

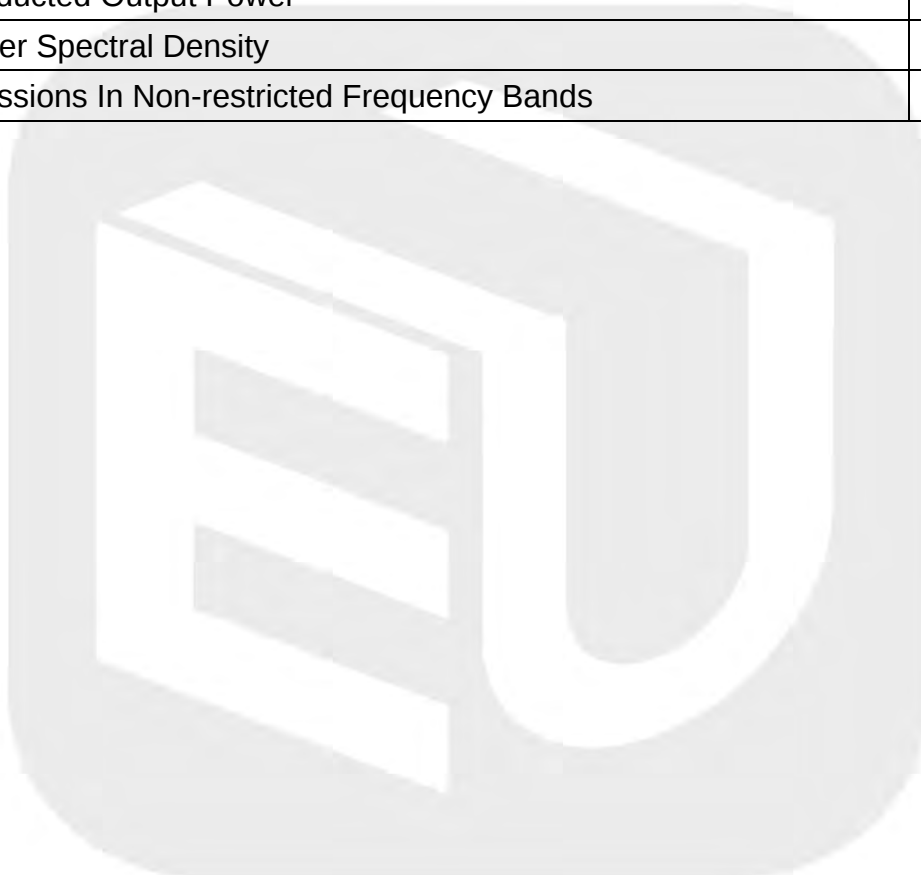
ANNEX F TEST DATA

For

Project No.:	8330EU010615W
Client:	Chengdu Hotack Technology Co., Ltd.
Product Description:	Projector
Model No.:	X1BQ
FCC ID:	2BFIZ-X1
Technology:	WiFi 2.4G
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2025-05-08

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



1. Duty Cycle

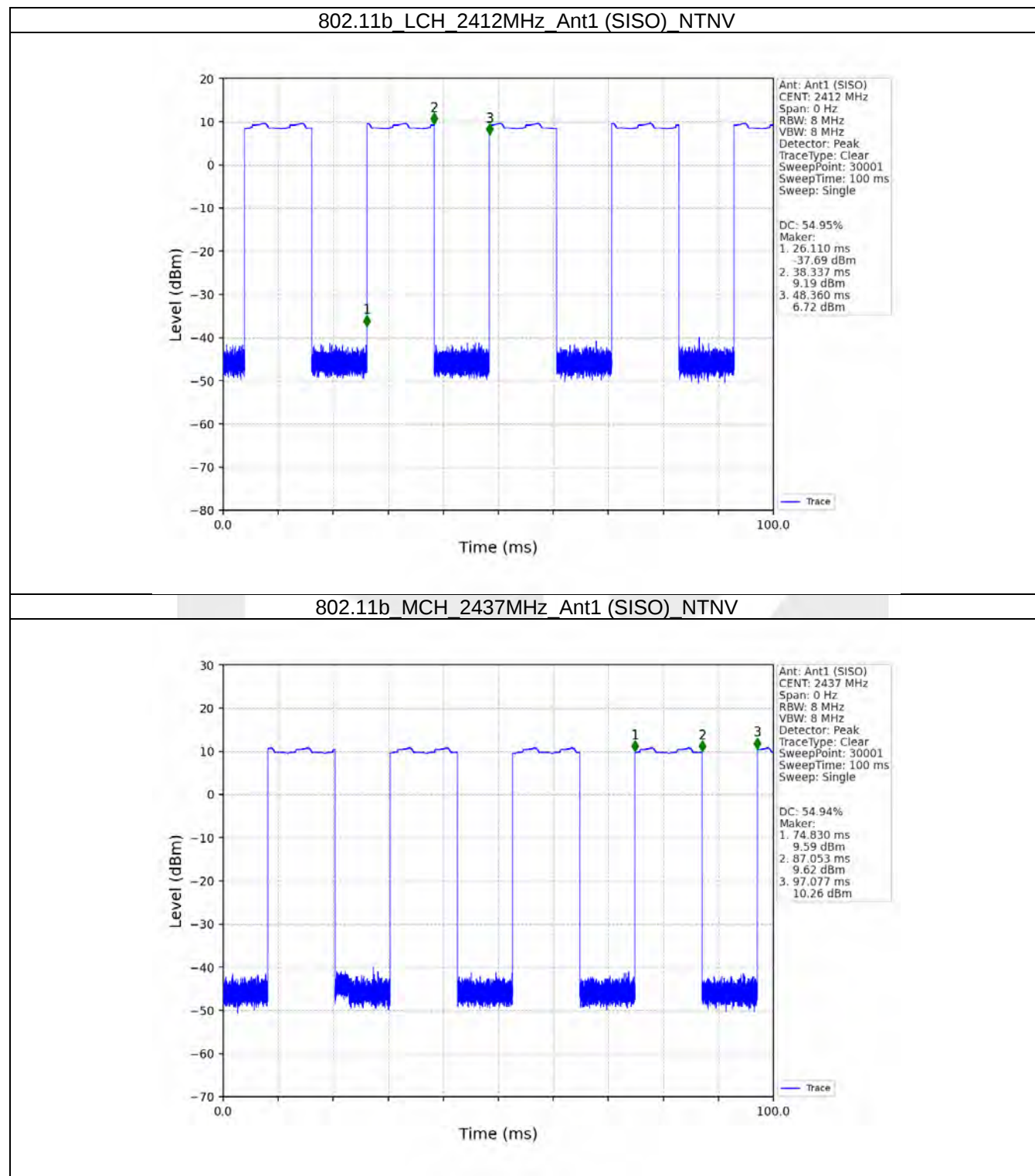
1.1 Test Result

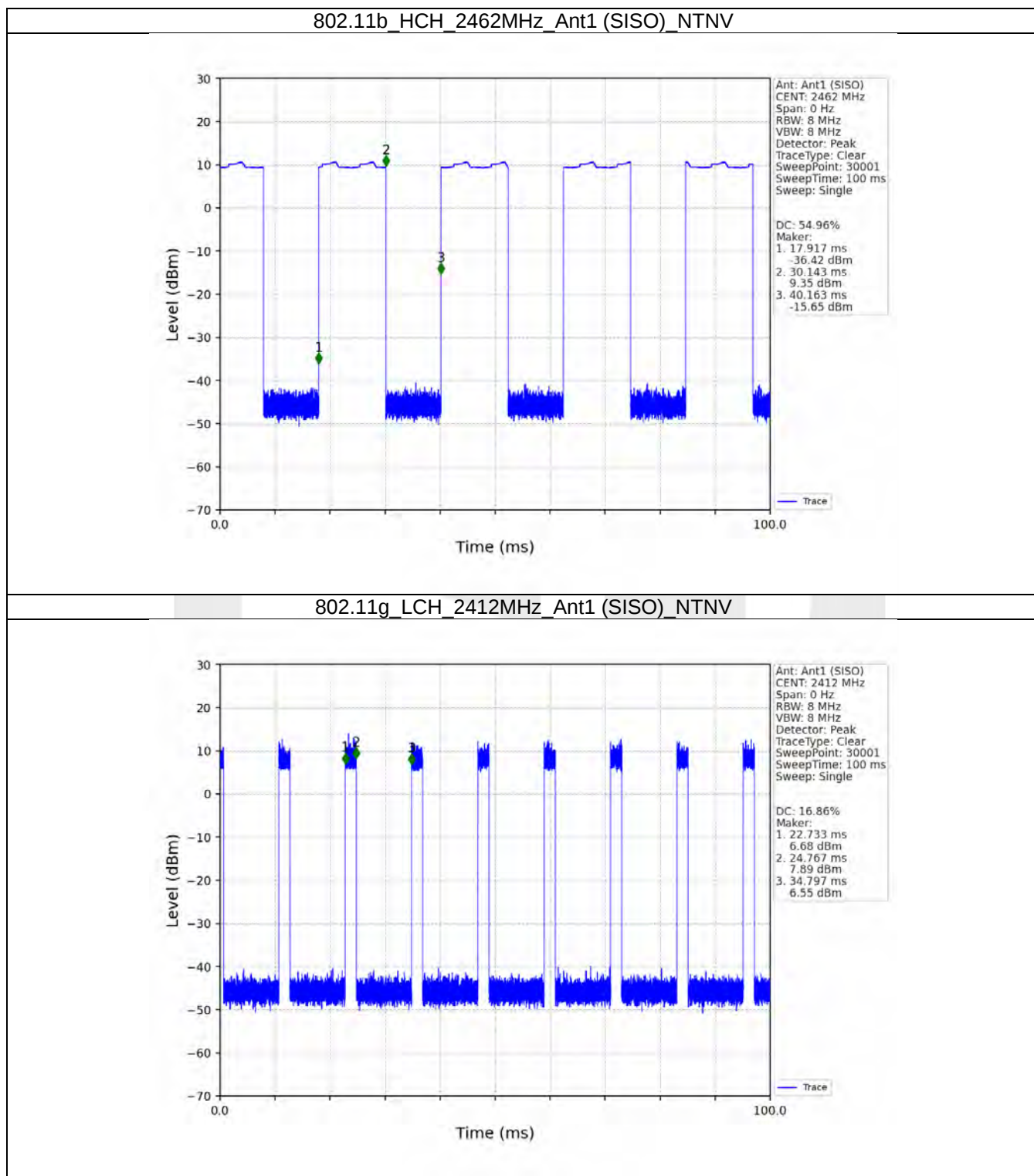
1.1.1 Ant1

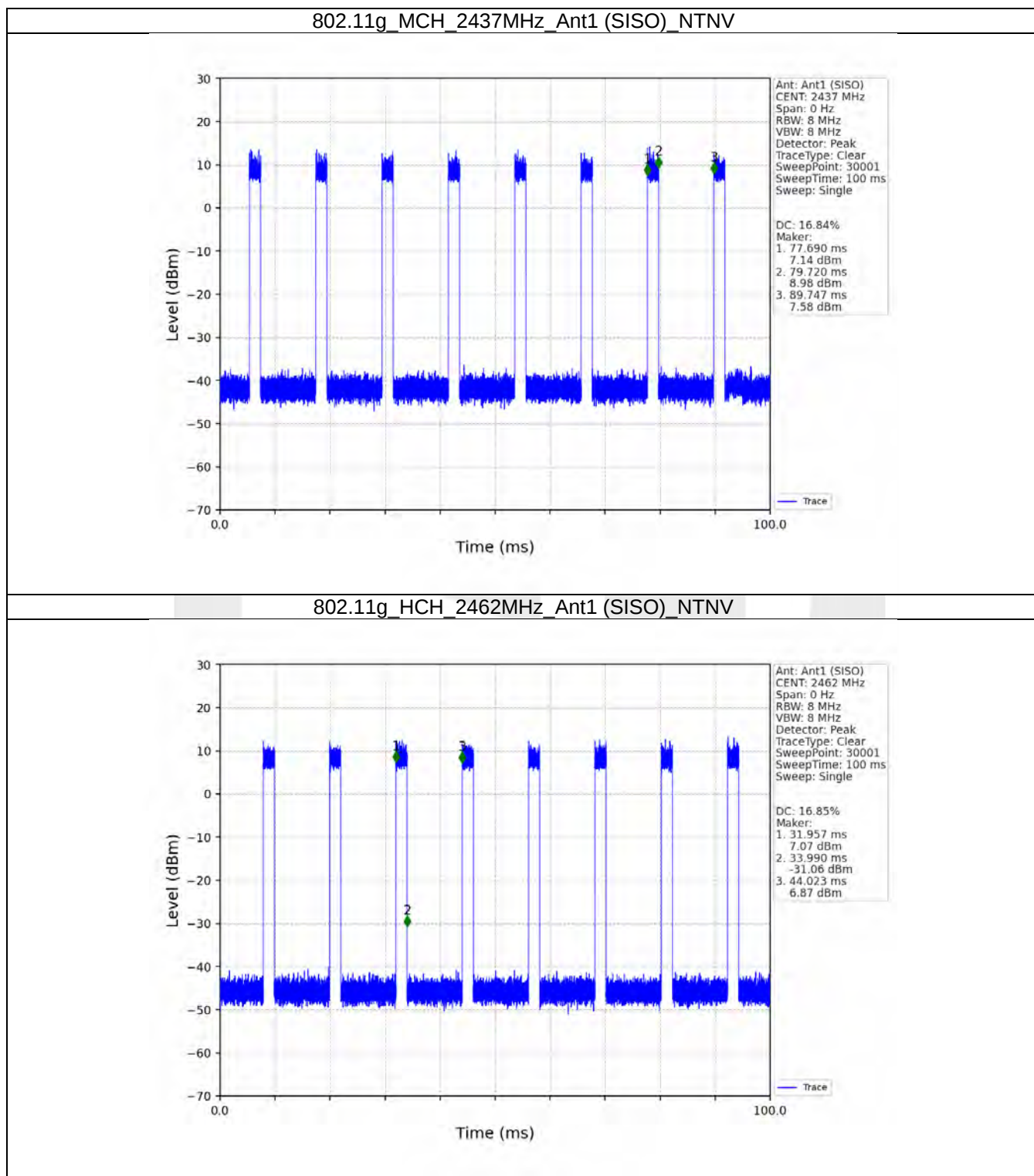
Ant1									
Mode	TX Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	12.227	22.250	54.95	2.60	0.02
		2437	/	/	12.223	22.247	54.94	2.60	0.02
		2462	/	/	12.226	22.246	54.96	2.60	0.01
802.11g	SISO	2412	/	/	2.034	12.064	16.86	7.73	0.03
		2437	/	/	2.030	12.057	16.84	7.74	0.03
		2462	/	/	2.033	12.066	16.85	7.73	0.04
802.11n (HT20)	SISO	2412	/	/	1.890	11.926	15.85	8.00	0.03
		2437	/	/	1.893	12.170	15.55	8.08	0.33
		2462	/	/	1.894	11.927	15.88	7.99	0.04
802.11n (HT40)	SISO	2422	/	/	0.933	10.966	8.51	10.70	0.01
		2437	/	/	0.930	10.960	8.49	10.71	0.03
		2452	/	/	0.934	14.290	6.54	11.85	1.99
802.11ax (HEW20)	SISO	2412	SU	/	1.460	11.494	12.70	8.96	0.03
		2437	SU	/	1.464	11.970	12.23	9.13	0.51
		2462	SU	/	1.460	11.497	12.70	8.96	0.04
802.11ax (HEW40)	SISO	2422	SU	/	0.760	10.790	7.04	11.52	0.03
		2437	SU	/	0.760	10.793	7.04	11.52	0.03
		2452	SU	/	0.763	10.797	7.07	11.51	0.01

1.2 Test Graph

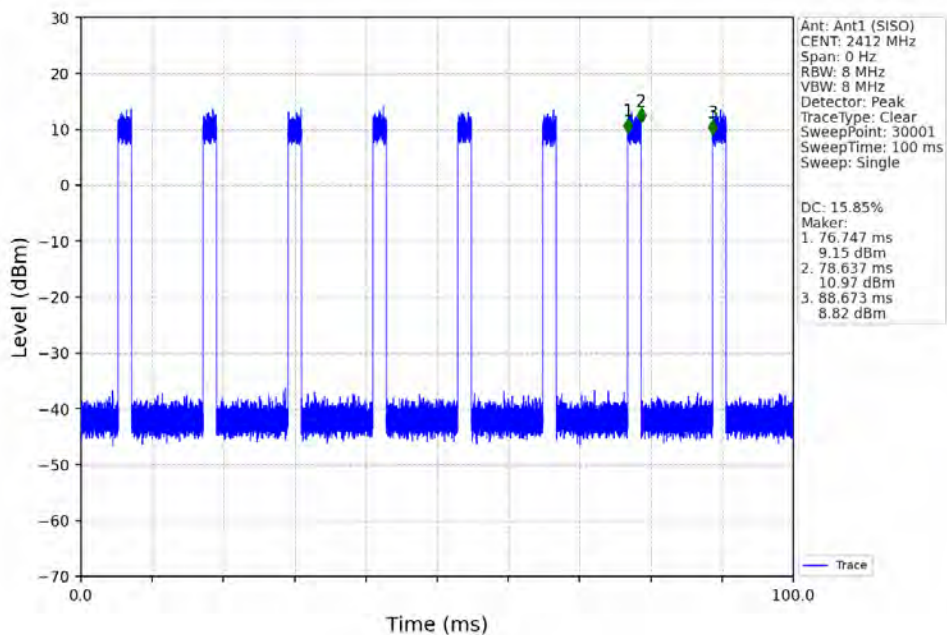
1.2.1 Ant1



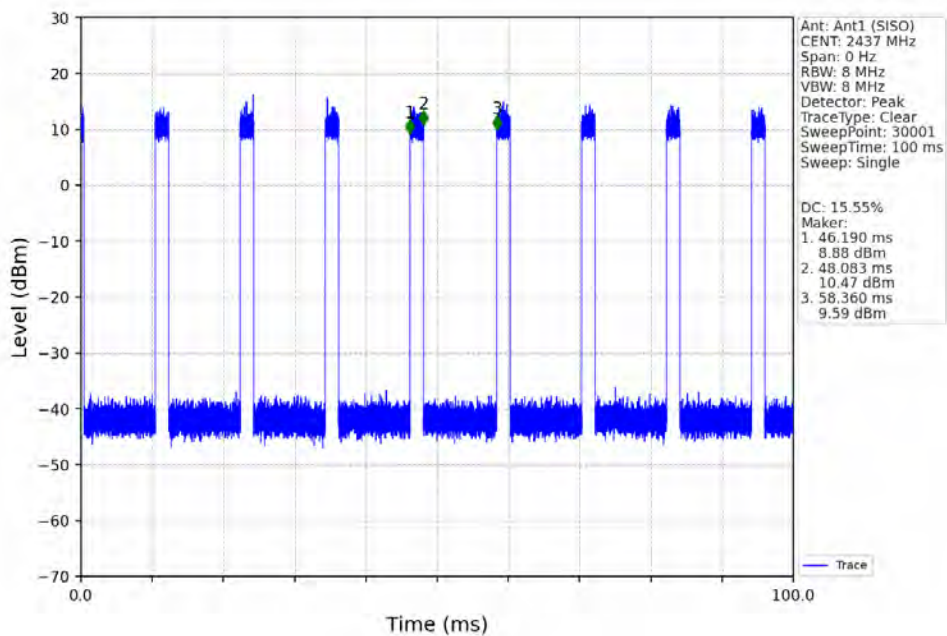


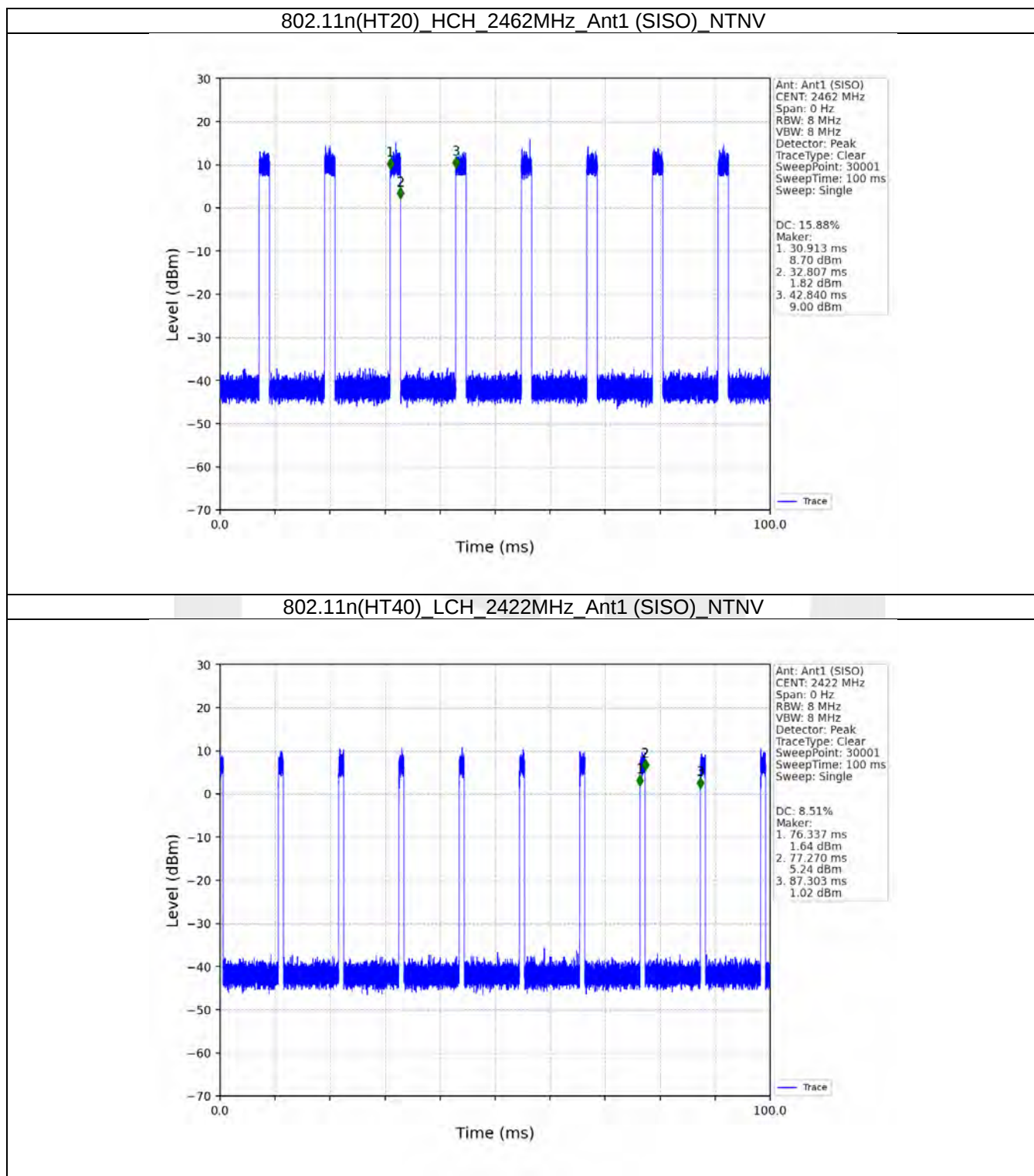


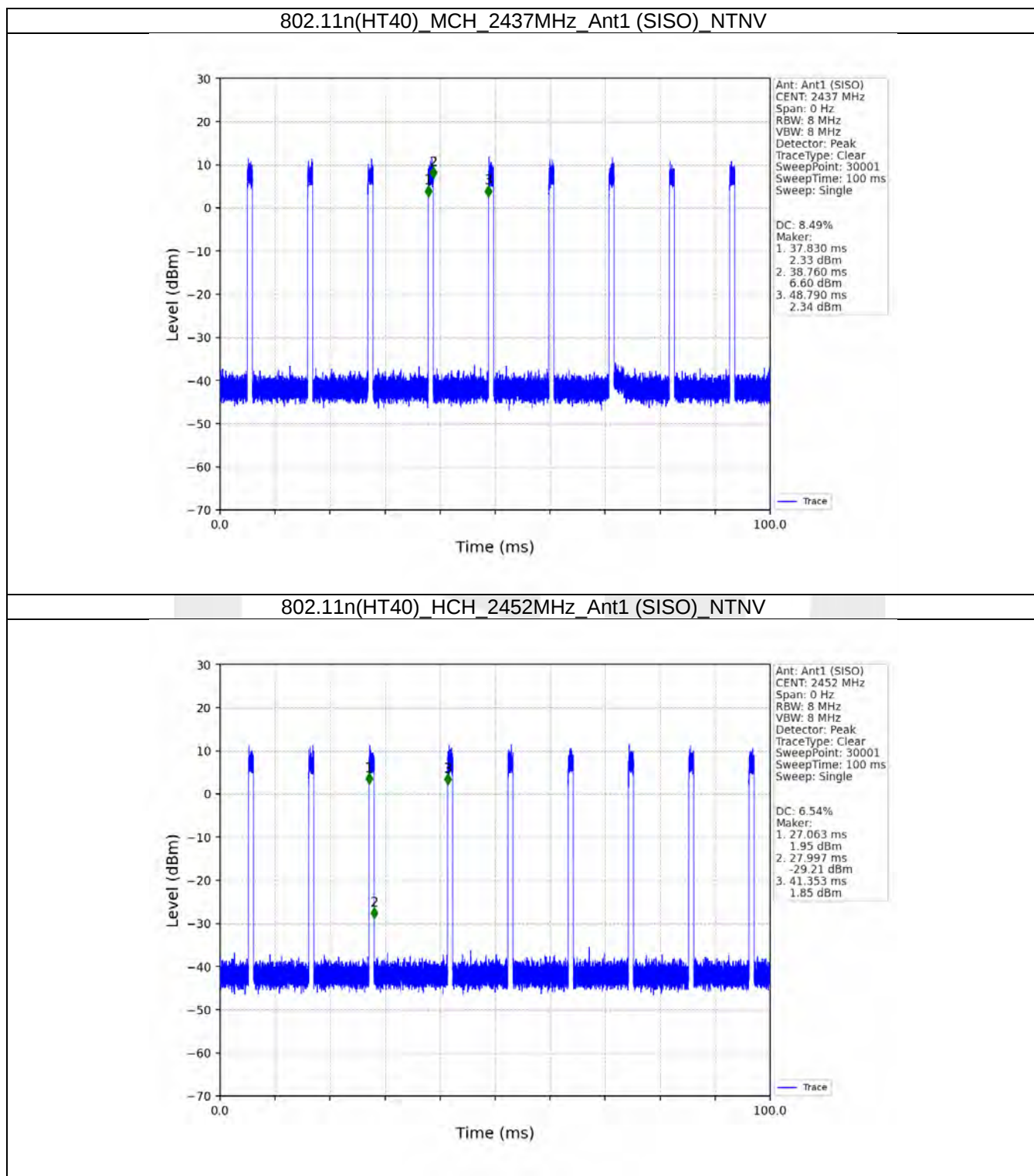
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



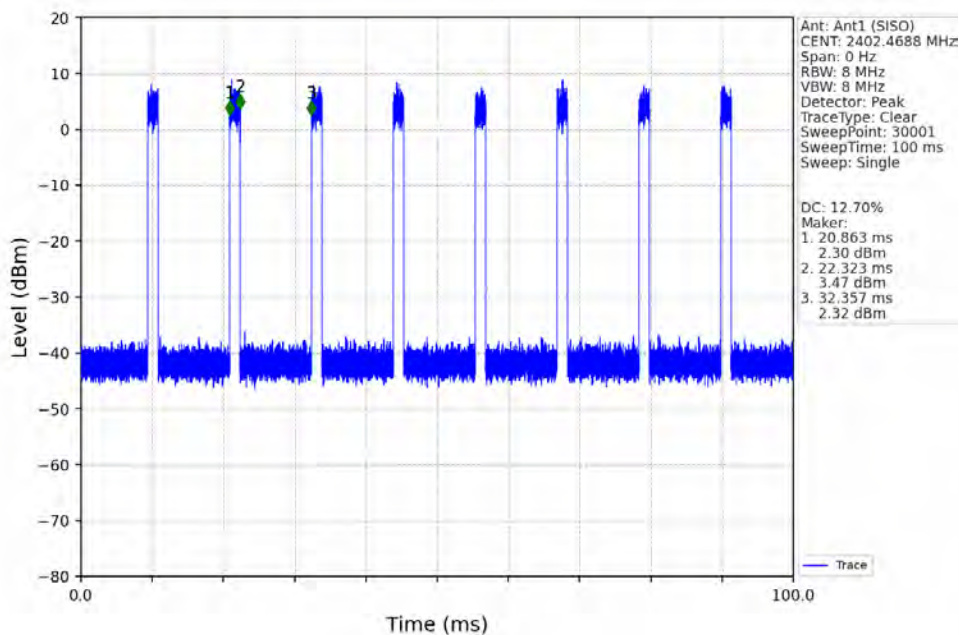
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



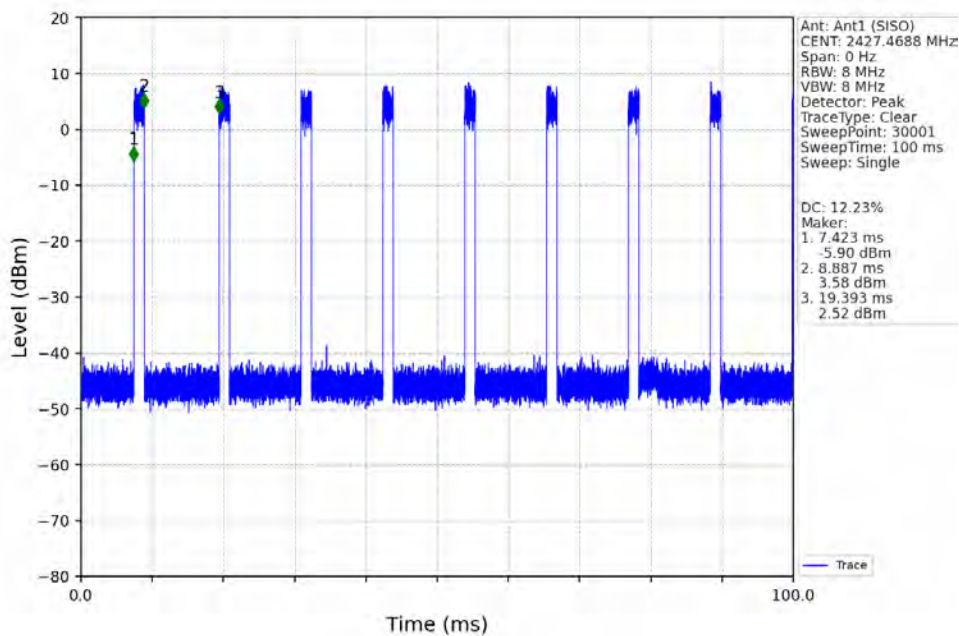




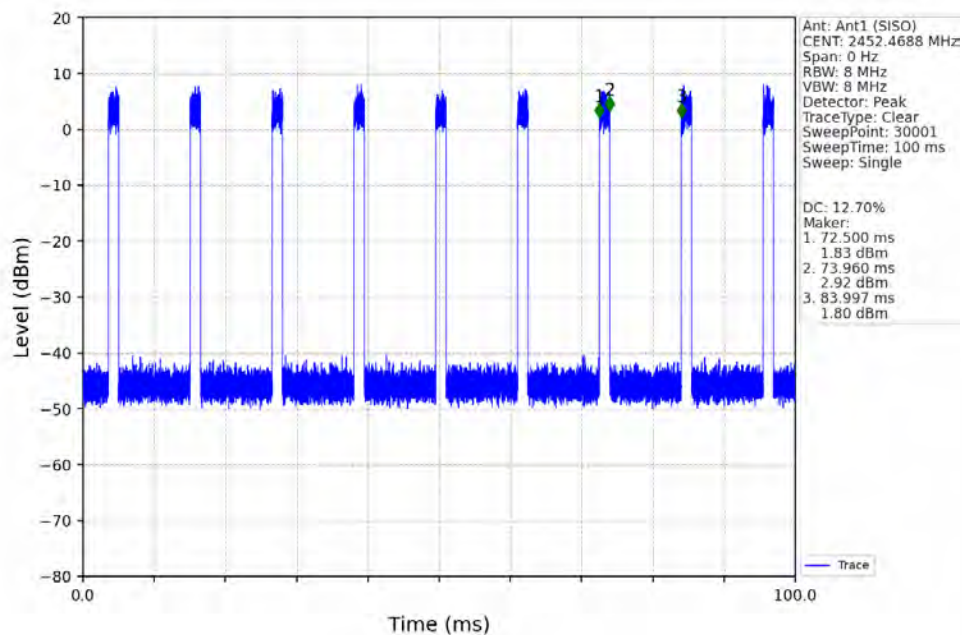
802.11ax(HEW20)_LCH_2412MHz_SU_ / _Ant1 (SISO)_NTNV



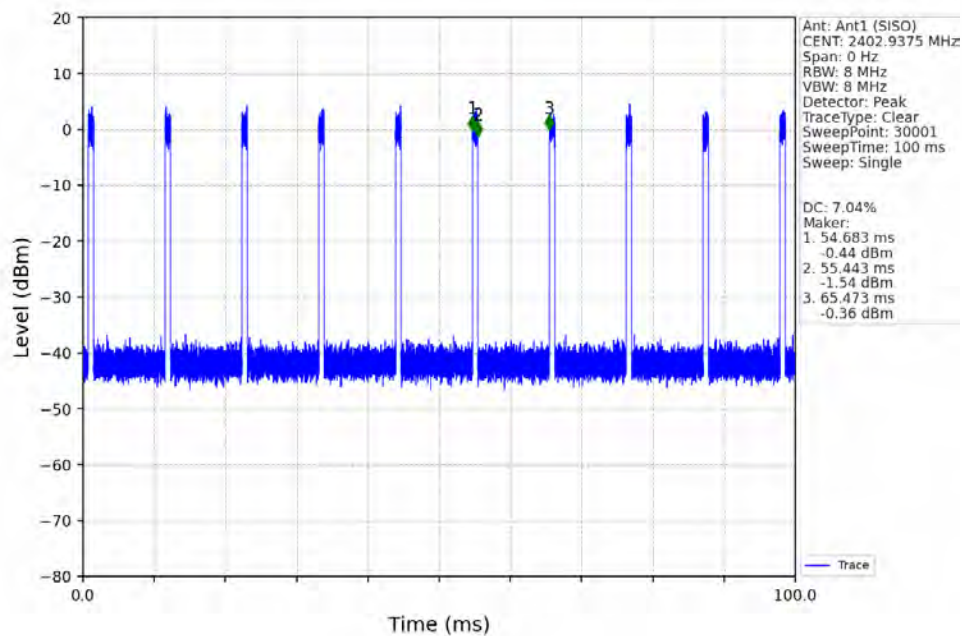
802.11ax(HEW20)_MCH_2437MHz_SU_ / _Ant1 (SISO)_NTNV



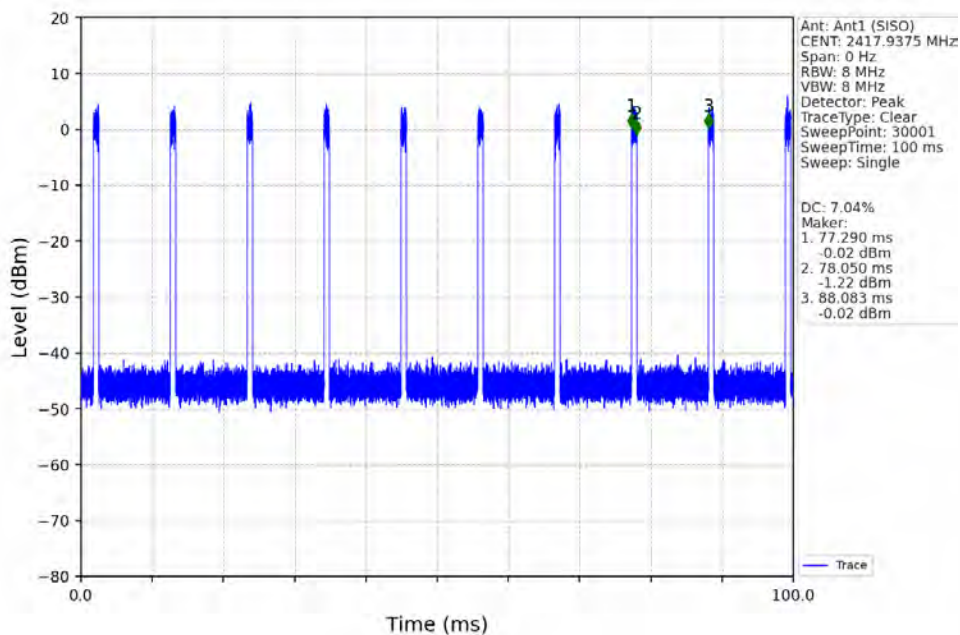
802.11ax(HEW20)_HCH_2462MHz_SU_ / _Ant1 (SISO)_NTNV



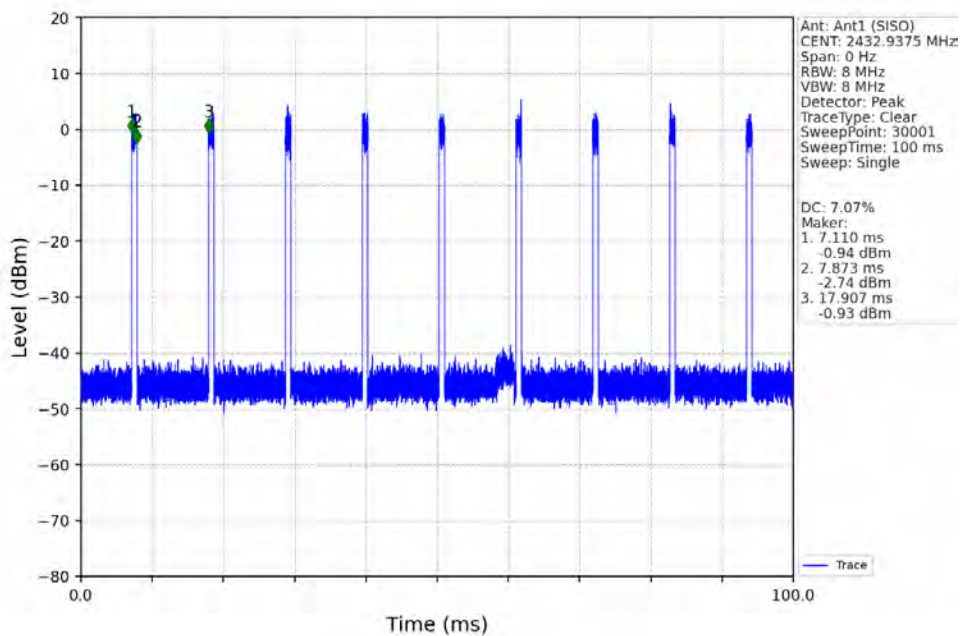
802.11ax(HEW40)_LCH_2422MHz_SU_ / _Ant1 (SISO)_NTNV



802.11ax(HEW40)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_SU / _Ant1 (SISO)_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

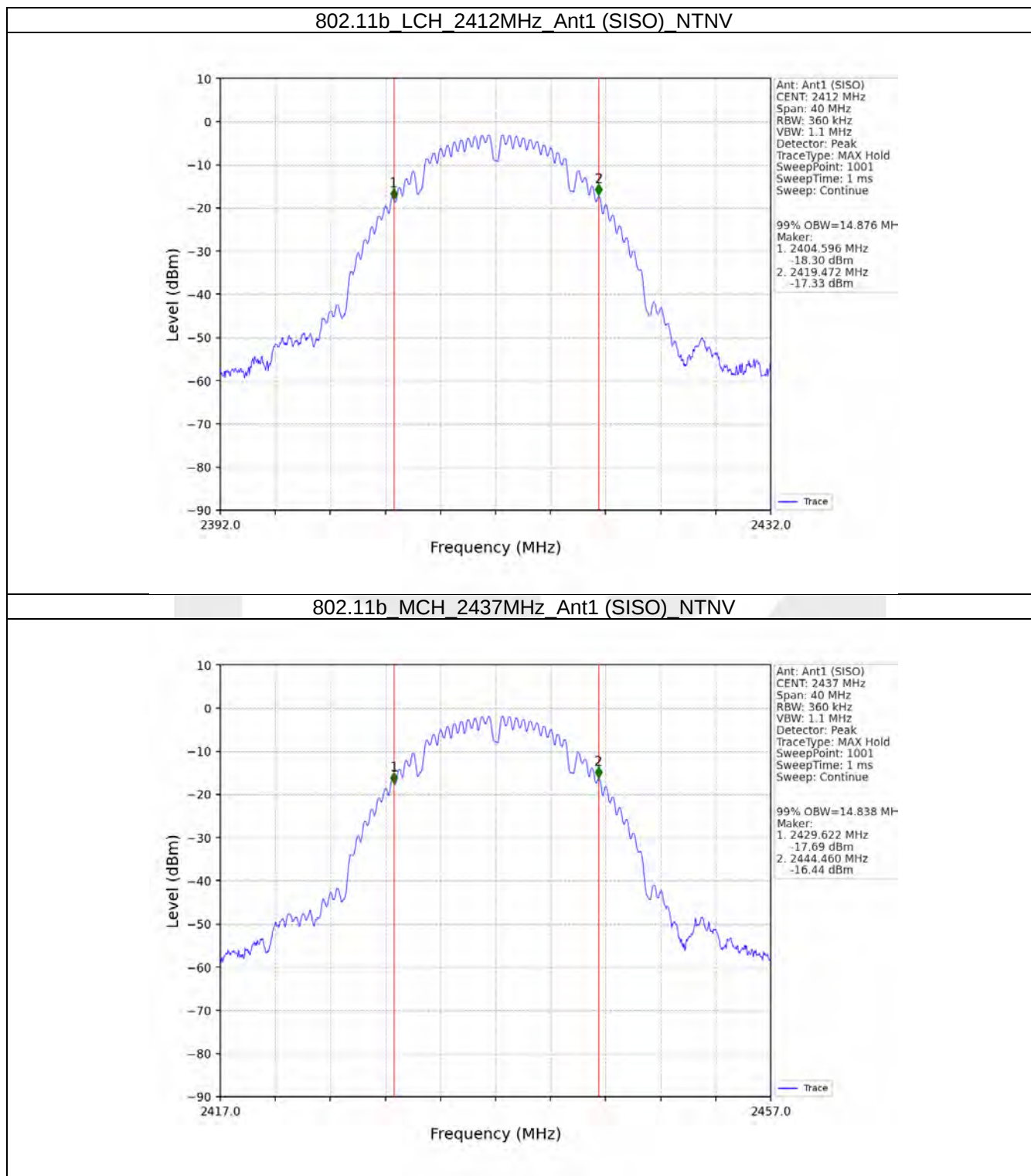
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	14.876	/	Pass
		2437	/	/	1	14.838	/	Pass
		2462	/	/	1	14.810	/	Pass
802.11g	SISO	2412	/	/	1	18.165	/	Pass
		2437	/	/	1	17.939	/	Pass
		2462	/	/	1	18.022	/	Pass
802.11n (HT20)	SISO	2412	/	/	1	19.217	/	Pass
		2437	/	/	1	19.100	/	Pass
		2462	/	/	1	19.051	/	Pass
802.11n (HT40)	SISO	2422	/	/	1	37.190	/	Pass
		2437	/	/	1	37.178	/	Pass
		2452	/	/	1	36.930	/	Pass
802.11ax (HEW20)	SISO	2412	SU	/	1	19.454	/	Pass
		2437	SU	/	1	19.634	/	Pass
		2462	SU	/	1	19.550	/	Pass
802.11ax (HEW40)	SISO	2422	SU	/	1	38.125	/	Pass
		2437	SU	/	1	38.244	/	Pass
		2452	SU	/	1	38.094	/	Pass

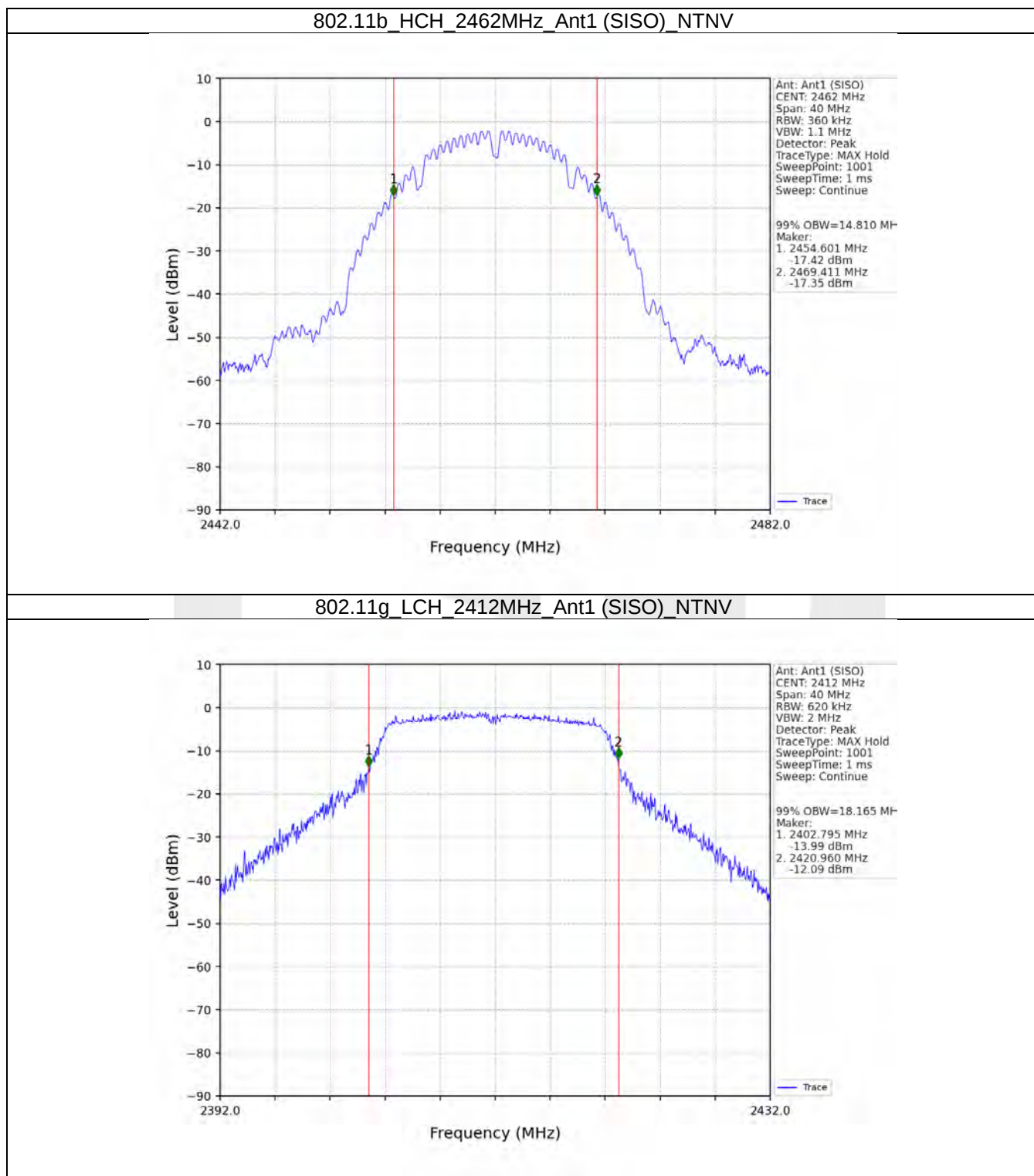
2.1.2 6dB BW

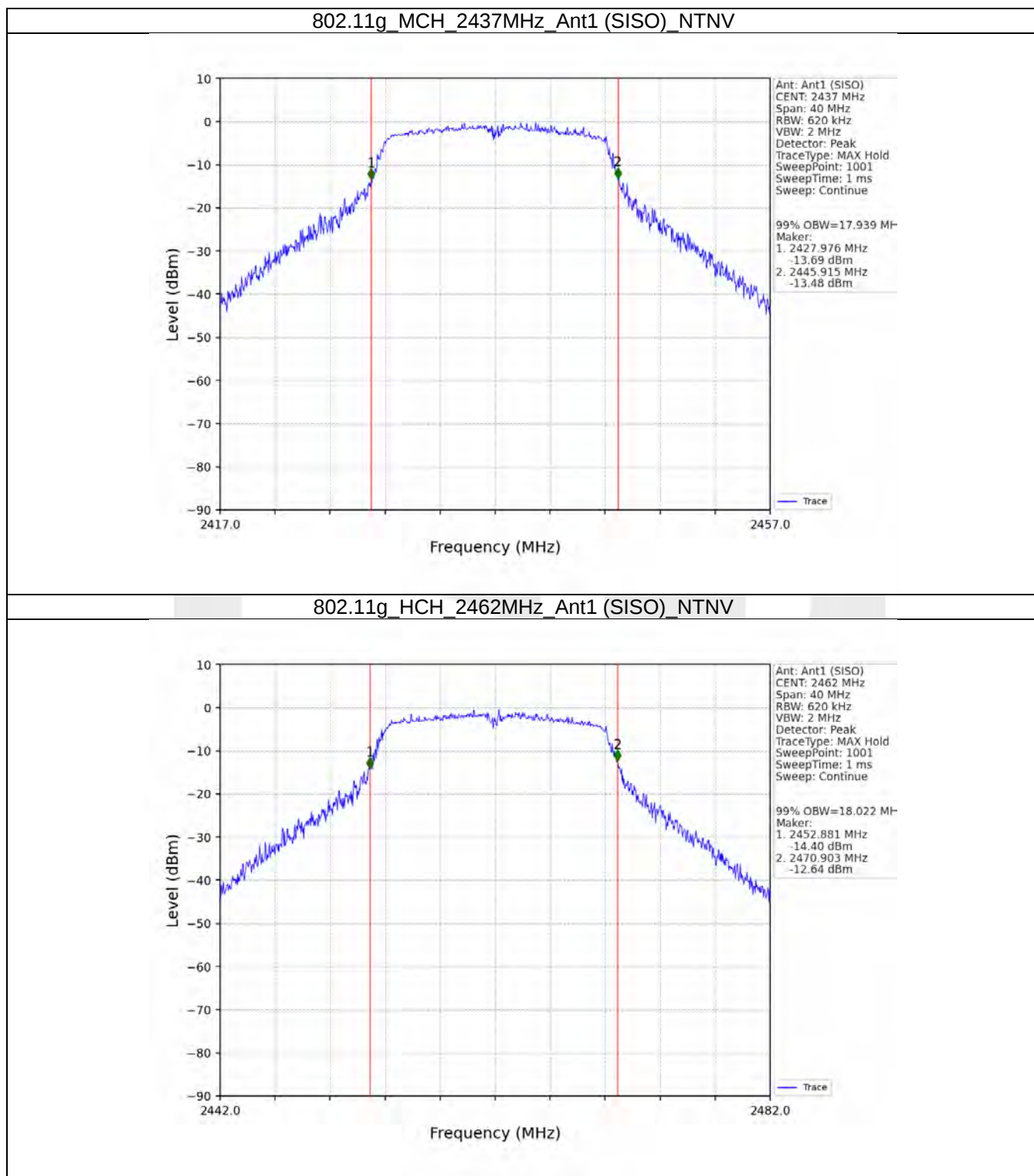
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	10.198	>=0.5	Pass
		2437	/	/	1	10.190	>=0.5	Pass
		2462	/	/	1	10.184	>=0.5	Pass
802.11g	SISO	2412	/	/	1	16.344	>=0.5	Pass
		2437	/	/	1	16.272	>=0.5	Pass
		2462	/	/	1	16.435	>=0.5	Pass
802.11n (HT20)	SISO	2412	/	/	1	17.596	>=0.5	Pass
		2437	/	/	1	17.644	>=0.5	Pass
		2462	/	/	1	17.674	>=0.5	Pass
802.11n (HT40)	SISO	2422	/	/	1	35.923	>=0.5	Pass
		2437	/	/	1	36.086	>=0.5	Pass
		2452	/	/	1	35.895	>=0.5	Pass
802.11ax (HEW20)	SISO	2412	SU	/	1	18.484	>=0.5	Pass
		2437	SU	/	1	18.528	>=0.5	Pass
		2462	SU	/	1	18.352	>=0.5	Pass
802.11ax (HEW40)	SISO	2422	SU	/	1	37.701	>=0.5	Pass
		2437	SU	/	1	37.189	>=0.5	Pass
		2452	SU	/	1	36.922	>=0.5	Pass

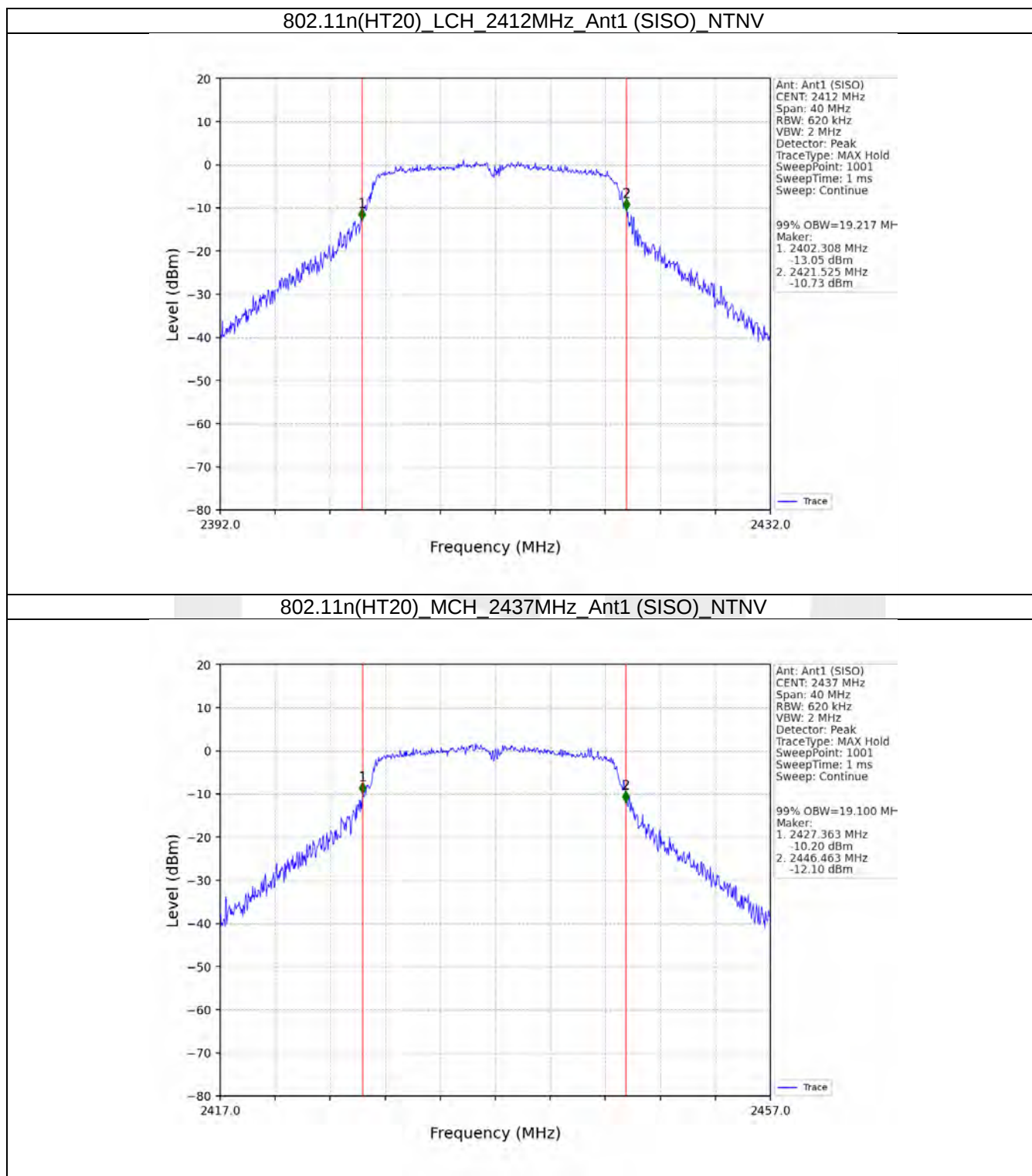
2.2 Test Graph

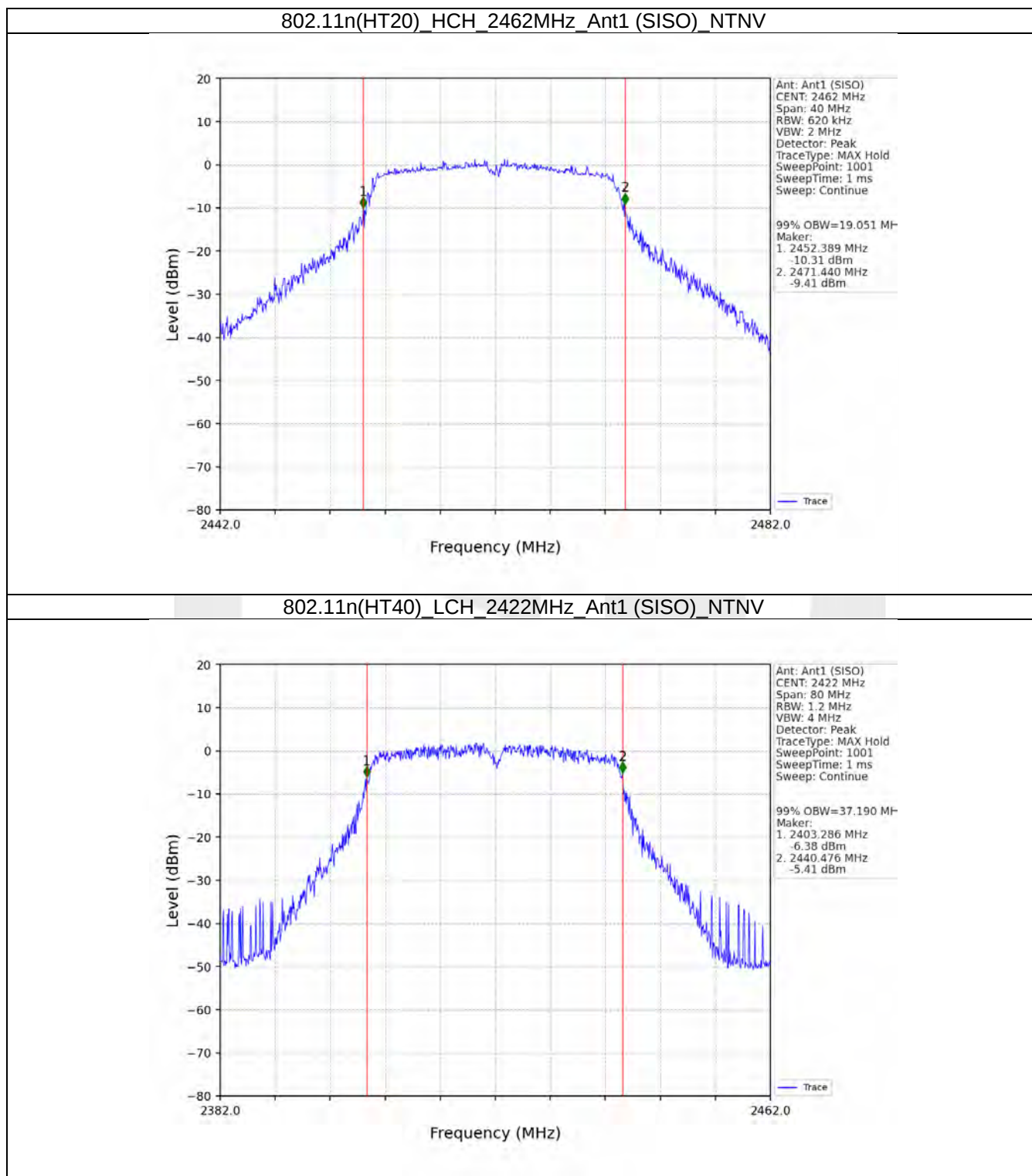
2.2.1 OBW

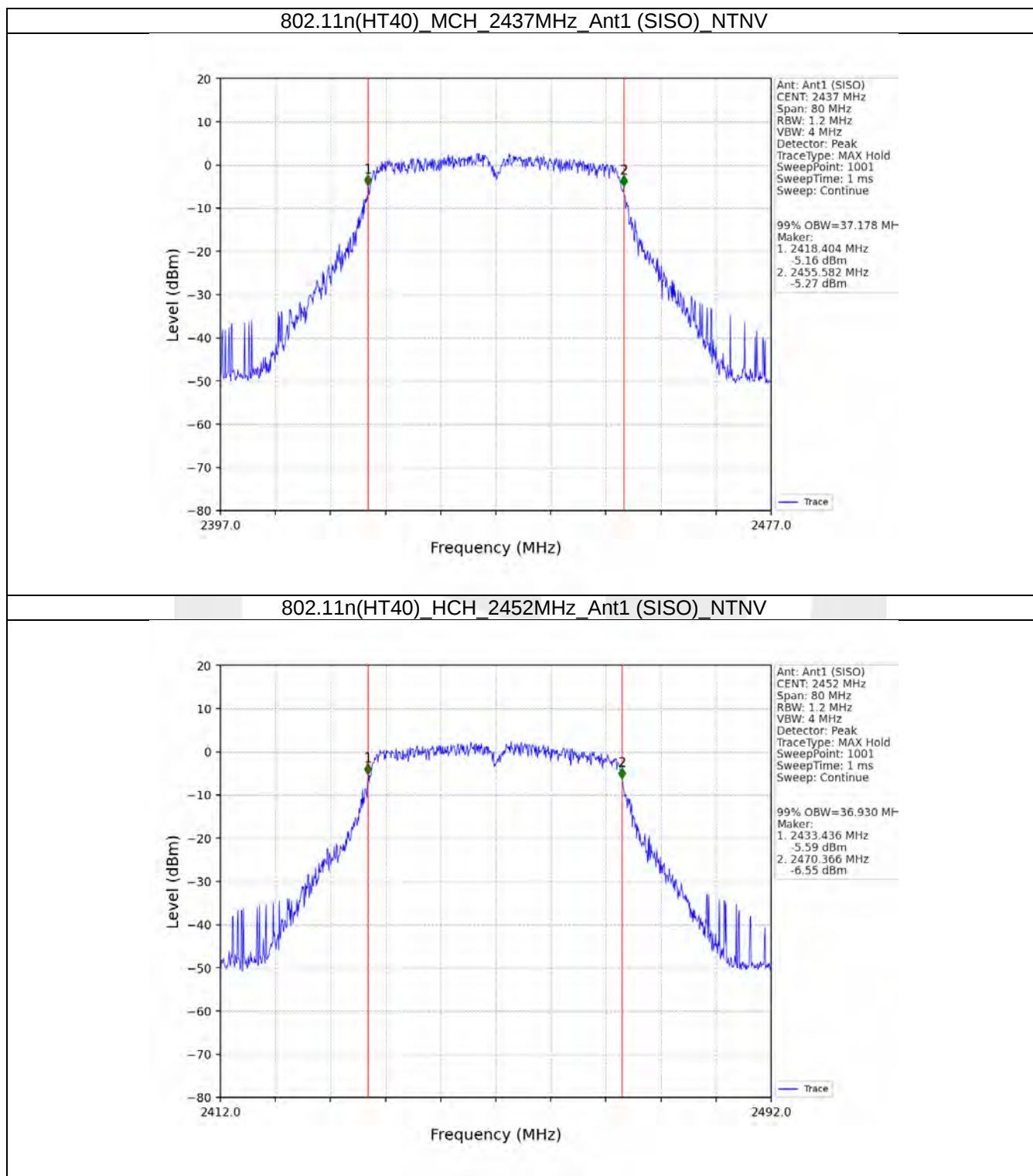




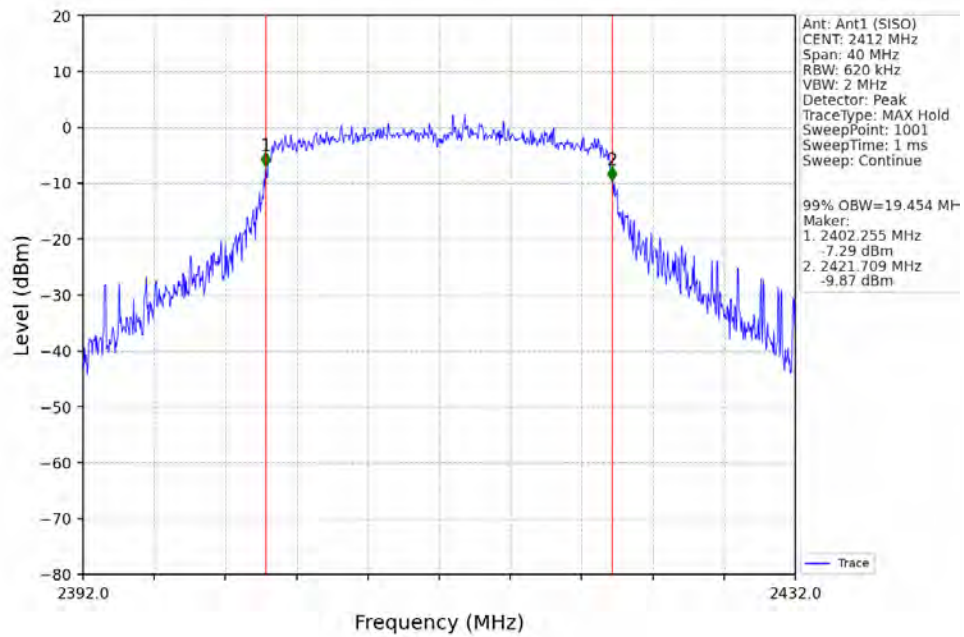




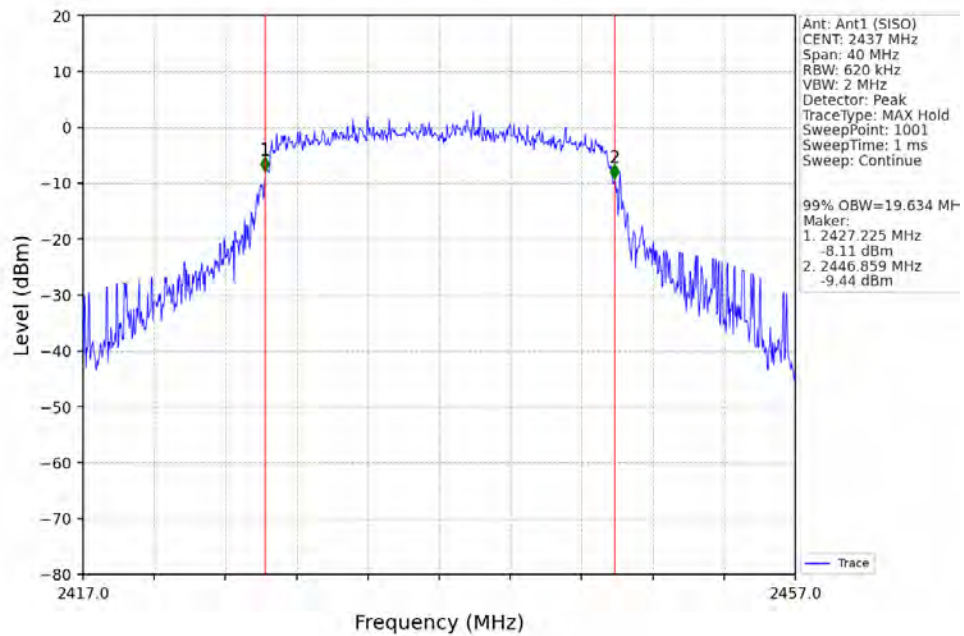




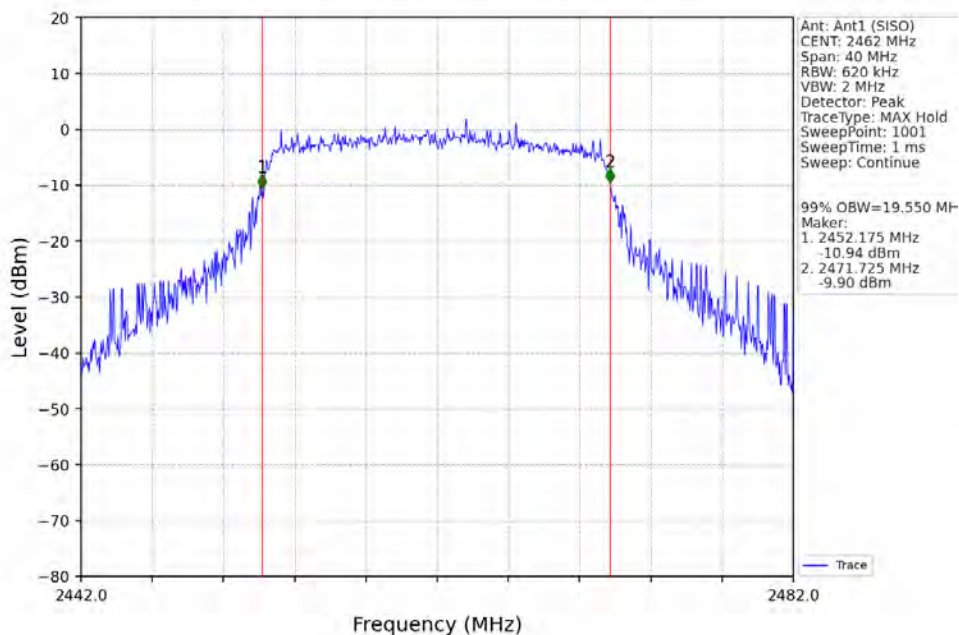
802.11ax(HEW20)_LCH_2412MHz_SU_ / _Ant1 (SISO)_NTNV



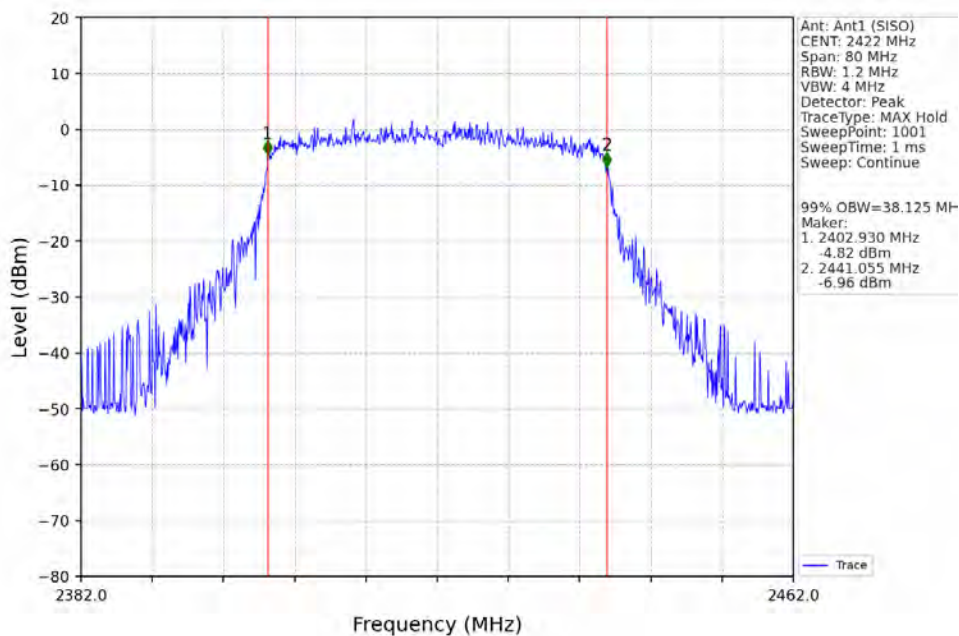
802.11ax(HEW20)_MCH_2437MHz_SU_ / _Ant1 (SISO)_NTNV

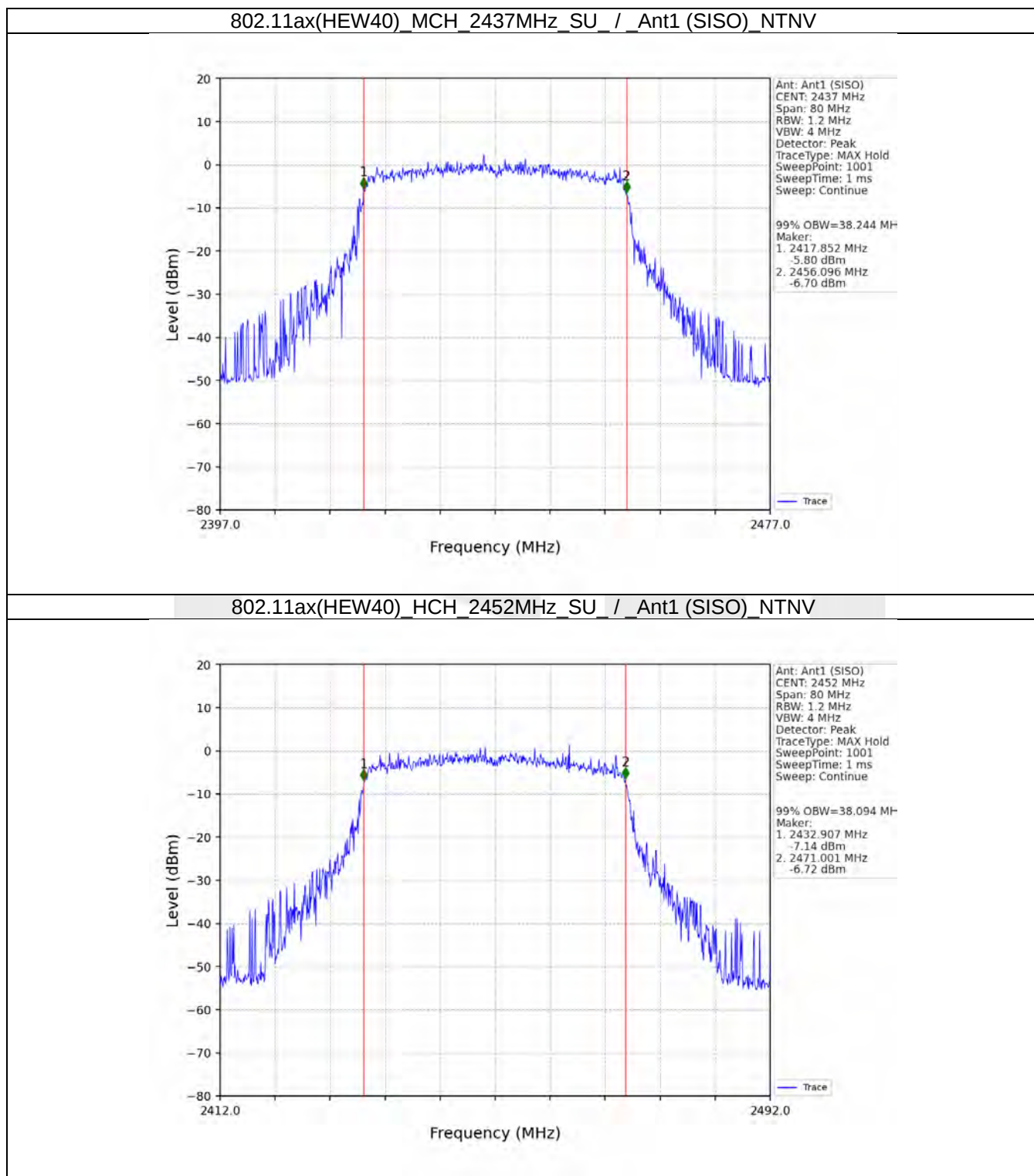


802.11ax(HEW20)_HCH_2462MHz_SU_ / _Ant1 (SISO)_NTNV

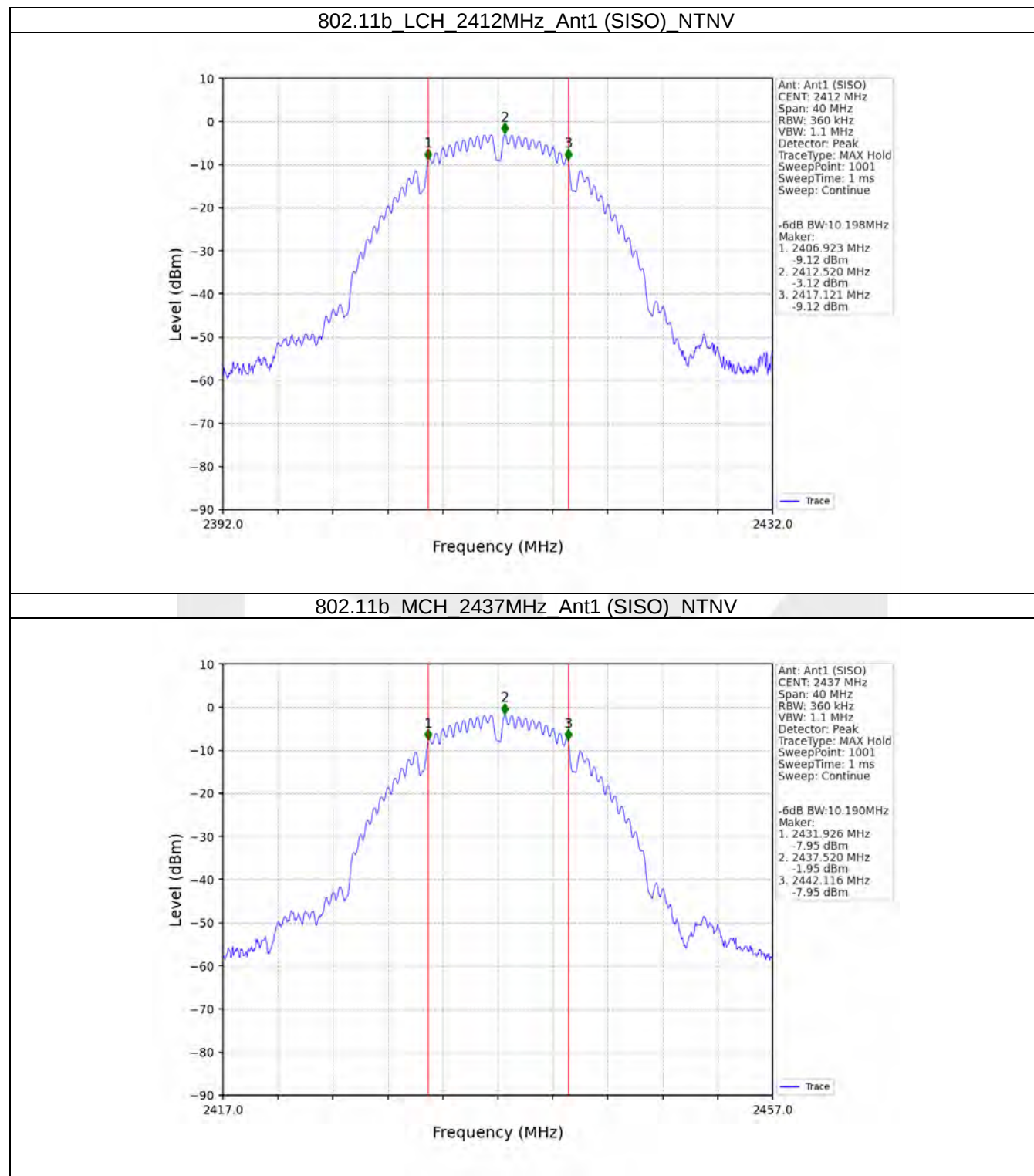


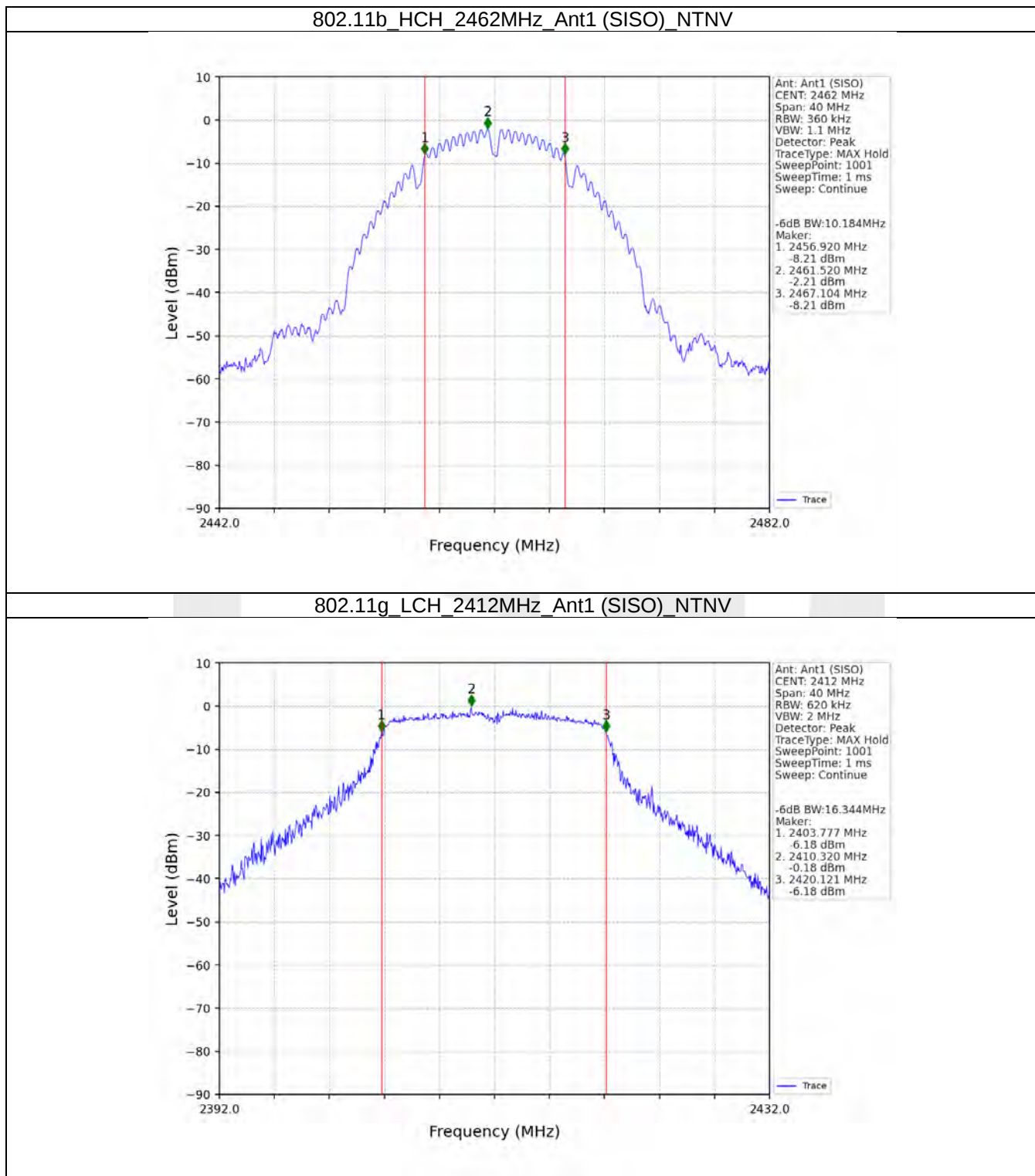
802.11ax(HEW40)_LCH_2422MHz_SU_ / _Ant1 (SISO)_NTNV

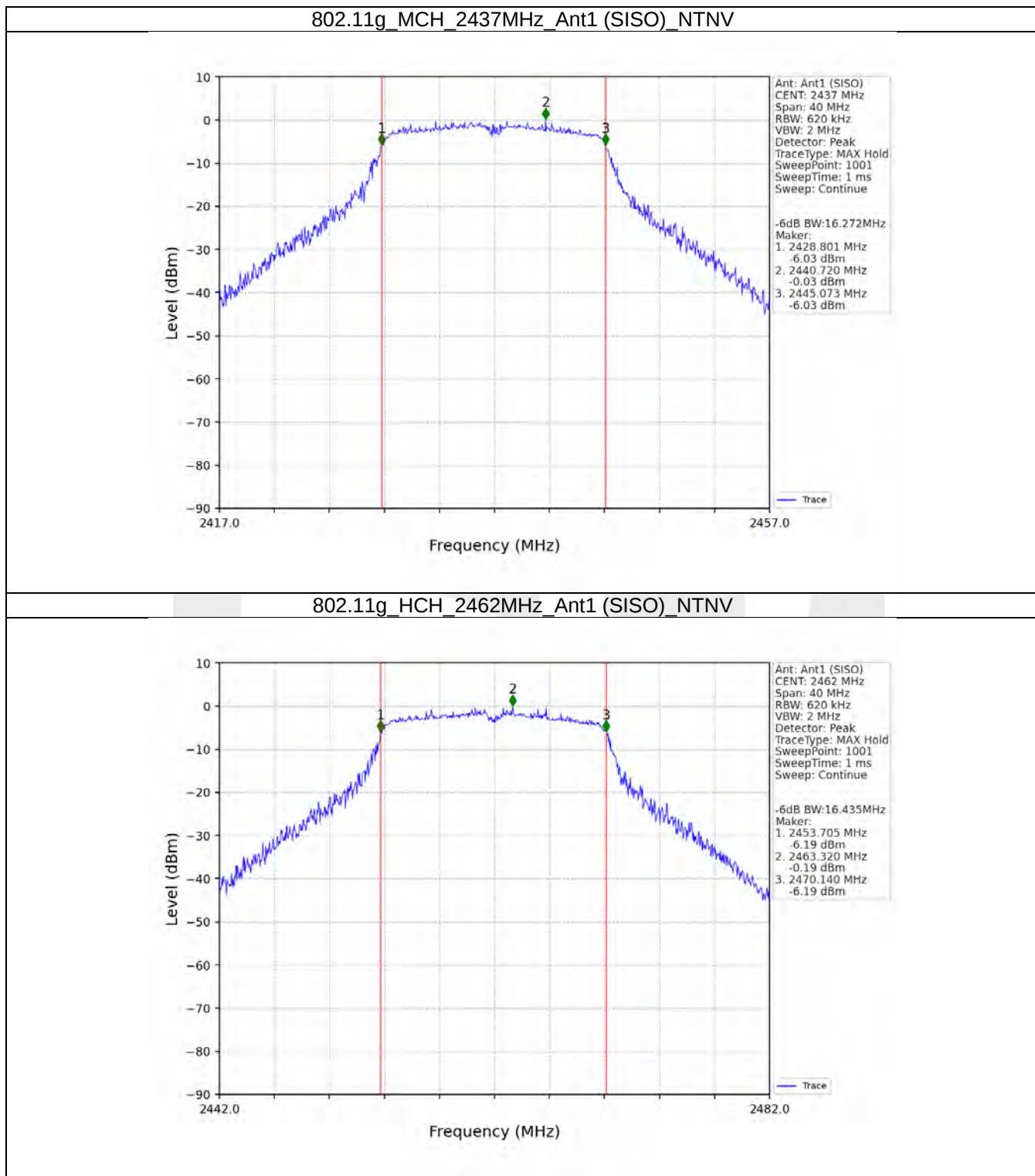




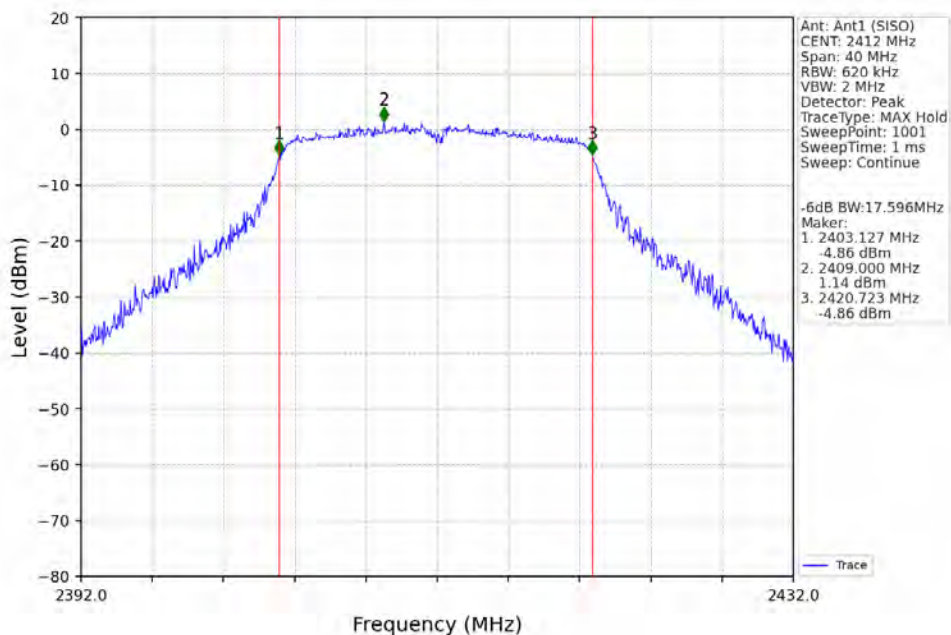
2.2.2 6dB BW



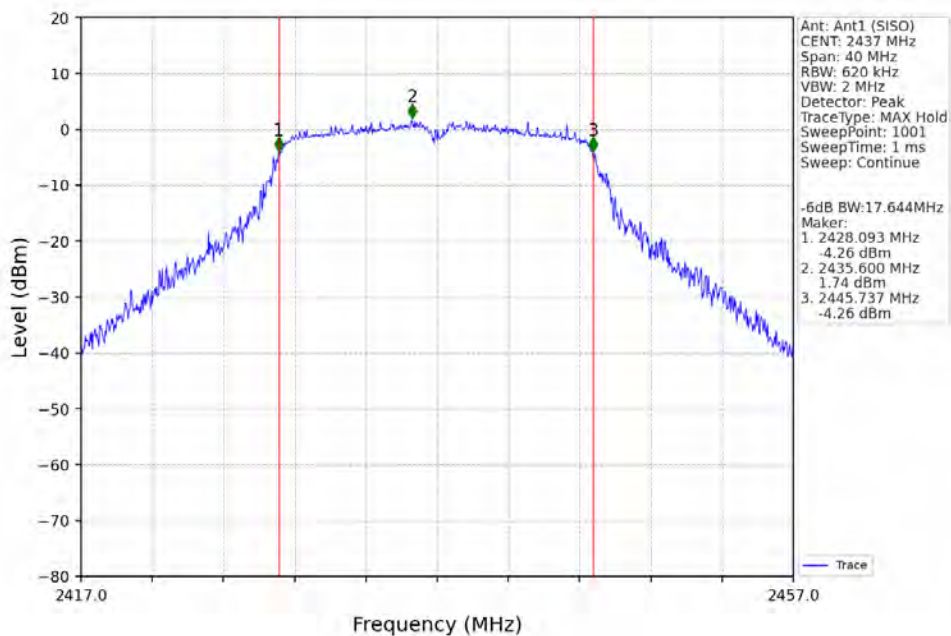


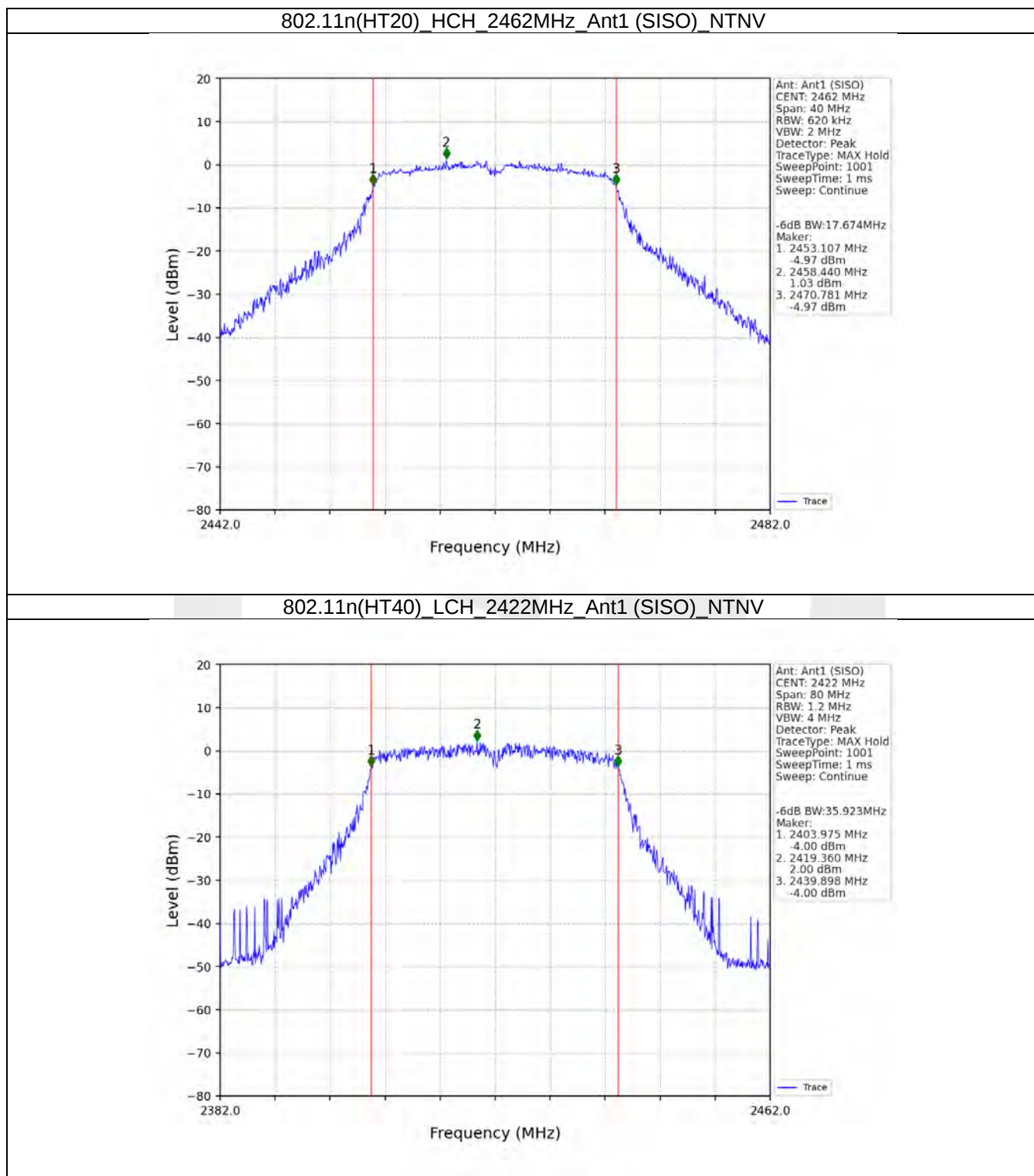


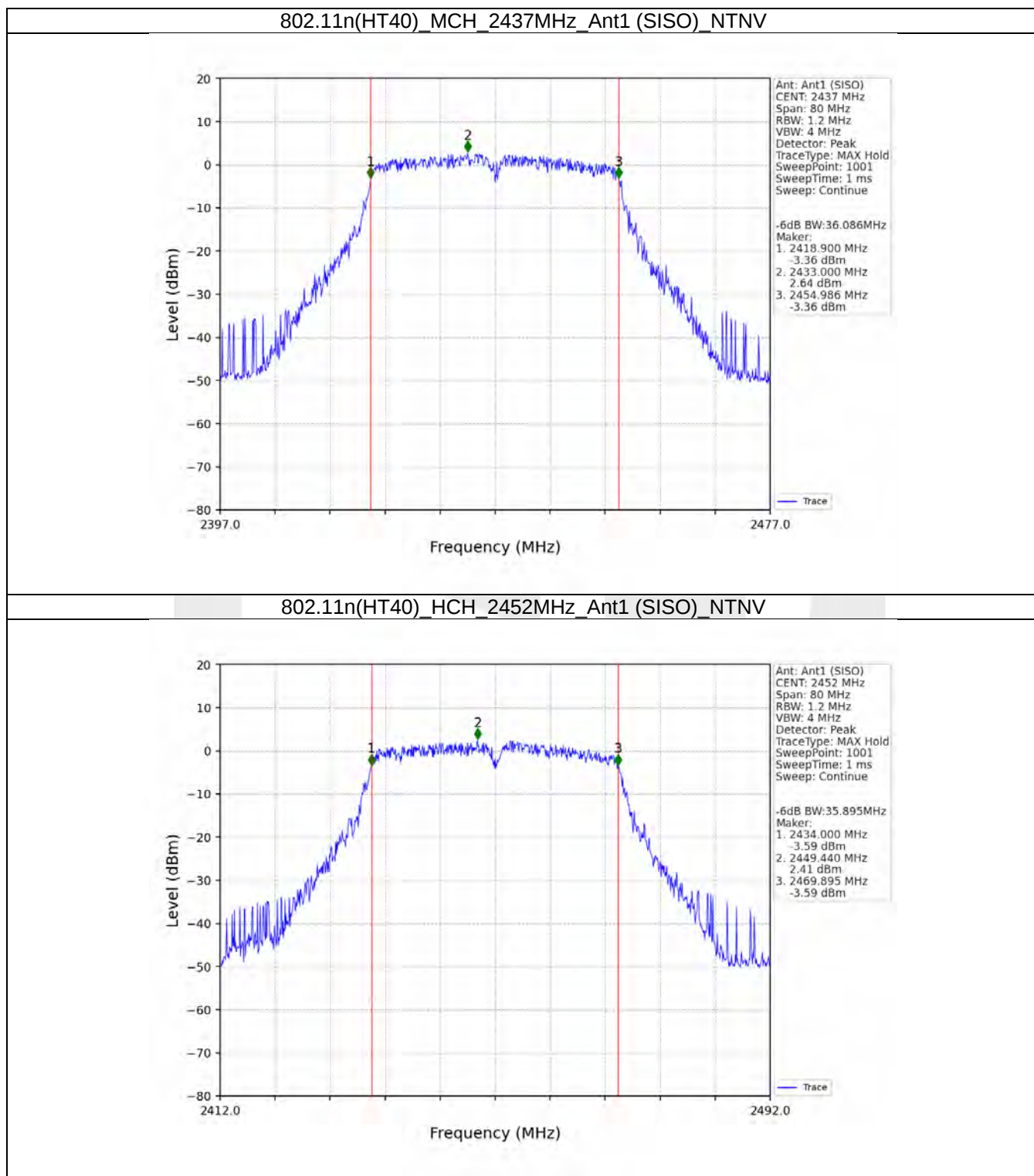
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV

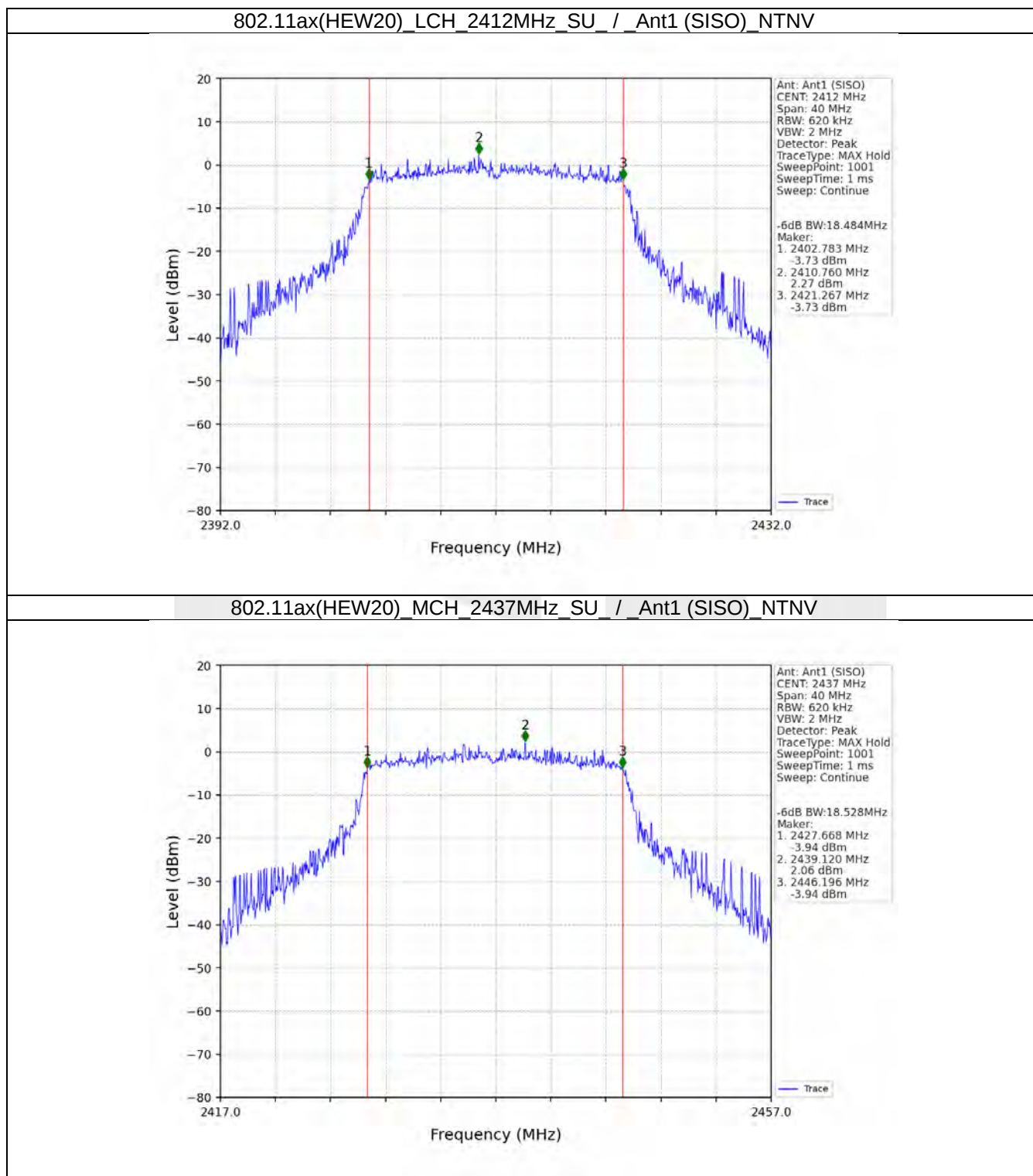


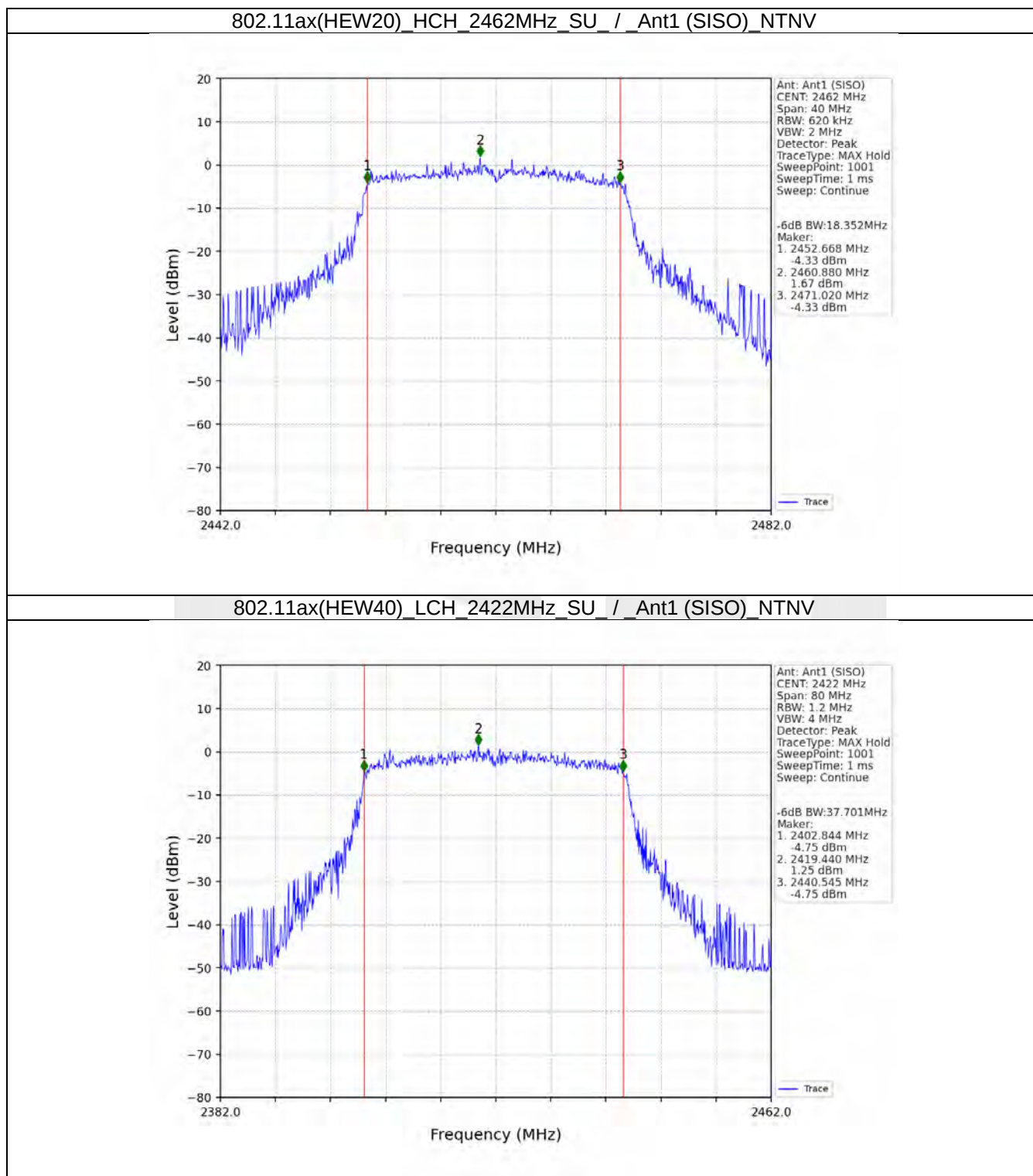
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV

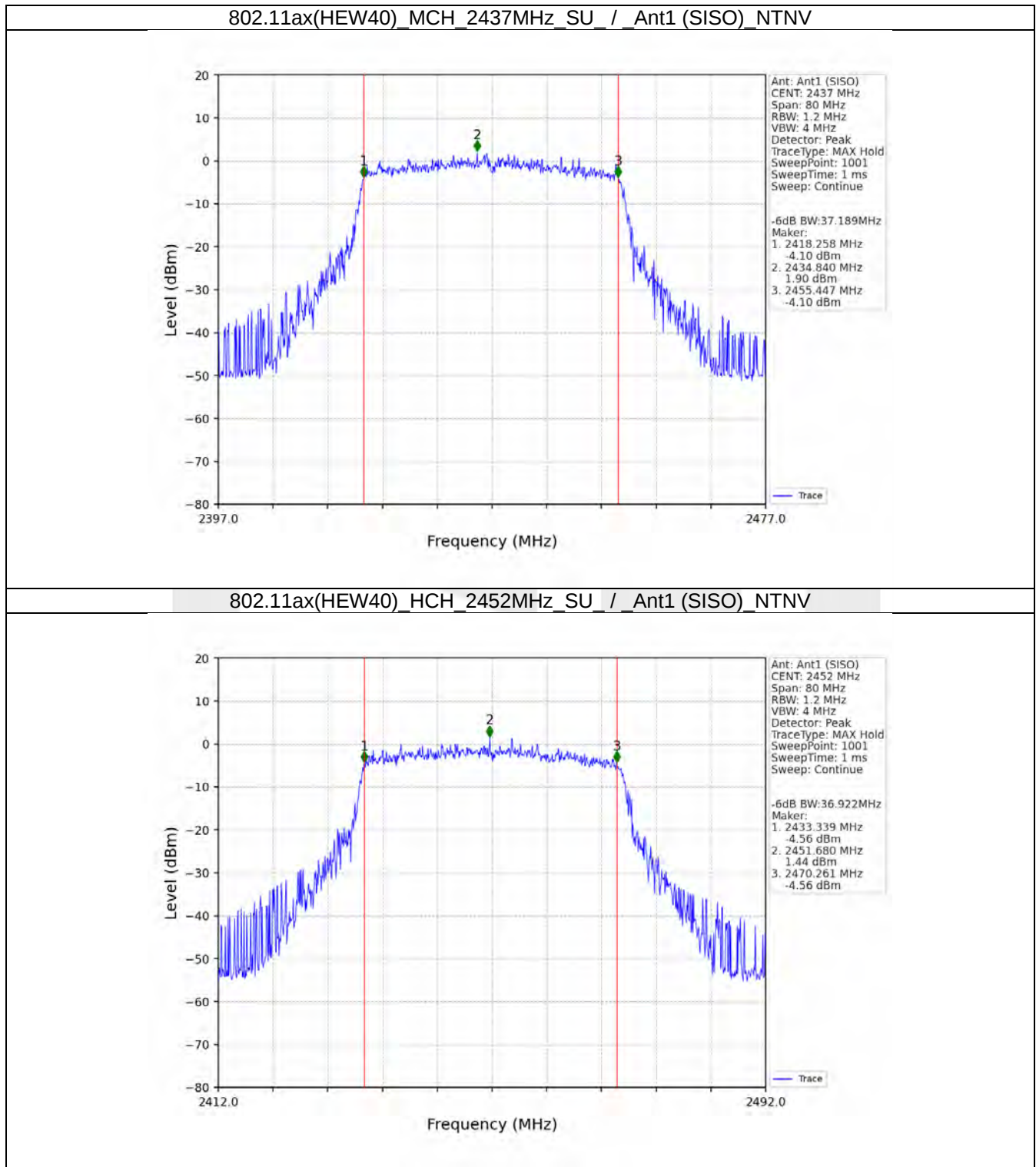












3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Peak Conducted Output Power (dBm)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	8.00	<=30	Pass
		2437	/	/	9.15	<=30	Pass
		2462	/	/	8.86	<=30	Pass
802.11g	SISO	2412	/	/	12.21	<=30	Pass
		2437	/	/	12.73	<=30	Pass
		2462	/	/	12.27	<=30	Pass
802.11n (HT20)	SISO	2412	/	/	14.23	<=30	Pass
		2437	/	/	14.86	<=30	Pass
		2462	/	/	14.17	<=30	Pass
802.11n (HT40)	SISO	2422	/	/	13.72	<=30	Pass
		2437	/	/	14.57	<=30	Pass
		2452	/	/	14.15	<=30	Pass
802.11ax (HEW20)	SISO	2412	SU	/	13.13	<=30	Pass
		2437	SU	/	13.32	<=30	Pass
		2462	SU	/	12.63	<=30	Pass
802.11ax (HEW40)	SISO	2422	SU	/	12.56	<=30	Pass
		2437	SU	/	12.88	<=30	Pass
		2452	SU	/	11.72	<=30	Pass

4. Maximum Power Spectral Density

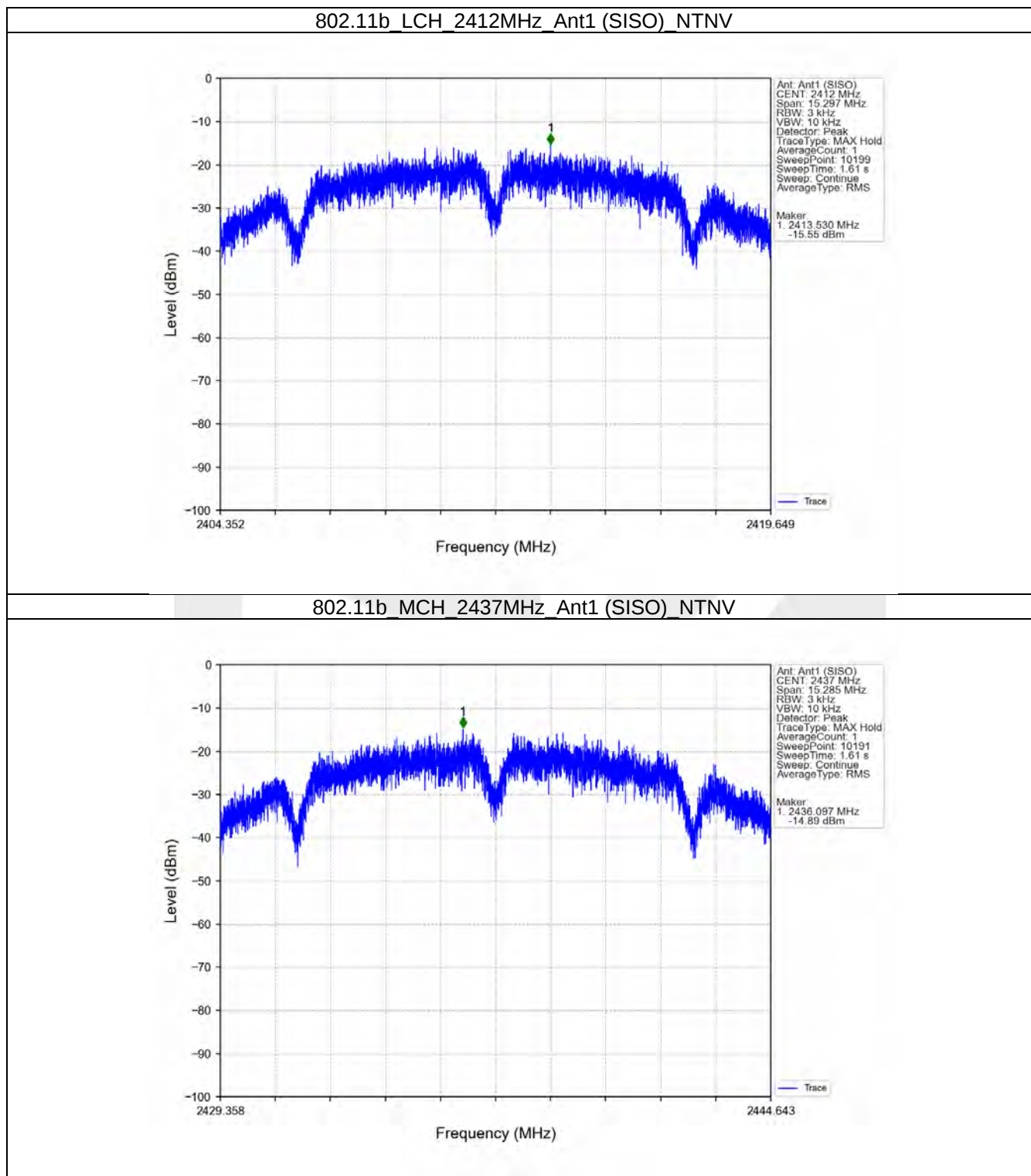
4.1 Test Result

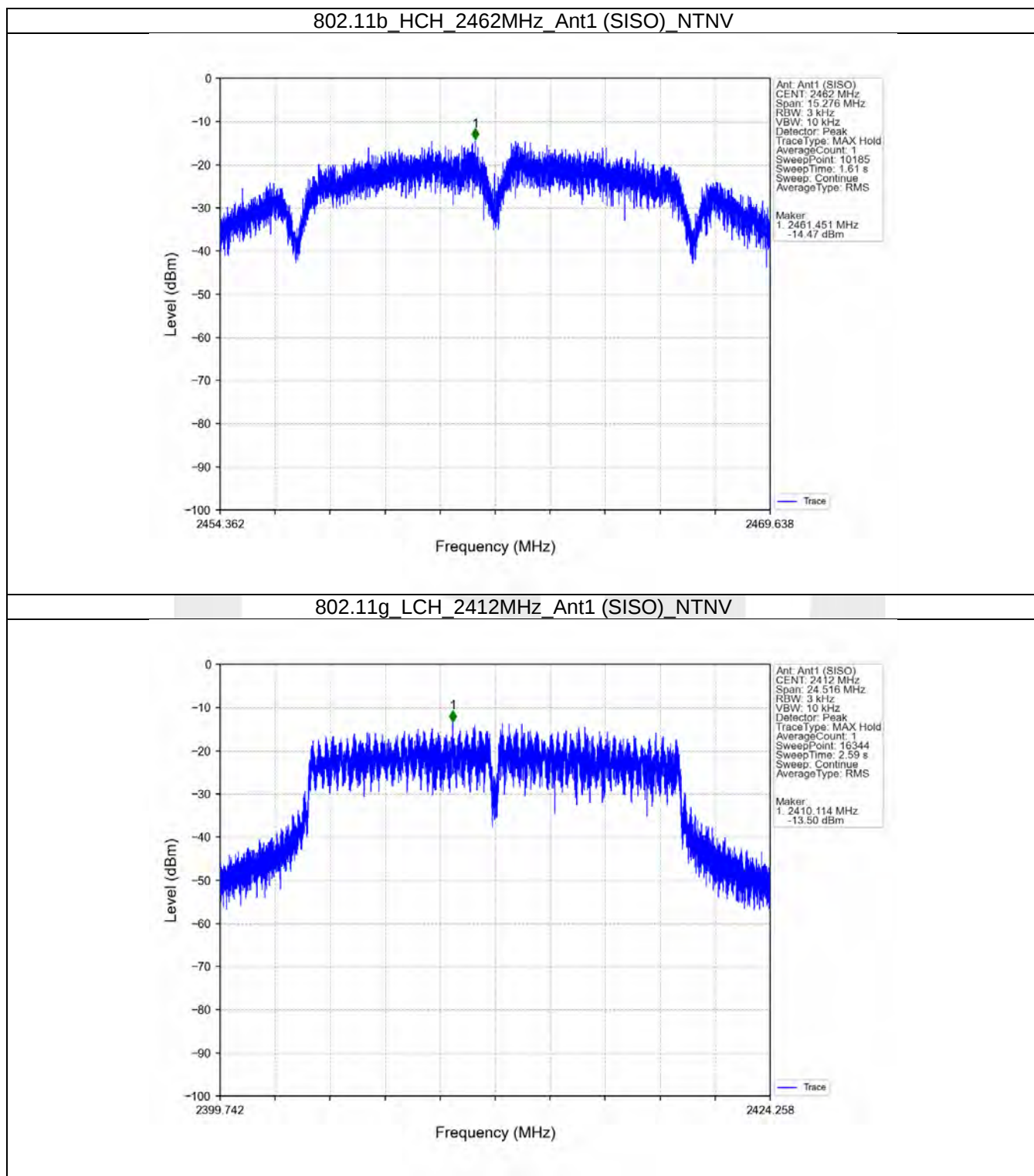
4.1.1 PSD

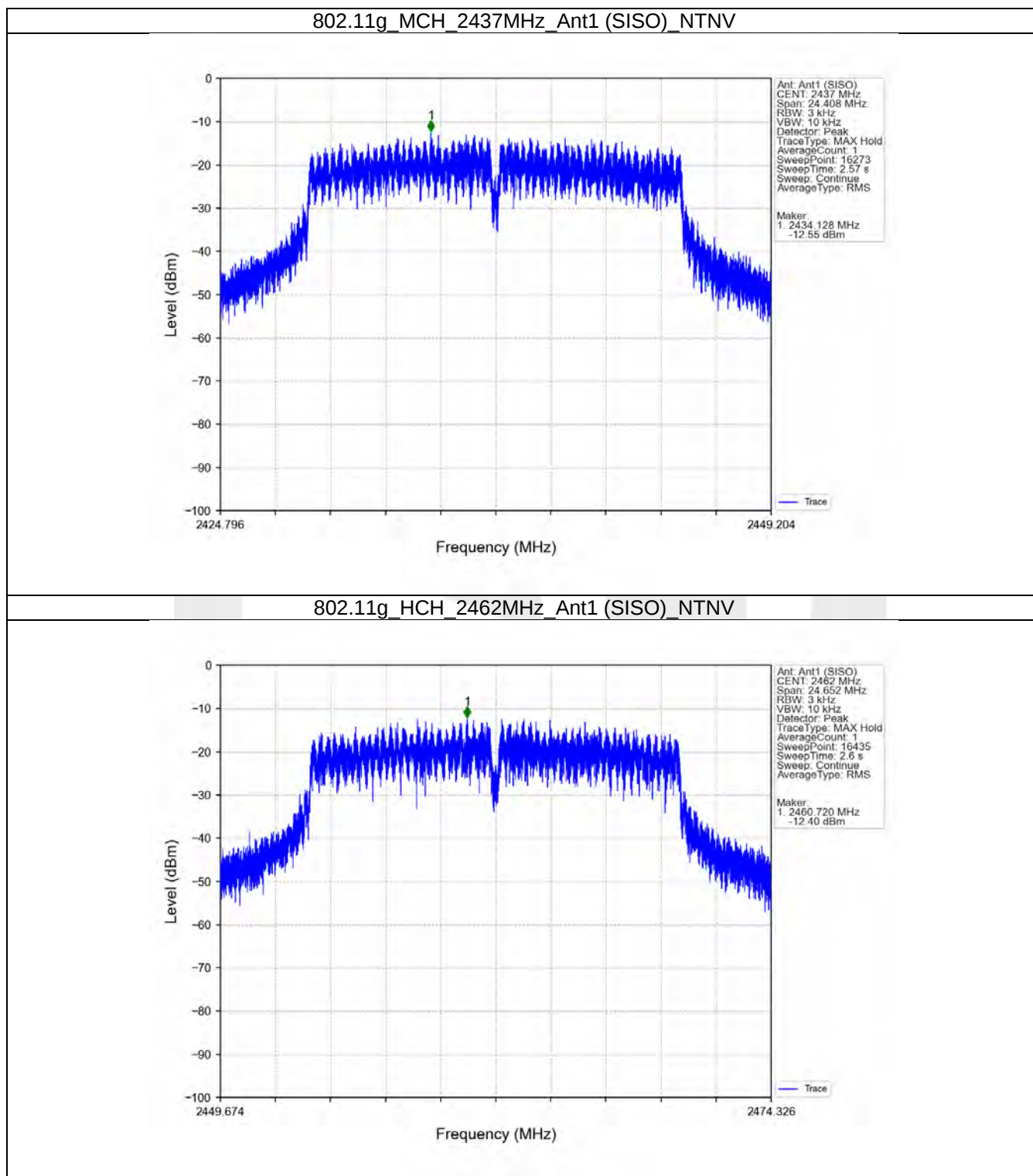
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	-15.55	<=8	Pass
		2437	/	/	-14.89	<=8	Pass
		2462	/	/	-14.47	<=8	Pass
802.11g	SISO	2412	/	/	-13.50	<=8	Pass
		2437	/	/	-12.55	<=8	Pass
		2462	/	/	-12.40	<=8	Pass
802.11n (HT20)	SISO	2412	/	/	-13.60	<=8	Pass
		2437	/	/	-13.20	<=8	Pass
		2462	/	/	-12.43	<=8	Pass
802.11n (HT40)	SISO	2422	/	/	-16.94	<=8	Pass
		2437	/	/	-15.47	<=8	Pass
		2452	/	/	-14.75	<=8	Pass
802.11ax (HEW20)	SISO	2412	SU	/	-13.74	<=8	Pass
		2437	SU	/	-12.21	<=8	Pass
		2462	SU	/	-12.78	<=8	Pass
802.11ax (HEW40)	SISO	2422	SU	/	-16.27	<=8	Pass
		2437	SU	/	-15.15	<=8	Pass
		2452	SU	/	-13.71	<=8	Pass

4.2 Test Graph

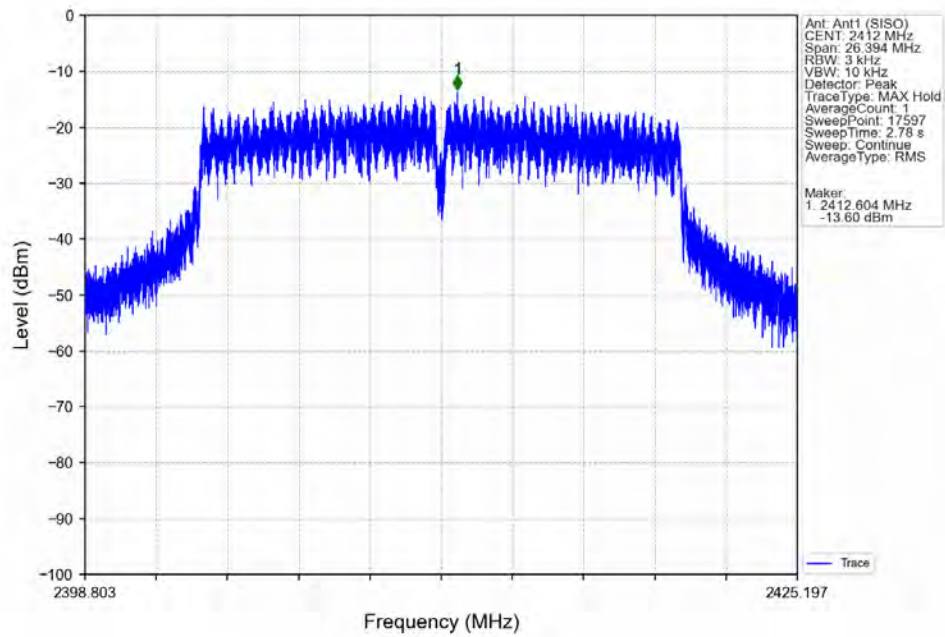
4.2.1 PSD



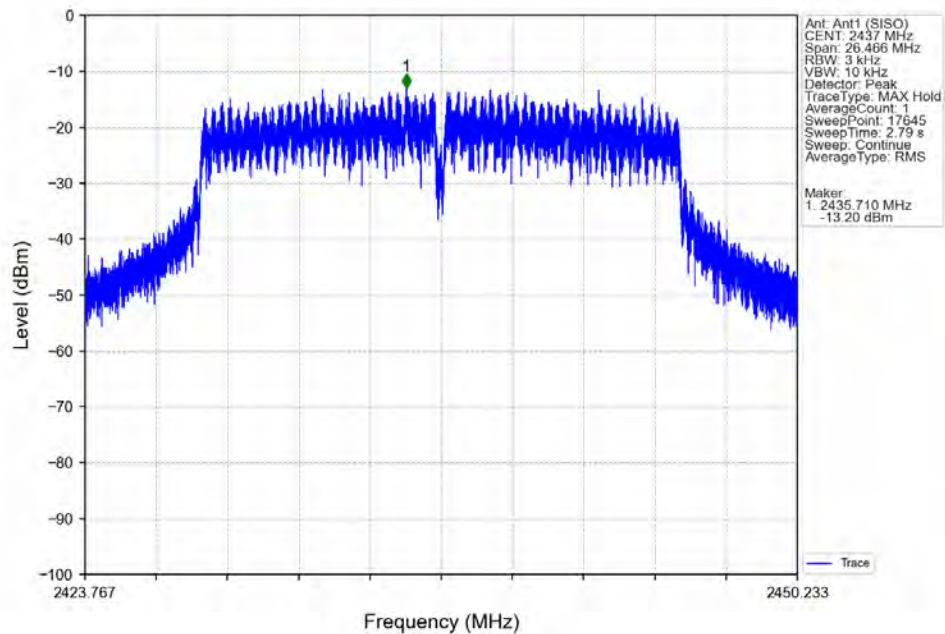


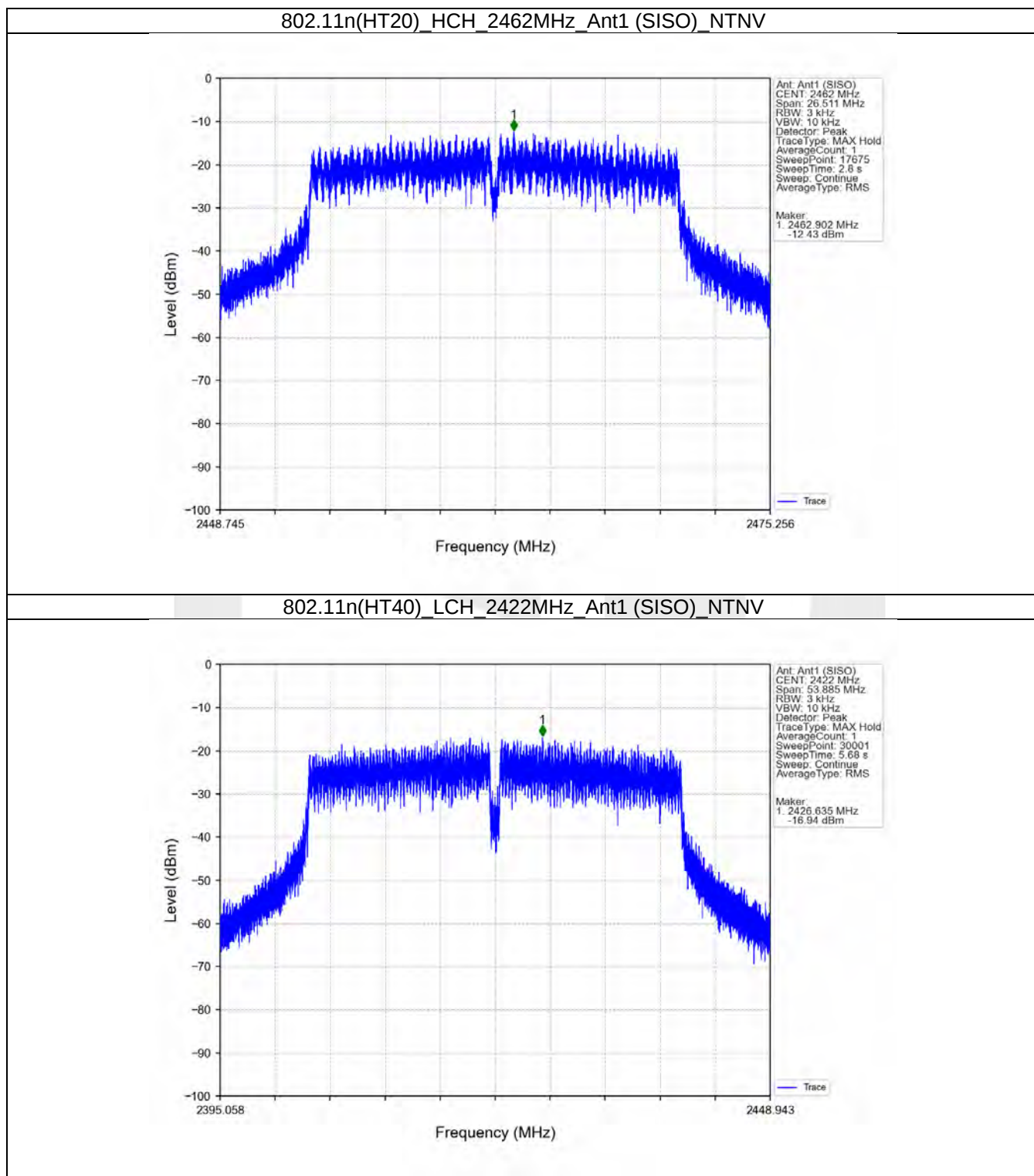


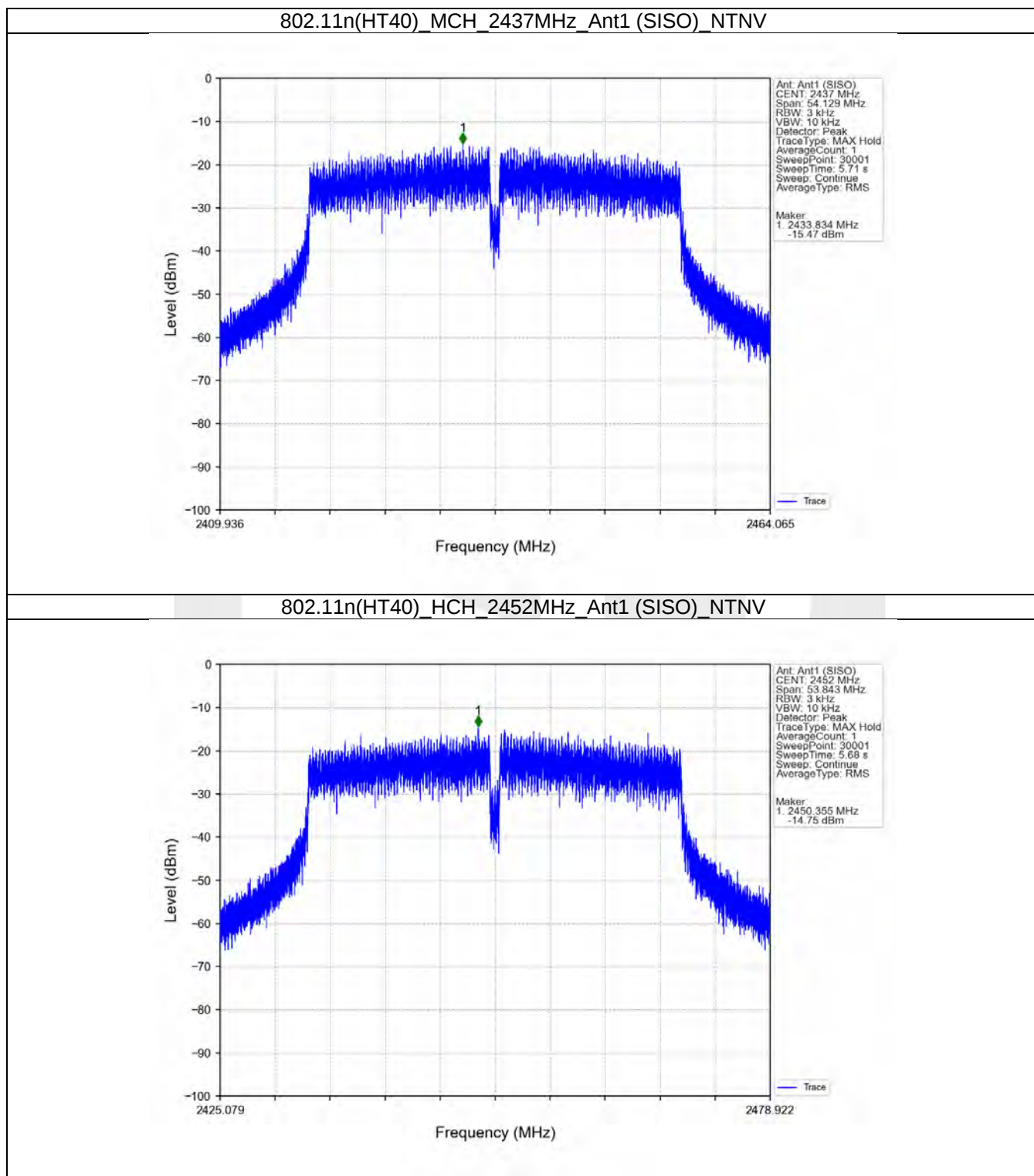
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV

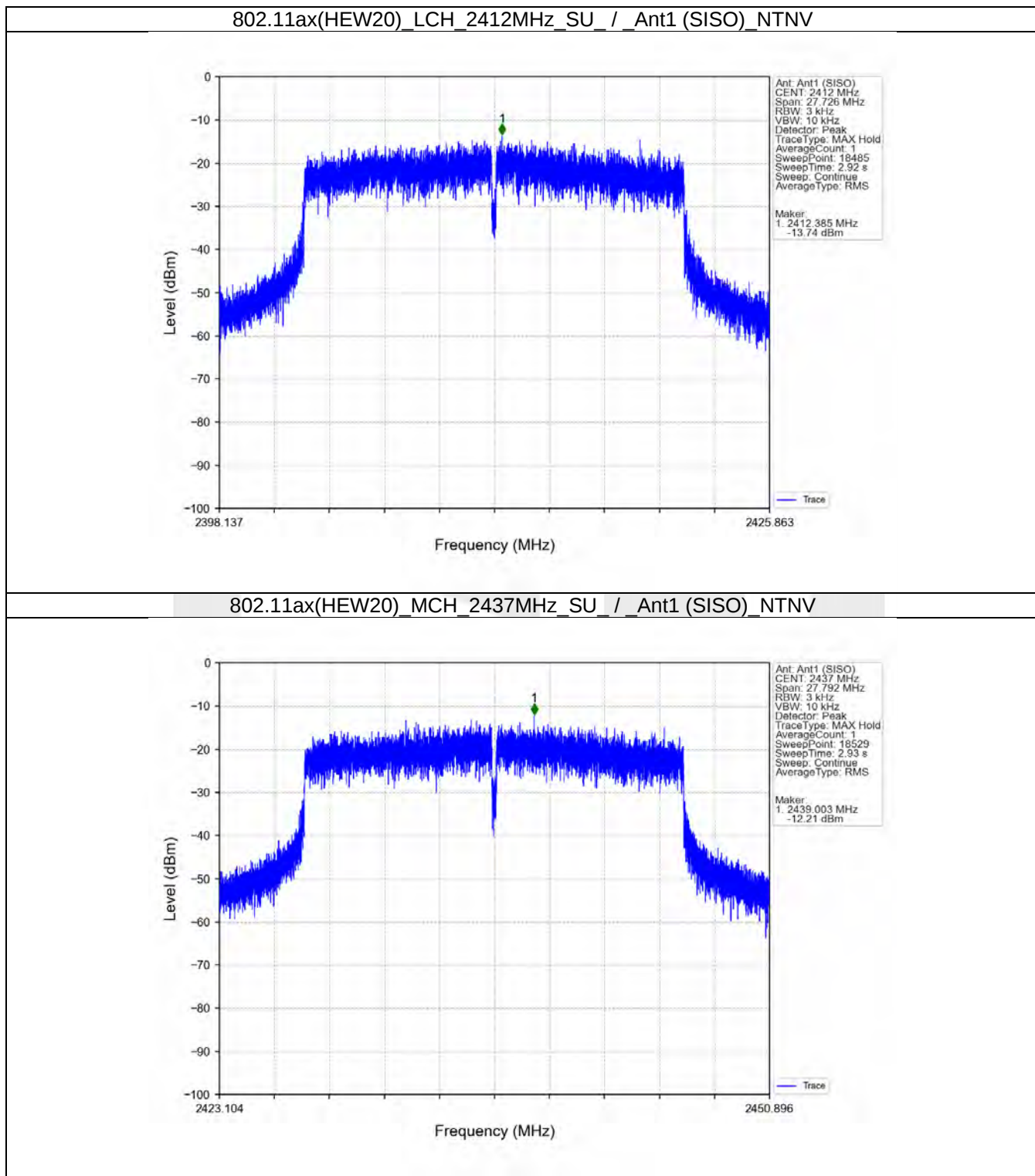


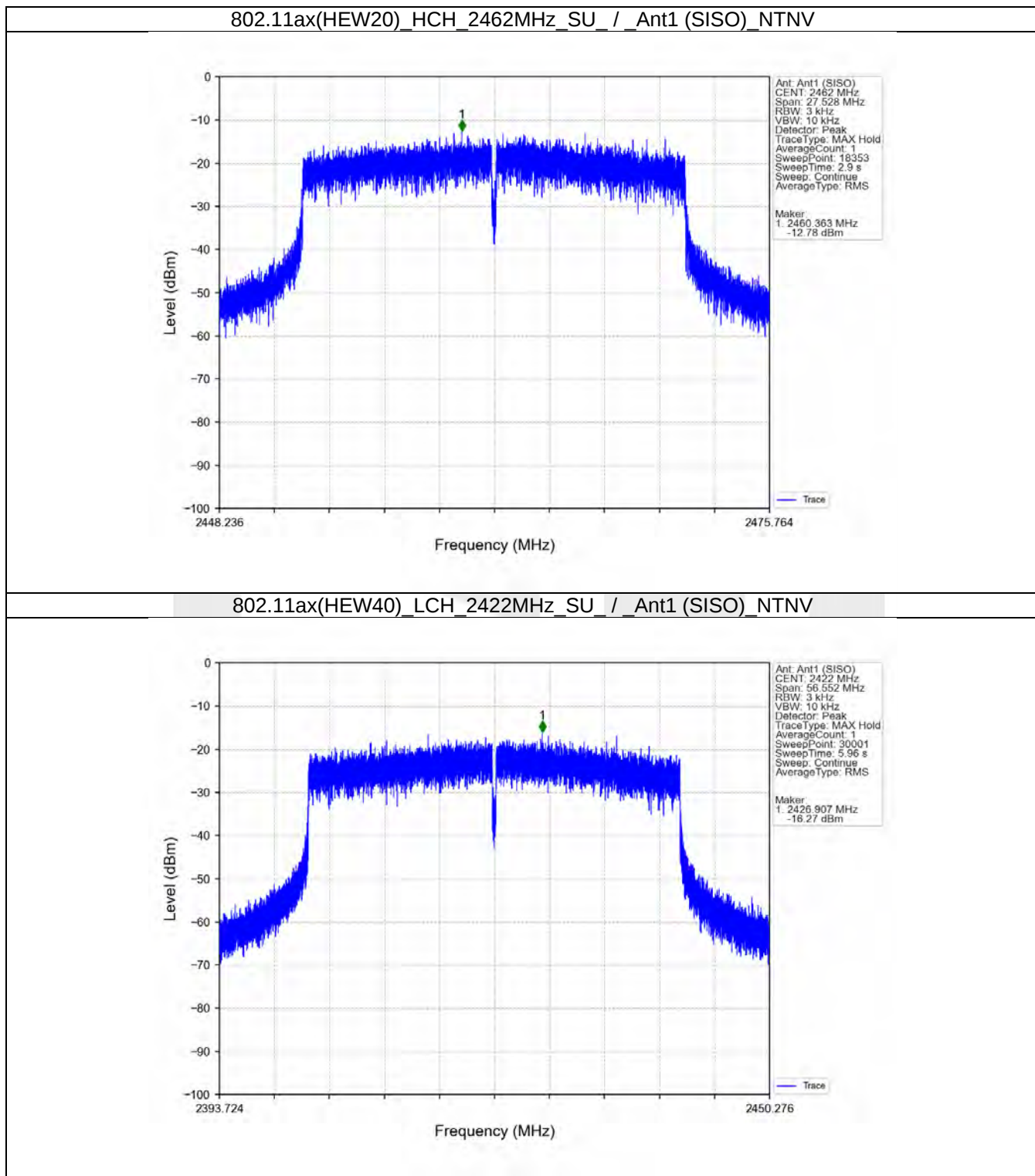
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



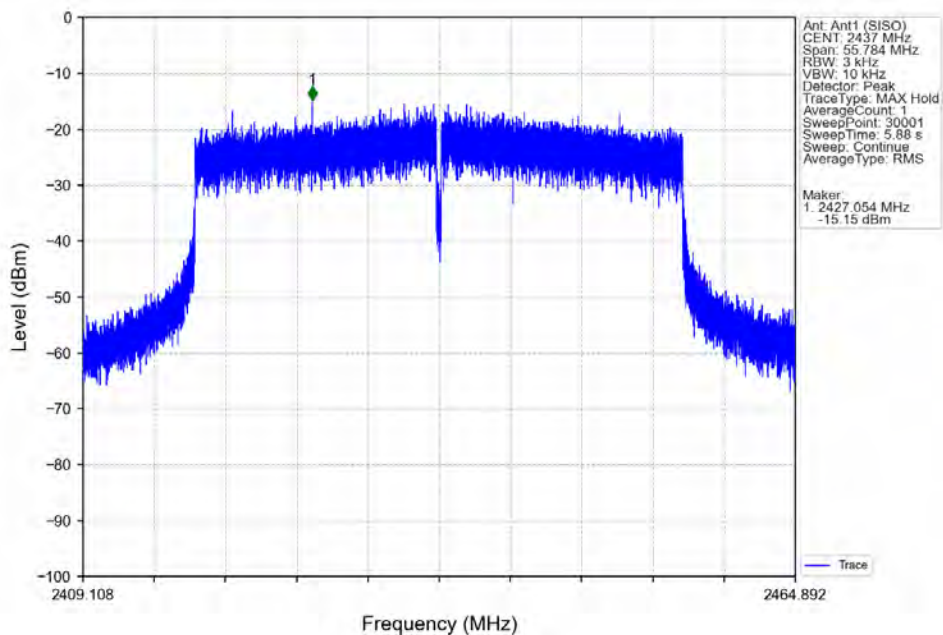




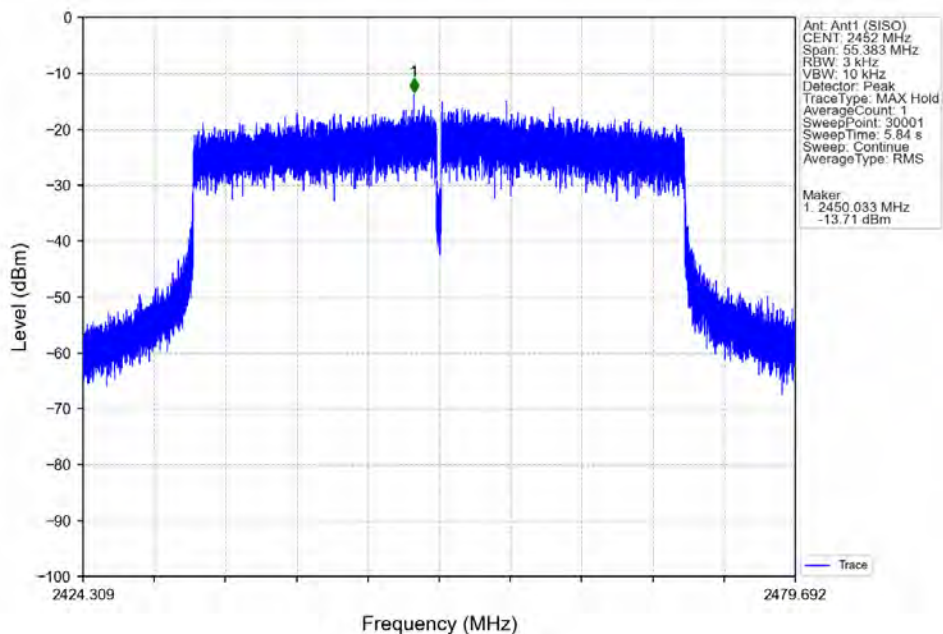




802.11ax(HEW40)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_SU / _Ant1 (SISO)_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

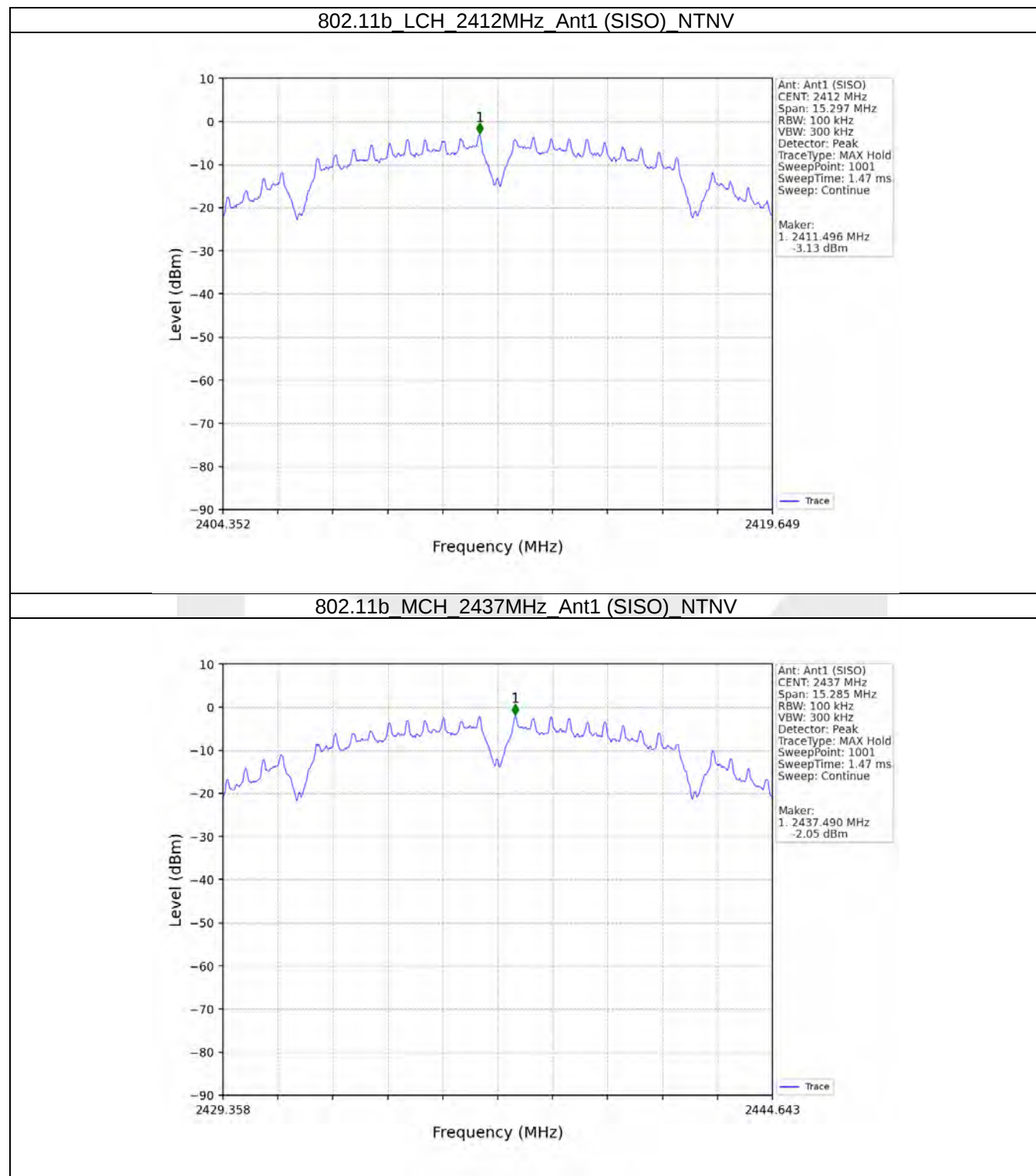
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)
802.11b	SISO	2412	/	/	1	-3.13
		2437	/	/	1	-2.05
		2462	/	/	1	-2.20
802.11g	SISO	2412	/	/	1	-6.29
		2437	/	/	1	-6.36
		2462	/	/	1	-7.02
802.11n (HT20)	SISO	2412	/	/	1	-6.11
		2437	/	/	1	-3.21
		2462	/	/	1	-5.17
802.11n (HT40)	SISO	2422	/	/	1	-7.37
		2437	/	/	1	-6.30
		2452	/	/	1	-6.78
802.11ax (HEW20)	SISO	2412	SU	/	1	-6.53
		2437	SU	/	1	-6.21
		2462	SU	/	1	-6.18
802.11ax (HEW40)	SISO	2422	SU	/	1	-9.37
		2437	SU	/	1	-8.41
		2452	SU	/	1	-9.53
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.						

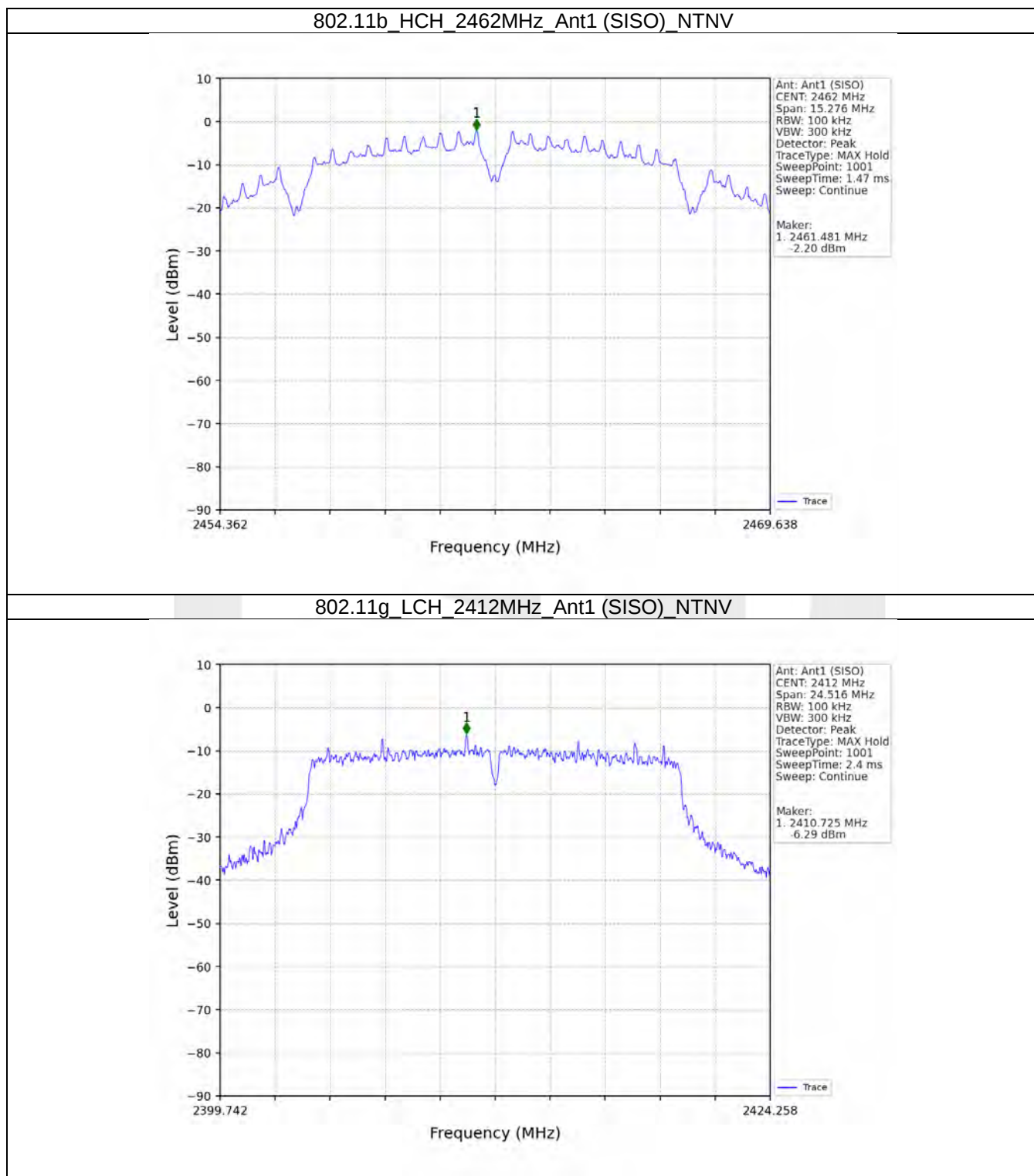
5.1.2 CSE

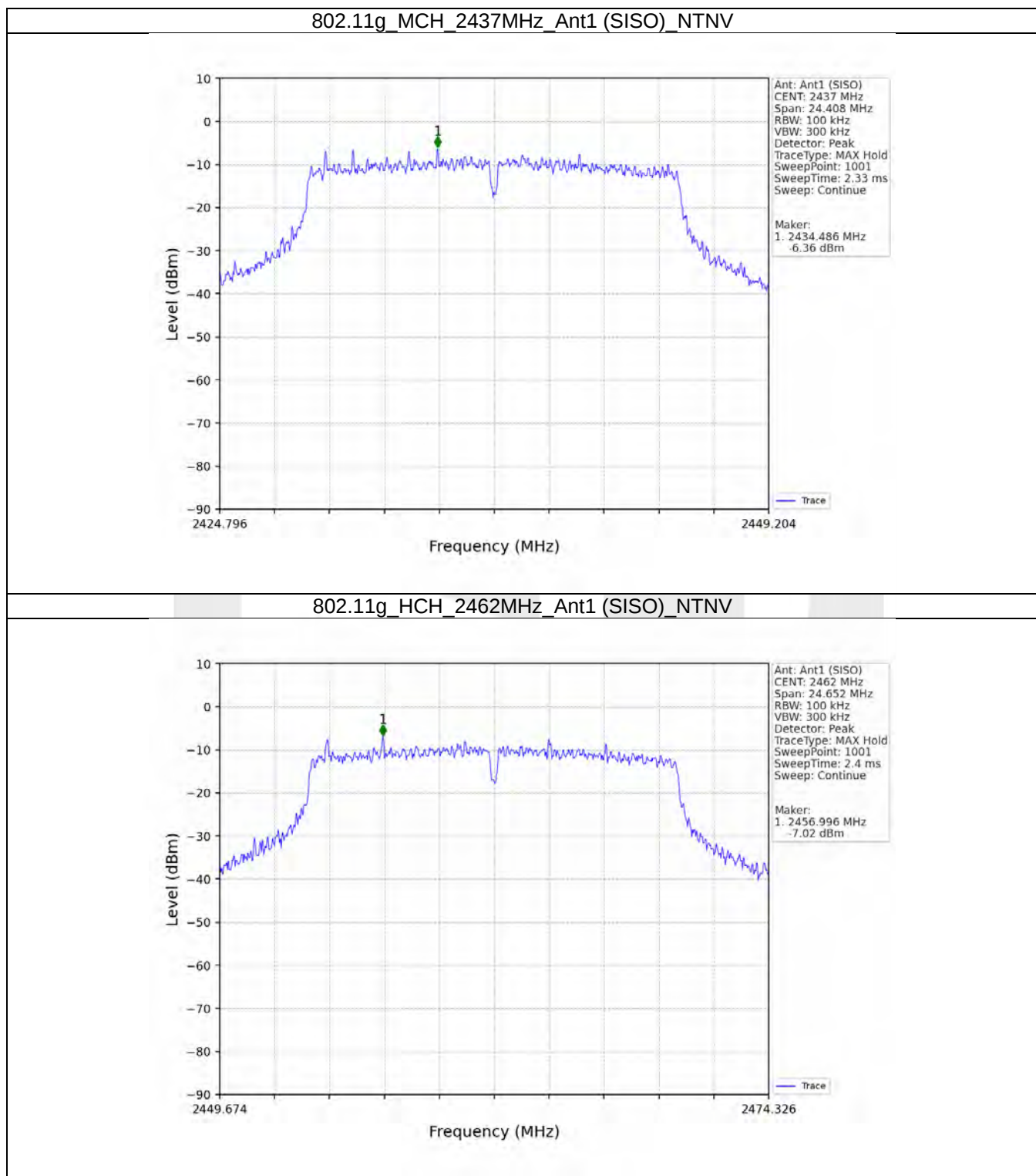
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	-3.13	-23.13	Pass
		2437	/	/	1	-2.05	-22.05	Pass
		2462	/	/	1	-2.20	-22.20	Pass
802.11g	SISO	2412	/	/	1	-6.29	-26.29	Pass
		2437	/	/	1	-6.36	-26.36	Pass
		2462	/	/	1	-7.02	-27.02	Pass
802.11n (HT20)	SISO	2412	/	/	1	-6.11	-26.11	Pass
		2437	/	/	1	-3.21	-23.21	Pass
		2462	/	/	1	-5.17	-25.17	Pass
802.11n (HT40)	SISO	2422	/	/	1	-7.37	-27.37	Pass
		2437	/	/	1	-6.30	-26.30	Pass
		2452	/	/	1	-6.78	-26.78	Pass
802.11ax (HEW20)	SISO	2412	SU	/	1	-6.53	-26.53	Pass
		2437	SU	/	1	-6.21	-26.21	Pass
		2462	SU	/	1	-6.18	-26.18	Pass
802.11ax (HEW40)	SISO	2422	SU	/	1	-9.37	-29.37	Pass
		2437	SU	/	1	-8.41	-28.41	Pass
		2452	SU	/	1	-9.53	-29.53	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.								

5.2 Test Graph

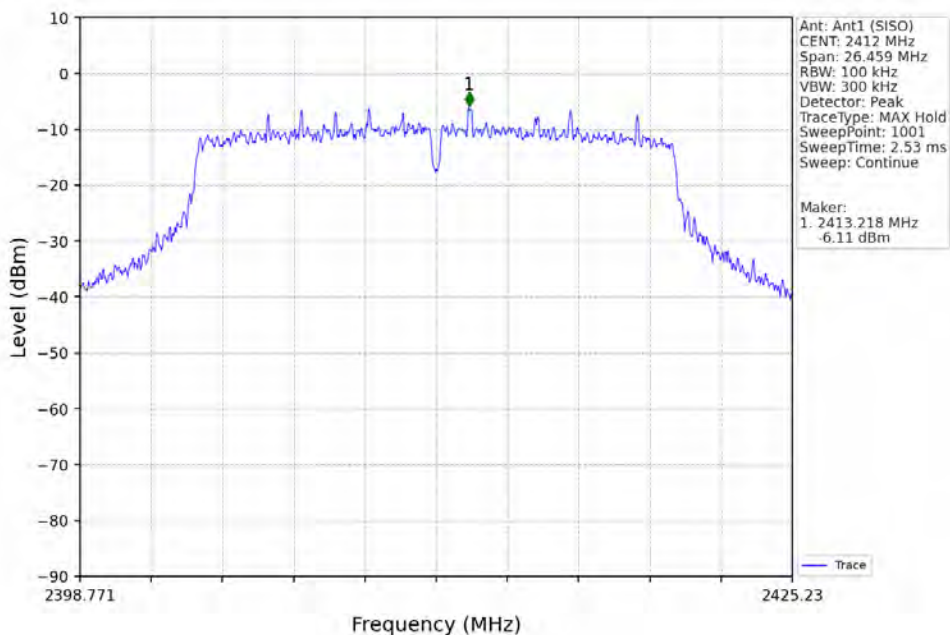
5.2.1 Ref



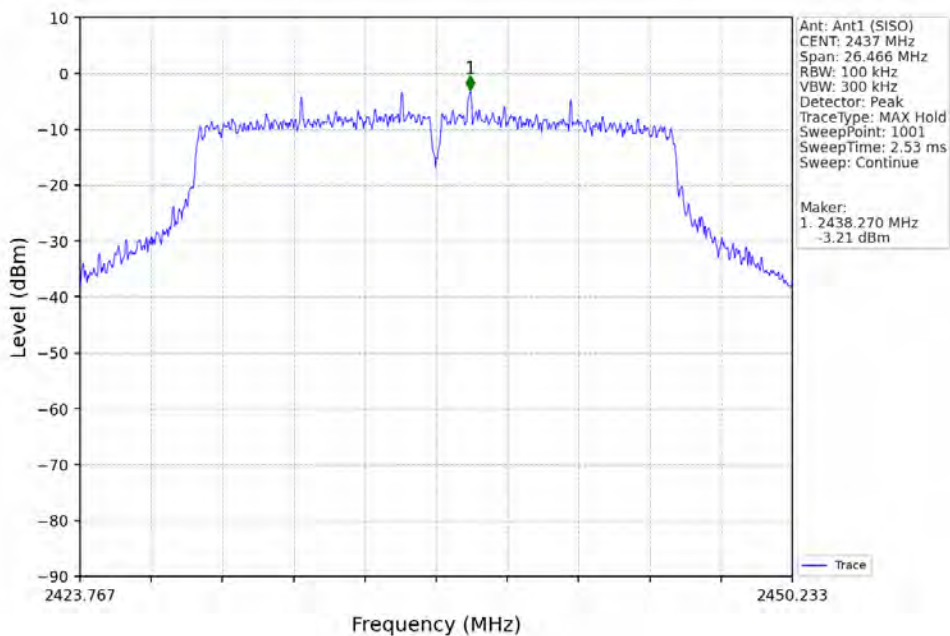


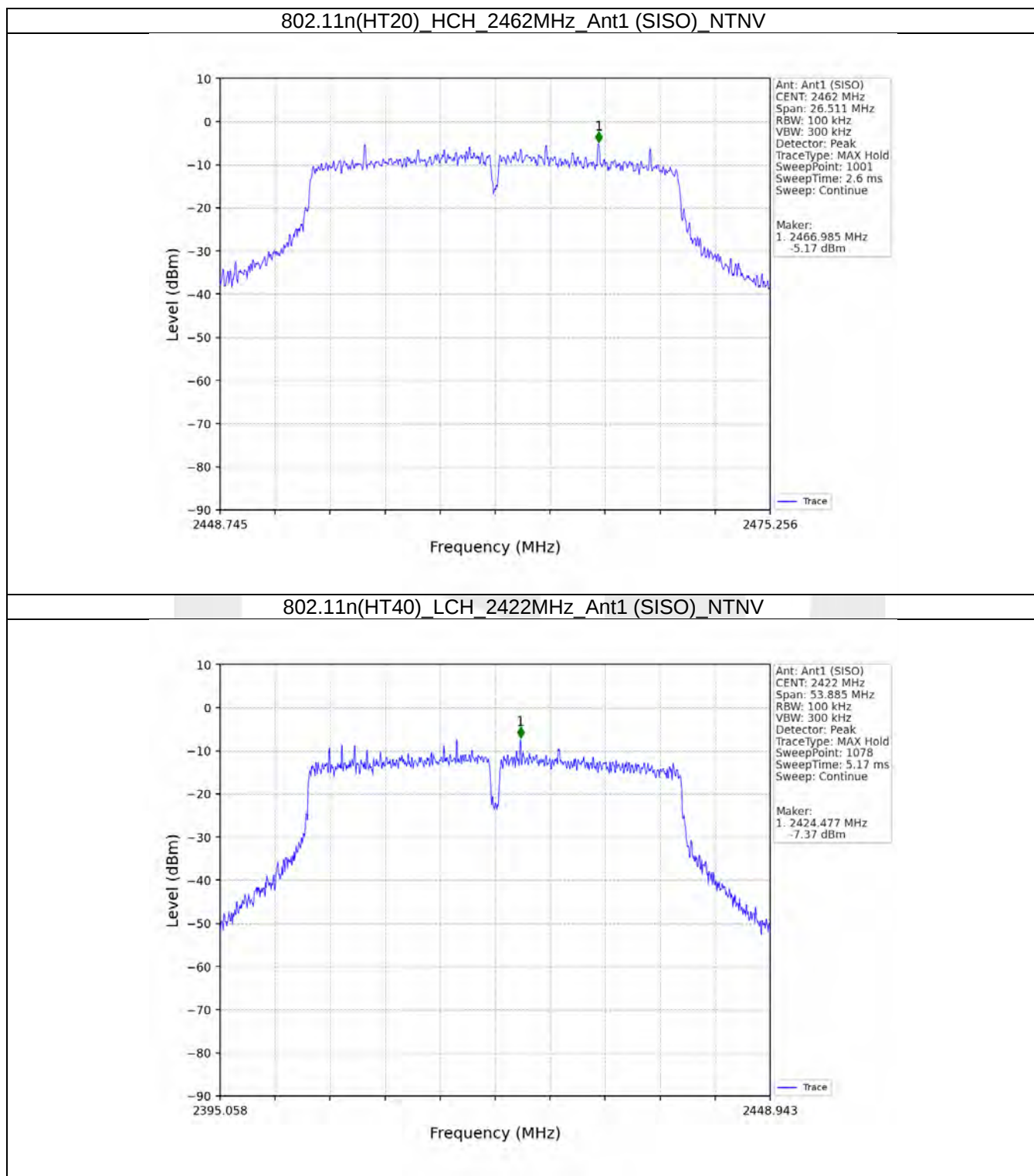


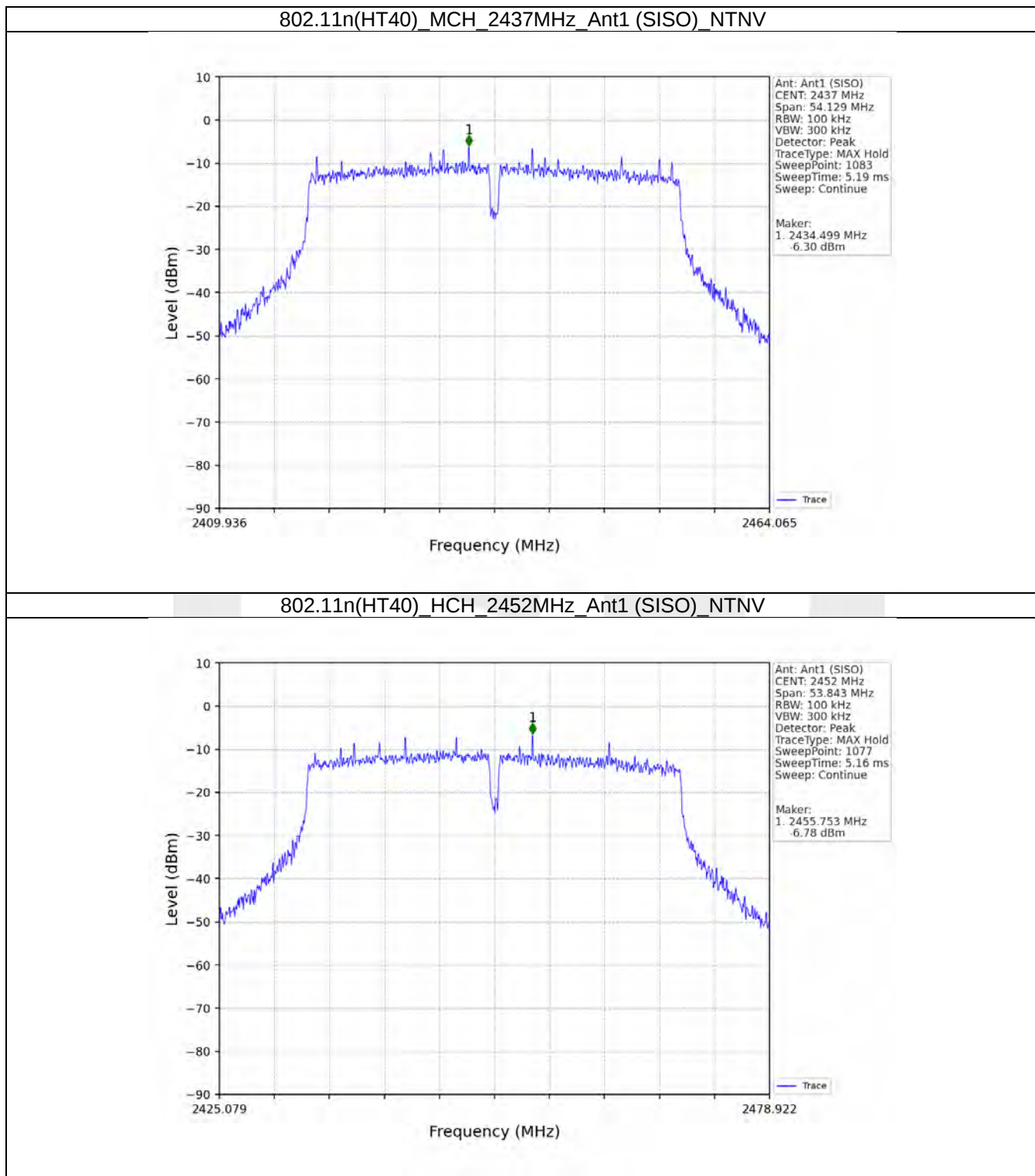
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV

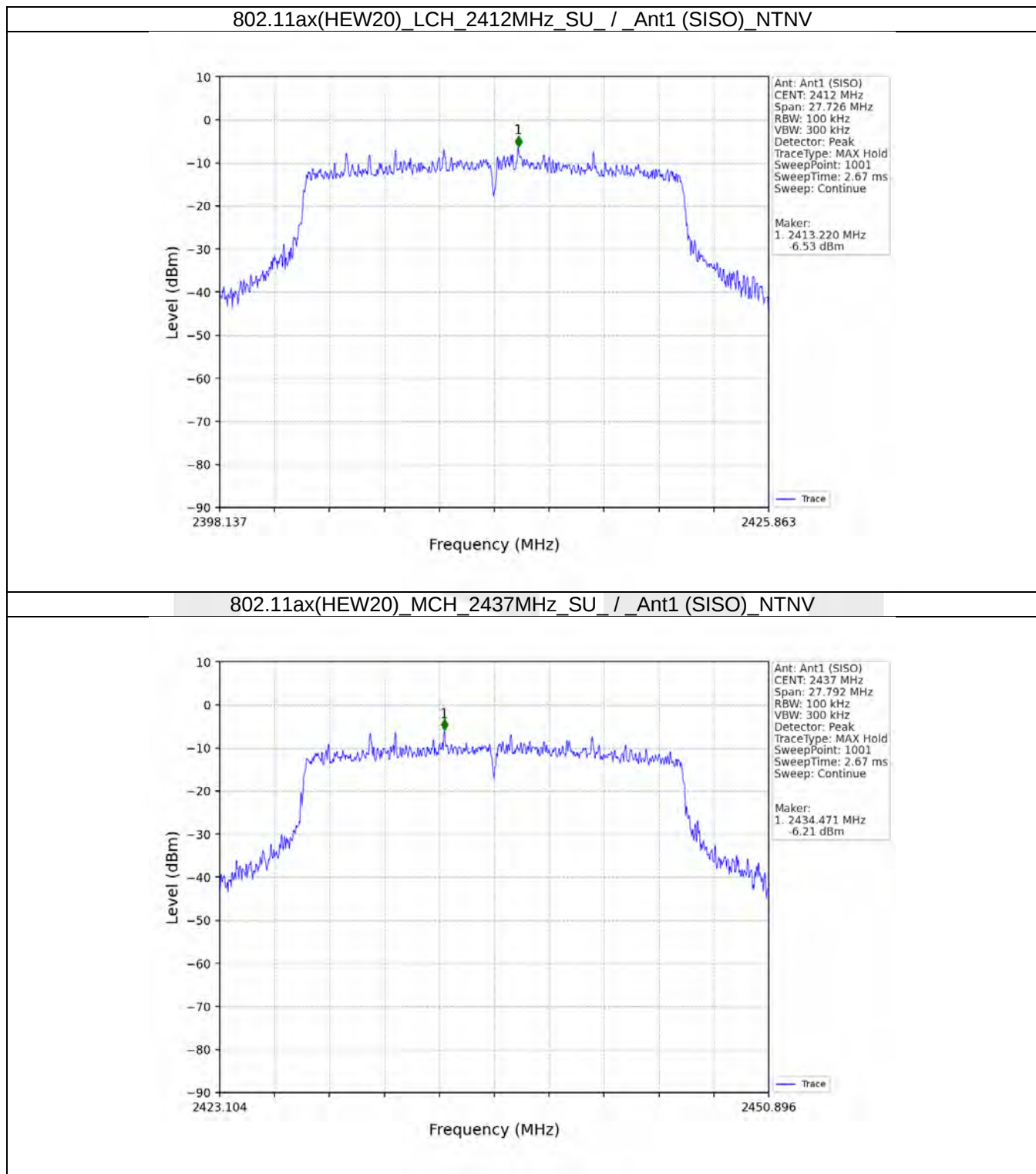


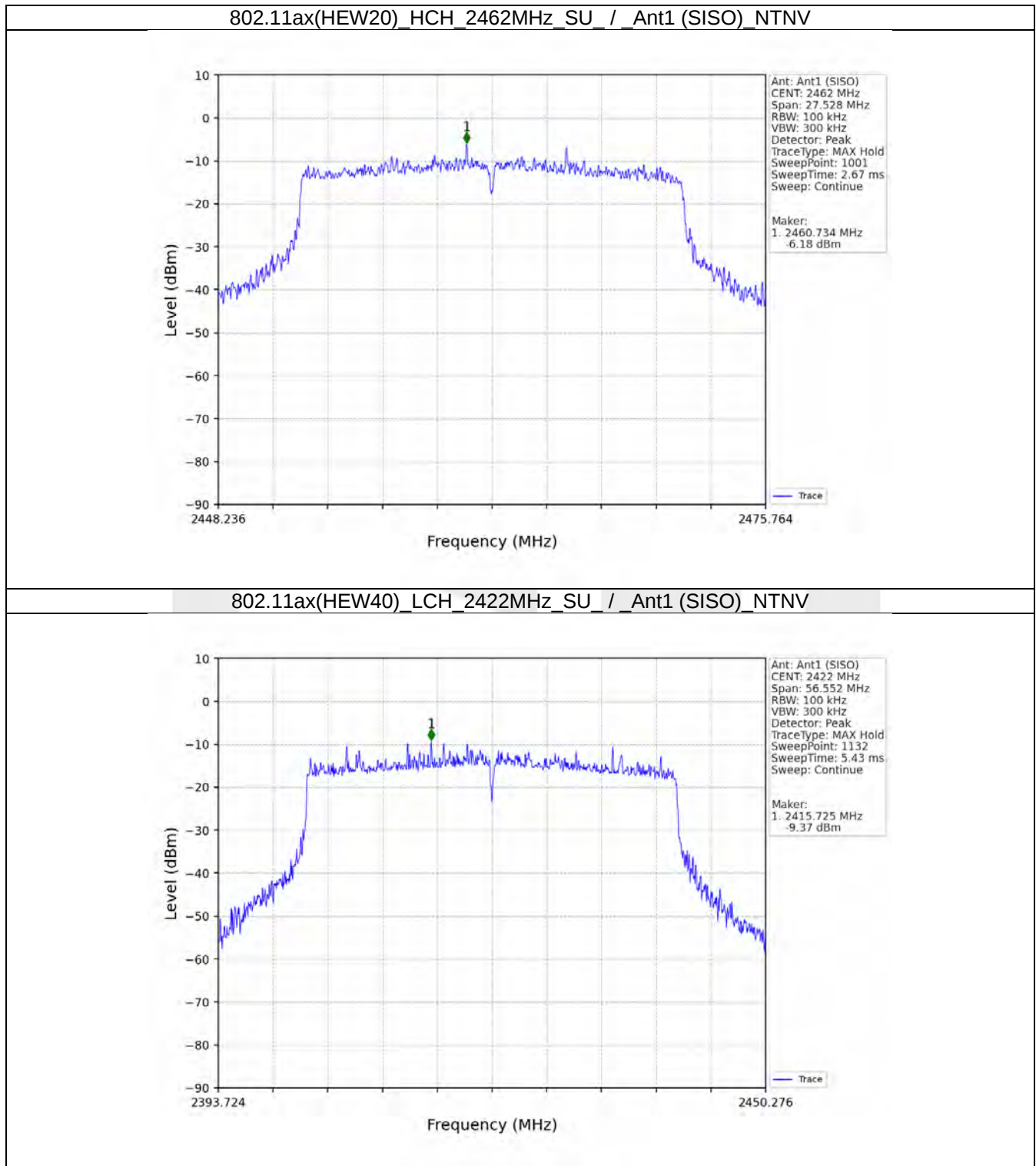
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV

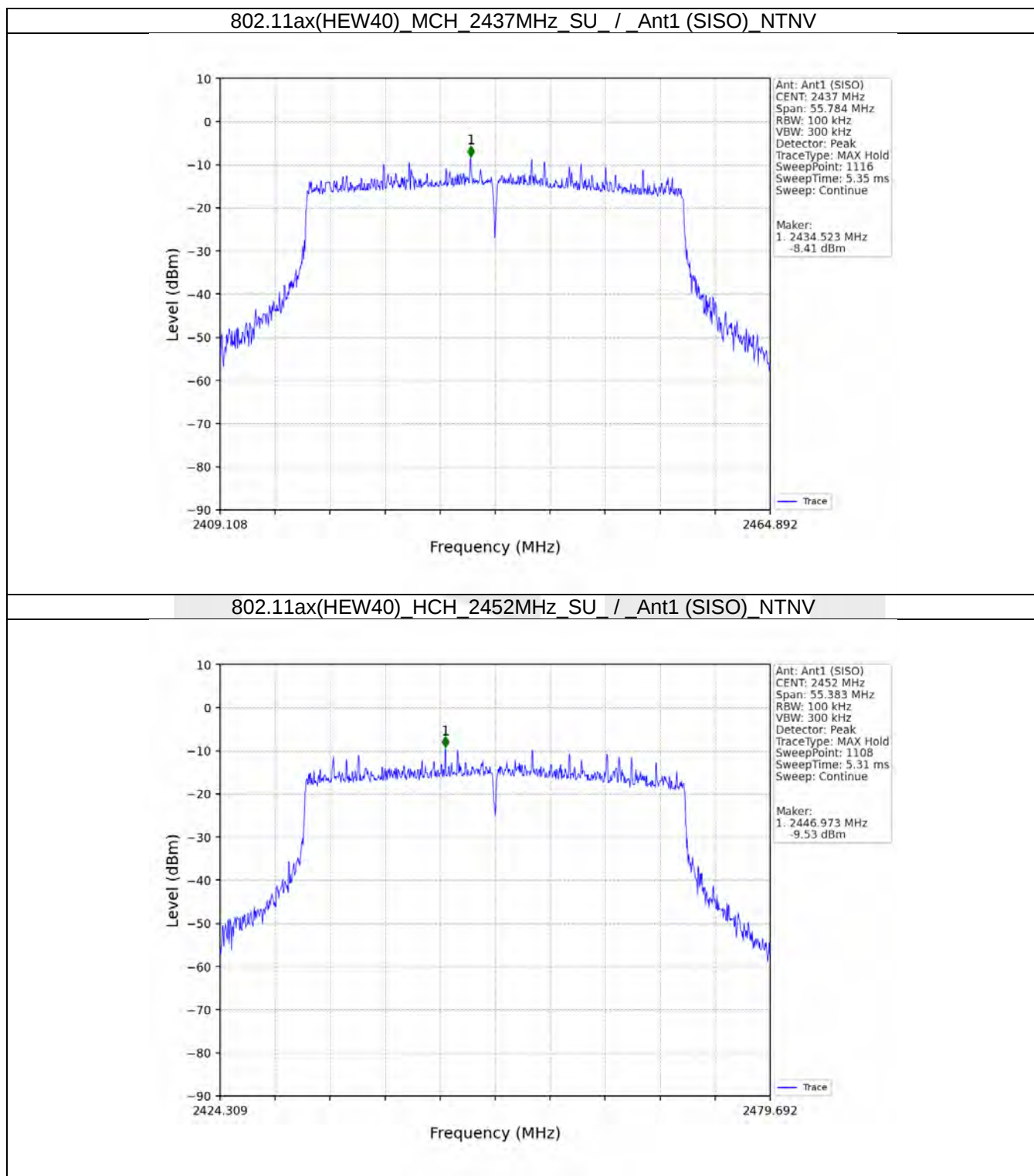




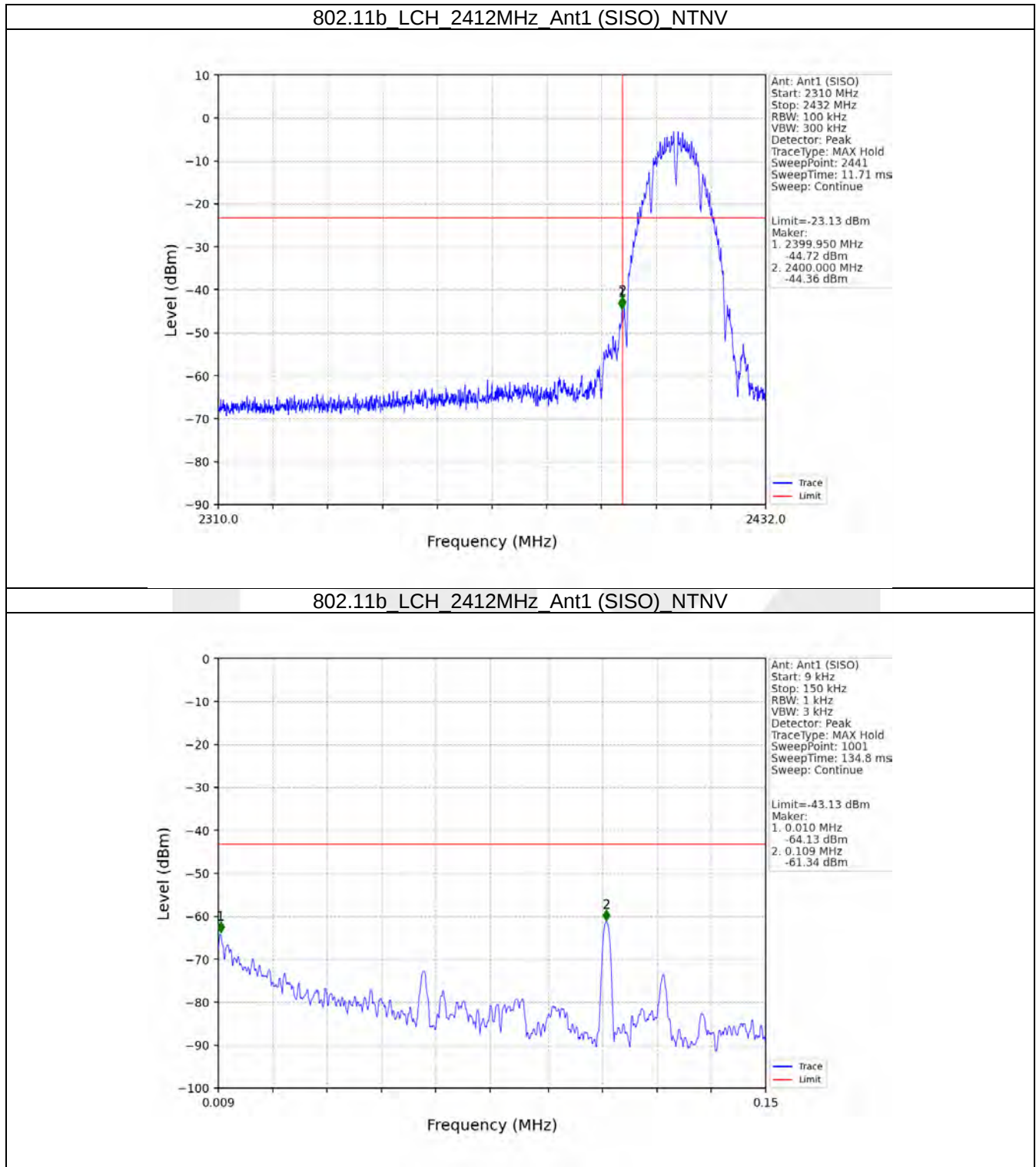


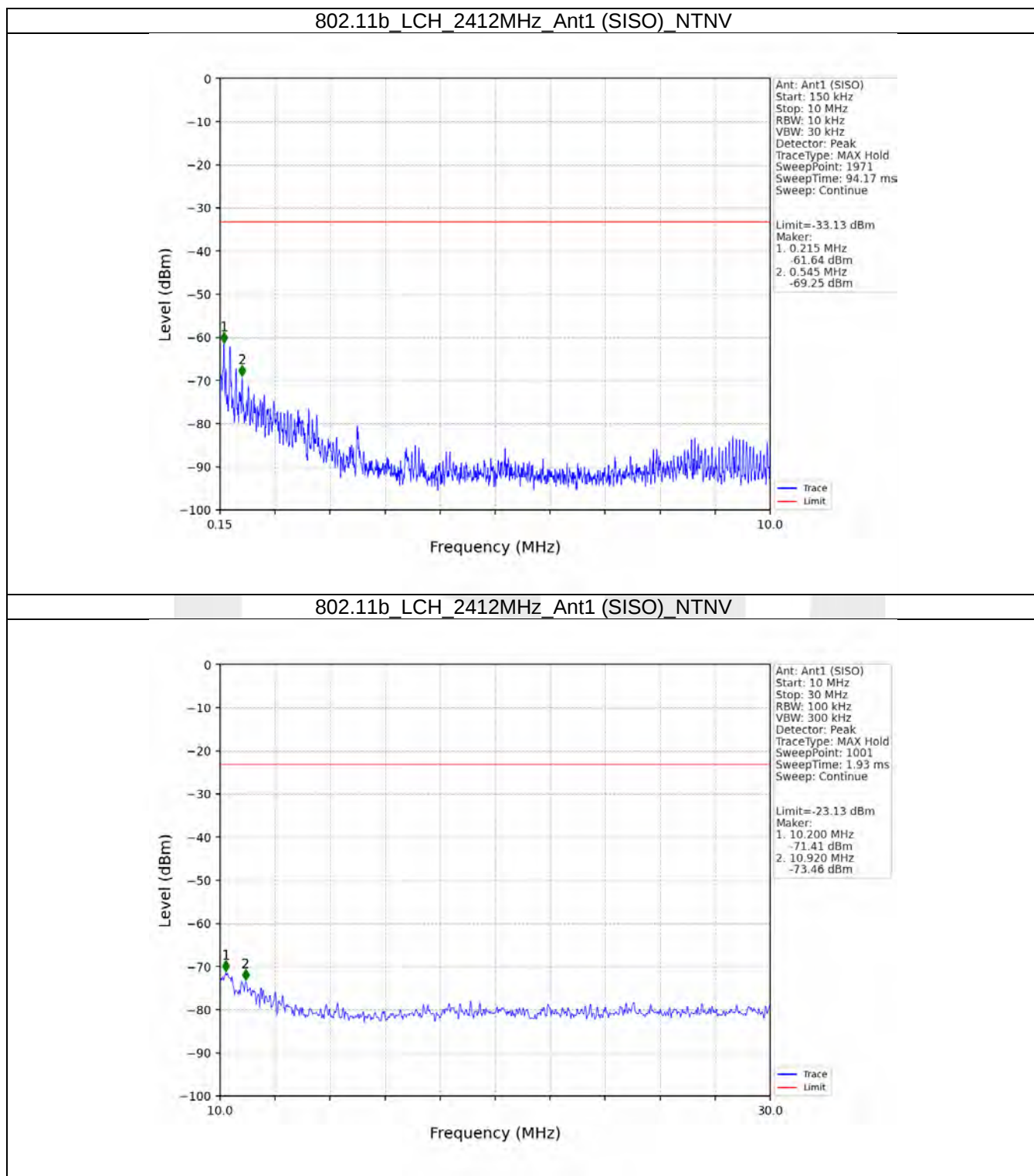


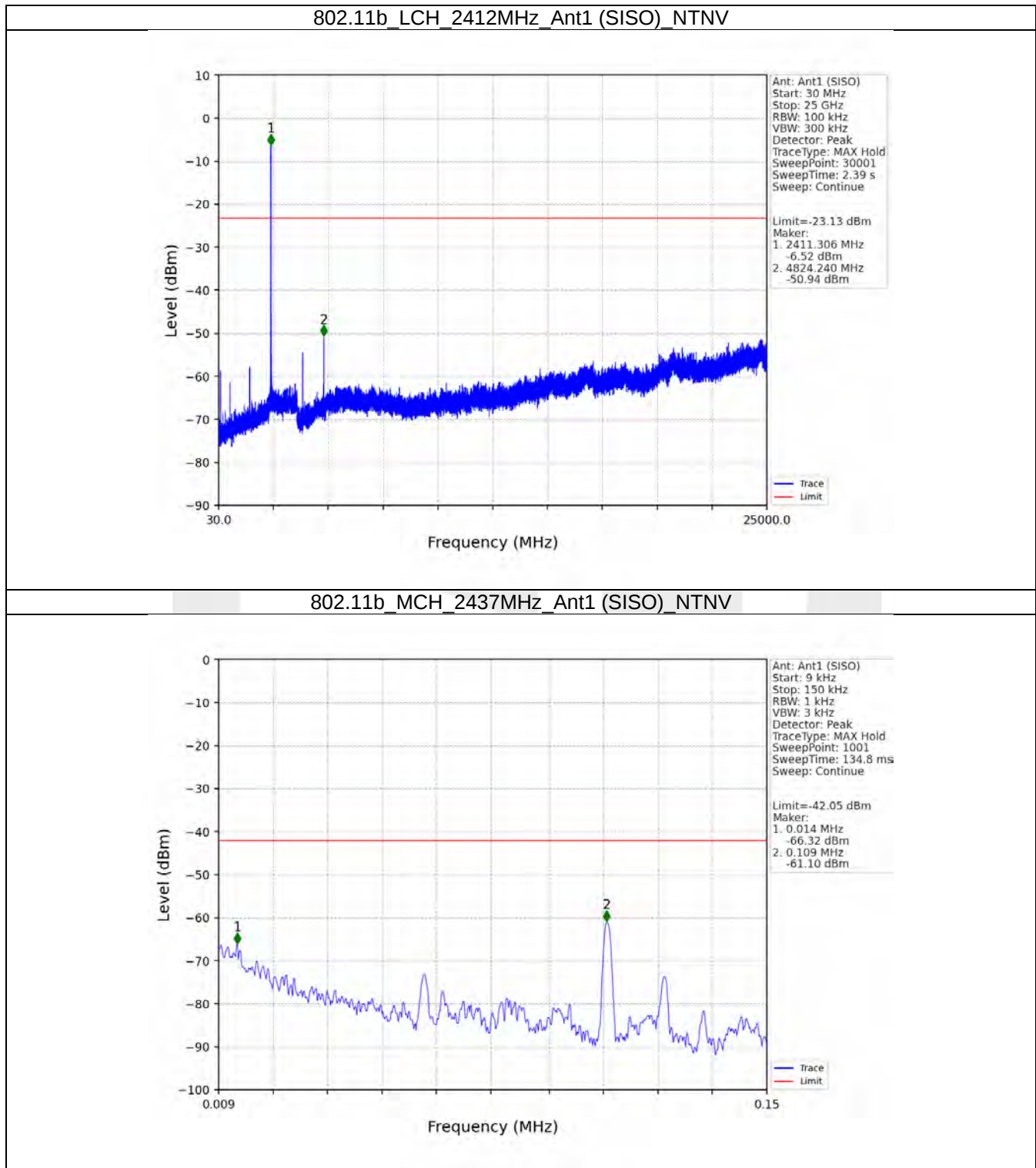


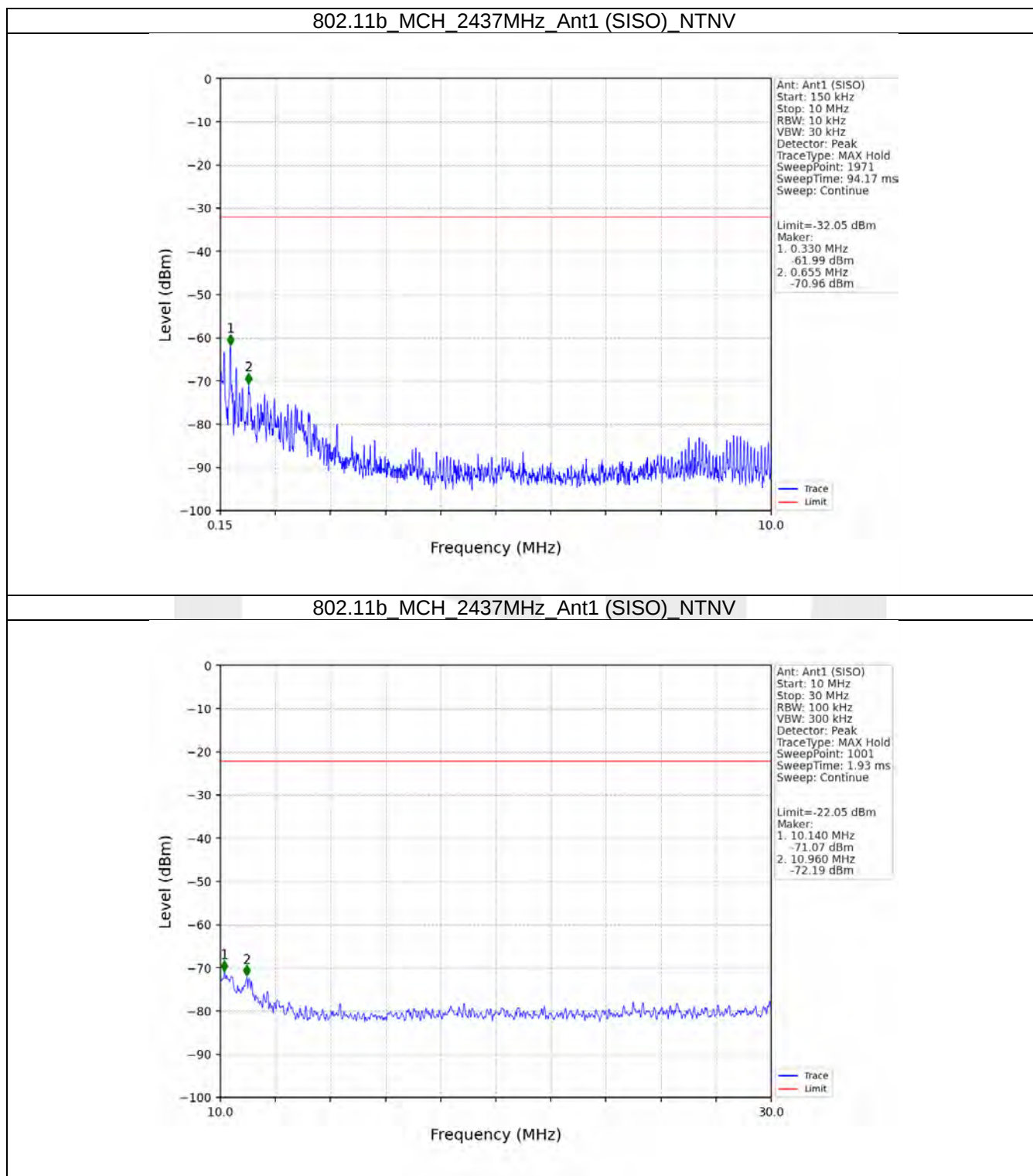


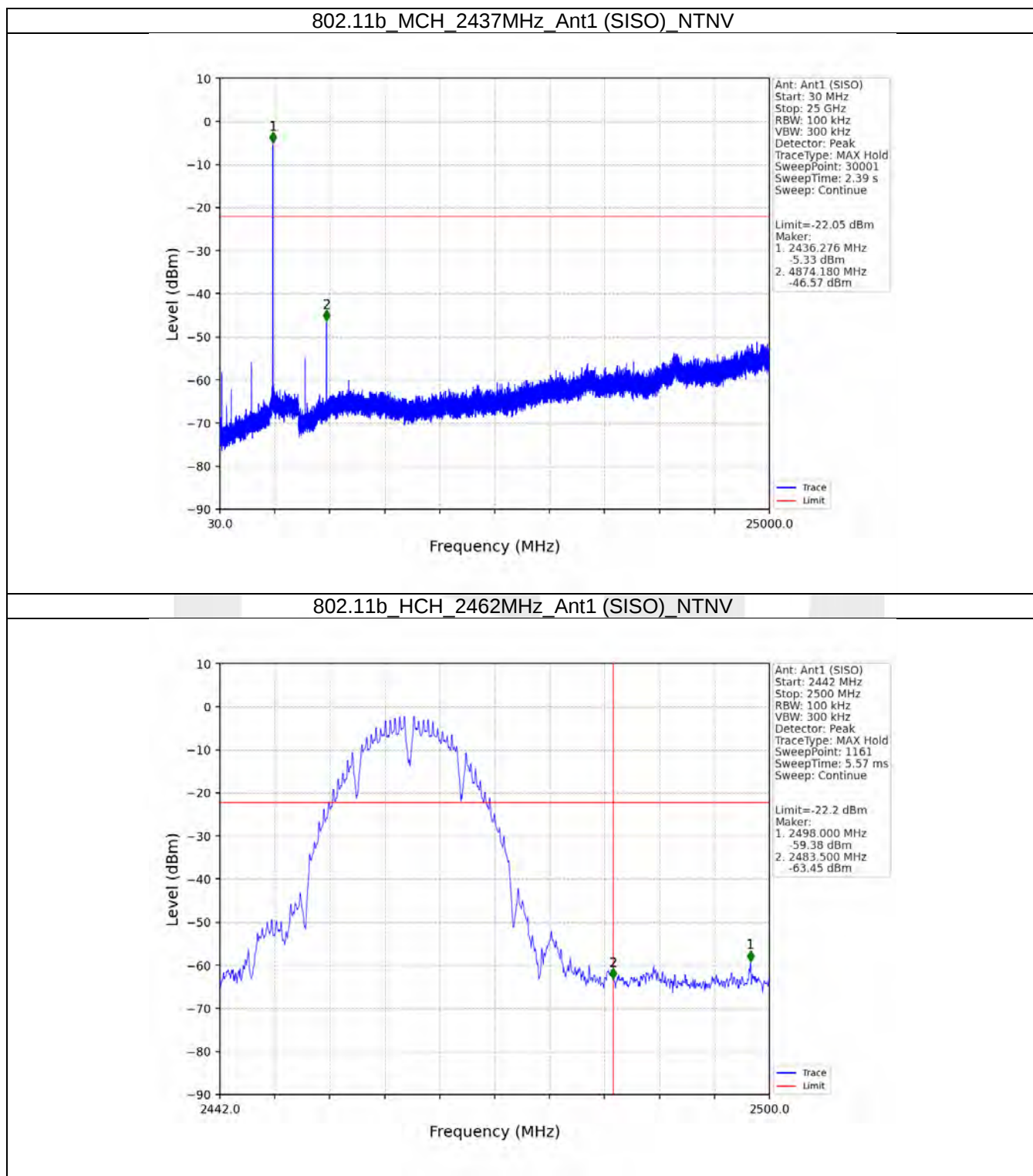
5.2.2 CSE

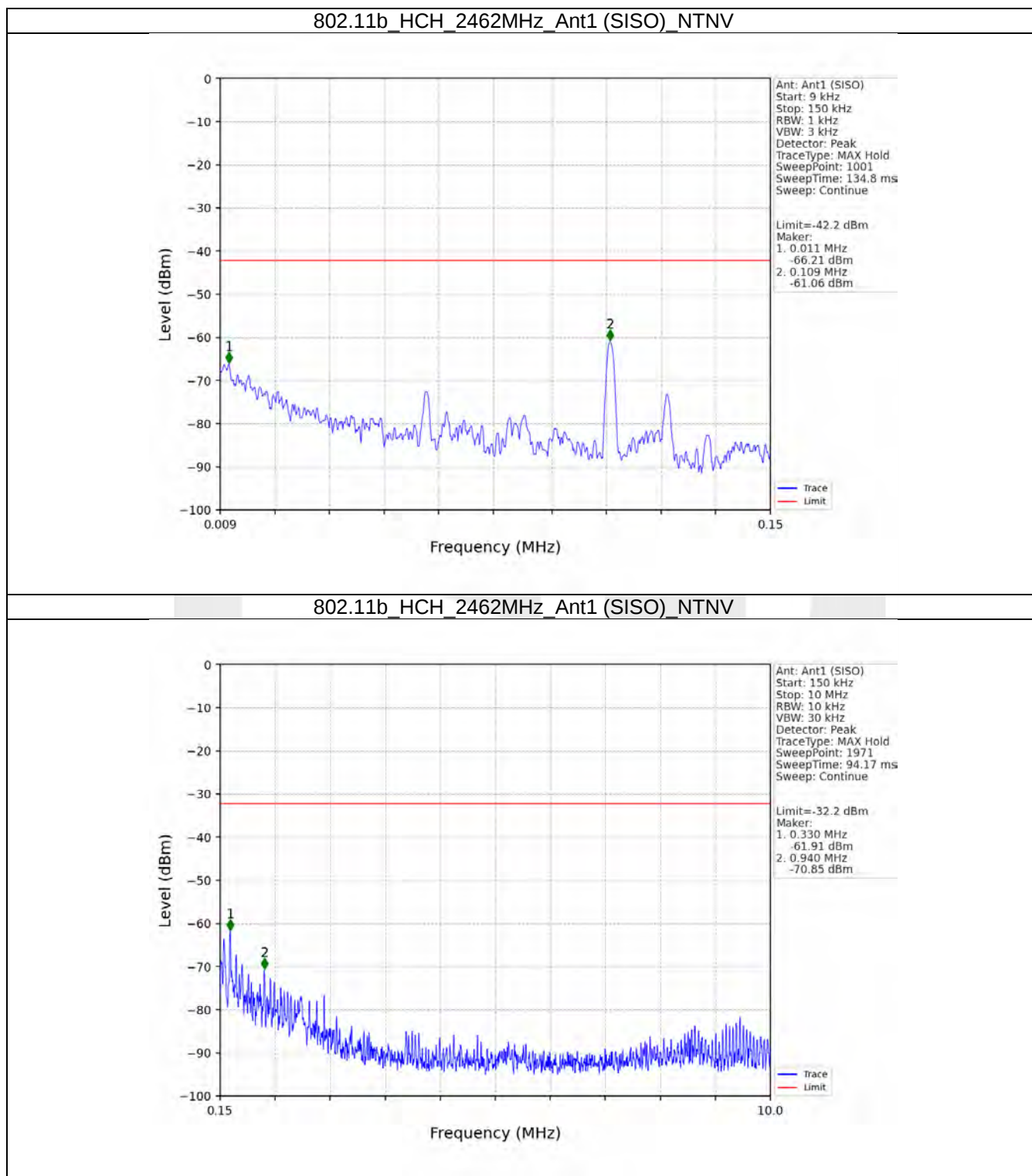


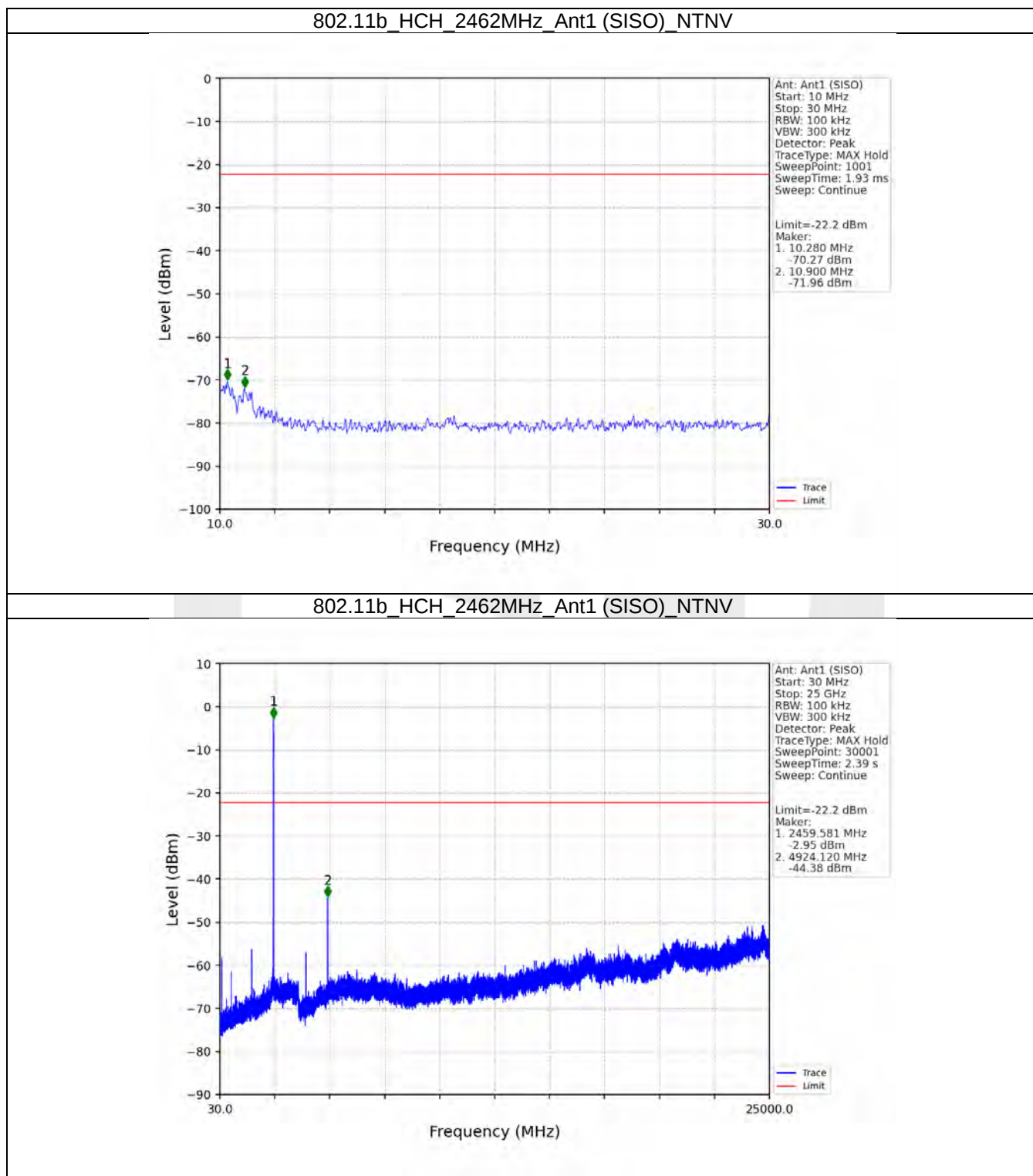


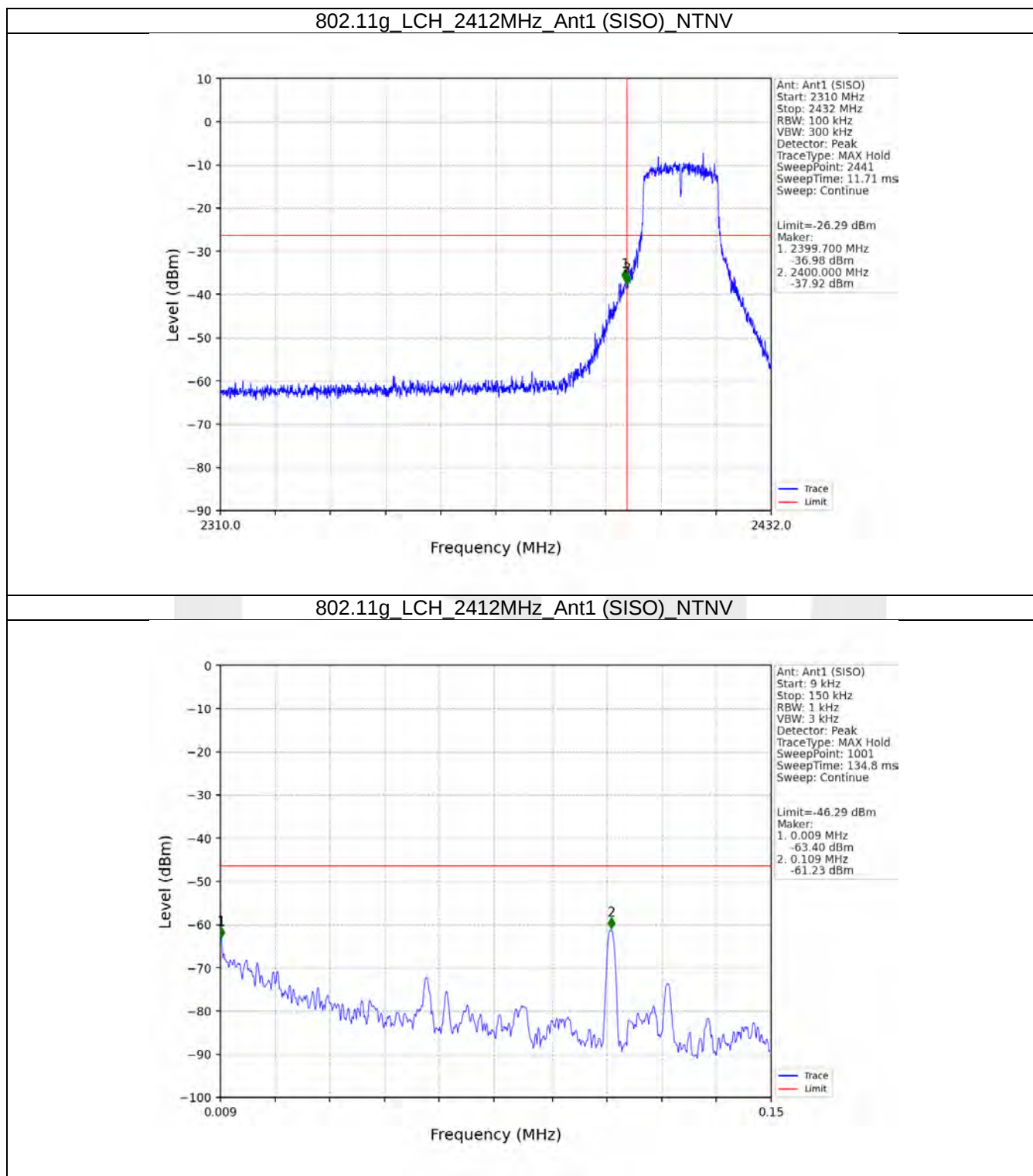


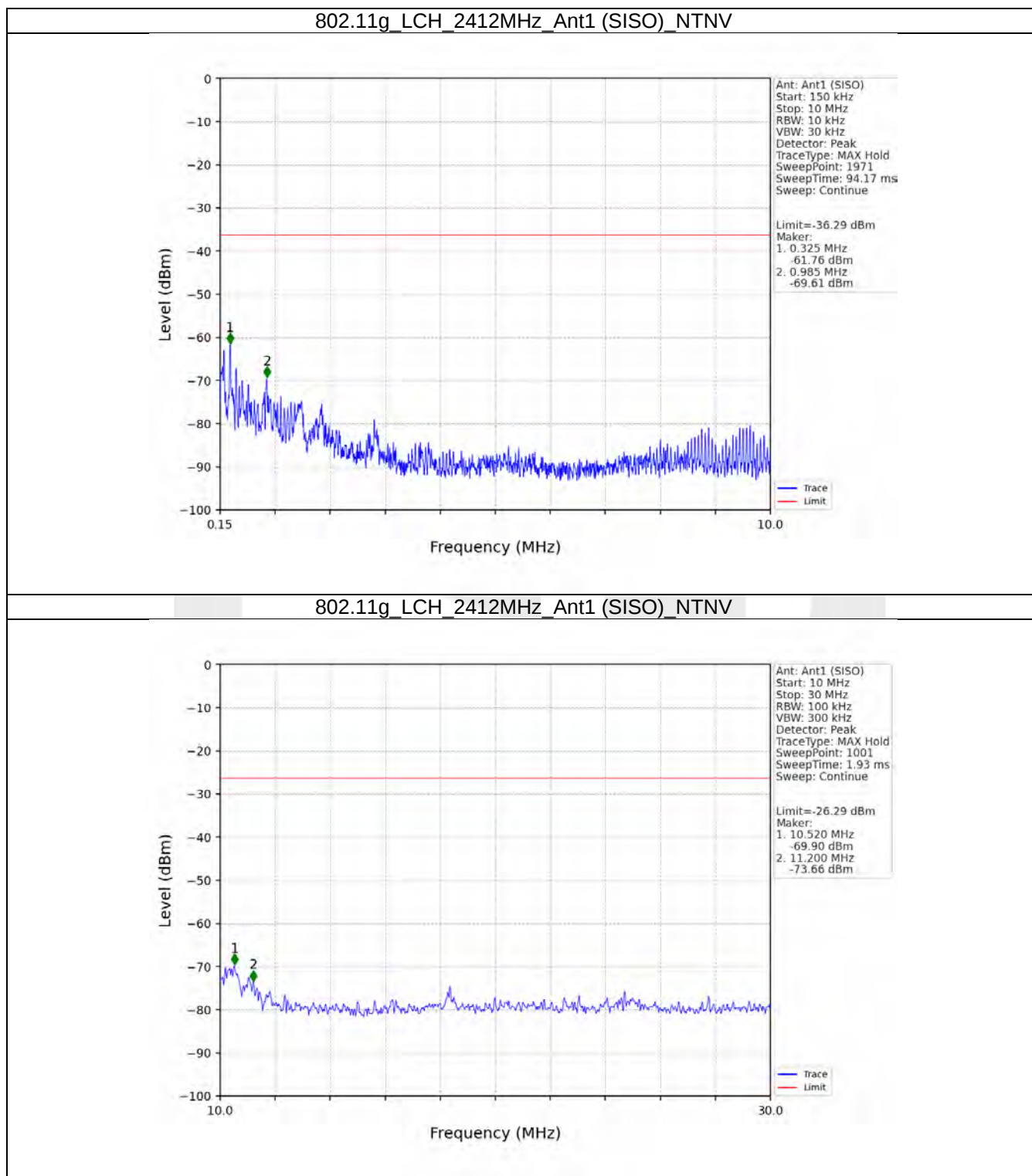


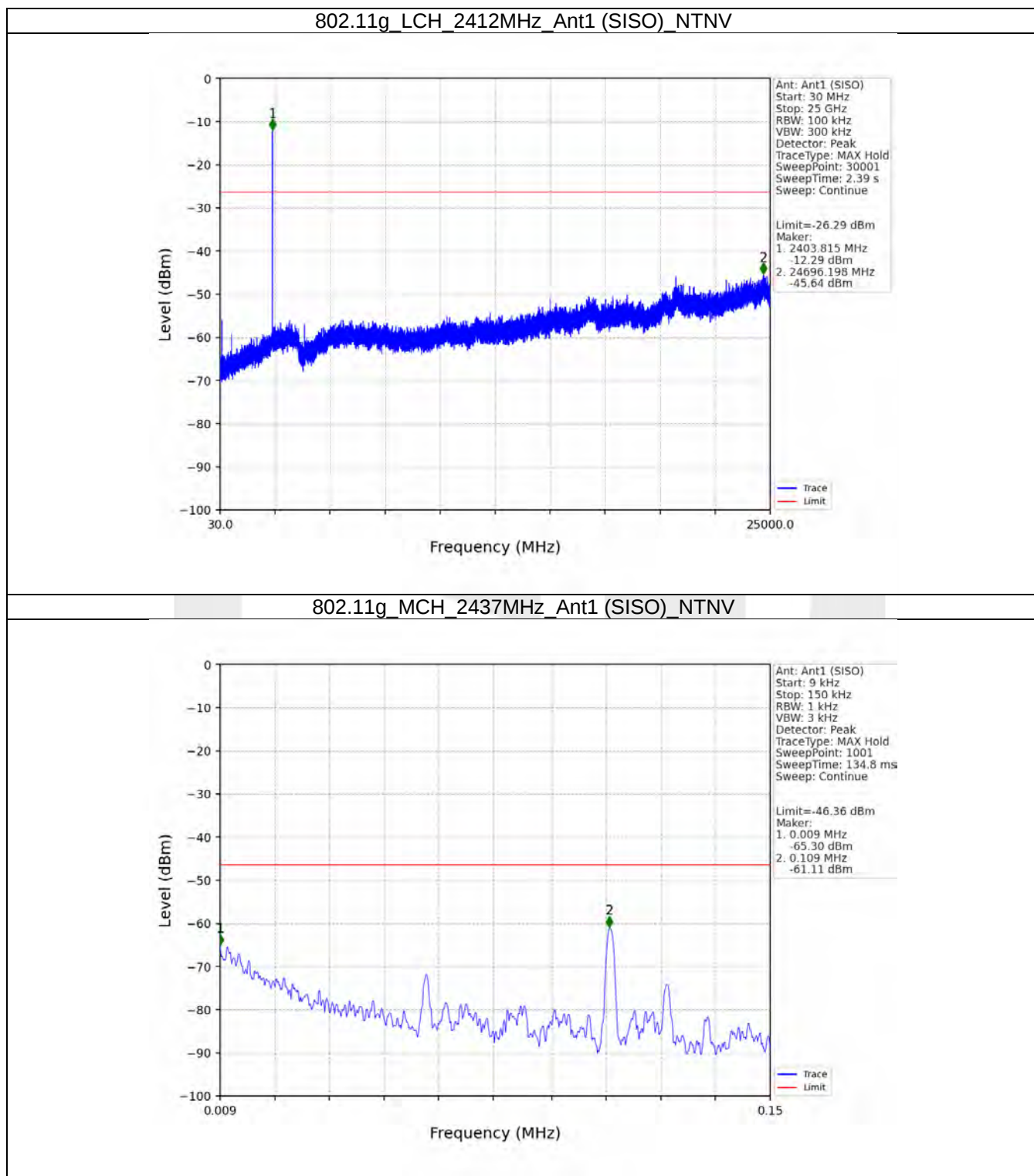




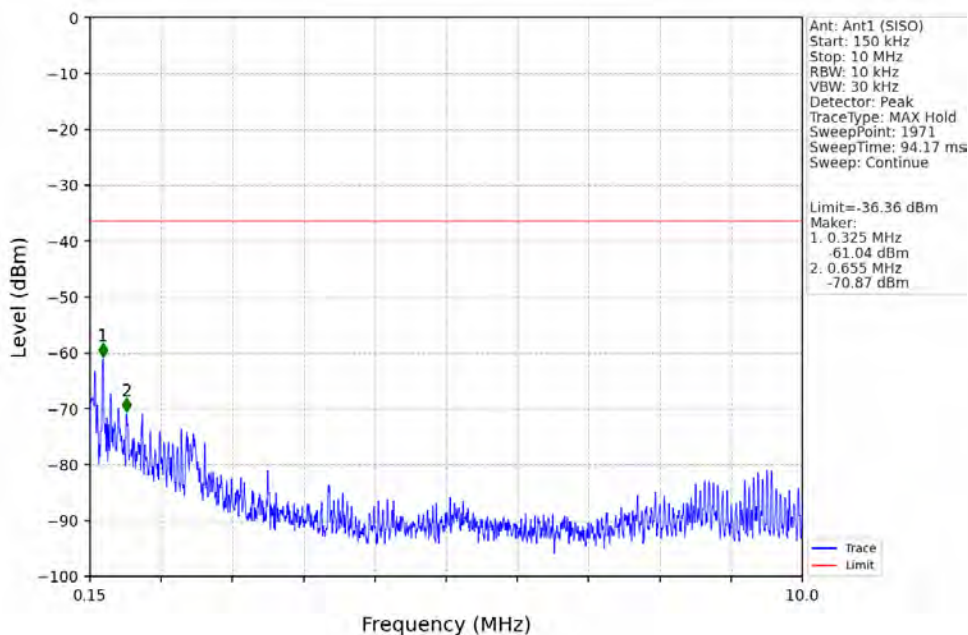




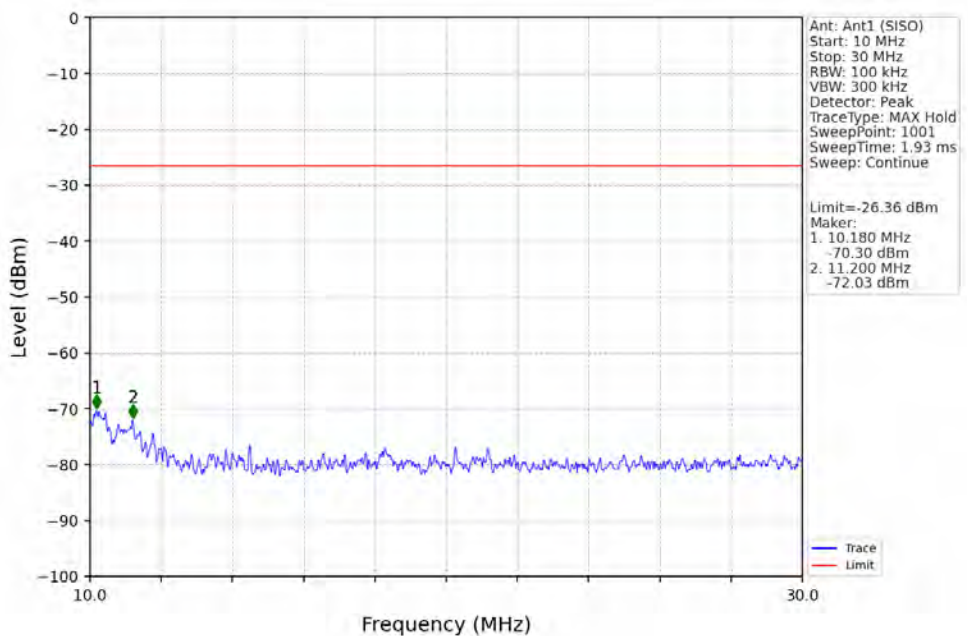


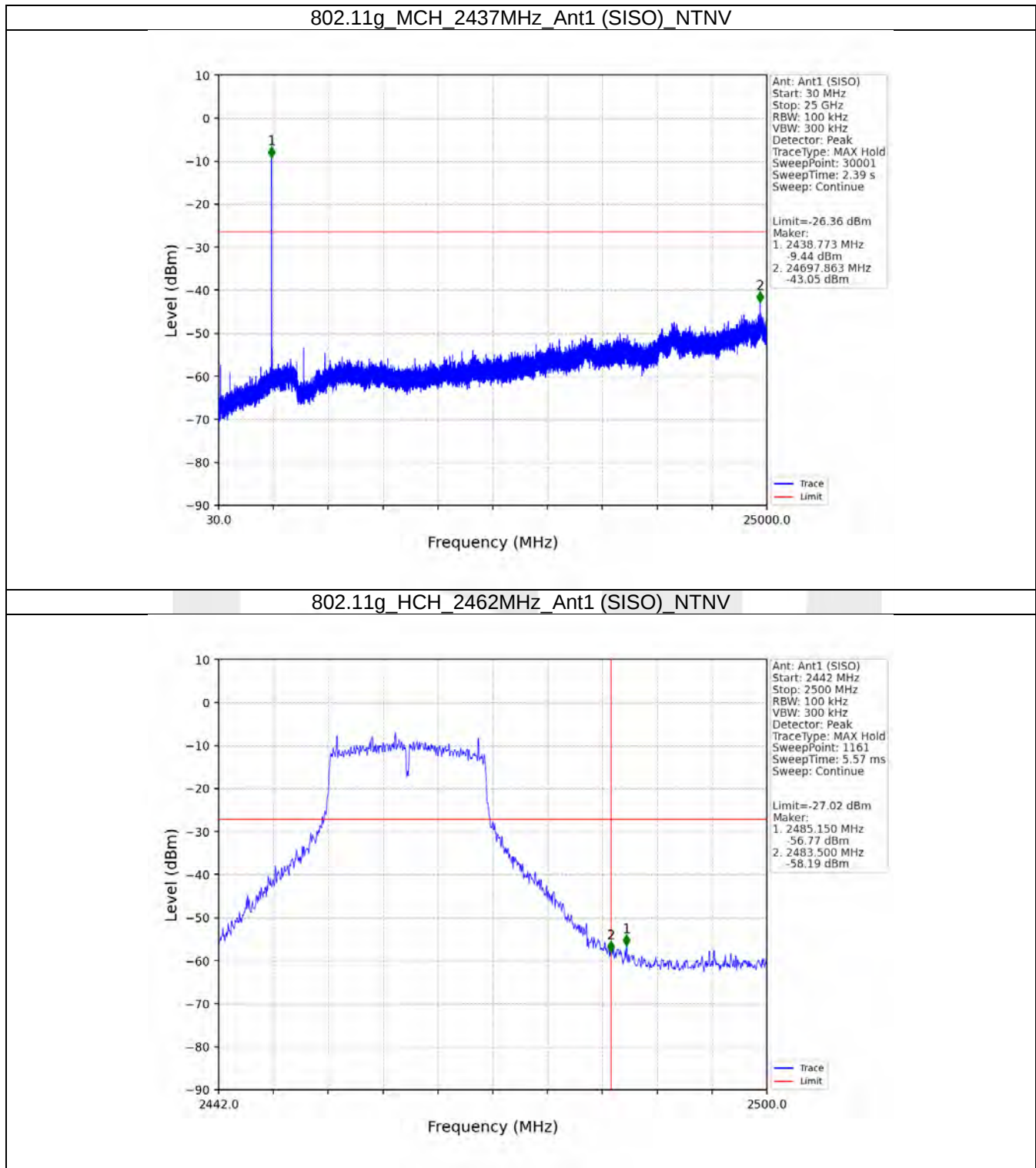


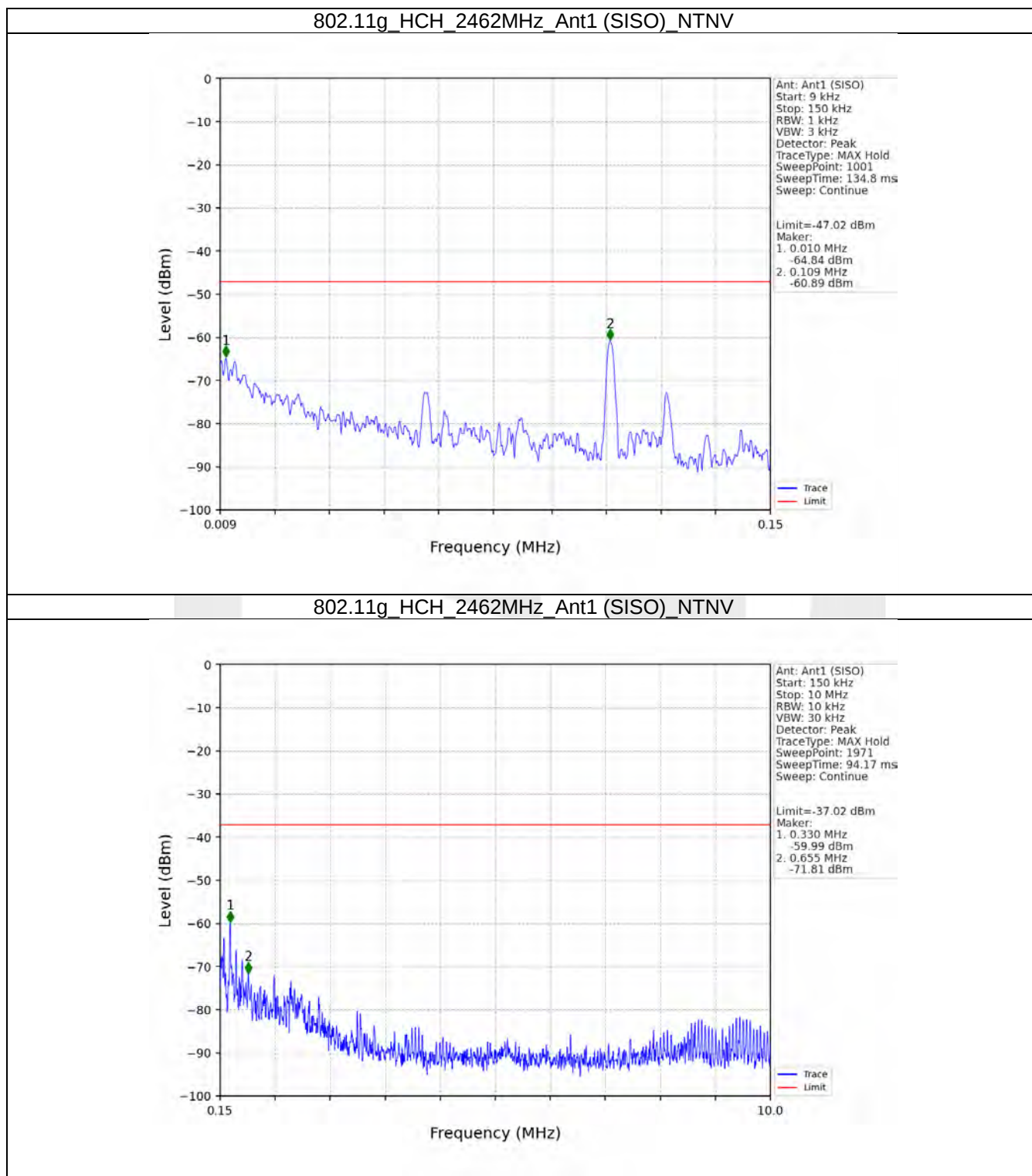
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

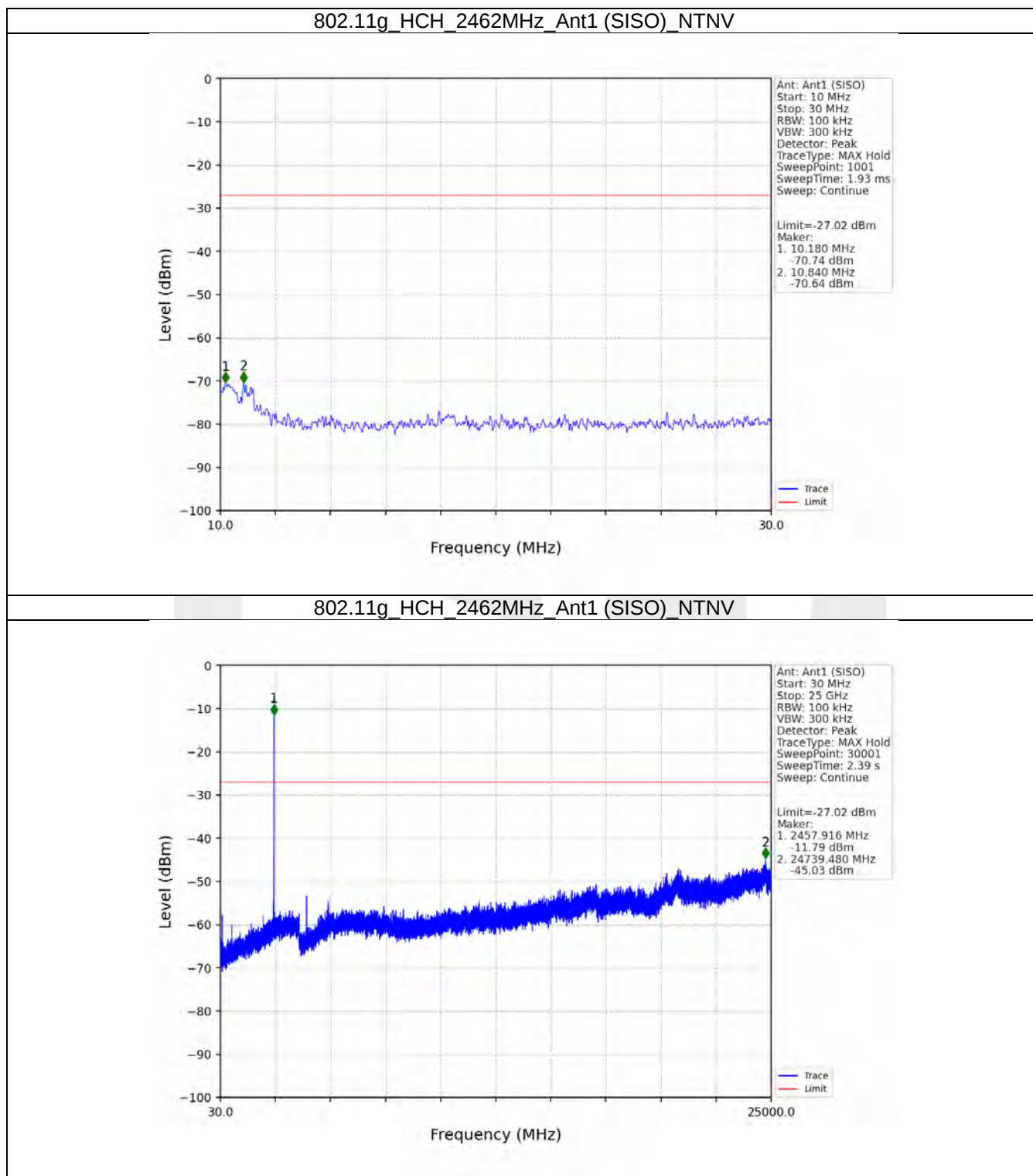


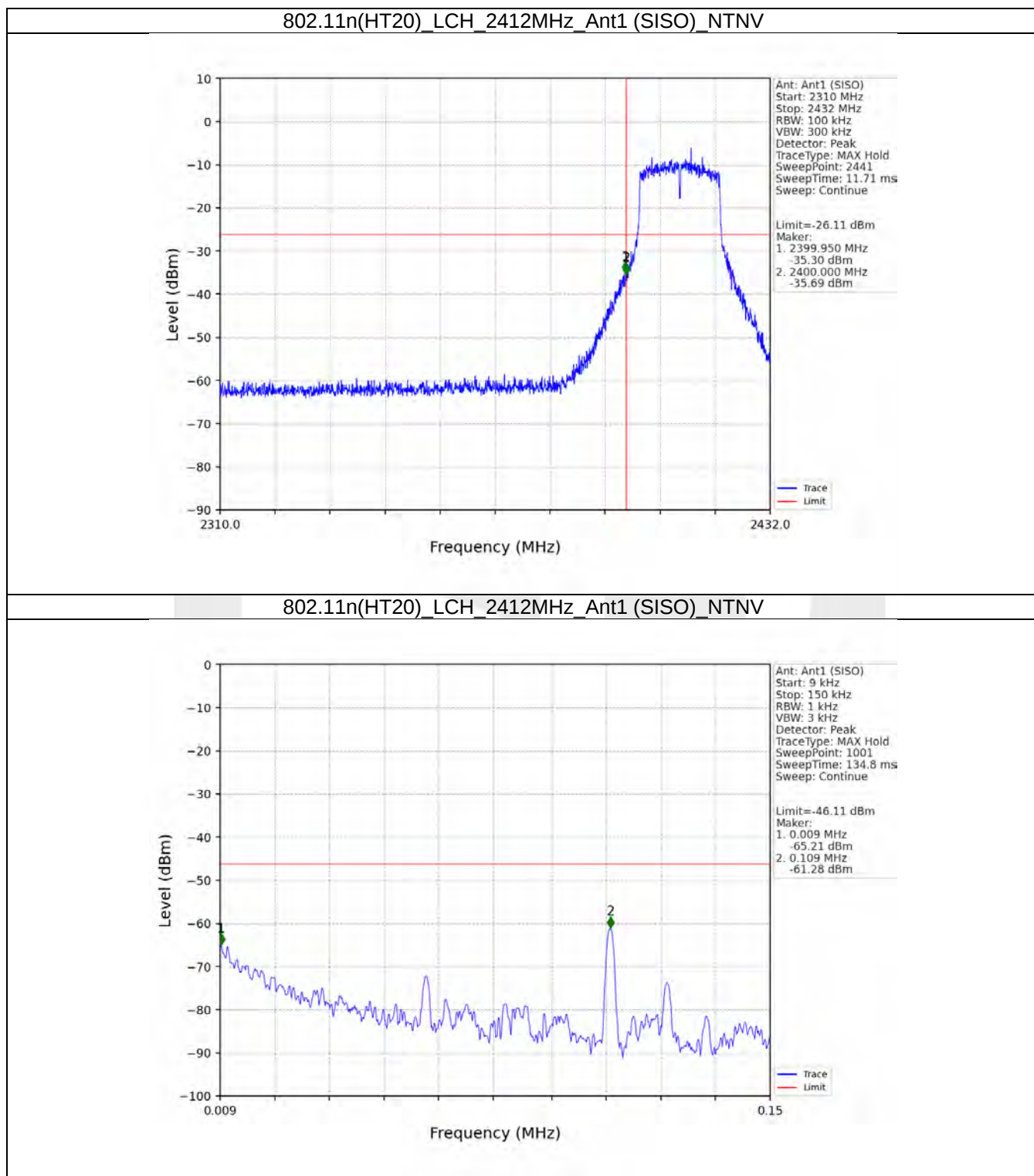
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

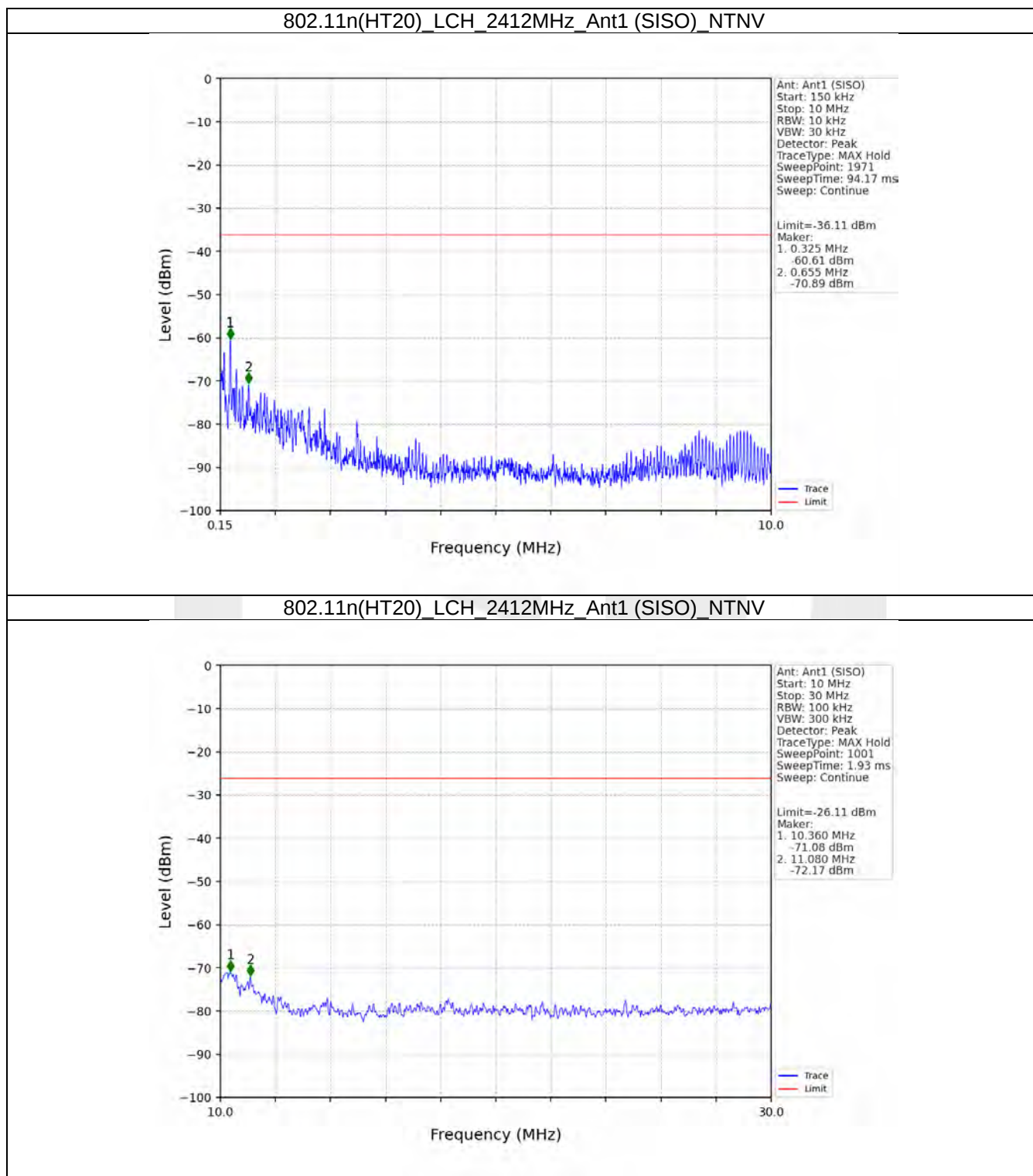


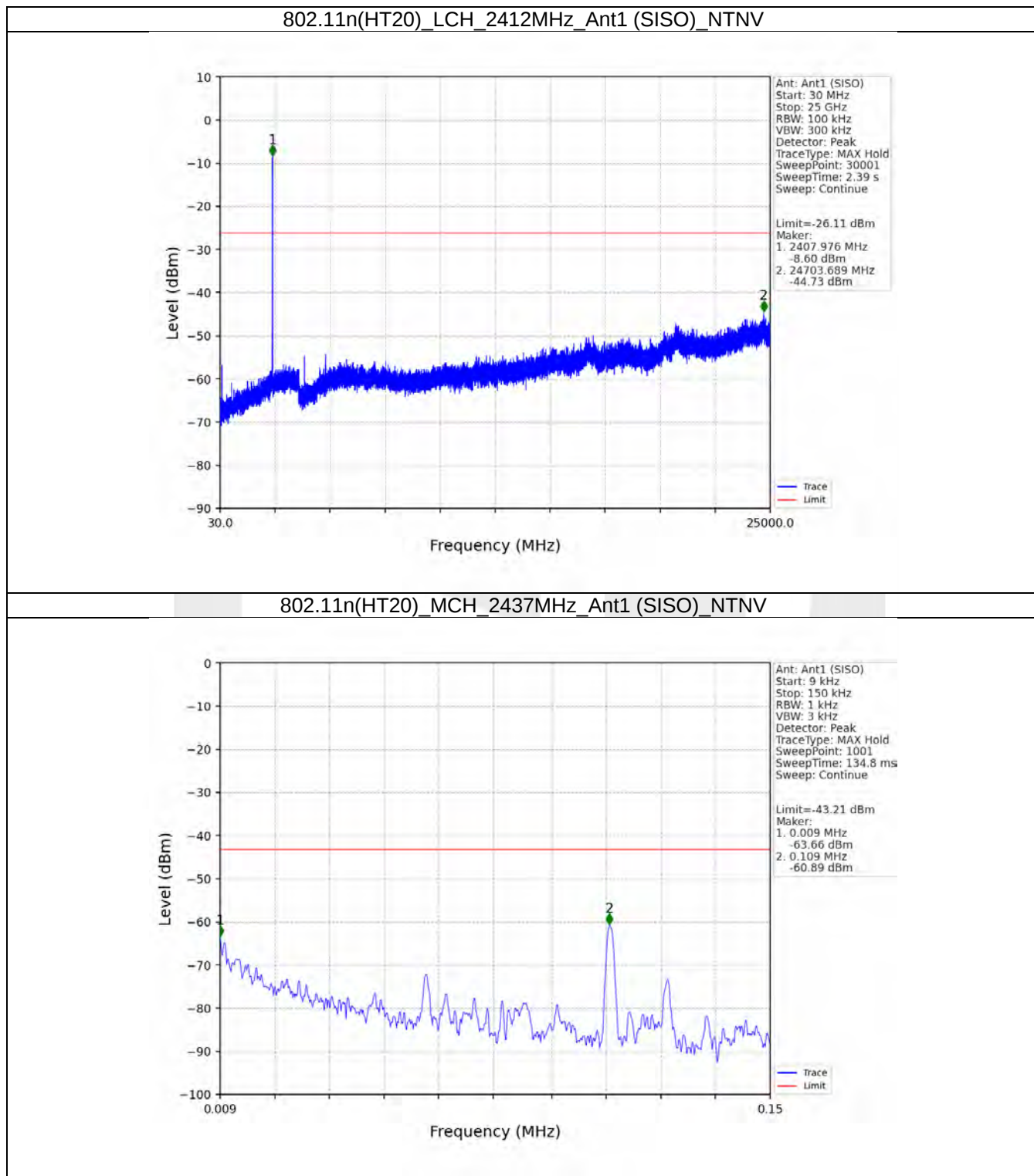


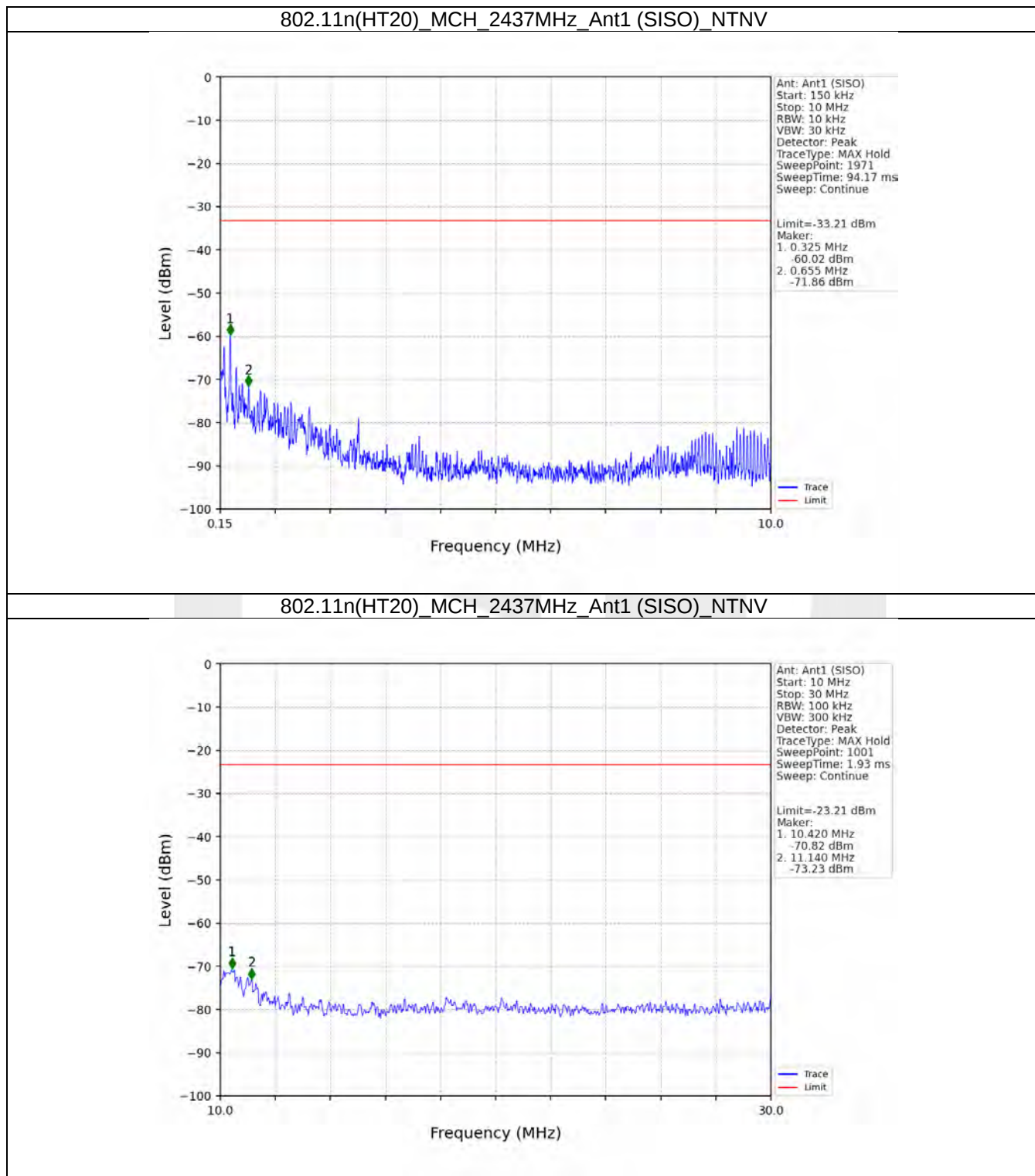


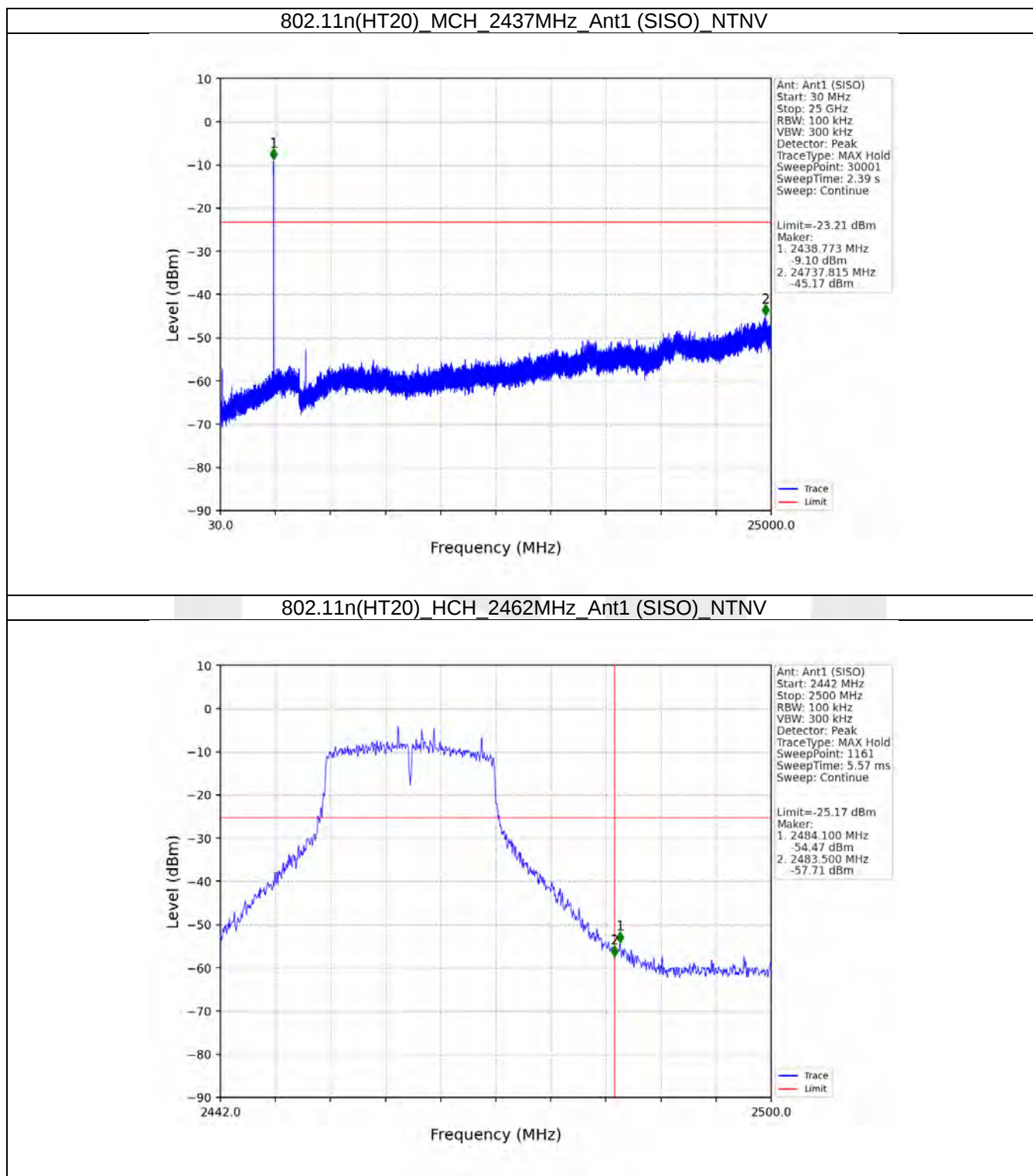


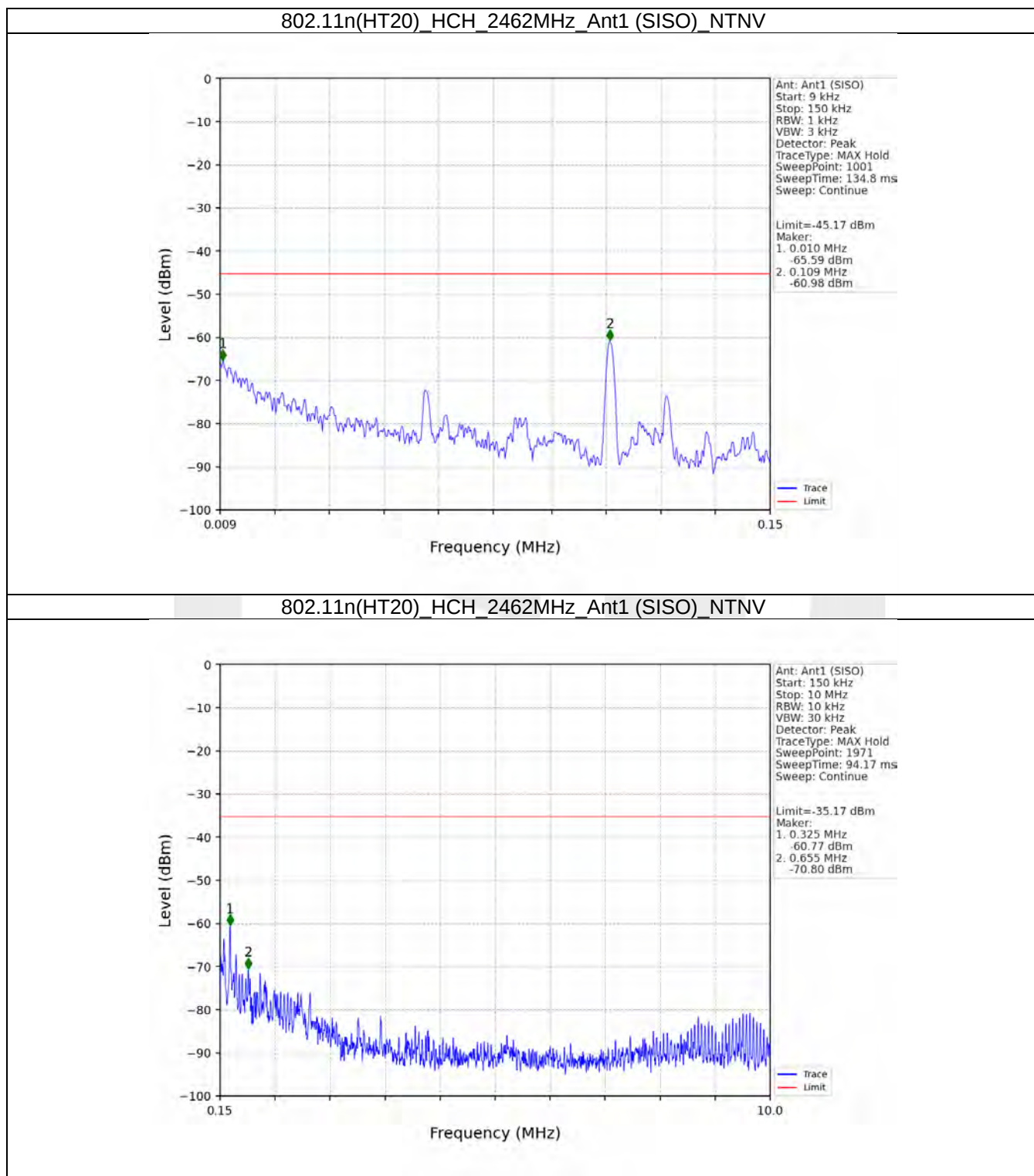


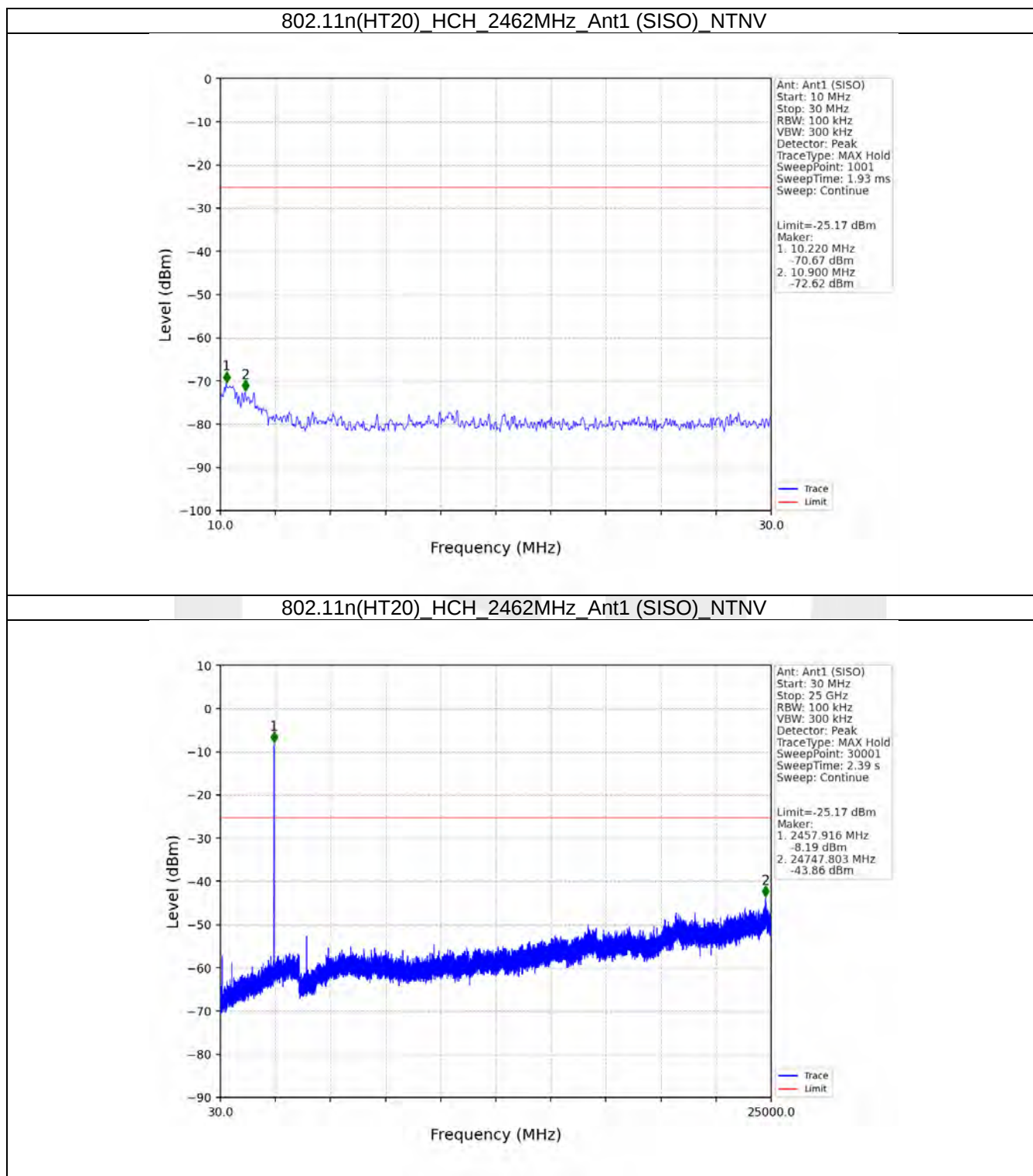




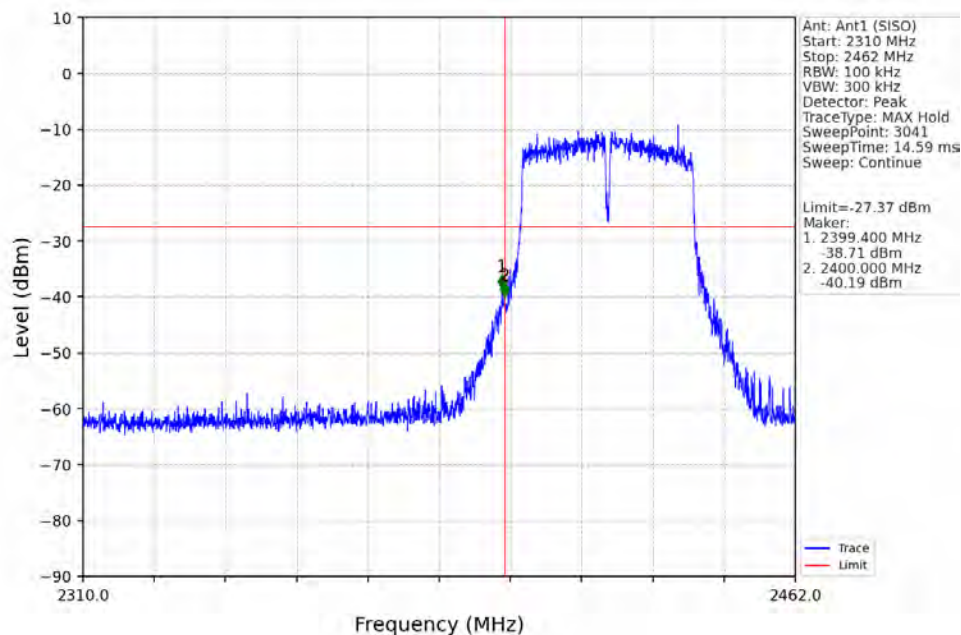




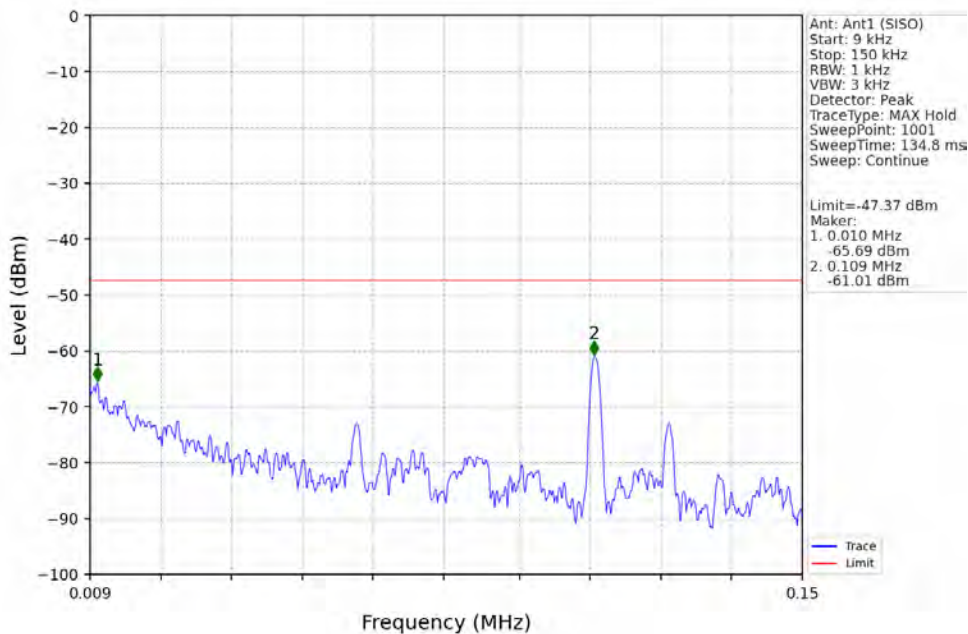




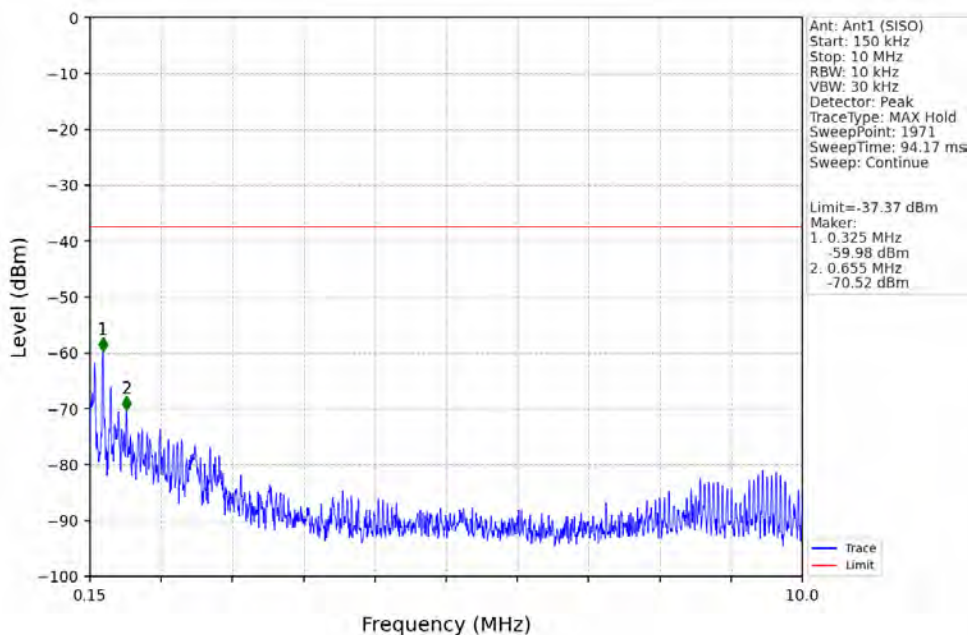
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



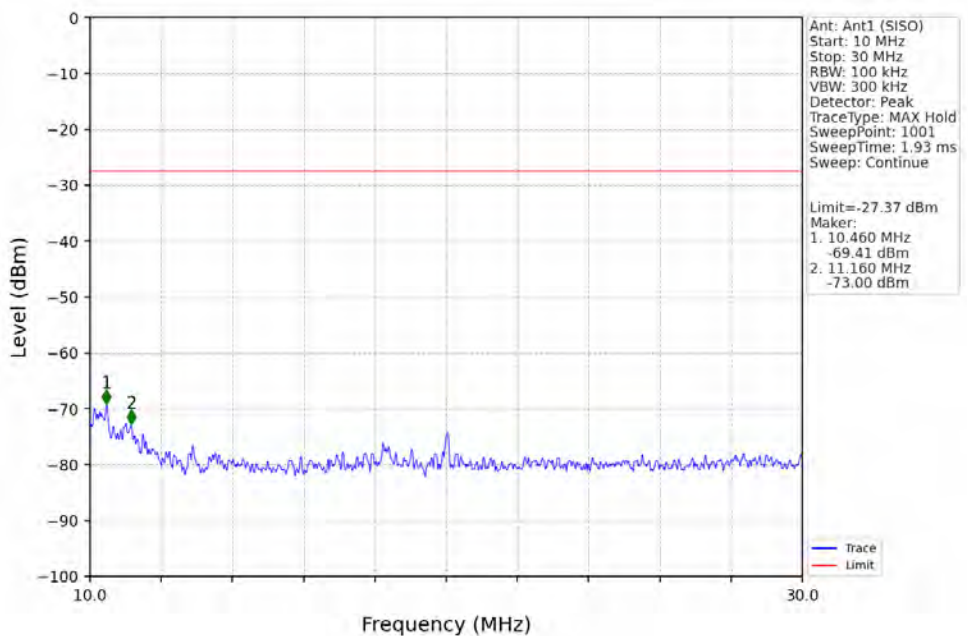
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV

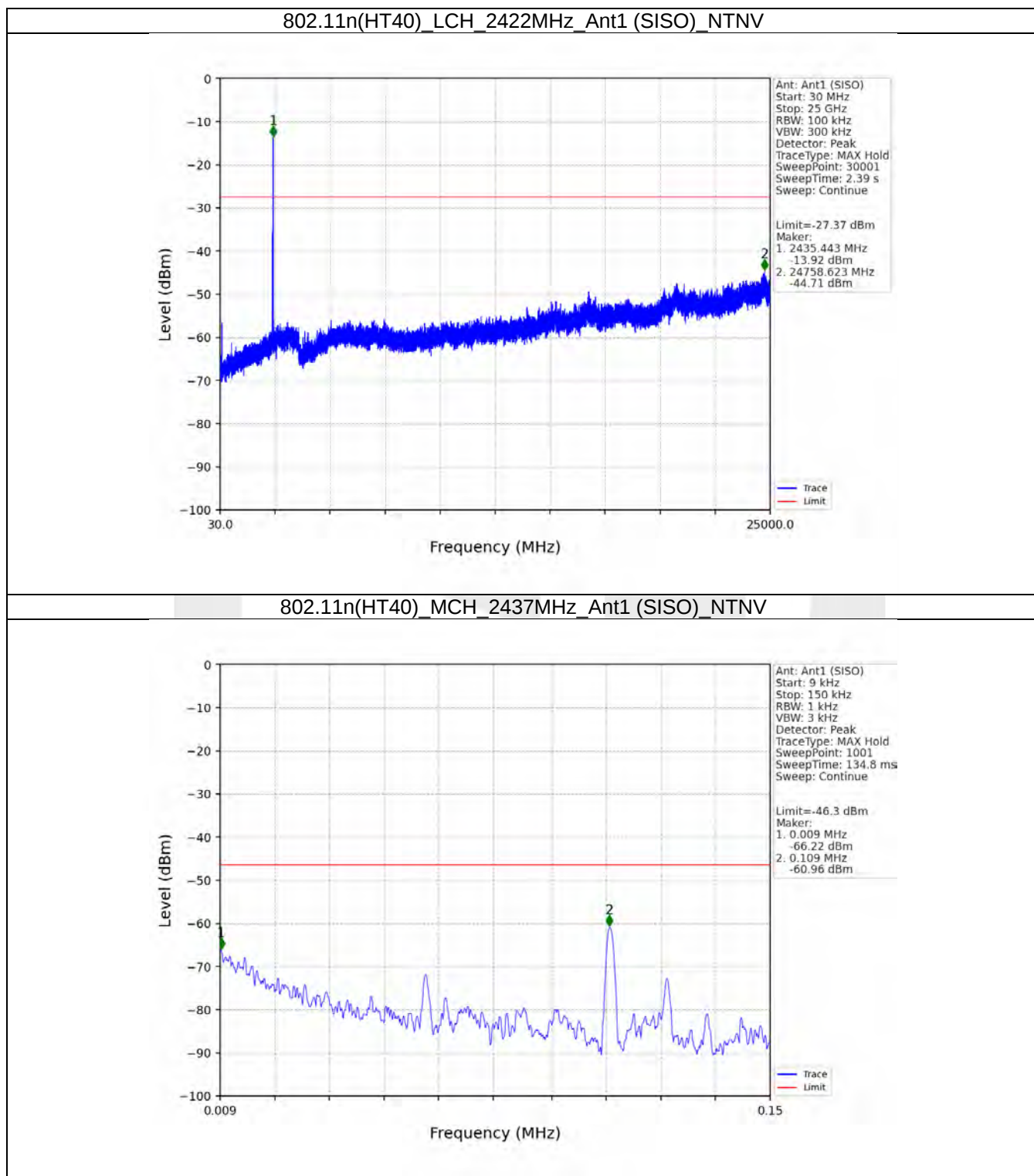


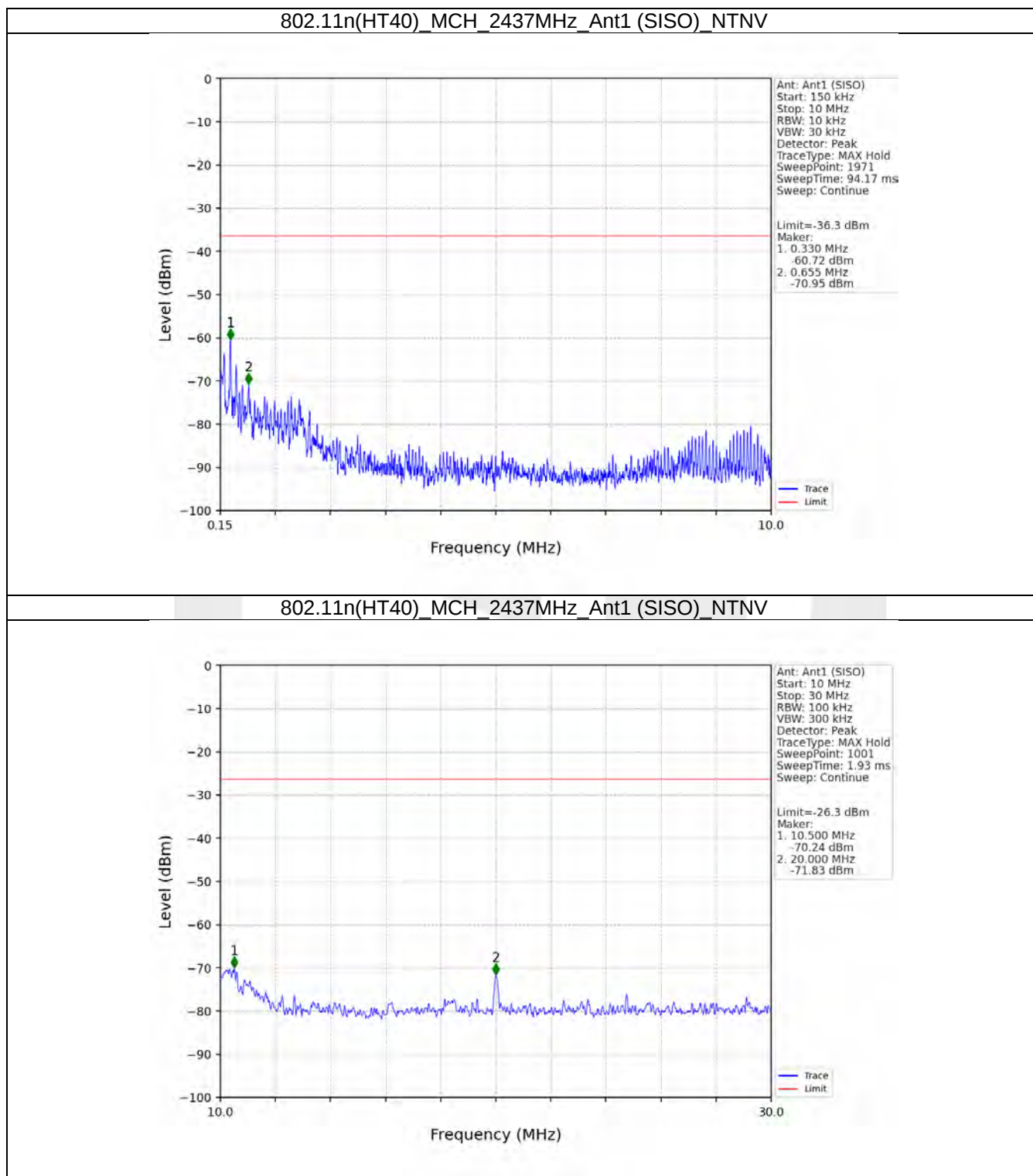
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV

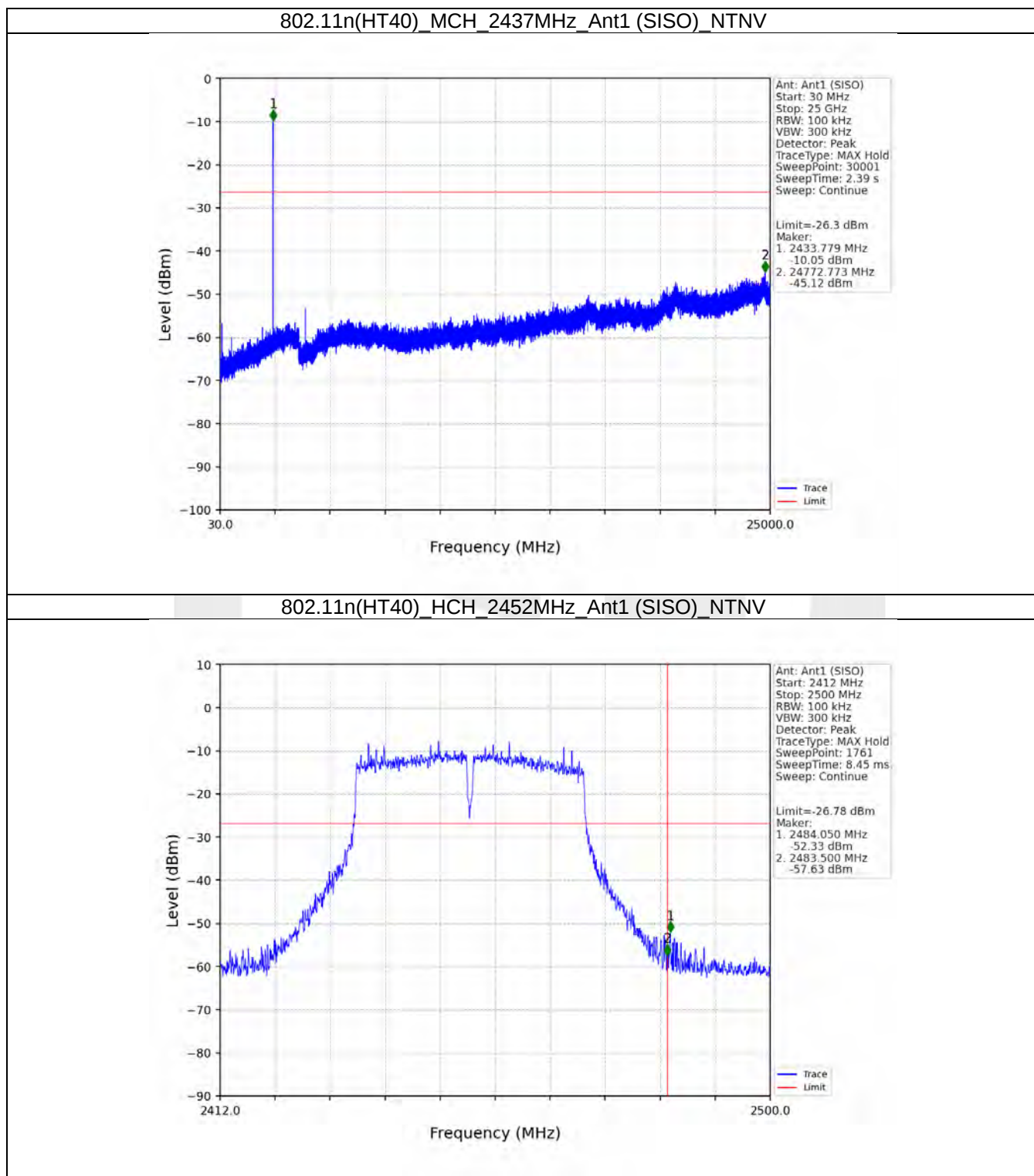


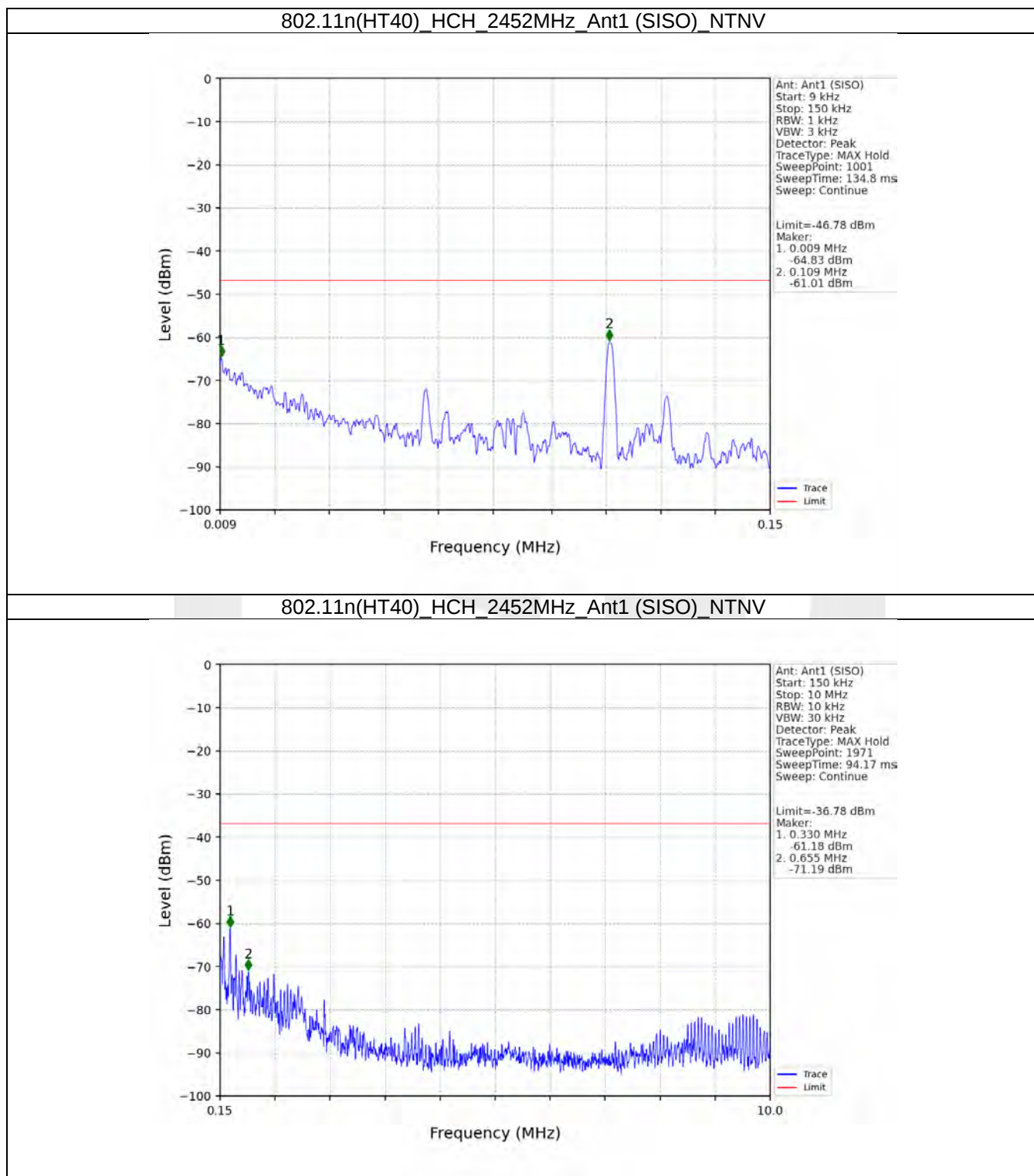
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV

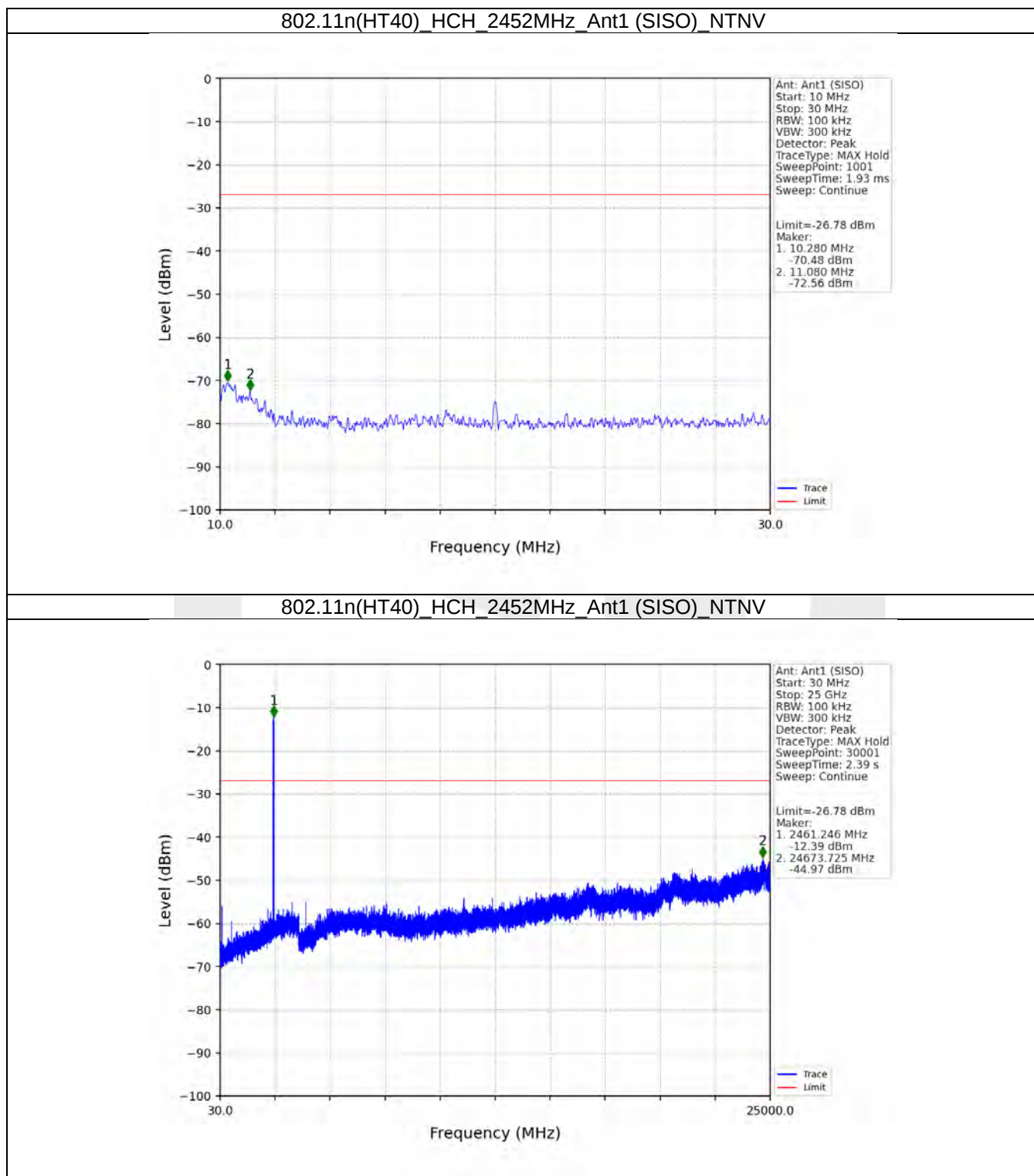




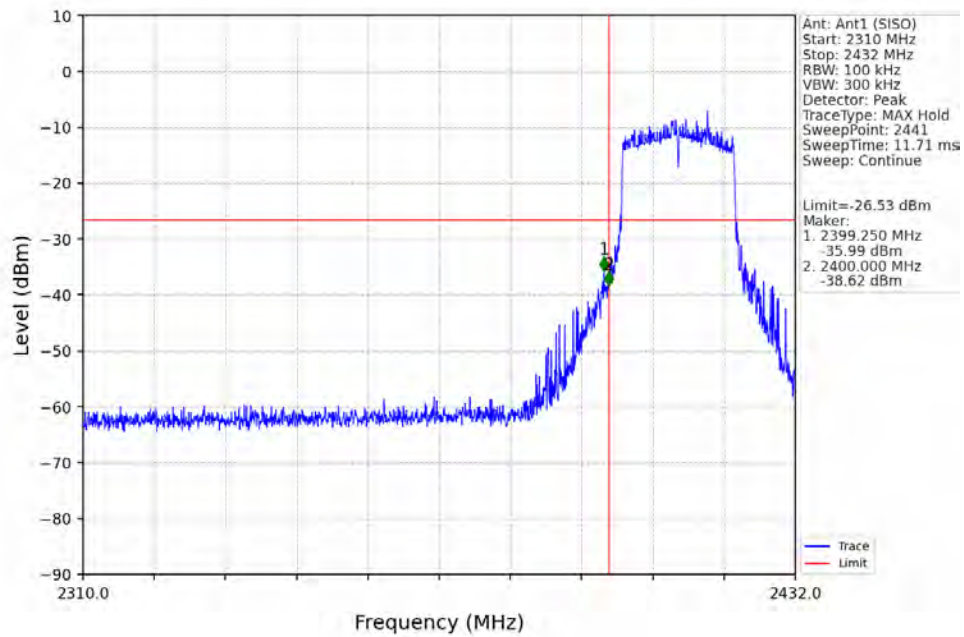




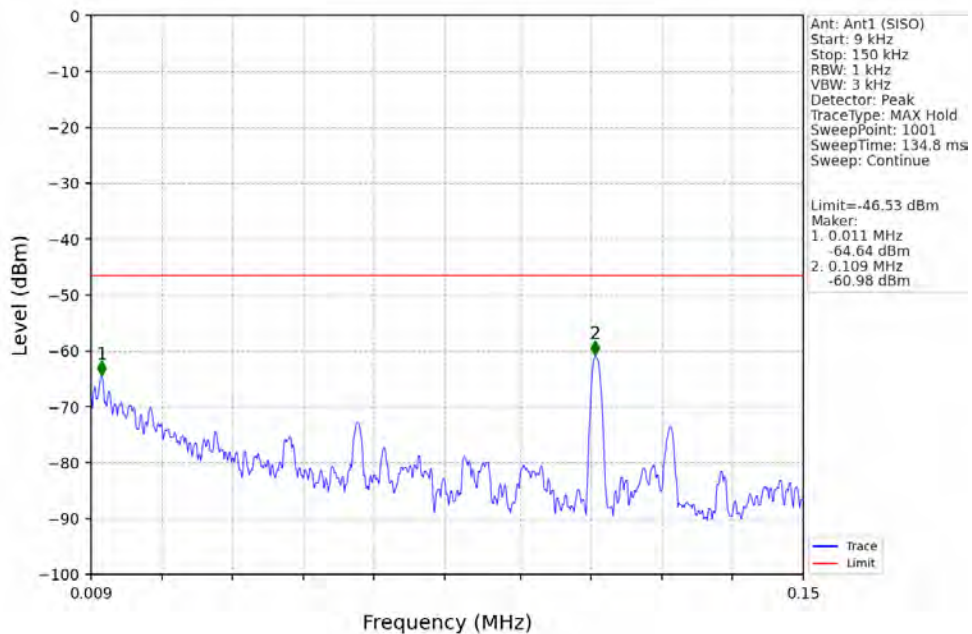


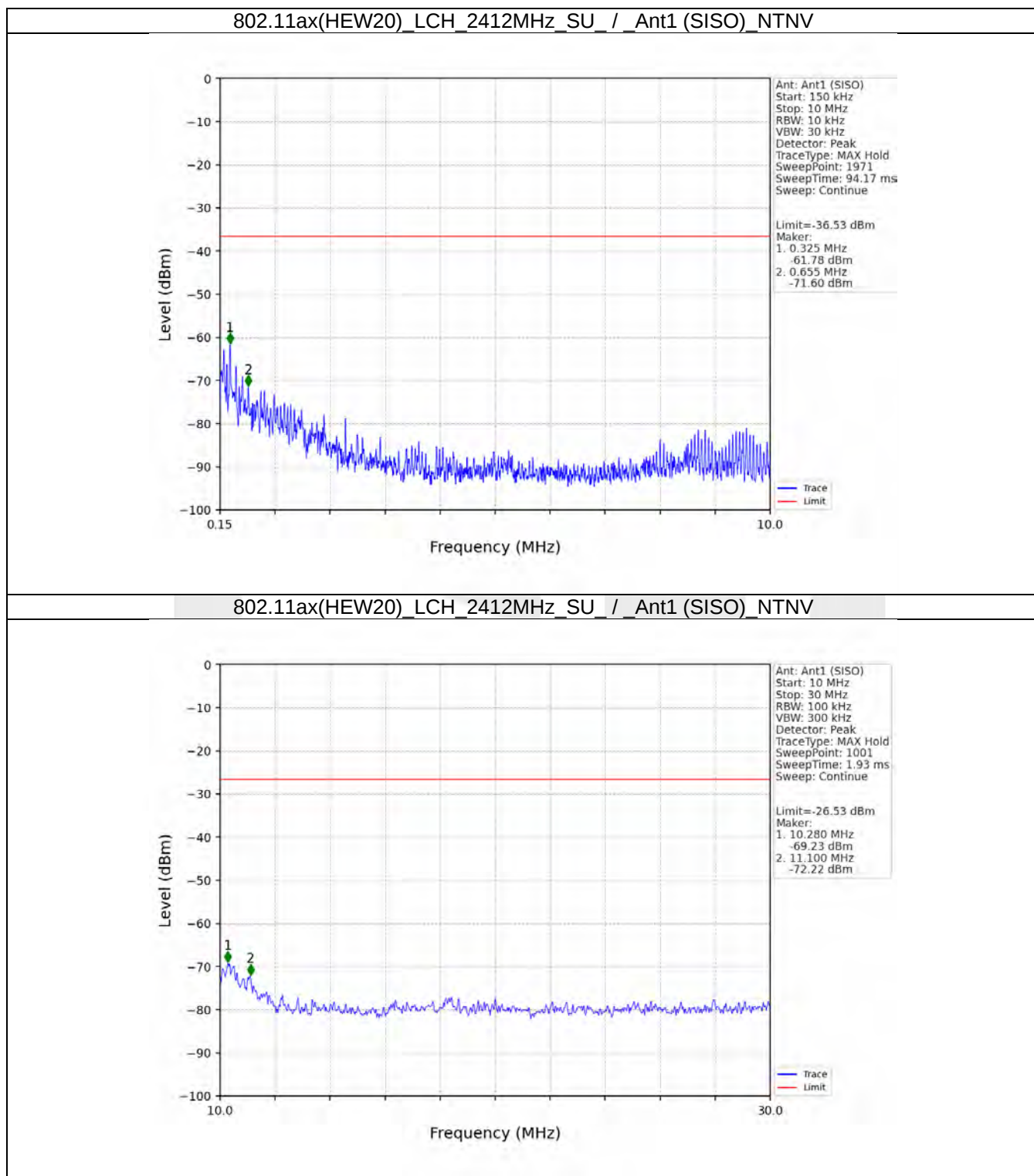


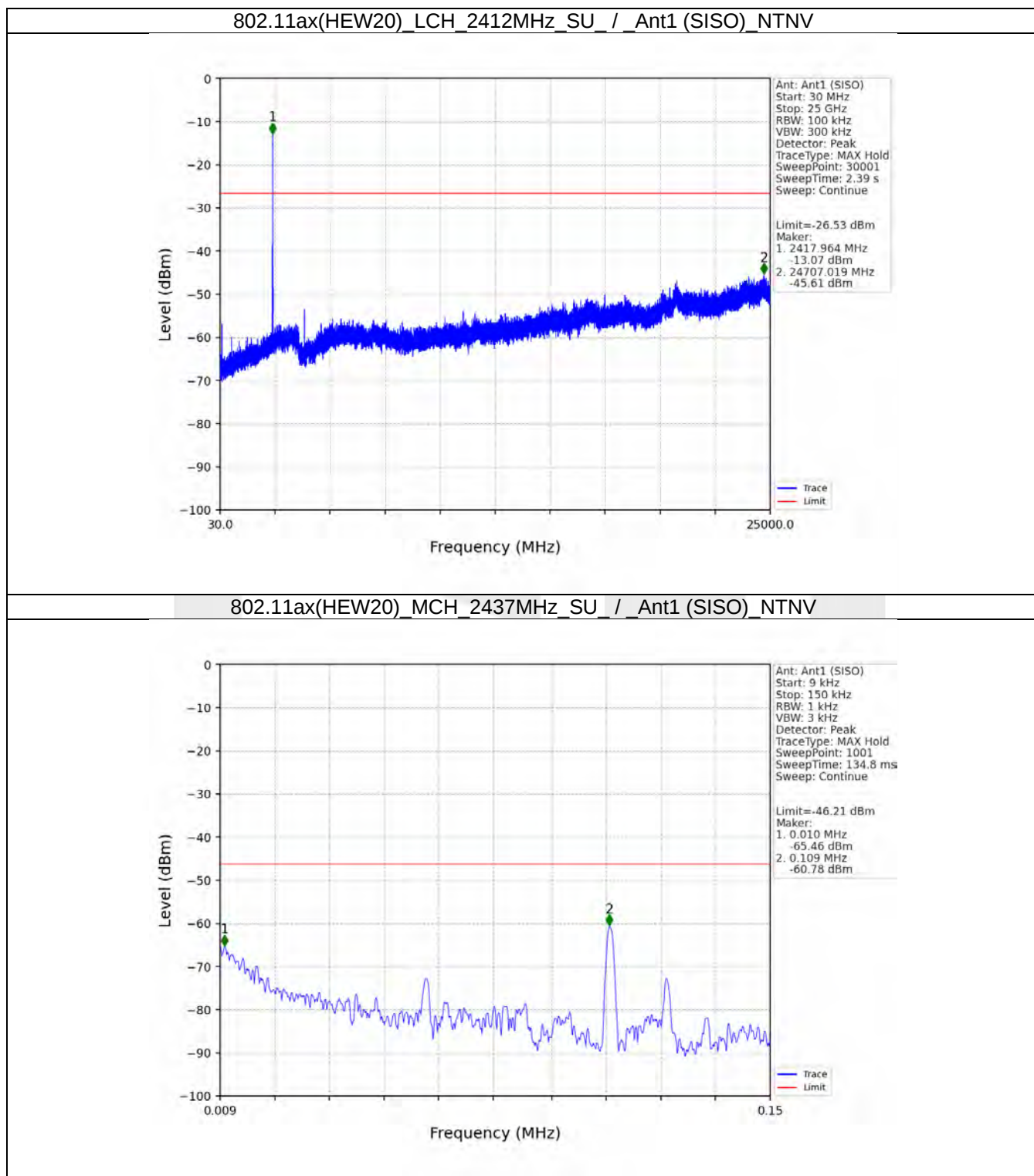
802.11ax(HEW20)_LCH_2412MHz_SU_ / _Ant1 (SISO)_NTNV



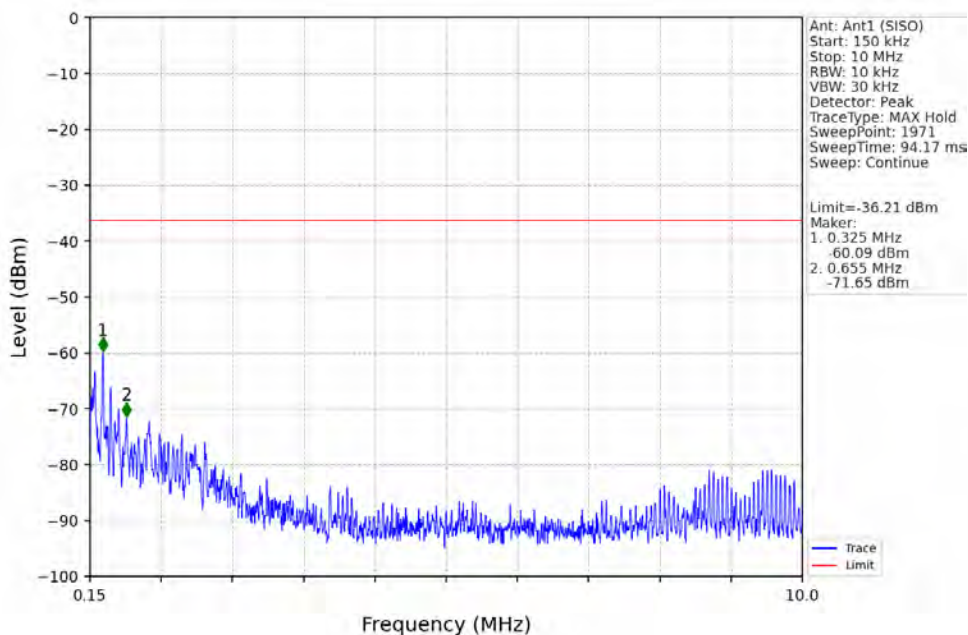
802.11ax(HEW20)_LCH_2412MHz_SU_ / _Ant1 (SISO)_NTNV



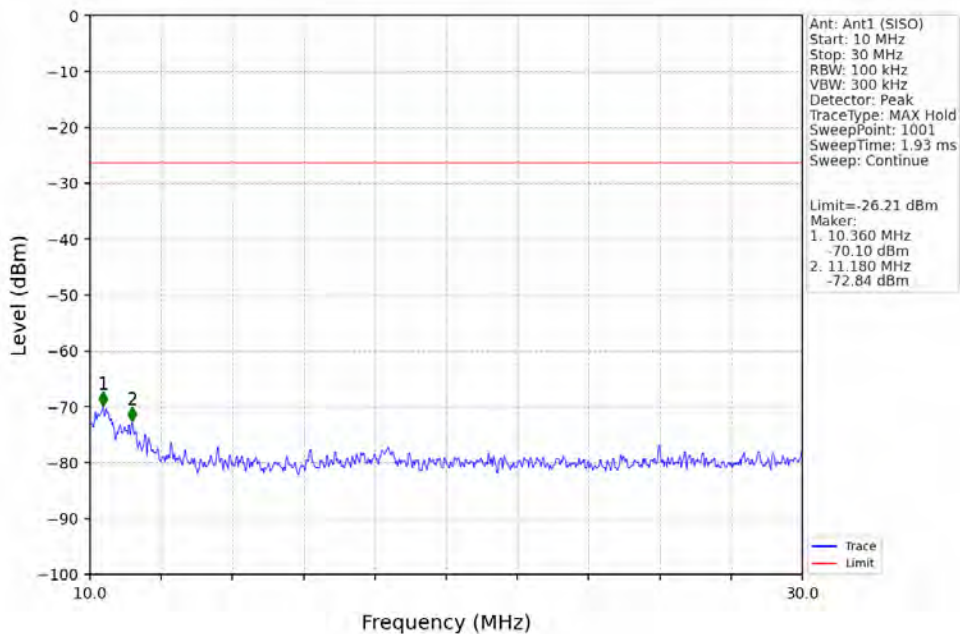




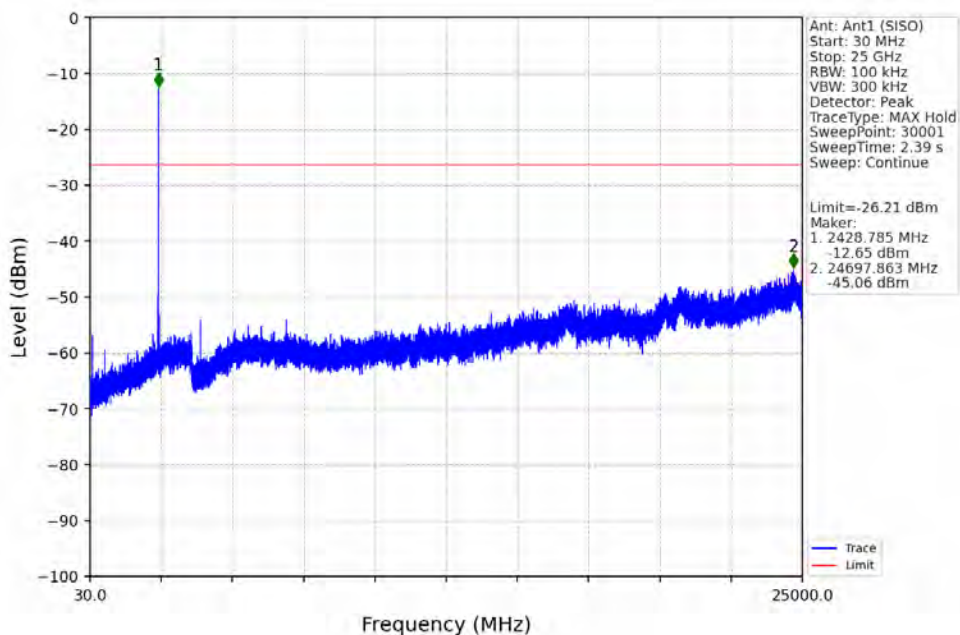
802.11ax(HEW20)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



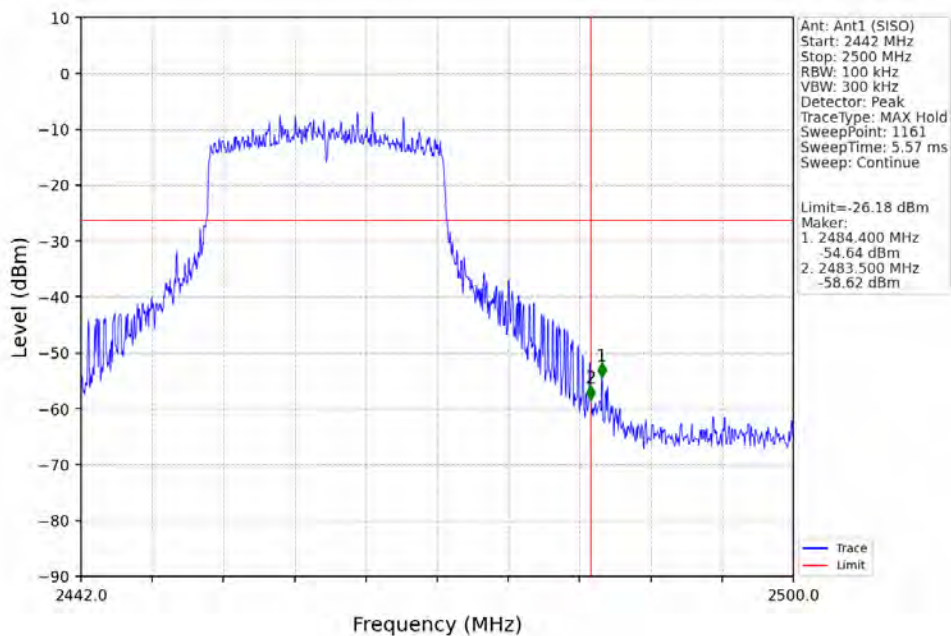
802.11ax(HEW20)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



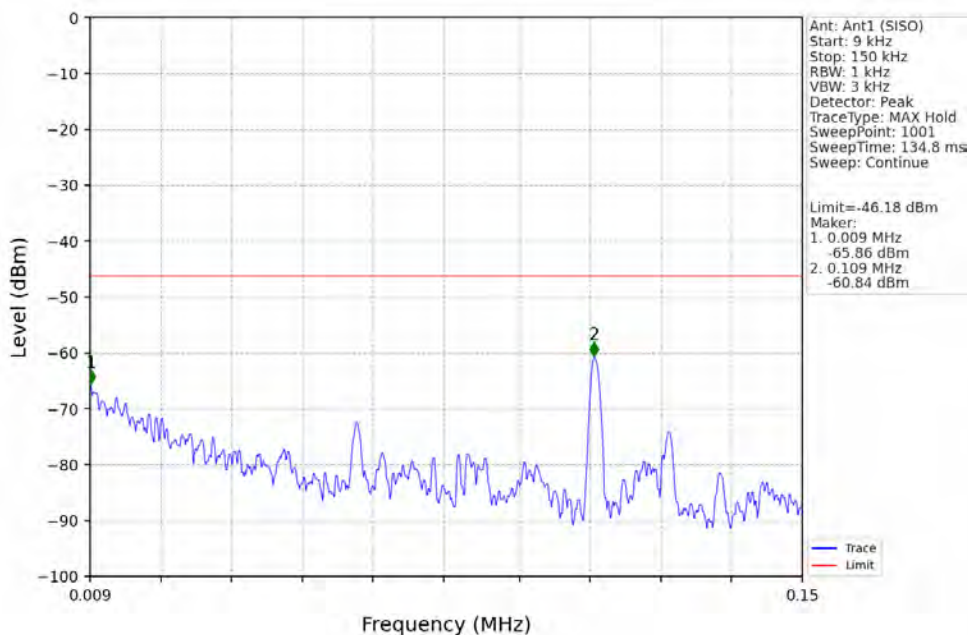
802.11ax(HEW20)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



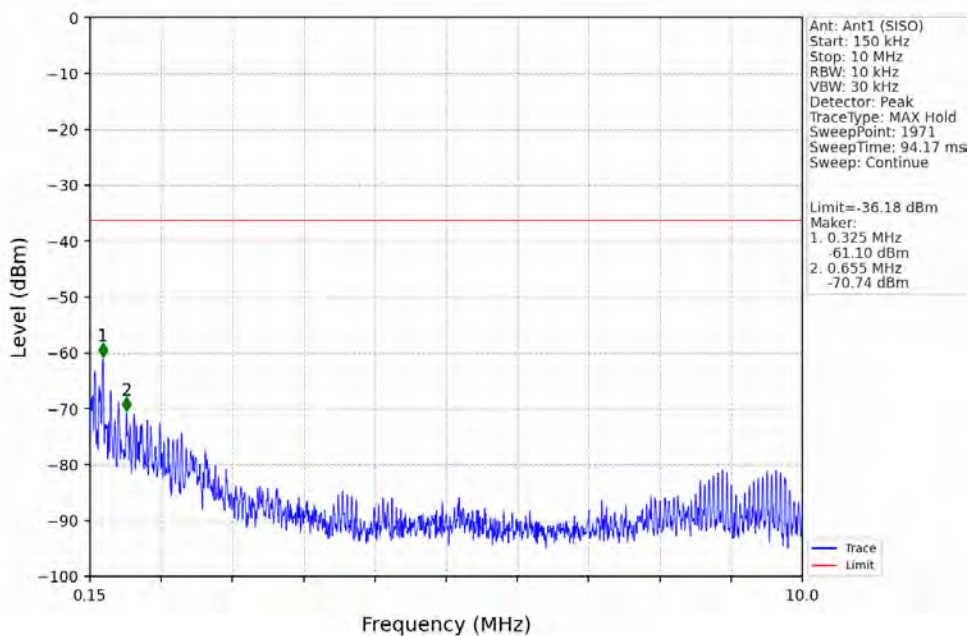
802.11ax(HEW20)_HCH_2462MHz_SU / _Ant1 (SISO)_NTNV



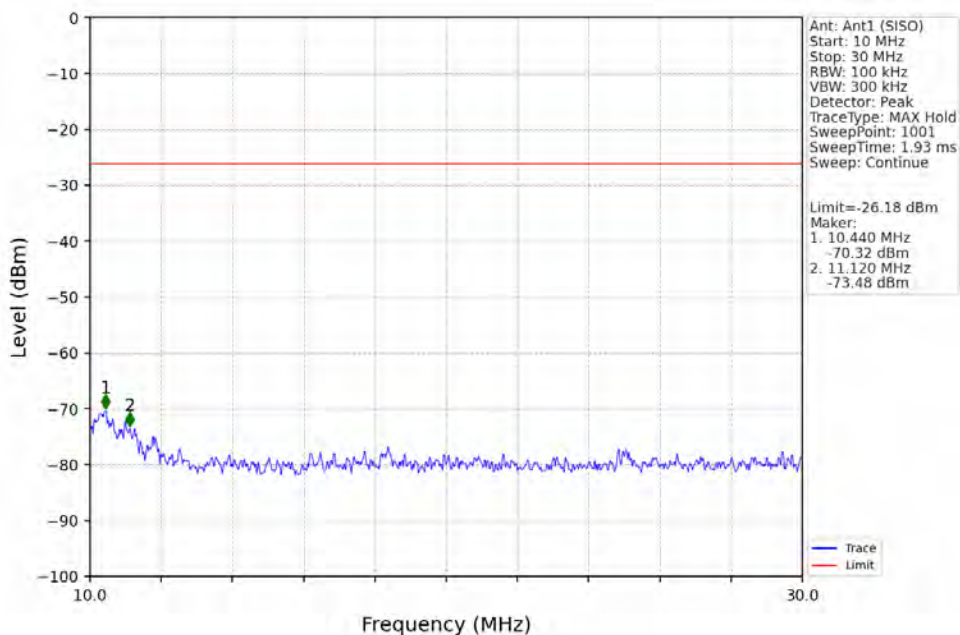
802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



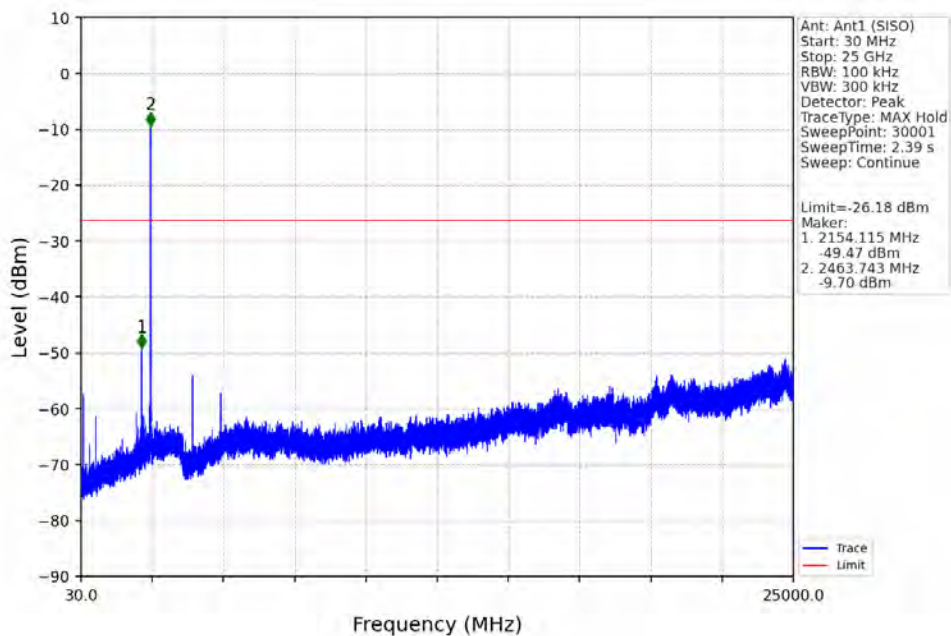
802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



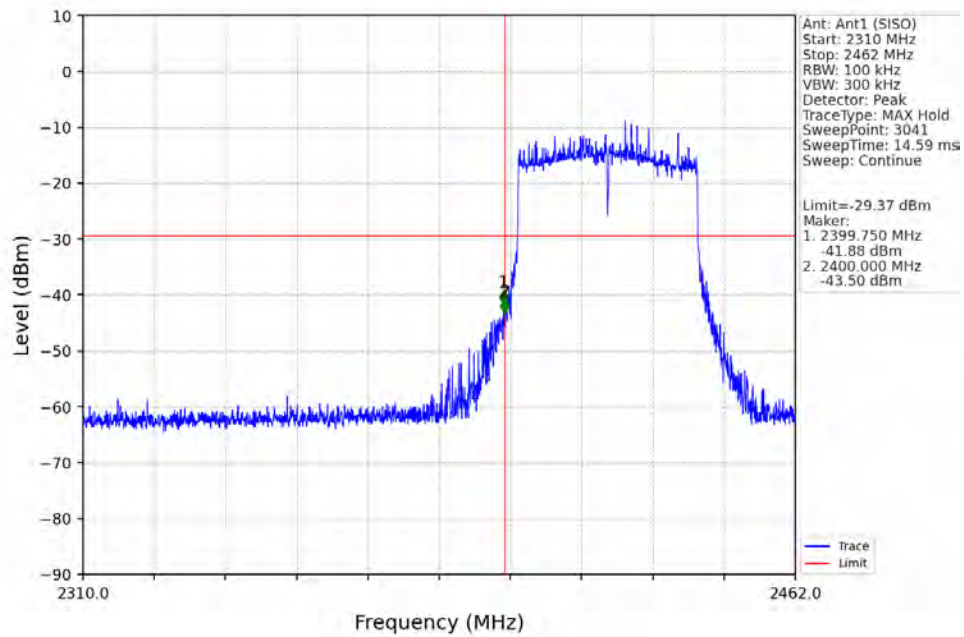
802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV



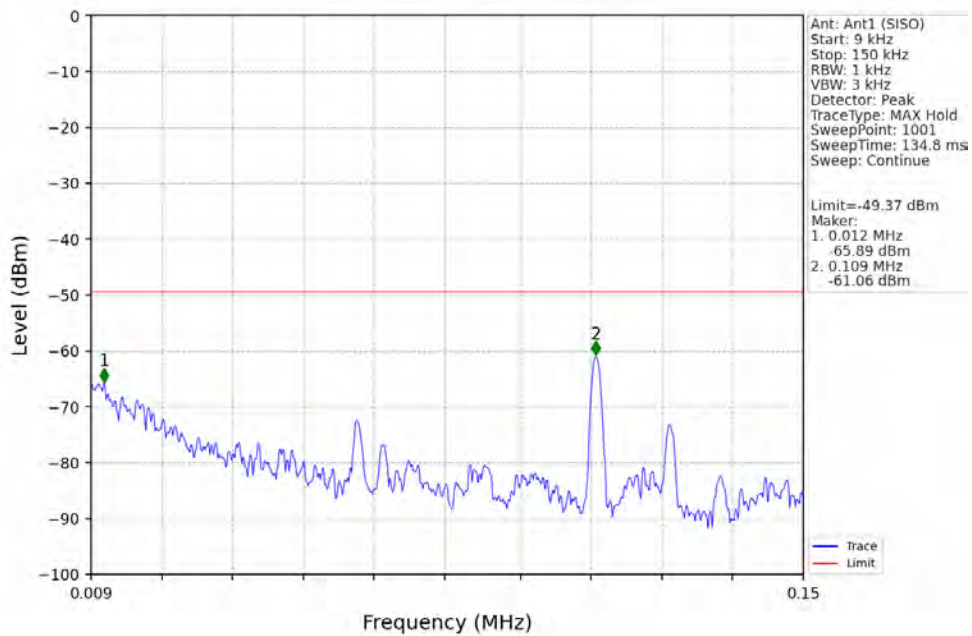
802.11ax(HEW20)_HCH_2462MHz_SU_/_Ant1 (SISO)_NTNV

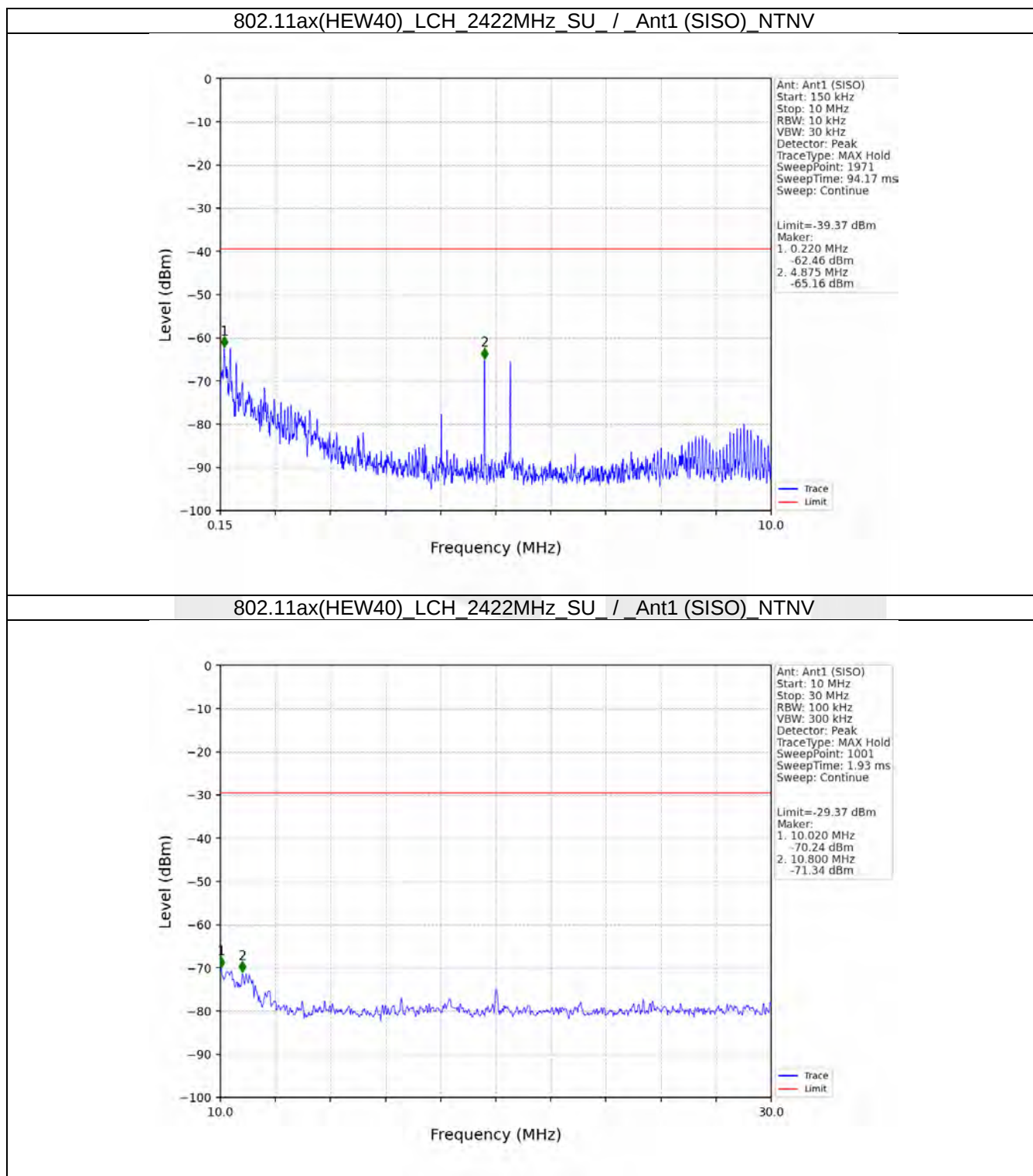


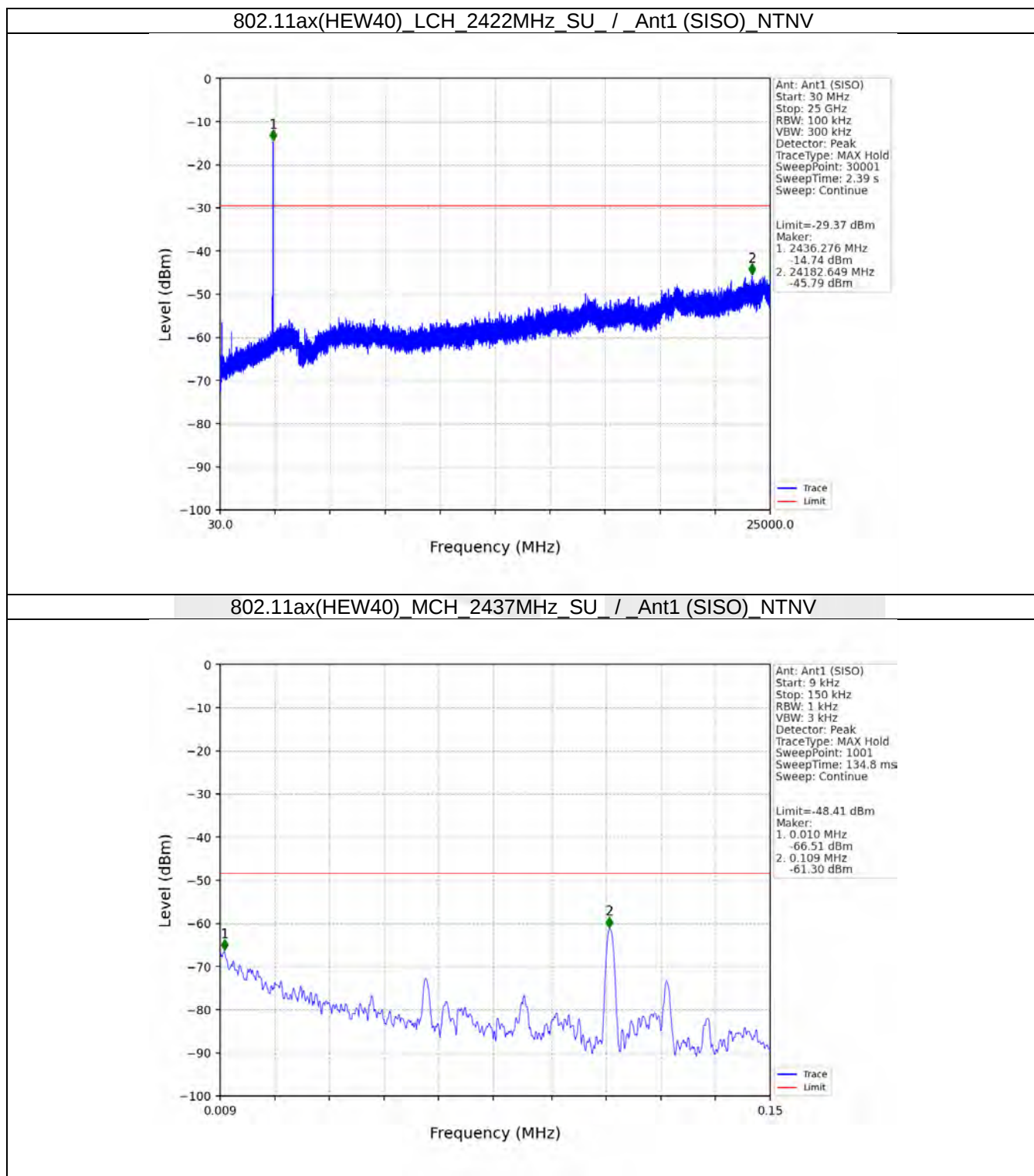
802.11ax(HEW40)_LCH_2422MHz_SU_ / _Ant1 (SISO)_NTNV



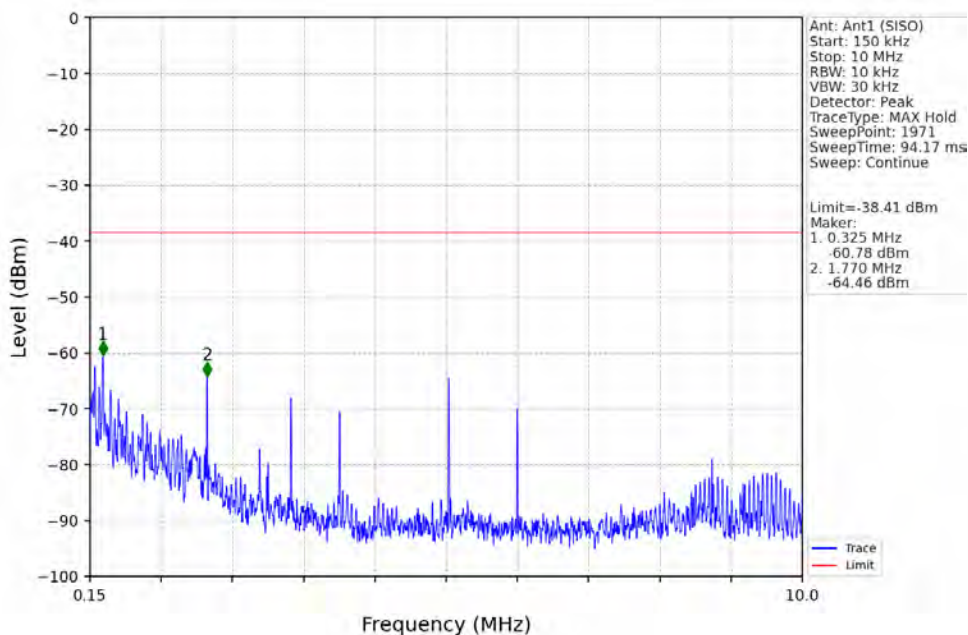
802.11ax(HEW40)_LCH_2422MHz_SU_ / _Ant1 (SISO)_NTNV



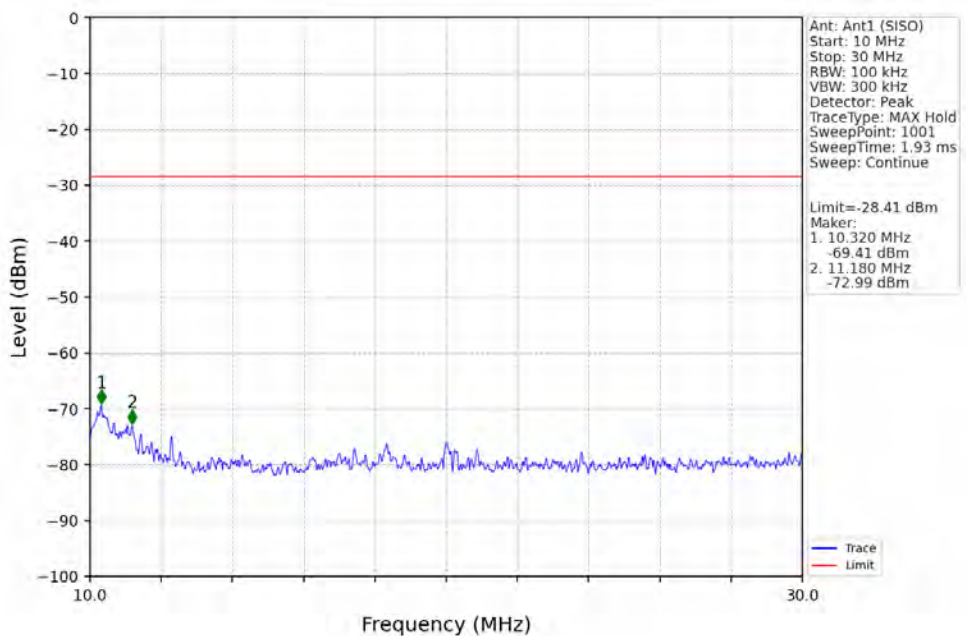




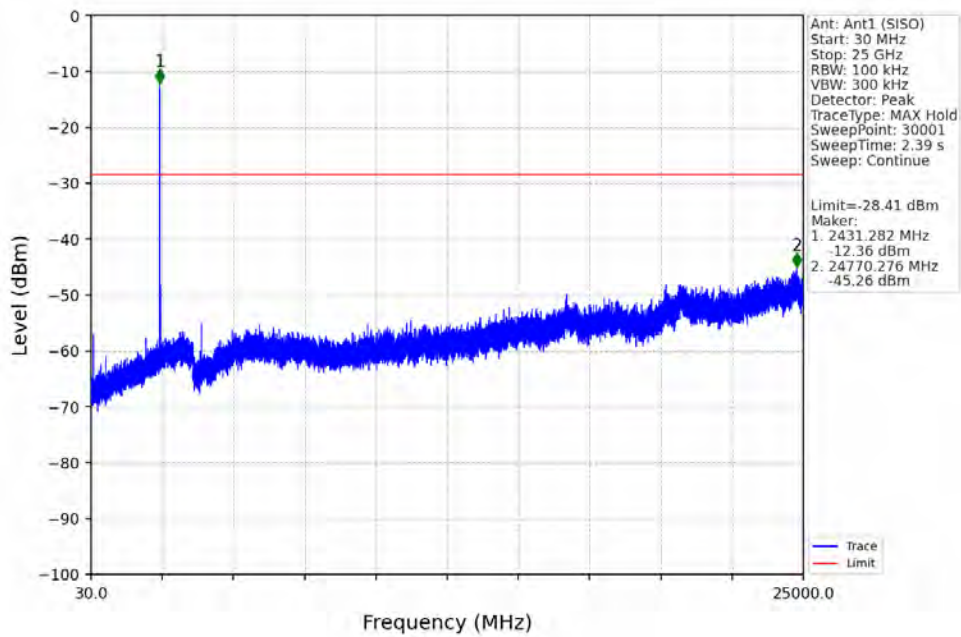
802.11ax(HEW40)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



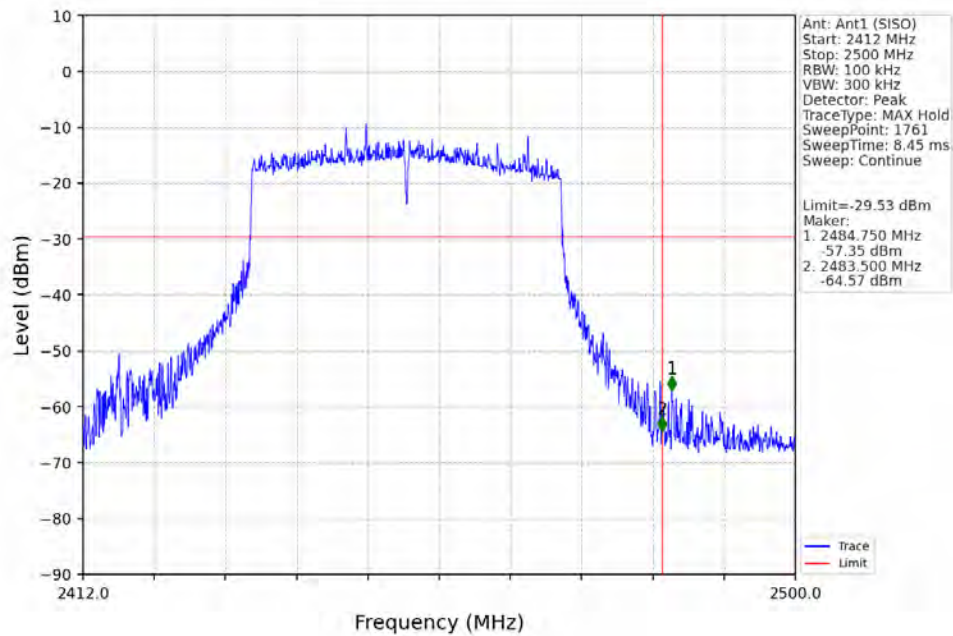
802.11ax(HEW40)_MCH_2437MHz_SU / _Ant1 (SISO)_NTNV



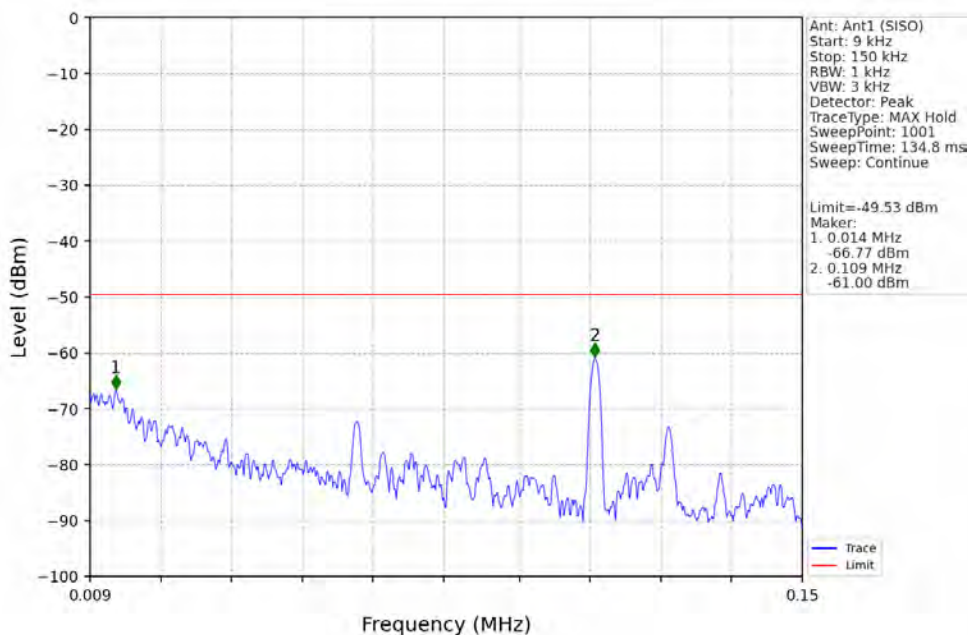
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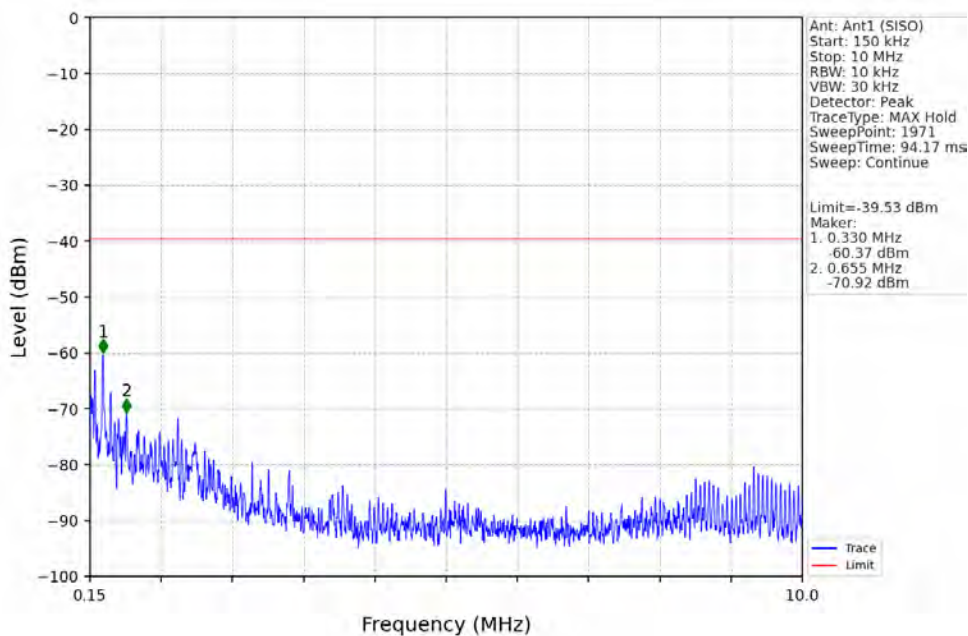
802.11ax(HEW40)_HCH_2452MHz_SU / _Ant1 (SISO)_NTNV

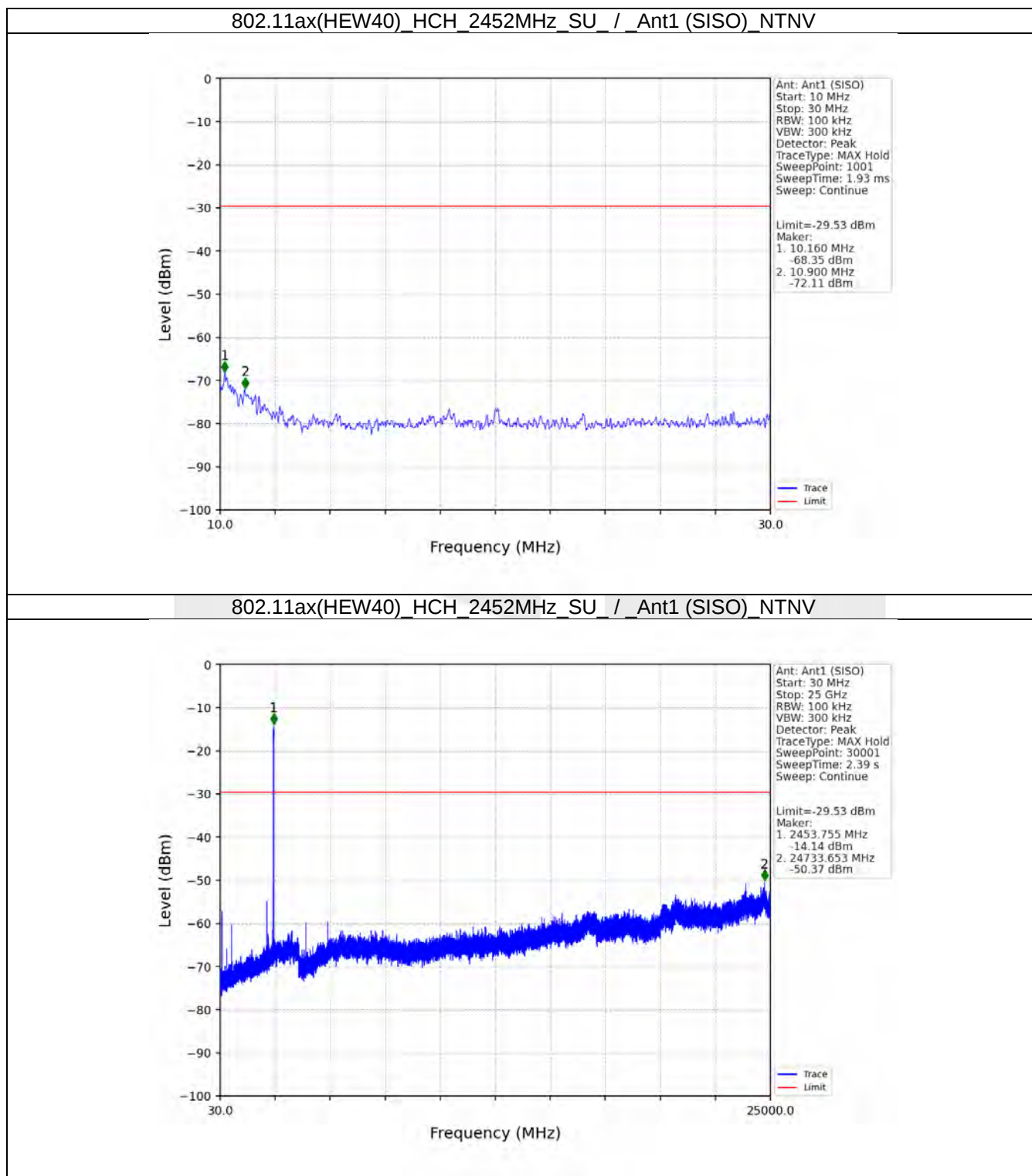


802.11ax(HEW40)_HCH_2452MHz_SU_ / _Ant1 (SISO)_NTNV



802.11ax(HEW40)_HCH_2452MHz_SU_ / _Ant1 (SISO)_NTNV





----- End of Report -----