

Appendix RF test data for WIFI2.4G

(Module 2: BL-M8852BS2)

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

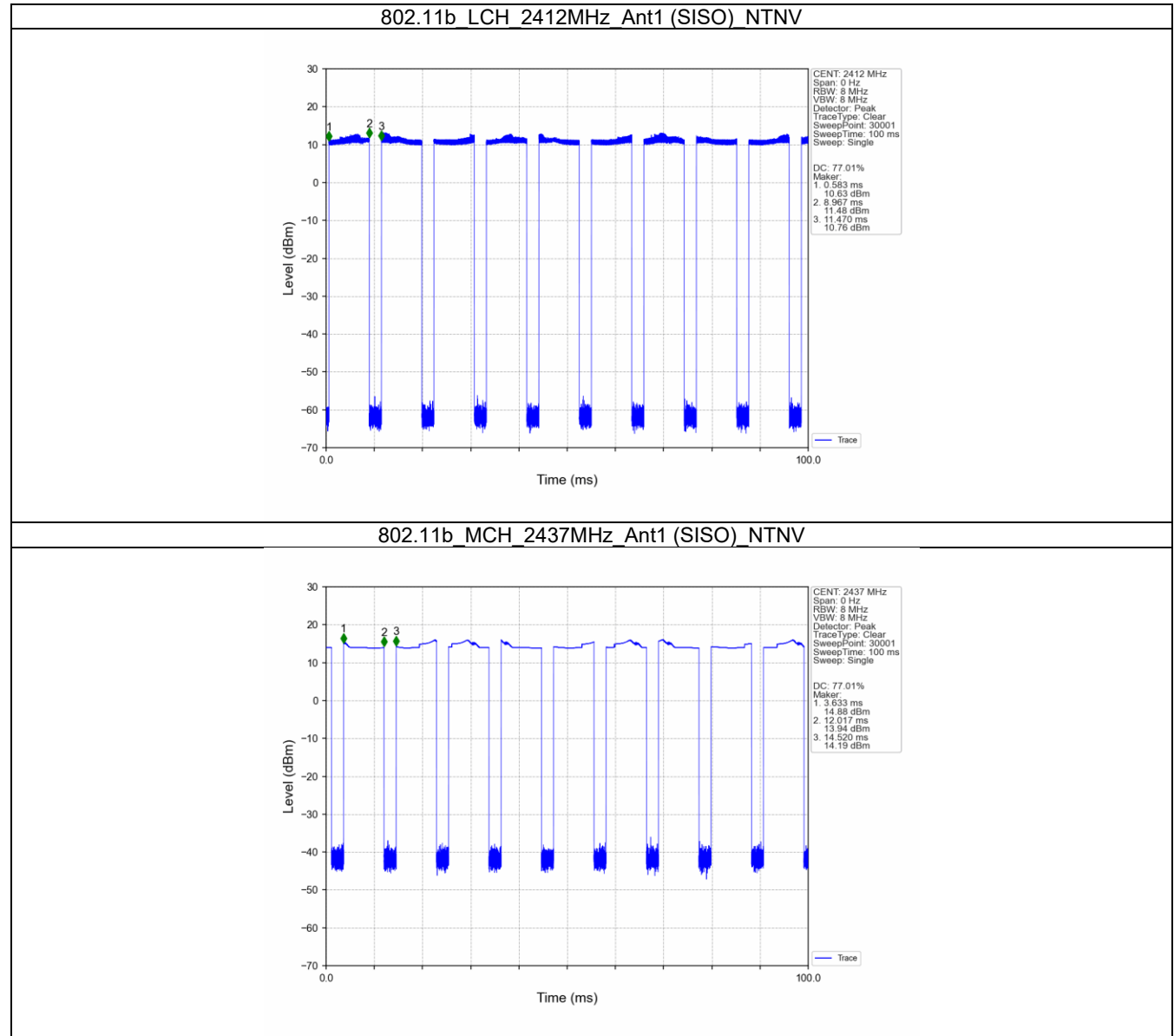
Ant1									
Mode	Tx Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	8.384	10.887	77.01	1.13	0.03
		2437	/	/	8.384	10.887	77.01	1.13	0.03
		2462	/	/	8.383	10.887	77.00	1.14	0.03
802.11g	SISO	2412	/	/	1.360	3.863	35.21	4.53	0.03
		2437	/	/	1.360	3.863	35.21	4.53	0.03
		2462	/	/	1.360	3.863	35.21	4.53	0.03
802.11n (HT20)	MIMO	2412	/	/	1.301	1.802	72.20	1.41	0.01
		2437	/	/	1.301	1.803	72.16	1.42	0.04
		2462	/	/	1.301	1.802	72.20	1.41	0.04
802.11n (HT40)	MIMO	2422	/	/	0.649	3.151	20.60	6.86	0.03
		2437	/	/	0.649	1.151	56.39	2.49	0.02
		2452	/	/	0.649	1.151	56.39	2.49	0.02
802.11ax (HEW20)	MIMO	2412	SU	/	1.011	1.513	66.82	1.75	0.01
		2437	SU	/	1.010	1.512	66.80	1.75	0.03
		2462	SU	/	1.010	1.512	66.80	1.75	0.03
802.11ax (HEW40)	MIMO	2422	SU	/	0.534	1.036	51.54	2.88	0.02
		2437	SU	/	0.534	1.036	51.54	2.88	0.02
		2452	SU	/	0.534	1.036	51.54	2.88	0.02

1.1.2 Ant2

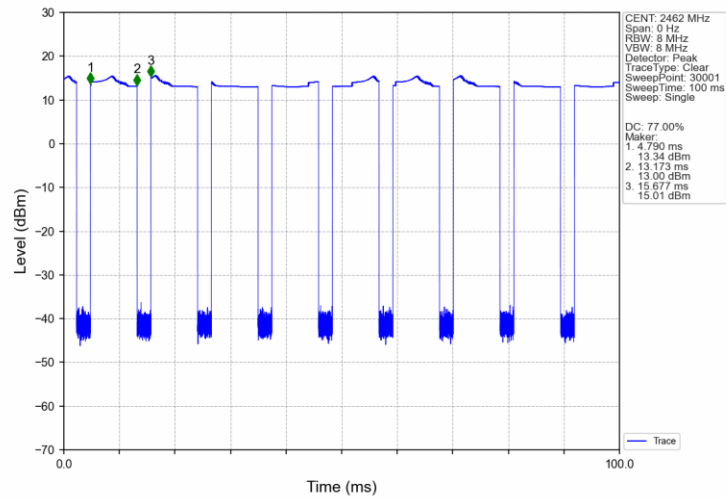
Ant2									
Mode	Tx Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	8.383	10.886	77.01	1.13	0.03
		2437	/	/	100.000	100.000	100.00	0.00	0.00
		2462	/	/	8.383	10.887	77.00	1.14	0.03
802.11g	SISO	2412	/	/	1.360	3.863	35.21	4.53	0.03
		2437	/	/	1.360	3.862	35.21	4.53	0.03
		2462	/	/	1.360	3.863	35.21	4.53	0.03
802.11n (HT20)	MIMO	2412	/	/	1.301	1.803	72.16	1.42	0.03
		2437	/	/	1.300	1.803	72.10	1.42	0.06
		2462	/	/	1.301	1.803	72.16	1.42	0.03
802.11n (HT40)	MIMO	2422	/	/	0.648	3.151	20.56	6.87	0.03
		2437	/	/	0.648	1.150	56.35	2.49	0.03
		2452	/	/	0.587	1.089	53.90	2.68	0.03
802.11ax (HEW20)	MIMO	2412	SU	/	1.011	1.513	66.82	1.75	0.04
		2437	SU	/	1.010	1.511	66.84	1.75	0.03
		2462	SU	/	1.010	1.512	66.80	1.75	0.01
802.11ax (HEW40)	MIMO	2422	SU	/	0.534	1.037	51.49	2.88	0.03
		2437	SU	/	0.534	1.036	51.54	2.88	0.04
		2452	SU	/	0.534	1.037	51.49	2.88	0.04

1.2 Test Graph

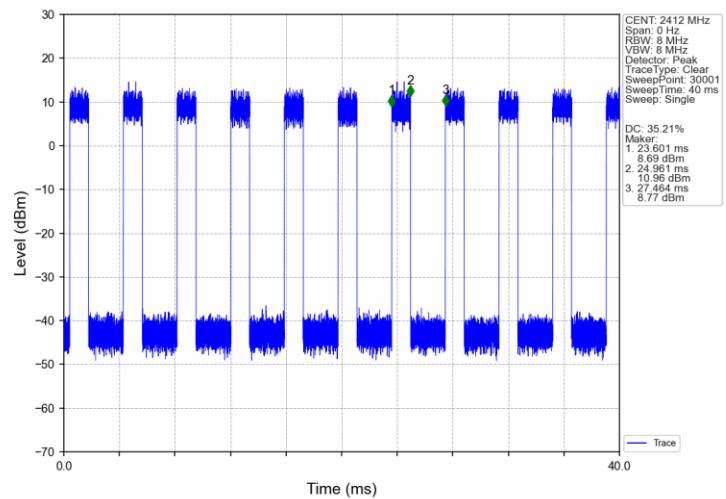
1.2.1 Ant1



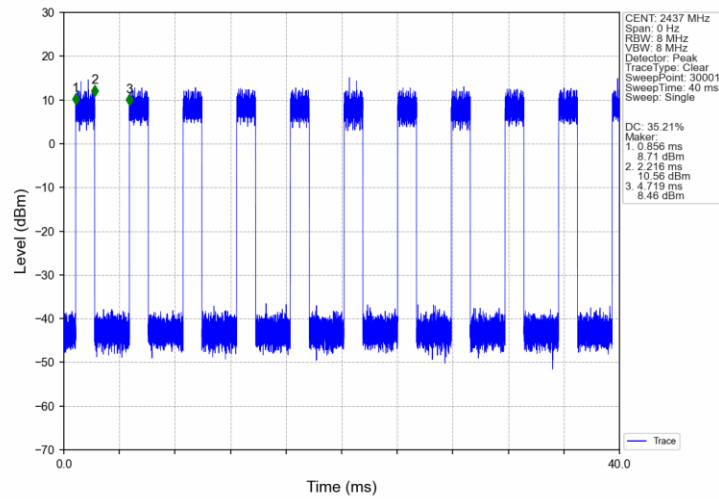
802.11b HCH 2462MHz_Ant1 (SISO) NTN



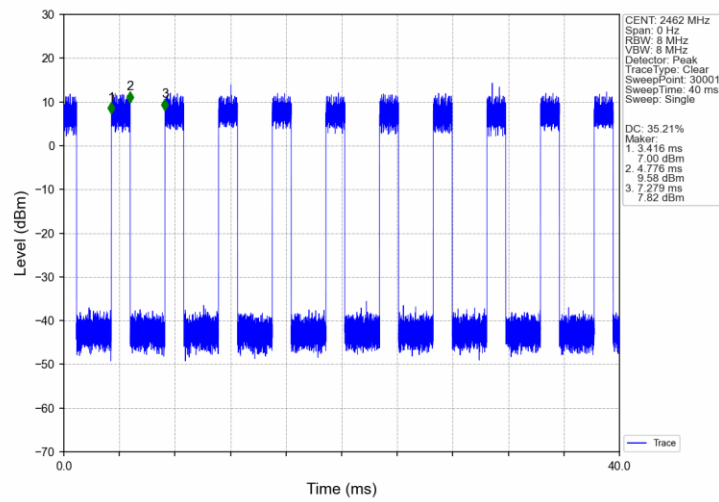
802.11g LCH 2412MHz_Ant1 (SISO) NTN



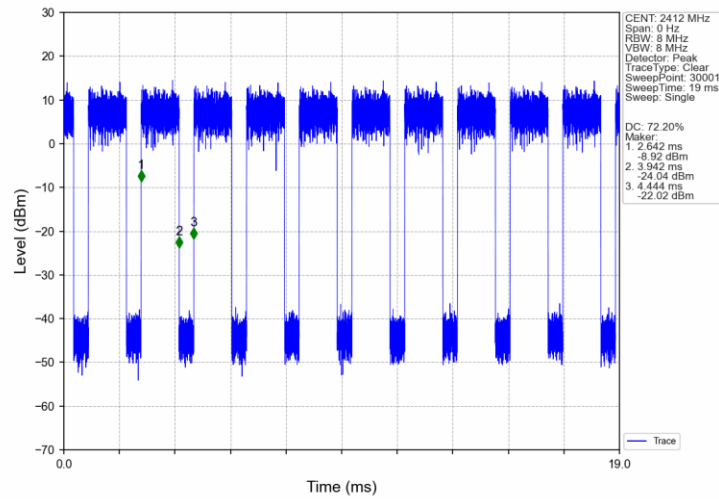
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



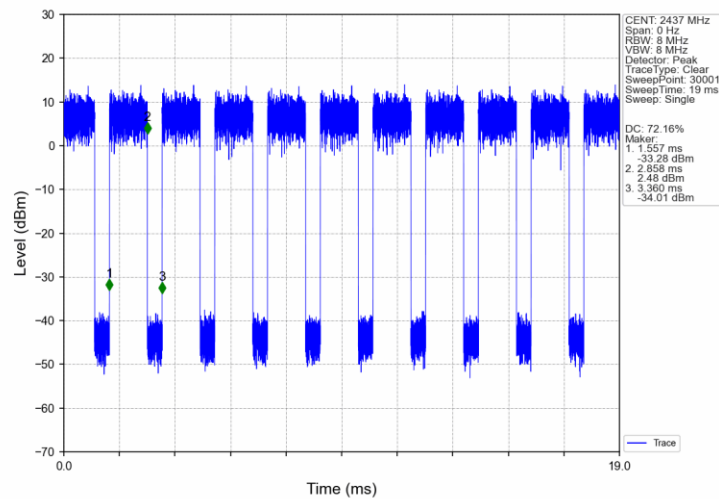
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



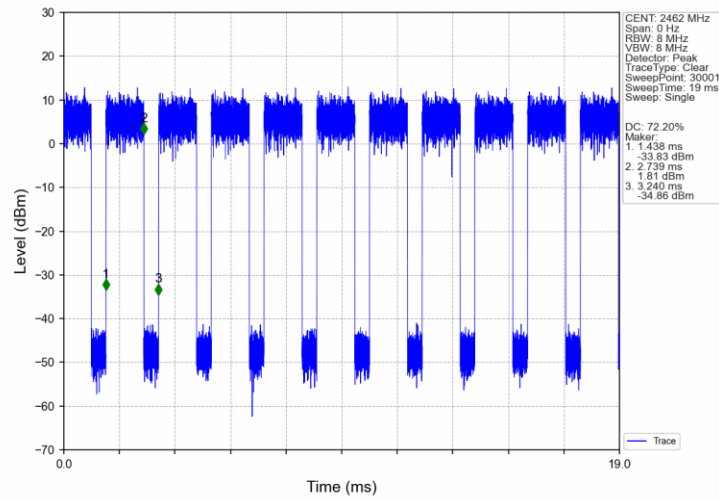
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



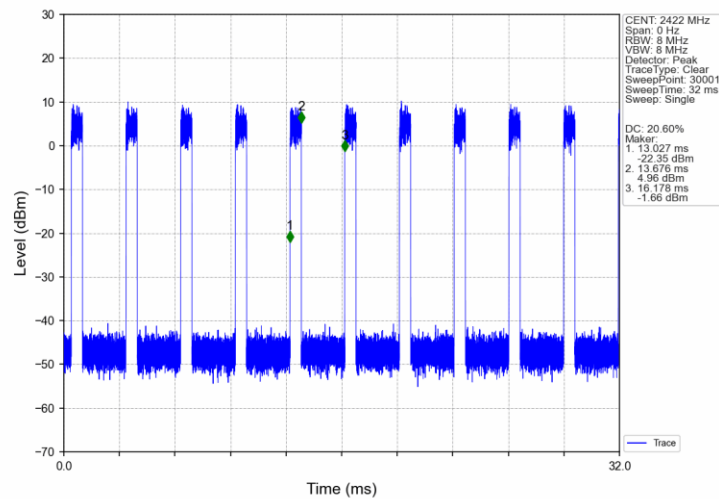
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



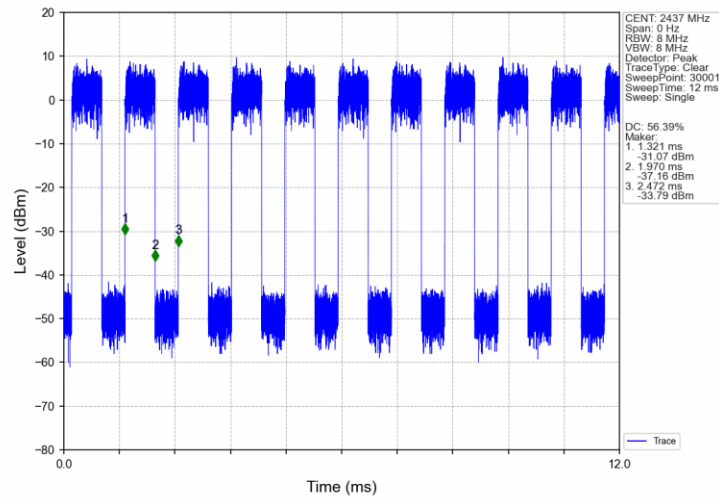
802.11n(HT20) HCH 2462MHz_Ant1 (MIMO) NTNv



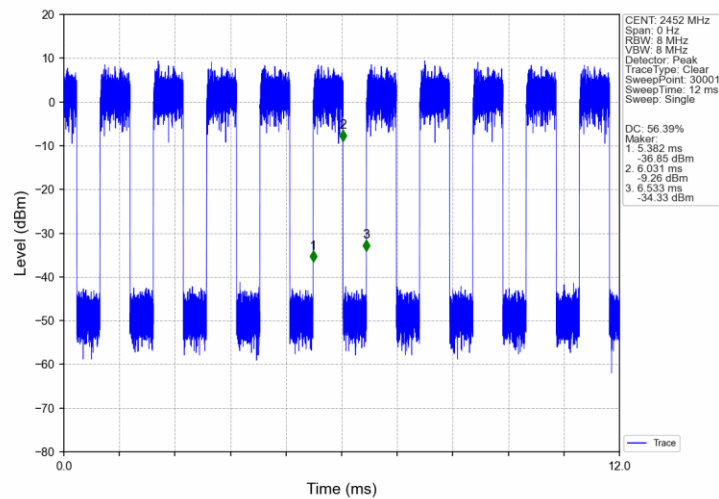
802.11n(HT40) LCH 2422MHz_Ant1 (MIMO) NTNv



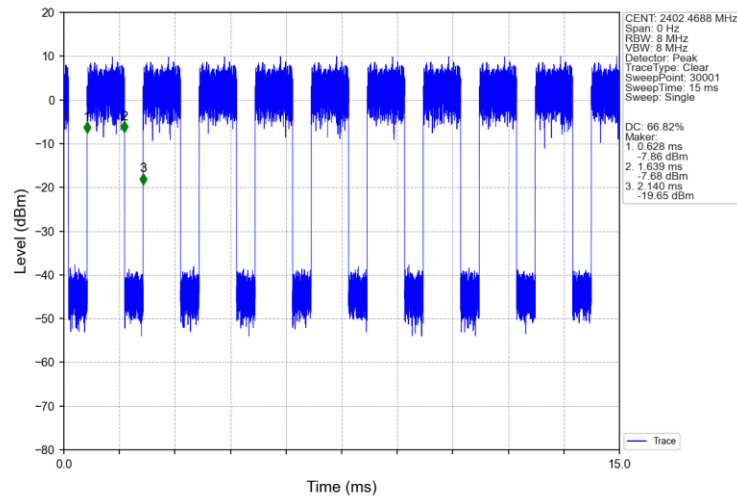
802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTNV



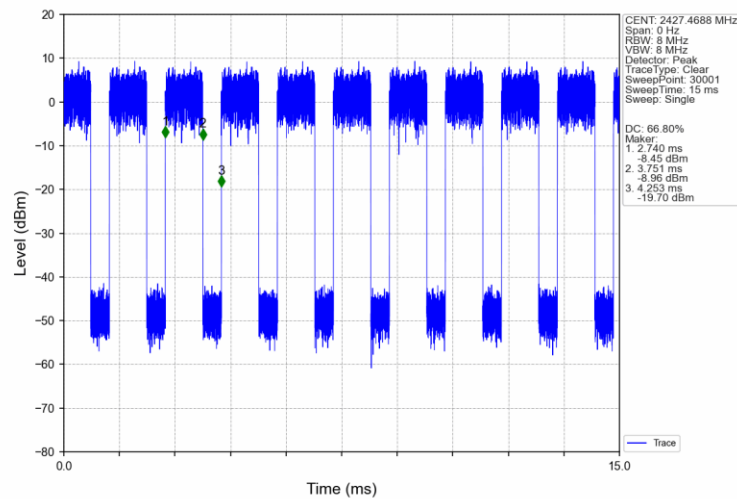
802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTNV



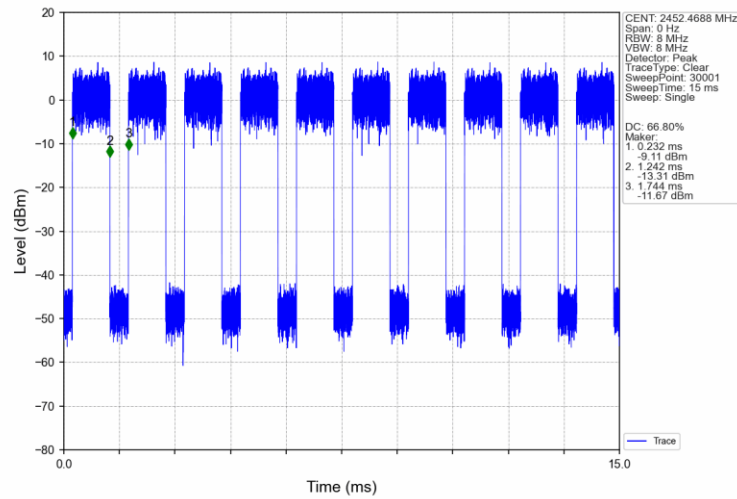
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



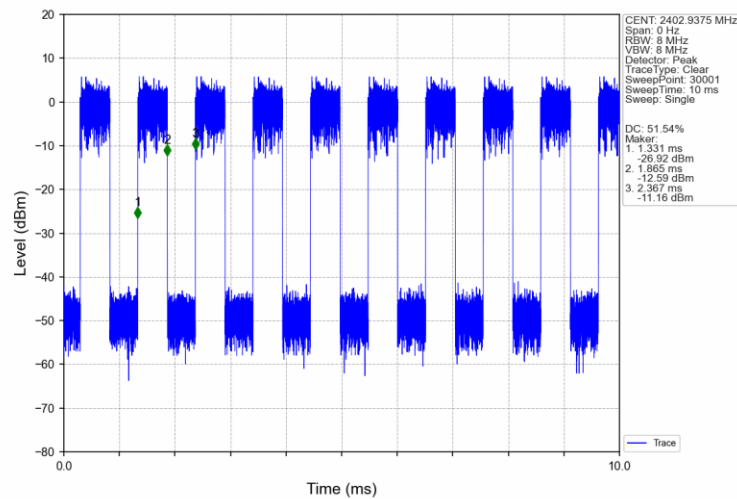
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



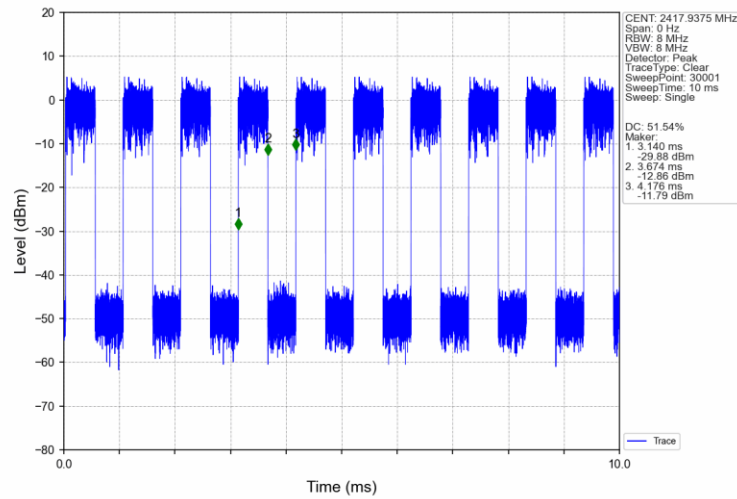
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



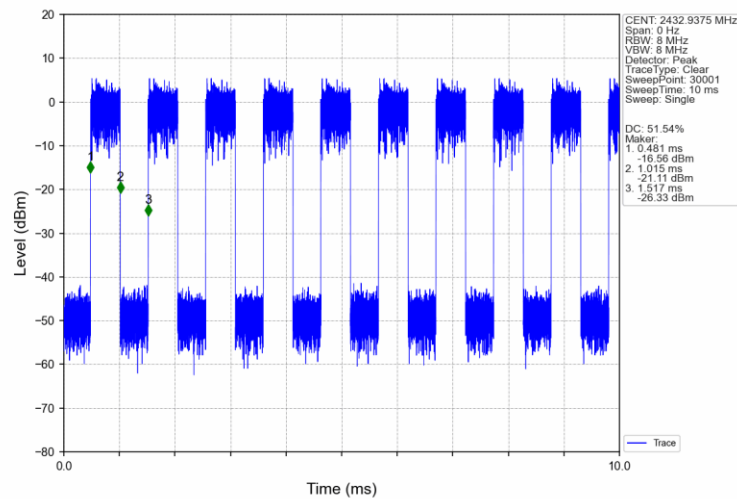
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



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

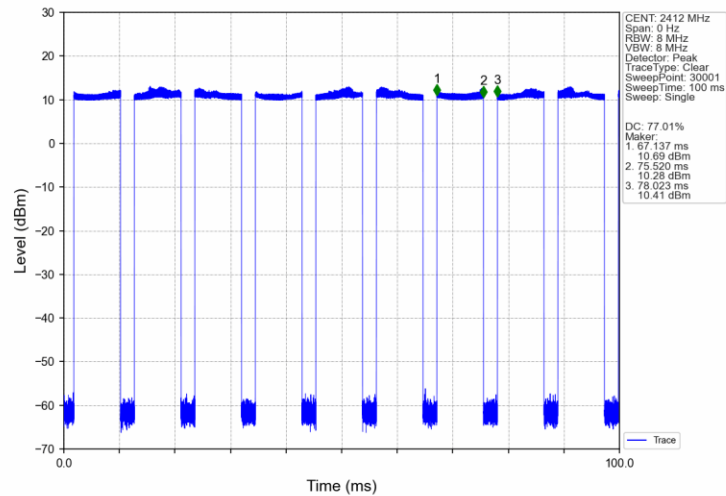


802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTV

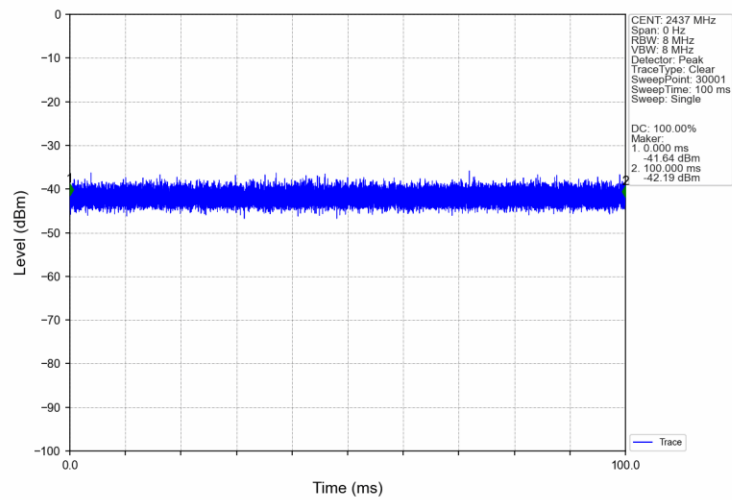


1.2.2 Ant2

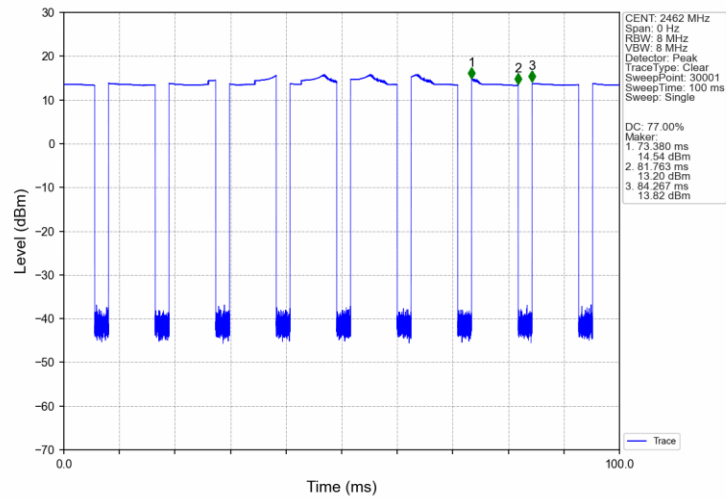
802.11b LCH 2412MHz_Ant2 (SISO)_NTNV



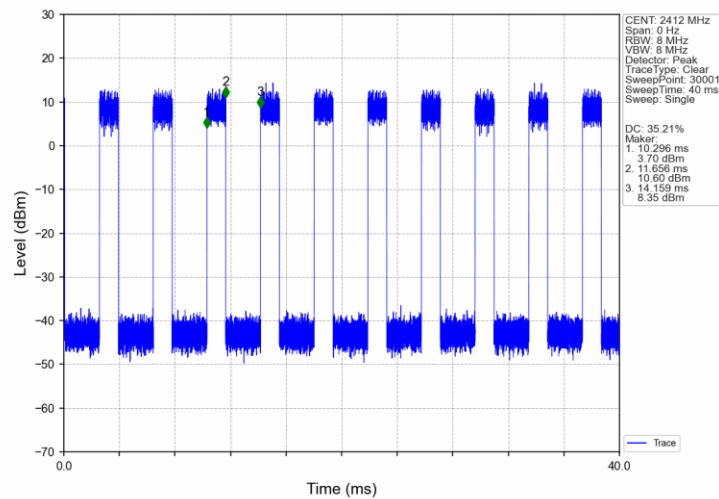
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



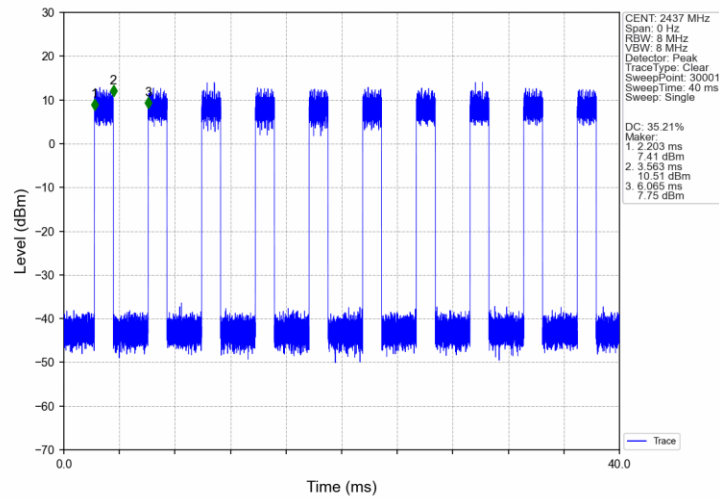
802.11b HCH 2462MHz_Ant2 (SISO) NTNv



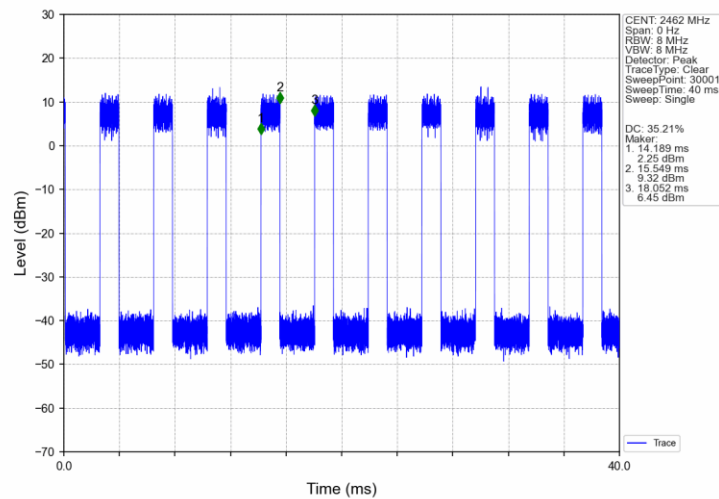
802.11g LCH 2412MHz_Ant2 (SISO) NTNv



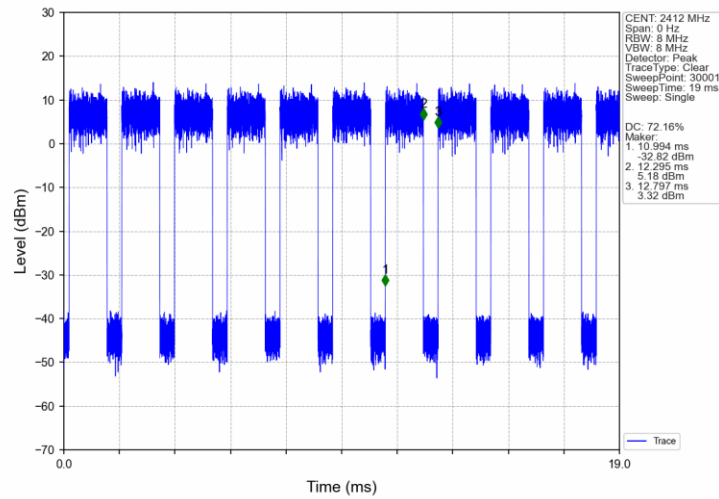
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



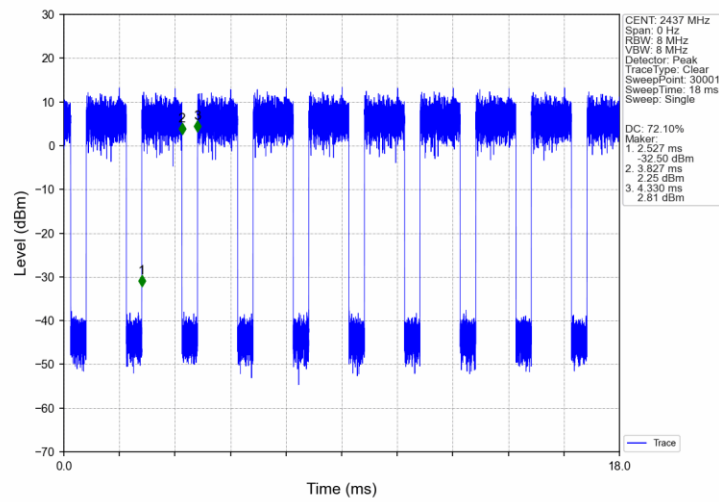
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



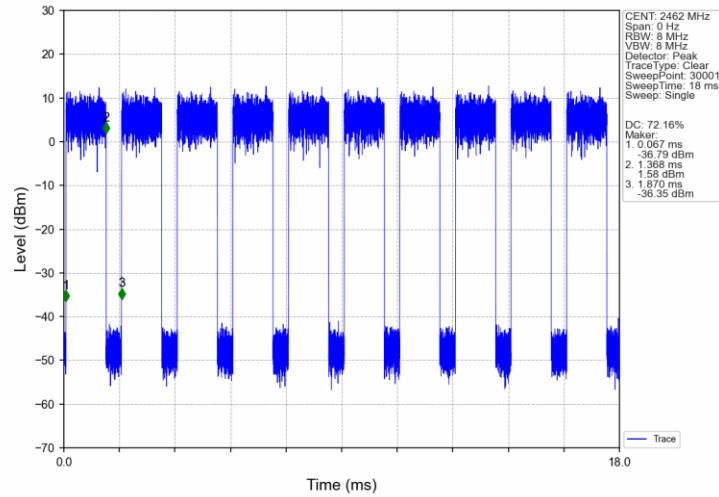
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



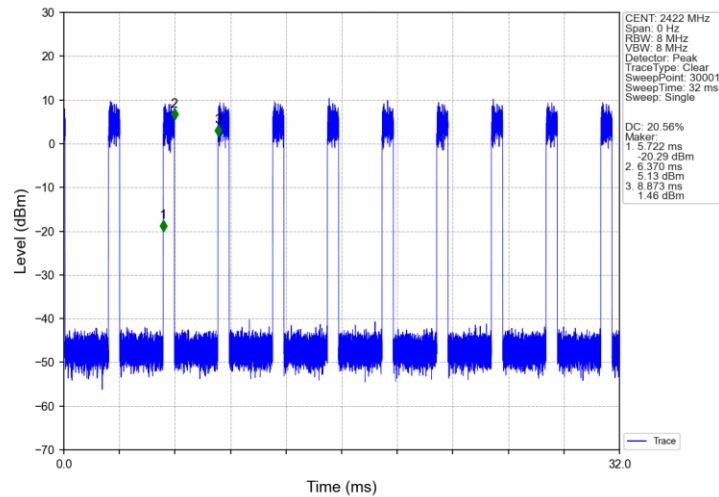
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



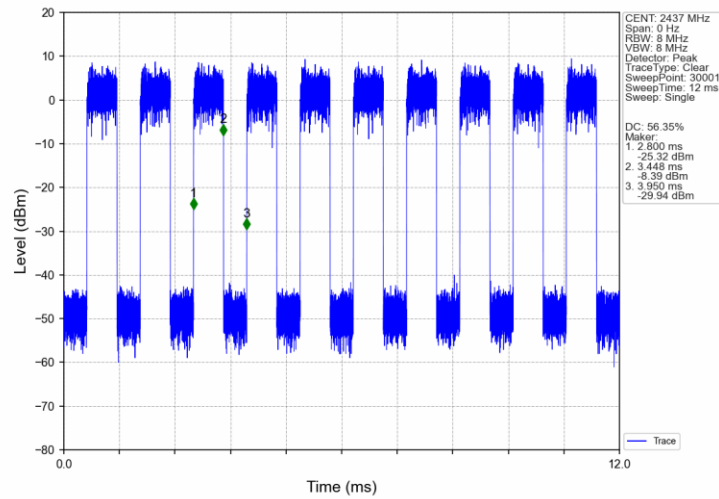
802.11n(HT20) HCH 2462MHz_Ant2 (MIMO) NTN



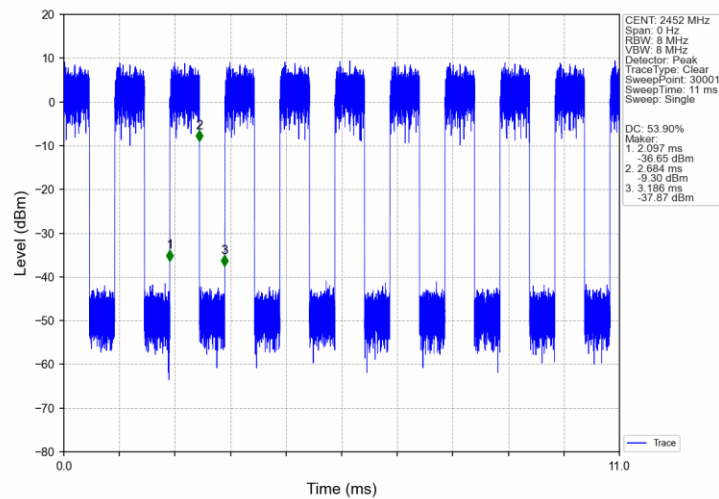
802.11n(HT40) LCH 2422MHz_Ant2 (MIMO) NTN



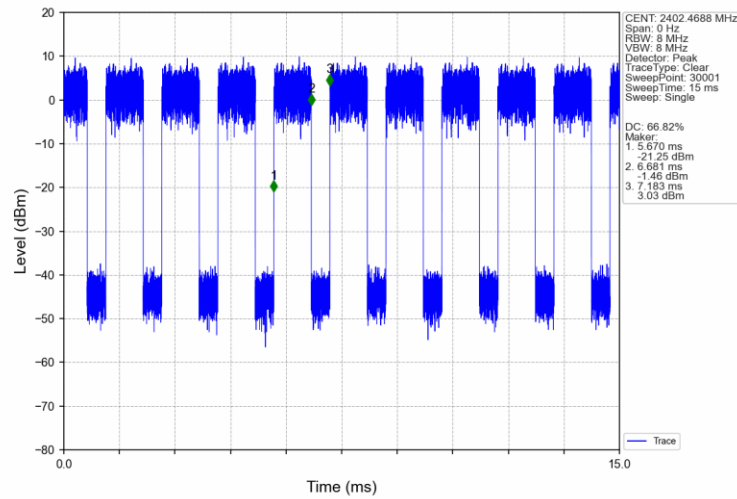
802.11n(HT40) MCH 2437MHz_Ant2 (MIMO) NTNv



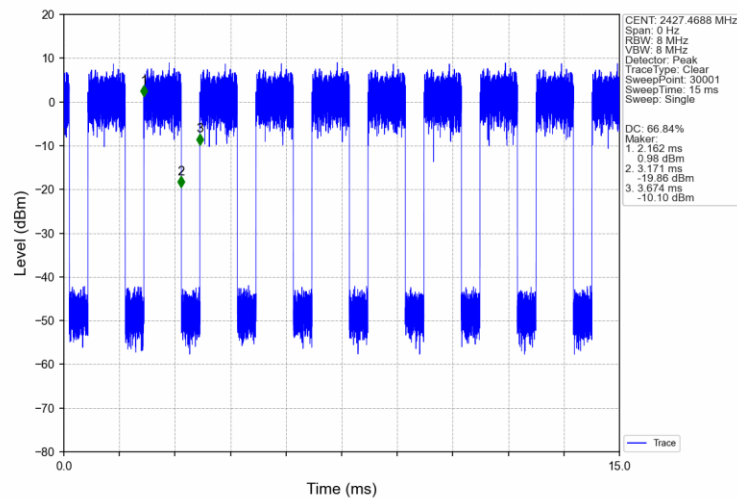
802.11n(HT40) HCH 2452MHz_Ant2 (MIMO) NTNv



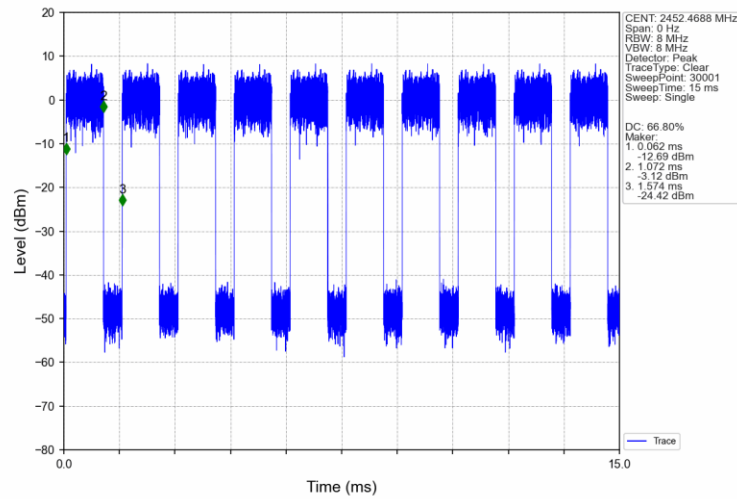
802.11ax(HEW20) LCH 2412MHz SU / Ant2 (MIMO) NTN



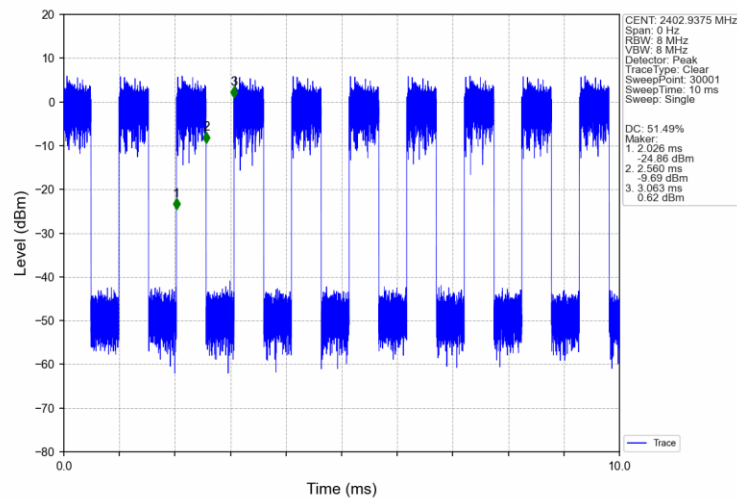
802.11ax(HEW20) MCH 2437MHz SU / Ant2 (MIMO) NTN



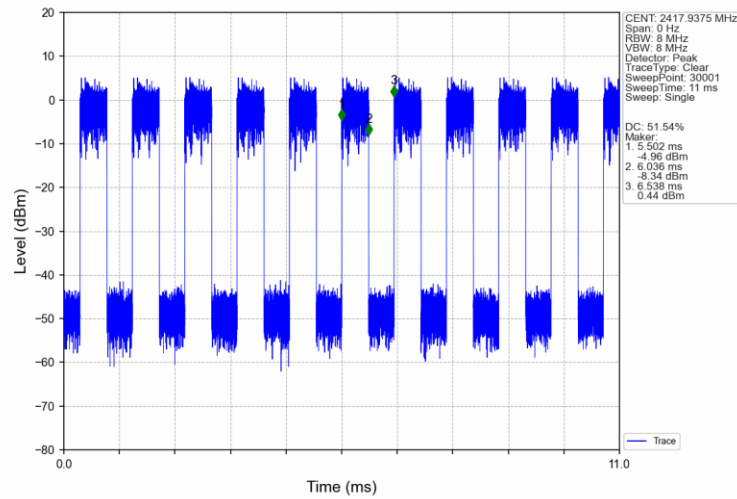
802.11ax(HEW20) HCH 2462MHz SU / Ant2 (MIMO) NTNV



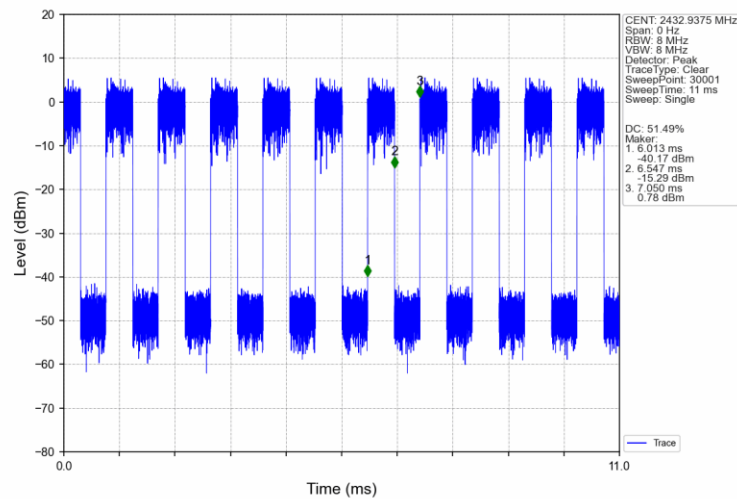
802.11ax(HEW40) LCH 2422MHz SU / Ant2 (MIMO) NTNV



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



802.11ax(HEW40) HCH 2452MHz SU / Ant2 (MIMO) NTNV



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	14.882	/	Pass
		2437	/	/	1	14.908	/	Pass
		2462	/	/	1	14.958	/	Pass
802.11g	SISO	2412	/	/	1	16.663	/	Pass
		2437	/	/	1	16.706	/	Pass
		2462	/	/	1	16.722	/	Pass
802.11n (HT20)	MIMO	2412	/	/	1	17.770	/	Pass
		2437	/	/	1	17.783	/	Pass
		2462	/	/	1	17.814	/	Pass
802.11n (HT40)	MIMO	2422	/	/	1	36.379	/	Pass
		2437	/	/	1	36.262	/	Pass
		2452	/	/	1	36.330	/	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	1	19.031	/	Pass
		2437	SU	/	1	19.003	/	Pass
		2462	SU	/	1	19.040	/	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	1	38.184	/	Pass
		2437	SU	/	1	38.099	/	Pass
		2452	SU	/	1	38.172	/	Pass

Remark: both ANT1 and ANT2 tested, recorded the worst result of ANT1.

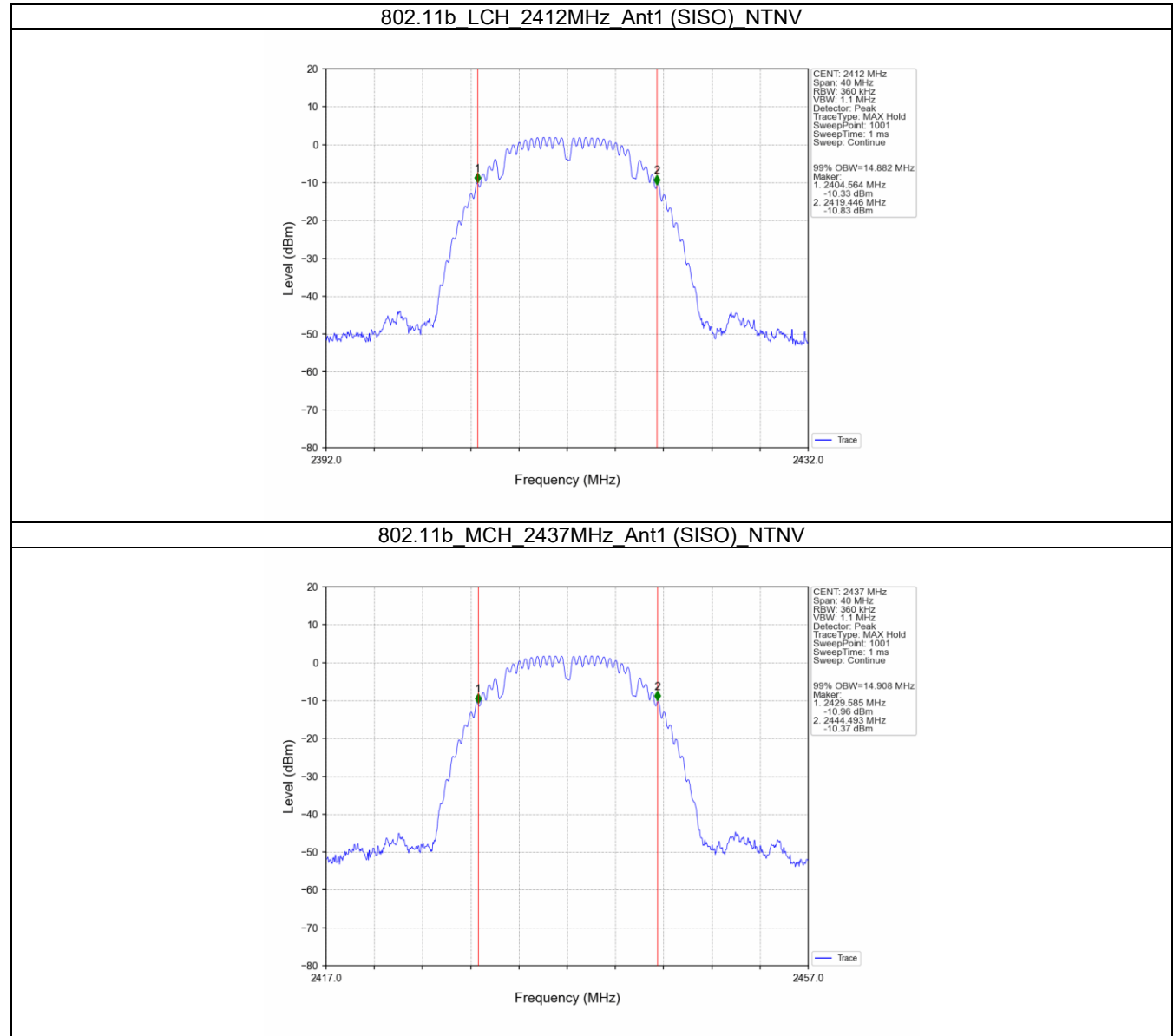
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	10.157	>=0.5	Pass
		2437	/	/	1	11.077	>=0.5	Pass
		2462	/	/	1	11.085	>=0.5	Pass
802.11g	SISO	2412	/	/	1	16.335	>=0.5	Pass
		2437	/	/	1	16.349	>=0.5	Pass
		2462	/	/	1	16.372	>=0.5	Pass
802.11n (HT20)	MIMO	2412	/	/	1	17.288	>=0.5	Pass
		2437	/	/	1	17.306	>=0.5	Pass
		2462	/	/	1	17.549	>=0.5	Pass
802.11n (HT40)	MIMO	2422	/	/	1	36.359	>=0.5	Pass
		2437	/	/	1	36.084	>=0.5	Pass
		2452	/	/	1	36.313	>=0.5	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	1	18.850	>=0.5	Pass
		2437	SU	/	1	18.840	>=0.5	Pass
		2462	SU	/	1	18.929	>=0.5	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	1	37.907	>=0.5	Pass
		2437	SU	/	1	37.876	>=0.5	Pass
		2452	SU	/	1	37.850	>=0.5	Pass

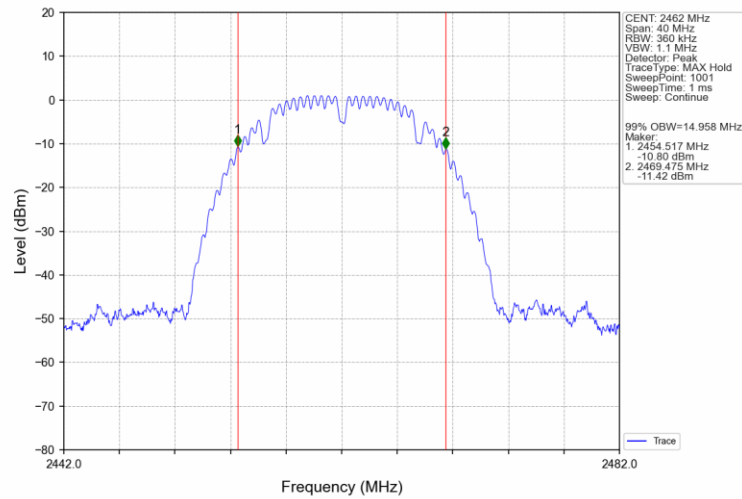
Remark: both ANT1 and ANT2 tested, recorded the worst result of ANT1.

2.2 Test Graph

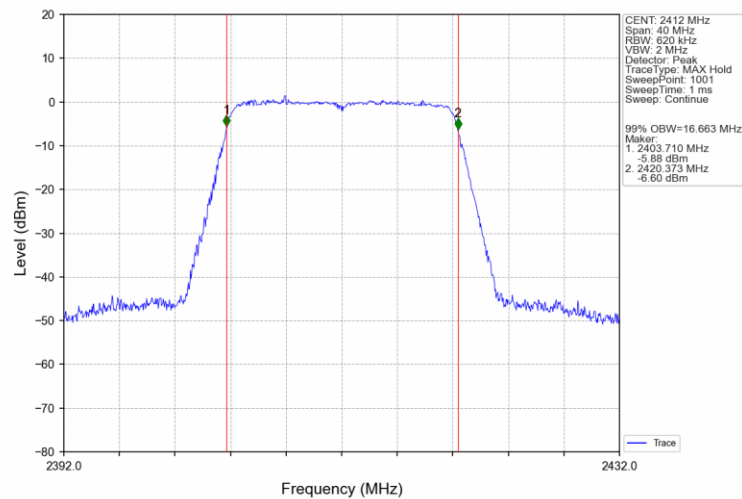
2.2.1 OBW



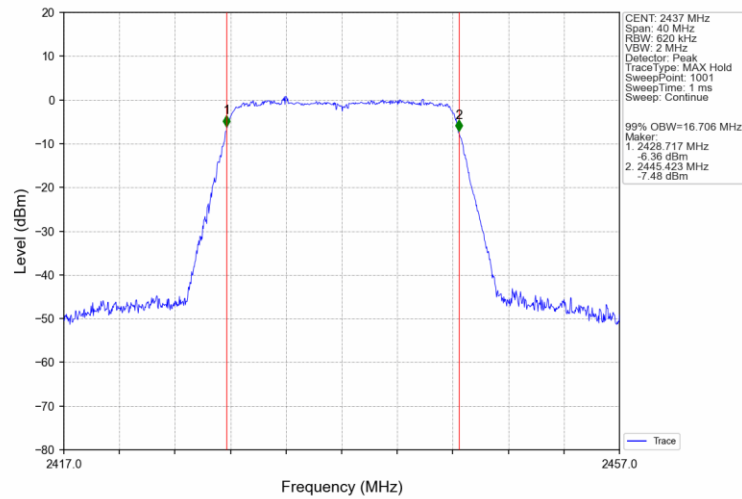
802.11b HCH 2462MHz_Ant1 (SISO) NTNv



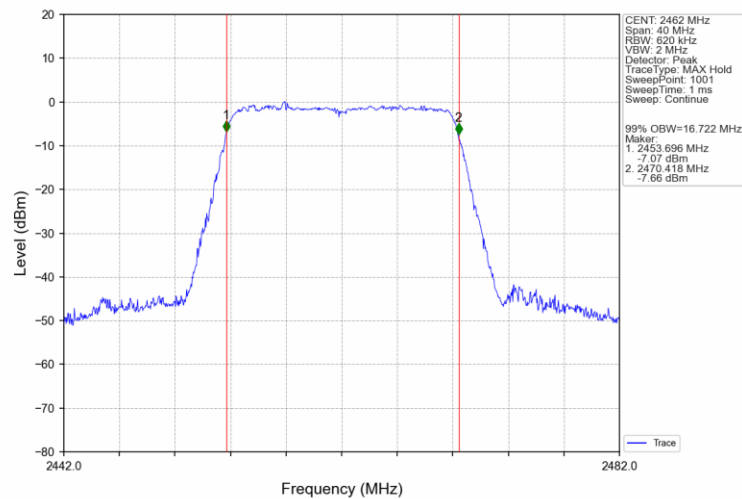
802.11g LCH 2412MHz_Ant1 (SISO) NTNv



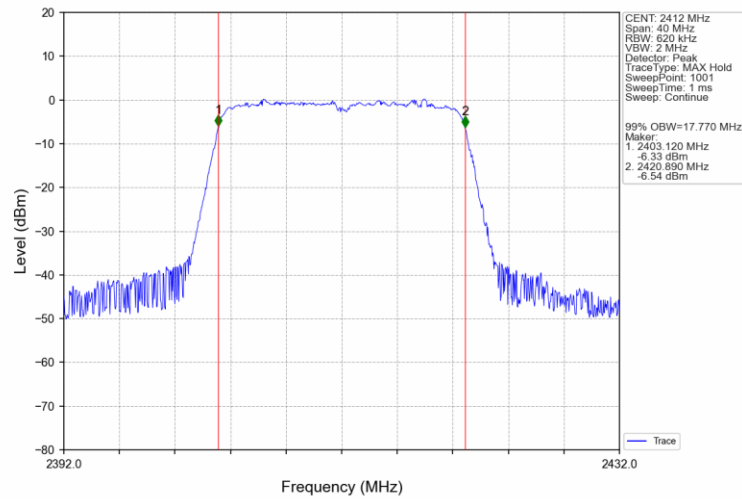
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



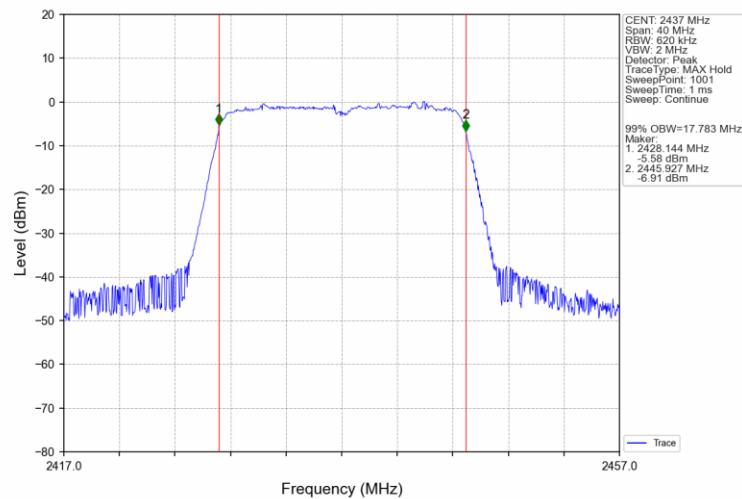
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



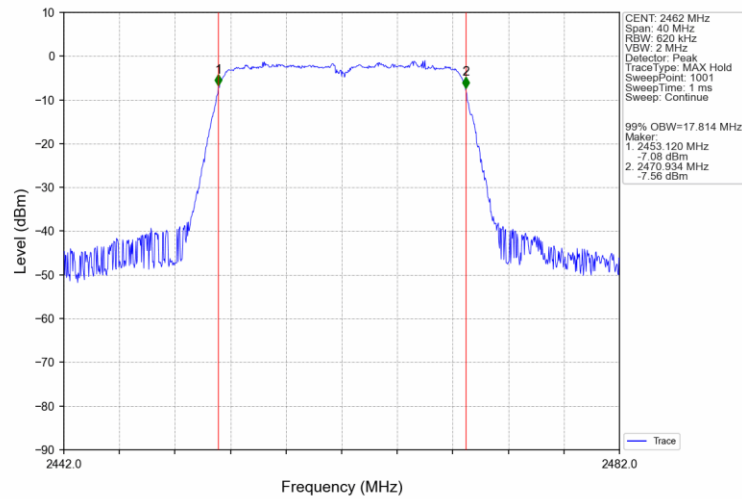
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTNV



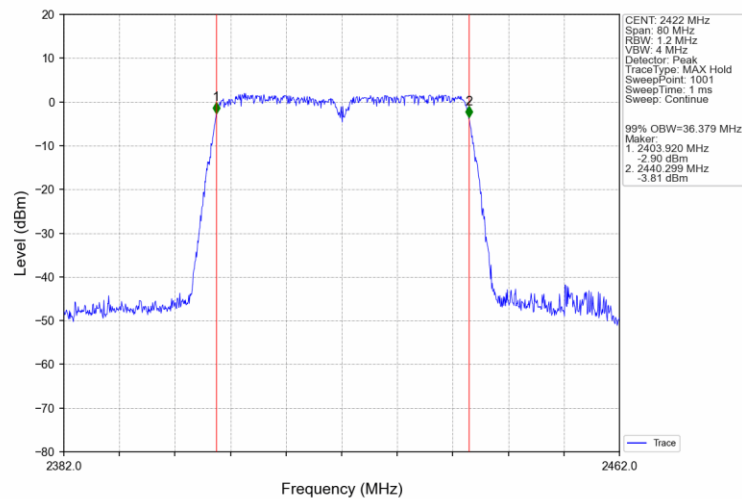
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTNV



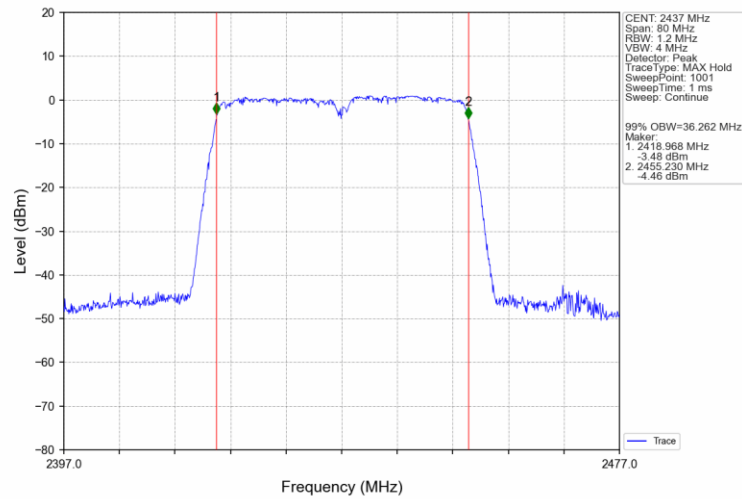
802.11n(HT20) HCH 2462MHz_Ant1 (MIMO) NTNv



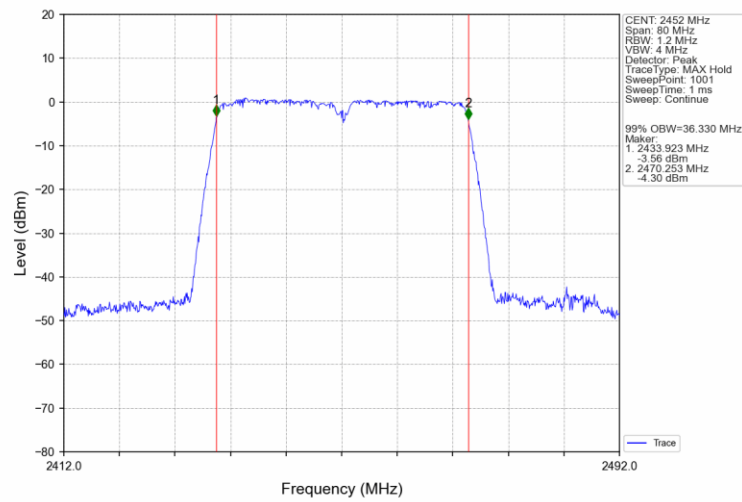
802.11n(HT40) LCH 2422MHz_Ant1 (MIMO) NTNv



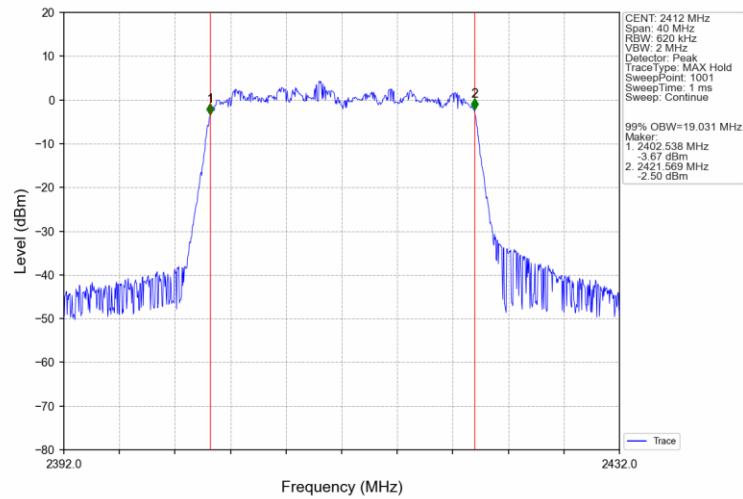
802.11n(HT40) MCH_2437MHz_Ant1 (MIMO) NTNV



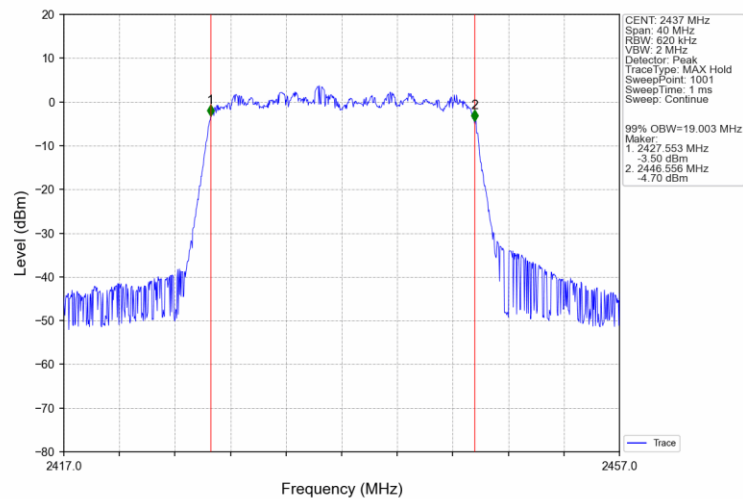
802.11n(HT40) HCH_2452MHz_Ant1 (MIMO) NTNV



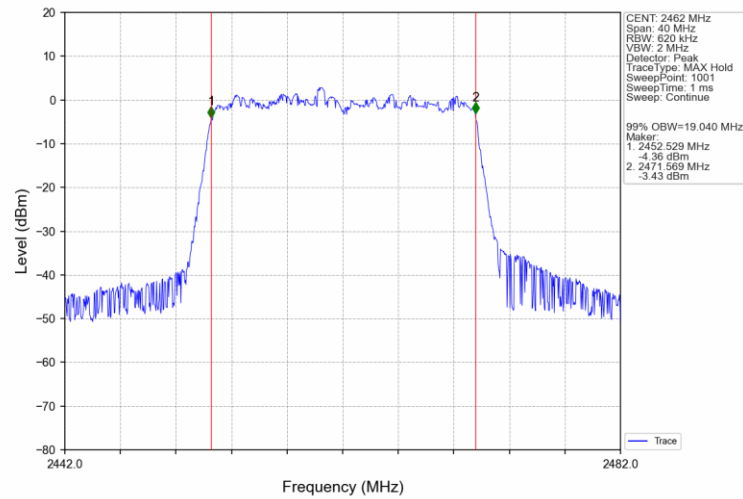
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



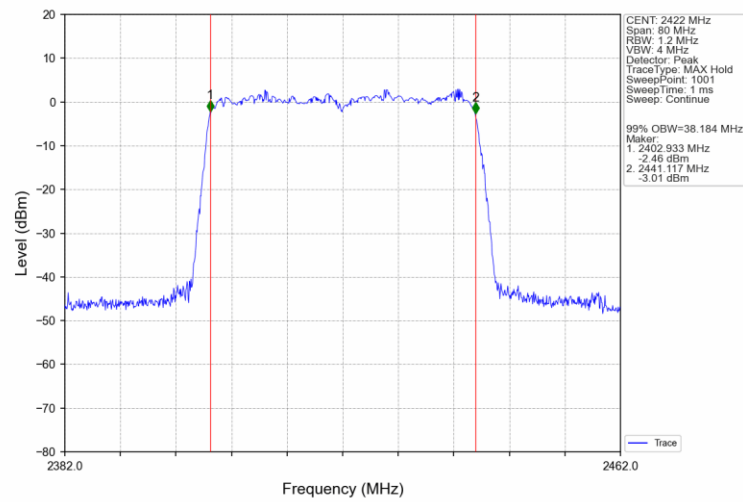
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



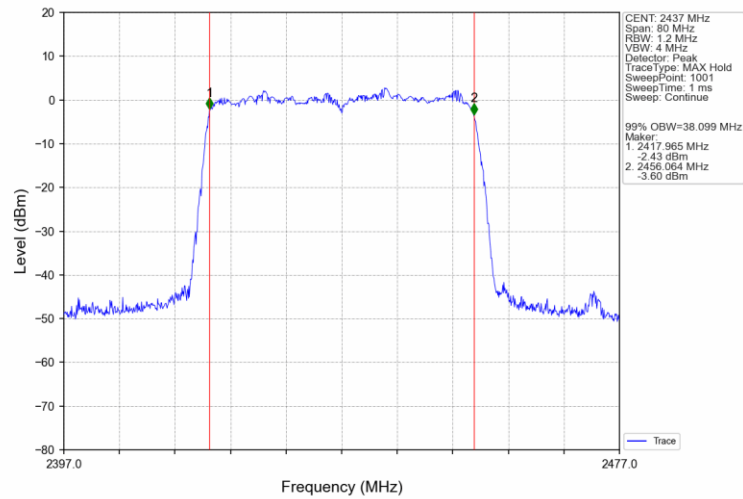
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



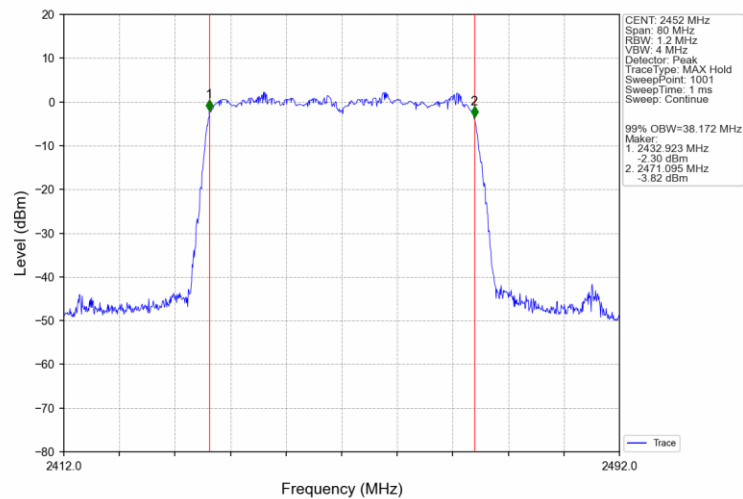
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



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

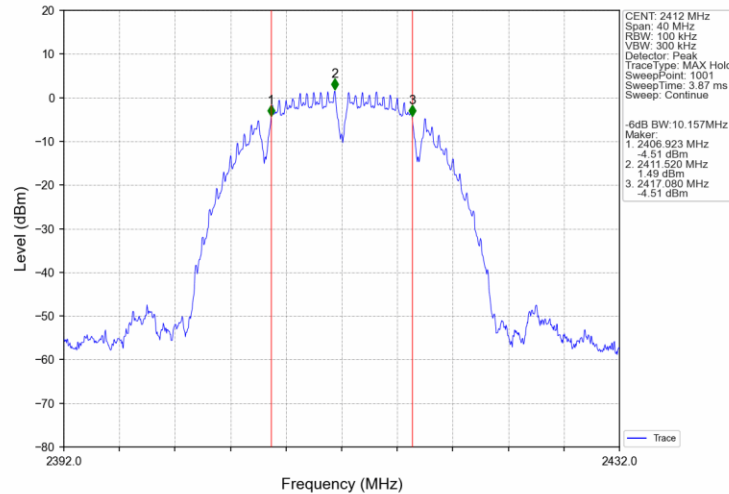


802.11ax(HEW40) HCH 2452MHz SU / Ant1 (MIMO) NTV

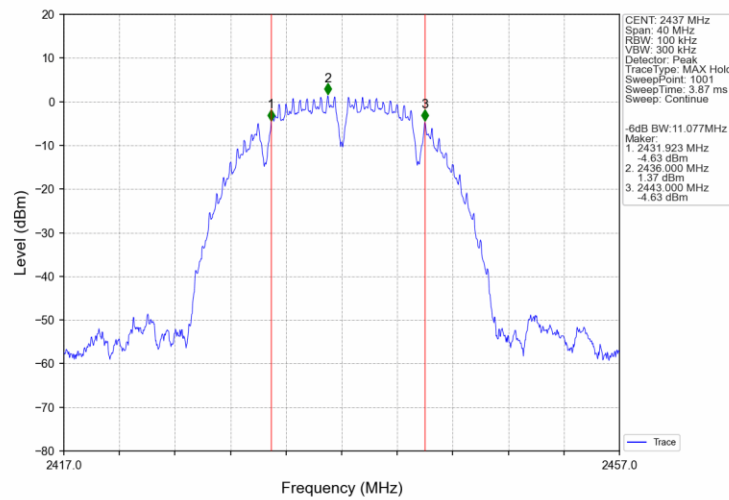


2.2.2 6dB BW

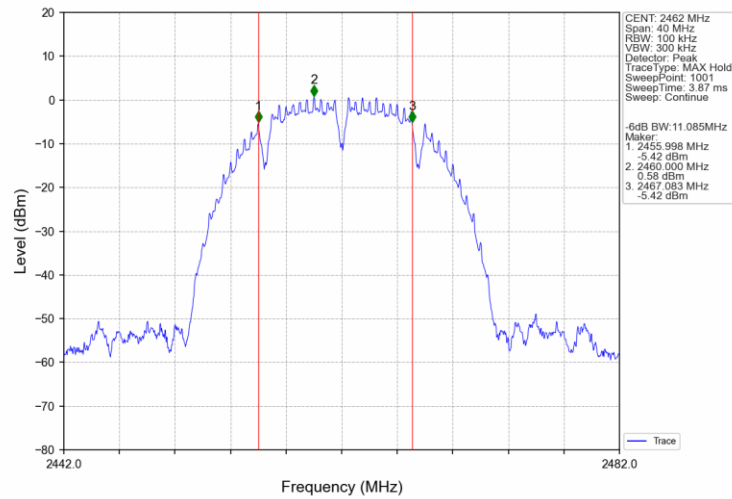
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



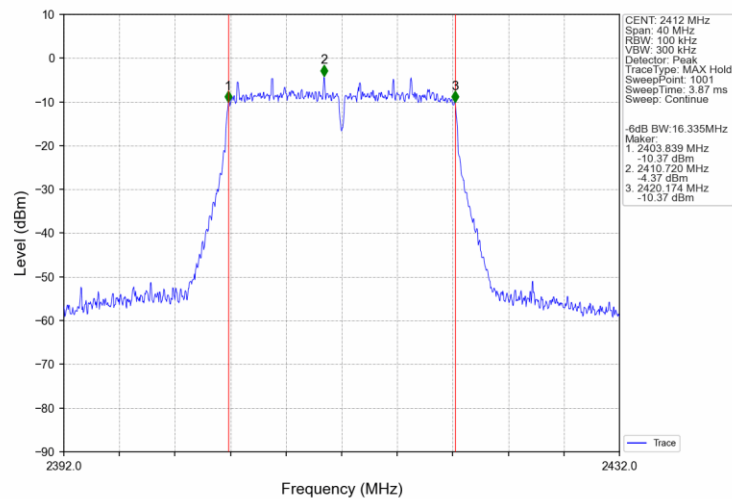
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



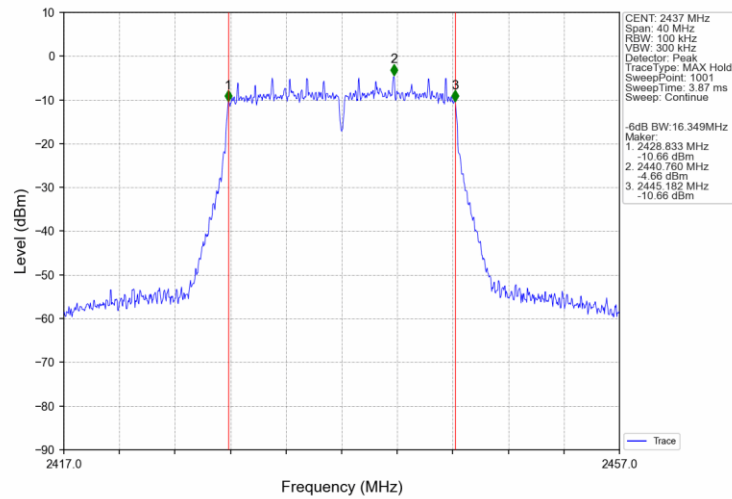
802.11b HCH 2462MHz_Ant1 (SISO) NTNv



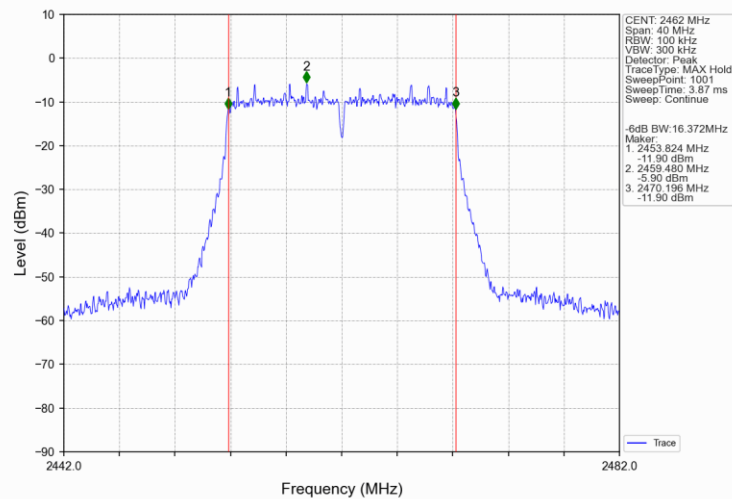
802.11g LCH 2412MHz_Ant1 (SISO) NTNv



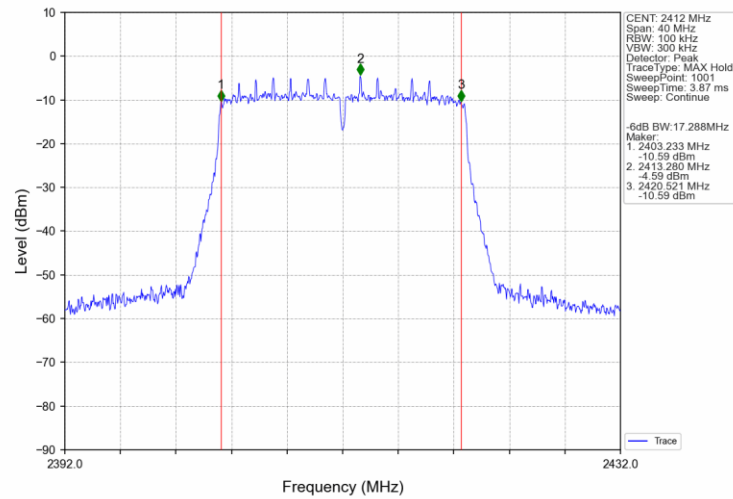
802.11g MCH 2437MHz Ant1 (SISO) NTN



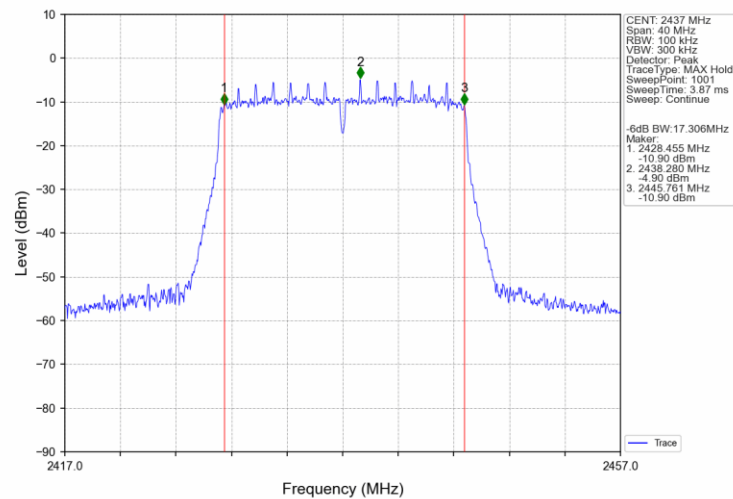
802.11g HCH 2462MHz Ant1 (SISO) NTN



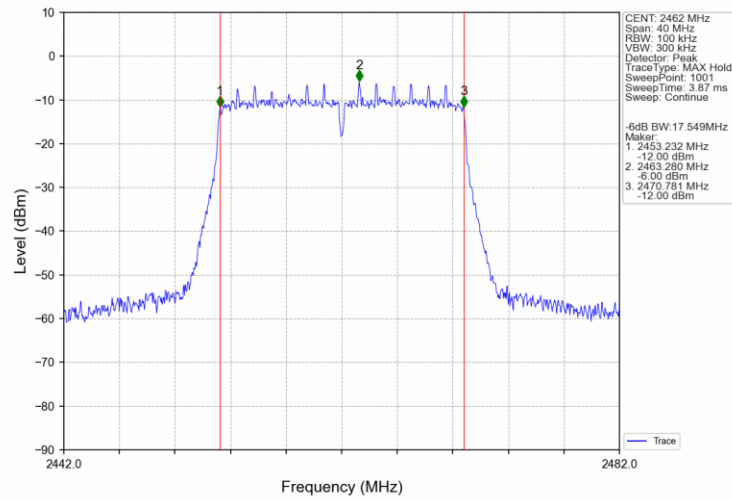
802.11n(HT20) LCH 2412MHz Ant1 (MIMO) NTNV



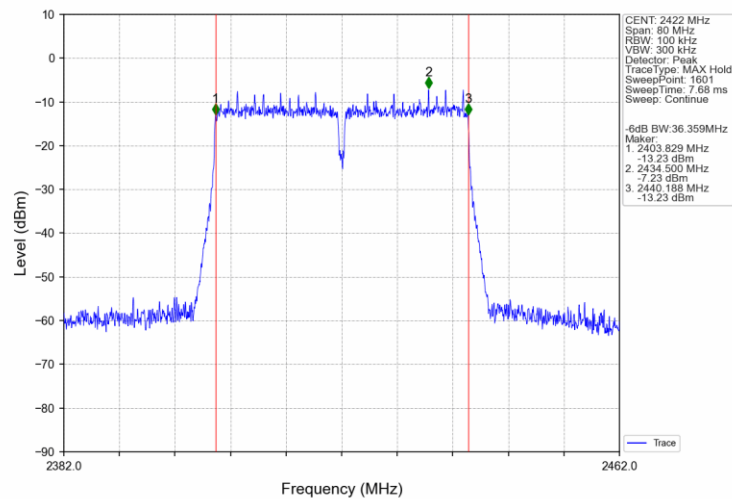
802.11n(HT20) MCH 2437MHz Ant1 (MIMO) NTNV



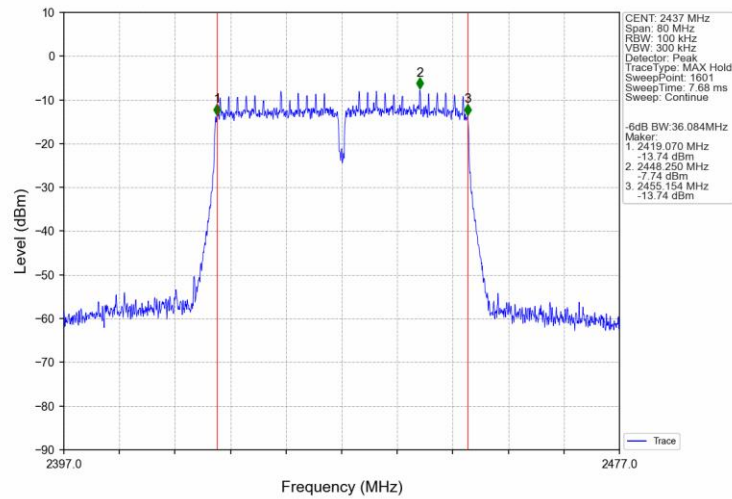
802.11n(HT20) HCH 2462MHz Ant1 (MIMO) NTNV



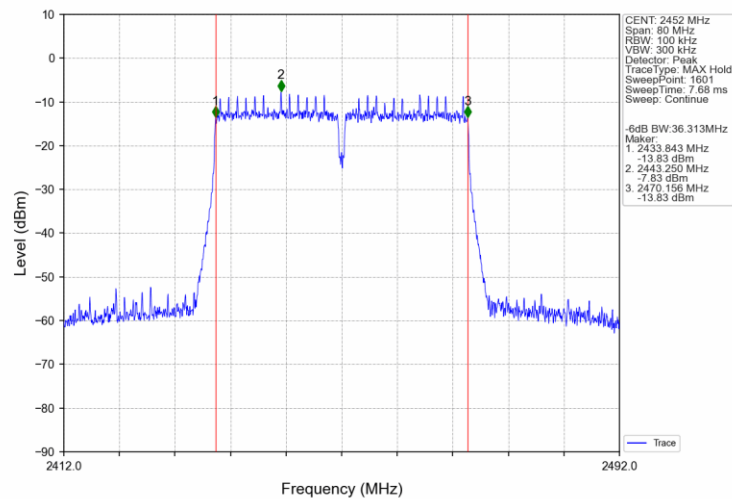
802.11n(HT40) LCH 2422MHz Ant1 (MIMO) NTNV



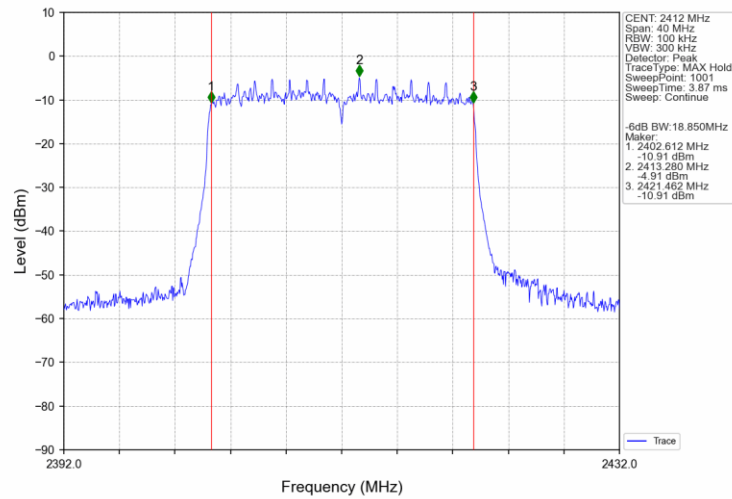
802.11n(HT40) MCH 2437MHz Ant1 (MIMO) NTNV



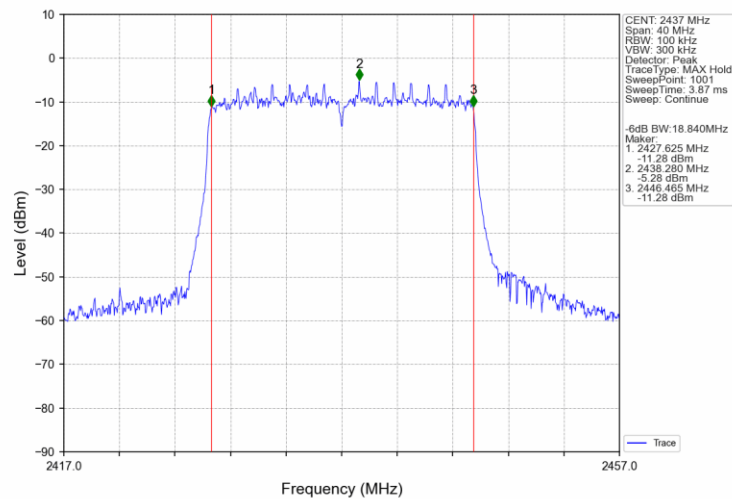
802.11n(HT40) HCH 2452MHz Ant1 (MIMO) NTNV



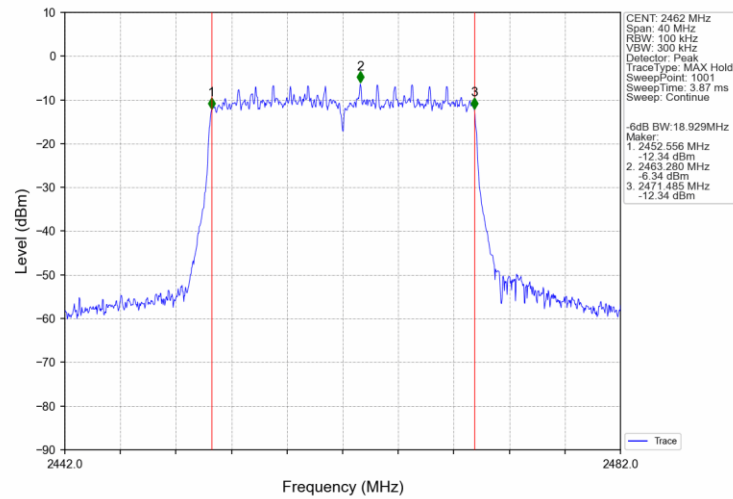
802.11ax(HEW20) LCH 2412MHz SU / Ant1 (MIMO) NTN



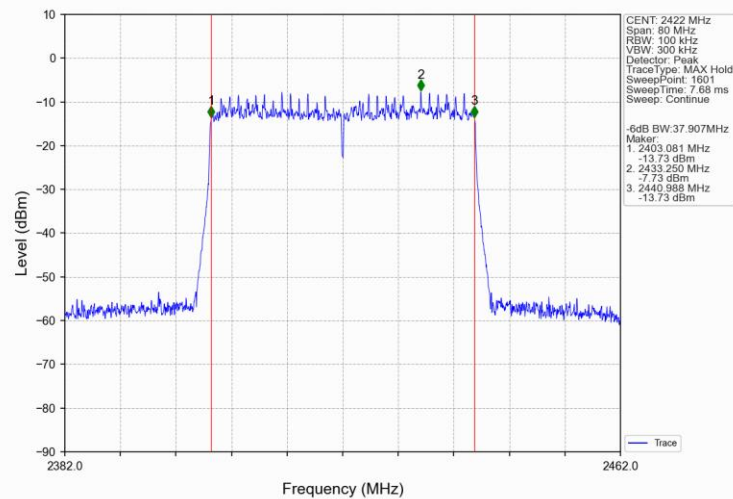
802.11ax(HEW20) MCH 2437MHz SU / Ant1 (MIMO) NTN



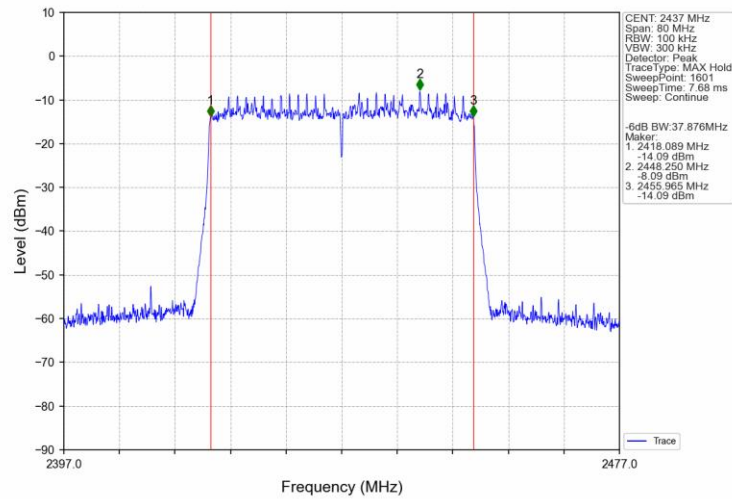
802.11ax(HEW20) HCH 2462MHz SU / Ant1 (MIMO) NTN



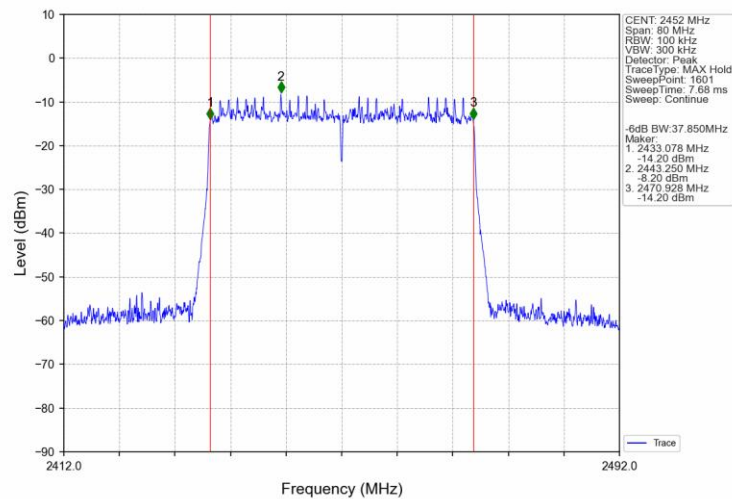
802.11ax(HEW40) LCH 2422MHz SU / Ant1 (MIMO) NTN



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



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



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Peak Conducted Output Power (dBm)				Verdict
					ANT1	ANT2	MIMO	Limit	
802.11b	SISO	2412	/	/	13.78	14.55	/	<=30	Pass
		2437	/	/	14.22	14.57	/	<=30	Pass
		2462	/	/	12.98	13.51	/	<=30	Pass
802.11g	SISO	2412	/	/	14.58	14.78	/	<=30	Pass
		2437	/	/	14.22	14.39	/	<=30	Pass
		2462	/	/	13.44	13.68	/	<=30	Pass
802.11n (HT20)	MIMO	2412	/	/	14.11	13.95	17.04	<=30	Pass
		2437	/	/	13.82	13.41	16.63	<=30	Pass
		2462	/	/	12.83	12.73	15.79	<=30	Pass
802.11n (HT40)	MIMO	2422	/	/	14.63	14.78	17.72	<=30	Pass
		2437	/	/	13.91	13.76	16.85	<=30	Pass
		2452	/	/	13.75	14.45	17.12	<=30	Pass
802.11ax (HEW20)	MIMO	2412	SU	/	15.38	15.25	18.33	<=30	Pass
		2437	SU	/	14.96	14.63	17.81	<=30	Pass
		2462	SU	/	14.11	13.90	17.02	<=30	Pass
802.11ax (HEW40)	MIMO	2422	SU	/	15.13	15.22	18.19	<=30	Pass
		2437	SU	/	14.73	14.58	17.67	<=30	Pass
		2452	SU	/	14.56	14.61	17.60	<=30	Pass

Note1: Antenna Gain: Ant1: 2.68dBi; Ant2: 2.68dBi;

Note2: Directional Gain: 5.69dBi