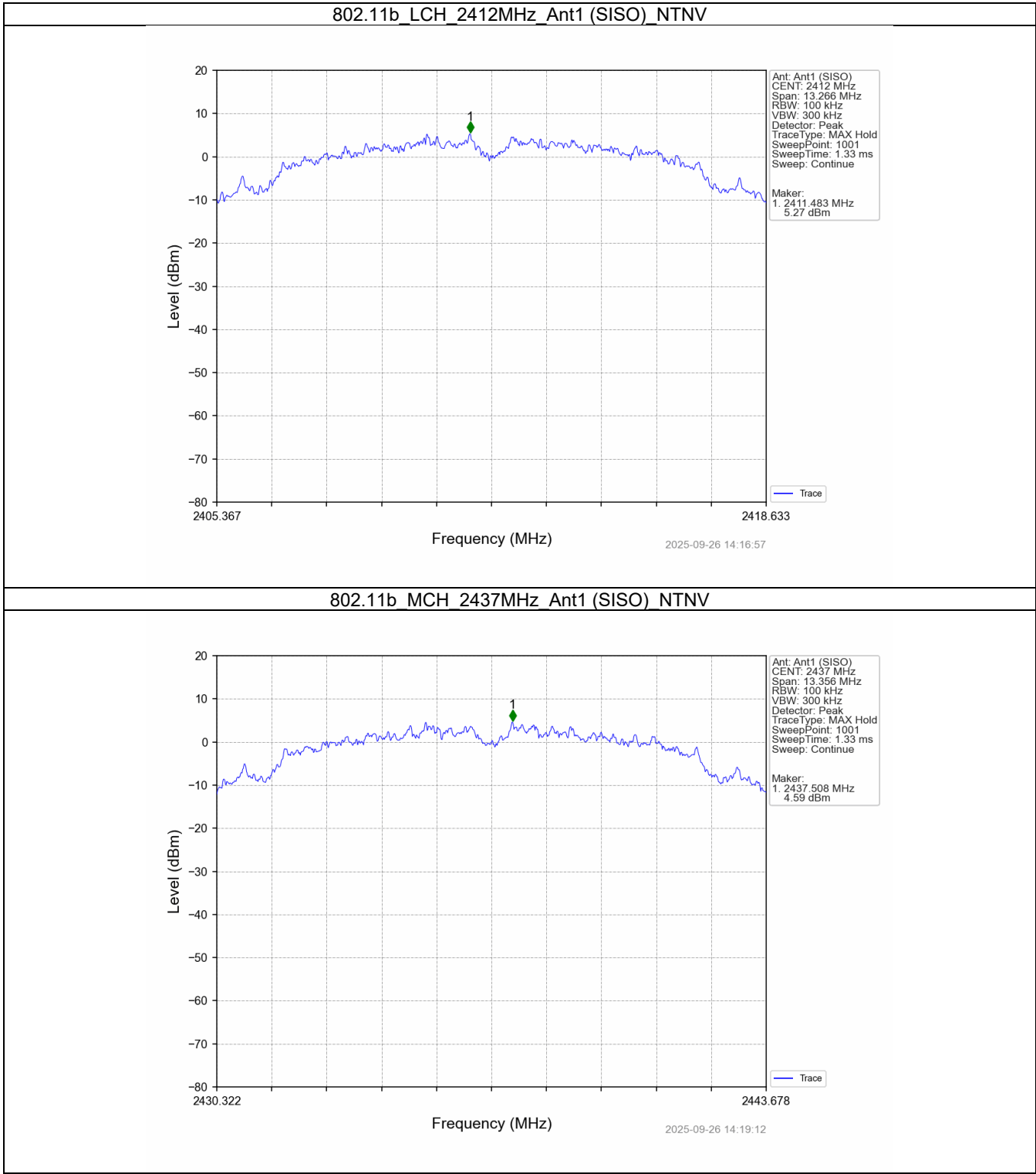
Mode	Tx Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	5.27
		2437	1	4.59
		2462	1	3.76
802.11g	SISO	2412	1	0.09
		2437	1	-0.09
		2462	1	-0.22
802.11n (HT20)	SISO	2412	1	0.32
		2437	1	-0.75
		2462	1	-1.26
802.11ax (HEW20)	SISO	2412	1	-0.32
		2437	1	-1.29
		2462	1	-1.95
Note1: Refer 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.				

5.1.2 CSE

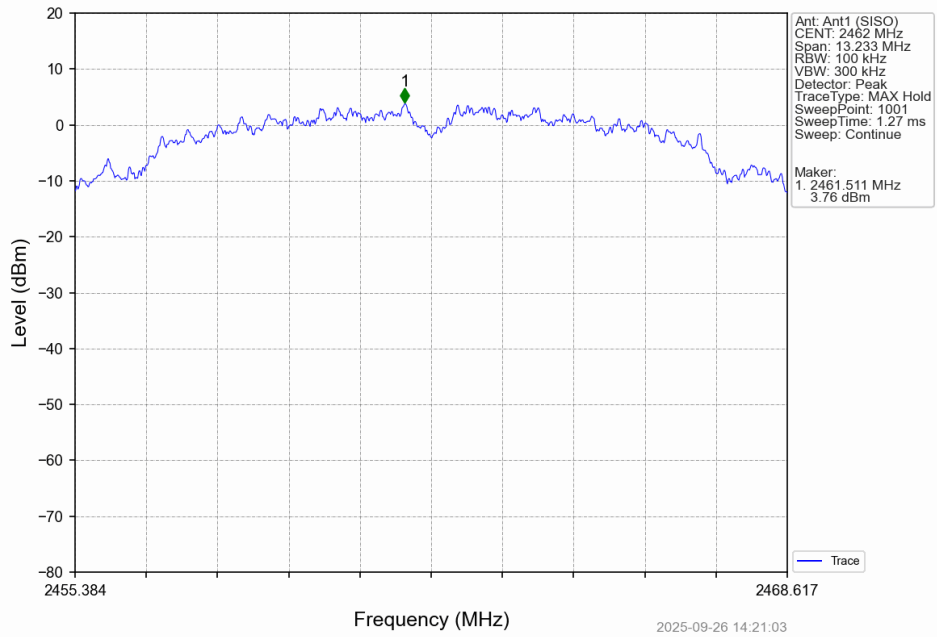
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	5.27	-14.73	Pass
		2437	1	5.27	-14.73	Pass
		2462	1	5.27	-14.73	Pass
802.11g	SISO	2412	1	0.09	-19.91	Pass
		2437	1	0.09	-19.91	Pass
		2462	1	0.09	-19.91	Pass
802.11n (HT20)	SISO	2412	1	0.32	-19.68	Pass
		2437	1	0.32	-19.68	Pass
		2462	1	0.32	-19.68	Pass
802.11ax (HEW20)	SISO	2412	1	-0.32	-20.32	Pass
		2437	1	-0.32	-20.32	Pass
		2462	1	-0.32	-20.32	Pass
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.						

5.2 Test Graph

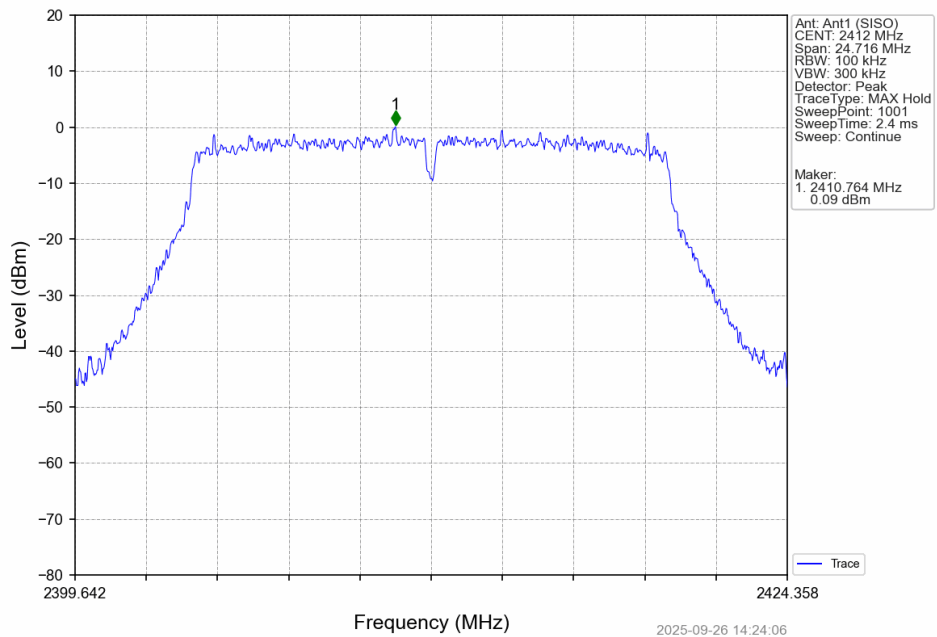
5.2.1 Ref



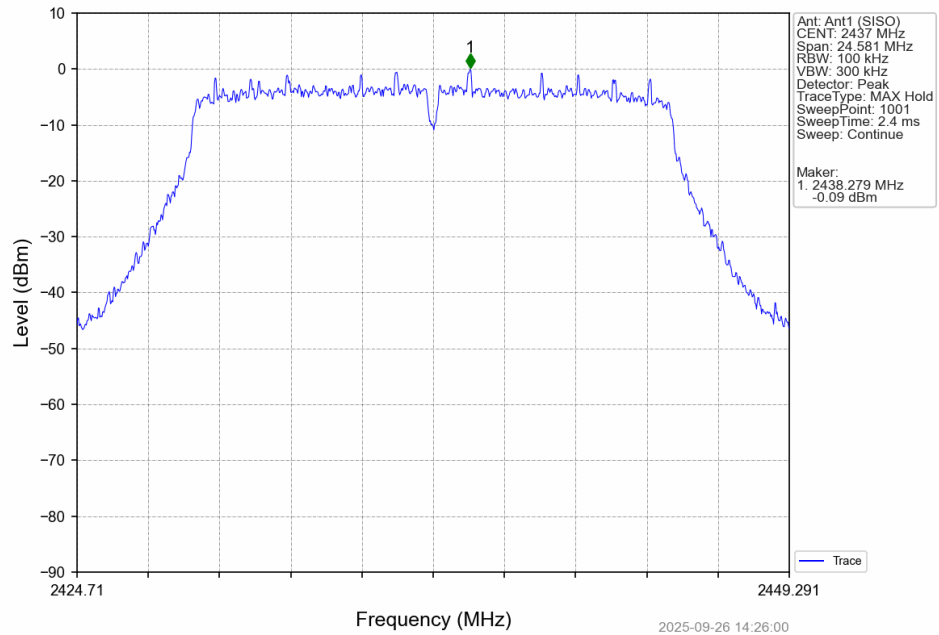
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



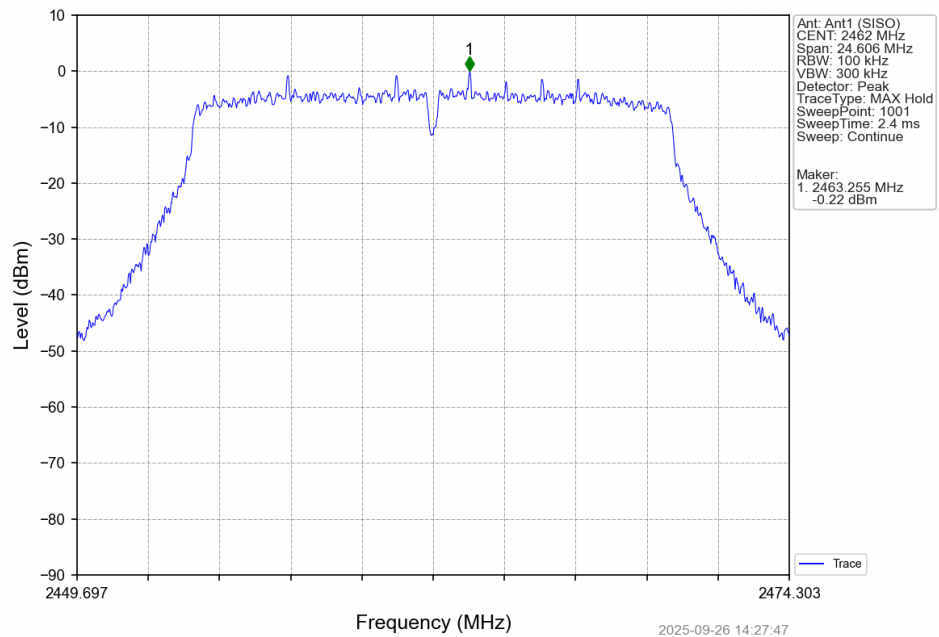
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



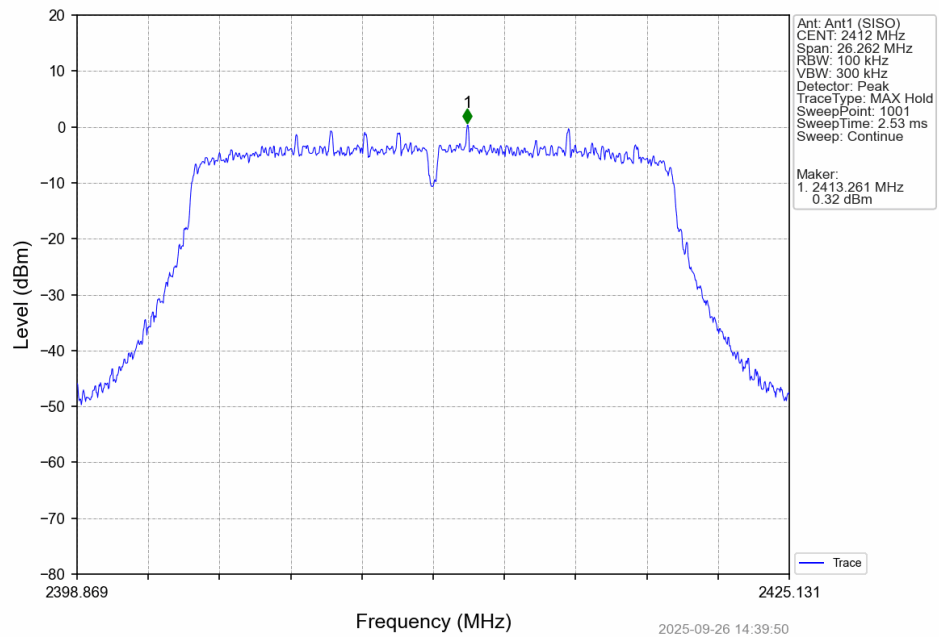
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



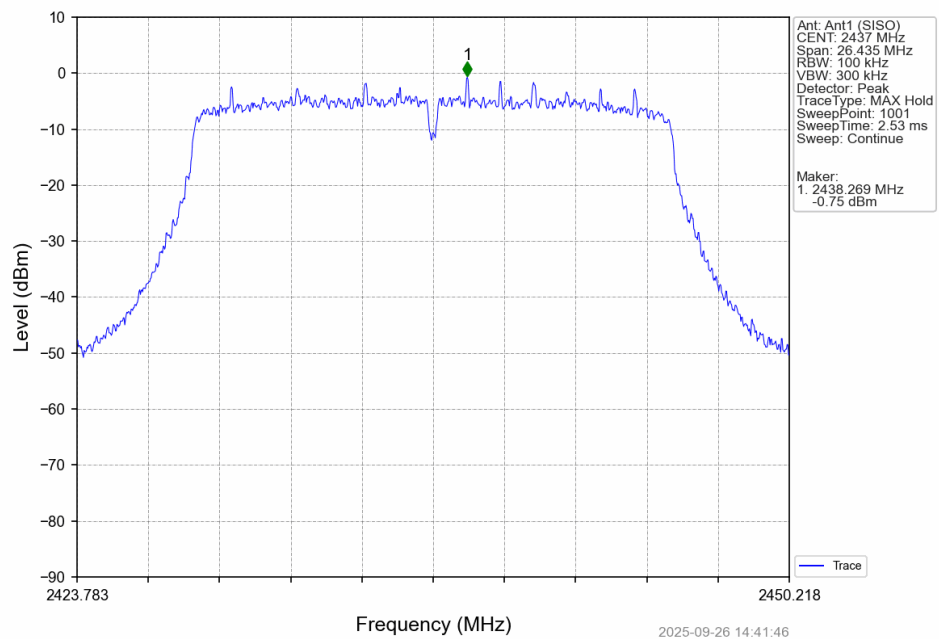
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



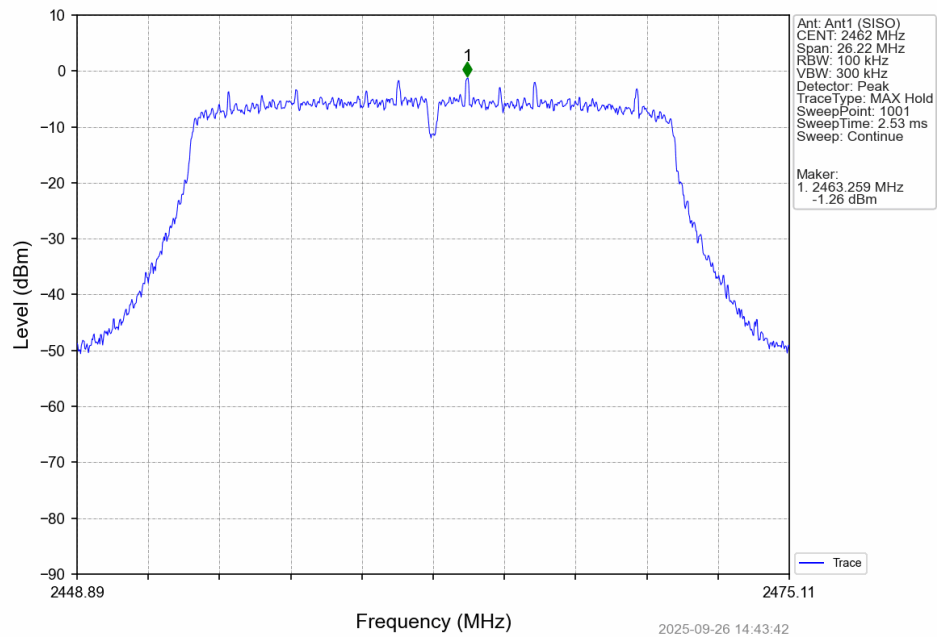
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



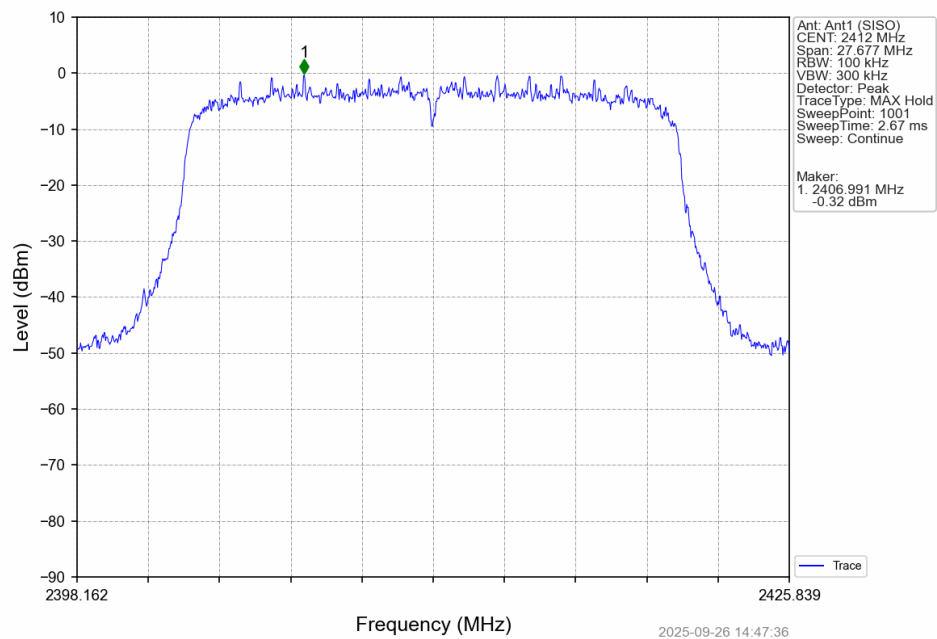
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



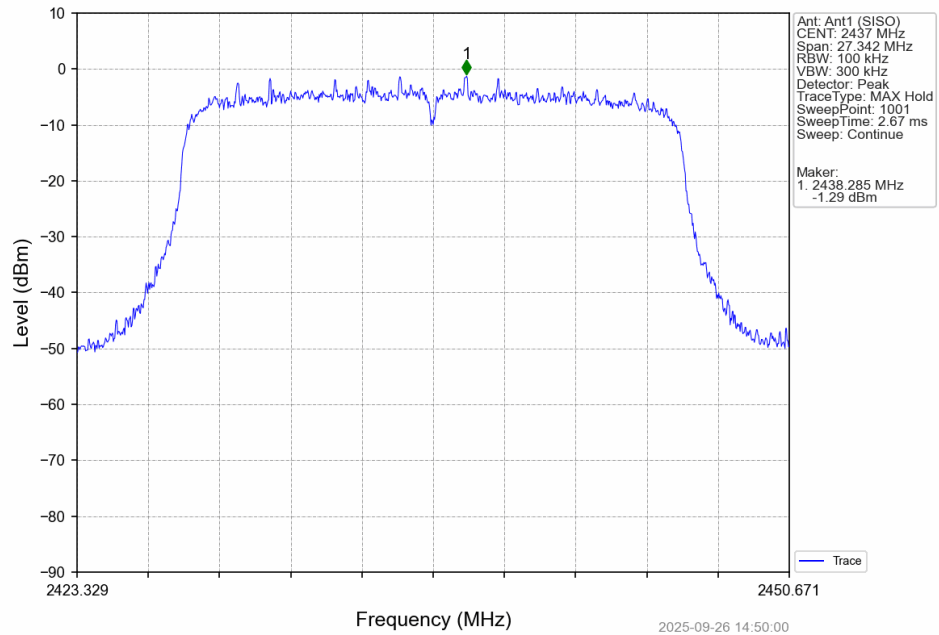
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



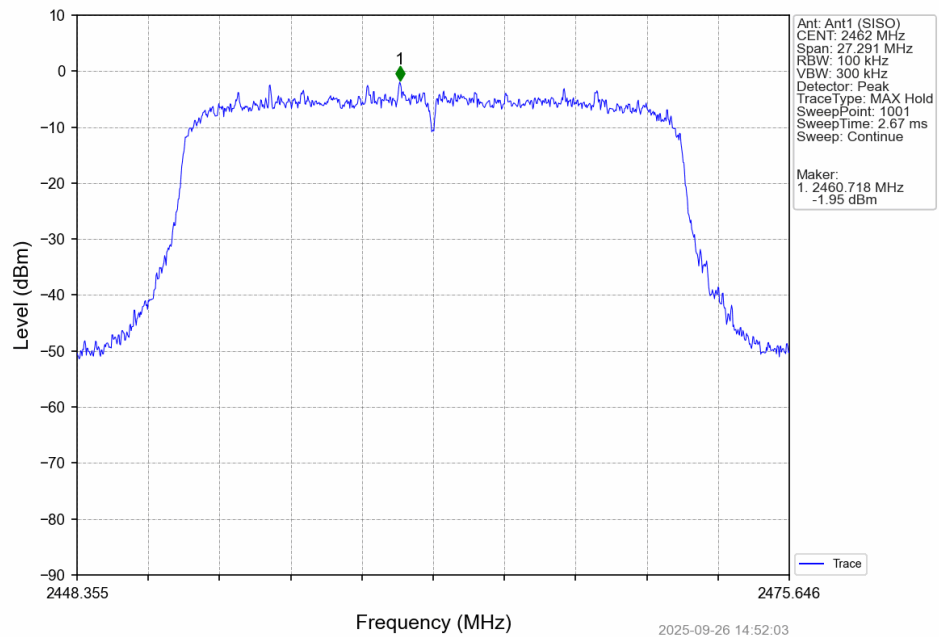
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



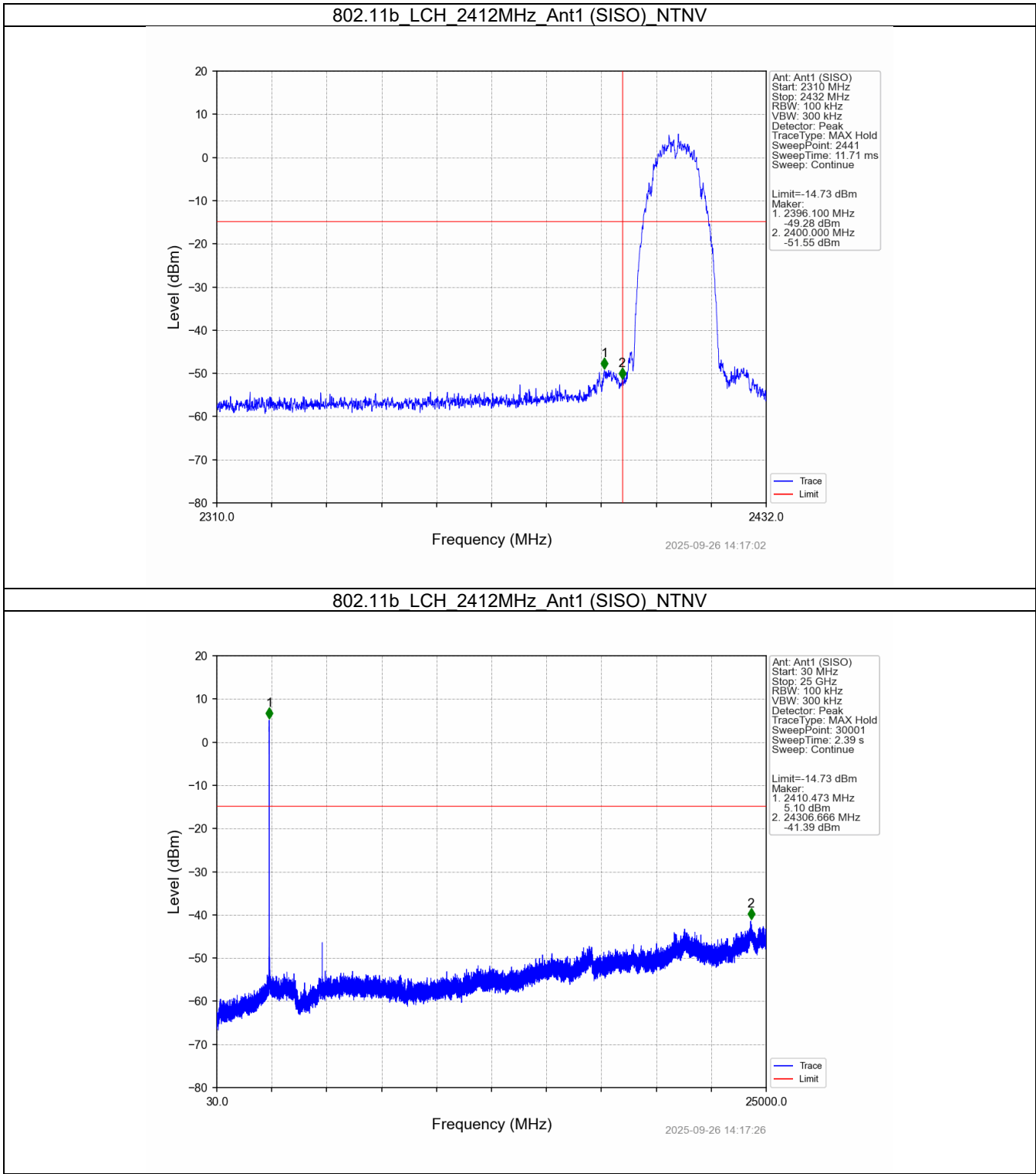
802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



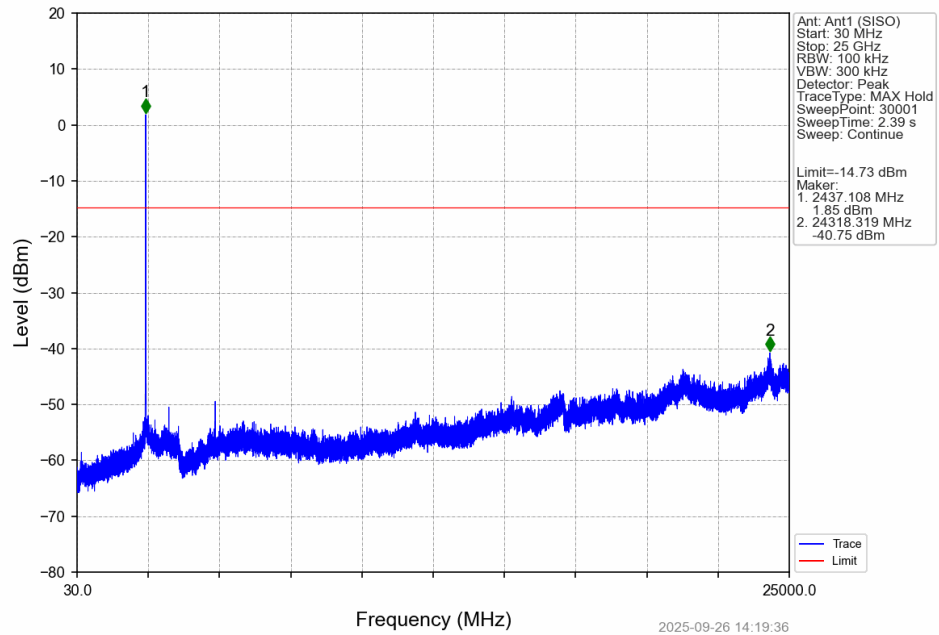
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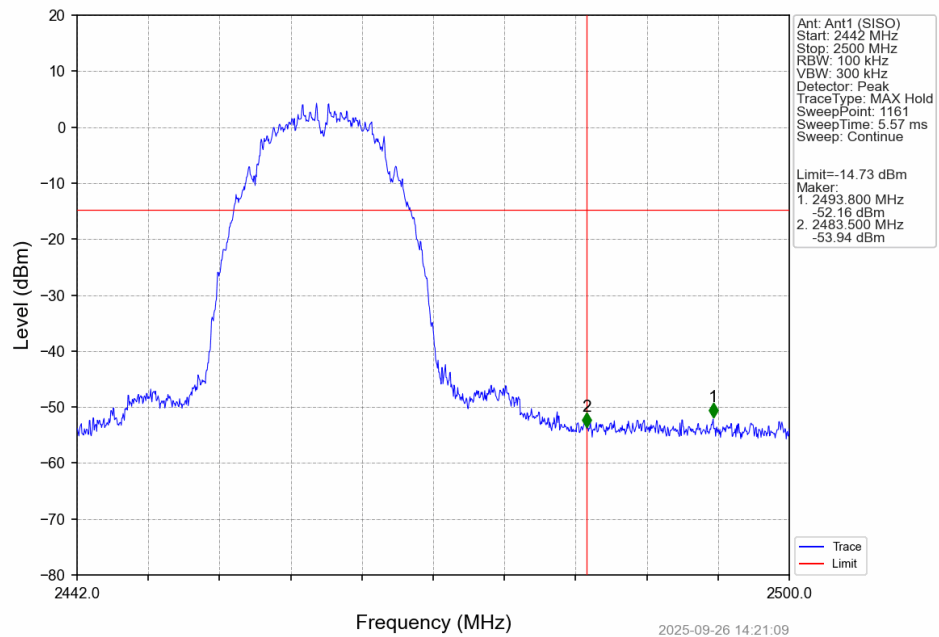
5.2.2 CSE



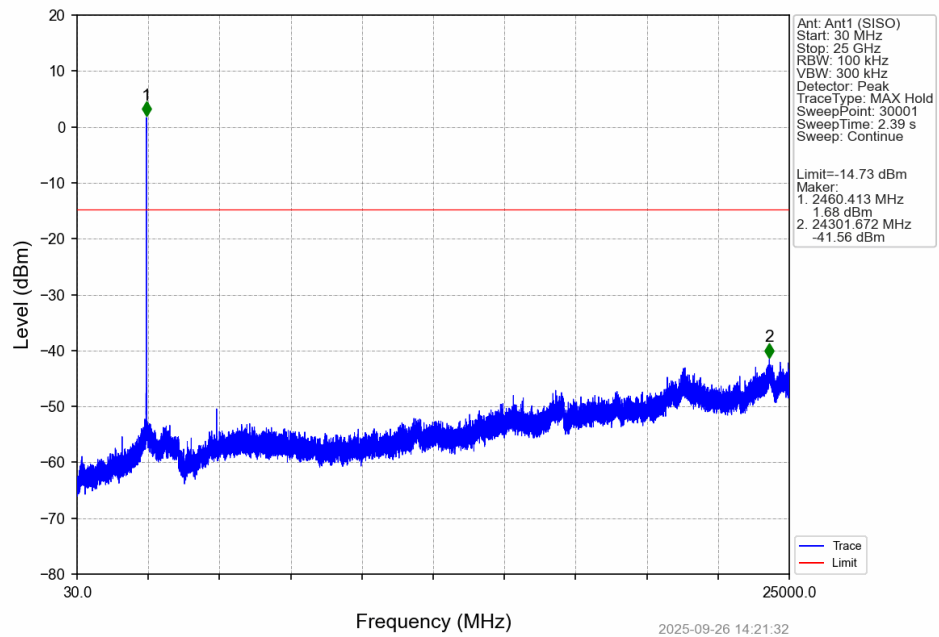
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



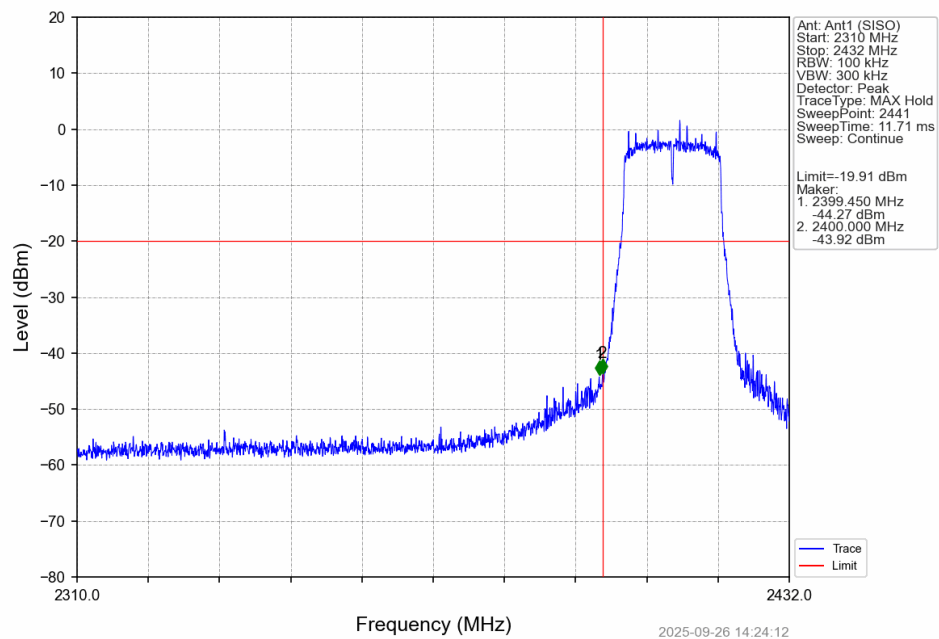
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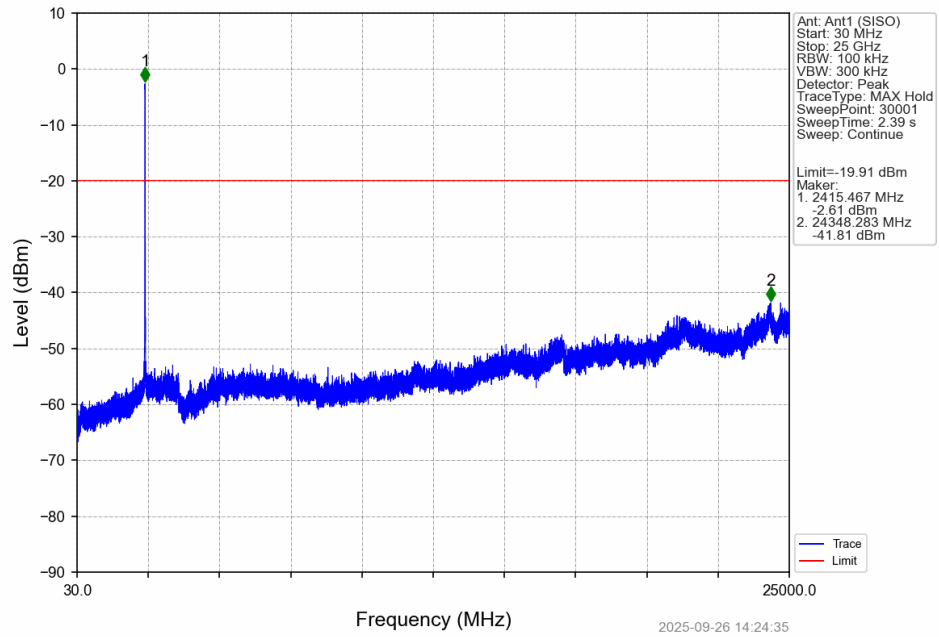
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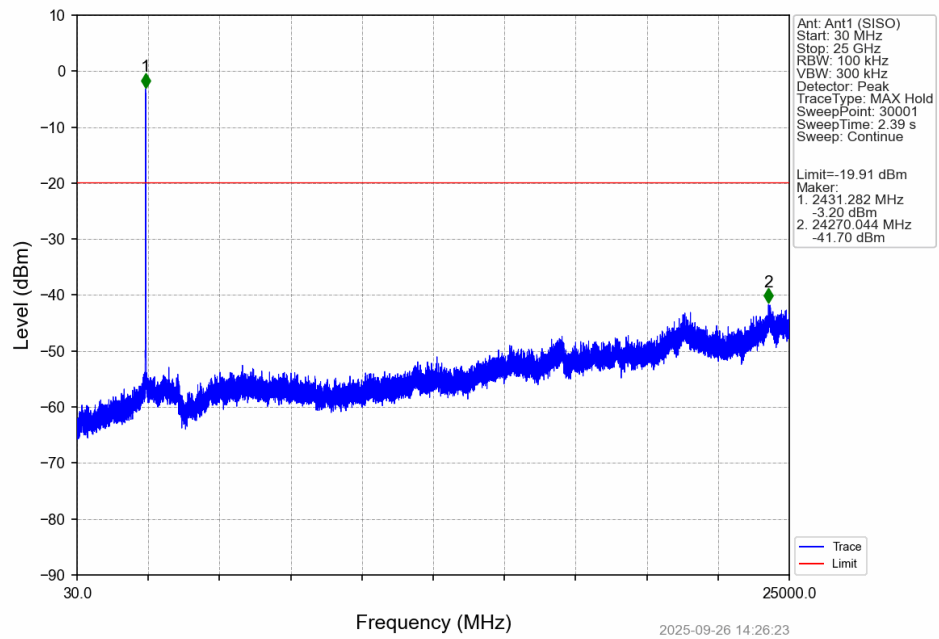
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



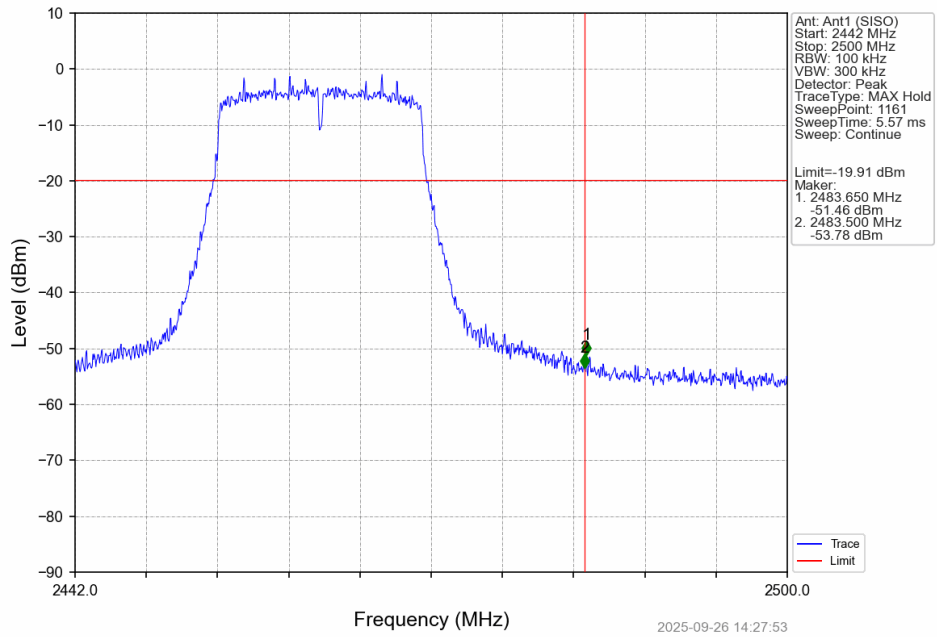
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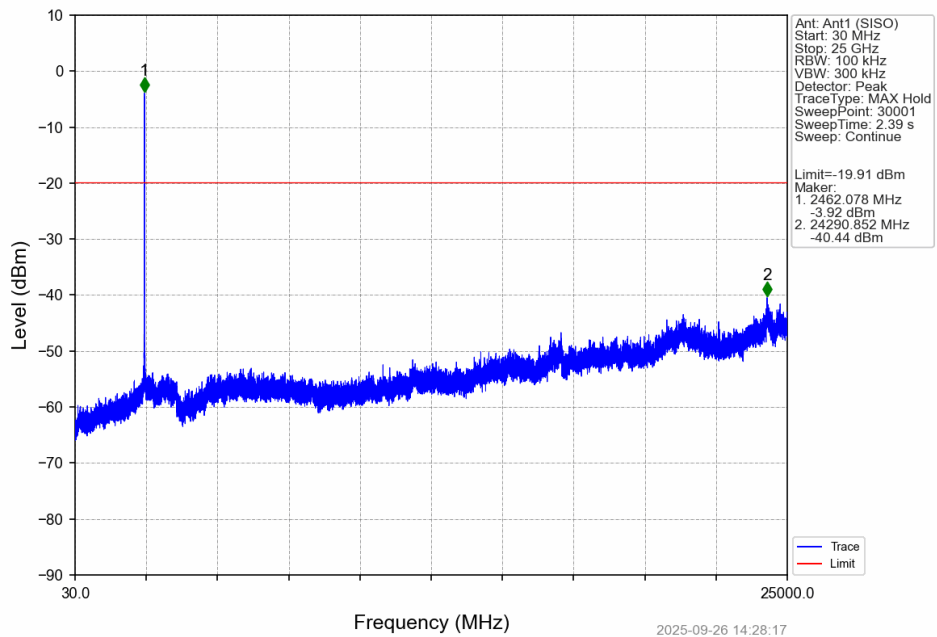
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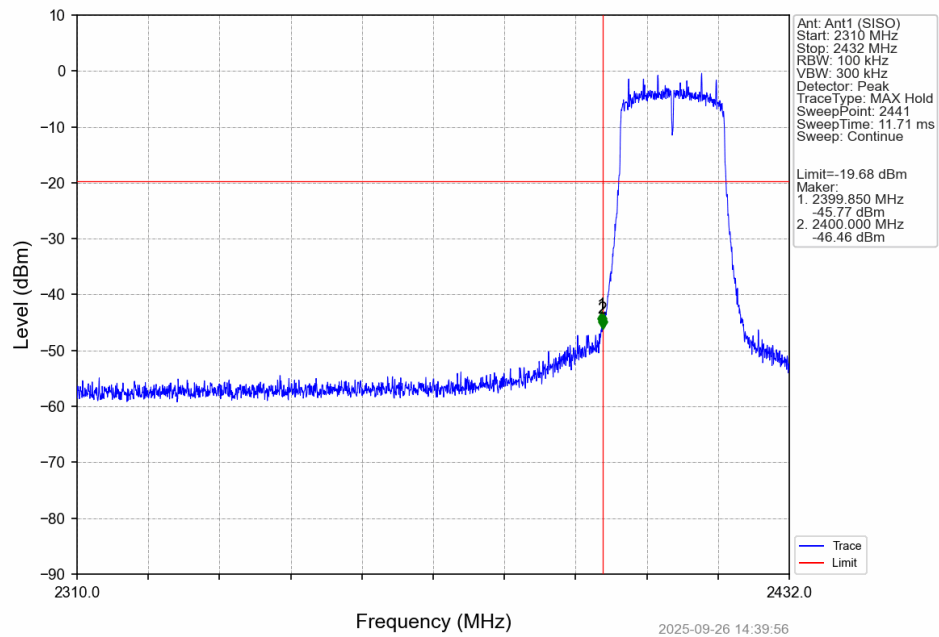
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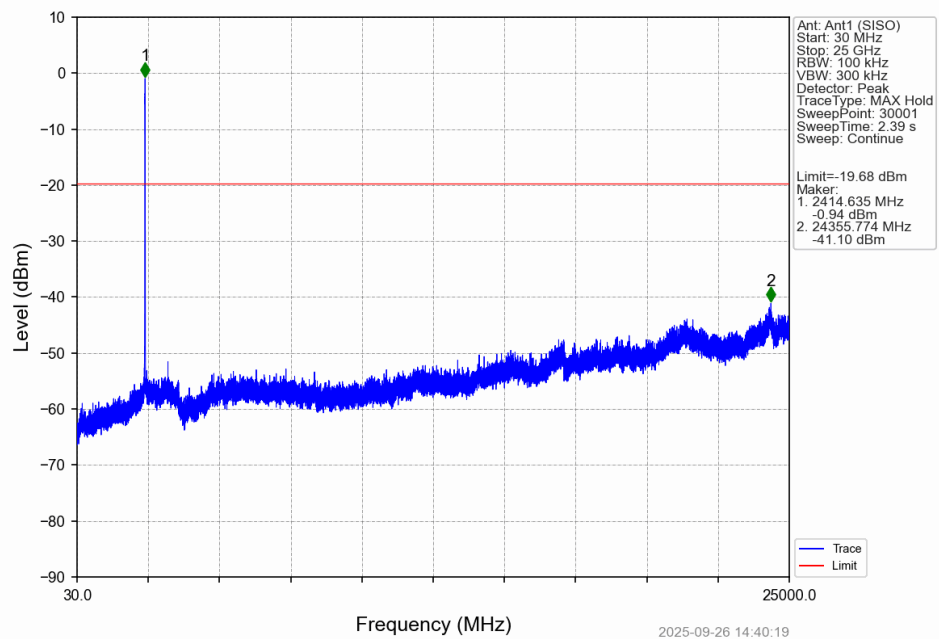
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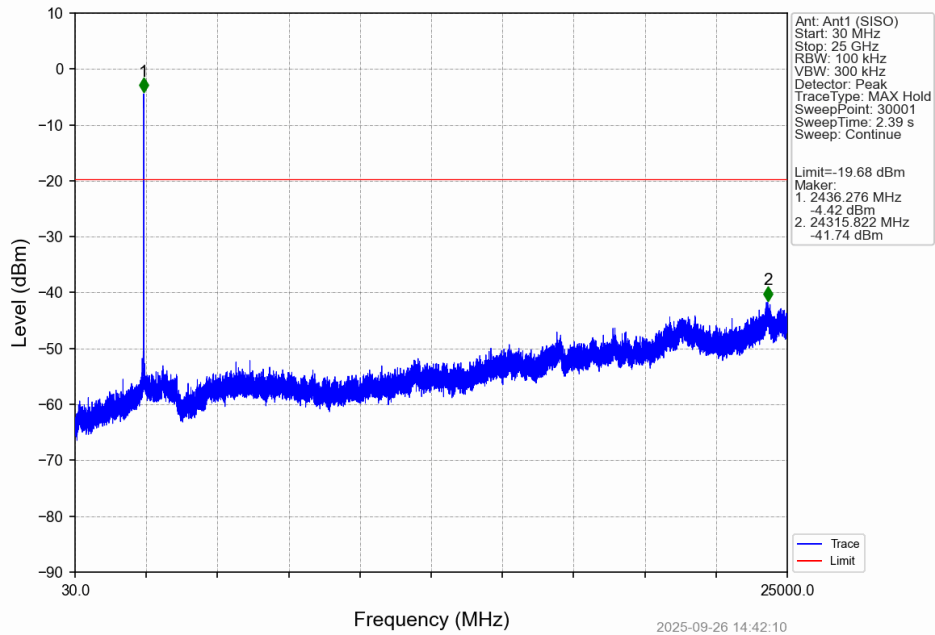
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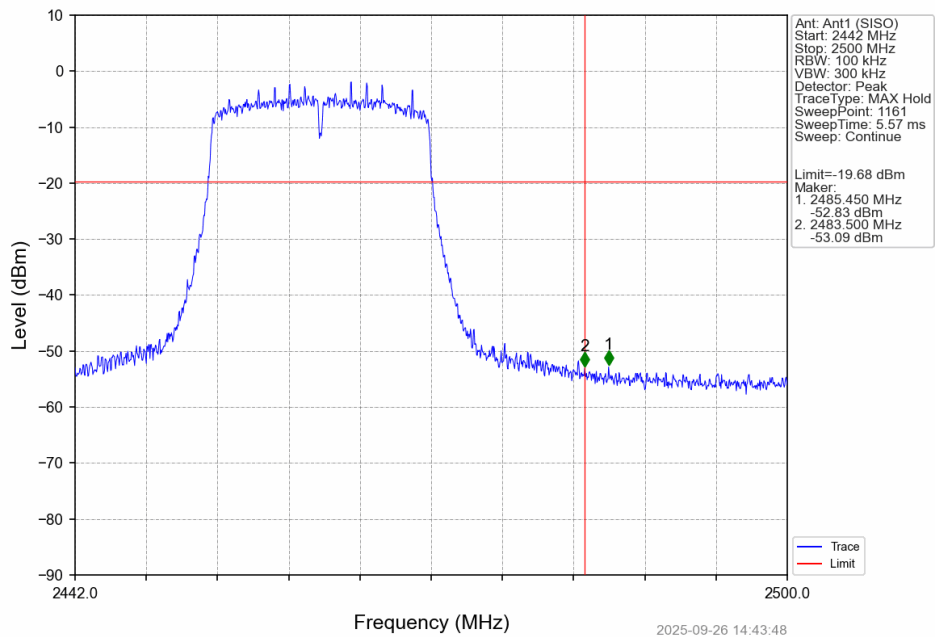
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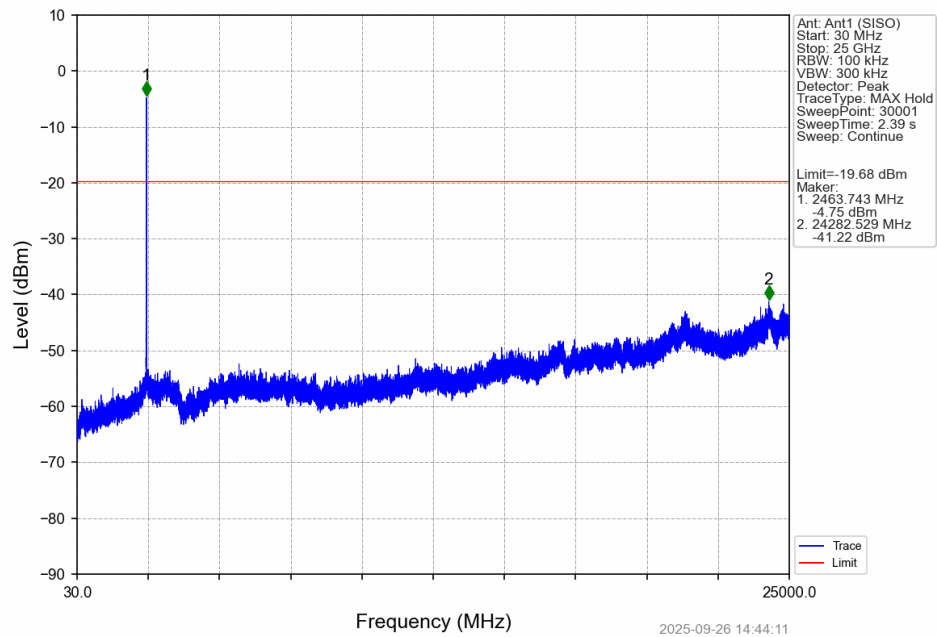
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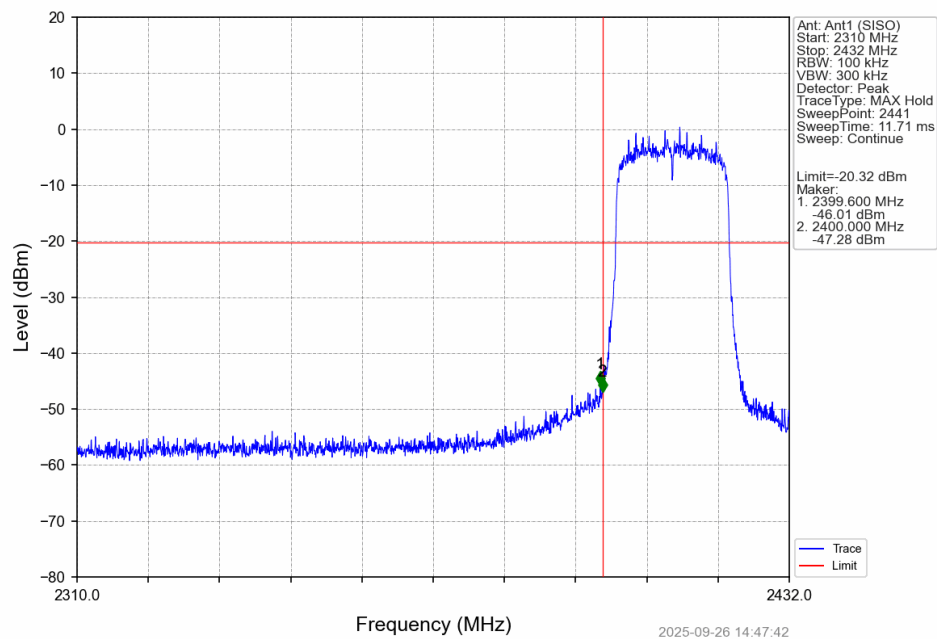
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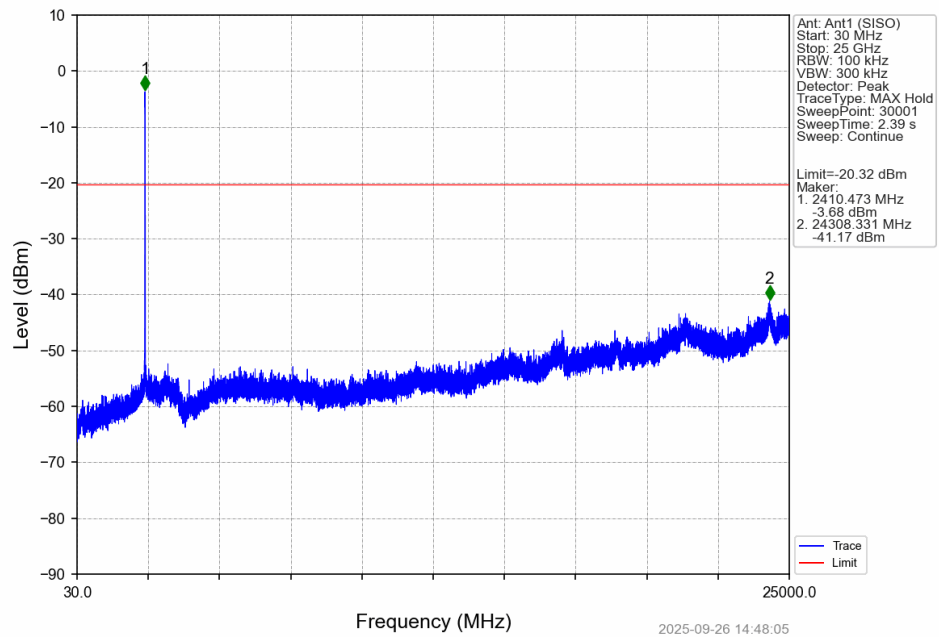
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



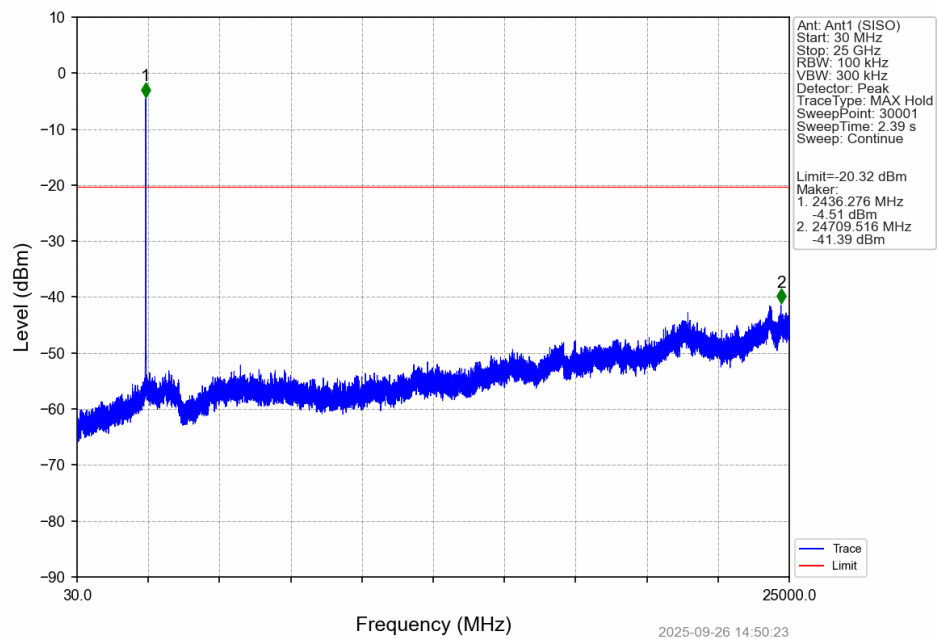
802.11ax(HEW20)_LCH_2412MHz_SU / _Ant1 (SISO)_NTNV



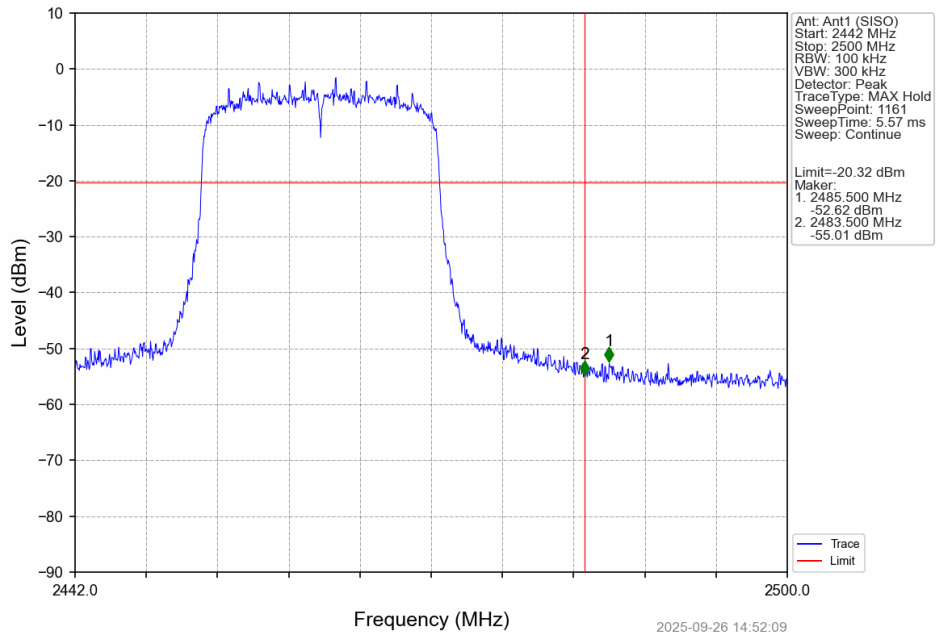
802.11ax(HEW20)_LCH_2412MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_MCH_2437MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV

