

Appendix RF Test Data for 2.4G WIFI

Company: : GUANGZHOU COEUS DIGITAL TECHNOLOGY CO.,LTD.

EUT : 3D holographic fan

FCC ID: : 2BVVR-P65

Model Number : P65

Report No. : HTT202602376F01

Reviewed By : Heber He

1. Duty Cycle

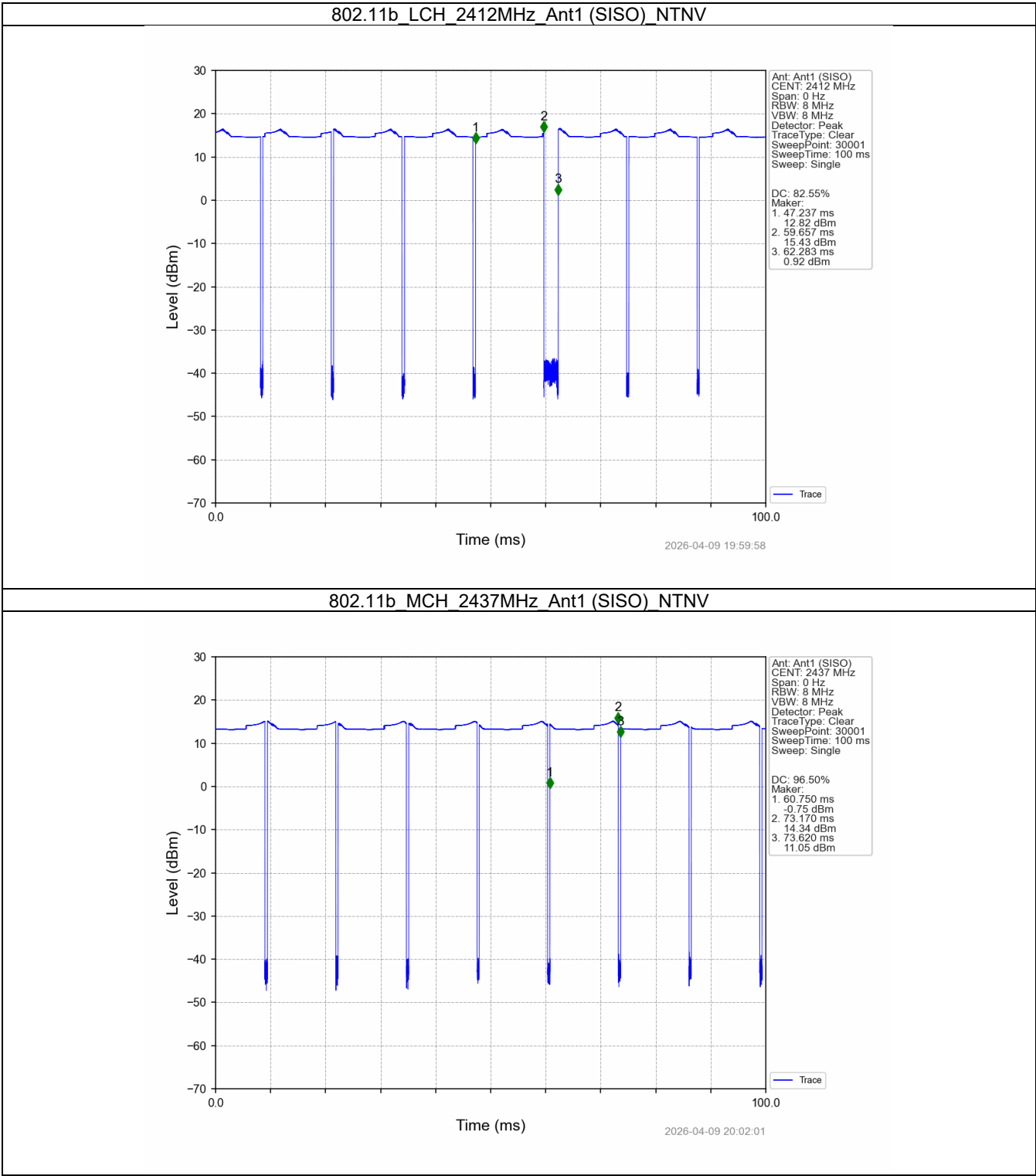
1.1 Test Result

1.1.1 Ant1

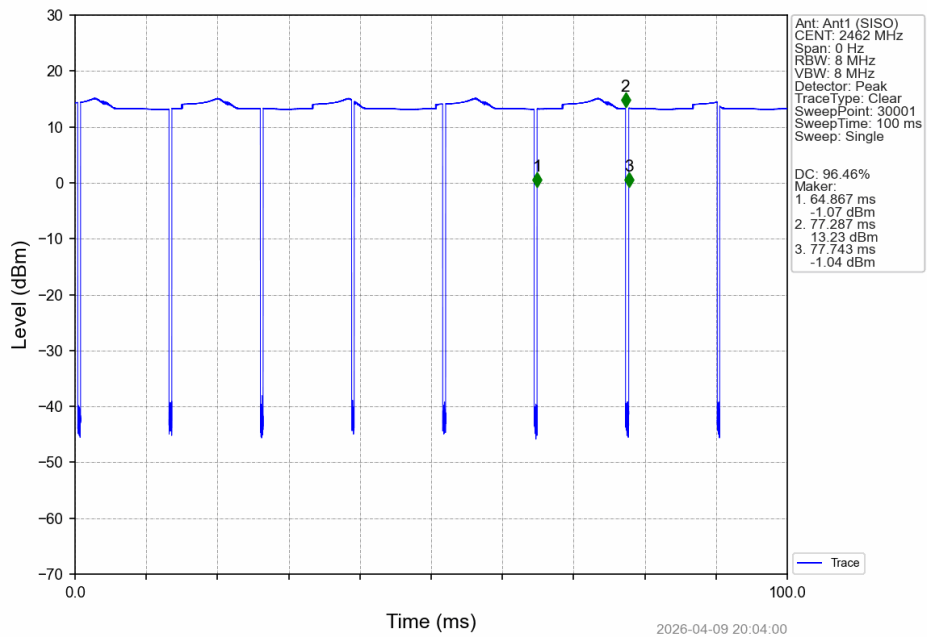
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.420	15.046	82.55	0.83	14.52
		2437	12.420	12.870	96.50	0.15	0.50
		2462	12.420	12.876	96.46	0.16	0.83
802.11g	SISO	2412	2.066	2.277	90.73	0.42	4.91
		2437	2.066	2.296	89.98	0.46	5.62
		2462	2.066	2.313	89.32	0.49	5.93
802.11n (HT20)	SISO	2412	1.922	2.133	90.11	0.45	4.83
		2437	1.922	2.134	90.07	0.45	4.38
		2462	1.922	2.124	90.49	0.43	4.88
802.11n (HT40)	SISO	2422	0.945	1.166	81.05	0.91	9.05
		2437	0.946	1.103	85.77	0.67	4.44
		2452	0.946	1.175	80.51	0.94	7.44

1.2 Test Graph

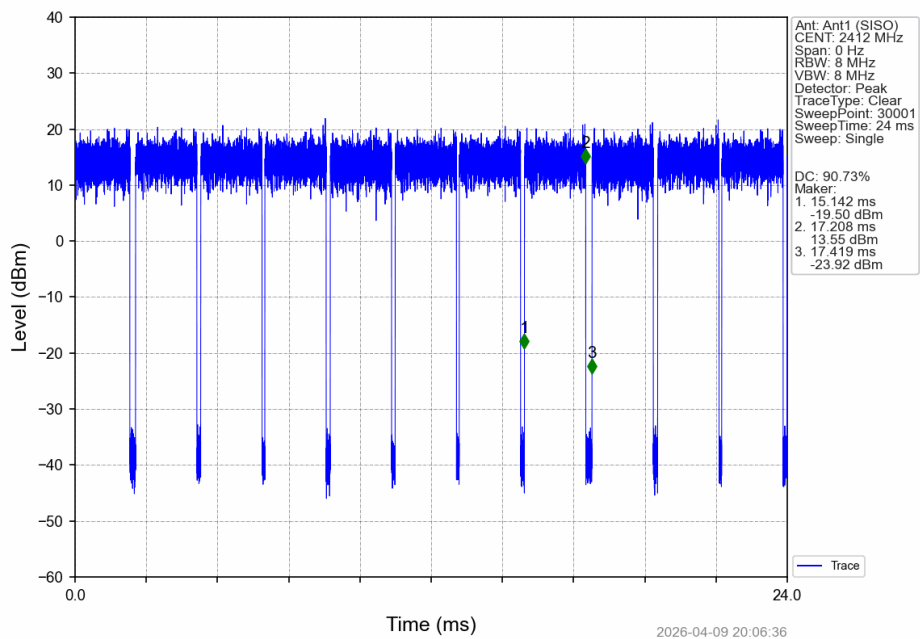
1.2.1 Ant1



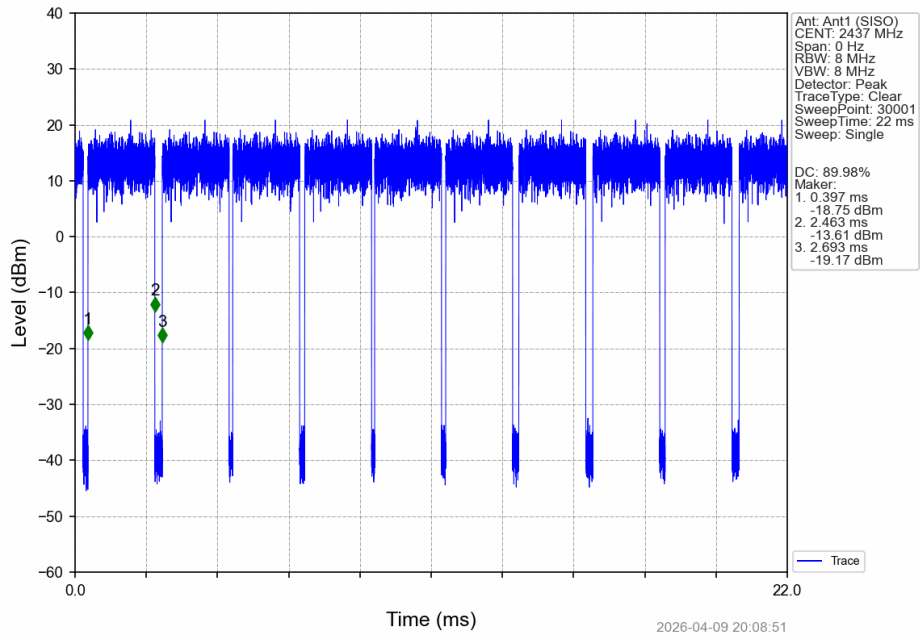
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



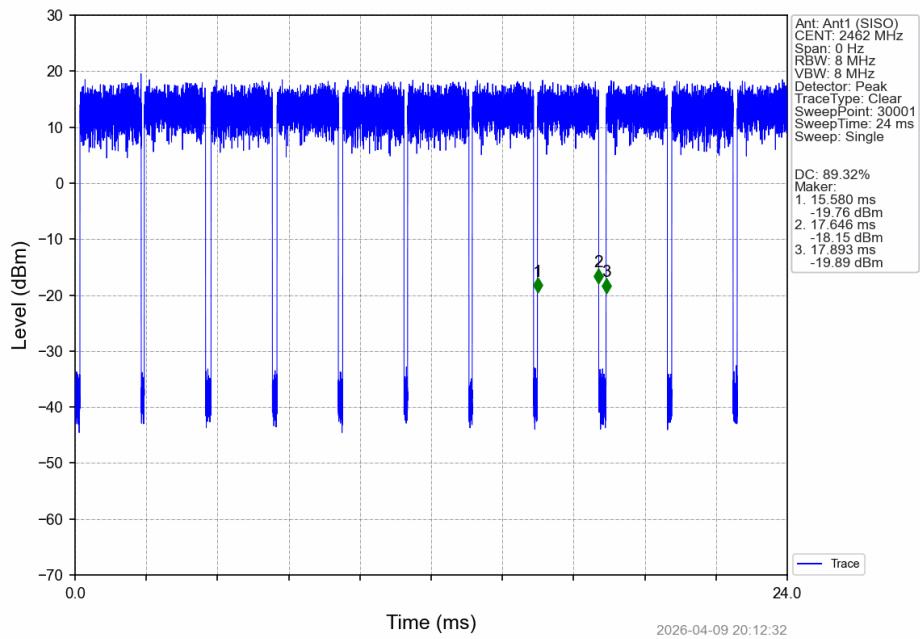
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



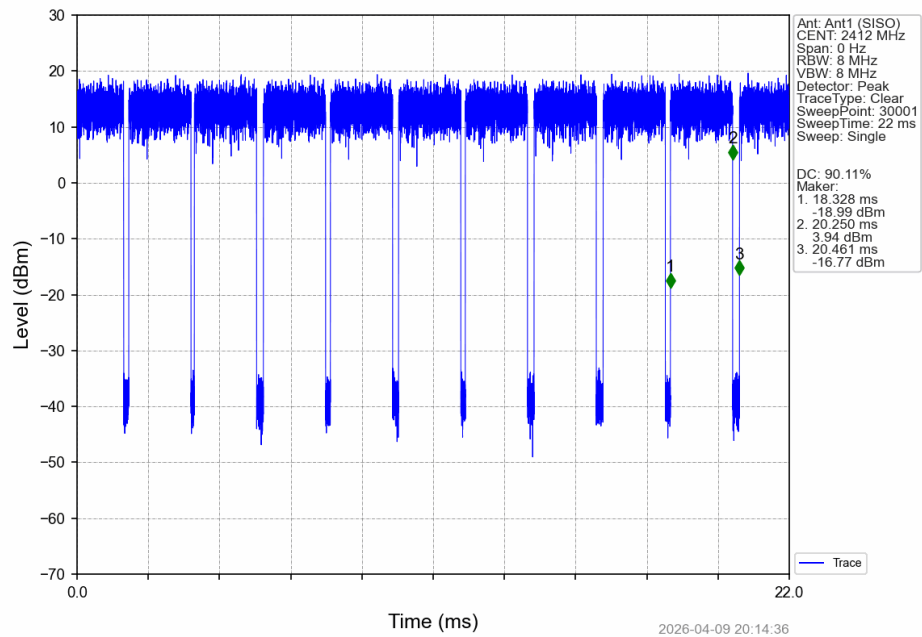
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



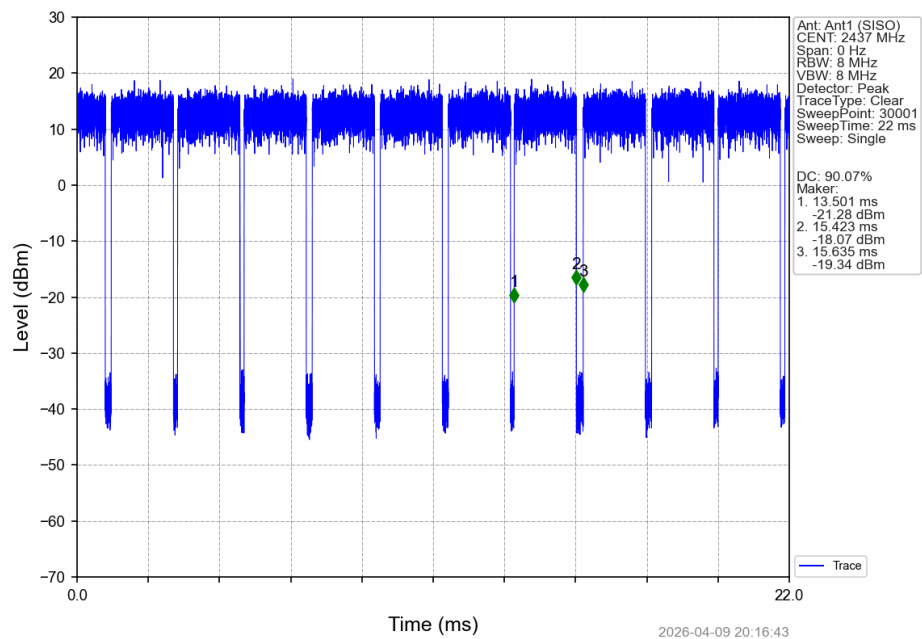
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



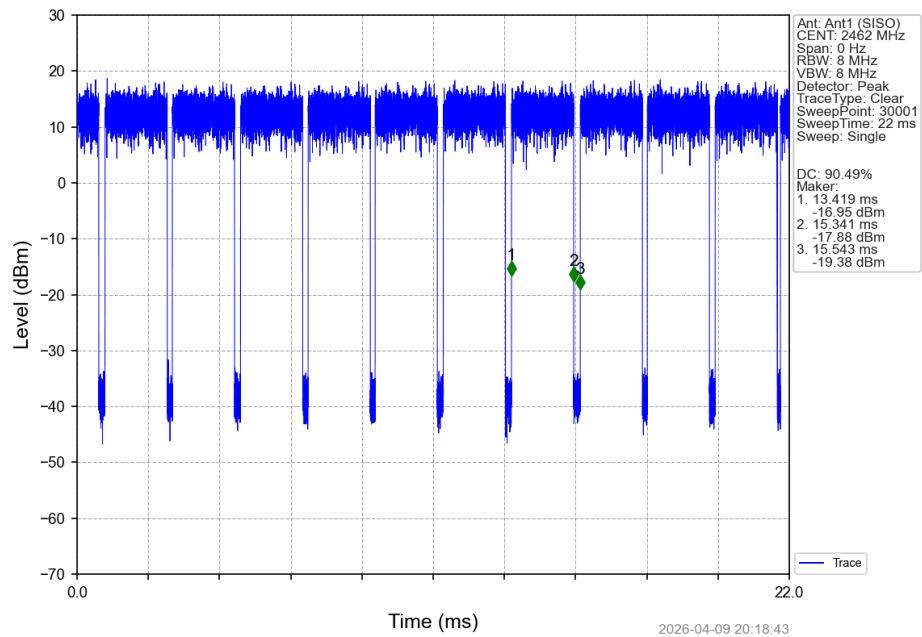
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



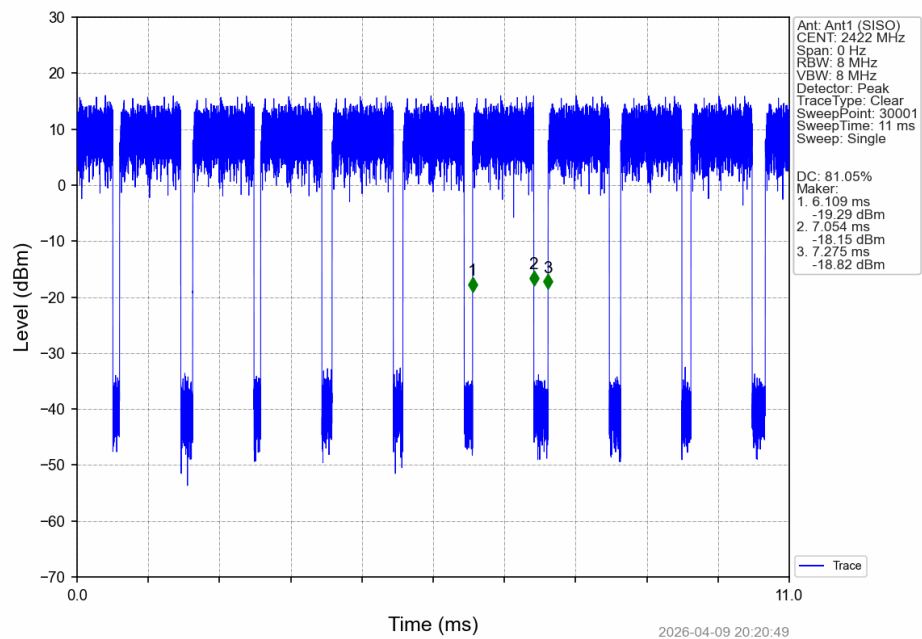
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



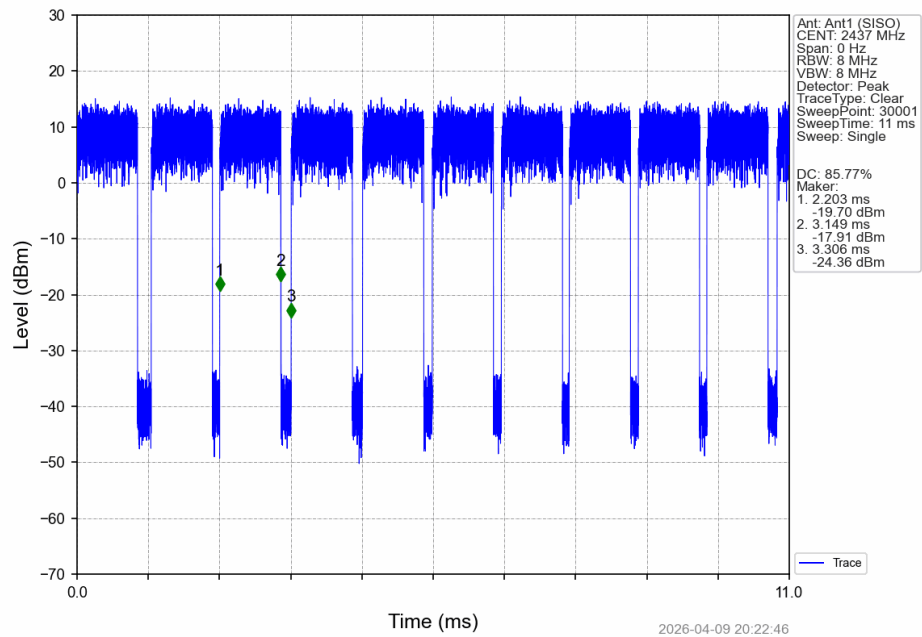
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



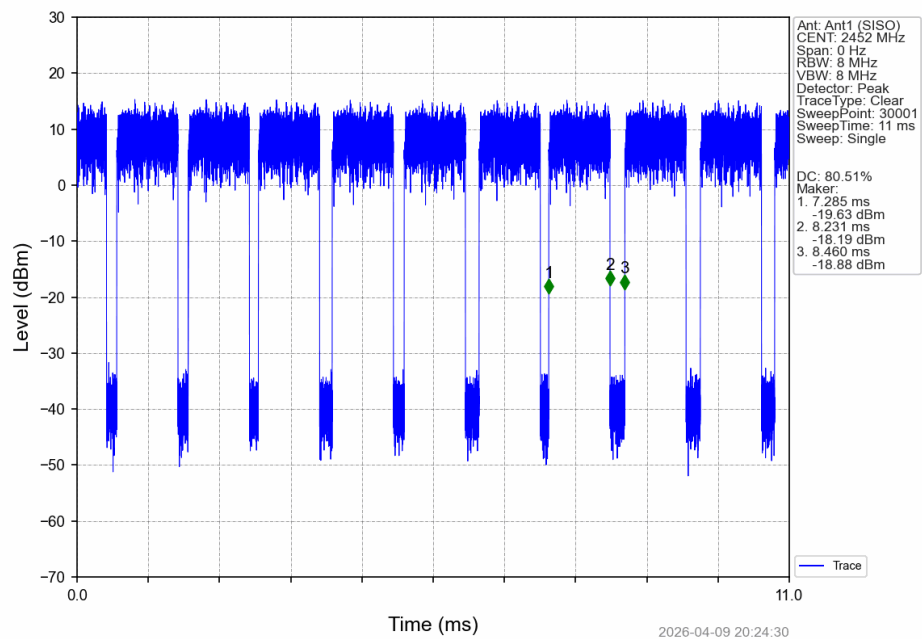
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

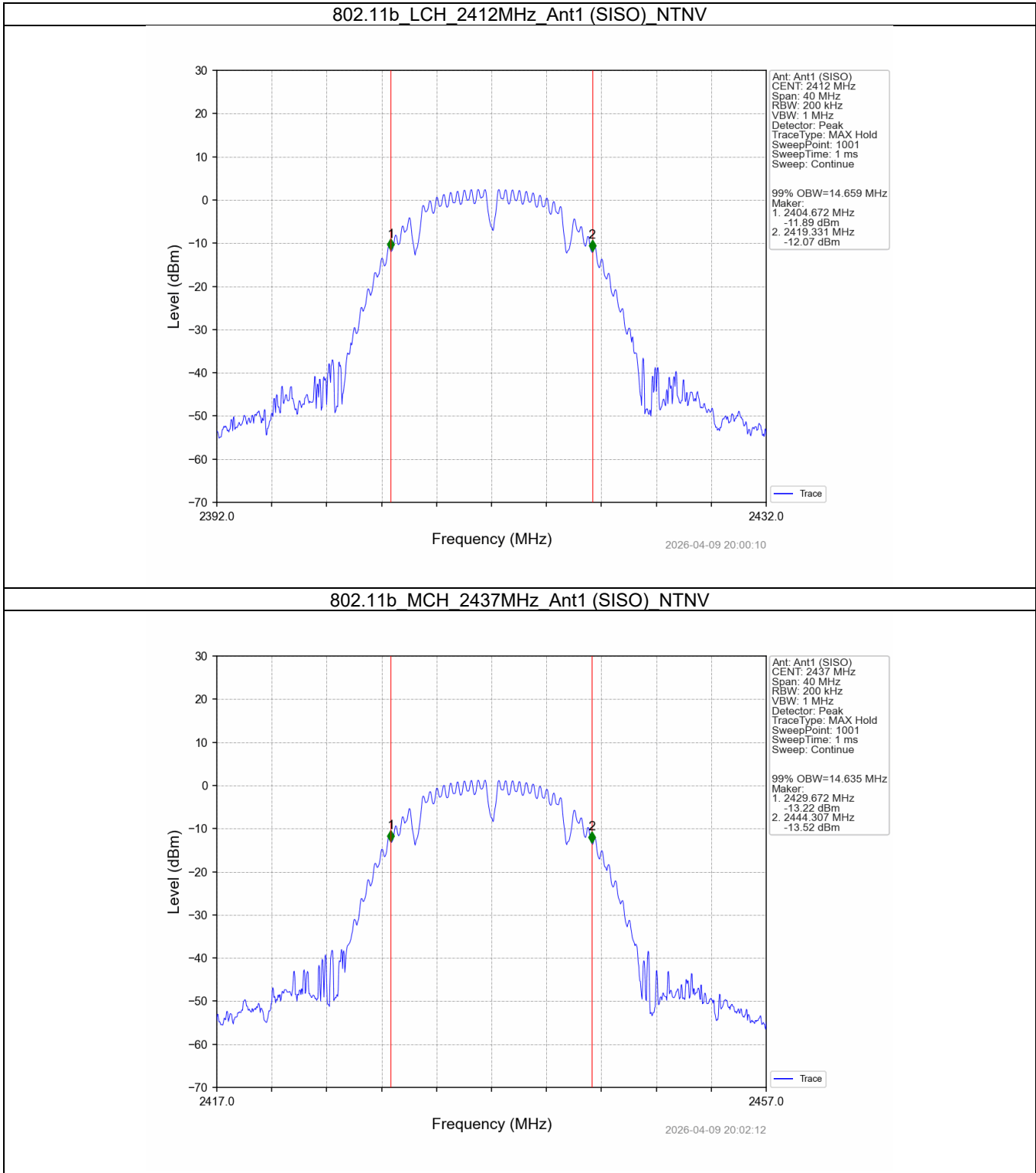
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	14.659	/	Pass
		2437	1	14.635	/	Pass
		2462	1	14.604	/	Pass
802.11g	SISO	2412	1	16.428	/	Pass
		2437	1	16.402	/	Pass
		2462	1	16.467	/	Pass
802.11n (HT20)	SISO	2412	1	17.610	/	Pass
		2437	1	17.563	/	Pass
		2462	1	17.577	/	Pass
802.11n (HT40)	SISO	2422	1	36.548	/	Pass
		2437	1	36.253	/	Pass
		2452	1	36.694	/	Pass

2.1.2 6dB BW

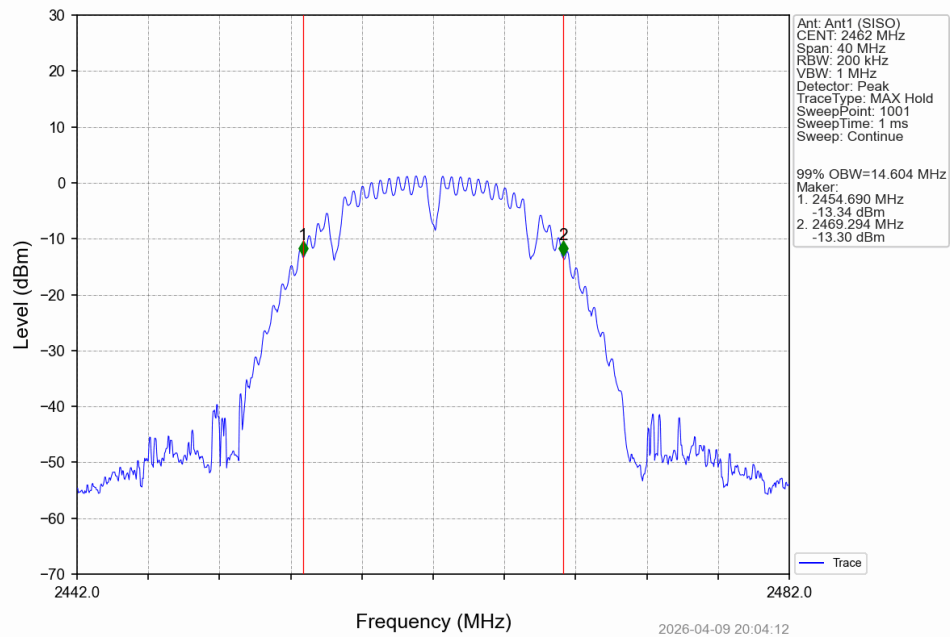
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.236	≥ 0.5	Pass
		2437	1	10.239	≥ 0.5	Pass
		2462	1	10.229	≥ 0.5	Pass
802.11g	SISO	2412	1	16.287	≥ 0.5	Pass
		2437	1	16.301	≥ 0.5	Pass
		2462	1	16.298	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.275	≥ 0.5	Pass
		2437	1	17.421	≥ 0.5	Pass
		2462	1	17.403	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	36.152	≥ 0.5	Pass
		2437	1	36.015	≥ 0.5	Pass
		2452	1	36.262	≥ 0.5	Pass

2.2 Test Graph

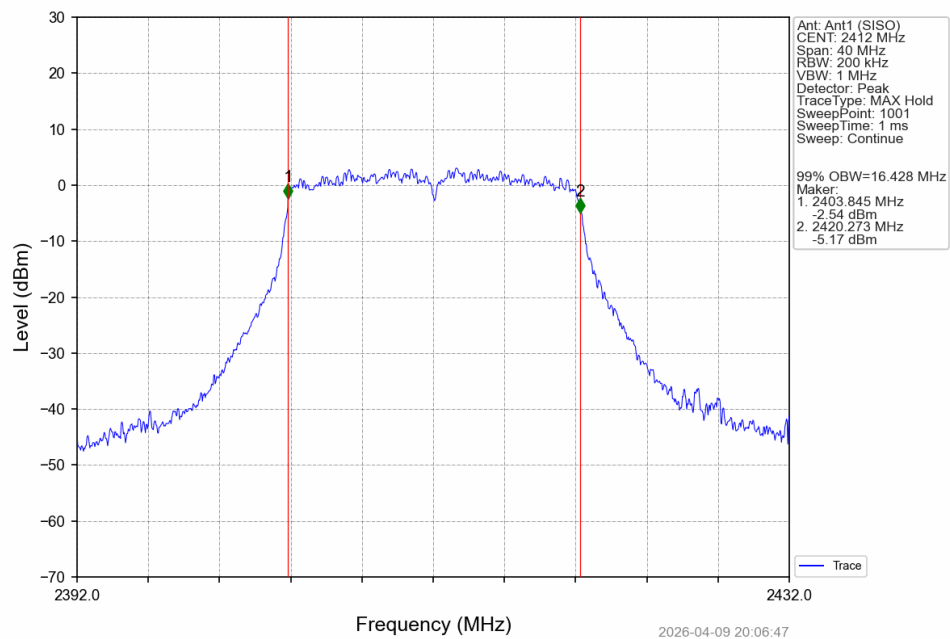
2.2.1 OBW



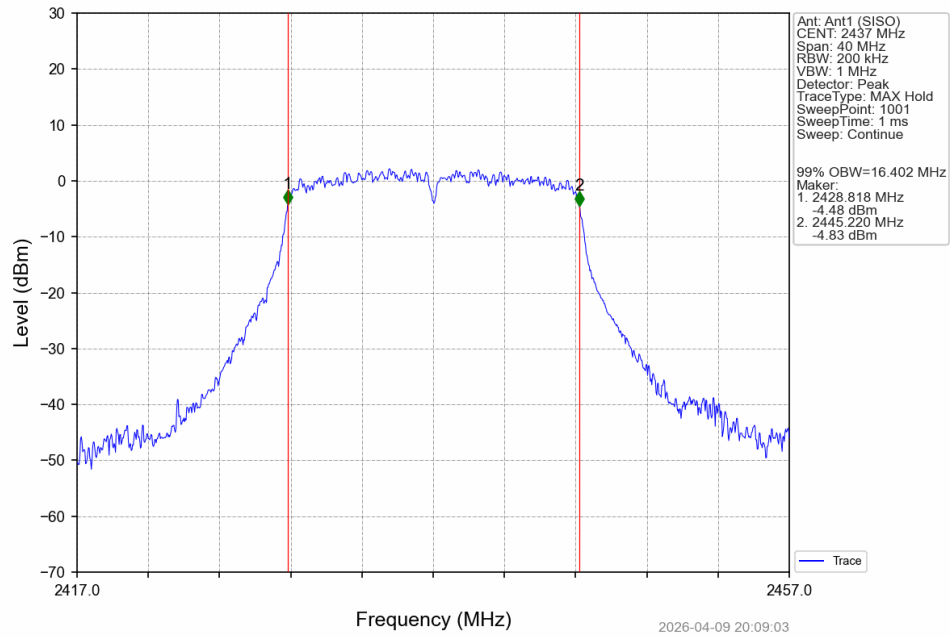
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



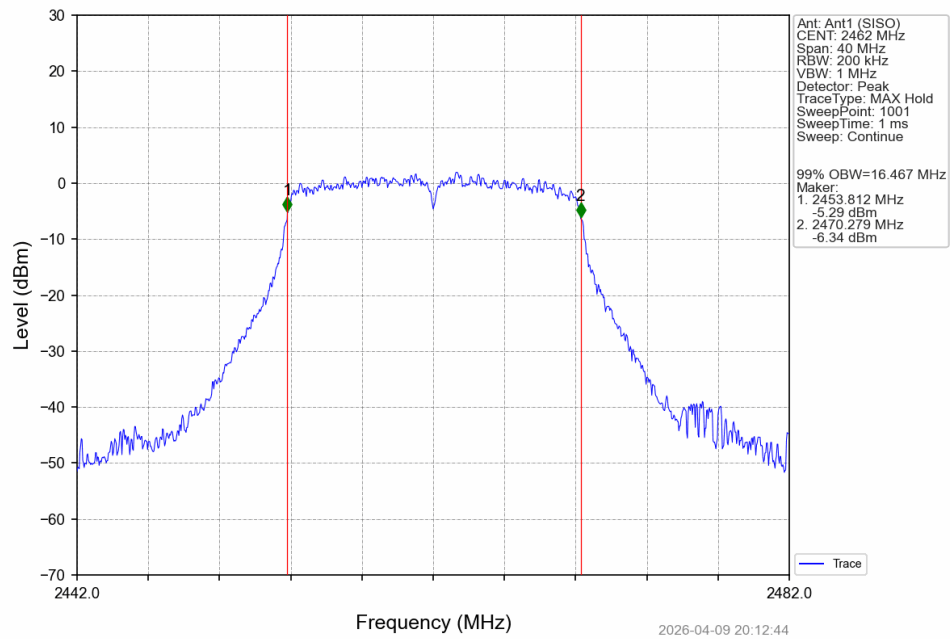
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



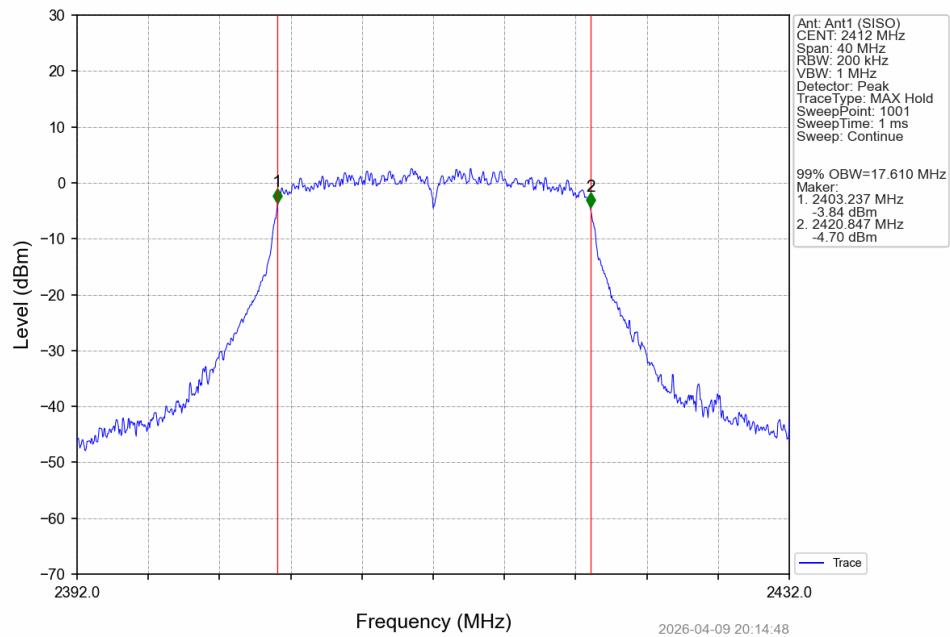
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



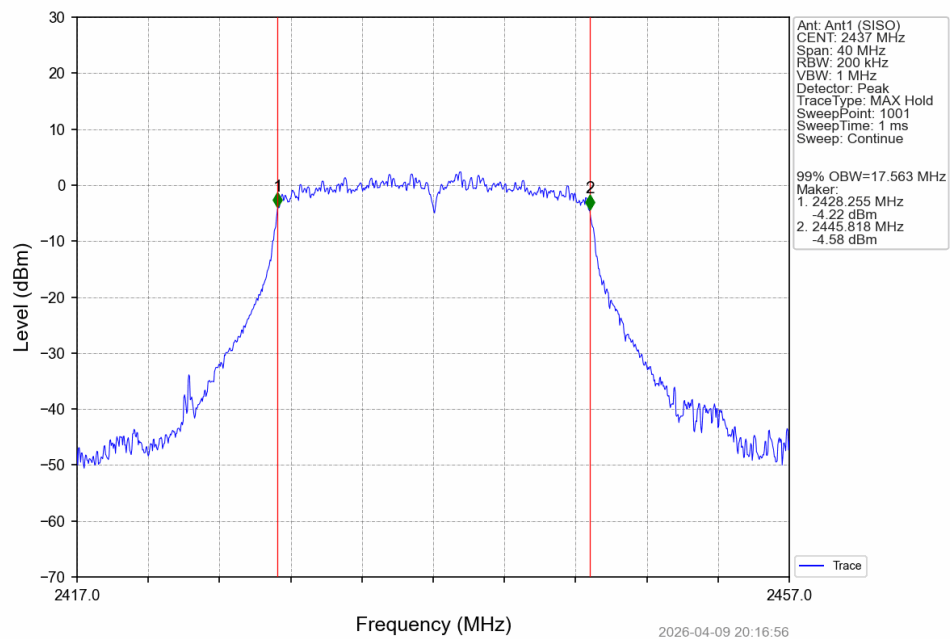
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



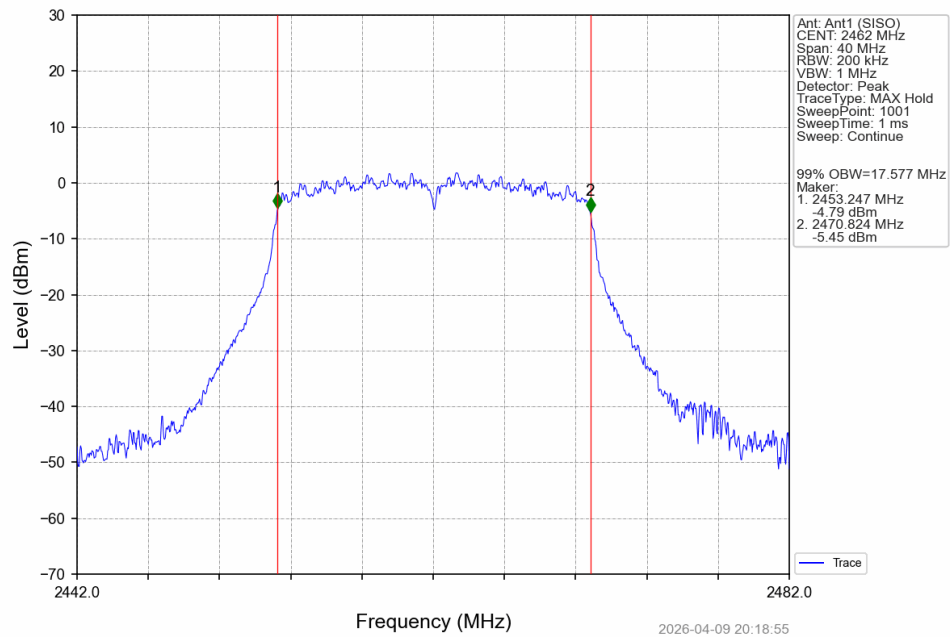
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



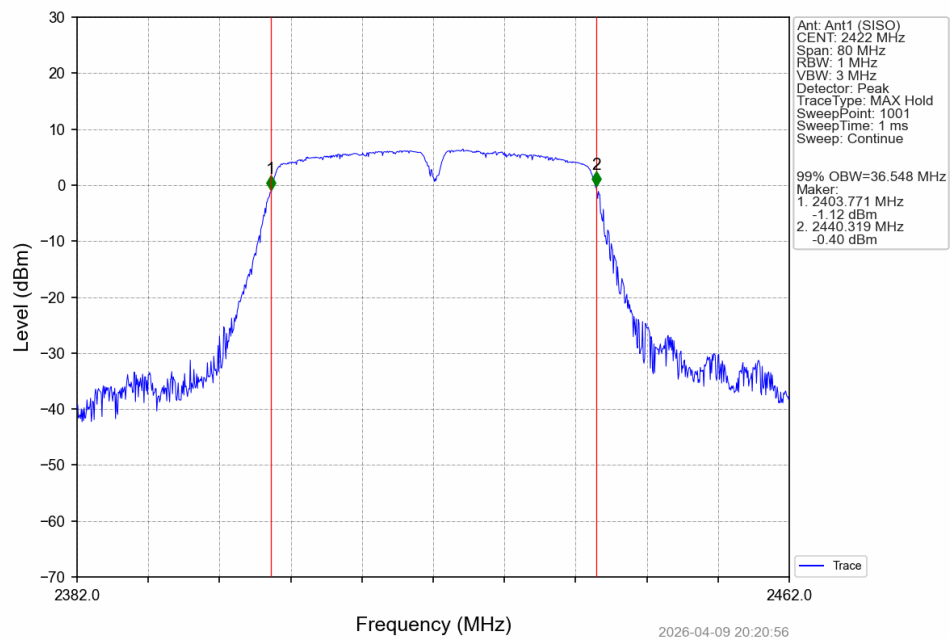
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



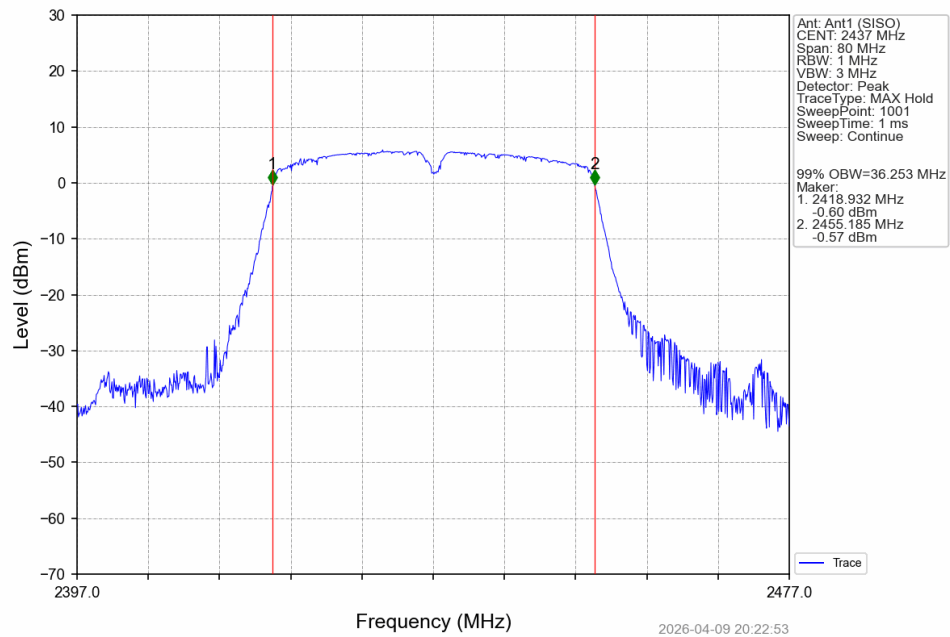
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



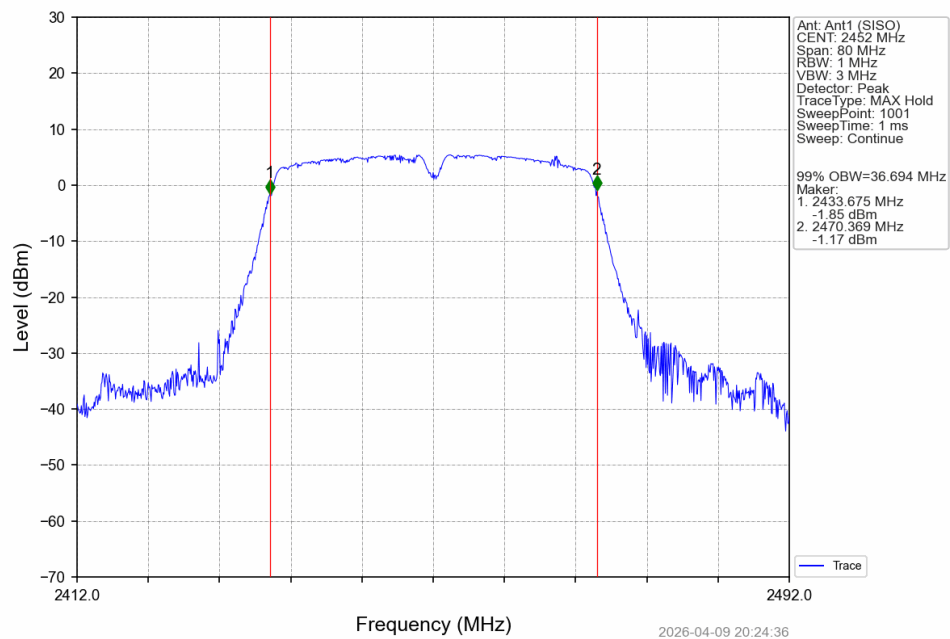
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



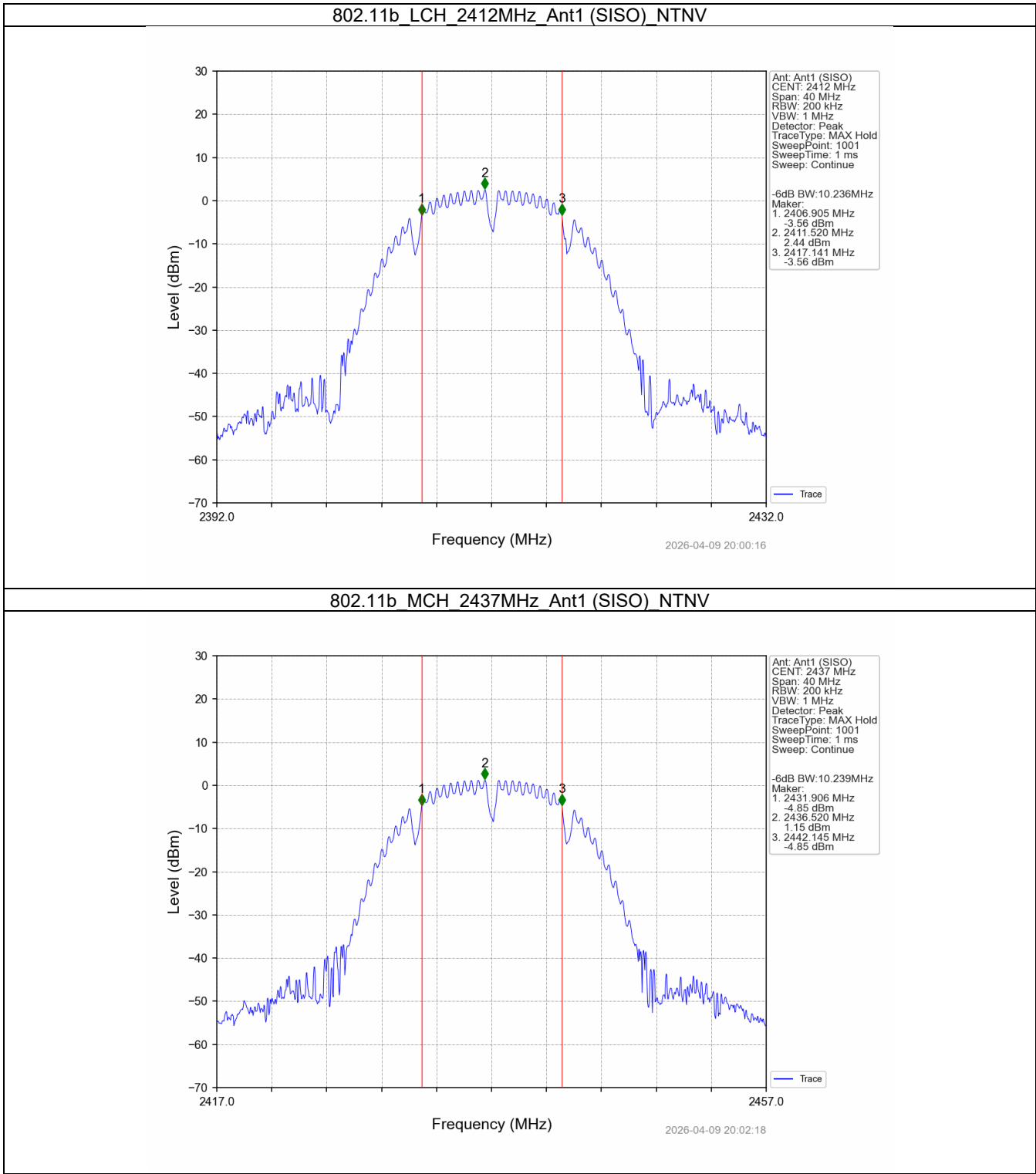
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



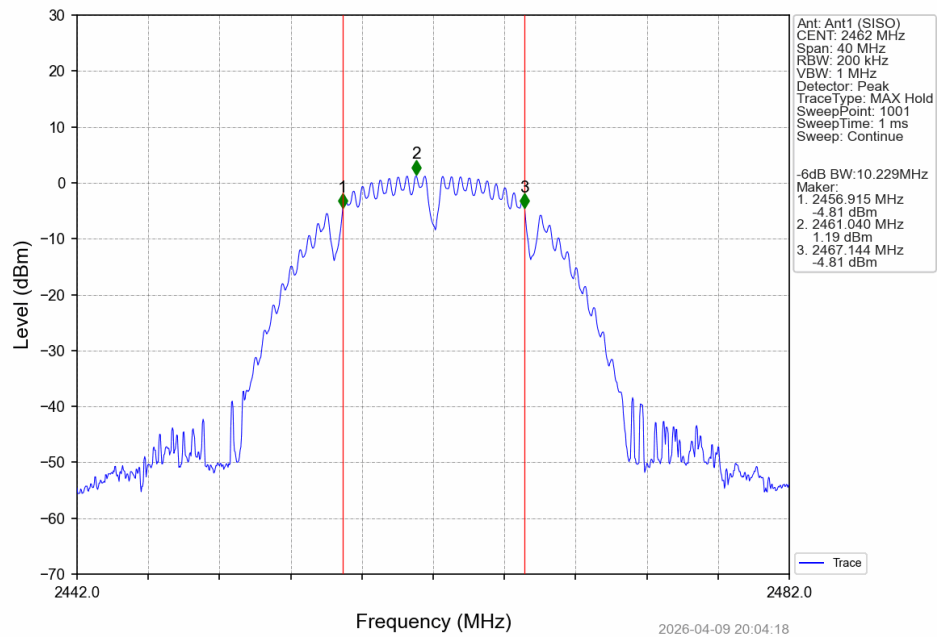
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



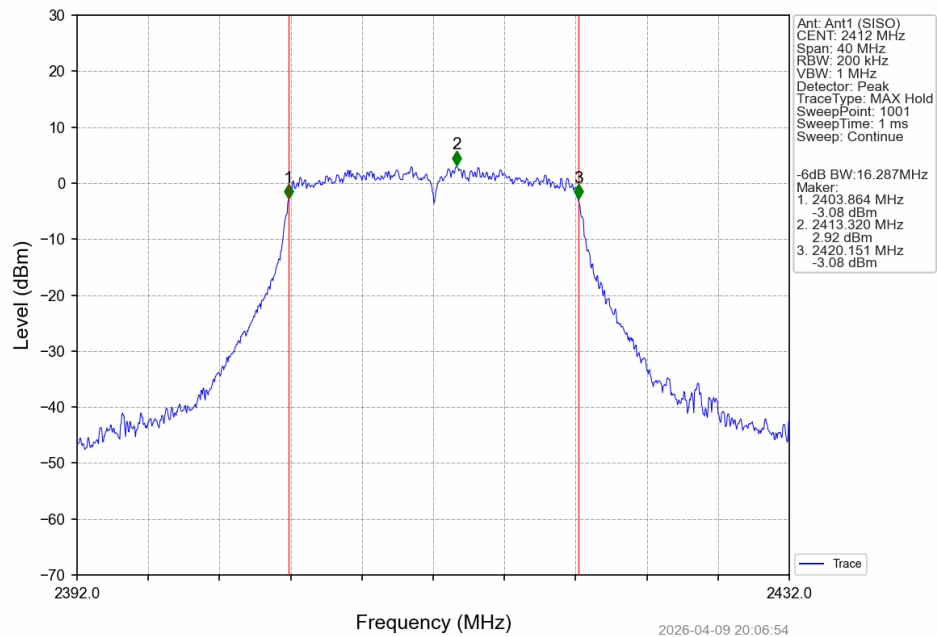
2.2.2 6dB BW



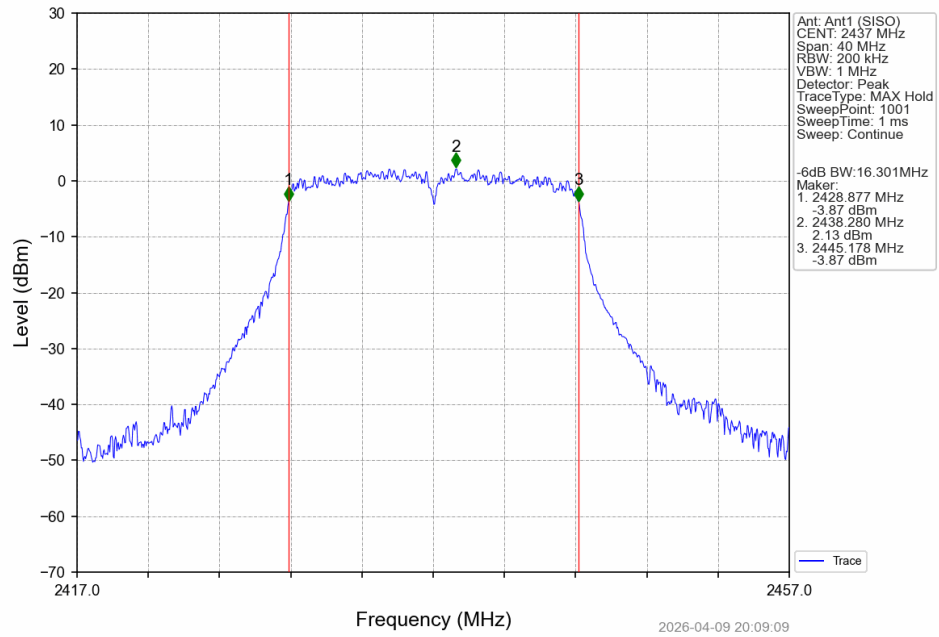
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



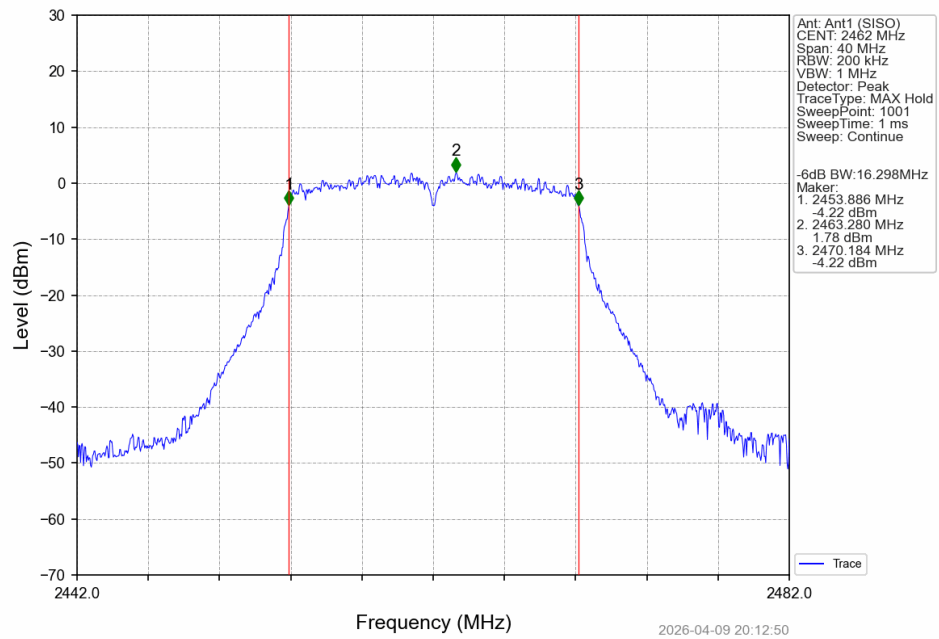
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



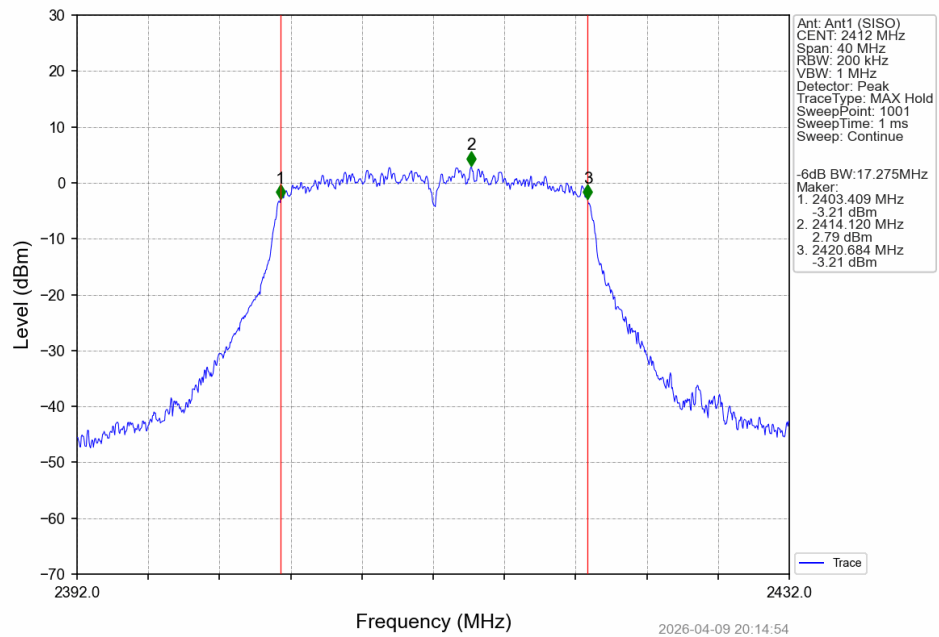
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



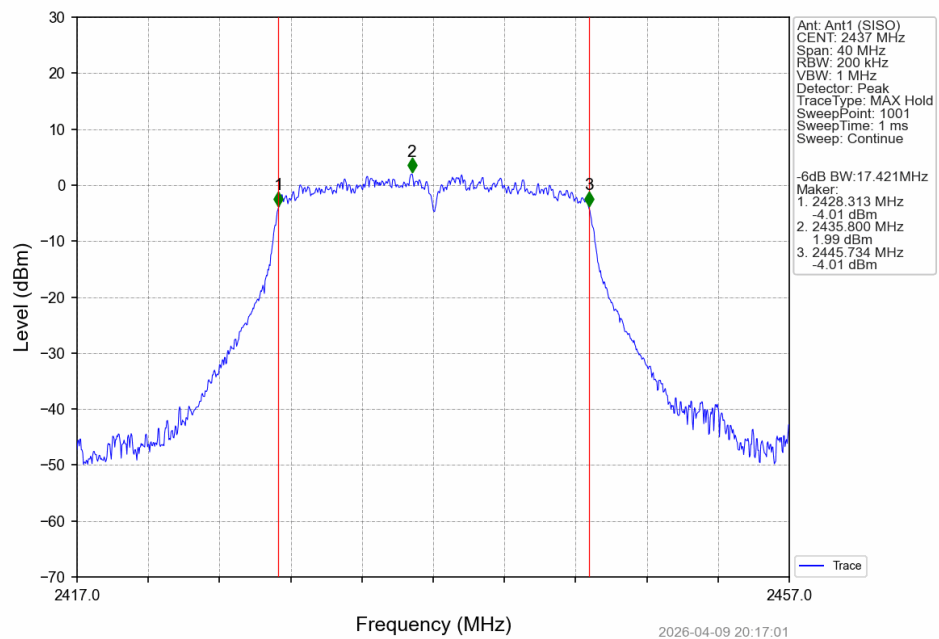
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



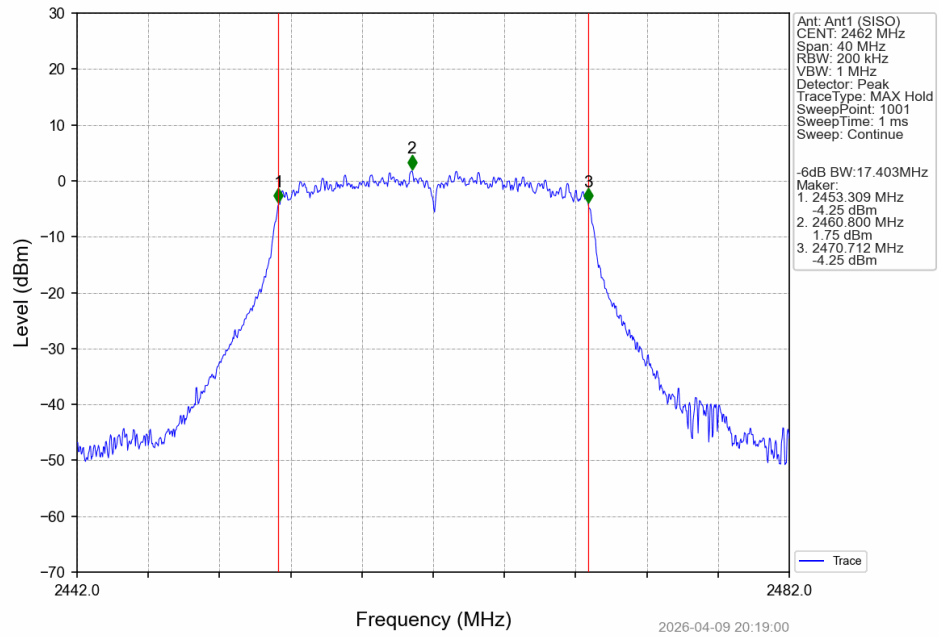
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



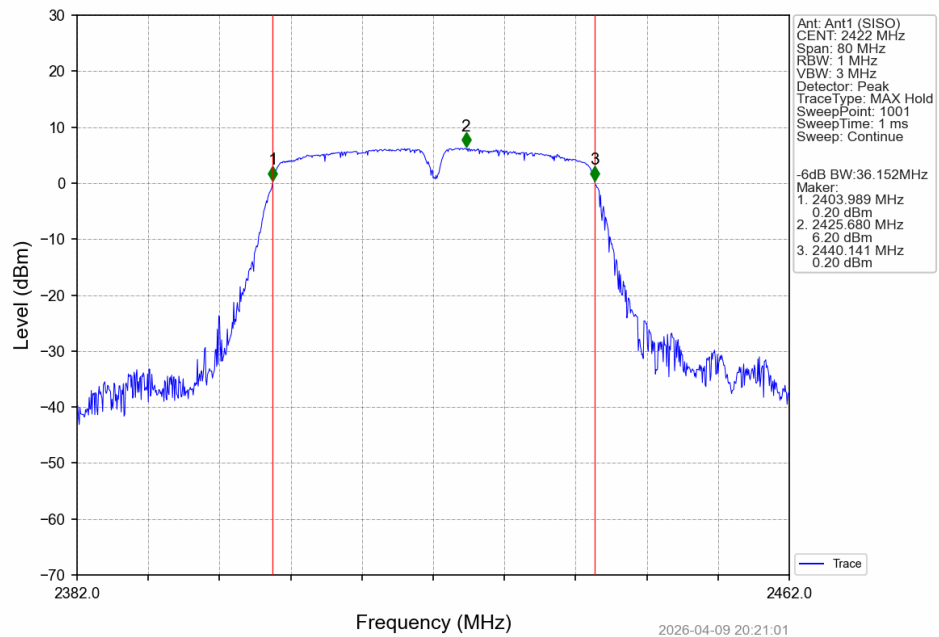
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



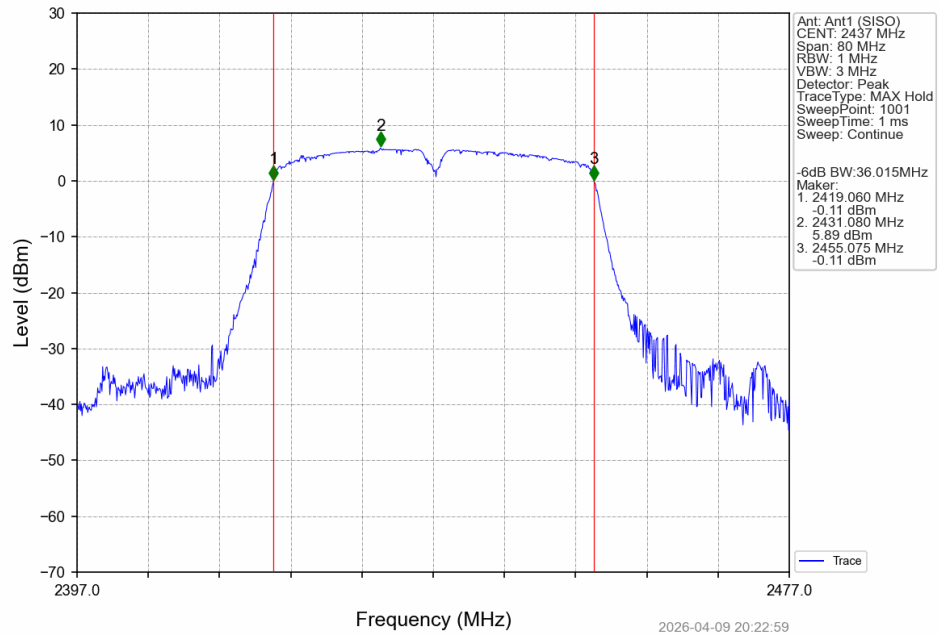
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



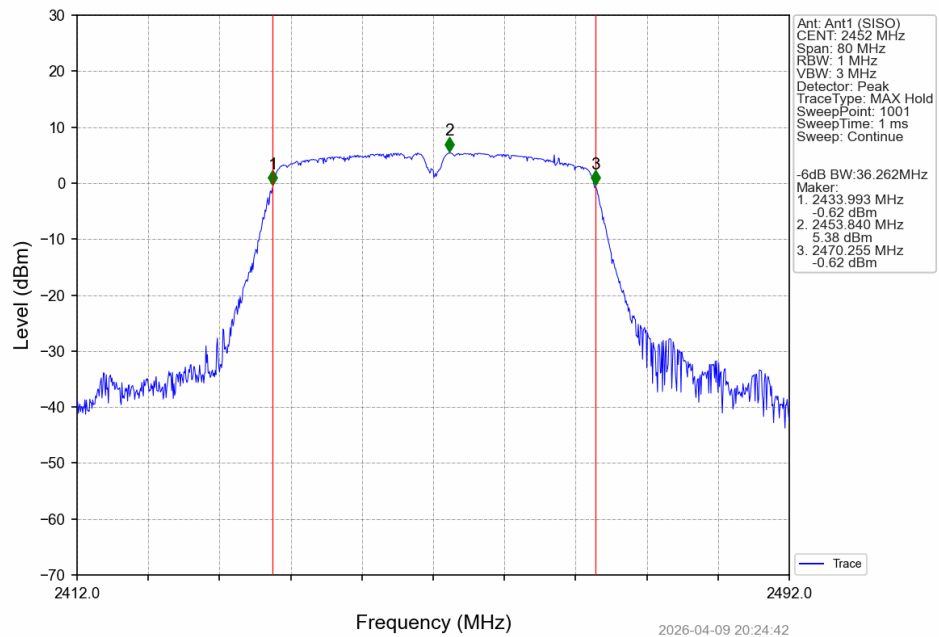
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_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	14.15	<=30	Pass
		2437	12.90	<=30	Pass
		2462	12.89	<=30	Pass
802.11g	SISO	2412	20.62	<=30	Pass
		2437	19.80	<=30	Pass
		2462	19.45	<=30	Pass
802.11n (HT20)	SISO	2412	20.18	<=30	Pass
		2437	19.52	<=30	Pass
		2462	19.26	<=30	Pass
802.11n (HT40)	SISO	2422	20.39	<=30	Pass
		2437	19.78	<=30	Pass
		2452	19.63	<=30	Pass

4. Maximum Power Spectral Density

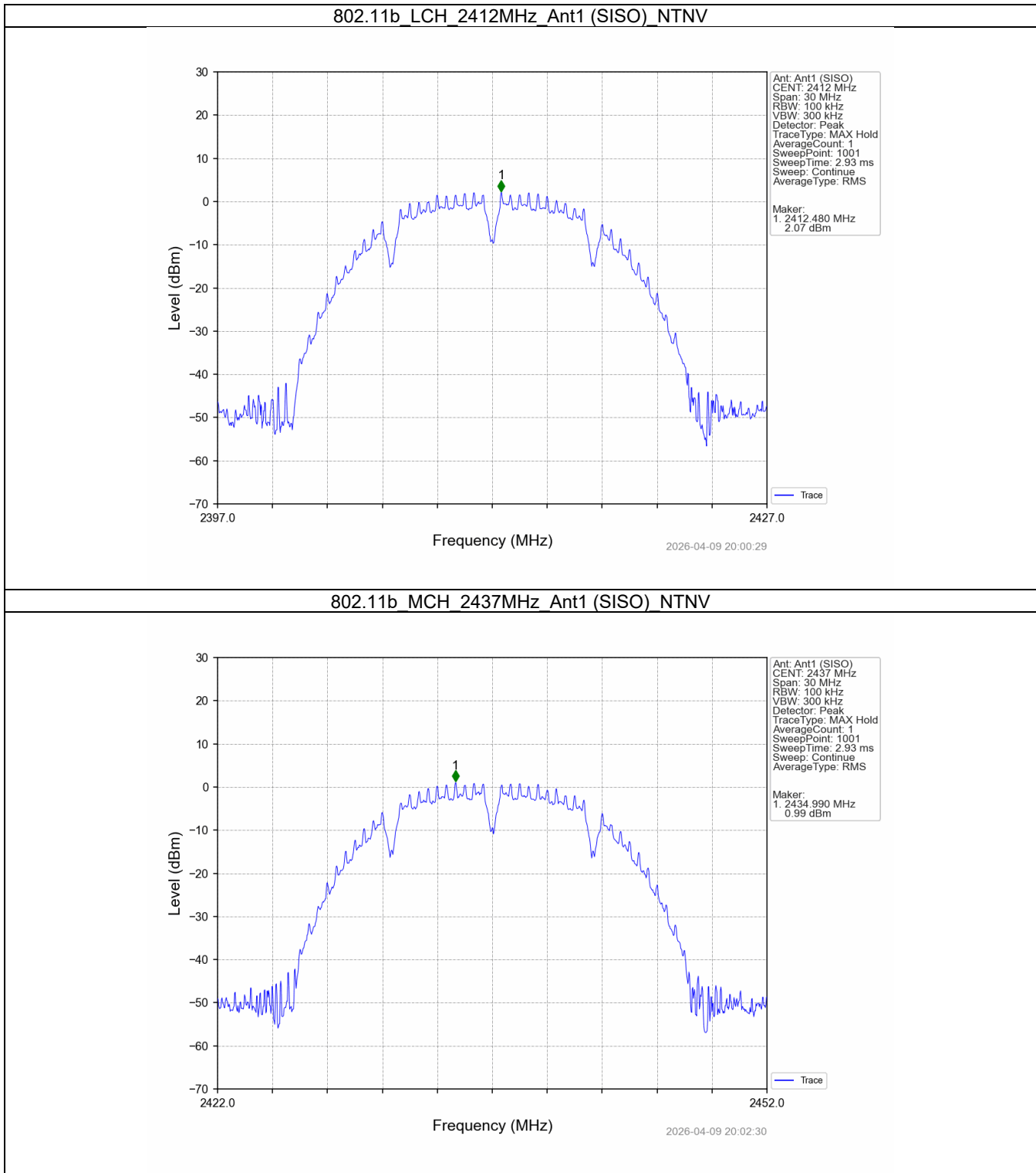
4.1 Test Result

4.1.1 PSD

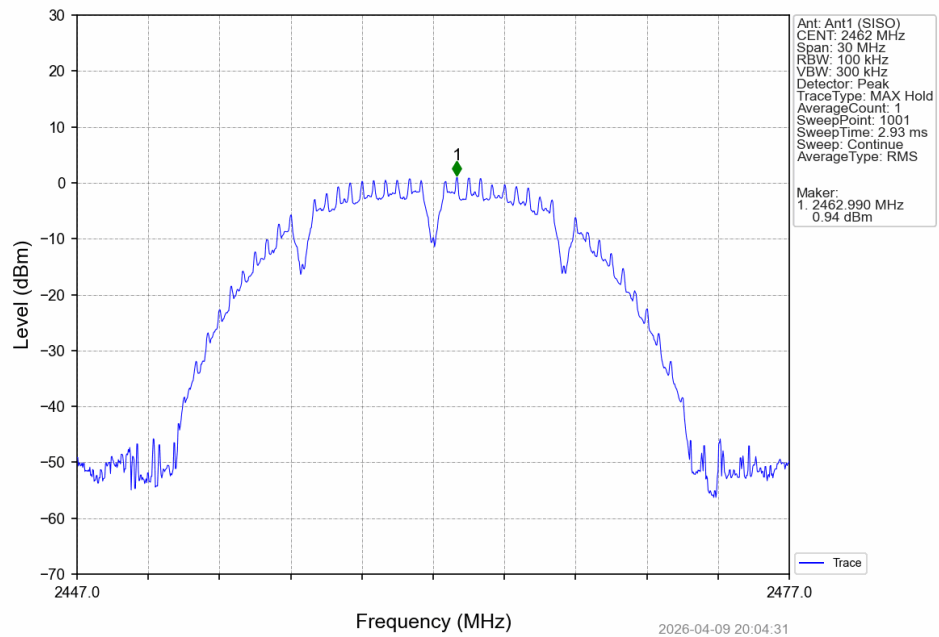
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	2.07	<=8	Pass
		2437	0.99	<=8	Pass
		2462	0.94	<=8	Pass
802.11g	SISO	2412	1.65	<=8	Pass
		2437	1.04	<=8	Pass
		2462	1.07	<=8	Pass
802.11n (HT20)	SISO	2412	1.89	<=8	Pass
		2437	1.37	<=8	Pass
		2462	1.06	<=8	Pass
802.11n (HT40)	SISO	2422	-1.09	<=8	Pass
		2437	-1.68	<=8	Pass
		2452	-1.79	<=8	Pass

4.2 Test Graph

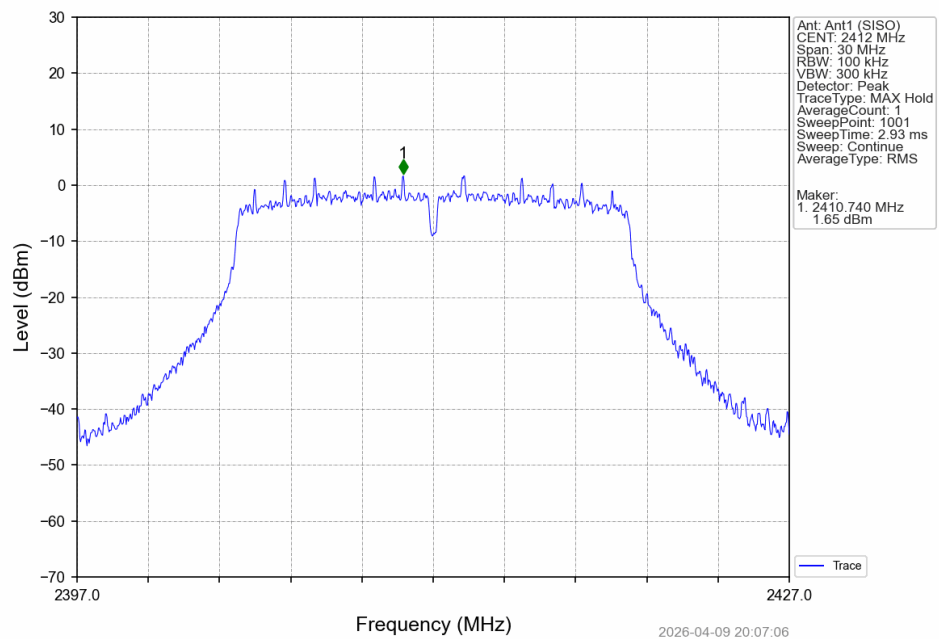
4.2.1 PSD



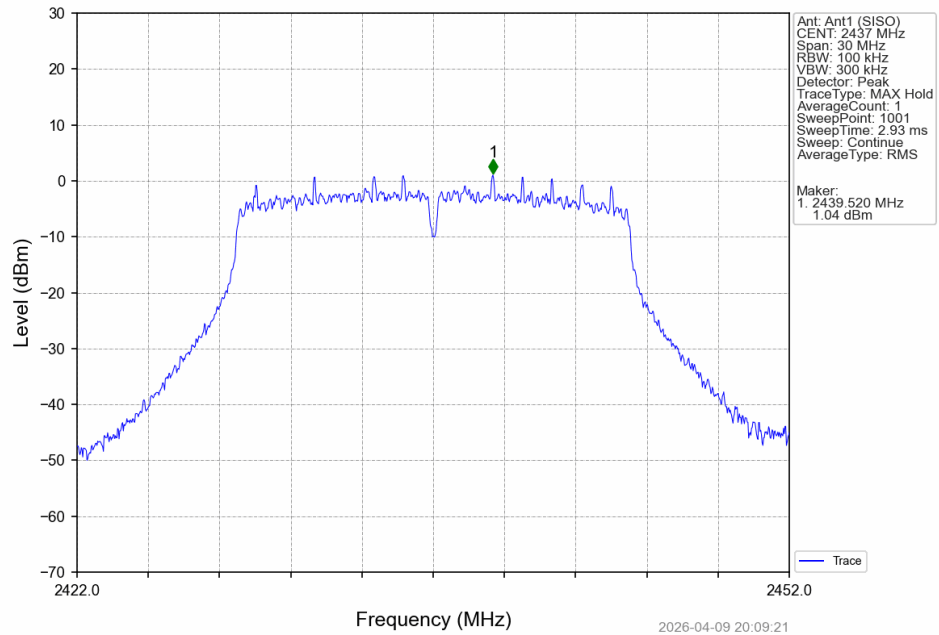
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



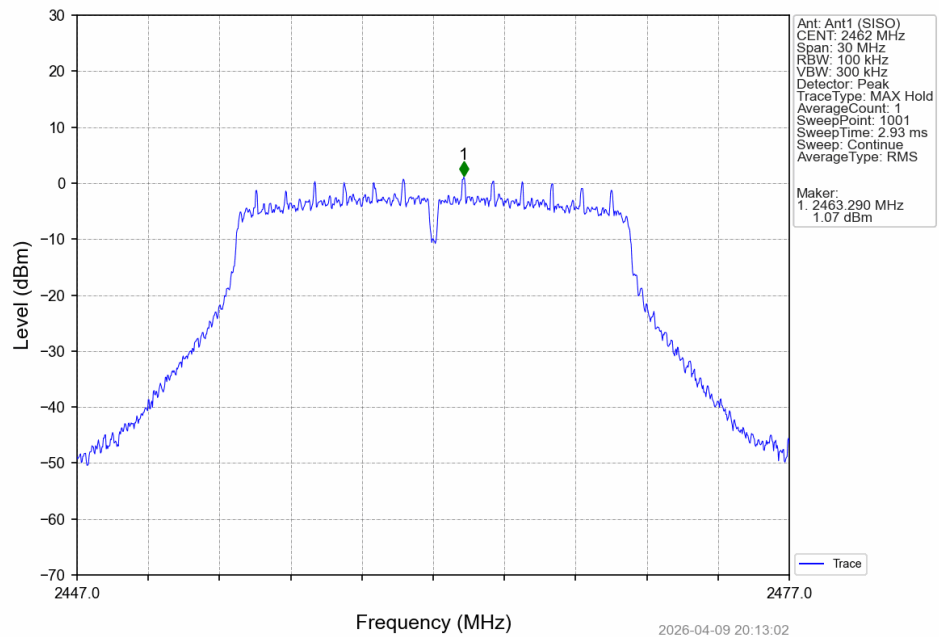
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



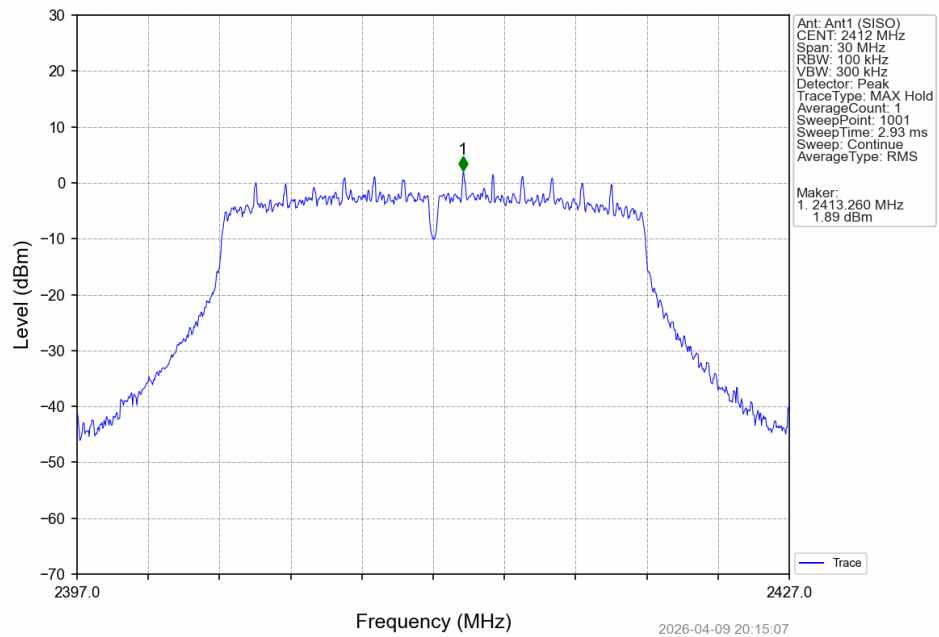
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



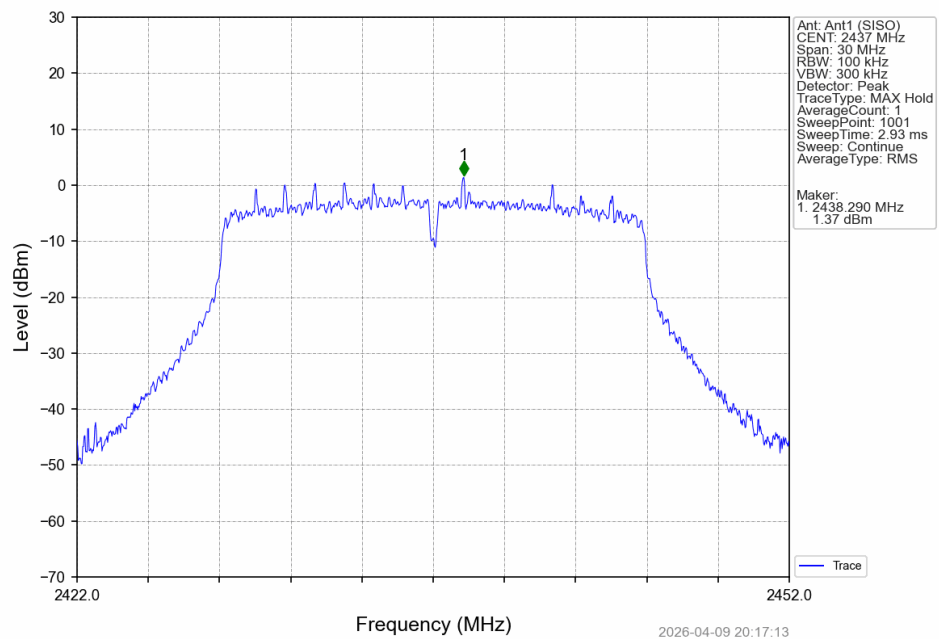
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



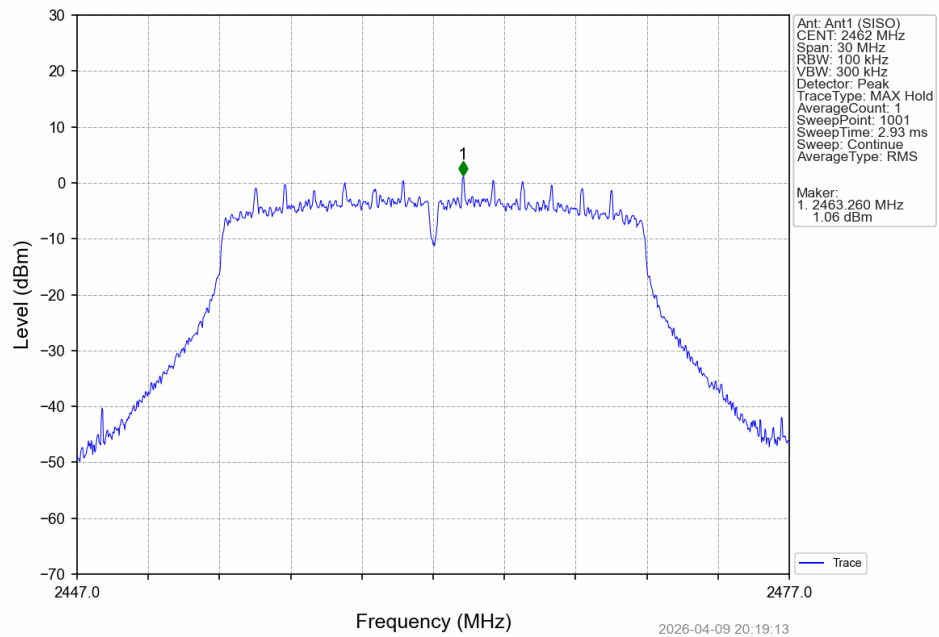
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



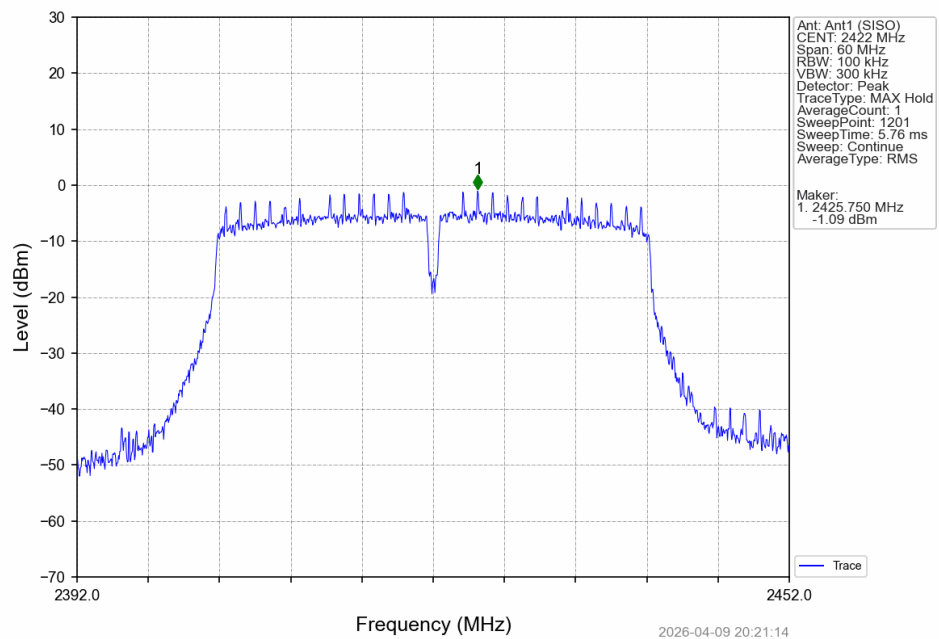
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



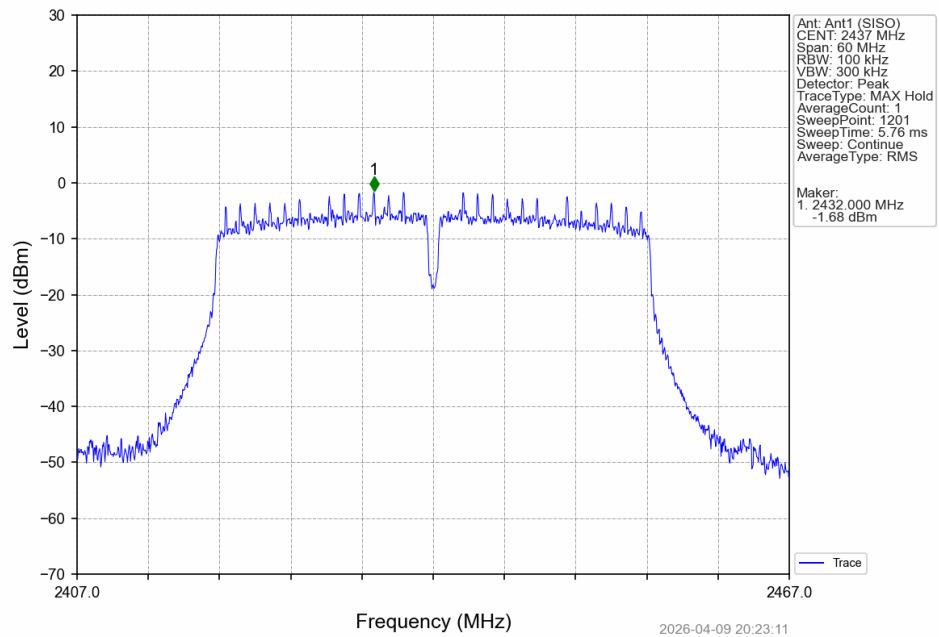
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



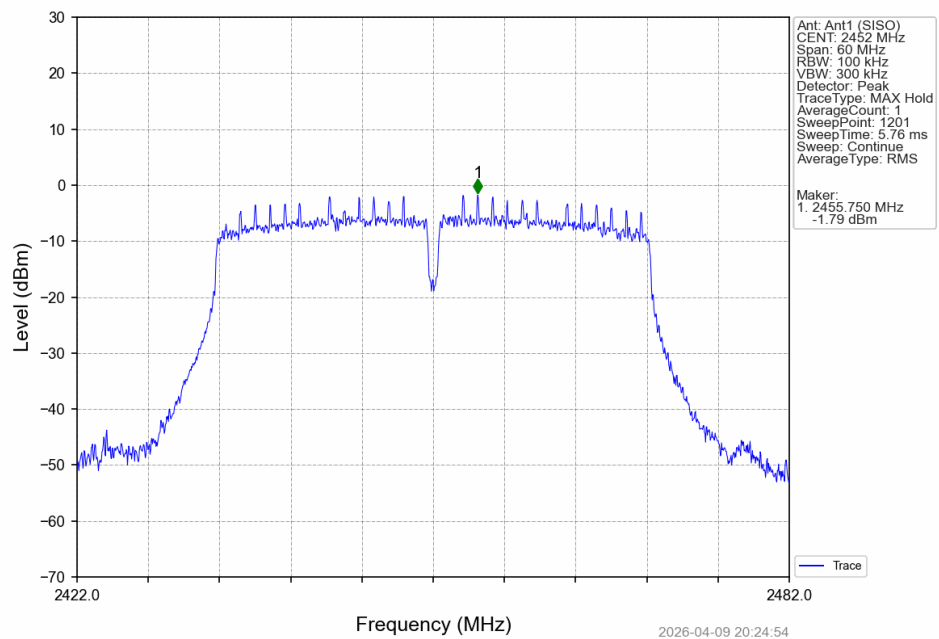
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

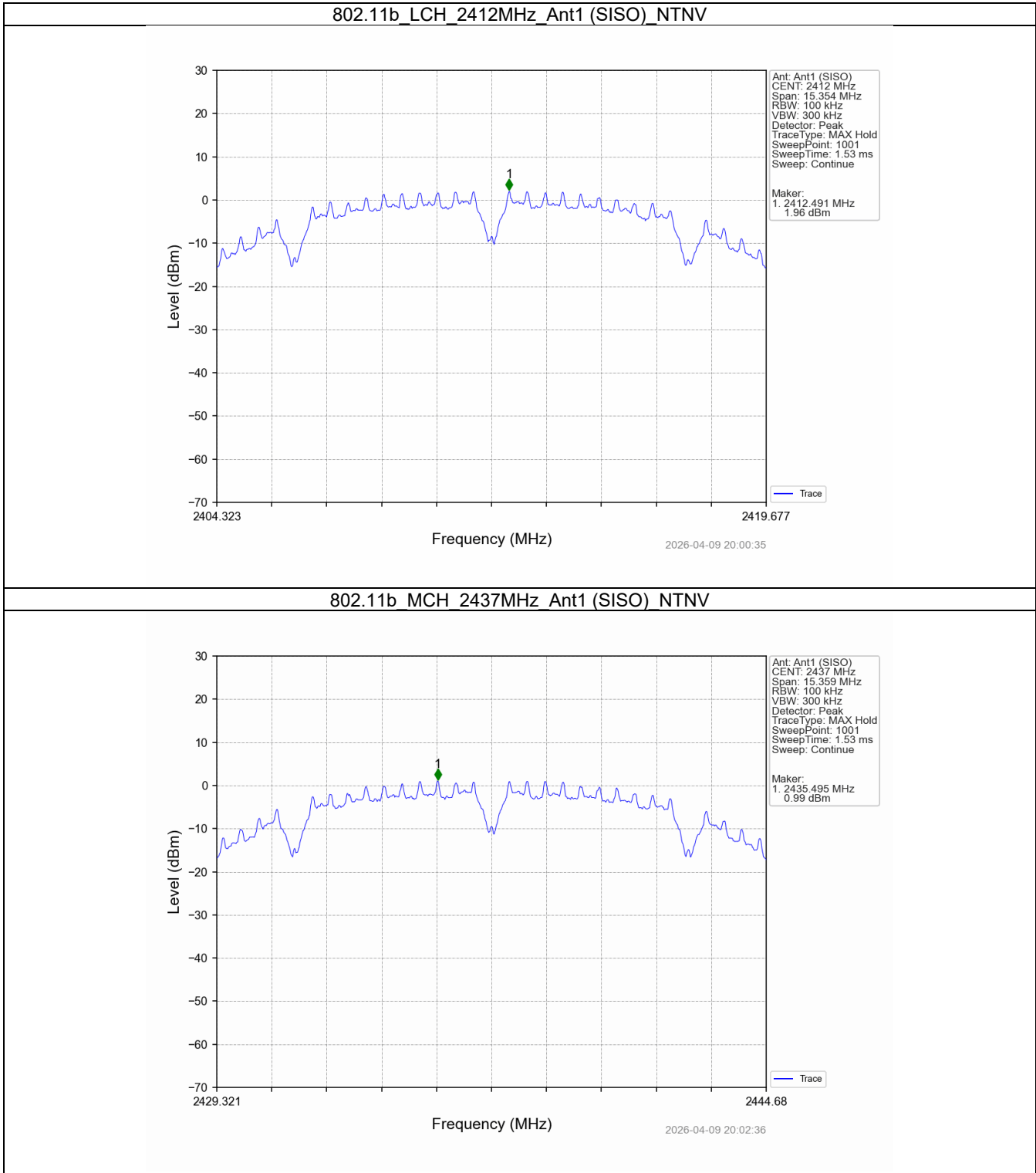
Mode	Tx Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	1.96
		2437	1	0.99
		2462	1	0.96
802.11g	SISO	2412	1	2.28
		2437	1	1.51
		2462	1	1.13
802.11n (HT20)	SISO	2412	1	1.62
		2437	1	1.04
		2462	1	0.96
802.11n (HT40)	SISO	2422	1	-1.16
		2437	1	-1.88
		2452	1	-2.05

5.1.2 CSE

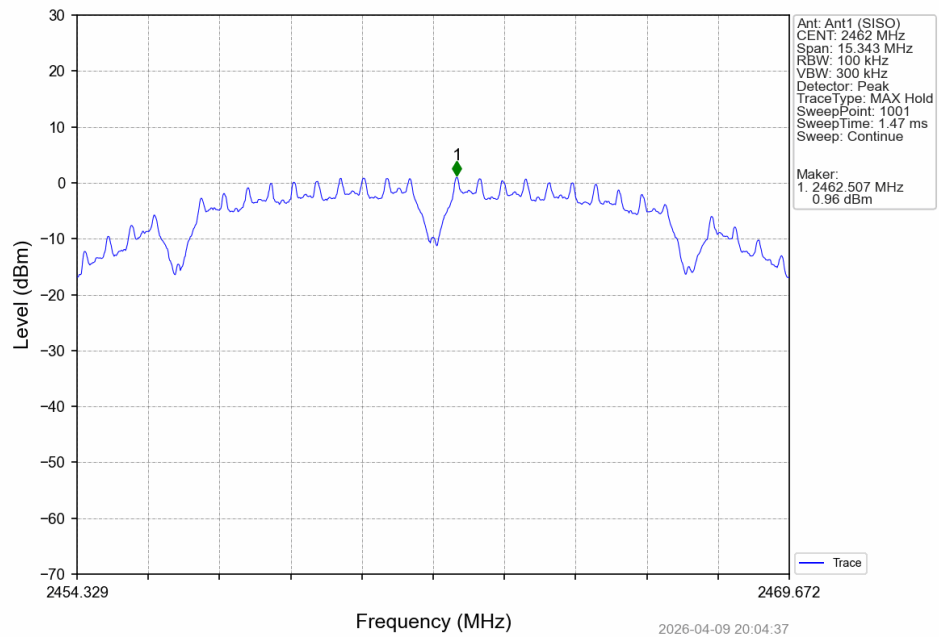
Mode	Tx Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	1.96	-18.04	Pass
		2437	1	0.99	-19.01	Pass
		2462	1	0.96	-19.04	Pass
802.11g	SISO	2412	1	2.28	-17.72	Pass
		2437	1	1.51	-18.49	Pass
		2462	1	1.13	-18.87	Pass
802.11n (HT20)	SISO	2412	1	1.62	-18.38	Pass
		2437	1	1.04	-18.96	Pass
		2462	1	0.96	-19.04	Pass
802.11n (HT40)	SISO	2422	1	-1.16	-21.16	Pass
		2437	1	-1.88	-21.88	Pass
		2452	1	-2.05	-22.05	Pass

5.2 Test Graph

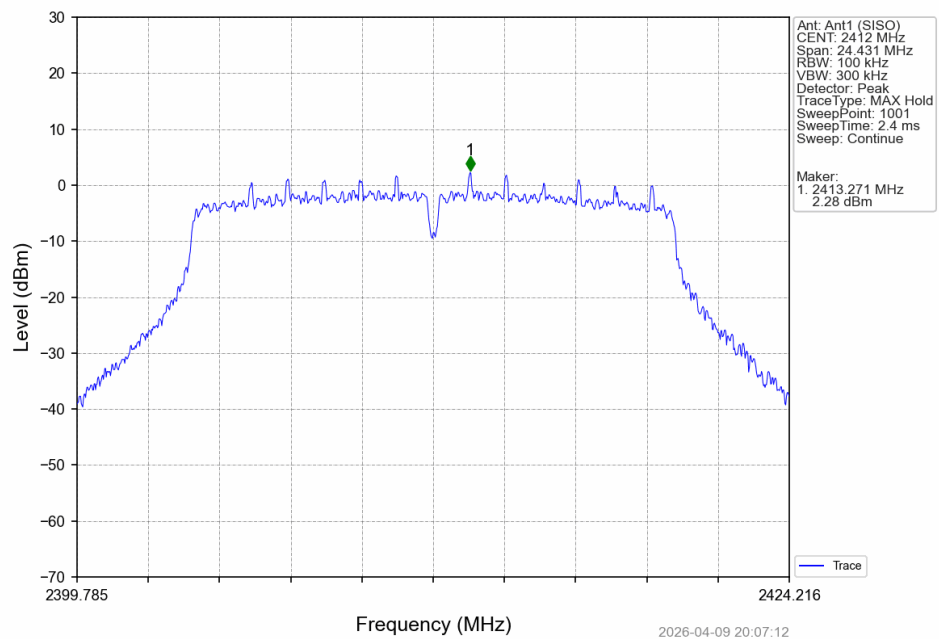
5.2.1 Ref



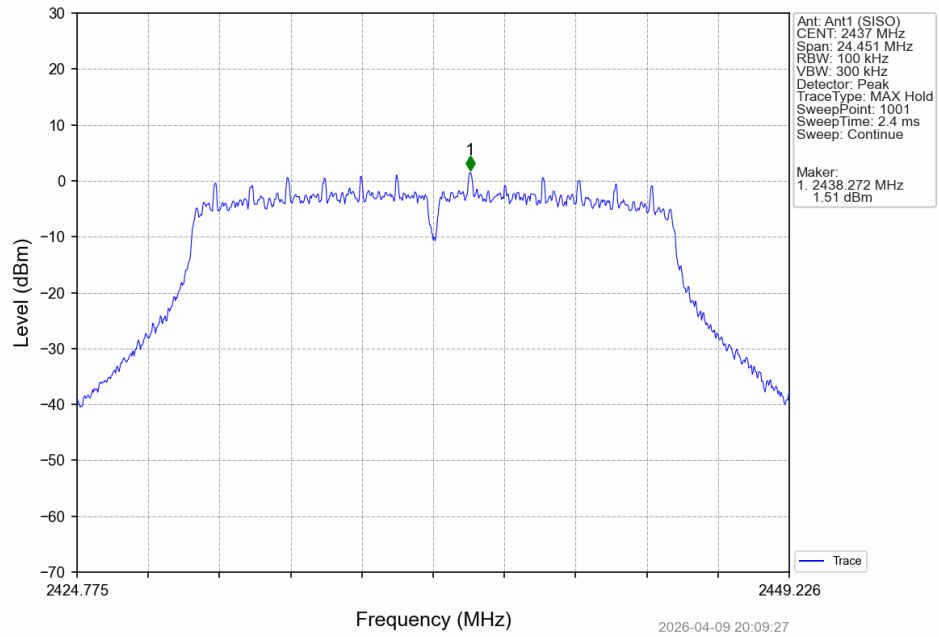
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



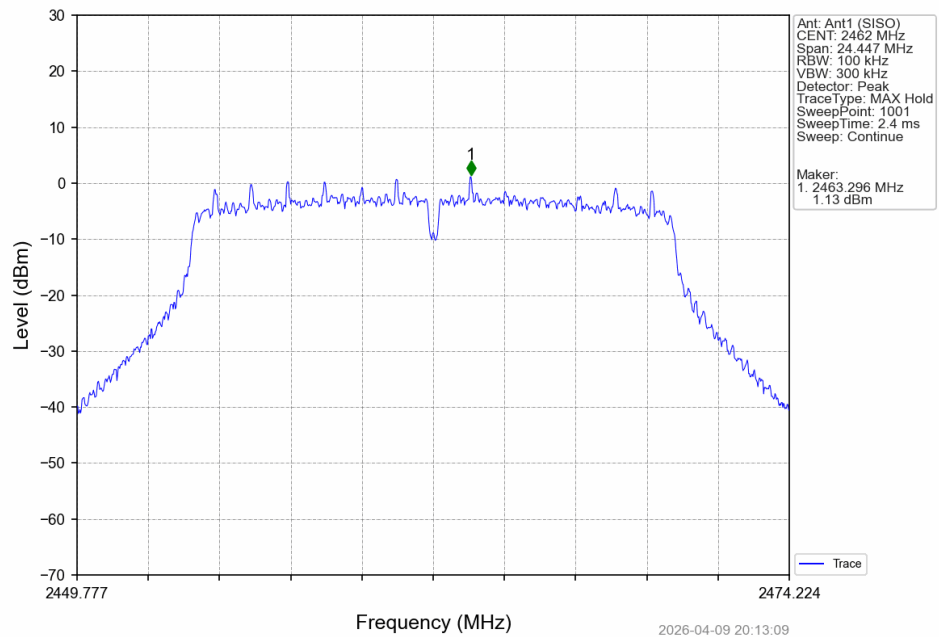
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



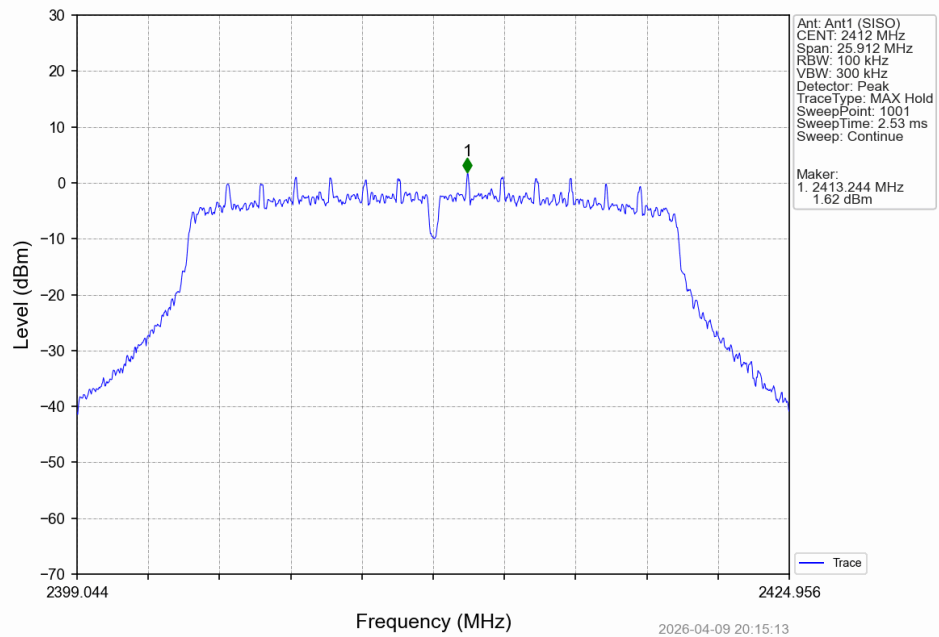
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



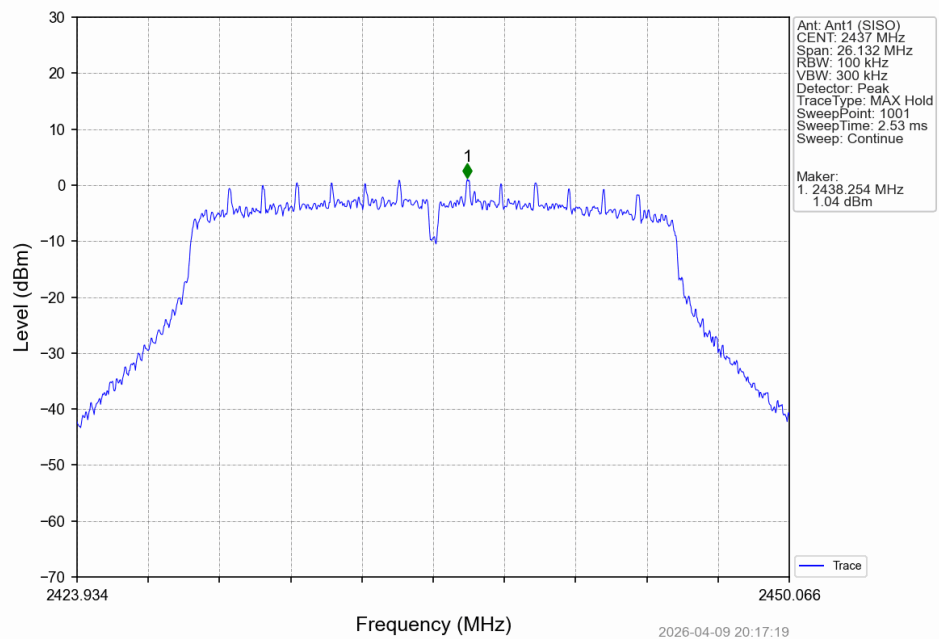
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



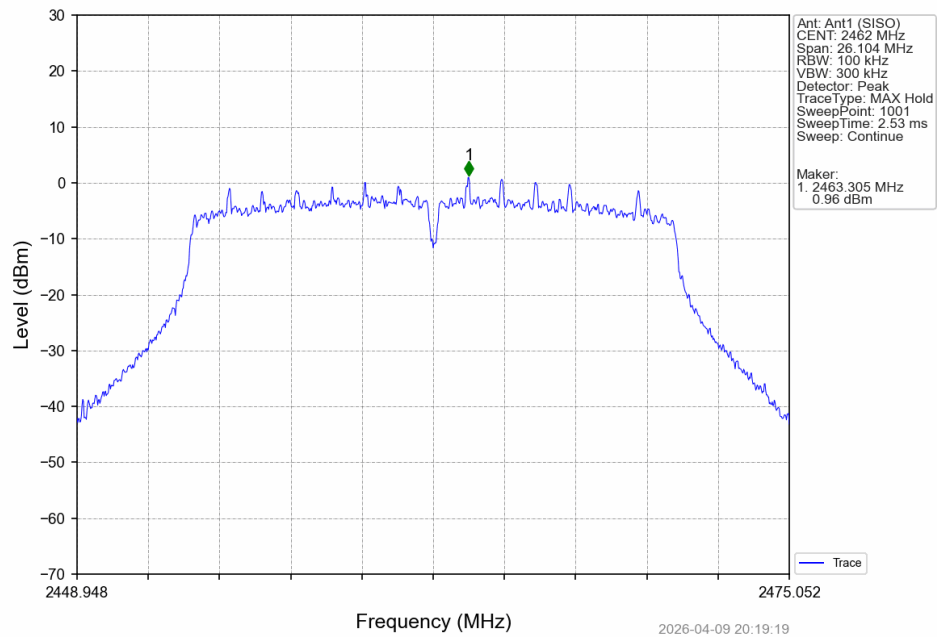
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



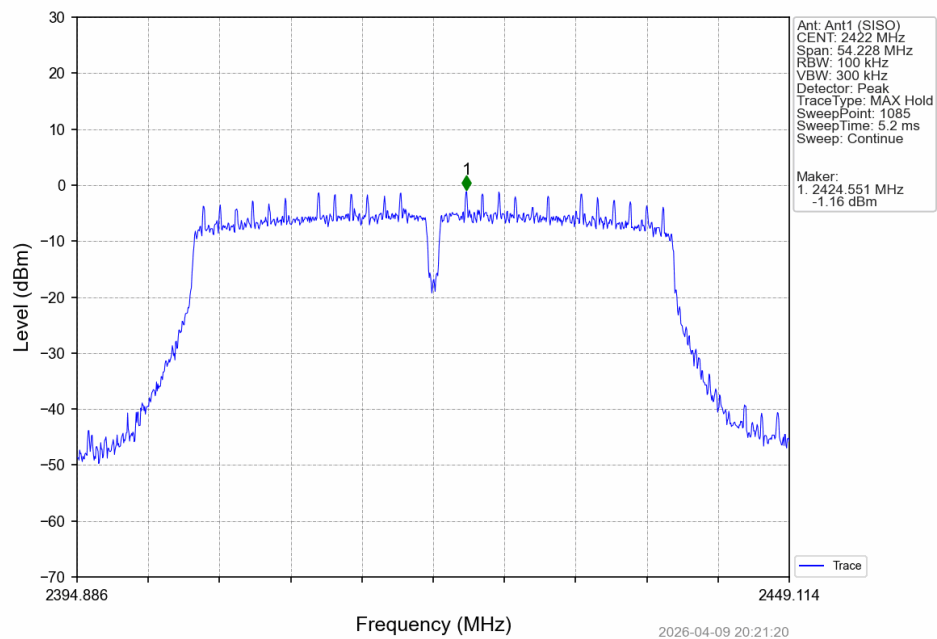
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



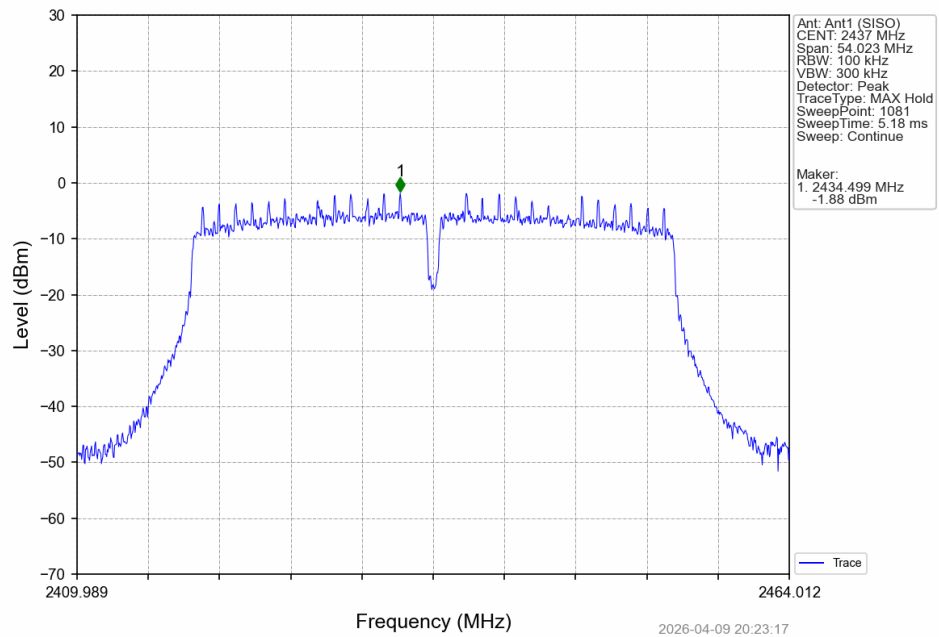
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



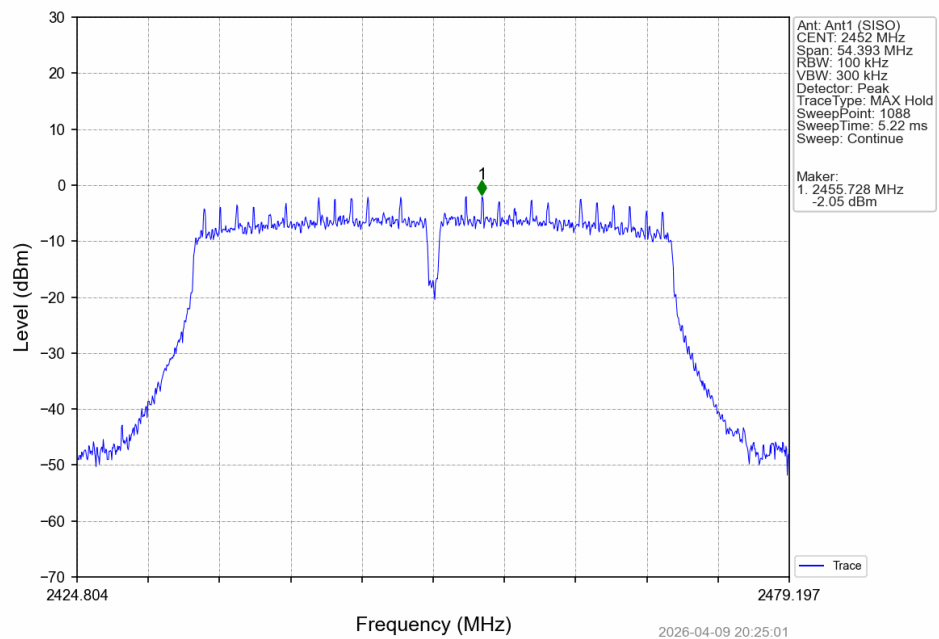
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



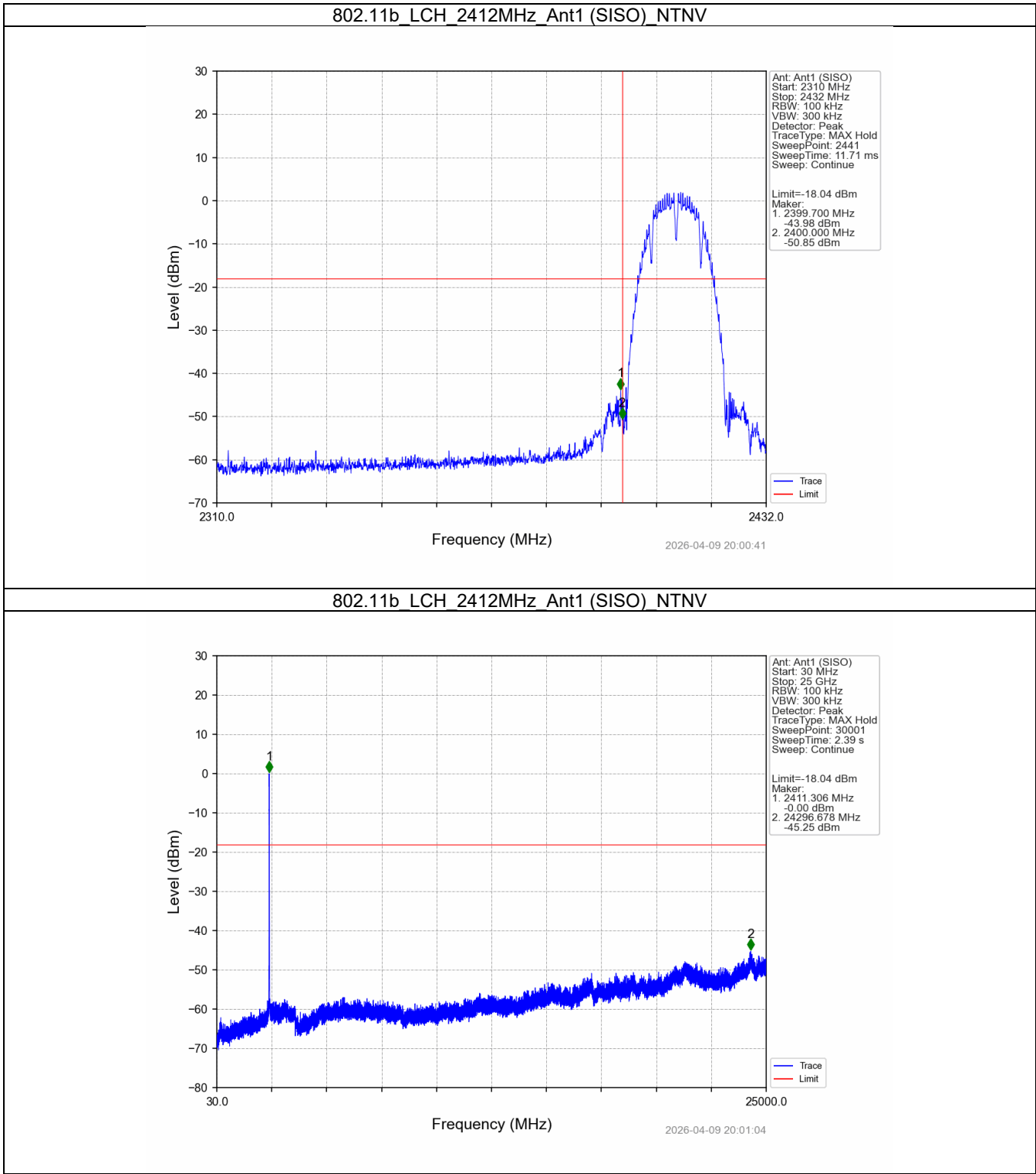
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



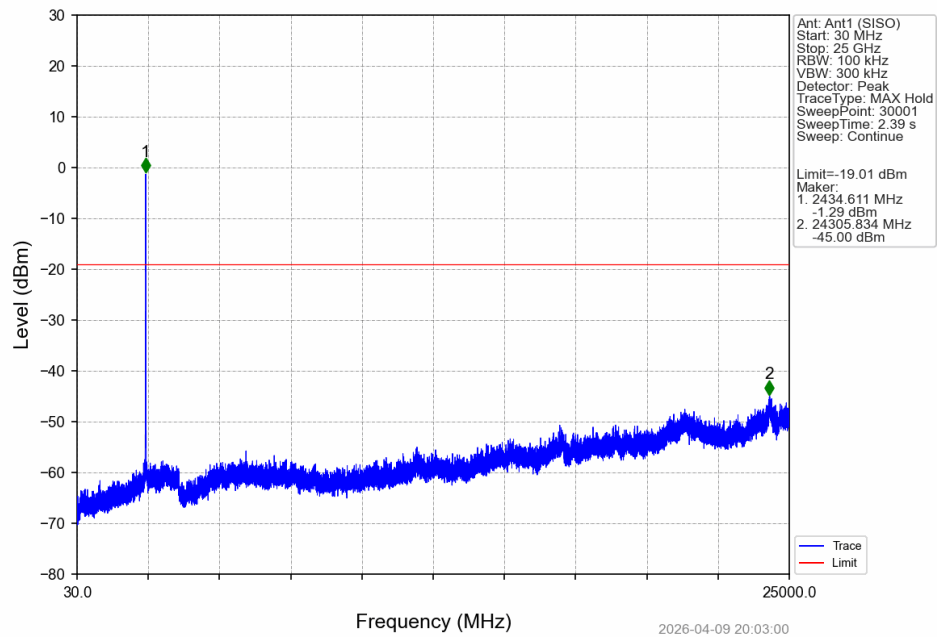
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



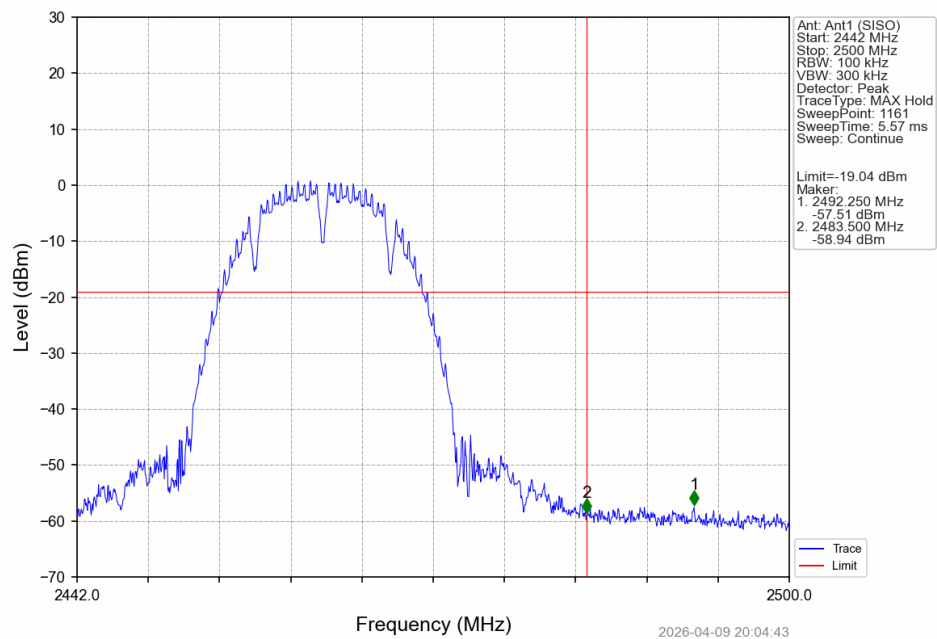
5.2.2 CSE



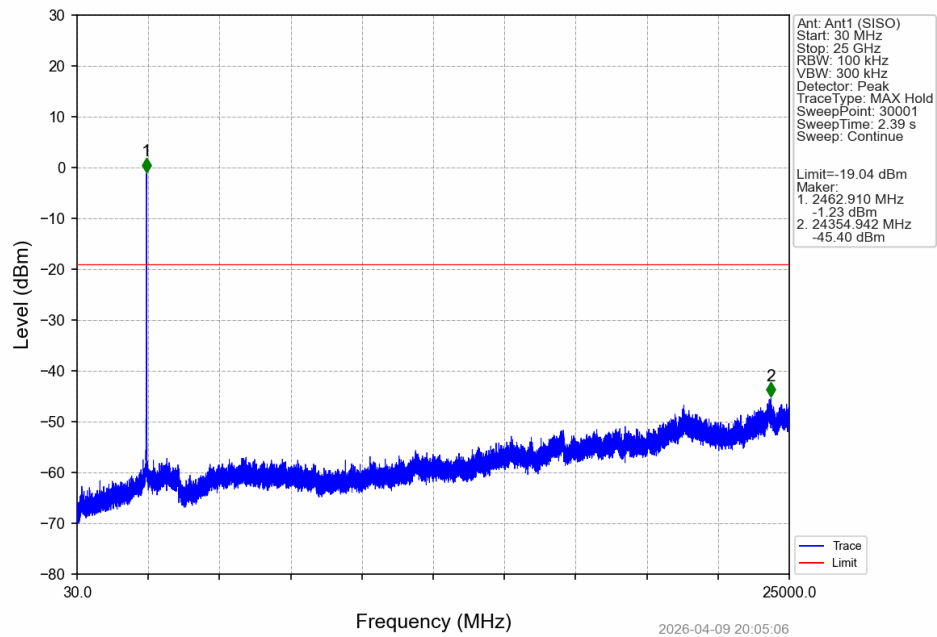
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



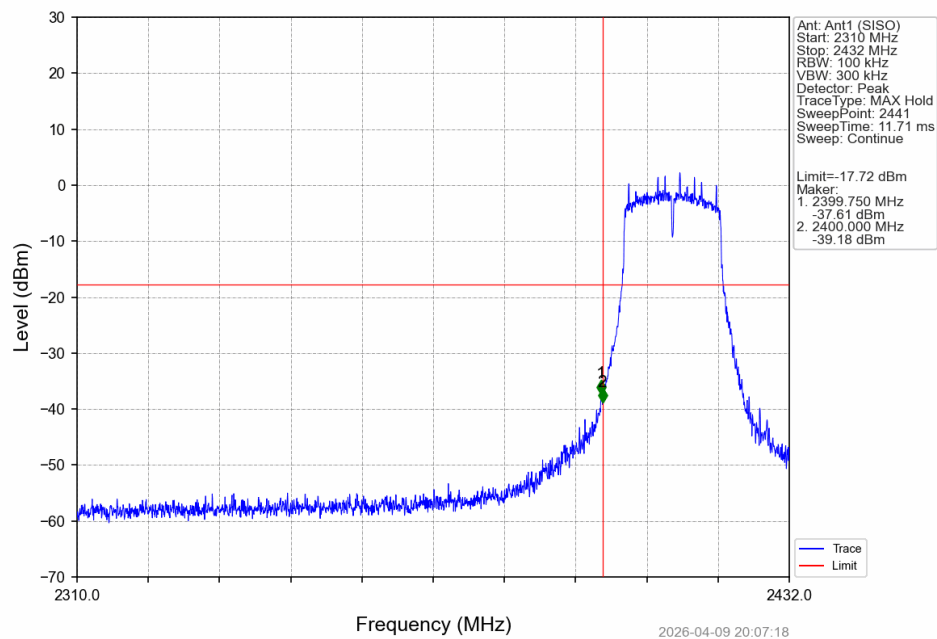
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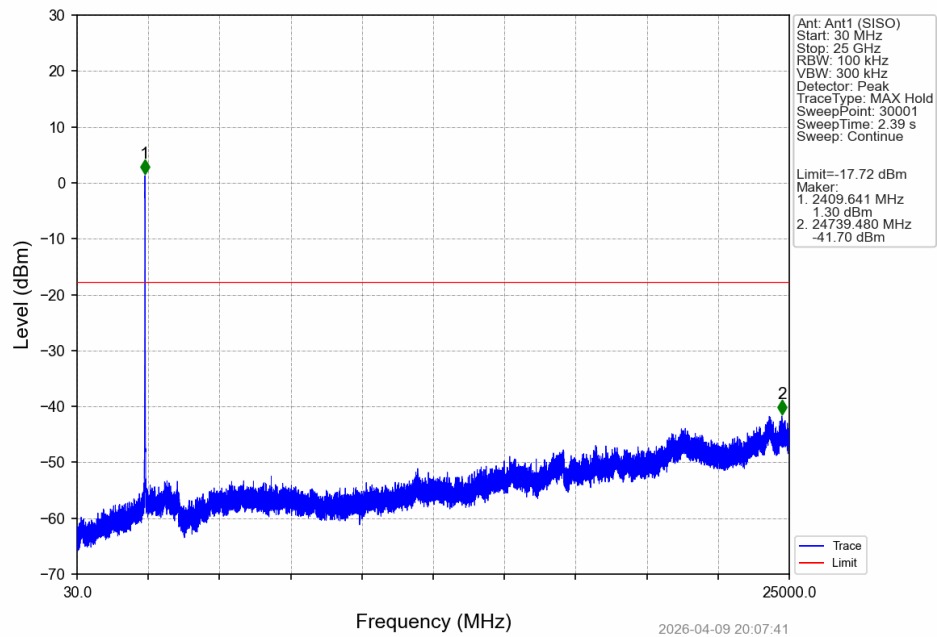
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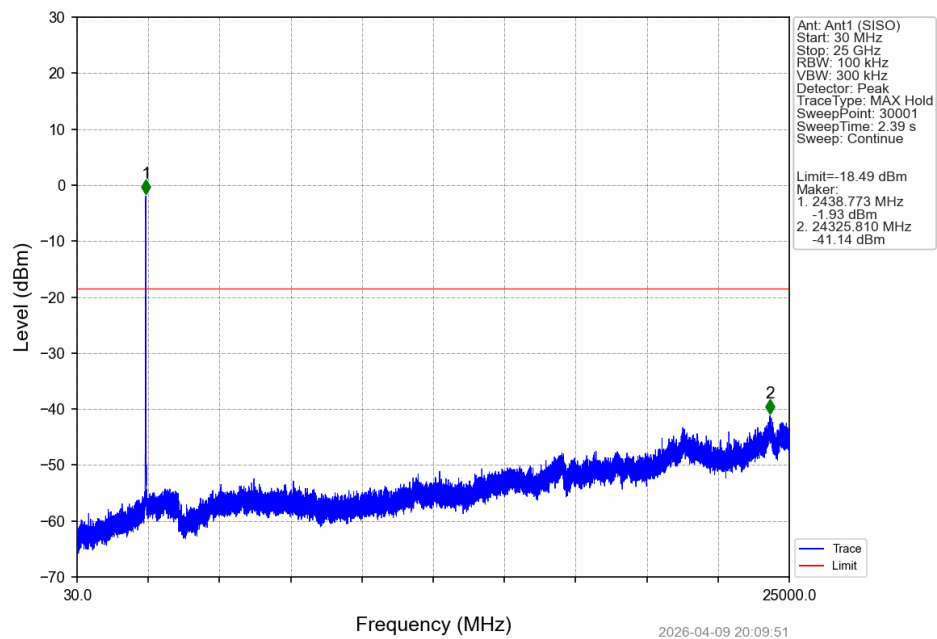
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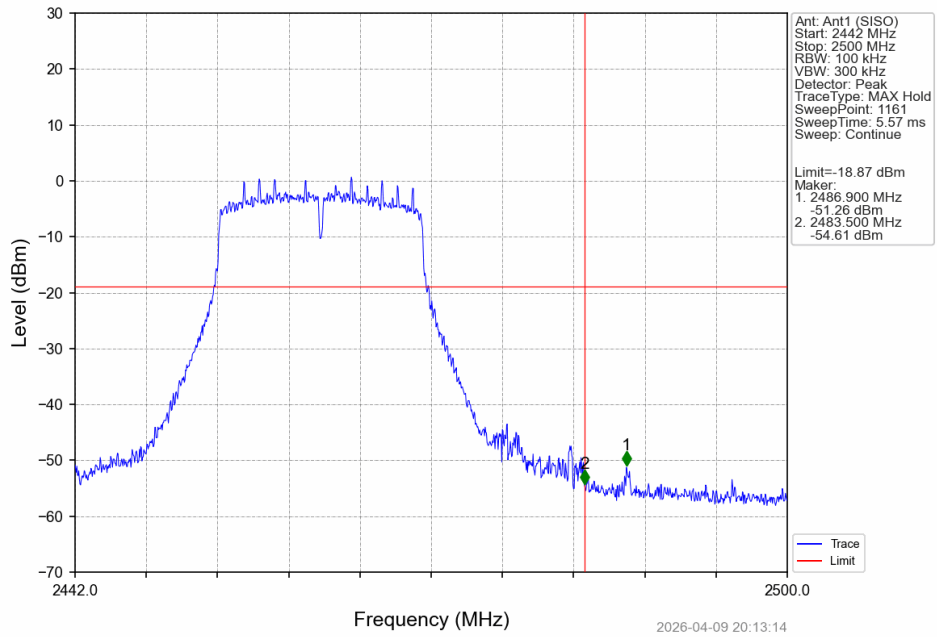
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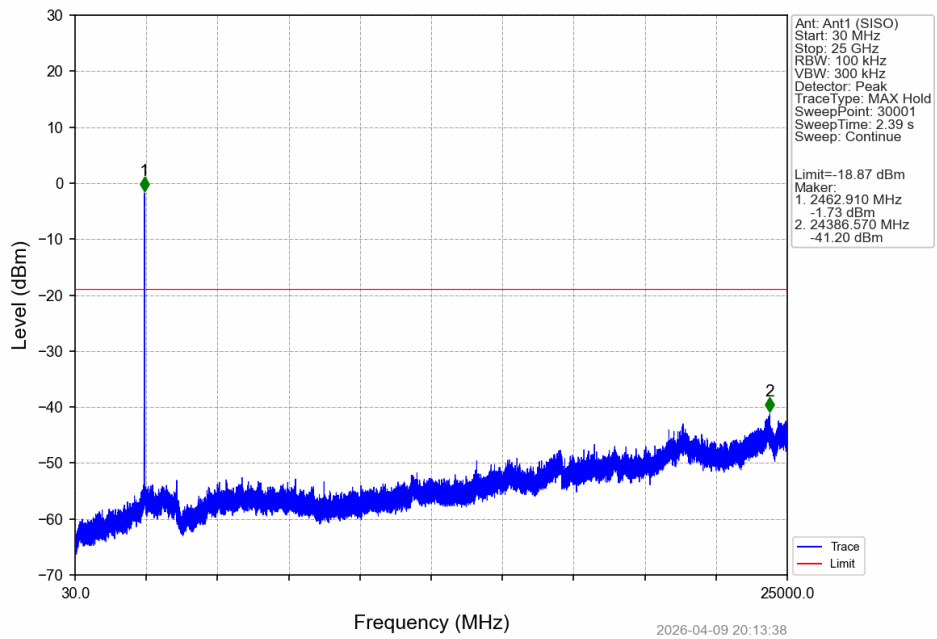
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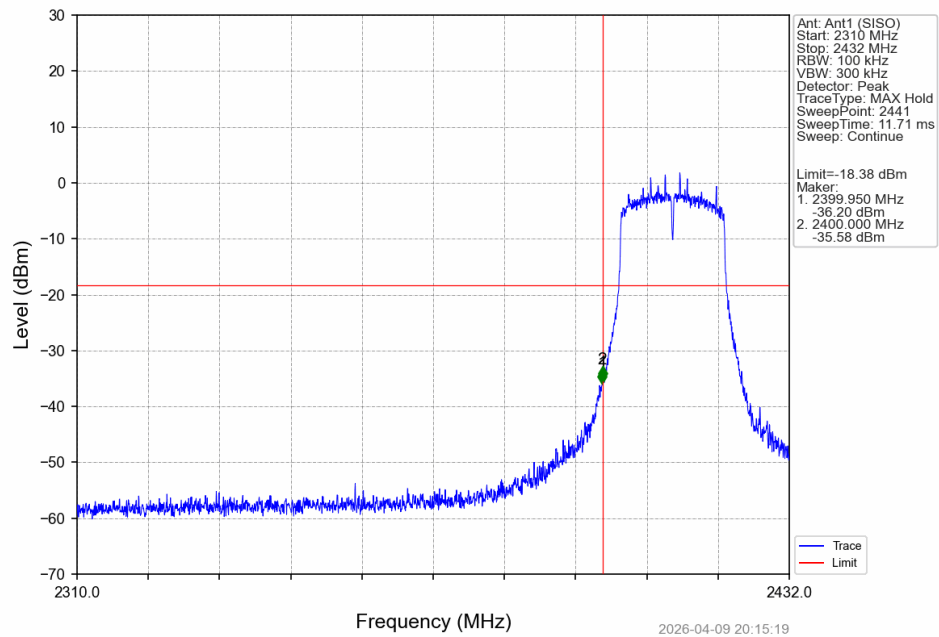
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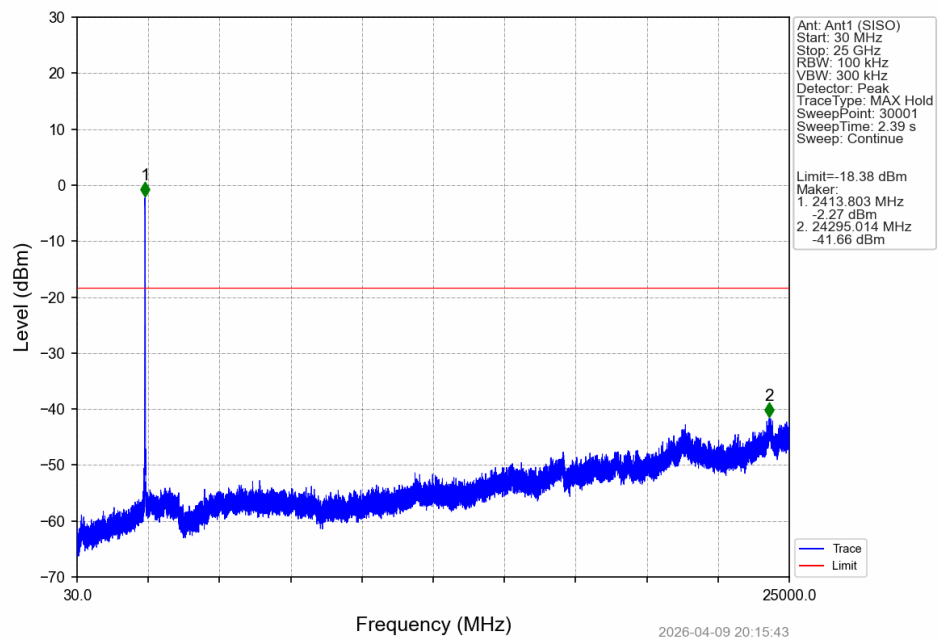
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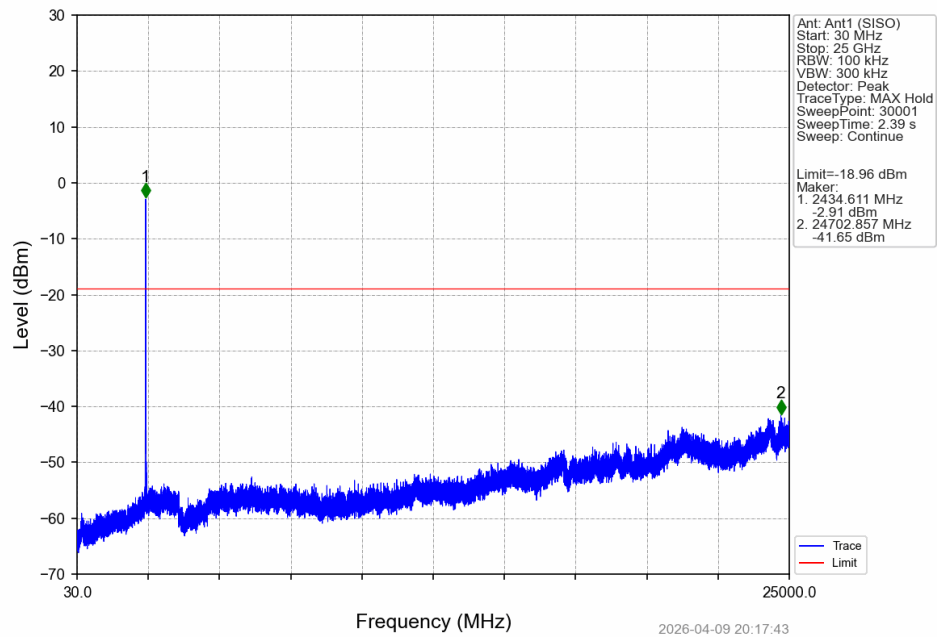
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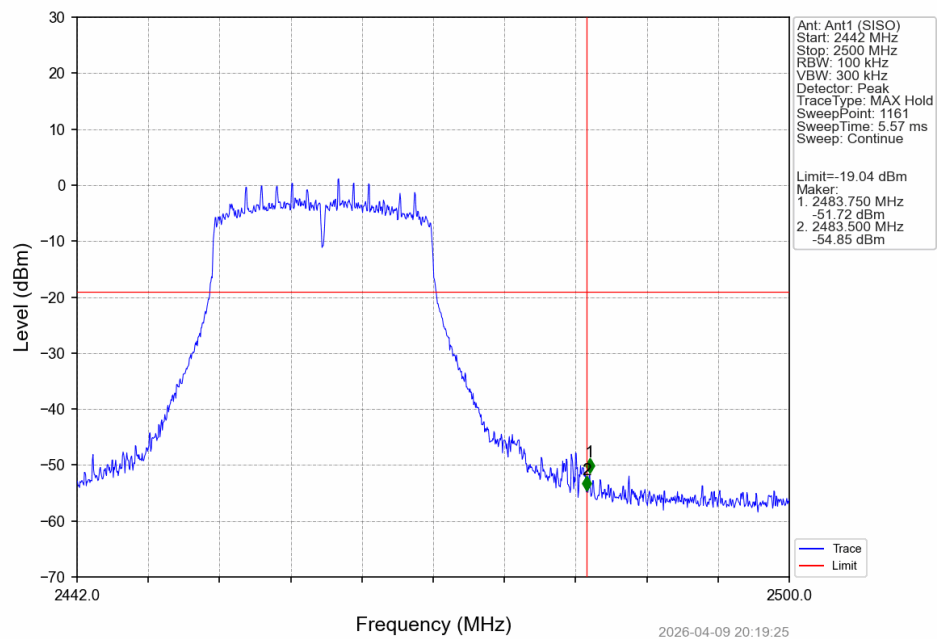
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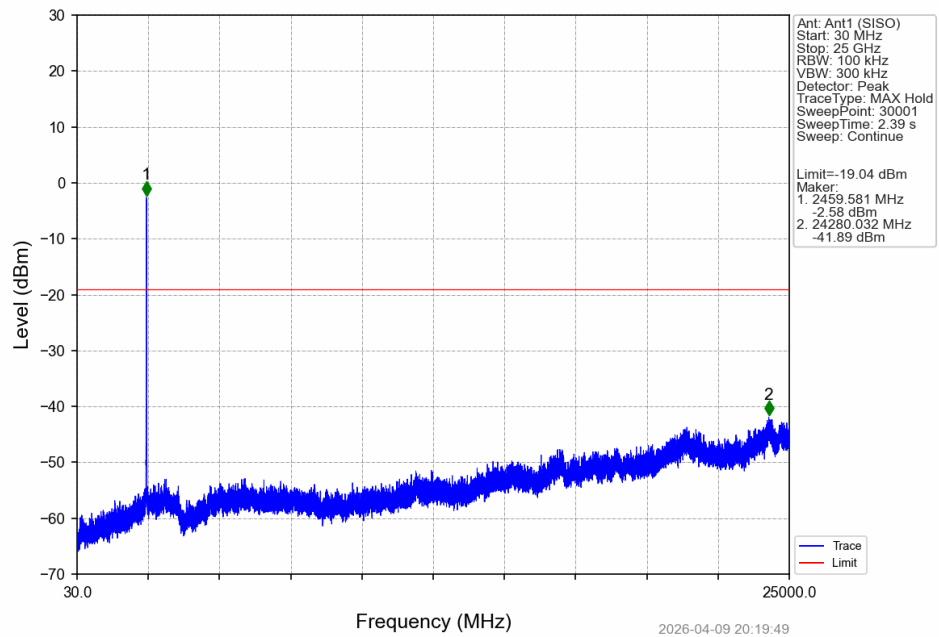
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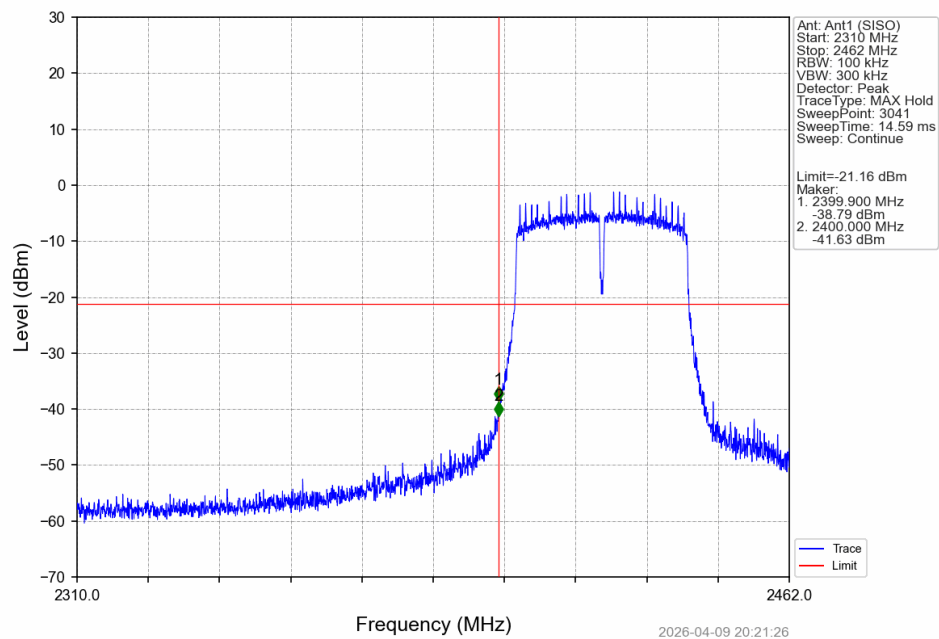
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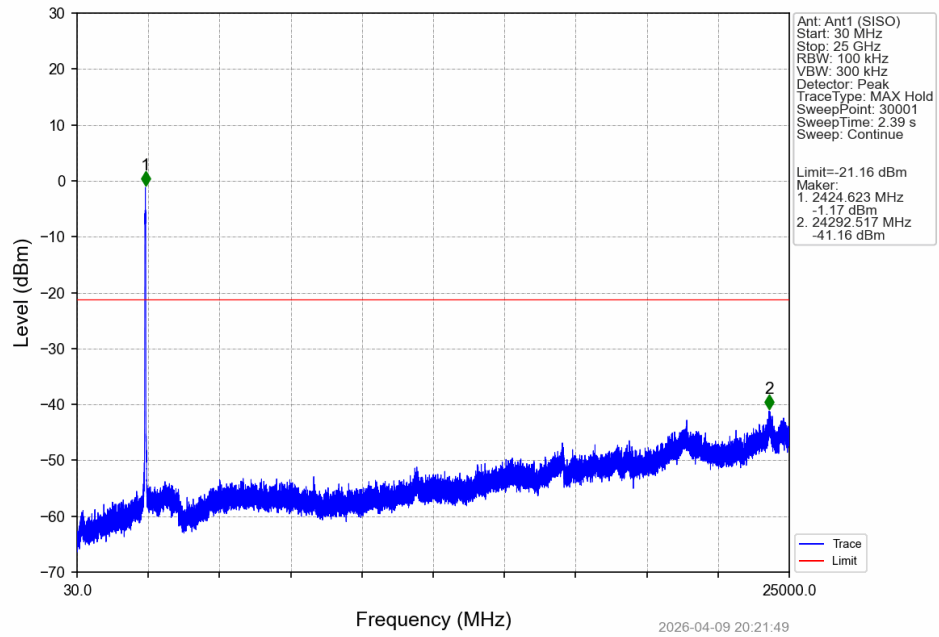
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



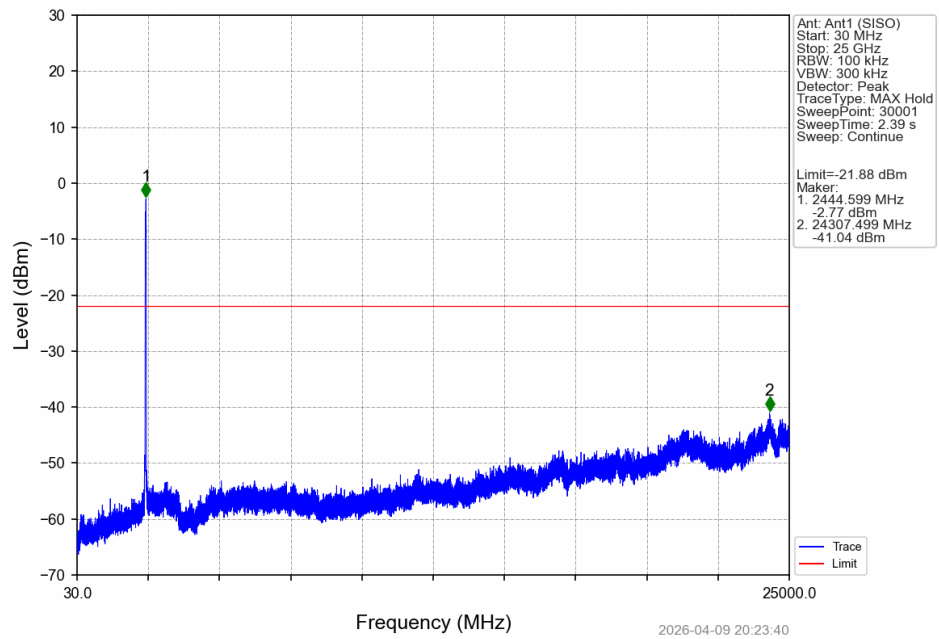
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



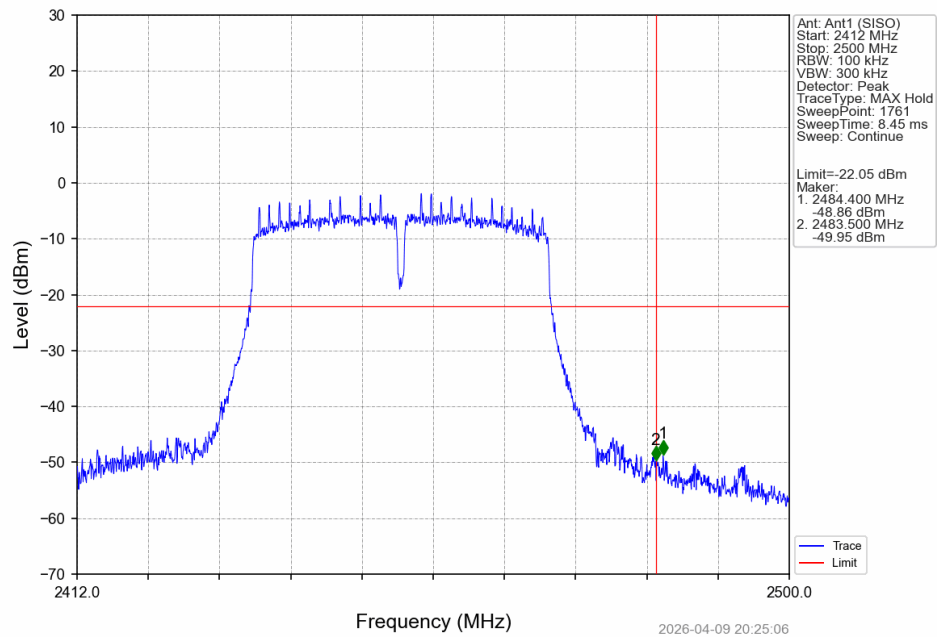
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV

