

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR240200030903

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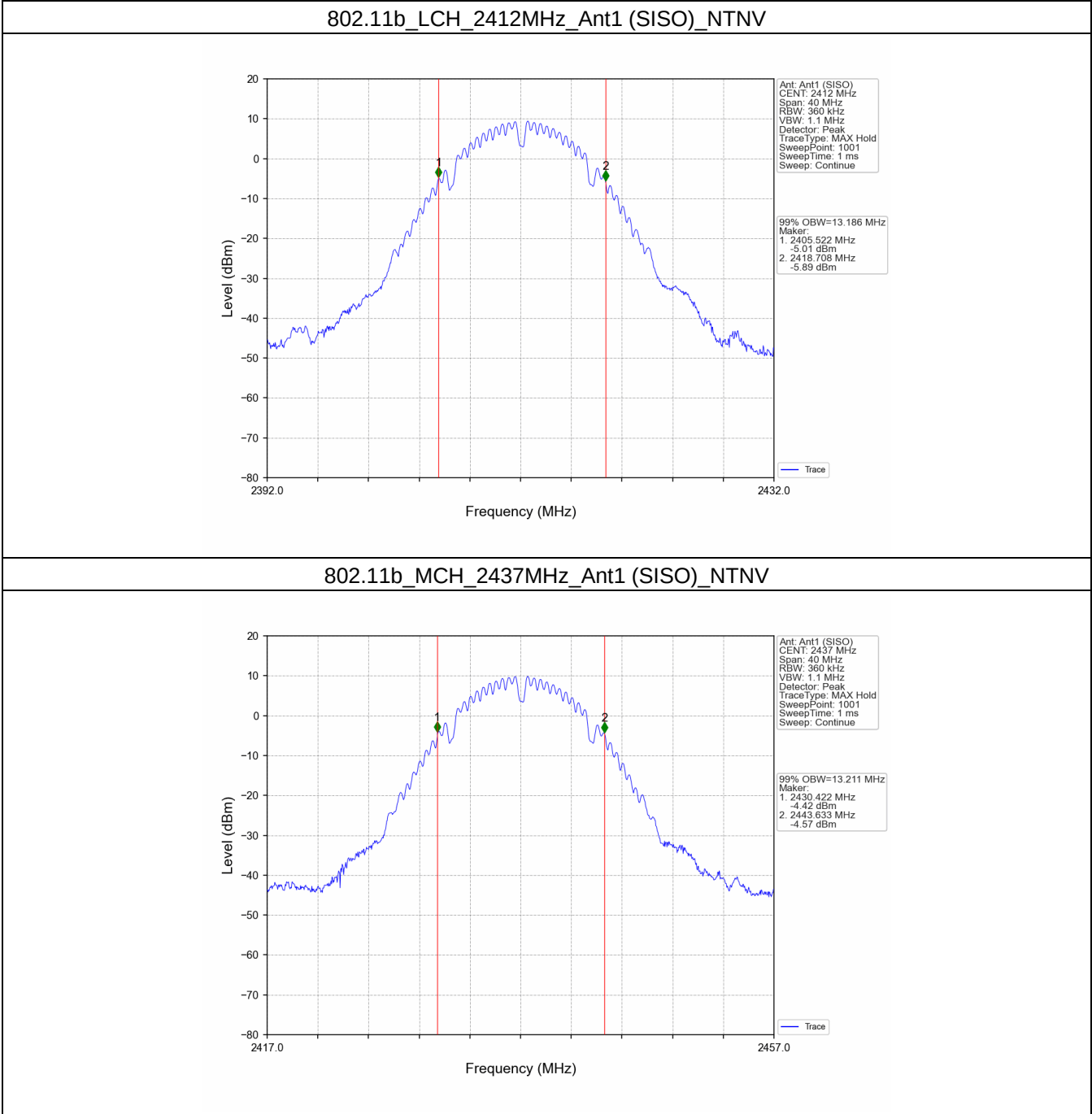
2. Bandwidth

2.1 OBW

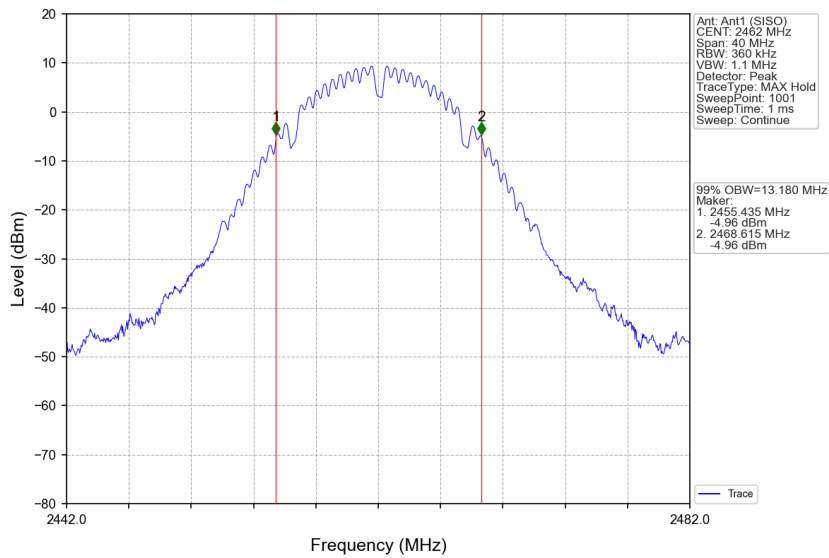
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	13.186	/	Pass
		2437	/	/	1	13.211	/	Pass
		2462	/	/	1	13.180	/	Pass
802.11g	SISO	2412	/	/	1	16.915	/	Pass
		2437	/	/	1	16.921	/	Pass
		2462	/	/	1	16.952	/	Pass
802.11n (HT20)	MIMO	2412	/	/	1	18.020	/	Pass
		2437	/	/	1	18.014	/	Pass
		2462	/	/	1	18.057	/	Pass
802.11n (HT40)	MIMO	2422	/	/	1	36.263	/	Pass
		2437	/	/	1	36.329	/	Pass
		2452	/	/	1	36.412	/	Pass
802.11ax (HEW20)	MIMO	2412	RU242	Left	1	19.202	/	Pass
		2437	RU242	Left	1	19.205	/	Pass
		2462	RU242	Left	1	19.244	/	Pass
802.11ax (HEW40)	MIMO	2422	RU484	Left	1	38.064	/	Pass
		2437	RU484	Left	1	38.098	/	Pass
		2452	RU484	Left	1	38.124	/	Pass

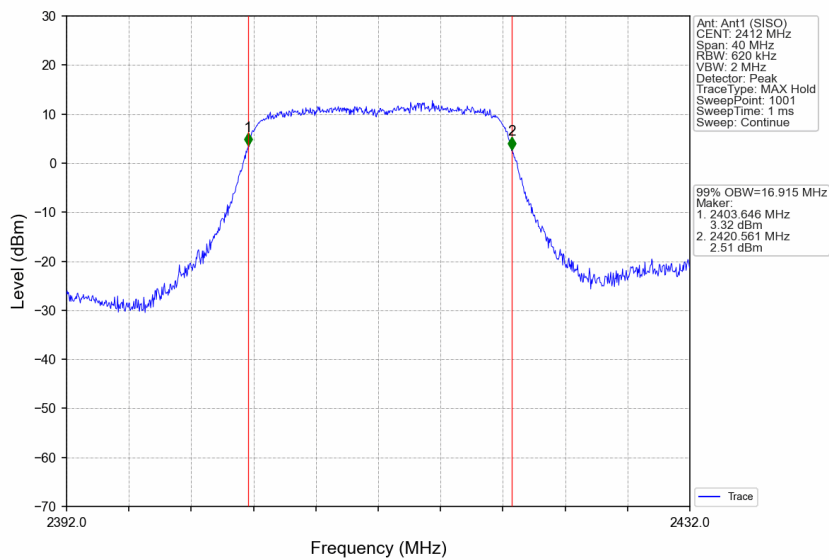
2.1.2 Test Graph



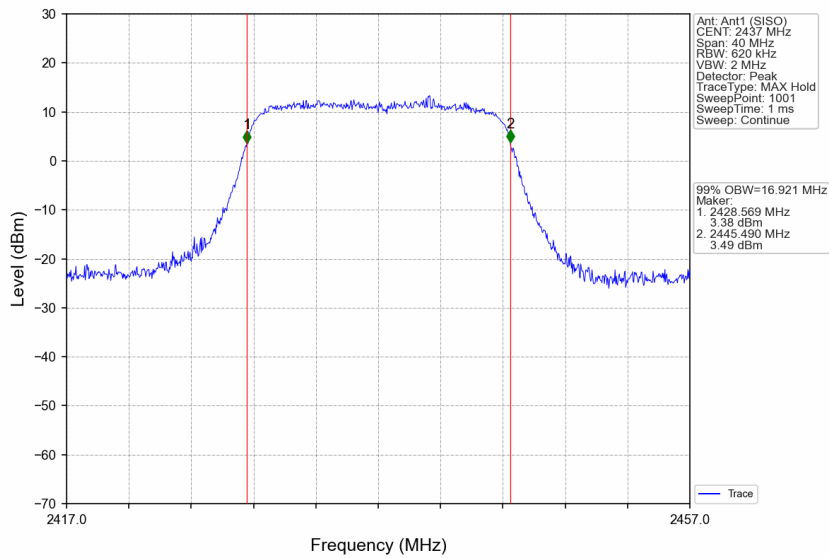
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



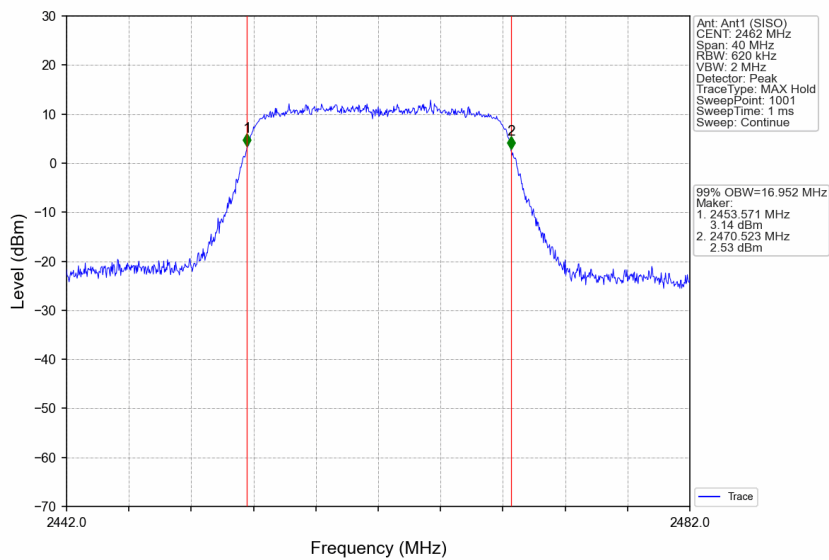
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



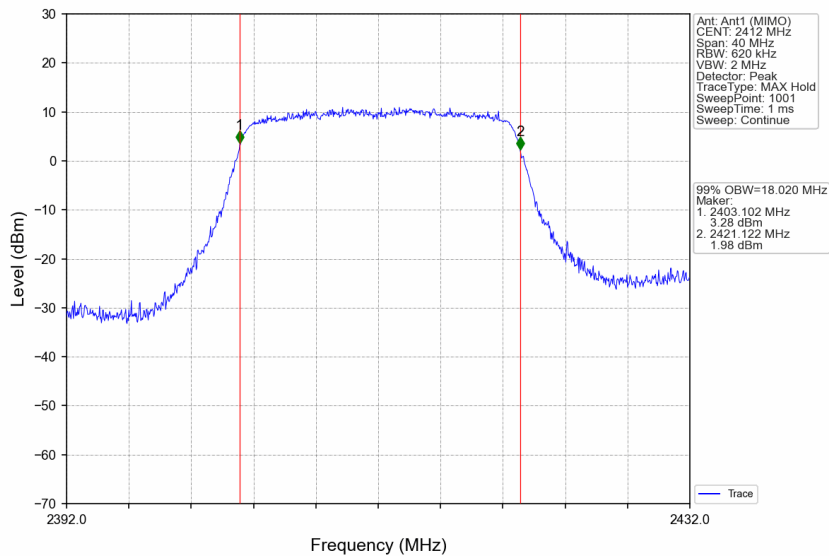
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



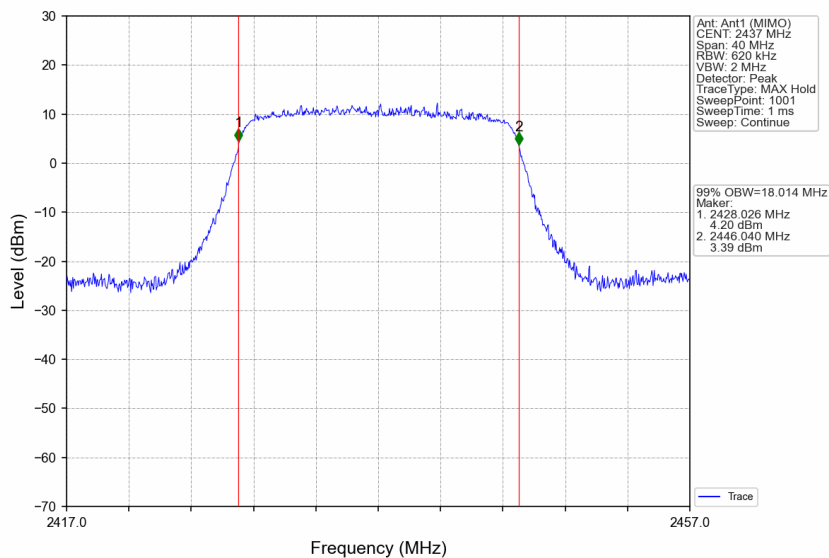
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



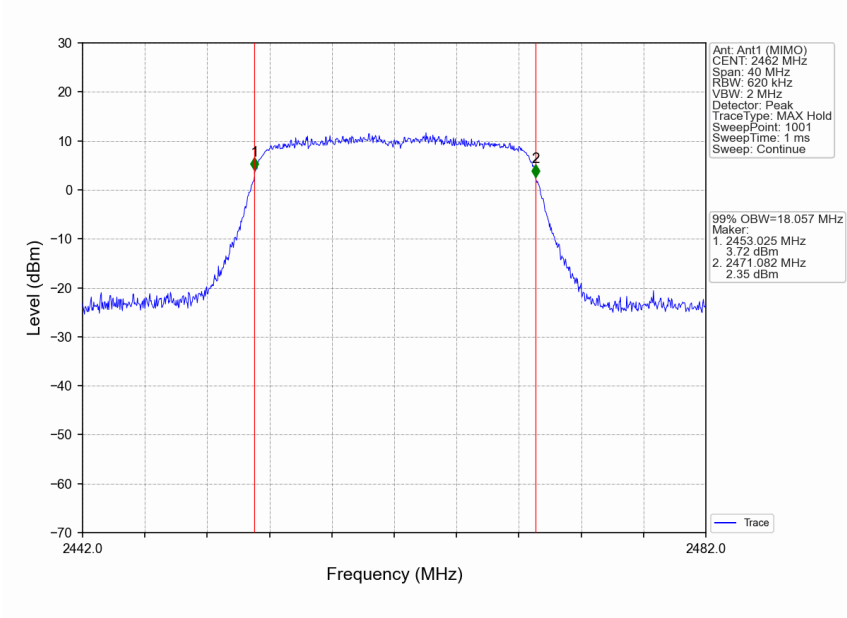
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



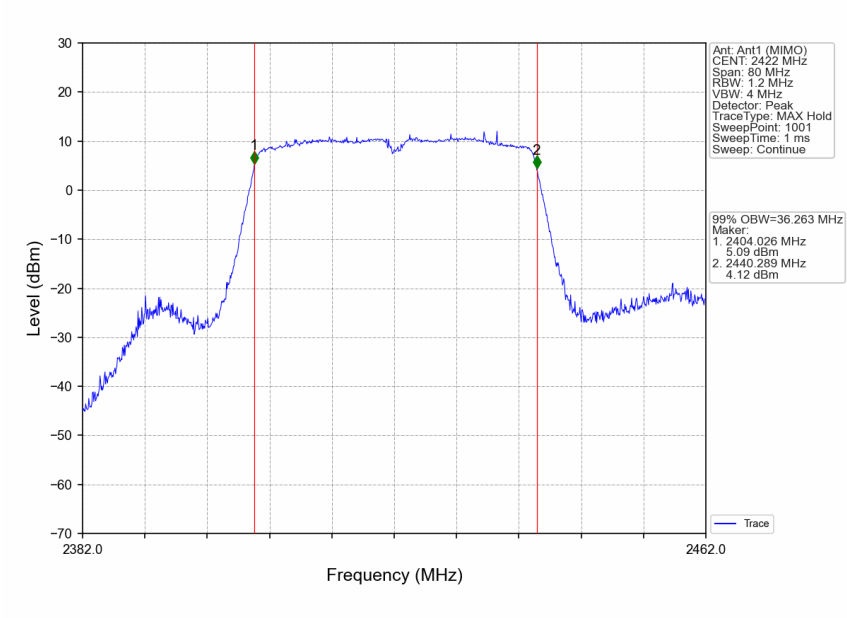
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



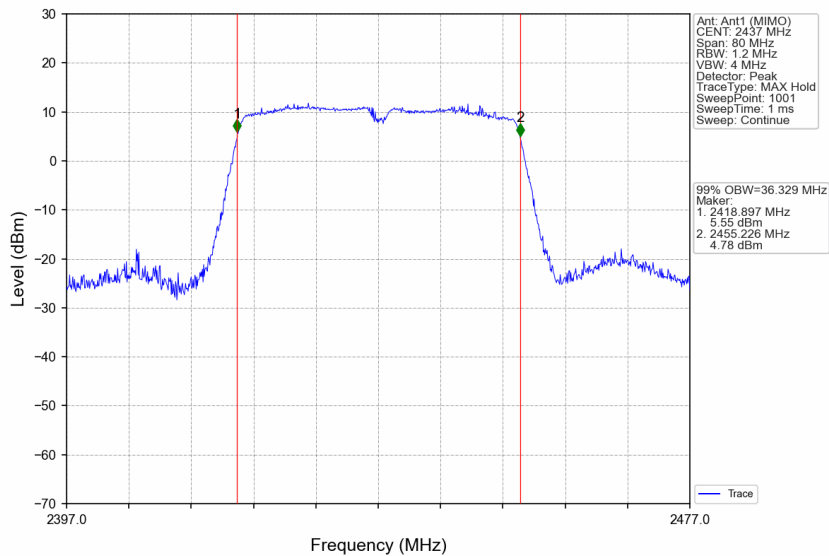
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



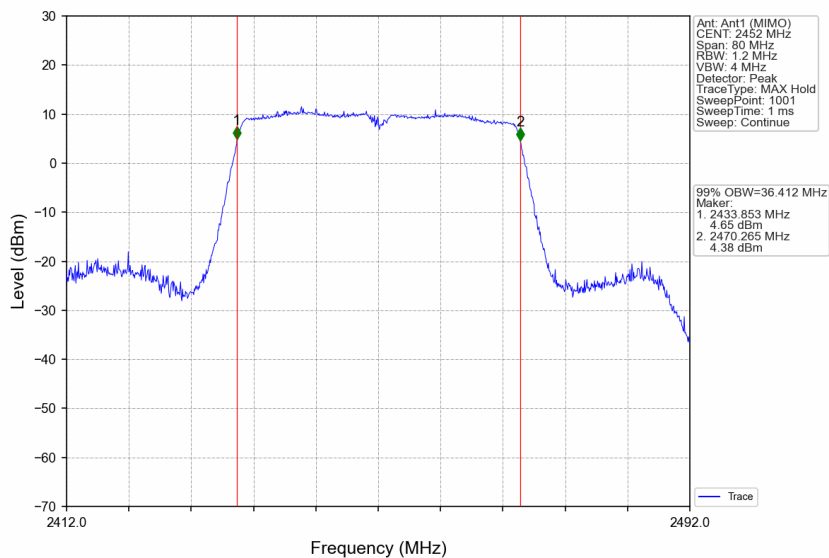
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



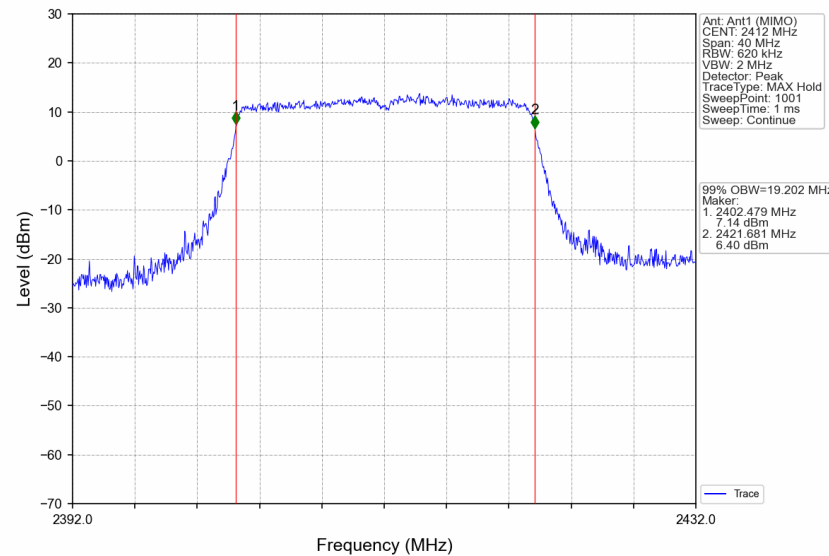
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



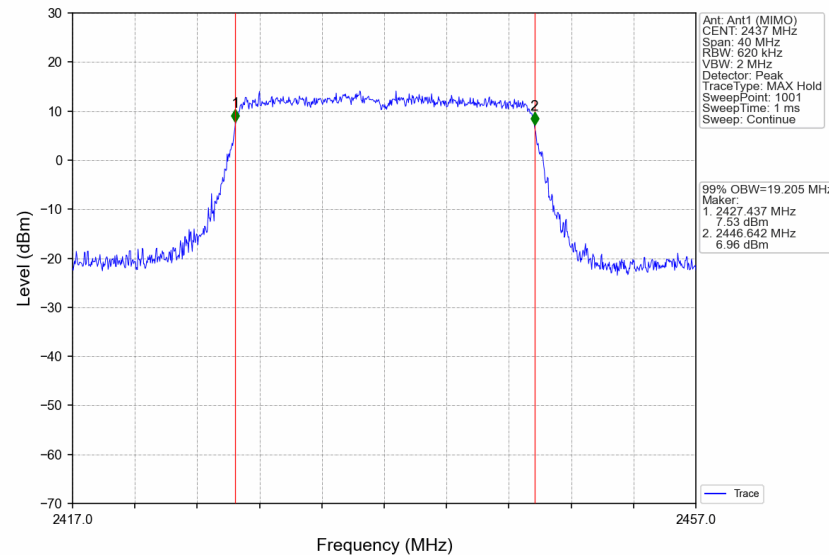
802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



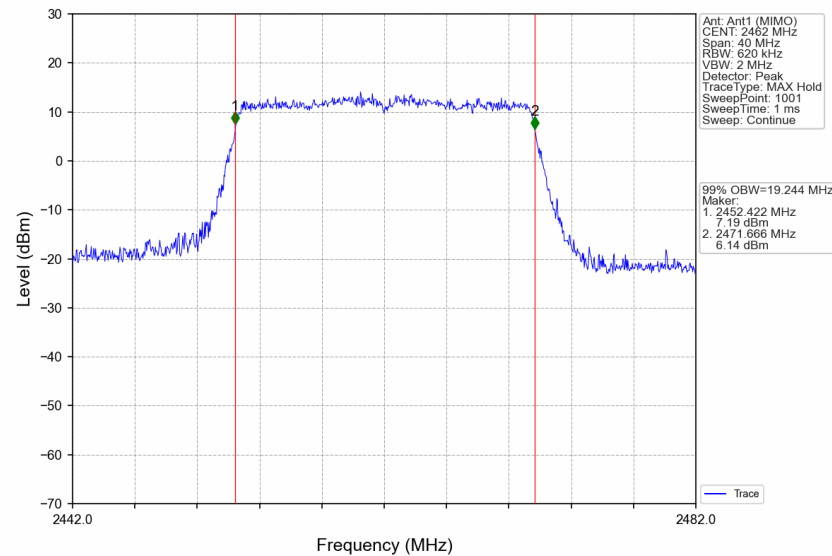
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (MIMO)_NTNV



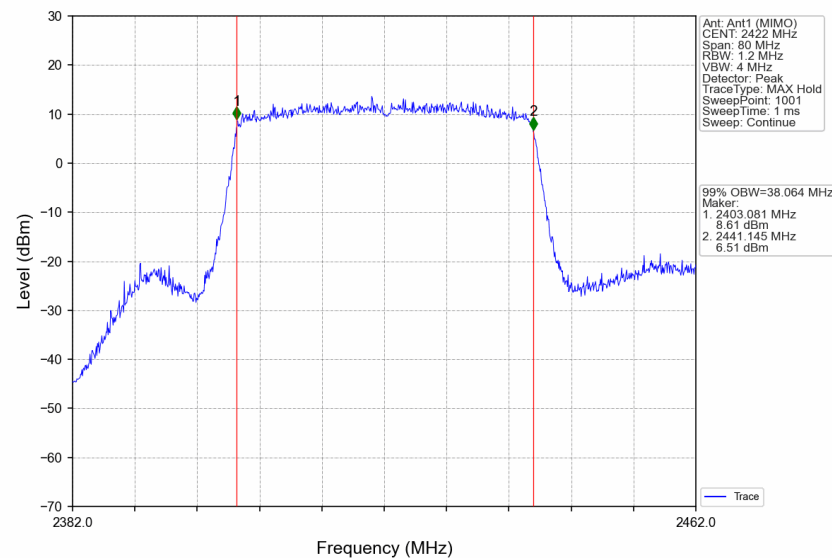
802.11ax(HEW20)_MCH_2437MHz_RU242_Left_Ant1 (MIMO)_NTNV



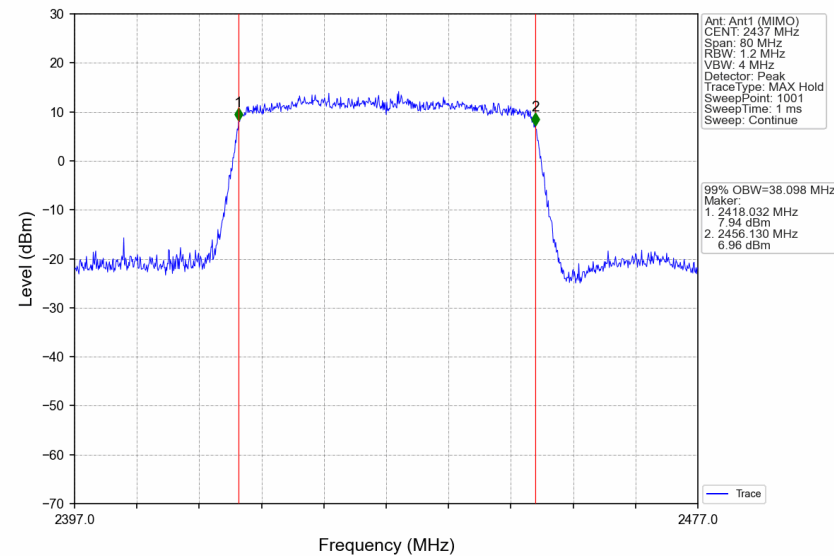
802.11ax(HEW20)_HCH_2462MHz_RU242_Left_Ant1 (MIMO)_NTNV



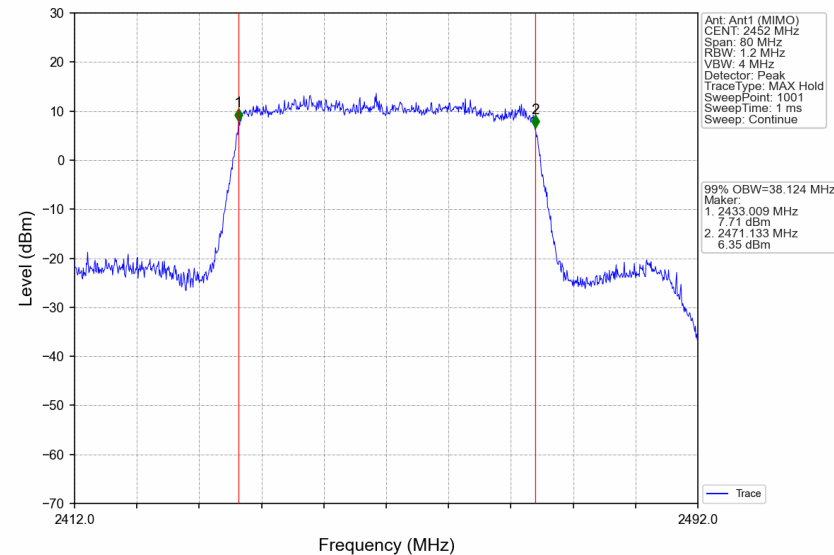
802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (MIMO)_NTNV



802.11ax(HEW40)_MCH_2437MHz_RU484_Left_Ant1 (MIMO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant1 (MIMO)_NTNV



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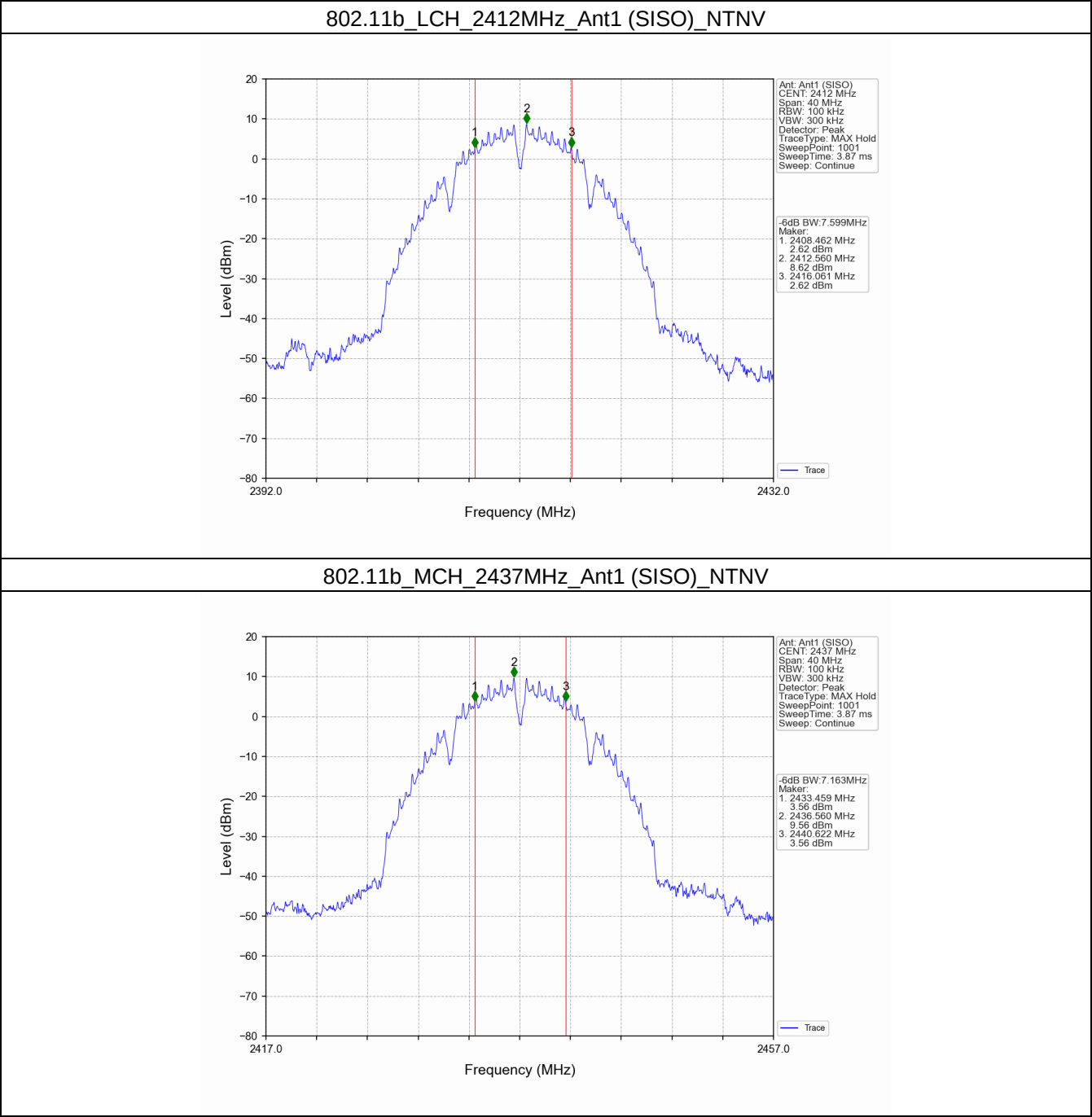
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2.2 6dB BW

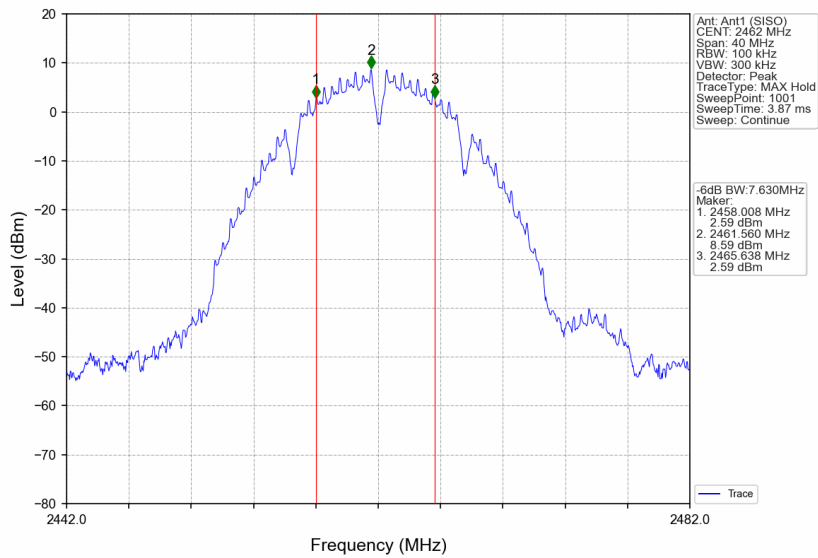
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	7.599	≥ 0.5	Pass
		2437	/	/	1	7.163	≥ 0.5	Pass
		2462	/	/	1	7.630	≥ 0.5	Pass
802.11g	SISO	2412	/	/	1	16.355	≥ 0.5	Pass
		2437	/	/	1	16.364	≥ 0.5	Pass
		2462	/	/	1	16.352	≥ 0.5	Pass
802.11n (HT20)	MIMO	2412	/	/	1	17.323	≥ 0.5	Pass
		2437	/	/	1	17.328	≥ 0.5	Pass
		2462	/	/	1	17.538	≥ 0.5	Pass
802.11n (HT40)	MIMO	2422	/	/	1	35.668	≥ 0.5	Pass
		2437	/	/	1	35.411	≥ 0.5	Pass
		2452	/	/	1	35.935	≥ 0.5	Pass
802.11ax (HEW20)	MIMO	2412	RU242	Left	1	18.778	≥ 0.5	Pass
		2437	RU242	Left	1	18.930	≥ 0.5	Pass
		2462	RU242	Left	1	18.977	≥ 0.5	Pass
802.11ax (HEW40)	MIMO	2422	RU484	Left	1	37.754	≥ 0.5	Pass
		2437	RU484	Left	1	37.534	≥ 0.5	Pass
		2452	RU484	Left	1	37.883	≥ 0.5	Pass

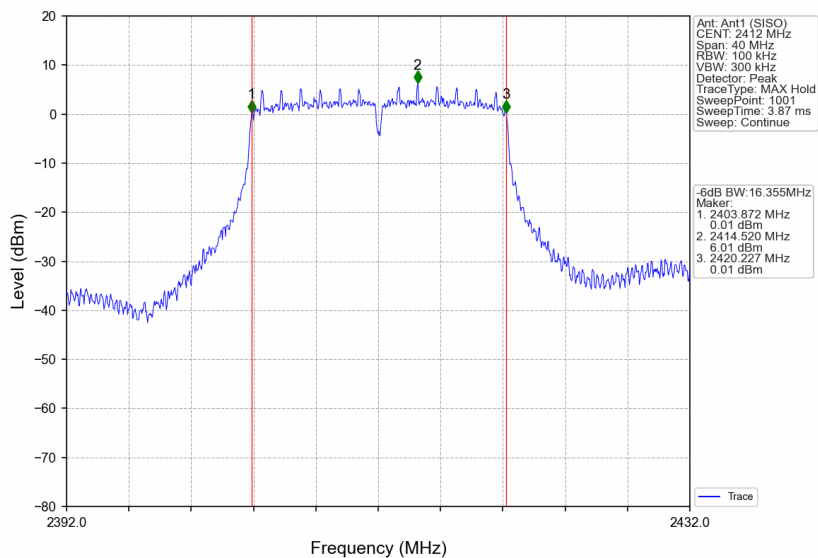
2.2.2 Test Graph



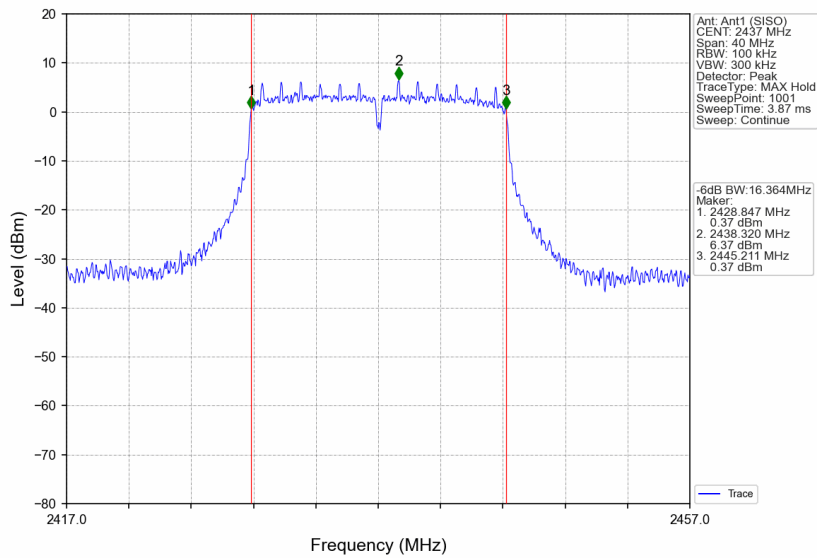
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



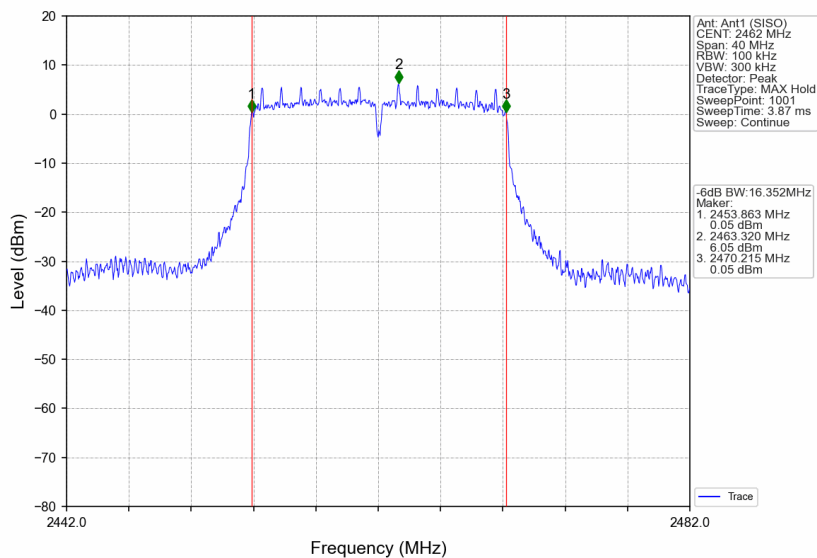
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



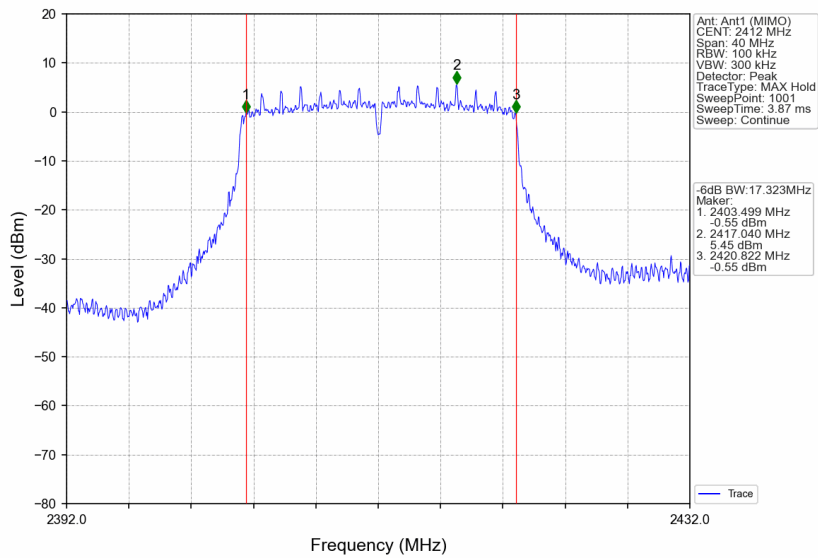
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



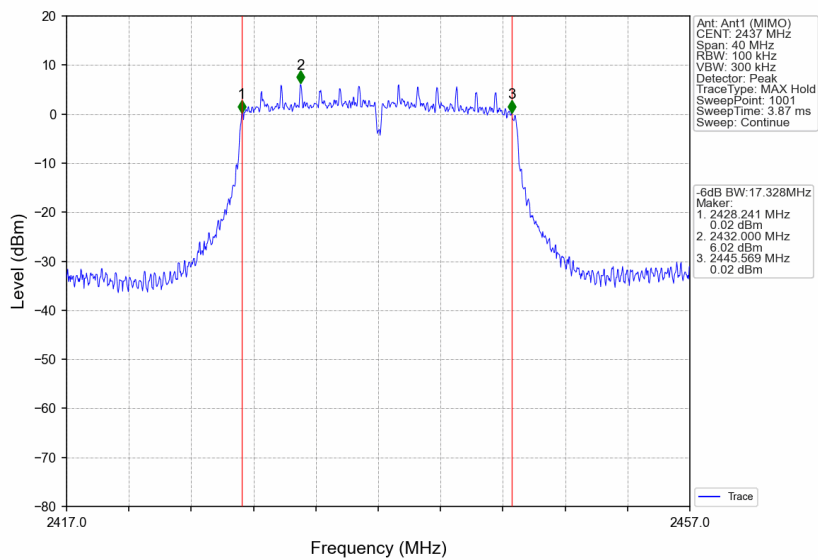
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



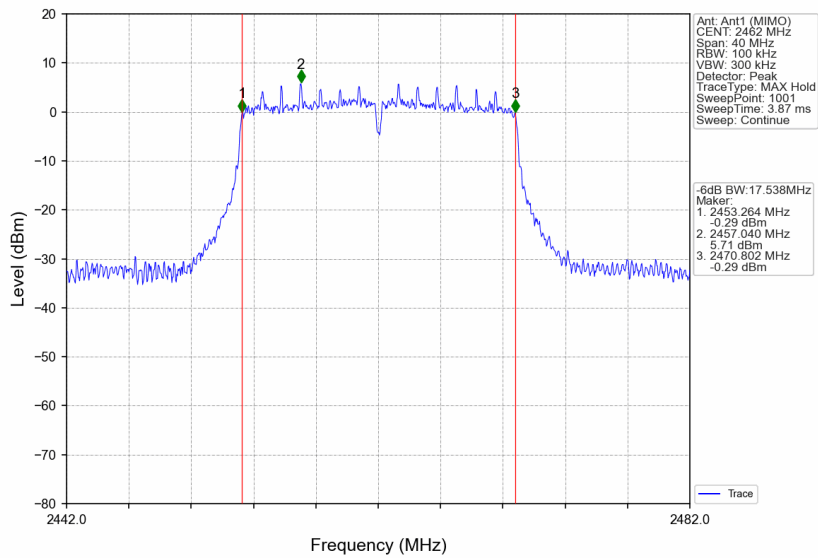
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



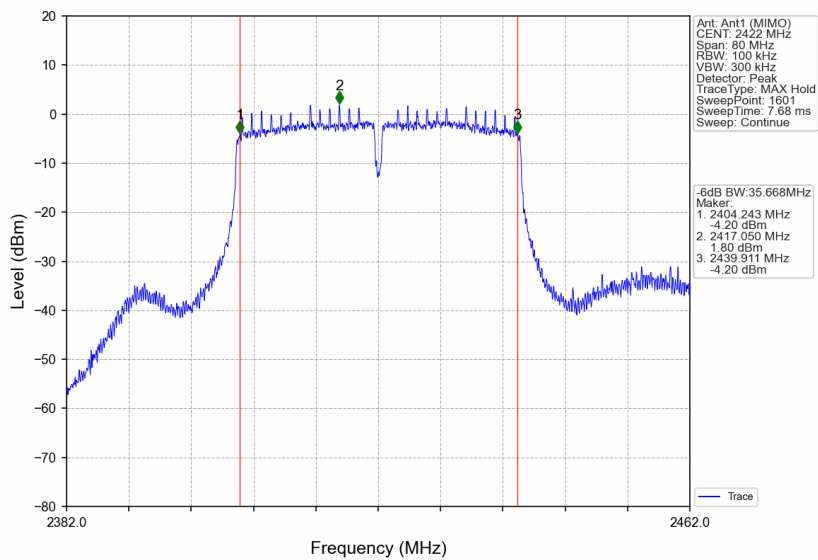
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



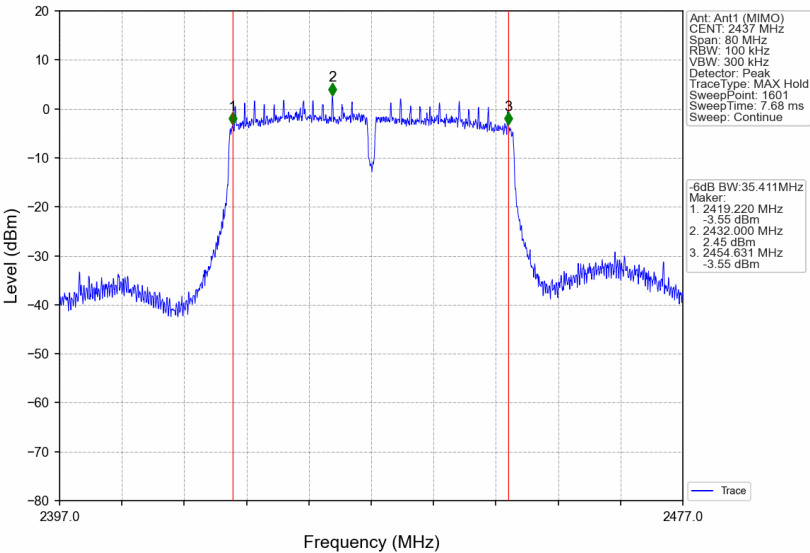
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



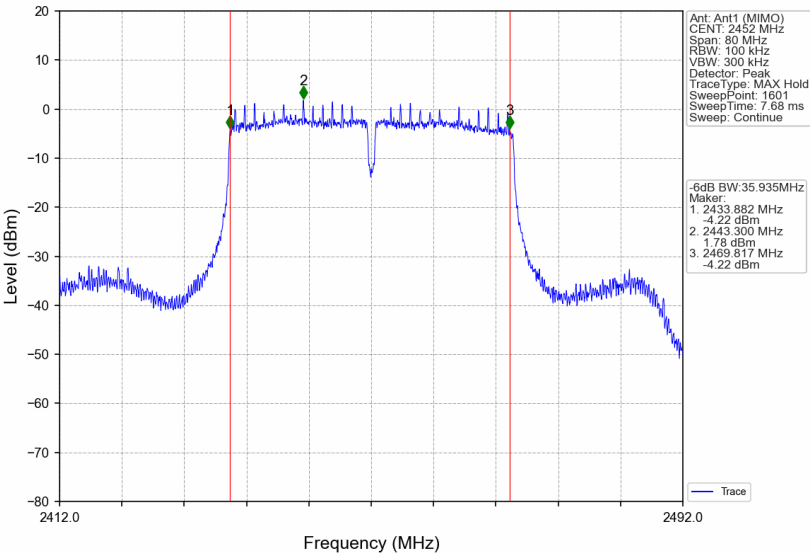
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



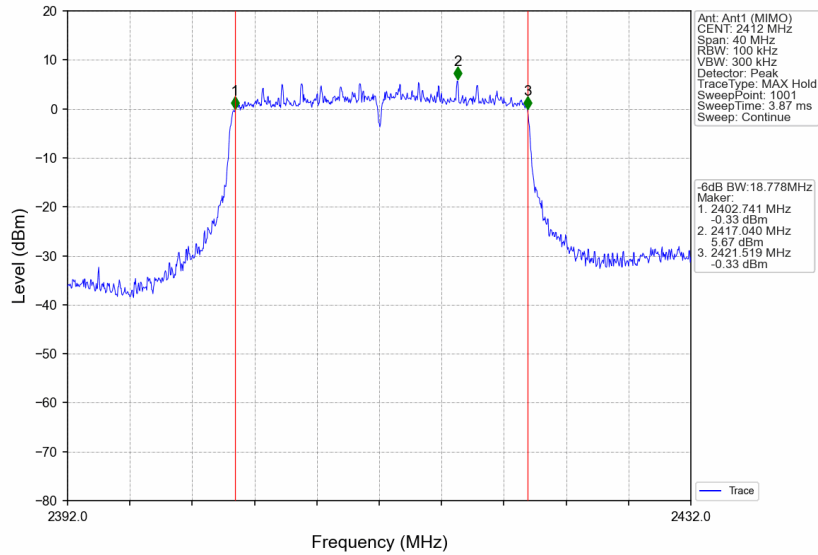
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



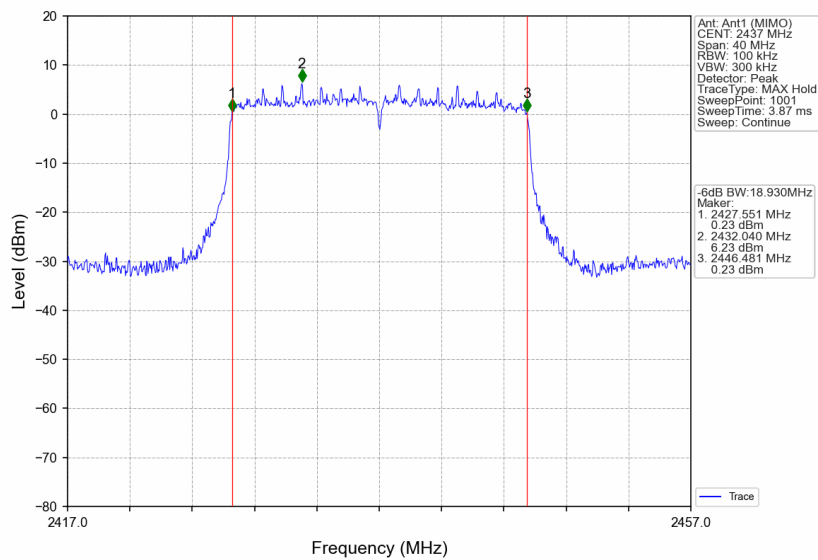
802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



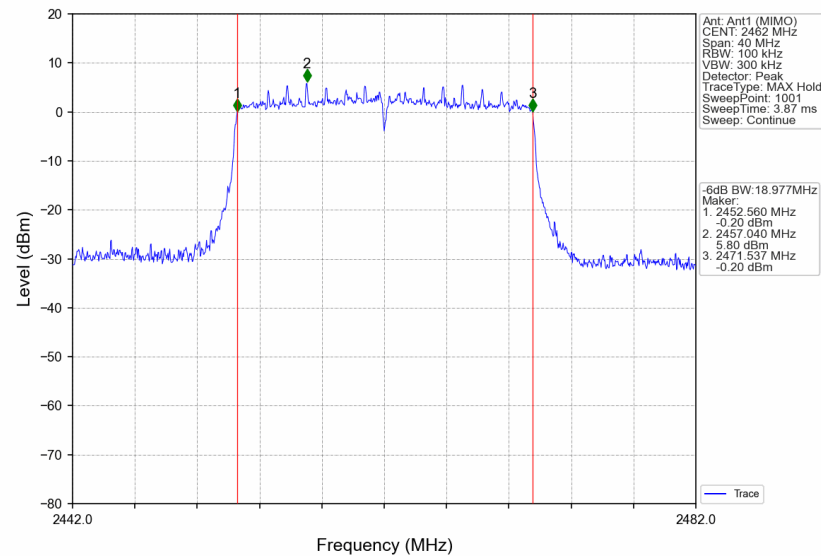
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (MIMO)_NTNV



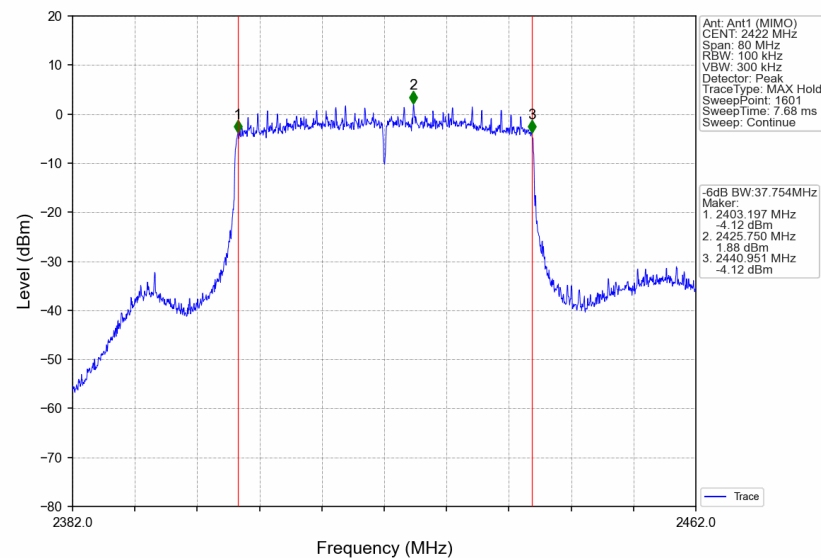
802.11ax(HEW20)_MCH_2437MHz_RU242_Left_Ant1 (MIMO)_NTNV



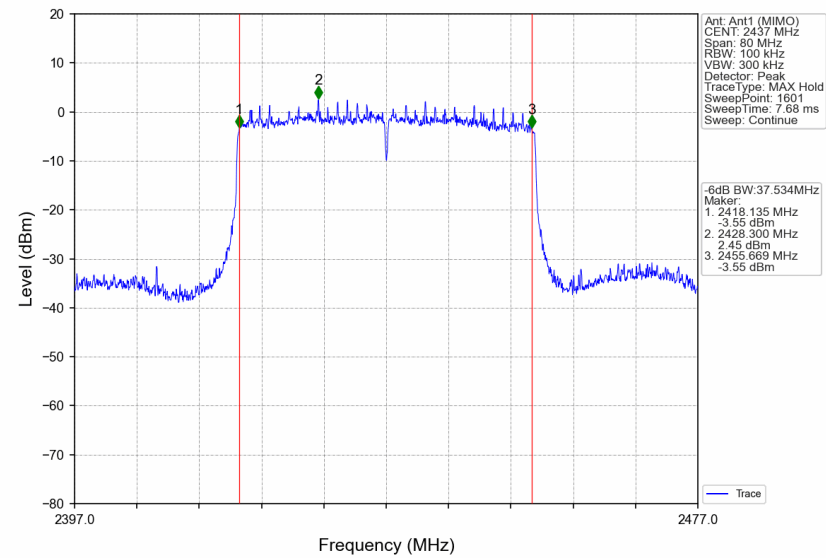
802.11ax(HEW20)_HCH_2462MHz_RU242_Left_Ant1 (MIMO)_NTNV



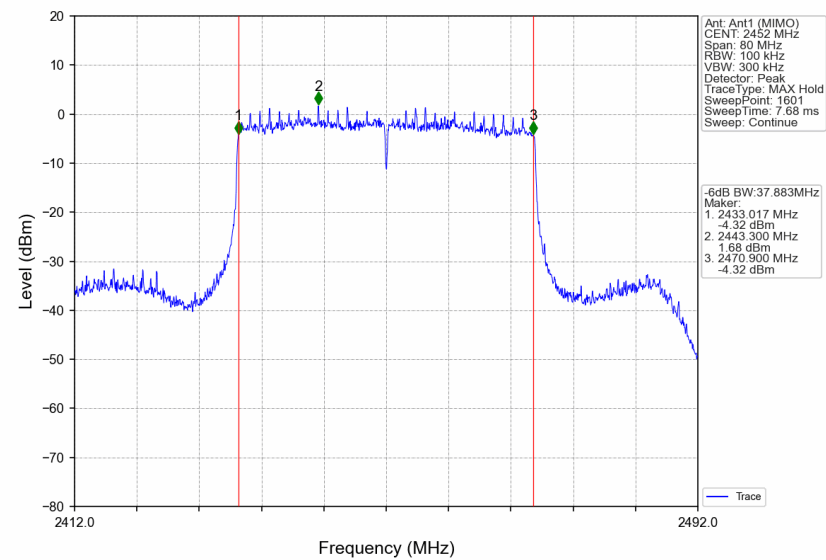
802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (MIMO)_NTNV



802.11ax(HEW40)_MCH_2437MHz_RU484_Left_Ant1 (MIMO)_NTNV

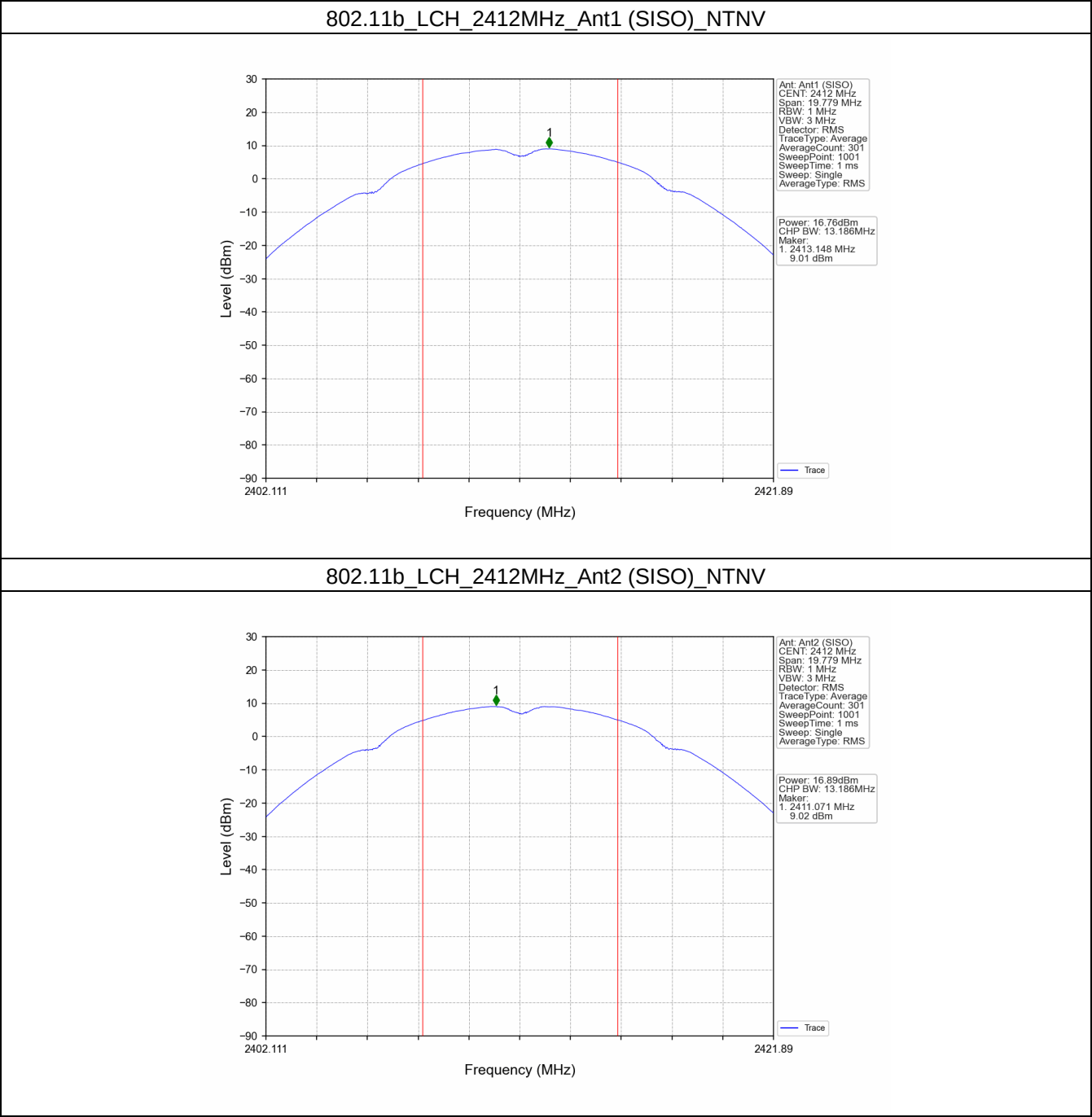


802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant1 (MIMO)_NTNV

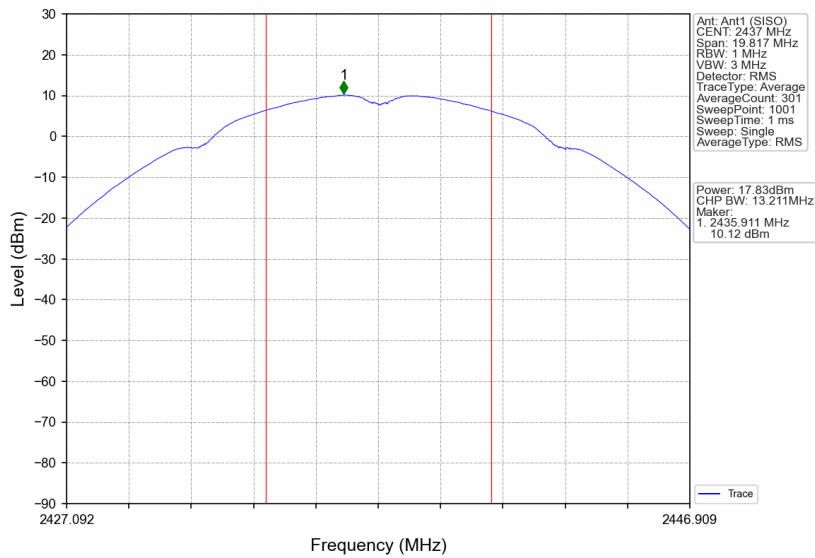


Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Average Conducted Output Power (dBm)				Verdict
					ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	/	/	16.76	16.89	/	<=30	Pass
		2437	/	/	17.83	17.45	/	<=30	Pass
		2462	/	/	16.80	16.72	/	<=30	Pass
802.11g	SISO	2412	/	/	16.77	16.78	/	<=30	Pass
		2437	/	/	17.66	17.38	/	<=30	Pass
		2462	/	/	14.54	14.21	/	<=30	Pass
802.11n (HT20)	MIMO	2412	/	/	15.95	15.98	18.98	<=30	Pass
		2437	/	/	16.05	16.16	19.12	<=30	Pass
		2462	/	/	13.16	13.14	16.16	<=30	Pass
802.11n (HT40)	MIMO	2422	/	/	12.27	11.78	15.04	<=30	Pass
		2437	/	/	16.33	16.01	19.18	<=30	Pass
		2452	/	/	11.35	11.67	14.52	<=30	Pass
802.11ax (HEW20)	MIMO	2412	RU242	Left	14.08	14.17	17.14	<=30	Pass
		2437	RU242	Left	17.23	17.18	20.22	<=30	Pass
		2462	RU242	Left	12.11	12.26	15.20	<=30	Pass
802.11ax (HEW40)	MIMO	2422	RU484	Left	12.15	11.77	14.97	<=30	Pass
		2437	RU484	Left	16.23	15.99	19.12	<=30	Pass
		2452	RU484	Left	11.77	11.99	14.89	<=30	Pass
Note1: Antenna Gain: Ant1: 3.1dBi; Ant2: 3dBi; Note2: Directional Gain: 3.05dBi									

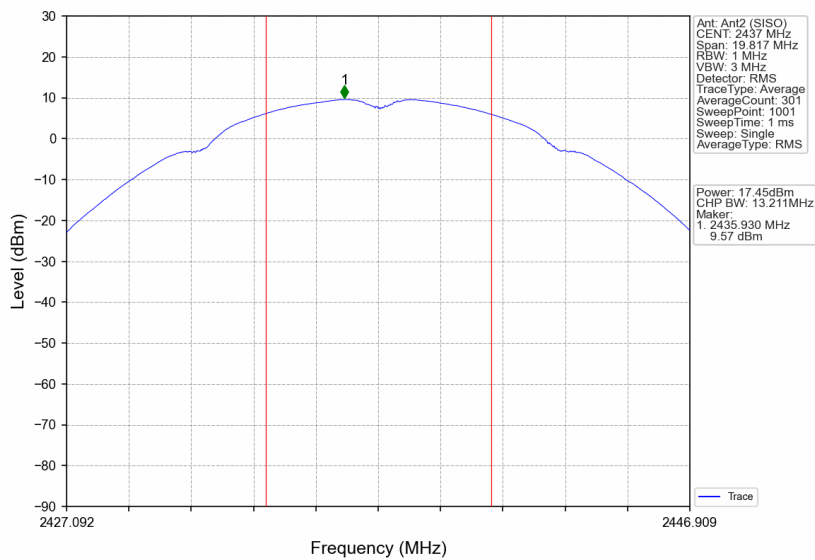
3.1.2 Test Graph



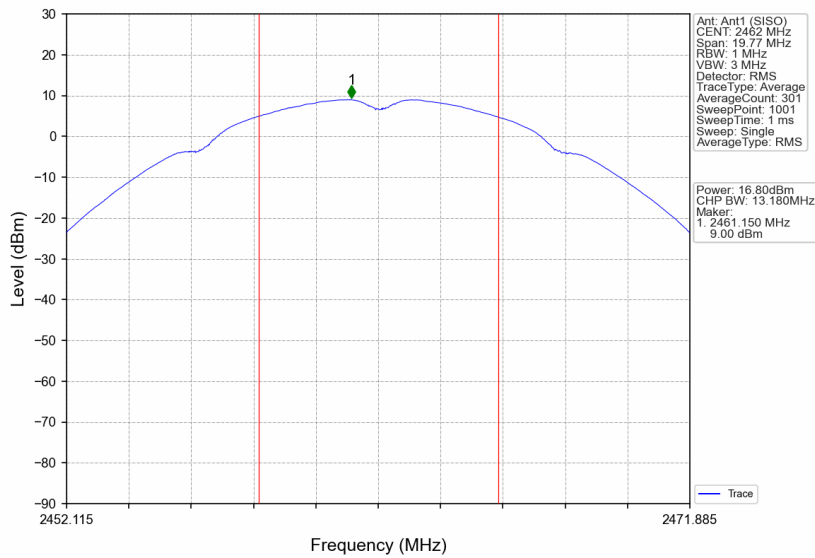
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



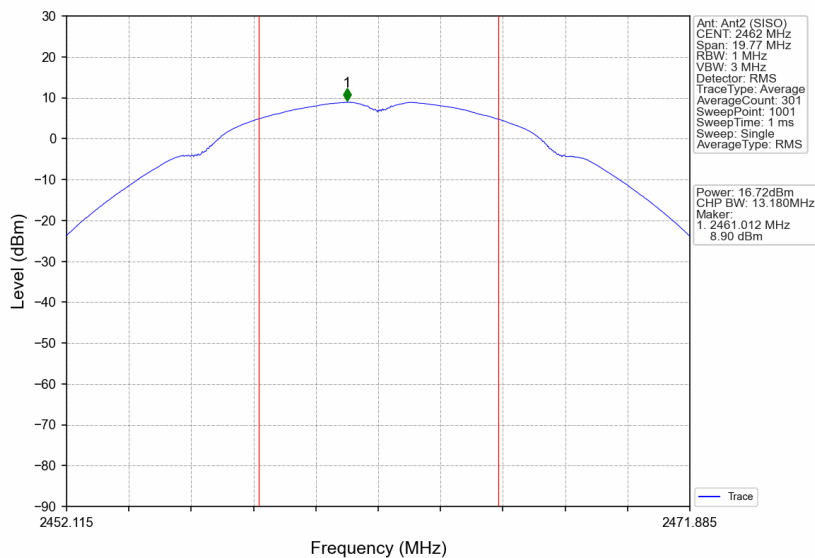
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



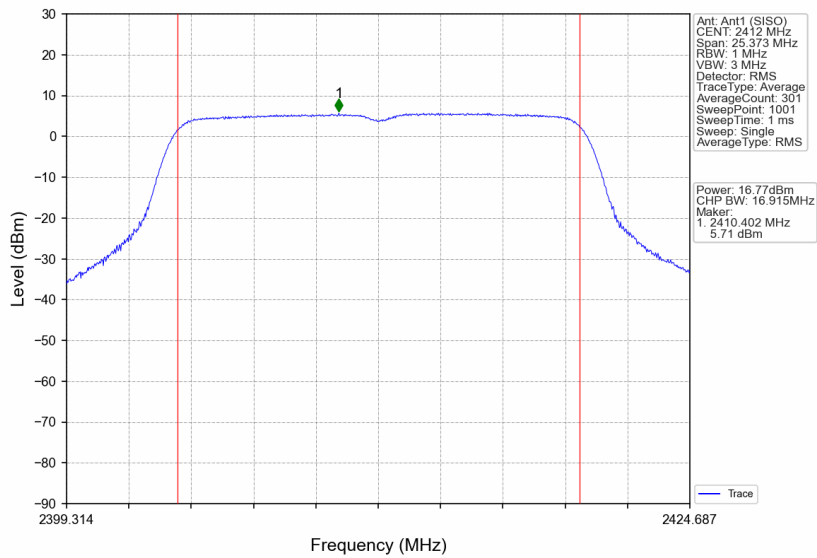
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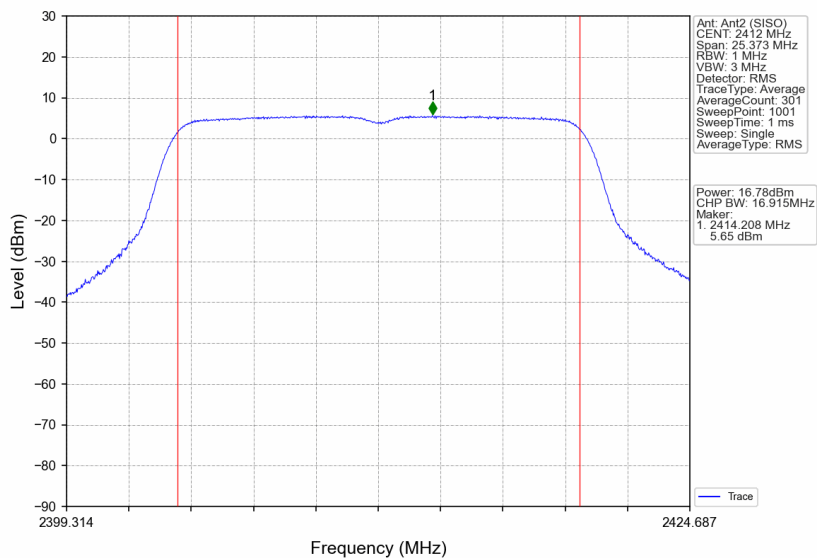
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



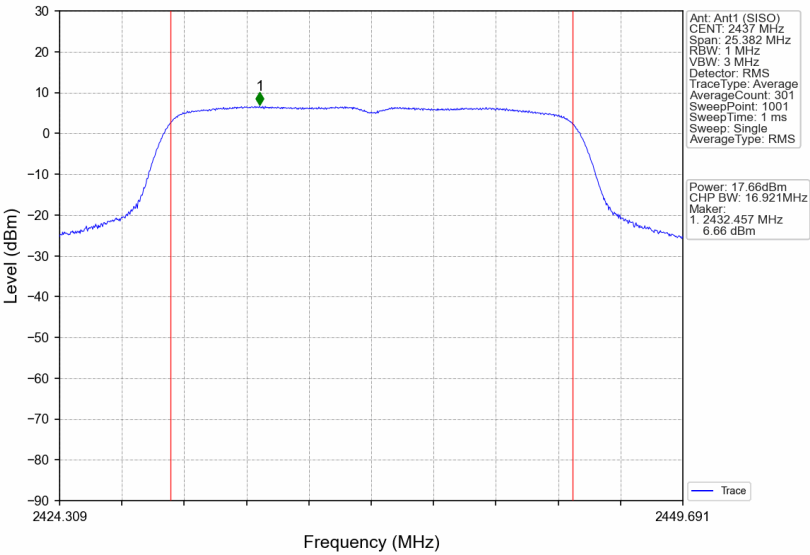
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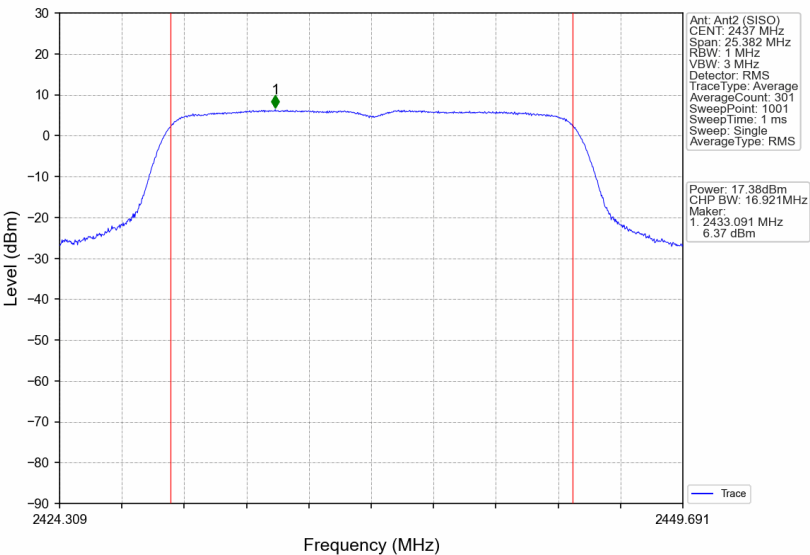
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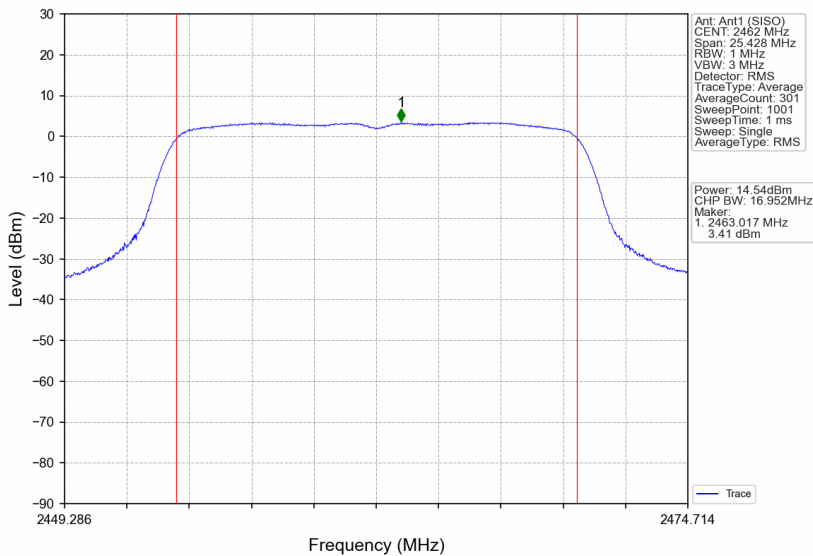
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



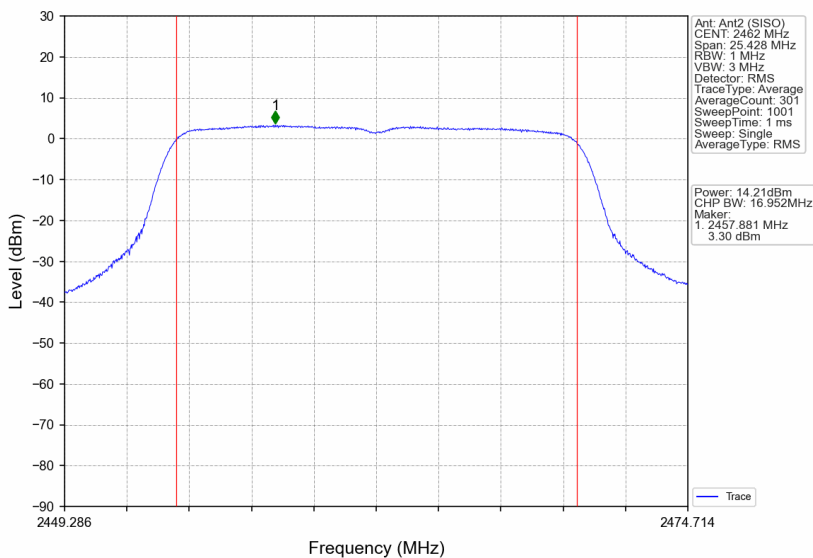
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



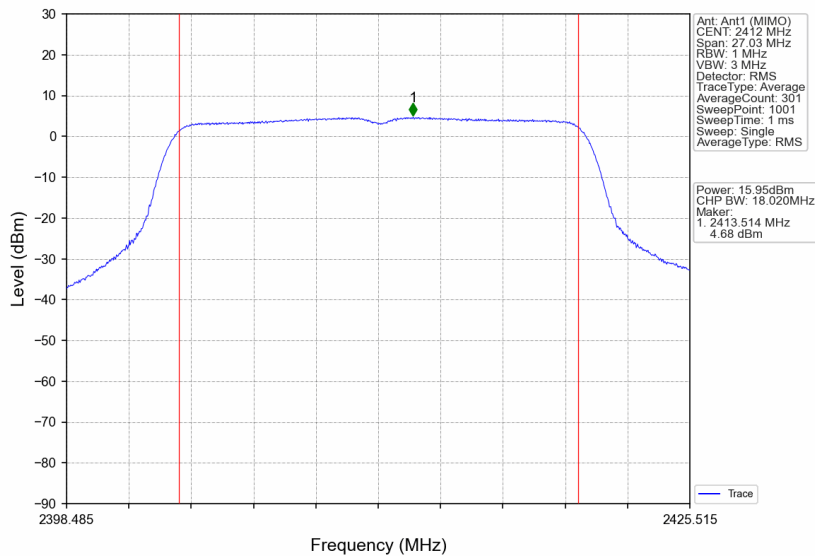
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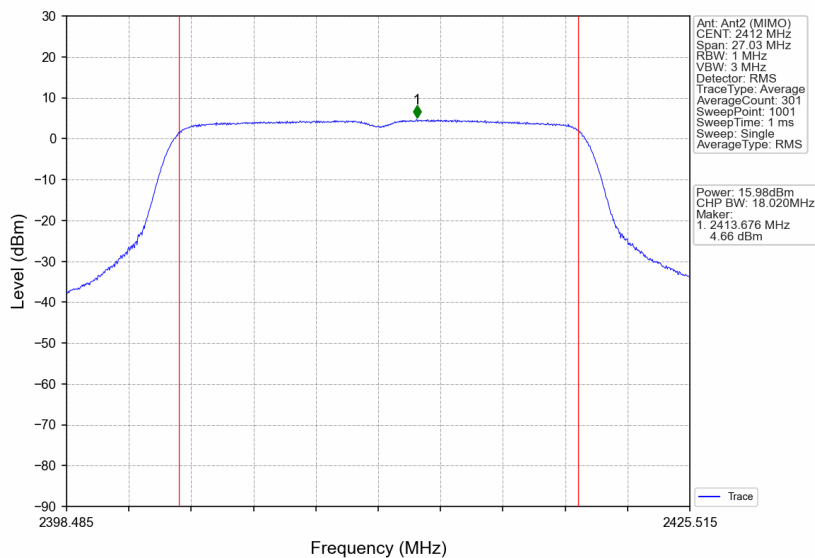
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



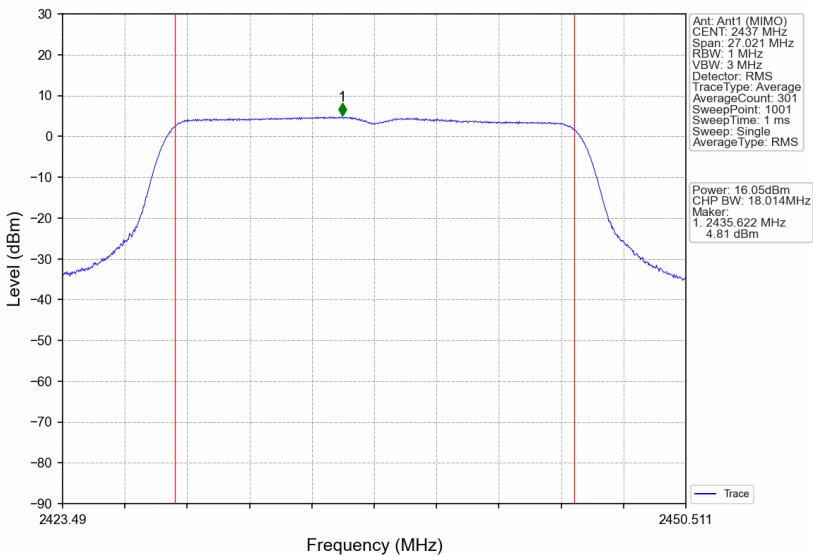
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



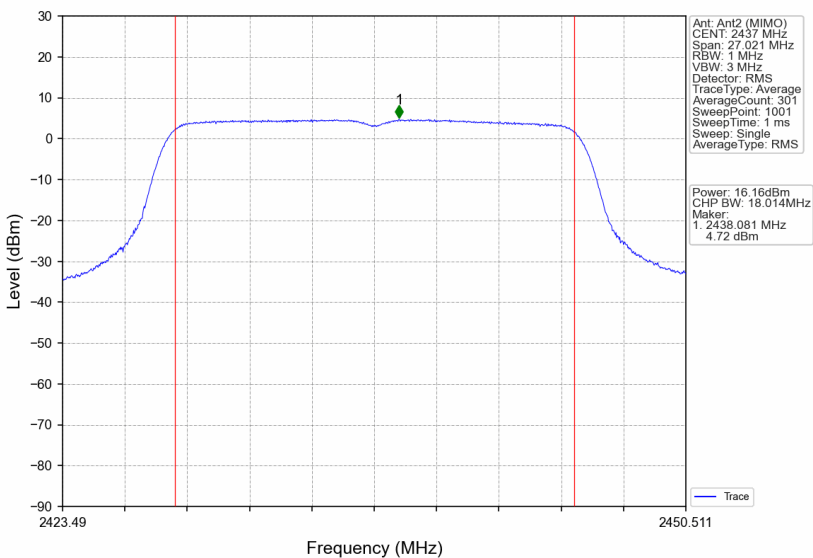
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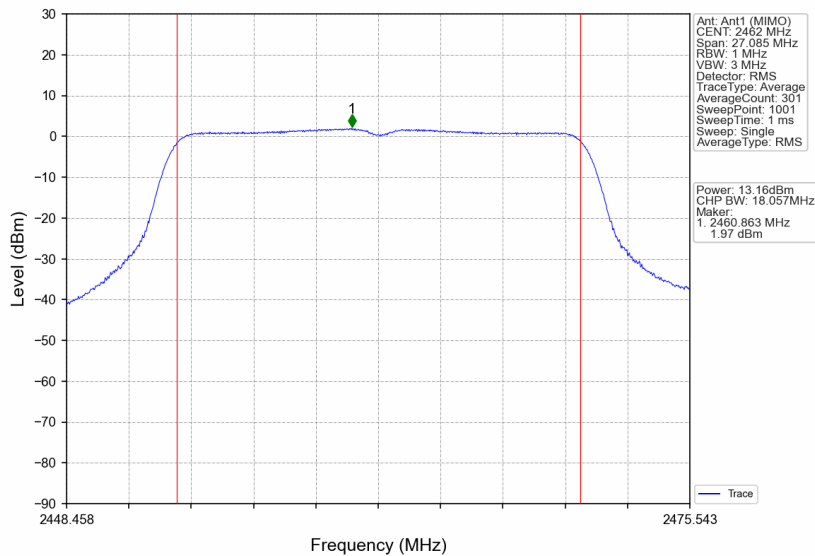
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



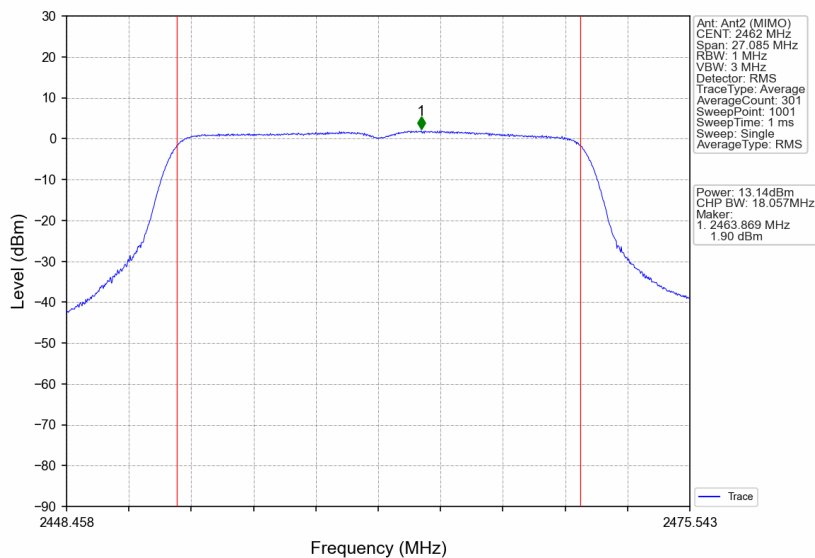
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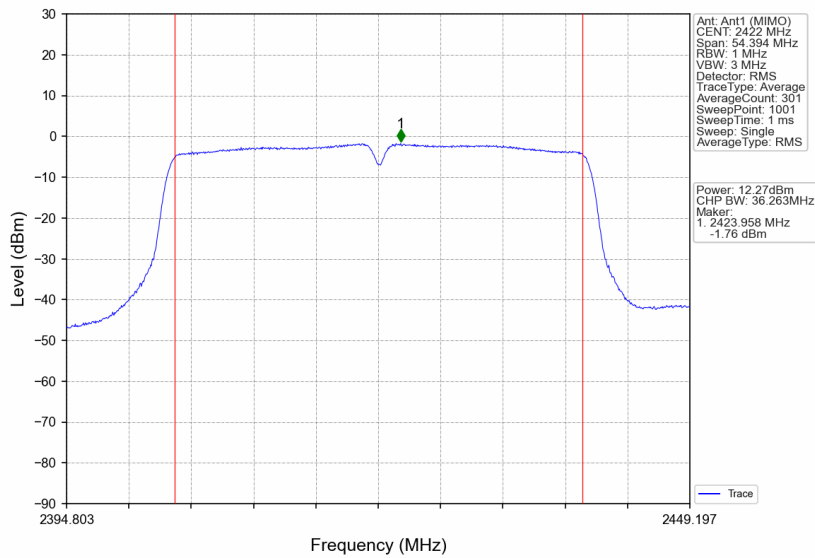
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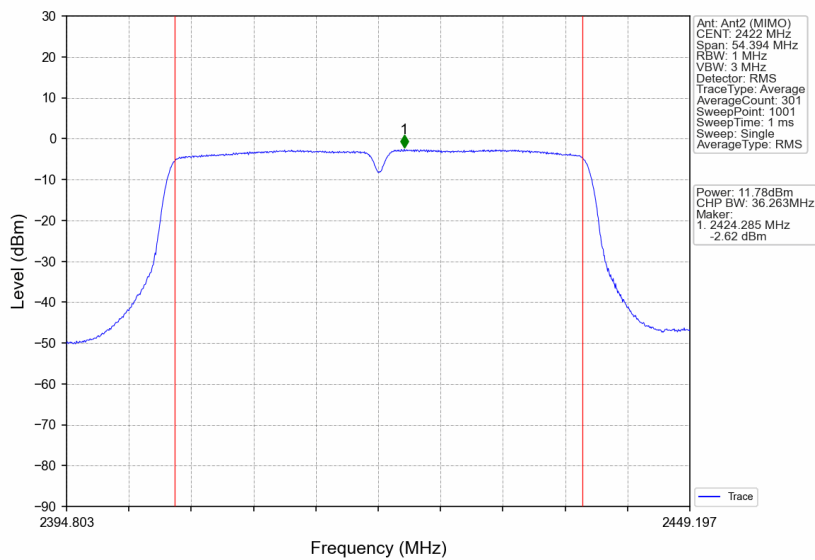
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



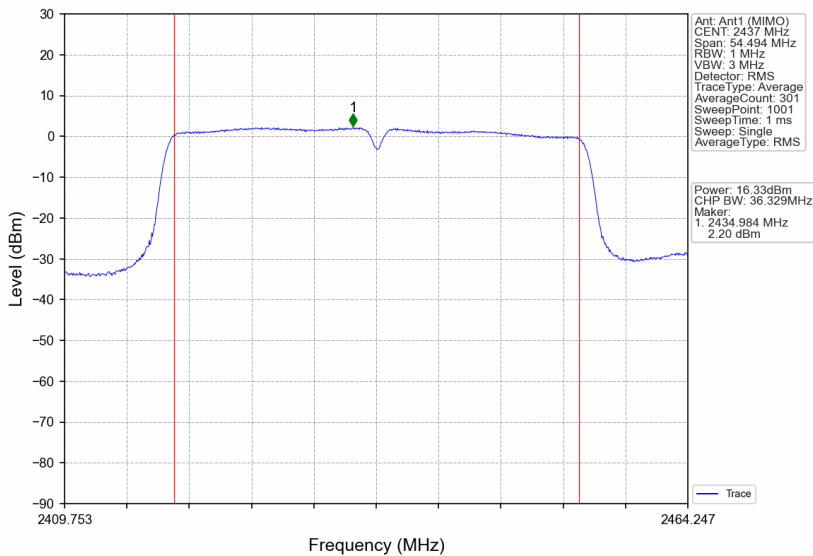
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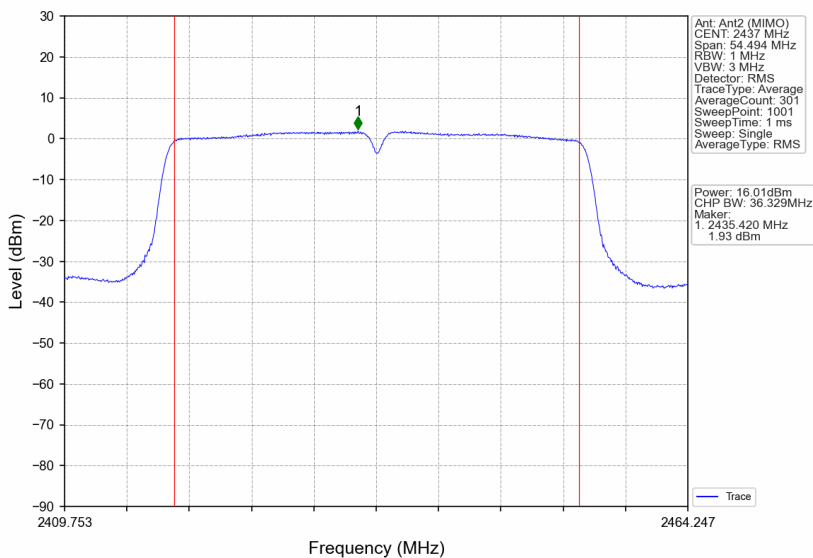
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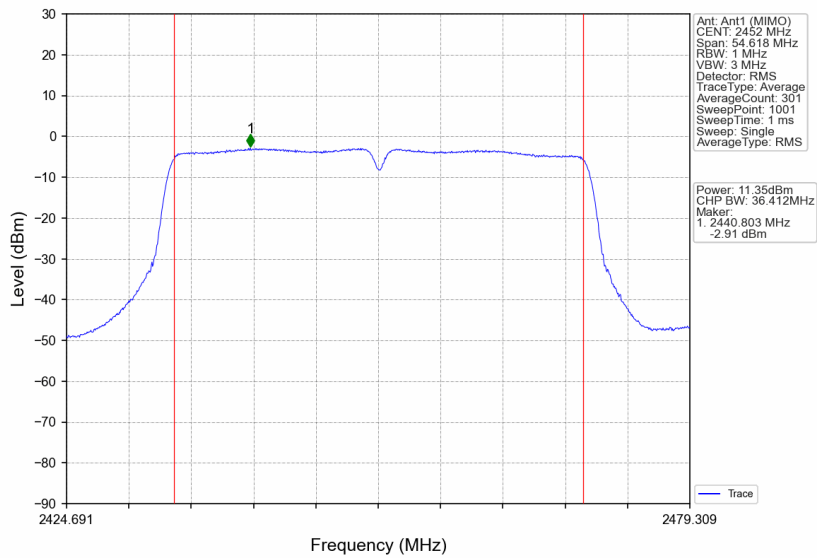
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



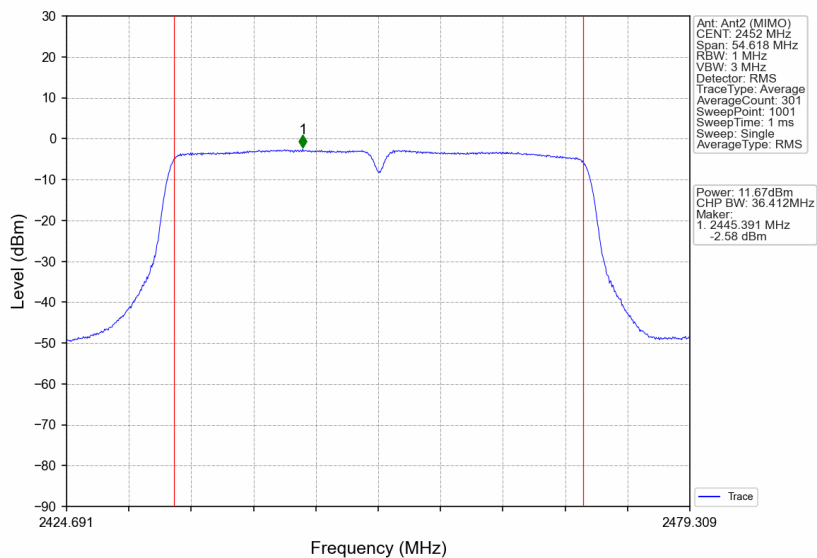
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTNV



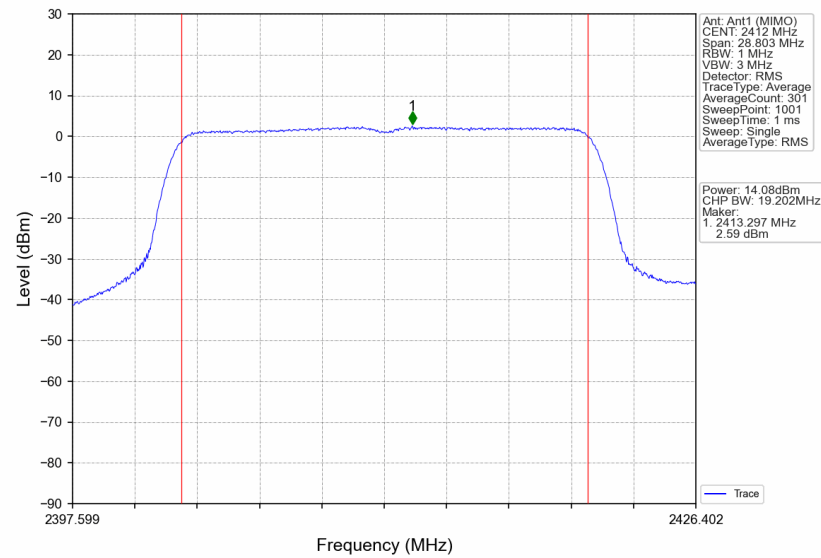
802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



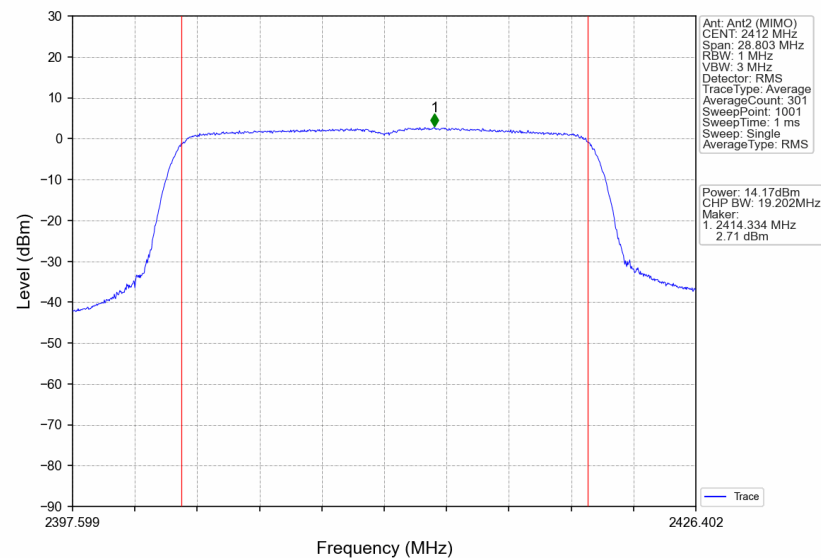
802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV



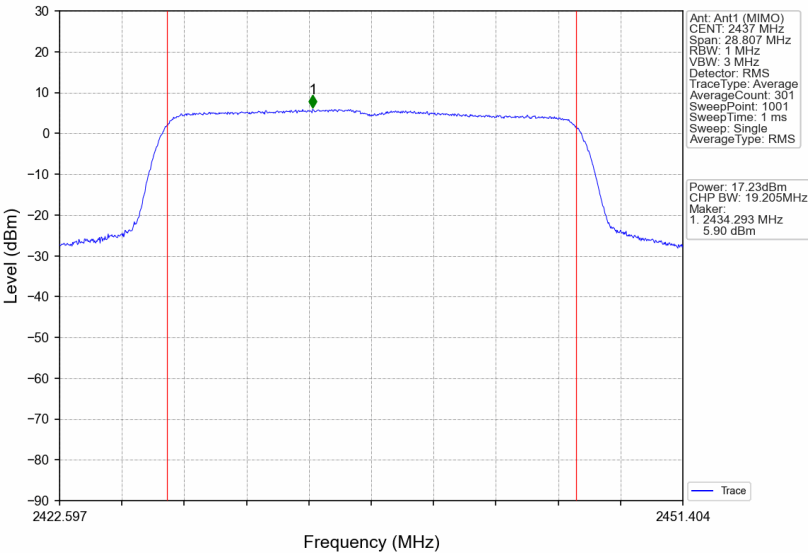
802.11ax(HEW20)_LCH_2412MHz_RU242_Left_Ant1 (MIMO)_NTNV



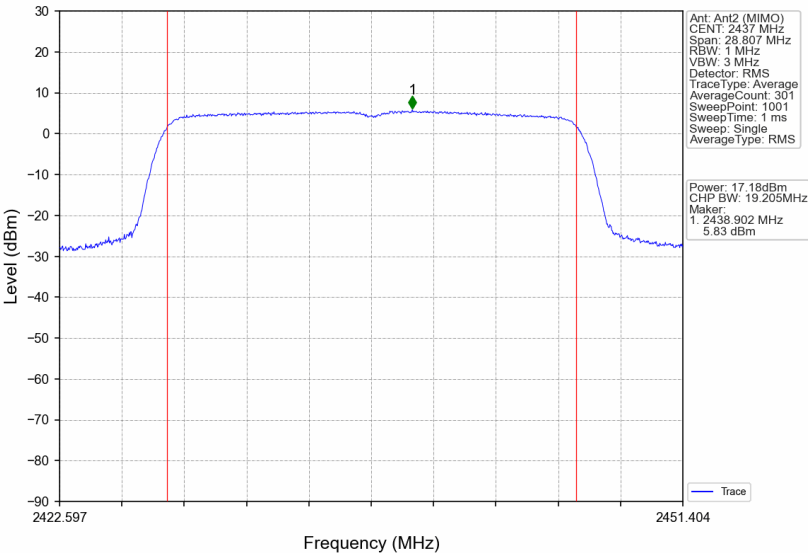
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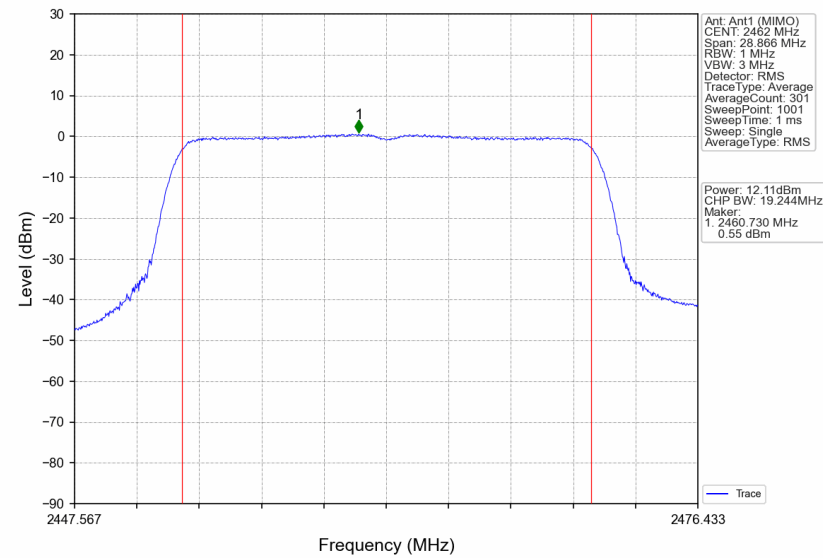
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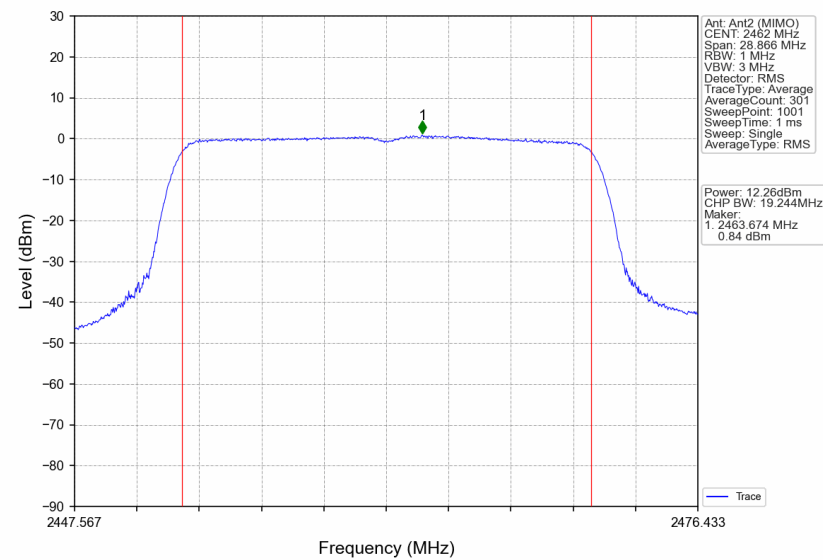
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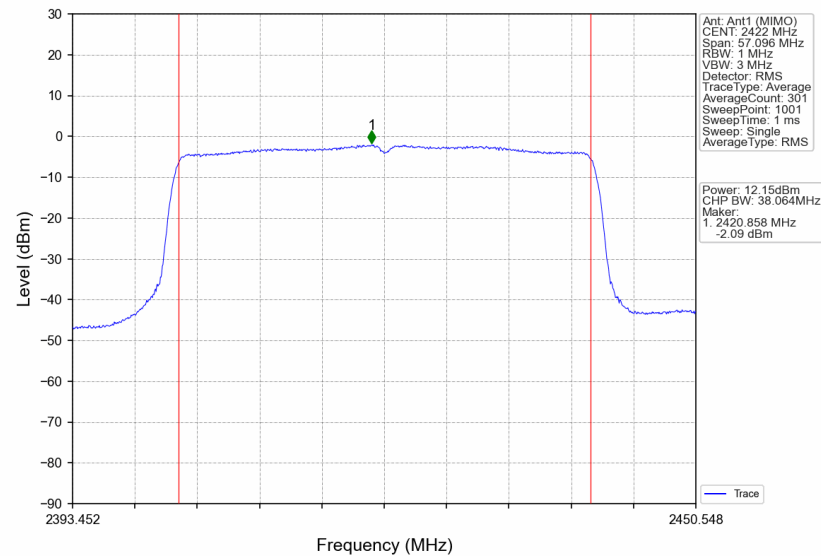
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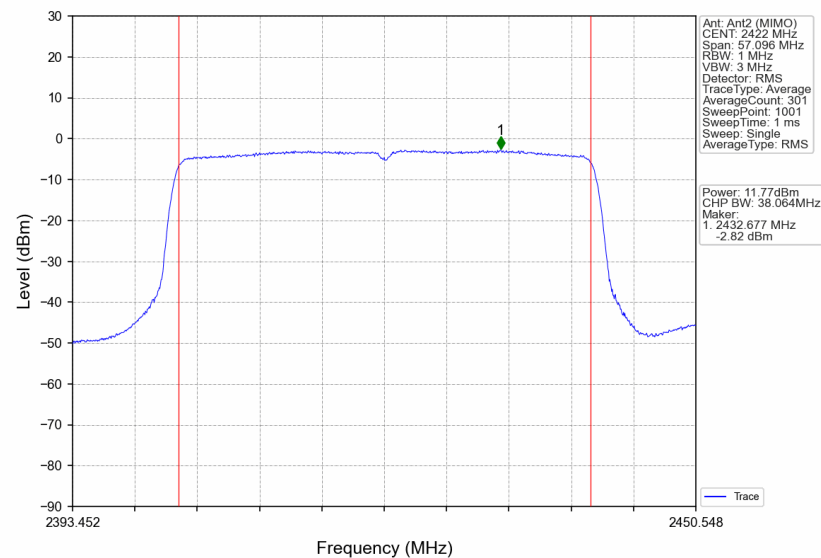
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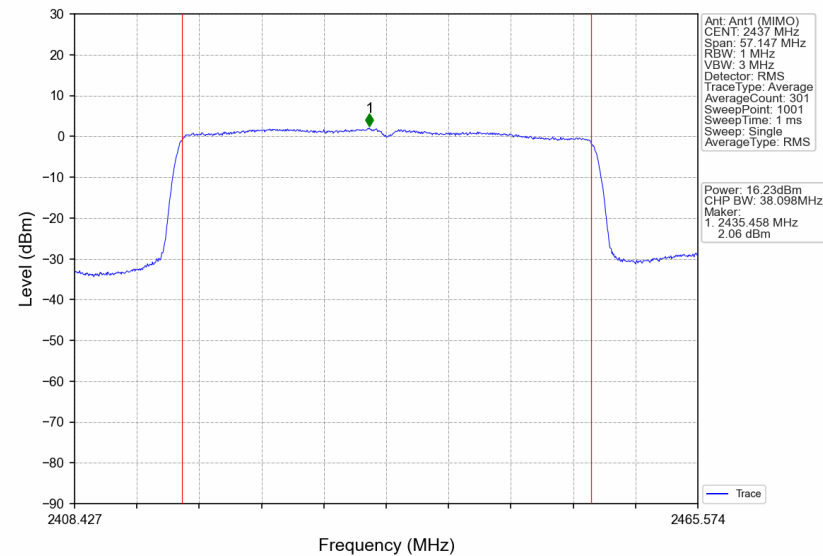
802.11ax(HEW40)_LCH_2422MHz_RU484_Left_Ant1 (MIMO)_NTNV



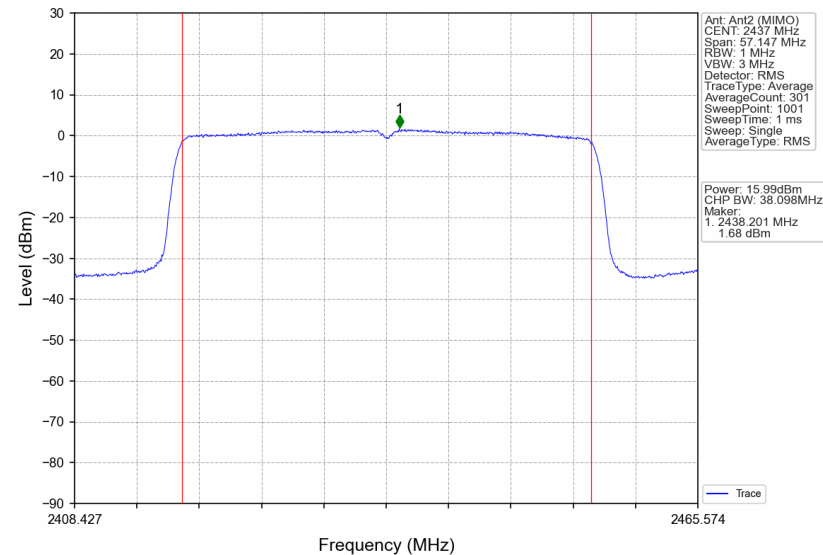
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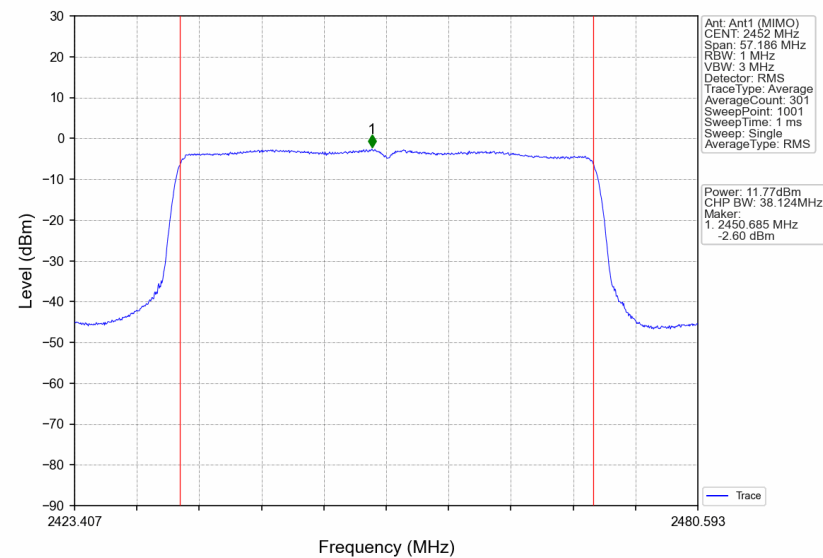
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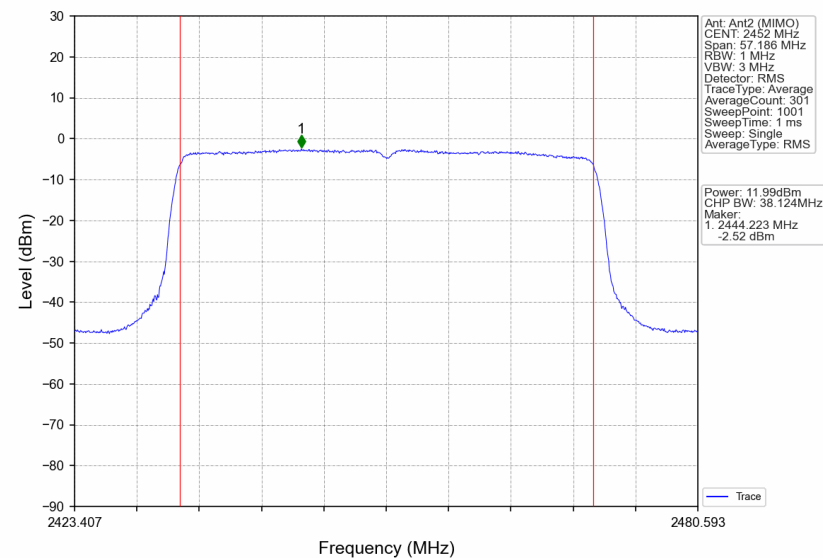
802.11ax(HEW40)_MCH_2437MHz_RU484_Left_Ant2 (MIMO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant1 (MIMO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_RU484_Left_Ant2 (MIMO)_NTNV



4. Maximum Power Spectral Density

4.1 PSD

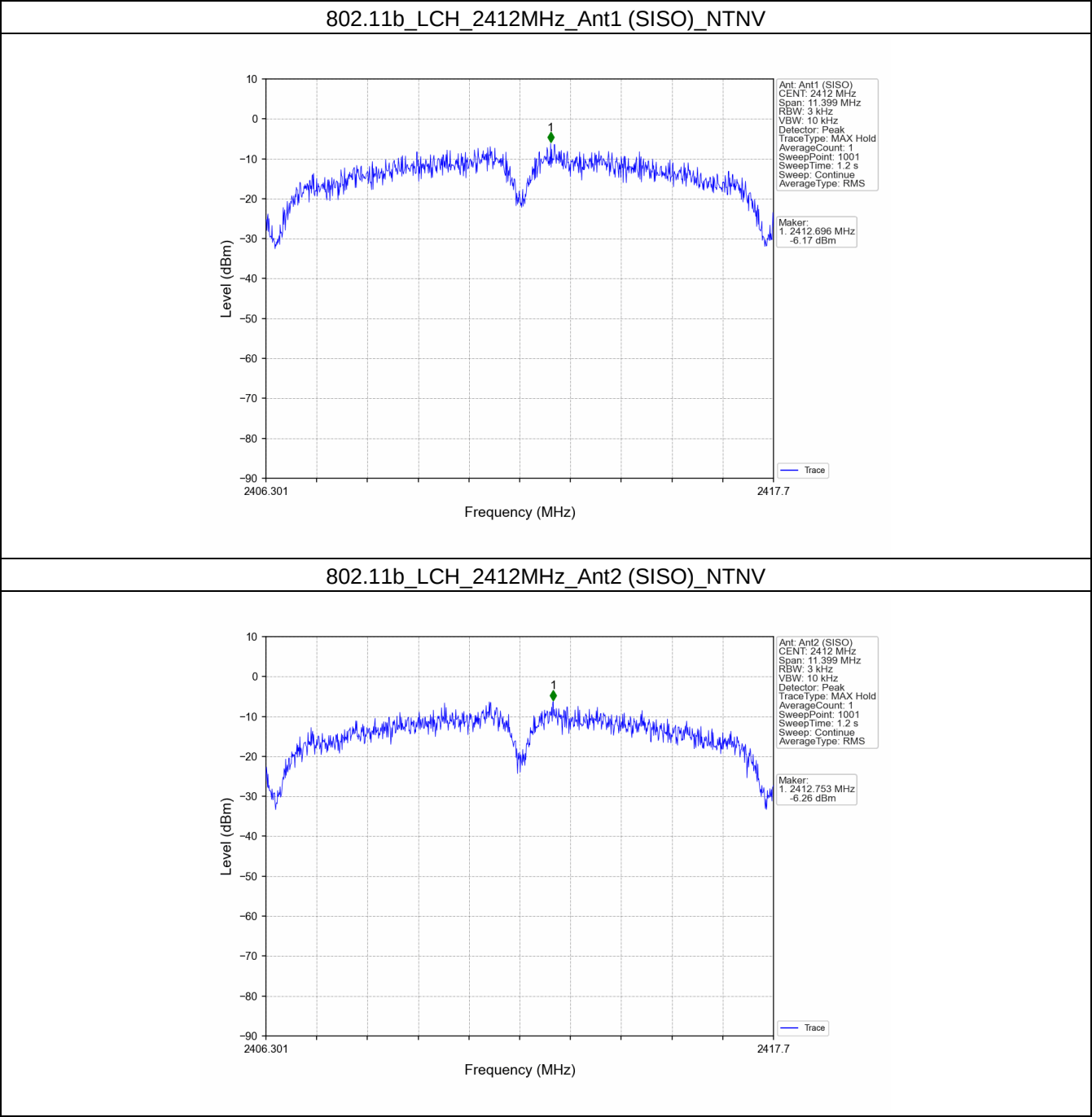
4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz)				Verdict
					ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	/	/	-6.17	-6.26	/	<=8	Pass
		2437	/	/	-4.41	-4.52	/	<=8	Pass
		2462	/	/	-6.54	-7.03	/	<=8	Pass
802.11g	SISO	2412	/	/	-8.72	-9.01	/	<=8	Pass
		2437	/	/	-8.26	-8.20	/	<=8	Pass
		2462	/	/	-10.94	-11.17	/	<=8	Pass
802.11n (HT20)	MIMO	2412	/	/	-10.01	-10.04	-7.35	<=8	Pass
		2437	/	/	-8.56	-11.31	-7.74	<=8	Pass
		2462	/	/	-11.71	-12.30	-9.77	<=8	Pass
802.11n (HT40)	MIMO	2422	/	/	-16.30	-16.77	-14.48	<=8	Pass
		2437	/	/	-11.94	-12.53	-10.33	<=8	Pass
		2452	/	/	-16.74	-16.39	-14.50	<=8	Pass
802.11ax (HEW20)	MIMO	2412	RU242	Left	-13.18	-11.57	-10.43	<=8	Pass
		2437	RU242	Left	-7.48	-9.30	-6.46	<=8	Pass
		2462	RU242	Left	-13.59	-14.69	-12.24	<=8	Pass
802.11ax (HEW40)	MIMO	2422	RU484	Left	-16.58	-16.80	-14.67	<=8	Pass
		2437	RU484	Left	-13.36	-12.92	-11.16	<=8	Pass
		2452	RU484	Left	-17.59	-17.04	-14.84	<=8	Pass

Note1: Antenna Gain: Ant1: 3.1dBi; Ant2: 3dBi;

Note2: Directional Gain: 3.05dBi

4.1.2 Test Graph





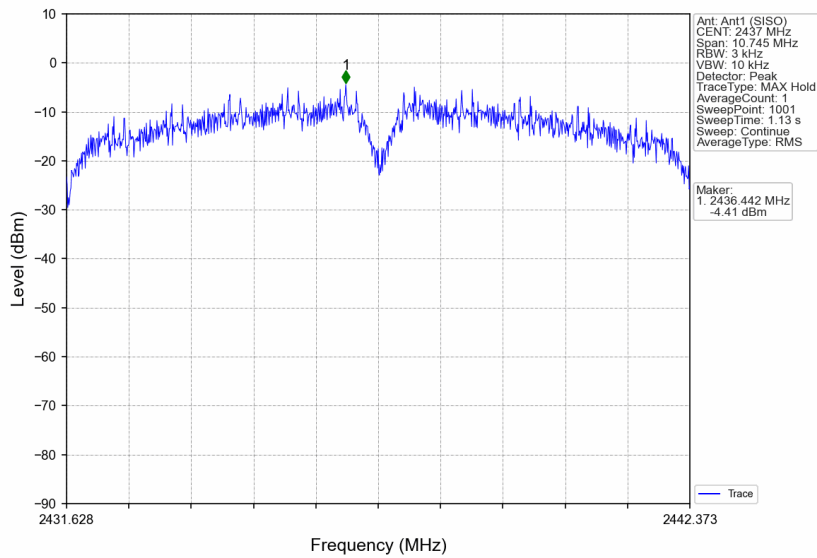
Compliance Certification Services (Kunshan) Inc.

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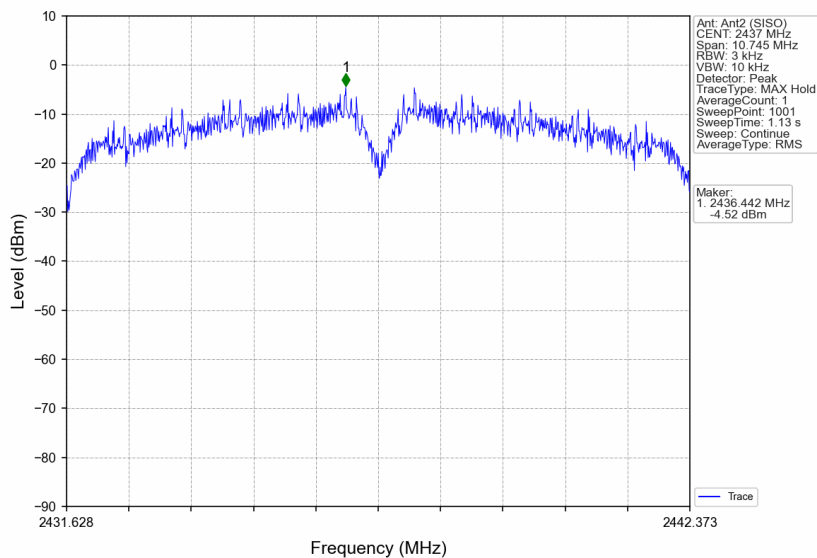
Report No.: KSCR240200030903

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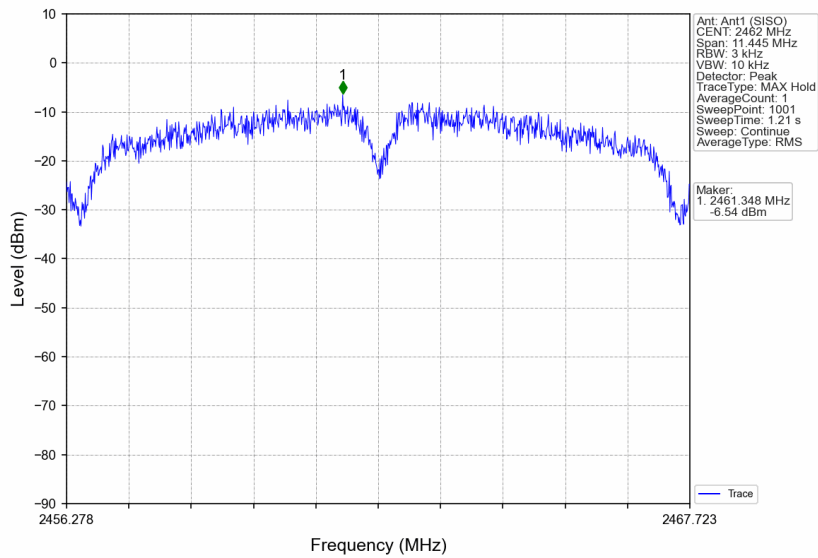
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



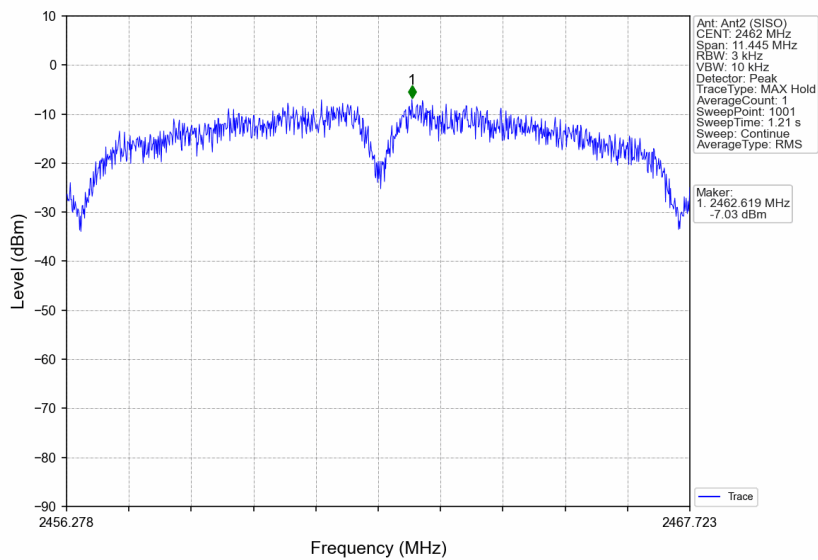
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



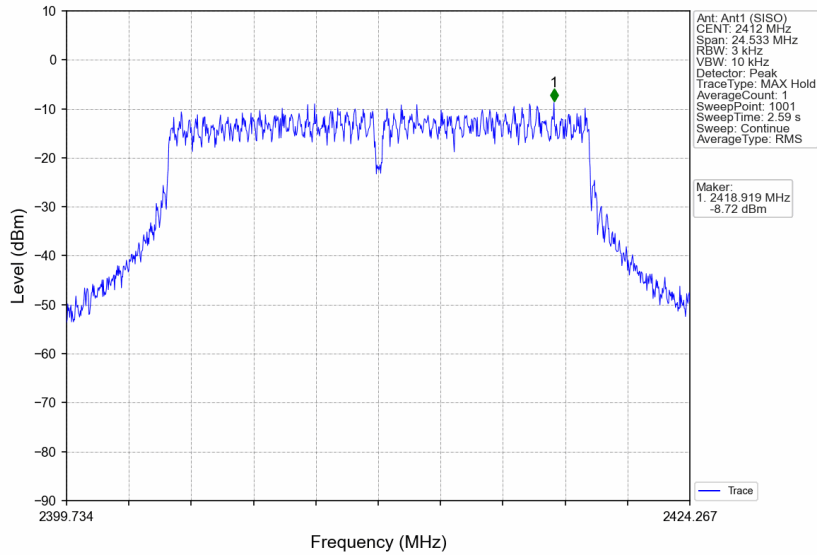
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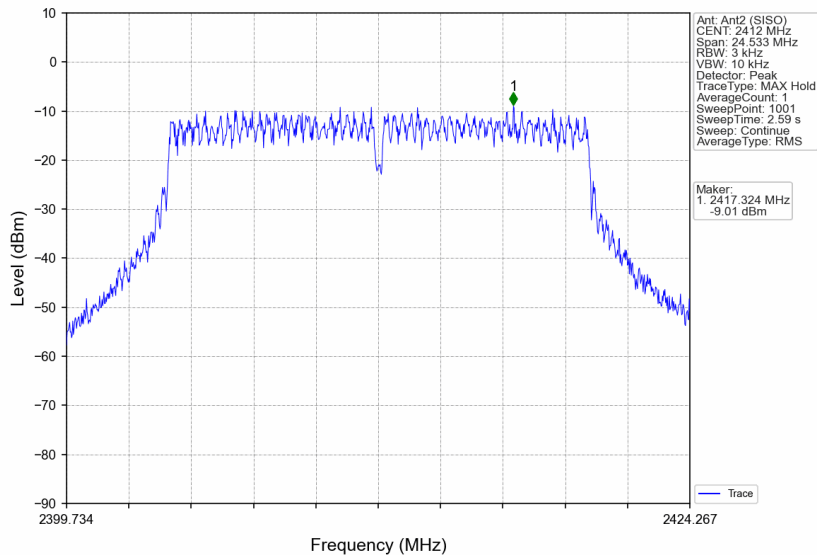
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



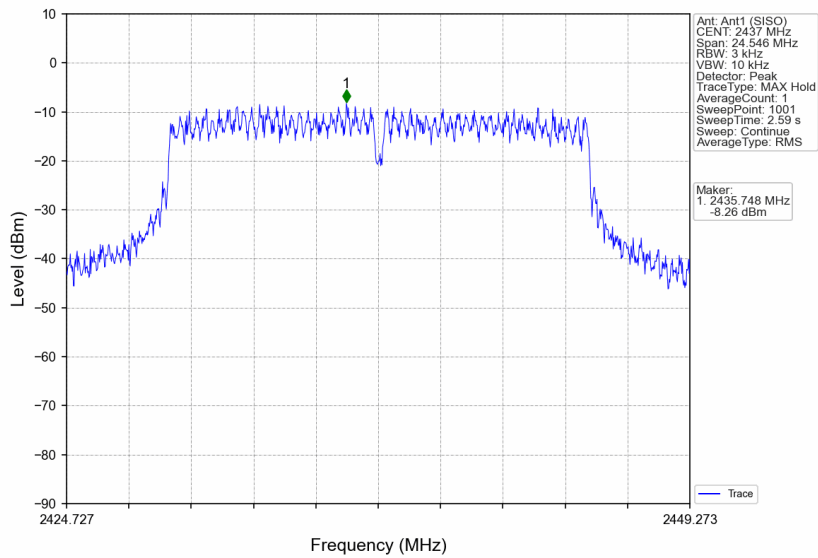
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



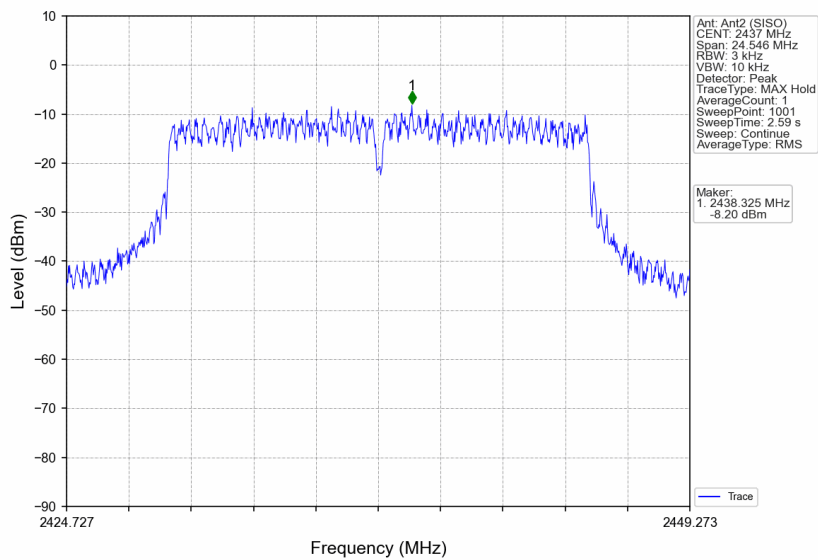
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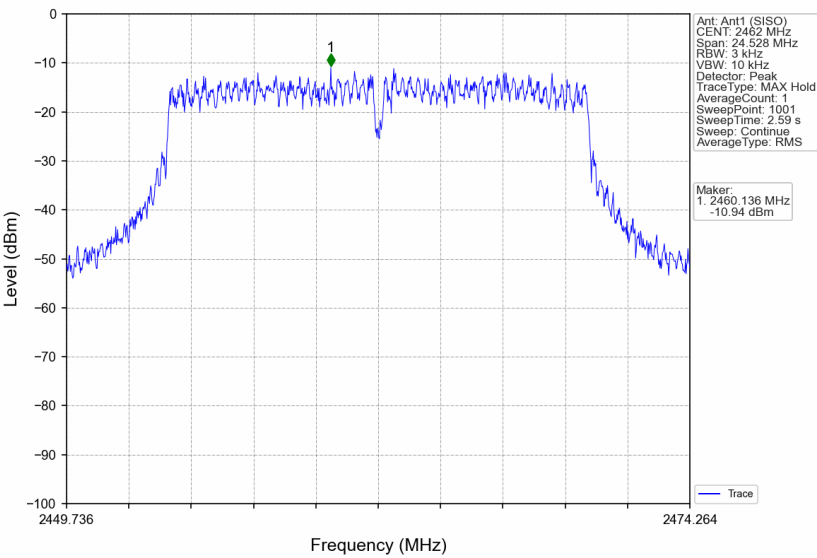
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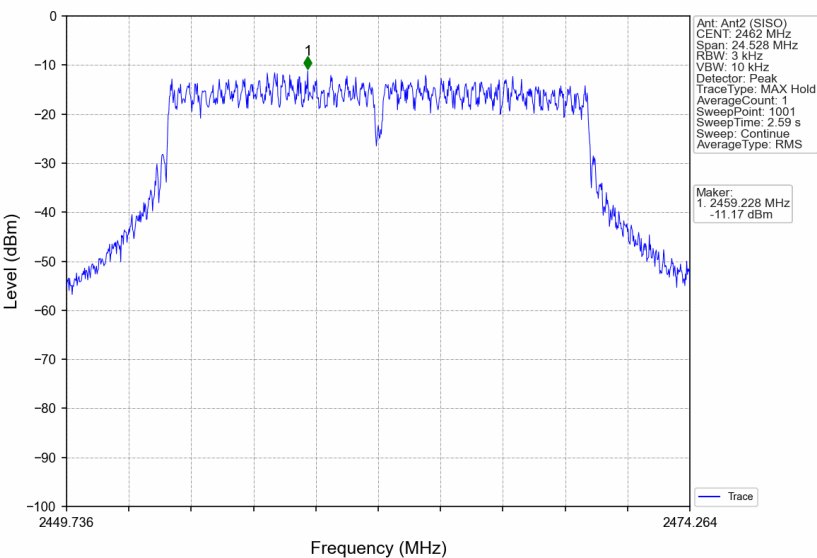
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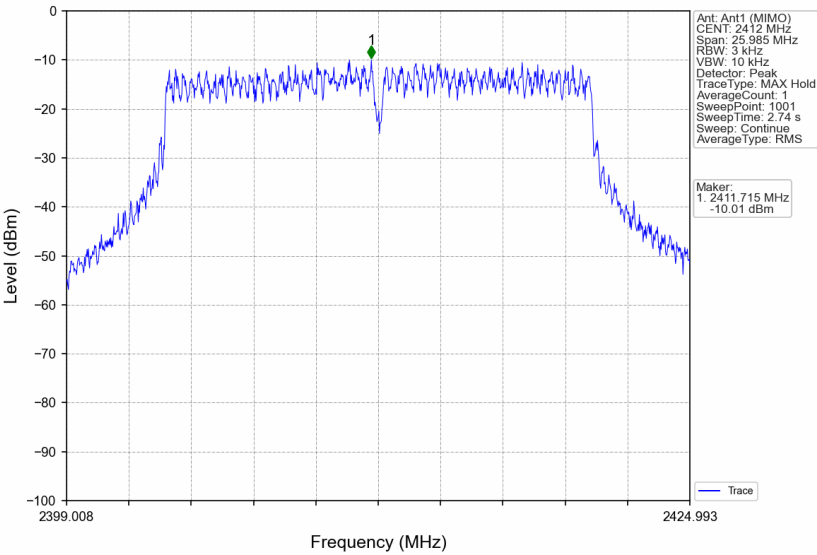
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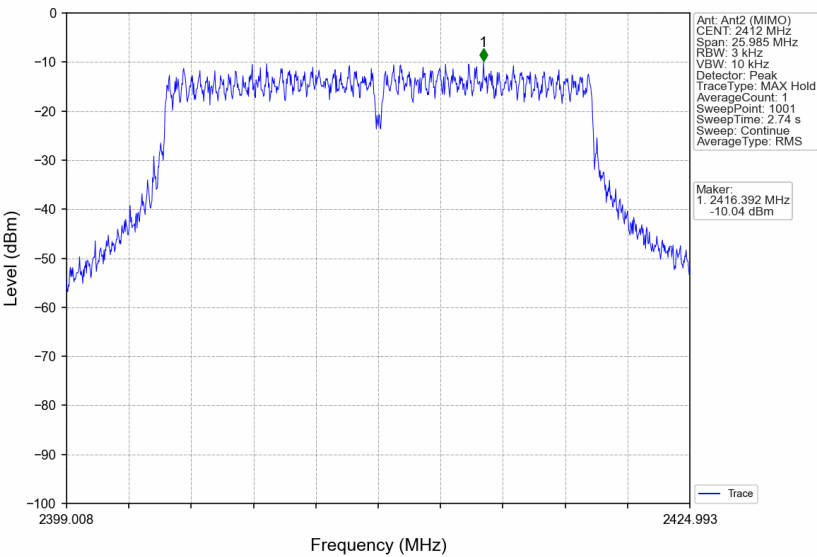
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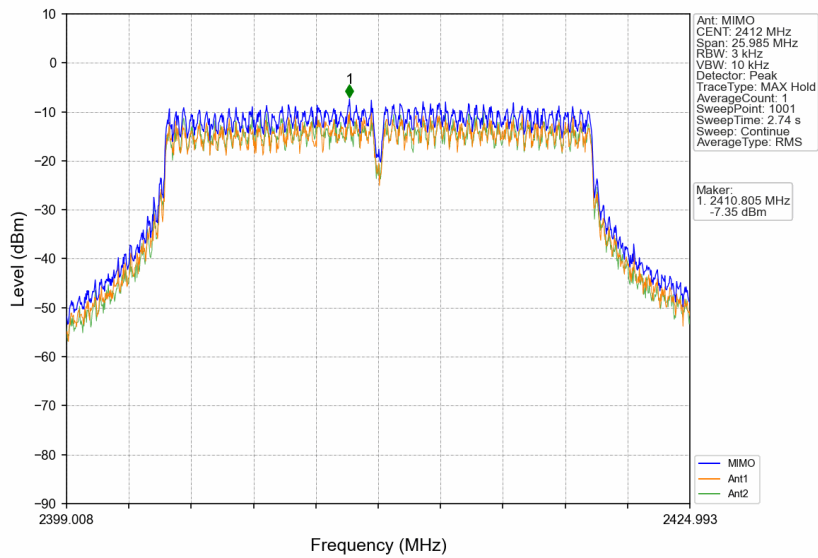
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



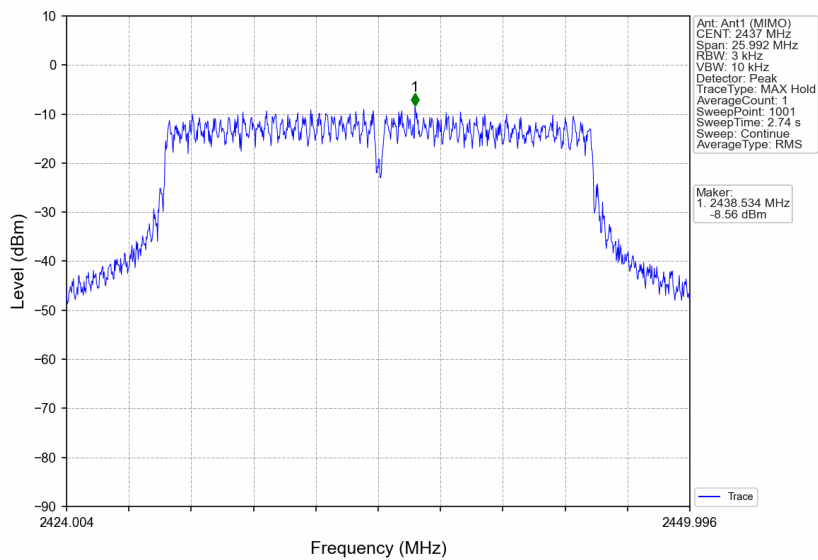
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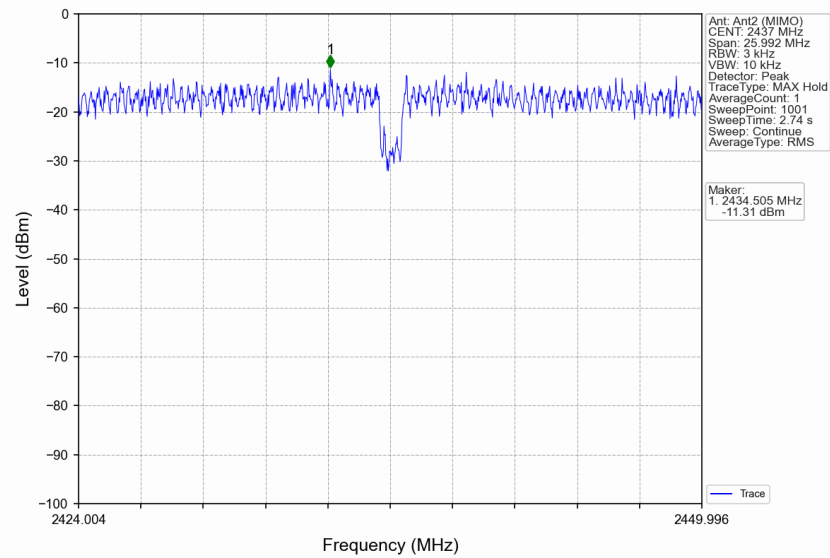
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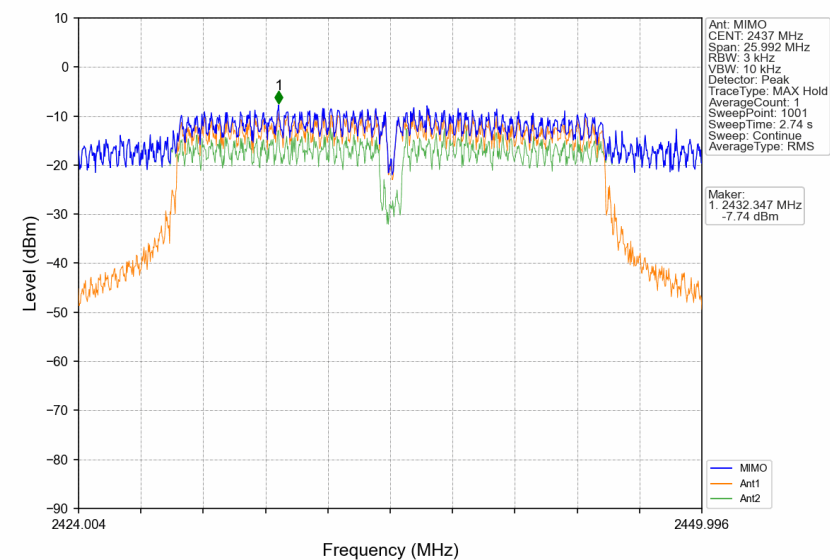
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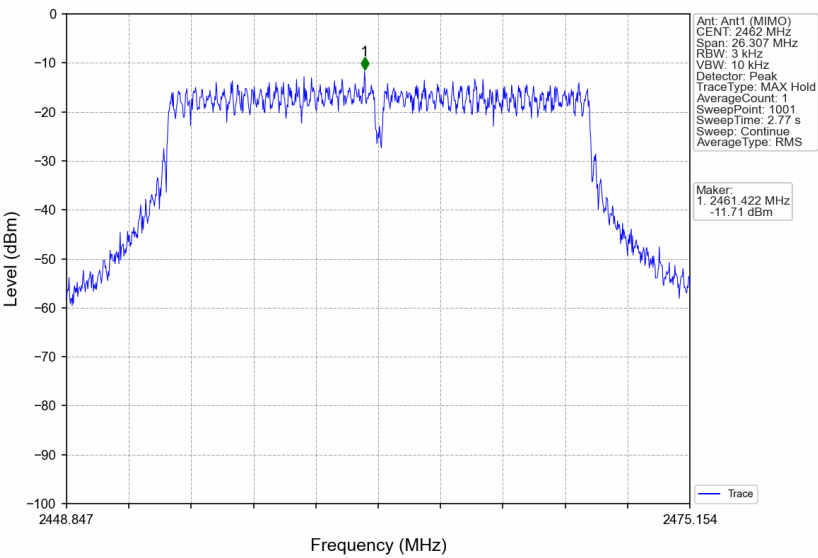
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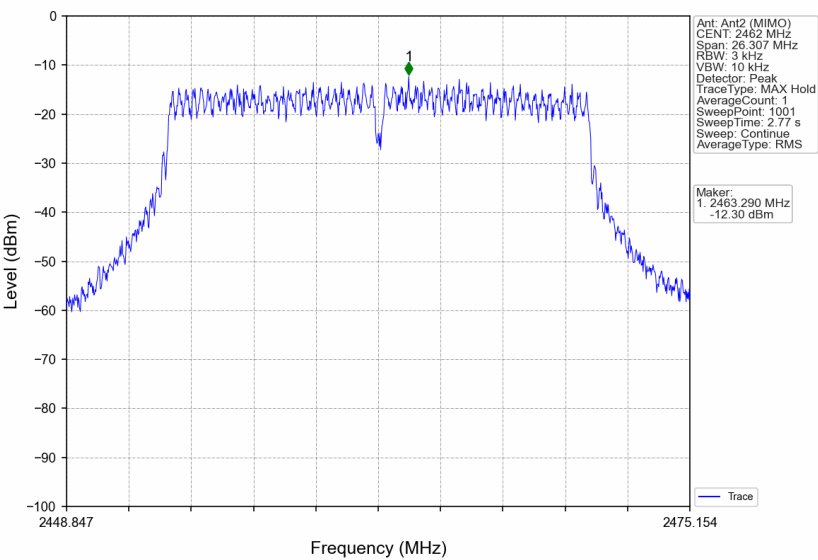
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802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



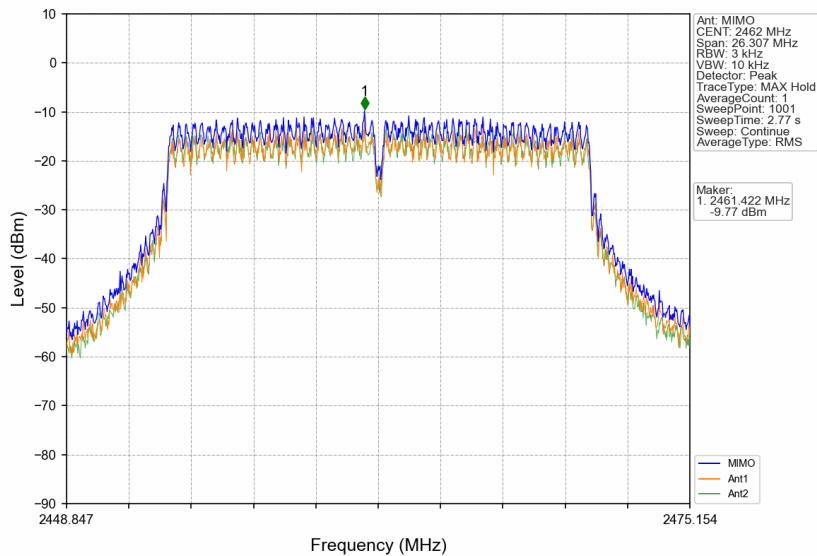
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802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV

