



Annex for 2.4G Wi-Fi

Test Report No.: CTL2409269021-WF03

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FCCID: SMQ-UWM3

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	99% Occupied Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	14.748	/	Pass
		2437	/	/	1	14.903	/	Pass
		2462	/	/	1	14.600	/	Pass
802.11g	SISO	2412	/	/	1	17.313	/	Pass
		2437	/	/	1	17.709	/	Pass
		2462	/	/	1	17.180	/	Pass
802.11n (HT20)	SISO	2412	/	/	1	18.129	/	Pass
		2437	/	/	1	18.368	/	Pass
		2462	/	/	1	17.976	/	Pass
802.11n (HT40)	SISO	2422	/	/	1	36.456	/	Pass
		2437	/	/	1	37.086	/	Pass
		2452	/	/	1	36.572	/	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	1	19.045	/	Pass
		2437	RU242	Left	1	19.169	/	Pass
		2462	RU242	Left	1	18.911	/	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	1	37.833	/	Pass
		2437	RU484	Left	1	38.369	/	Pass
		2452	RU484	Left	1	38.060	/	Pass

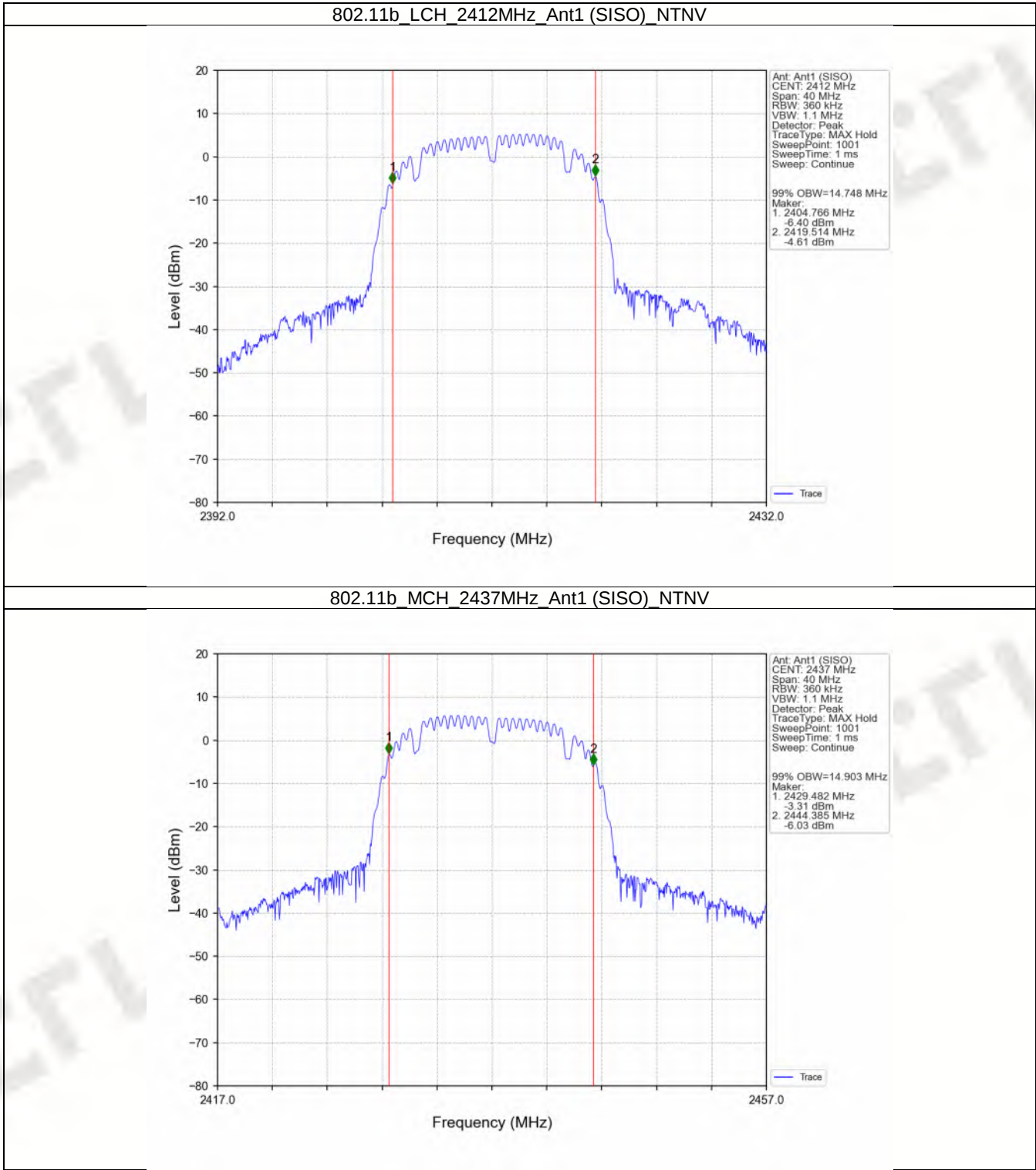
1.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	6dB Bandwidth (MHz)		Verdict
						Result	Limit	
802.11b	SISO	2412	/	/	1	12.610	≥ 0.5	Pass
		2437	/	/	1	12.636	≥ 0.5	Pass
		2462	/	/	1	12.600	≥ 0.5	Pass
802.11g	SISO	2412	/	/	1	15.700	≥ 0.5	Pass
		2437	/	/	1	15.778	≥ 0.5	Pass
		2462	/	/	1	15.765	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	/	/	1	16.240	≥ 0.5	Pass
		2437	/	/	1	16.033	≥ 0.5	Pass
		2462	/	/	1	15.807	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	/	/	1	35.193	≥ 0.5	Pass
		2437	/	/	1	36.322	≥ 0.5	Pass
		2452	/	/	1	35.194	≥ 0.5	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	1	16.937	≥ 0.5	Pass
		2437	RU242	Left	1	18.273	≥ 0.5	Pass
		2462	RU242	Left	1	17.396	≥ 0.5	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	1	35.446	≥ 0.5	Pass
		2437	RU484	Left	1	37.541	≥ 0.5	Pass
		2452	RU484	Left	1	35.952	≥ 0.5	Pass

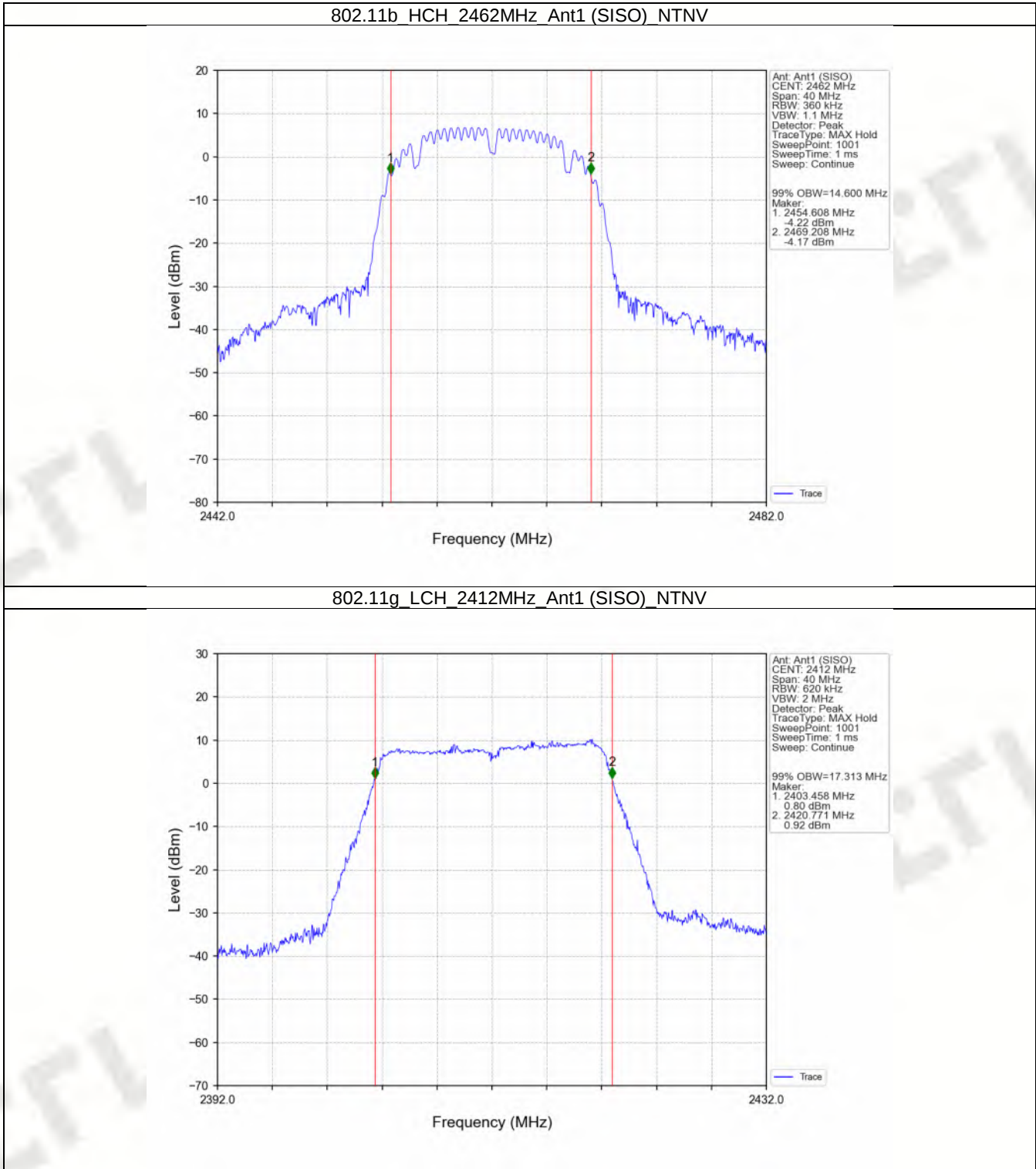
FCCID: SMQ-UWM3

1.2 Test Graph

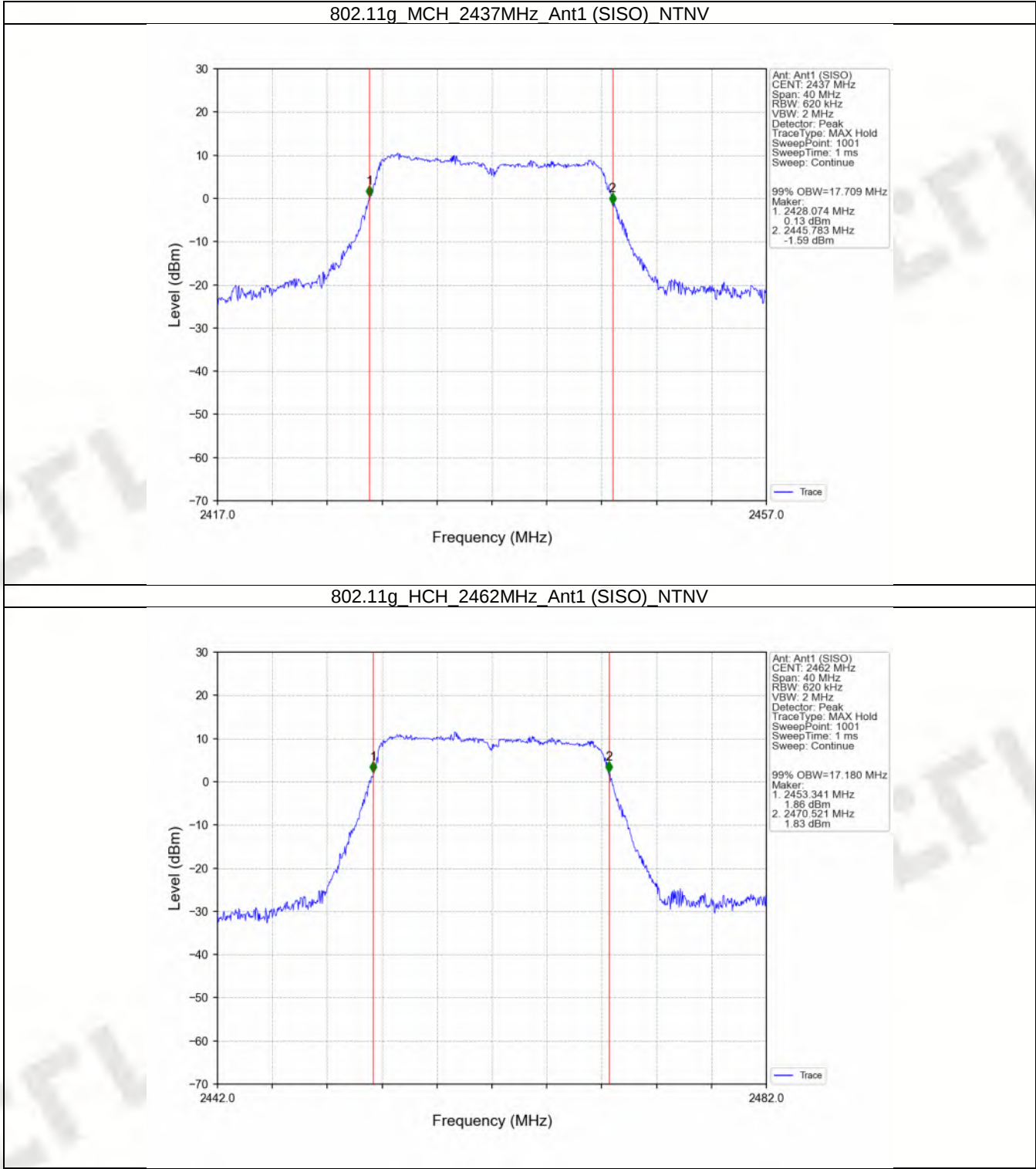
1.2.1 OBW



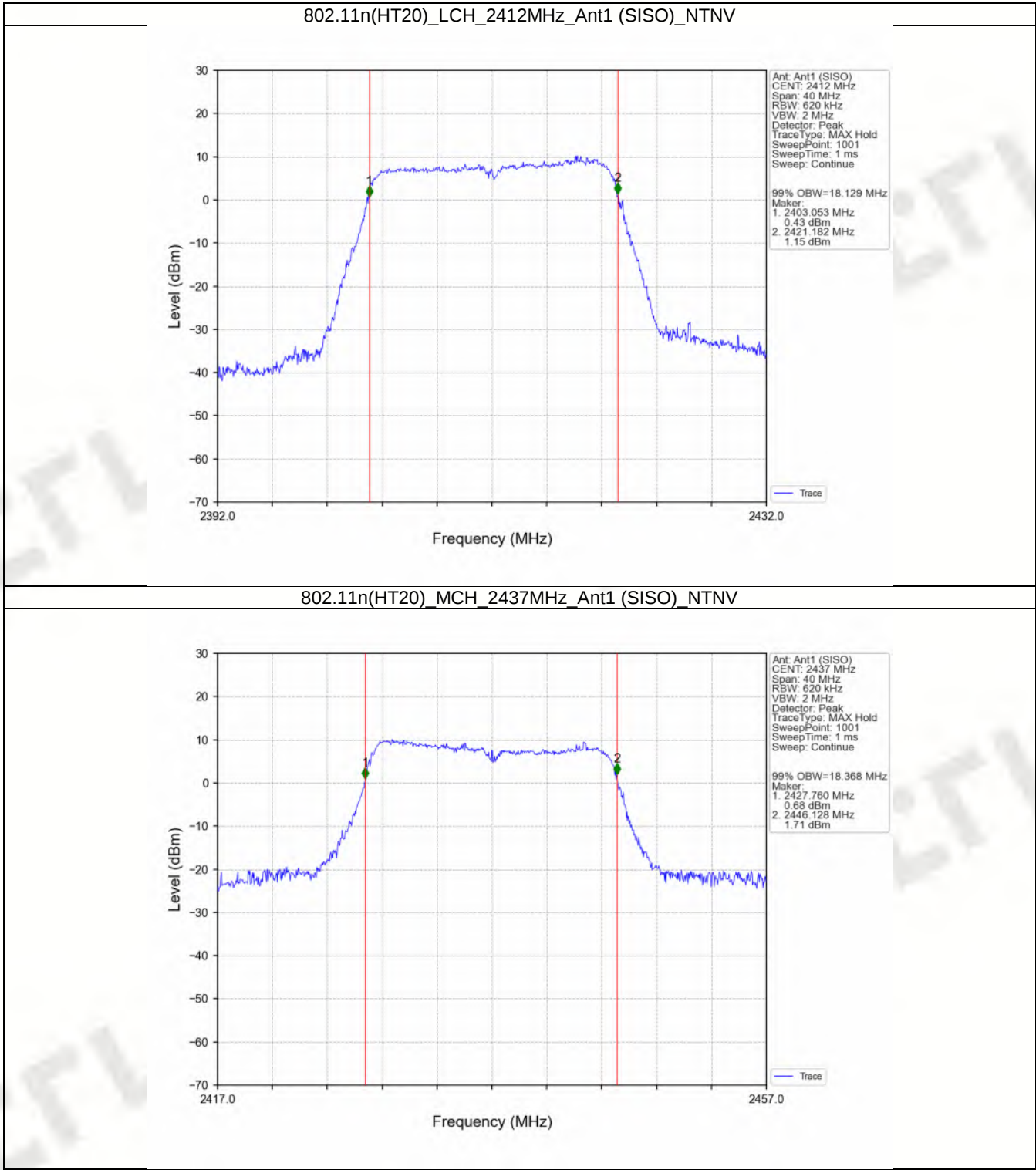
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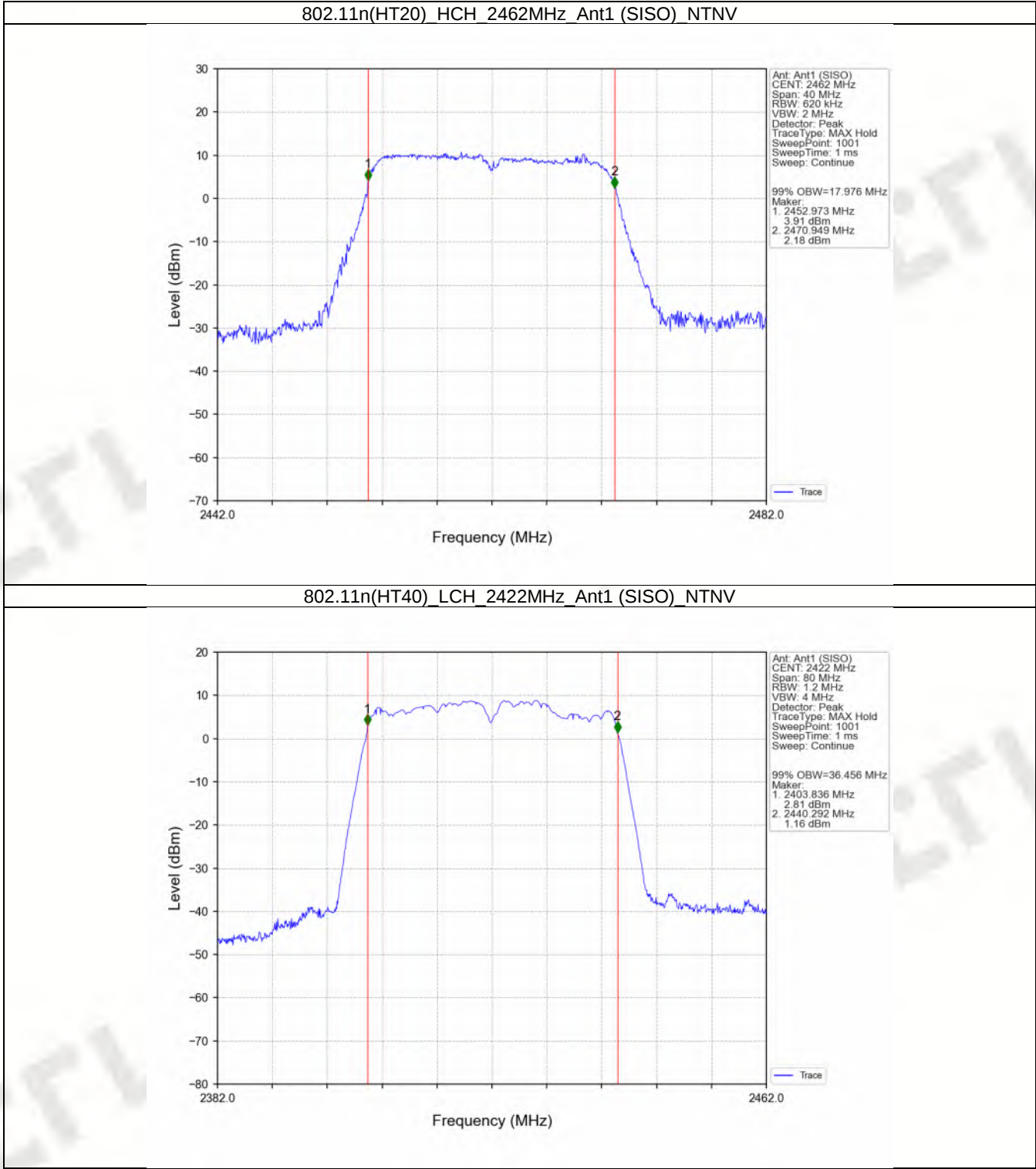
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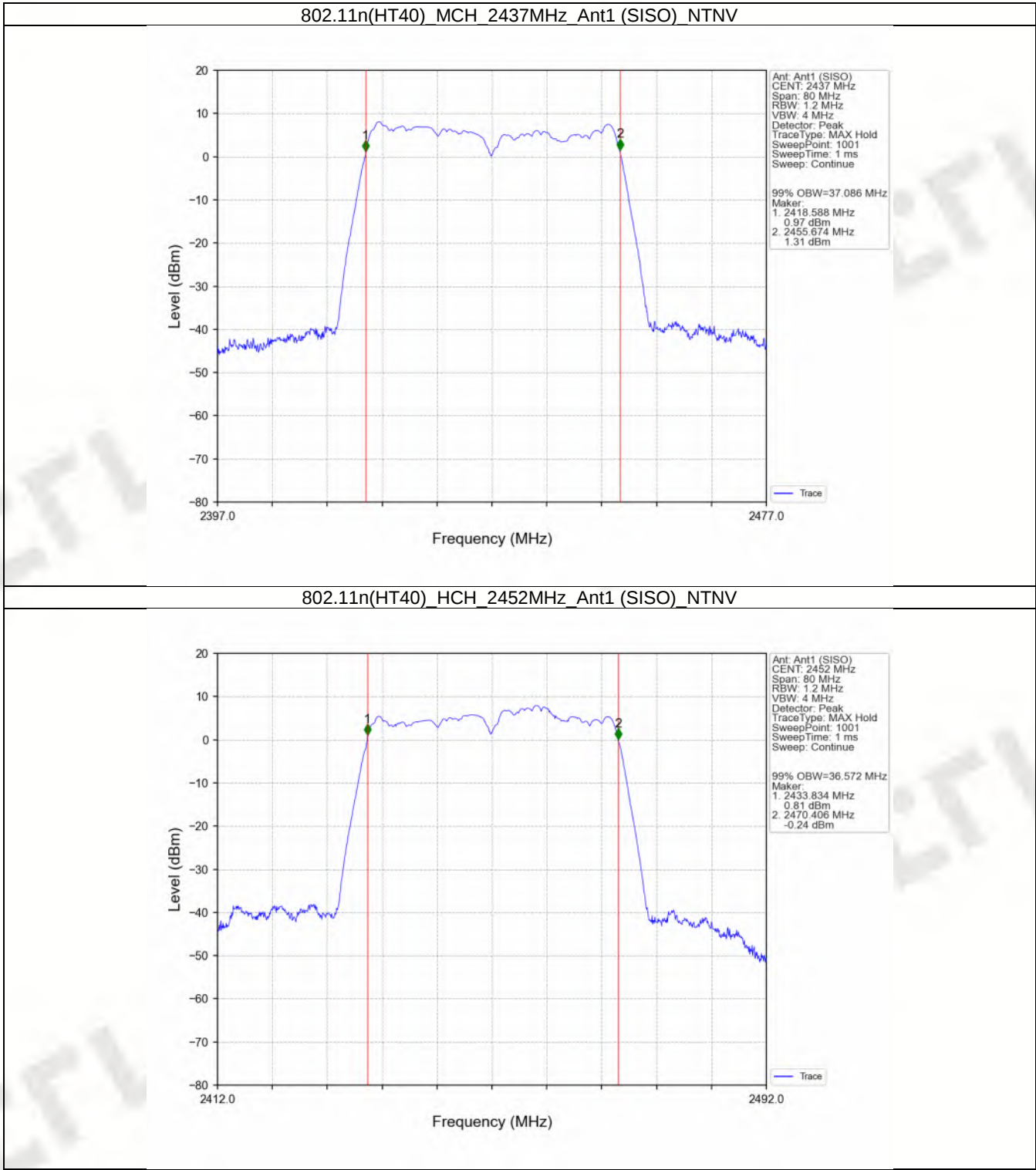
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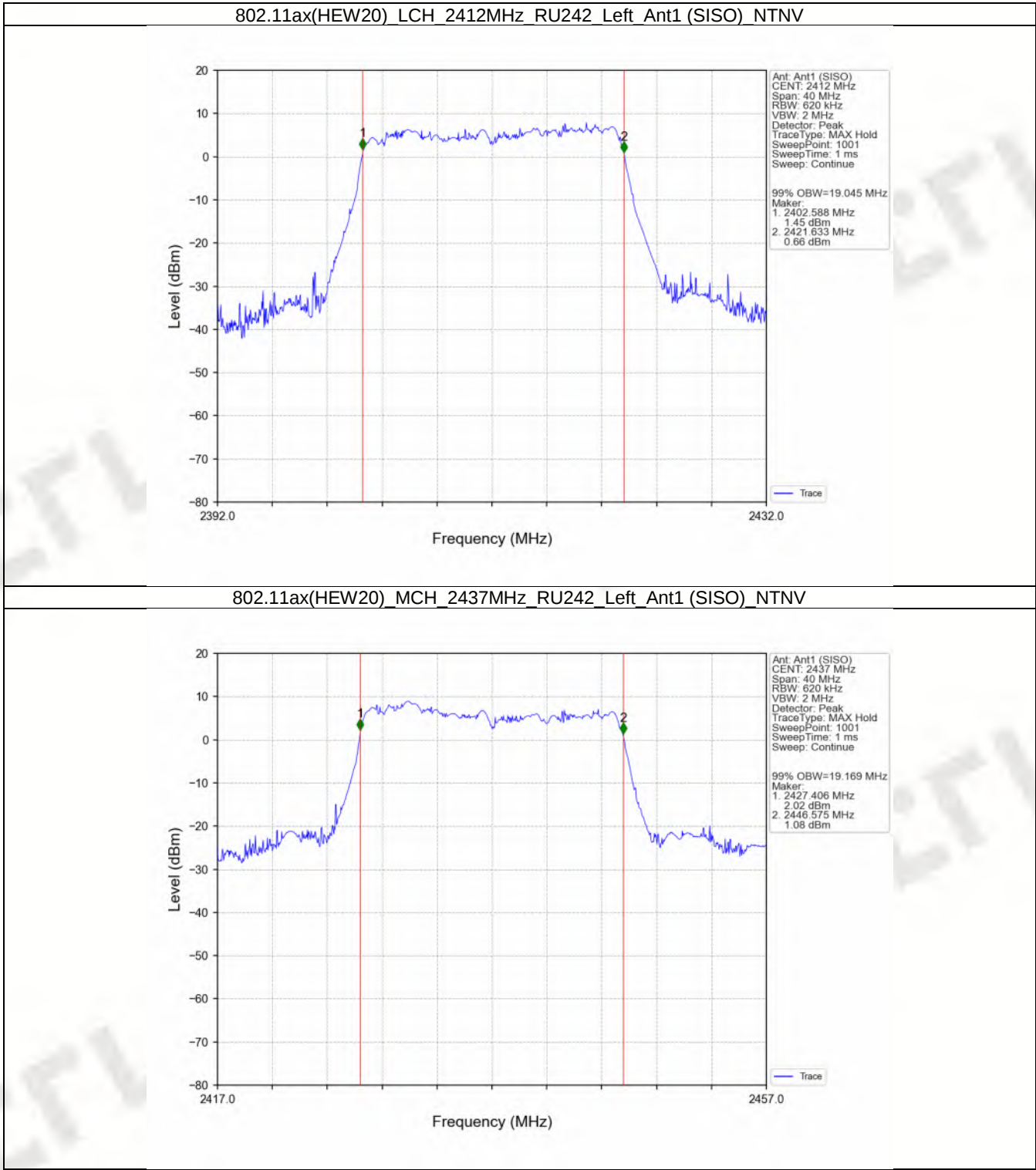
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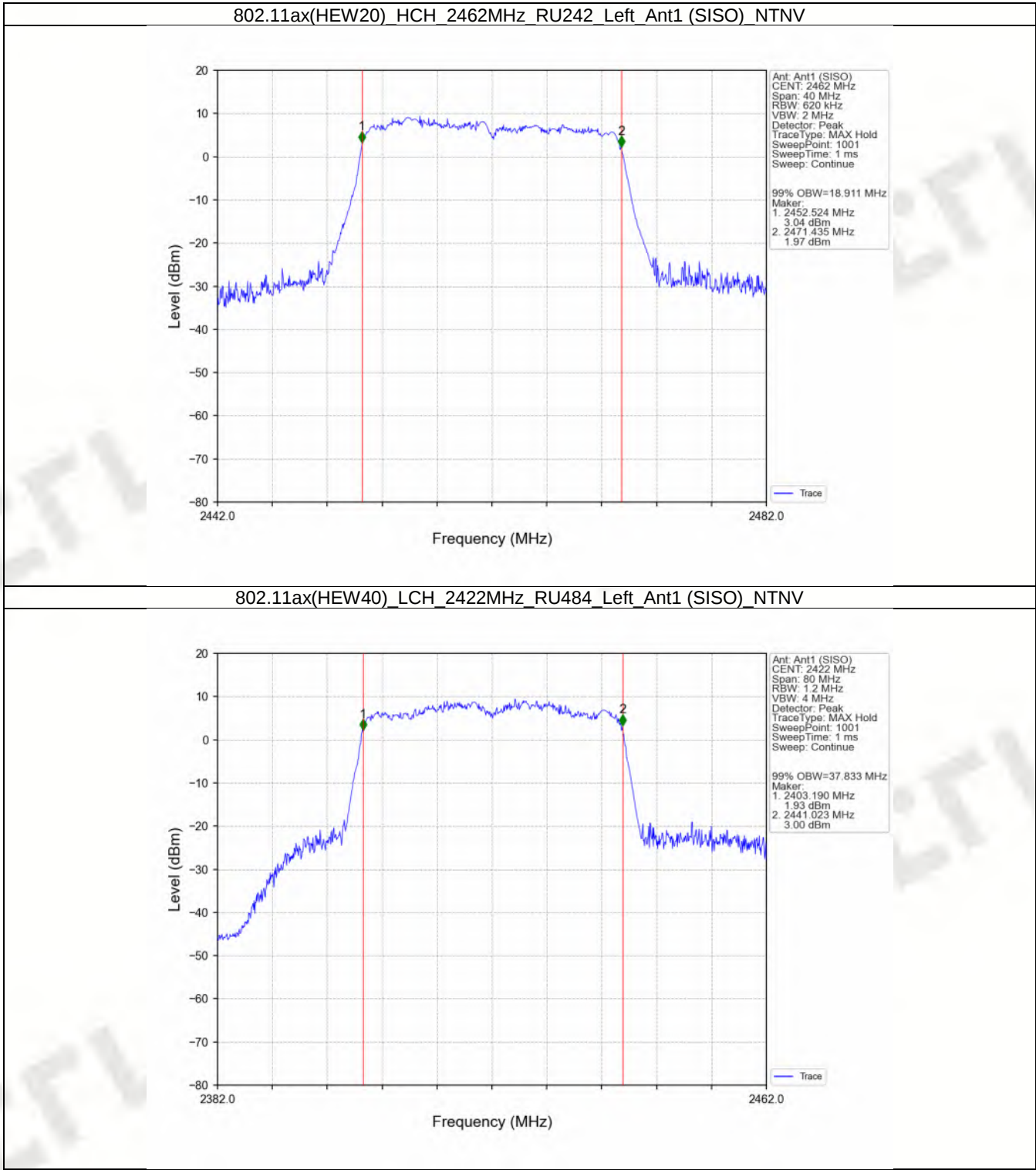
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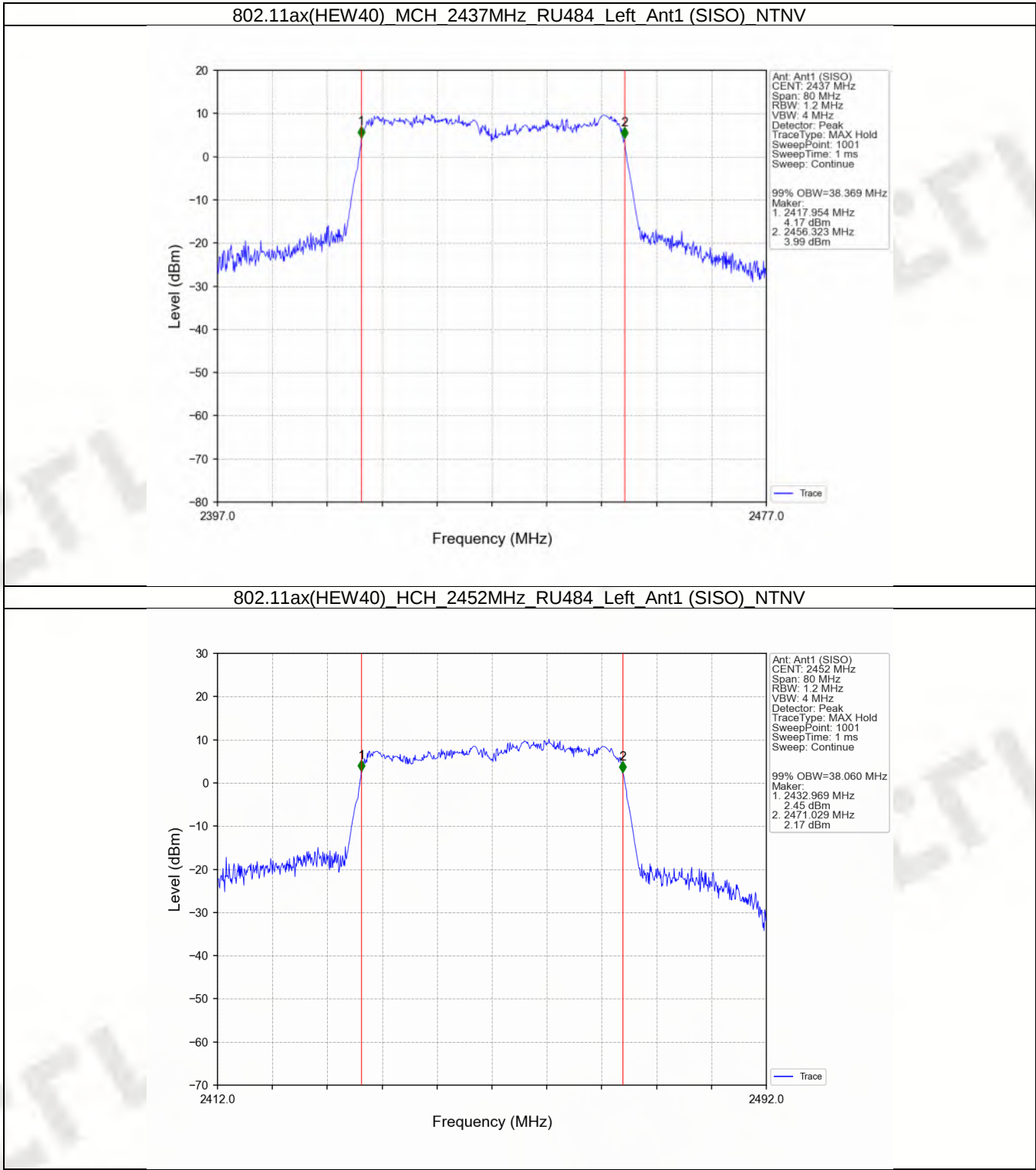
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FCCID: SMQ-UWM3

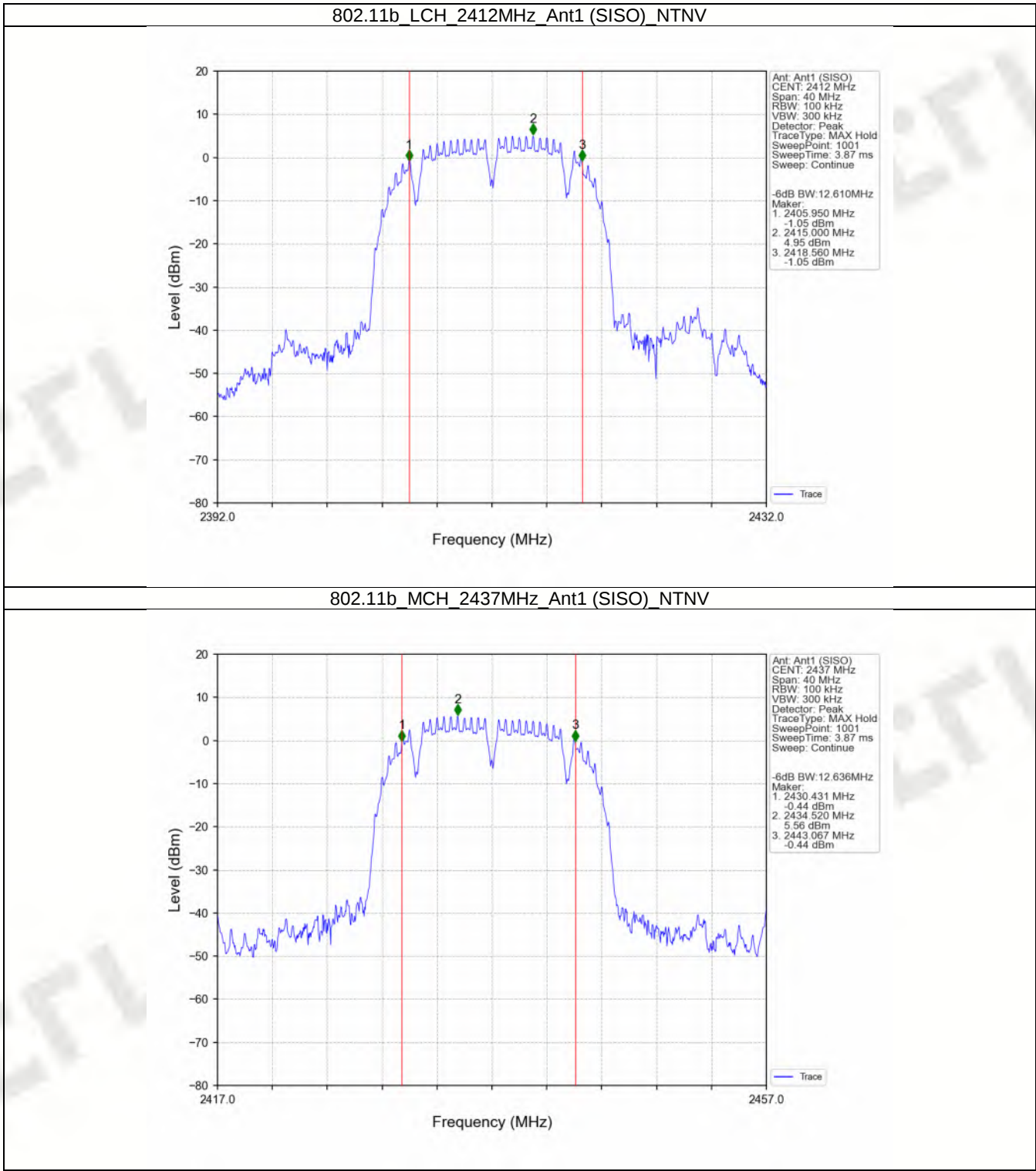


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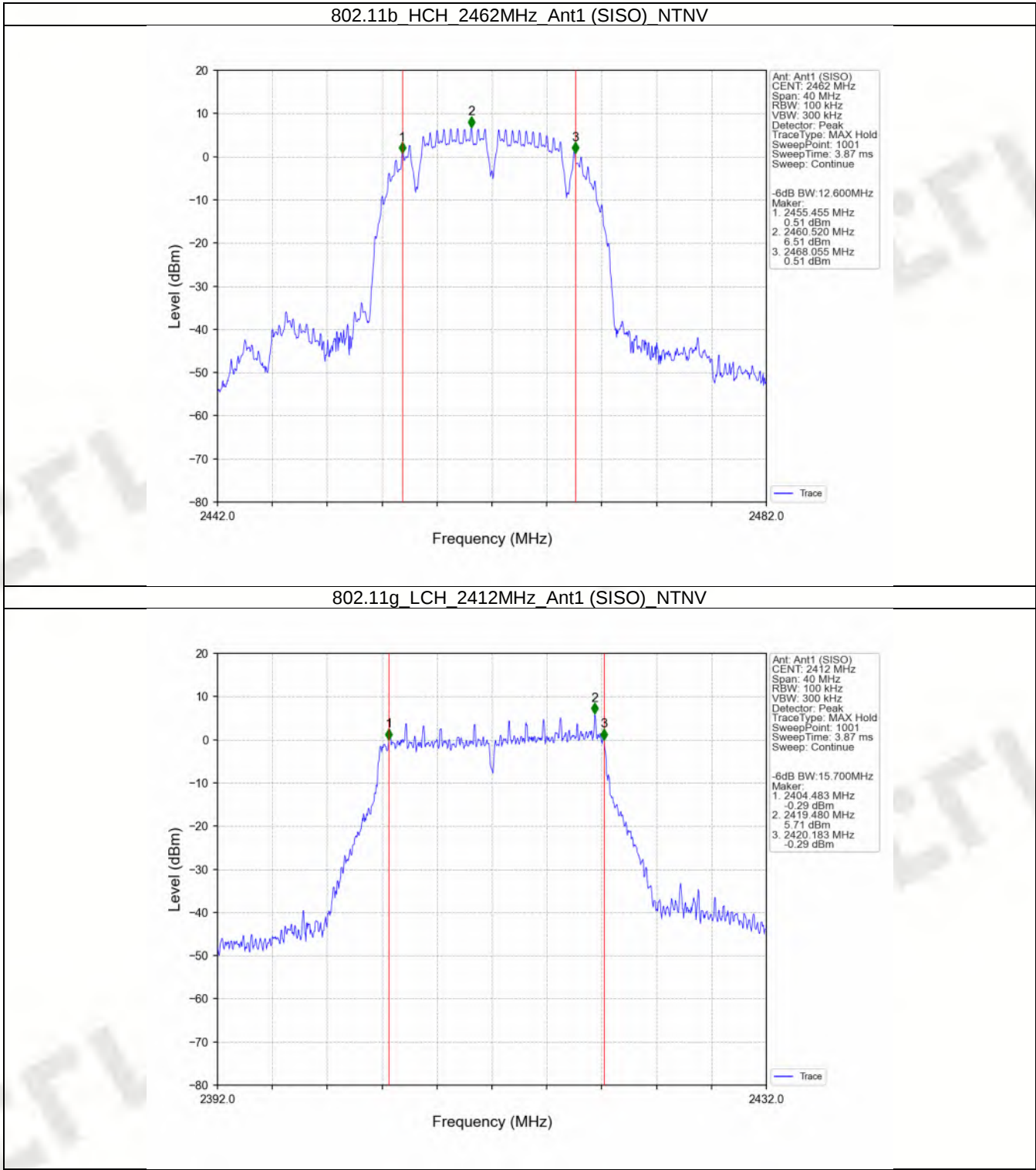


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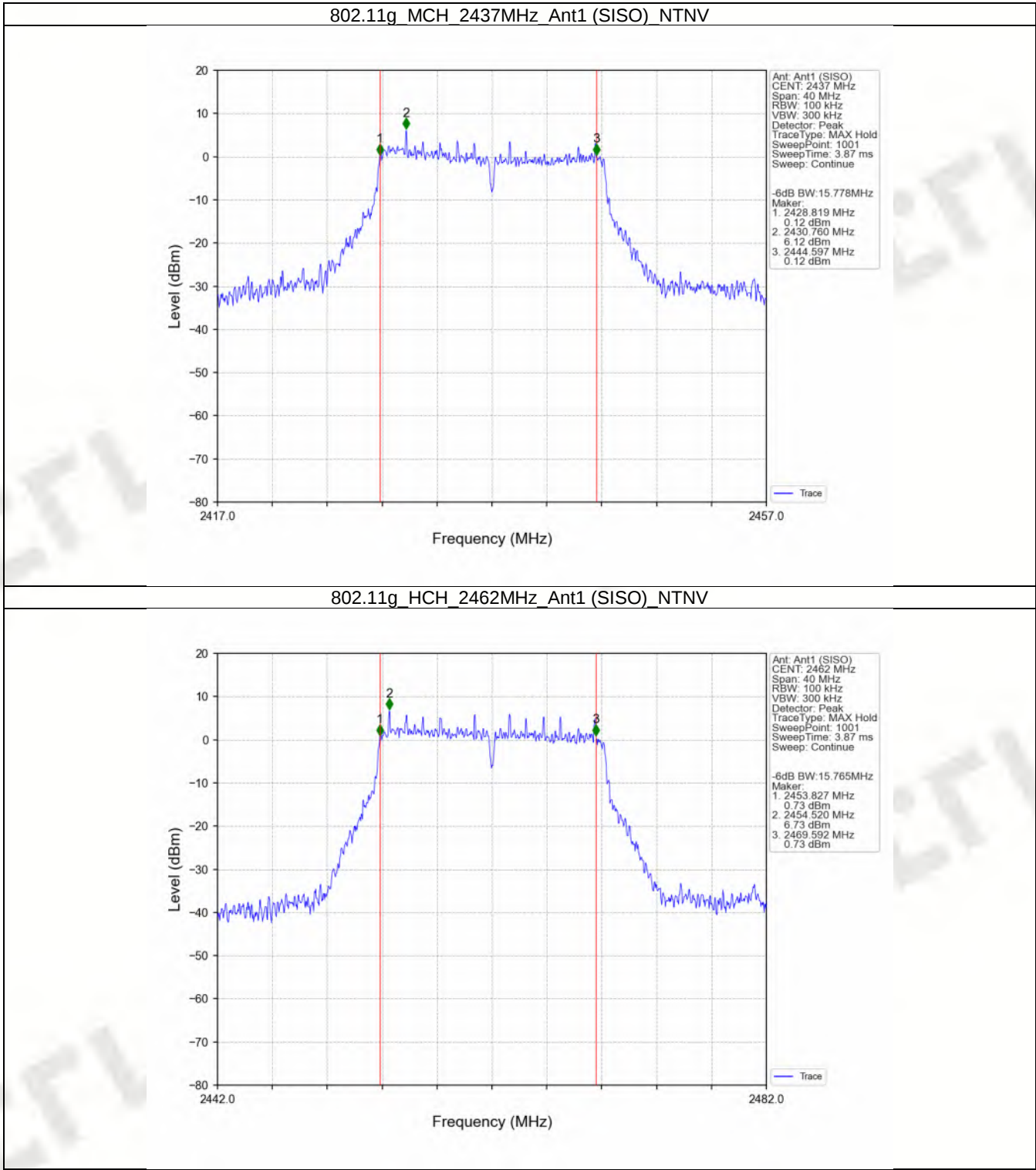
1.2.2 6dB BW



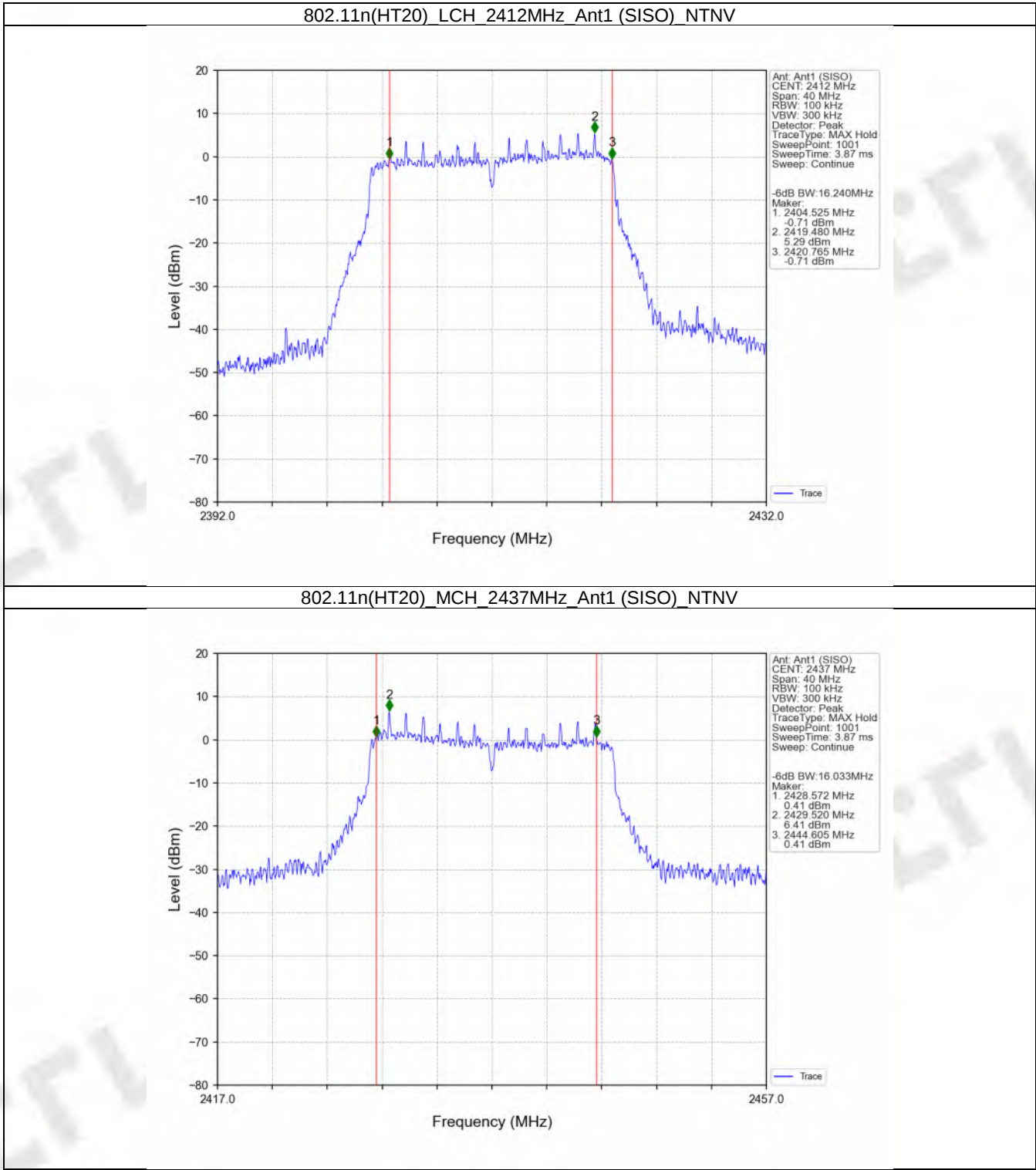
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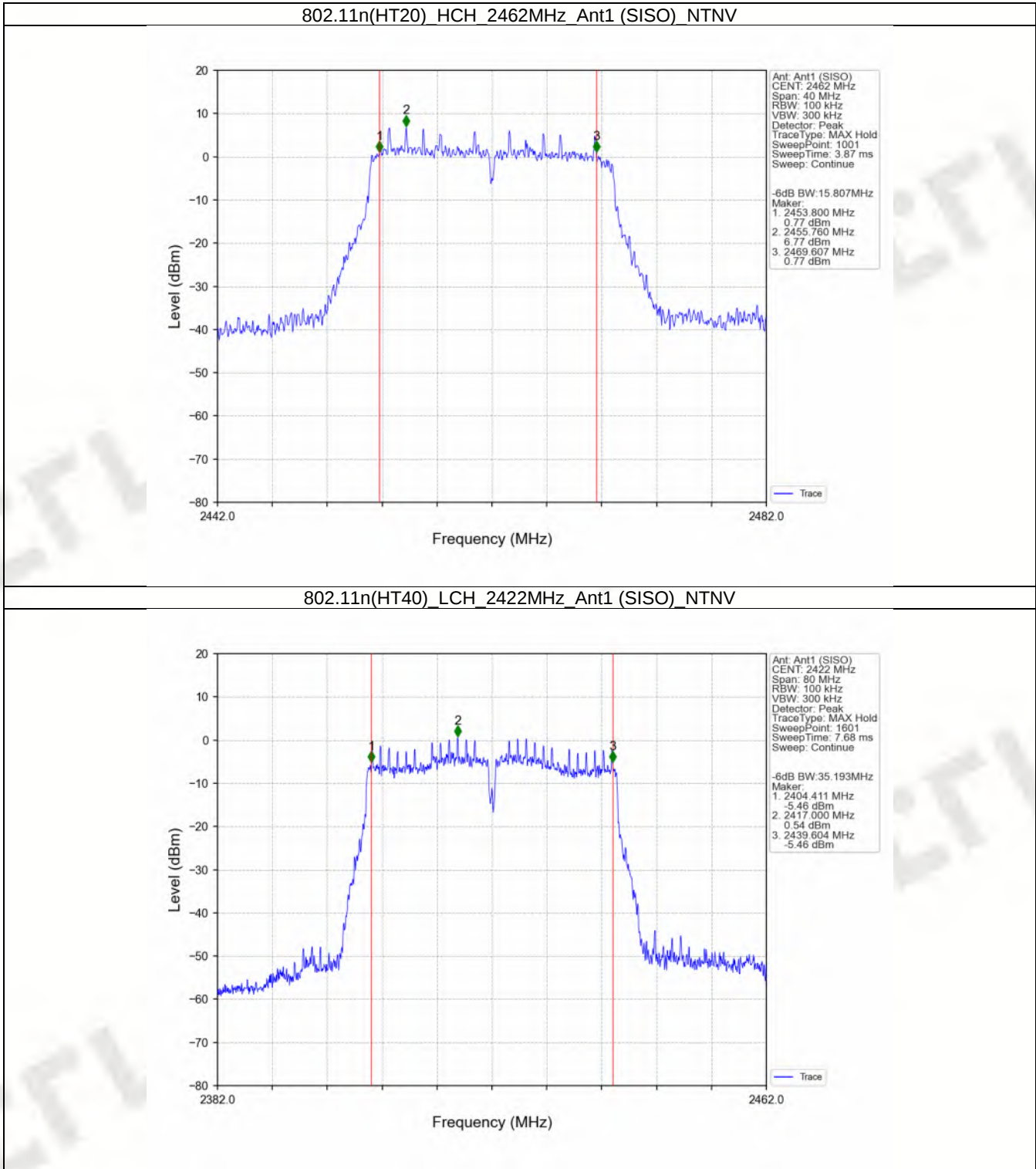
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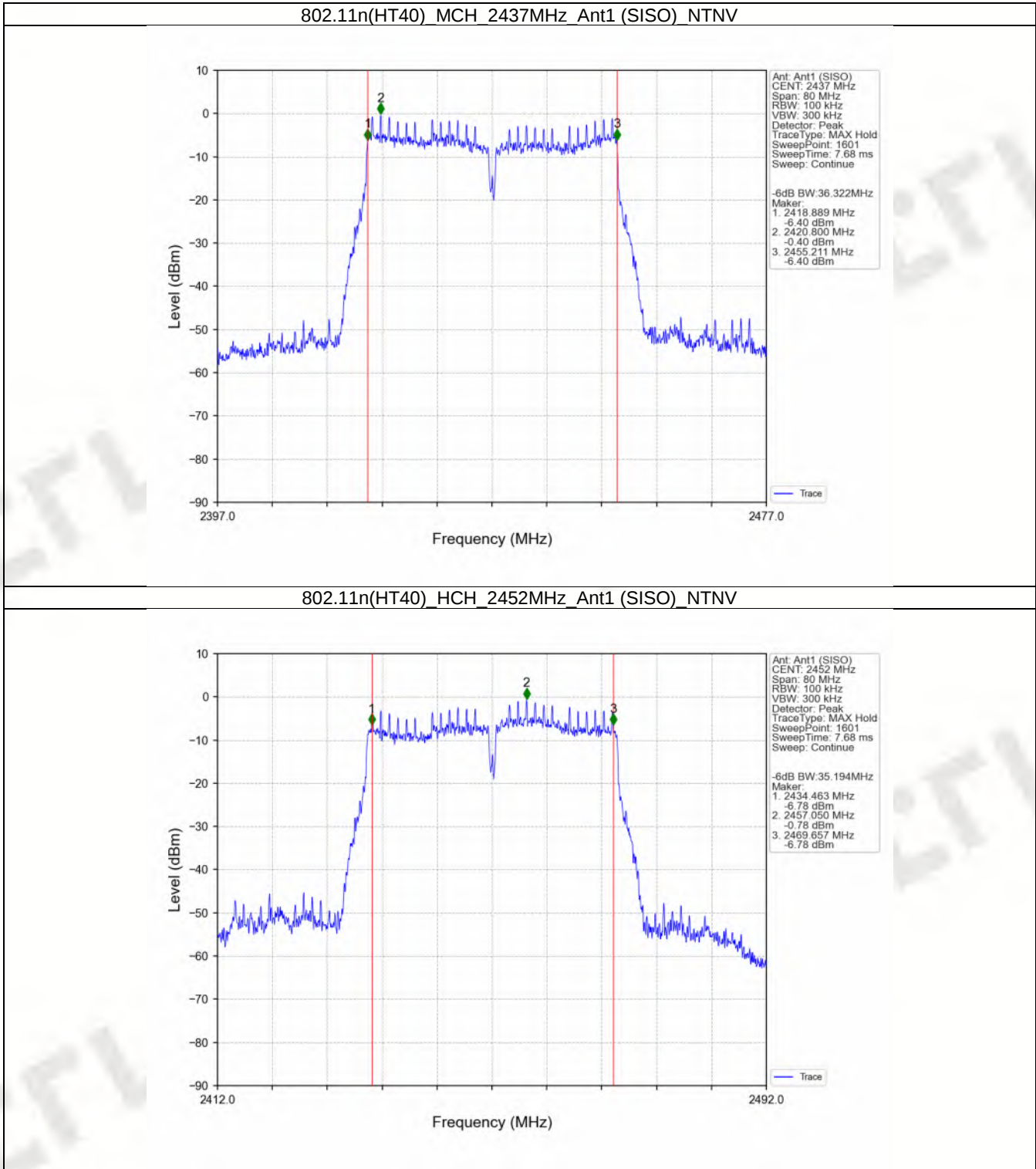
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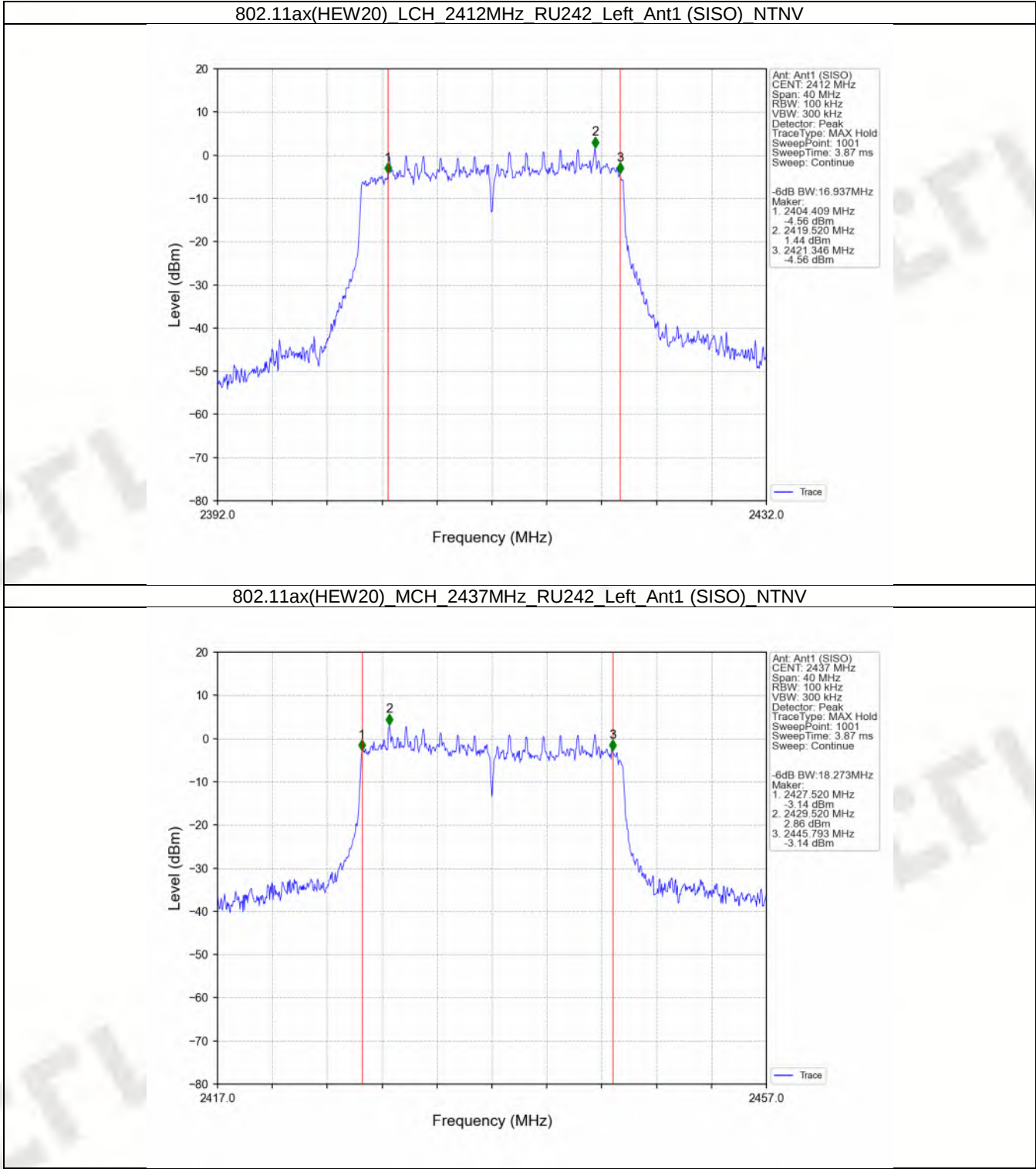
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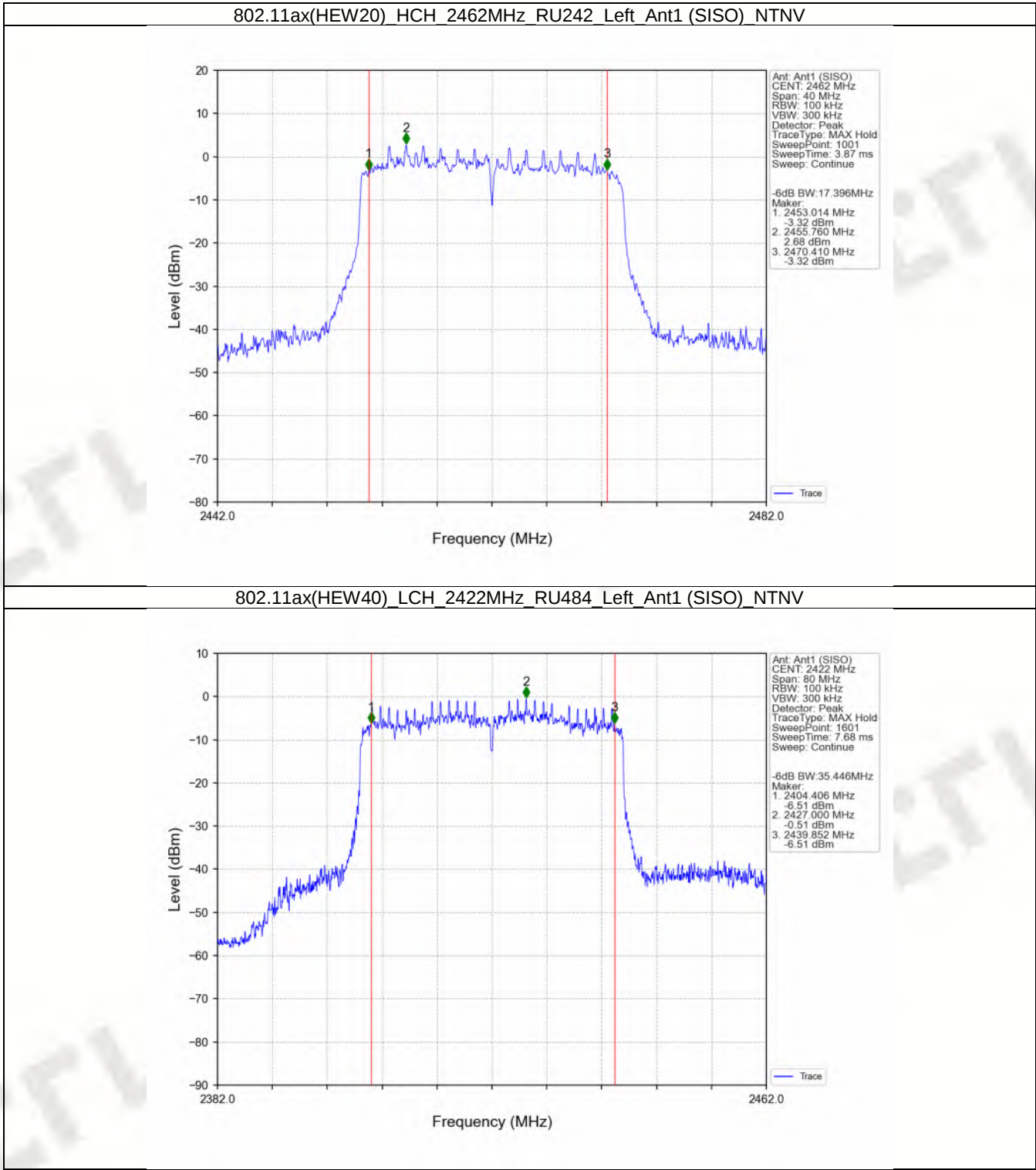
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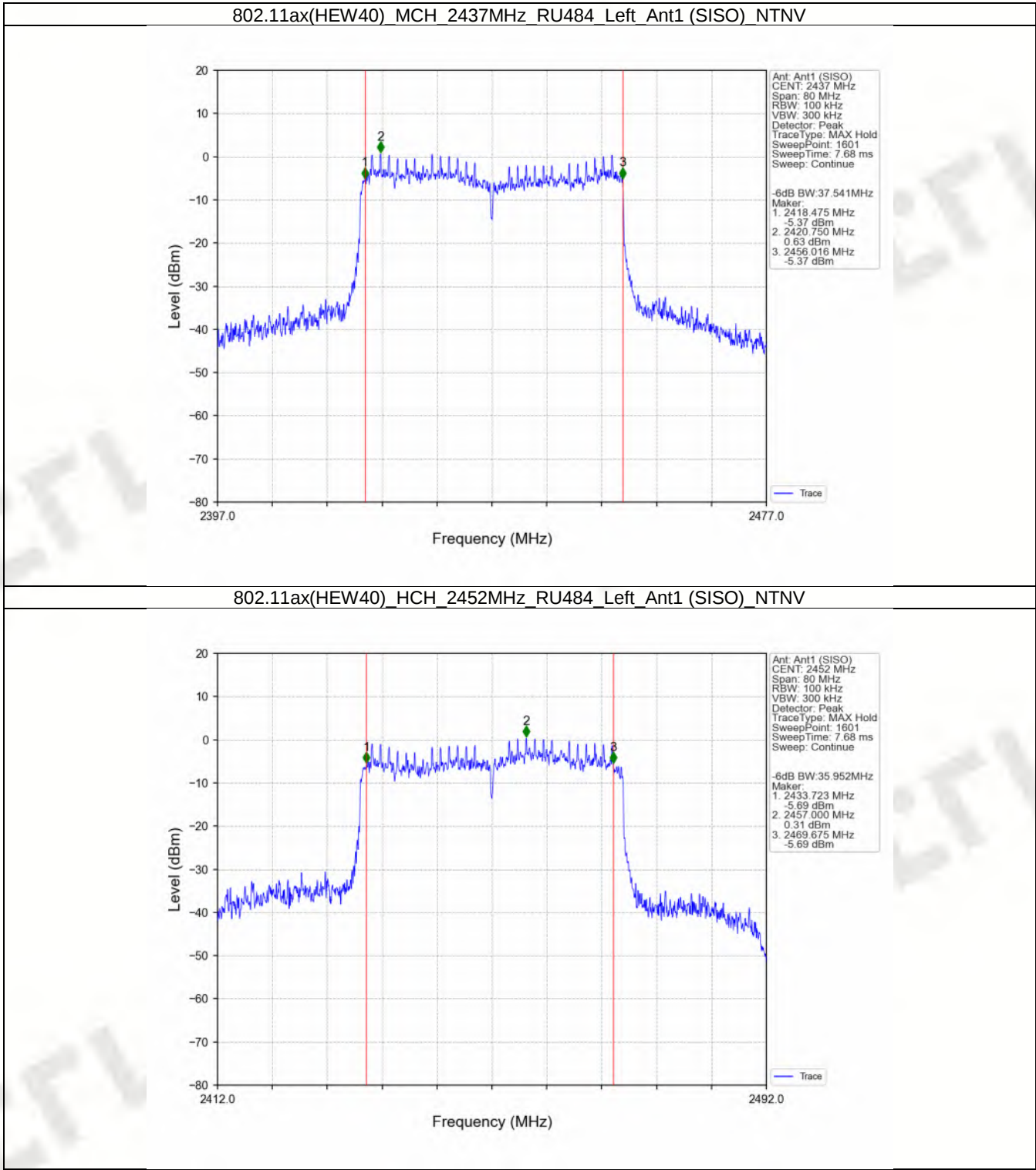
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FCCID: SMQ-UWM3



FCCID: SMQ-UWM3



FCCID: SMQ-UWM3

2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

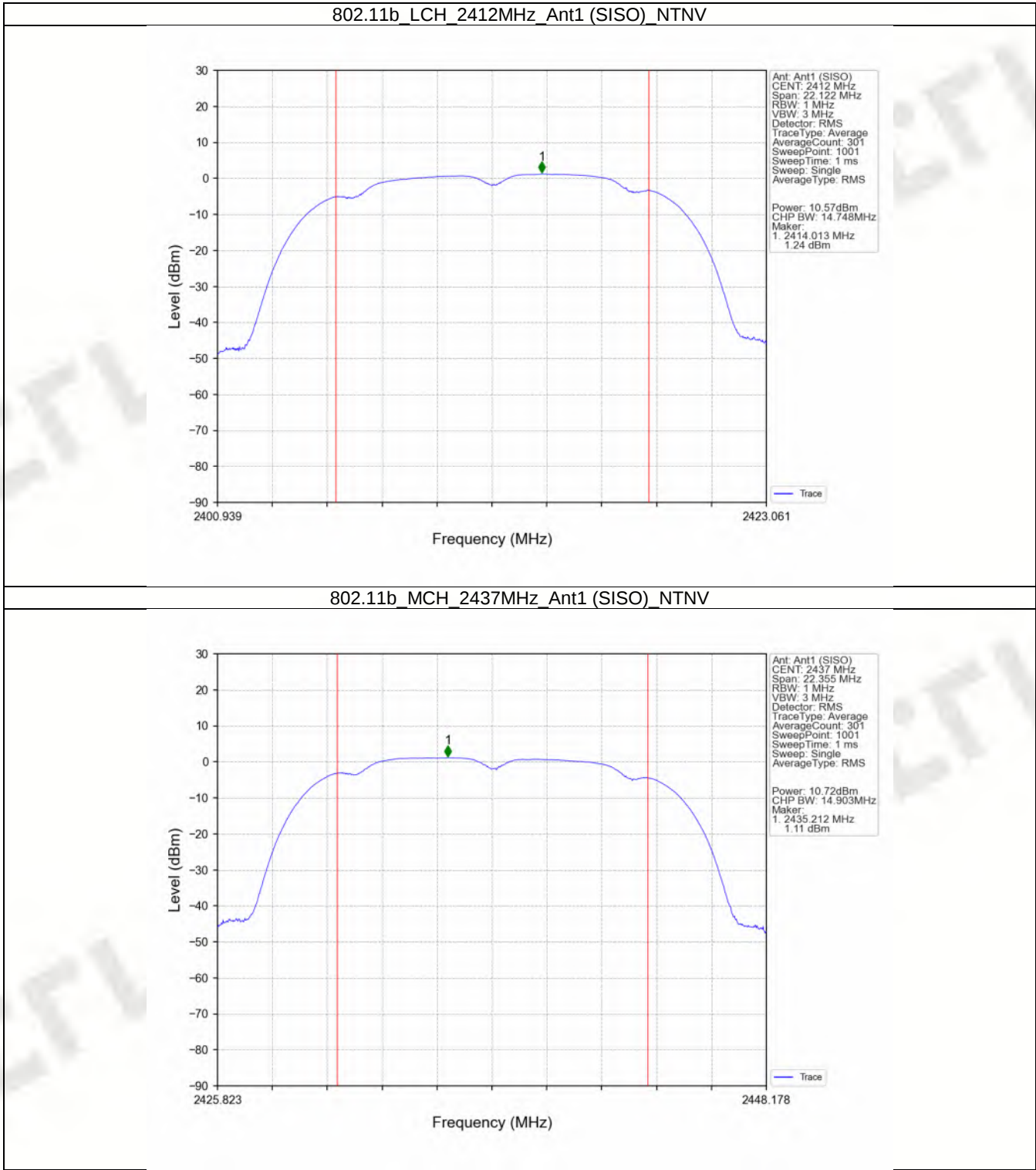
Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum Average Conducted Output Power (dBm)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	10.57	<=30	Pass
		2437	/	/	10.72	<=30	Pass
		2462	/	/	11.70	<=30	Pass
802.11g	SISO	2412	/	/	10.98	<=30	Pass
		2437	/	/	11.22	<=30	Pass
		2462	/	/	12.31	<=30	Pass
802.11n (HT20)	SISO	2412	/	/	10.98	<=30	Pass
		2437	/	/	11.28	<=30	Pass
		2462	/	/	12.28	<=30	Pass
802.11n (HT40)	SISO	2422	/	/	12.13	<=30	Pass
		2437	/	/	12.39	<=30	Pass
		2452	/	/	12.15	<=30	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	11.45	<=30	Pass
		2437	RU242	Left	11.80	<=30	Pass
		2462	RU242	Left	12.30	<=30	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	12.26	<=30	Pass
		2437	RU484	Left	12.93	<=30	Pass
		2452	RU484	Left	13.02	<=30	Pass

Note1: Antenna Gain: Ant1: 4.21dBi;

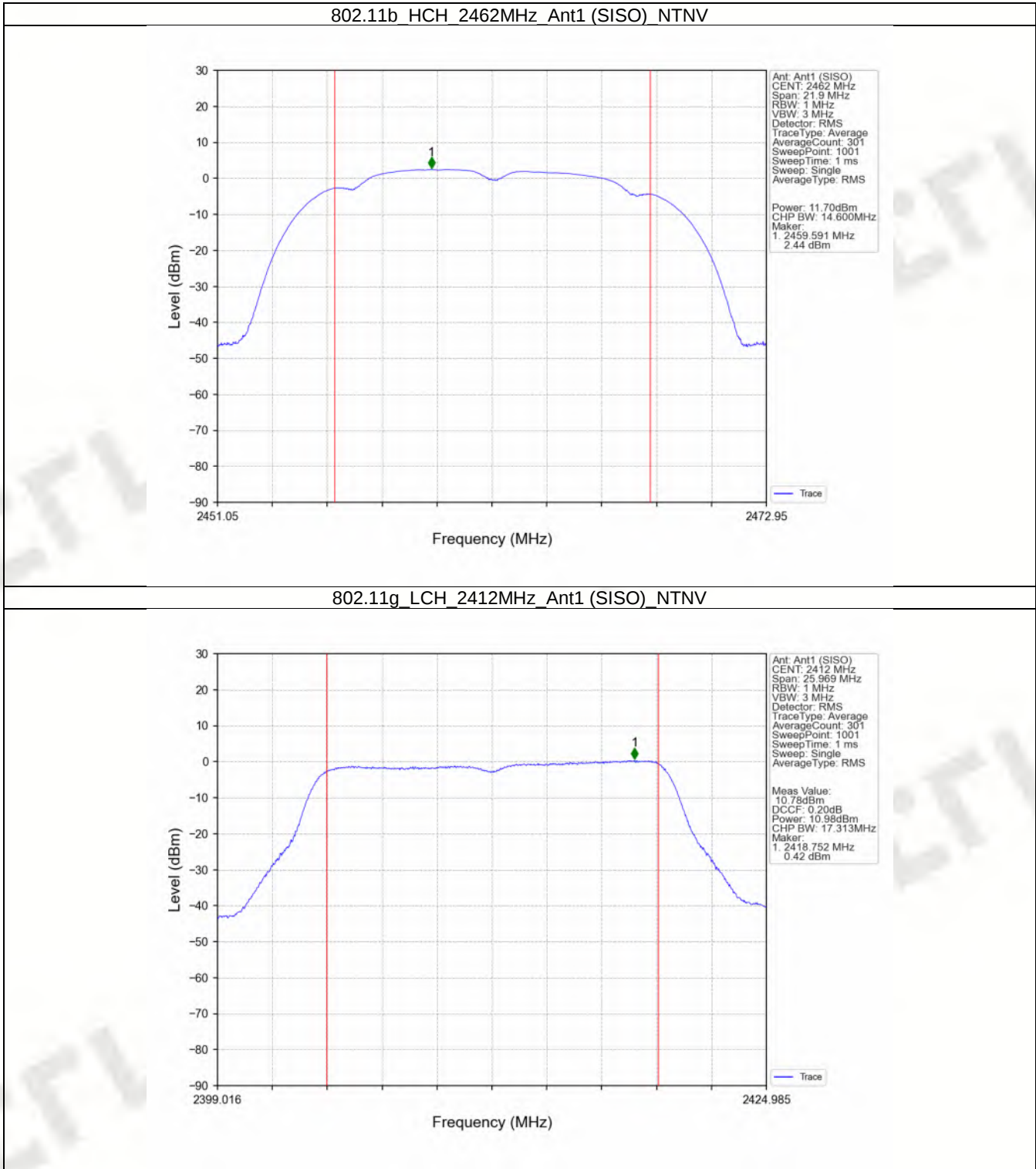
FCCID: SMQ-UWM3

2.2 Test Graph

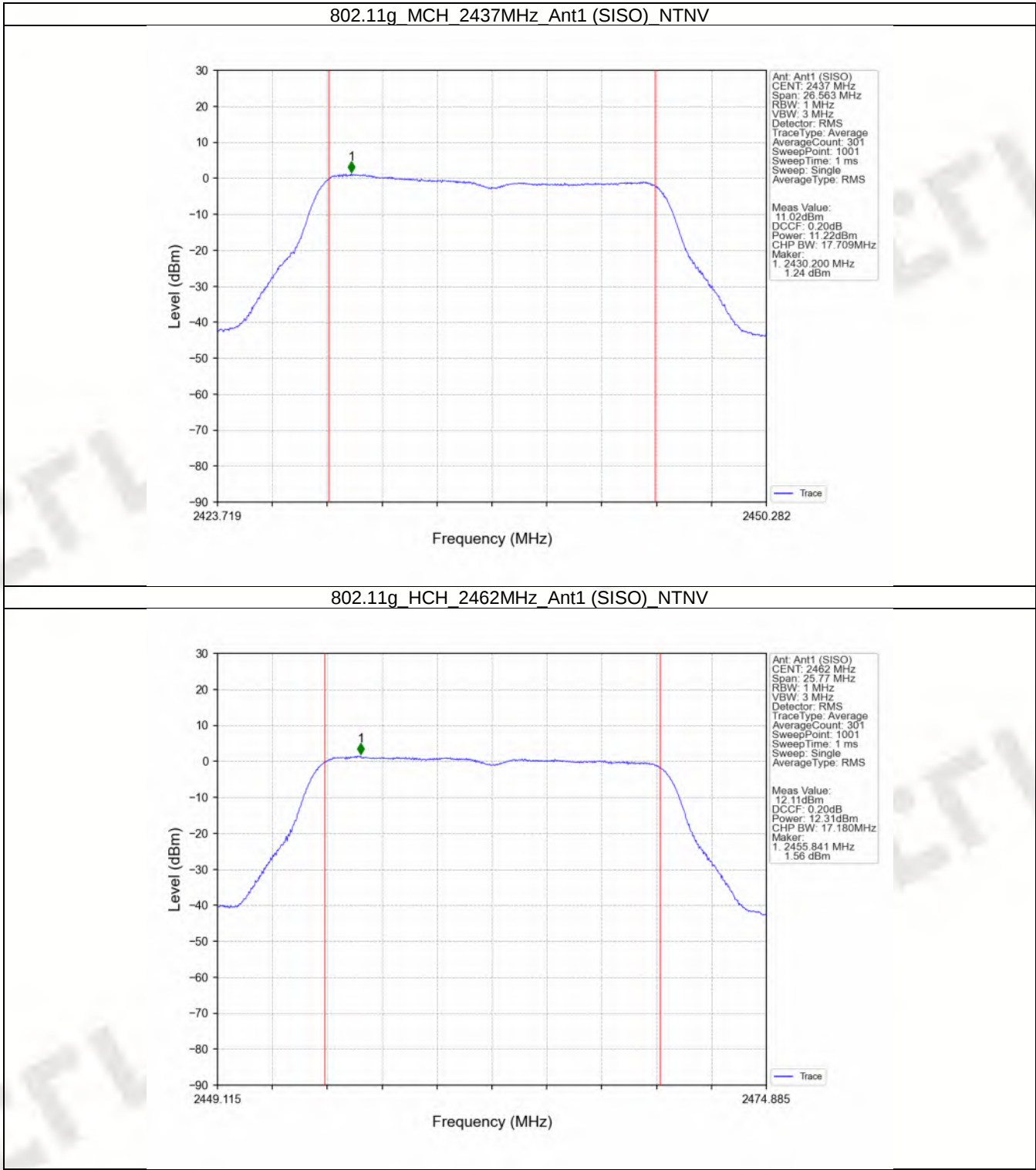
2.2.1 Power



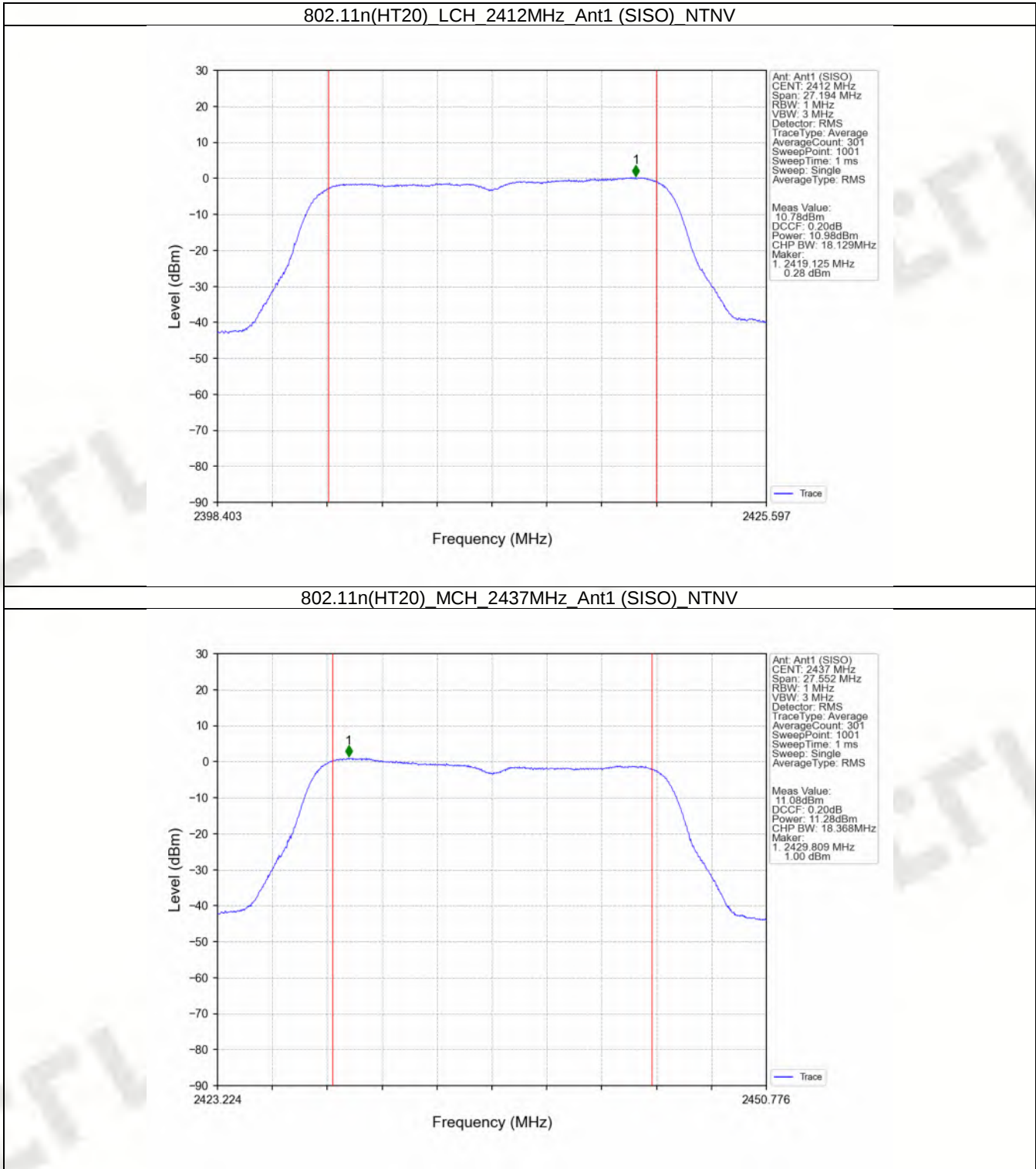
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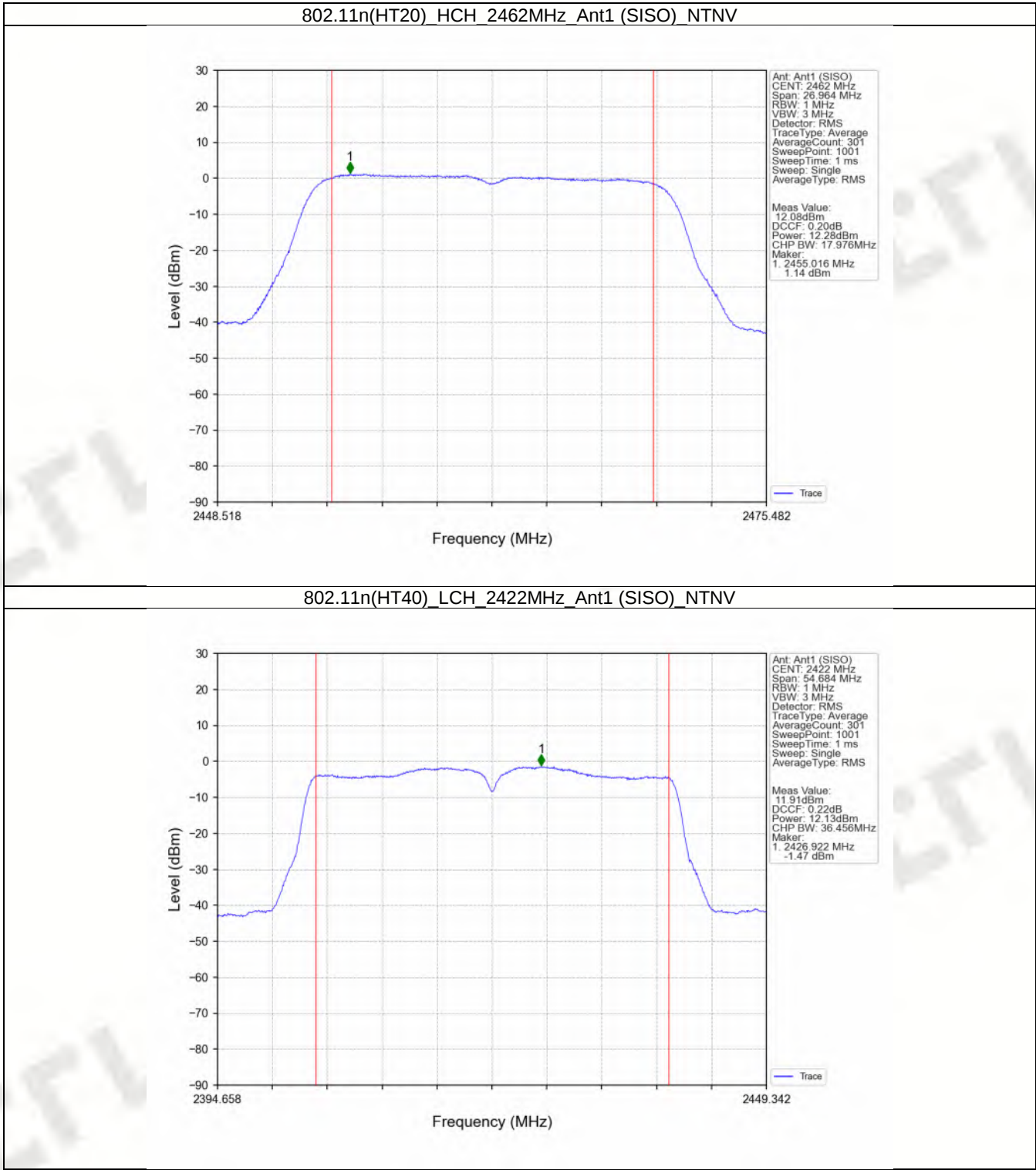
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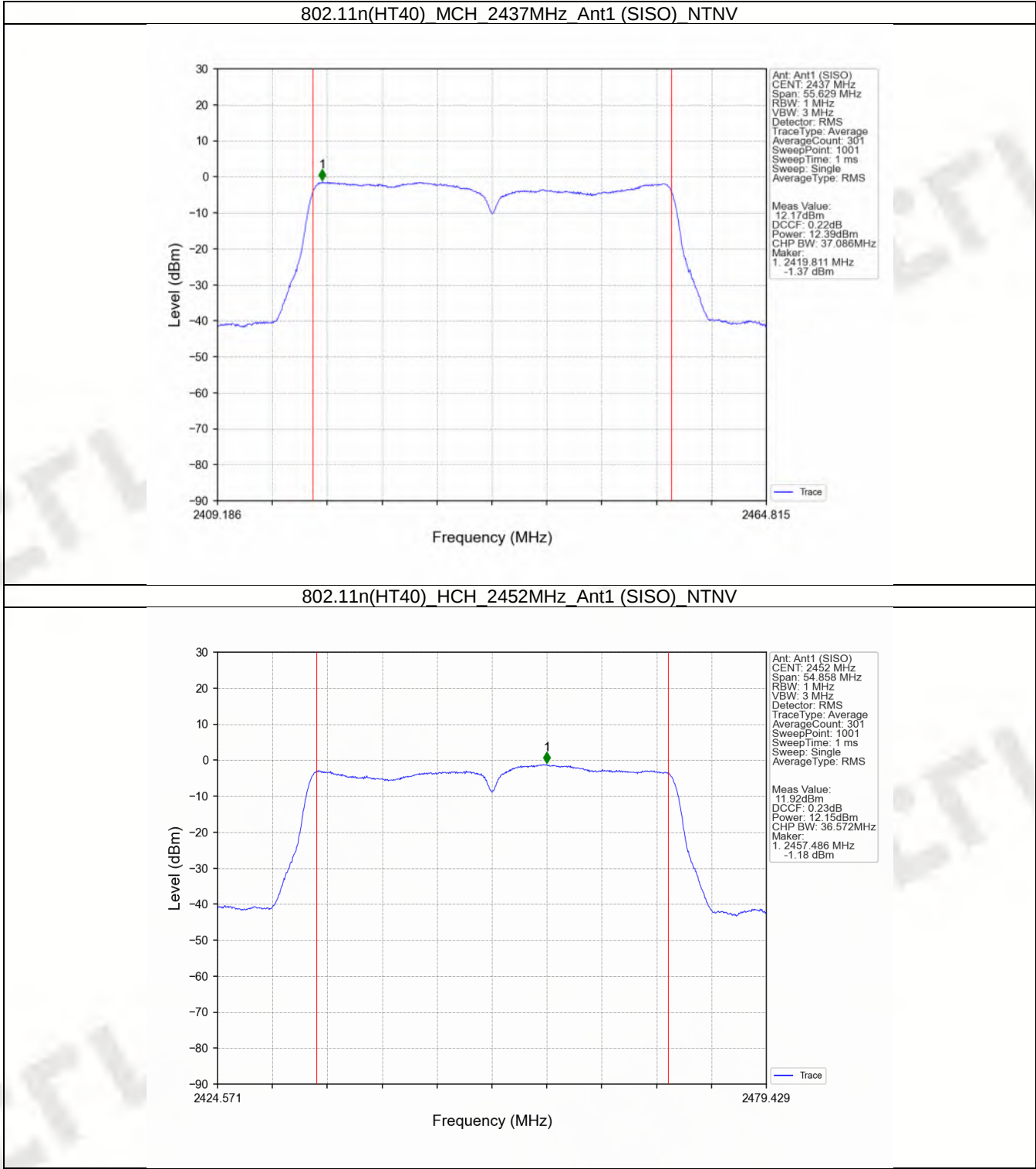
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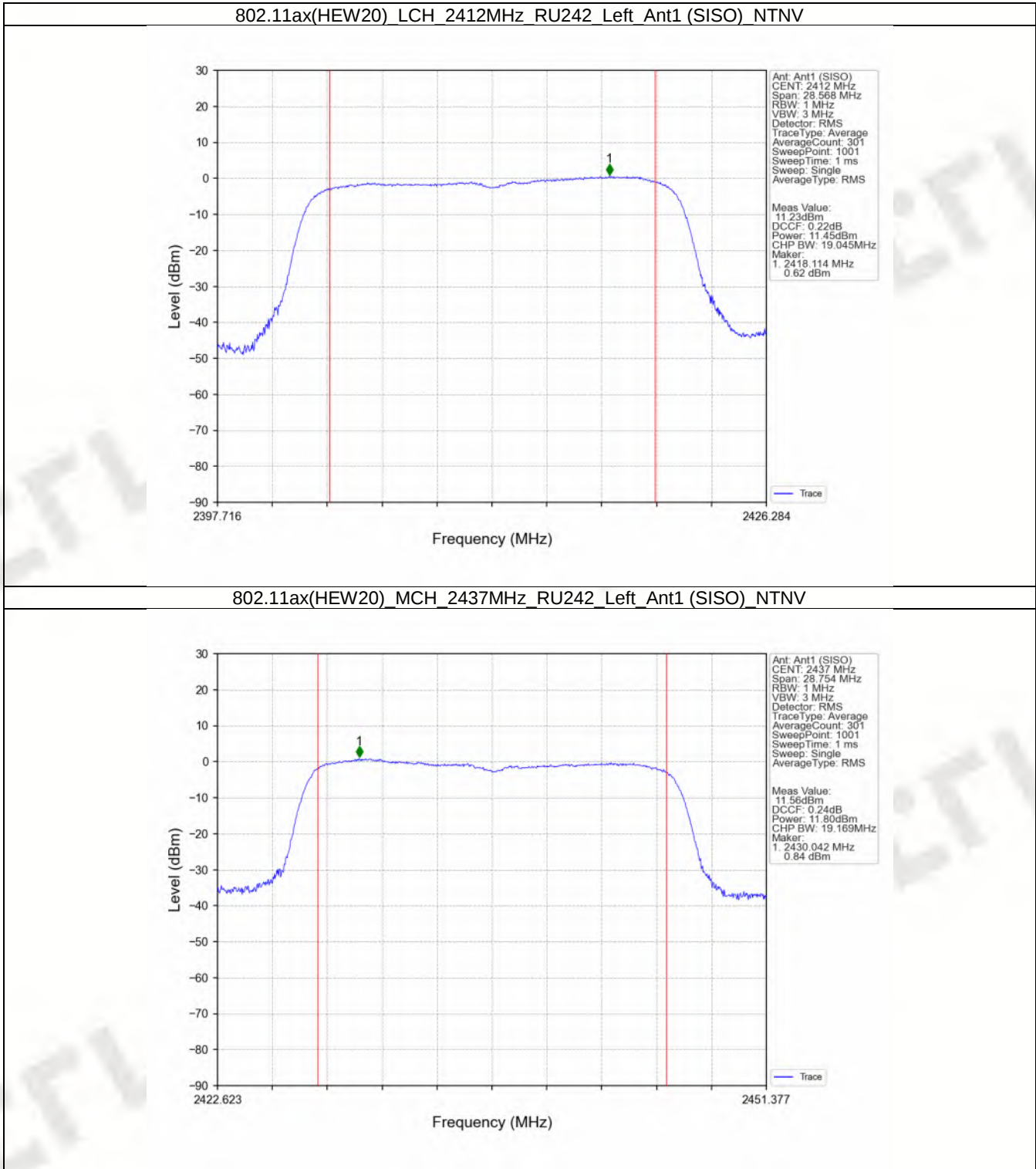
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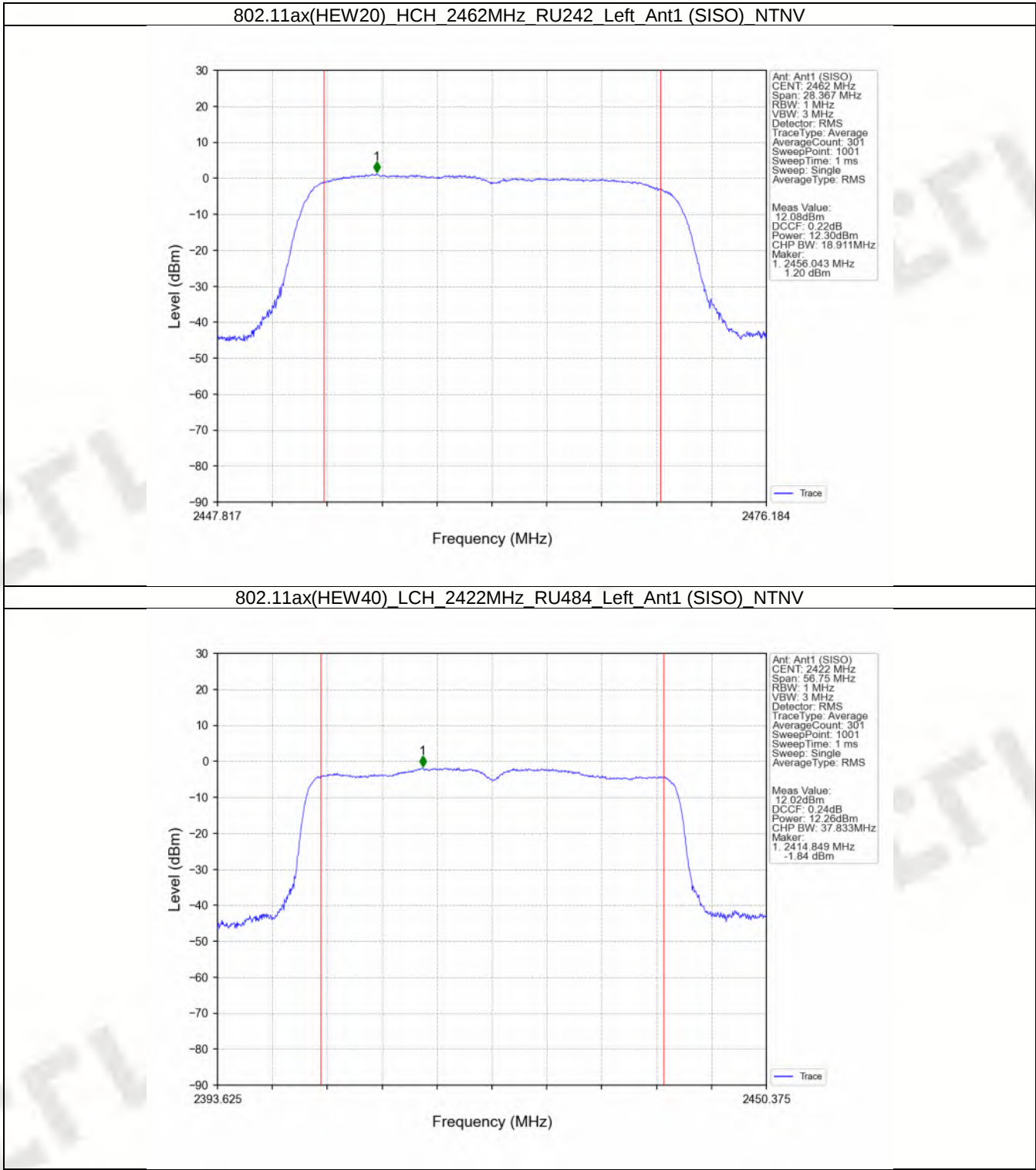
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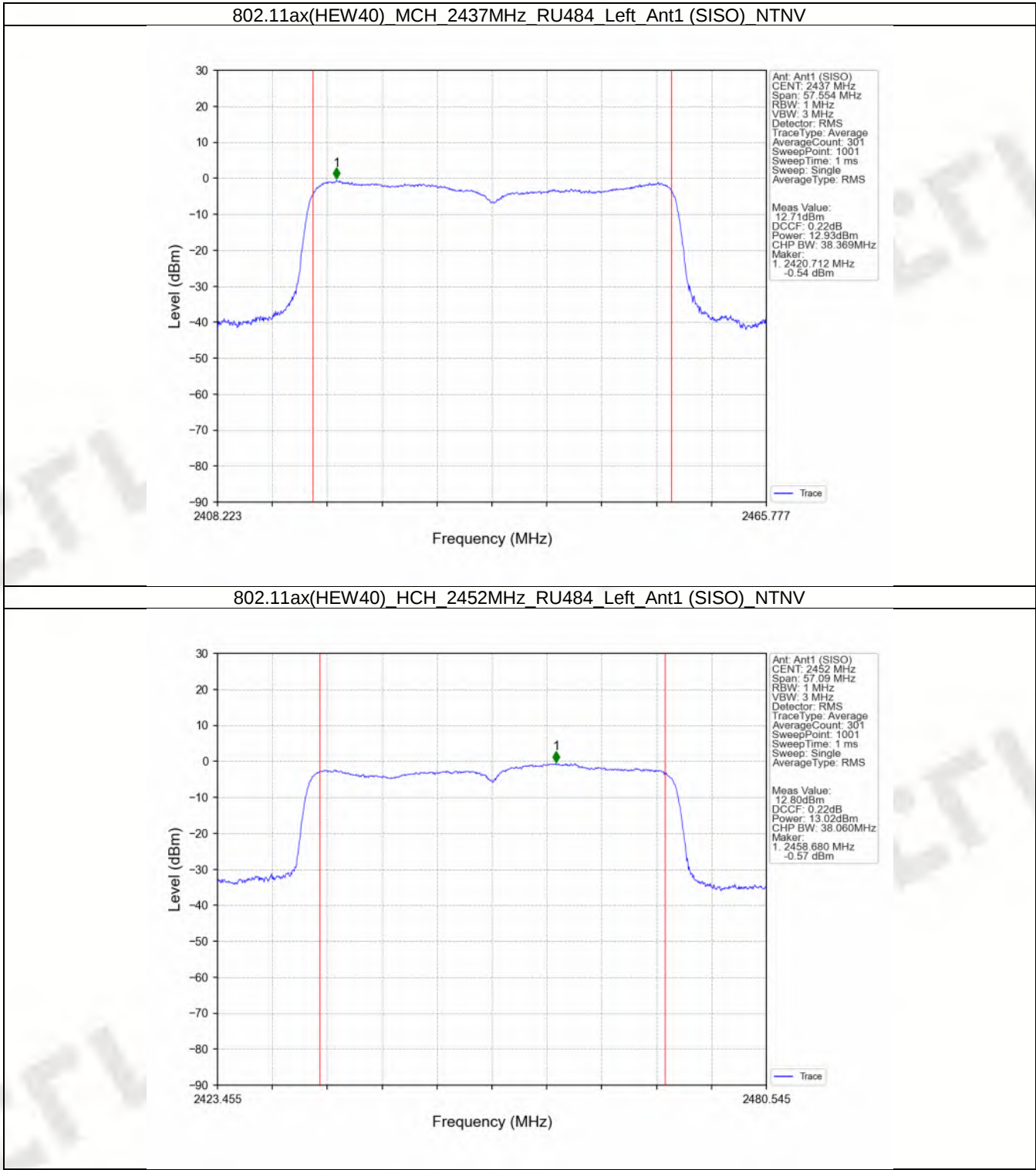
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FCCID: SMQ-UWM3



FCCID: SMQ-UWM3



FCCID: SMQ-UWM3

3. Maximum Power Spectral Density

3.1 Test Result

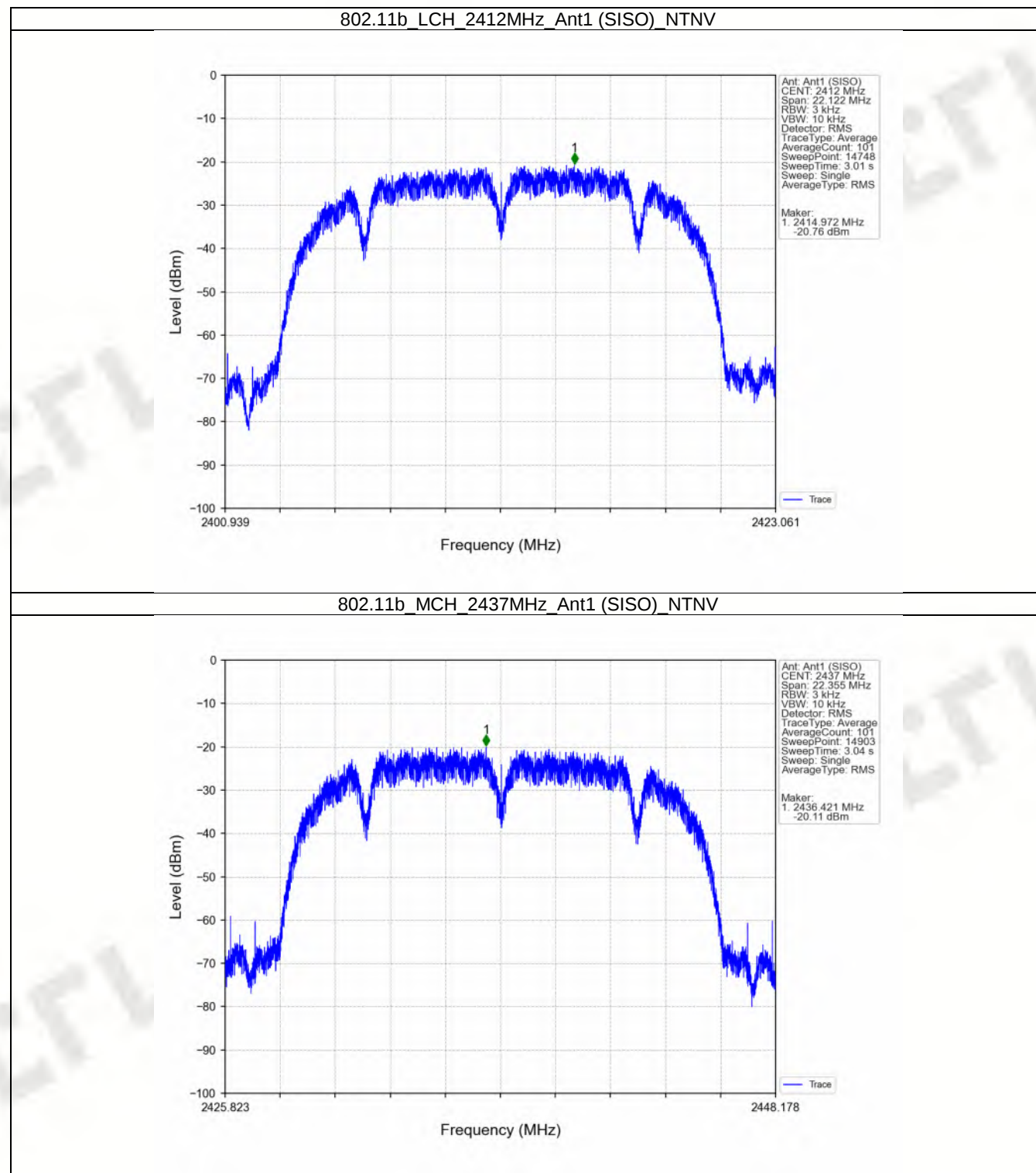
3.1.1 PSD

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz)		Verdict
					ANT1	Limit	
802.11b	SISO	2412	/	/	-20.76	<=8	Pass
		2437	/	/	-20.11	<=8	Pass
		2462	/	/	-18.97	<=8	Pass
802.11g	SISO	2412	/	/	-22.13	<=8	Pass
		2437	/	/	-22.40	<=8	Pass
		2462	/	/	-21.98	<=8	Pass
802.11n (HT20)	SISO	2412	/	/	-21.73	<=8	Pass
		2437	/	/	-22.14	<=8	Pass
		2462	/	/	-25.45	<=8	Pass
802.11n (HT40)	SISO	2422	/	/	-20.42	<=8	Pass
		2437	/	/	-20.72	<=8	Pass
		2452	/	/	-19.43	<=8	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	-17.17	<=8	Pass
		2437	RU242	Left	-16.42	<=8	Pass
		2462	RU242	Left	-15.86	<=8	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	-21.22	<=8	Pass
		2437	RU484	Left	-18.99	<=8	Pass
		2452	RU484	Left	-18.14	<=8	Pass
Note1: Antenna Gain: Ant1: 4.21dBi;							

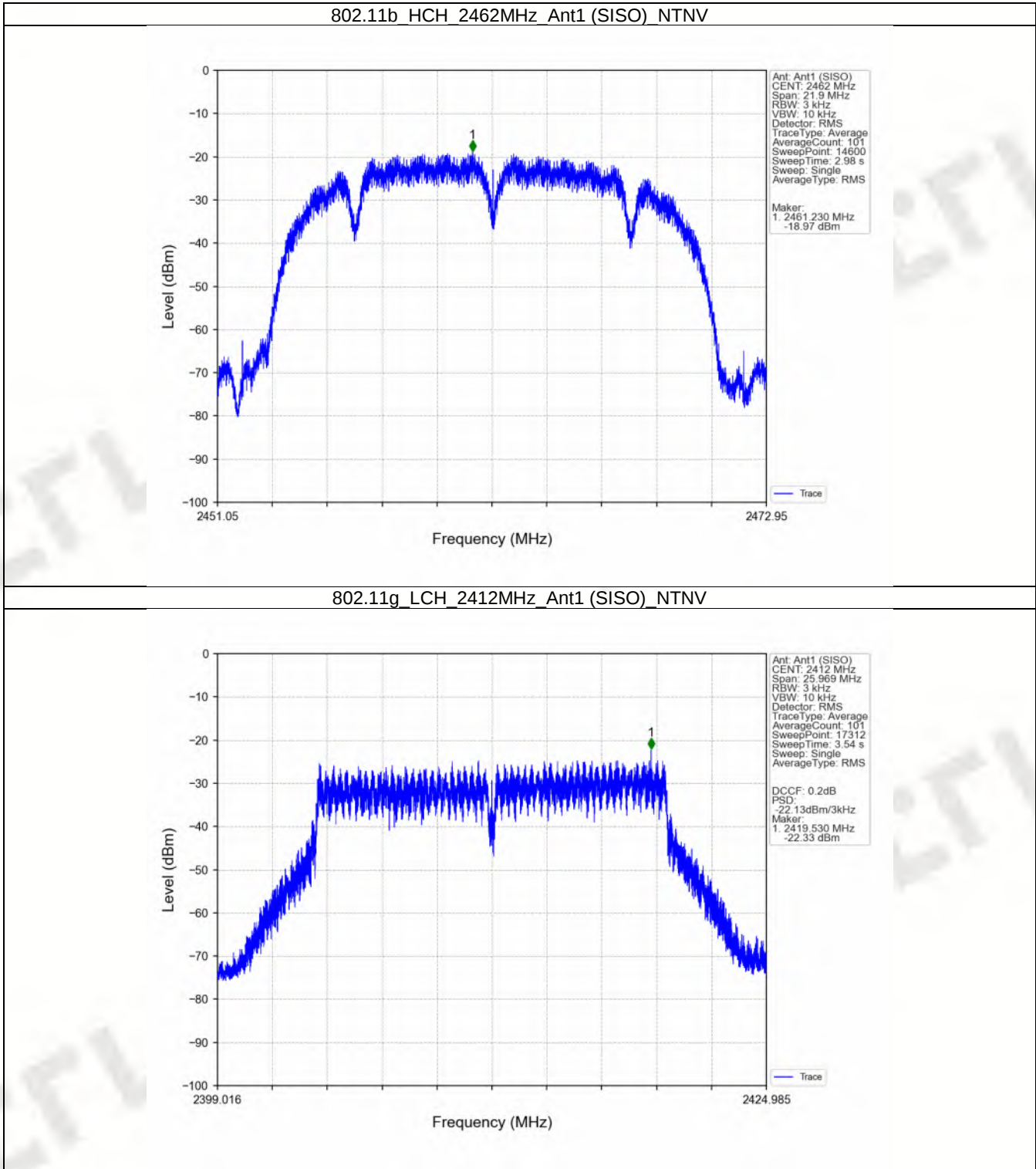
FCCID: SMQ-UWM3

3.2 Test Graph

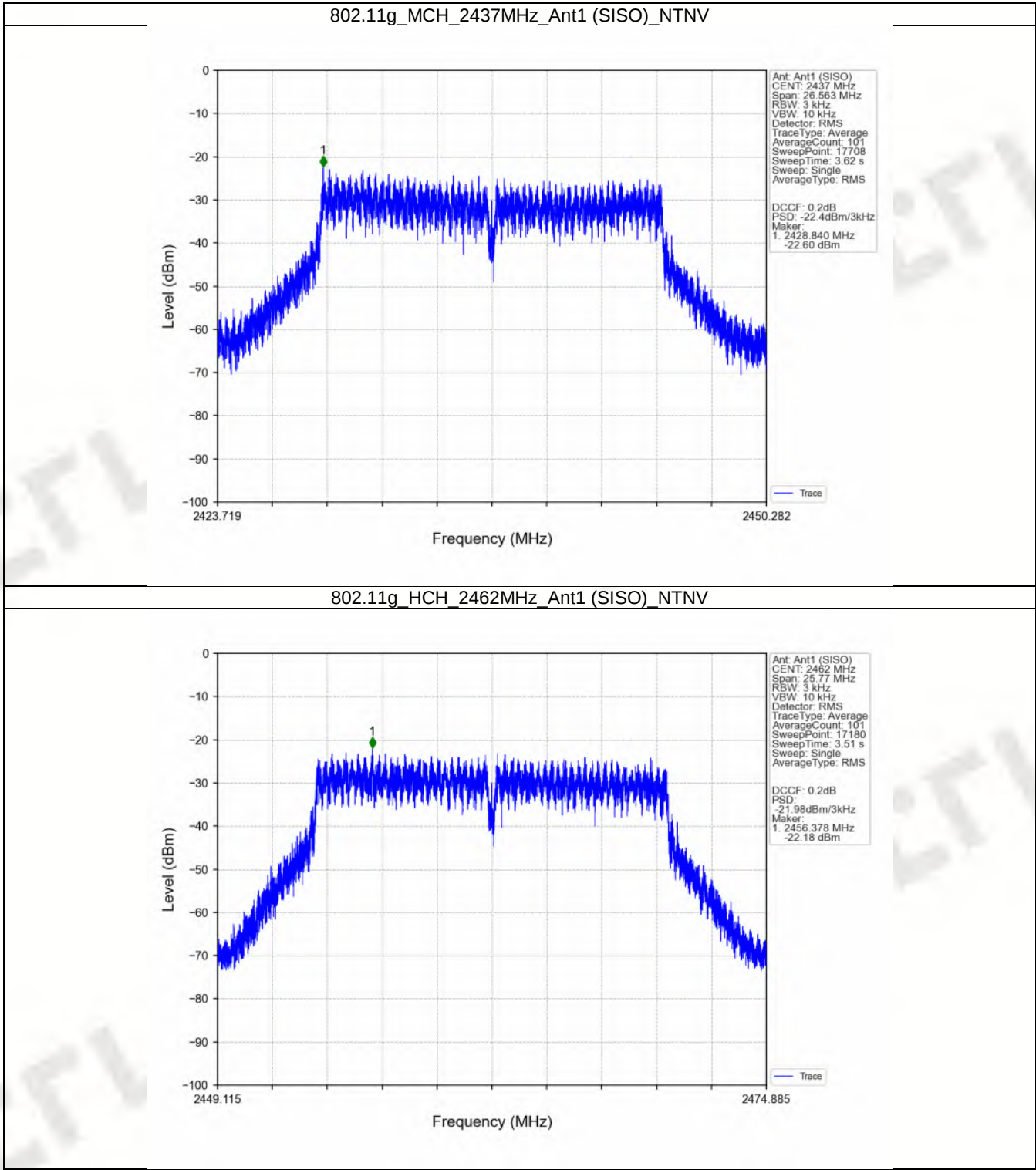
3.2.1 PSD



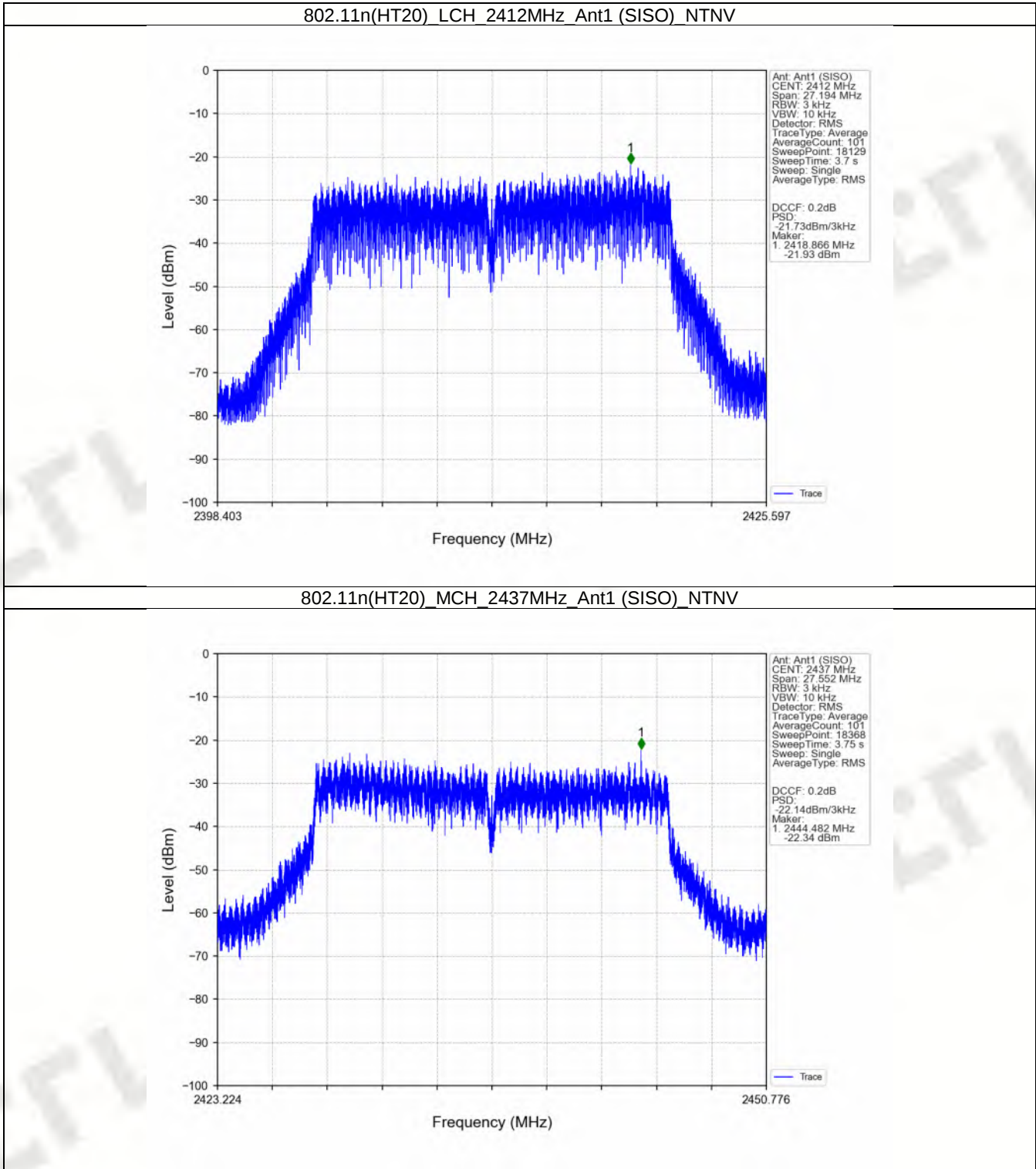
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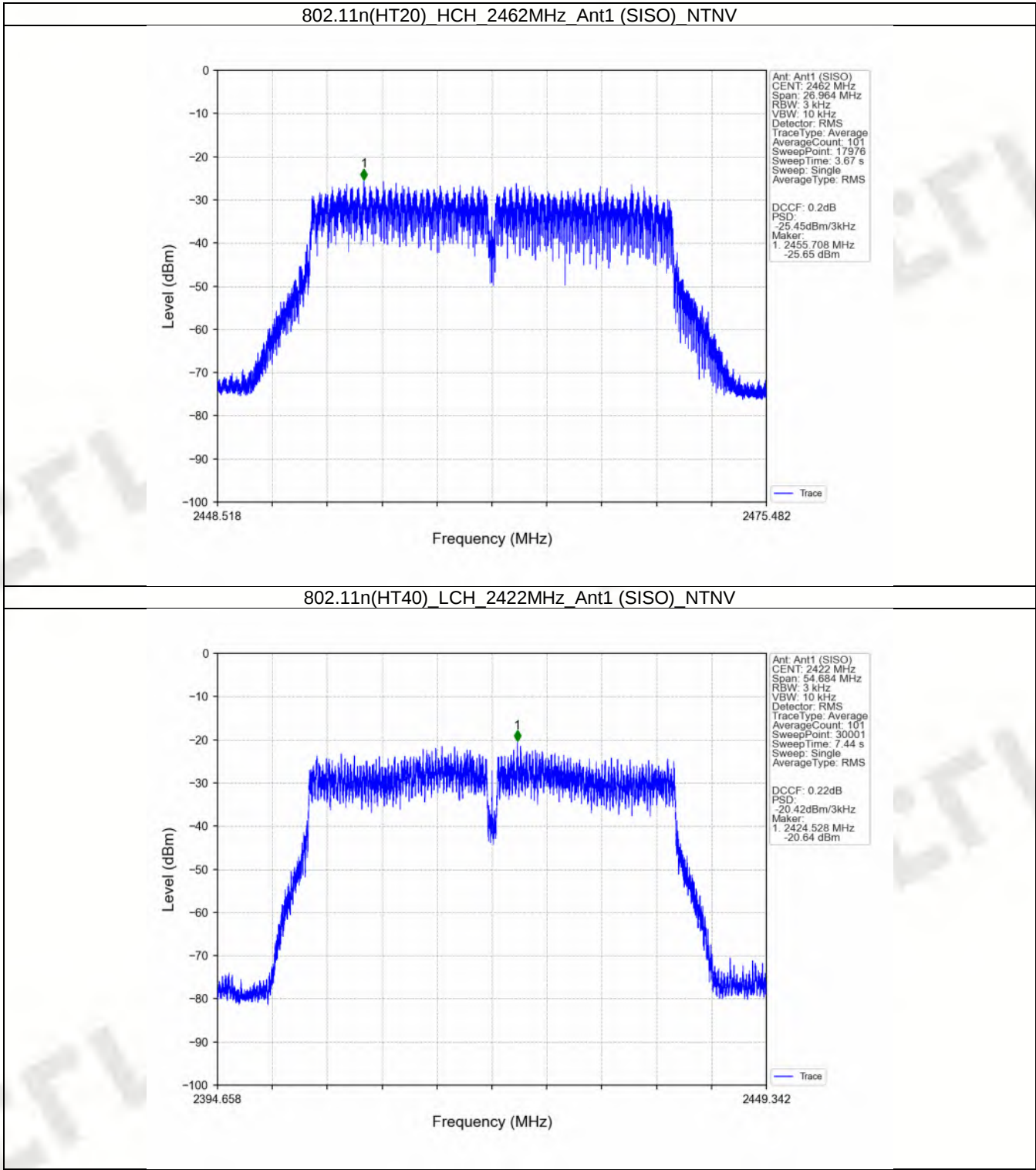
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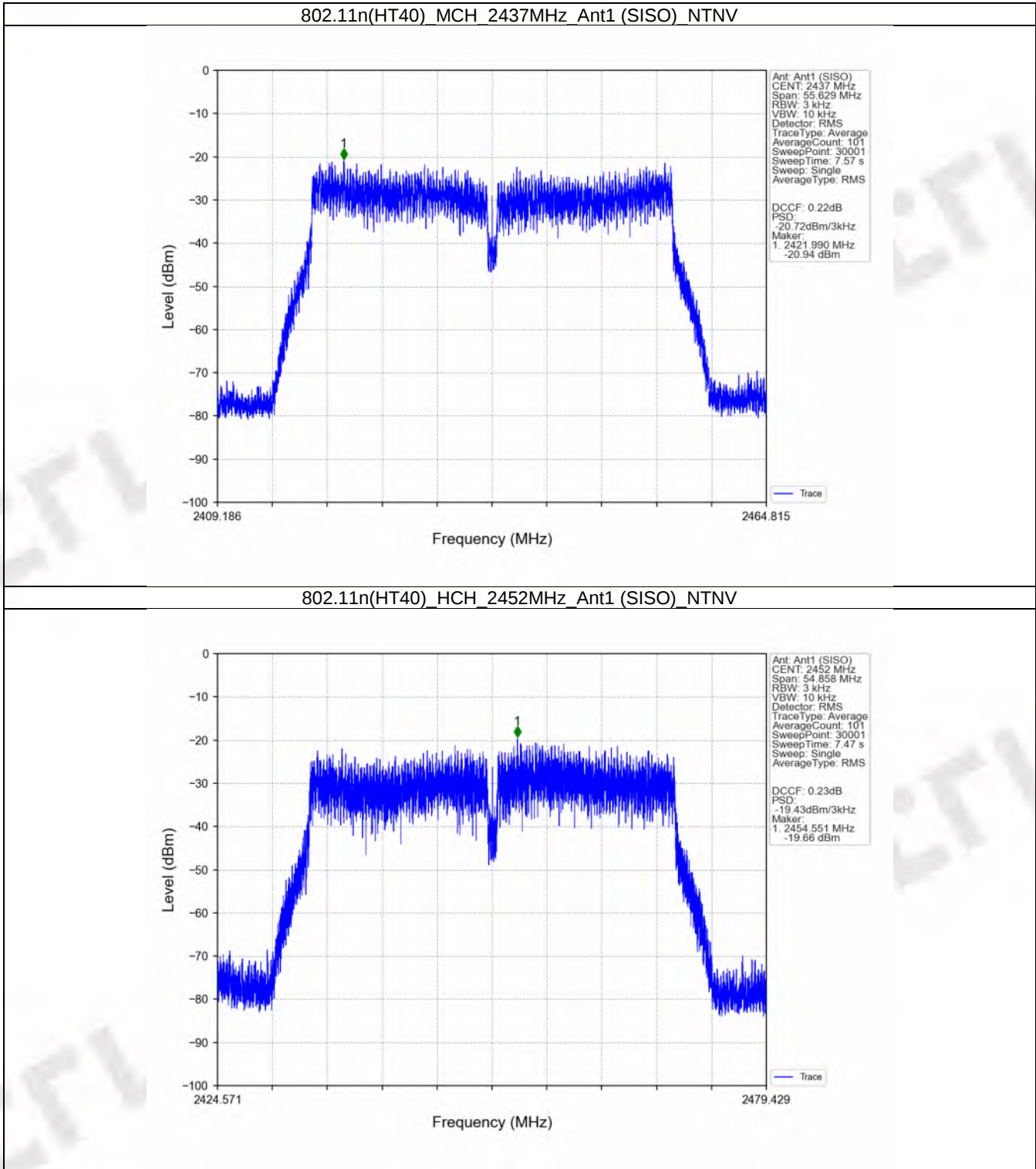
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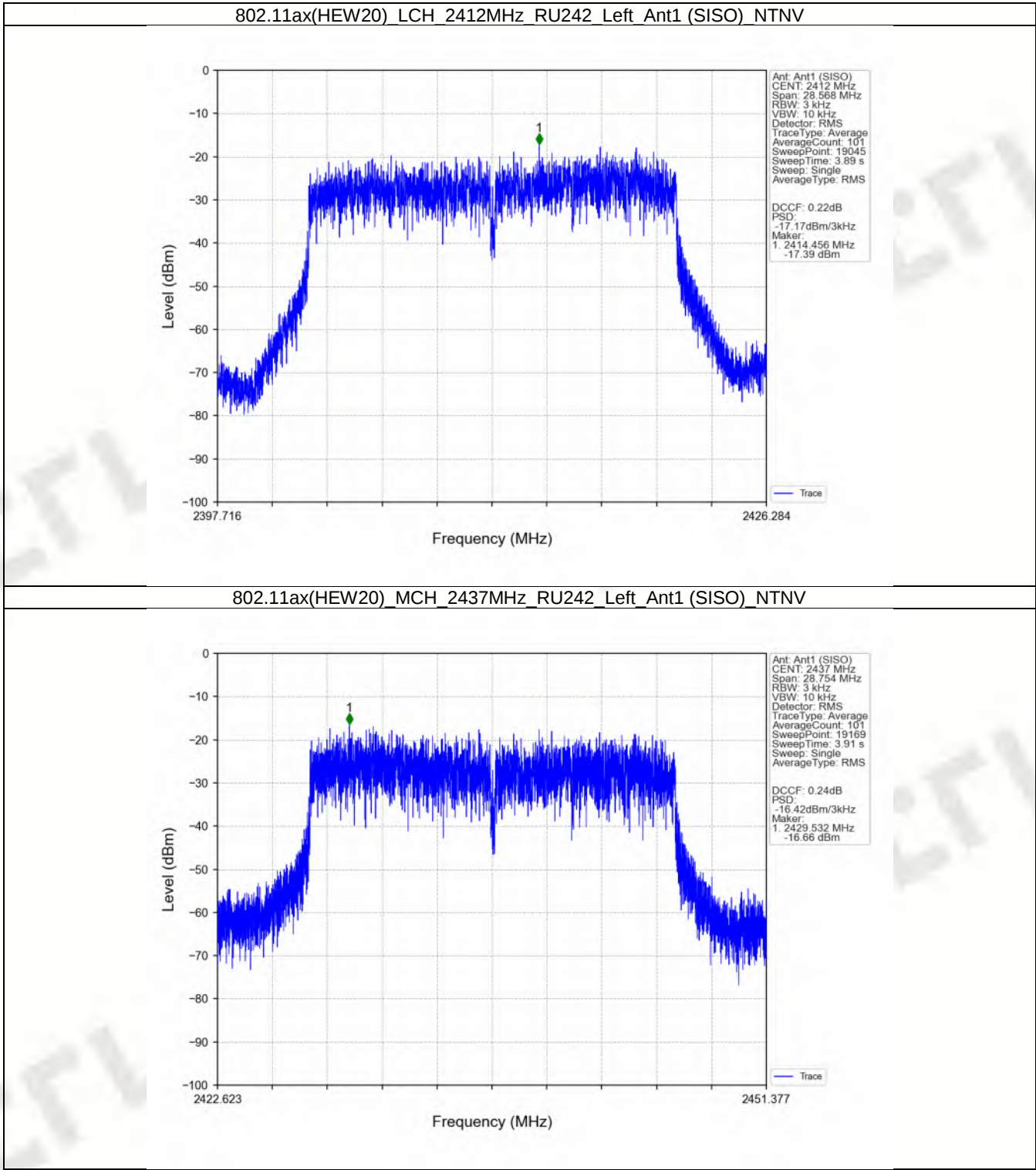
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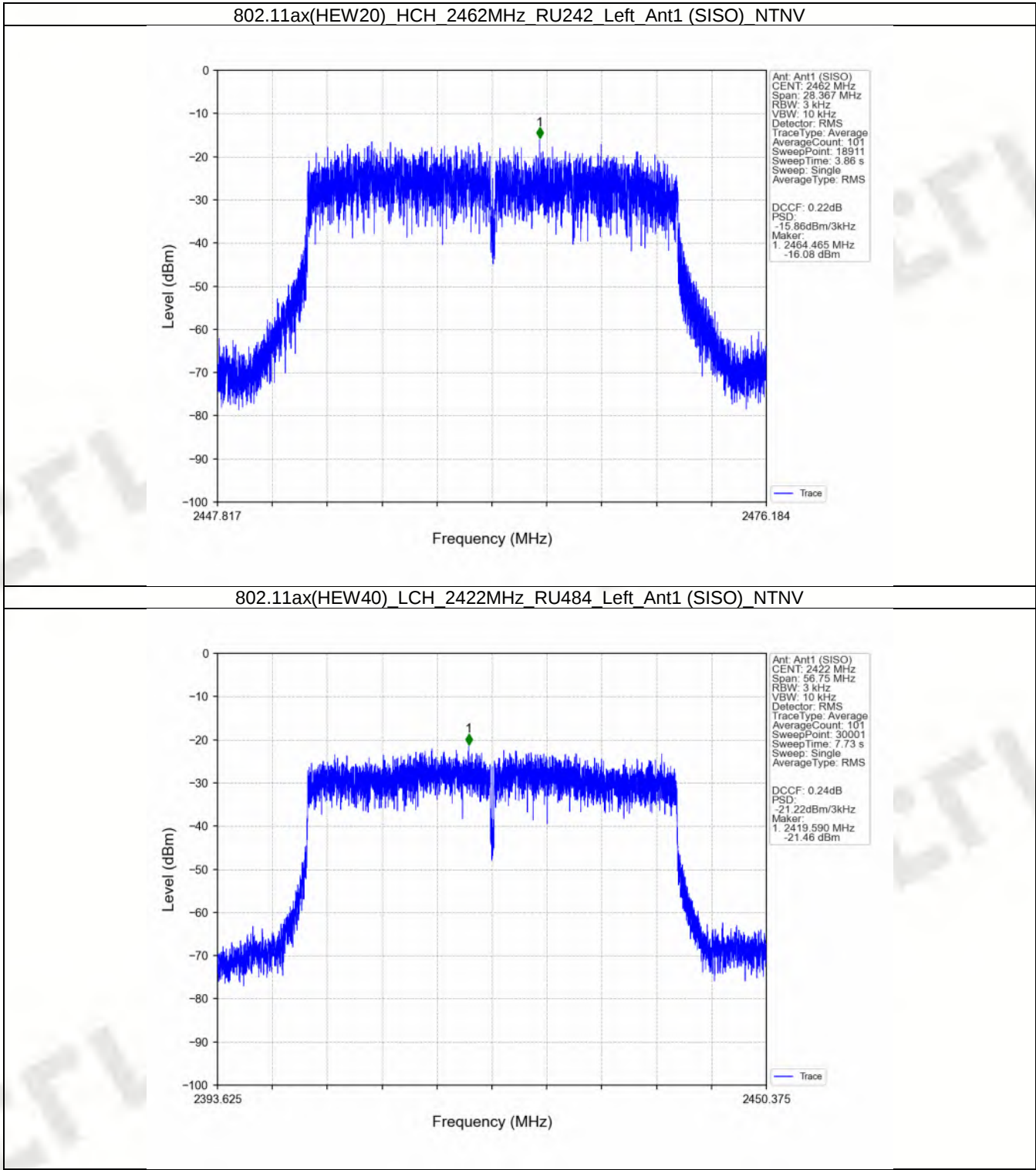
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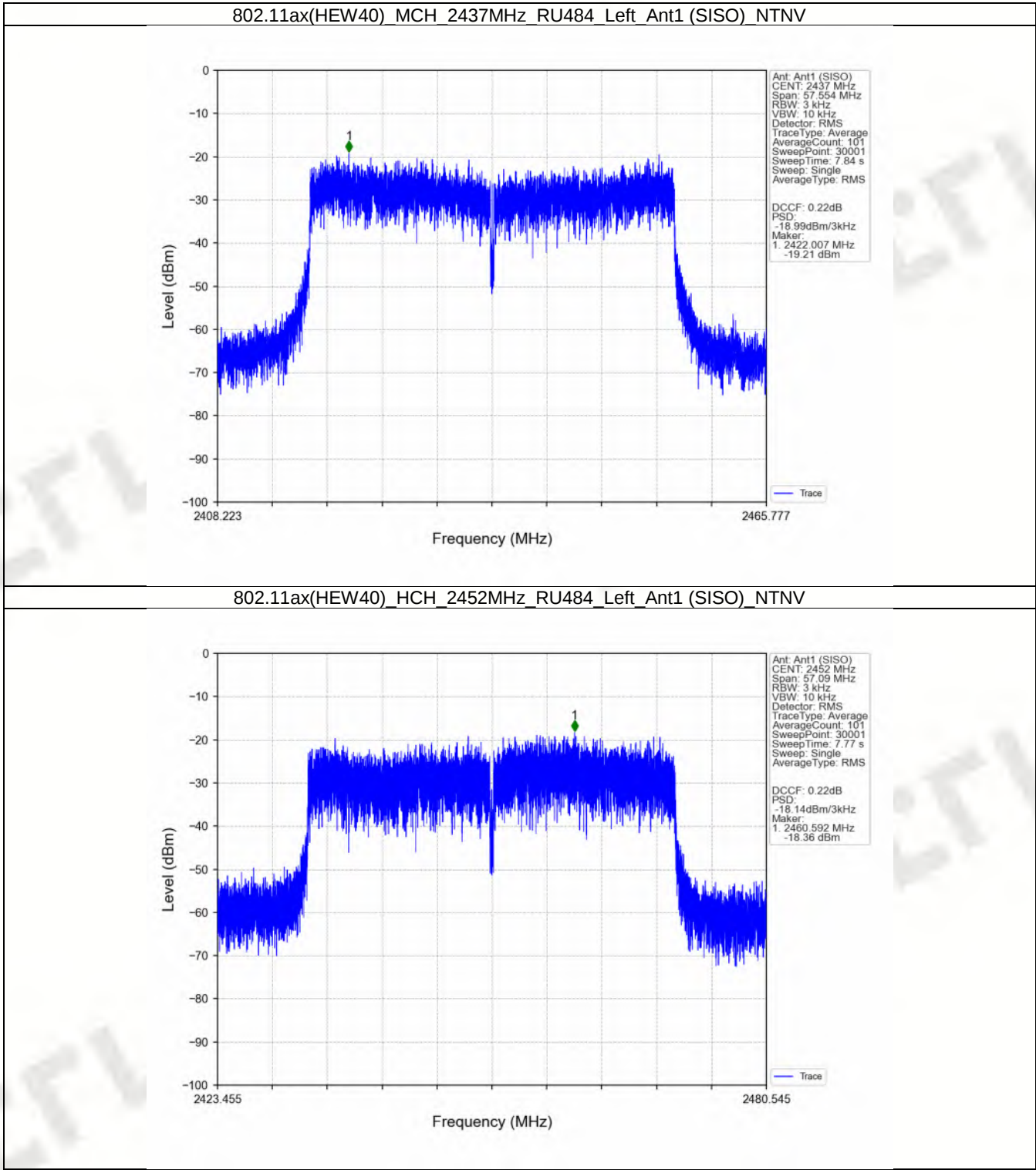
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FCCID: SMQ-UWM3



FCCID: SMQ-UWM3



FCCID: SMQ-UWM3

4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Test Result

4.1.1 Ref

Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)
802.11b	SISO	2412	/	/	1	5.02
		2437	/	/	1	5.52
		2462	/	/	1	6.08
802.11g	SISO	2412	/	/	1	0.92
		2437	/	/	1	0.62
		2462	/	/	1	6.45
802.11n (HT20)	SISO	2412	/	/	1	4.62
		2437	/	/	1	6.06
		2462	/	/	1	3.37
802.11n (HT40)	SISO	2422	/	/	1	-0.77
		2437	/	/	1	-0.79
		2452	/	/	1	-0.94
802.11ax (HEW20)	SISO	2412	RU242	Left	1	1.25
		2437	RU242	Left	1	1.78
		2462	RU242	Left	1	1.99
802.11ax (HEW40)	SISO	2422	RU484	Left	1	-1.10
		2437	RU484	Left	1	0.36
		2452	RU484	Left	1	1.30

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

4.1.2 CSE

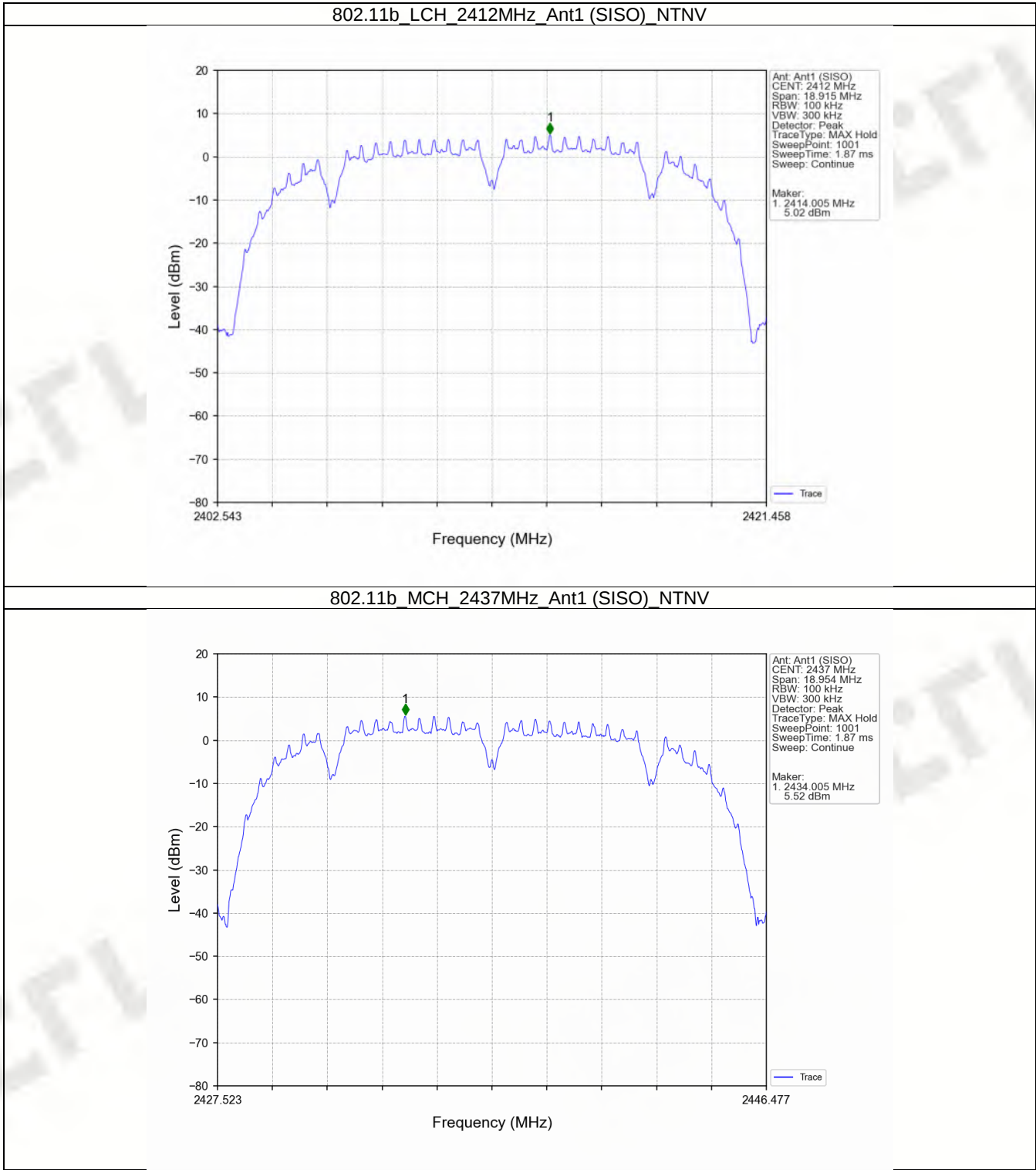
Mode	TX Type	Frequency (MHz)	RU	RU Pos	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	6.08	-23.92	Pass
		2437	/	/	1	6.08	-23.92	Pass
		2462	/	/	1	6.08	-23.92	Pass
802.11g	SISO	2412	/	/	1	6.45	-23.55	Pass
		2437	/	/	1	6.45	-23.55	Pass
		2462	/	/	1	6.45	-23.55	Pass
802.11n (HT20)	SISO	2412	/	/	1	6.06	-23.94	Pass
		2437	/	/	1	6.06	-23.94	Pass
		2462	/	/	1	6.06	-23.94	Pass
802.11n (HT40)	SISO	2422	/	/	1	-0.77	-30.77	Pass
		2437	/	/	1	-0.77	-30.77	Pass
		2452	/	/	1	-0.77	-30.77	Pass
802.11ax (HEW20)	SISO	2412	RU242	Left	1	1.99	-28.01	Pass
		2437	RU242	Left	1	1.99	-28.01	Pass
		2462	RU242	Left	1	1.99	-28.01	Pass
802.11ax (HEW40)	SISO	2422	RU484	Left	1	1.30	-28.70	Pass
		2437	RU484	Left	1	1.30	-28.70	Pass
		2452	RU484	Left	1	1.30	-28.70	Pass

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

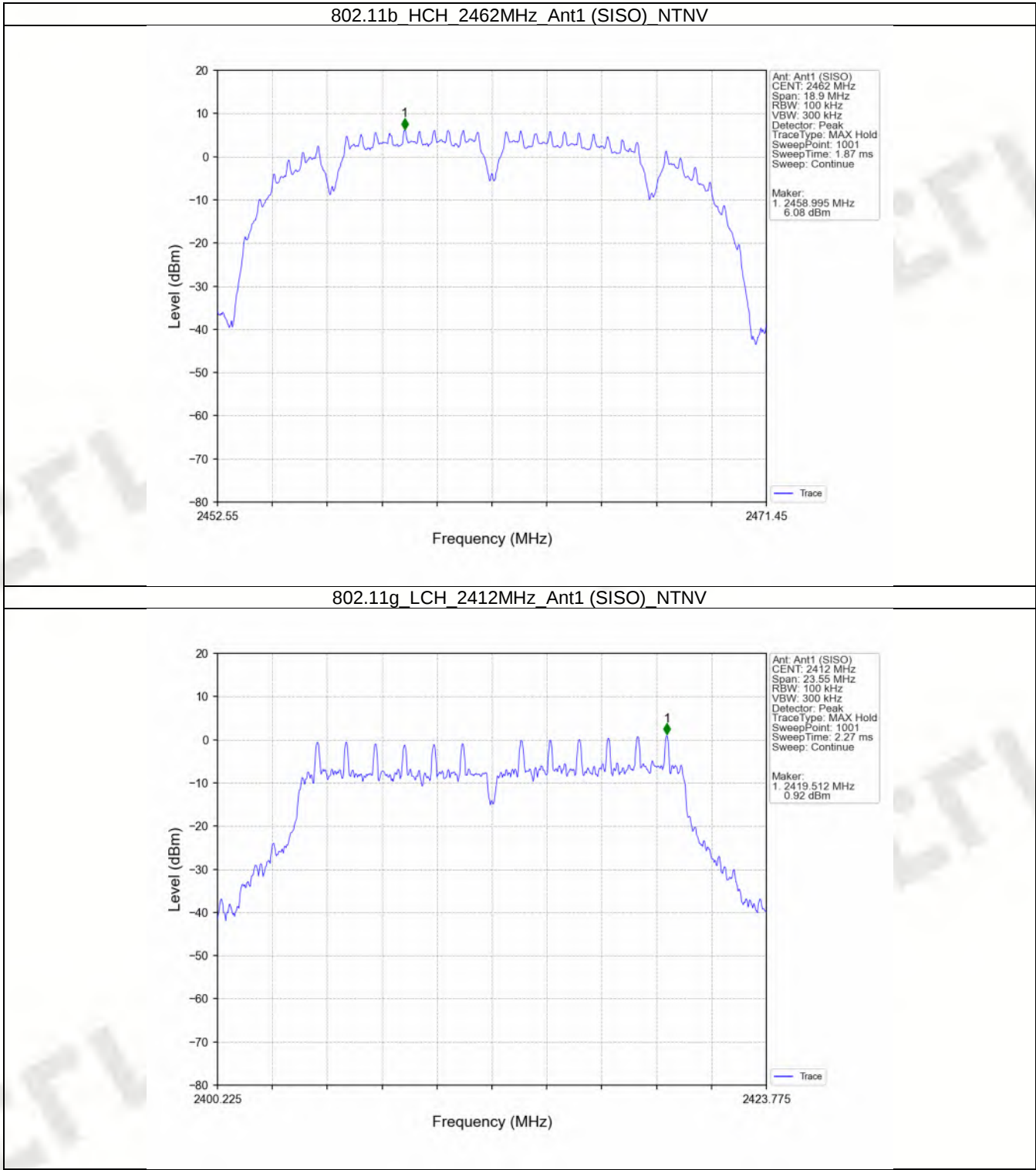
FCCID: SMQ-UWM3

4.2 Test Graph

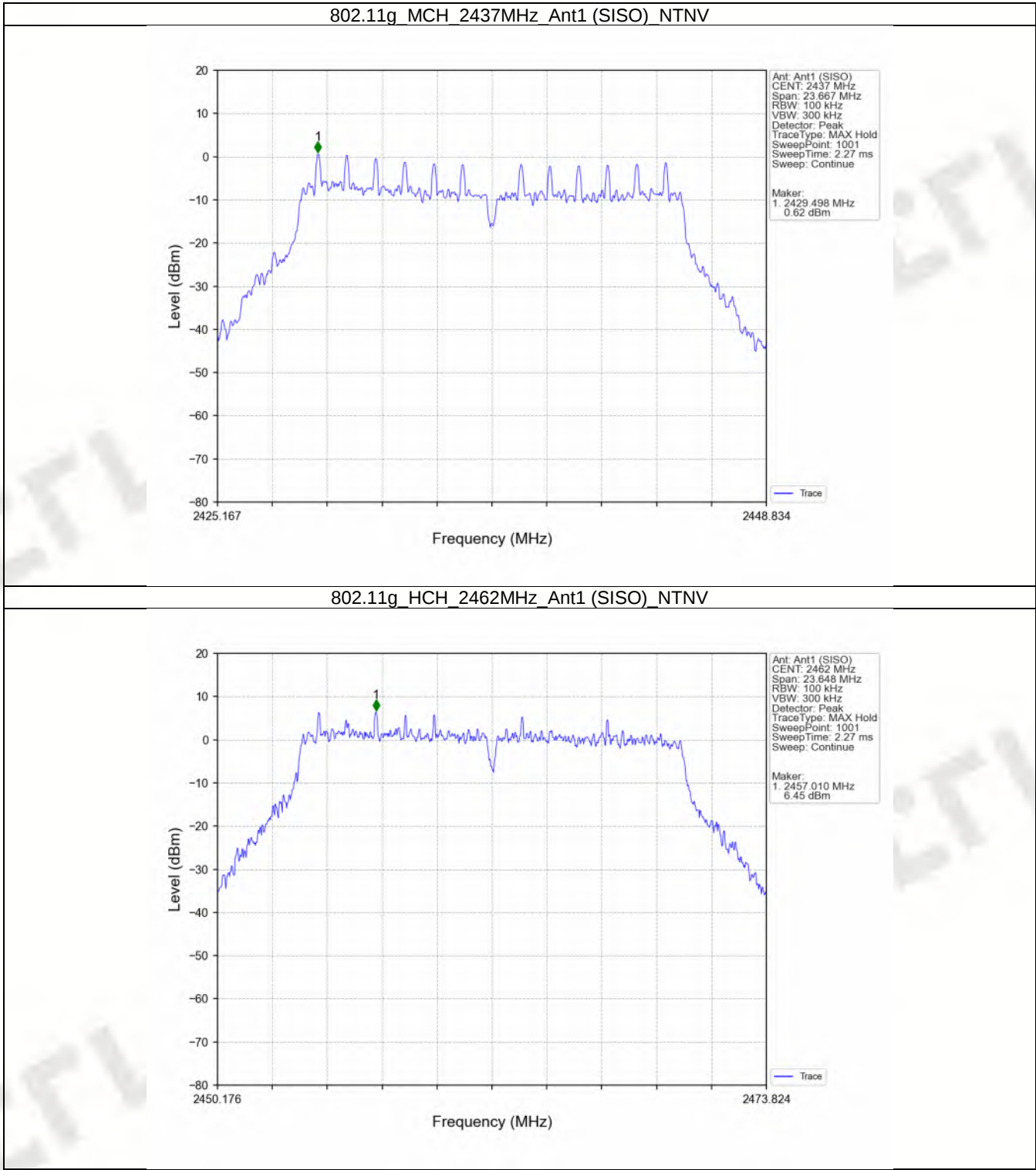
4.2.1 Ref



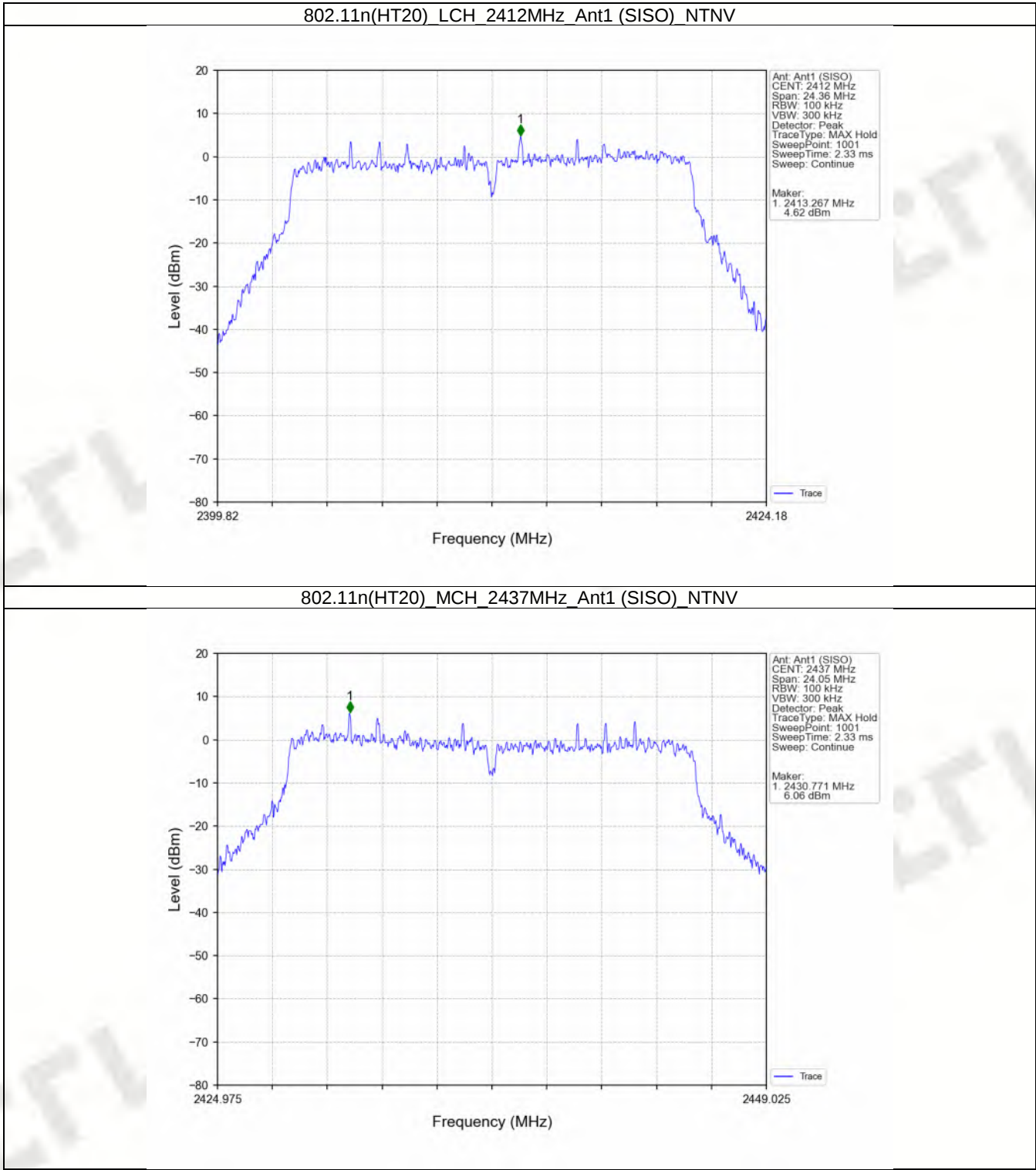
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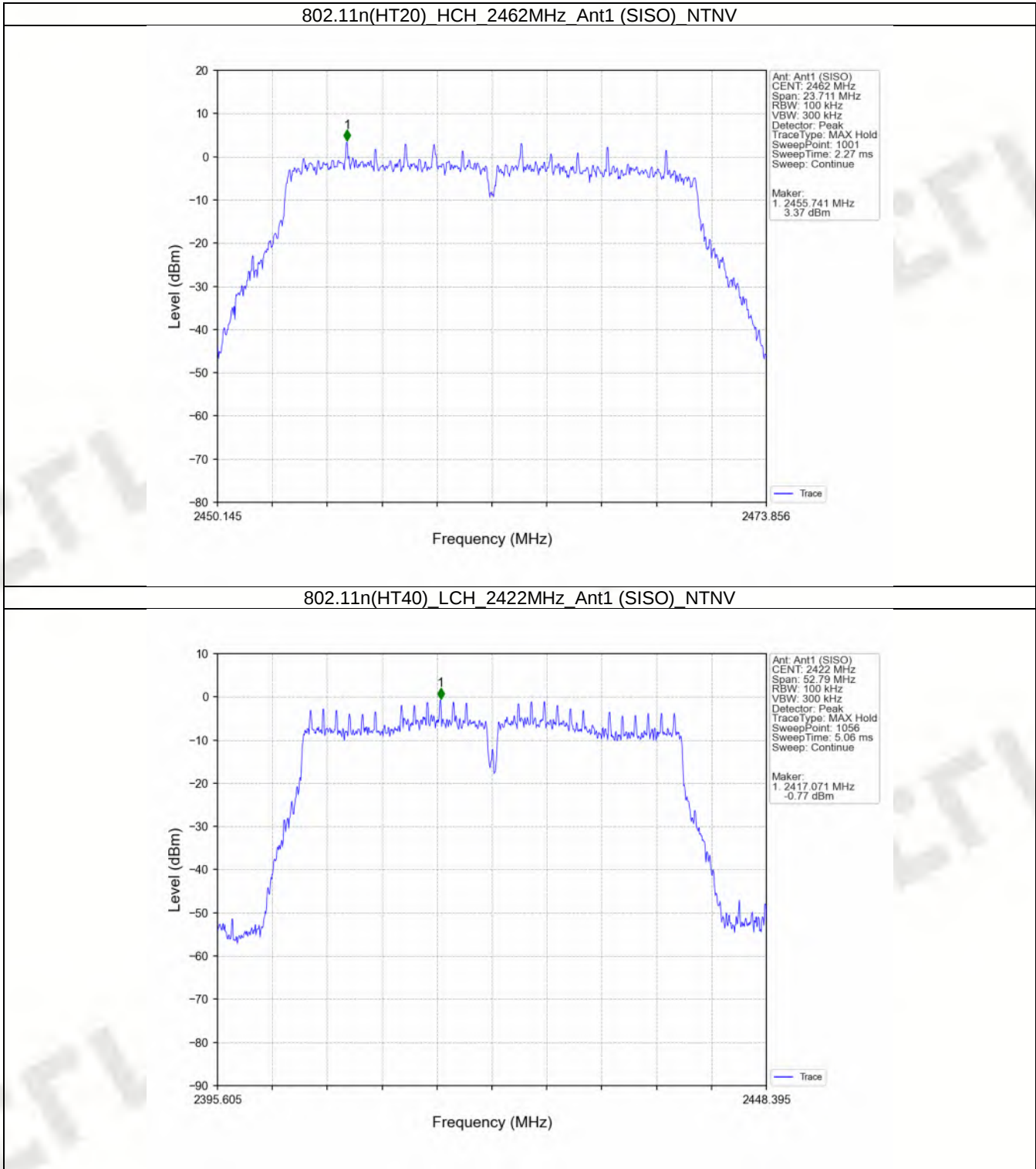
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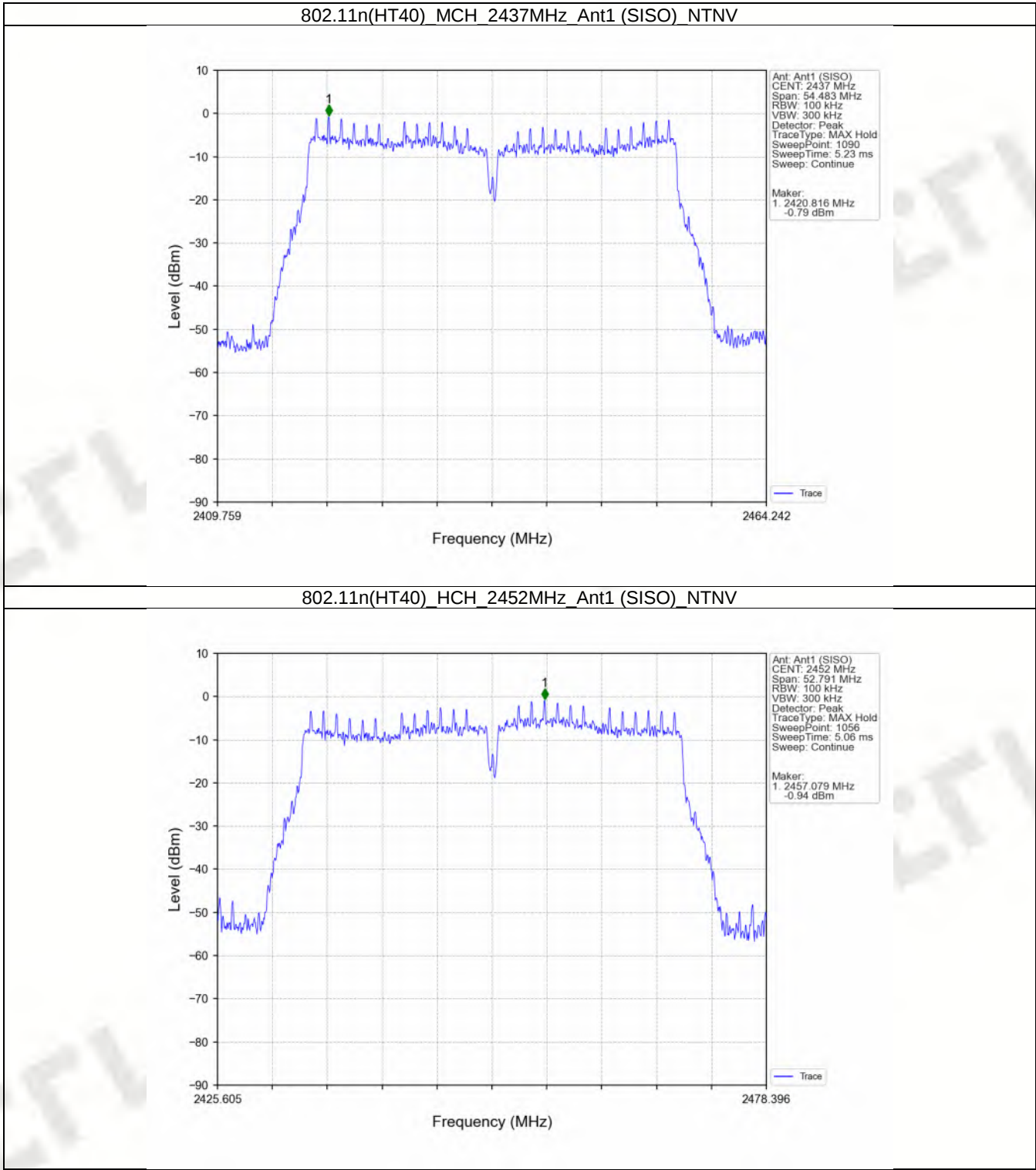
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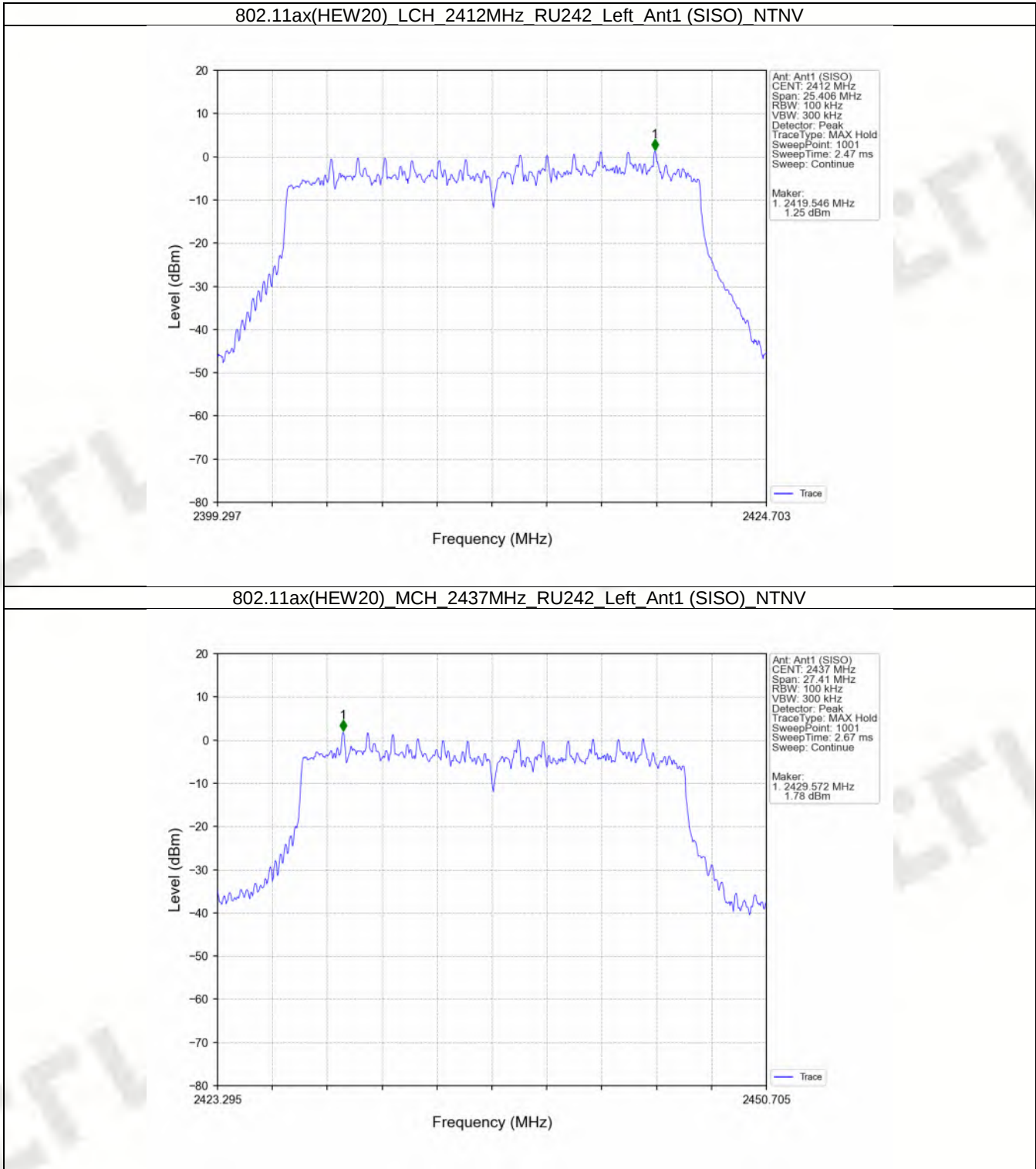
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FCCID: SMQ-UWM3

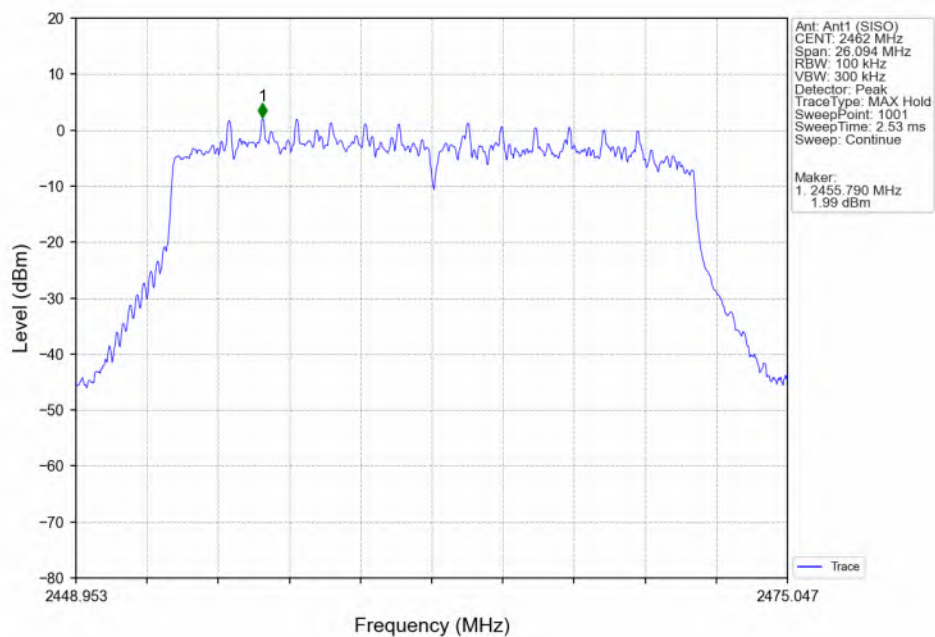


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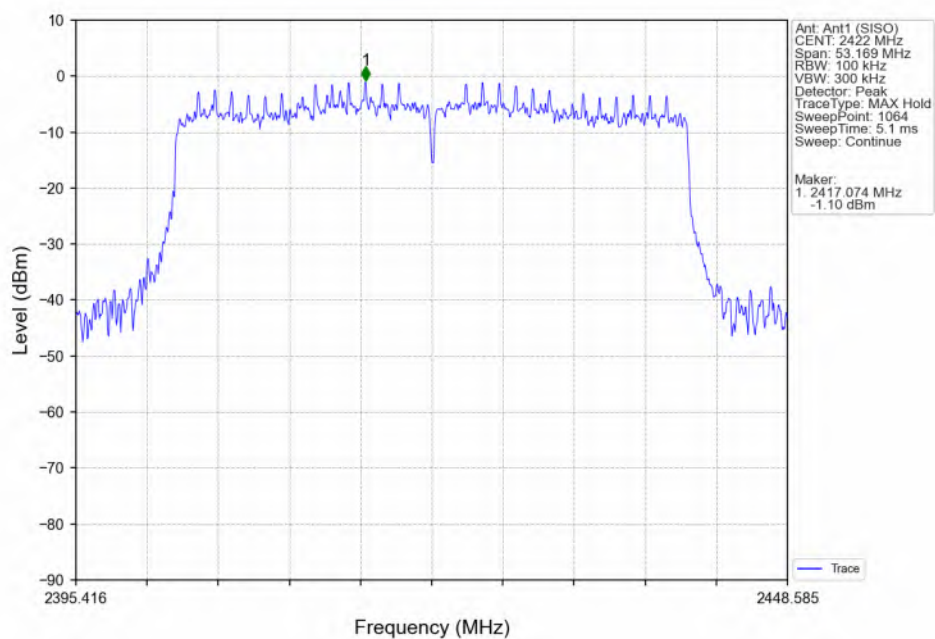


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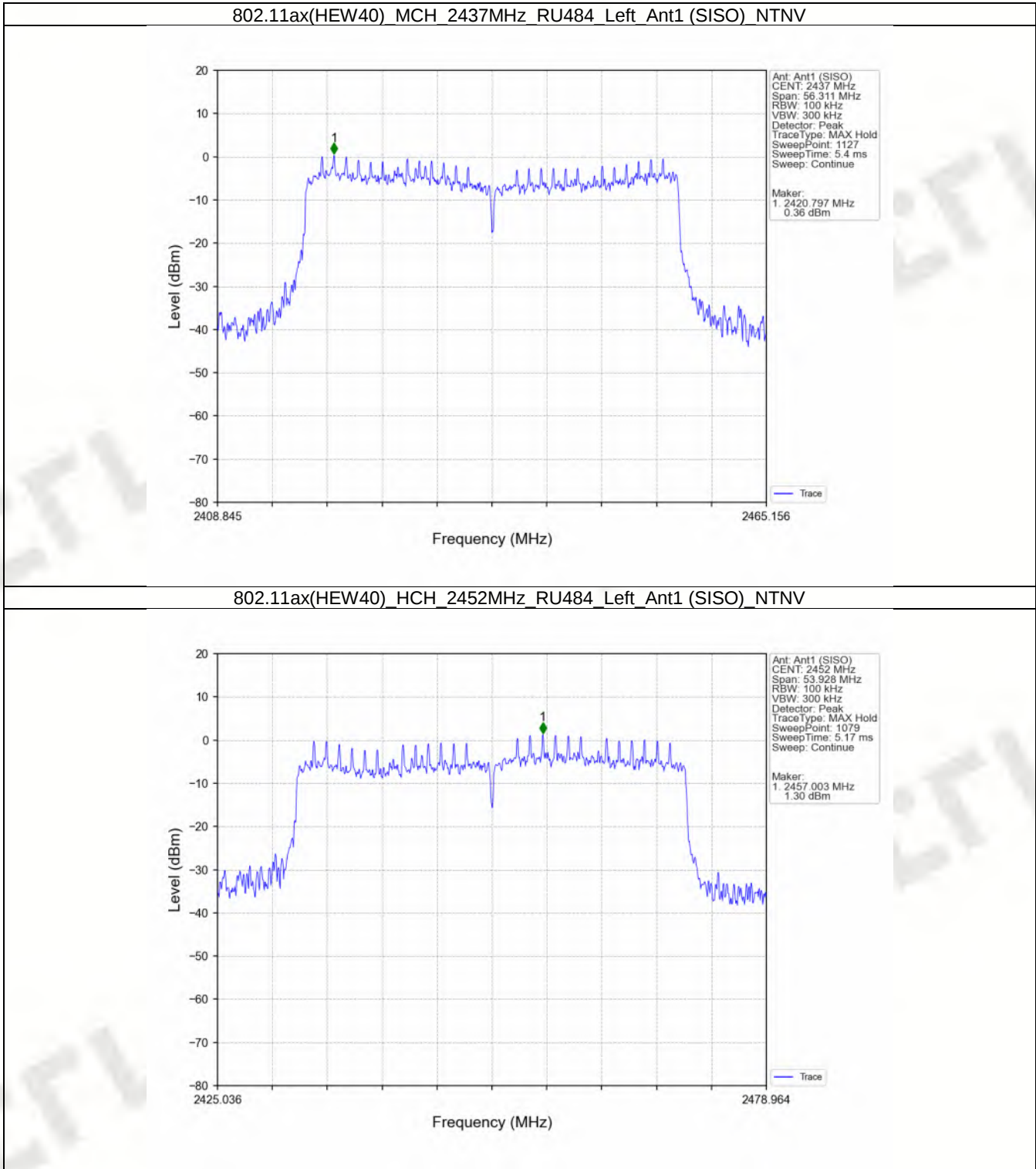
802.11ax(HEW20) HCH 2462MHz RU242 Left Ant1 (SISO) NTN



802.11ax(HEW40) LCH 2422MHz RU484 Left Ant1 (SISO) NTN

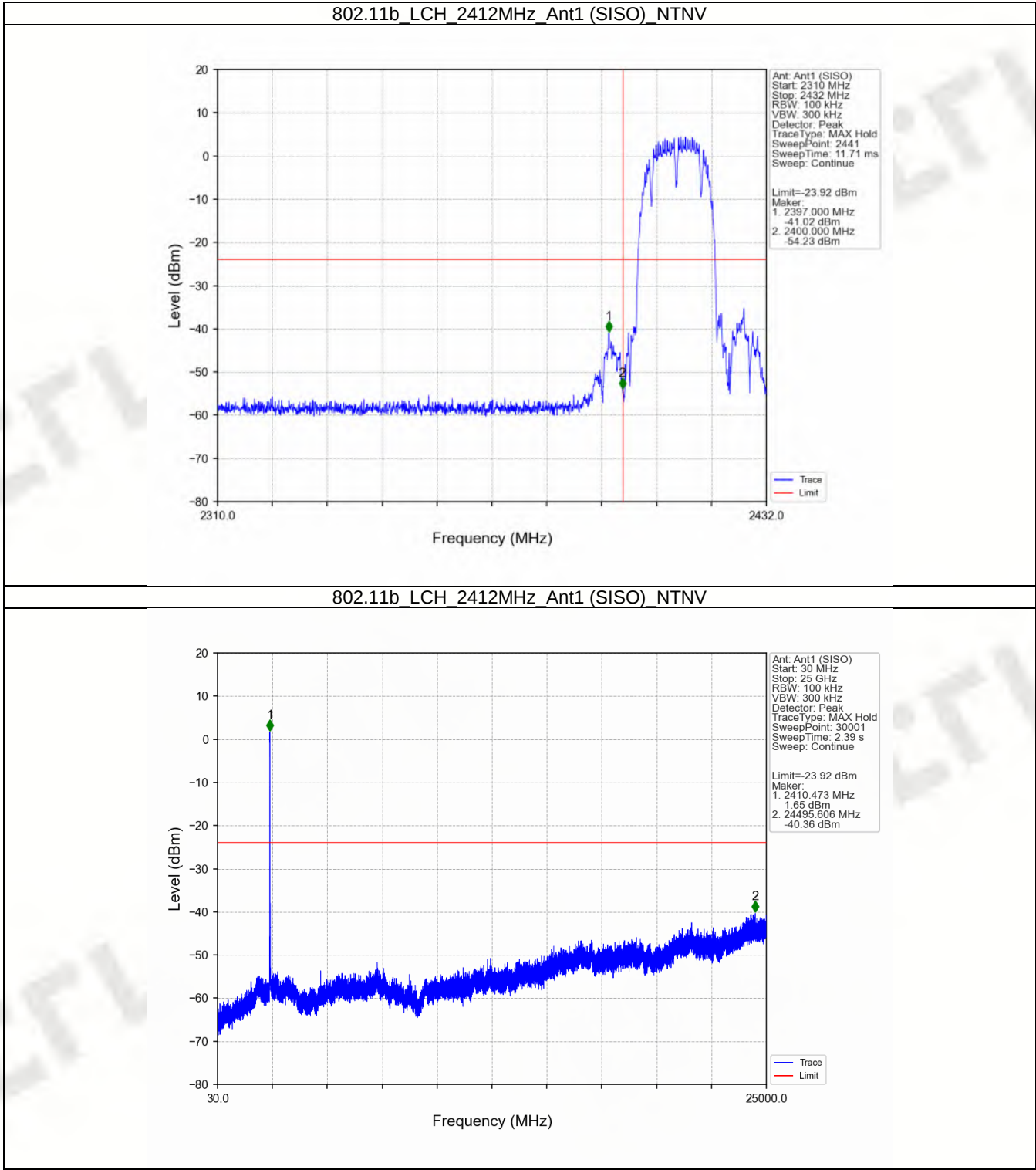


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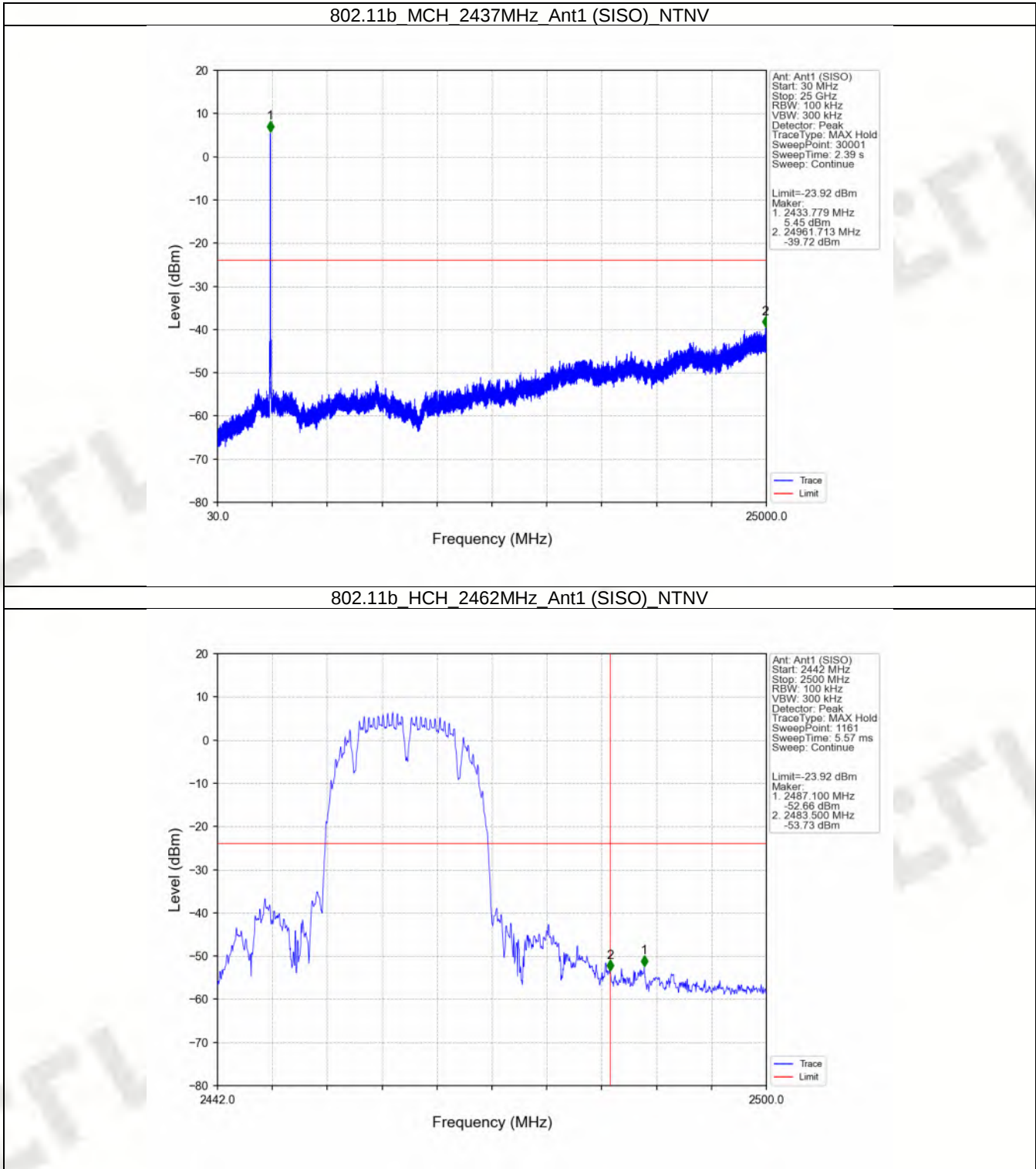


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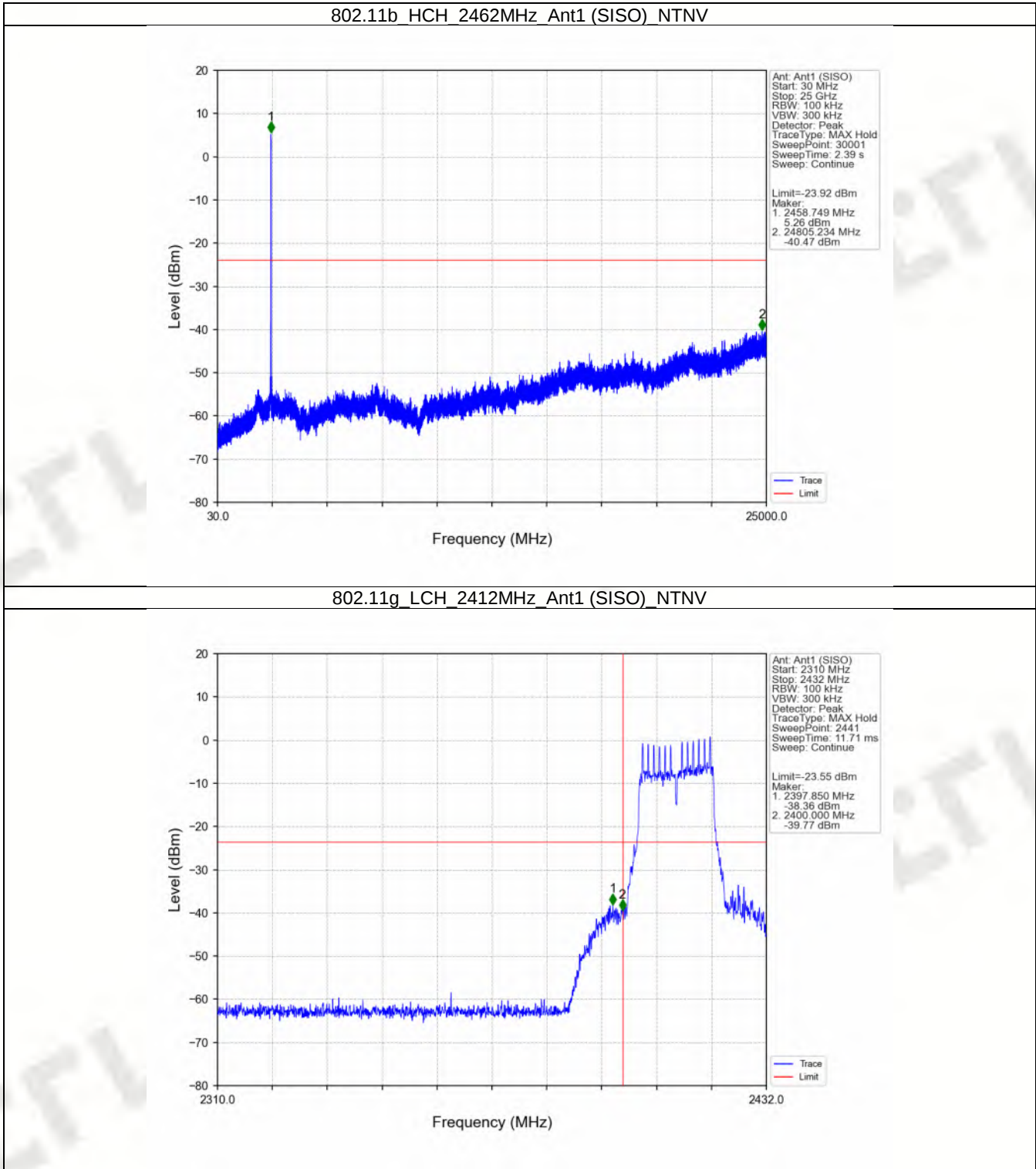
4.2.2 CSE



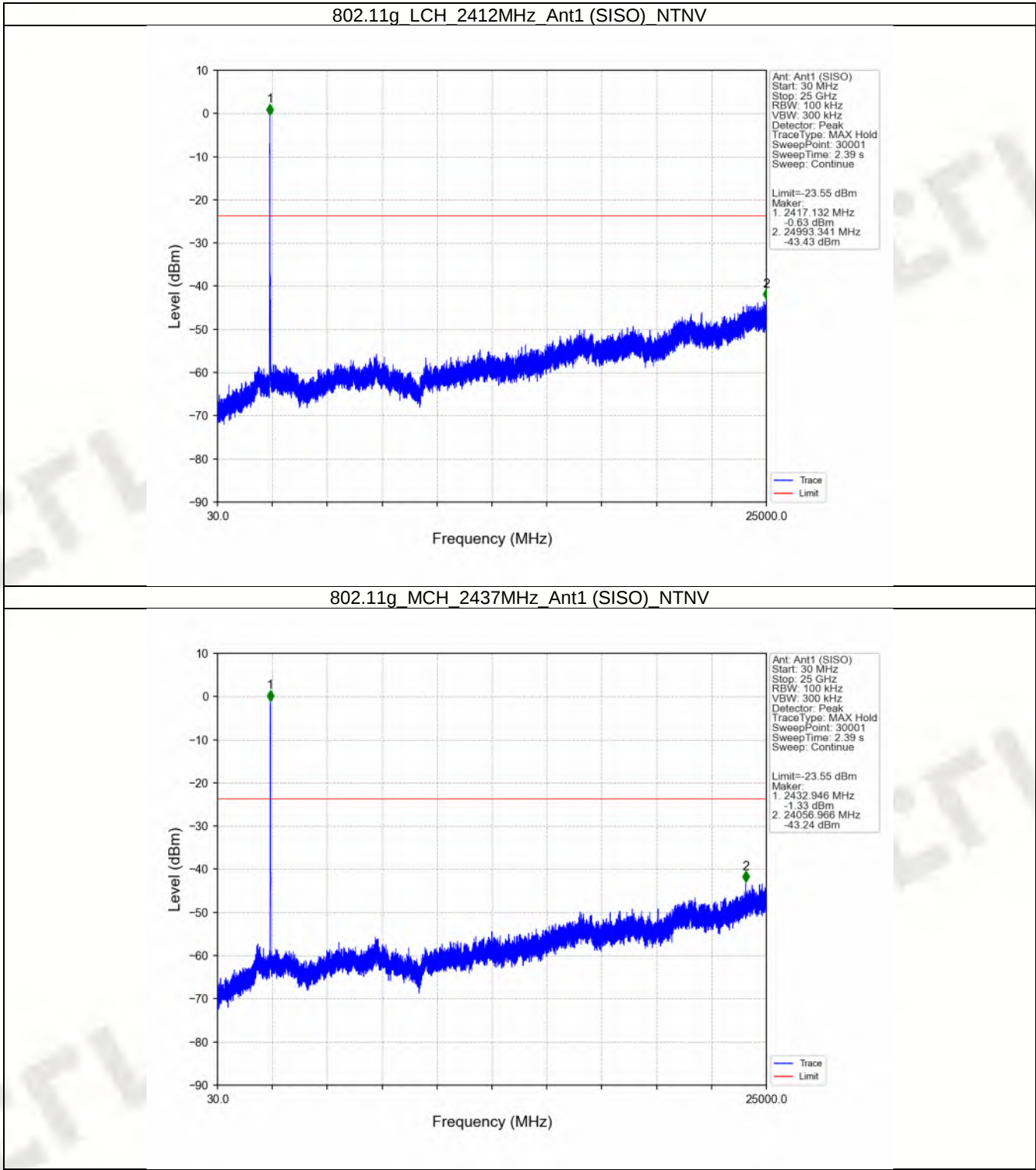
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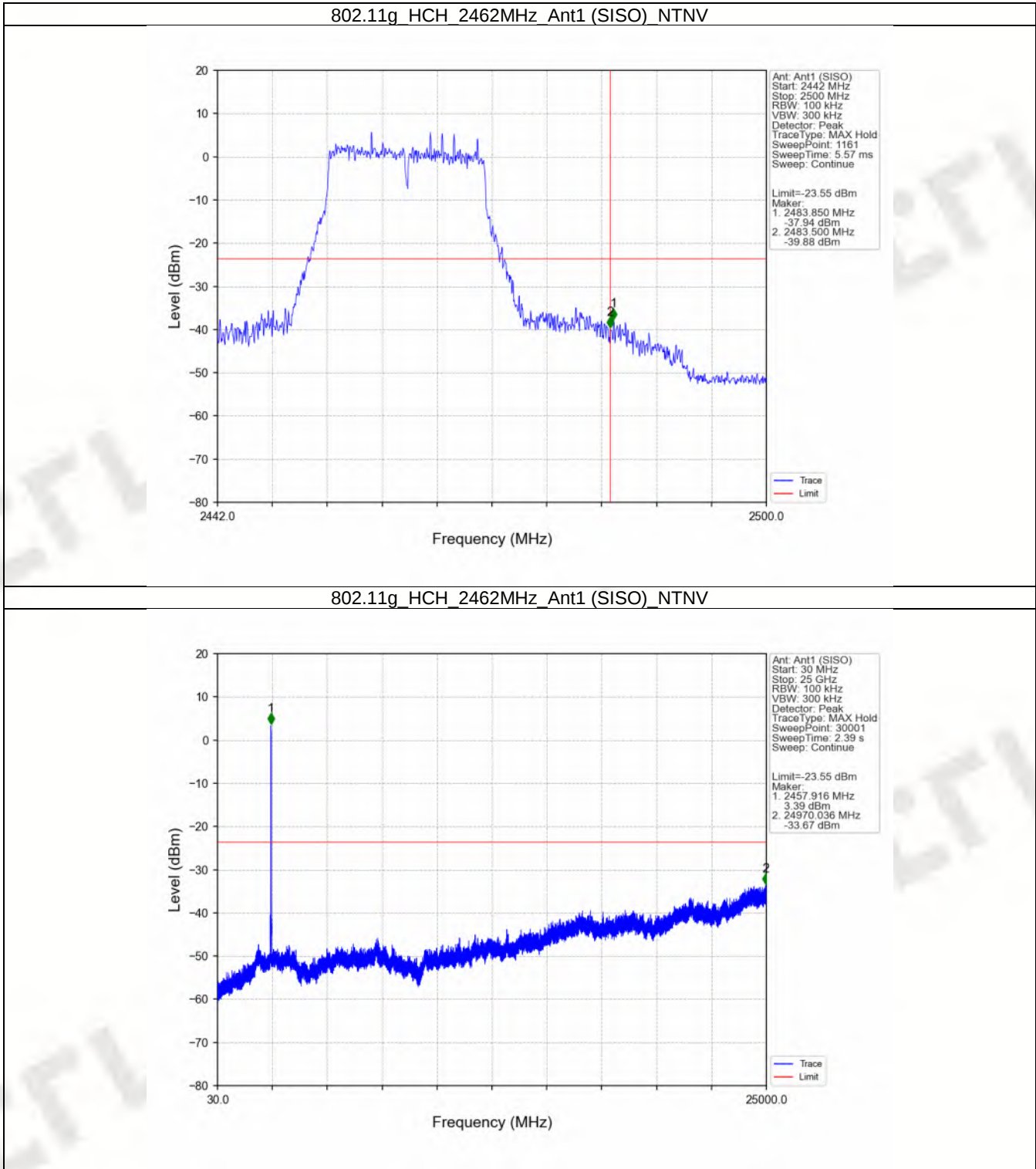
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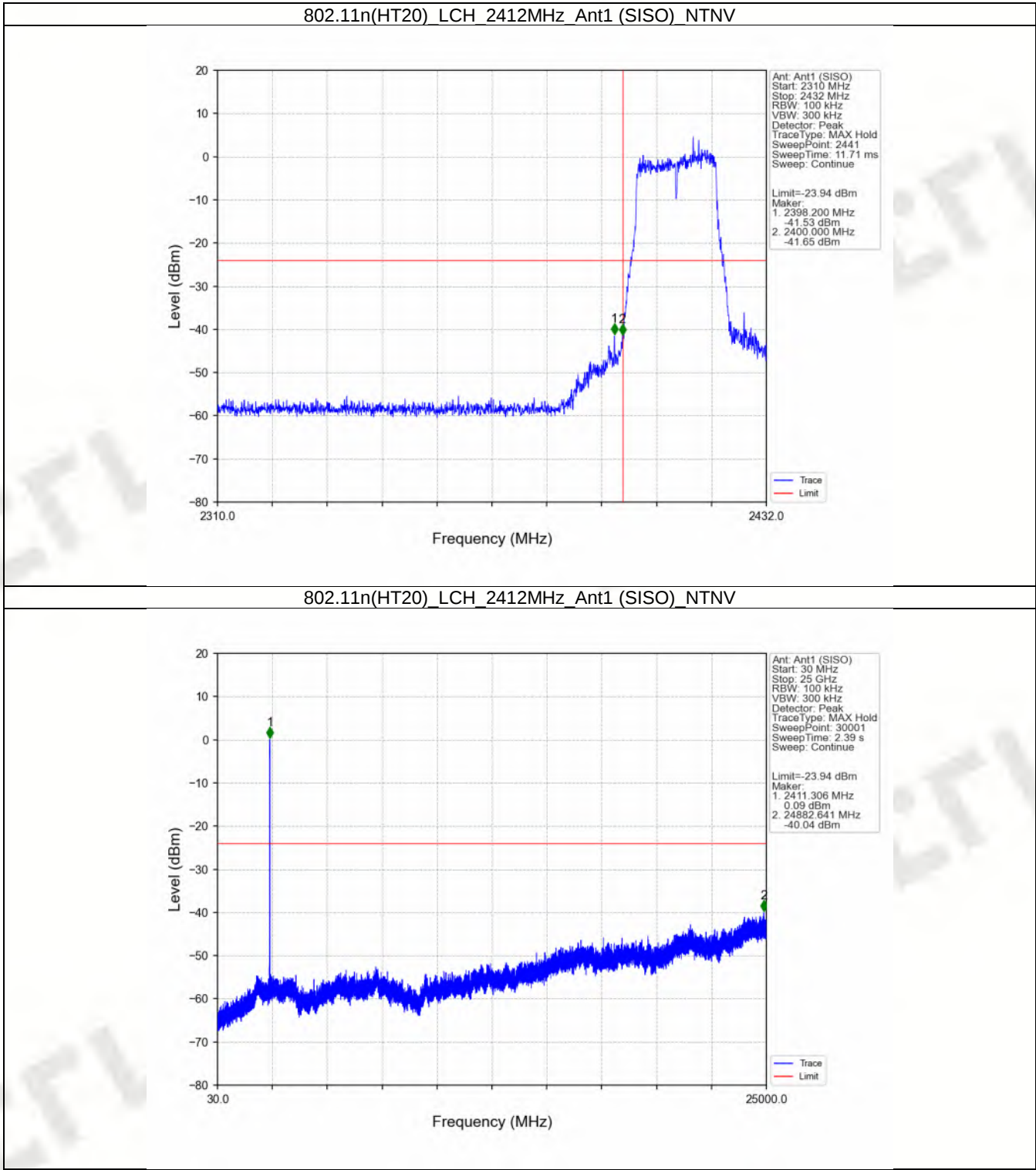
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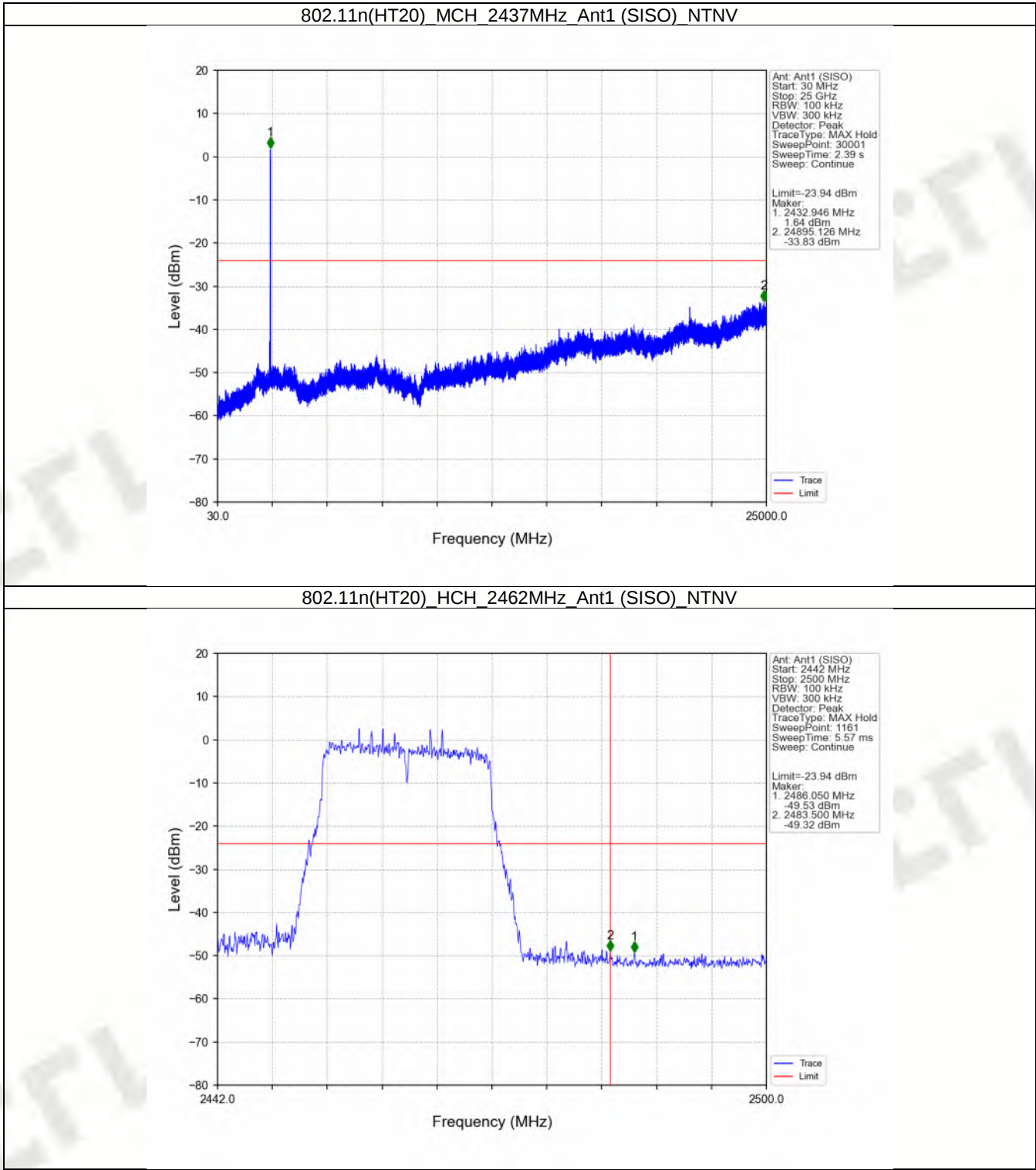
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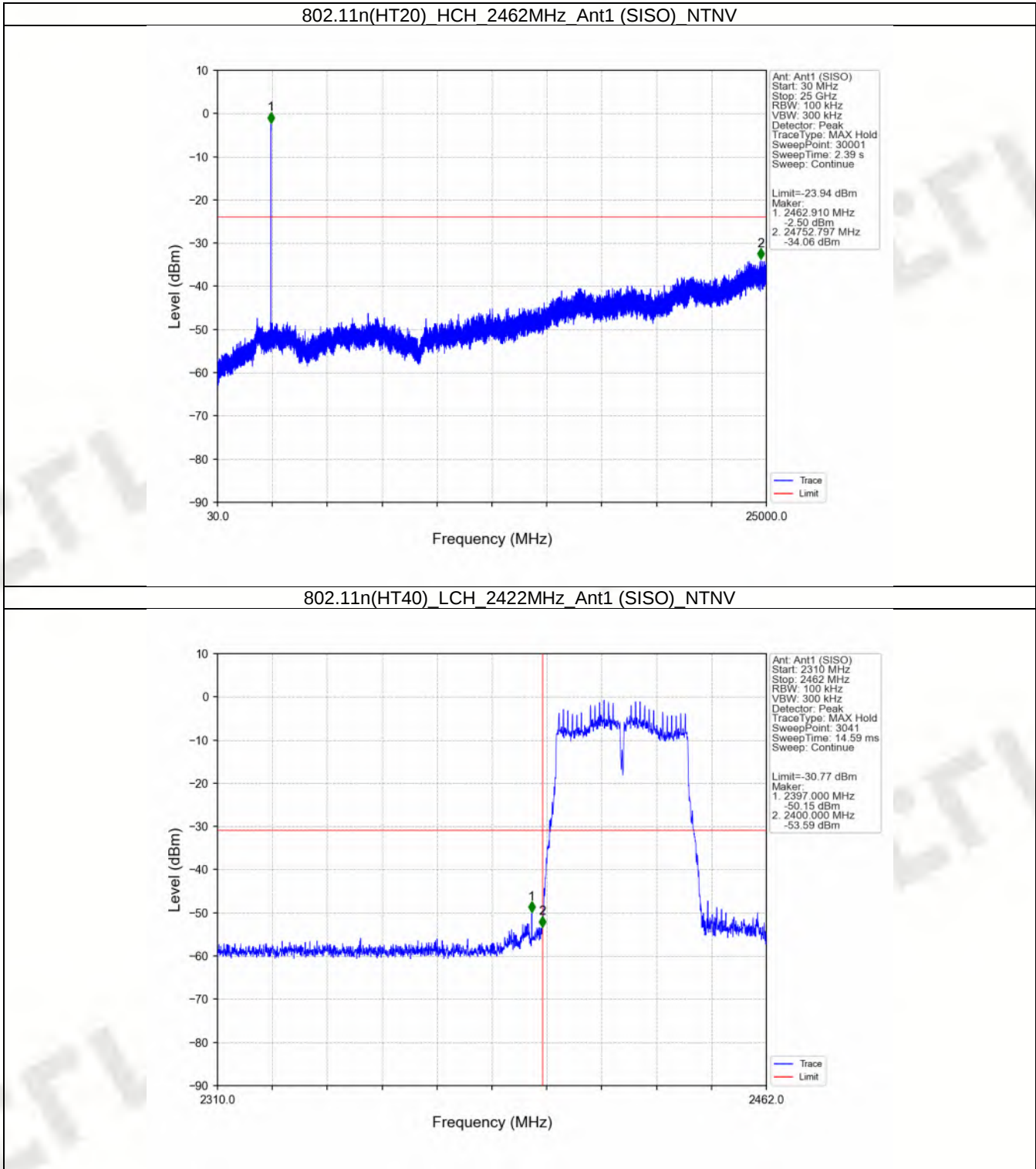
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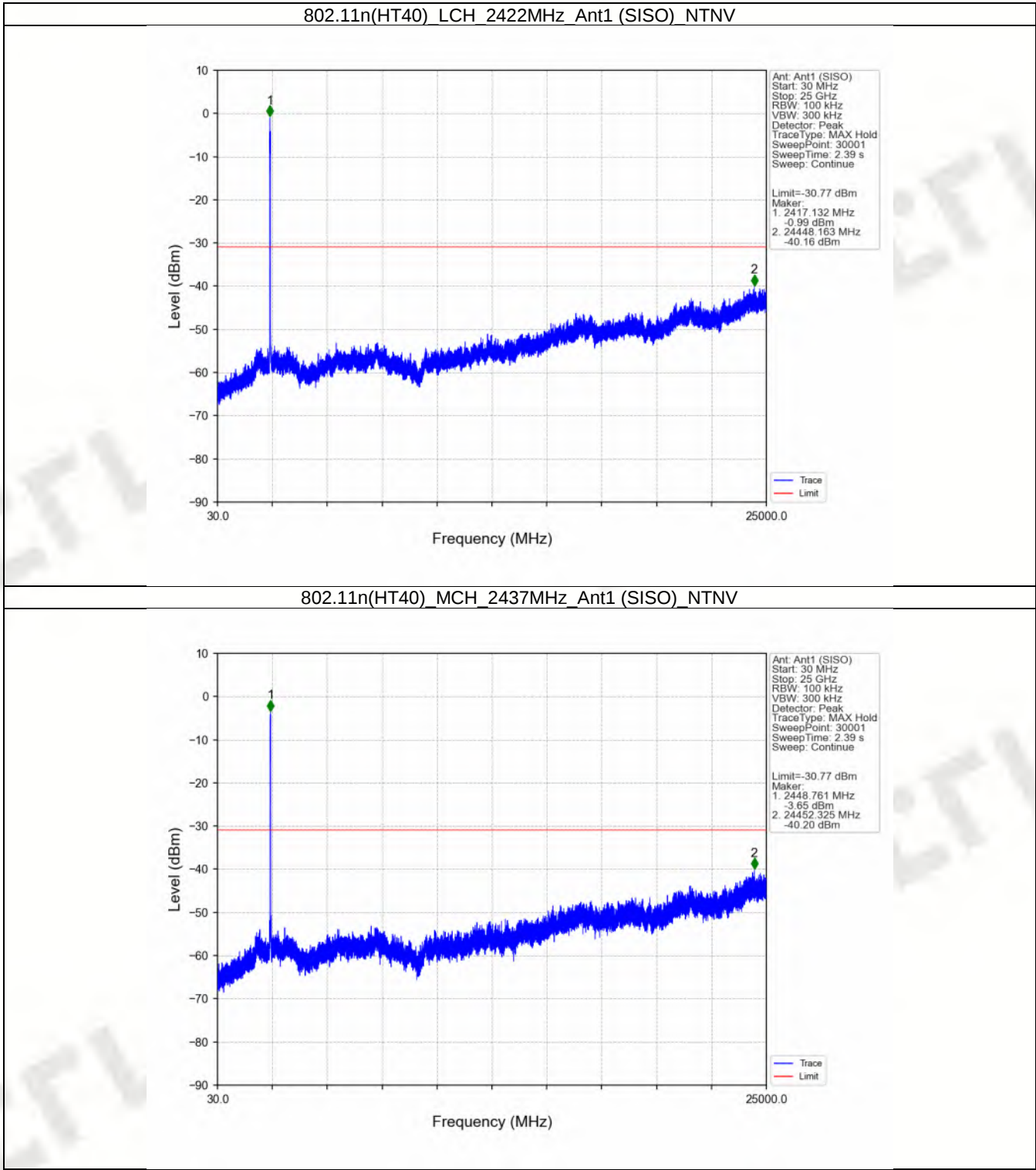
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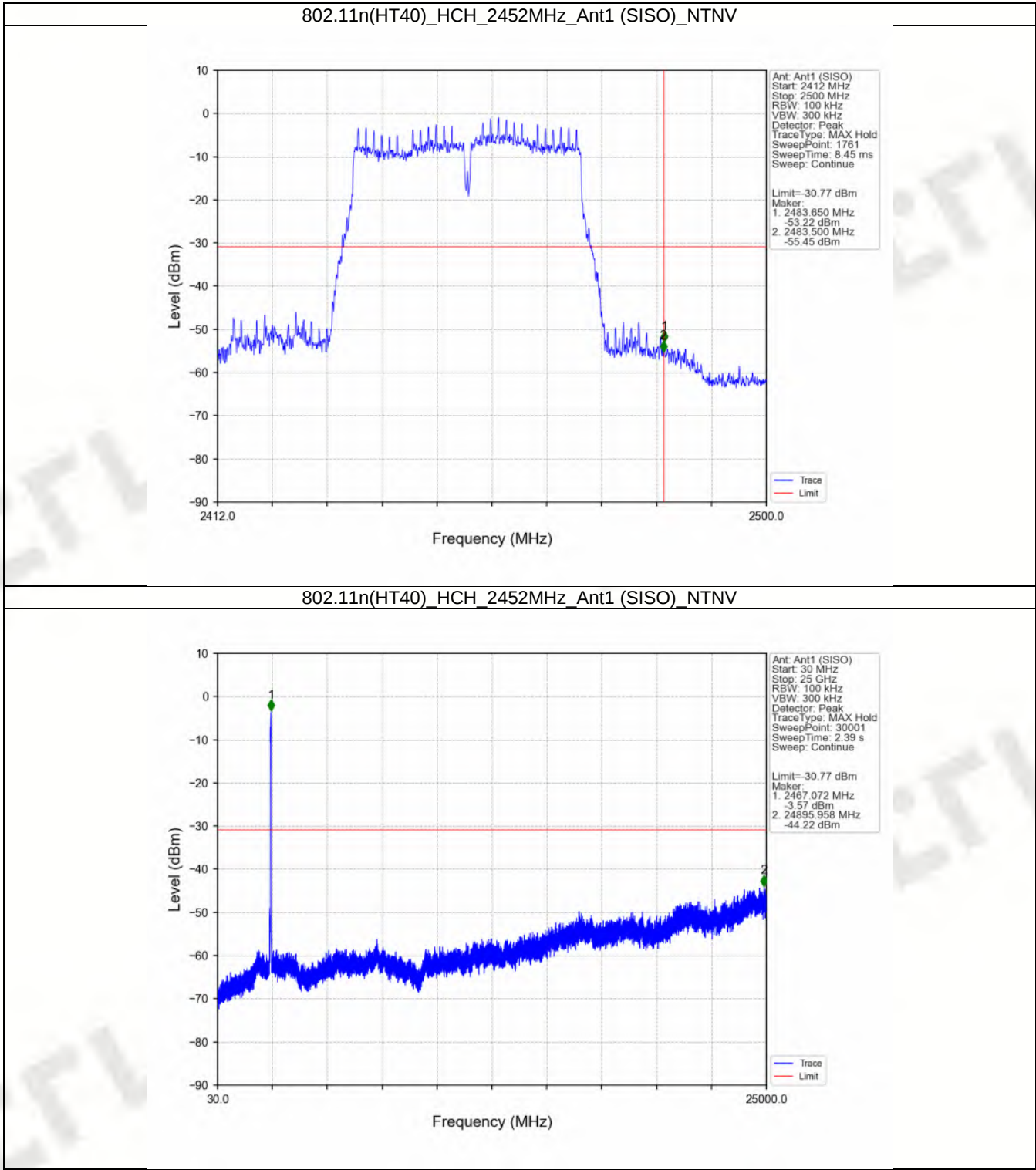
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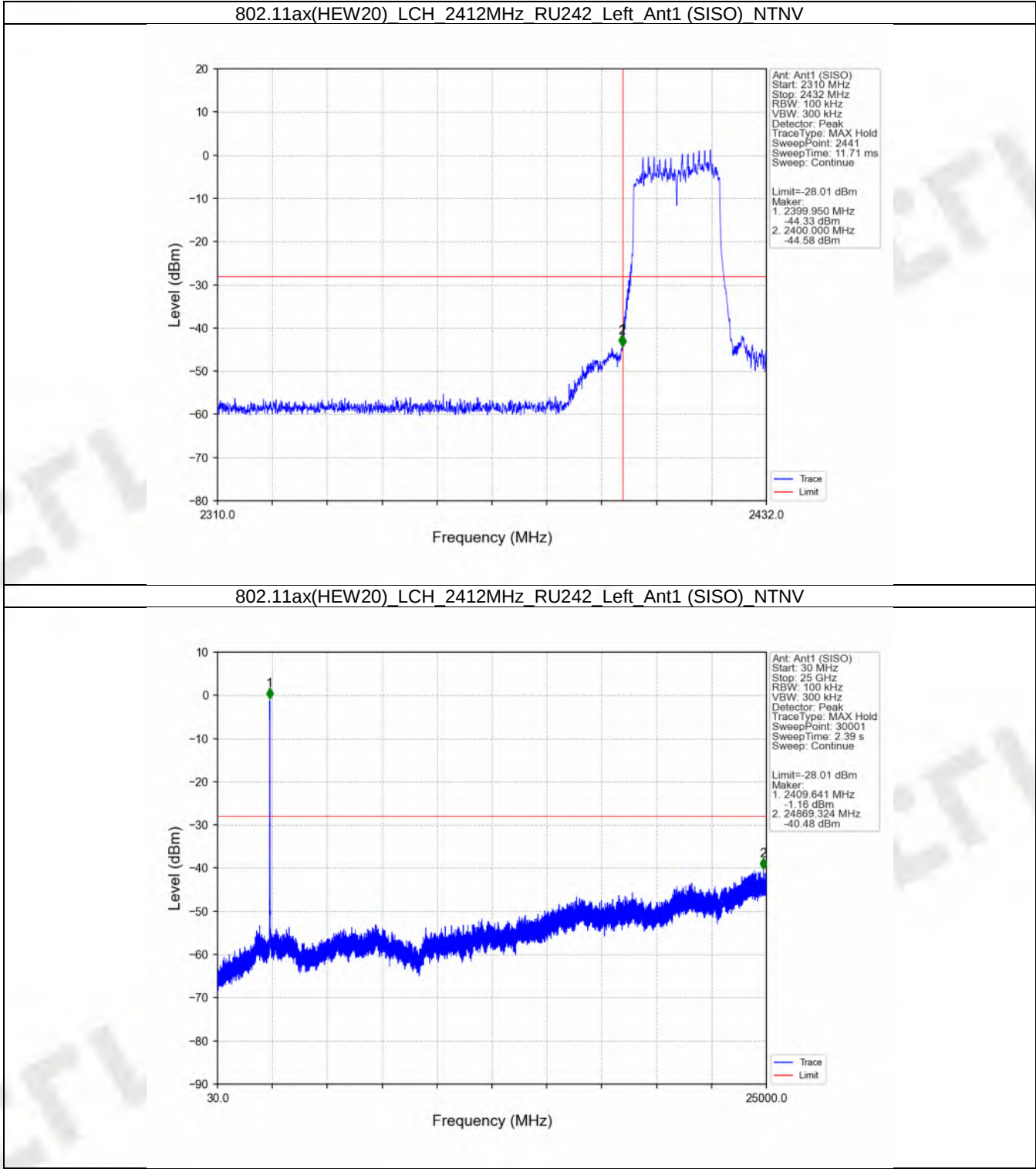
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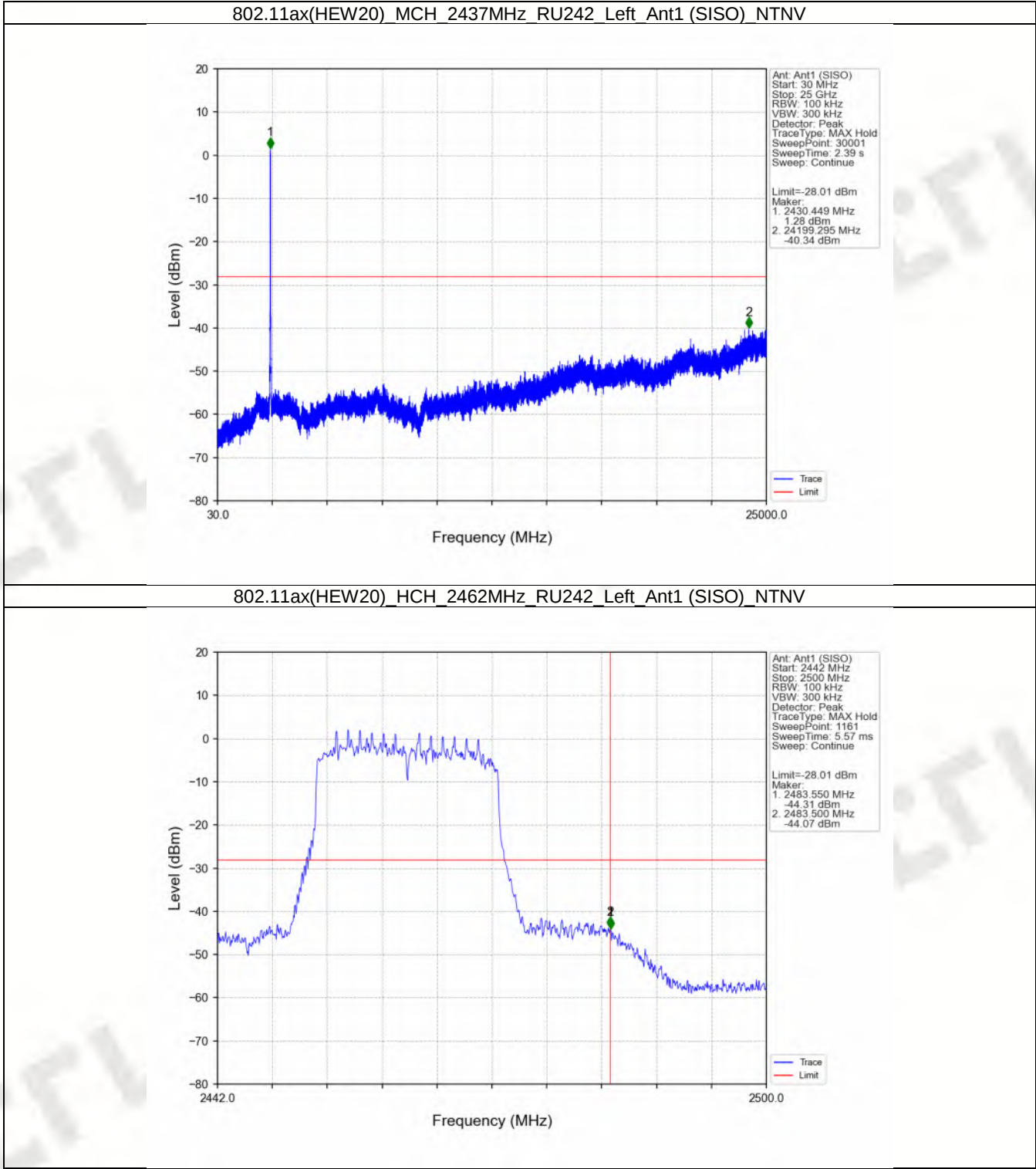
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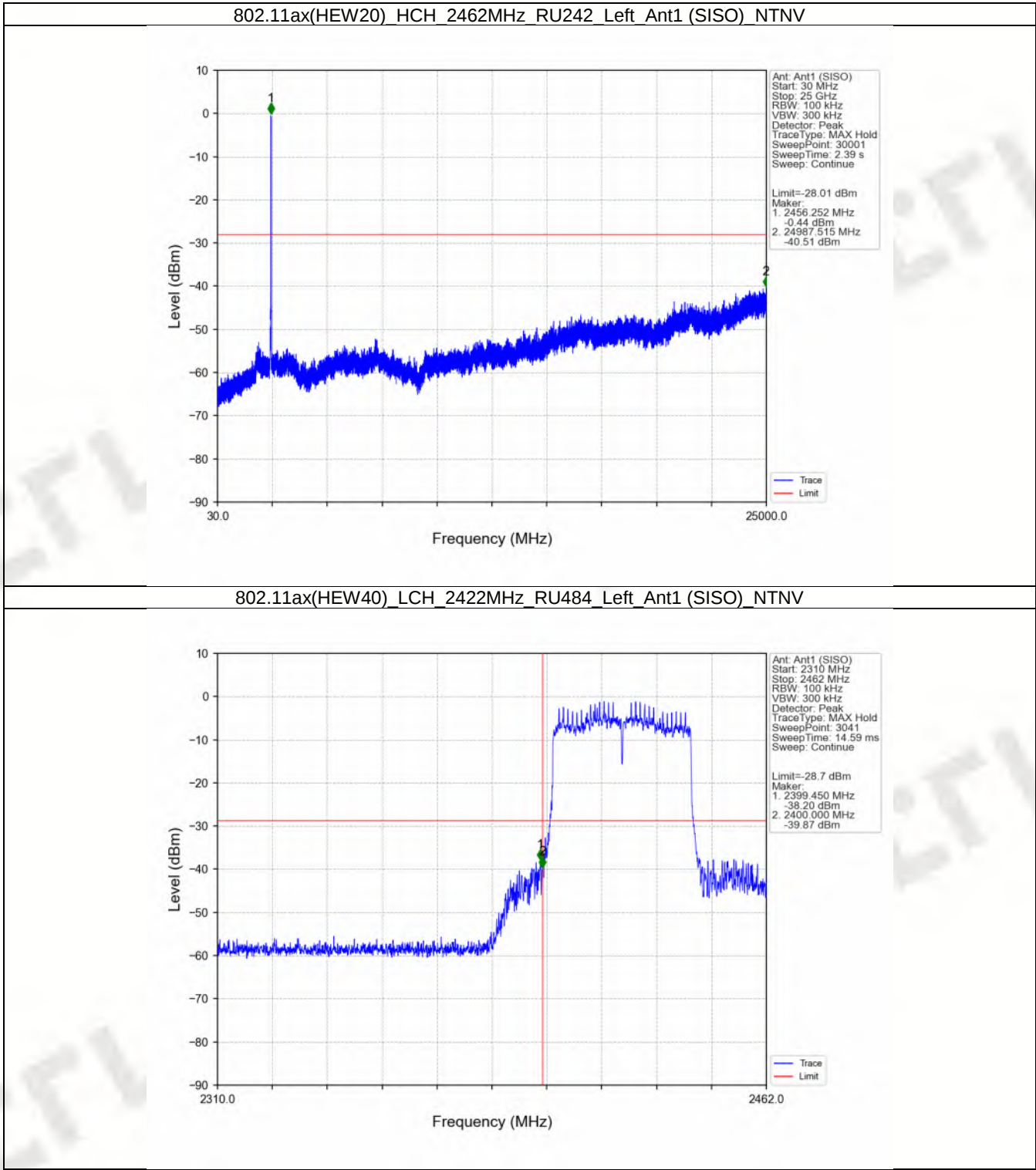
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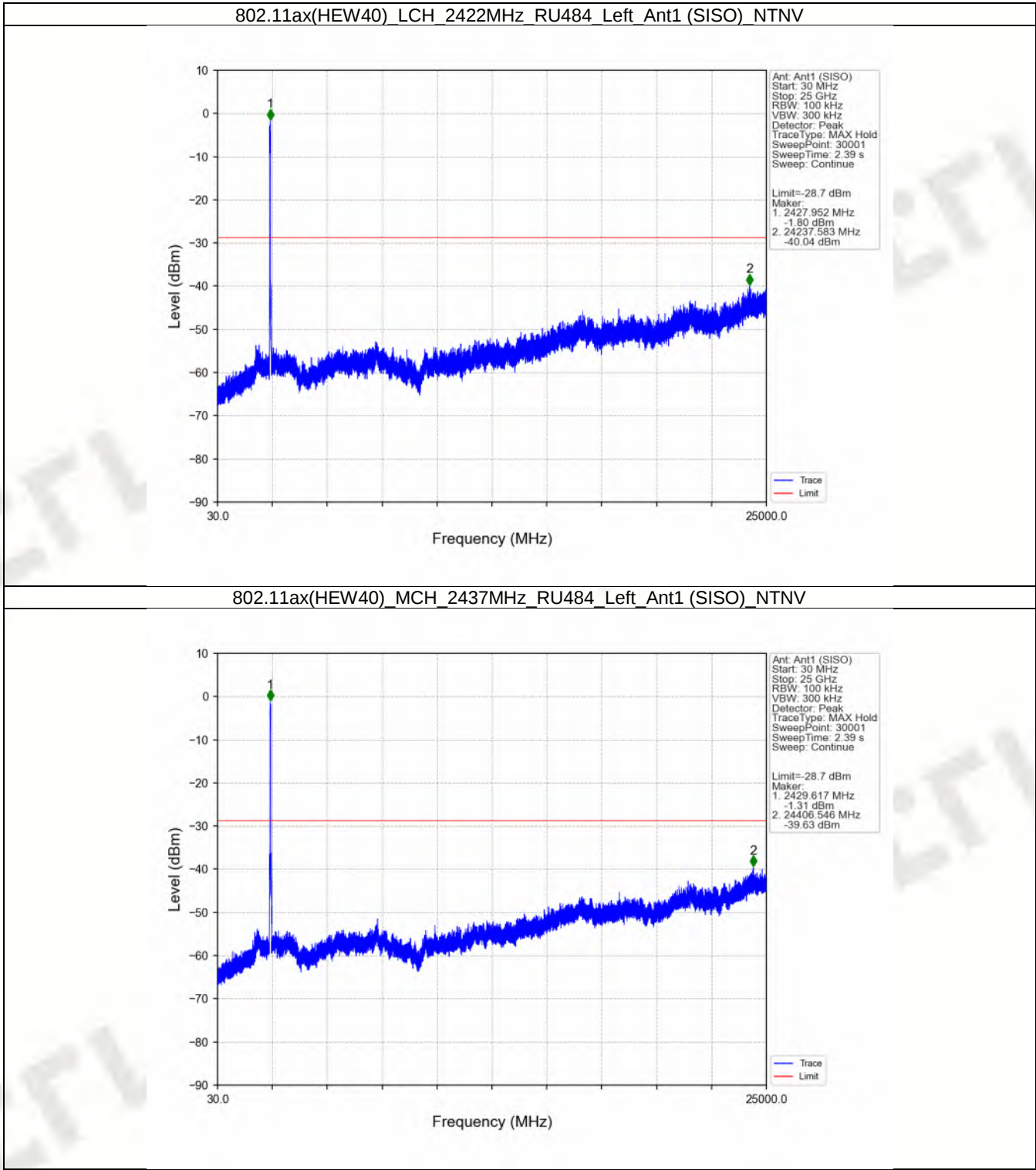
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