



Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Pet Water Fountain

Test Model: WF311

Environmental Conditions	
Temperature:	23.9° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Jone.Lee
Supervised by:	Yan Chen

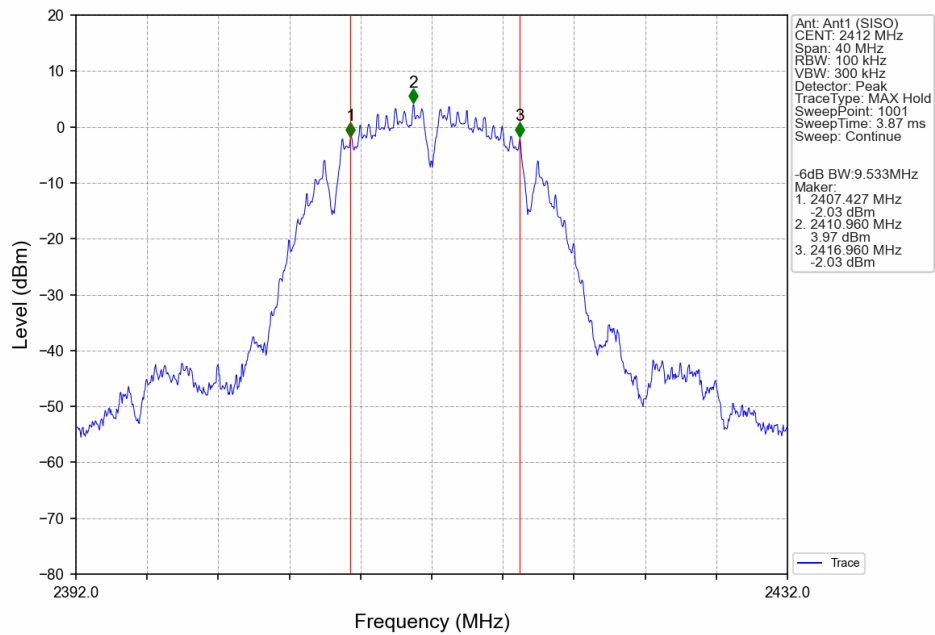


B.1 6dB Bandwidth

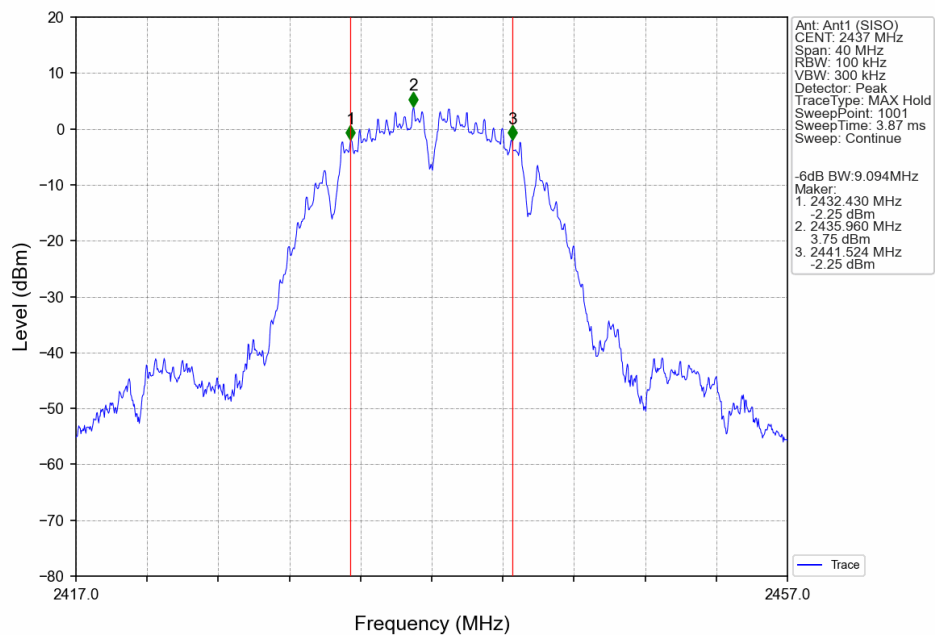
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.533	≥ 0.5	Pass
		2437	1	9.094	≥ 0.5	Pass
		2462	1	9.070	≥ 0.5	Pass
802.11g	SISO	2412	1	16.370	≥ 0.5	Pass
		2437	1	16.370	≥ 0.5	Pass
		2462	1	16.370	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.591	≥ 0.5	Pass
		2437	1	17.631	≥ 0.5	Pass
		2462	1	17.595	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	35.741	≥ 0.5	Pass
		2437	1	35.945	≥ 0.5	Pass
		2452	1	35.921	≥ 0.5	Pass



802.11b LCH 2412MHz Ant1 (SISO) NTNV

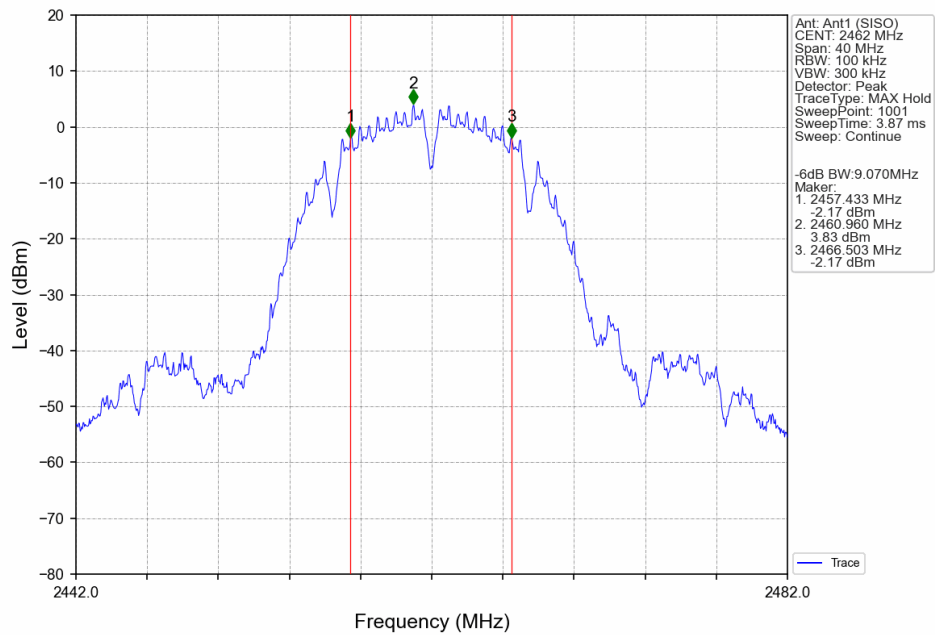


802.11b MCH 2437MHz Ant1 (SISO) NTNV

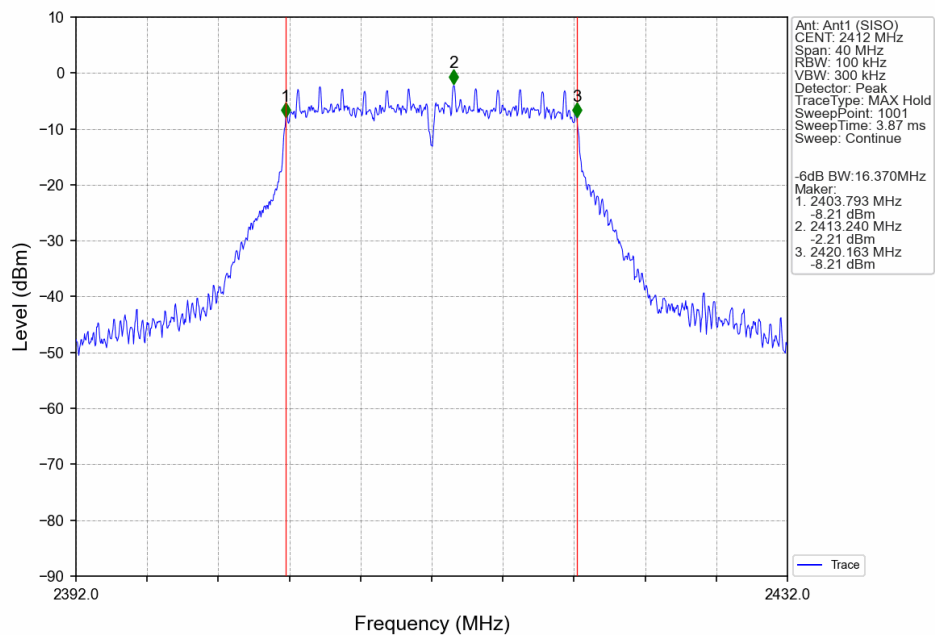




802.11b HCH 2462MHz Ant1 (SISO) NTN

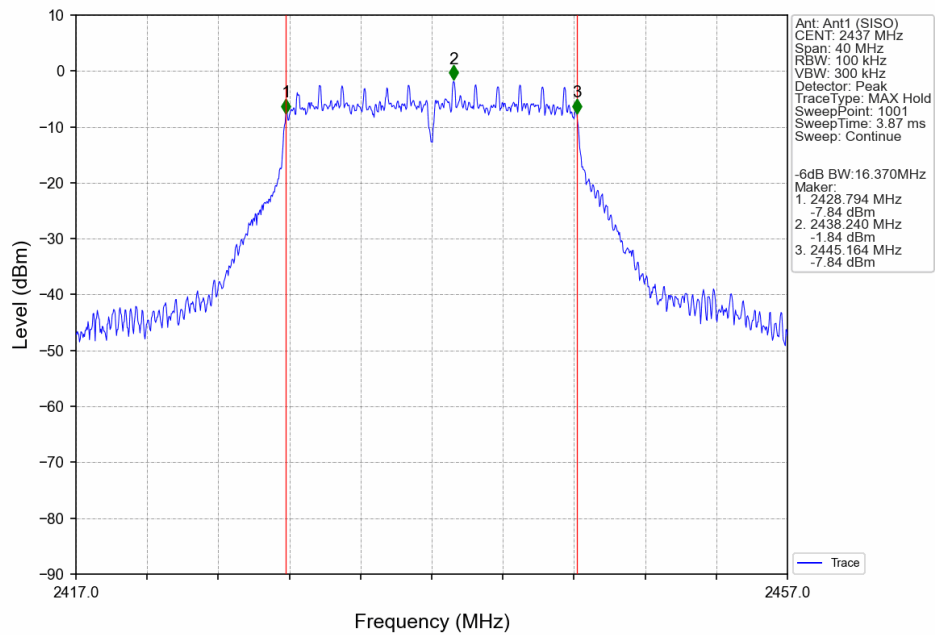


802.11g LCH 2412MHz Ant1 (SISO) NTN

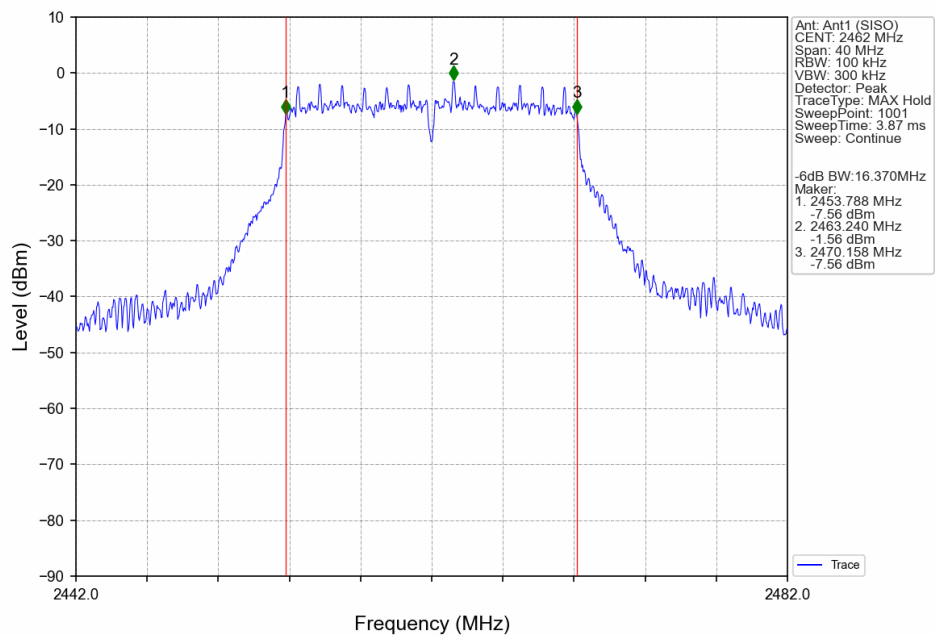




802.11g MCH 2437MHz Ant1 (SISO) NTN

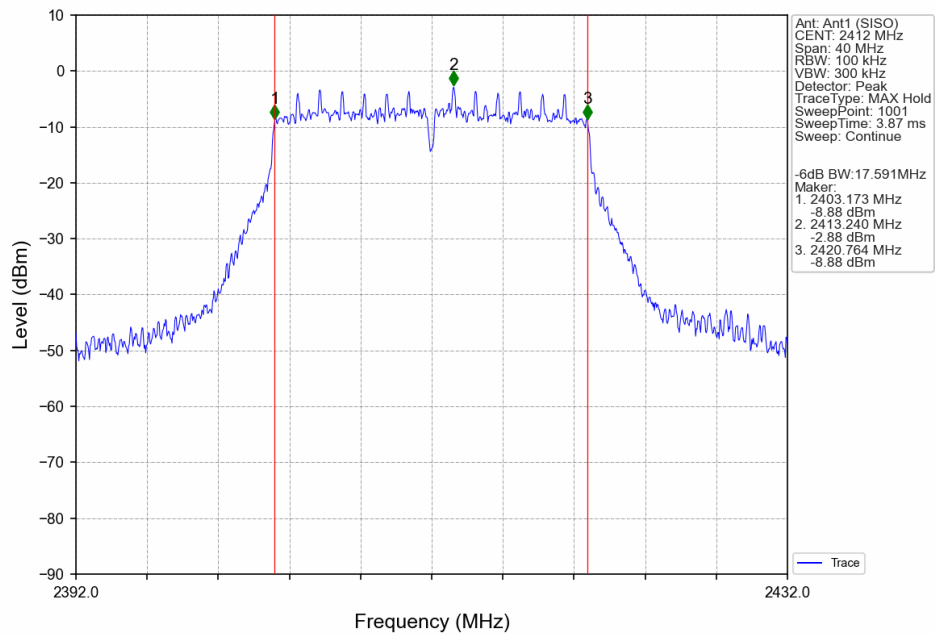


802.11g HCH 2462MHz Ant1 (SISO) NTN

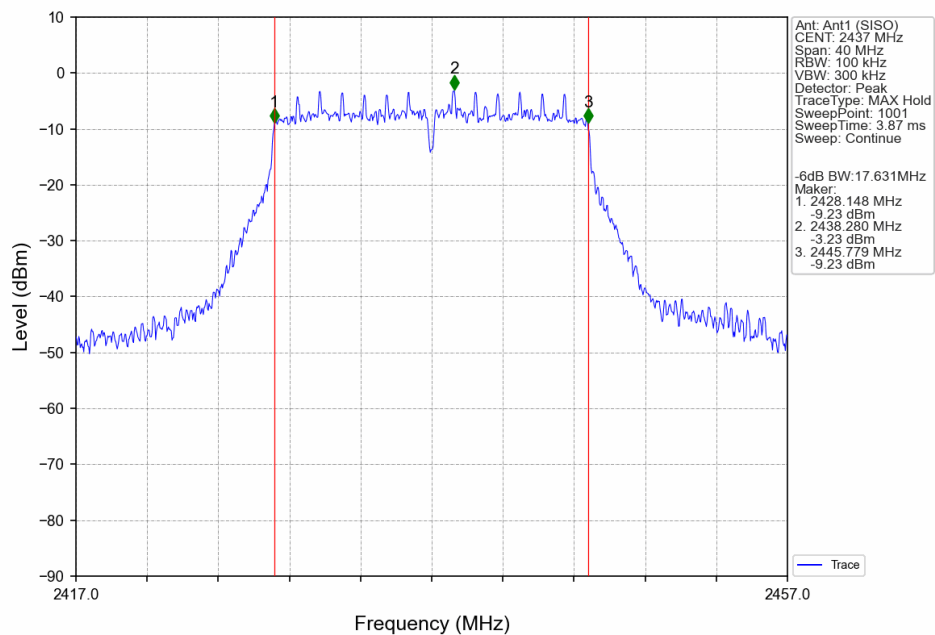




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

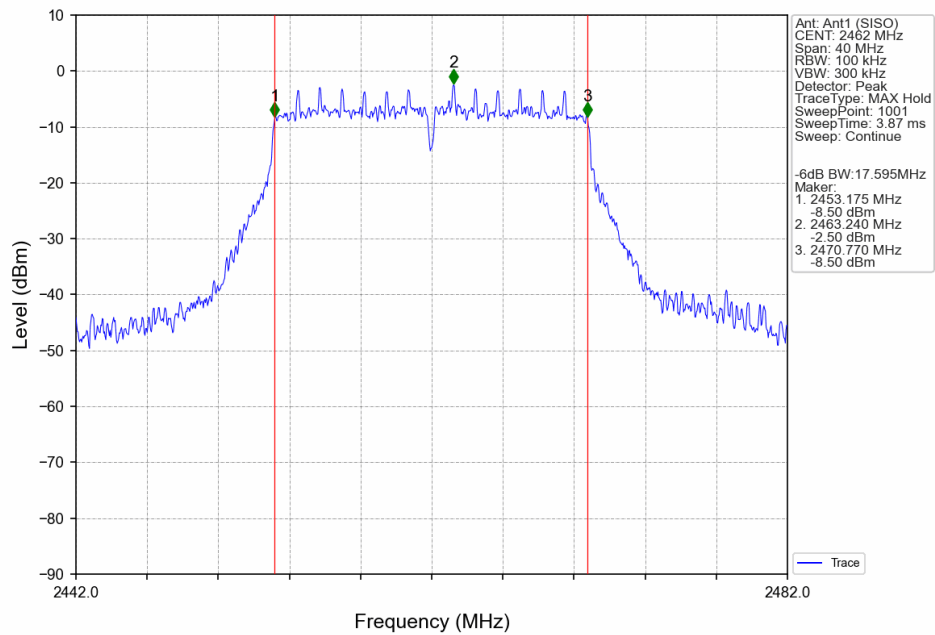


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV

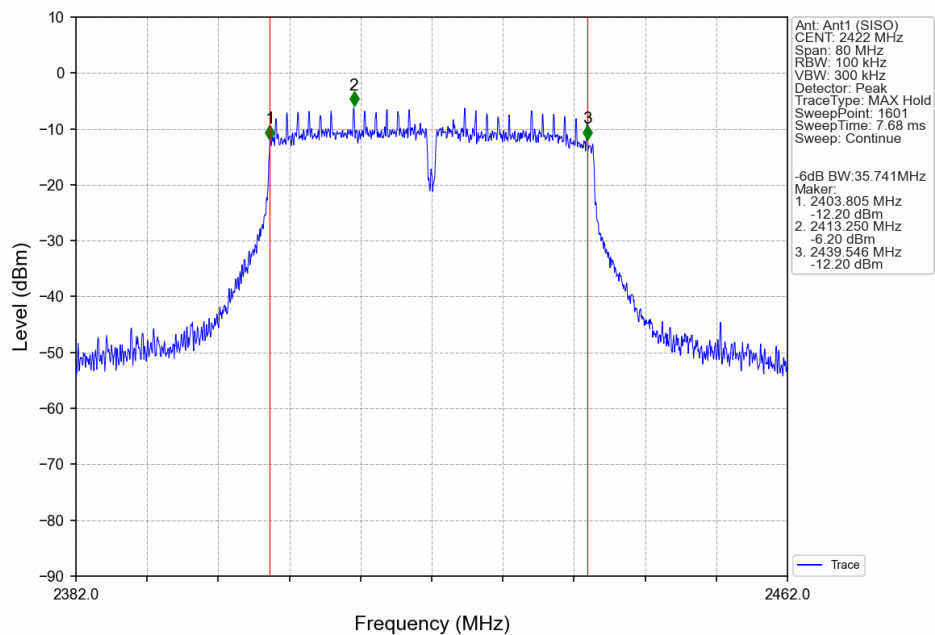




802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV

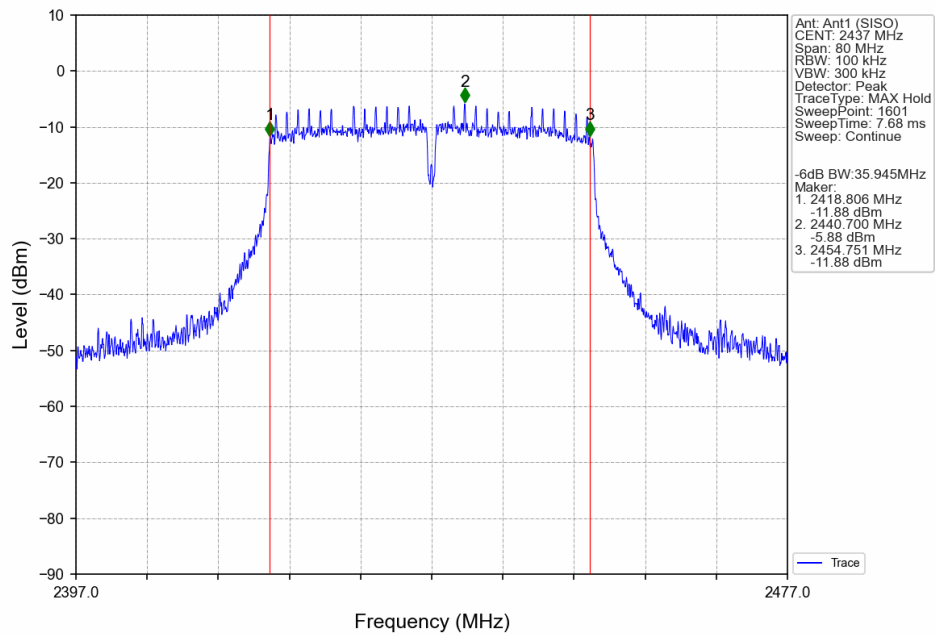


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV

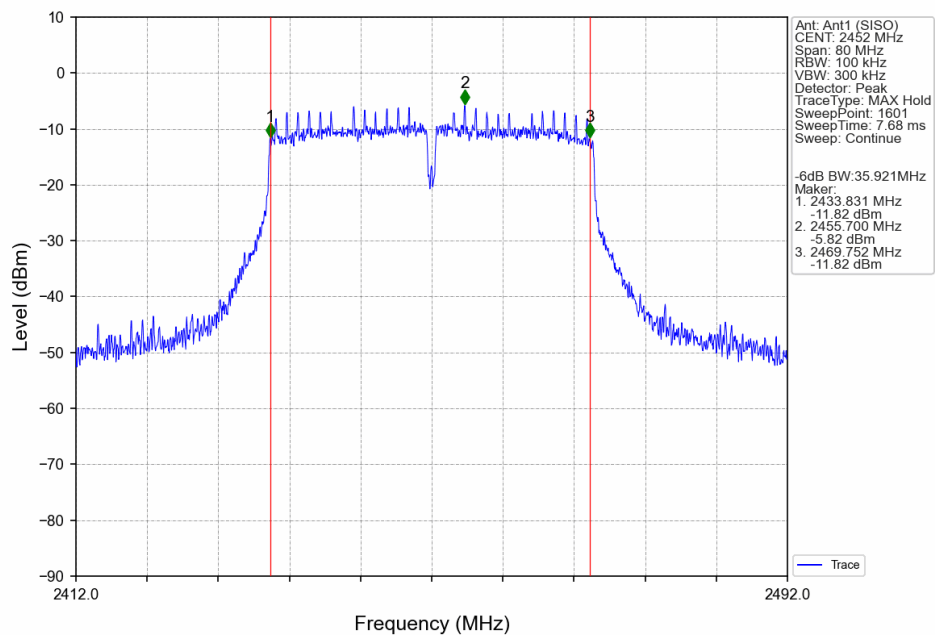




802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV





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	15.56	<=30	Pass
		2437	15.28	<=30	Pass
		2462	15.15	<=30	Pass
802.11g	SISO	2412	16.53	<=30	Pass
		2437	16.87	<=30	Pass
		2462	17.19	<=30	Pass
802.11n (HT20)	SISO	2412	15.80	<=30	Pass
		2437	16.02	<=30	Pass
		2462	16.22	<=30	Pass
802.11n (HT40)	SISO	2422	15.57	<=30	Pass
		2437	15.90	<=30	Pass
		2452	15.96	<=30	Pass



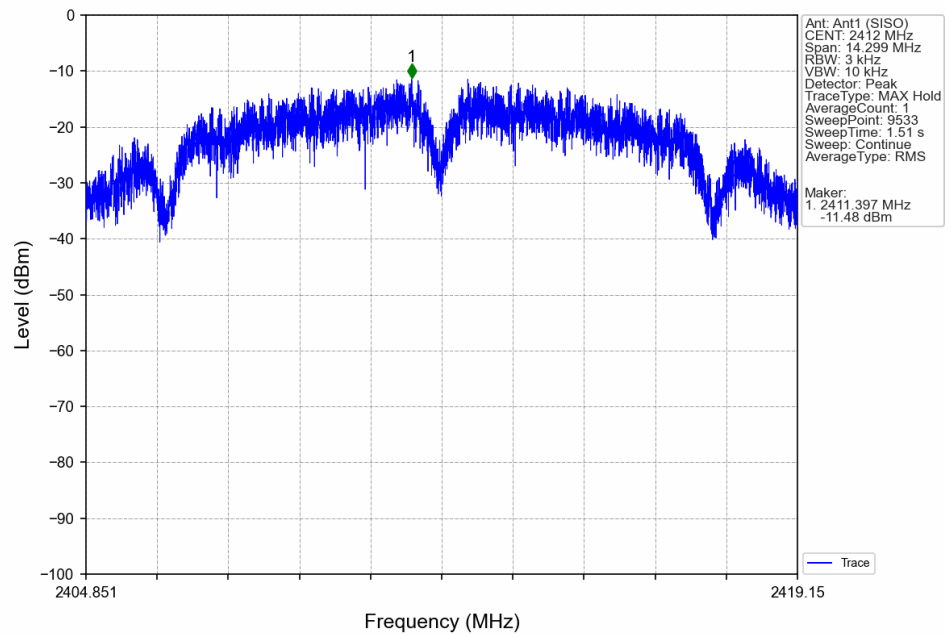
B.3 Maximum Power Spectral Density

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-11.48	<=8	Pass
		2437	-11.30	<=8	Pass
		2462	-11.31	<=8	Pass
802.11g	SISO	2412	-17.04	<=8	Pass
		2437	-16.66	<=8	Pass
		2462	-16.32	<=8	Pass
802.11n (HT20)	SISO	2412	-17.78	<=8	Pass
		2437	-17.34	<=8	Pass
		2462	-16.84	<=8	Pass
802.11n (HT40)	SISO	2422	-19.84	<=8	Pass
		2437	-18.58	<=8	Pass
		2452	-18.52	<=8	Pass

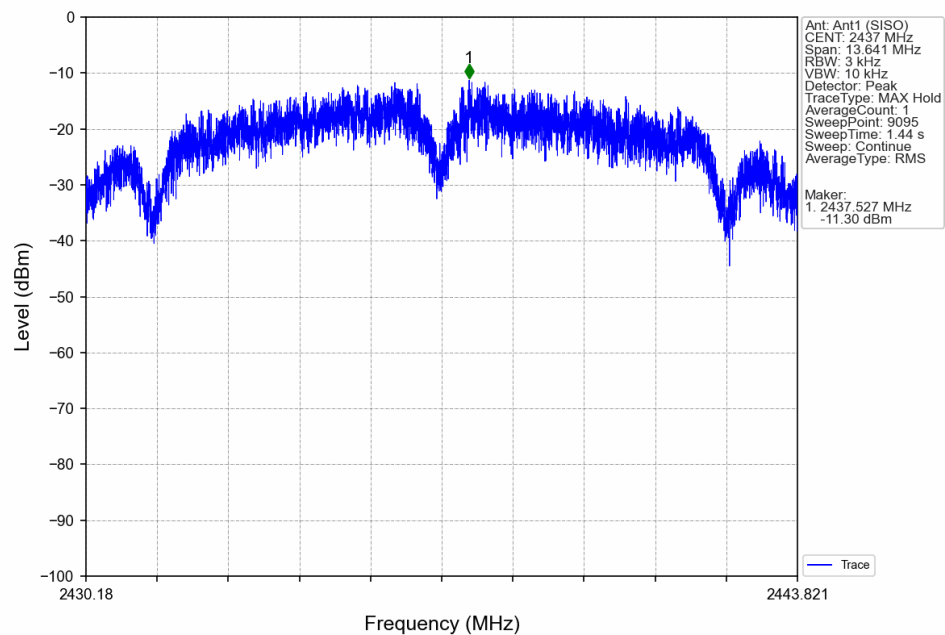
Note1: Antenna Gain: Ant1: 0.00dBi;



802.11b LCH 2412MHz Ant1 (SISO) NTN

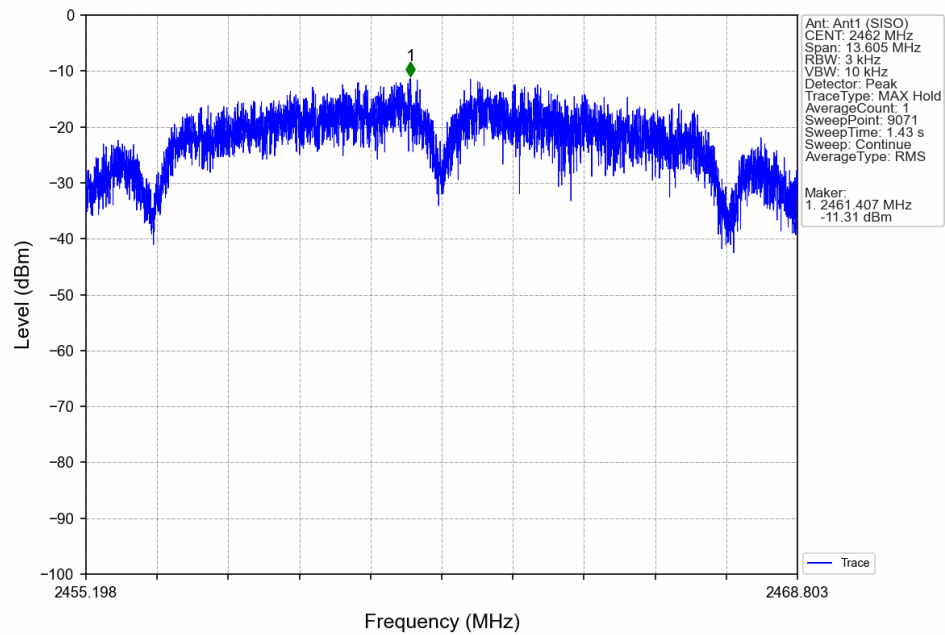


802.11b MCH 2437MHz Ant1 (SISO) NTN

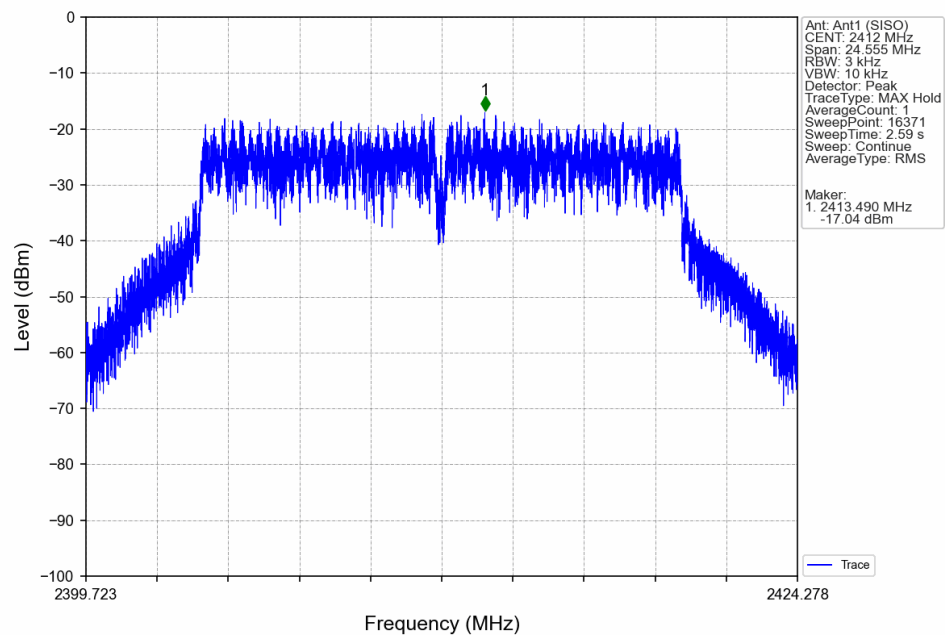




802.11b HCH 2462MHz Ant1 (SISO) NTN

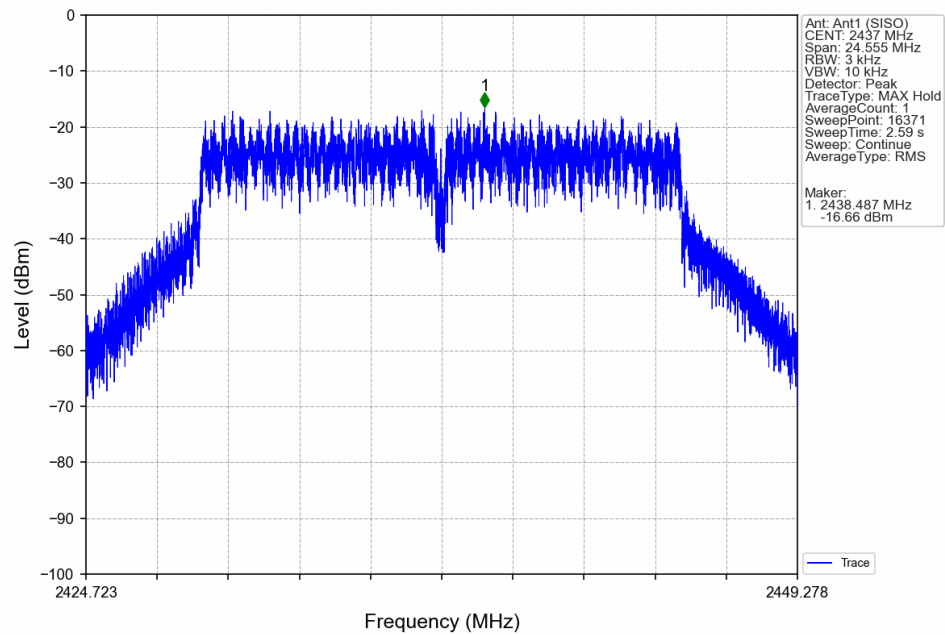


802.11g LCH 2412MHz Ant1 (SISO) NTN

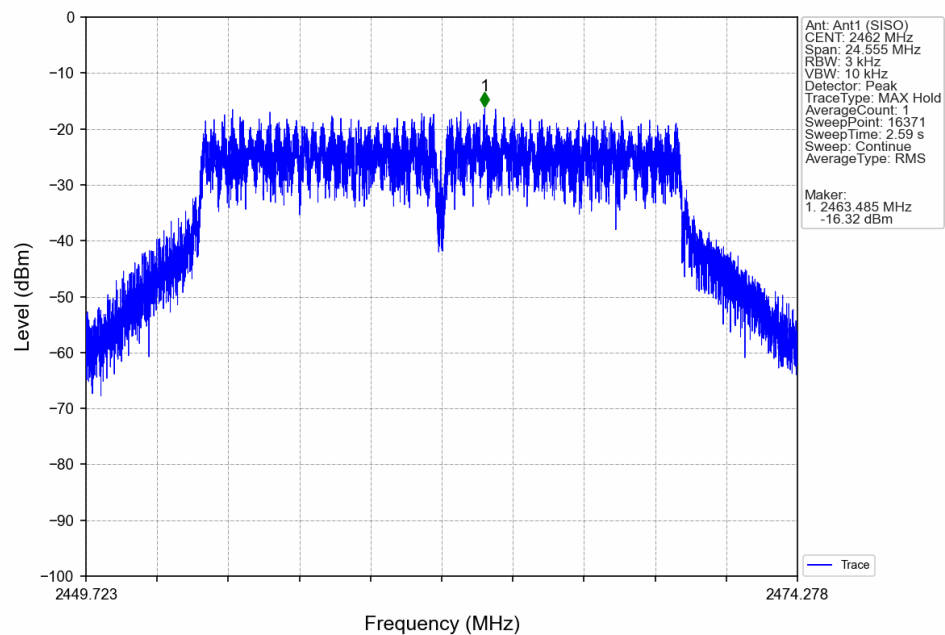




802.11g MCH 2437MHz Ant1 (SISO) NTNV

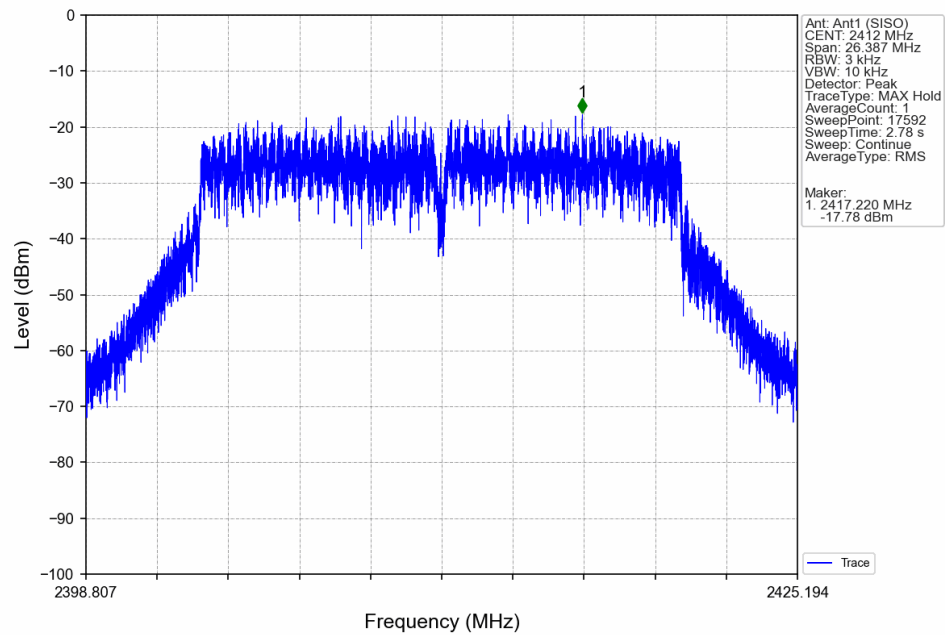


802.11g HCH 2462MHz Ant1 (SISO) NTNV

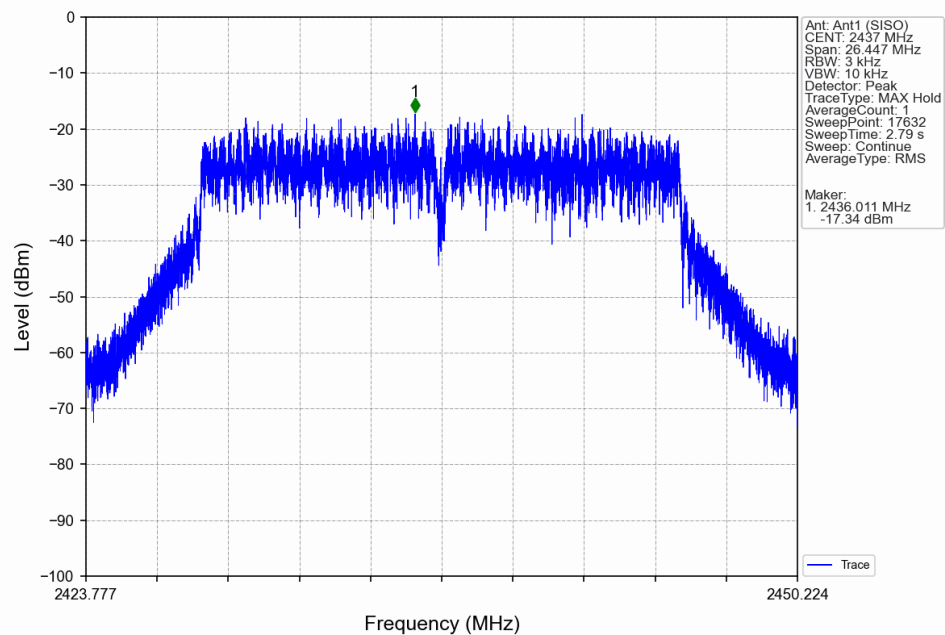




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

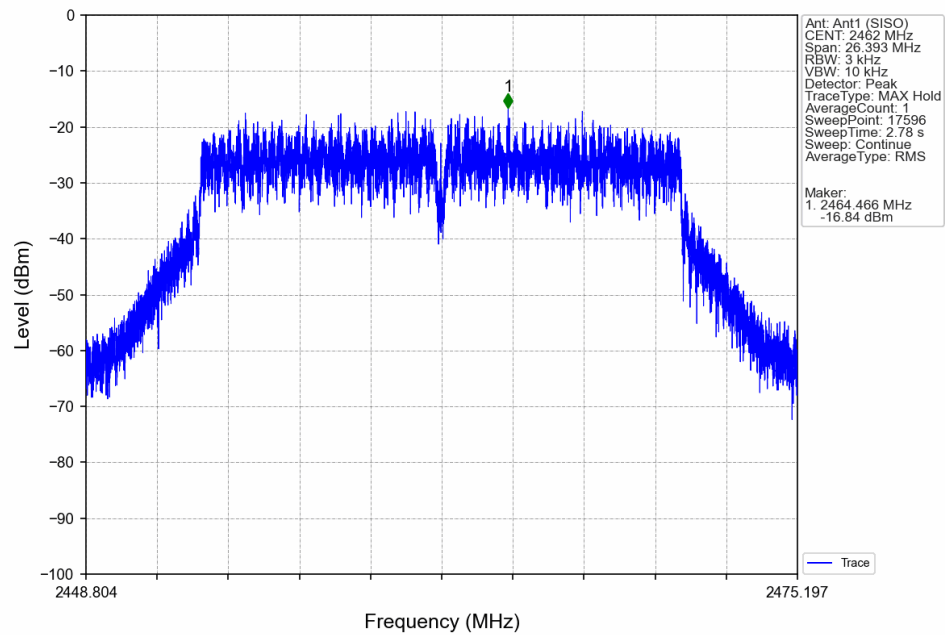


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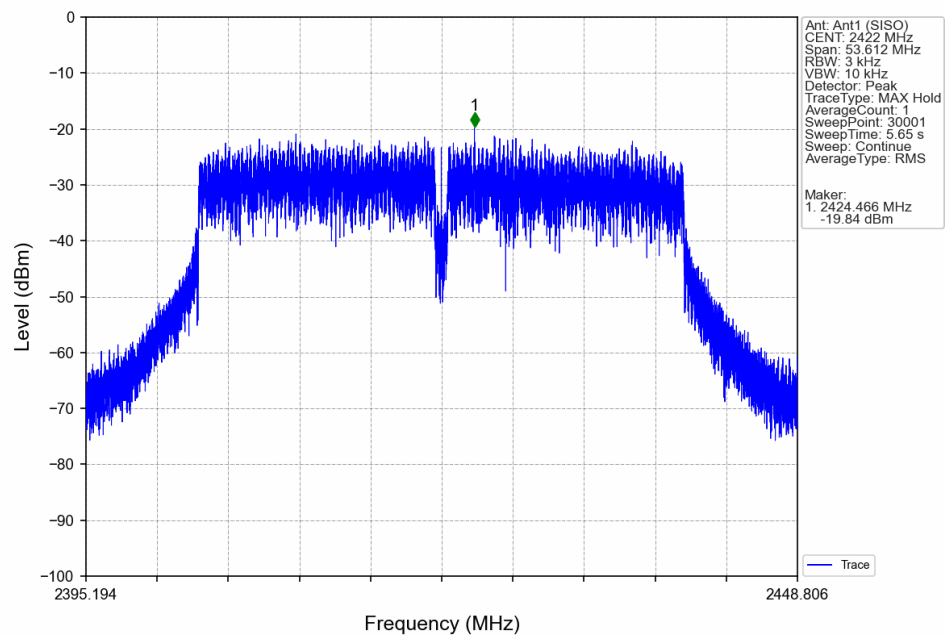




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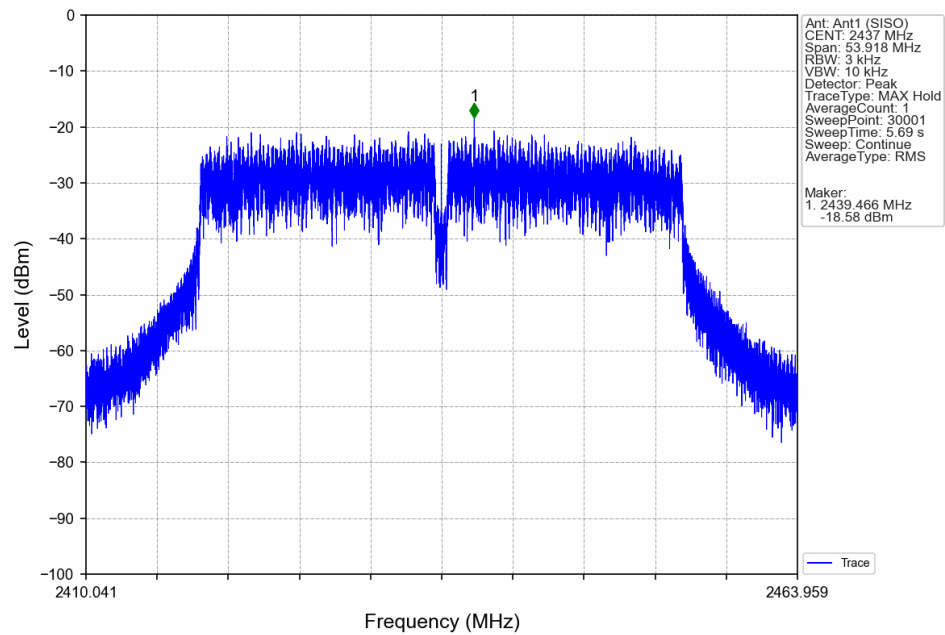


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV

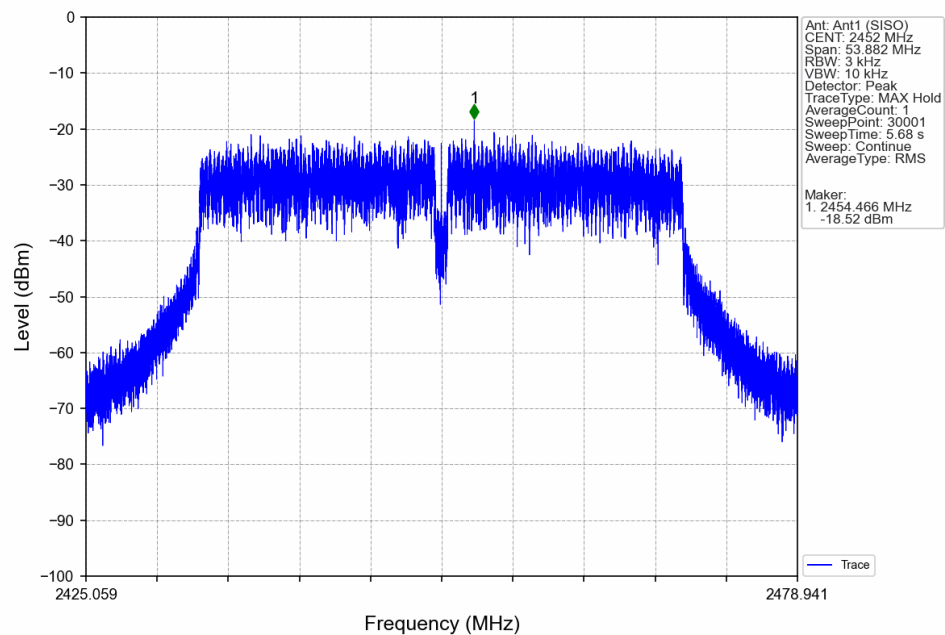




802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV





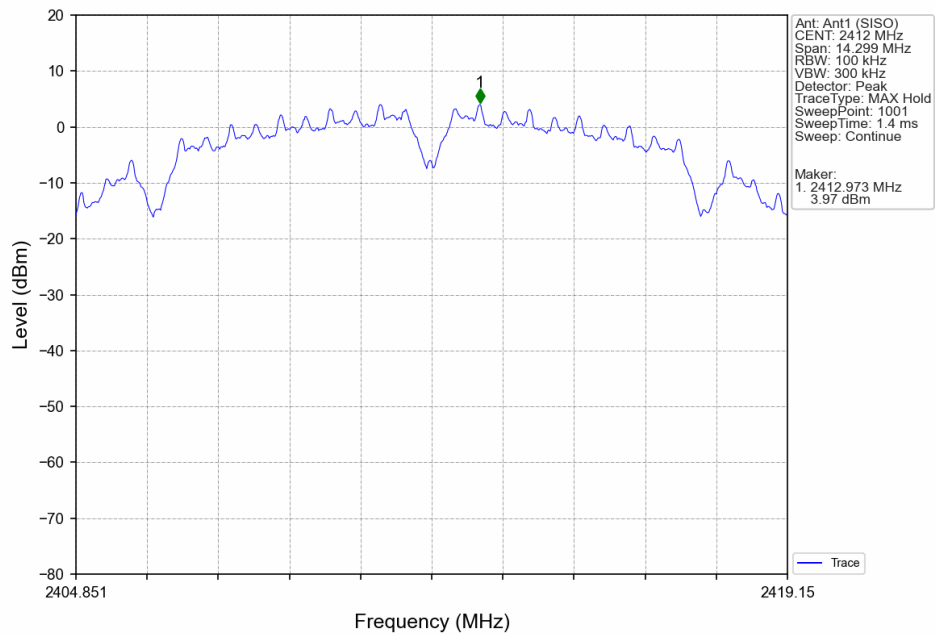
B.4 Band Edge

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	3.97	-16.03	Pass
		2437	1	3.90	-16.10	Pass
		2462	1	4.01	-15.99	Pass
802.11g	SISO	2412	1	-2.08	-22.08	Pass
		2437	1	-1.78	-21.78	Pass
		2462	1	-1.38	-21.38	Pass
802.11n (HT20)	SISO	2412	1	-2.83	-22.83	Pass
		2437	1	-2.80	-22.80	Pass
		2462	1	-2.47	-22.47	Pass
802.11n (HT40)	SISO	2422	1	-6.20	-26.20	Pass
		2437	1	-5.89	-25.89	Pass
		2452	1	-5.94	-25.94	Pass

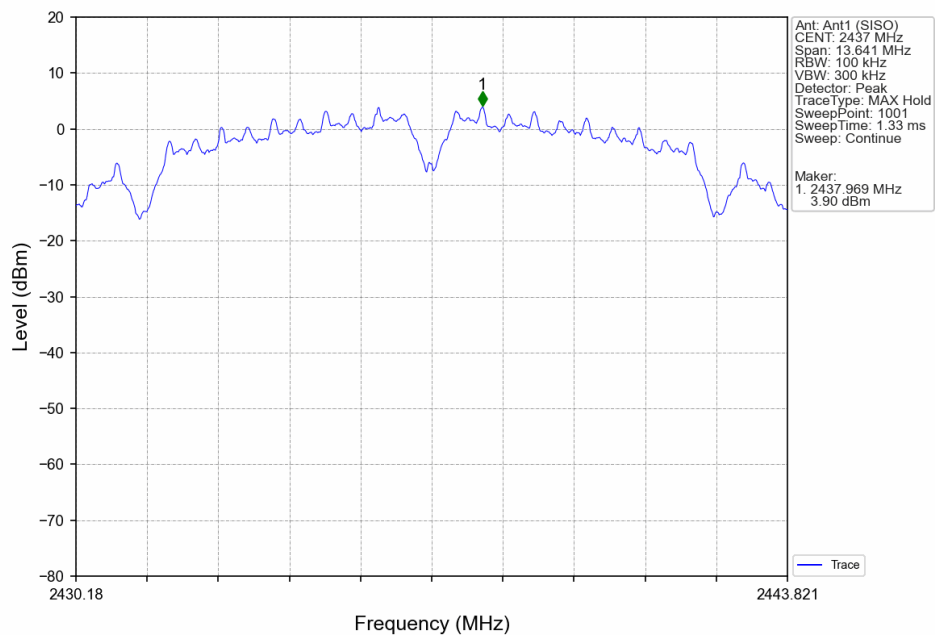
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



802.11b LCH 2412MHz Ant1 (SISO) NTN

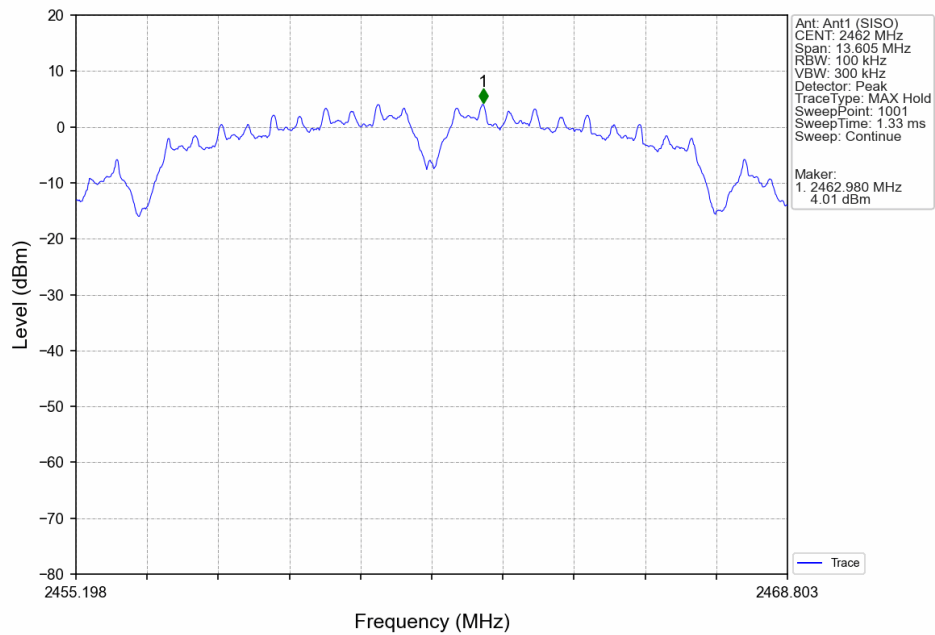


802.11b MCH 2437MHz Ant1 (SISO) NTN

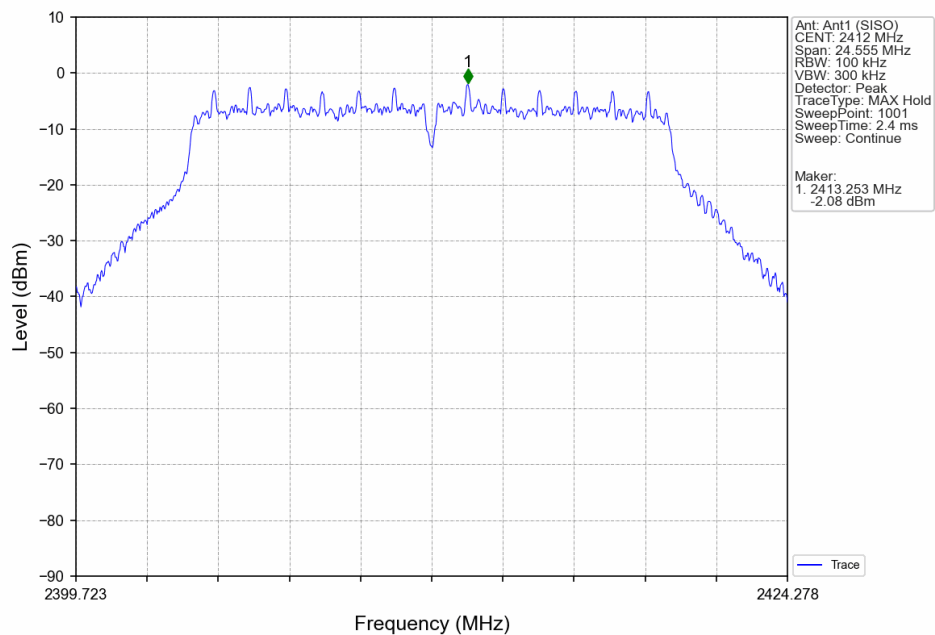




802.11b HCH 2462MHz Ant1 (SISO) NTN

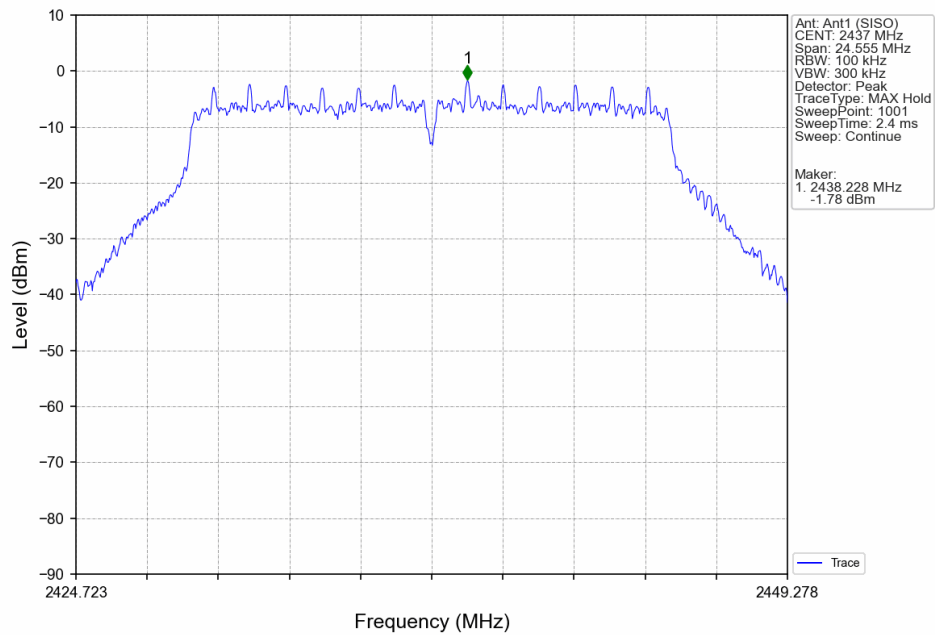


802.11g LCH 2412MHz Ant1 (SISO) NTN

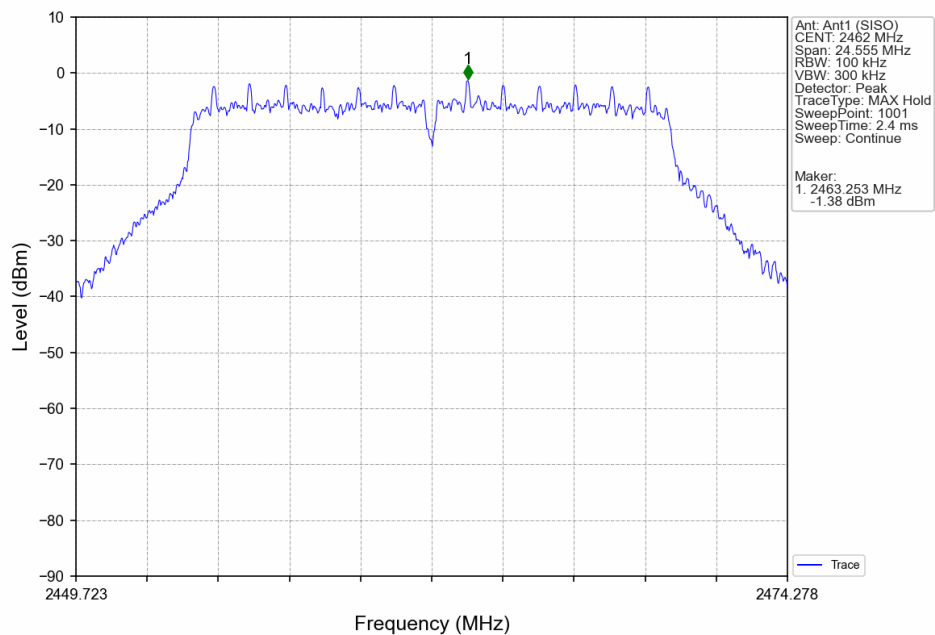




802.11g MCH 2437MHz Ant1 (SISO) NTNV

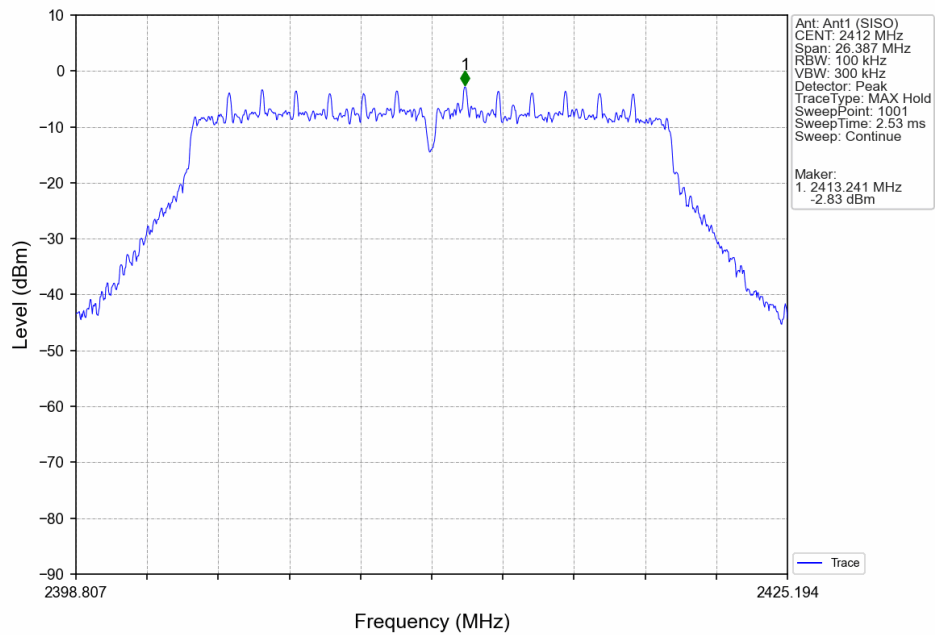


802.11g HCH 2462MHz Ant1 (SISO) NTNV

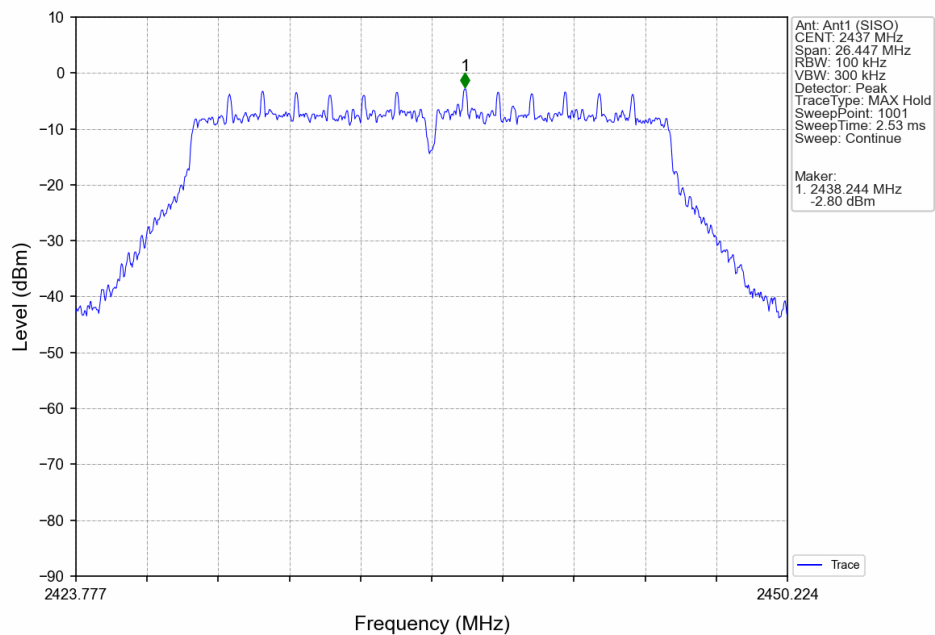




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

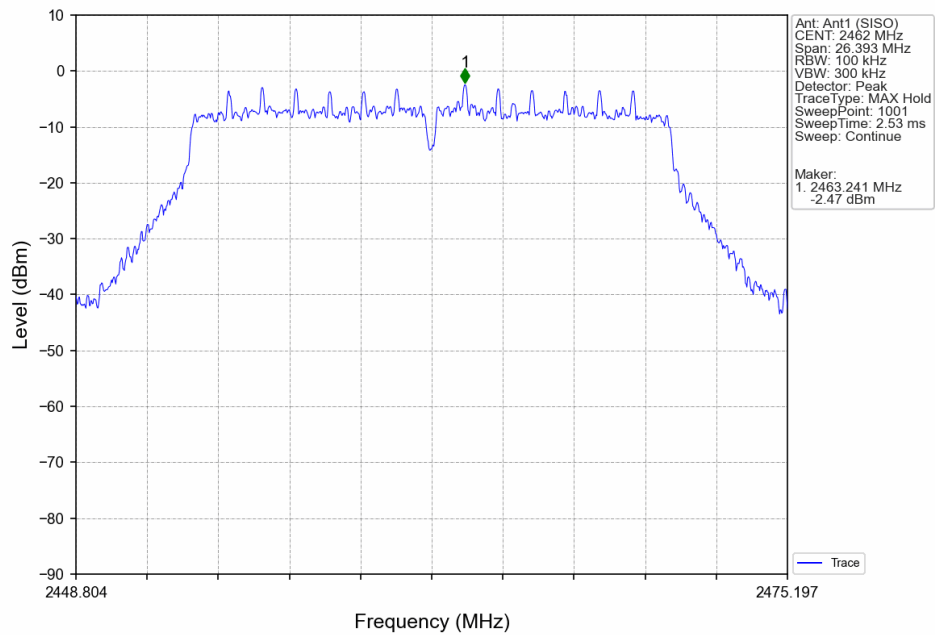


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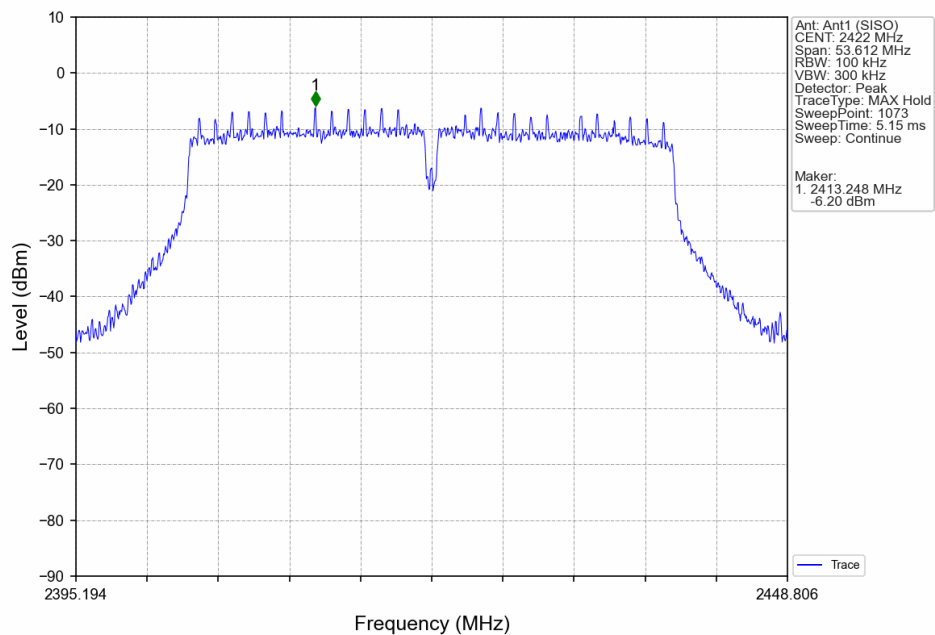




802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

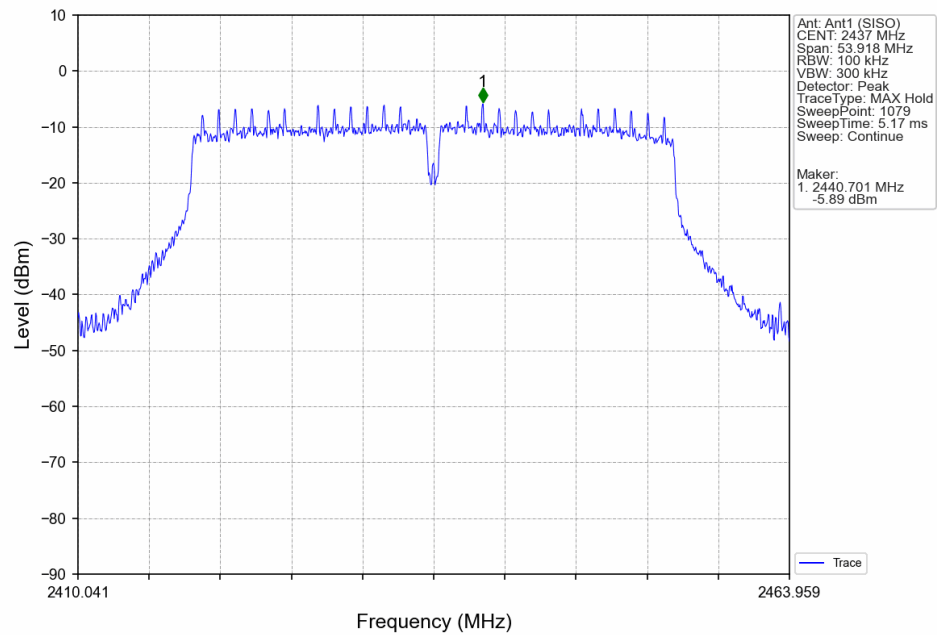


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTV

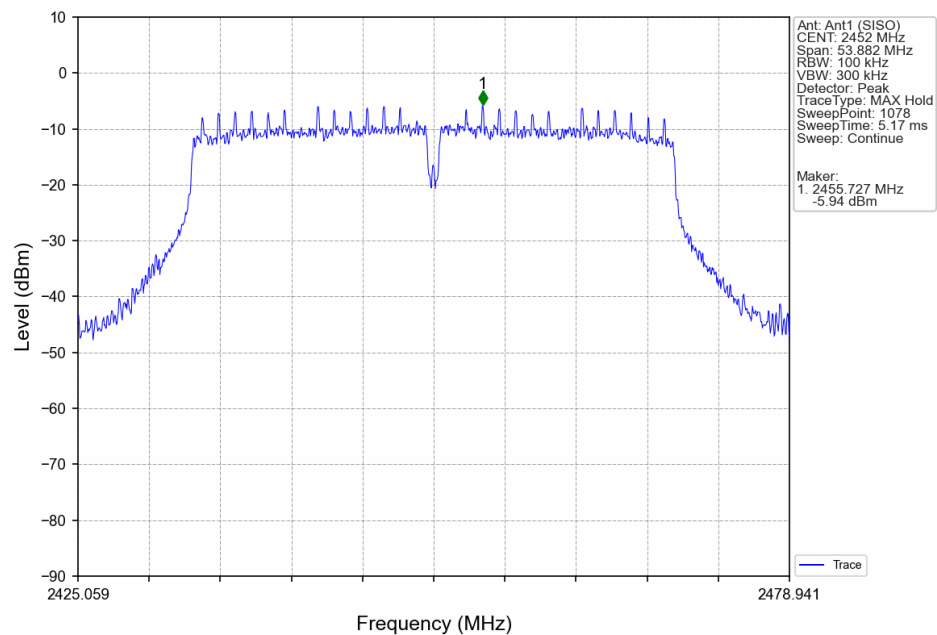




802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV

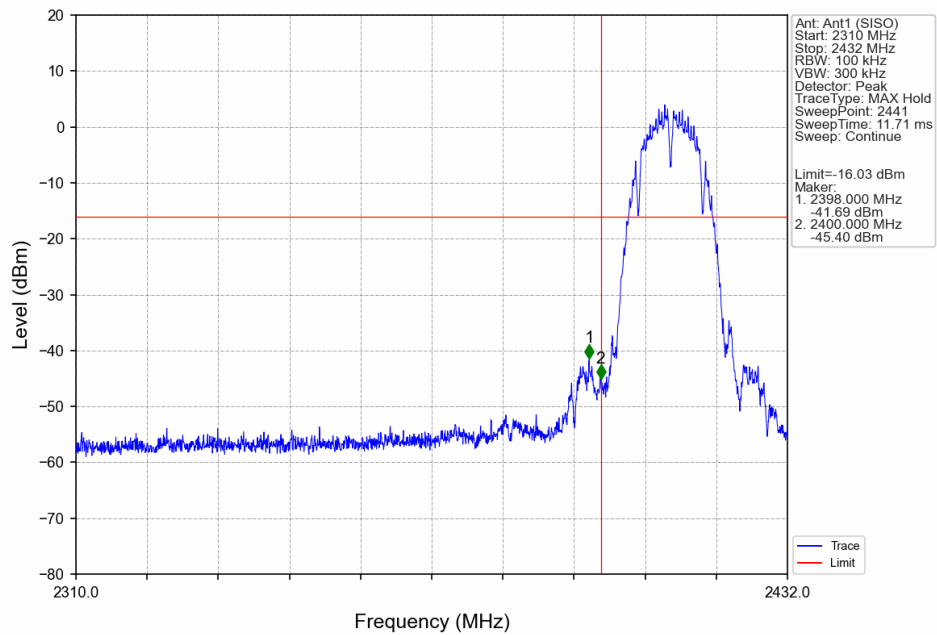


802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV

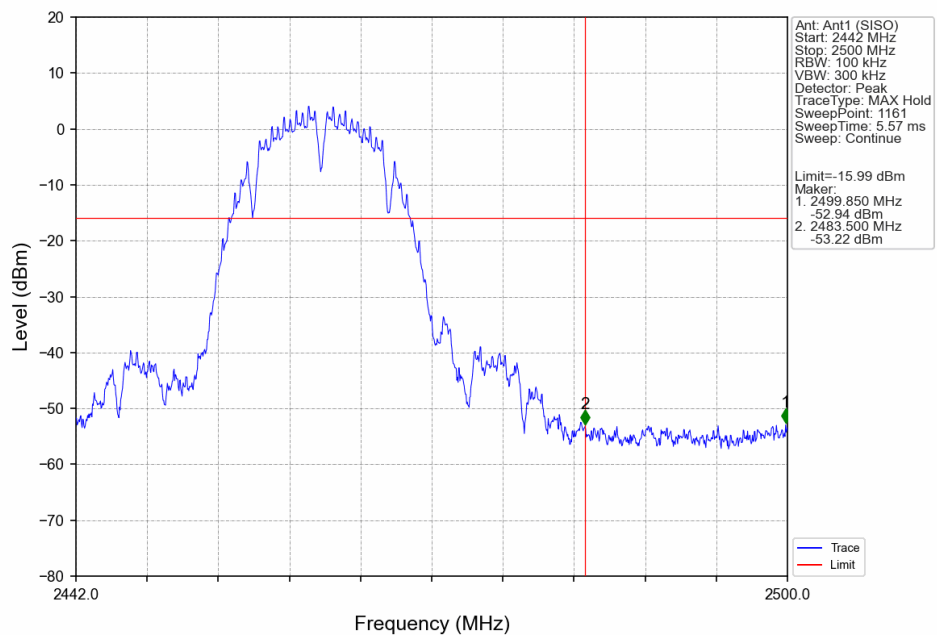




802.11b LCH 2412MHz Ant1 (SISO) NTNV

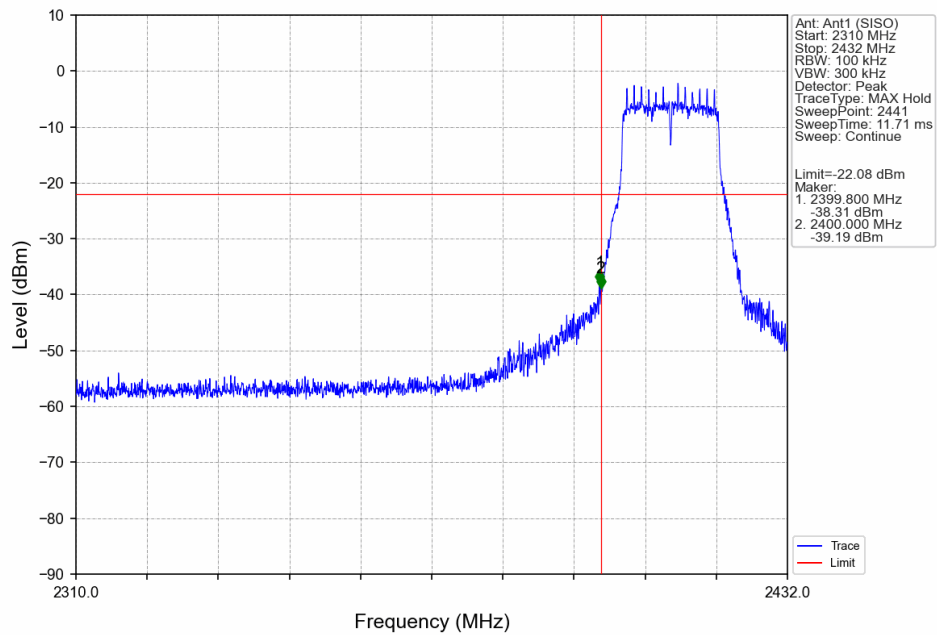


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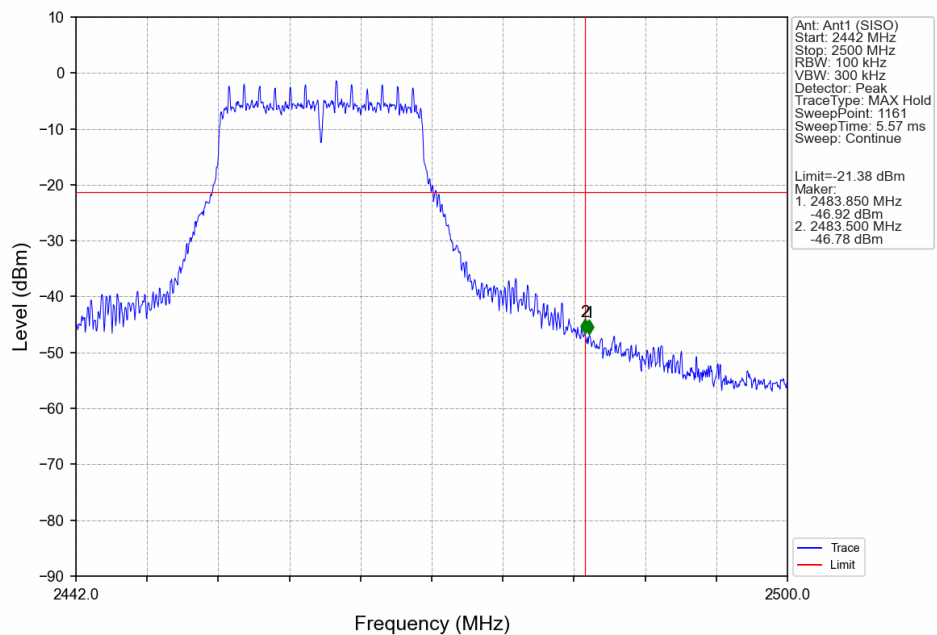




802.11g LCH 2412MHz Ant1 (SISO) NTNV

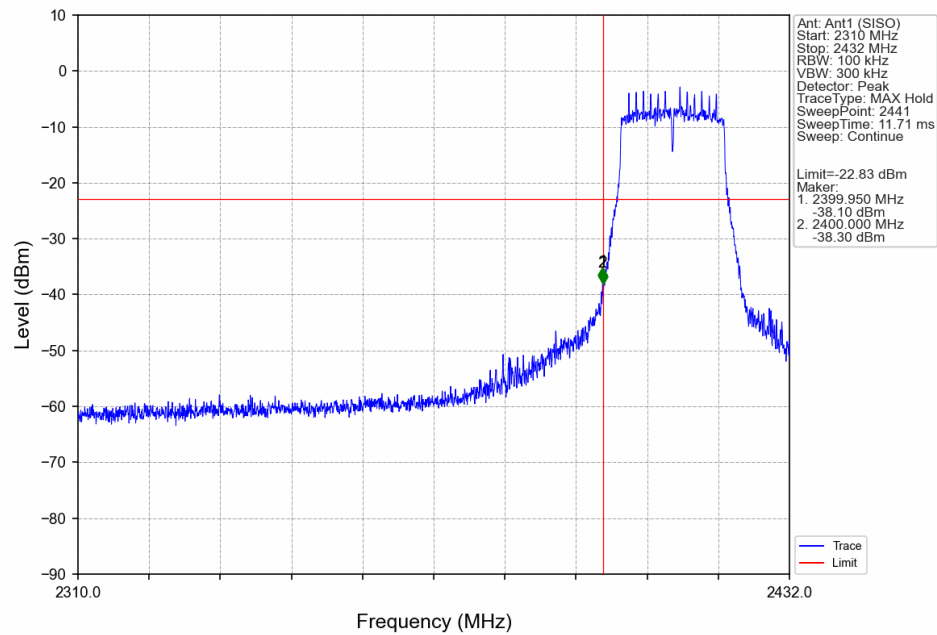


802.11g HCH 2462MHz Ant1 (SISO) NTNV

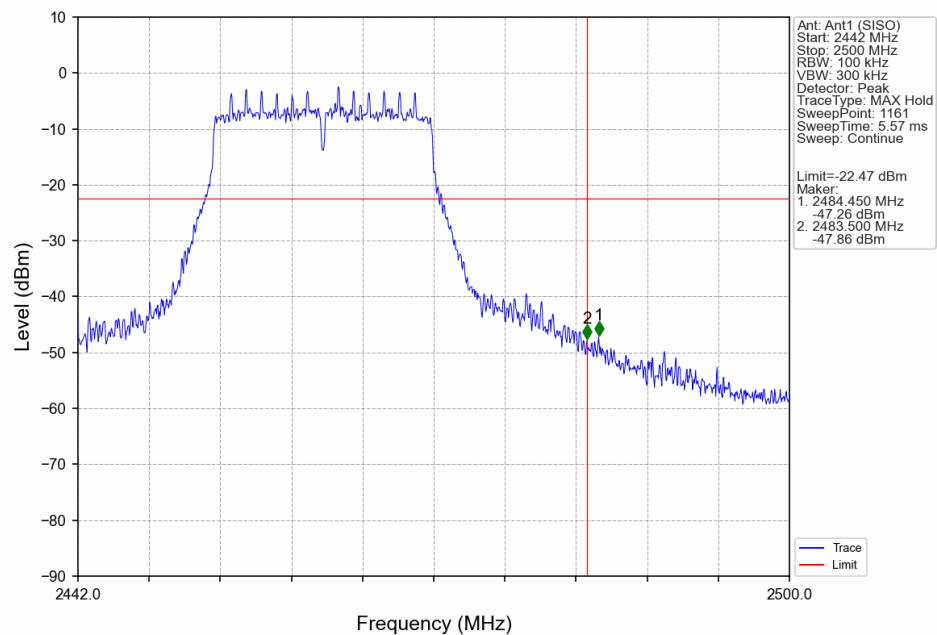




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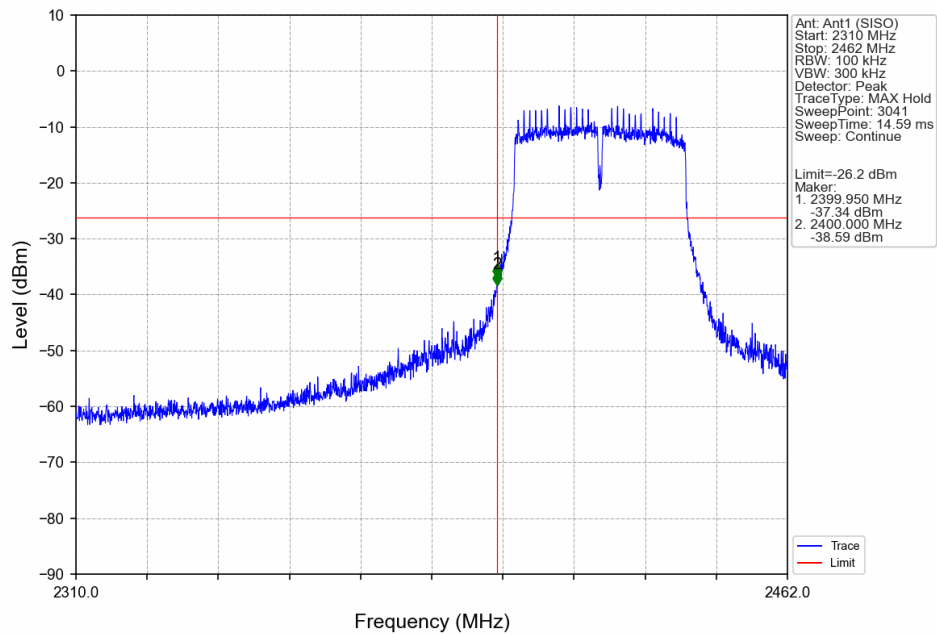


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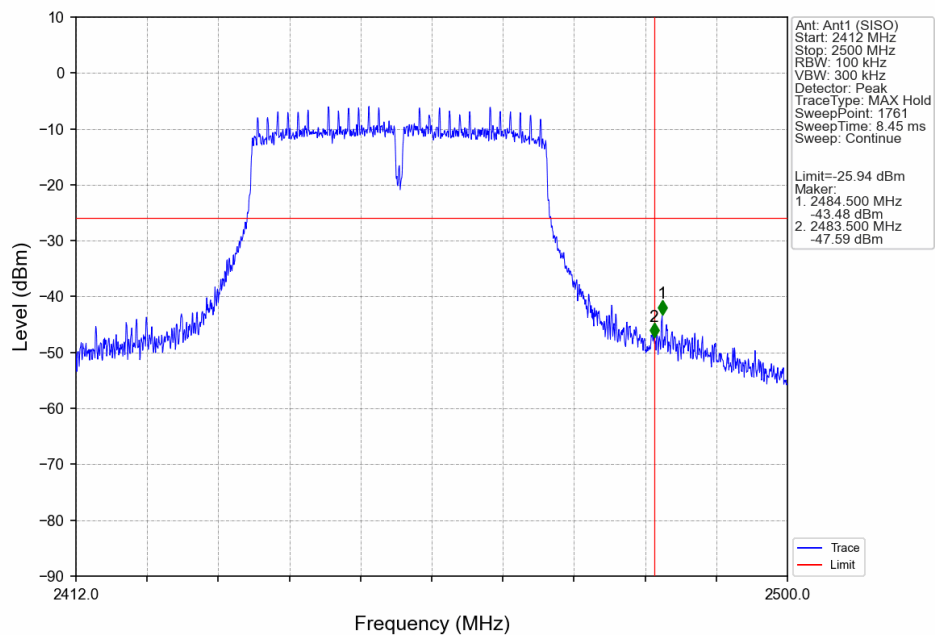




802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV





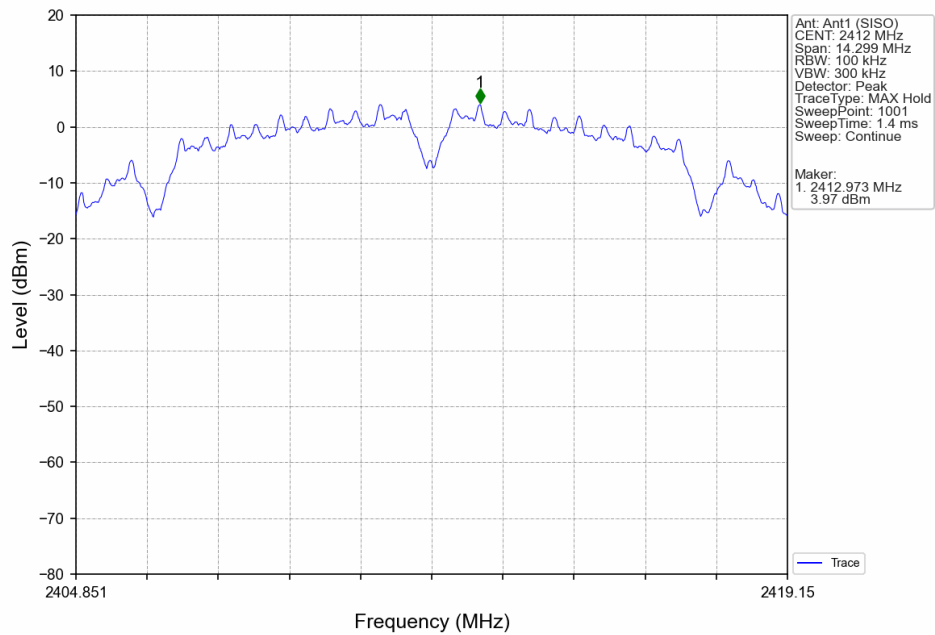
B.5 Conducted RF Spurious Emission

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	3.97
		2437	1	3.90
		2462	1	4.01
802.11g	SISO	2412	1	-2.08
		2437	1	-1.78
		2462	1	-1.38
802.11n (HT20)	SISO	2412	1	-2.83
		2437	1	-2.80
		2462	1	-2.47
802.11n (HT40)	SISO	2422	1	-6.20
		2437	1	-5.89
		2452	1	-5.94

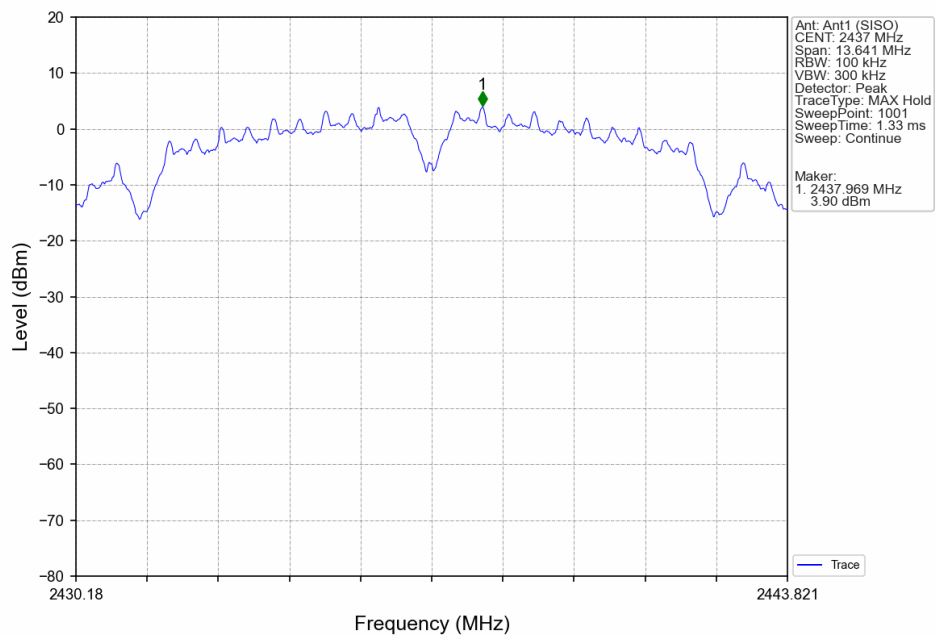
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



802.11b LCH 2412MHz Ant1 (SISO) NTN

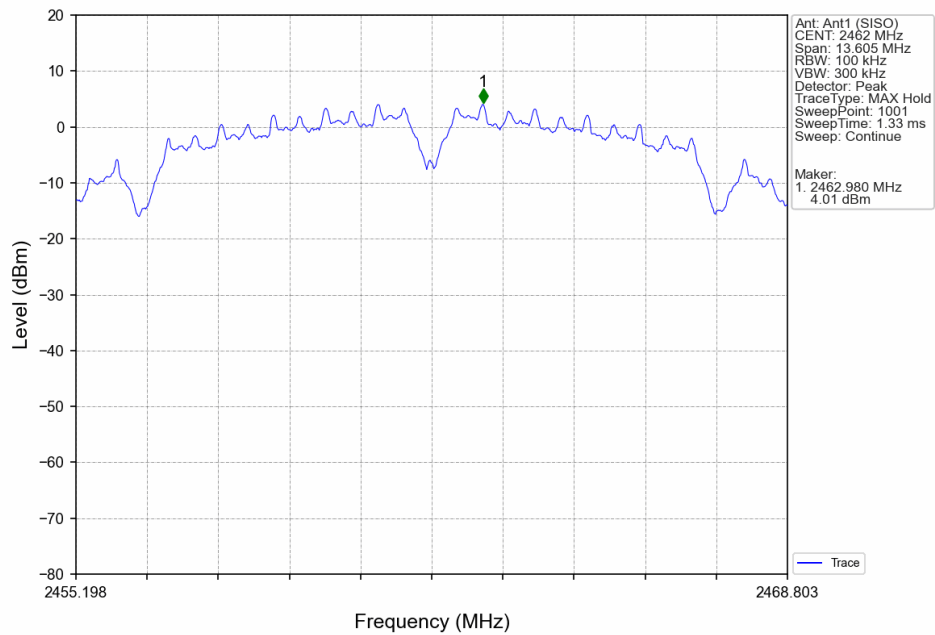


802.11b MCH 2437MHz Ant1 (SISO) NTN

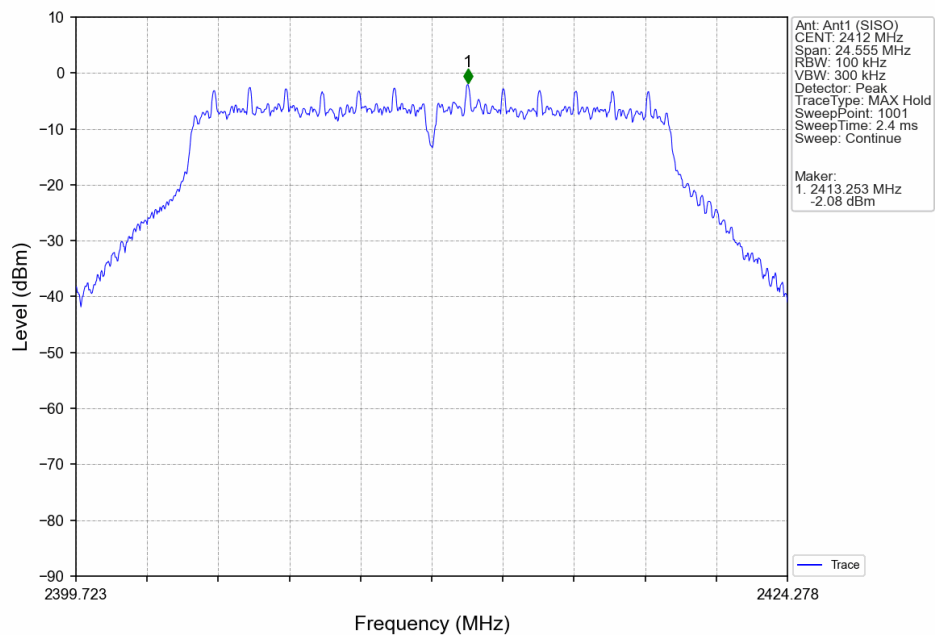




802.11b HCH 2462MHz Ant1 (SISO) NTN

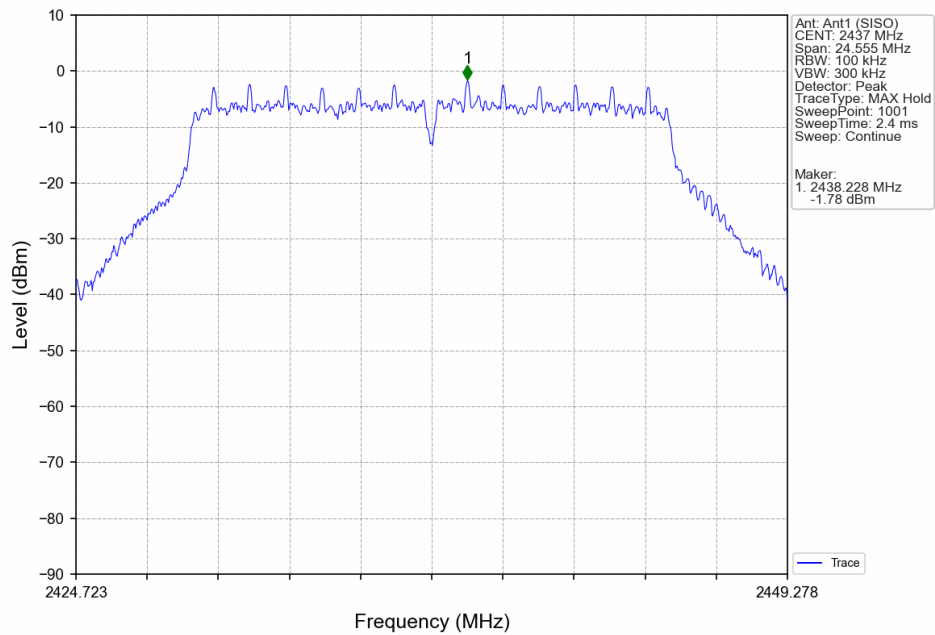


802.11g LCH 2412MHz Ant1 (SISO) NTN

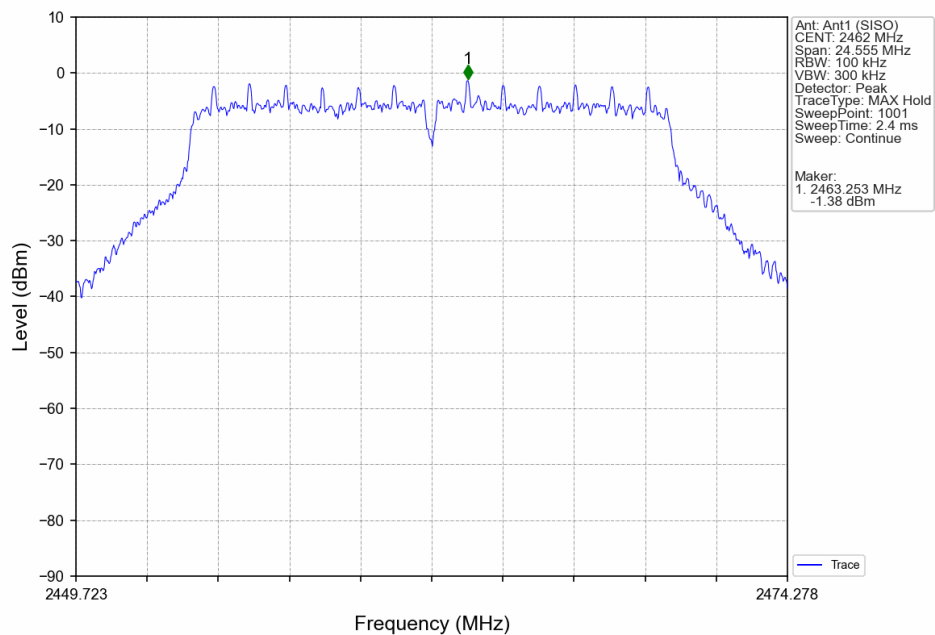




802.11g MCH 2437MHz Ant1 (SISO) NTN

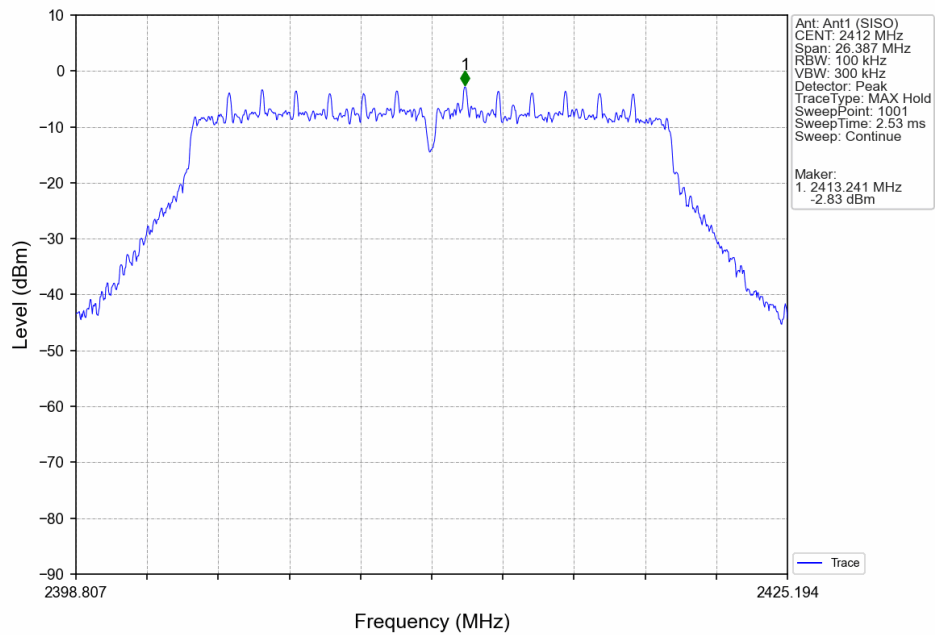


802.11g HCH 2462MHz Ant1 (SISO) NTN

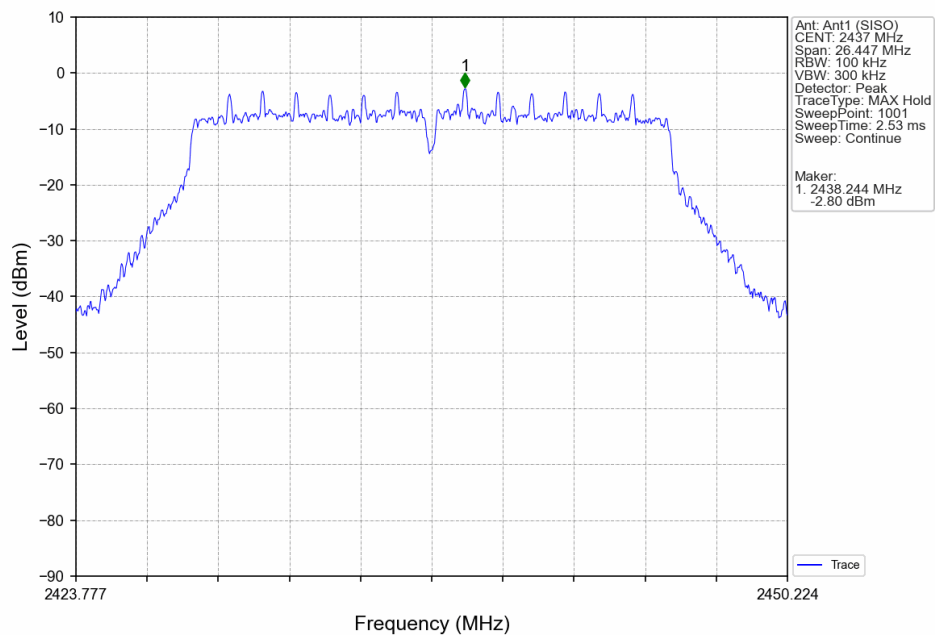




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

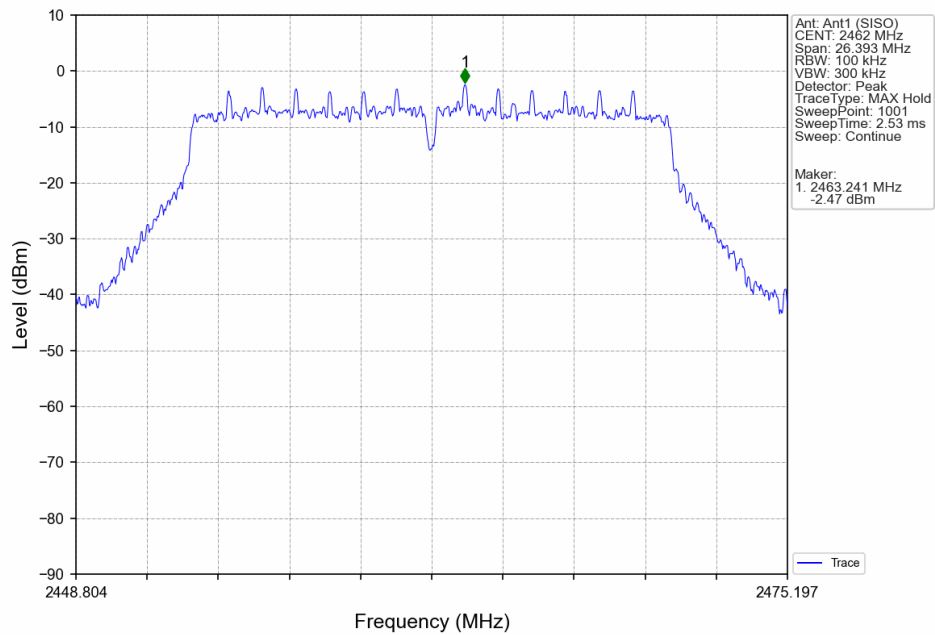


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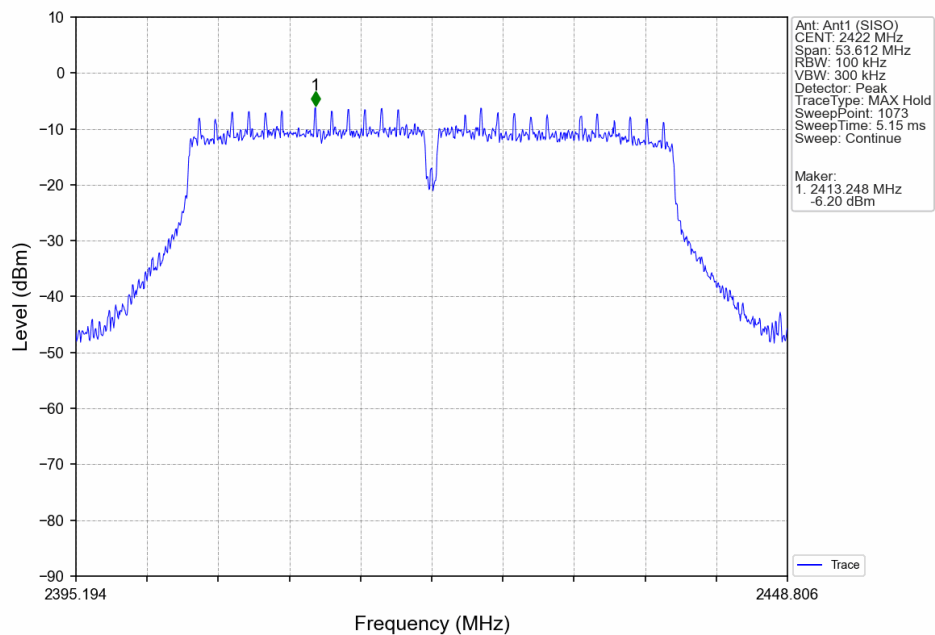




802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

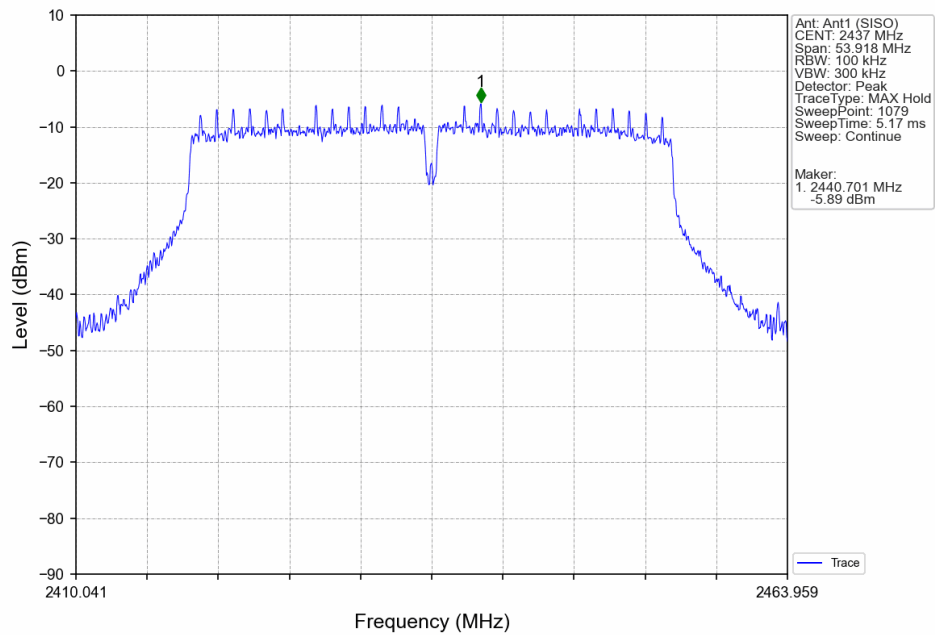


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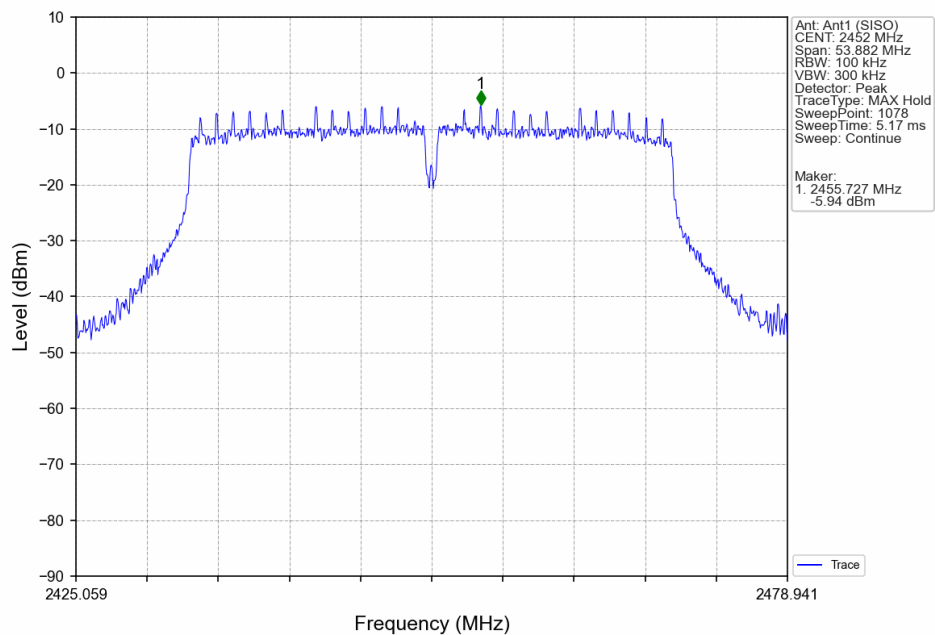




802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV

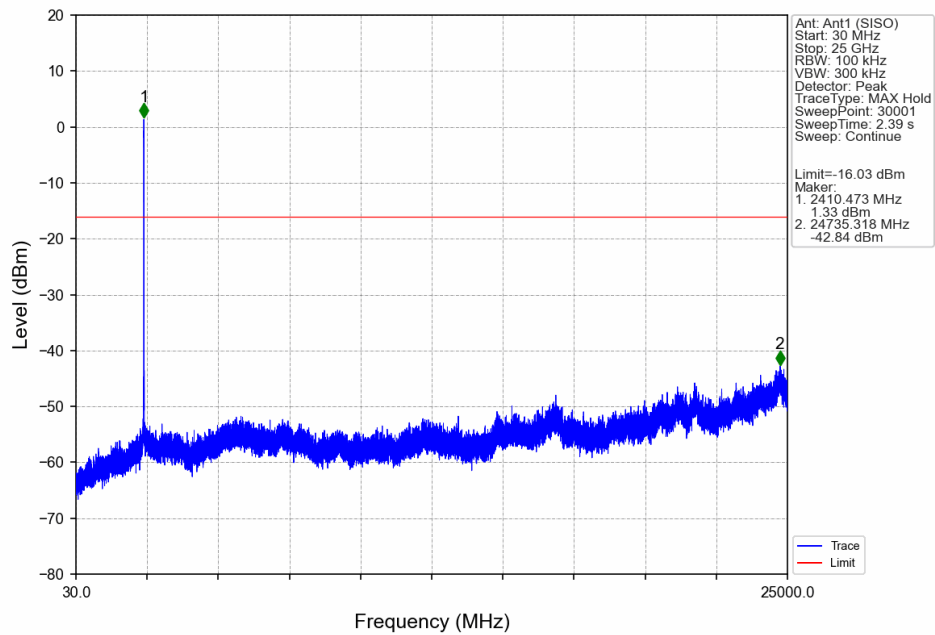


802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV

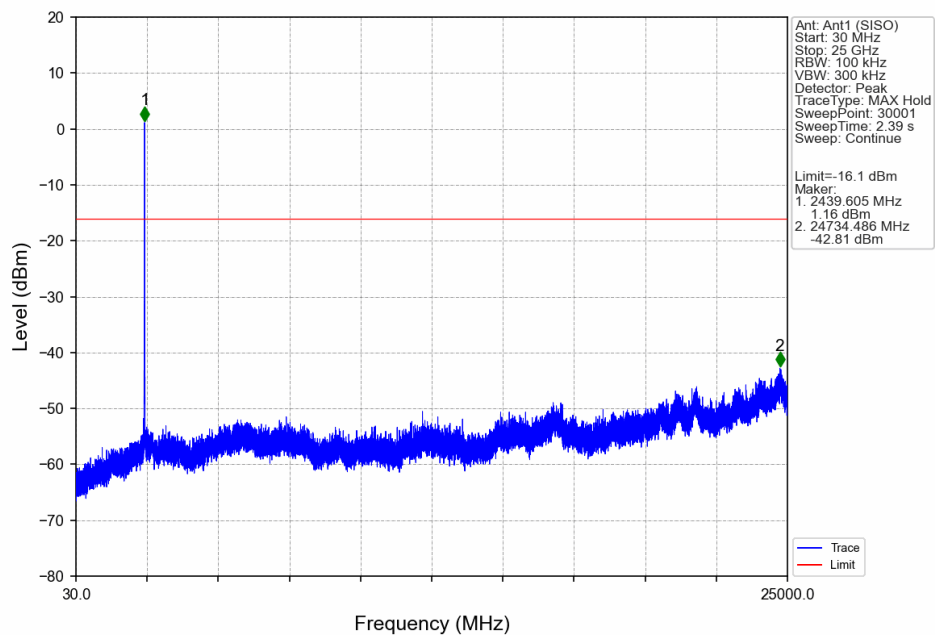




802.11b LCH 2412MHz Ant1 (SISO) NTN

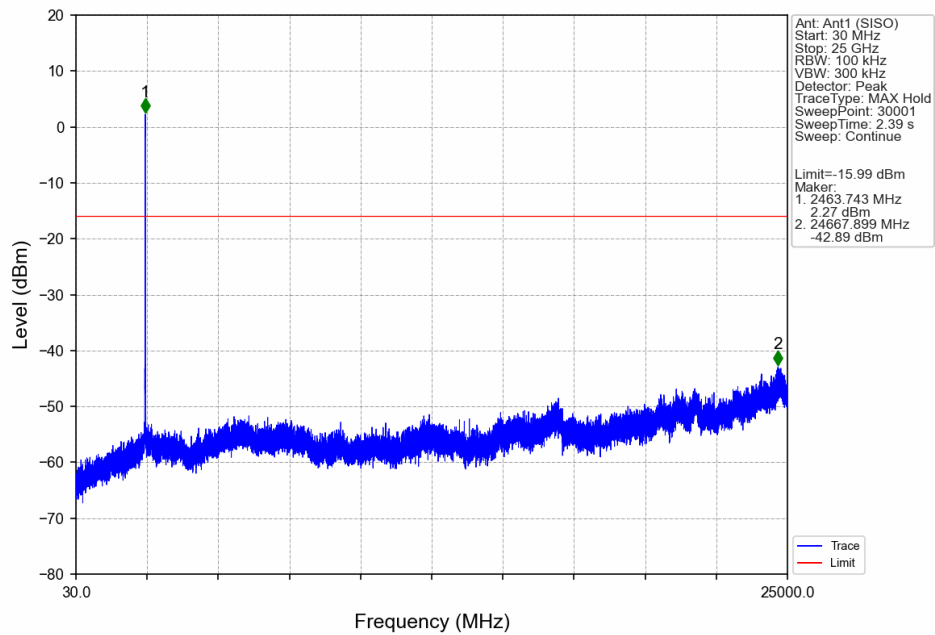


802.11b MCH 2437MHz Ant1 (SISO) NTN

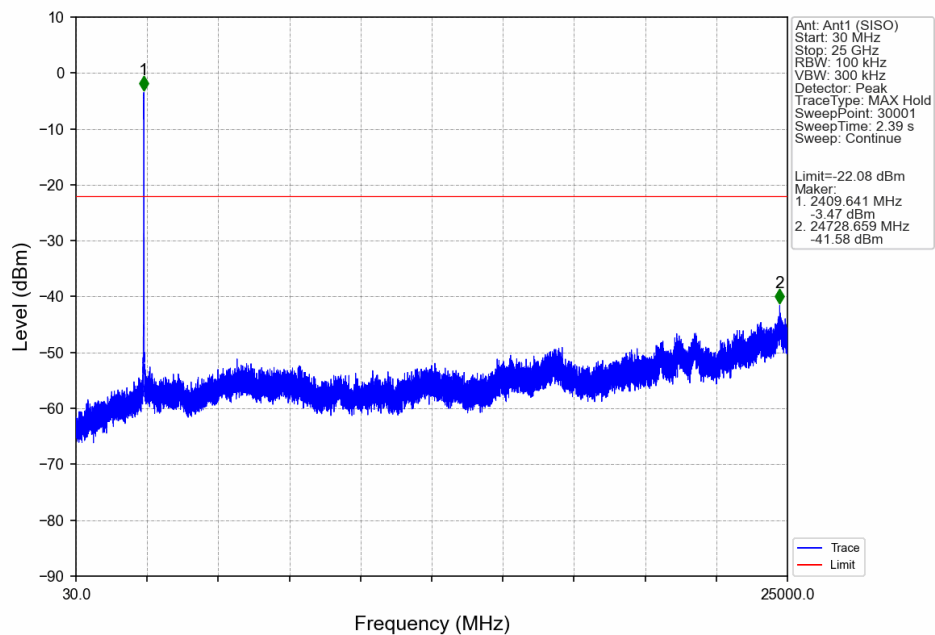




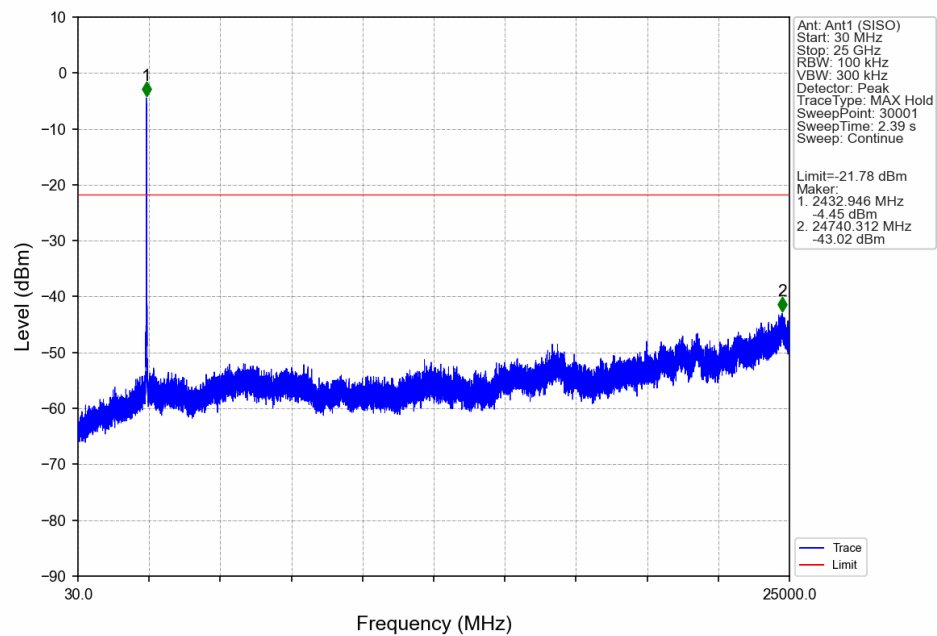
802.11b HCH 2462MHz Ant1 (SISO) NTN



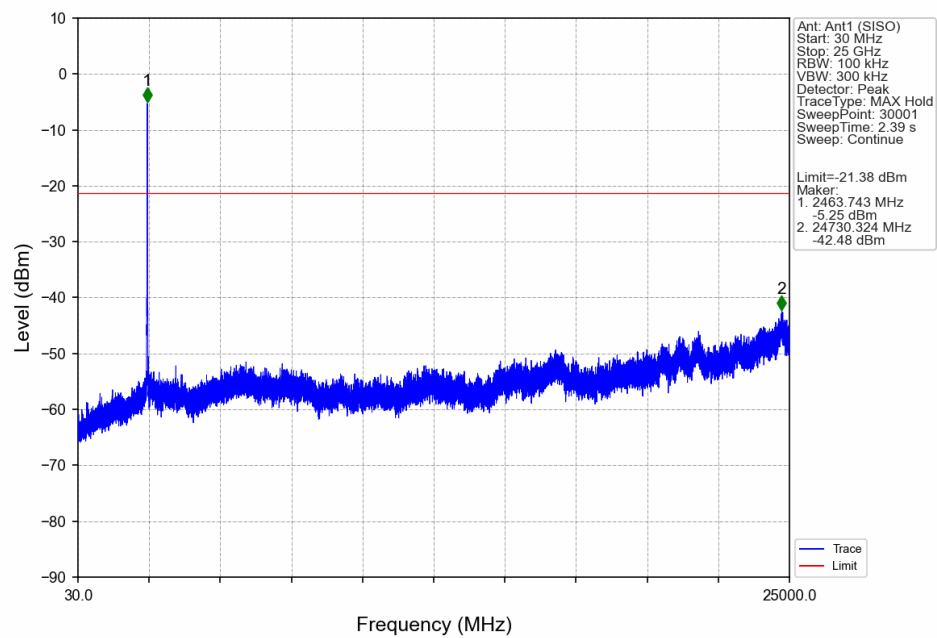
802.11g LCH 2412MHz Ant1 (SISO) NTN



802.11g MCH 2437MHz Ant1 (SISO) NTN

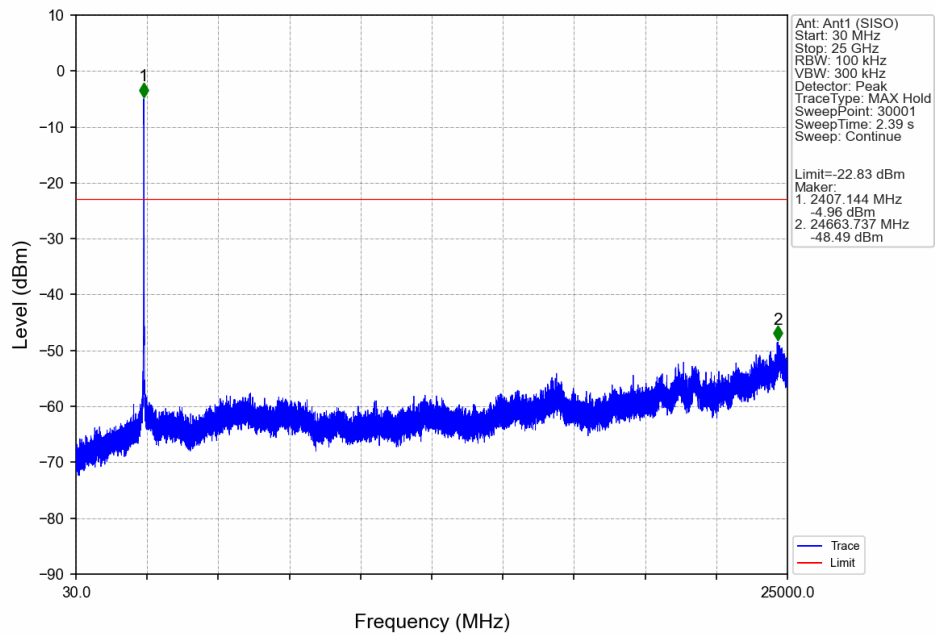


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

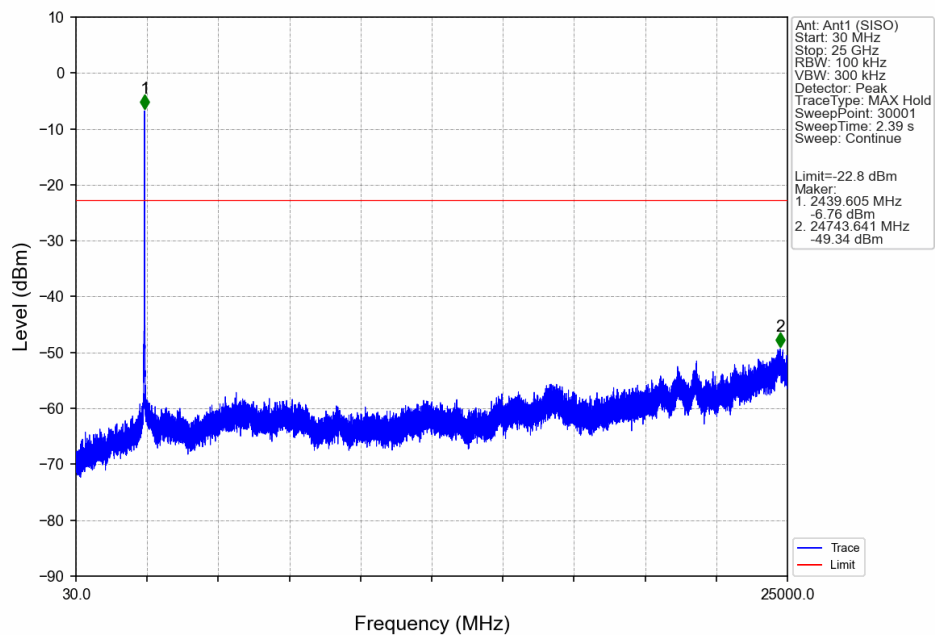




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTV

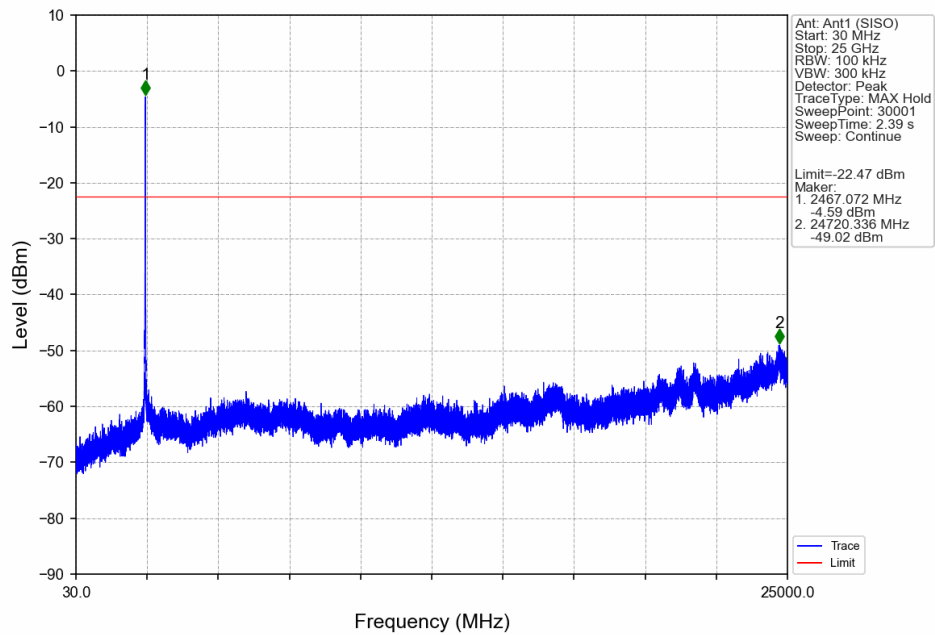


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTV

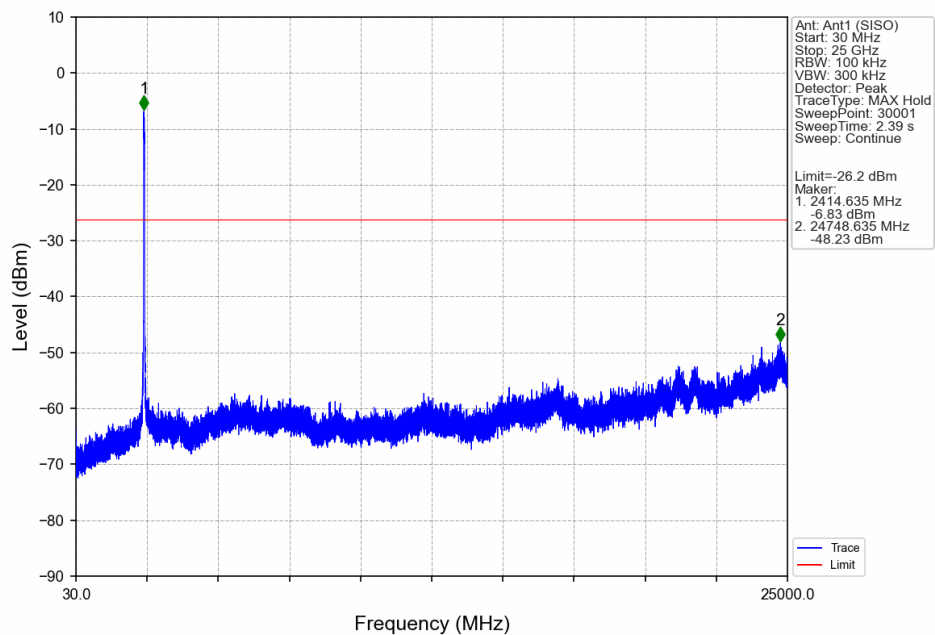




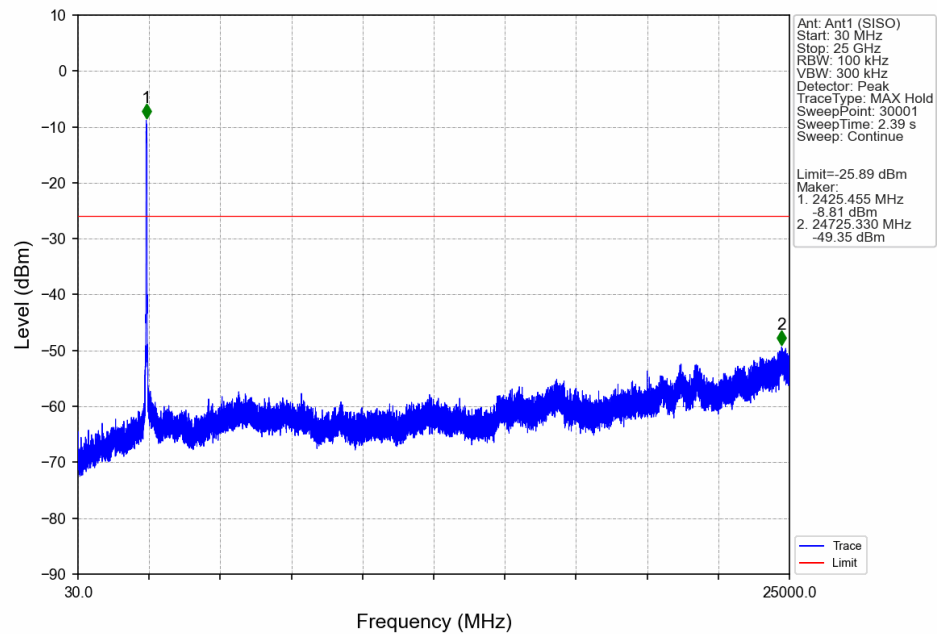
802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV



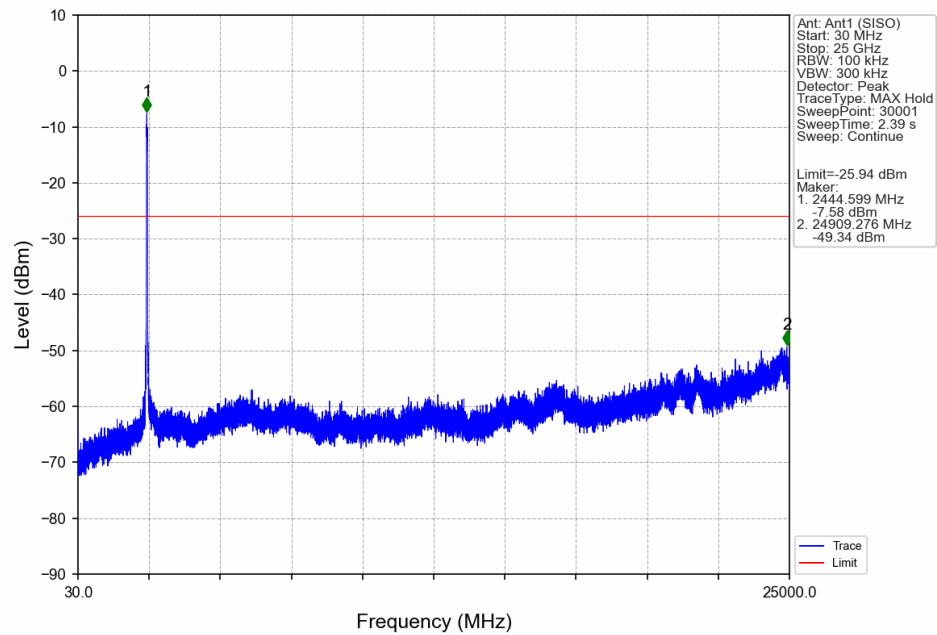
802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV



802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



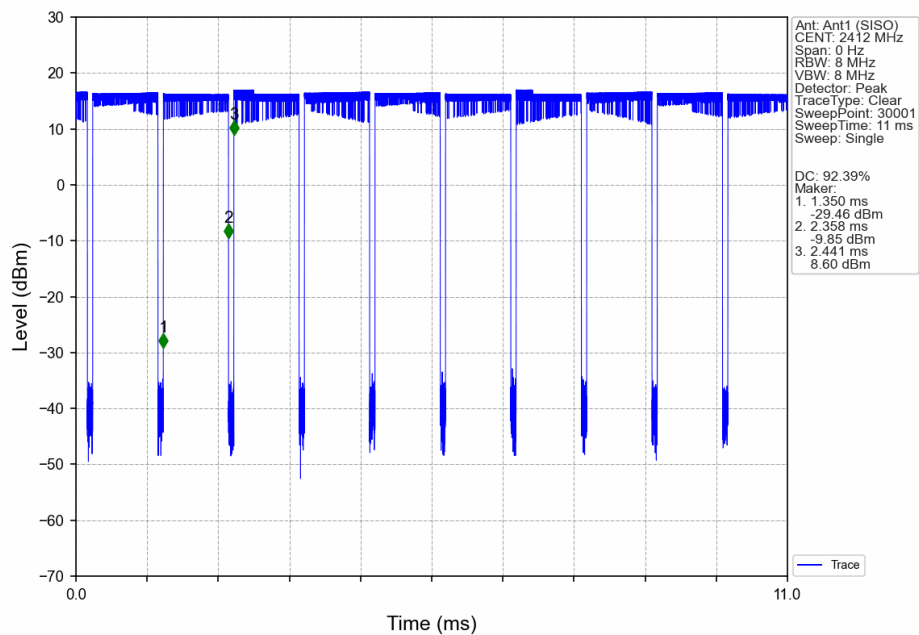


B.6 Duty Cycle

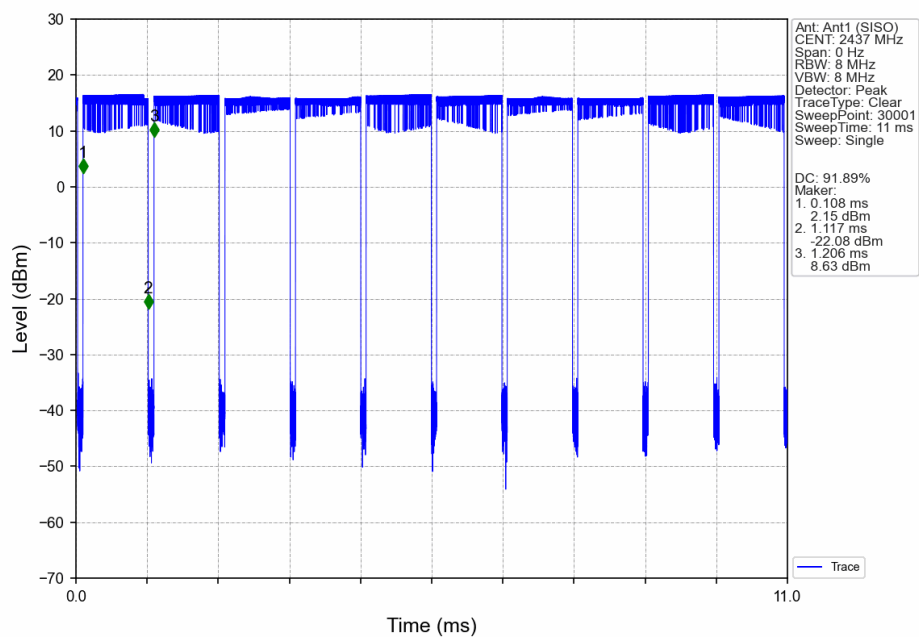
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	1.008	1.091	92.39	0.34	0.03
		2437	1.009	1.098	91.89	0.37	0.62
		2462	1.008	1.091	92.39	0.34	0.04
802.11g	SISO	2412	0.616	0.660	93.33	0.30	0.04
		2437	0.616	0.660	93.33	0.30	0.04
		2462	0.616	0.659	93.47	0.29	0.04
802.11n (HT20)	SISO	2412	0.613	0.656	93.45	0.29	0.04
		2437	0.613	0.656	93.45	0.29	0.04
		2462	0.613	0.656	93.45	0.29	0.03
802.11n (HT40)	SISO	2422	0.613	0.682	89.88	0.46	3.58
		2437	0.613	0.656	93.45	0.29	0.04
		2452	0.613	0.656	93.45	0.29	0.04



802.11b LCH 2412MHz Ant1 (SISO) NTN

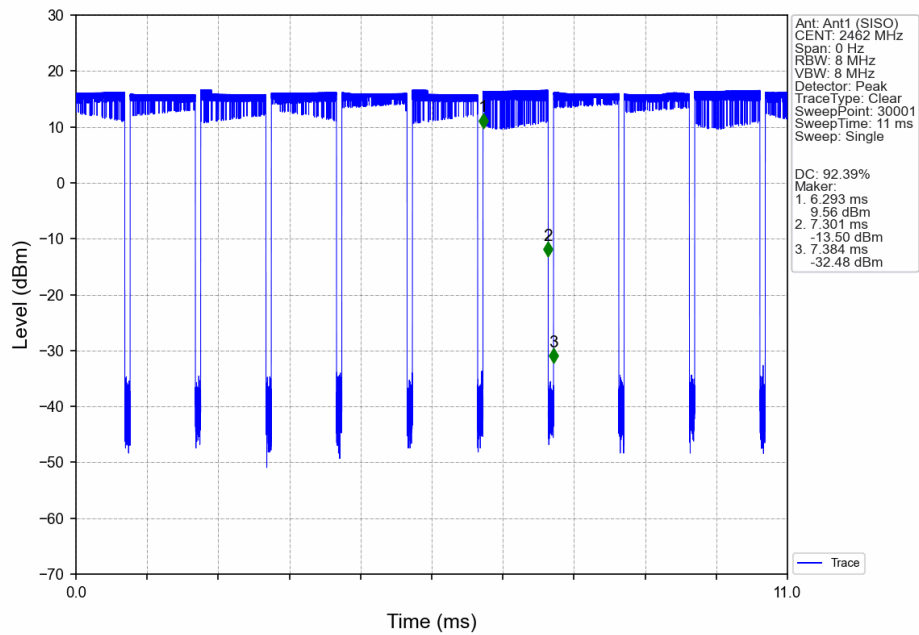


802.11b MCH 2437MHz Ant1 (SISO) NTN

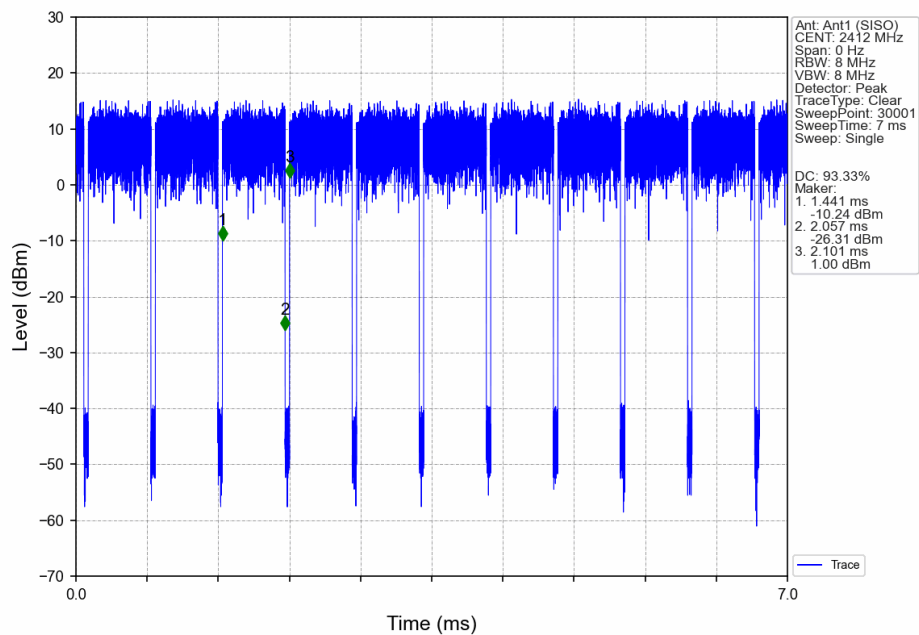




802.11b HCH 2462MHz Ant1 (SISO) NTN

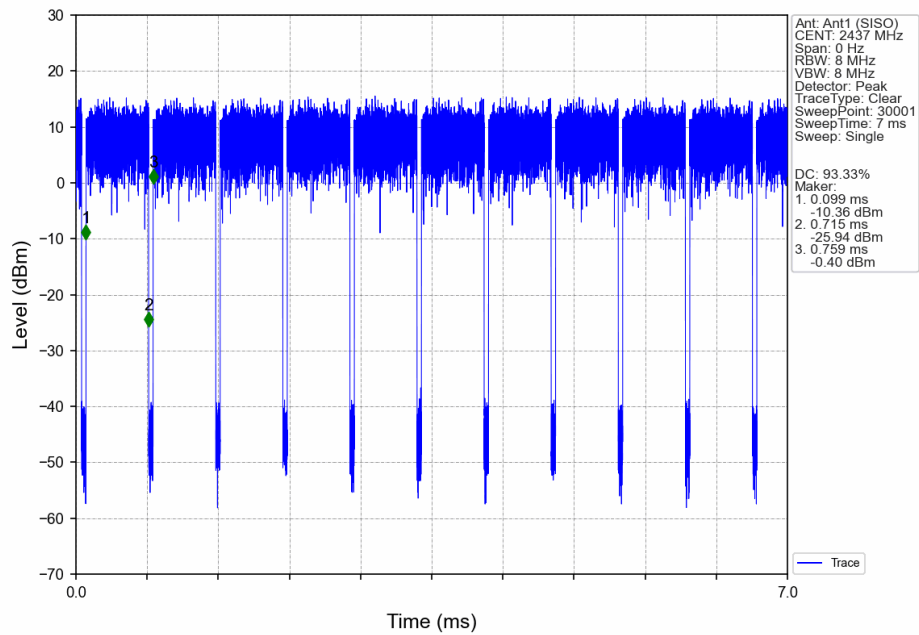


802.11g LCH 2412MHz Ant1 (SISO) NTN

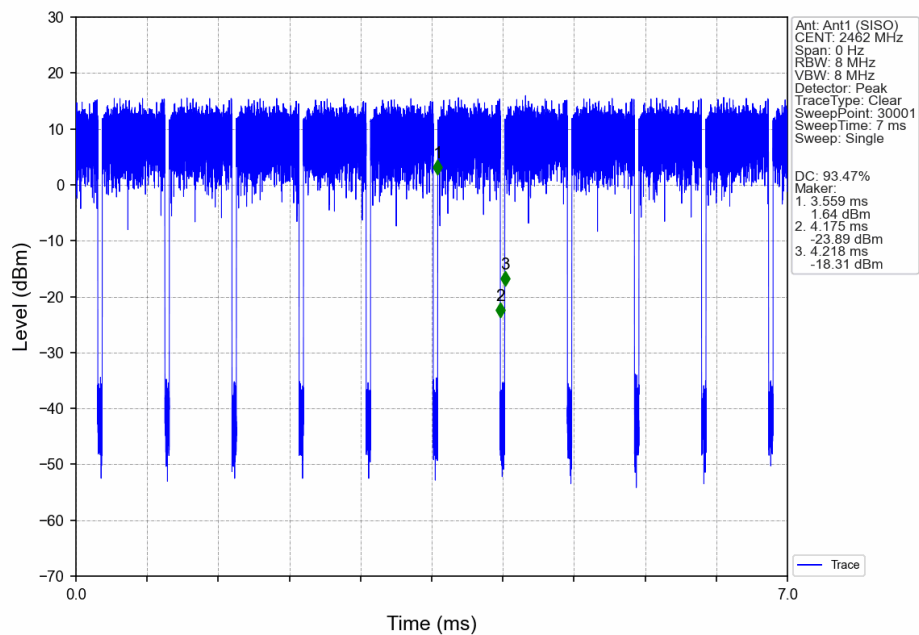




802.11g MCH 2437MHz Ant1 (SISO) NTNV

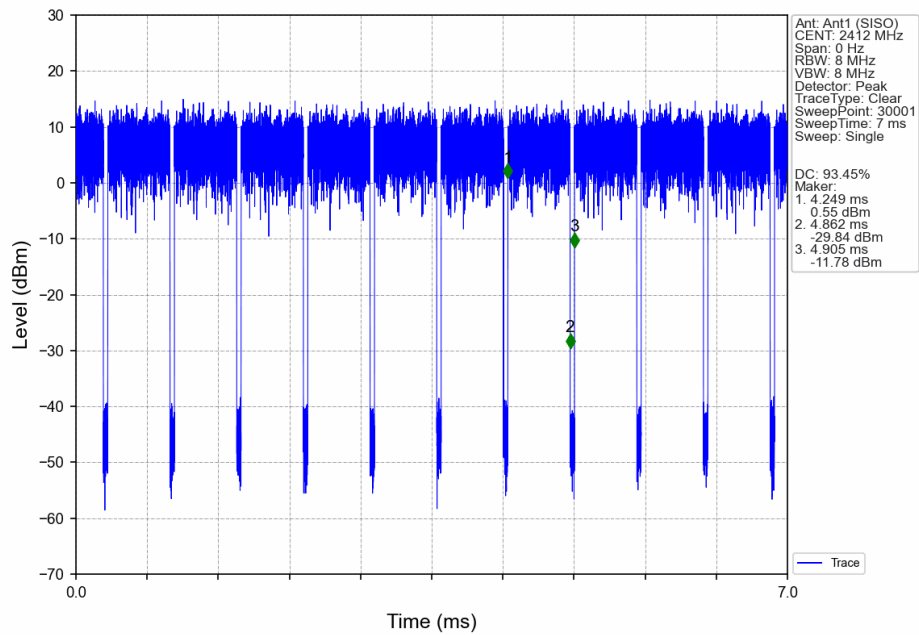


802.11g HCH 2462MHz Ant1 (SISO) NTNV

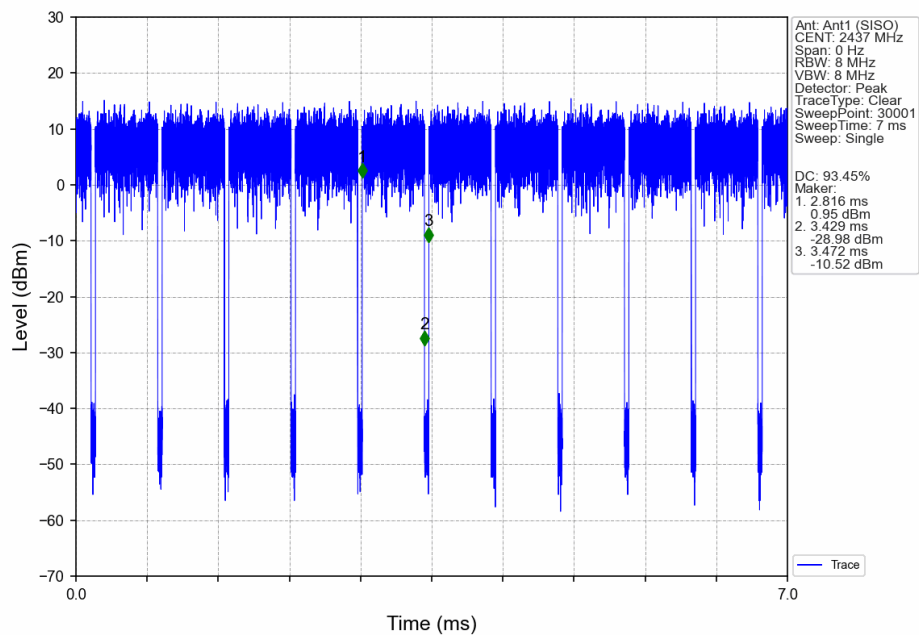




802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

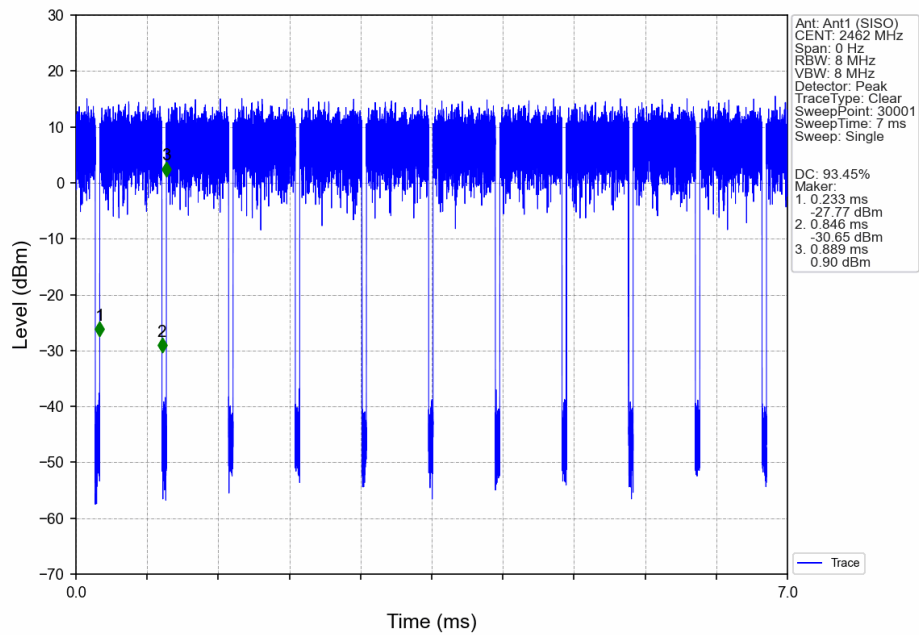


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV

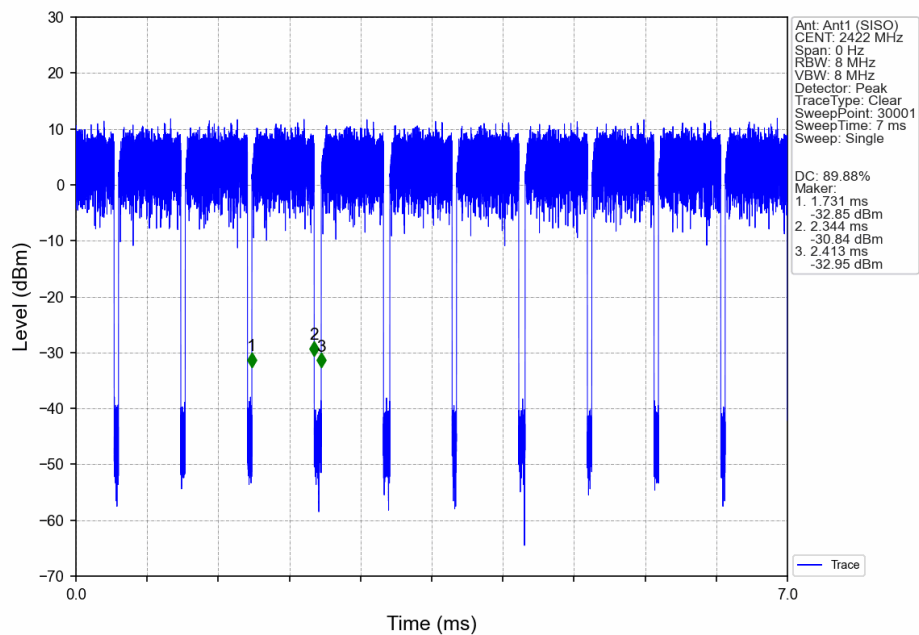




802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

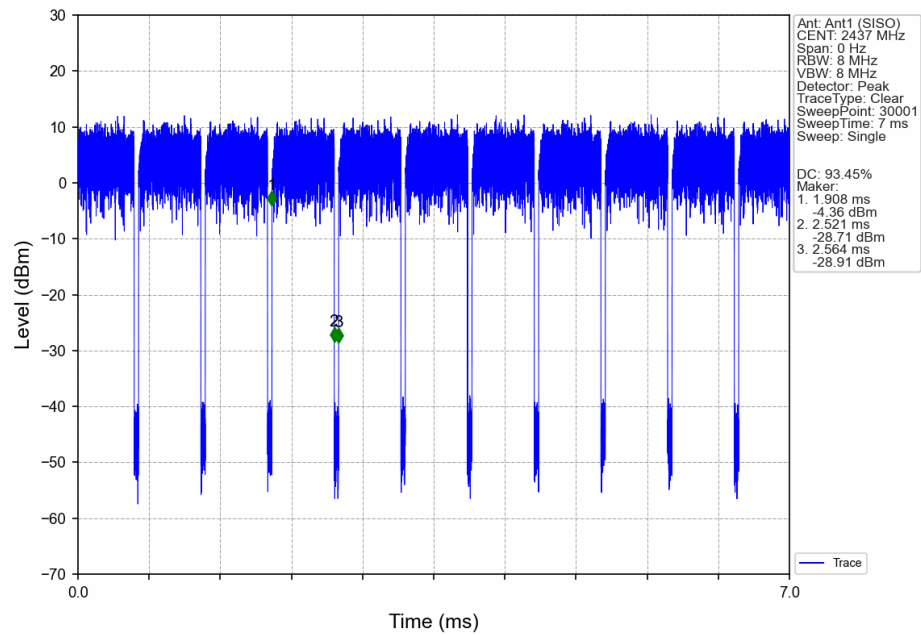


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTV

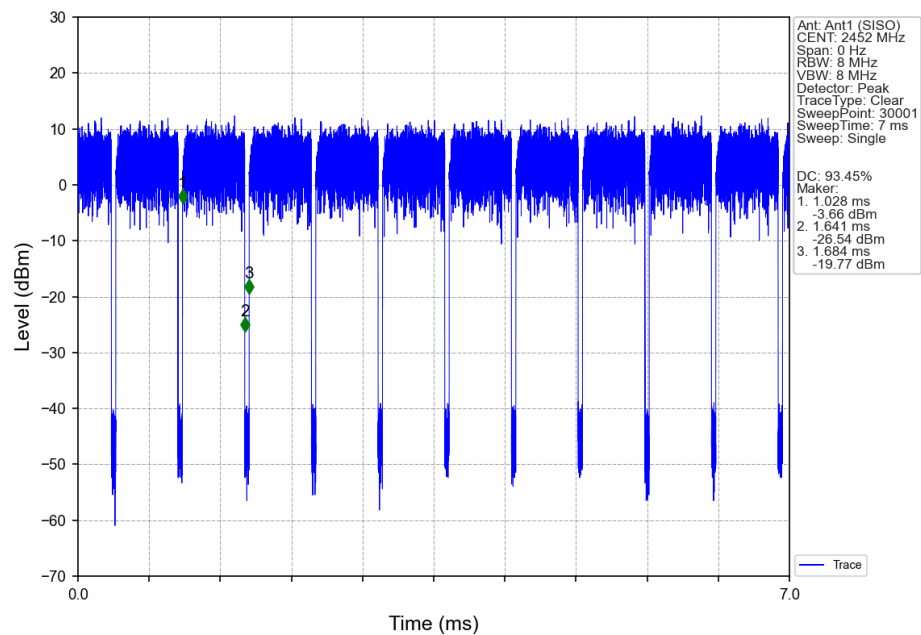




802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV





B.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-51.91	2	-	45.35	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-58.41	2	0	38.85	Average	54	Pass
NVNT	b	2412	Ant1	2389.677	-45.93	2	-	51.33	Peak	74	Pass
NVNT	b	2412	Ant1	2389.911	-55.48	2	0	41.78	Average	54	Pass
NVNT	b	2412	Ant1	2390	-49.16	2	-	48.1	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-55.98	2	0	41.28	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-47.54	2	-	49.72	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-56.02	2	0	41.24	Average	54	Pass
NVNT	b	2462	Ant1	2484.63	-37.81	2	-	59.45	Peak	74	Pass
NVNT	b	2462	Ant1	2484.948	-53.96	2	0	43.3	Average	54	Pass
NVNT	b	2462	Ant1	2500	-50.01	2	-	47.25	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-57.23	2	0	40.03	Average	54	Pass
NVNT	g	2412	Ant1	2310	-49.75	2	-	47.51	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-58.32	2	0.1	39.04	Average	54	Pass
NVNT	g	2412	Ant1	2387.922	-36.84	2	-	60.42	Peak	74	Pass
NVNT	g	2412	Ant1	2389.911	-51.62	2	0.1	45.74	Average	54	Pass
NVNT	g	2412	Ant1	2390	-38.36	2	-	58.9	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-52.19	2	0.1	45.17	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-43.06	2	-	54.2	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-57.09	2	0.1	40.27	Average	54	Pass
NVNT	g	2462	Ant1	2483.57	-41.38	2	-	55.88	Peak	74	Pass
NVNT	g	2462	Ant1	2484.259	-55.86	2	0.1	41.5	Average	54	Pass
NVNT	g	2462	Ant1	2500	-48.91	2	-	48.35	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-57.81	2	0.1	39.55	Average	54	Pass
NVNT	n20	2412	Ant1	2310	-50.44	2	-	46.82	Peak	74	Pass
NVNT	n20	2412	Ant1	2310	-58.65	2	0.12	38.73	Average	54	Pass
NVNT	n20	2412	Ant1	2389.794	-44	2	-	53.26	Peak	74	Pass
NVNT	n20	2412	Ant1	2388.624	-56.65	2	0.12	40.73	Average	54	Pass
NVNT	n20	2412	Ant1	2390	-41.58	2	-	55.68	Peak	74	Pass
NVNT	n20	2412	Ant1	2390	-56.14	2	0.12	41.24	Average	54	Pass
NVNT	n20	2462	Ant1	2483.5	-41.36	2	-	55.9	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.5	-55.77	2	0.12	41.61	Average	54	Pass
NVNT	n20	2462	Ant1	2483.623	-38.42	2	-	58.84	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.782	-54.07	2	0.12	43.31	Average	54	Pass
NVNT	n20	2462	Ant1	2500	-49.4	2	-	47.86	Peak	74	Pass
NVNT	n20	2462	Ant1	2500	-57.56	2	0.12	39.82	Average	54	Pass
NVNT	n40	2422	Ant1	2310	-49.11	2	-	48.15	Peak	74	Pass
NVNT	n40	2422	Ant1	2310	-58.54	2	0.24	38.96	Average	54	Pass
NVNT	n40	2422	Ant1	2389.094	-39.95	2	-	57.31	Peak	74	Pass
NVNT	n40	2422	Ant1	2389.946	-55.27	2	0.24	42.23	Average	54	Pass
NVNT	n40	2422	Ant1	2390	-43.48	2	-	53.78	Peak	74	Pass
NVNT	n40	2422	Ant1	2390	-55.27	2	0.24	42.23	Average	54	Pass
NVNT	n40	2452	Ant1	2483.5	-41.22	2	-	56.04	Peak	74	Pass
NVNT	n40	2452	Ant1	2483.5	-53.34	2	0.24	44.16	Average	54	Pass
NVNT	n40	2452	Ant1	2484.478	-37.93	2	-	59.33	Peak	74	Pass
NVNT	n40	2452	Ant1	2485.18	-53.98	2	0.24	43.52	Average	54	Pass
NVNT	n40	2452	Ant1	2500	-50.93	2	-	46.33	Peak	74	Pass
NVNT	n40	2452	Ant1	2500	-57.79	2	0.24	39.71	Average	54	Pass

