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Annex for 2.4G Wi-Fi

Test Report No.: CTL2507222072-WF03

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FCCID: 2ASC7DS500BT

1. Duty Cycle

1.1 Test Result

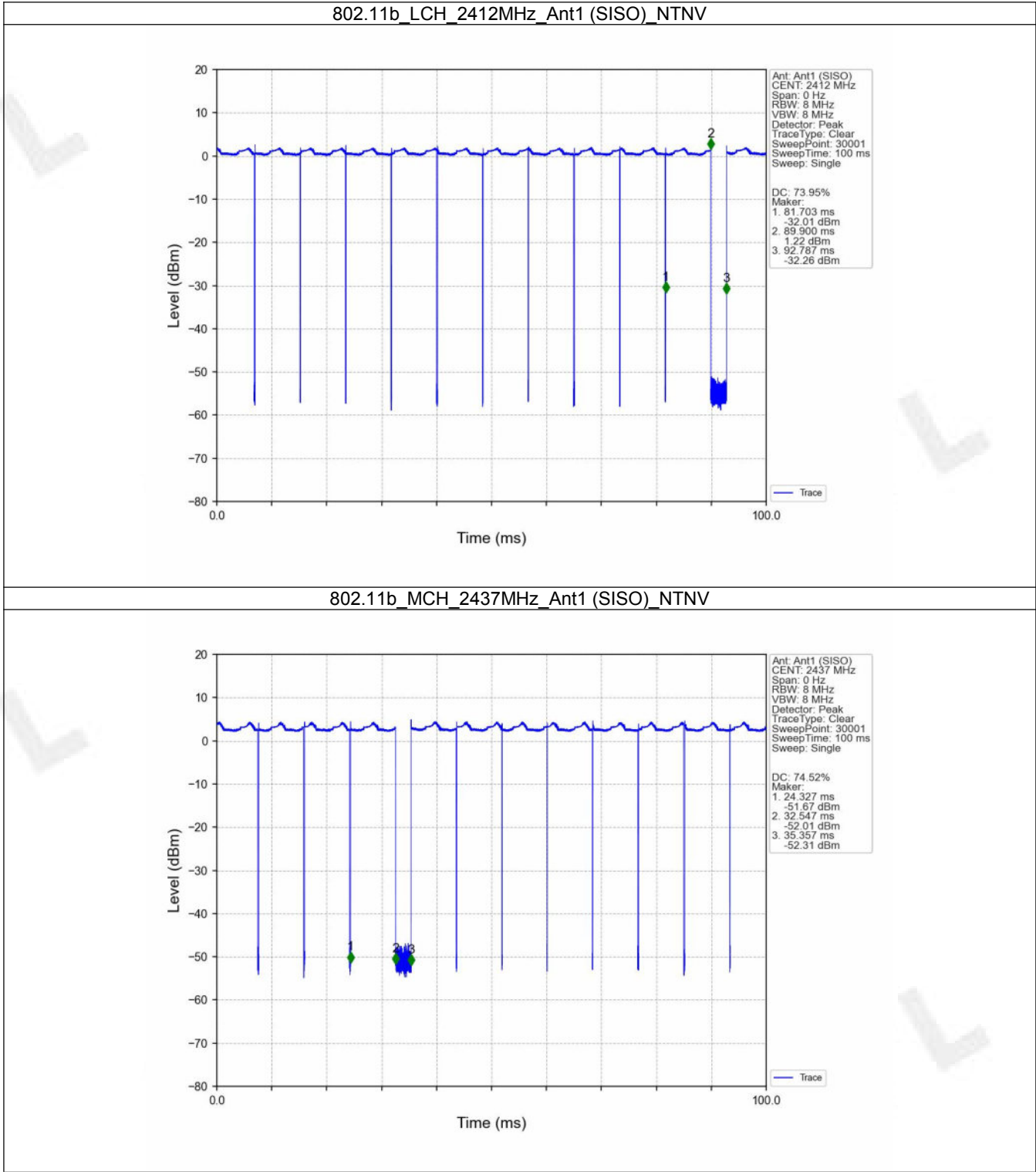
1.1.1 Ant1

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	8.197	11.084	73.95	1.31	25.29
		2437	8.220	11.030	74.52	1.28	25.23
		2462	8.224	12.554	65.51	1.84	34.30
802.11g	SISO	2412	1.365	1.532	89.10	0.50	7.98
		2437	2.692	2.944	91.44	0.39	6.56
		2462	1.365	1.523	89.63	0.48	8.07
802.11n (HT20)	SISO	2412	2.512	2.676	93.87	0.27	5.00
		2437	2.504	2.752	90.99	0.41	4.57
		2462	2.511	2.846	88.23	0.54	10.61
802.11n (HT40)	SISO	2422	1.224	1.472	83.15	0.80	0.03
		2437	1.224	1.471	83.21	0.80	12.60
		2452	1.225	1.885	64.99	1.87	31.47

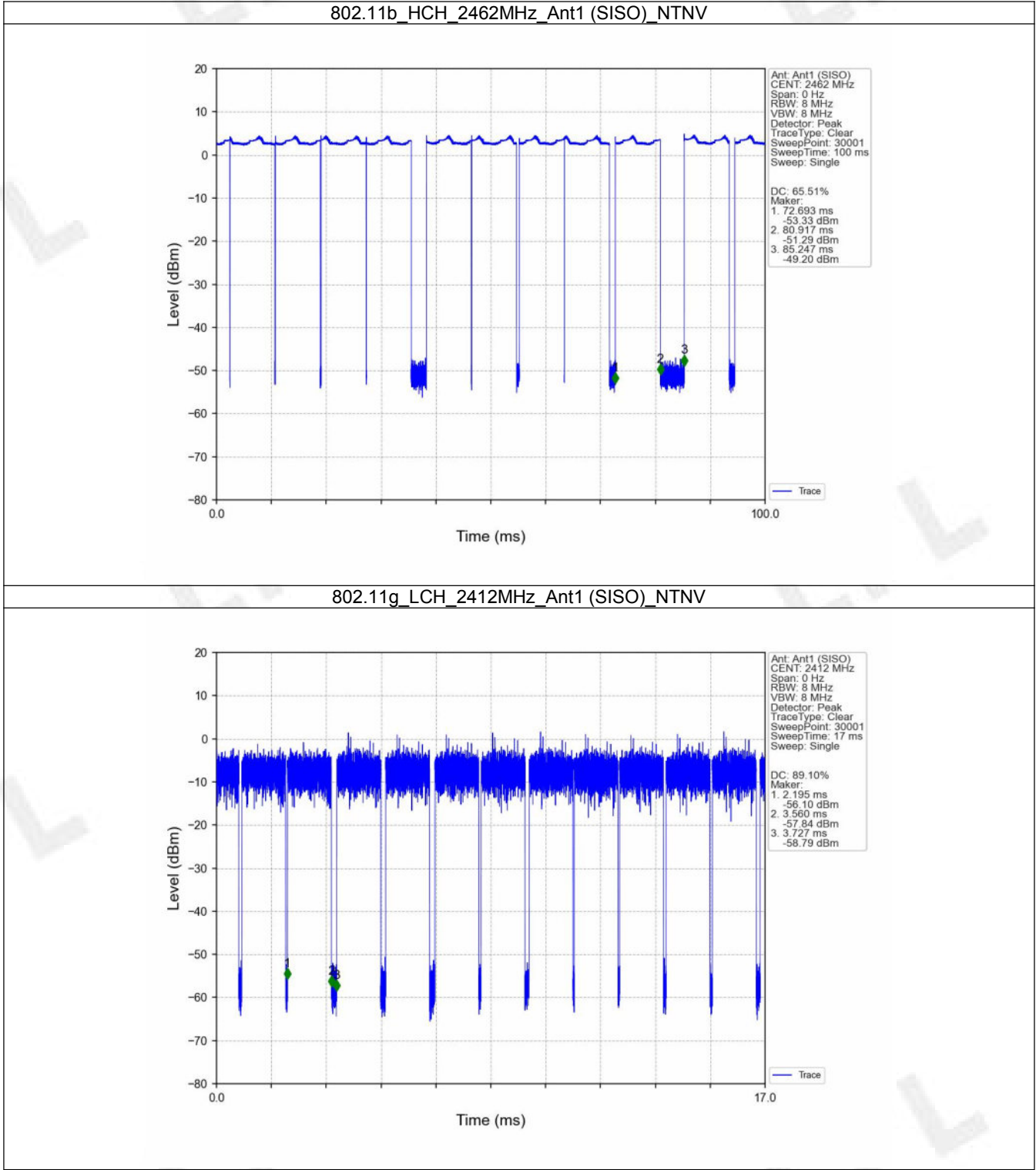
FCCID: 2ASC7DS500BT

1.2 Test Graph

1.2.1 Ant1

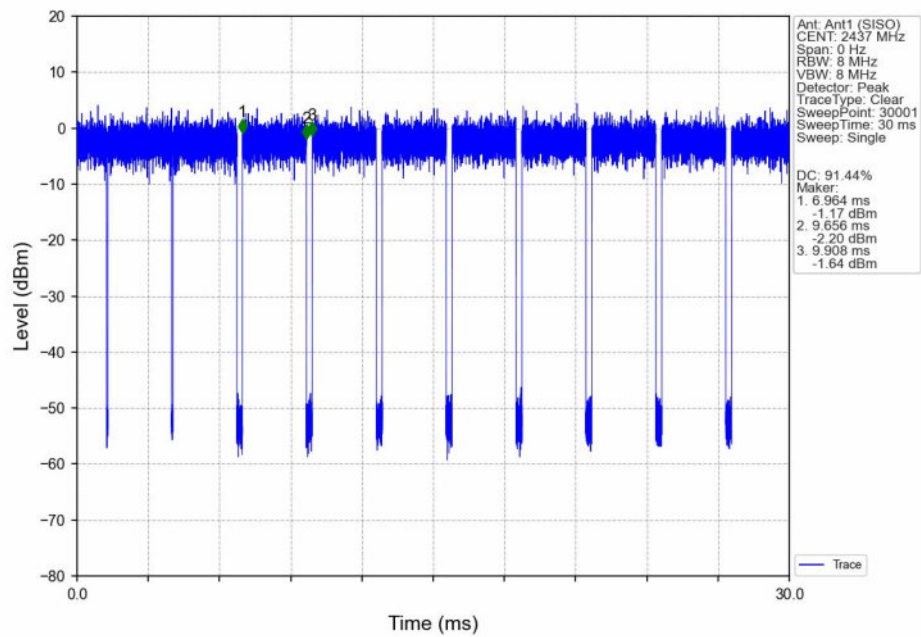


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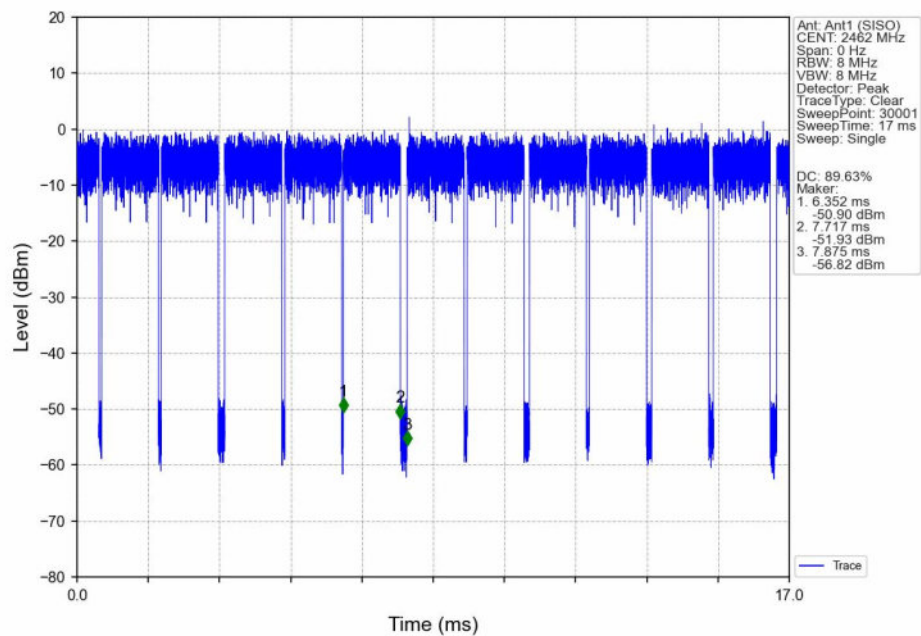


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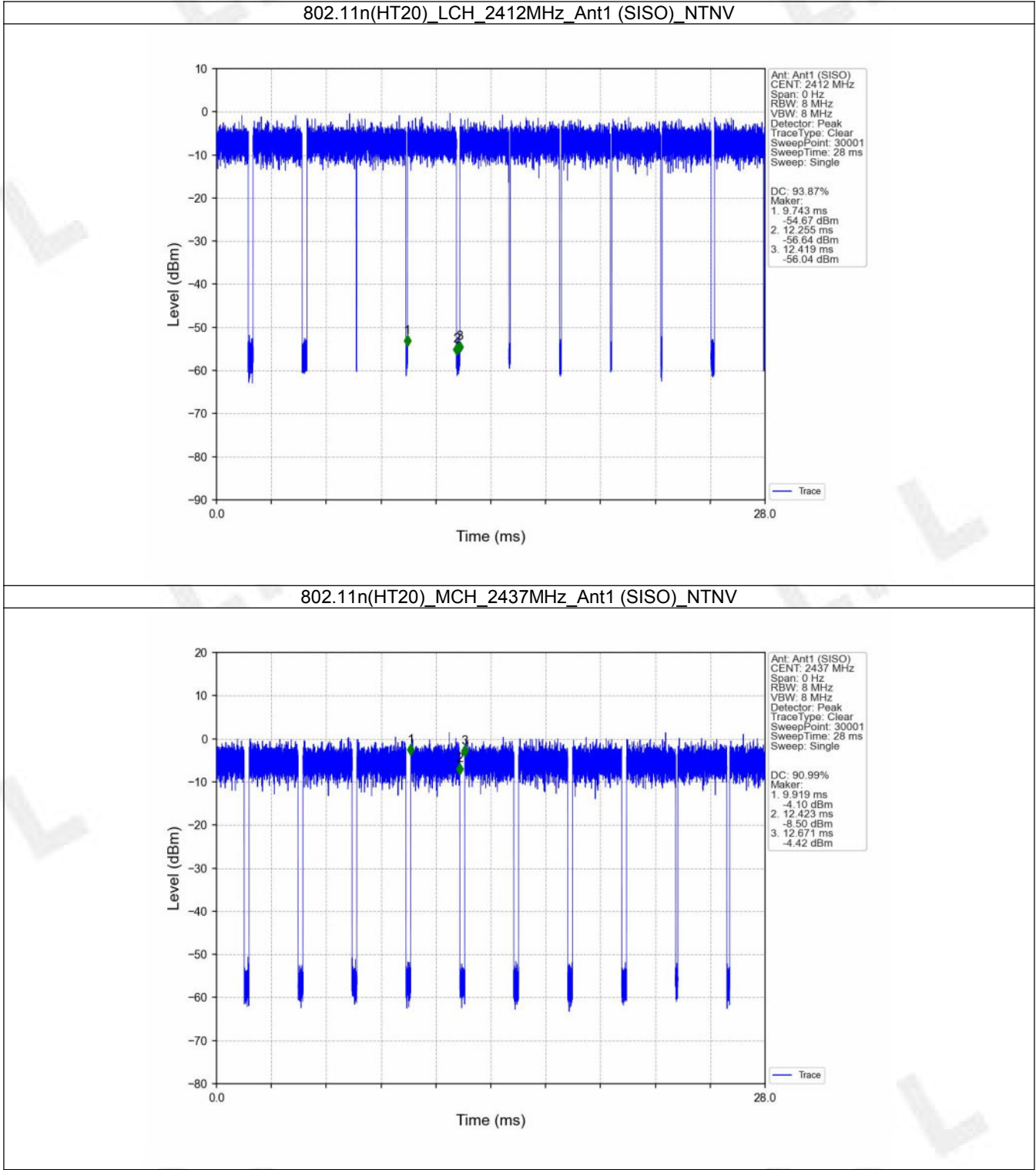
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



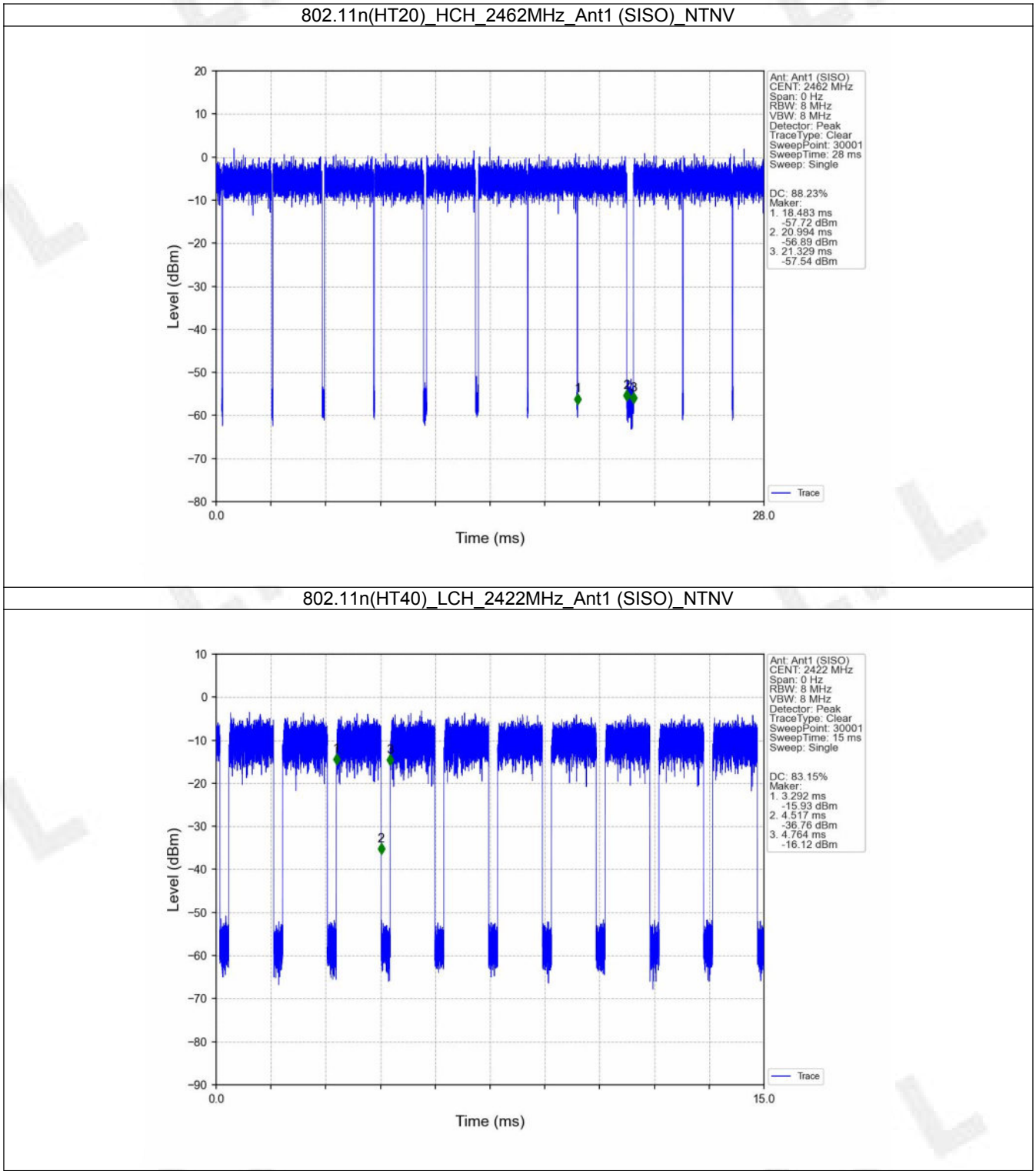
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



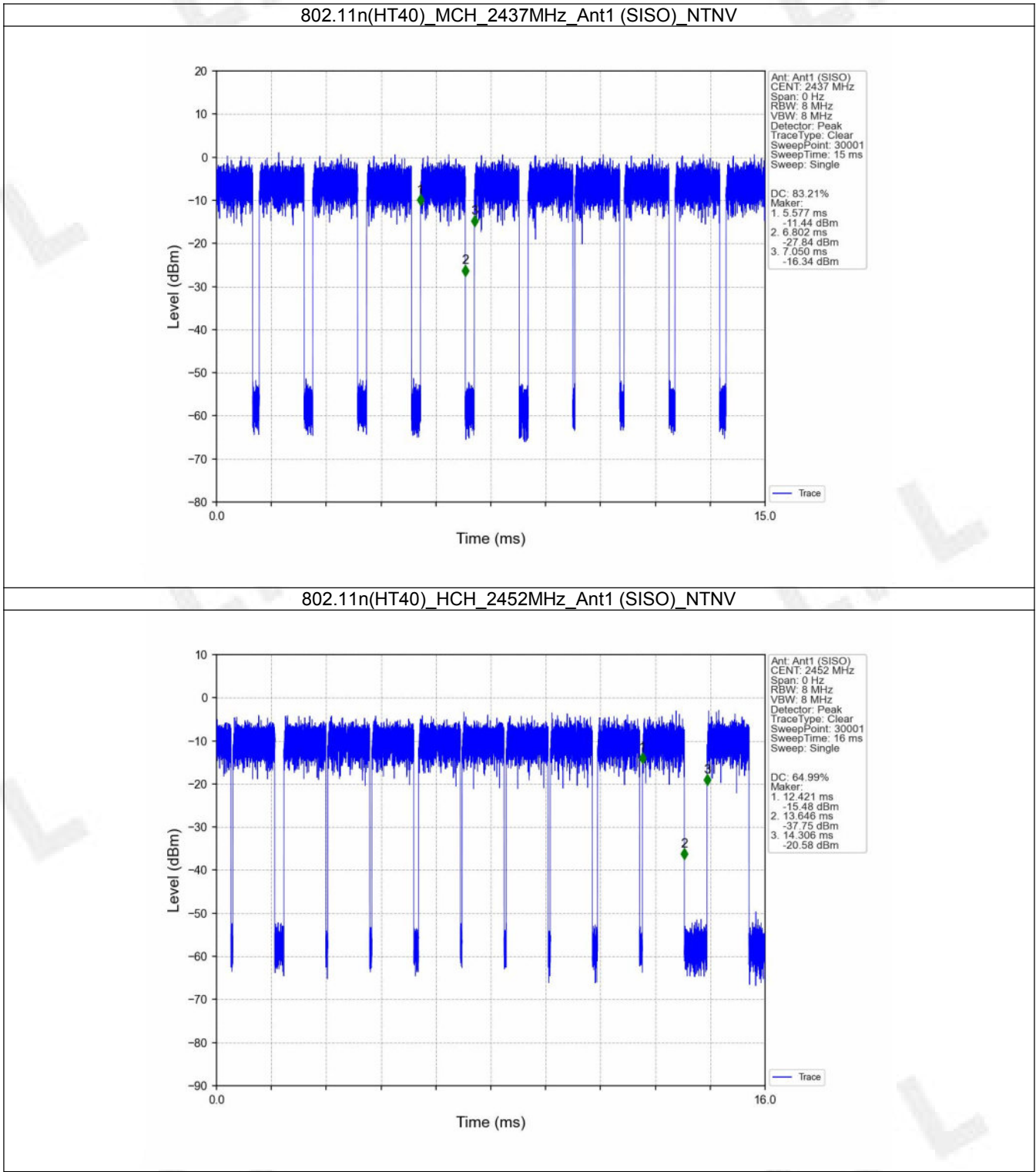
FCCID: 2ASC7DS500BT



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2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	15.187	/	Pass
		2437	1	15.085	/	Pass
		2462	1	15.067	/	Pass
802.11g	SISO	2412	1	18.201	/	Pass
		2437	1	18.024	/	Pass
		2462	1	17.971	/	Pass
802.11n (HT20)	SISO	2412	1	19.007	/	Pass
		2437	1	18.841	/	Pass
		2462	1	18.832	/	Pass
802.11n (HT40)	SISO	2422	1	37.342	/	Pass
		2437	1	37.347	/	Pass
		2452	1	37.551	/	Pass

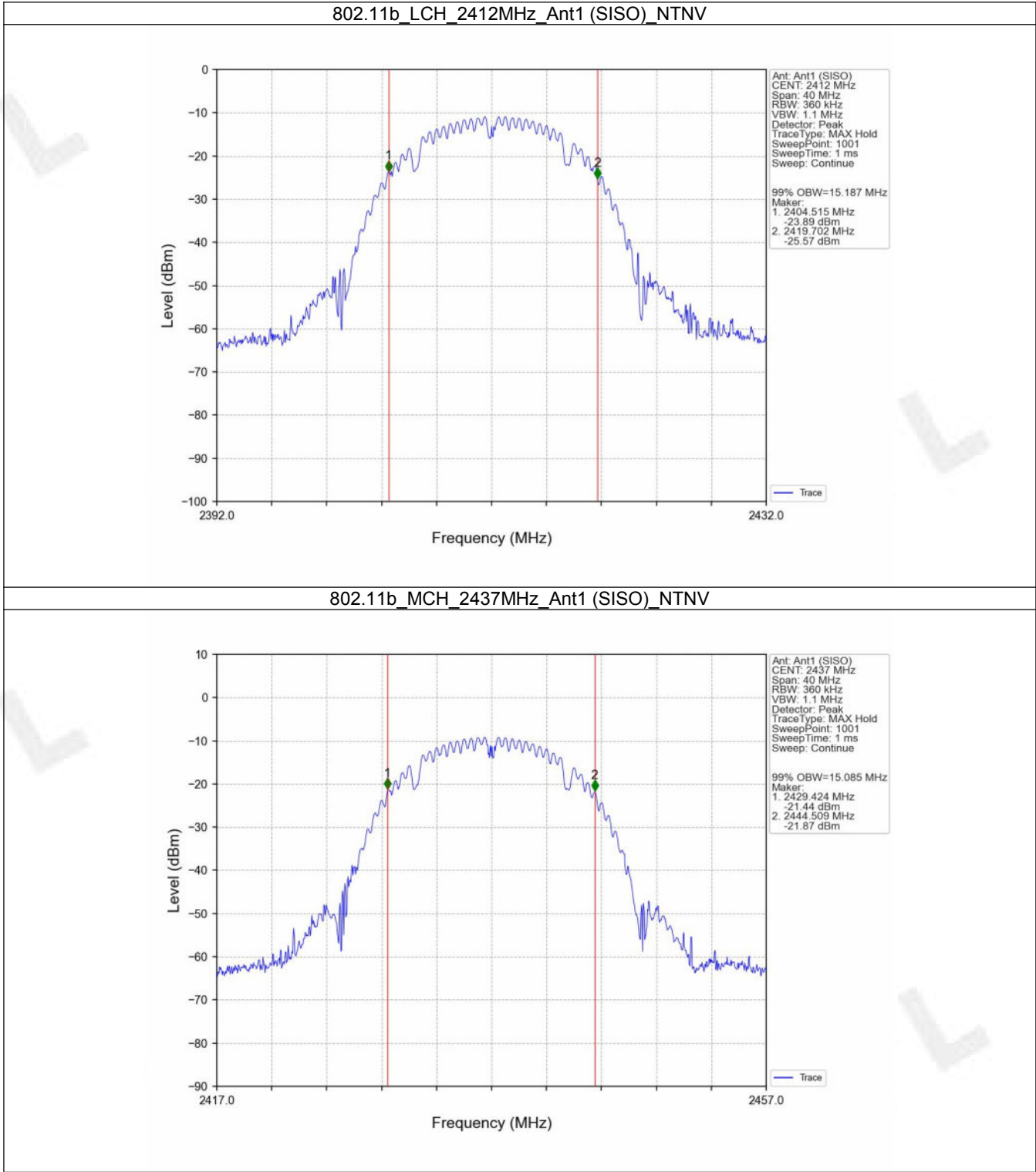
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.313	≥ 0.5	Pass
		2437	1	10.293	≥ 0.5	Pass
		2462	1	10.297	≥ 0.5	Pass
802.11g	SISO	2412	1	16.657	≥ 0.5	Pass
		2437	1	16.722	≥ 0.5	Pass
		2462	1	16.696	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.892	≥ 0.5	Pass
		2437	1	17.736	≥ 0.5	Pass
		2462	1	18.024	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	36.365	≥ 0.5	Pass
		2437	1	36.486	≥ 0.5	Pass
		2452	1	36.762	≥ 0.5	Pass

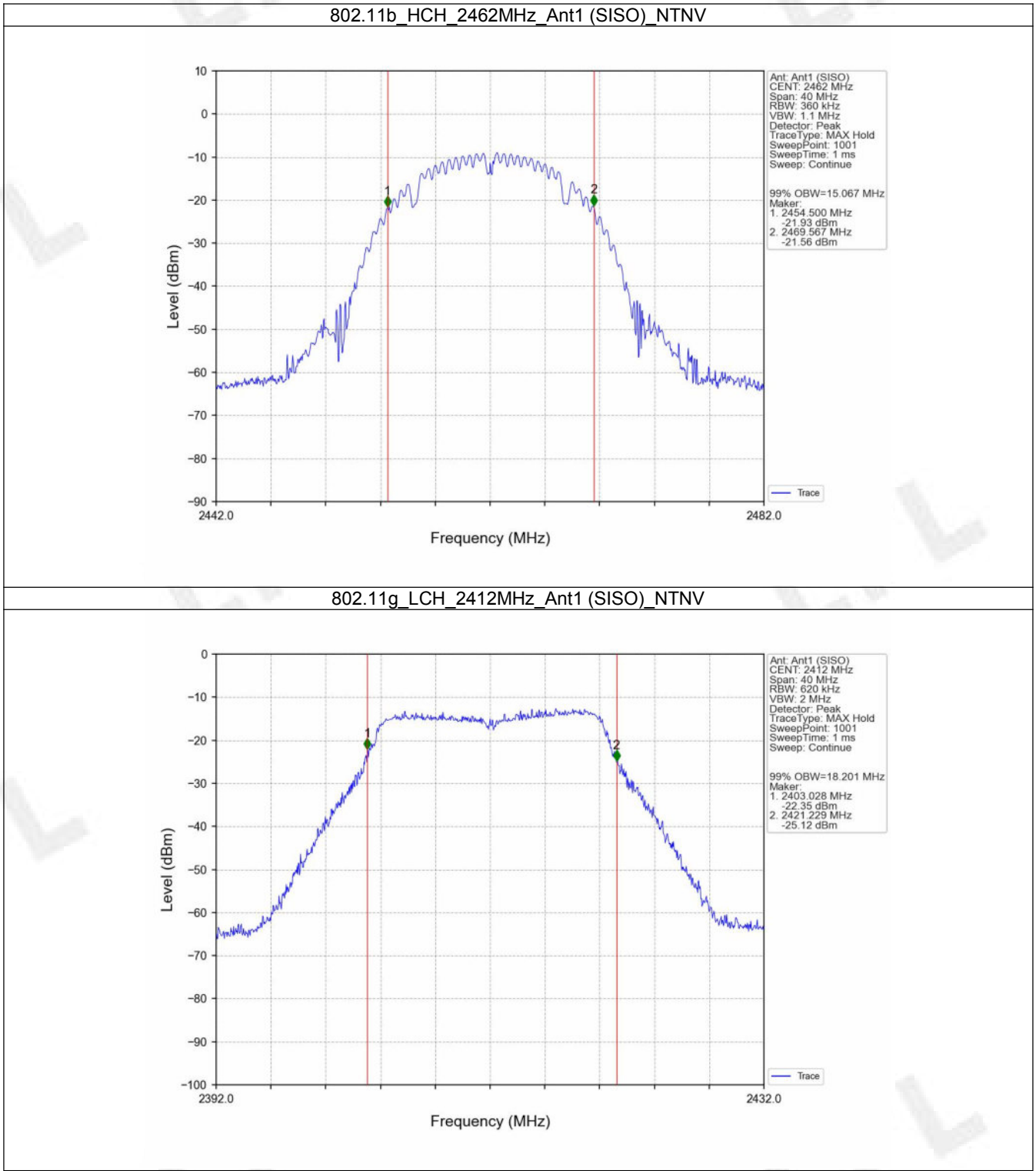
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2.2 Test Graph

2.2.1 OBW

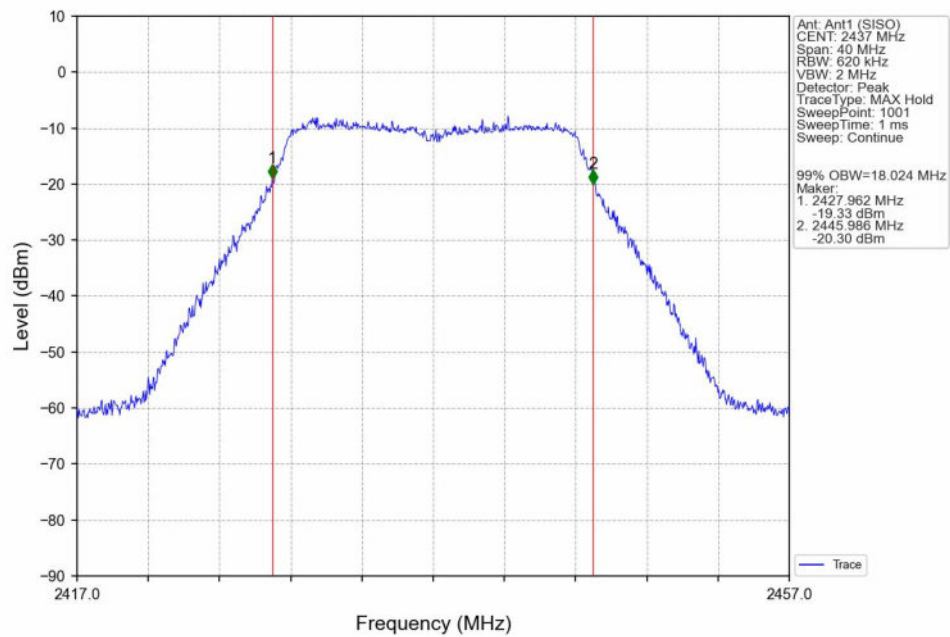


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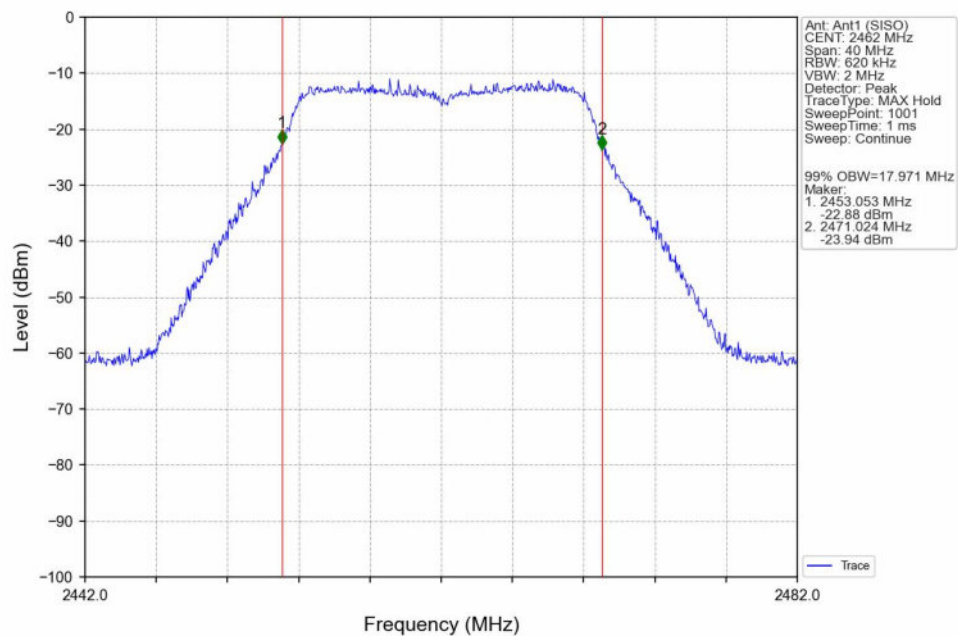


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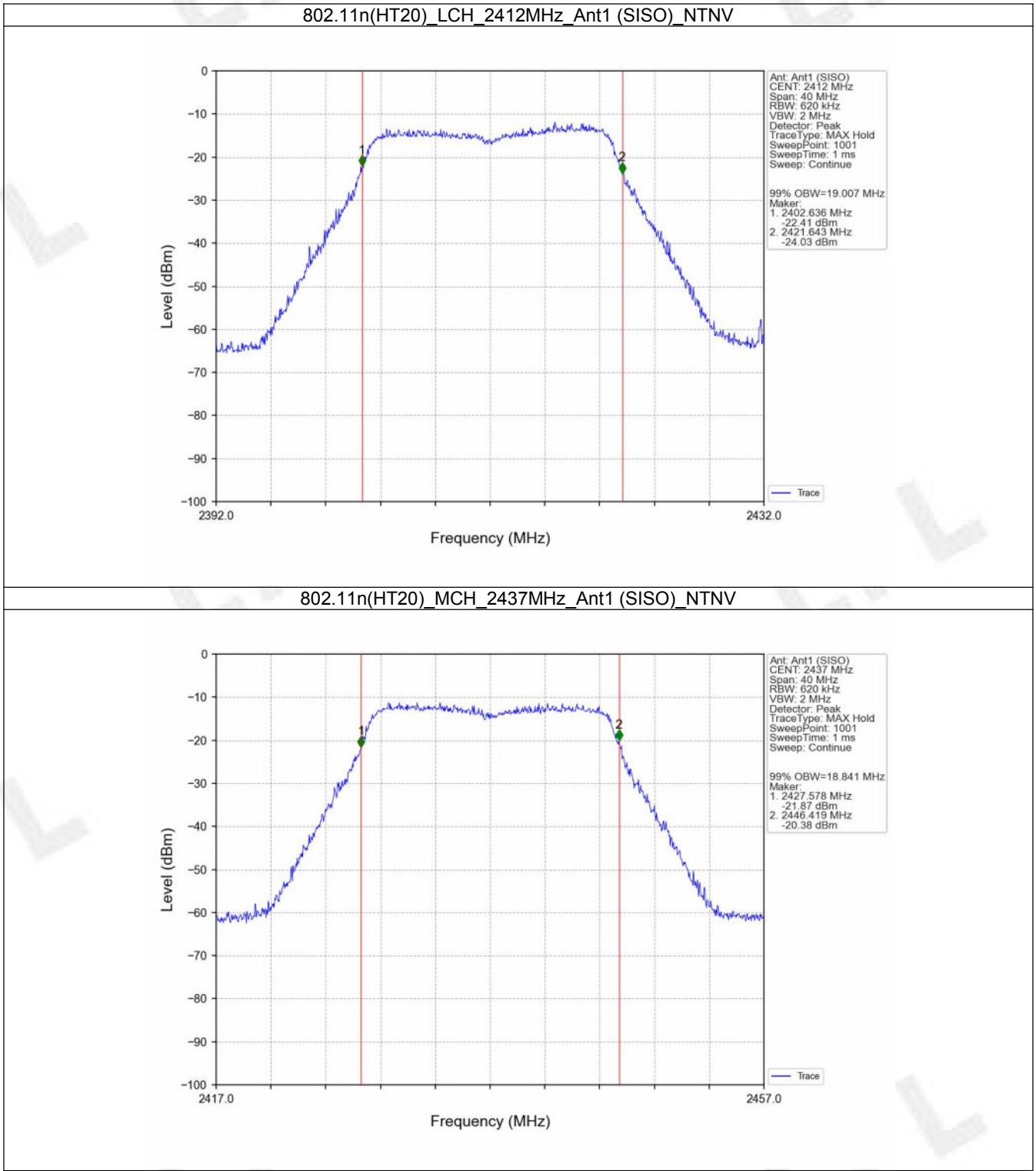
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



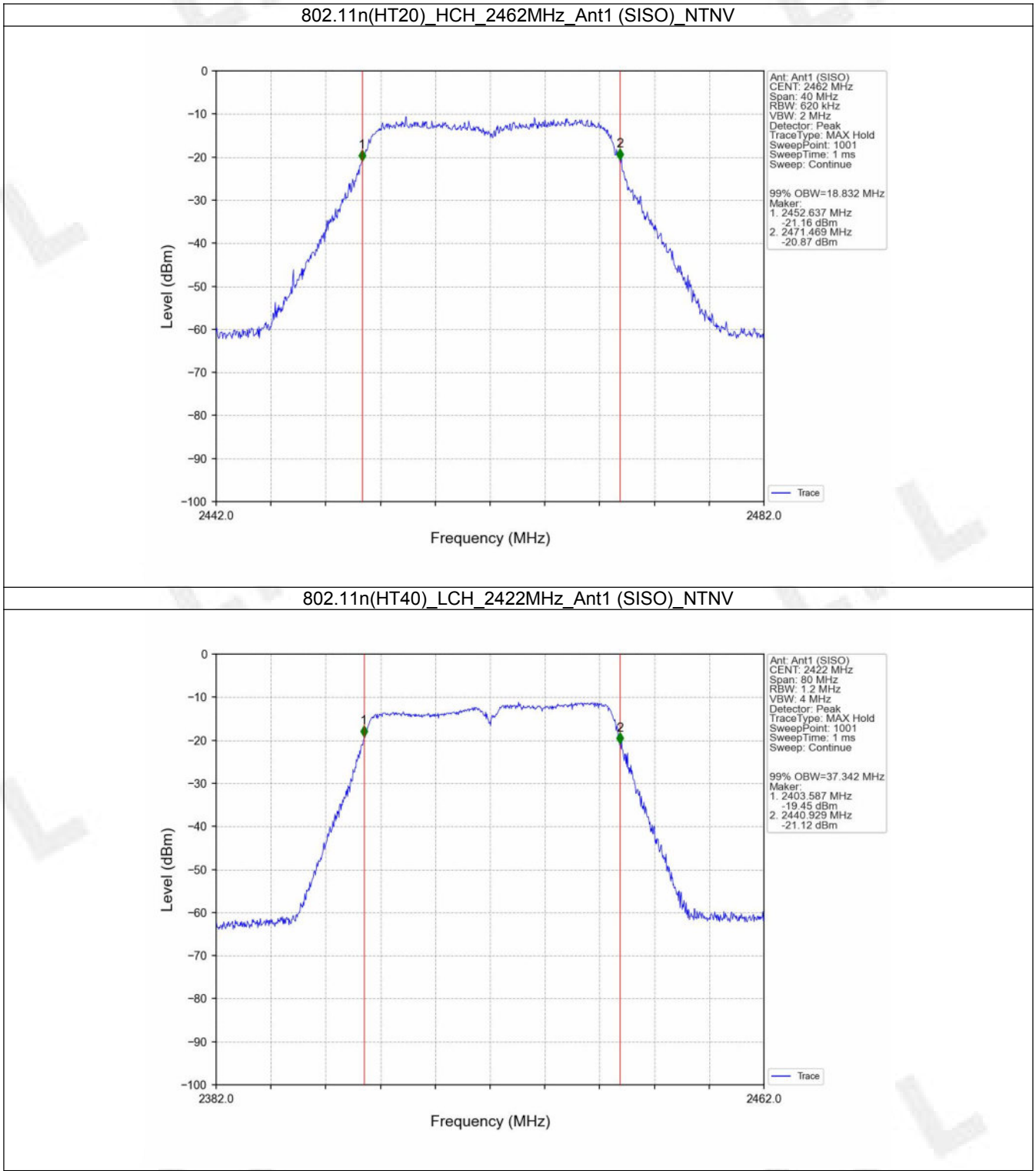
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



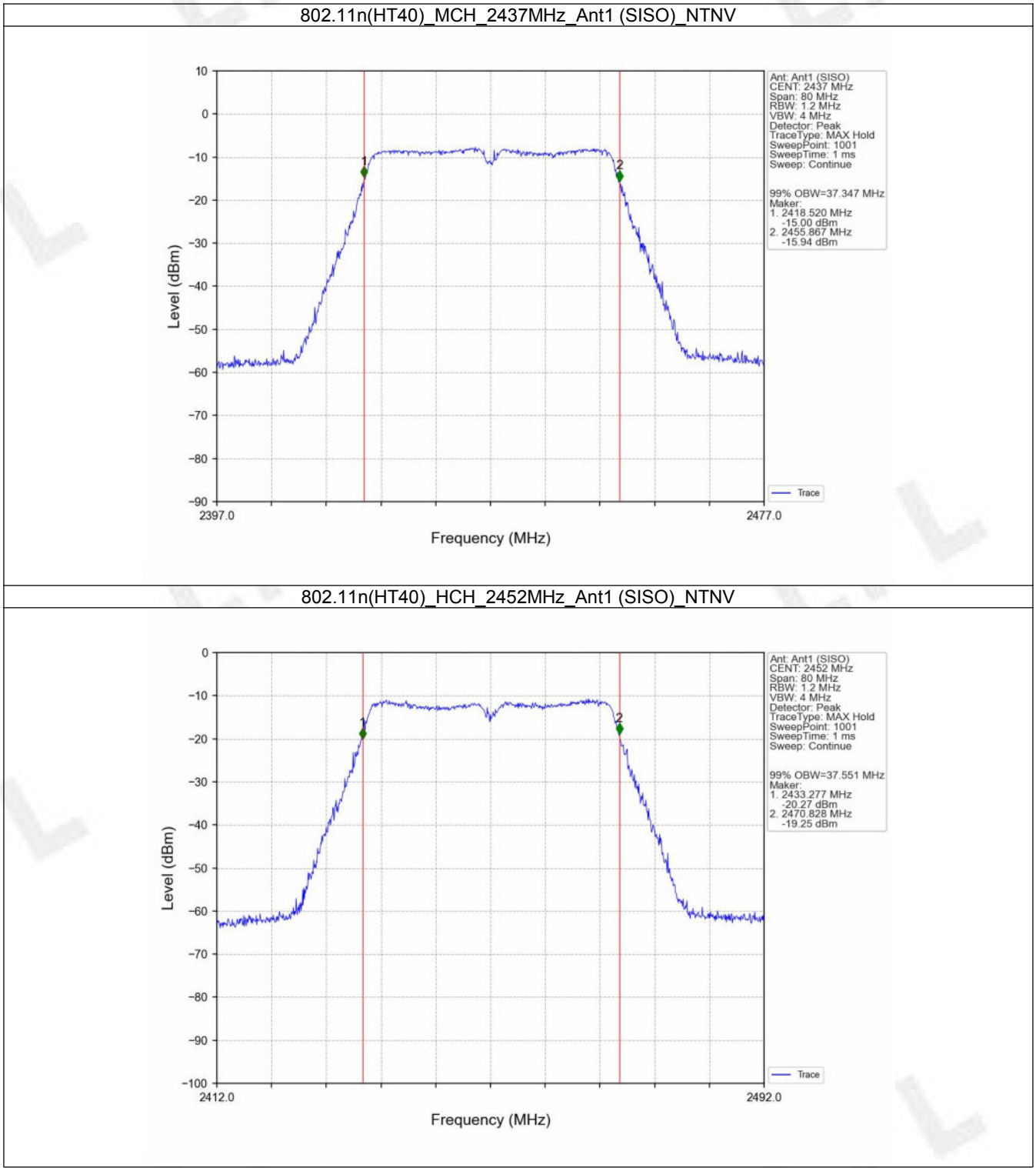
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FCCID: 2ASC7DS500BT

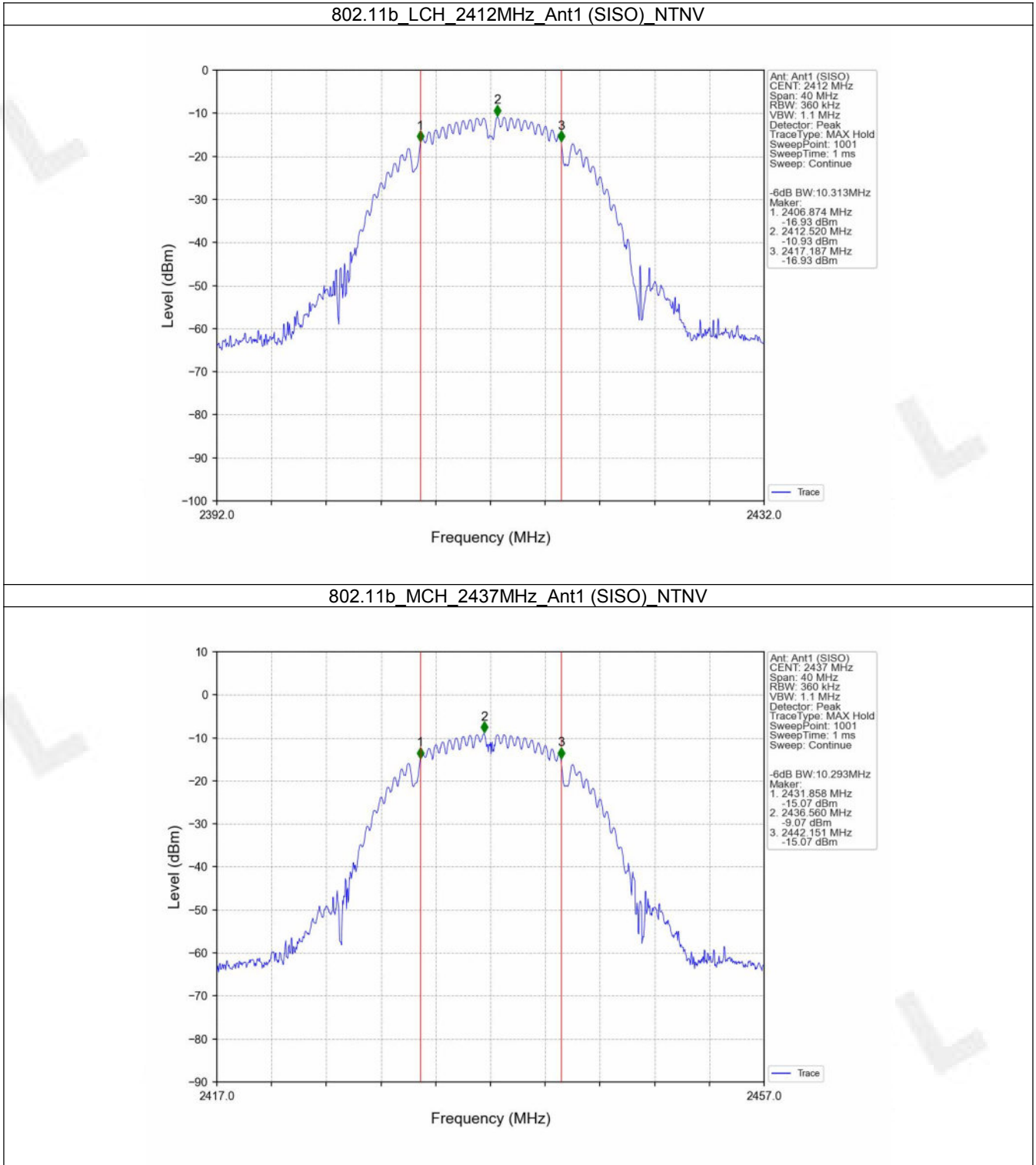


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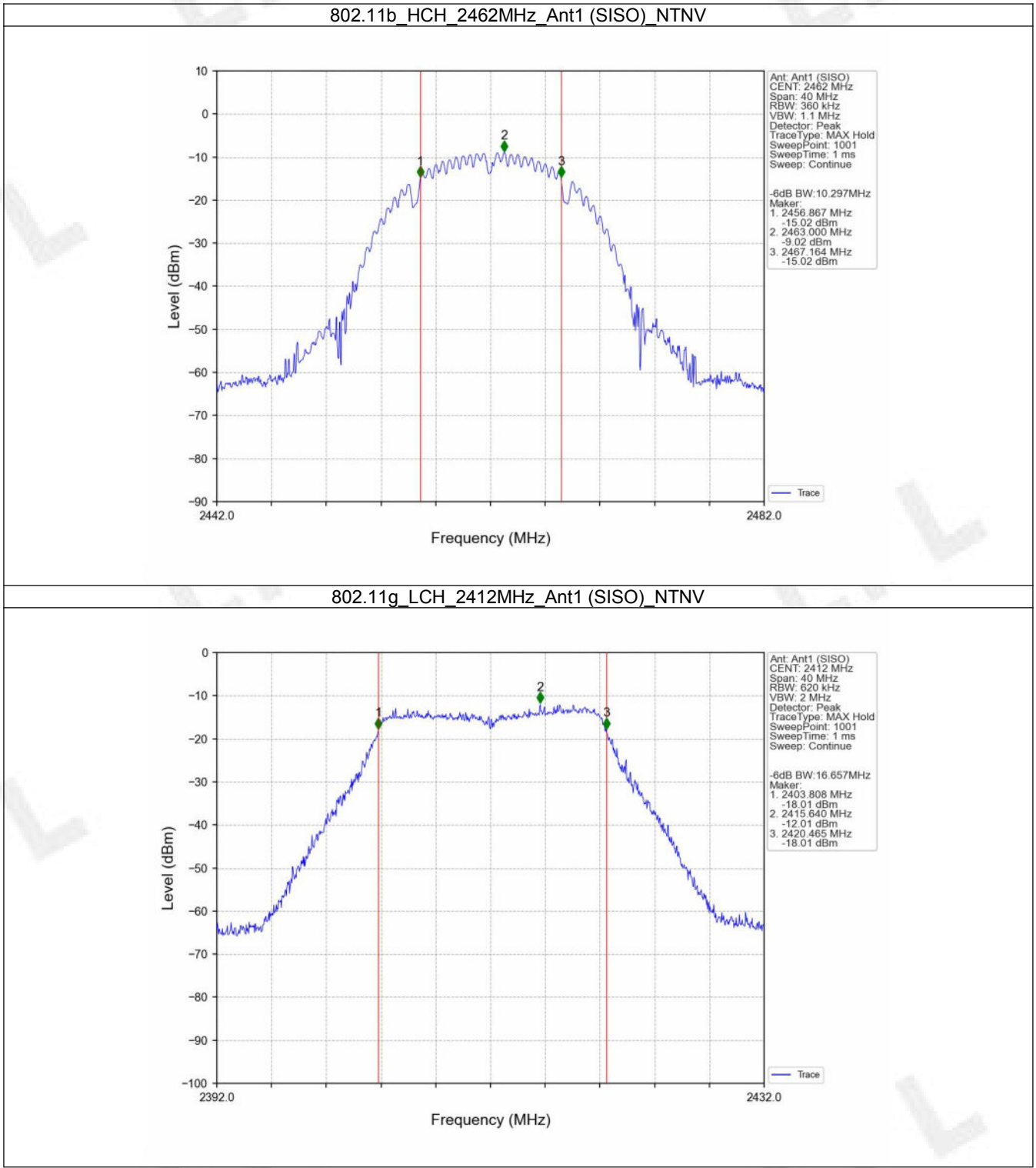


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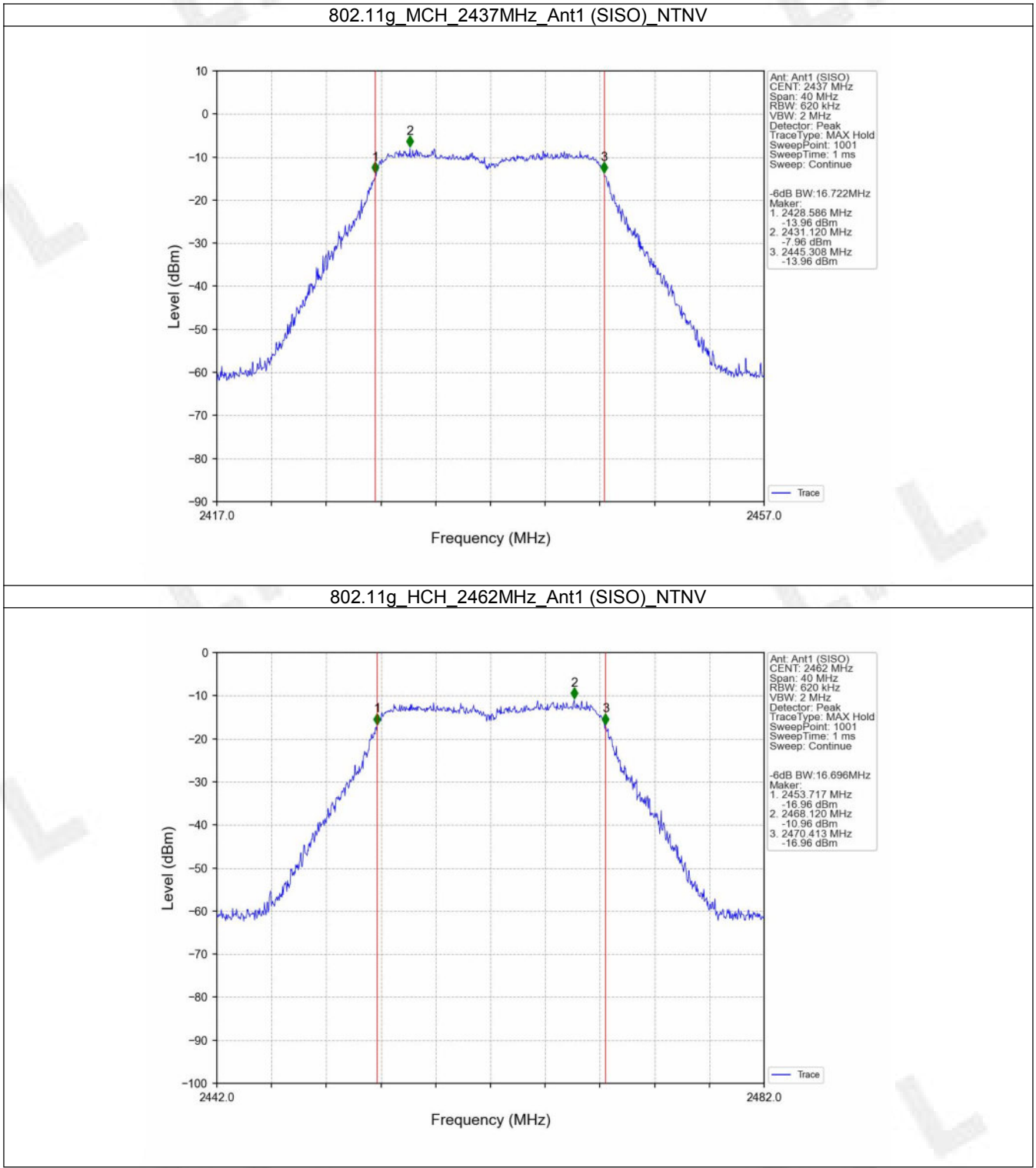
2.2.2 6dB BW



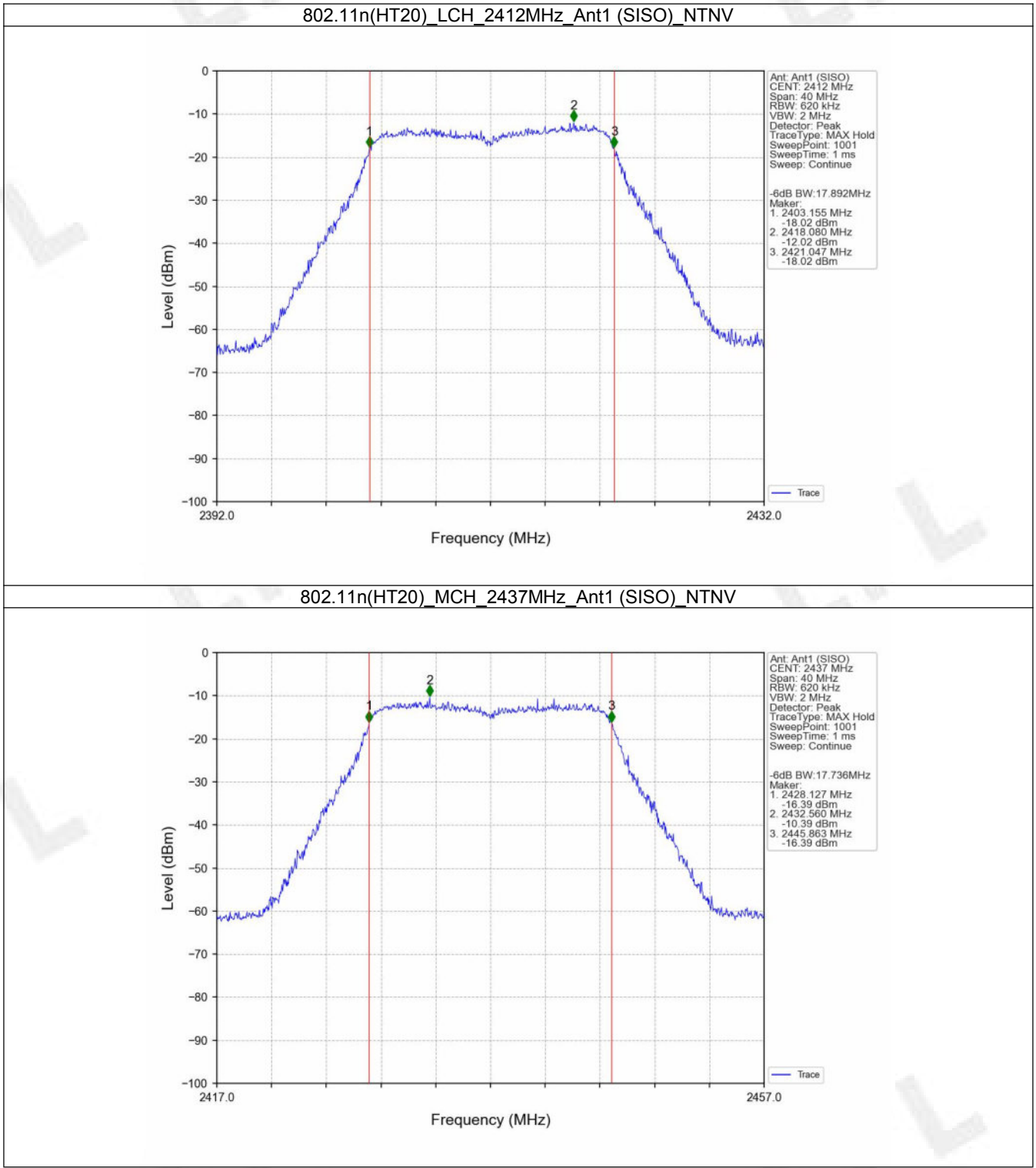
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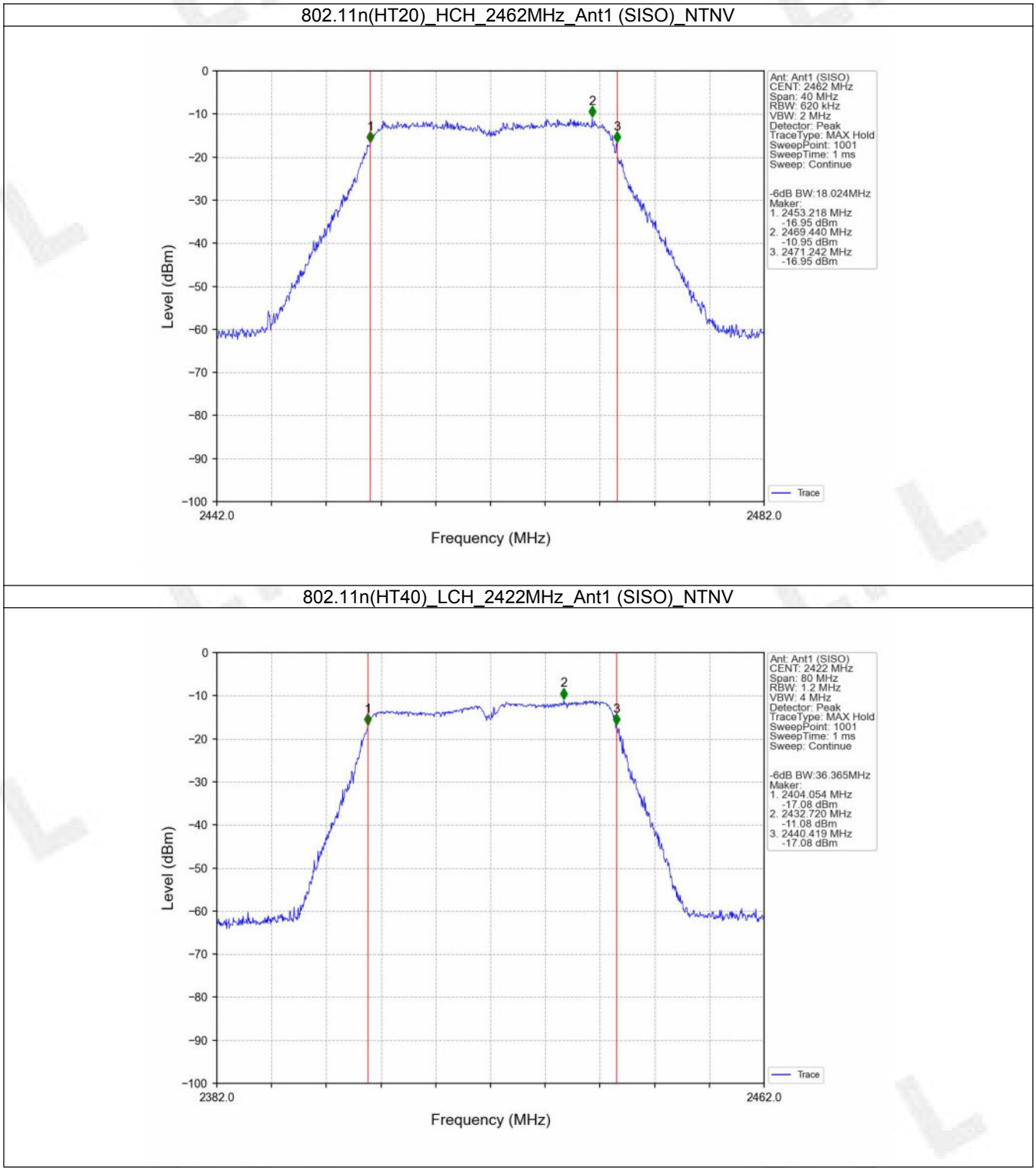
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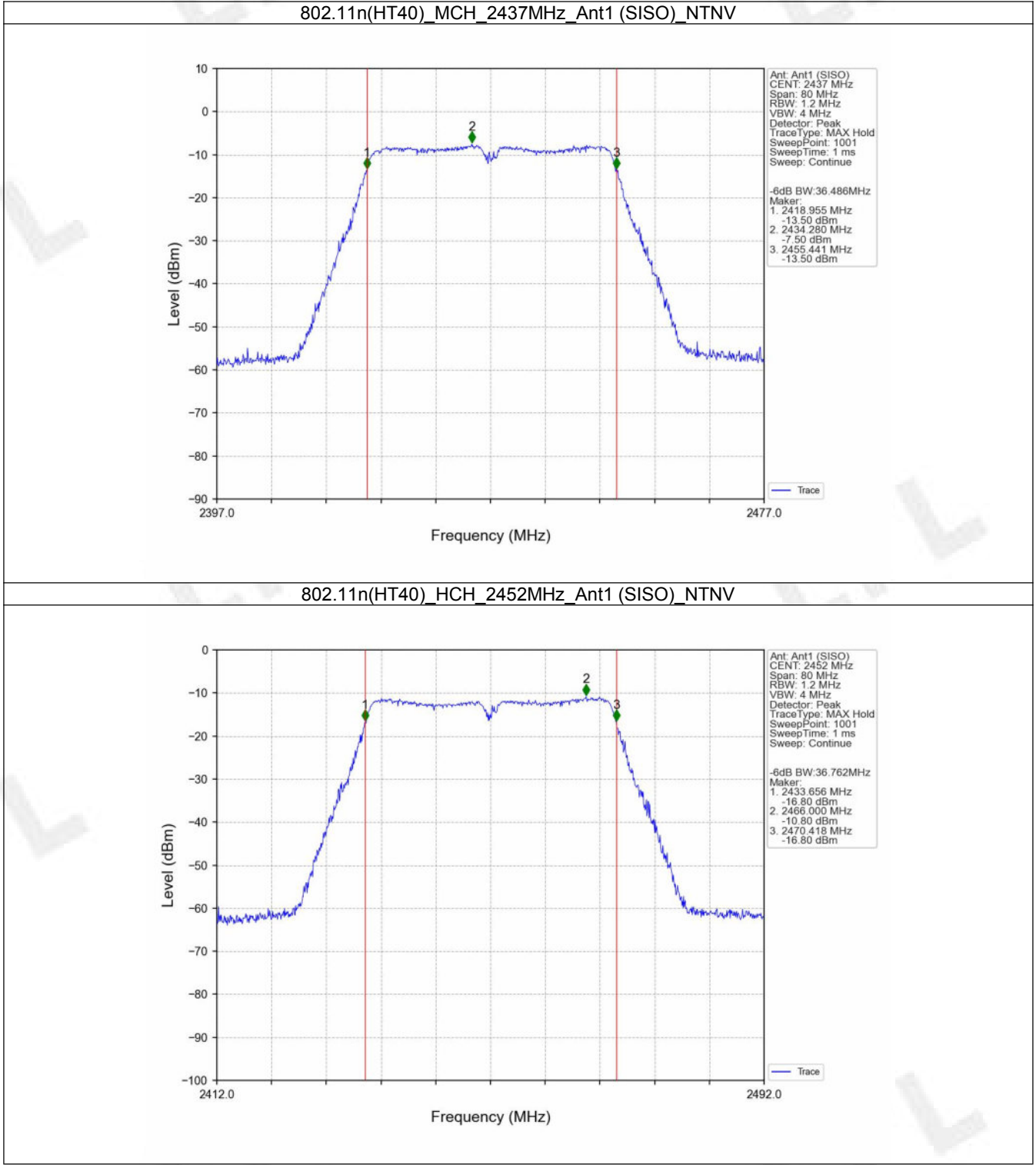
FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT

3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

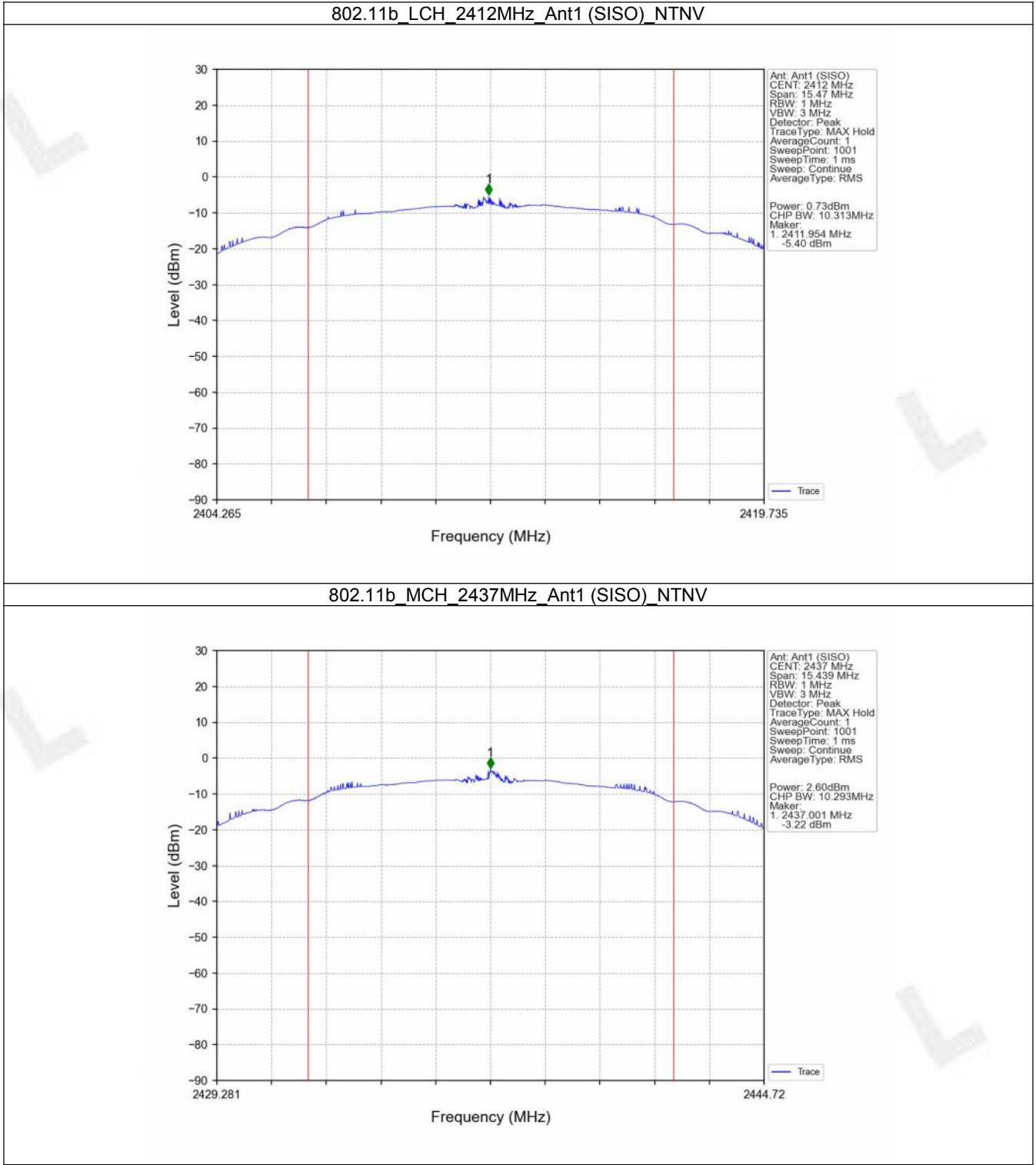
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	0.73	<=30	Pass
		2437	2.60	<=30	Pass
		2462	2.48	<=30	Pass
802.11g	SISO	2412	0.32	<=30	Pass
		2437	1.69	<=30	Pass
		2462	1.61	<=30	Pass
802.11n (HT20)	SISO	2412	0.61	<=30	Pass
		2437	2.10	<=30	Pass
		2462	2.25	<=30	Pass
802.11n (HT40)	SISO	2422	1.01	<=30	Pass
		2437	1.46	<=30	Pass
		2452	1.64	<=30	Pass

Note1: Antenna Gain: Ant1: 1.29dBi;

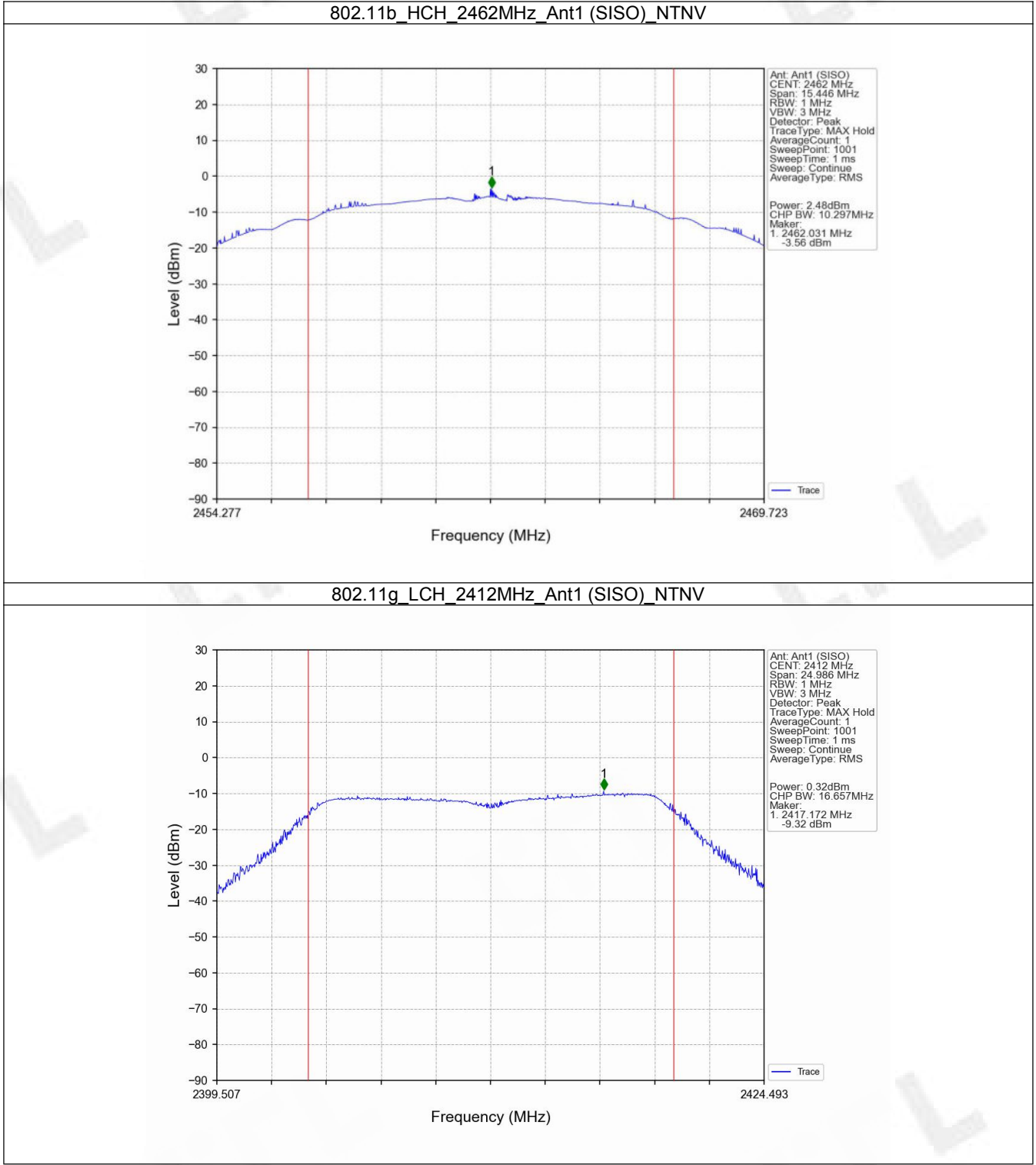
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3.2 Test Graph

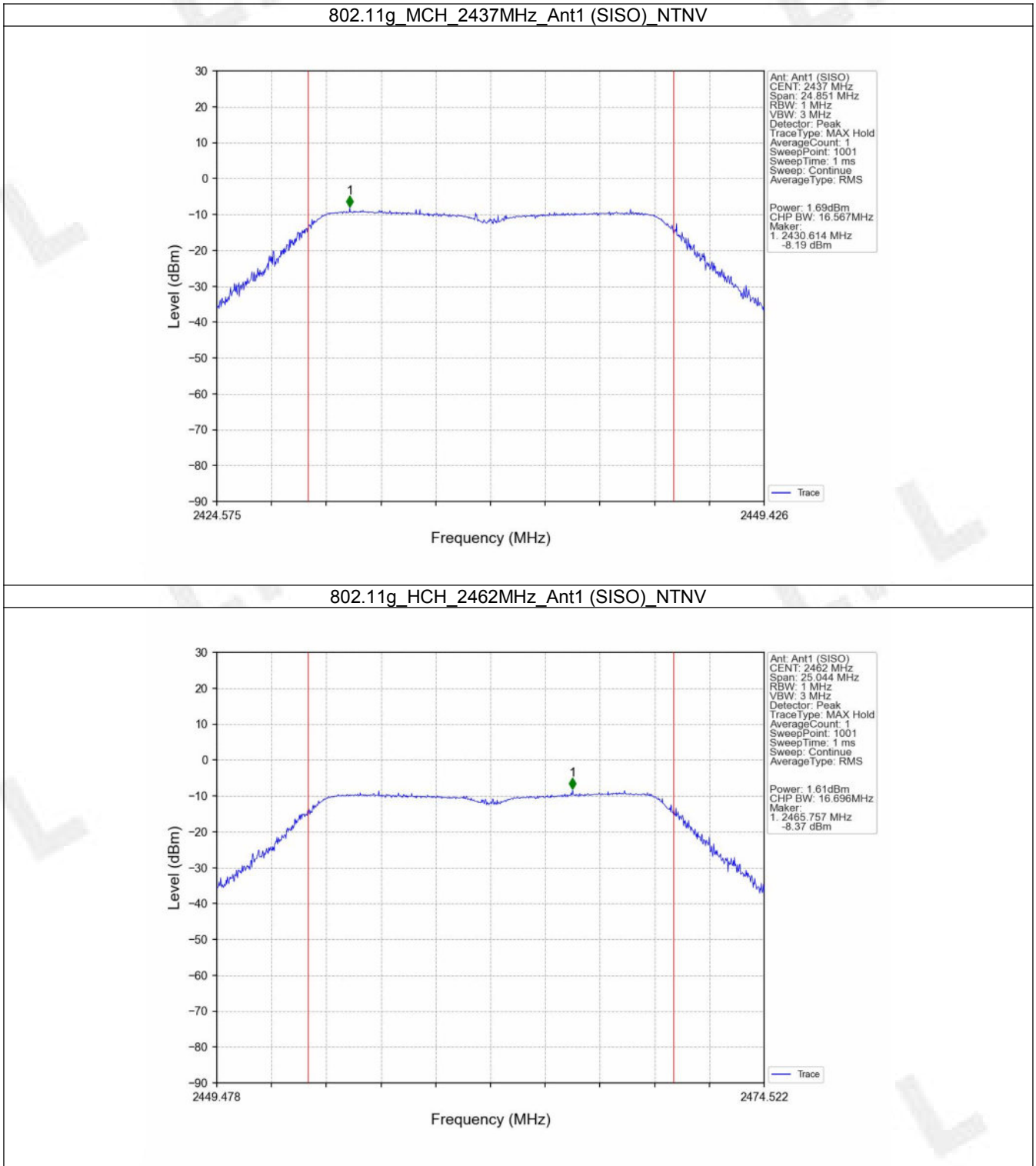
3.2.1 Power



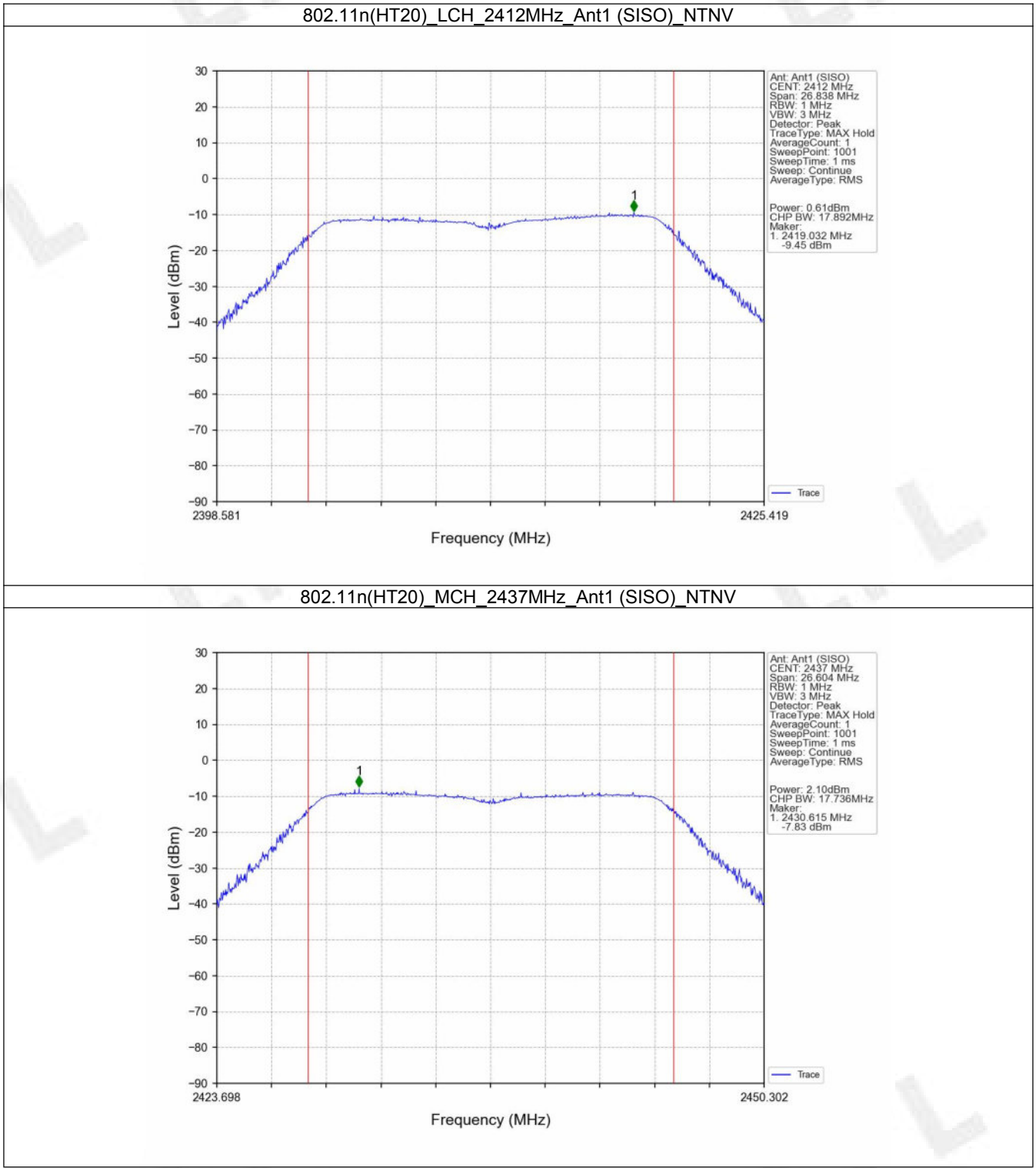
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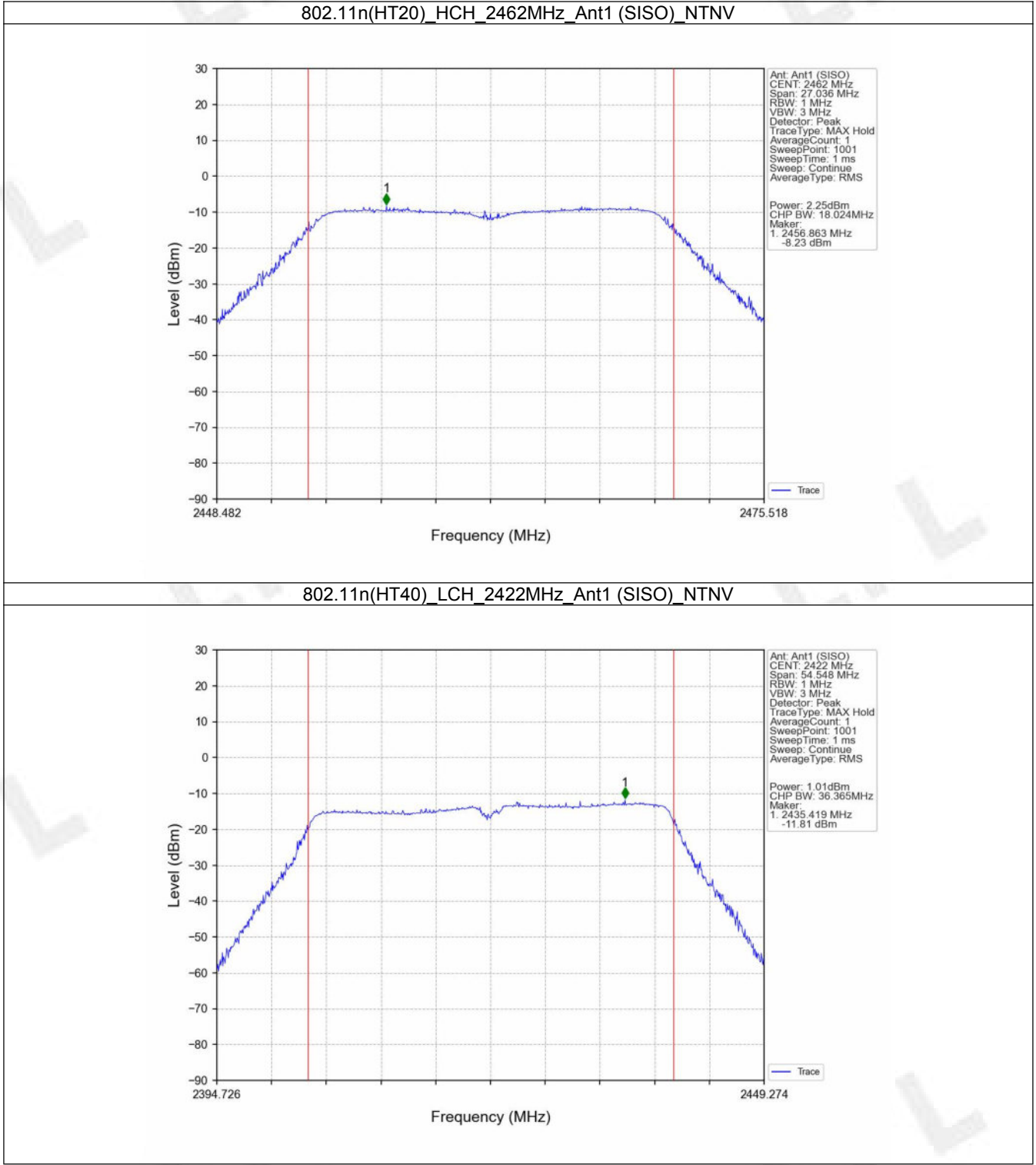
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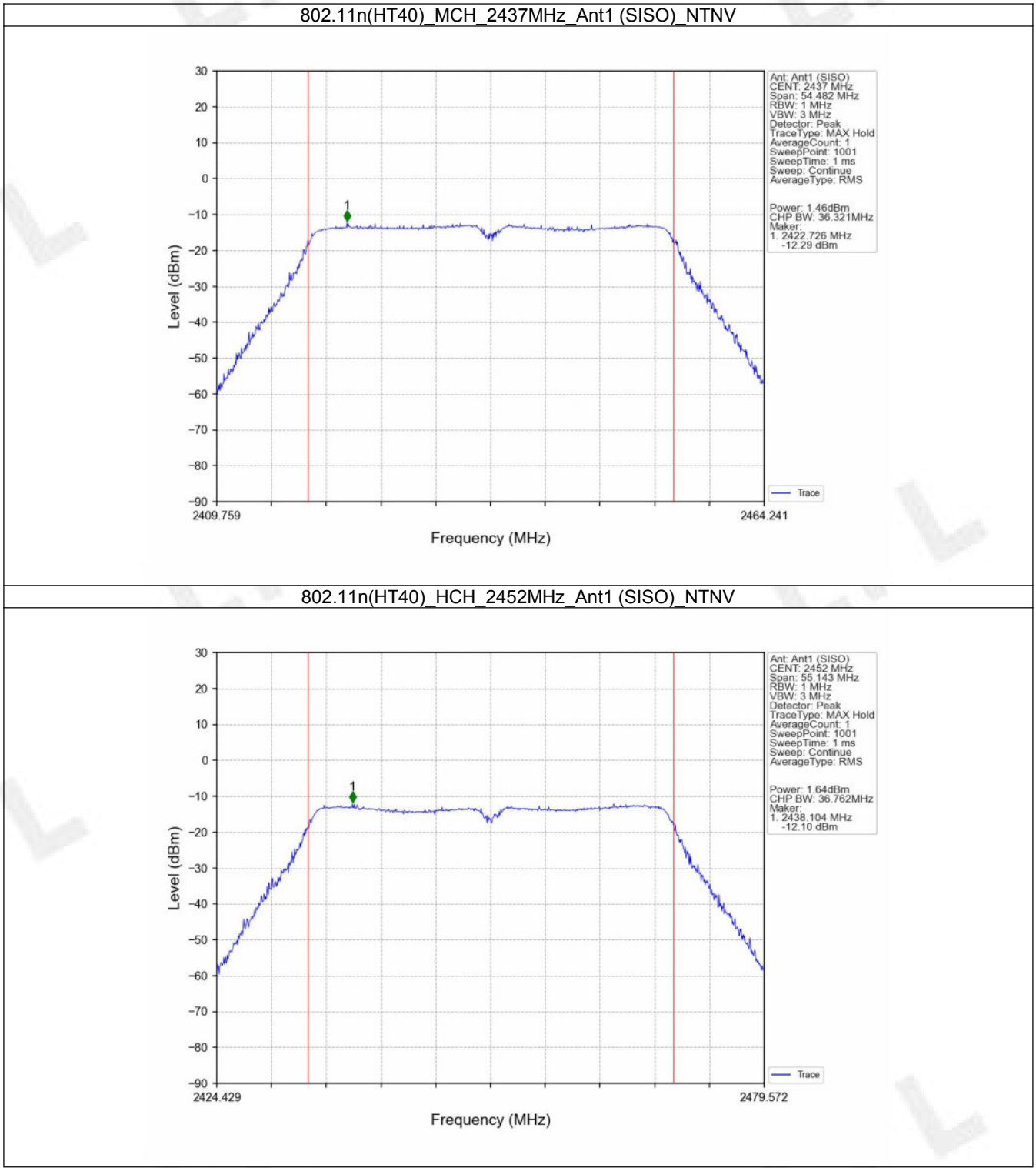
FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

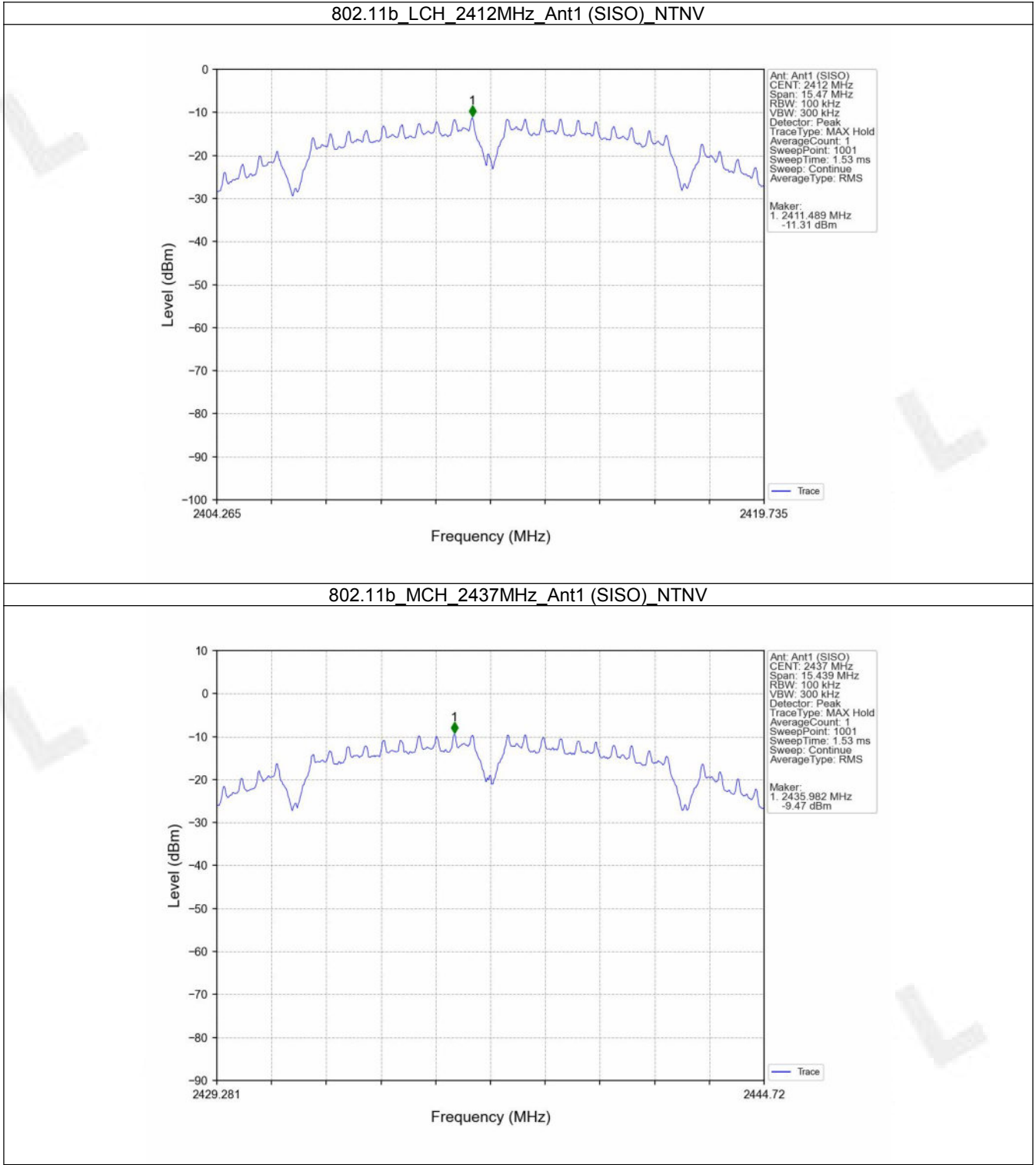
Mode	TX Type	Frequency (MHz)	Maximum PSD		Verdict
			ANT1(dBm/100kHz)	Limit(dBm/3kHz)	
802.11b	SISO	2412	-11.31	<=8	Pass
		2437	-9.47	<=8	Pass
		2462	-9.36	<=8	Pass
802.11g	SISO	2412	-17.70	<=8	Pass
		2437	-16.74	<=8	Pass
		2462	-16.94	<=8	Pass
802.11n (HT20)	SISO	2412	-17.48	<=8	Pass
		2437	-16.55	<=8	Pass
		2462	-16.46	<=8	Pass
802.11n (HT40)	SISO	2422	-20.18	<=8	Pass
		2437	-20.31	<=8	Pass
		2452	-19.93	<=8	Pass

Note1: Antenna Gain: Ant1: 1.29dBi;

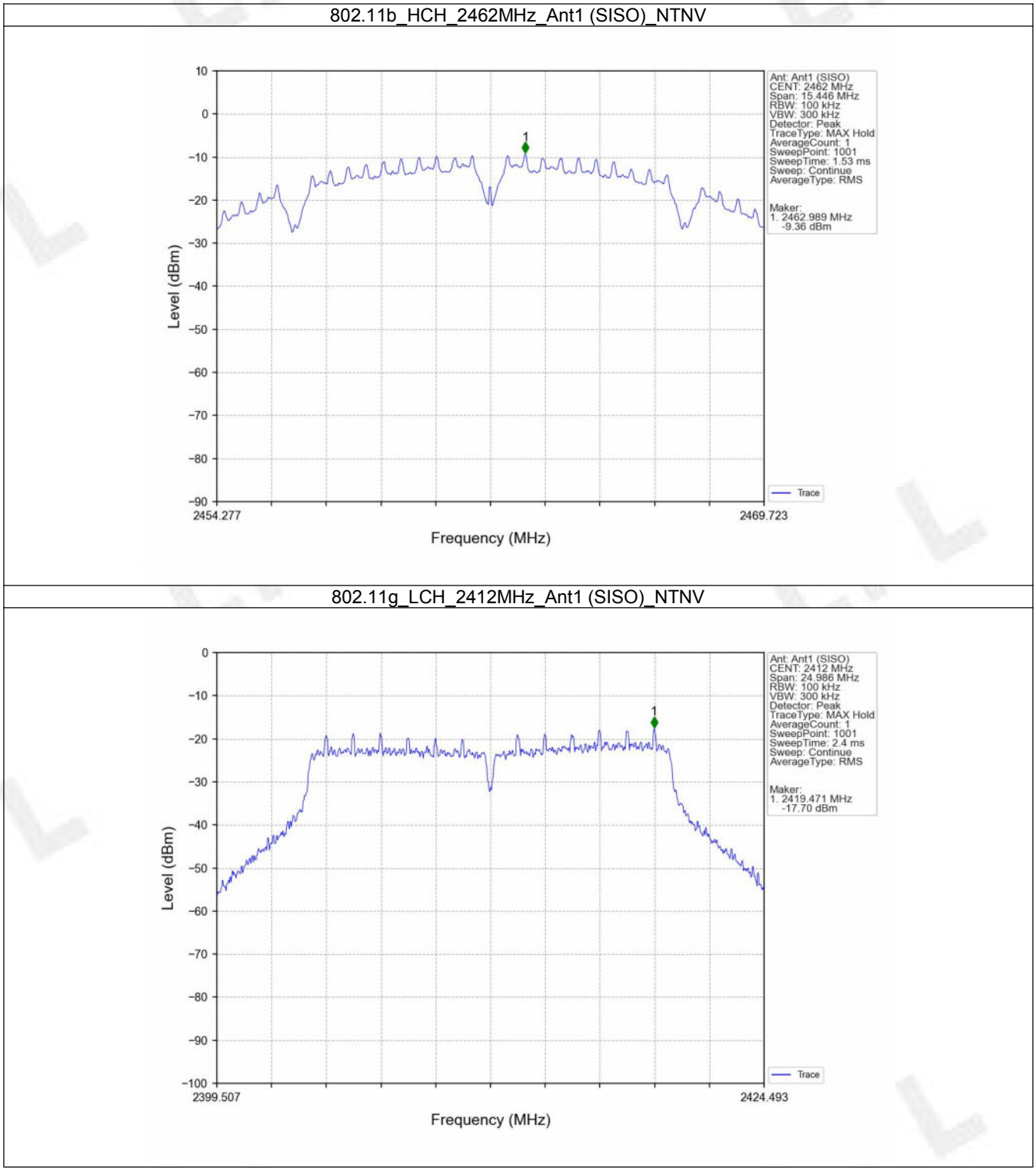
FCCID: 2ASC7DS500BT

4.2 Test Graph

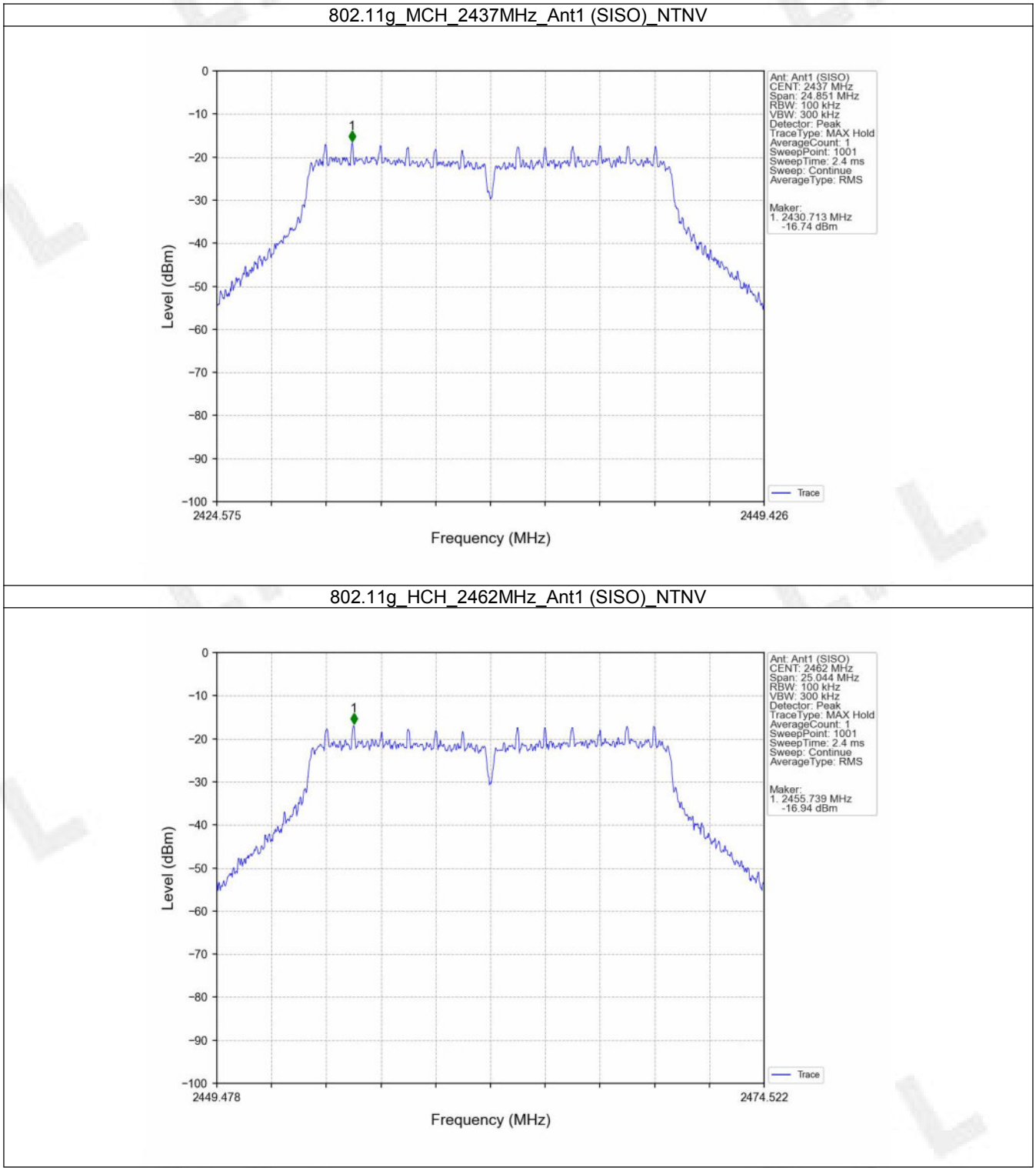
4.2.1 PSD



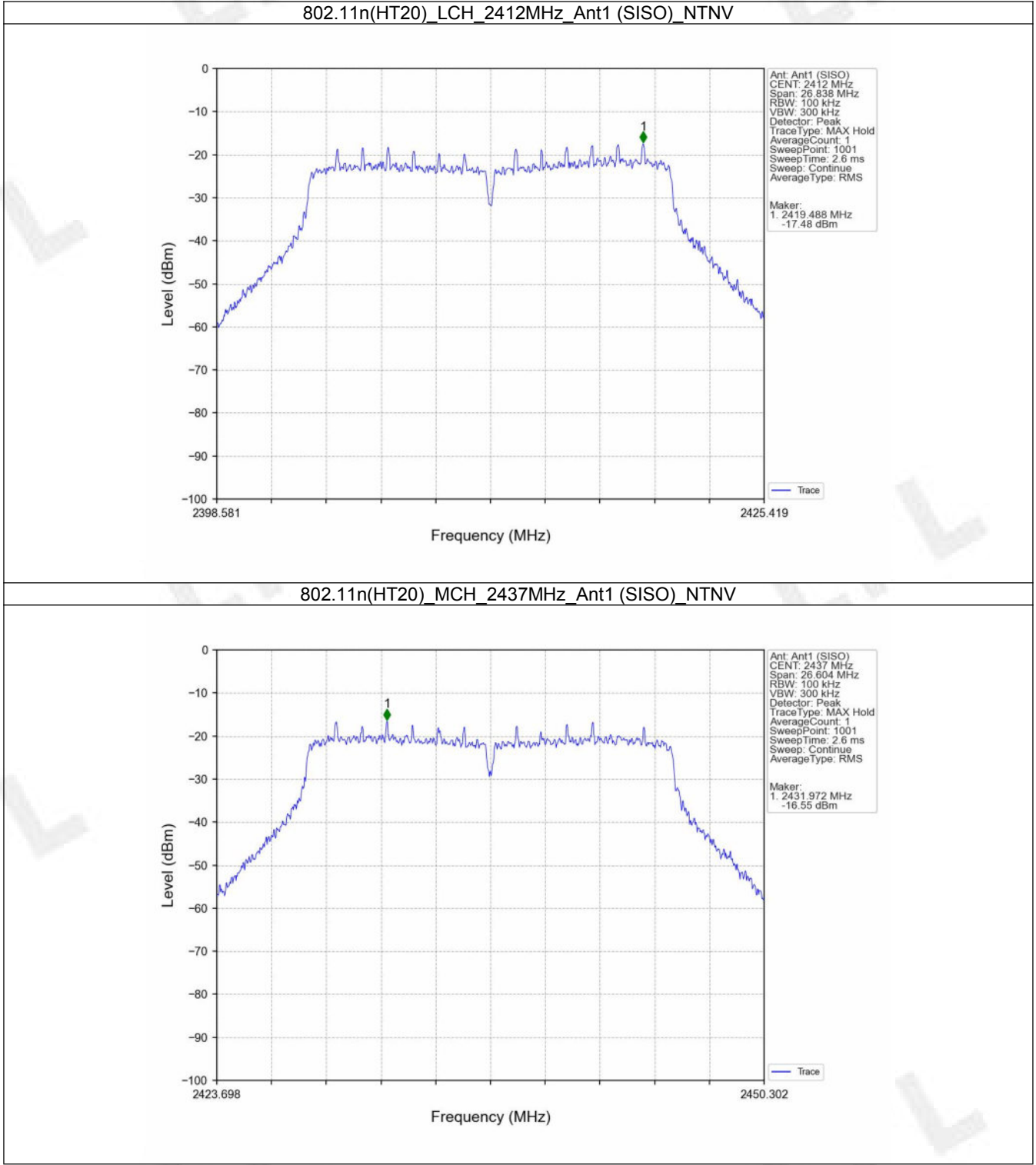
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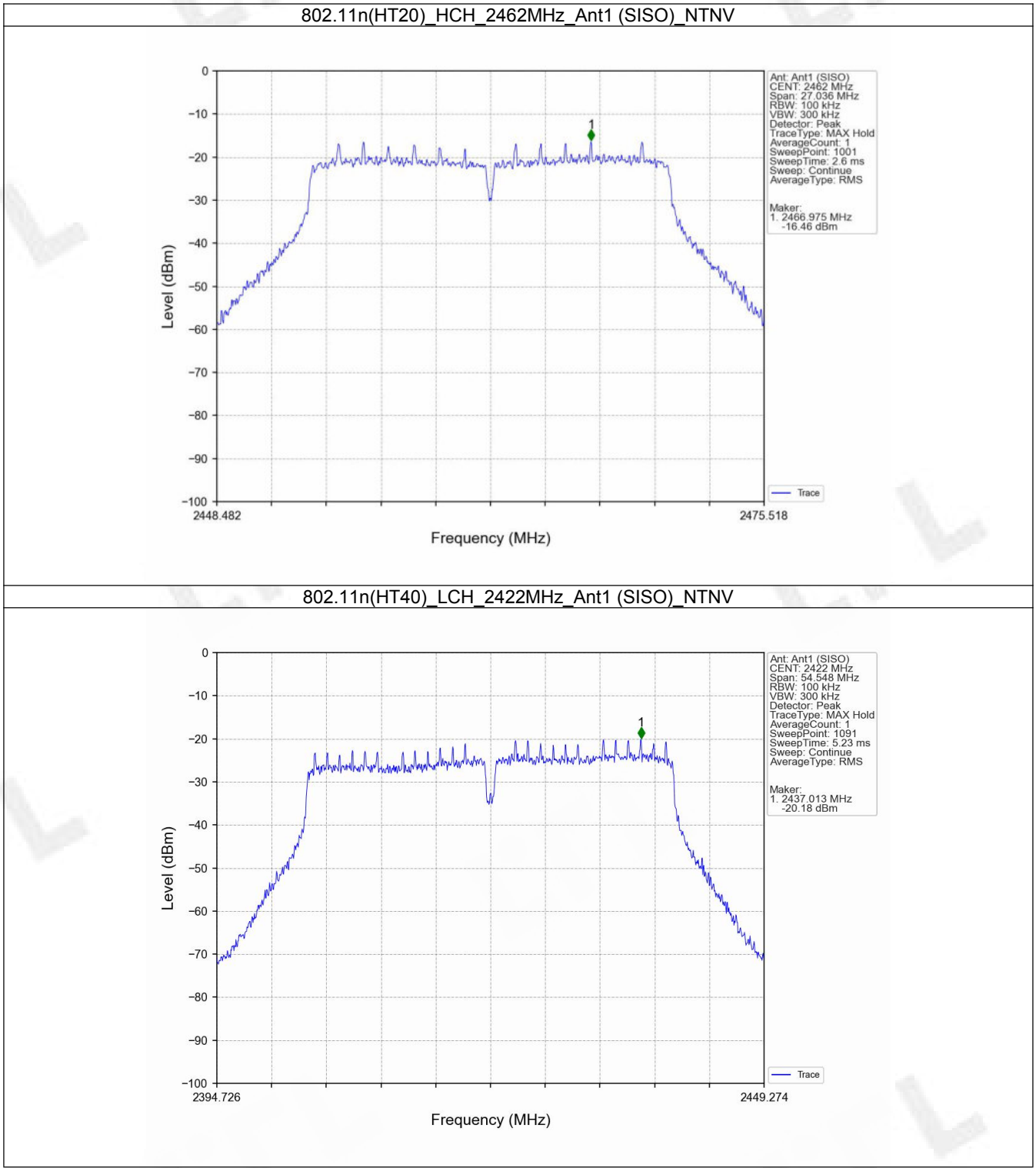
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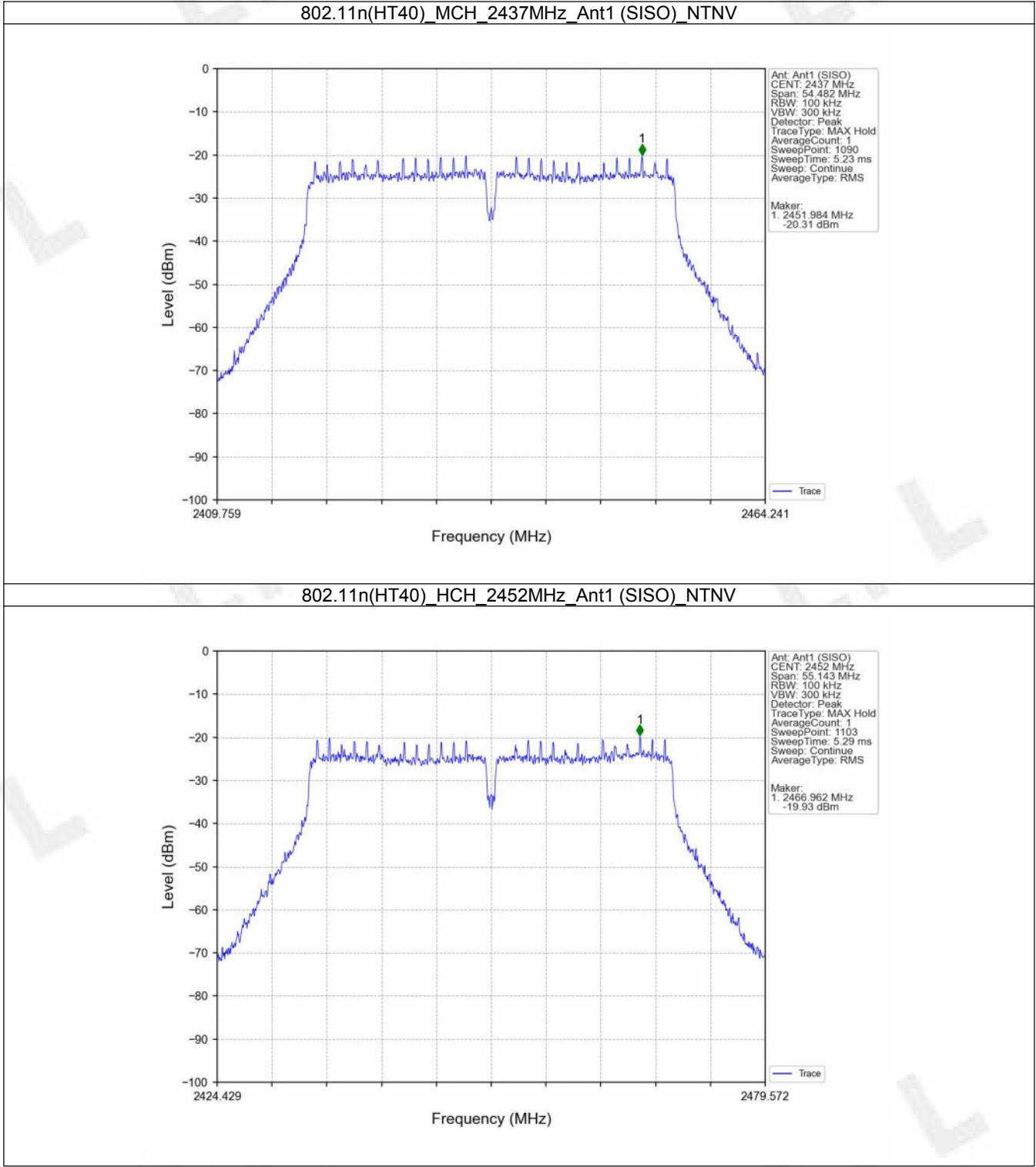
FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT



FCCID: 2ASC7DS500BT

5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	-11.40
		2437	1	-9.49
		2462	1	-9.59
802.11g	SISO	2412	1	-17.84
		2437	1	-16.90
		2462	1	-16.79
802.11n (HT20)	SISO	2412	1	-17.84
		2437	1	-16.21
		2462	1	-16.70
802.11n (HT40)	SISO	2422	1	-20.29
		2437	1	-20.01
		2452	1	-20.04

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

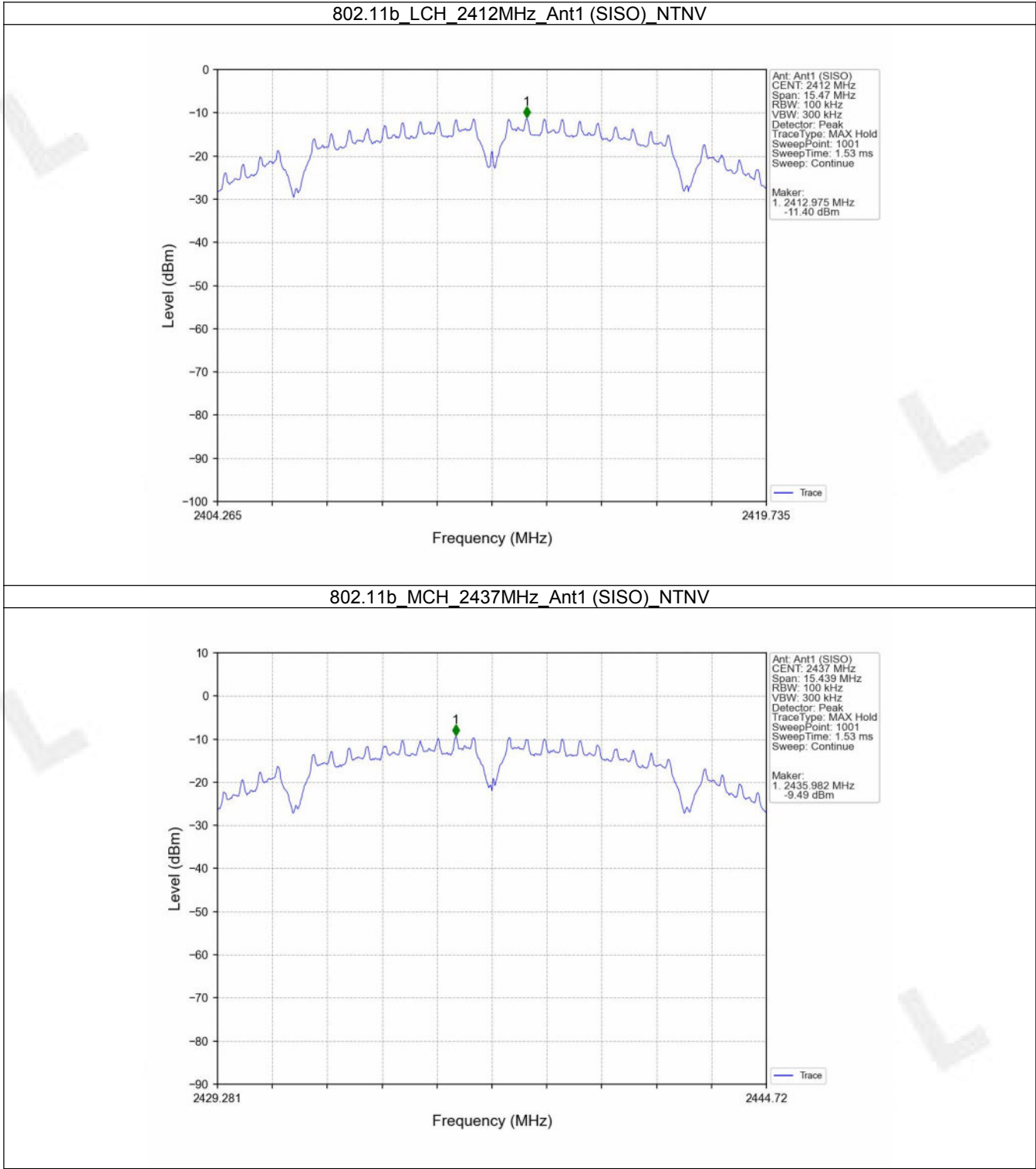
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	-9.49	-29.49	Pass
		2437	1	-9.49	-29.49	Pass
		2462	1	-9.49	-29.49	Pass
802.11g	SISO	2412	1	-16.79	-36.79	Pass
		2437	1	-16.79	-36.79	Pass
		2462	1	-16.79	-36.79	Pass
802.11n (HT20)	SISO	2412	1	-16.21	-36.21	Pass
		2437	1	-16.21	-36.21	Pass
		2462	1	-16.21	-36.21	Pass
802.11n (HT40)	SISO	2422	1	-20.01	-40.01	Pass
		2437	1	-20.01	-40.01	Pass
		2452	1	-20.01	-40.01	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.

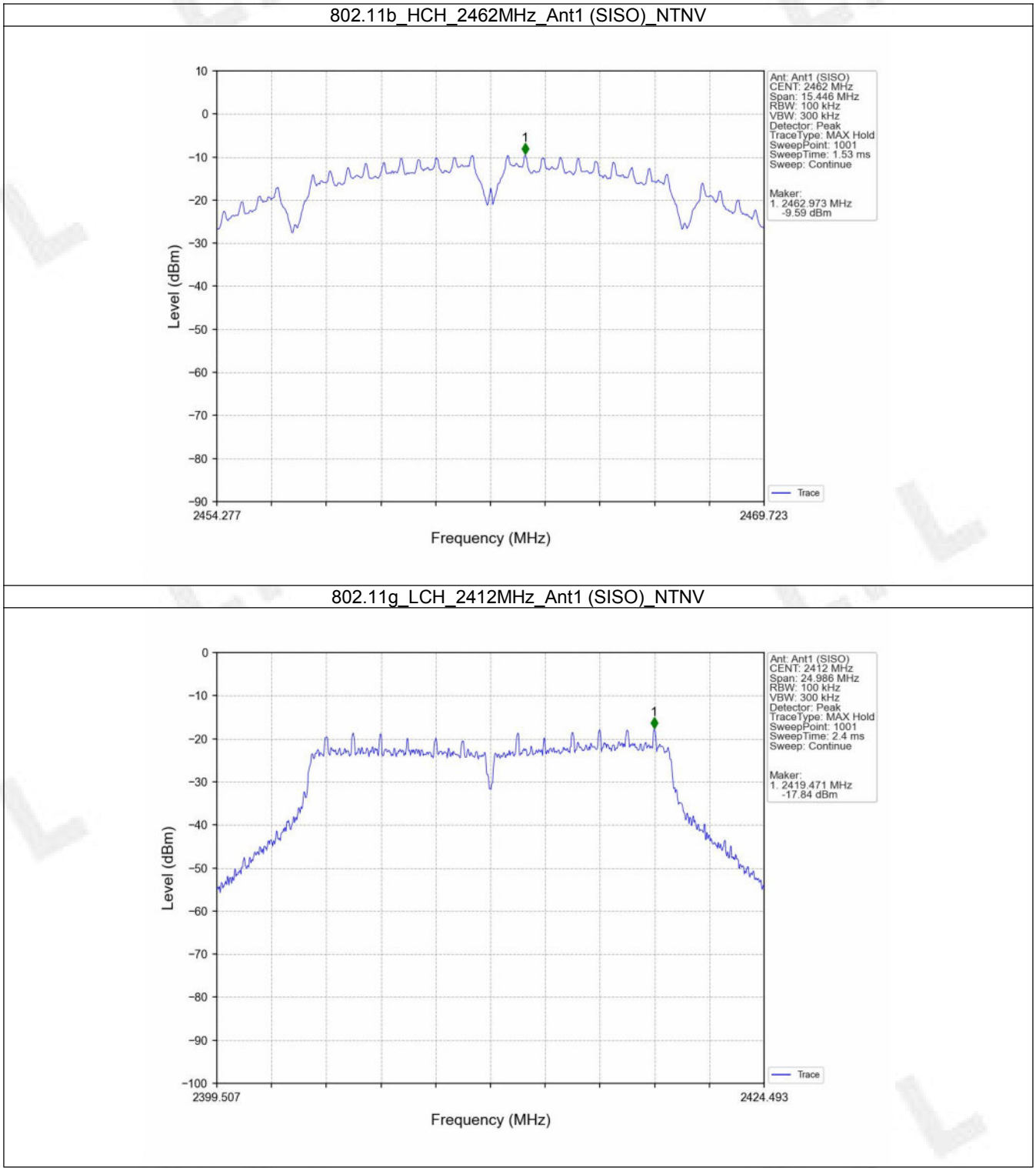
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5.2 Test Graph

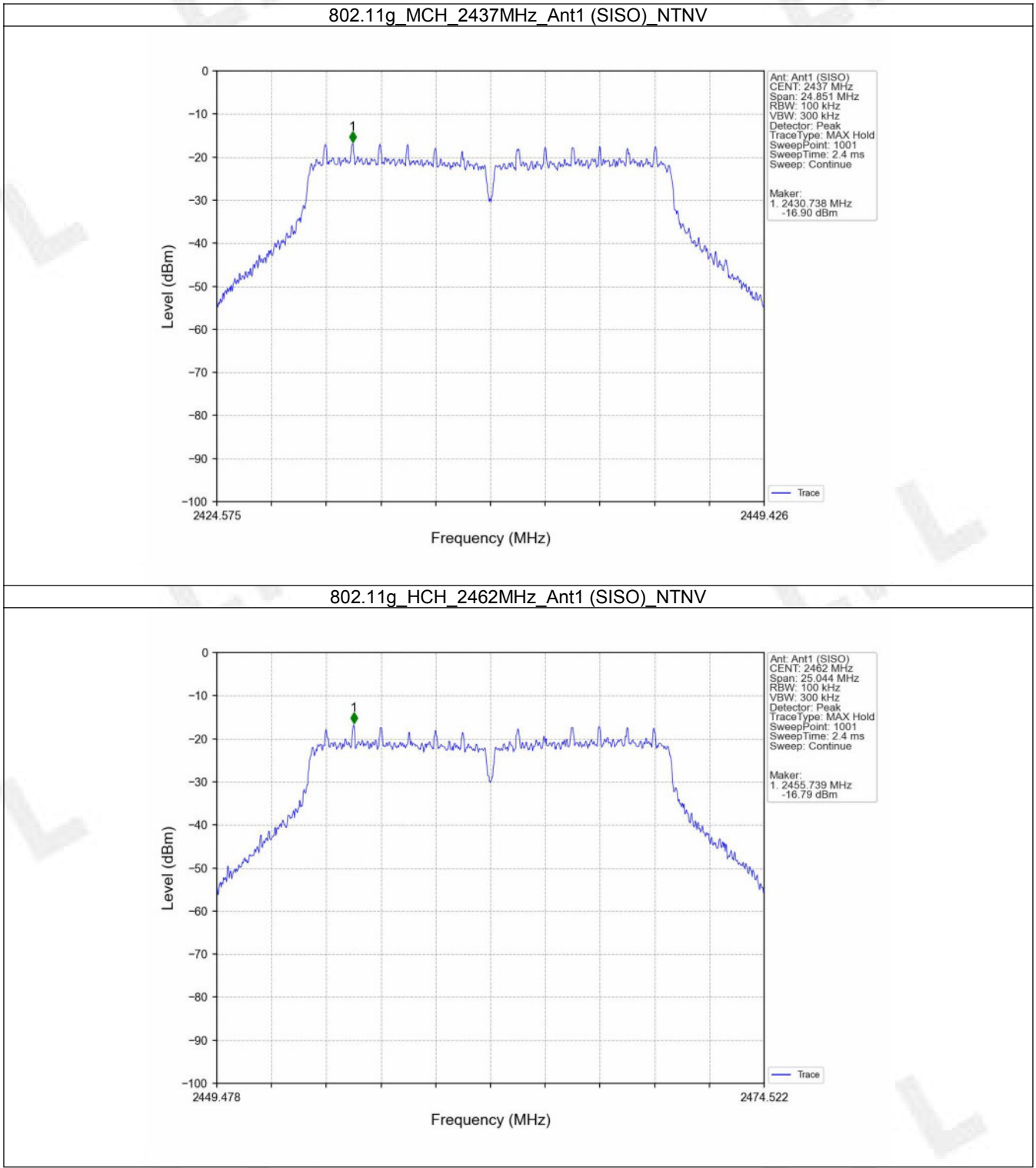
5.2.1 Ref



FCCID: 2ASC7DS500BT

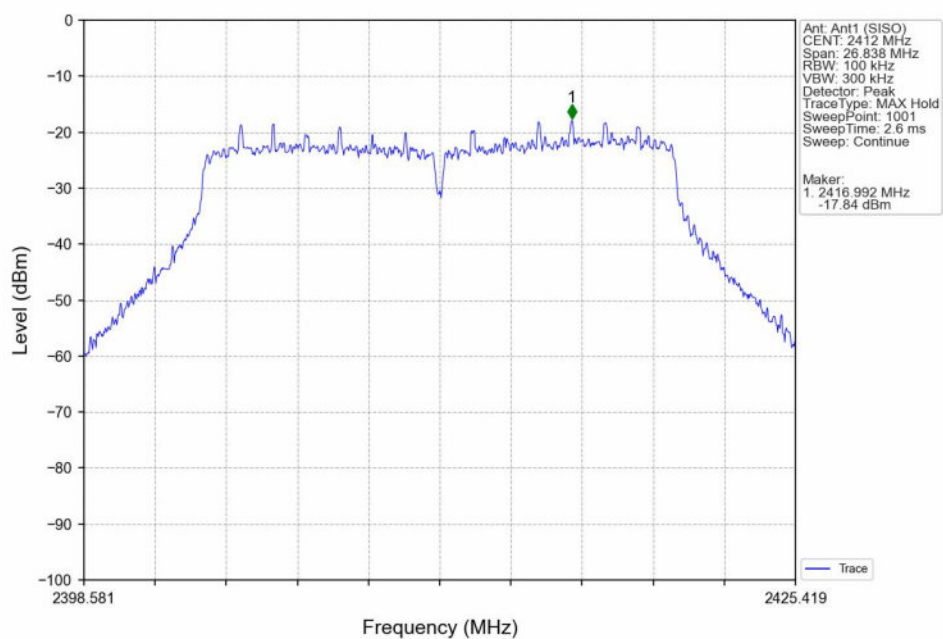


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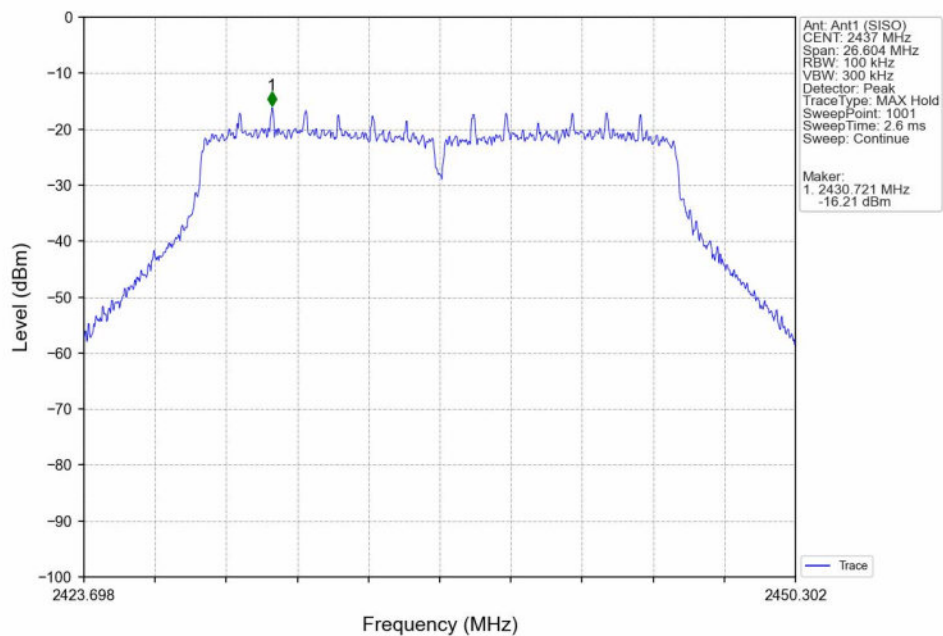


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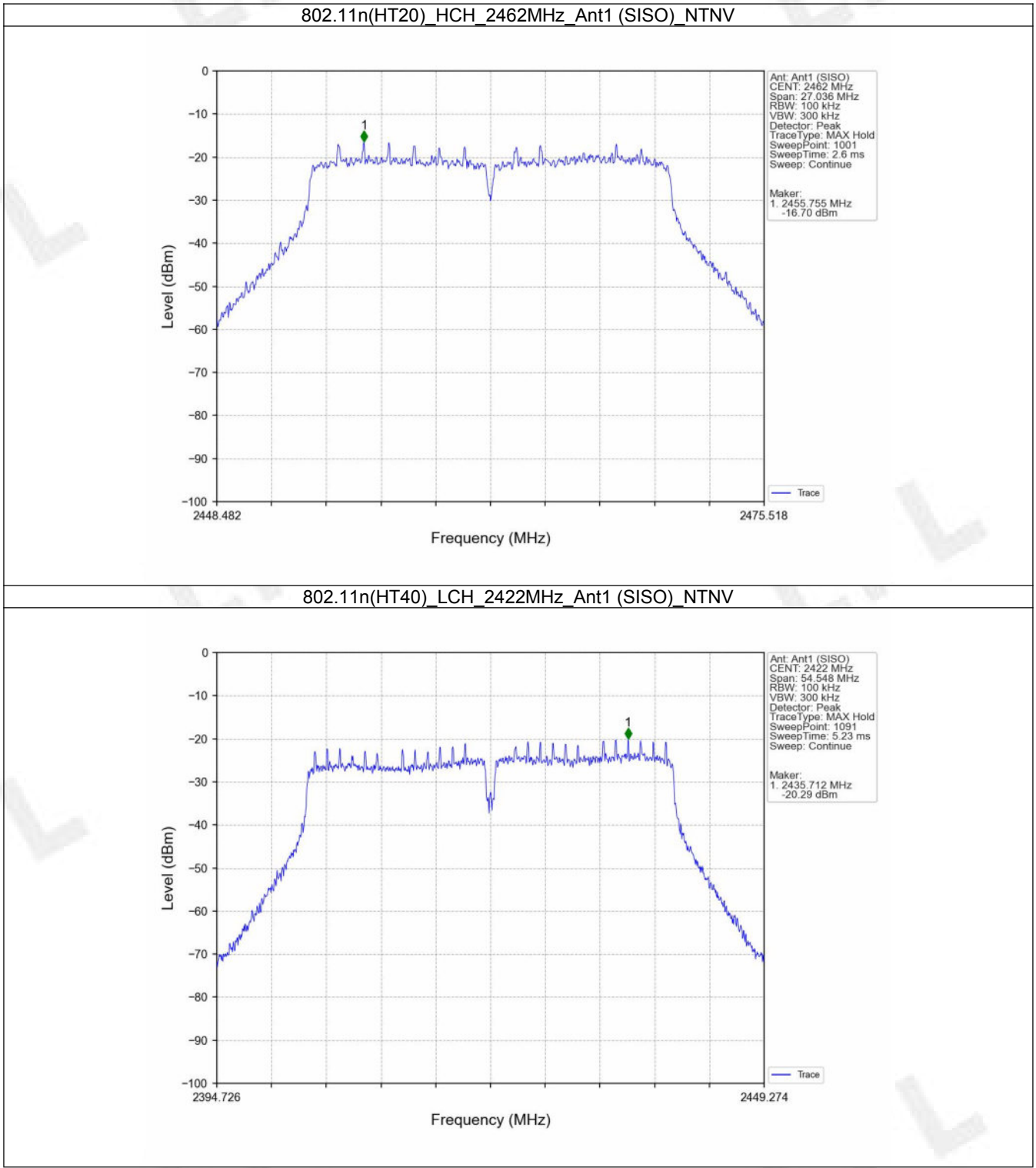
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



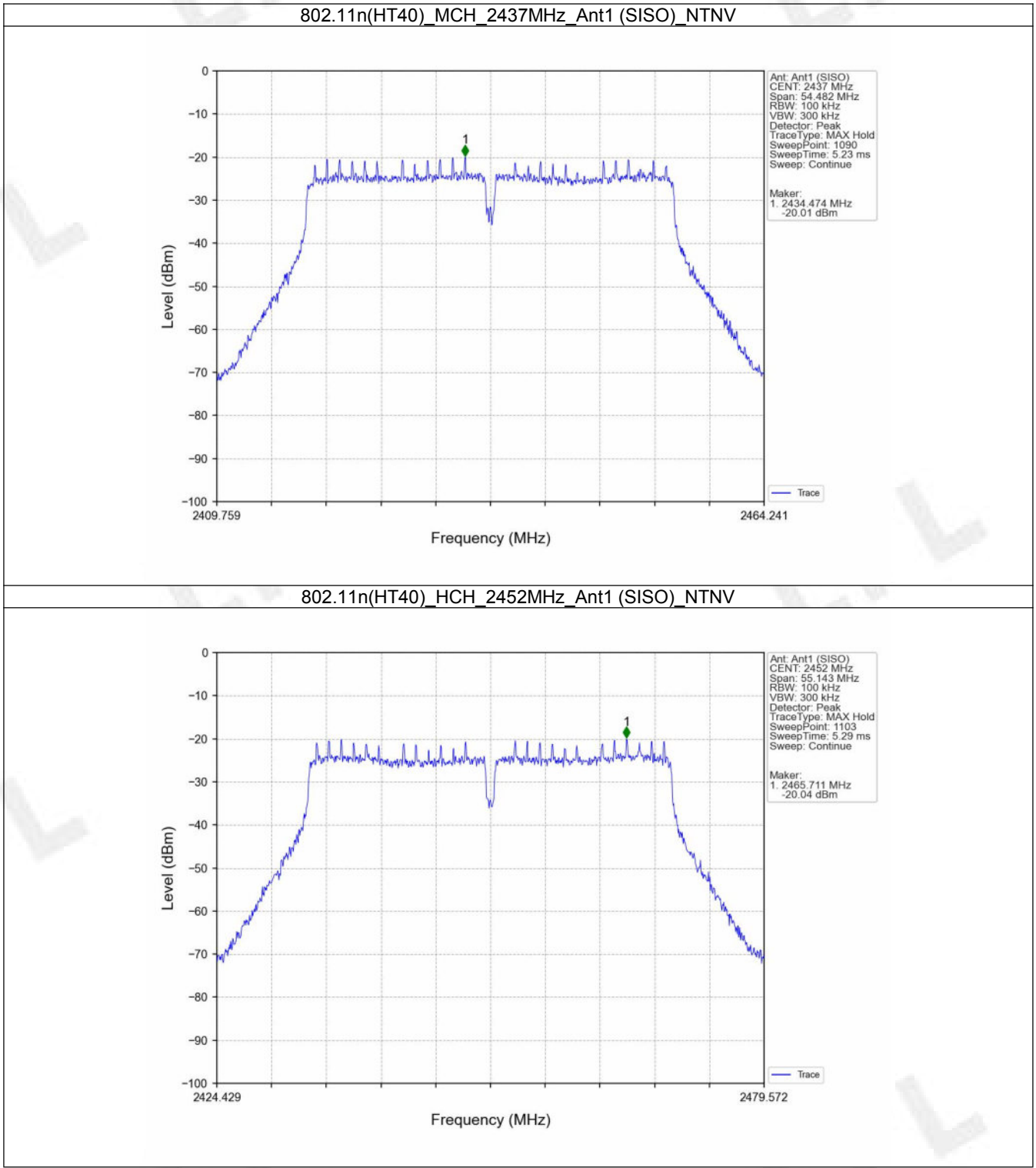
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



FCCID: 2ASC7DS500BT

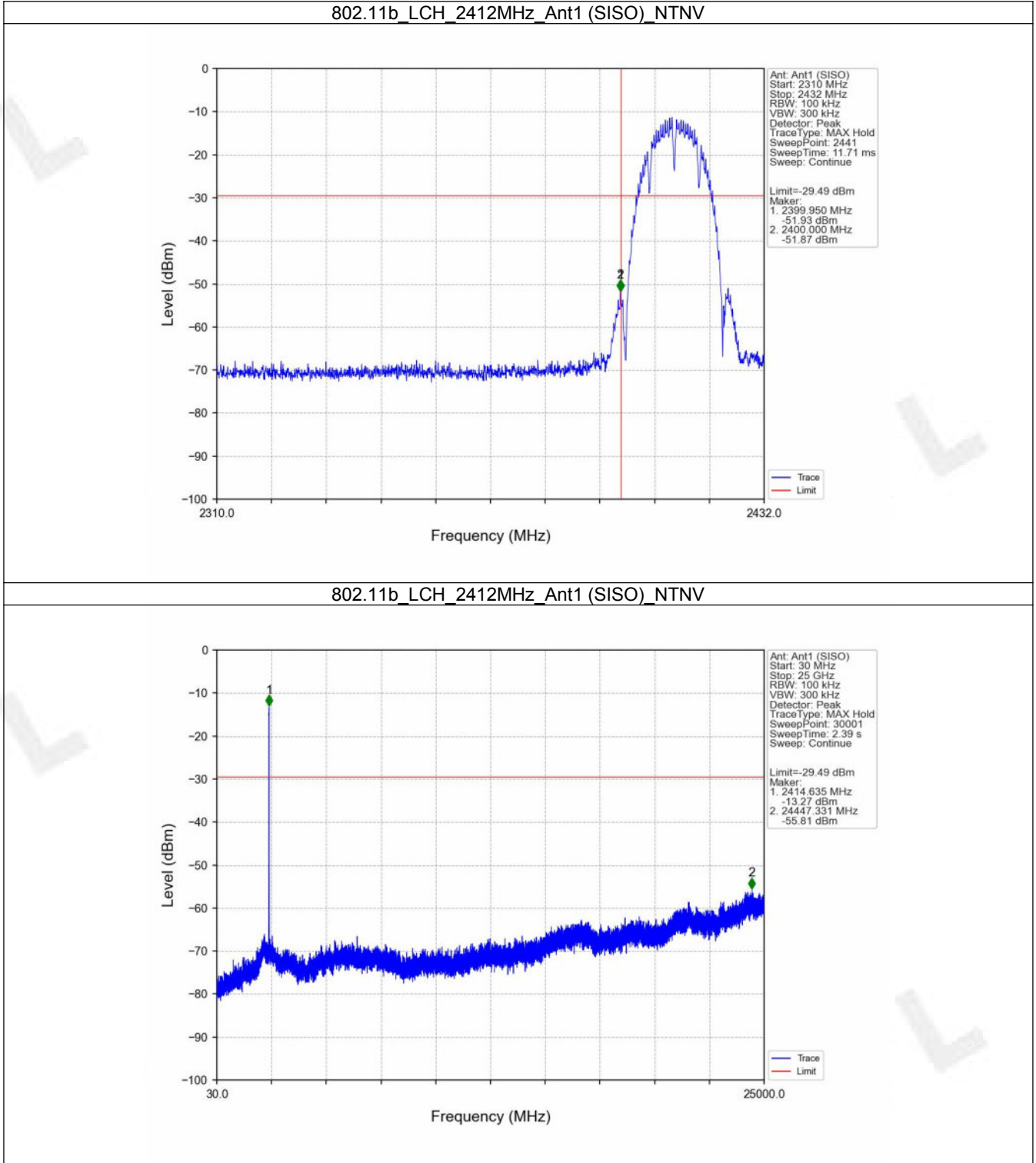


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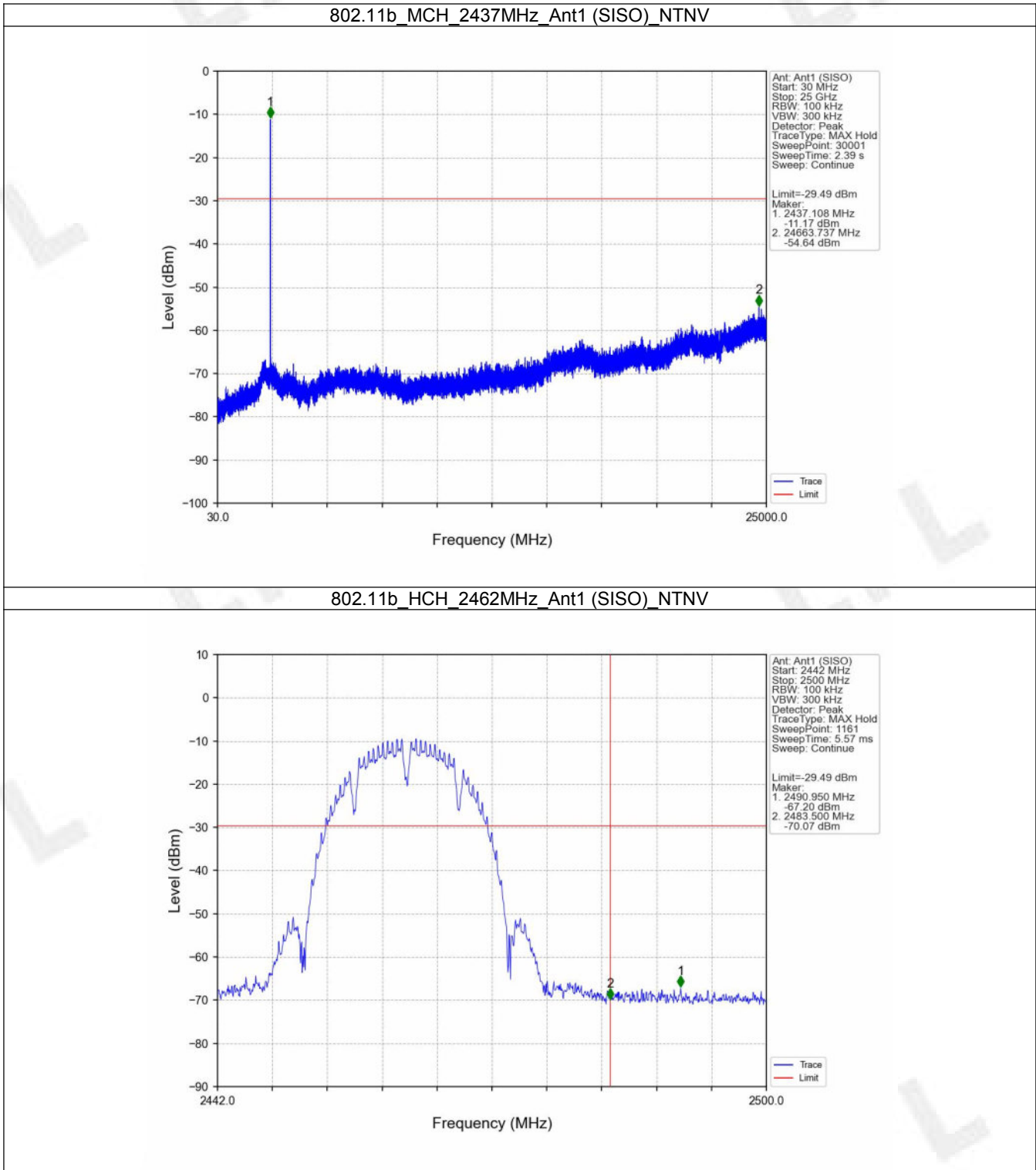


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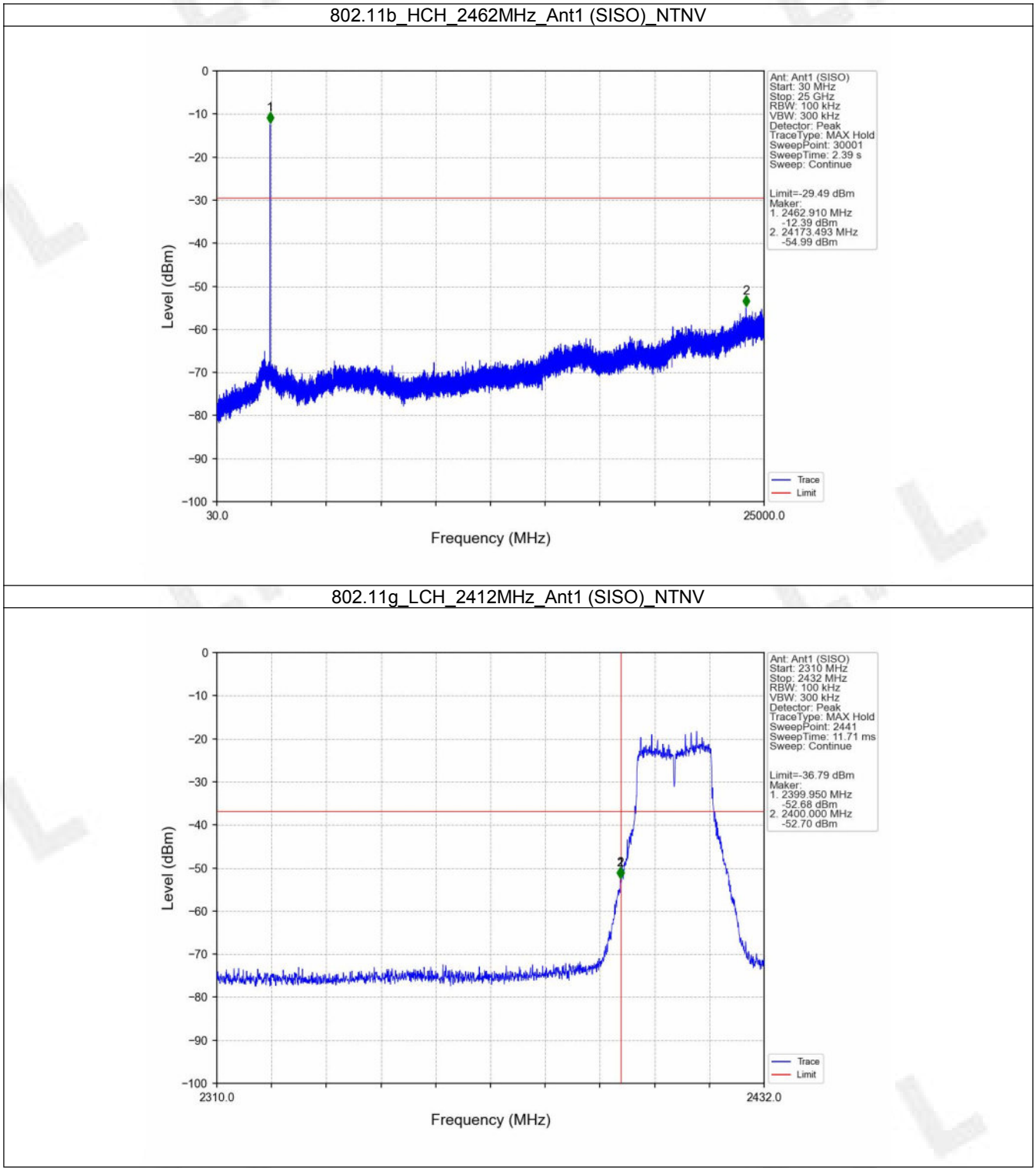
5.2.2 CSE



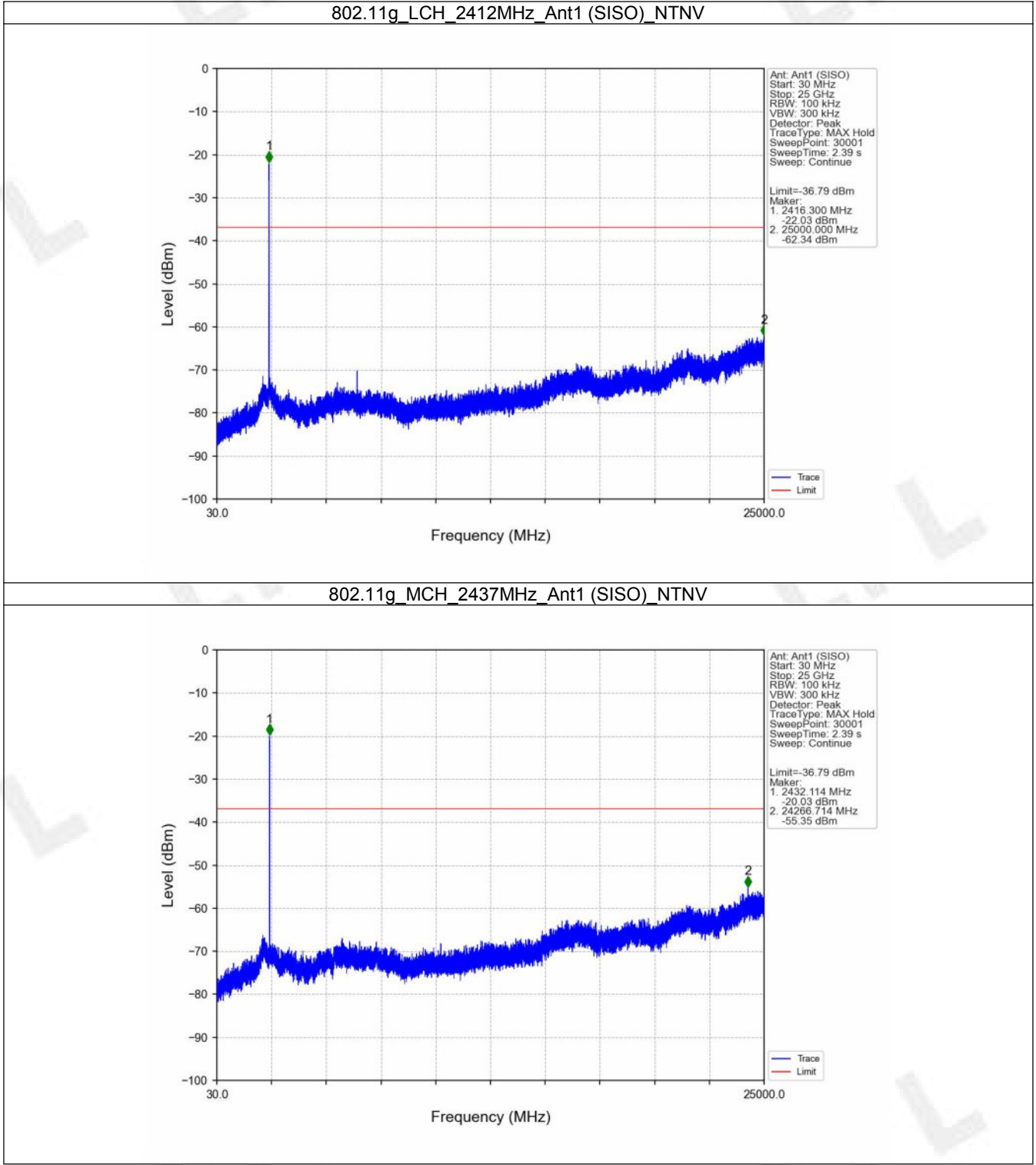
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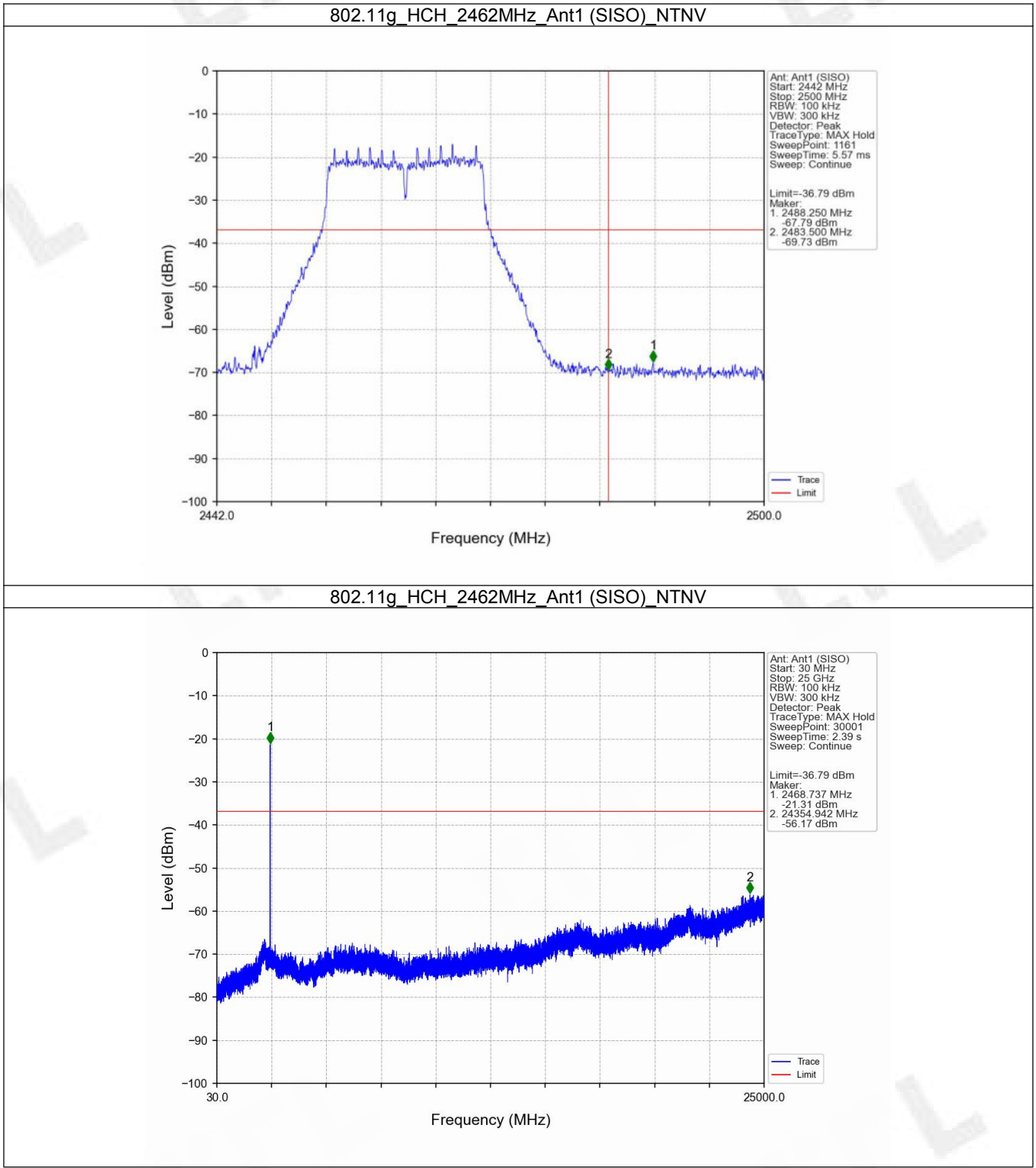
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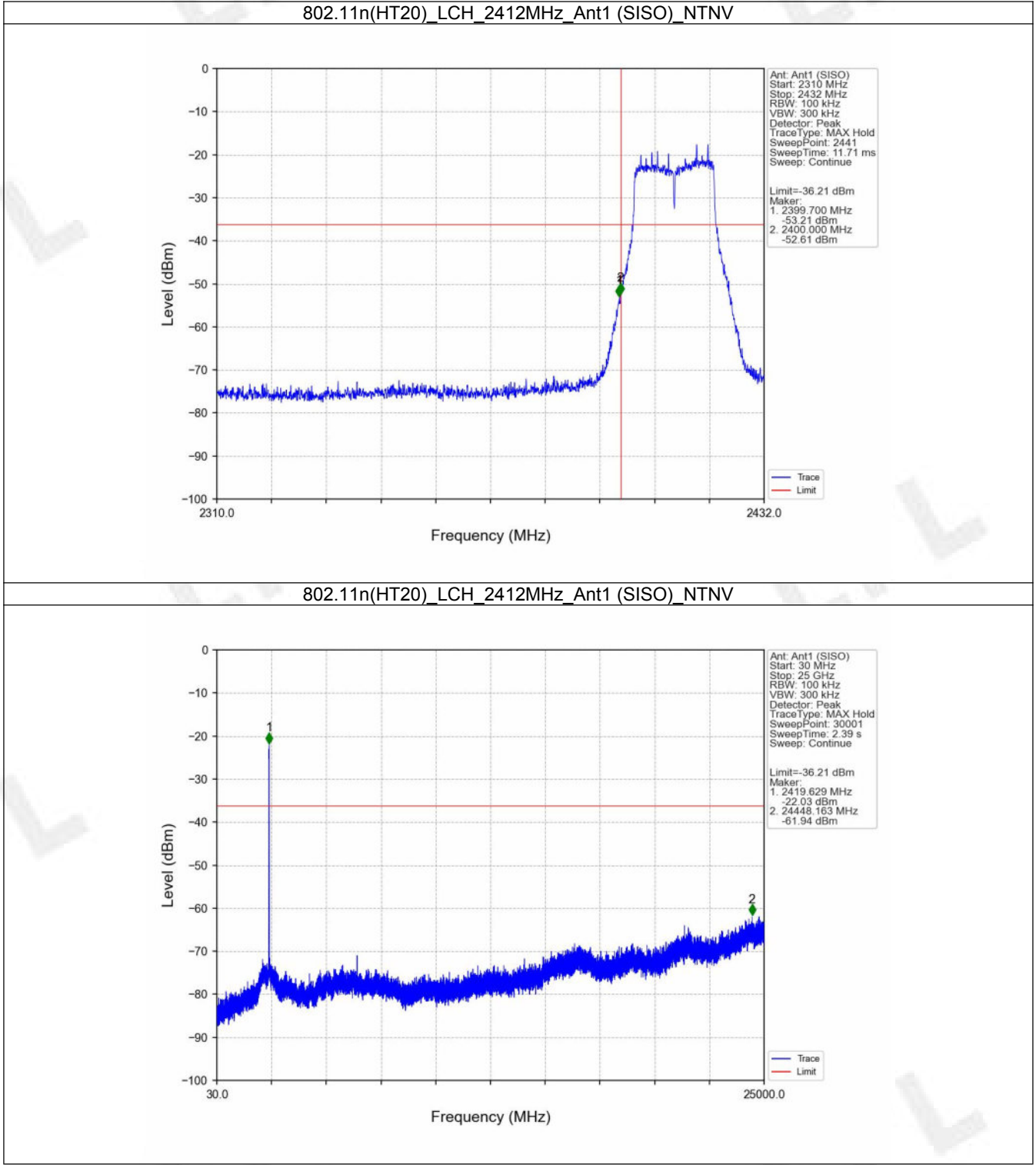
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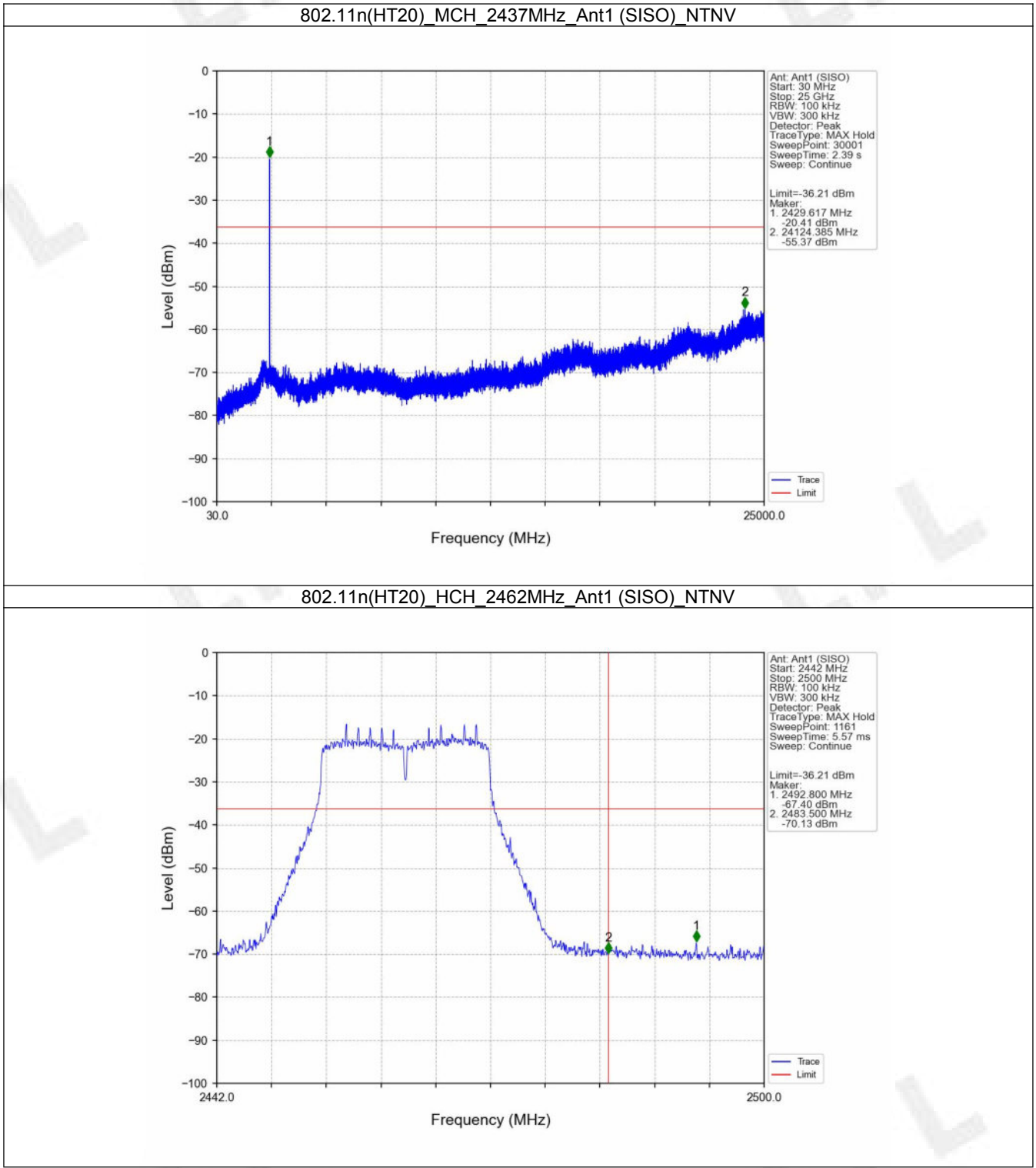
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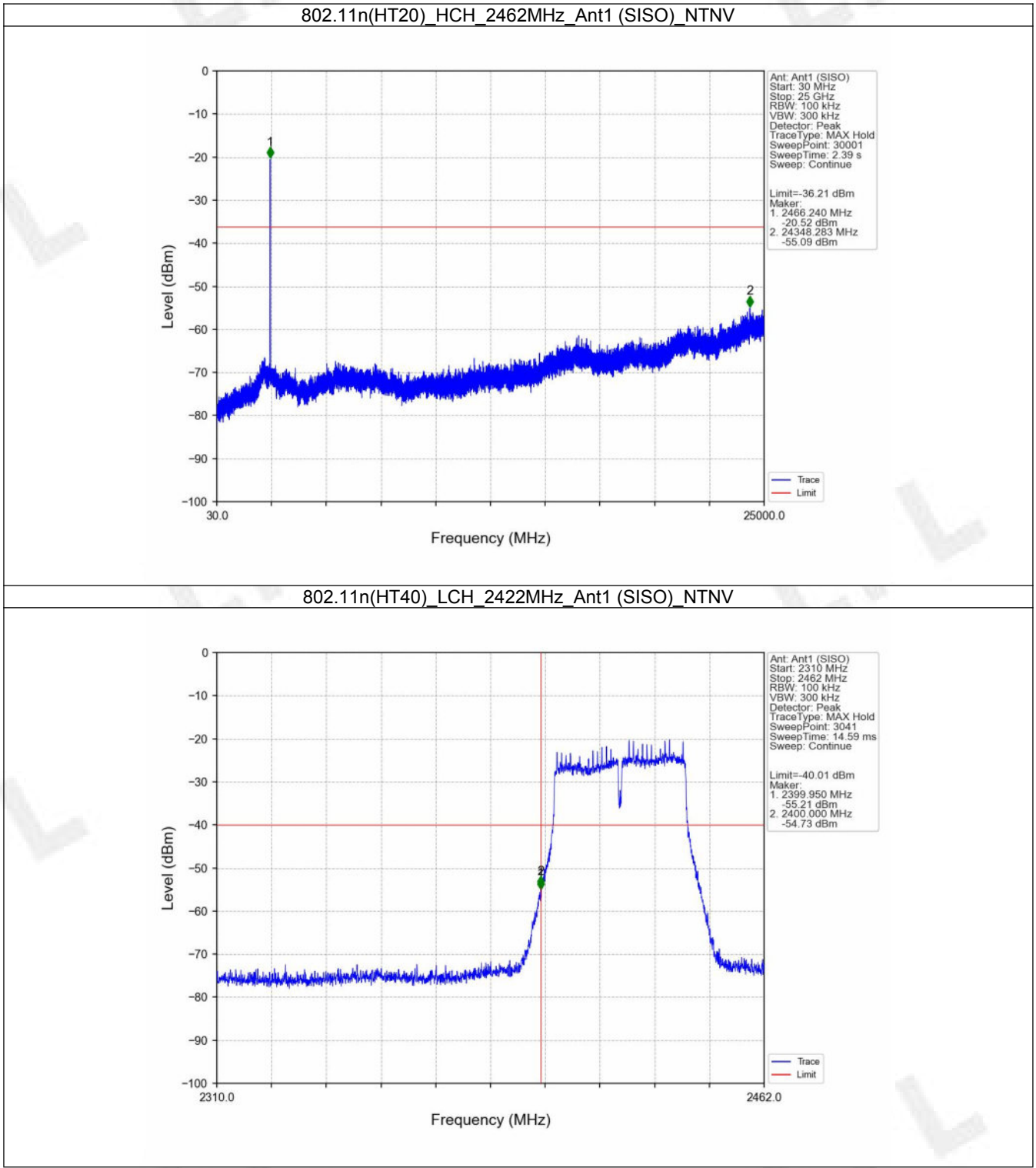
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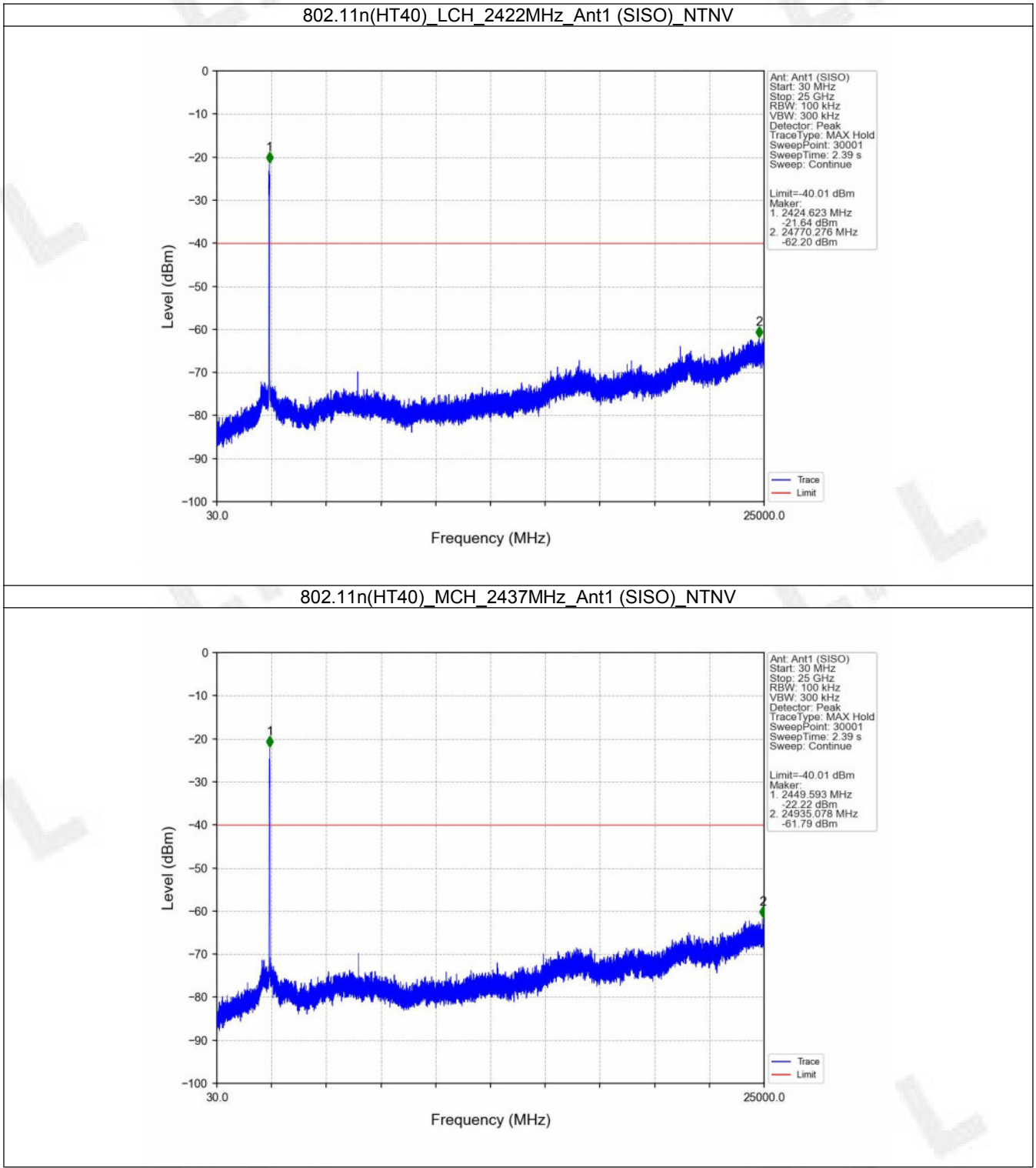
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