Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Thermo Hygrometer

Test Model: GA3001

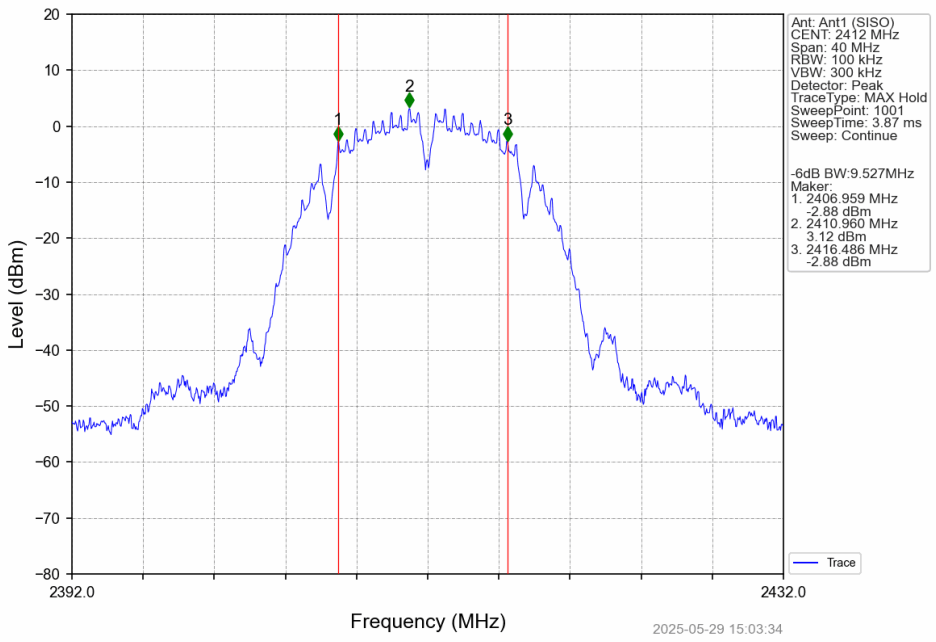
Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Max Luo
Supervised by:	Nick Peng

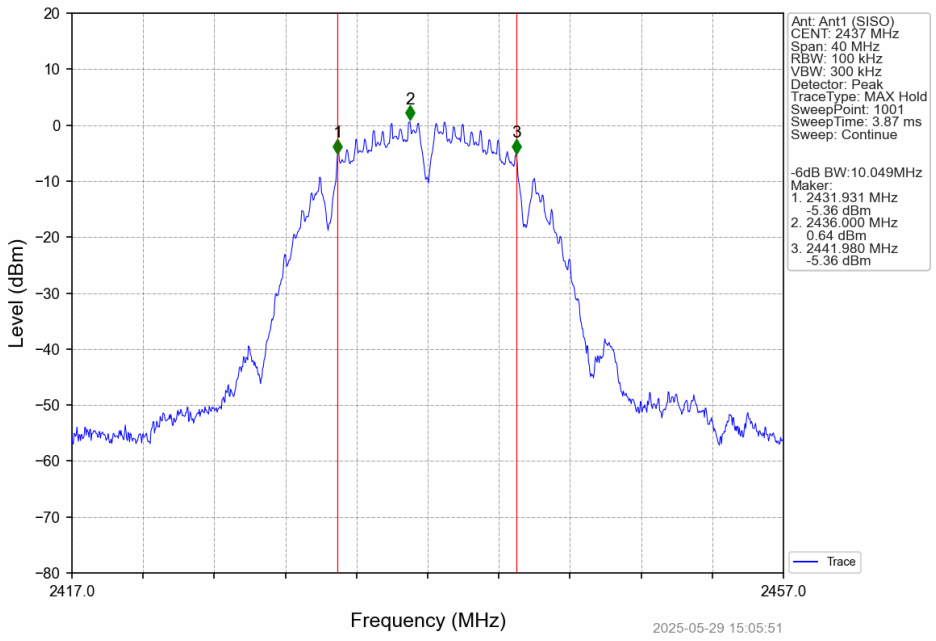
B.1 -6dB Bandwidth

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.527	>=0.5	Pass
		2437	1	10.049	>=0.5	Pass
		2462	1	9.038	>=0.5	Pass
802.11g	SISO	2412	1	16.364	>=0.5	Pass
		2437	1	16.376	>=0.5	Pass
		2462	1	16.367	>=0.5	Pass
802.11n (HT20)	SISO	2412	1	17.618	>=0.5	Pass
		2437	1	17.596	>=0.5	Pass
		2462	1	17.631	>=0.5	Pass

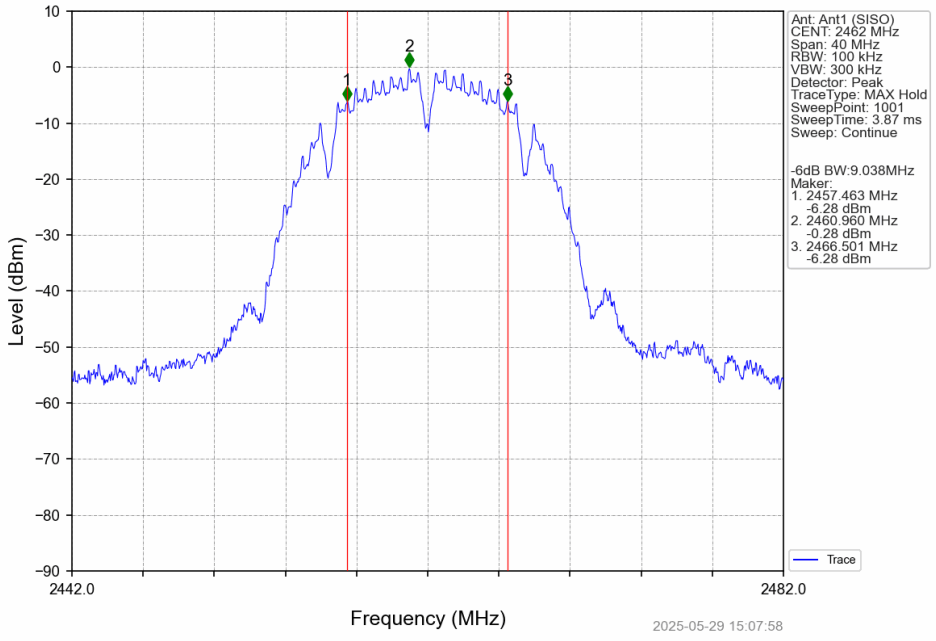
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



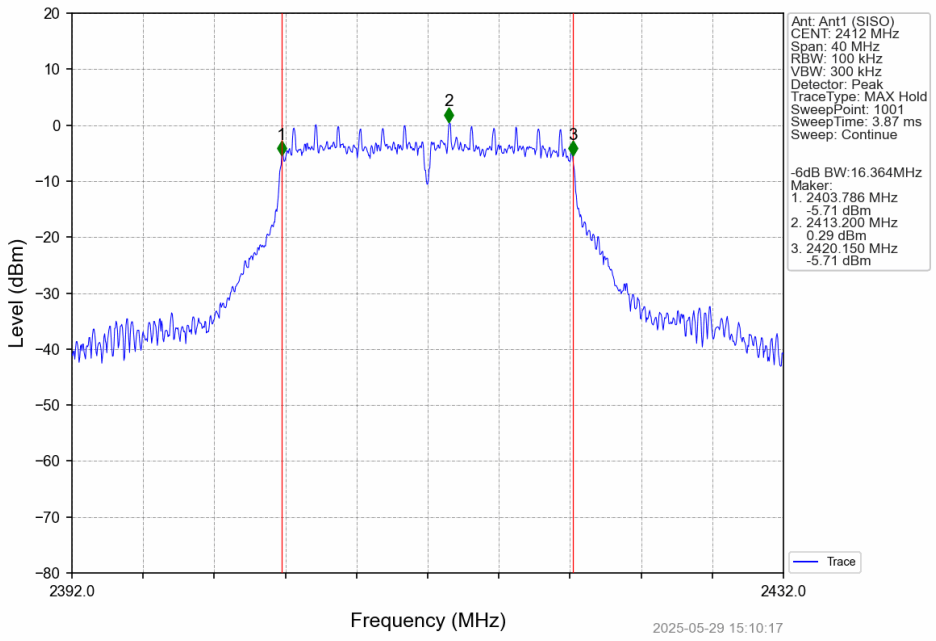
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



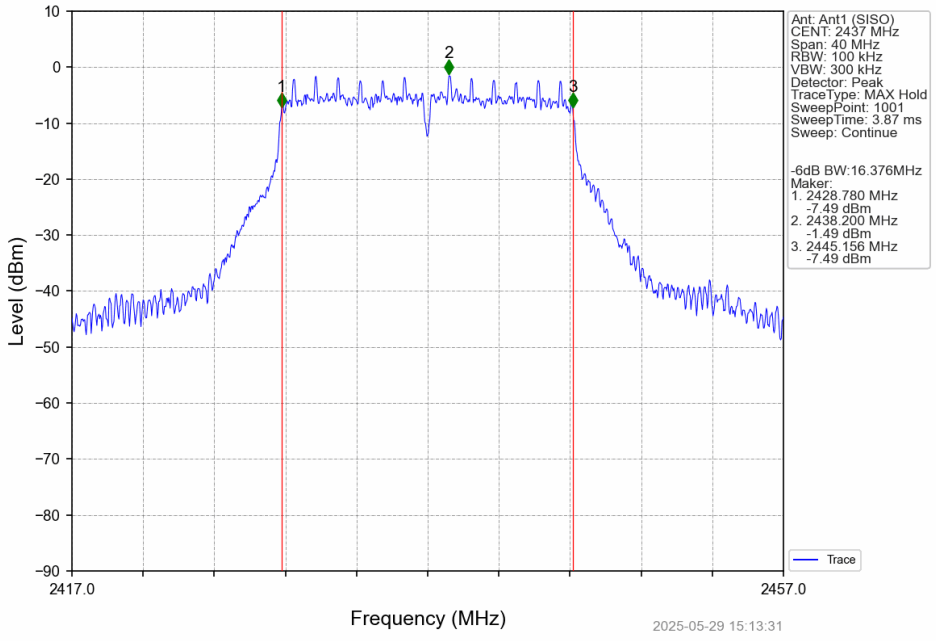
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



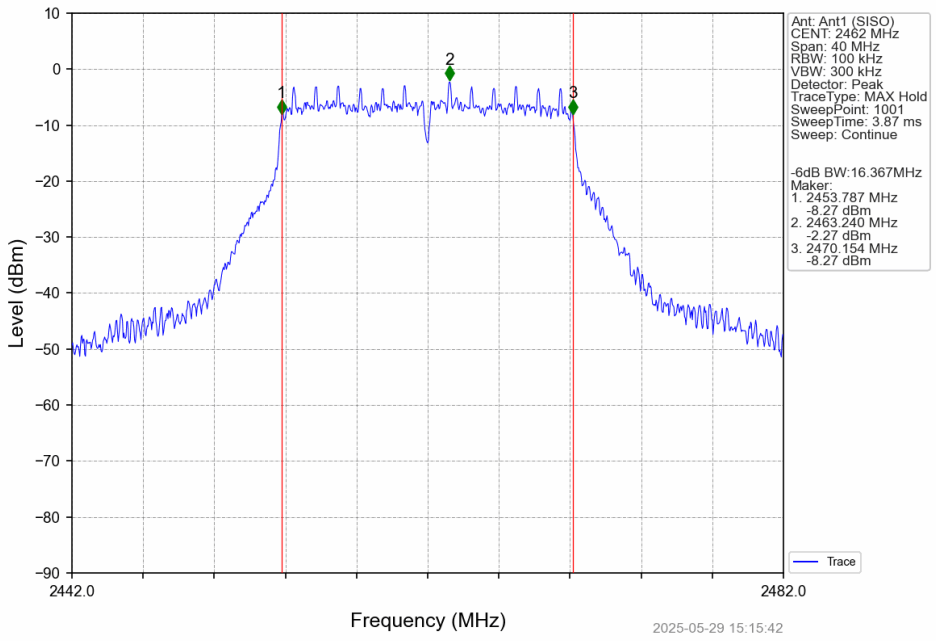
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



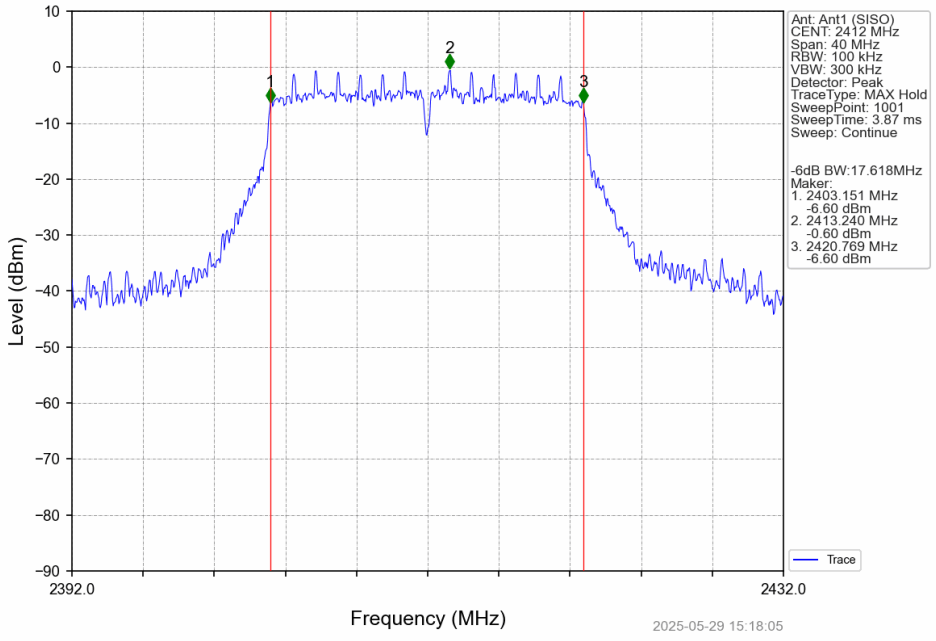
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



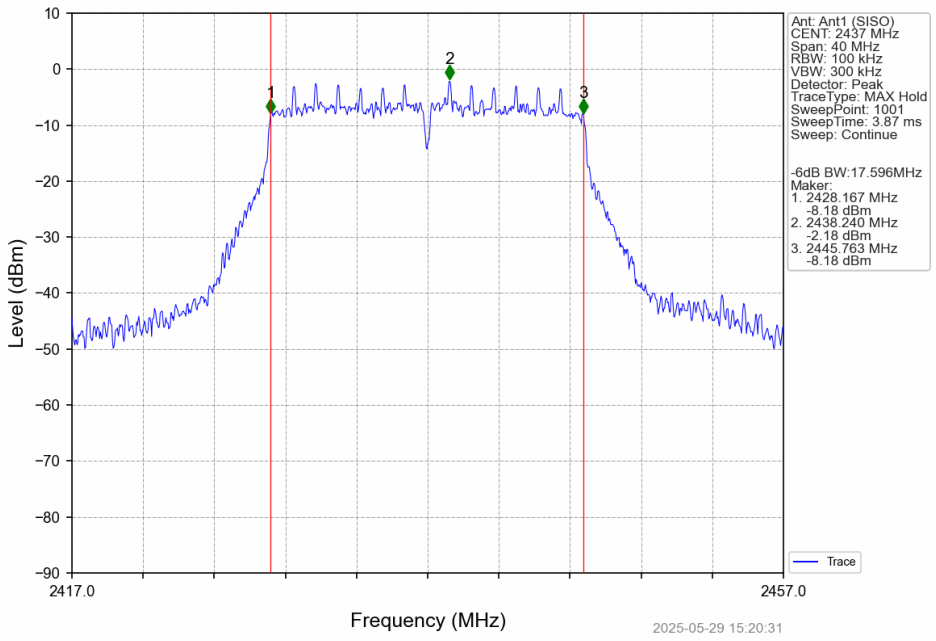
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



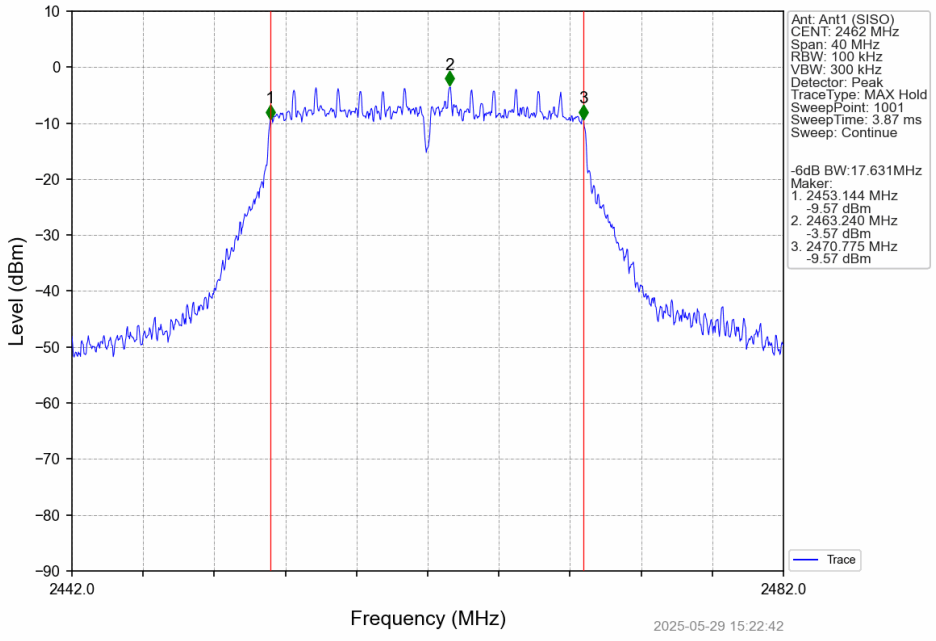
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



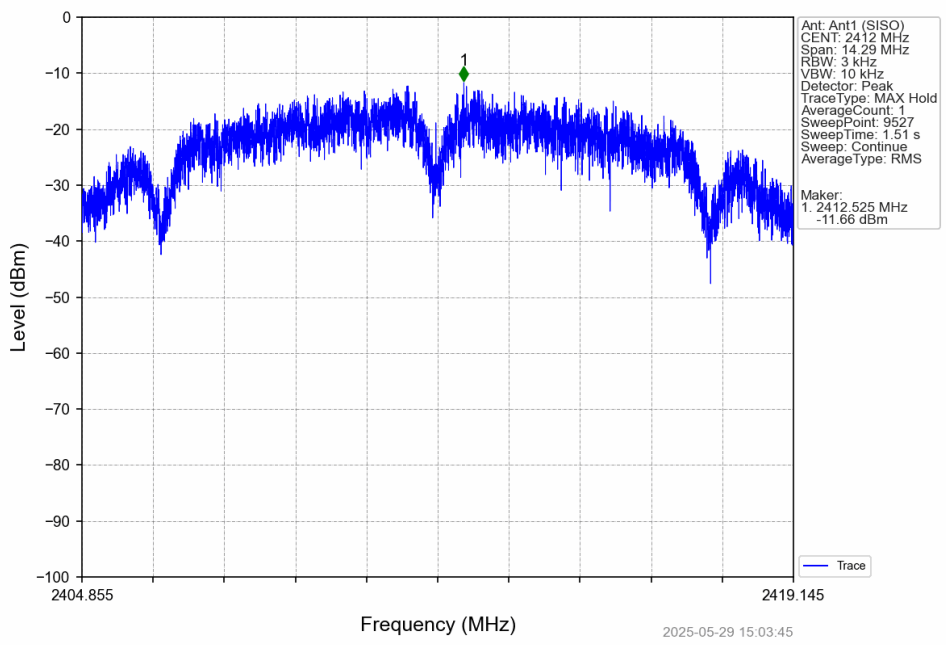
B.2 Maximum Peak Conducted Output Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	14.54	<=30	Pass
		2437	12.51	<=30	Pass
		2462	11.05	<=30	Pass
802.11g	SISO	2412	19.02	<=30	Pass
		2437	17.41	<=30	Pass
		2462	16.37	<=30	Pass
802.11n (HT20)	SISO	2412	18.37	<=30	Pass
		2437	16.51	<=30	Pass
		2462	15.53	<=30	Pass

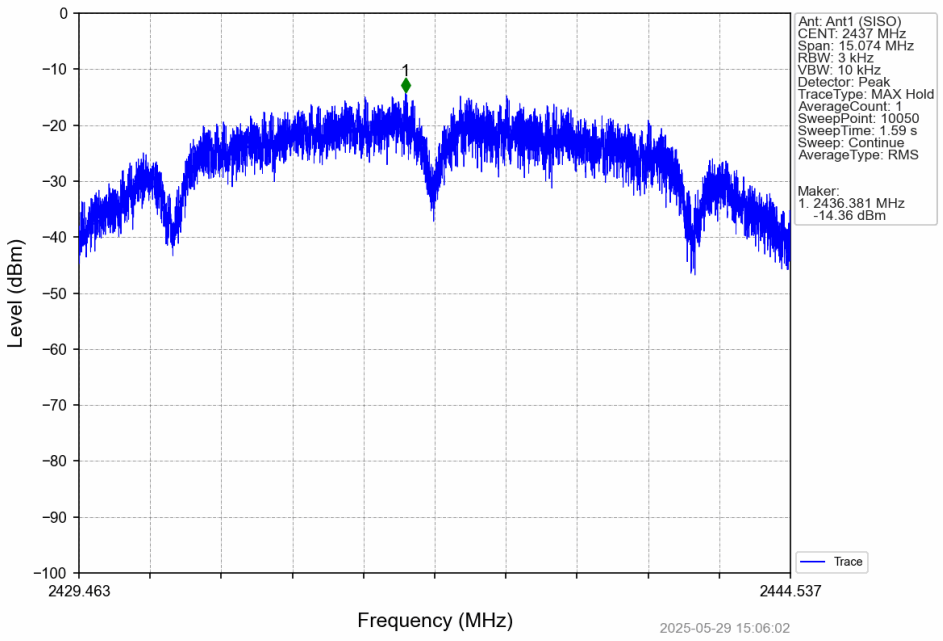
B.3 Maximum Power Spectral Density Level

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-11.66	<=8	Pass
		2437	-14.36	<=8	Pass
		2462	-15.61	<=8	Pass
802.11g	SISO	2412	-14.56	<=8	Pass
		2437	-16.27	<=8	Pass
		2462	-17.25	<=8	Pass
802.11n (HT20)	SISO	2412	-14.53	<=8	Pass
		2437	-16.97	<=8	Pass
		2462	-18.18	<=8	Pass

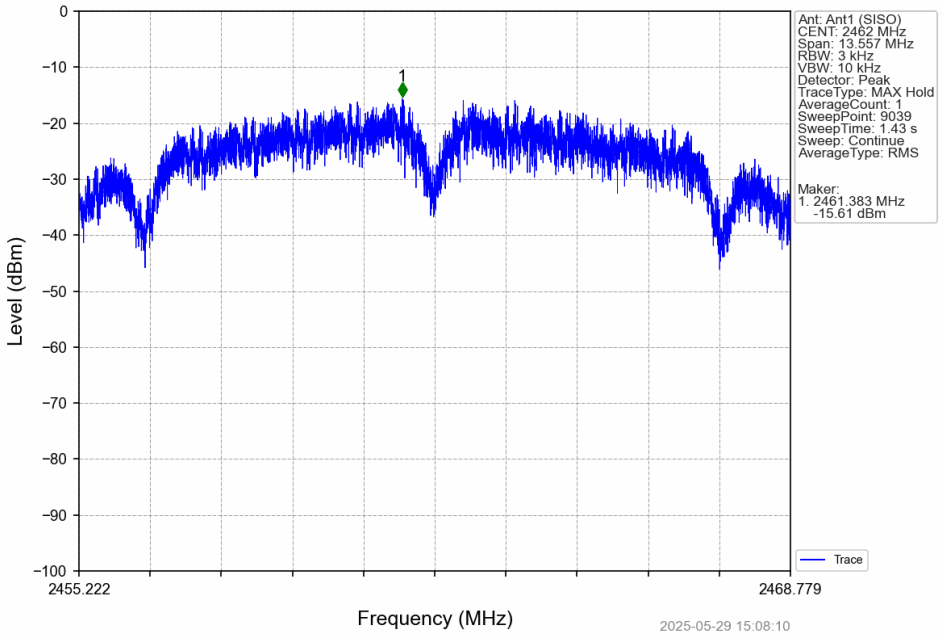
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



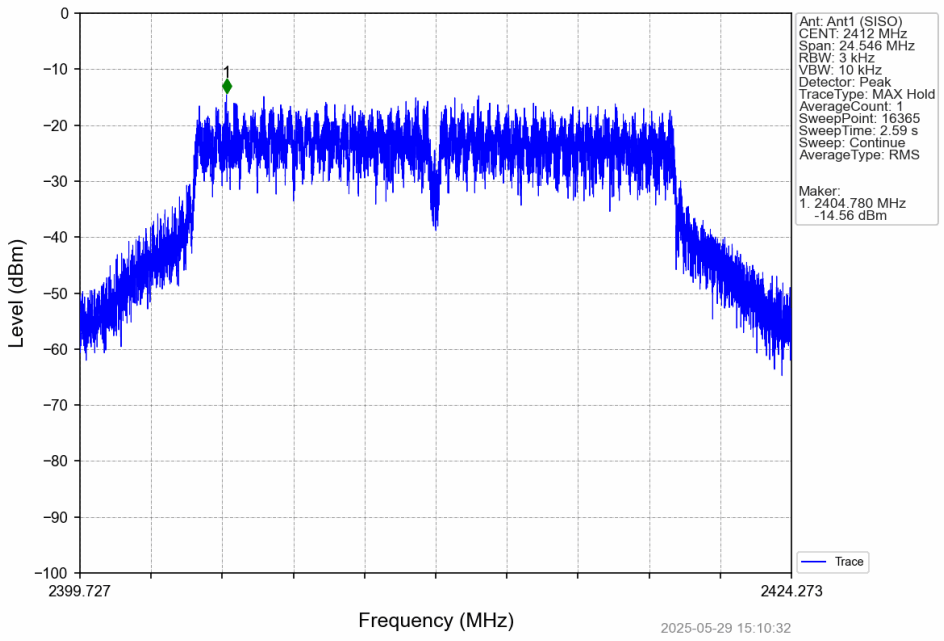
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



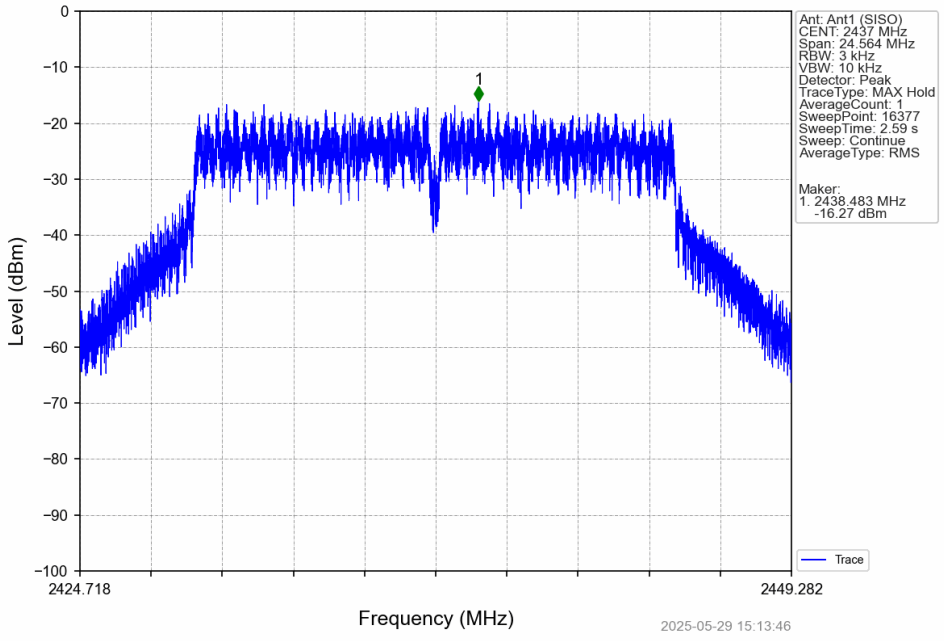
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



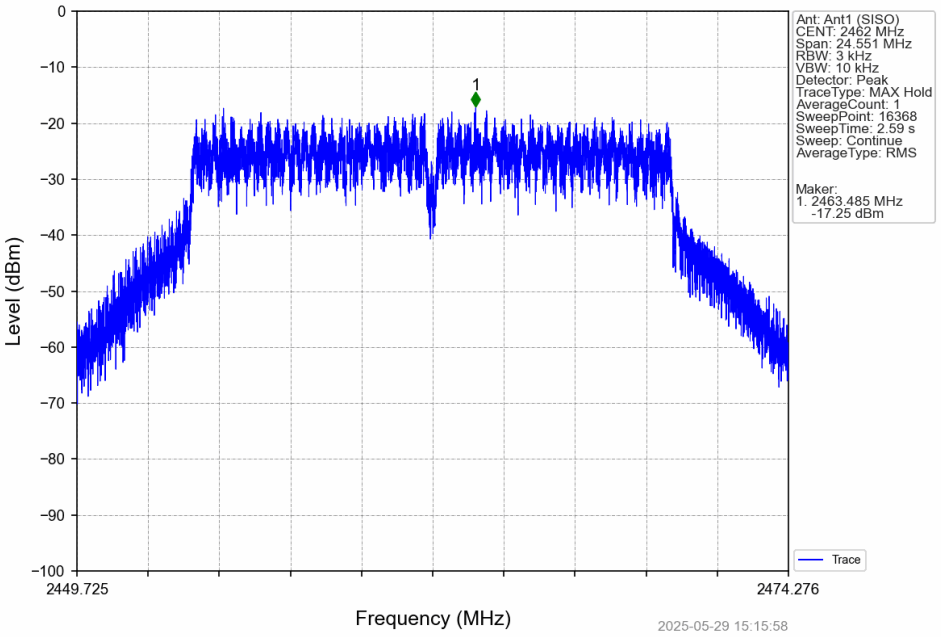
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



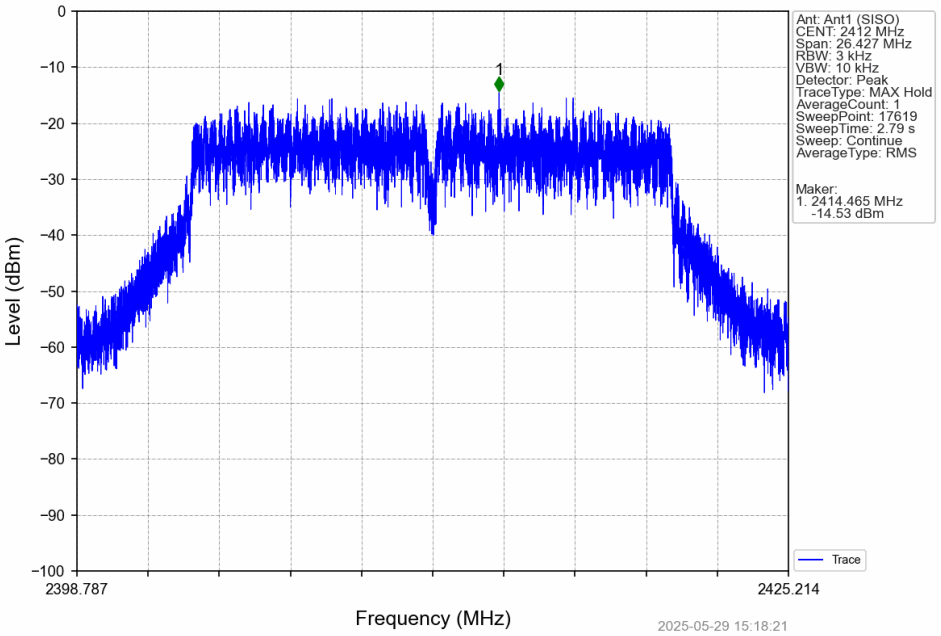
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



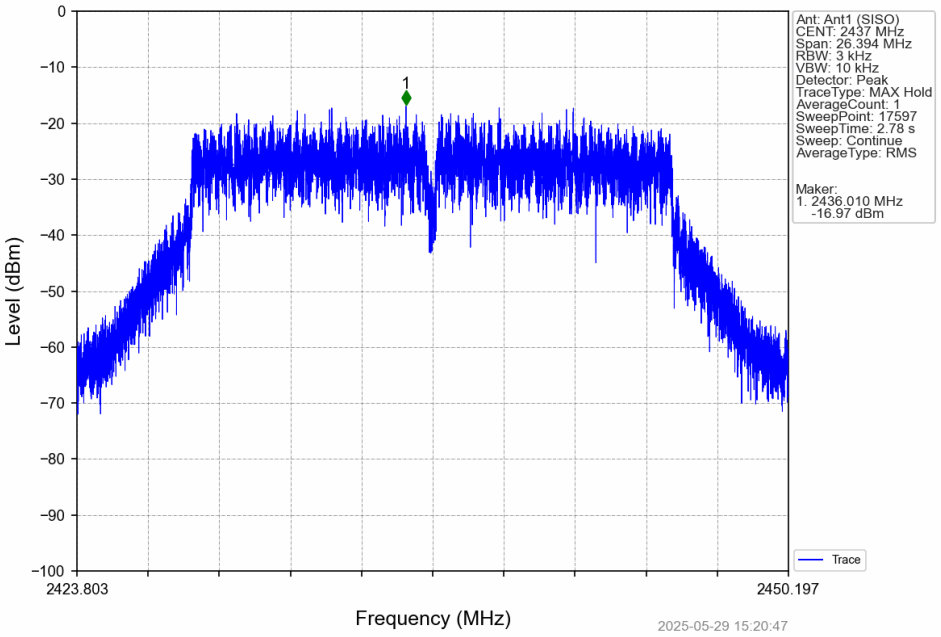
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



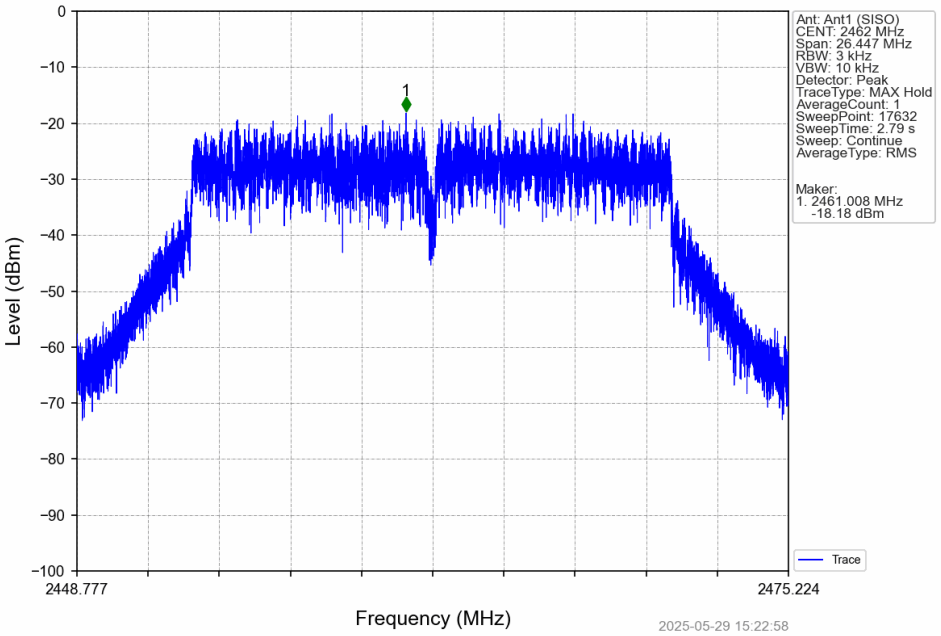
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



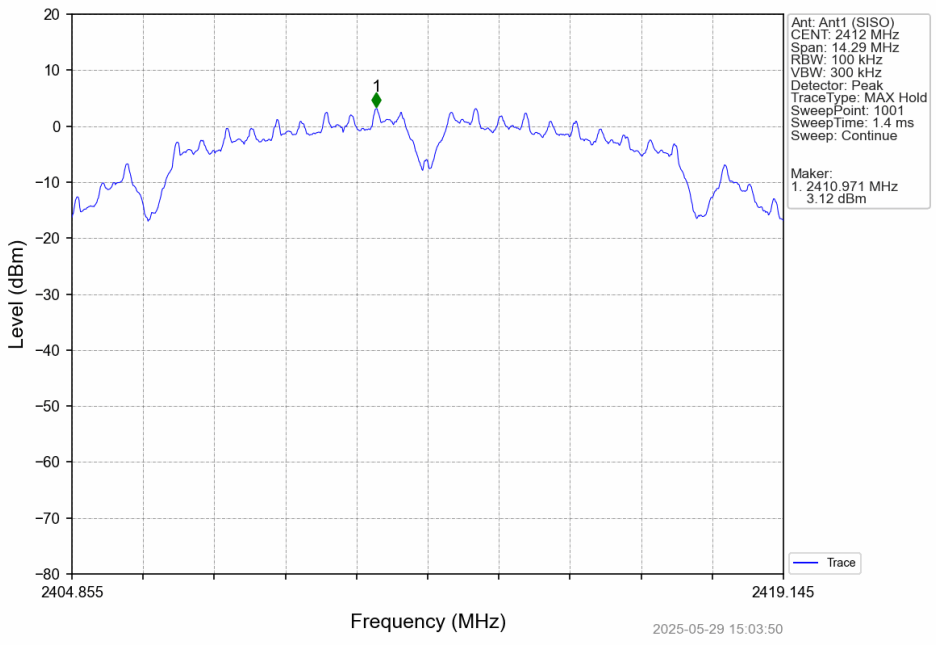
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



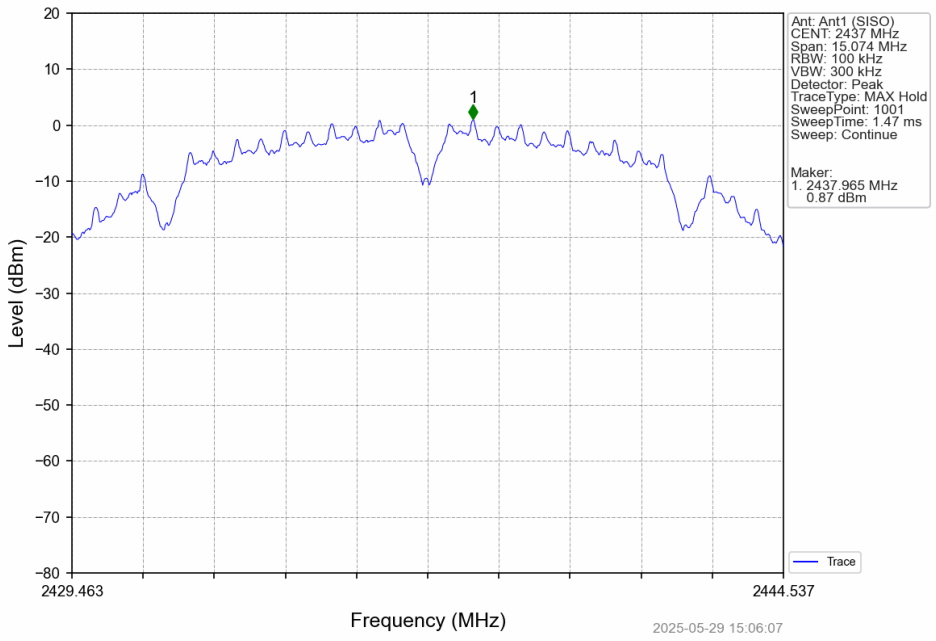
B.4 Band Edge

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	3.12	-16.88	Pass
		2437	1	0.87	-19.13	Pass
		2462	1	-0.33	-20.33	Pass
802.11g	SISO	2412	1	0.77	-19.23	Pass
		2437	1	-1.28	-21.28	Pass
		2462	1	-2.32	-22.32	Pass
802.11n (HT20)	SISO	2412	1	-0.19	-20.19	Pass
		2437	1	-2.43	-22.43	Pass
		2462	1	-3.15	-23.15	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.						

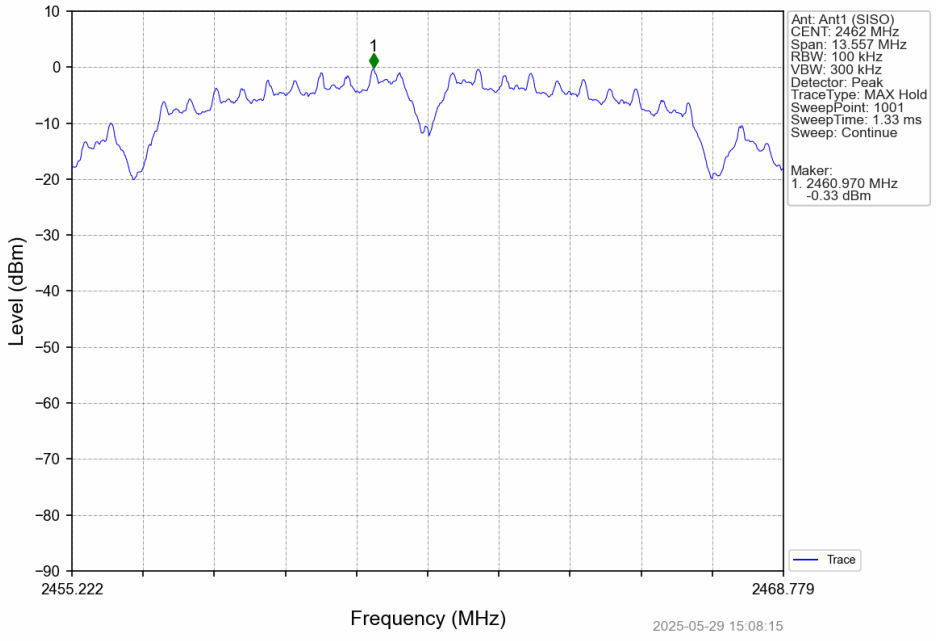
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



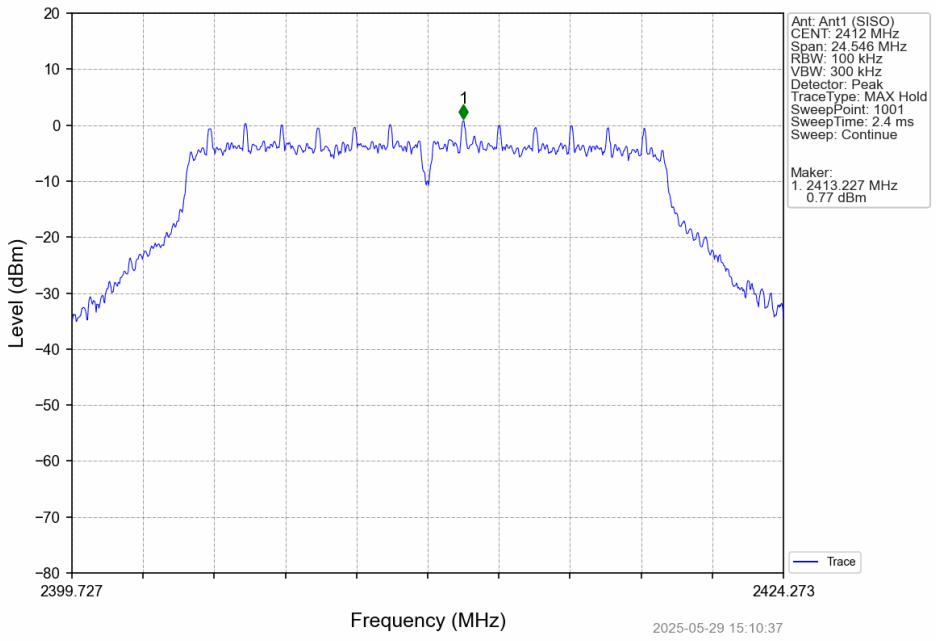
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



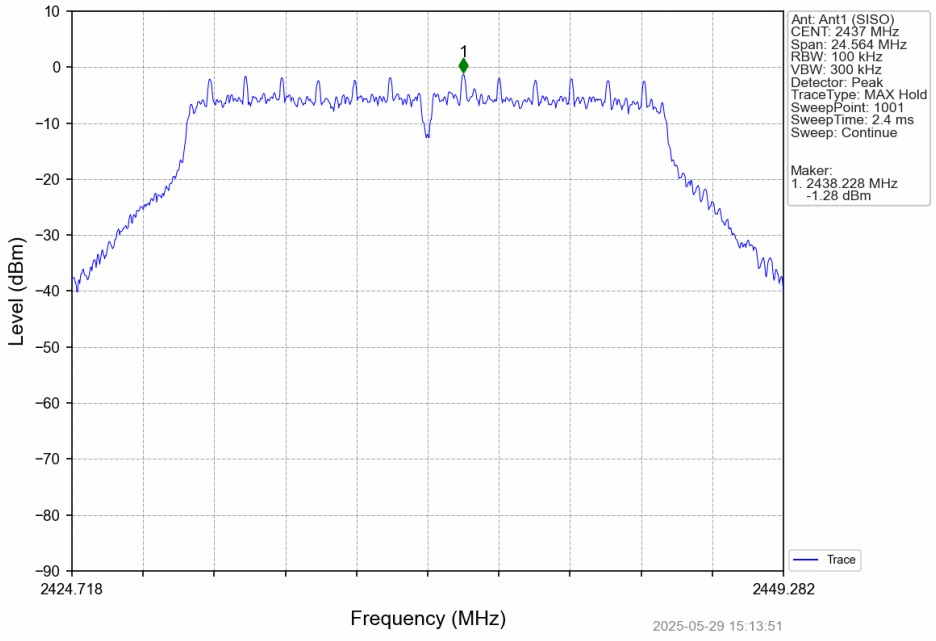
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



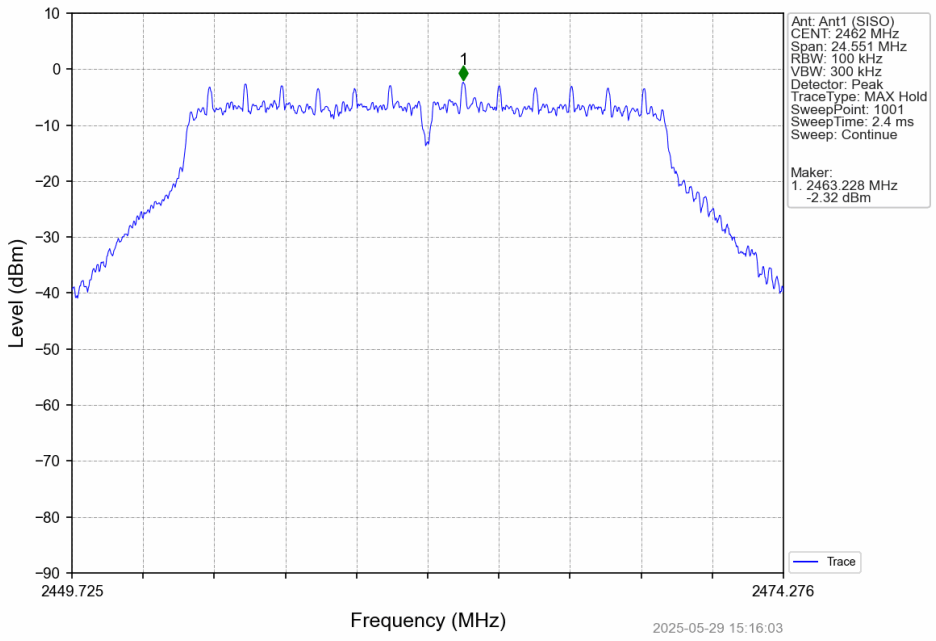
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



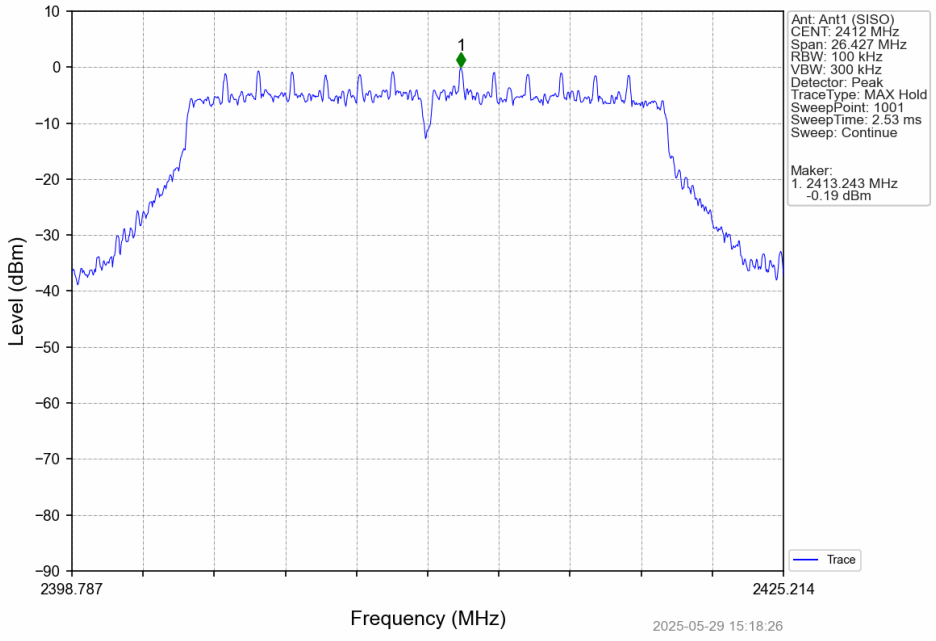
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



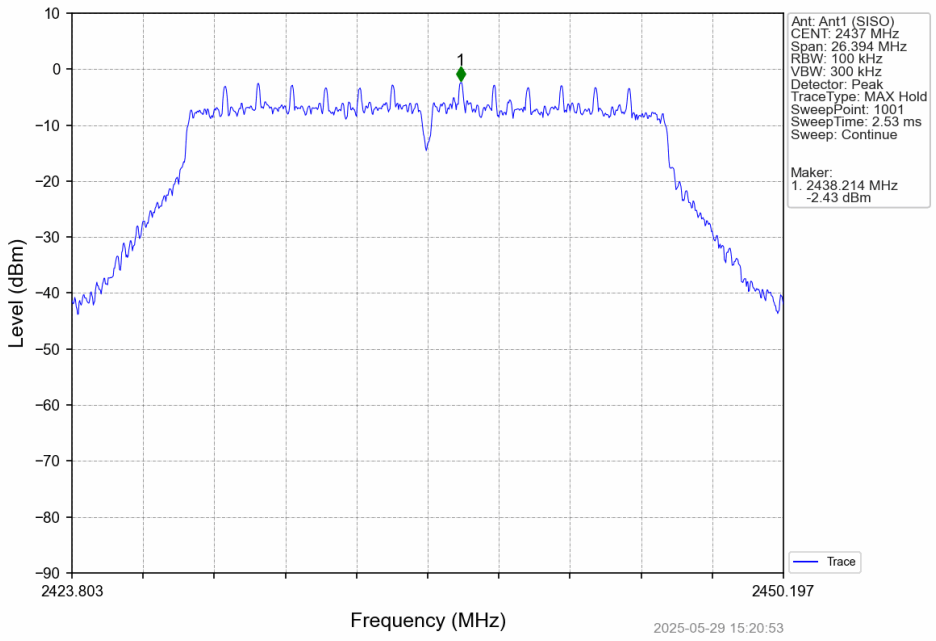
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



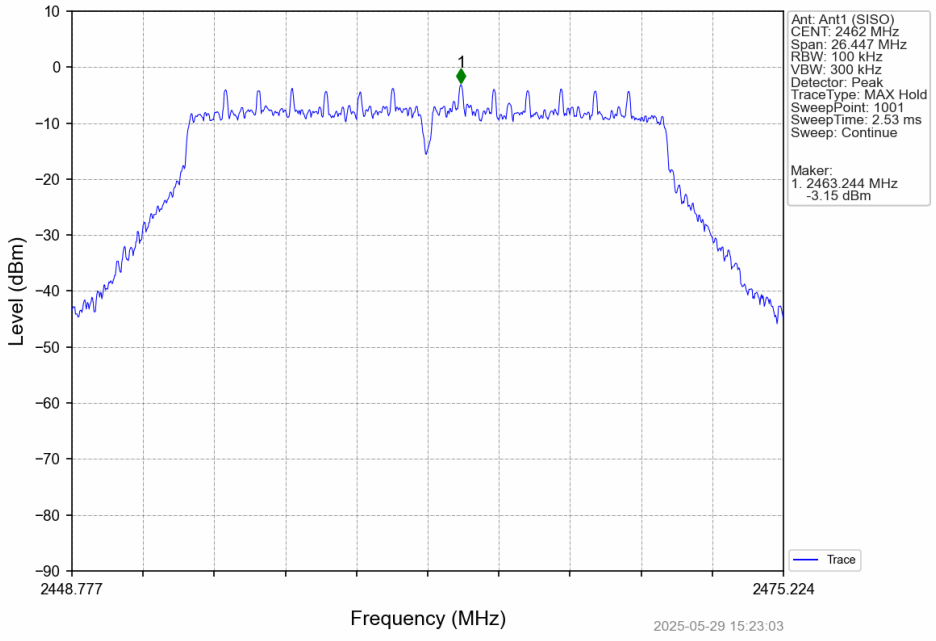
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



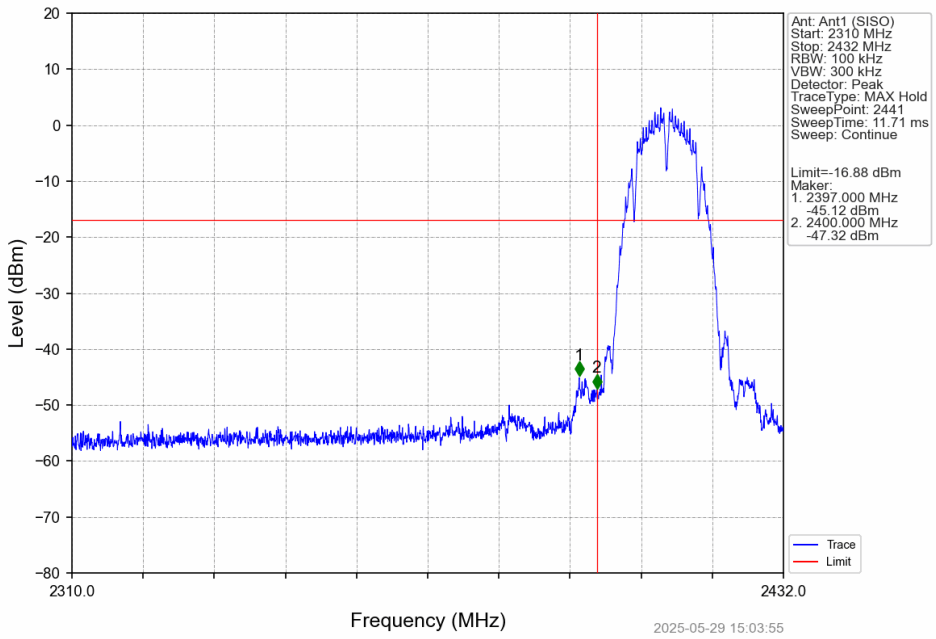
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



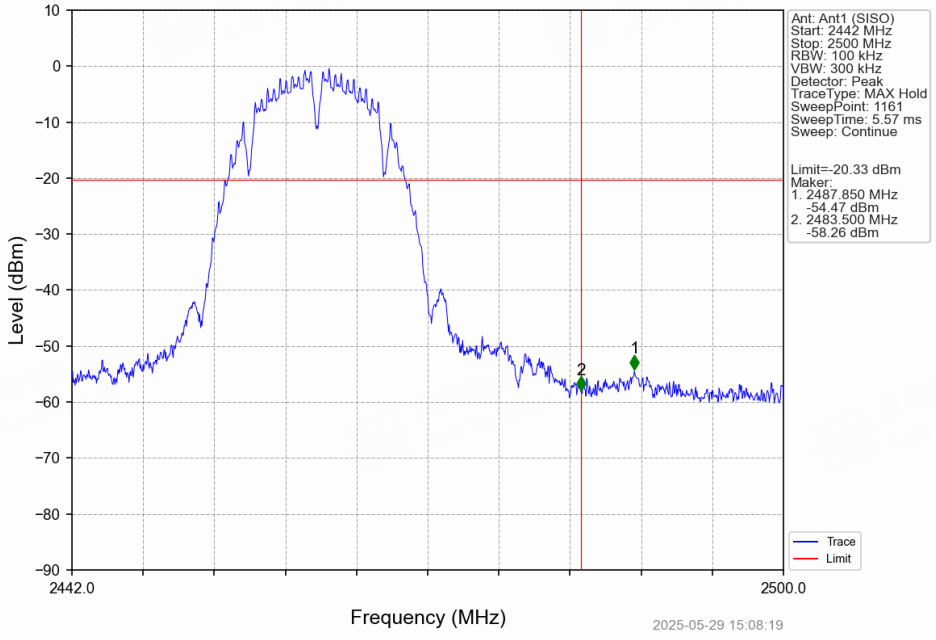
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



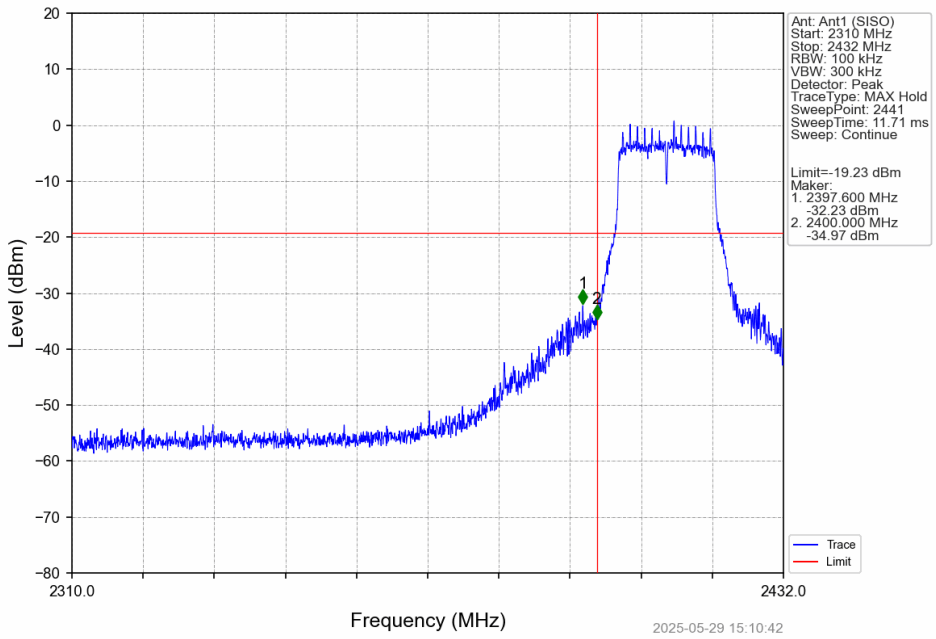
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



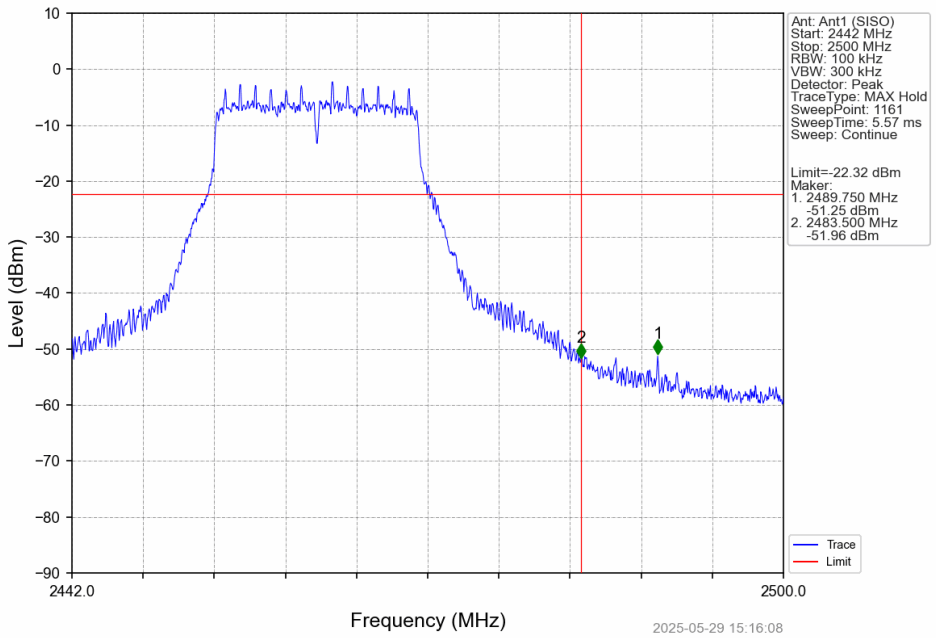
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



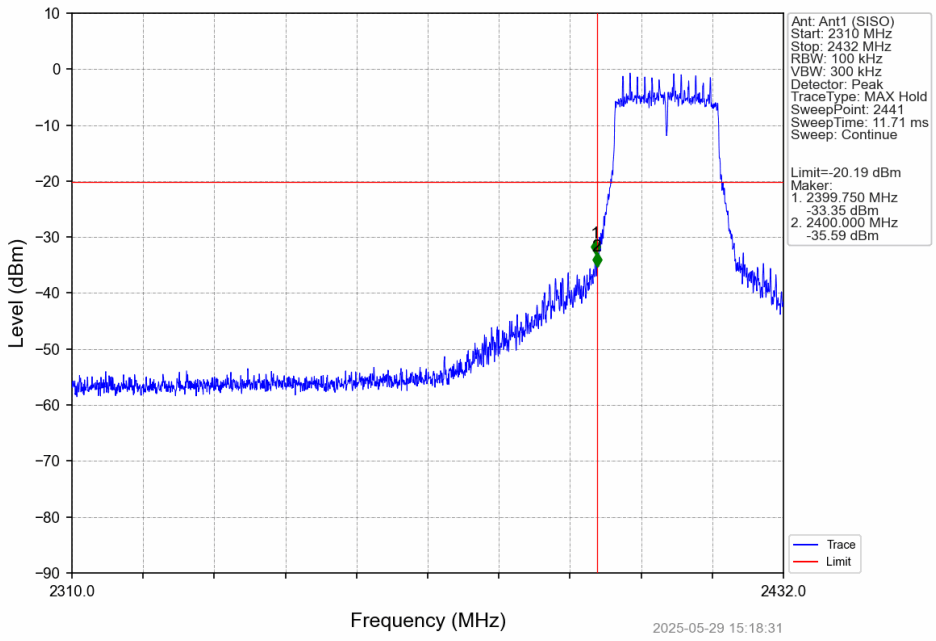
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



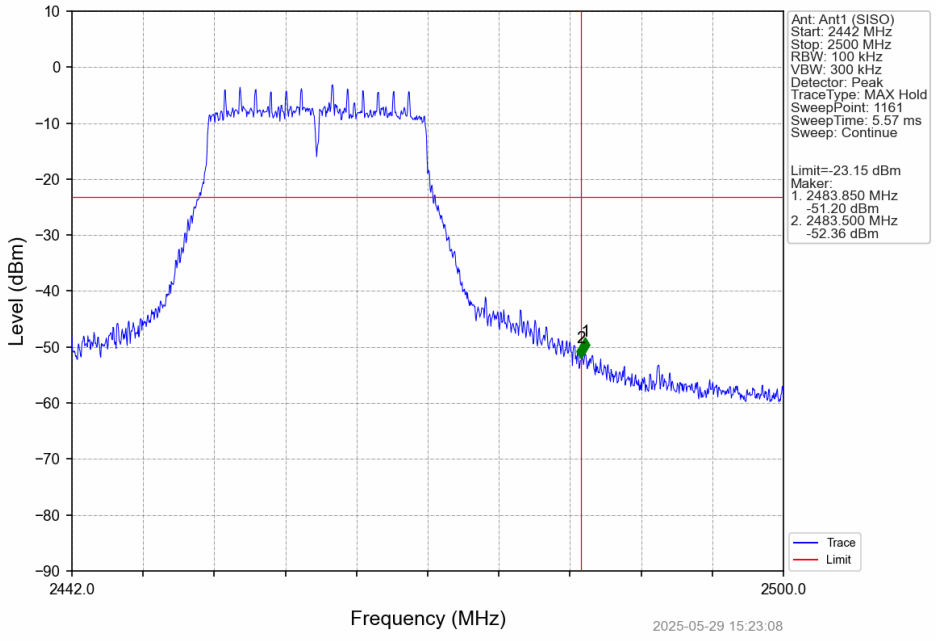
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



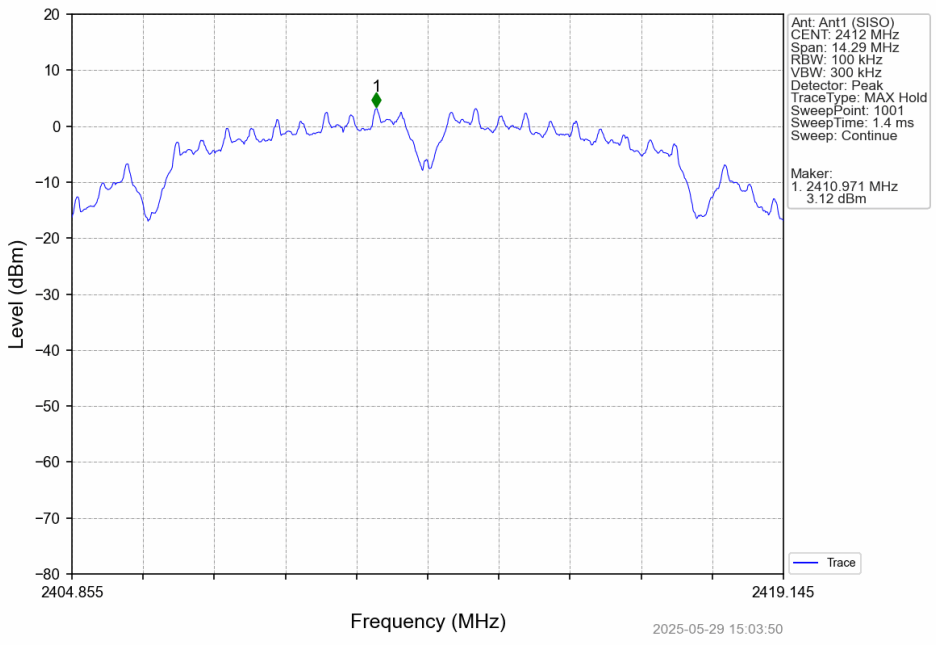
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



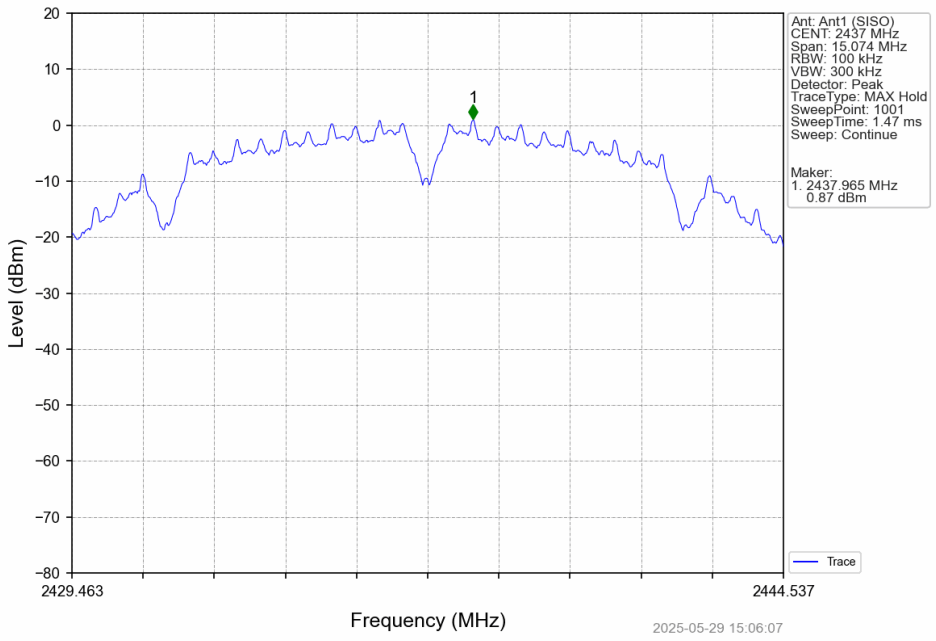
B.5 Conducted RF Spurious Emission

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	3.12
		2437	1	0.87
		2462	1	-0.33
802.11g	SISO	2412	1	0.77
		2437	1	-1.28
		2462	1	-2.32
802.11n (HT20)	SISO	2412	1	-0.19
		2437	1	-2.43
		2462	1	-3.15
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.				

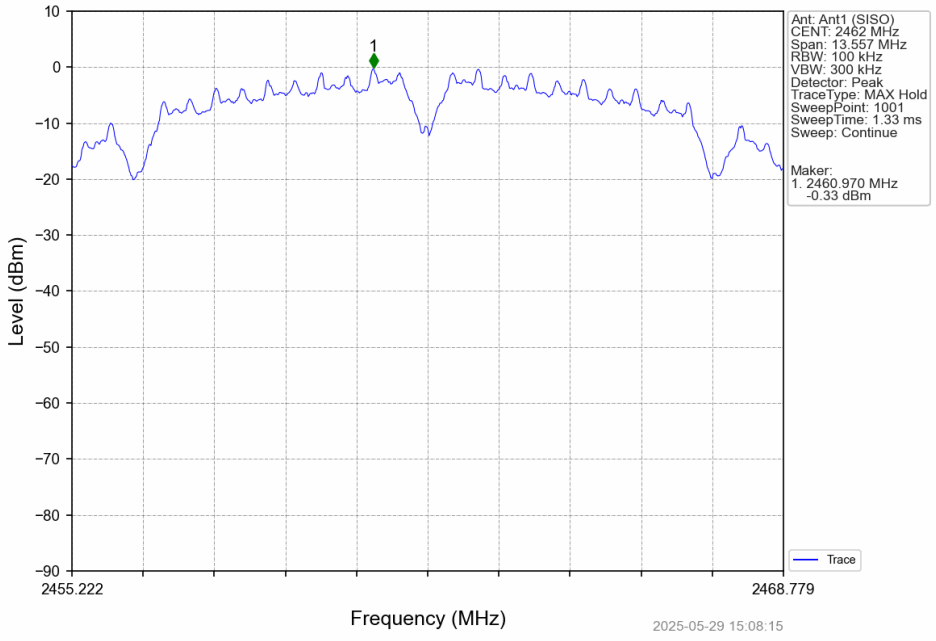
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



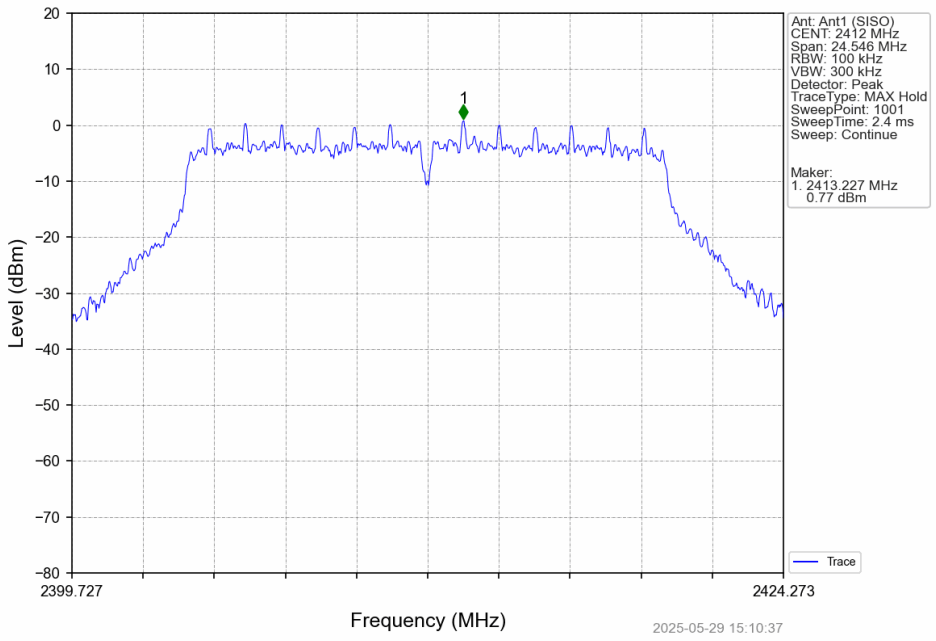
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



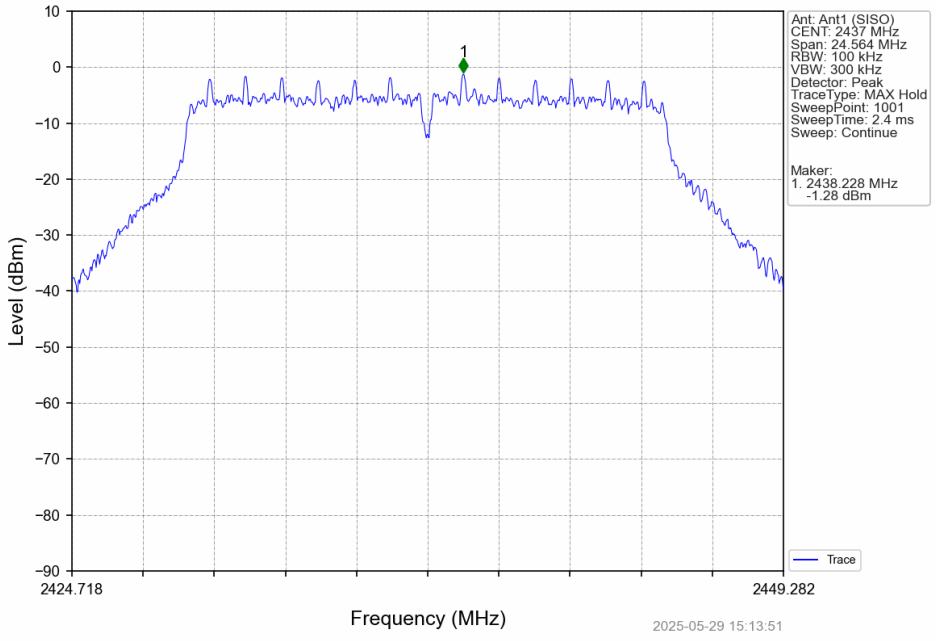
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



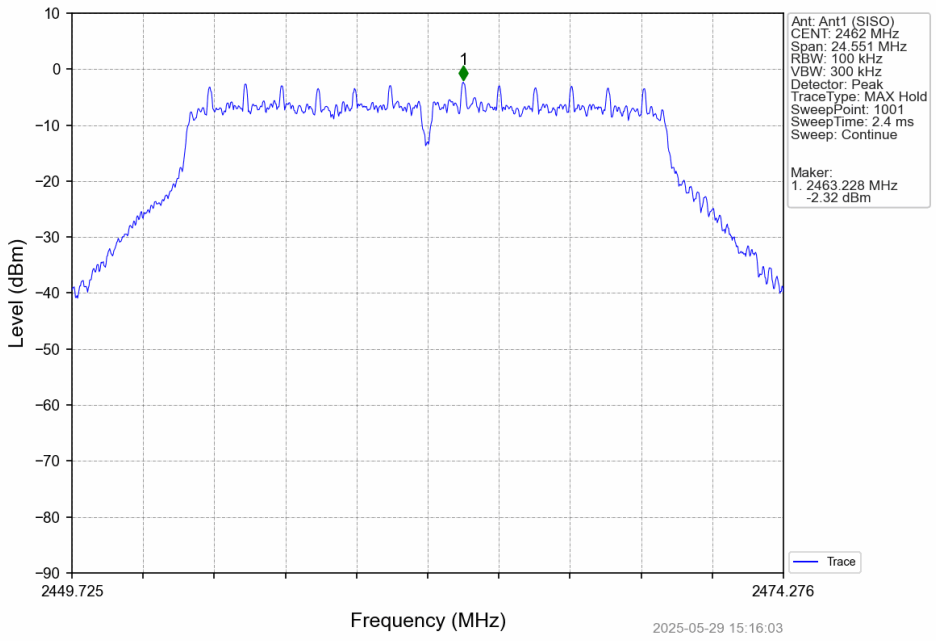
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



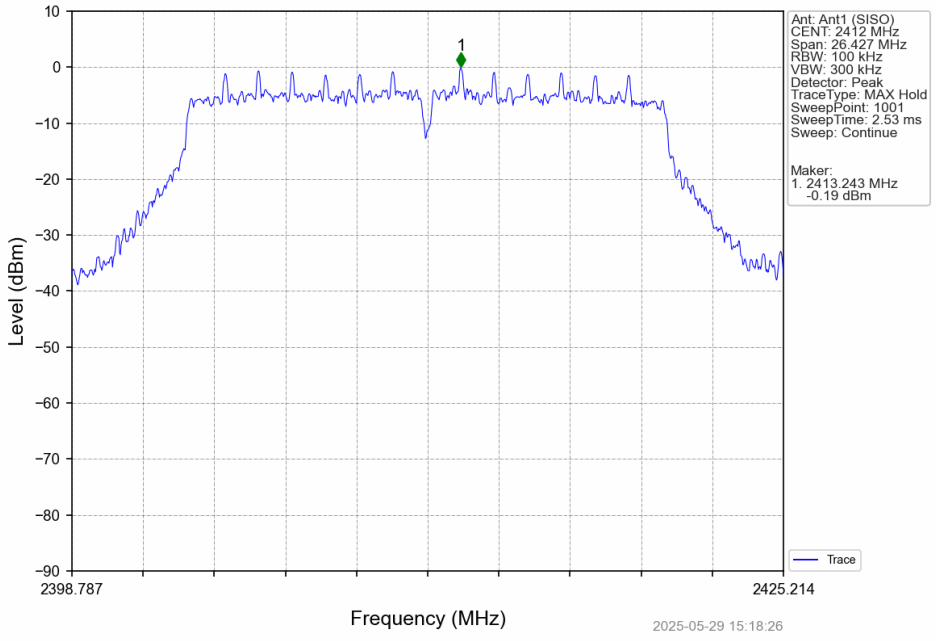
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



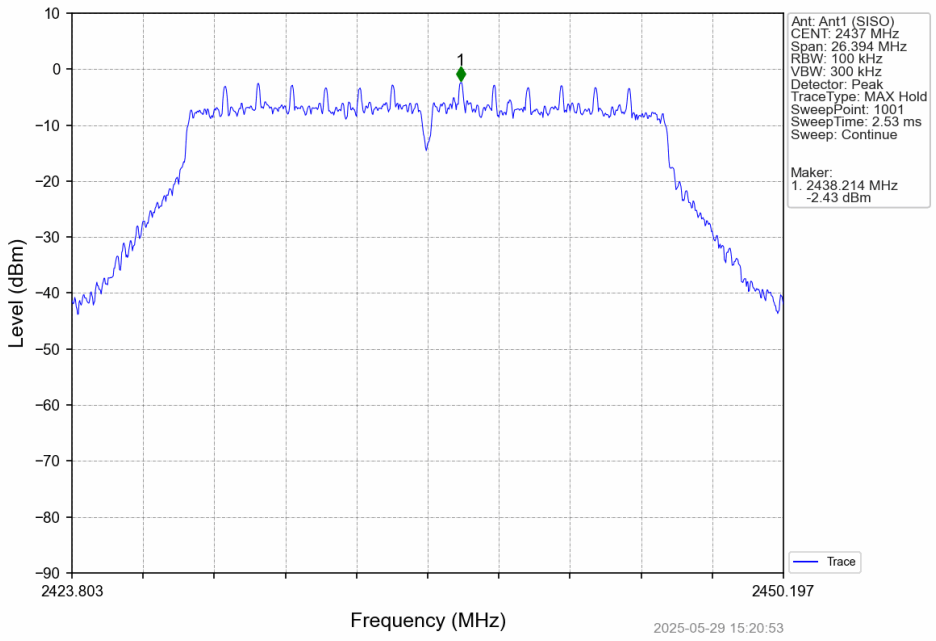
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



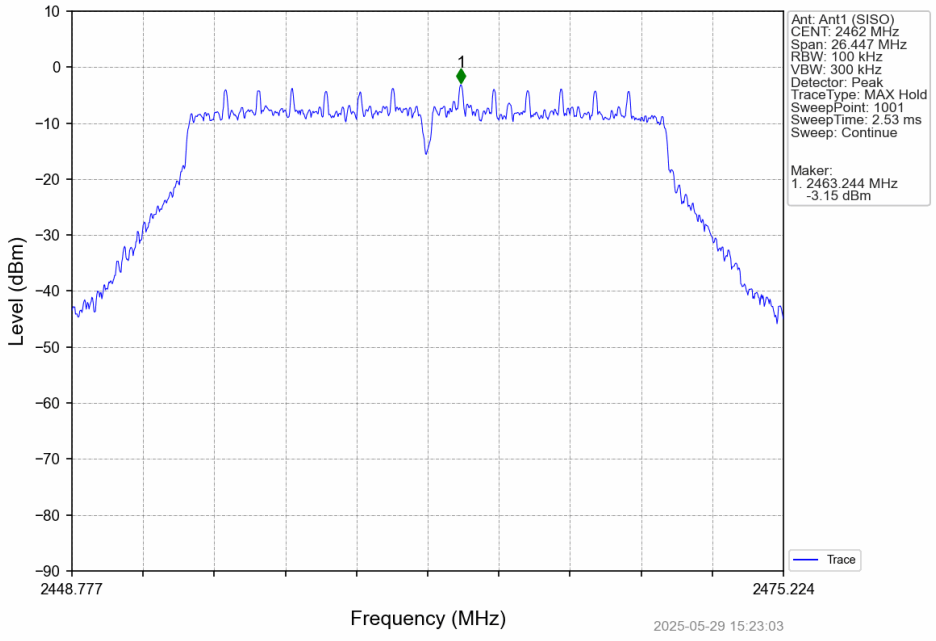
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



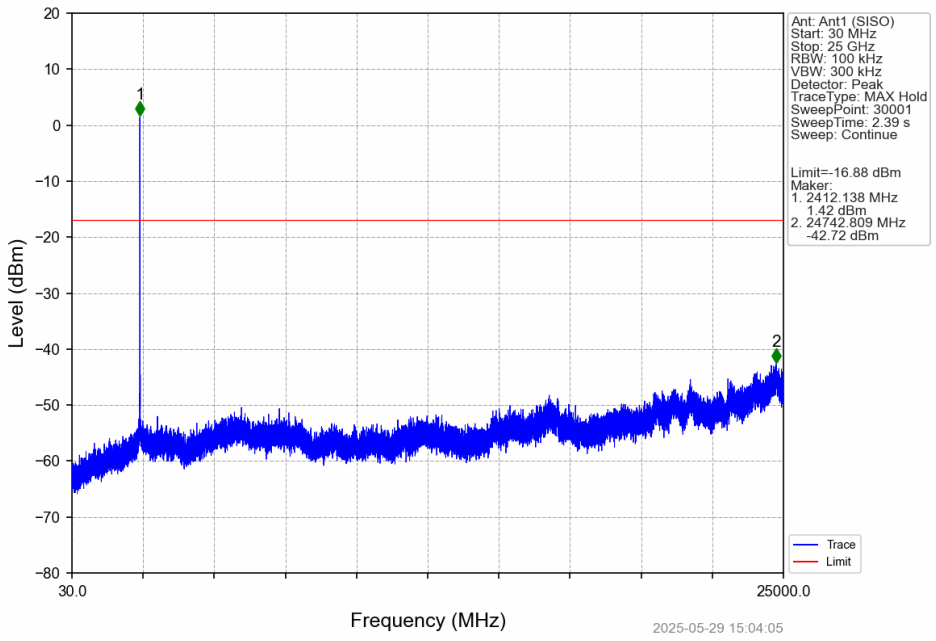
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



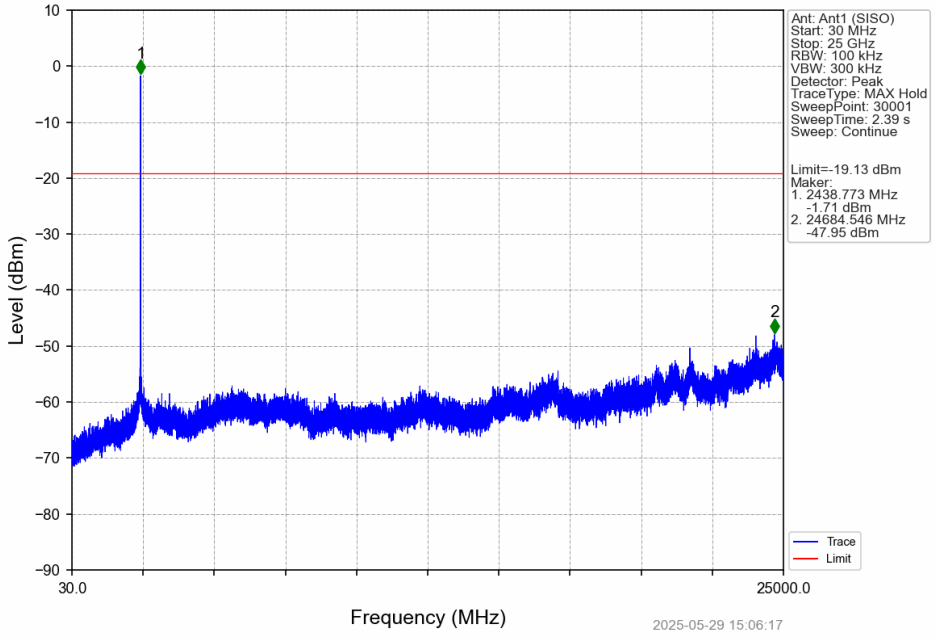
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



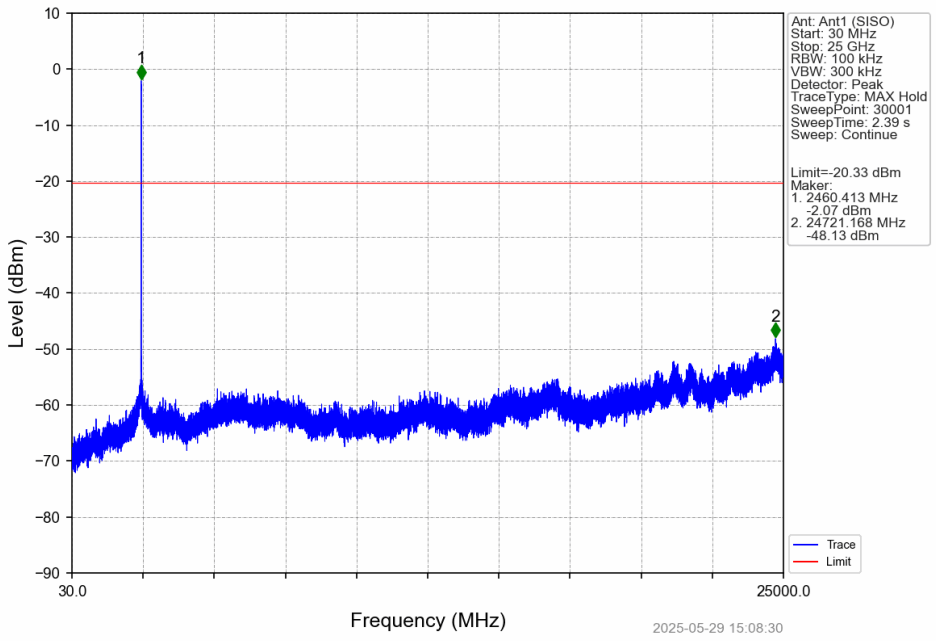
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



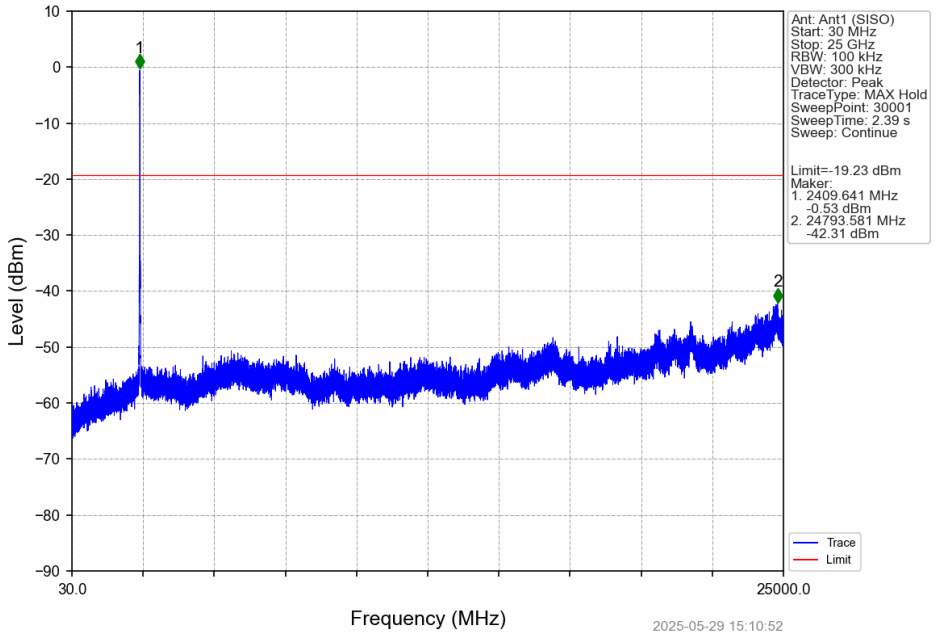
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



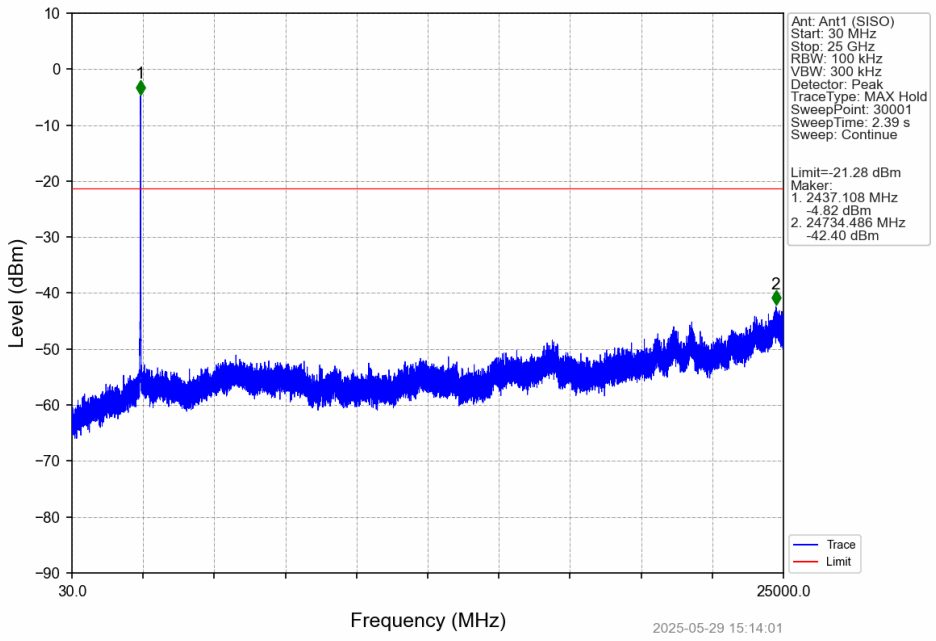
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



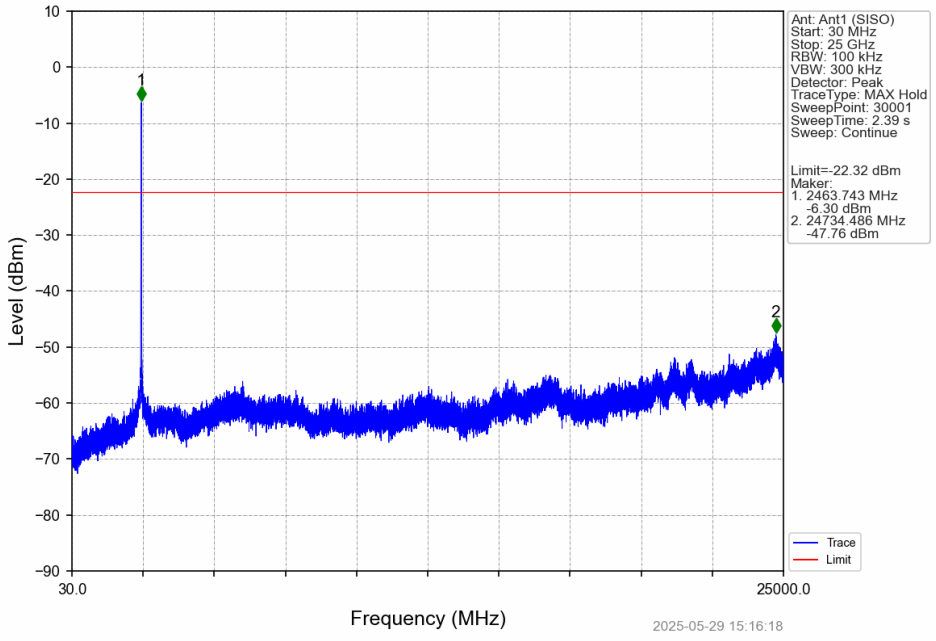
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



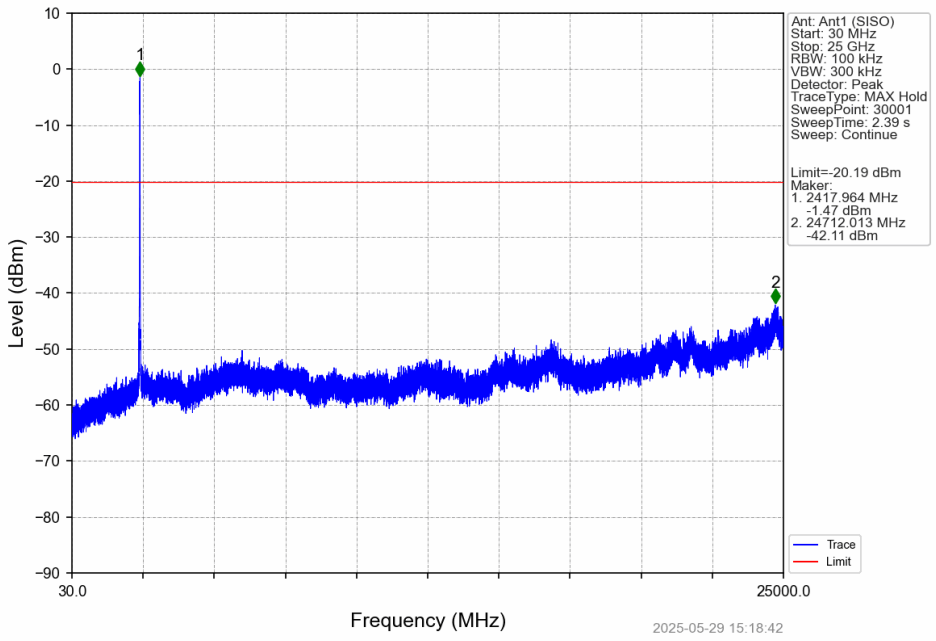
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



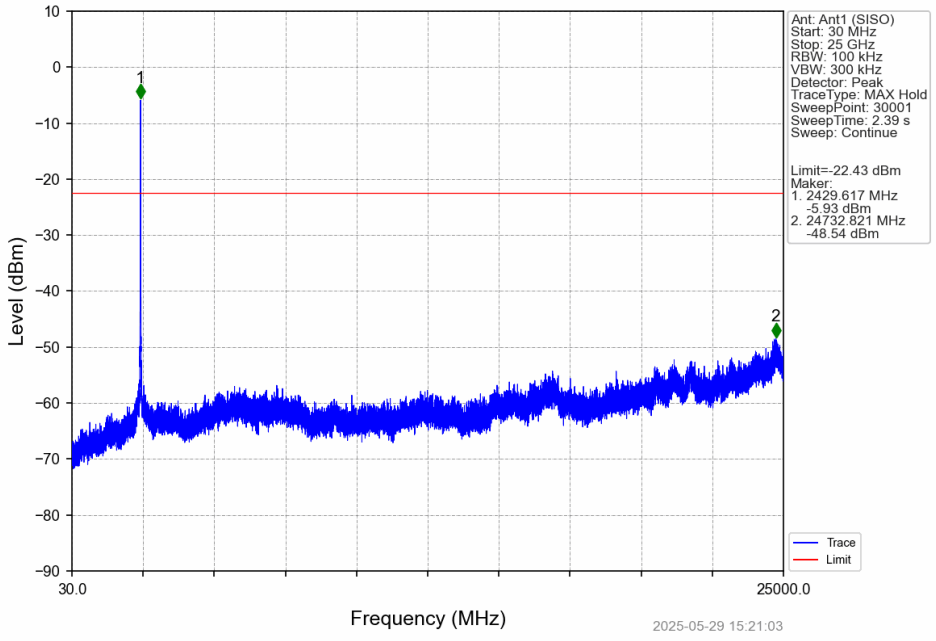
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



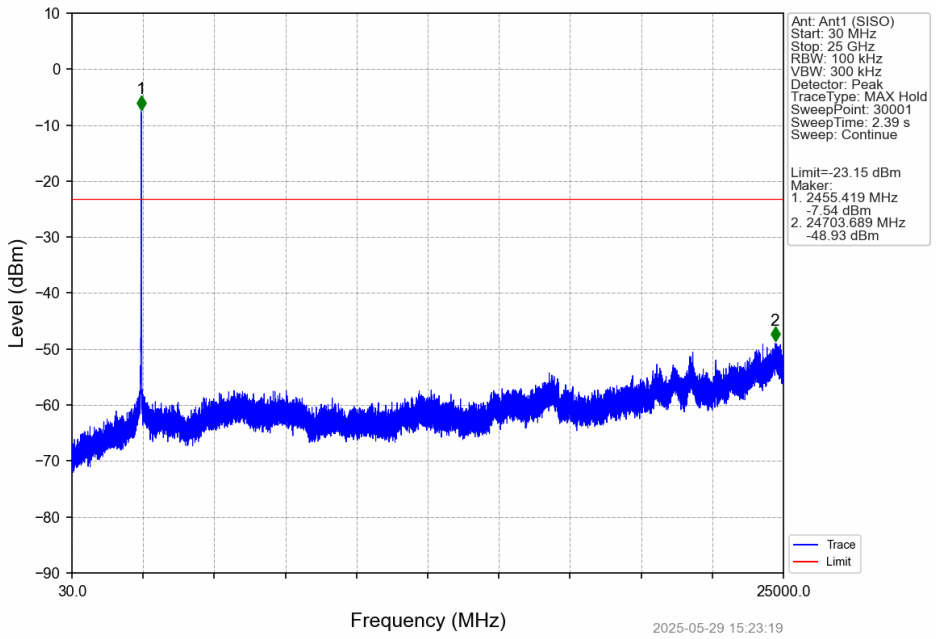
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



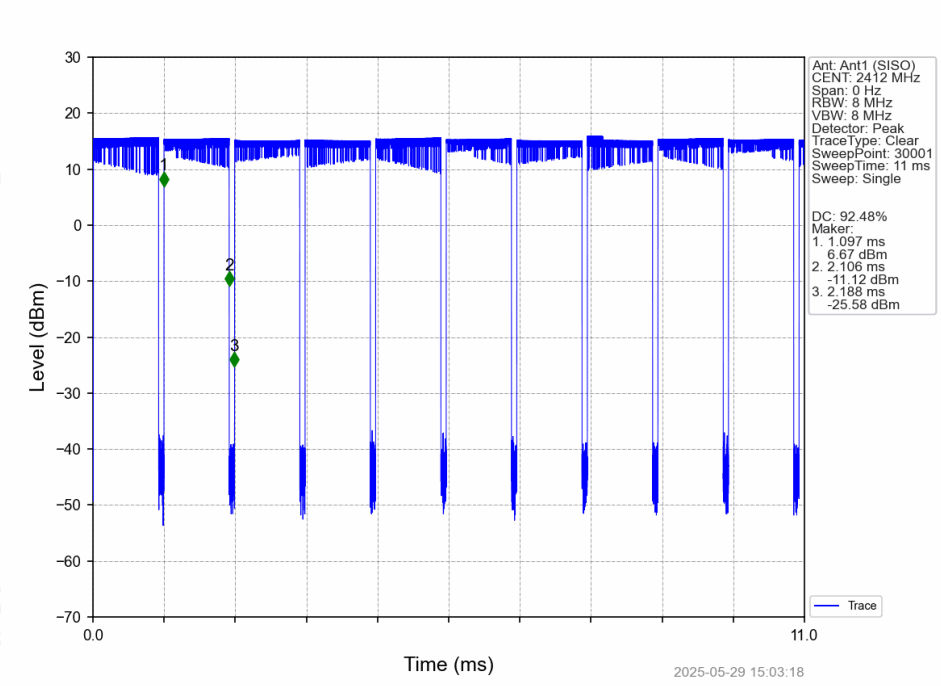
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



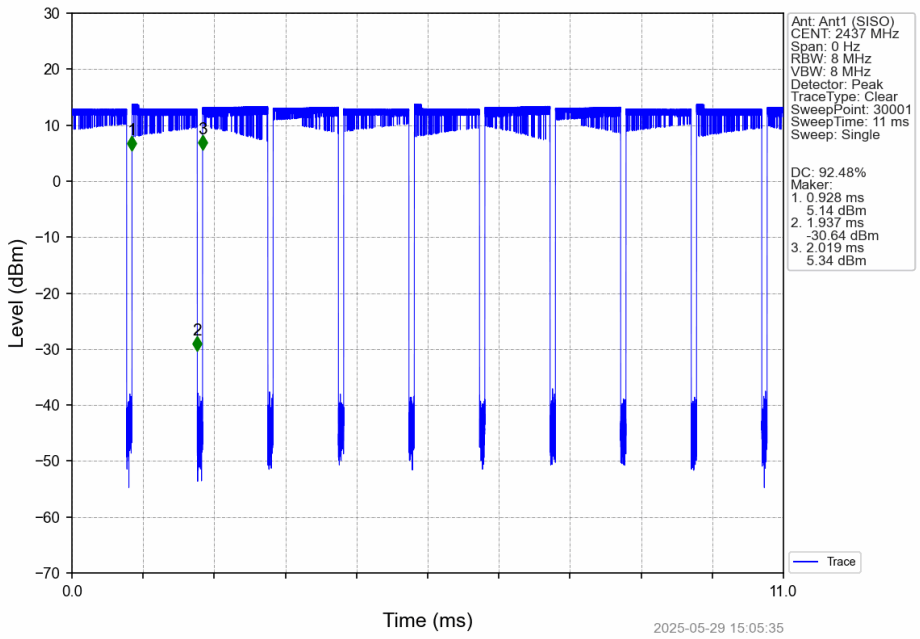
B.6 Duty Cycle

Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	1.009	1.091	92.48	0.34	0.04
		2437	1.009	1.091	92.48	0.34	0.03
		2462	1.008	1.091	92.39	0.34	0.06
802.11g	SISO	2412	0.617	0.660	93.48	0.29	0.04
		2437	0.617	0.660	93.48	0.29	0.04
		2462	0.616	0.660	93.33	0.30	0.04
802.11n (HT20)	SISO	2412	0.612	0.656	93.29	0.30	0.00
		2437	0.612	0.655	93.44	0.29	0.00
		2462	0.612	0.656	93.29	0.30	0.03

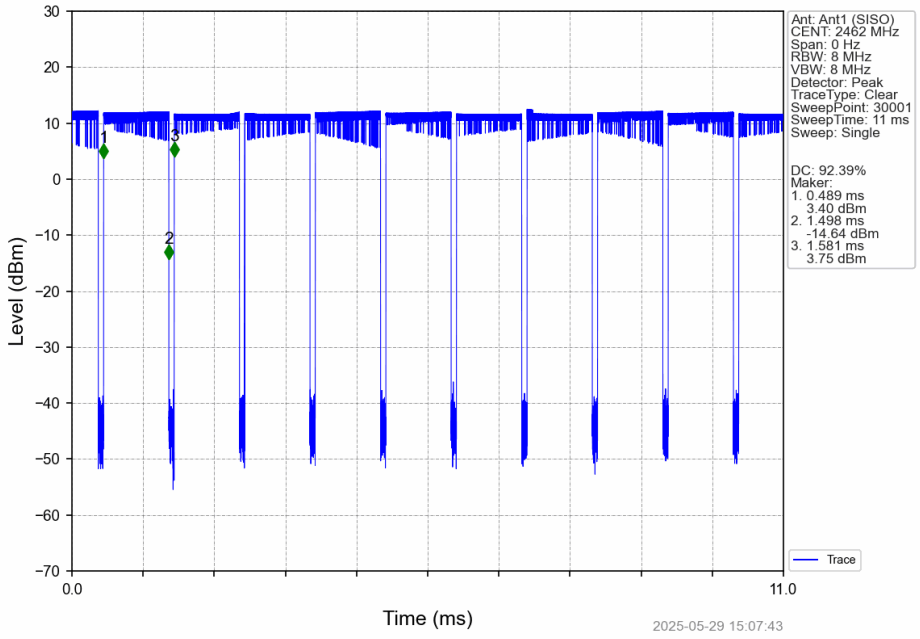
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



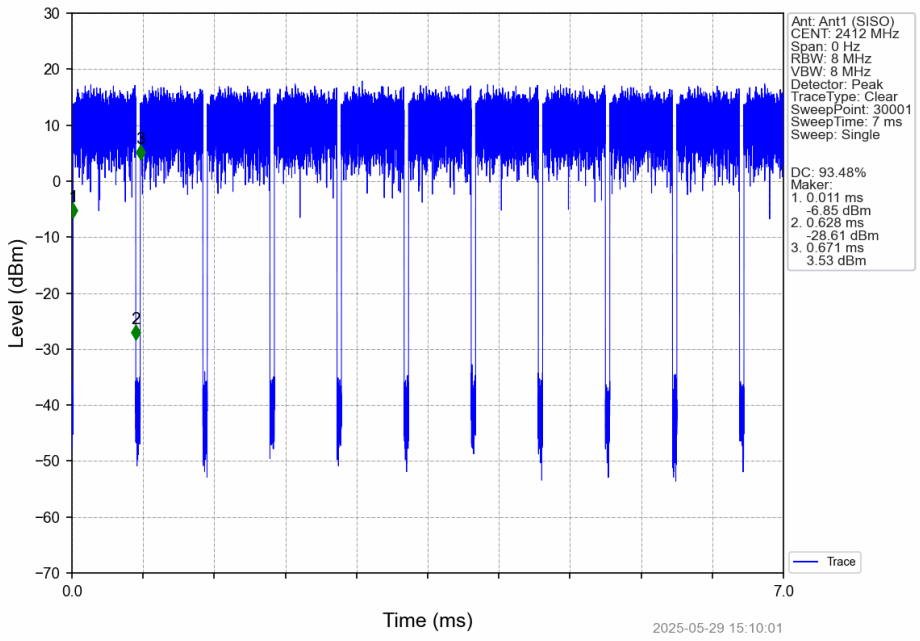
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



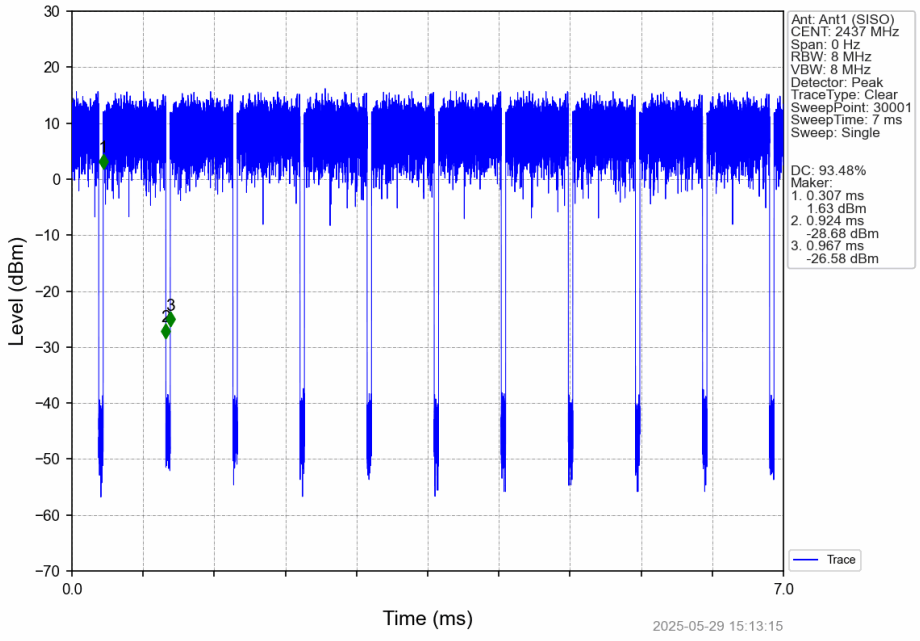
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



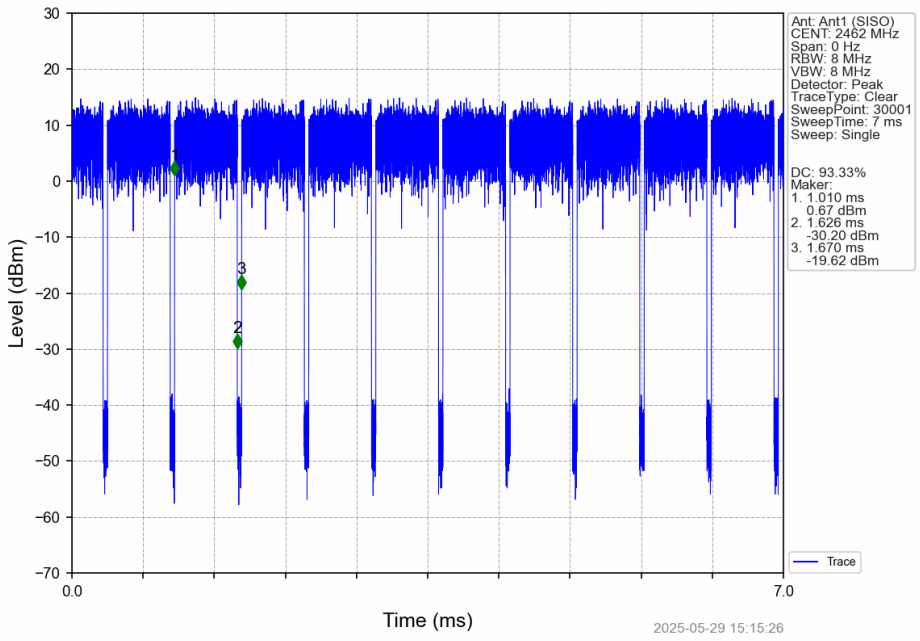
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



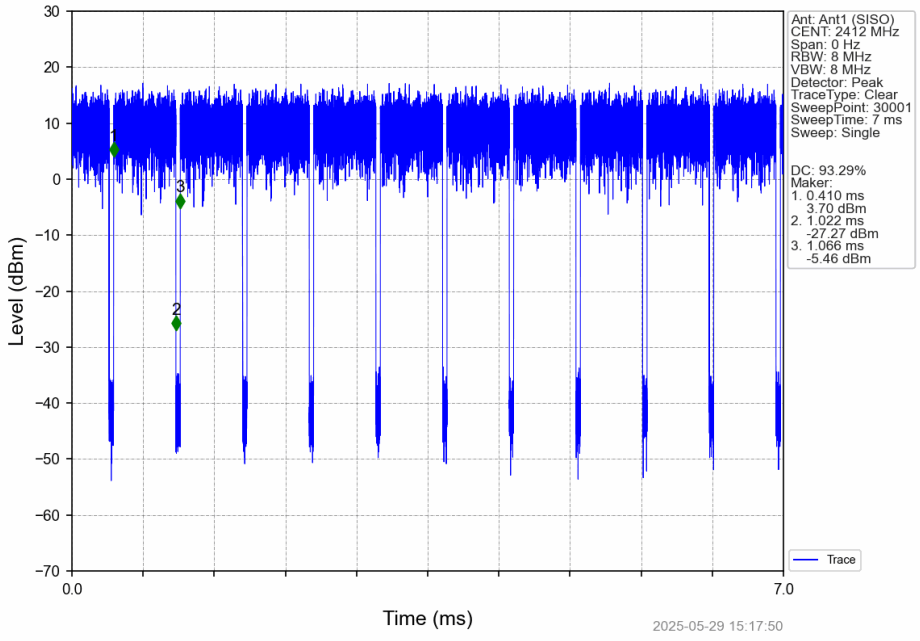
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



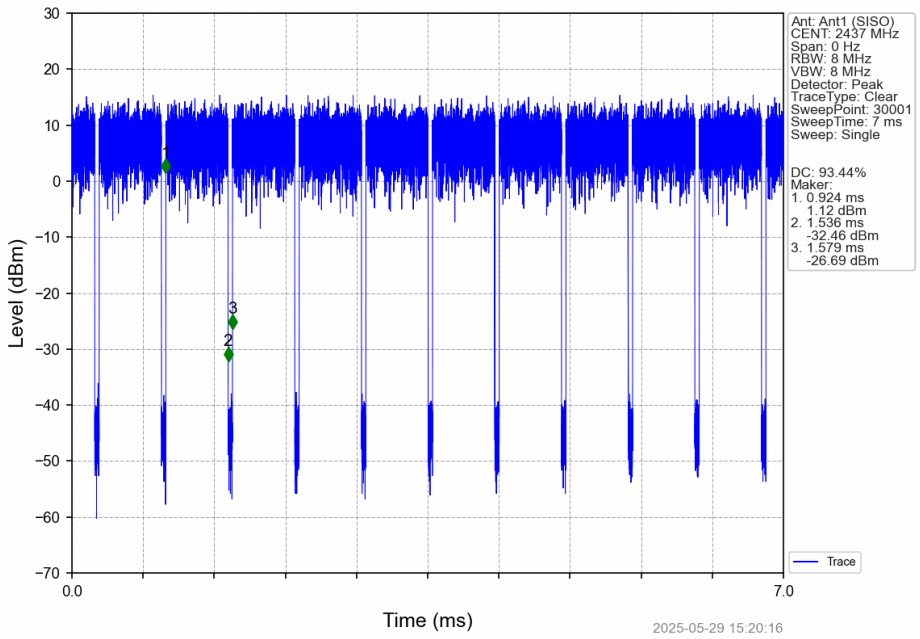
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



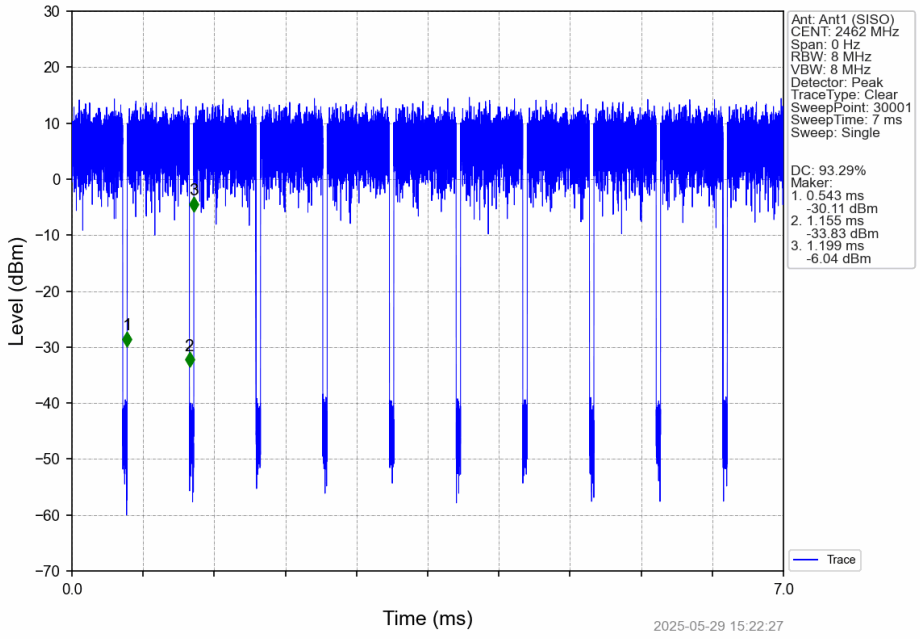
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV

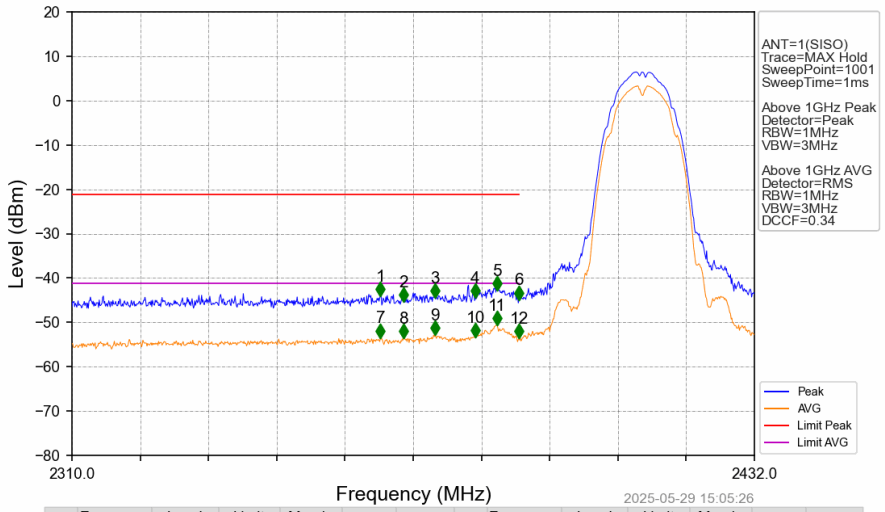


802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



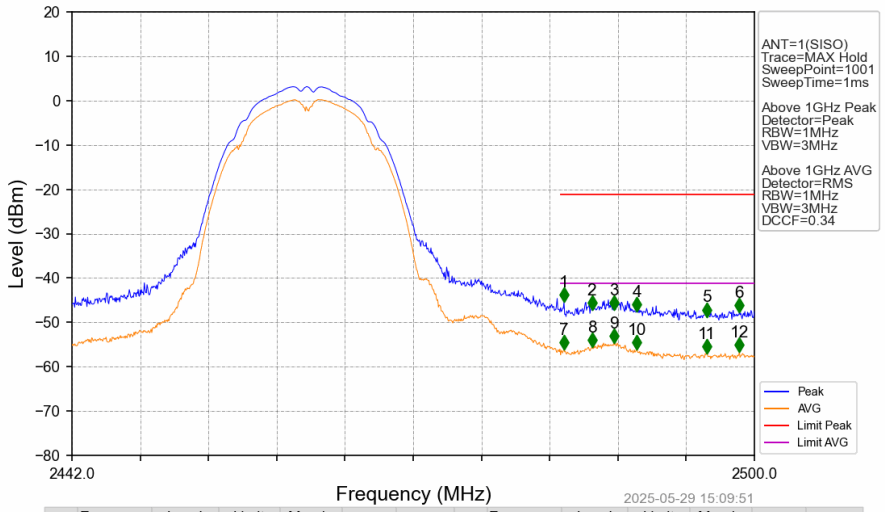
B.7 Restrict Band

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



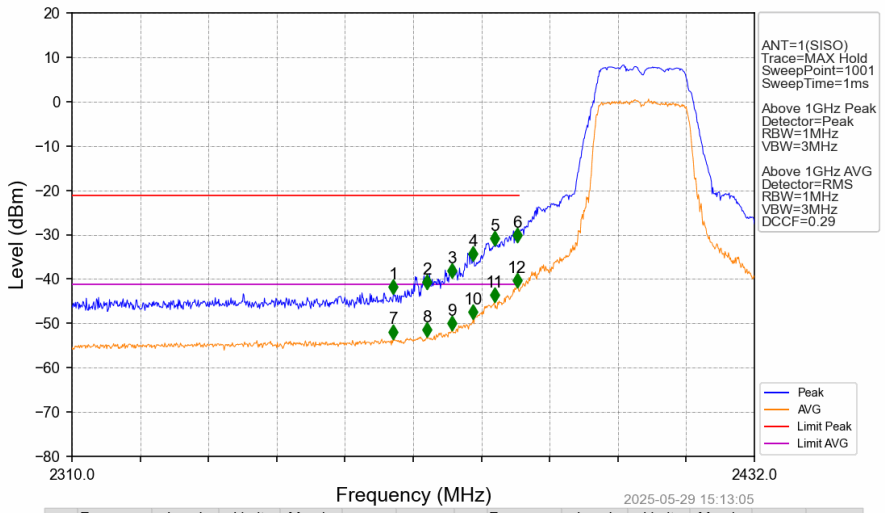
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2365.144	-44.10	-21.20	22.90	Pass	Peak	7	2365.144	-53.44	-41.20	12.24	Pass	AVG
2	2369.292	-45.38	-21.20	24.18	Pass	Peak	8	2369.292	-53.47	-41.20	12.27	Pass	AVG
3	2374.904	-44.43	-21.20	23.23	Pass	Peak	9	2374.904	-52.77	-41.20	11.57	Pass	AVG
4	2382.102	-44.42	-21.20	23.22	Pass	Peak	10	2382.102	-53.32	-41.20	12.12	Pass	AVG
5	2386.006	-42.87	-21.20	21.67	Pass	Peak	11	2386.006	-50.64	-41.20	9.44	Pass	AVG
6	2389.910	-44.88	-21.20	23.68	Pass	Peak	12	2389.910	-53.58	-41.20	12.38	Pass	AVG

802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



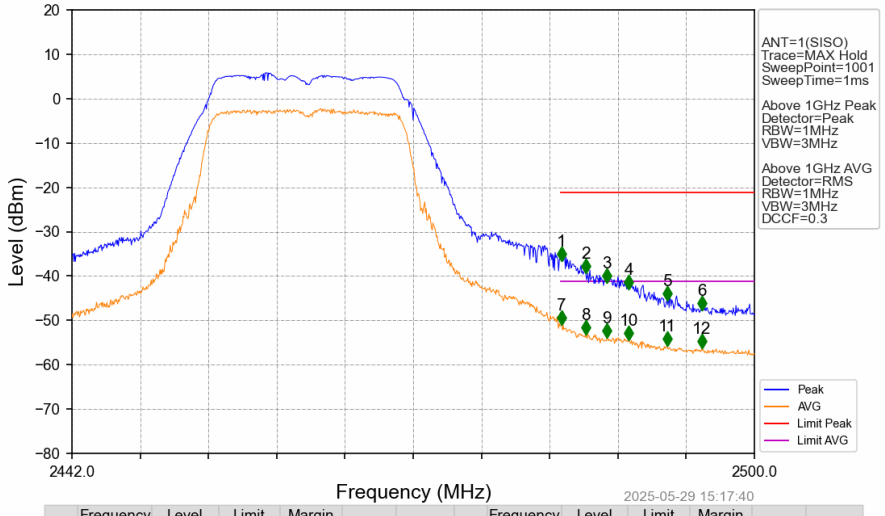
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2483.818	-45.41	-21.20	24.21	Pass	Peak	7	2483.818	-56.09	-41.20	14.89	Pass	AVG
2	2486.196	-47.21	-21.20	26.01	Pass	Peak	8	2486.196	-55.59	-41.20	14.39	Pass	AVG
3	2488.052	-47.22	-21.20	26.02	Pass	Peak	9	2488.052	-54.66	-41.20	13.46	Pass	AVG
4	2490.024	-47.55	-21.20	26.35	Pass	Peak	10	2490.024	-56.03	-41.20	14.83	Pass	AVG
5	2495.940	-48.71	-21.20	27.51	Pass	Peak	11	2495.940	-56.95	-41.20	15.75	Pass	AVG
6	2498.724	-47.78	-21.20	26.58	Pass	Peak	12	2498.724	-56.66	-41.20	15.46	Pass	AVG

802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



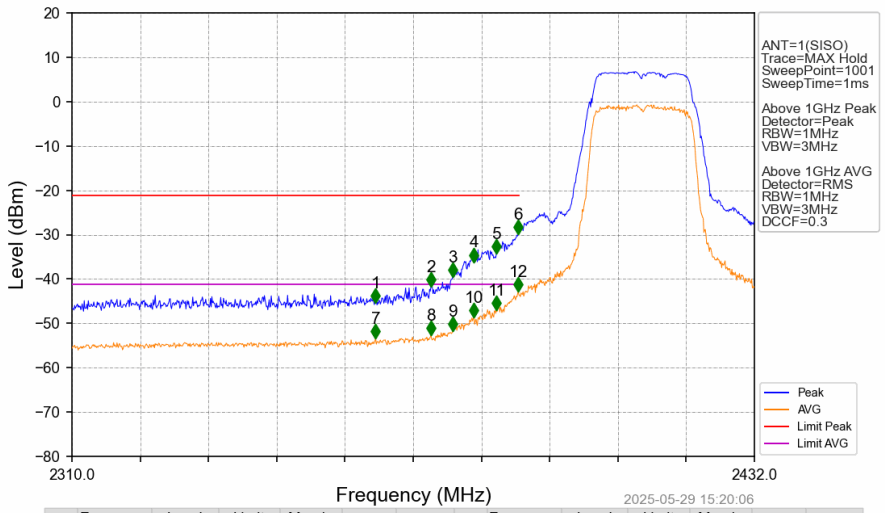
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2367.462	-43.30	-21.20	22.10	Pass	Peak	7	2367.462	-53.44	-41.20	12.24	Pass	AVG
2	2373.440	-42.29	-21.20	21.09	Pass	Peak	8	2373.440	-53.04	-41.20	11.84	Pass	AVG
3	2377.954	-39.67	-21.20	18.47	Pass	Peak	9	2377.954	-51.46	-41.20	10.26	Pass	AVG
4	2381.736	-35.85	-21.20	14.65	Pass	Peak	10	2381.736	-49.04	-41.20	7.84	Pass	AVG
5	2385.518	-32.40	-21.20	11.20	Pass	Peak	11	2385.518	-45.21	-41.20	4.01	Pass	AVG
6	2389.544	-31.68	-21.20	10.48	Pass	Peak	12	2389.544	-41.91	-41.20	0.71	Pass	AVG

802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



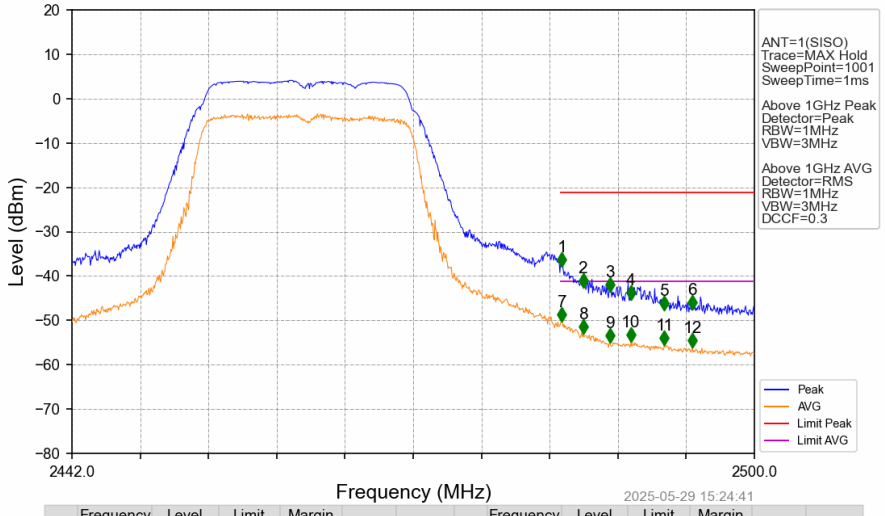
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2483.586	-36.64	-21.20	15.44	Pass	Peak	7	2483.586	-50.96	-41.20	9.76	Pass	AVG
2	2485.674	-39.36	-21.20	18.16	Pass	Peak	8	2485.674	-53.10	-41.20	11.90	Pass	AVG
3	2487.472	-41.58	-21.20	20.38	Pass	Peak	9	2487.472	-53.91	-41.20	12.71	Pass	AVG
4	2489.328	-42.89	-21.20	21.69	Pass	Peak	10	2489.328	-54.47	-41.20	13.27	Pass	AVG
5	2492.576	-45.46	-21.20	24.26	Pass	Peak	11	2492.576	-55.69	-41.20	14.49	Pass	AVG
6	2495.534	-47.77	-21.20	26.57	Pass	Peak	12	2495.534	-56.33	-41.20	15.13	Pass	AVG

802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2364.290	-45.25	-21.20	24.05	Pass	Peak	7	2364.290	-53.36	-41.20	12.16	Pass	AVG
2	2374.172	-41.78	-21.20	20.58	Pass	Peak	8	2374.172	-52.64	-41.20	11.44	Pass	AVG
3	2378.076	-39.46	-21.20	18.26	Pass	Peak	9	2378.076	-51.64	-41.20	10.44	Pass	AVG
4	2381.858	-36.14	-21.20	14.94	Pass	Peak	10	2381.858	-48.70	-41.20	7.50	Pass	AVG
5	2385.884	-34.17	-21.20	12.97	Pass	Peak	11	2385.884	-46.91	-41.20	5.71	Pass	AVG
6	2389.788	-29.84	-21.20	8.64	Pass	Peak	12	2389.788	-42.74	-41.20	1.54	Pass	AVG

802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2483.644	-37.88	-21.20	16.68	Pass	Peak	7	2483.644	-50.22	-41.20	9.02	Pass	AVG
2	2485.442	-42.53	-21.20	21.33	Pass	Peak	8	2485.442	-52.99	-41.20	11.79	Pass	AVG
3	2487.704	-43.52	-21.20	22.32	Pass	Peak	9	2487.704	-55.06	-41.20	13.86	Pass	AVG
4	2489.502	-45.35	-21.20	24.15	Pass	Peak	10	2489.502	-54.88	-41.20	13.68	Pass	AVG
5	2492.344	-47.63	-21.20	26.43	Pass	Peak	11	2492.344	-55.54	-41.20	14.34	Pass	AVG
6	2494.722	-47.59	-21.20	26.39	Pass	Peak	12	2494.722	-56.09	-41.20	14.89	Pass	AVG