

RF Test Report

For

Project No.:	DLE-250522003R
Client:	Shenzhen Century Xinyang Tech Co., Ltd
Manufacturer:	Shenzhen Century Xinyang Tech Co., Ltd
Product Description:	1500Mbps Wireless WiFi Repeater
Model Number:	WD-R1501U
Test Engineer:	Alisa Song
Test Date:	2025-05-14

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass
Frequency Error	Pass

1. Duty Cycle

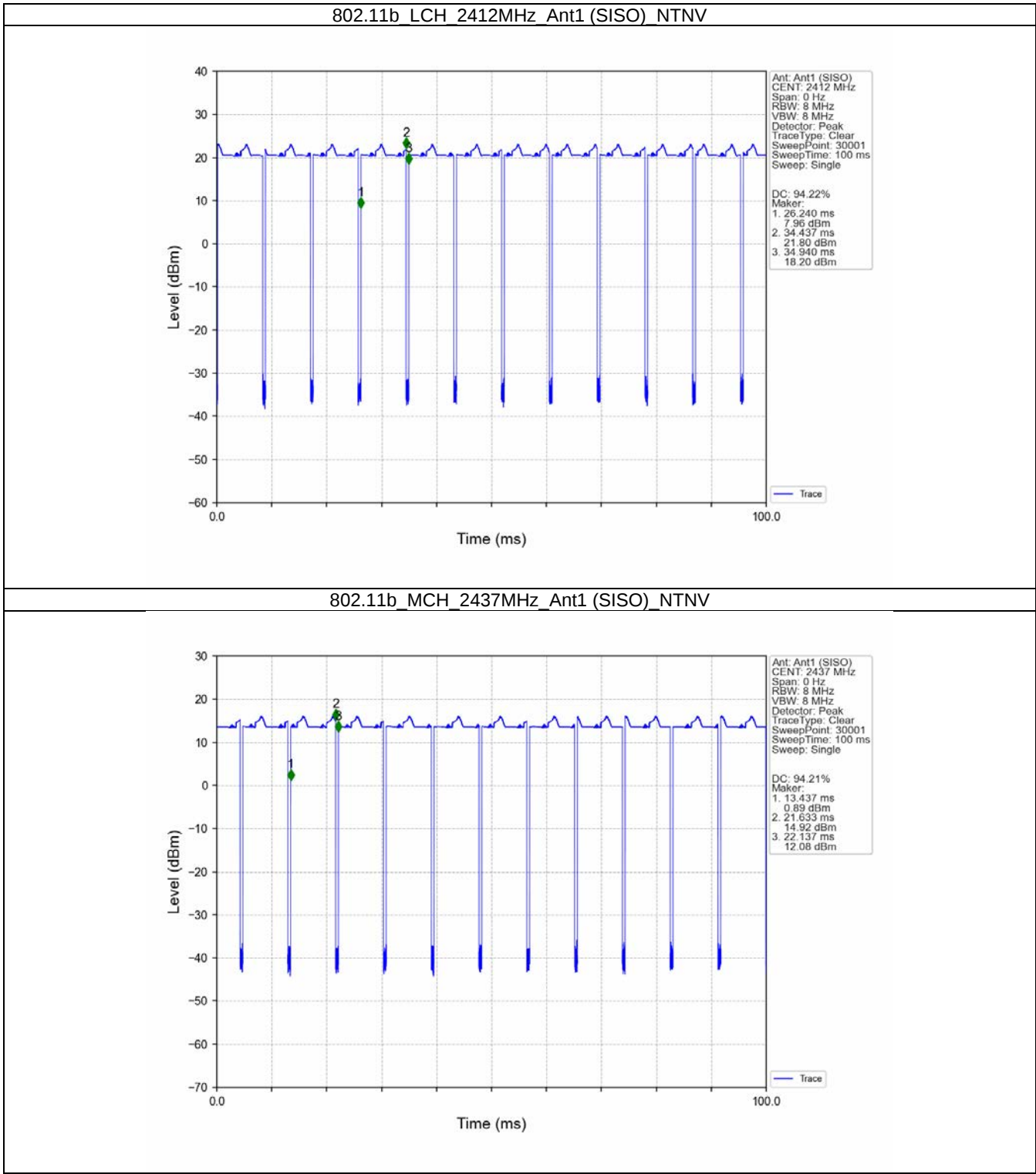
1.1 Test Result

1.1.1 Ant1

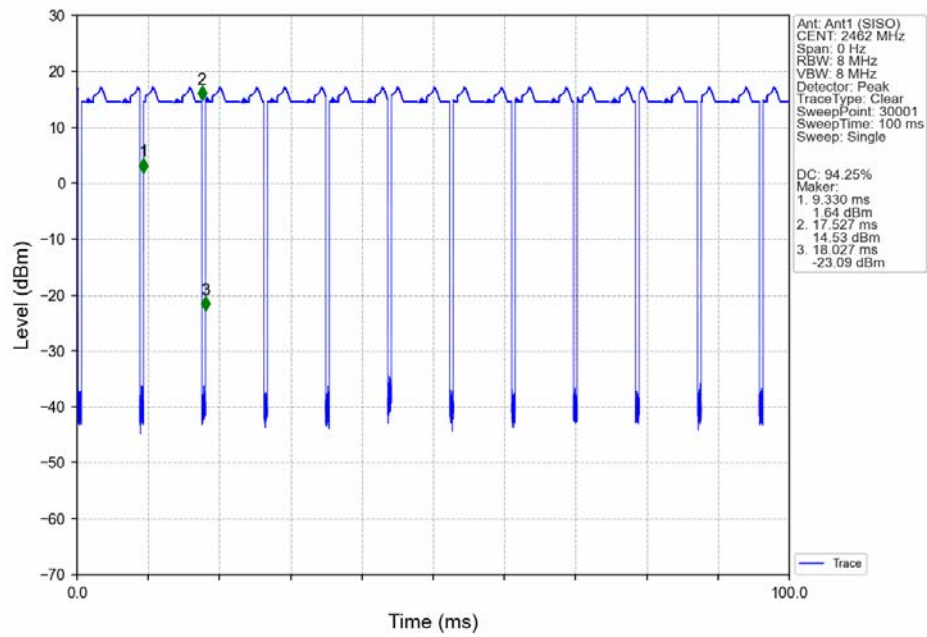
Ant1									
Mode	Tx Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	8.197	8.700	94.22	0.26	0.04
		2437	/	/	8.196	8.700	94.21	0.26	0.04
		2462	/	/	8.197	8.697	94.25	0.26	0.00
802.11g	SISO	2412	/	/	1.362	1.863	73.11	1.36	0.02
		2437	/	/	1.362	1.863	73.11	1.36	0.03
		2462	/	/	1.362	1.863	73.11	1.36	0.03
802.11n (HT20)	MIMO	2412	/	/	1.274	1.775	71.77	1.44	0.02
		2437	/	/	1.274	1.775	71.77	1.44	0.02
		2462	/	/	1.274	1.775	71.77	1.44	0.02
802.11n (HT40)	MIMO	2422	/	/	0.633	1.134	55.82	2.53	0.03
		2437	/	/	0.634	1.134	55.91	2.53	0.01
		2452	/	/	0.633	1.134	55.82	2.53	0.03
802.11ax (HEW20)	MIMO	2412	SU	/	1.276	1.778	71.77	1.44	0.06
		2437	SU	/	1.276	1.778	71.77	1.44	0.04
		2462	SU	/	1.276	1.778	71.77	1.44	0.06
802.11ax (HEW40)	MIMO	2422	SU	/	0.637	1.139	55.93	2.52	0.03
		2437	SU	/	0.636	1.138	55.89	2.53	0.03
		2452	SU	/	0.636	1.138	55.89	2.53	0.03

1.2 Test Graph

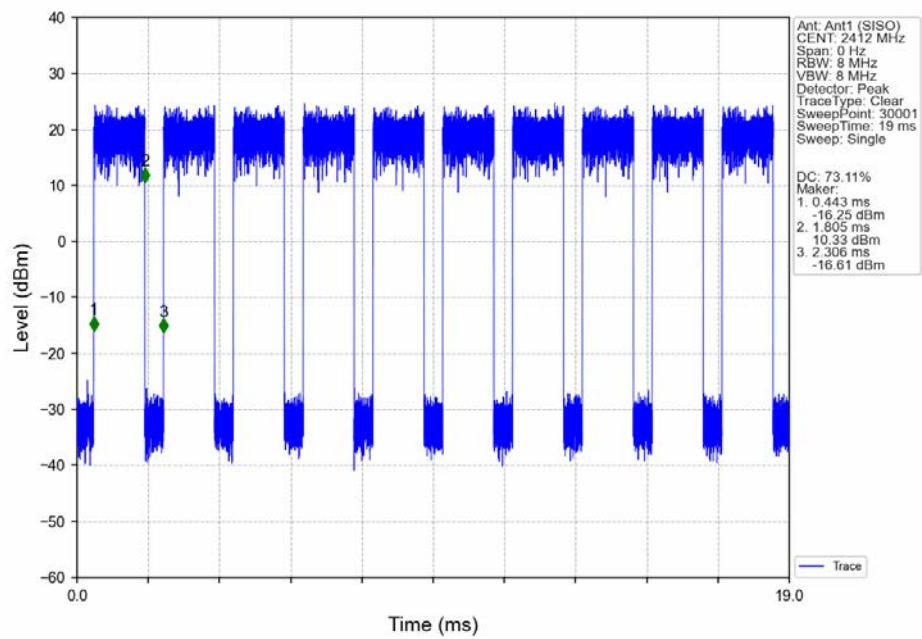
1.2.1 Ant1



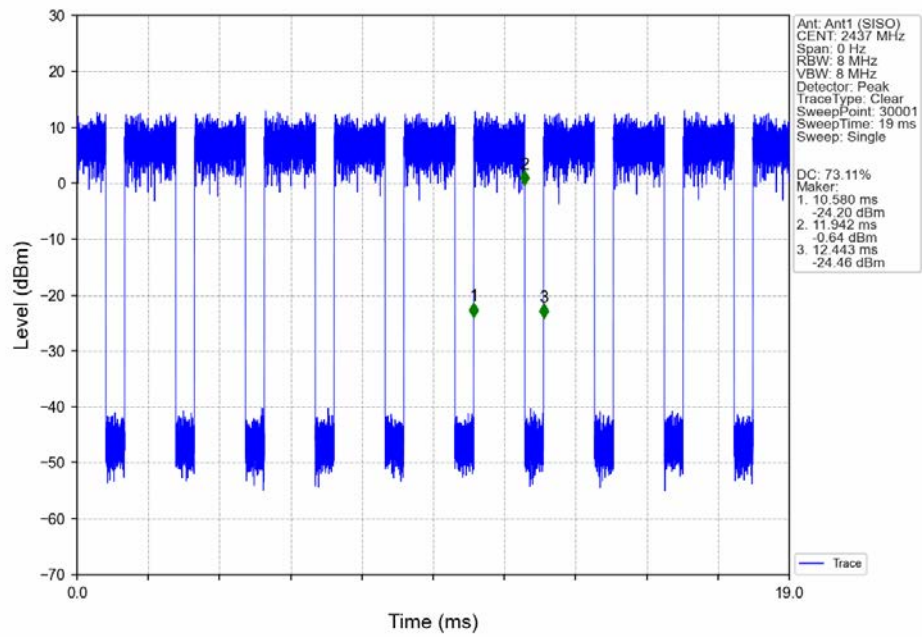
802.11b HCH 2462MHz Ant1 (SISO) NTN



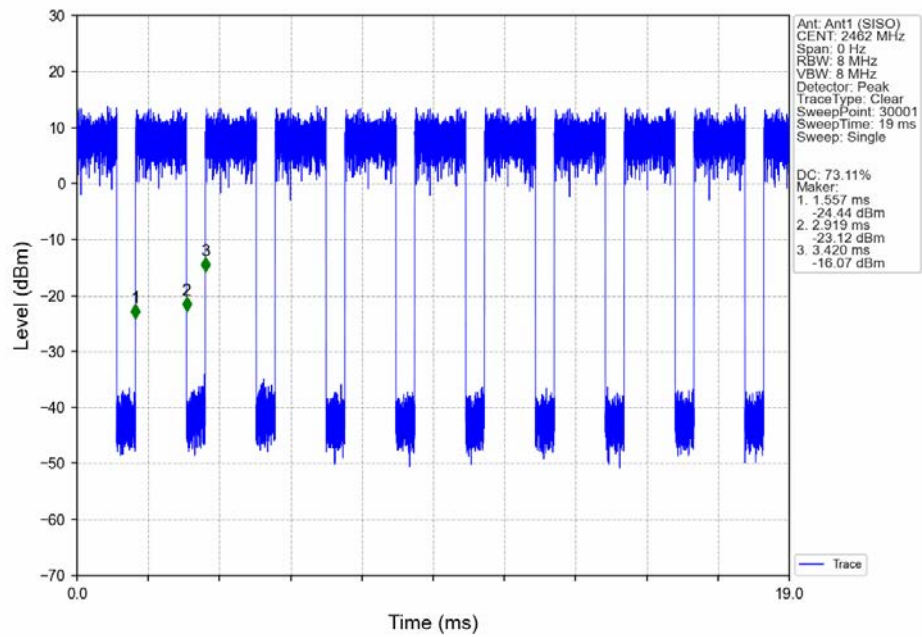
802.11g LCH 2412MHz Ant1 (SISO) NTN



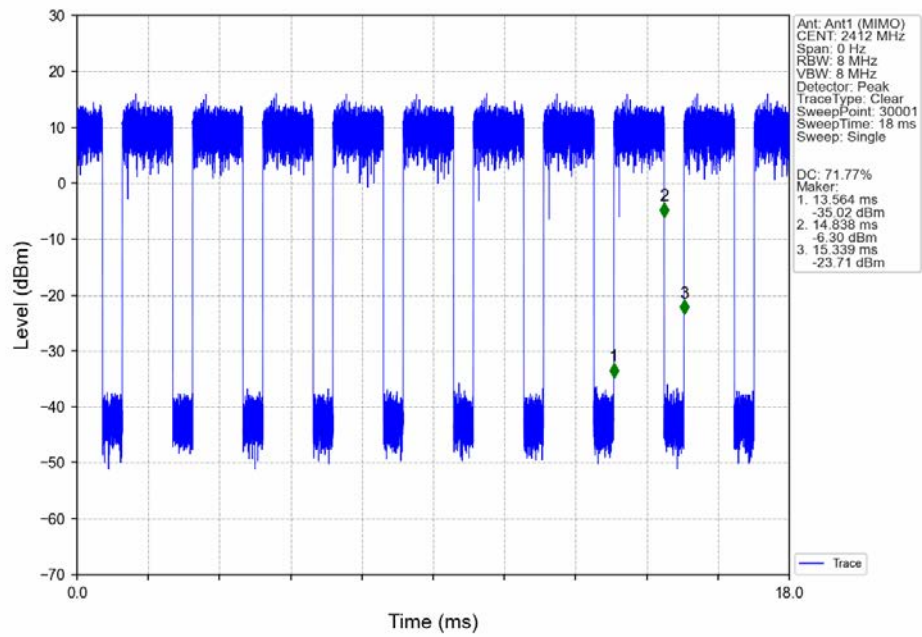
802.11g MCH 2437MHz Ant1 (SISO) NTN



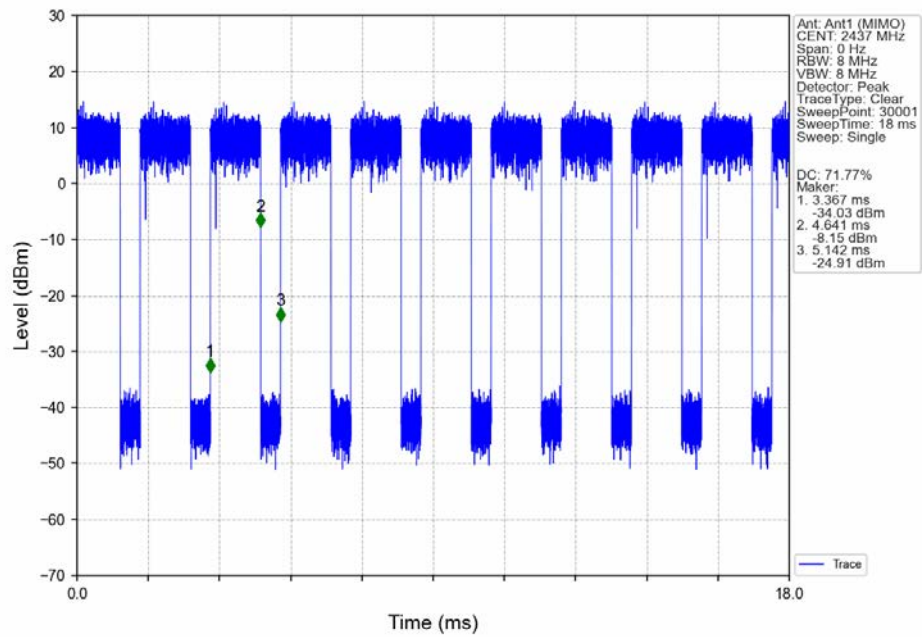
802.11g_HCH_2462MHz_Ant1 (SISO) NTN



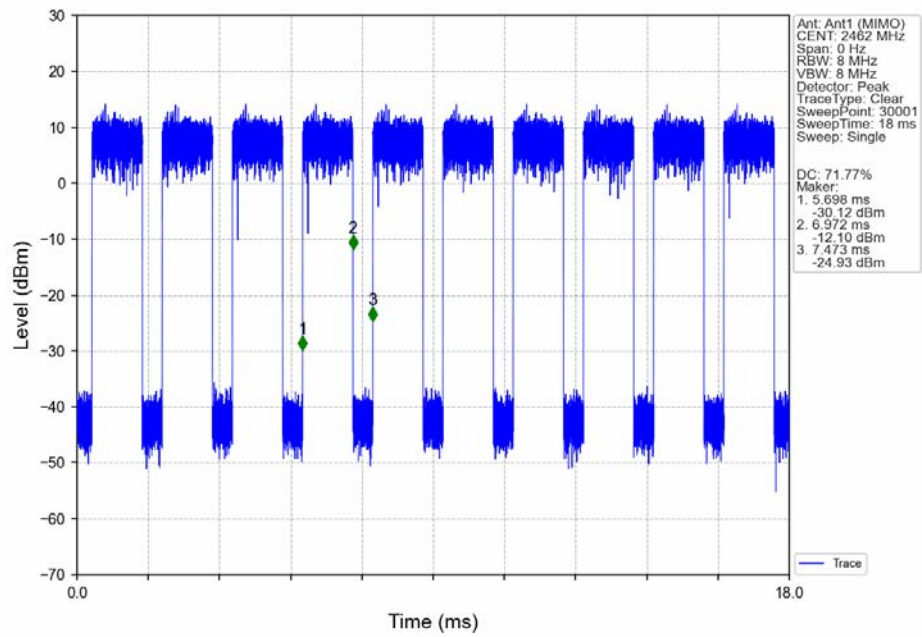
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTNV



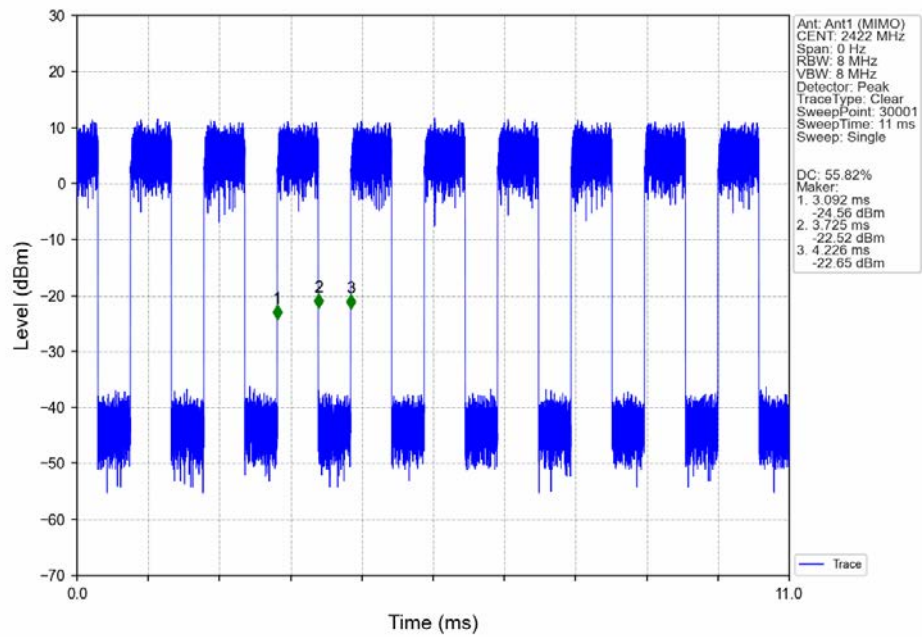
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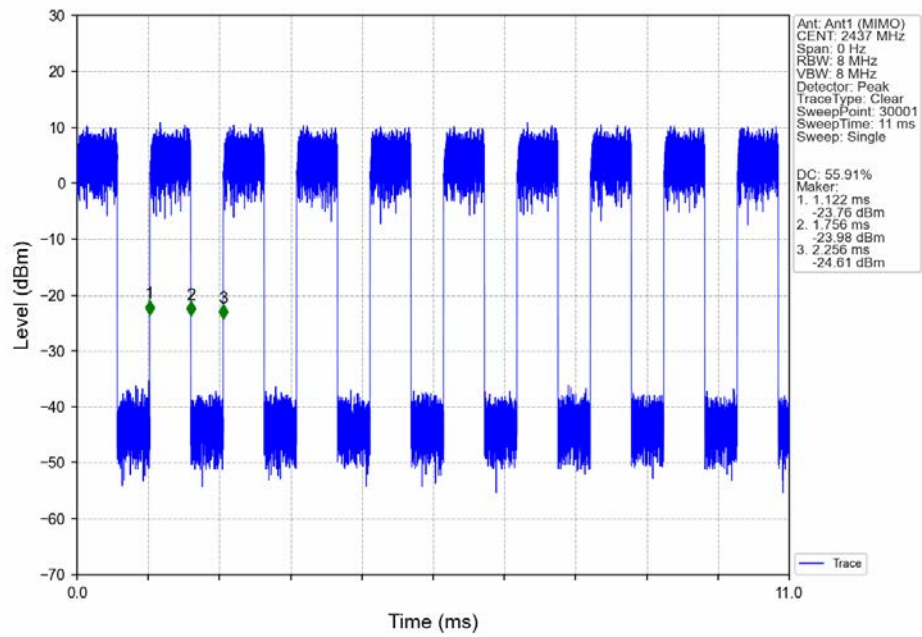
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTN



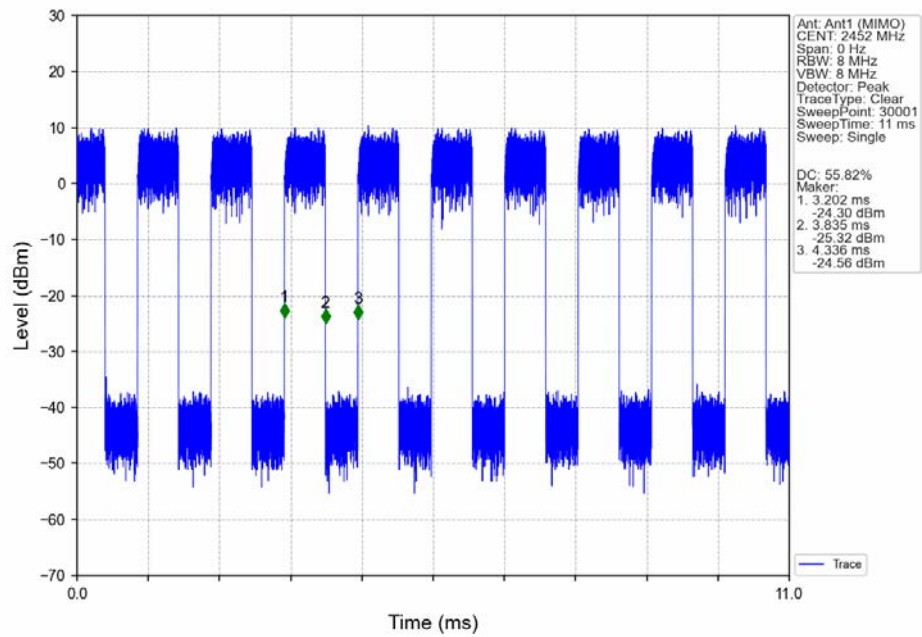
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTN



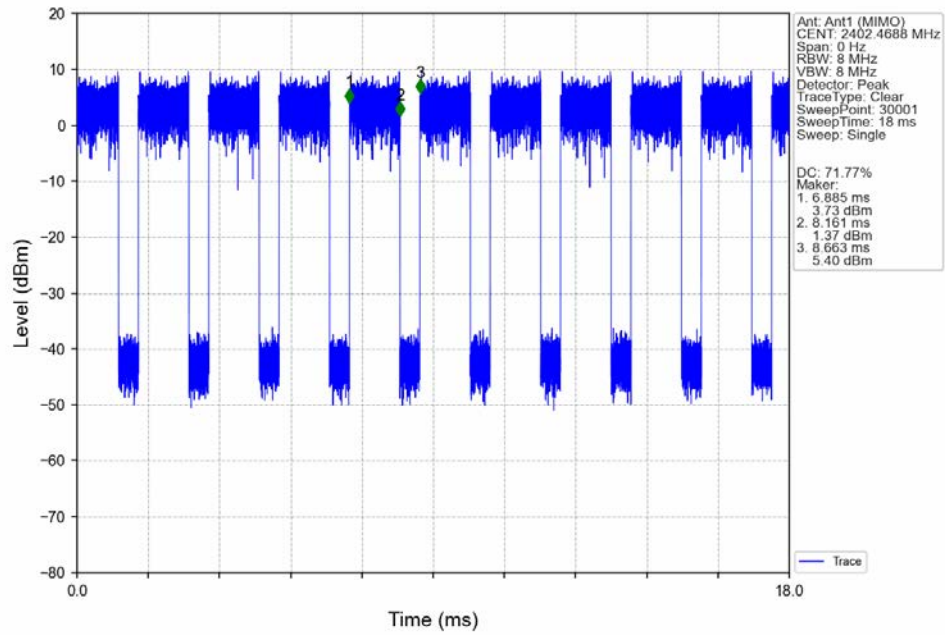
802.11n(HT40) MCH_2437MHz_Ant1 (MIMO) NTN



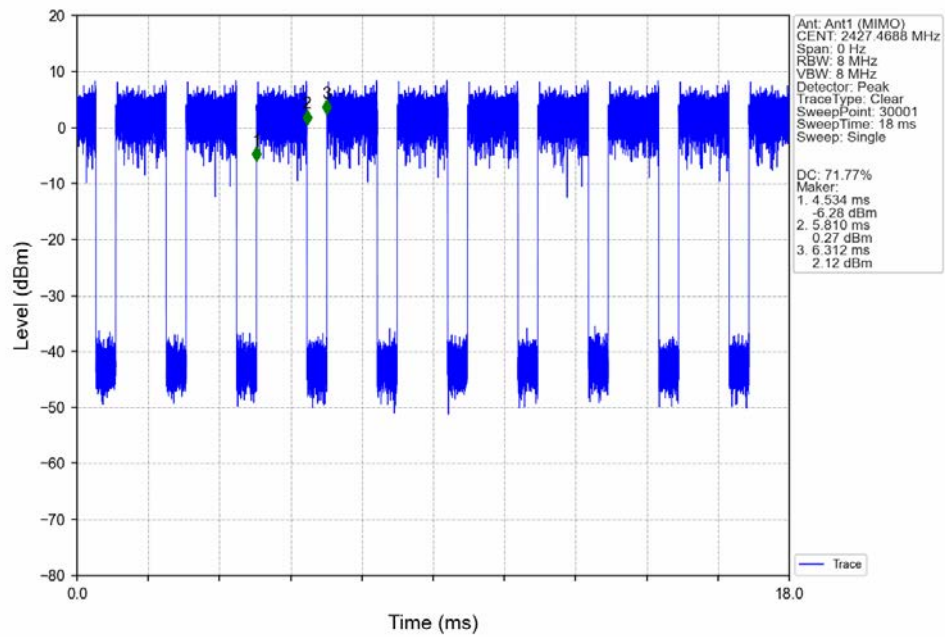
802.11n(HT40) HCH_2452MHz_Ant1 (MIMO) NTN



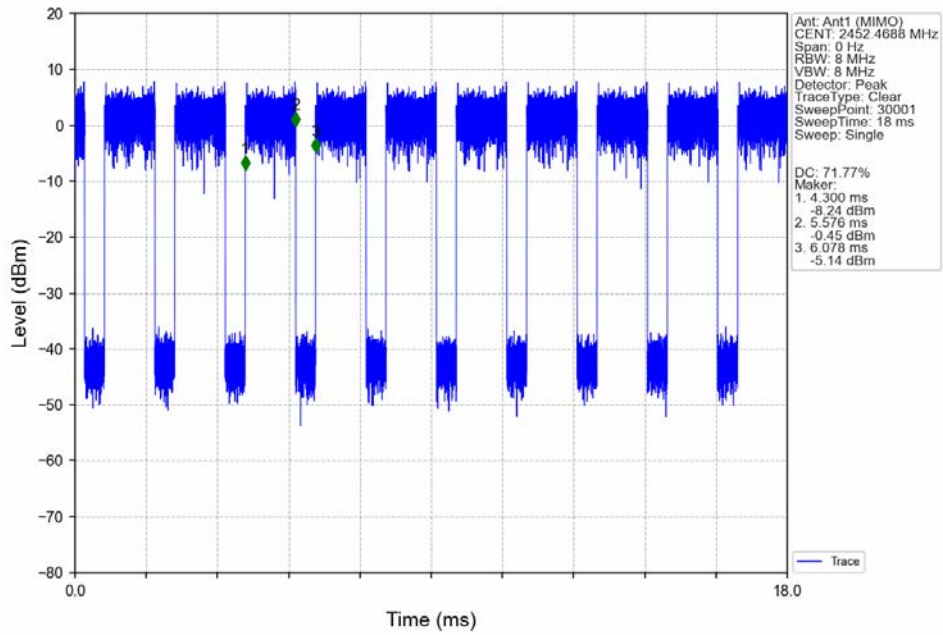
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



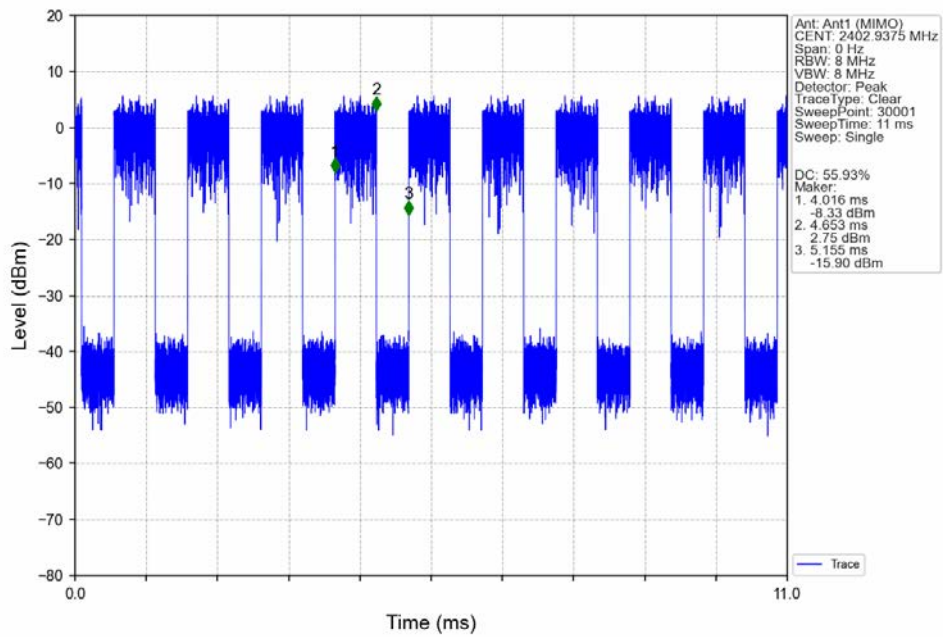
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



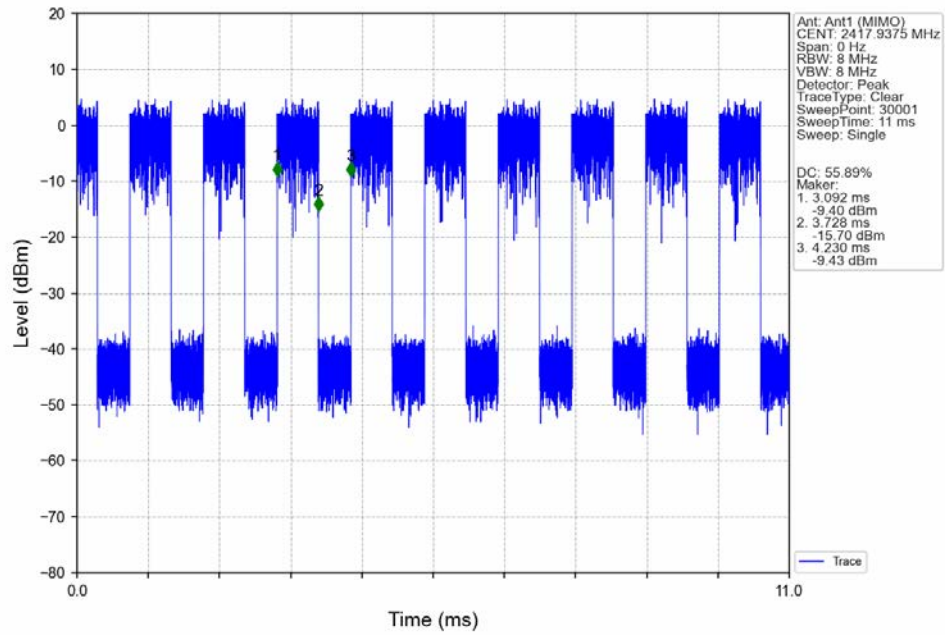
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



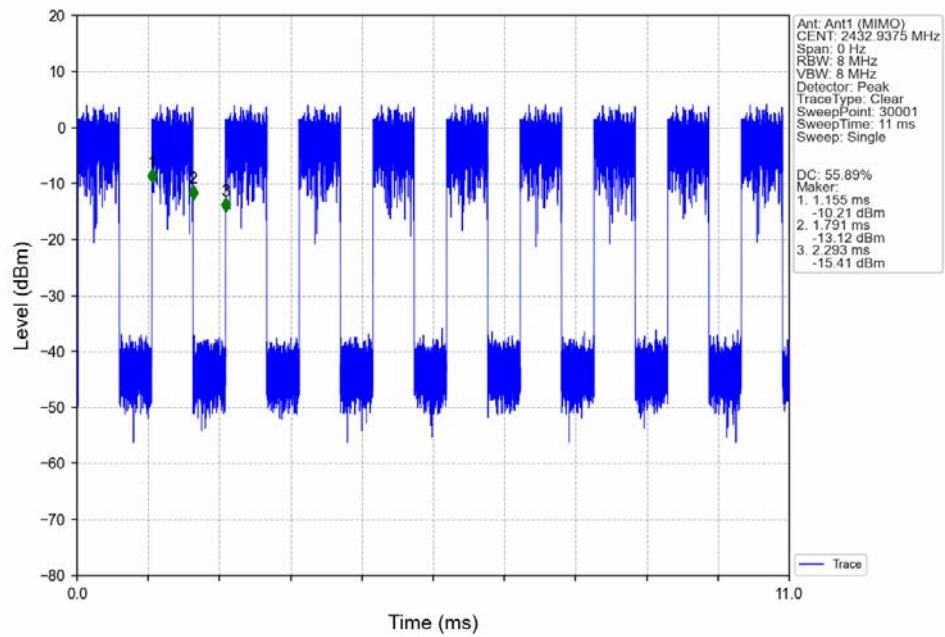
802.11ax(HEW40)_LCH 2422MHz_SU / Ant1 (MIMO) NTN



802.11ax(HEW40) MCH 2437MHz SU / Ant1 (MIMO) NTN



802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTN



2. Bandwidth

2.1 Test Result

2.1.1 OBW

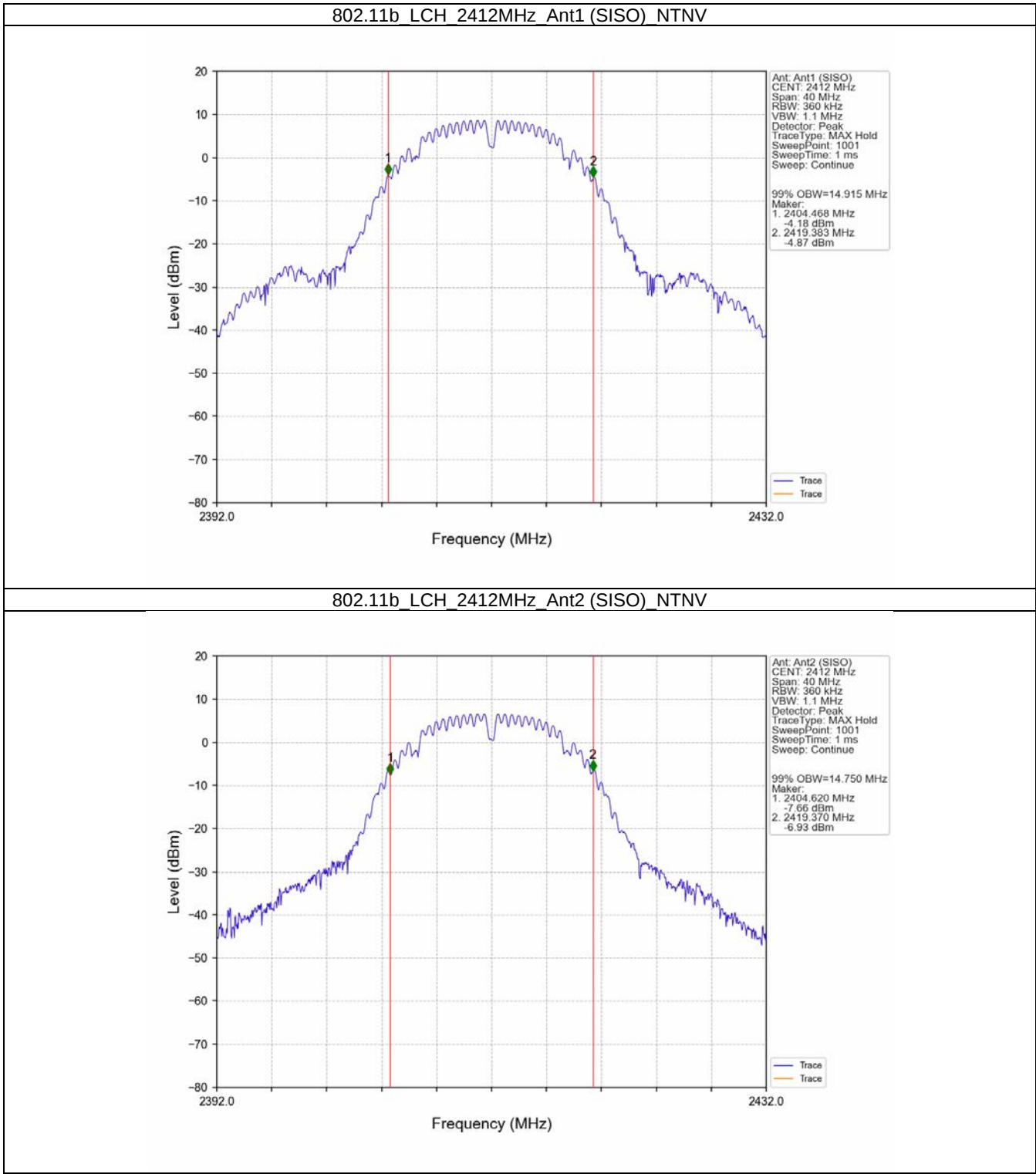
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	14.915	/	Pass
					2	14.750	/	Pass
		2437	/	/	1	14.758	/	Pass
					2	14.741	/	Pass
		2462	/	/	1	14.803	/	Pass
					2	14.707	/	Pass
802.11g	SISO	2412	/	/	1	17.345	/	Pass
					2	17.319	/	Pass
		2437	/	/	1	17.217	/	Pass
					2	17.286	/	Pass
		2462	/	/	1	17.229	/	Pass
					2	17.257	/	Pass
802.11n (HT20)	MIMO	2412	/	/	1	18.351	/	Pass
					2	18.512	/	Pass
		2437	/	/	1	18.377	/	Pass
					2	18.493	/	Pass
		2462	/	/	1	18.399	/	Pass
					2	18.424	/	Pass
802.11n (HT40)	MIMO	2422	/	/	1	36.557	/	Pass
					2	36.845	/	Pass
		2437	/	/	1	36.580	/	Pass
					2	36.873	/	Pass
		2452	/	/	1	36.585	/	Pass
					2	36.863	/	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	1	18.315	/	Pass
					2	18.482	/	Pass
		2437	SU	/	1	18.351	/	Pass
					2	18.422	/	Pass
		2462	SU	/	1	18.356	/	Pass
					2	18.365	/	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	1	36.346	/	Pass
					2	36.614	/	Pass
		2437	SU	/	1	36.388	/	Pass
					2	36.653	/	Pass
		2452	SU	/	1	36.388	/	Pass
					2	36.614	/	Pass

2.1.2 6dB BW

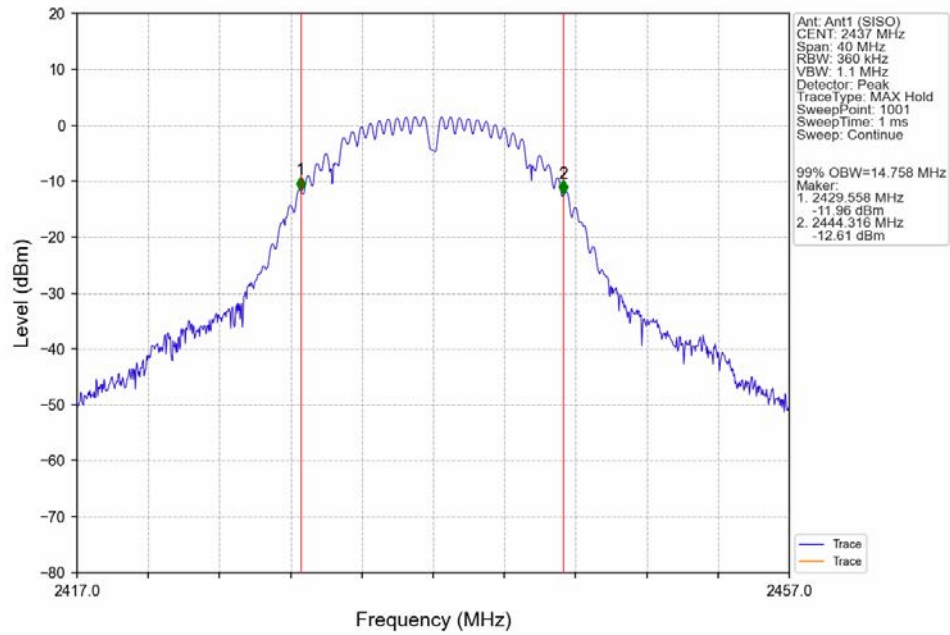
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	10.144	>=0.5	Pass
					2	10.149	>=0.5	Pass
		2437	/	/	1	10.152	>=0.5	Pass
					2	10.149	>=0.5	Pass
		2462	/	/	1	10.148	>=0.5	Pass
					2	10.143	>=0.5	Pass
802.11g	SISO	2412	/	/	1	15.382	>=0.5	Pass
					2	15.376	>=0.5	Pass
		2437	/	/	1	15.678	>=0.5	Pass
					2	15.369	>=0.5	Pass
		2462	/	/	1	15.692	>=0.5	Pass
					2	15.844	>=0.5	Pass
802.11n (HT20)	MIMO	2412	/	/	1	15.705	>=0.5	Pass
					2	15.696	>=0.5	Pass
		2437	/	/	1	16.319	>=0.5	Pass
					2	15.697	>=0.5	Pass
		2462	/	/	1	16.475	>=0.5	Pass
					2	15.838	>=0.5	Pass
802.11n (HT40)	MIMO	2422	/	/	1	35.499	>=0.5	Pass
					2	35.194	>=0.5	Pass
		2437	/	/	1	35.518	>=0.5	Pass
					2	35.197	>=0.5	Pass
		2452	/	/	1	35.481	>=0.5	Pass
					2	35.200	>=0.5	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	1	15.387	>=0.5	Pass
					2	15.742	>=0.5	Pass
		2437	SU	/	1	15.396	>=0.5	Pass
					2	15.733	>=0.5	Pass
		2462	SU	/	1	15.761	>=0.5	Pass
					2	15.190	>=0.5	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	1	35.192	>=0.5	Pass
					2	35.196	>=0.5	Pass
		2437	SU	/	1	35.218	>=0.5	Pass
					2	35.200	>=0.5	Pass
		2452	SU	/	1	35.221	>=0.5	Pass
					2	35.179	>=0.5	Pass

2.2 Test Graph

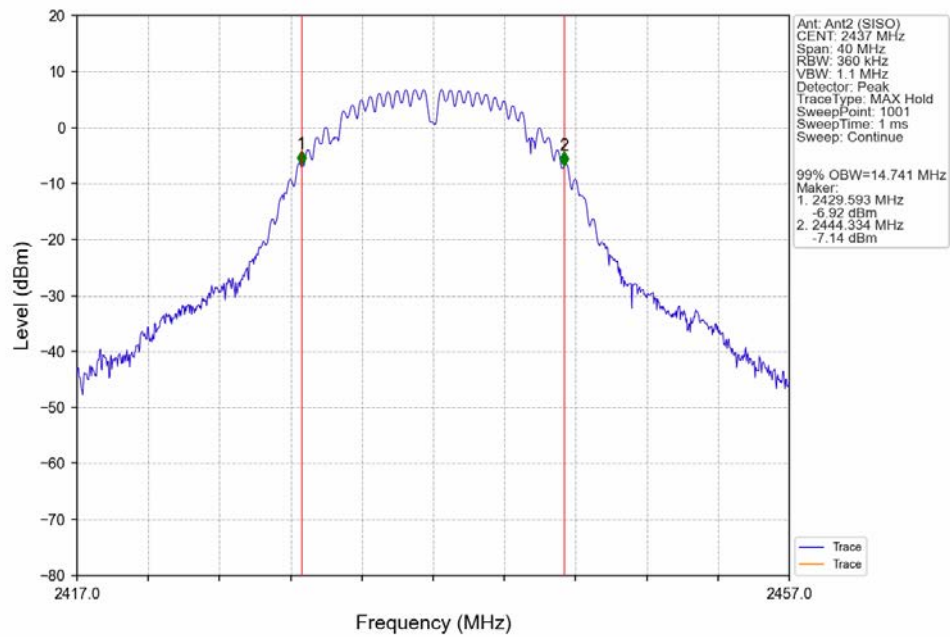
2.2.1 OBW



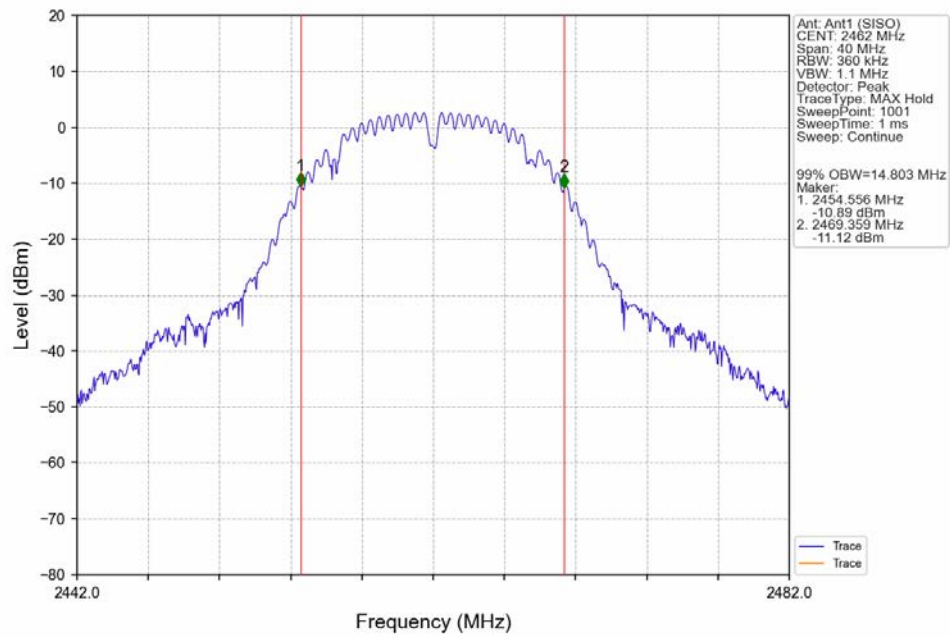
802.11b MCH 2437MHz Ant1 (SISO) NTN



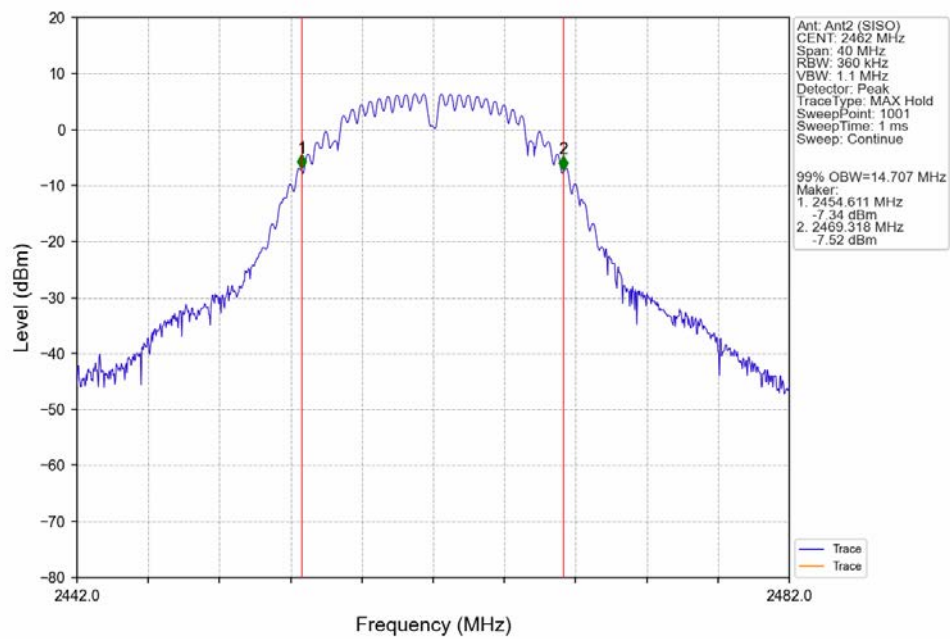
802.11b MCH 2437MHz Ant2 (SISO) NTN



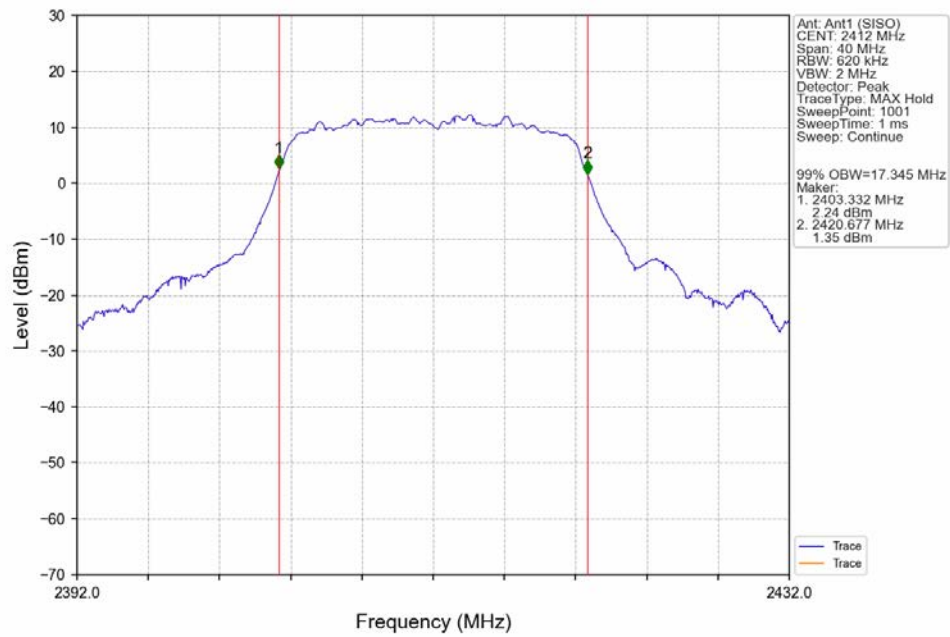
802.11b HCH 2462MHz Ant1 (SISO) NTN



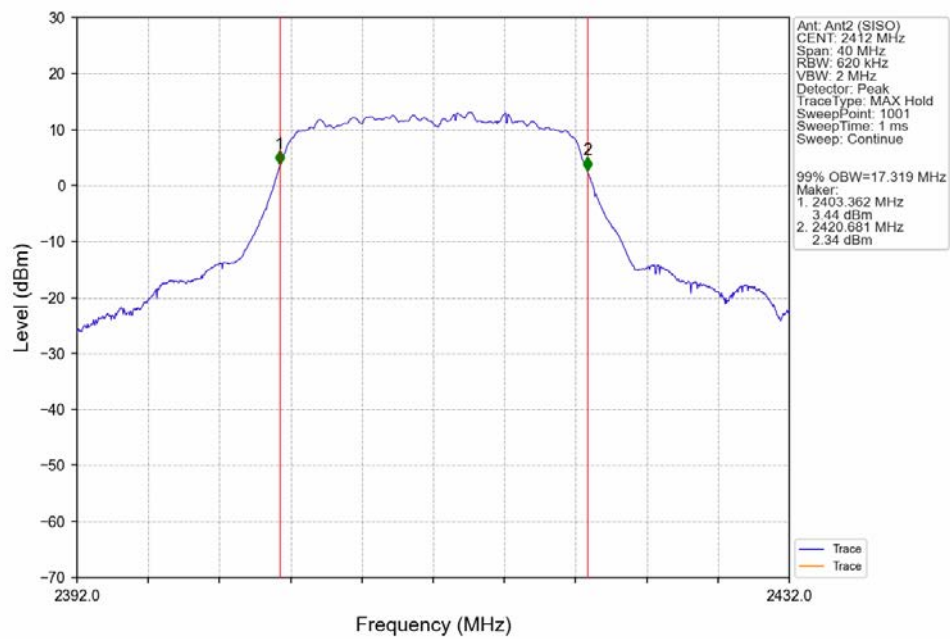
802.11b_HCH_2462MHz_Ant2 (SISO) NTN



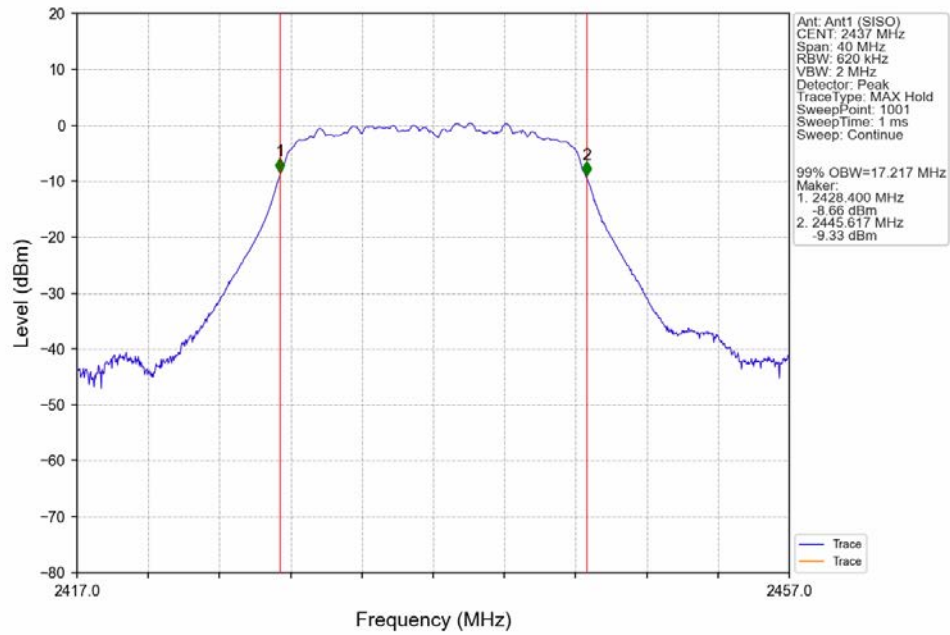
802.11g_LCH_2412MHz_Ant1 (SISO) NTN



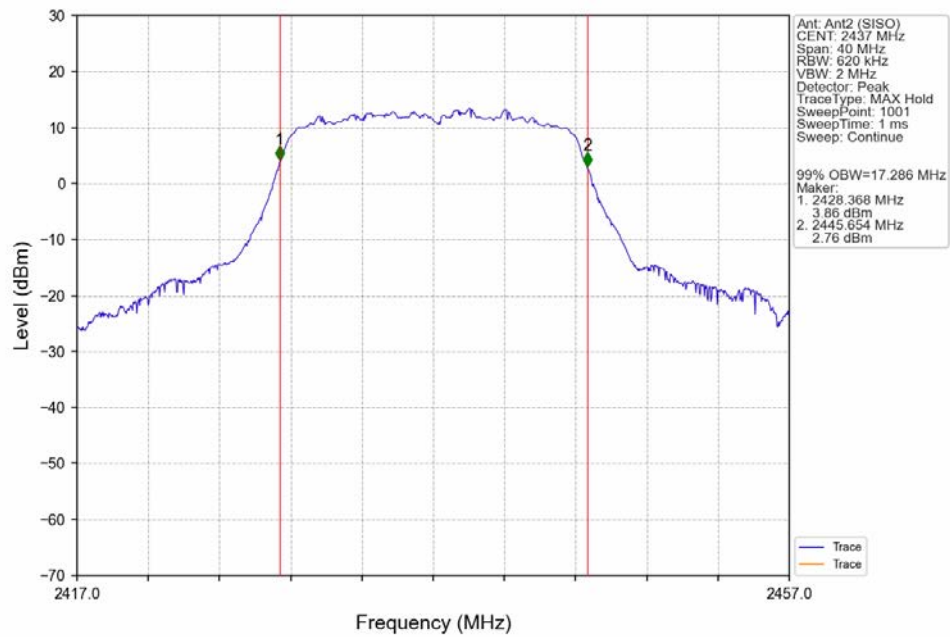
802.11g_LCH_2412MHz_Ant2 (SISO) NTN



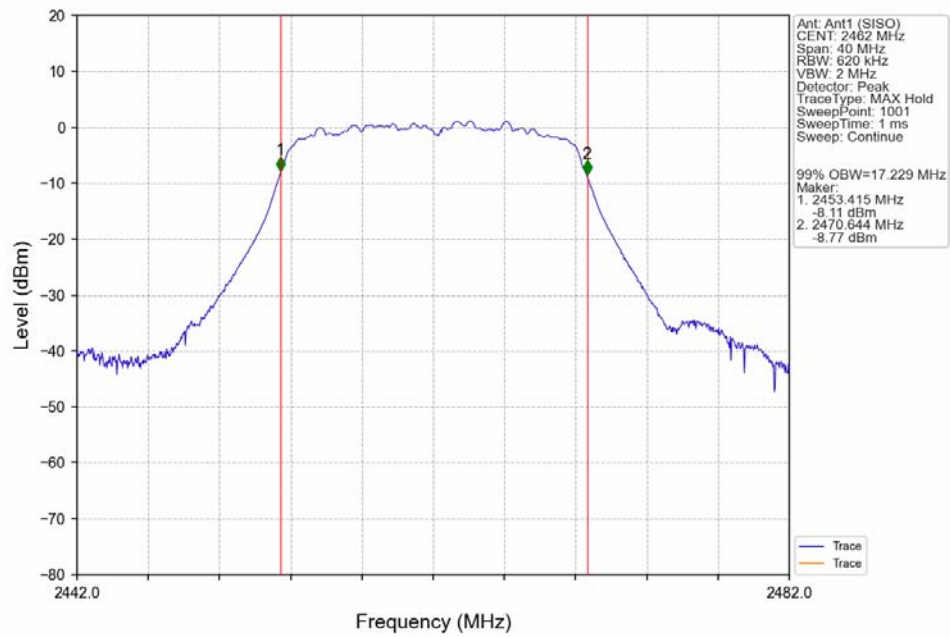
802.11g MCH 2437MHz Ant1 (SISO) NTN



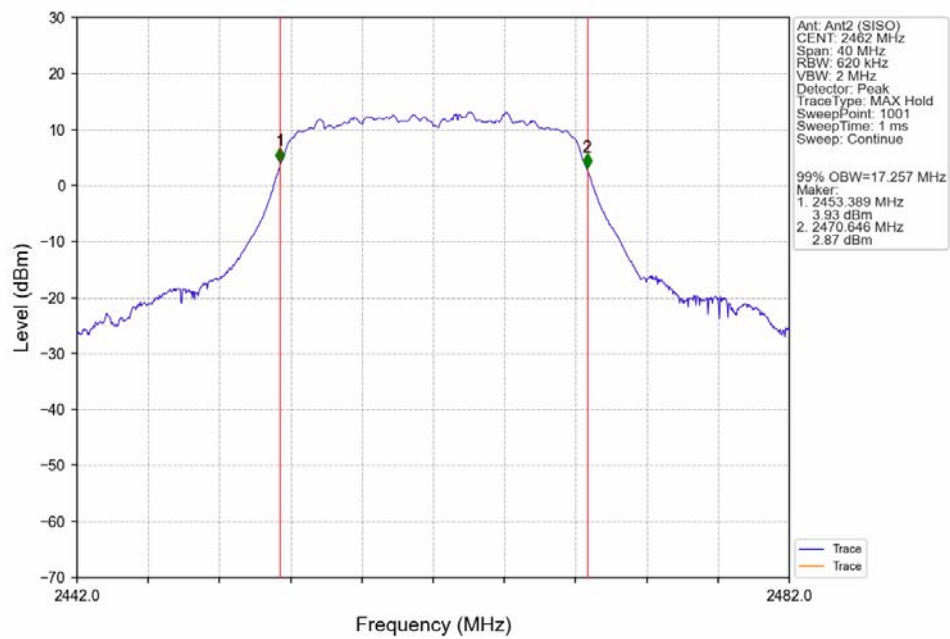
802.11g MCH 2437MHz Ant2 (SISO) NTN



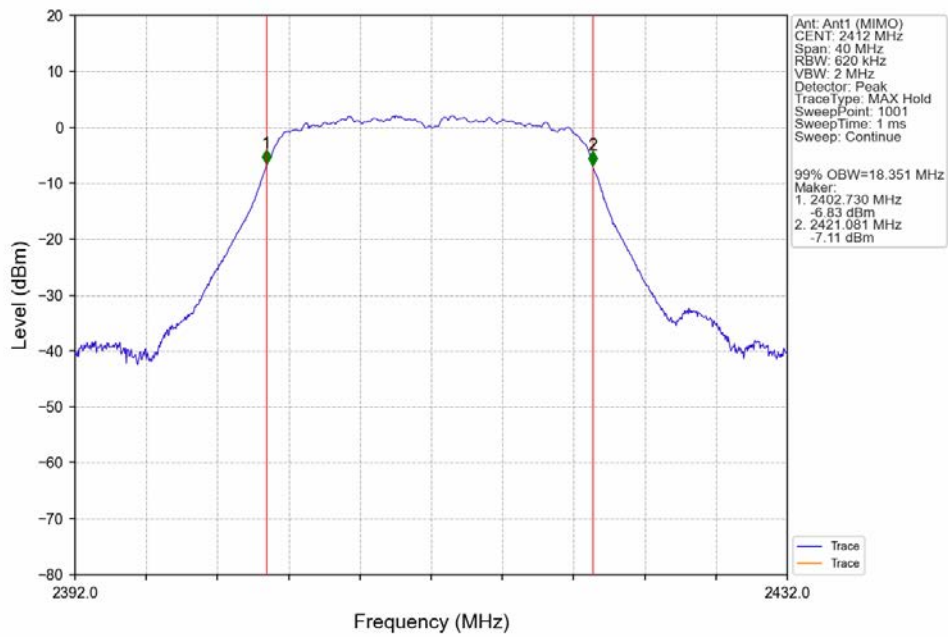
802.11g HCH 2462MHz Ant1 (SISO) NTN



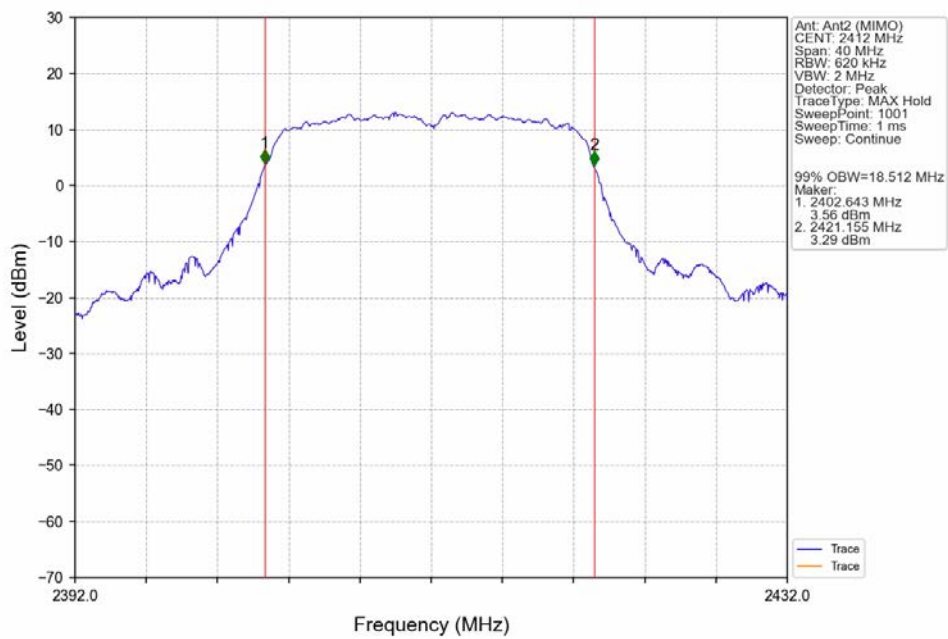
802.11g HCH 2462MHz Ant2 (SISO) NTN



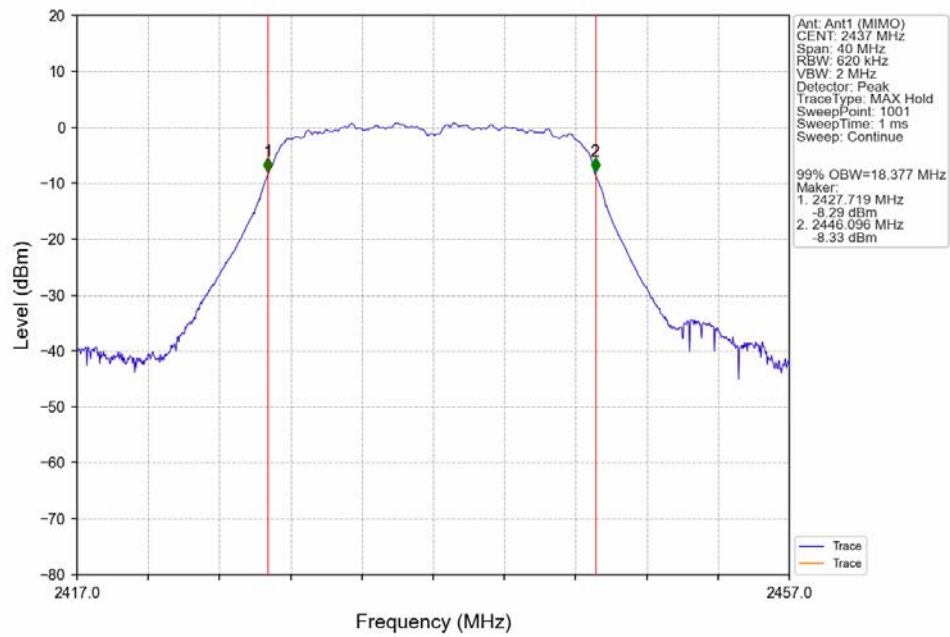
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO) NTN



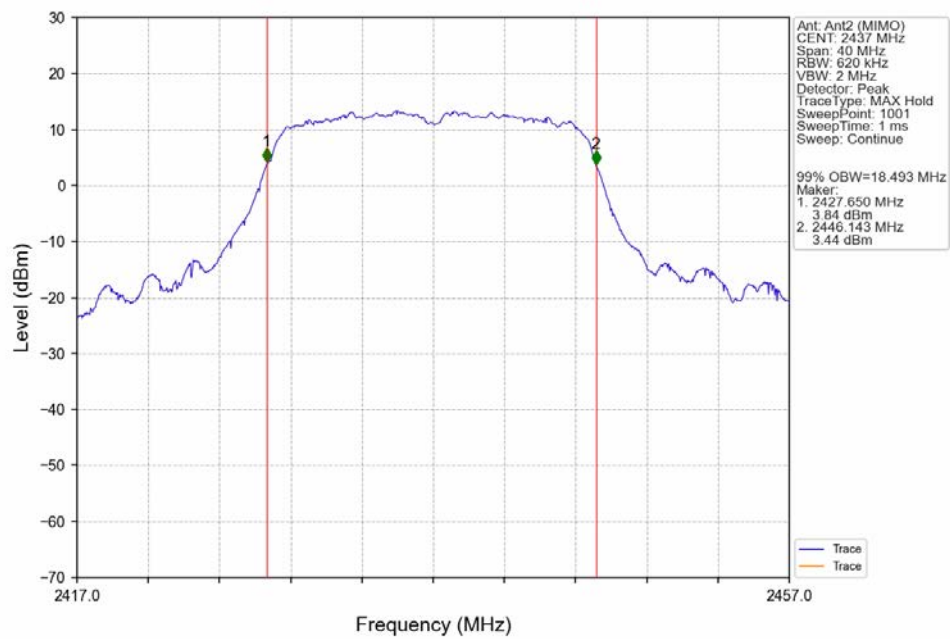
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO) NTN



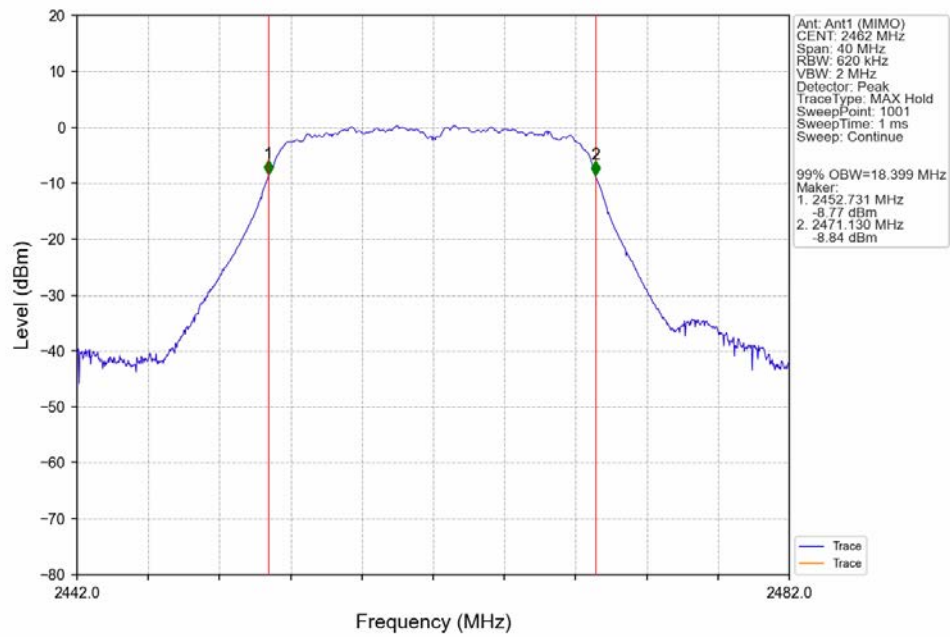
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTN



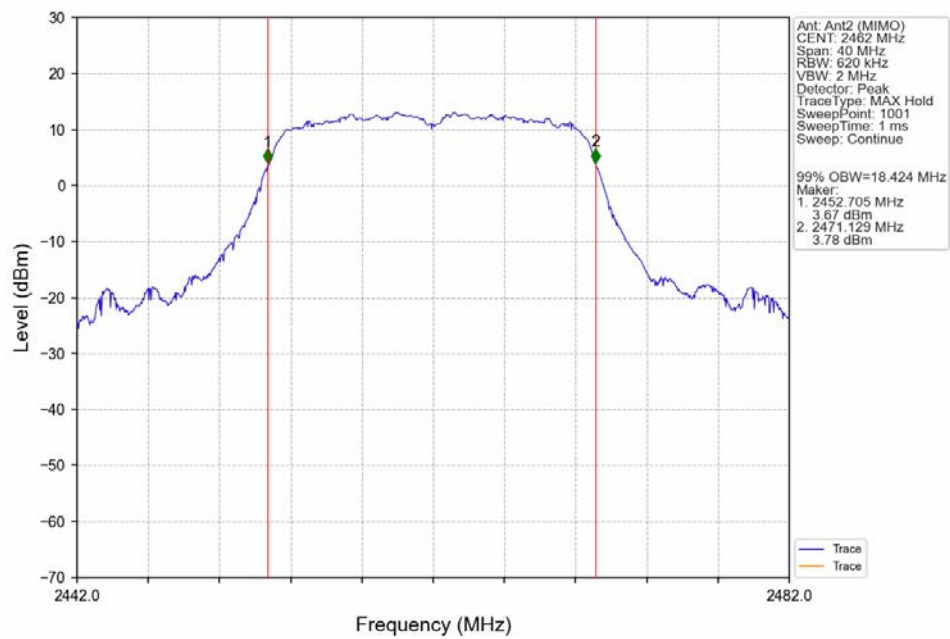
802.11n(HT20) MCH 2437MHz Ant2 (MIMO) NTN



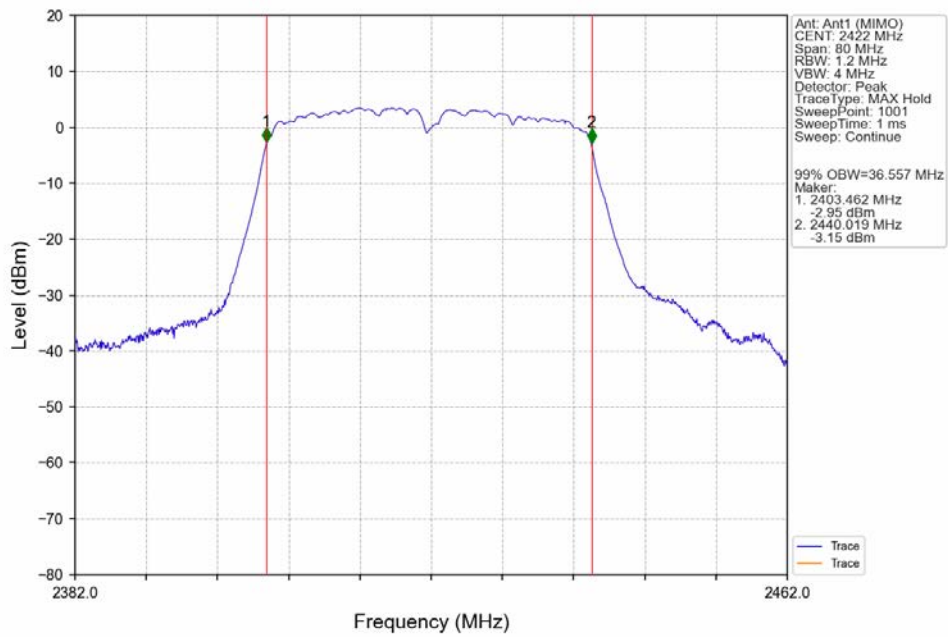
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTN



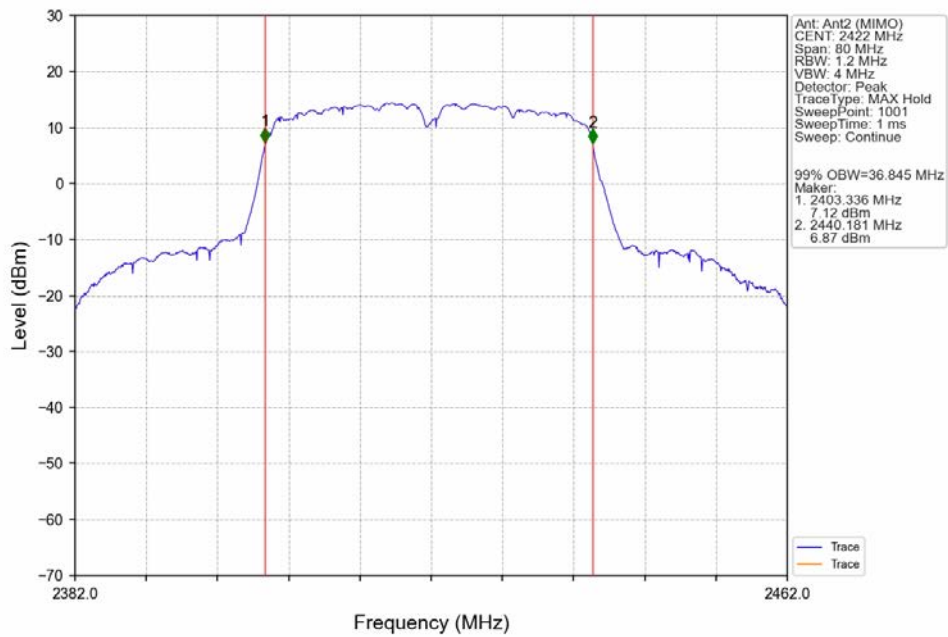
802.11n(HT20) HCH 2462MHz Ant2 (MIMO) NTN



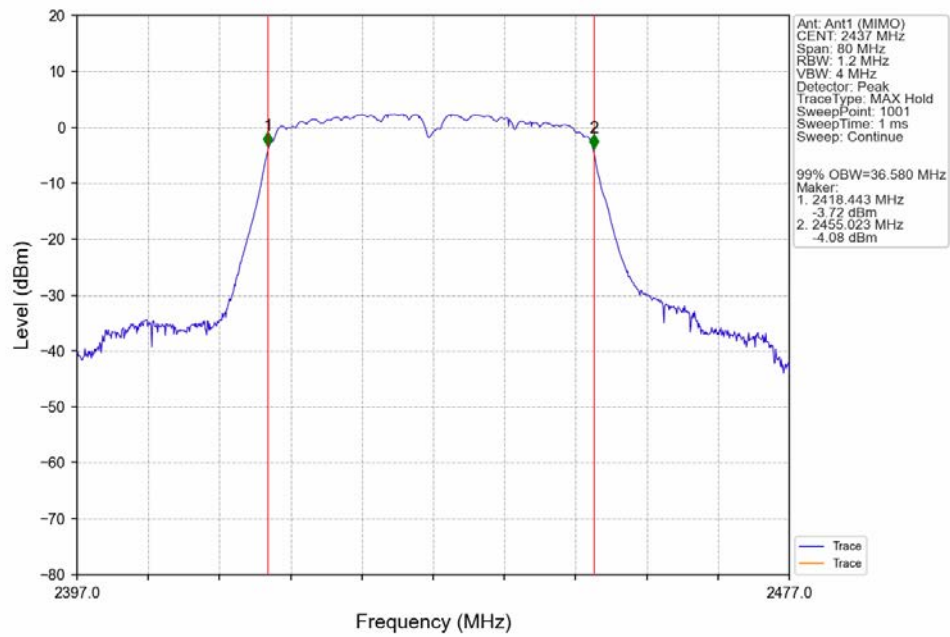
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTNV



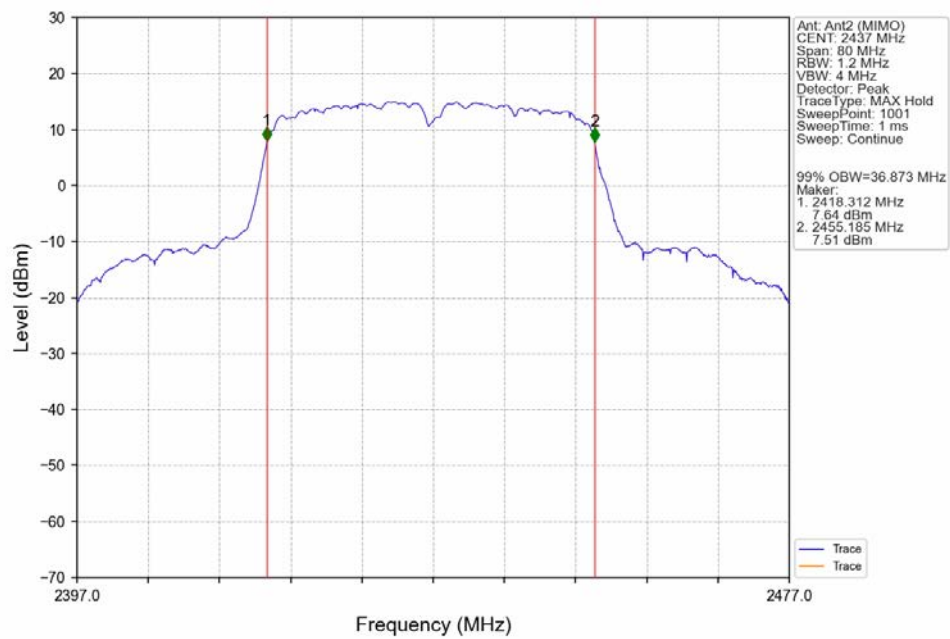
802.11n(HT40) LCH 2422MHz Ant2 (MIMO) NTNV



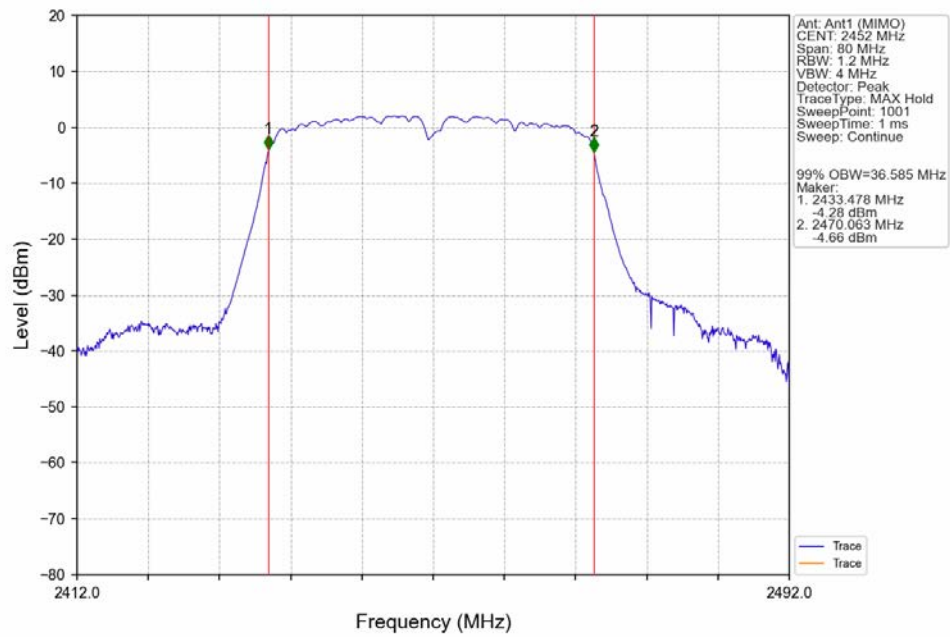
802.11n(HT40) MCH_2437MHz_Ant1 (MIMO) NTN



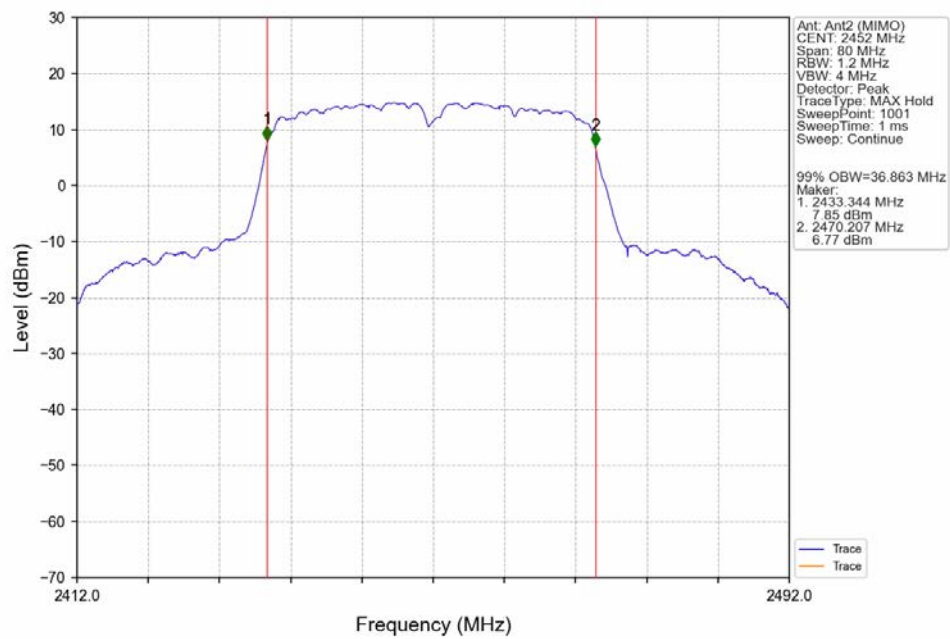
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTN



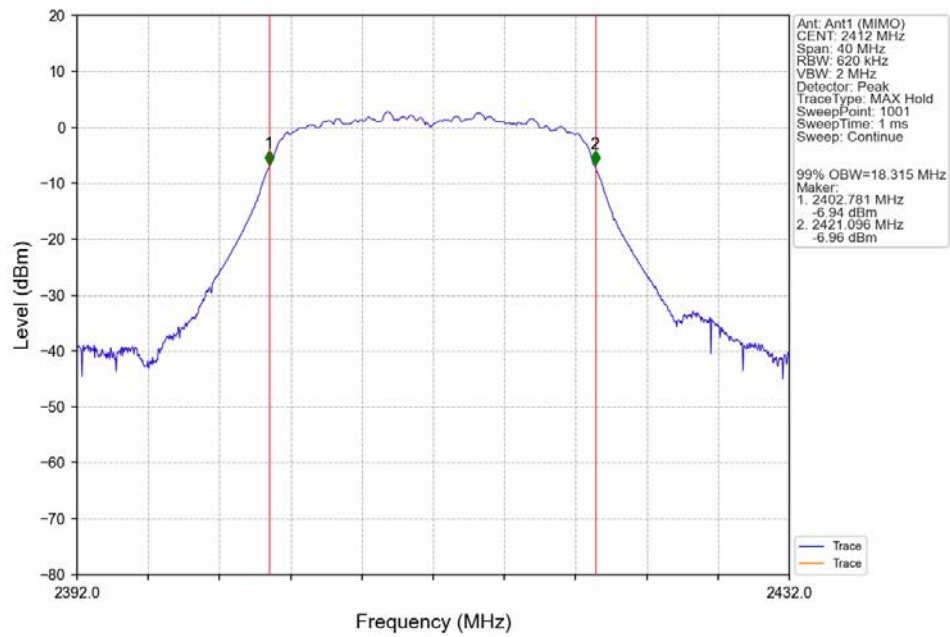
802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTN



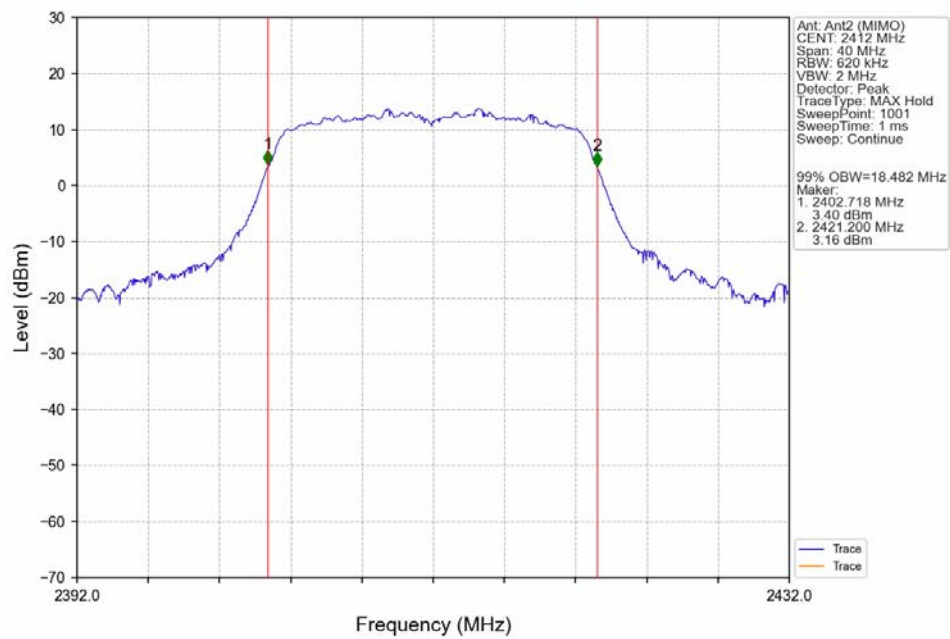
802.11n(HT40) HCH 2452MHz Ant2 (MIMO) NTN



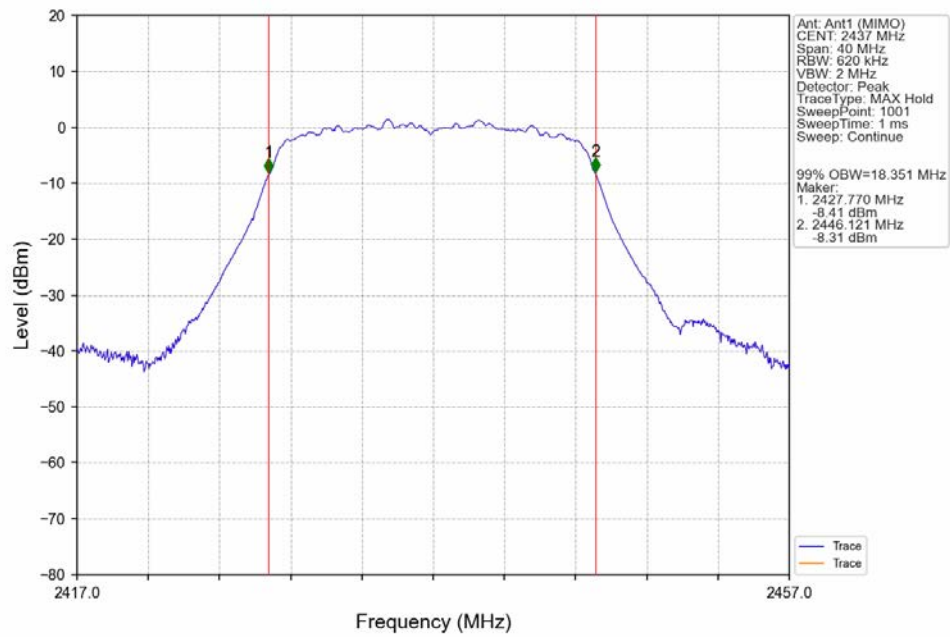
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



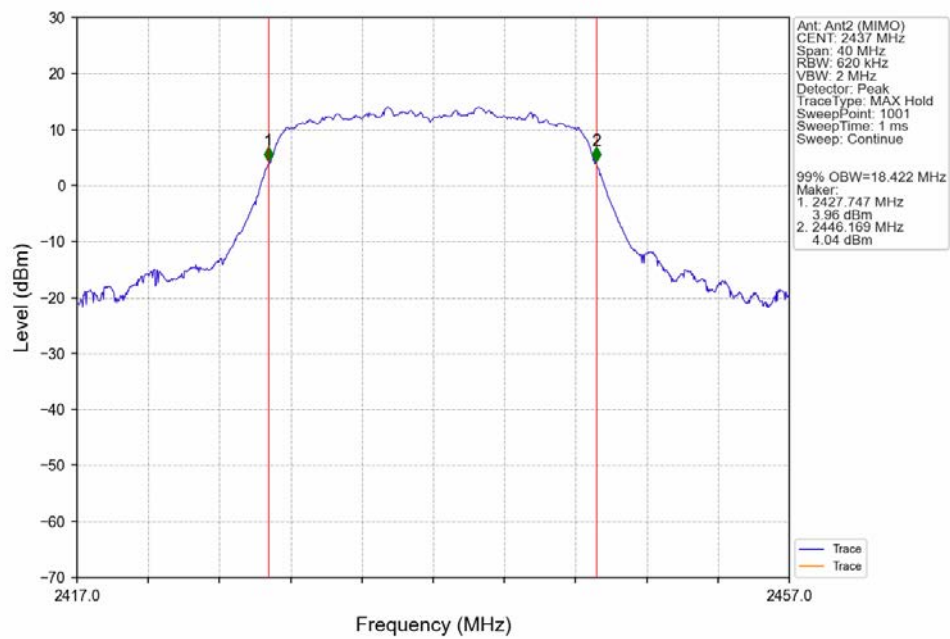
802.11ax(HEW20) LCH 2412MHz SU / Ant2 (MIMO) NTN



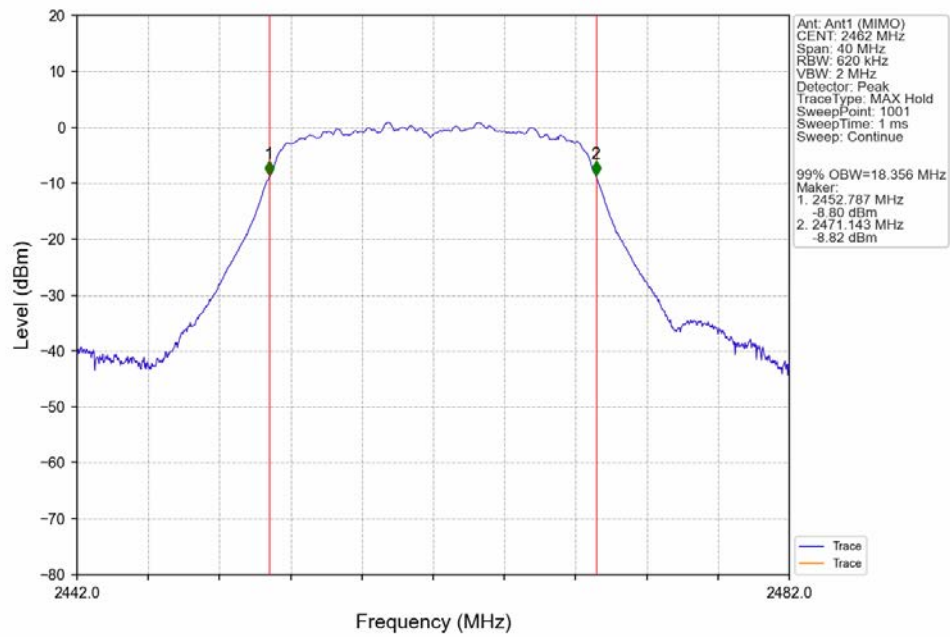
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



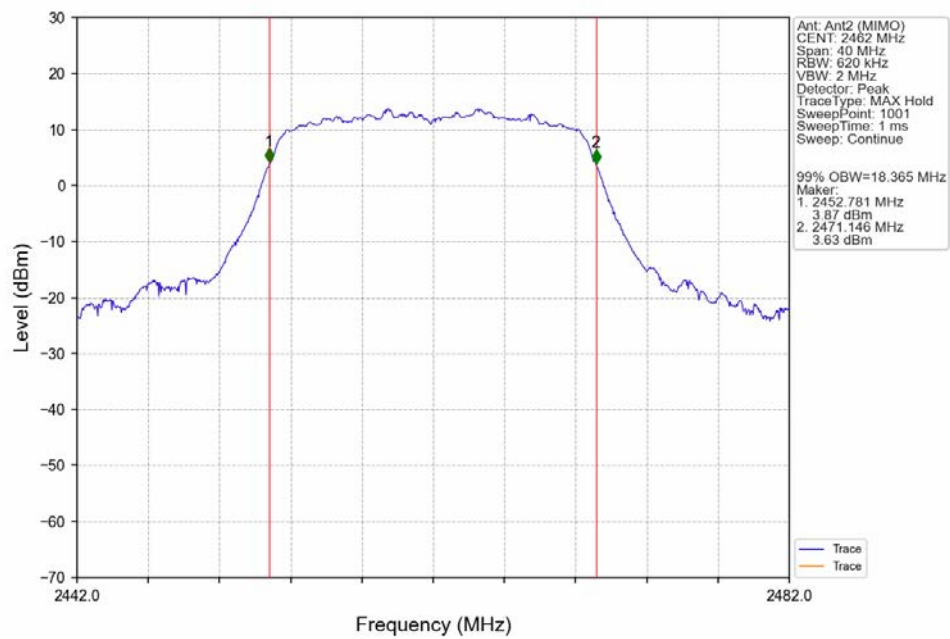
802.11ax(HEW20) MCH 2437MHz SU / Ant2 (MIMO) NTN



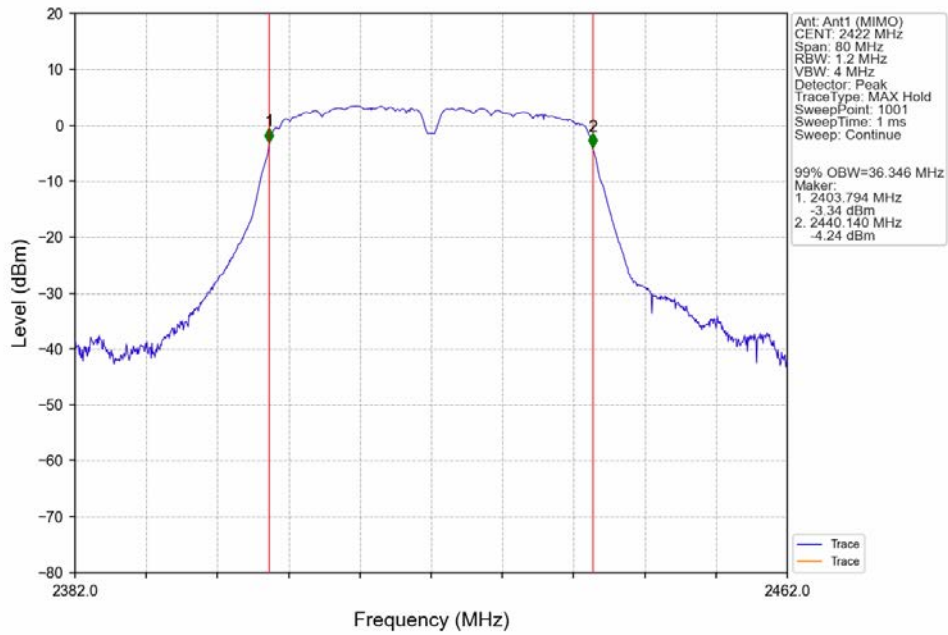
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



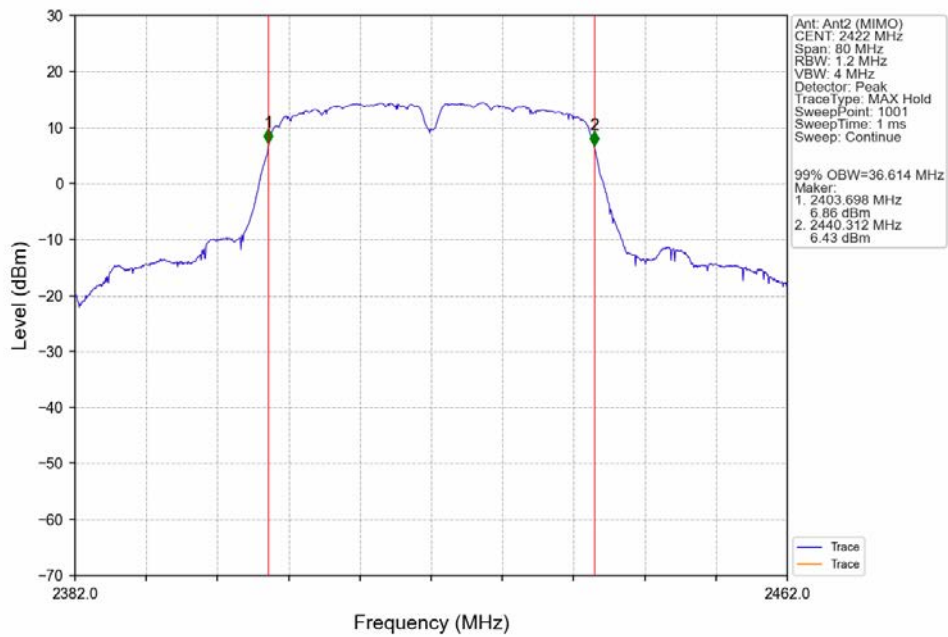
802.11ax(HEW20)_HCH_2462MHz_SU / Ant2 (MIMO)_NTN



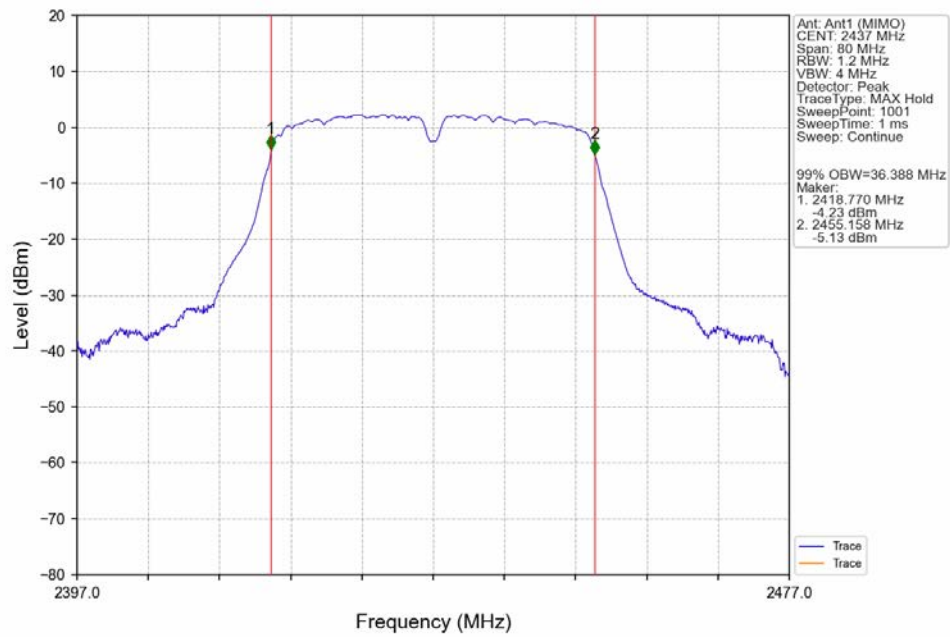
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



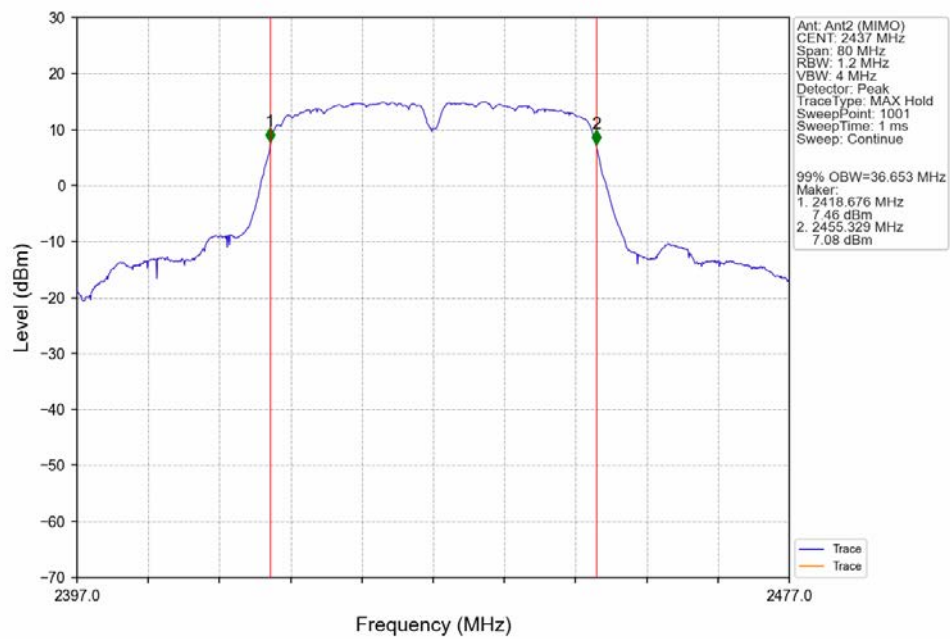
802.11ax(HEW40)_LCH_2422MHz_SU / _Ant2 (MIMO)_NTNV



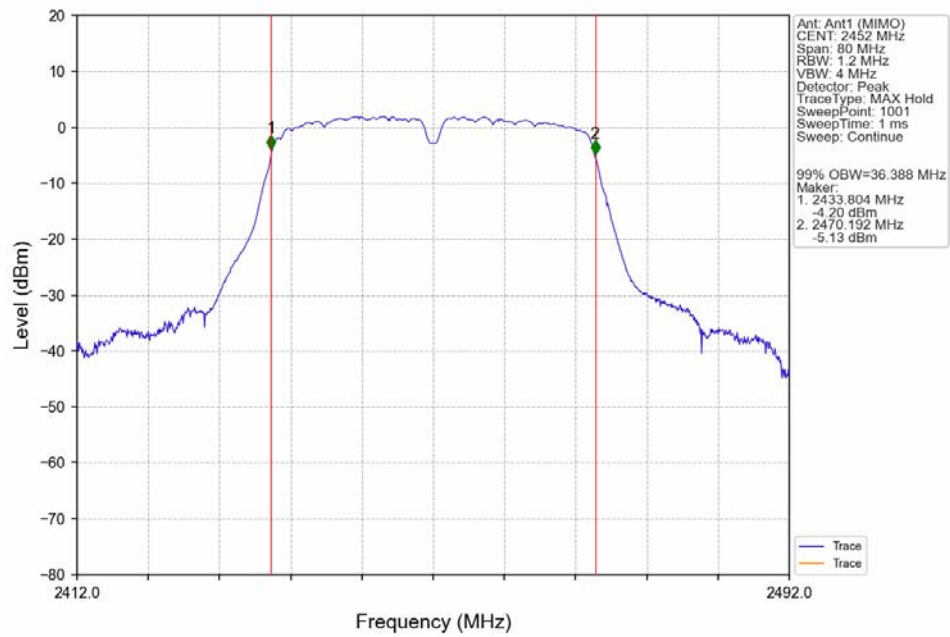
802.11ax(HEW40) MCH 2437MHz SU / Ant1 (MIMO) NTN



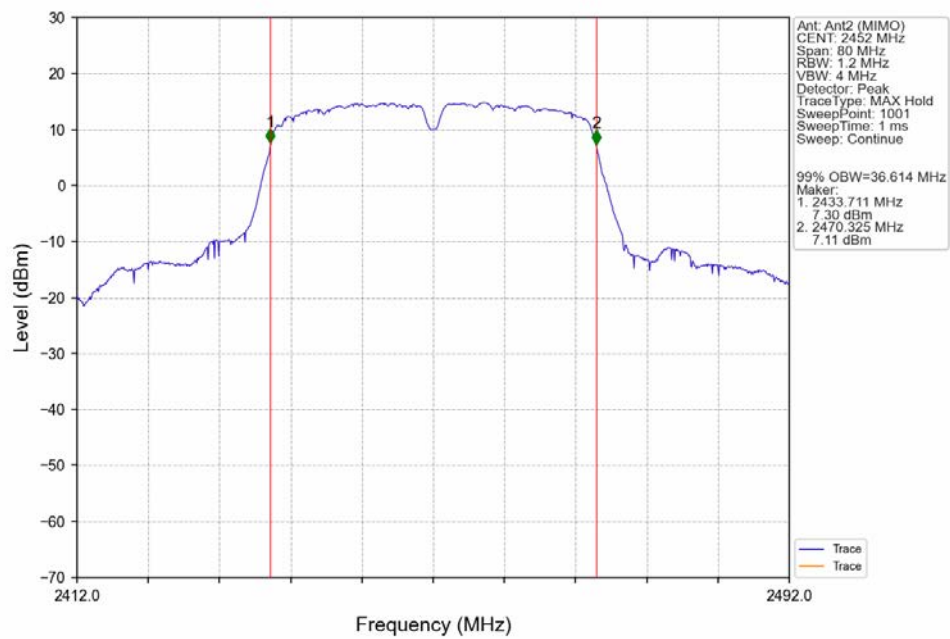
802.11ax(HEW40)_MCH_2437MHz_SU / Ant2 (MIMO)_NTN



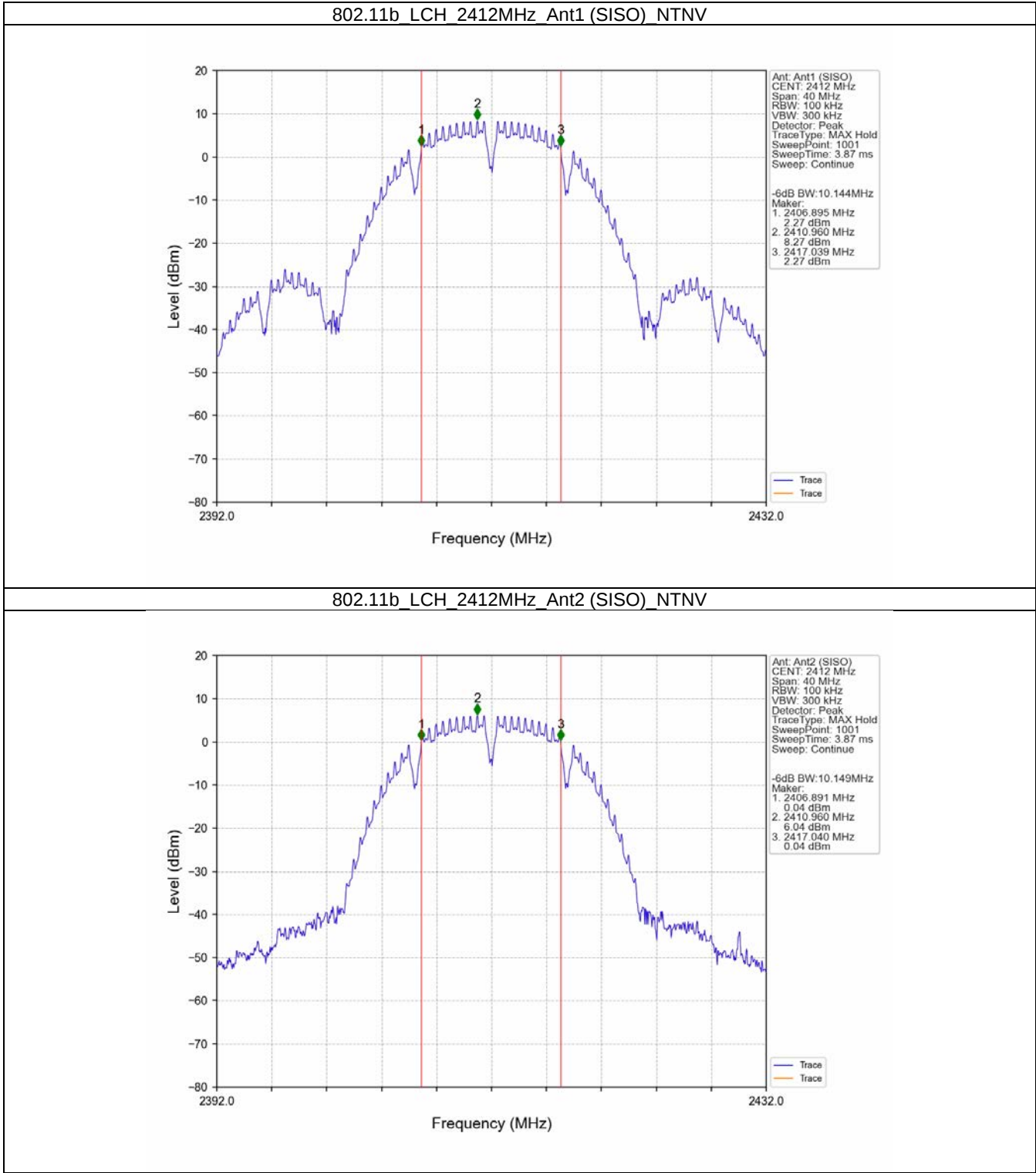
802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTN



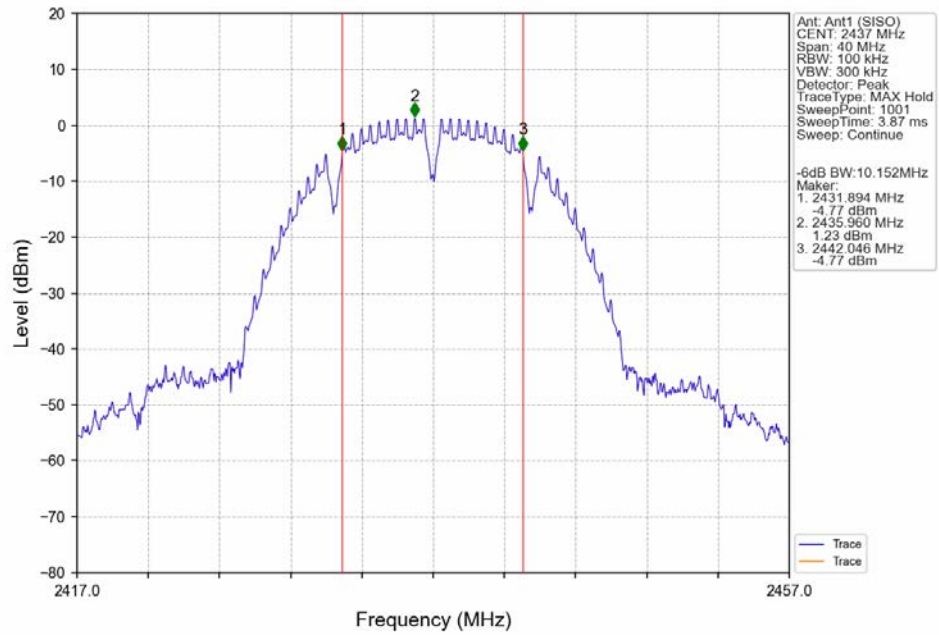
802.11ax(HEW40)_HCH_2452MHz_SU / Ant2 (MIMO)_NTN



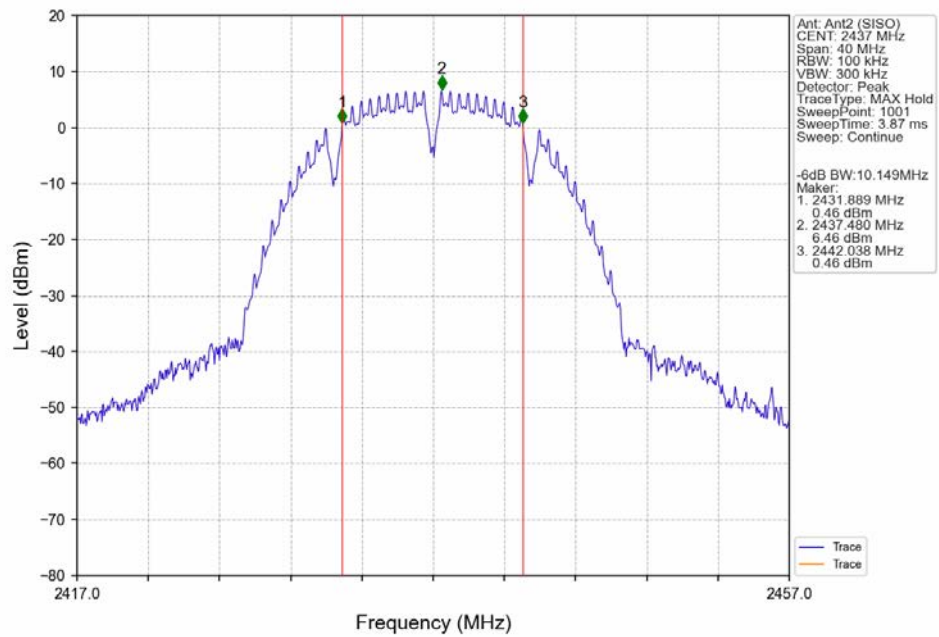
2.2.2 6dB BW



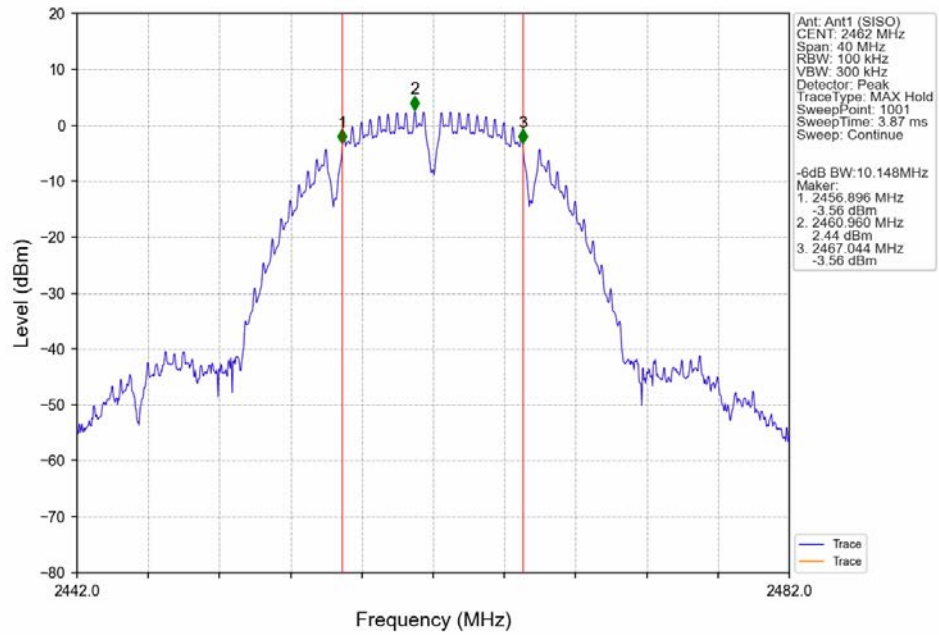
802.11b MCH 2437MHz Ant1 (SISO) NTN



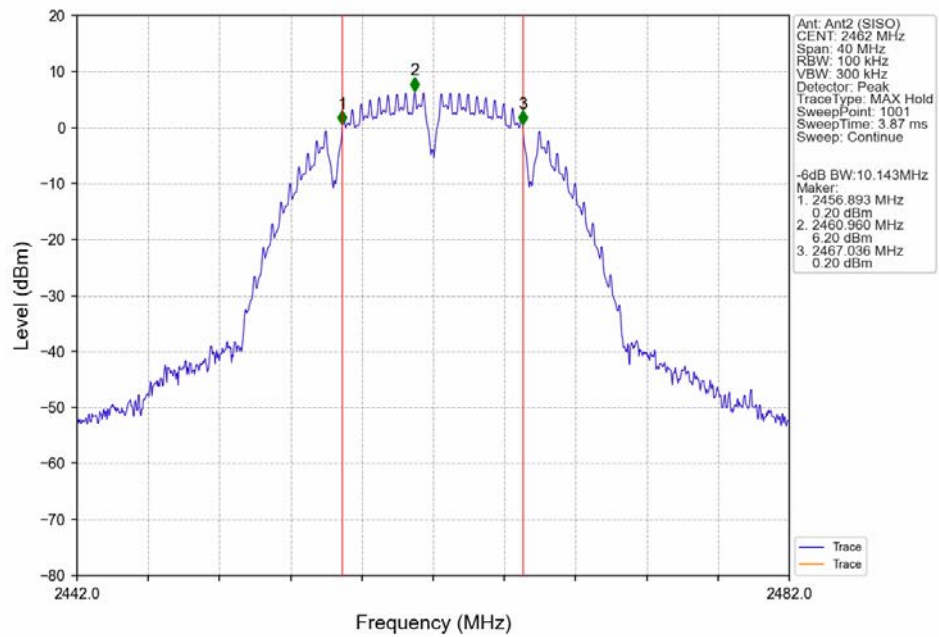
802.11b MCH 2437MHz Ant2 (SISO) NTN



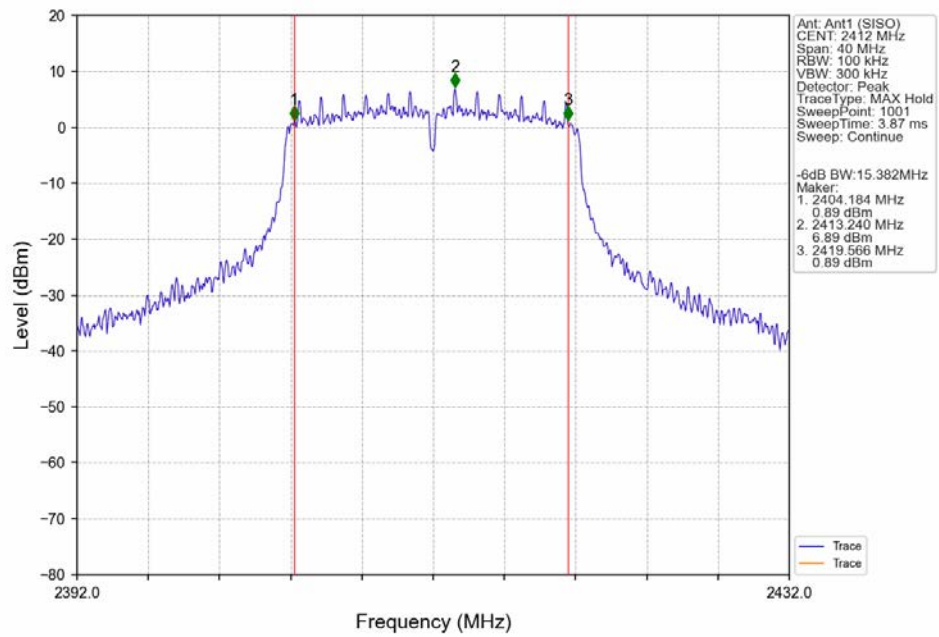
802.11b HCH 2462MHz Ant1 (SISO) NTN



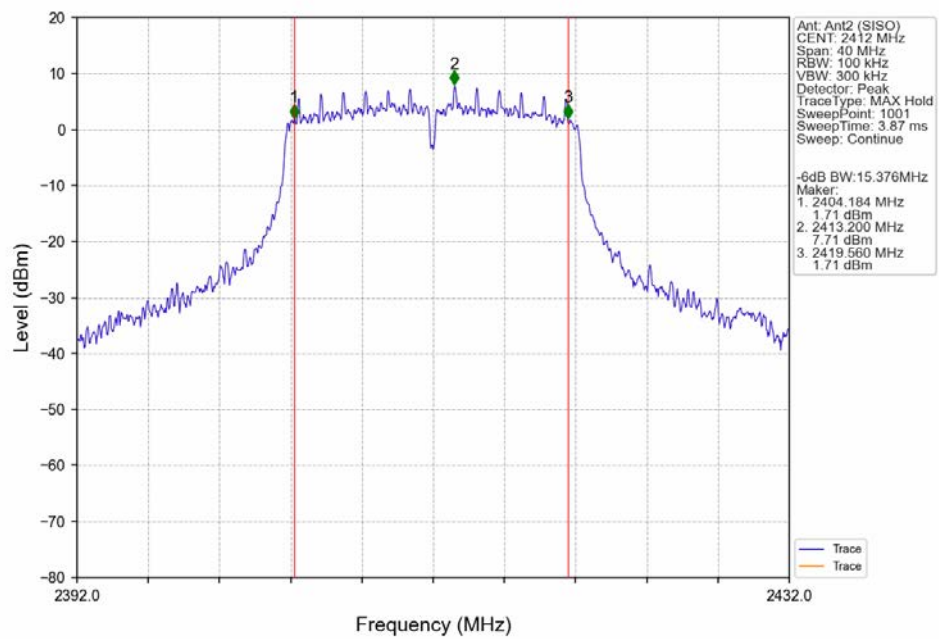
802.11b HCH 2462MHz Ant2 (SISO) NTN



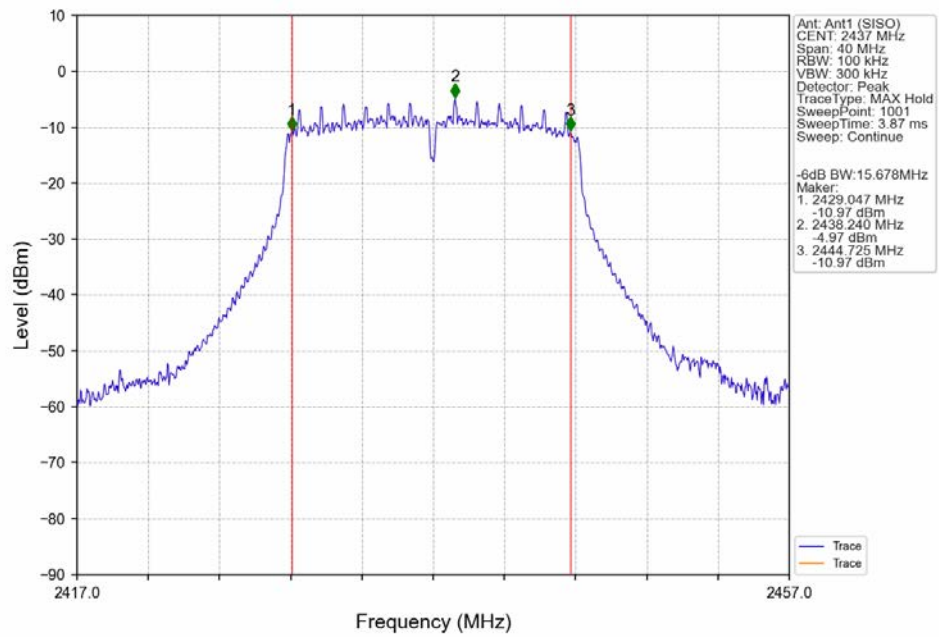
802.11g LCH 2412MHz Ant1 (SISO) NTN



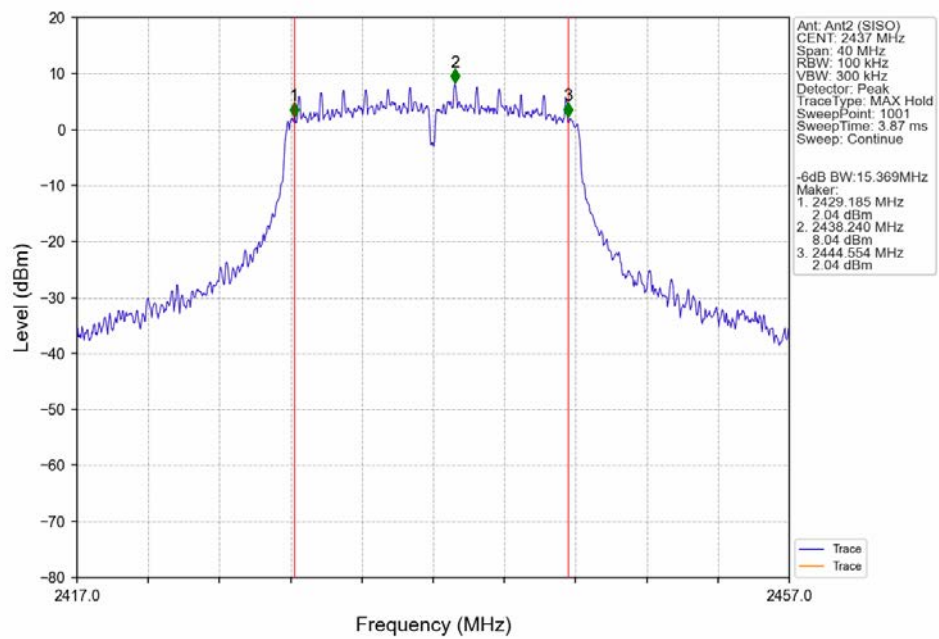
802.11g LCH 2412MHz Ant2 (SISO) NTN



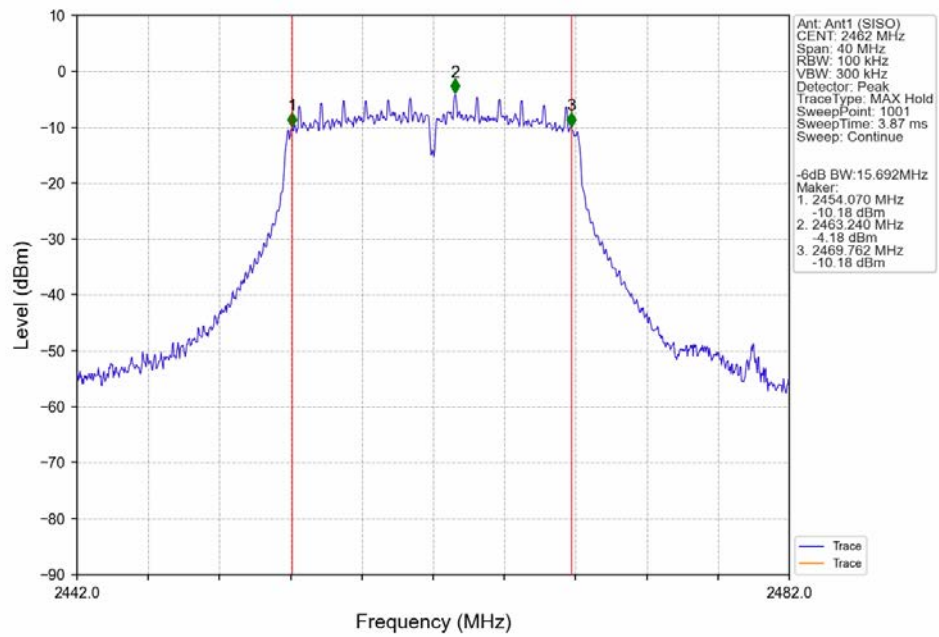
802.11g MCH 2437MHz Ant1 (SISO) NTN



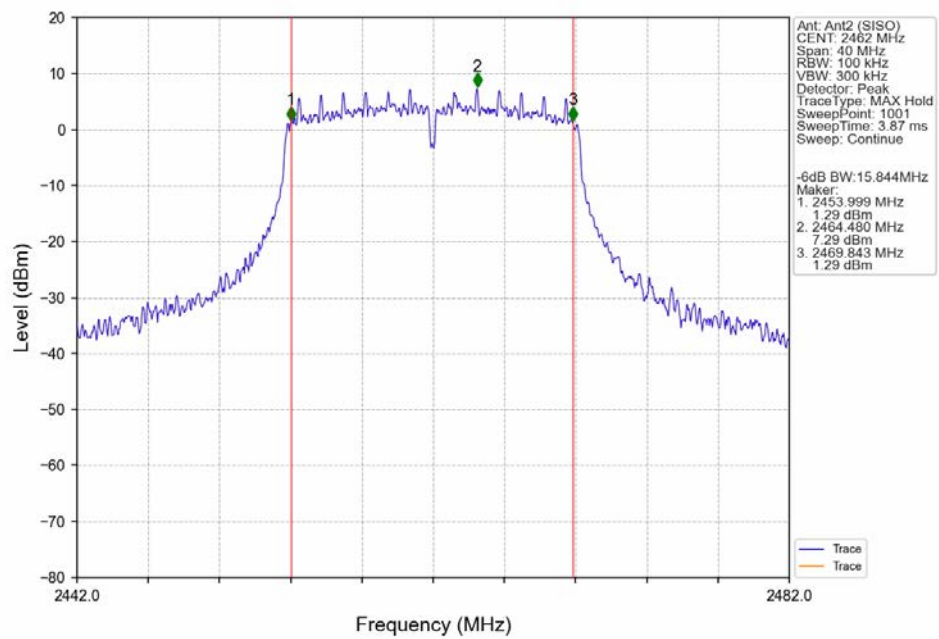
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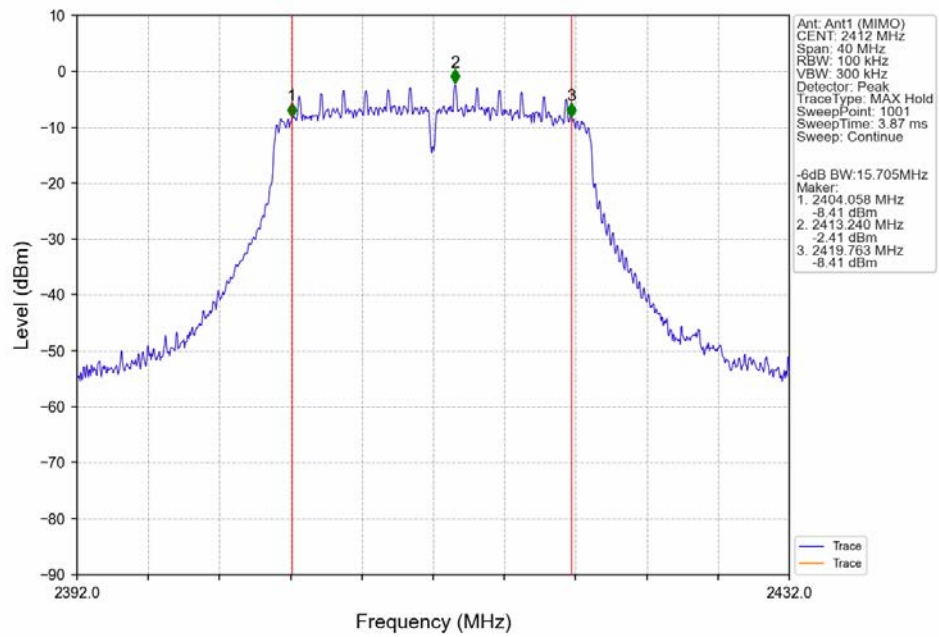
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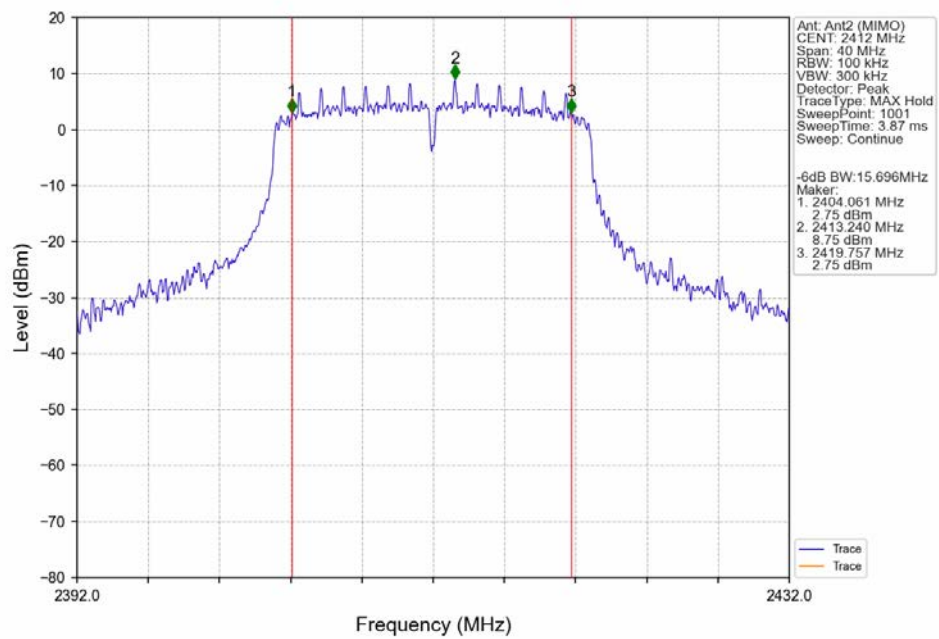
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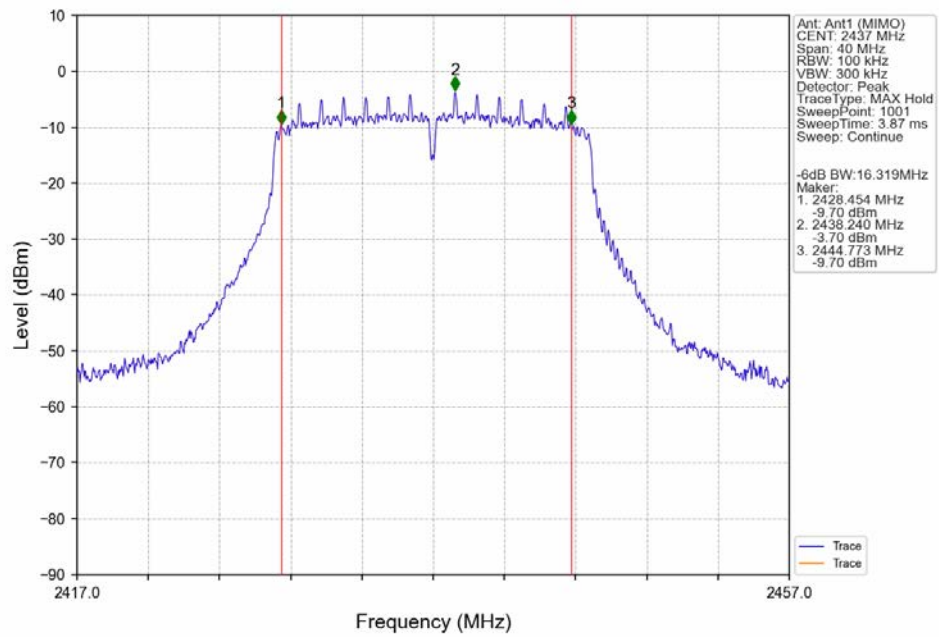
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTN



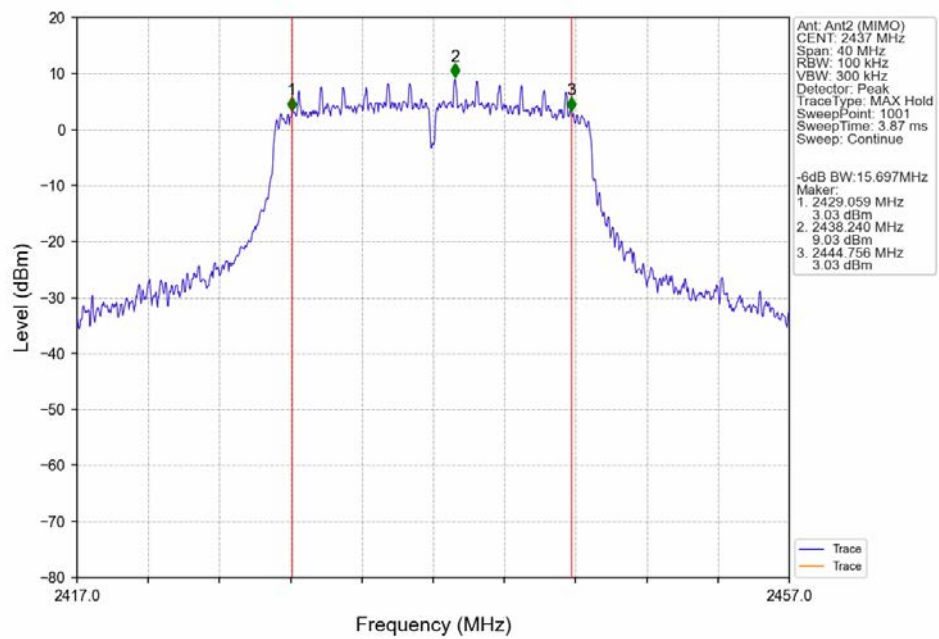
802.11n(HT20) LCH 2412MHz Ant2 (MIMO) NTN



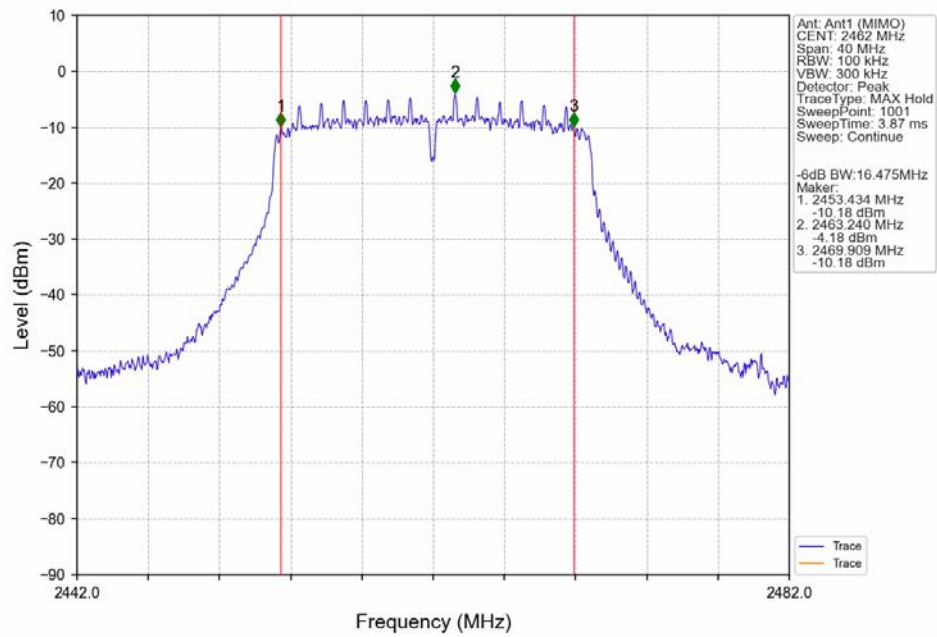
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTNV



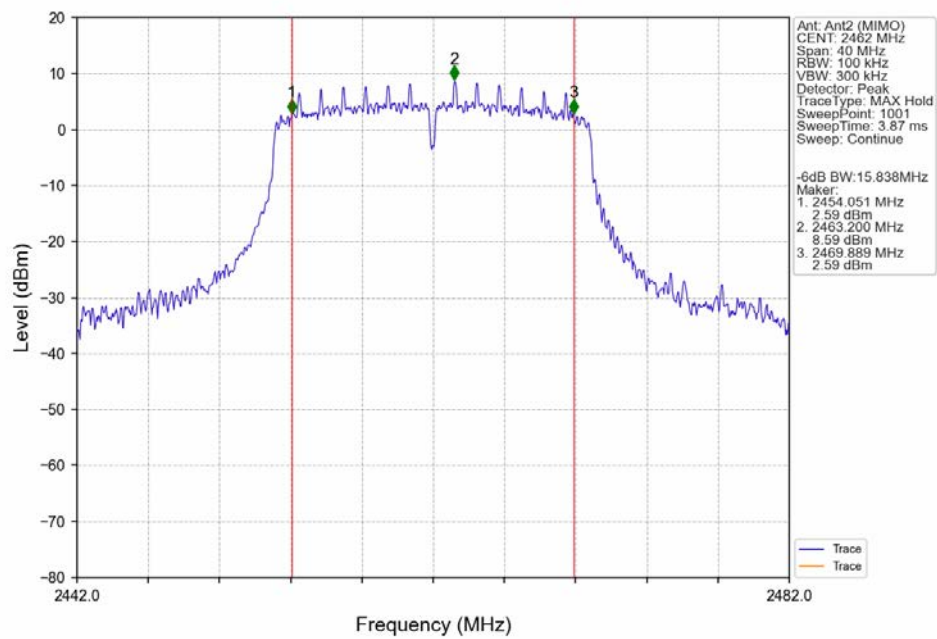
802.11n(HT20) MCH 2437MHz Ant2 (MIMO) NTNV



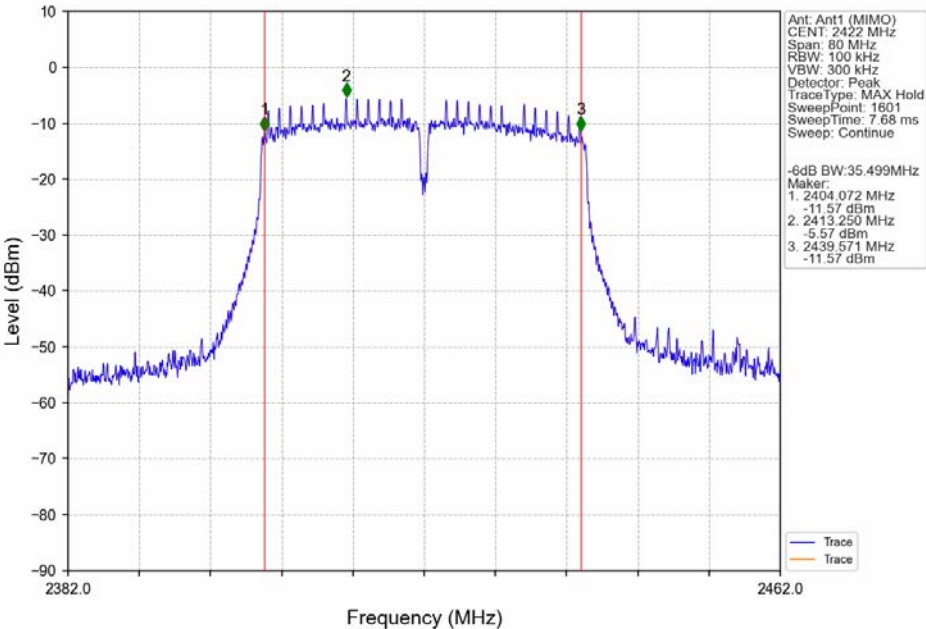
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTN



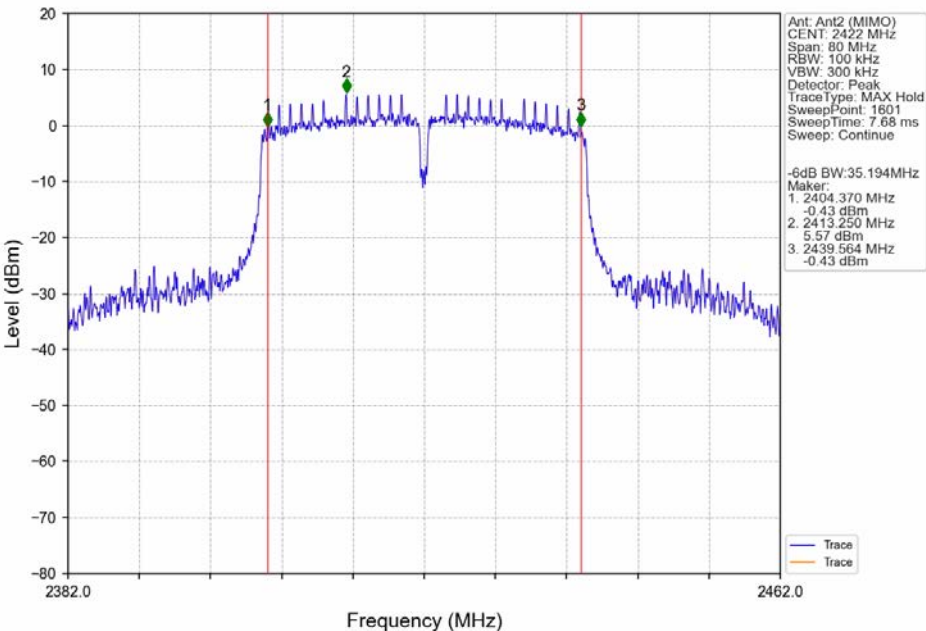
802.11n(HT20) HCH 2462MHz Ant2 (MIMO) NTN



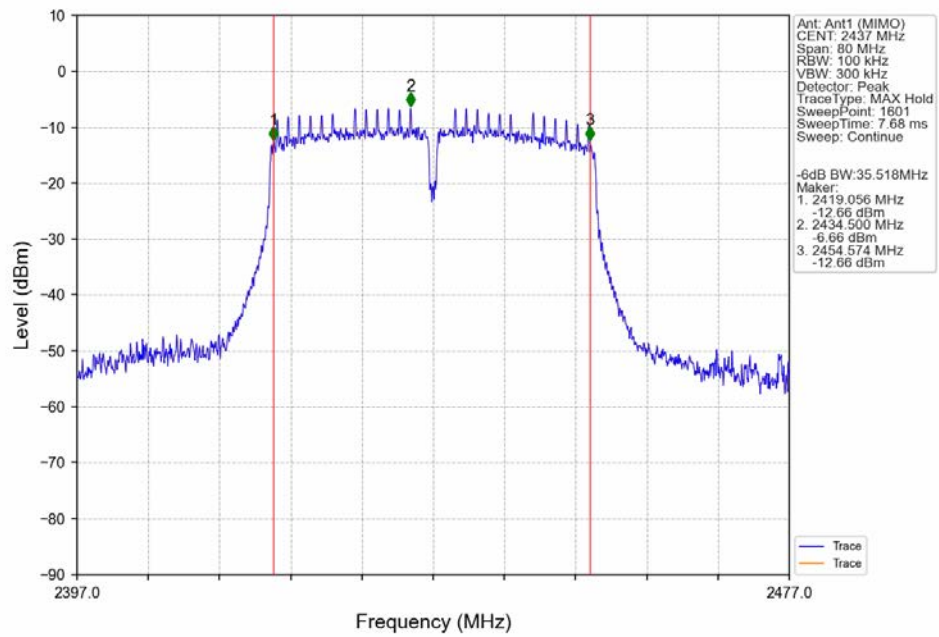
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO) NTN



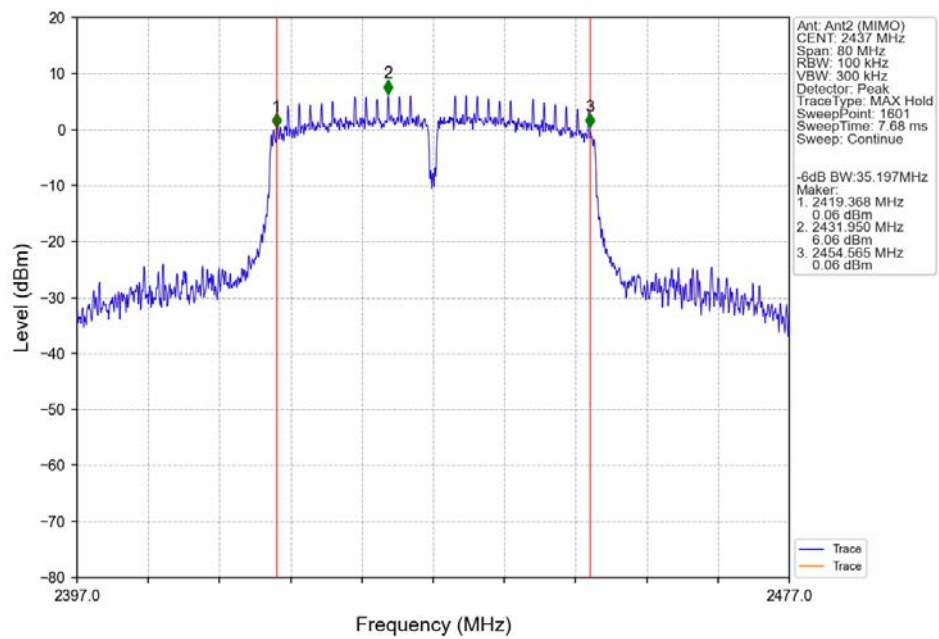
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO) NTN



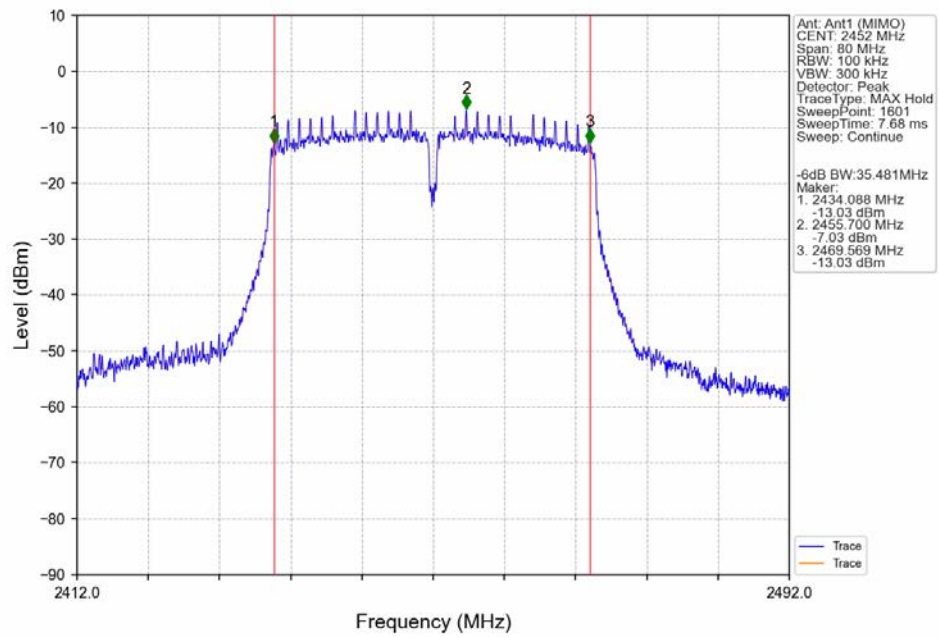
802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTN



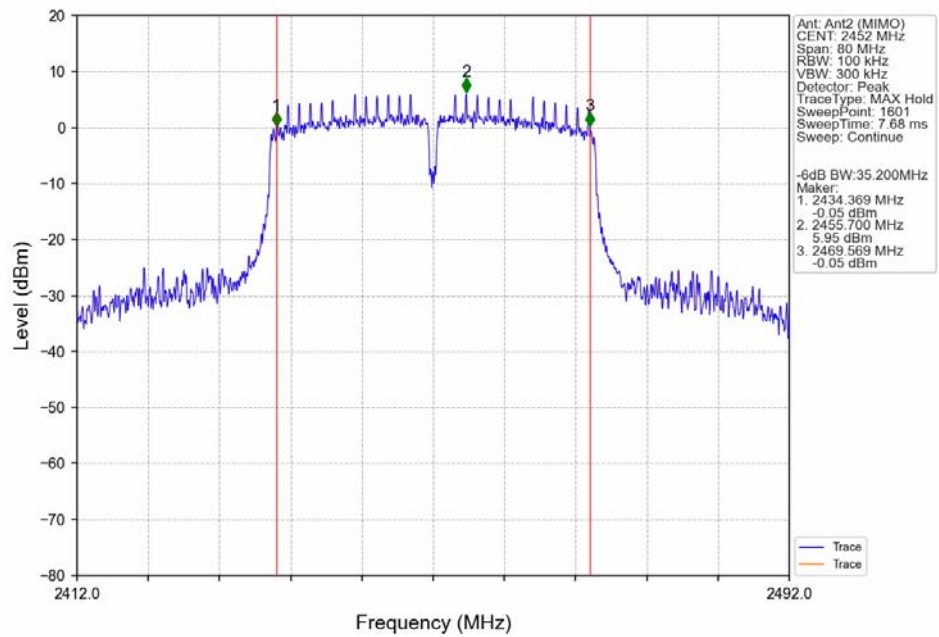
802.11n(HT40) MCH 2437MHz Ant2 (MIMO) NTN



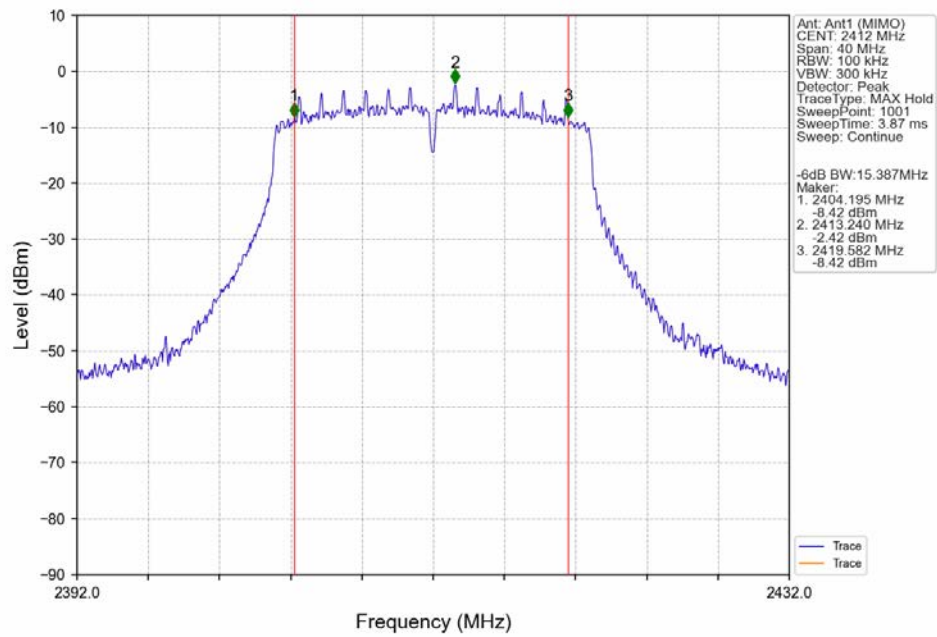
802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTN



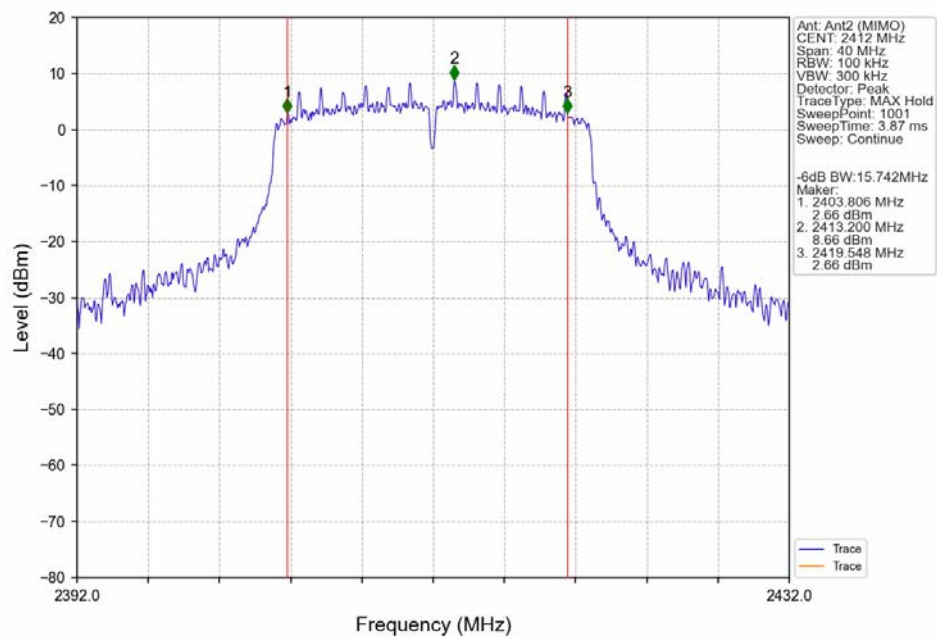
802.11n(HT40) HCH 2452MHz Ant2 (MIMO) NTN



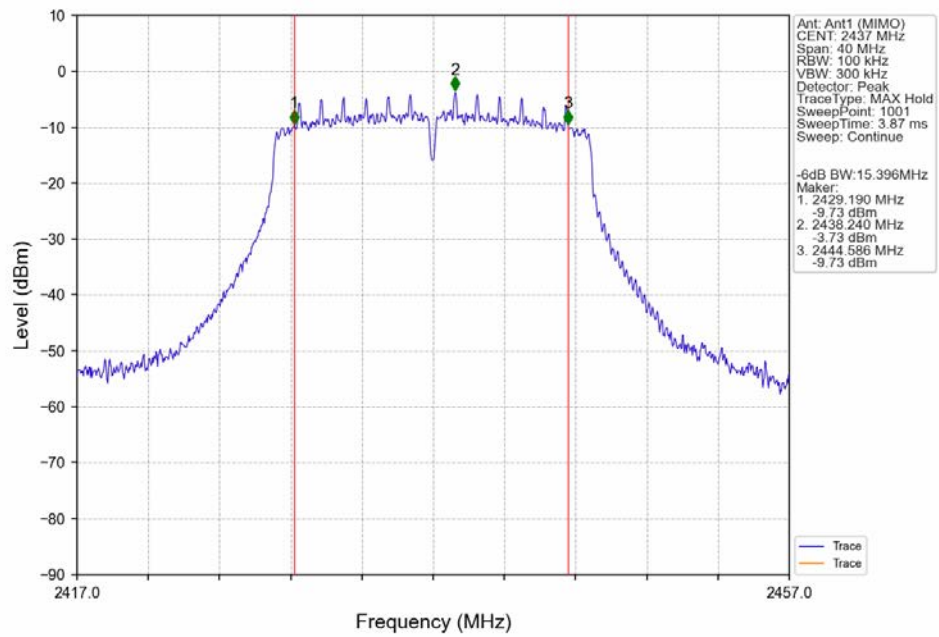
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



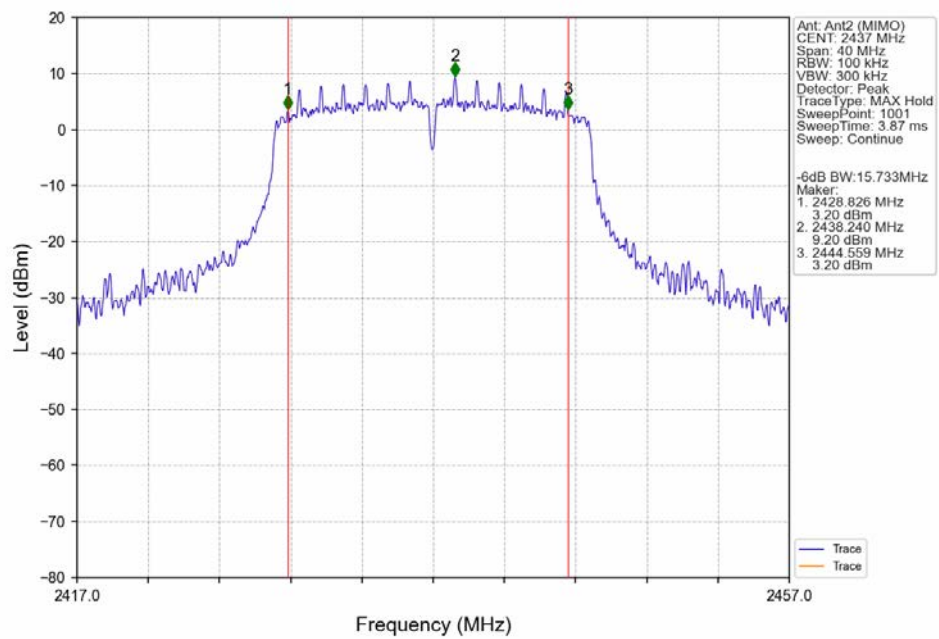
802.11ax(HEW20) LCH 2412MHz SU / Ant2 (MIMO) NTN



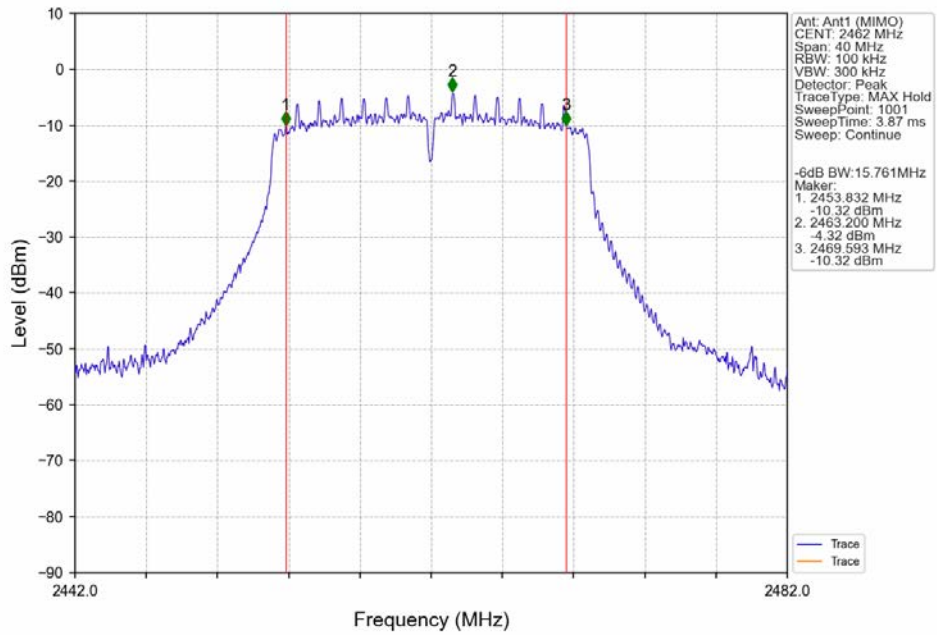
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



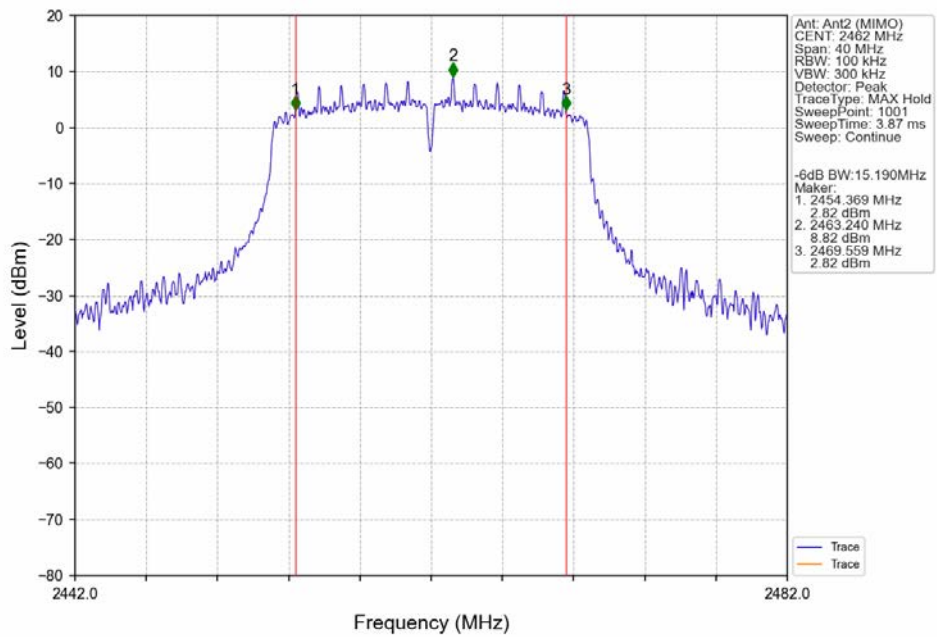
802.11ax(HEW20) MCH 2437MHz SU / Ant2 (MIMO) NTN



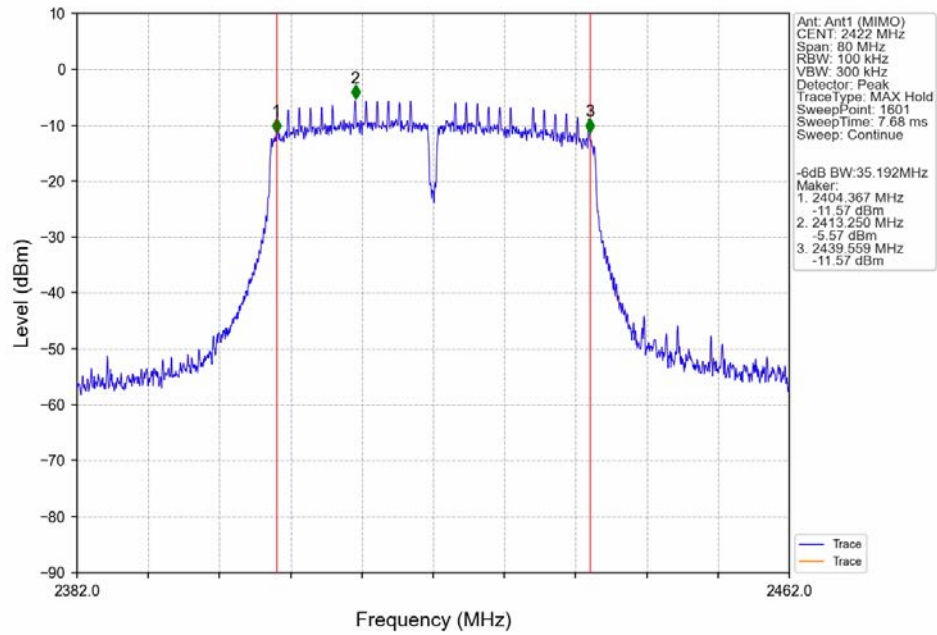
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



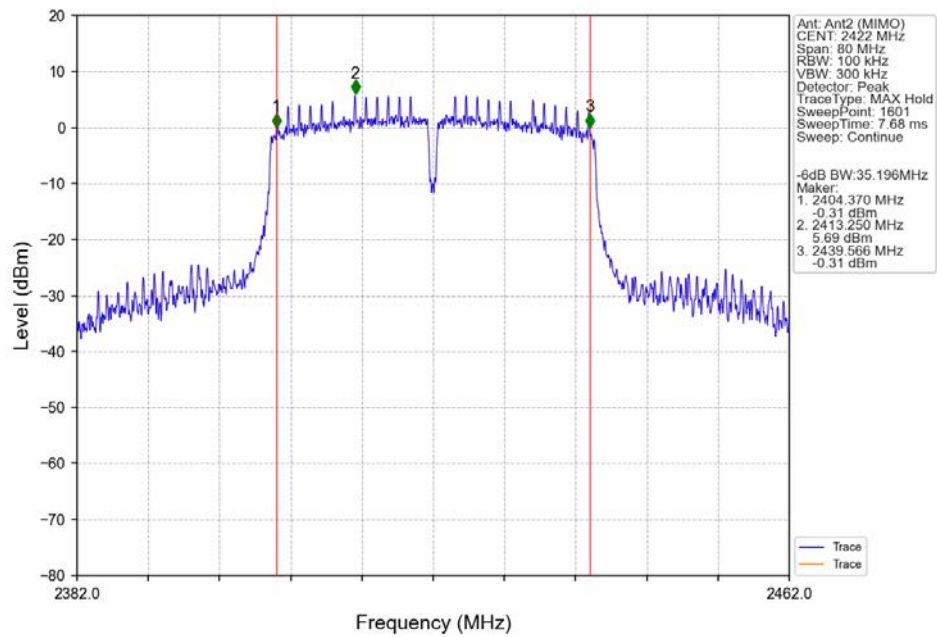
802.11ax(HEW20)_HCH_2462MHz_SU / Ant2 (MIMO)_NTN



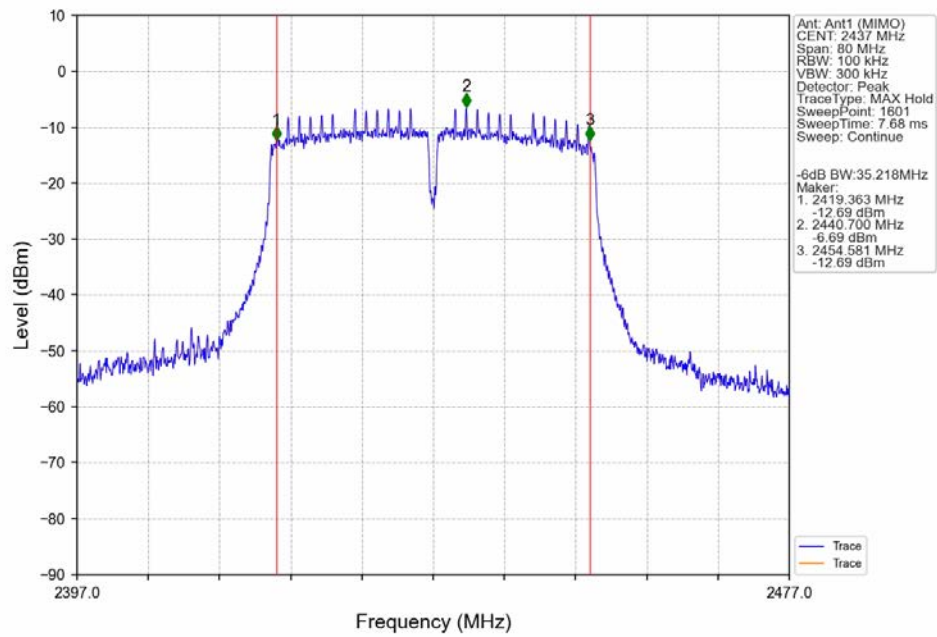
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



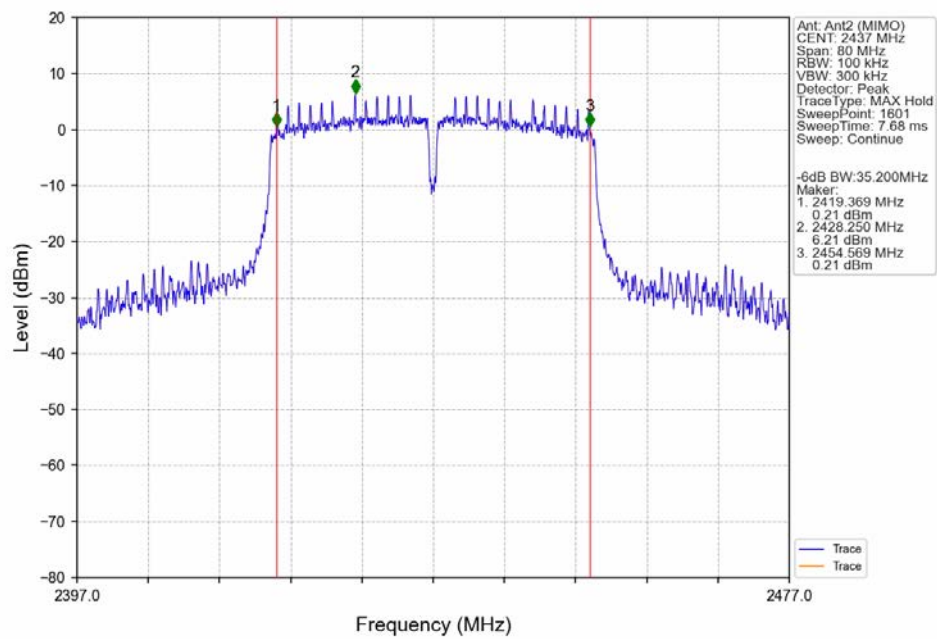
802.11ax(HEW40)_LCH_2422MHz_SU_/_Ant2 (MIMO)_NTNV



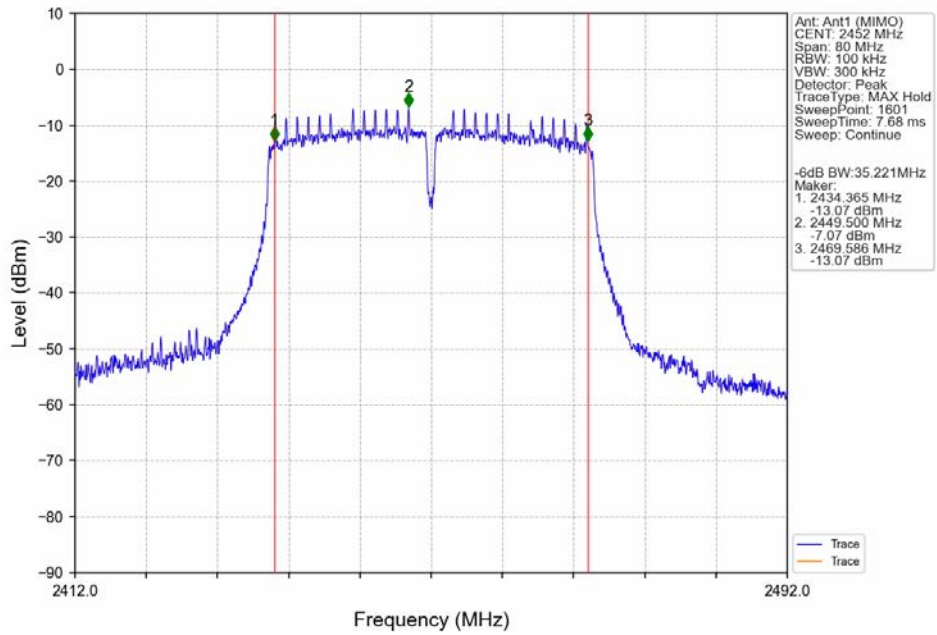
802.11ax(HEW40) MCH 2437MHz SU / Ant1 (MIMO) NTN



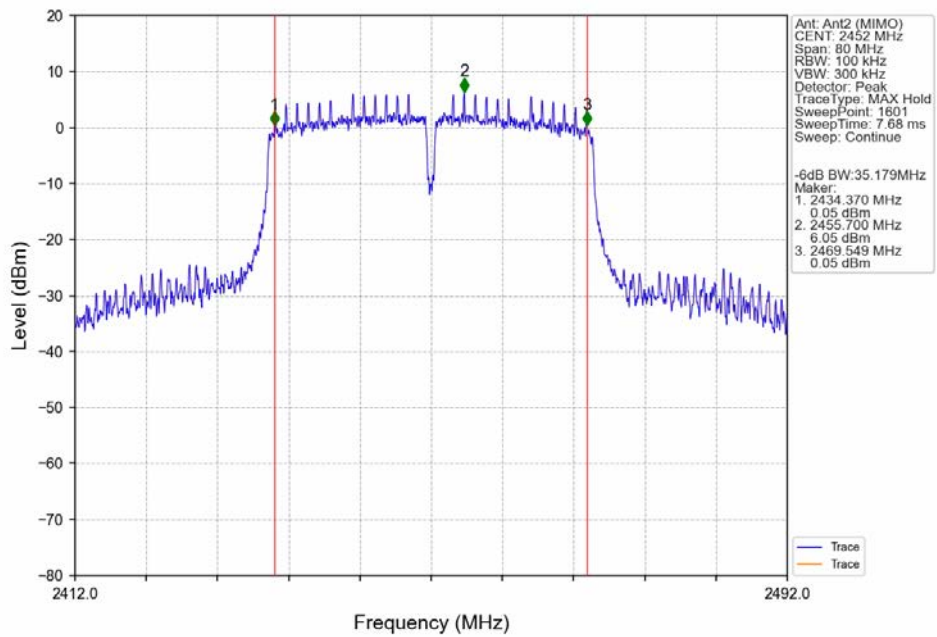
802.11ax(HEW40) MCH 2437MHz SU / Ant2 (MIMO) NTN



802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTN



802.11ax(HEW40)_HCH_2452MHz_SU / Ant2 (MIMO)_NTN

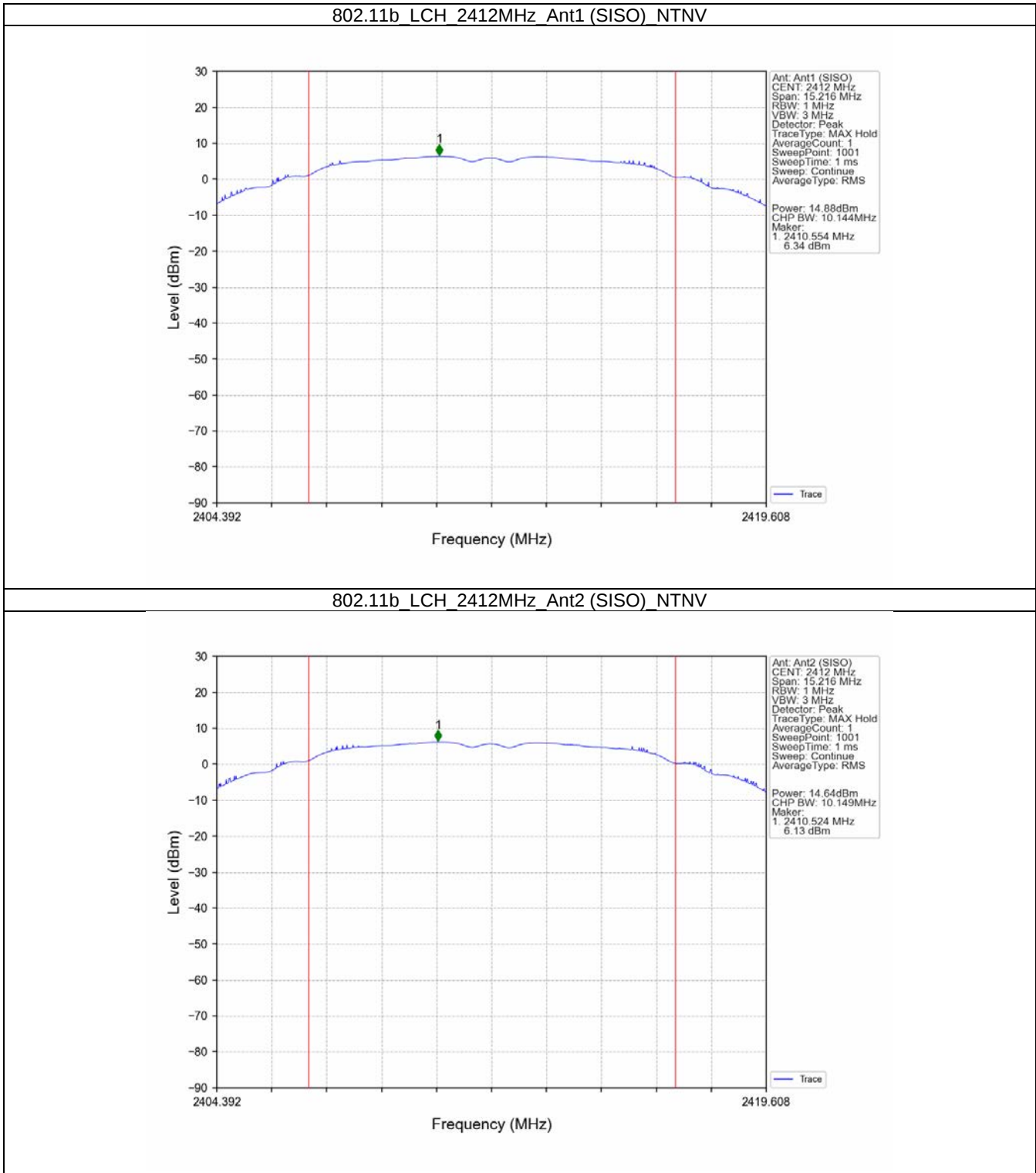


3.1 Test Result

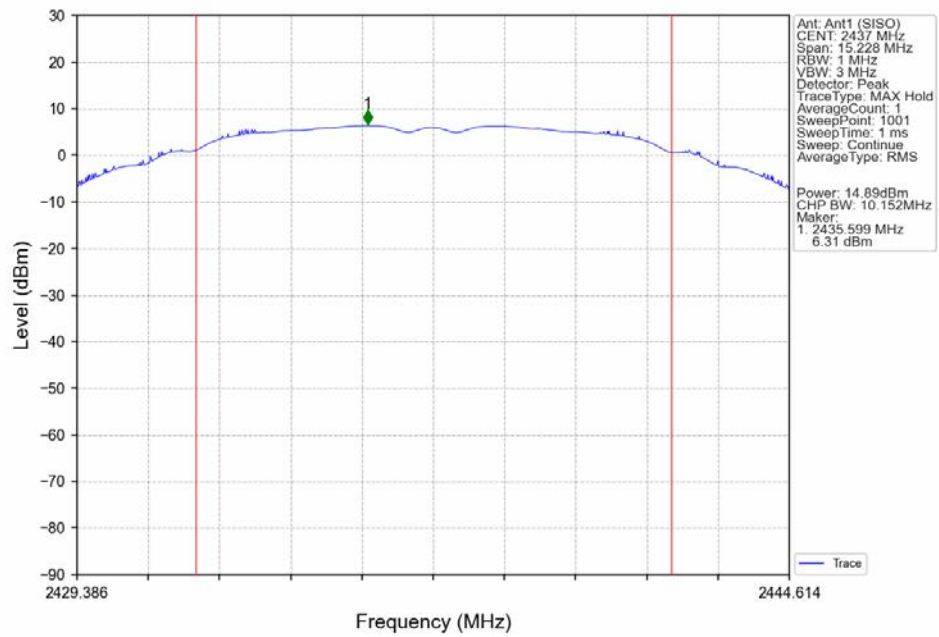
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Peak Conducted Output Power (dBm)				Verdict
					ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	/	/	14.88	14.64	/	<=30	Pass
		2437	/	/	14.89	14.96	/	<=30	Pass
		2462	/	/	14.94	15.20	/	<=30	Pass
802.11g	SISO	2412	/	/	14.57	14.26	/	<=30	Pass
		2437	/	/	15.01	14.99	/	<=30	Pass
		2462	/	/	14.48	14.84	/	<=30	Pass
802.11n (HT20)	MIMO	2412	/	/	15.52	14.69	18.14	<=28.8	Pass
		2437	/	/	14.81	14.73	17.78	<=28.8	Pass
		2462	/	/	14.34	14.53	17.45	<=28.8	Pass
802.11n (HT40)	MIMO	2422	/	/	15.90	15.30	18.62	<=28.8	Pass
		2437	/	/	14.74	14.74	17.75	<=28.8	Pass
		2452	/	/	14.65	14.82	17.75	<=28.8	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	15.55	14.75	18.18	<=28.8	Pass
		2437	SU	/	14.20	14.45	17.34	<=28.8	Pass
		2462	SU	/	13.80	14.00	16.91	<=28.8	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	15.92	15.40	18.68	<=28.8	Pass
		2437	SU	/	14.95	15.08	18.03	<=28.8	Pass
		2452	SU	/	14.60	14.91	17.77	<=28.8	Pass
Note1: Antenna Gain: Ant1: 4.19dBi; Ant2: 4.19dBi; Note2: Directional Gain: (Directional Gain = 4.19dBi + 10 log(2) =7.2dBi)									

3.2 Test Graph

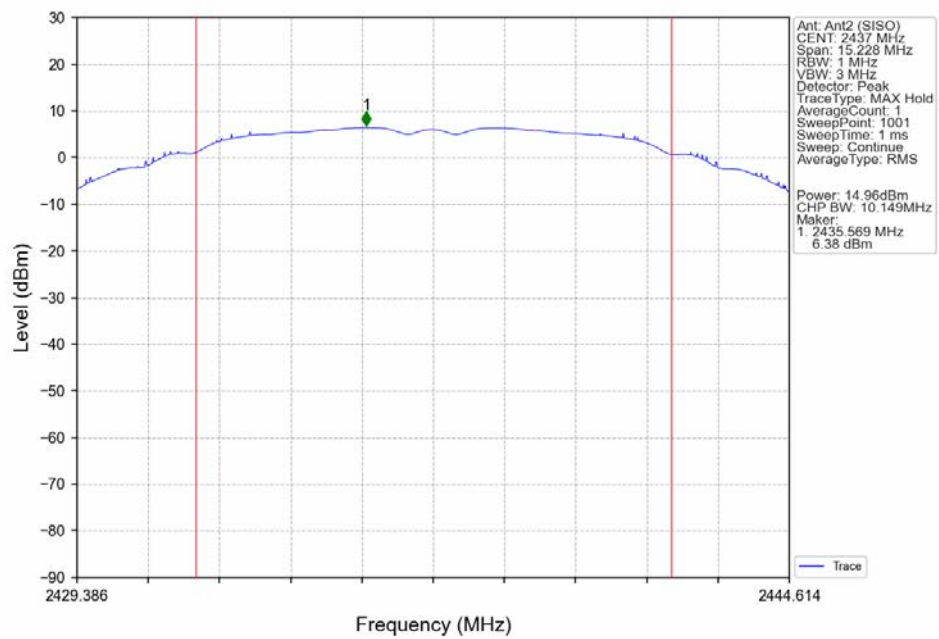
3.2.1 Power



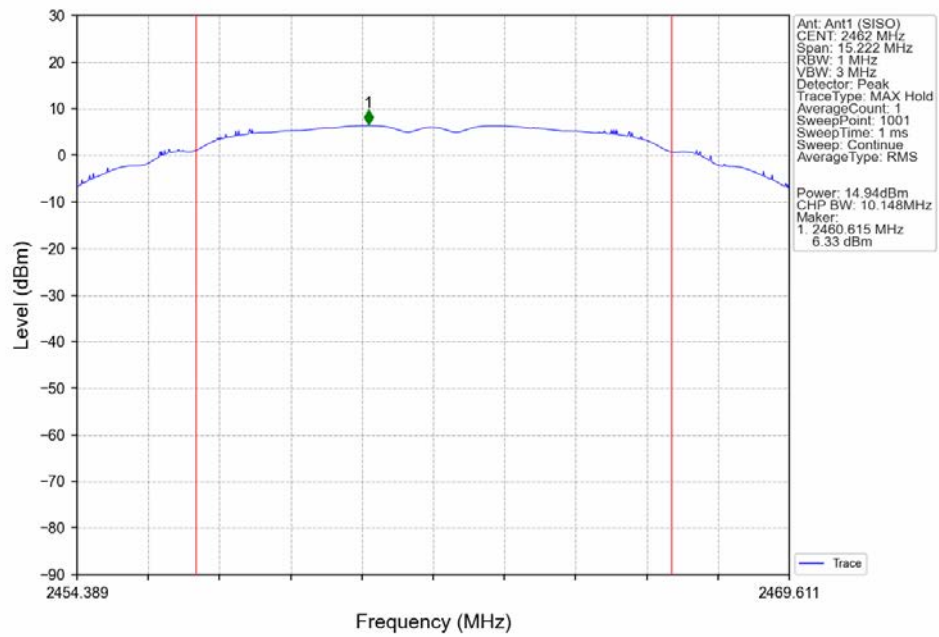
802.11b MCH 2437MHz Ant1 (SISO) NTN



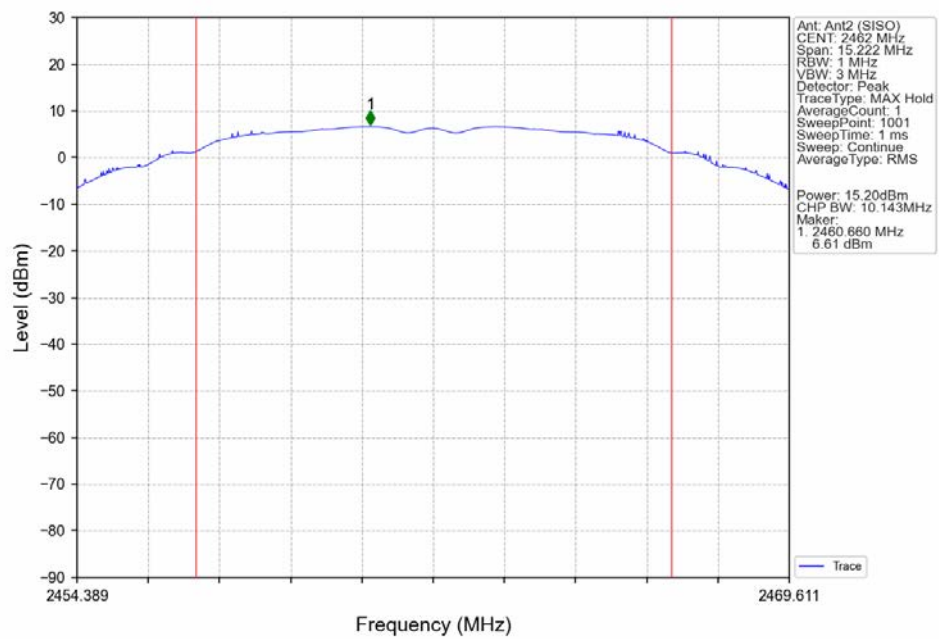
802.11b_MCH_2437MHz_Ant2 (SISO)_NTN



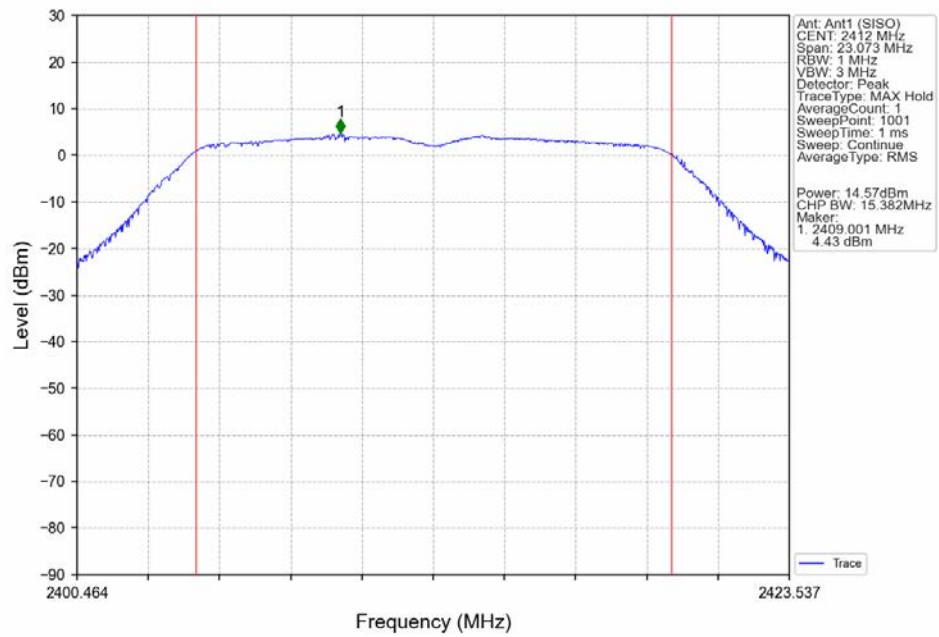
802.11b HCH 2462MHz Ant1 (SISO) NTN



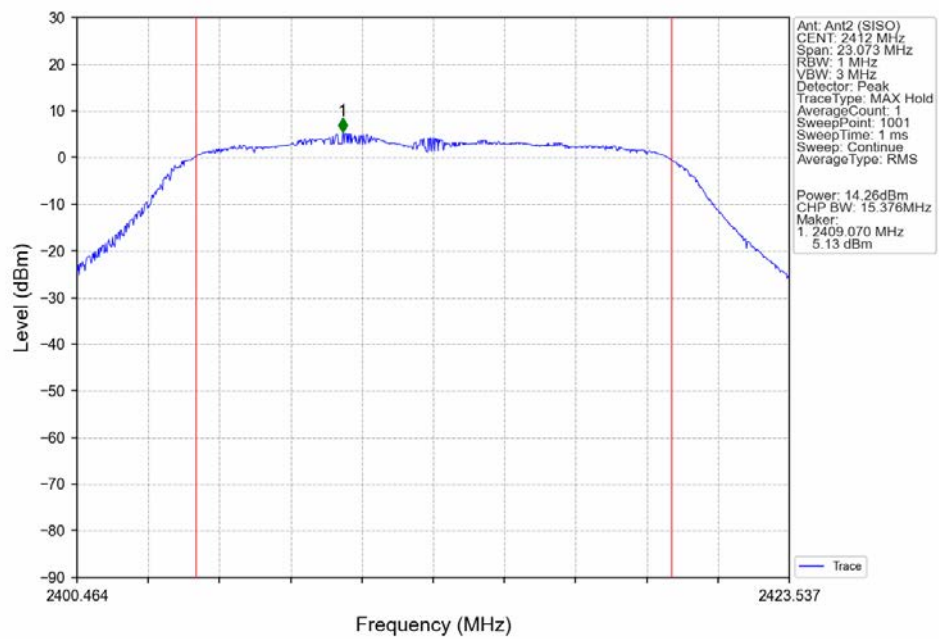
802.11b HCH 2462MHz Ant2 (SISO) NTN



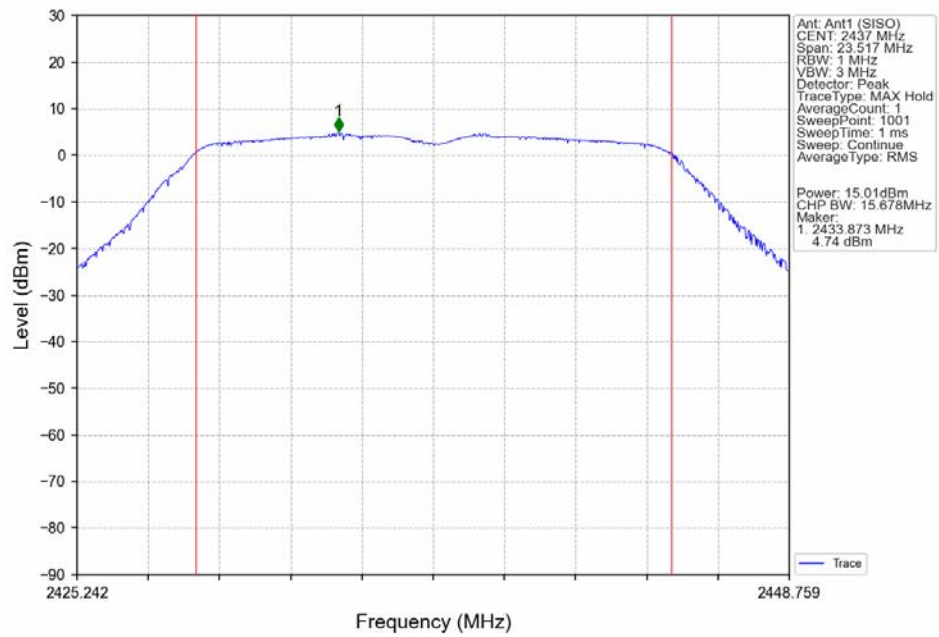
802.11g_LCH_2412MHz_Ant1 (SISO) NTN



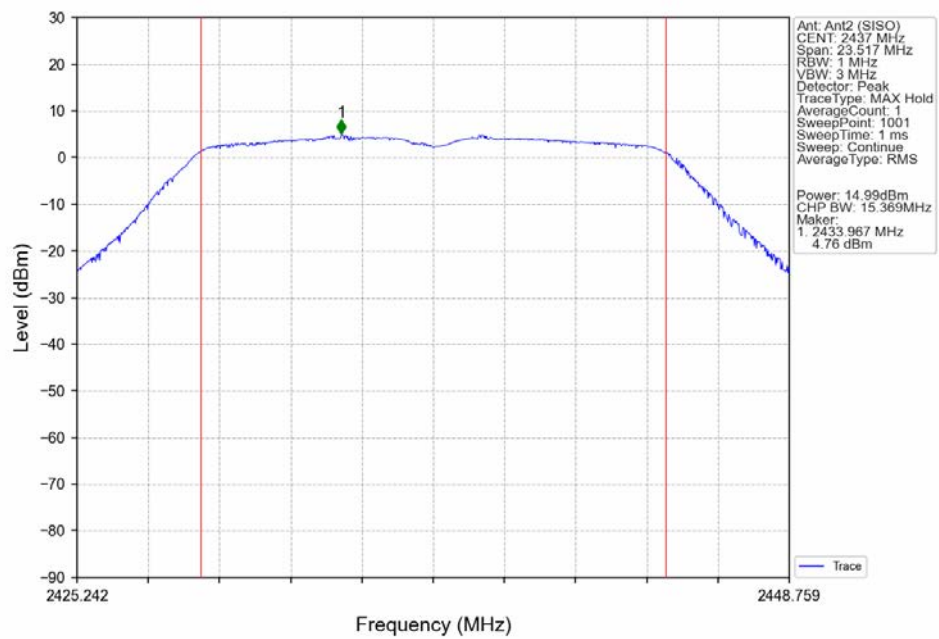
802.11g_LCH_2412MHz_Ant2 (SISO) NTN



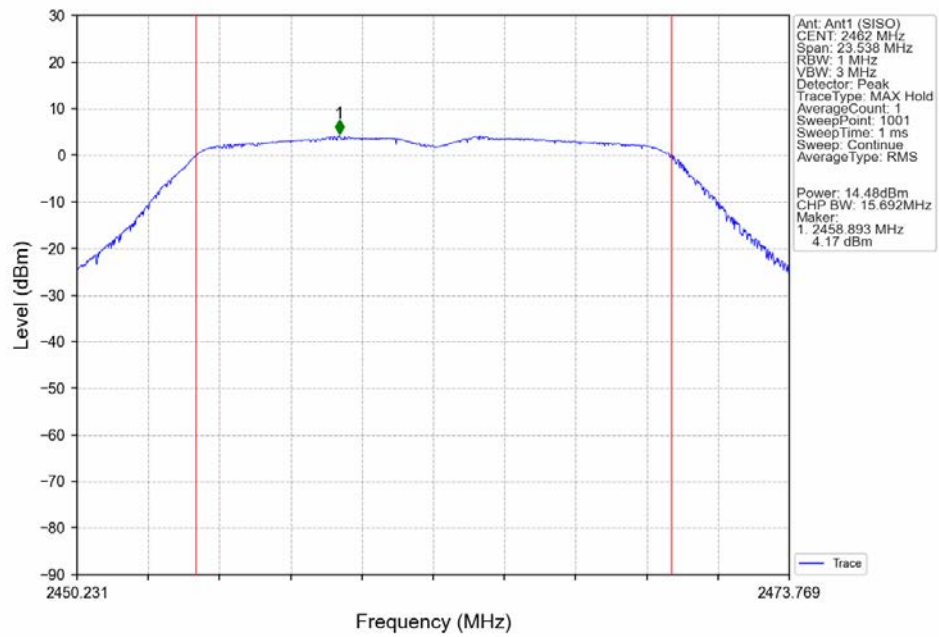
802.11g MCH 2437MHz Ant1 (SISO) NTN



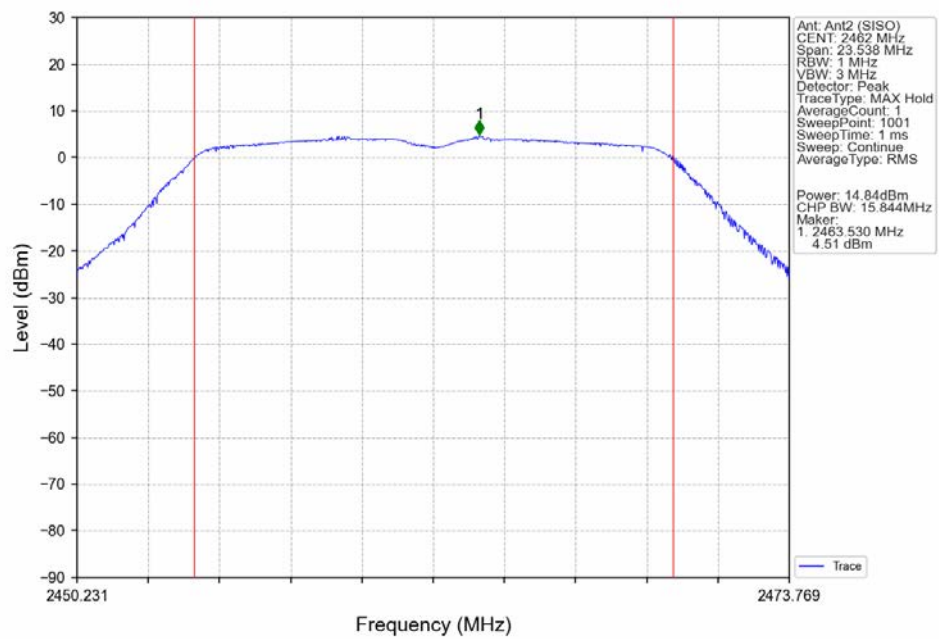
802.11g MCH 2437MHz Ant2 (SISO) NTN



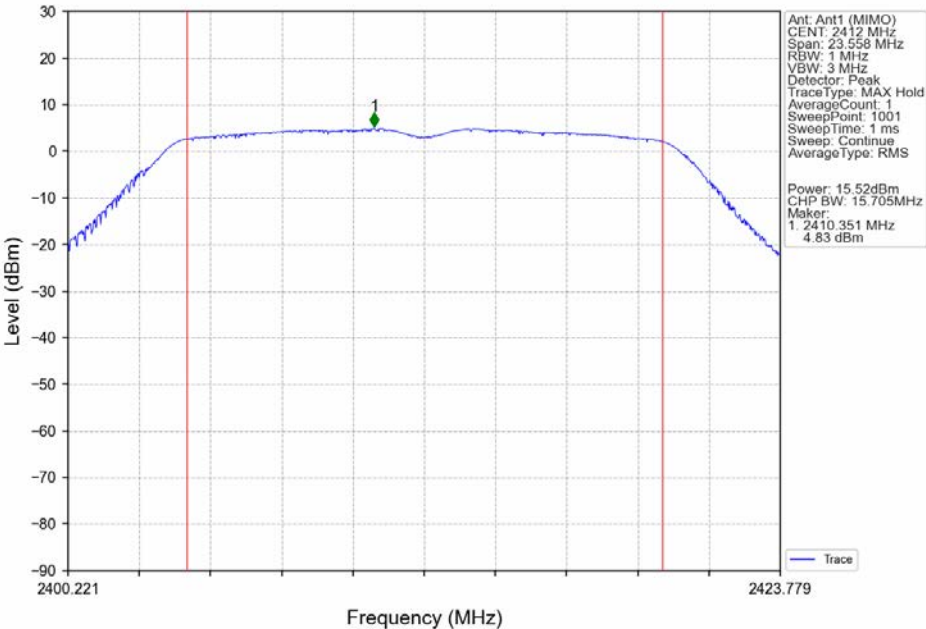
802.11g HCH 2462MHz Ant1 (SISO) NTN



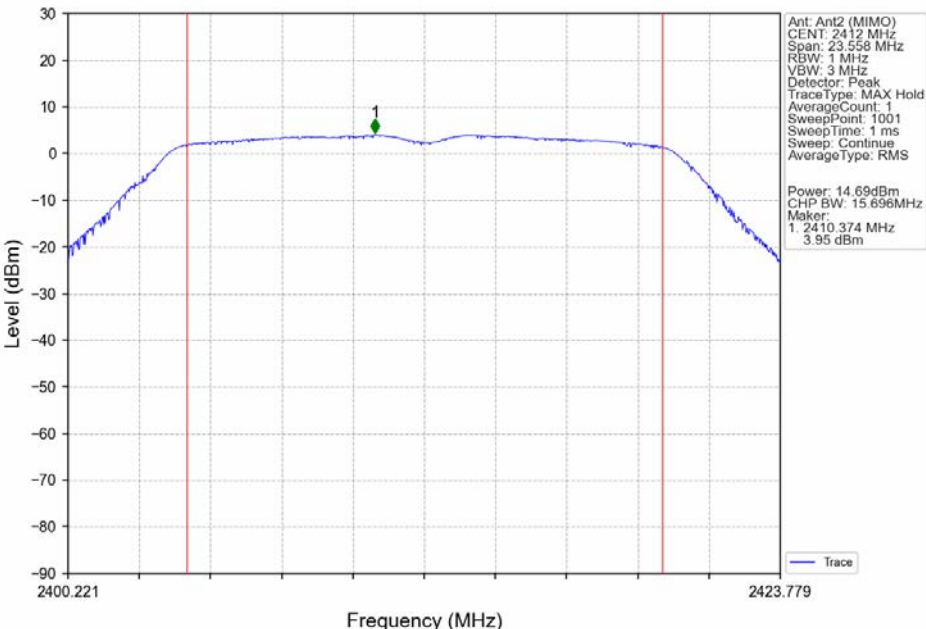
802.11g HCH 2462MHz Ant2 (SISO) NTN



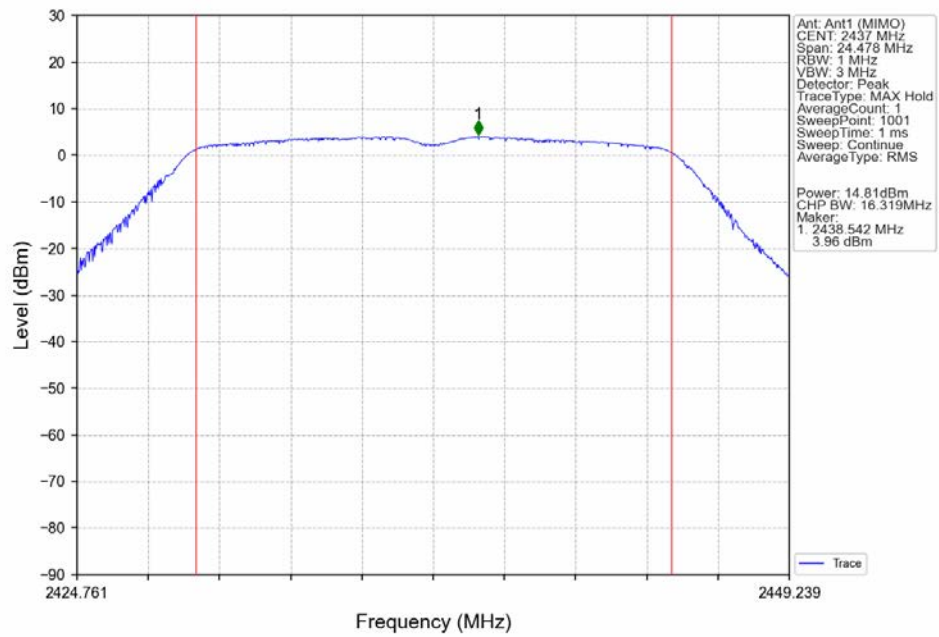
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTN



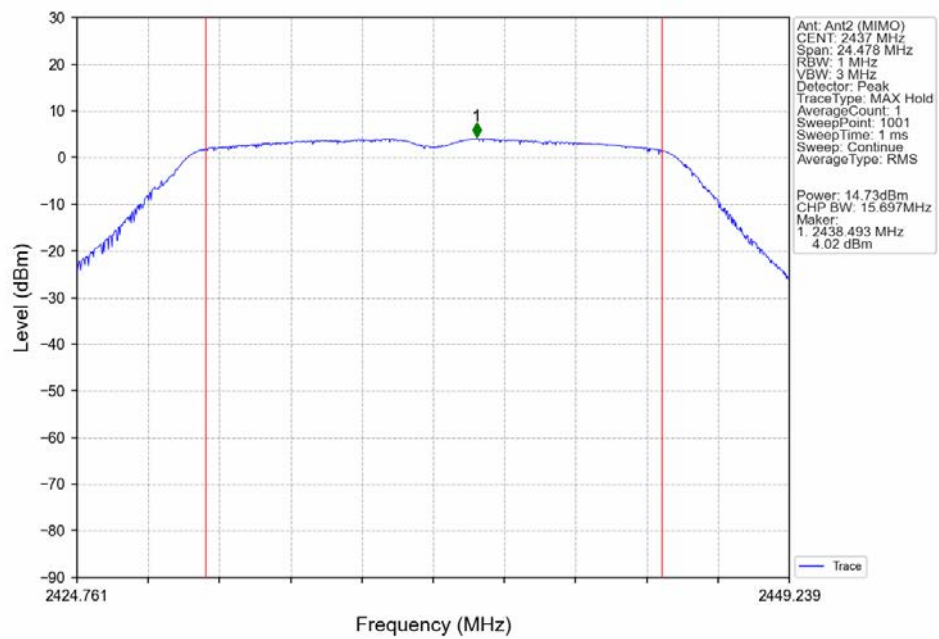
802.11n(HT20) LCH 2412MHz Ant2 (MIMO) NTN



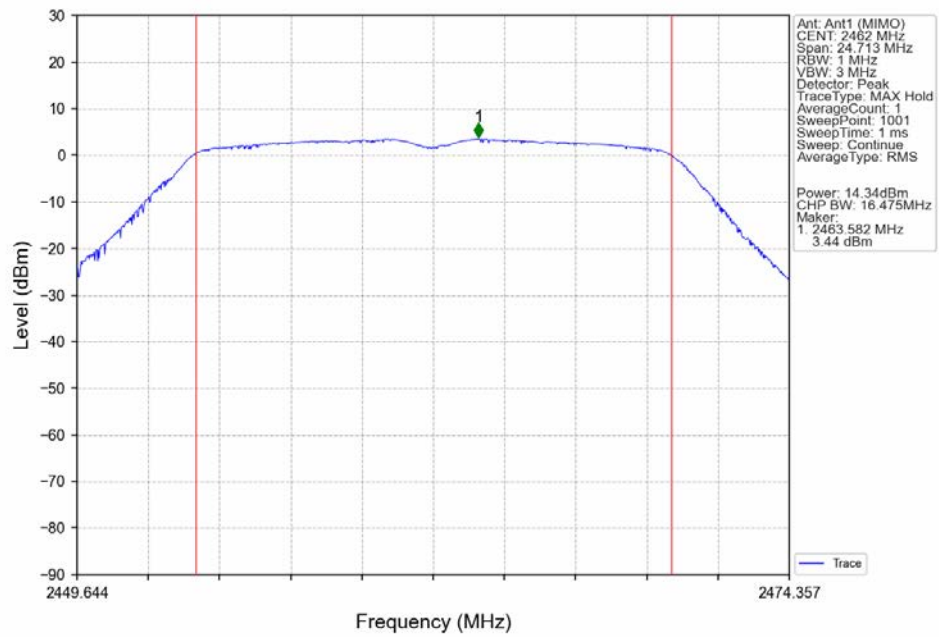
802.11n(HT20) MCH_2437MHz_Ant1 (MIMO) NTN



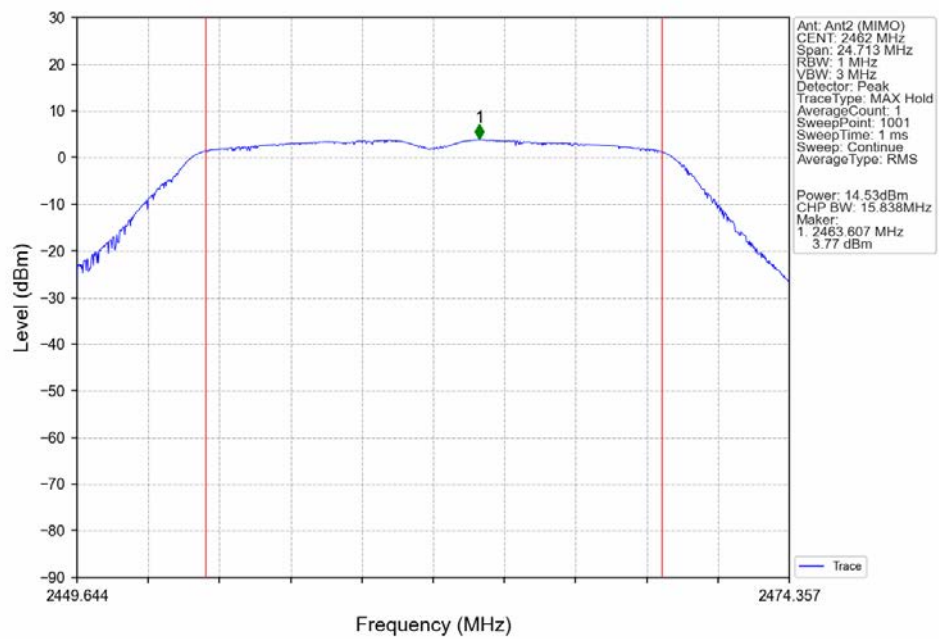
802.11n(HT20) MCH_2437MHz_Ant2 (MIMO) NTN



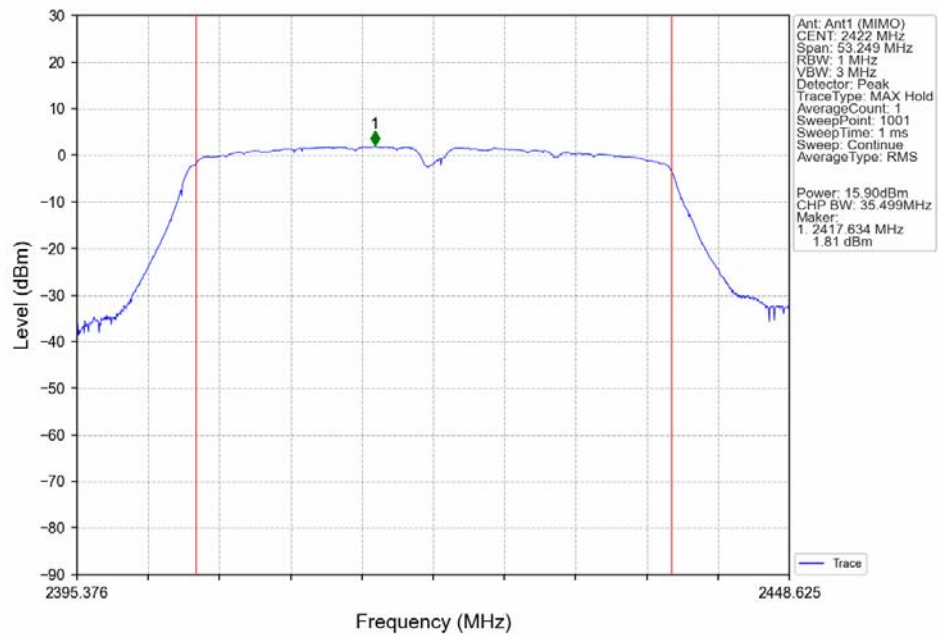
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTN



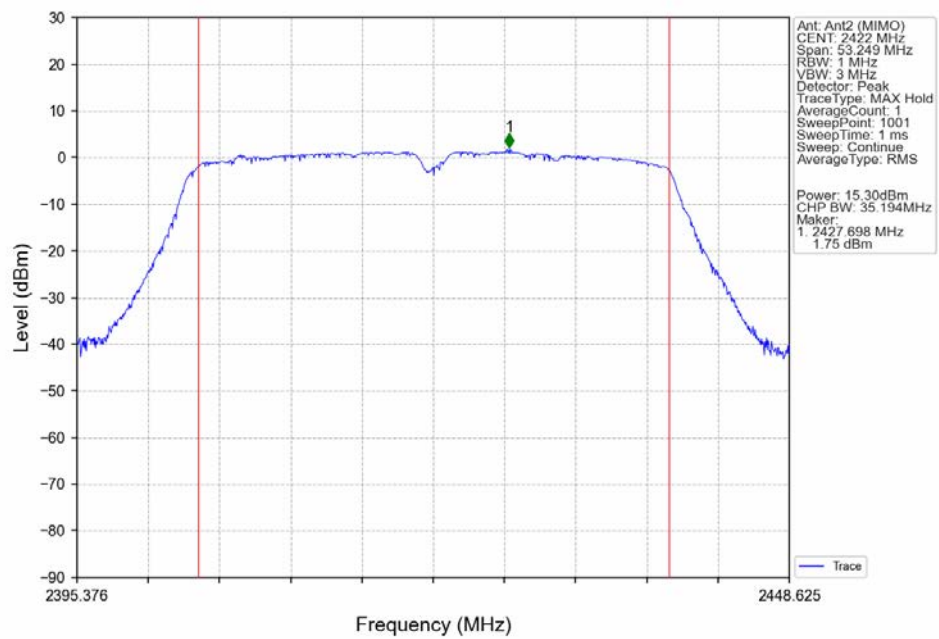
802.11n(HT20) HCH 2462MHz Ant2 (MIMO) NTN



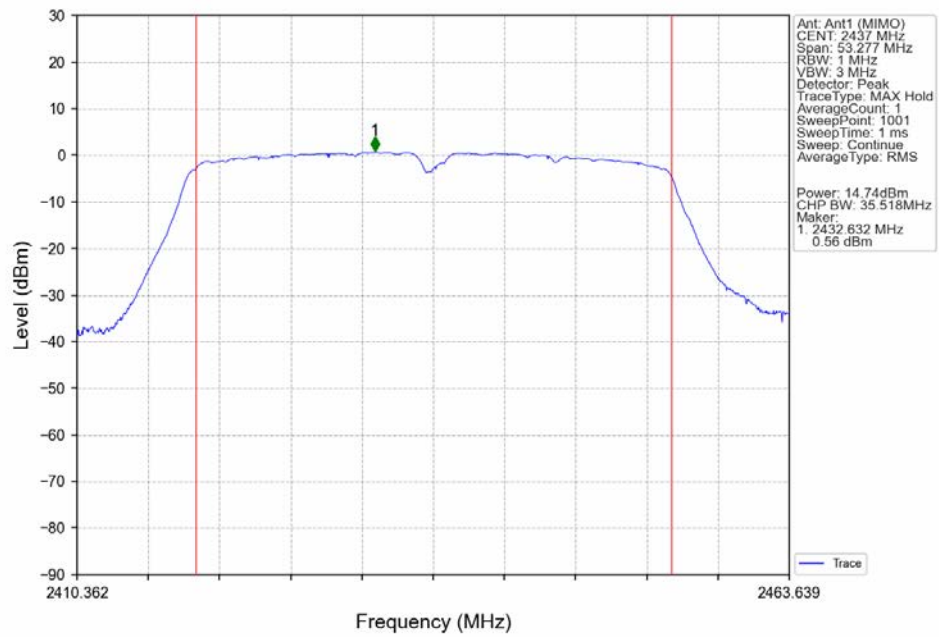
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTN



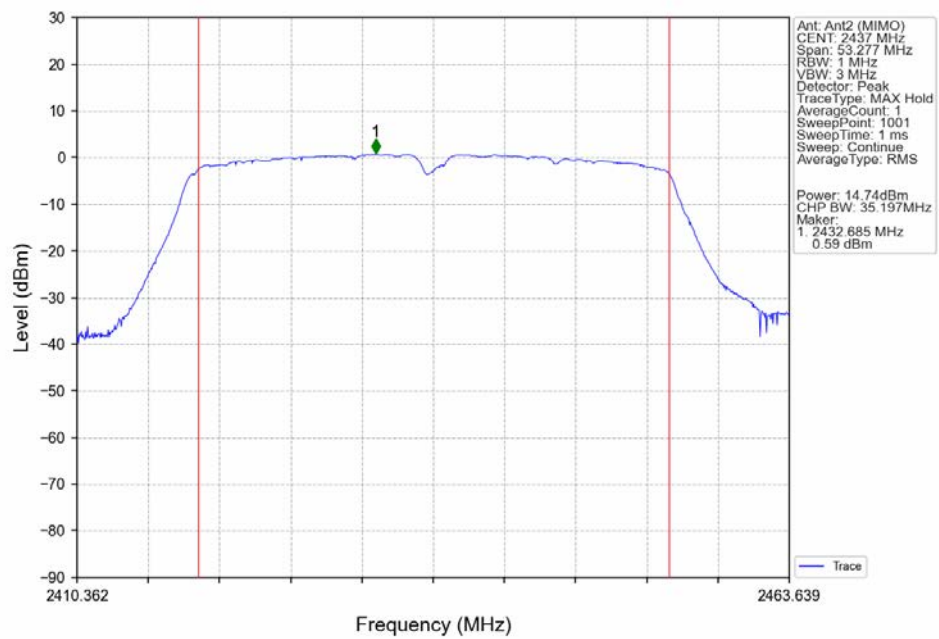
802.11n(HT40) LCH 2422MHz Ant2 (MIMO) NTN



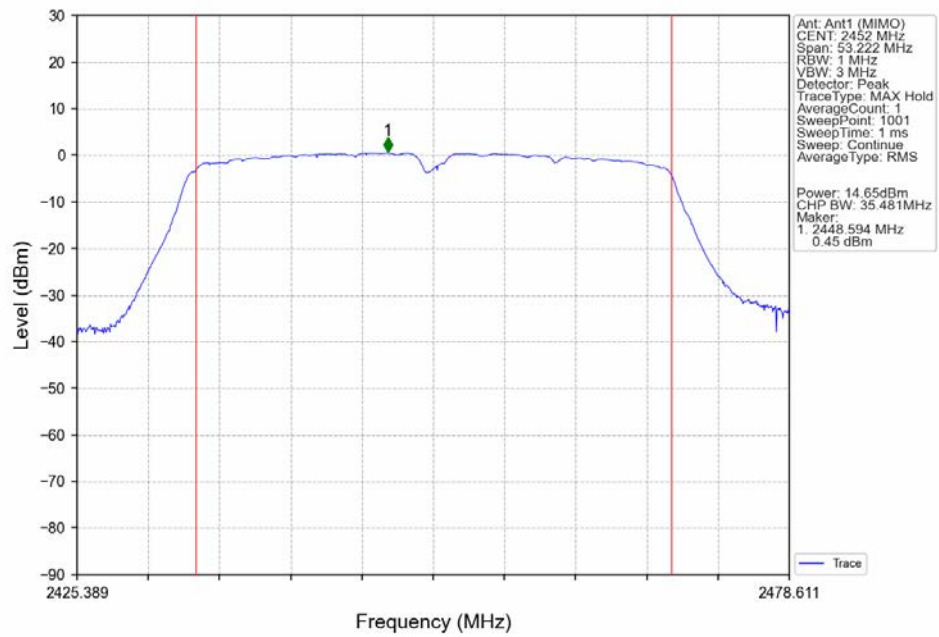
802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTN



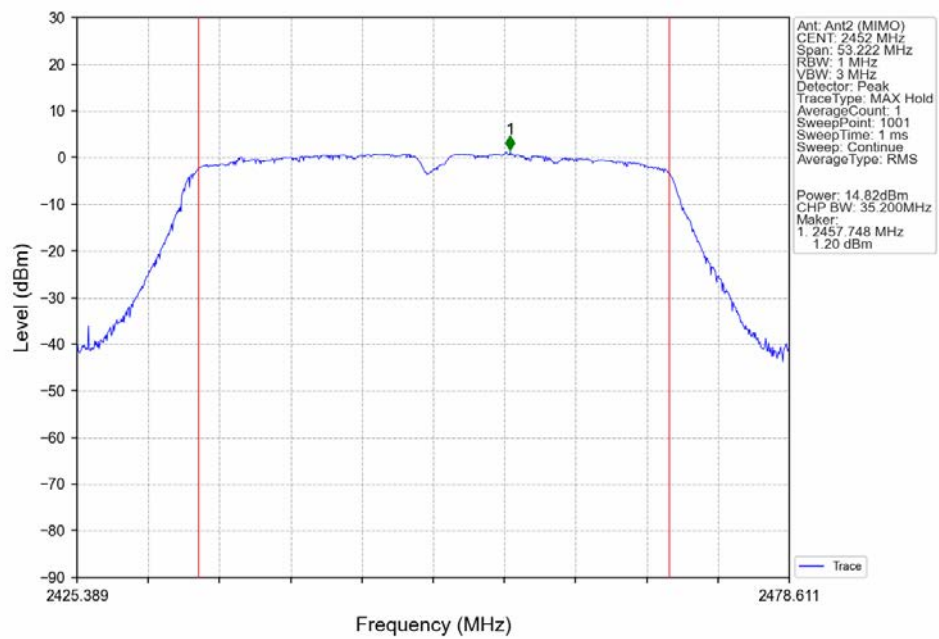
802.11n(HT40) MCH 2437MHz Ant2 (MIMO) NTN



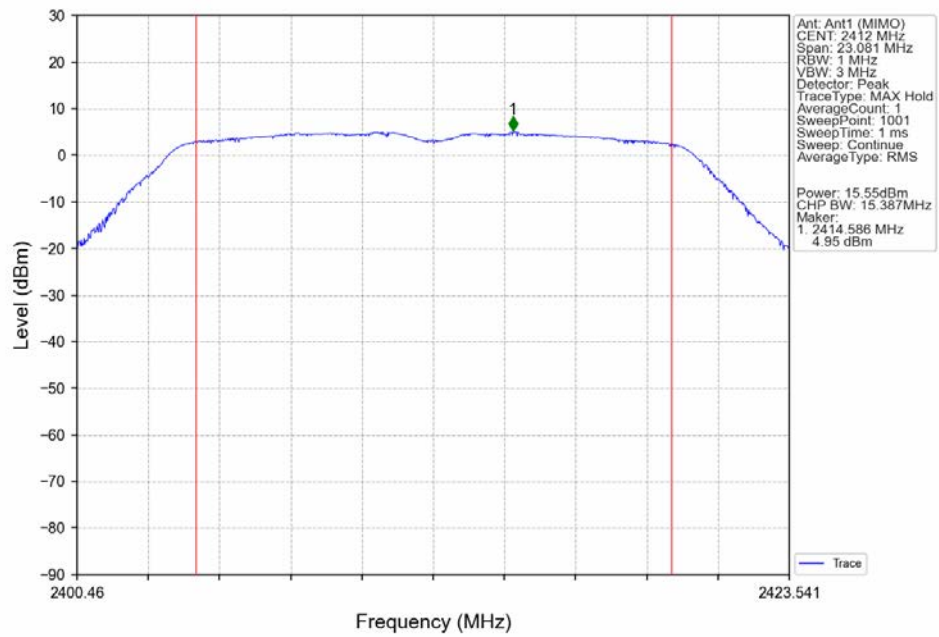
802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTNV



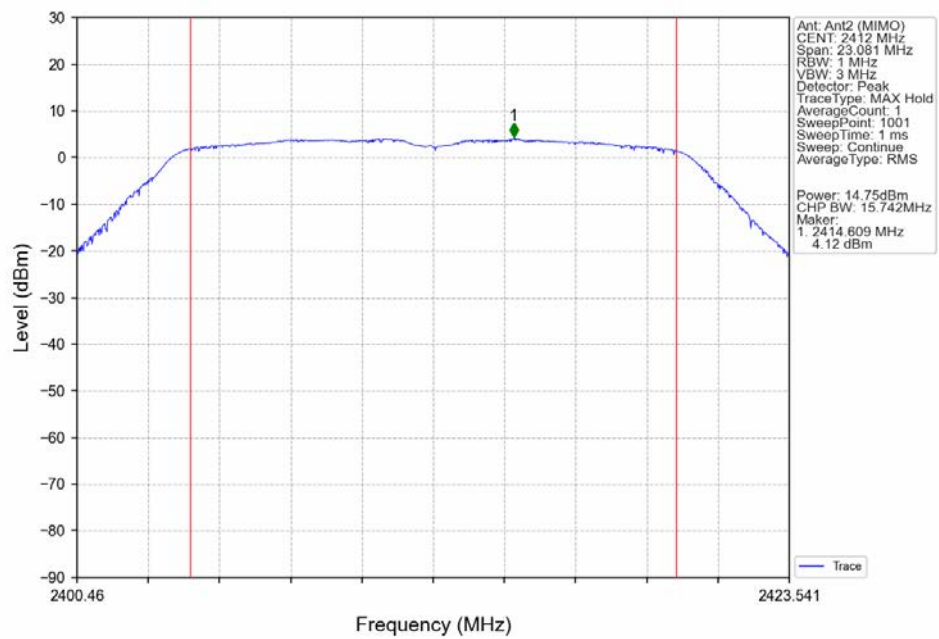
802.11n(HT40) HCH 2452MHz Ant2 (MIMO) NTNV



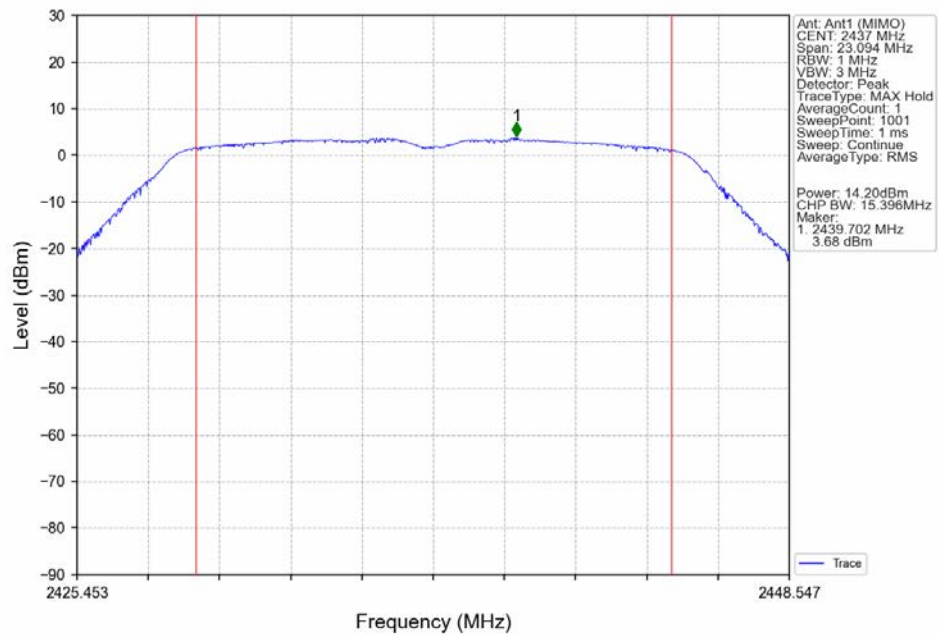
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



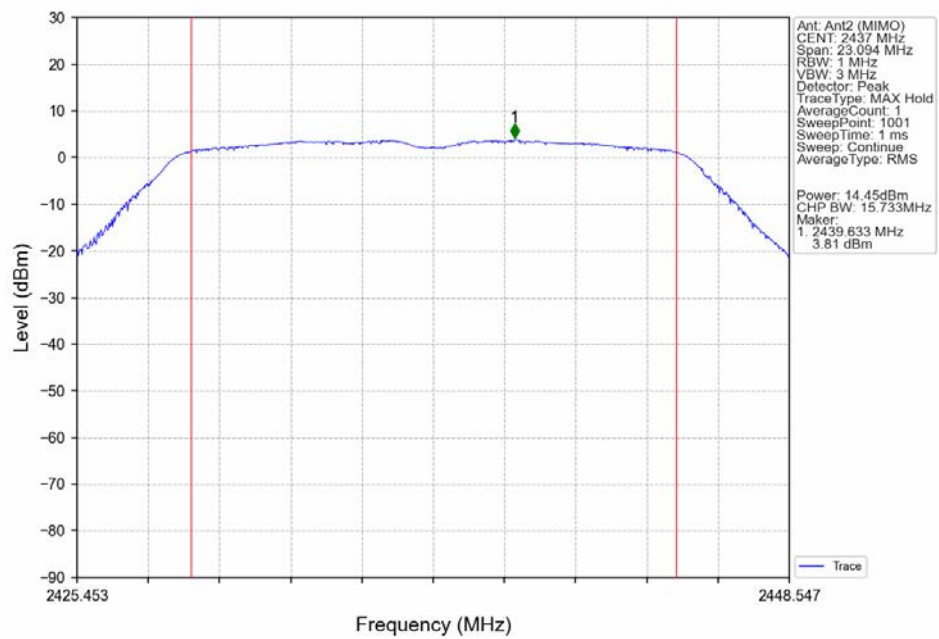
802.11ax(HEW20) LCH 2412MHz SU / Ant2 (MIMO) NTN



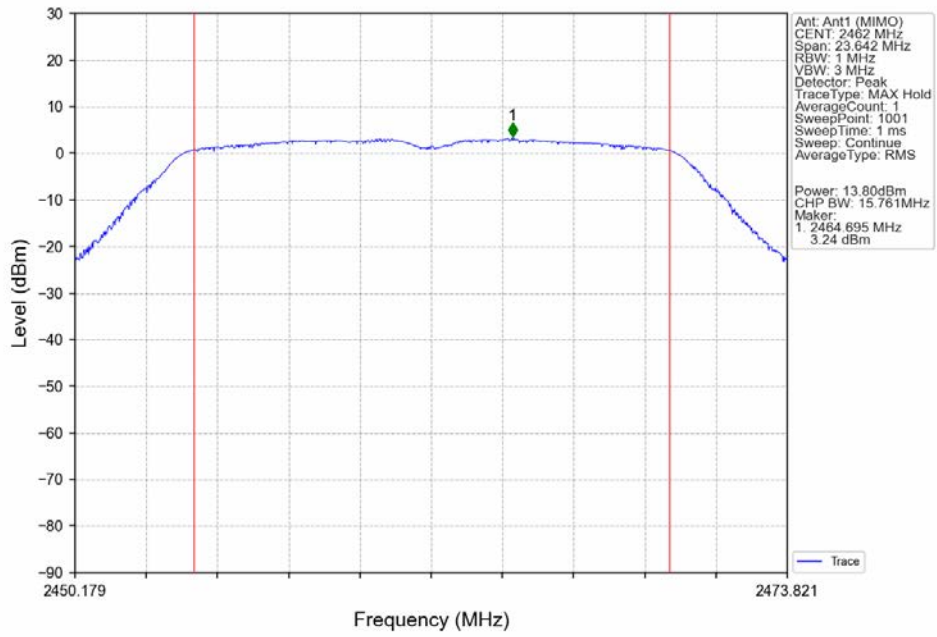
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



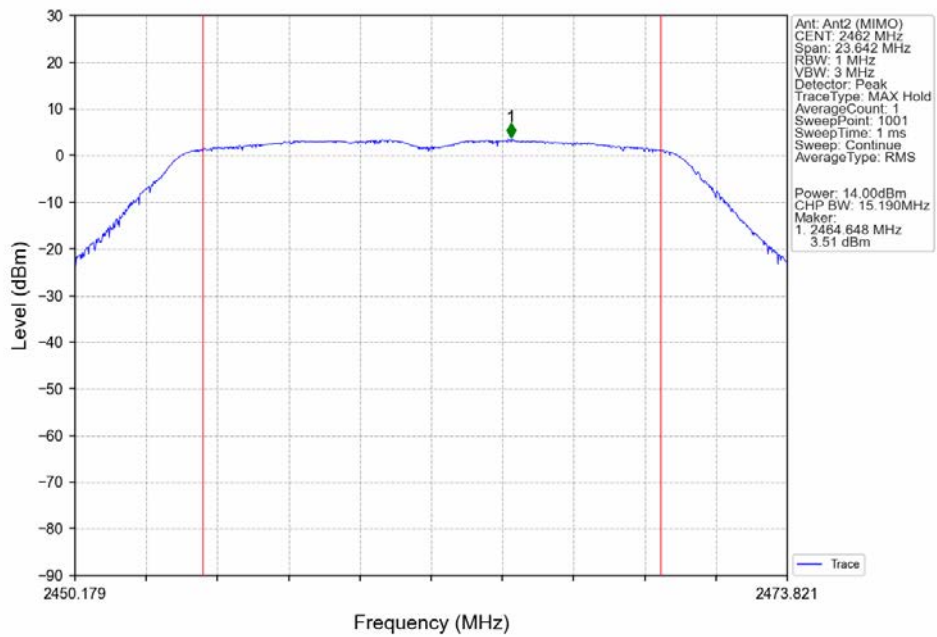
802.11ax(HEW20) MCH 2437MHz SU / Ant2 (MIMO) NTN



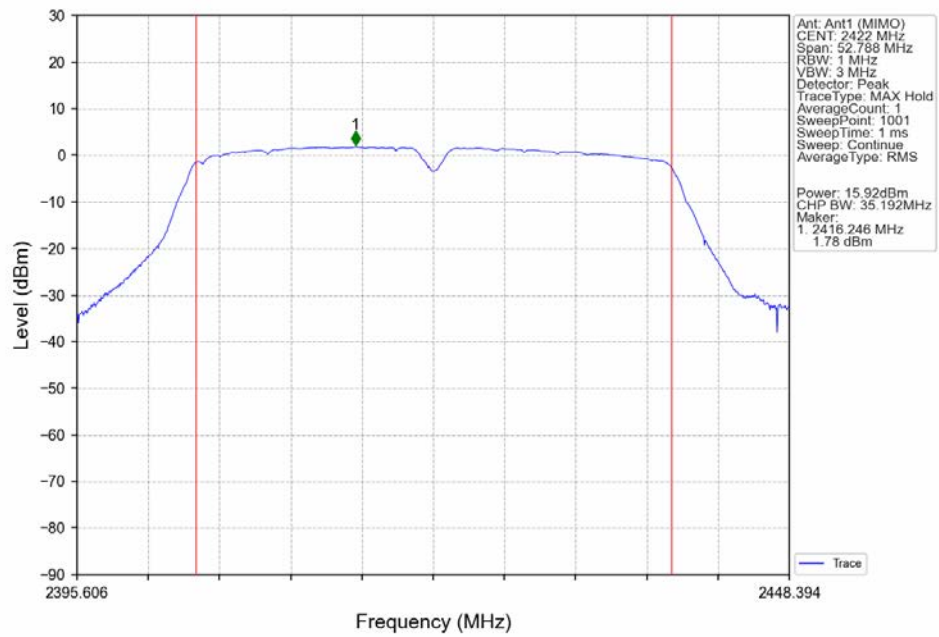
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



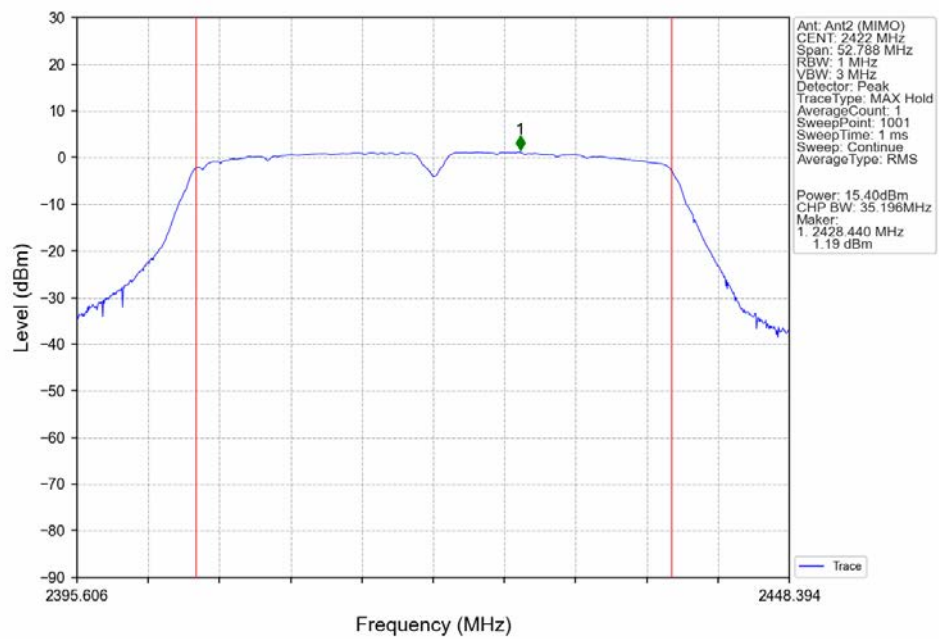
802.11ax(HEW20) HCH 2462MHz SU / Ant2 (MIMO) NTN



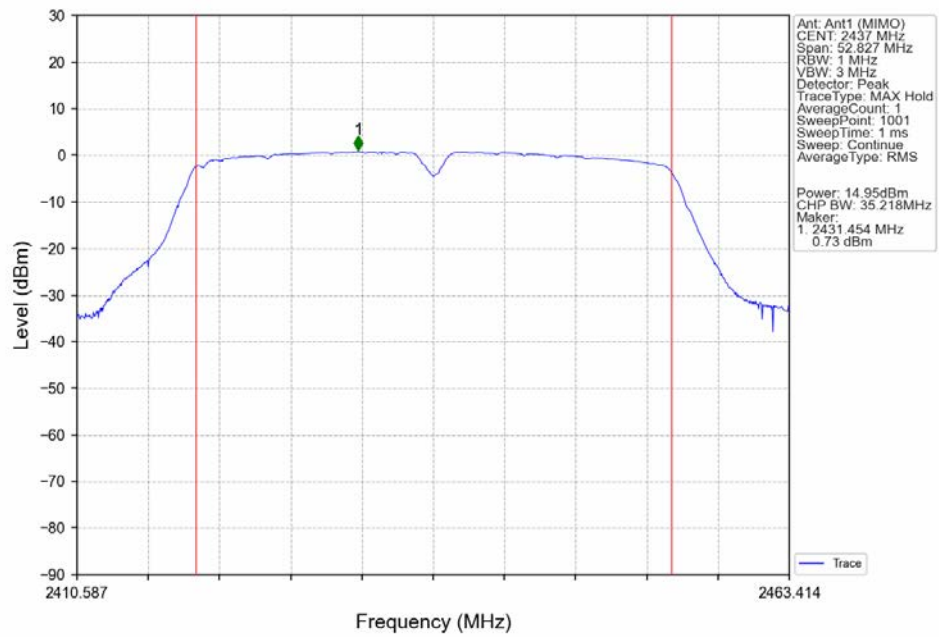
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



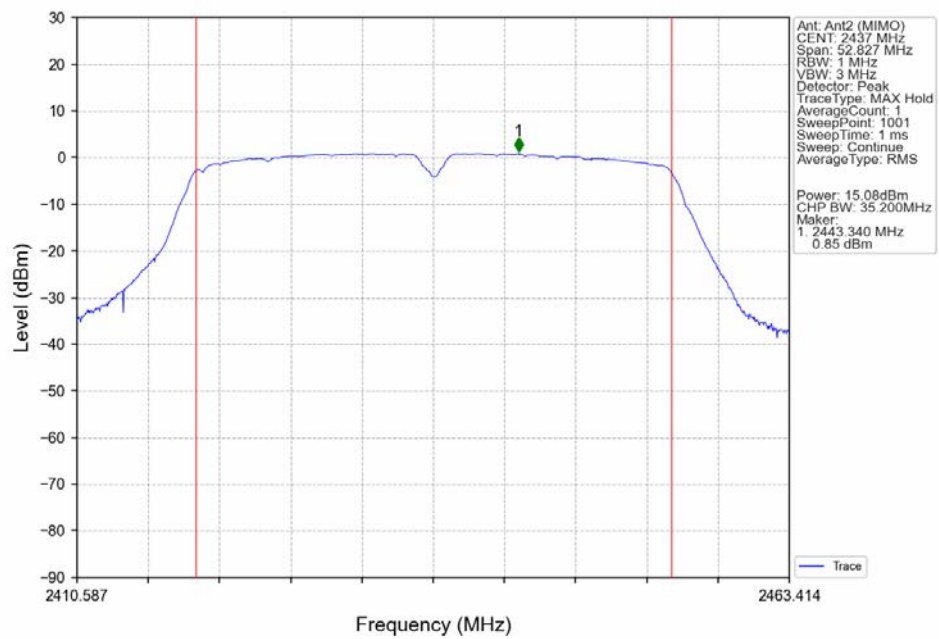
802.11ax(HEW40) LCH 2422MHz SU / Ant2 (MIMO) NTN



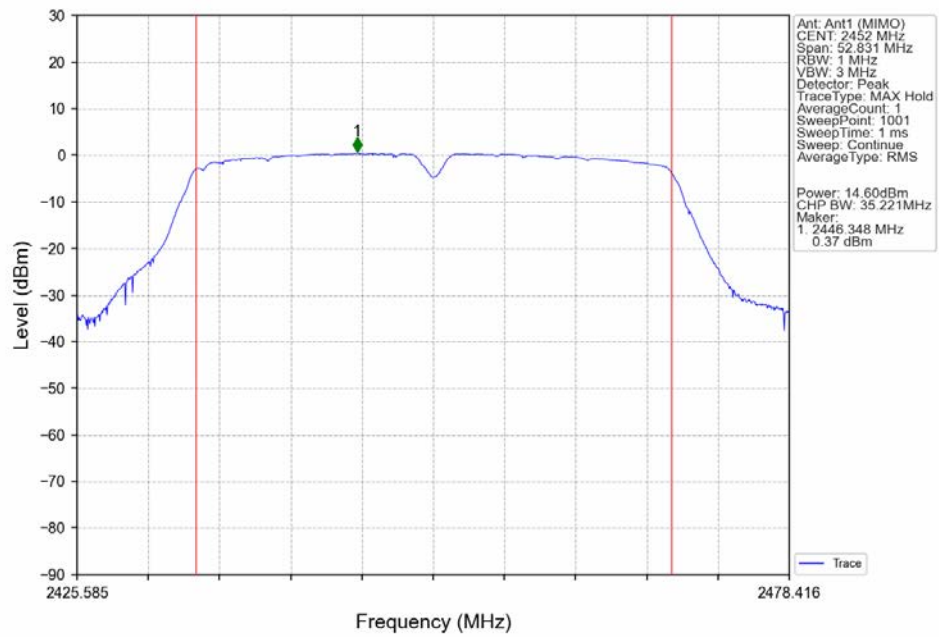
802.11ax(HEW40) MCH 2437MHz SU / Ant1 (MIMO) NTN



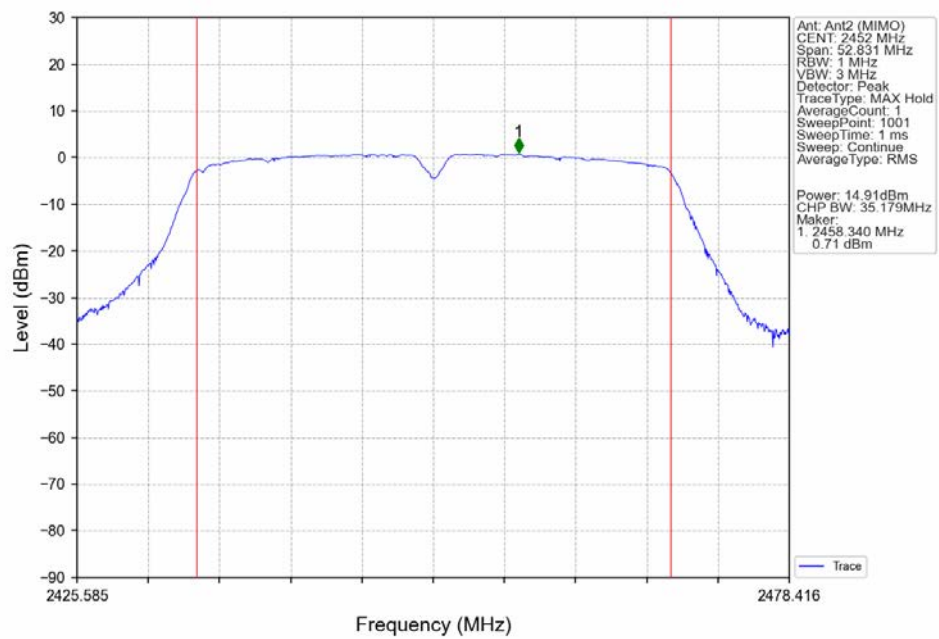
802.11ax(HEW40) MCH 2437MHz SU / Ant2 (MIMO) NTN



802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTN



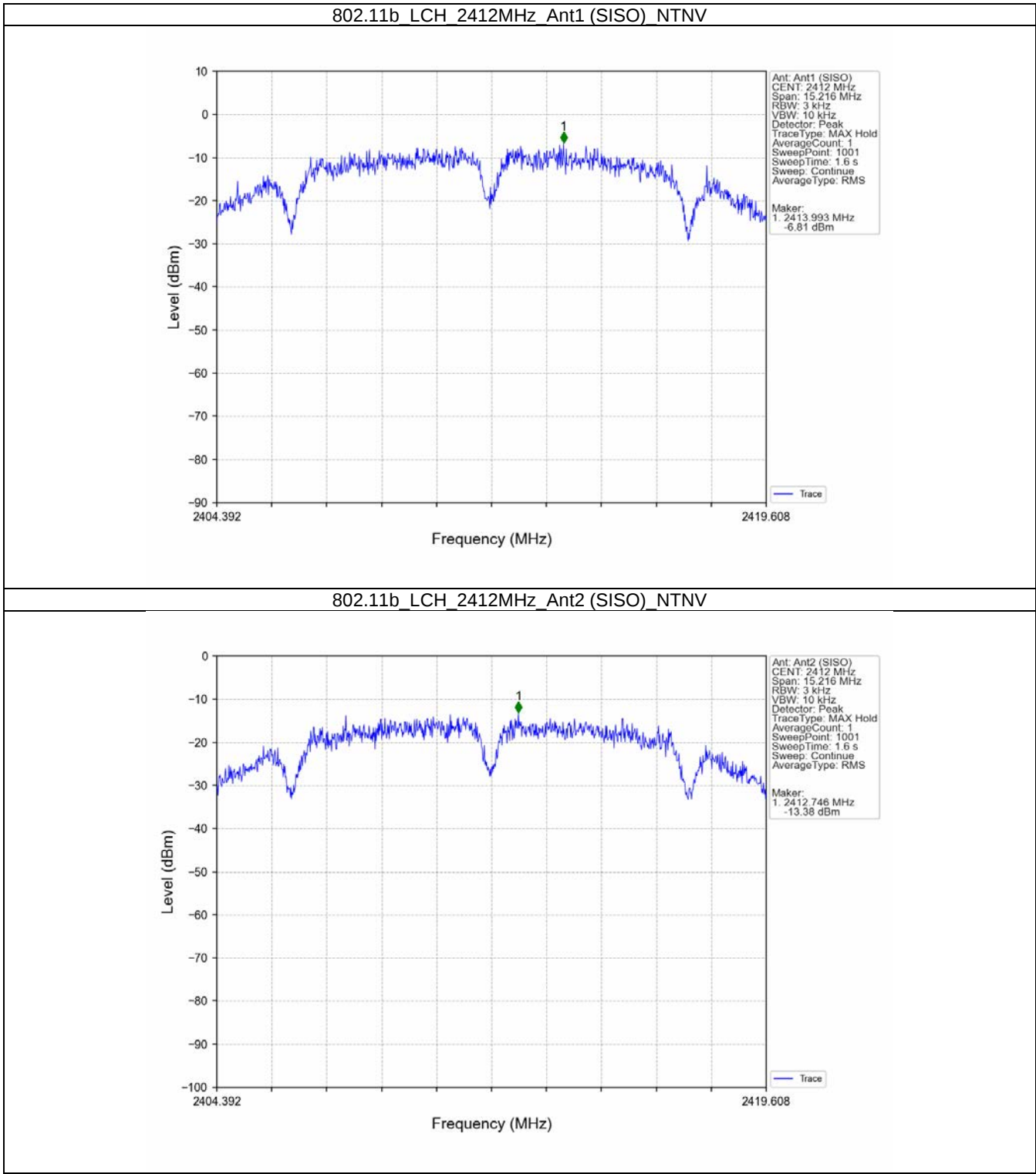
802.11ax(HEW40)_HCH_2452MHz_SU / _Ant2 (MIMO)_NTN



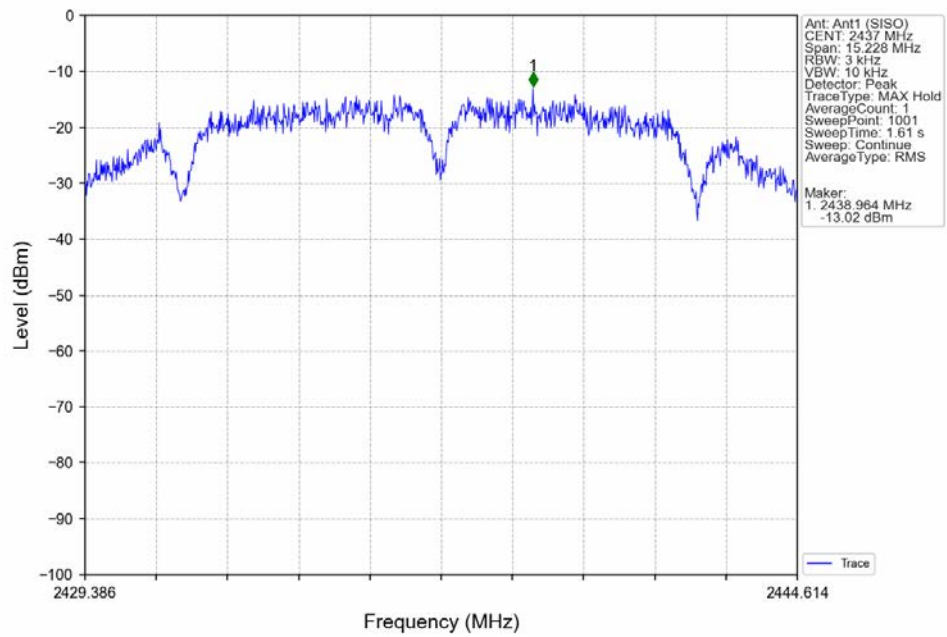
Note2: Directional Gain: (Directional Gain = 4.19dBi + 10 log(2) = 7.2dBi)

4.2 Test Graph

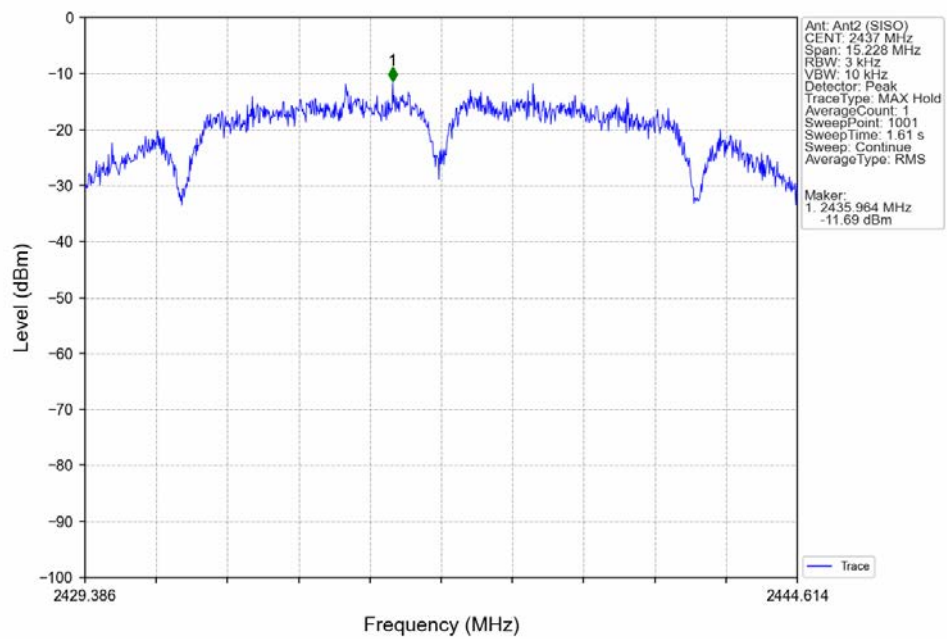
4.2.1 PSD



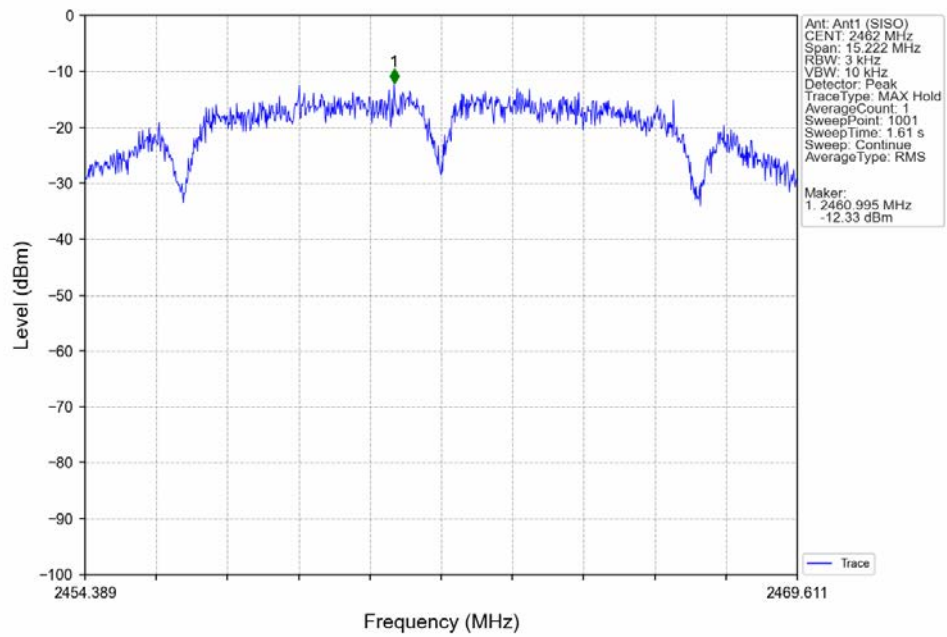
802.11b MCH 2437MHz Ant1 (SISO) NTN



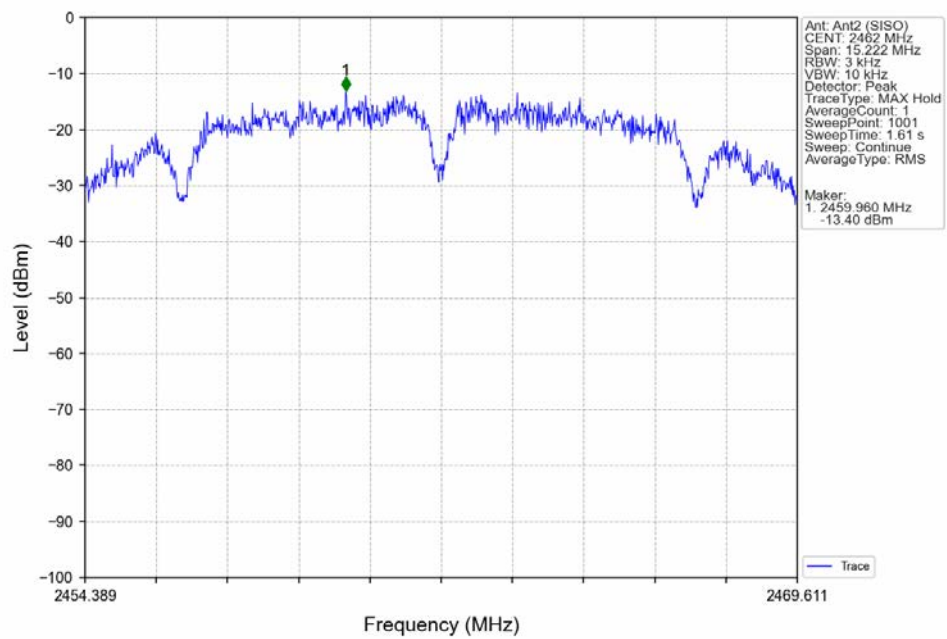
802.11b_MCH_2437MHz_Ant2 (SISO) NTN



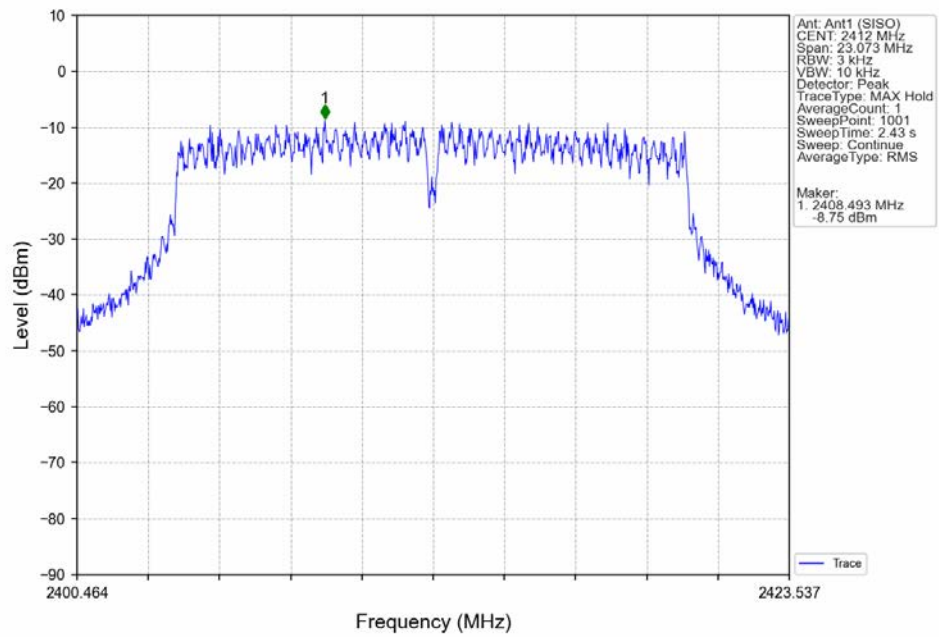
802.11b HCH 2462MHz Ant1 (SISO) NTN



802.11b_HCH_2462MHz_Ant2 (SISO) NTN



802.11g_LCH_2412MHz_Ant1 (SISO) NTN



802.11g_LCH_2412MHz_Ant2 (SISO) NTN

