

ANNEX D TEST DATA

For

Project No.:	8236EU012404W
Client:	Shenzhen Free Dynamics Development Co., Ltd.
Product Description:	Robot Vacuum Cleaner
Model No.:	BR151
FCC ID:	2AT7J-BR151
Technology:	Bluetooth BLE
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2024-12-27

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
Unwanted Emissions In Restricted Frequency Bands	Pass

1. Duty Cycle

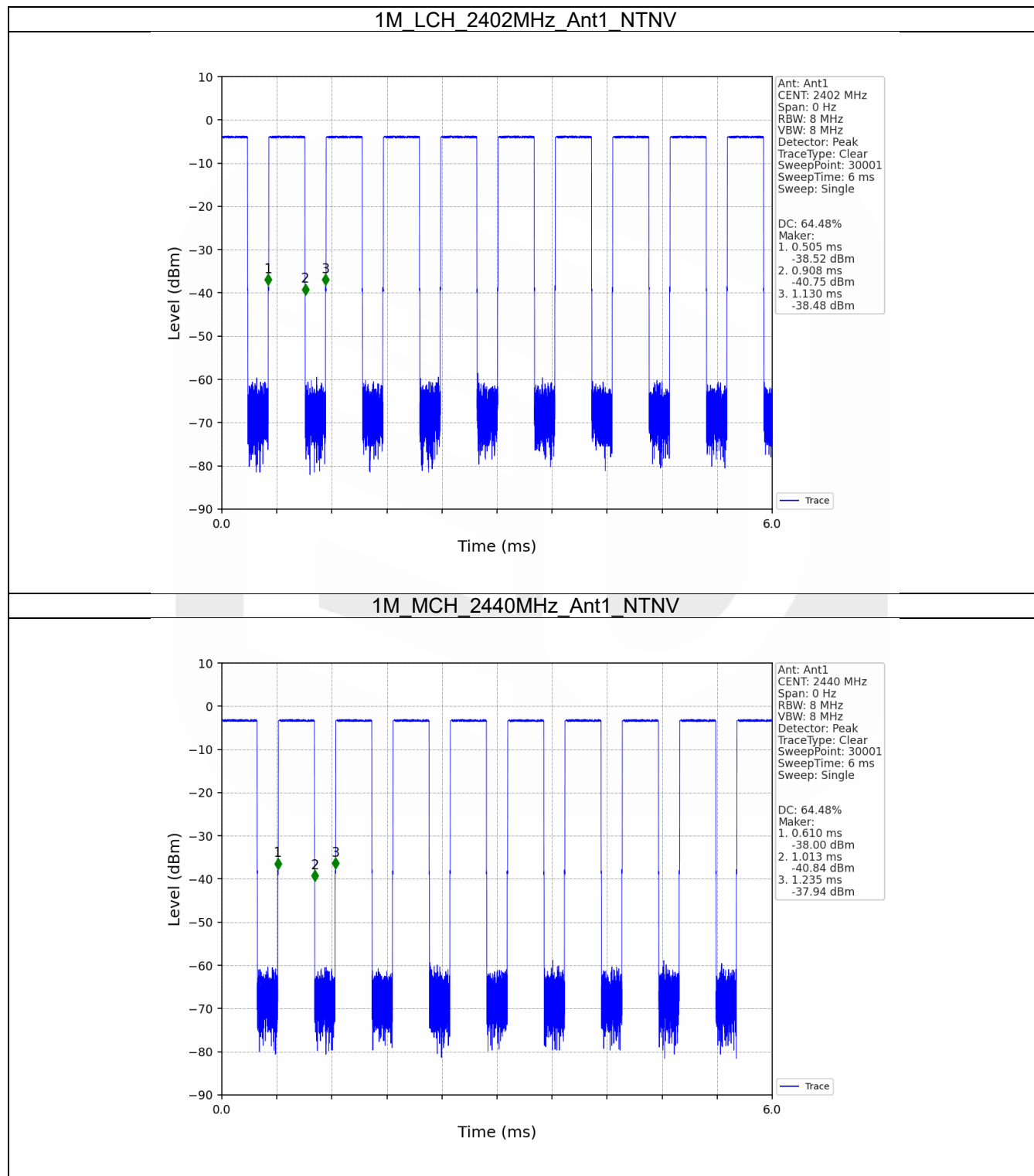
1.1 Test Result

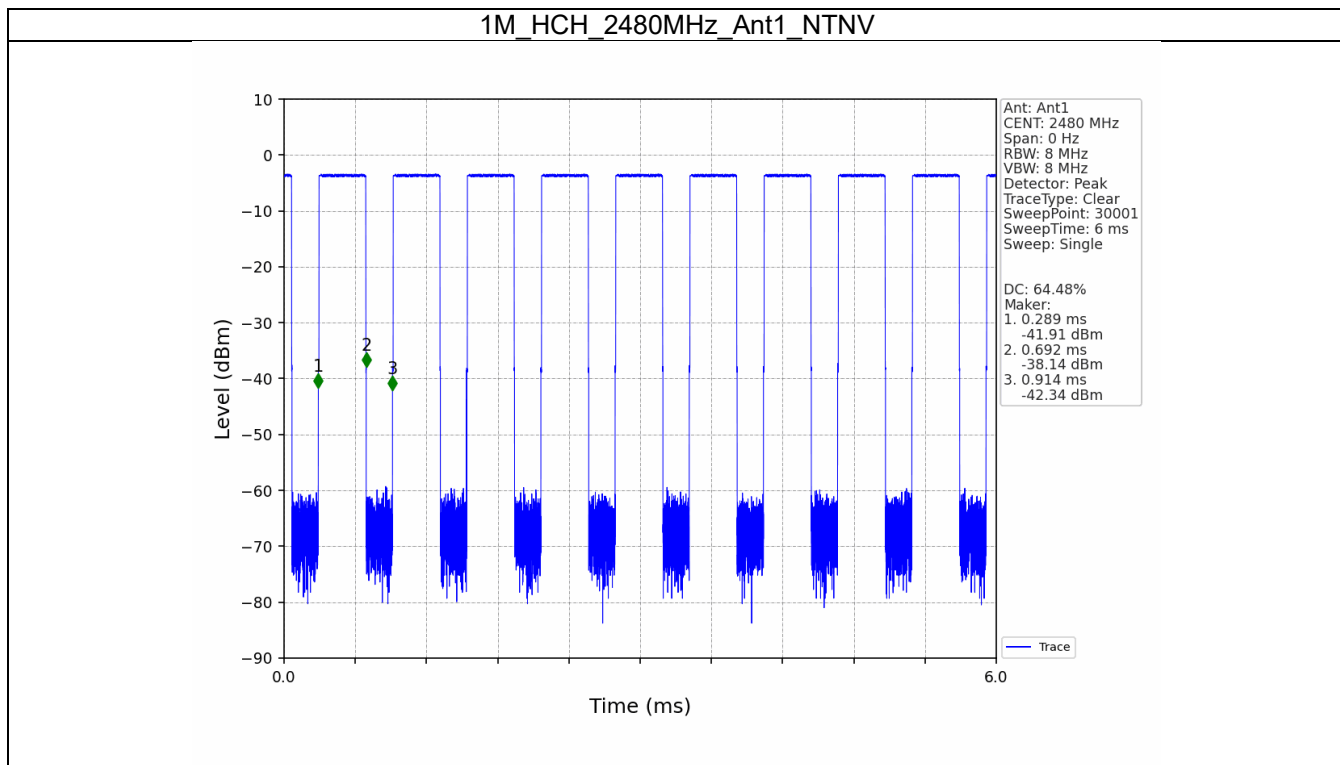
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	0.403	0.625	64.48	1.91	0.00
		2440	0.403	0.625	64.48	1.91	0.00
		2480	0.403	0.625	64.48	1.91	0.00

1.2 Test Graph

1.2.1 Ant1





2. Bandwidth

2.1 Test Result

2.1.1 OBW

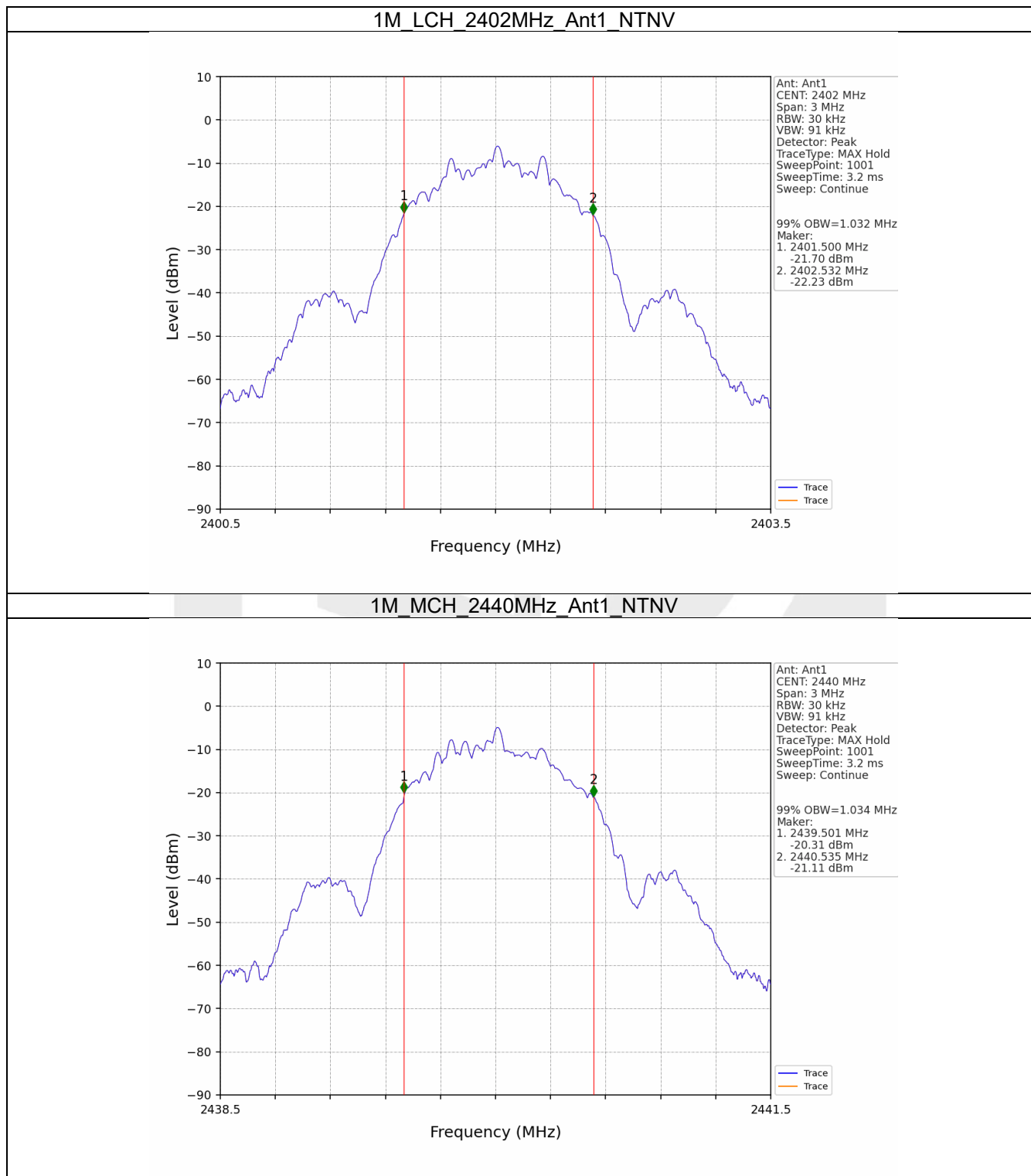
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.032	/	Pass
		2440	1	1.034	/	Pass
		2480	1	1.039	/	Pass

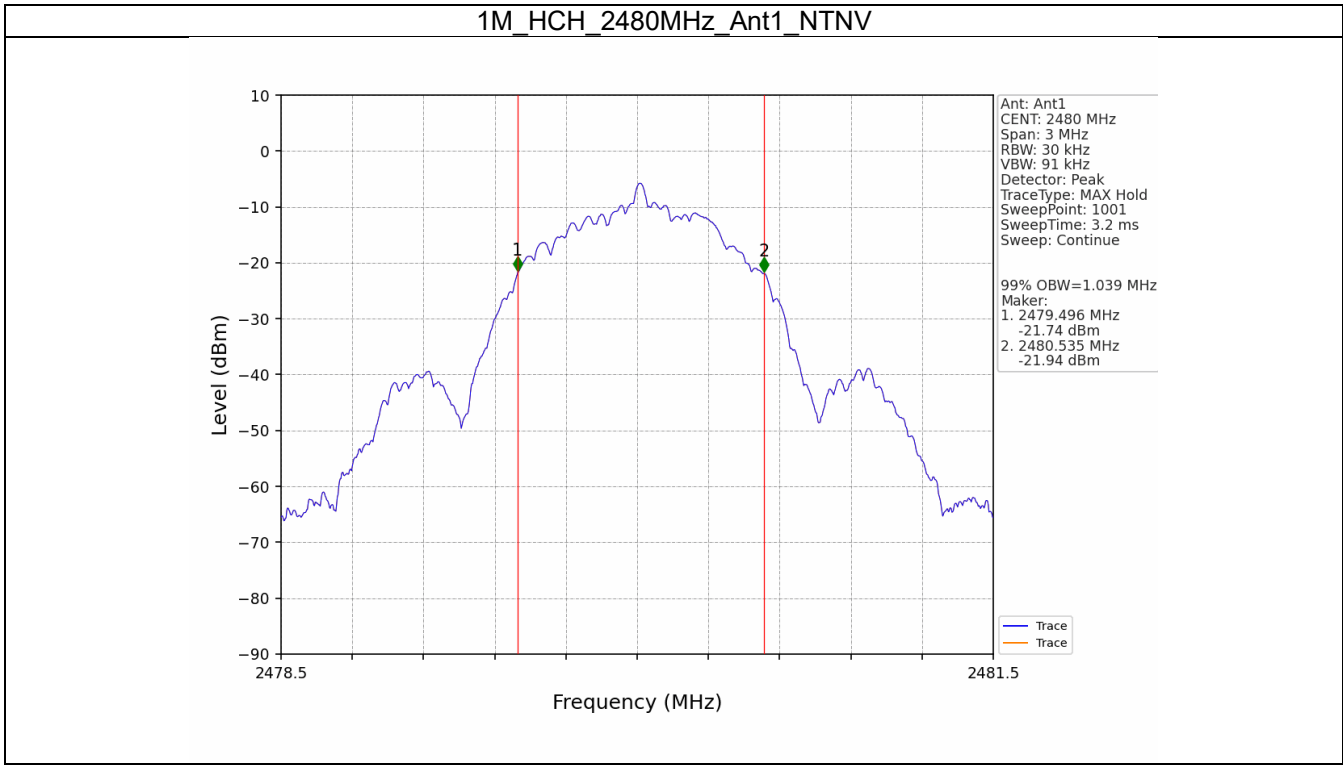
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.657	≥ 0.5	Pass
		2440	1	0.668	≥ 0.5	Pass
		2480	1	0.655	≥ 0.5	Pass

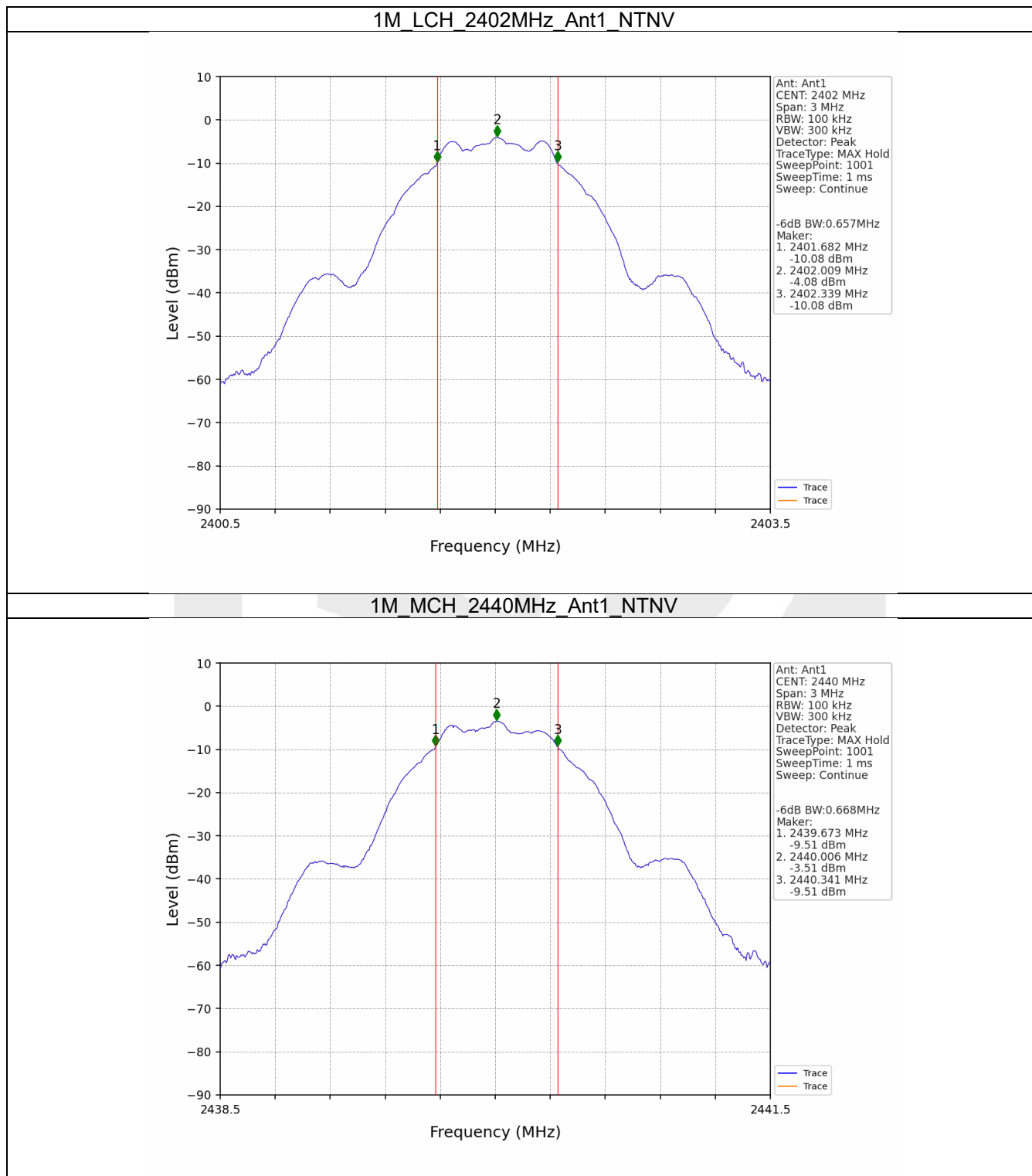
2.2 Test Graph

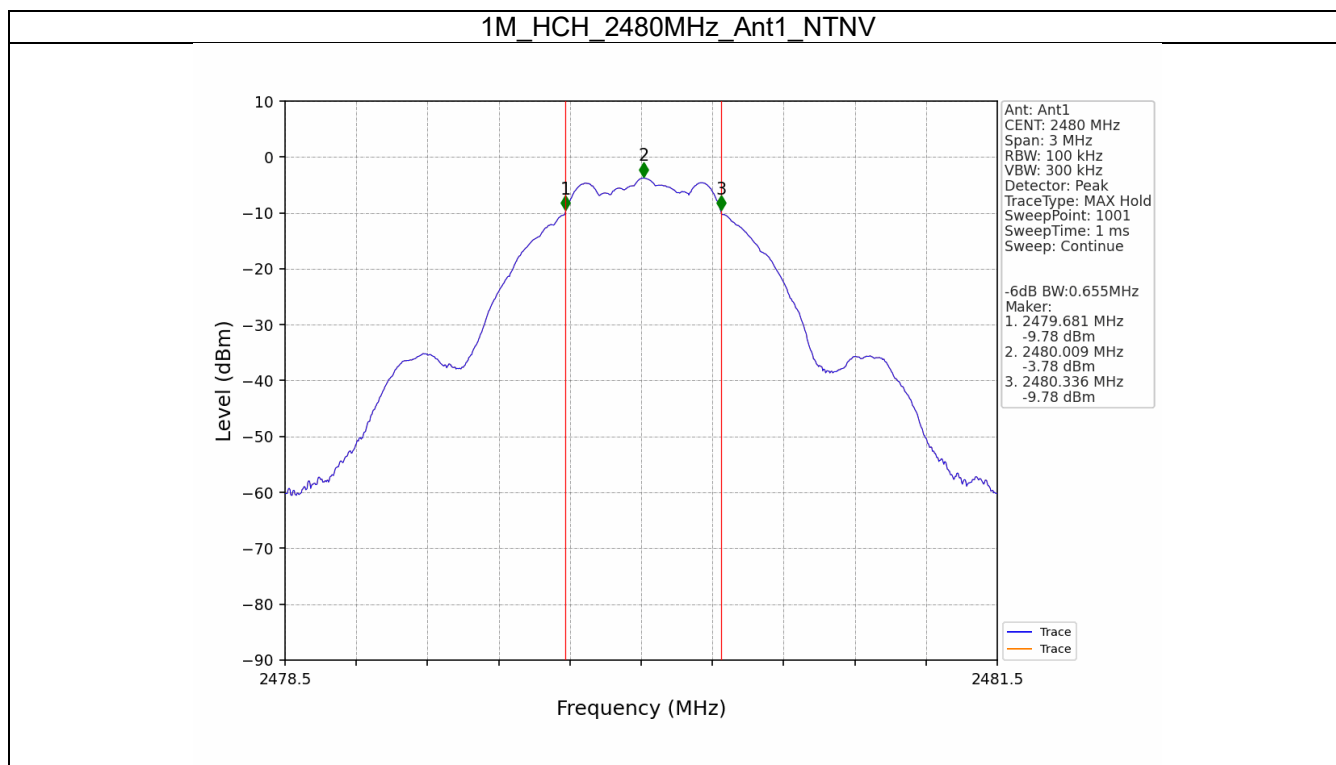
2.2.1 OBW





2.2.2 6dB BW





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	
1M	SISO	2402	-3.81	<=30	Pass
		2440	-3.20	<=30	Pass
		2480	-3.51	<=30	Pass

4. Maximum Power Spectral Density

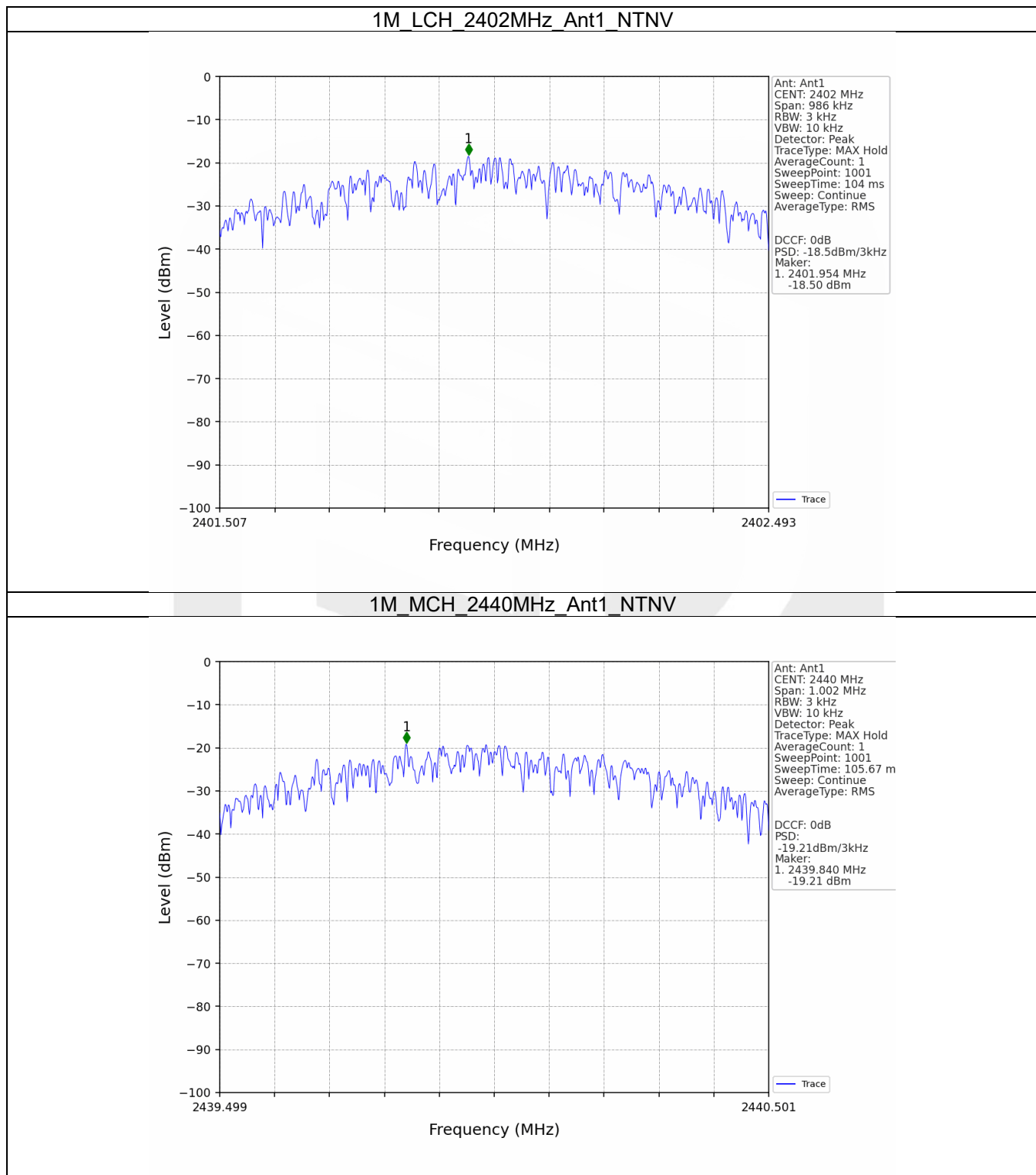
4.1 Test Result

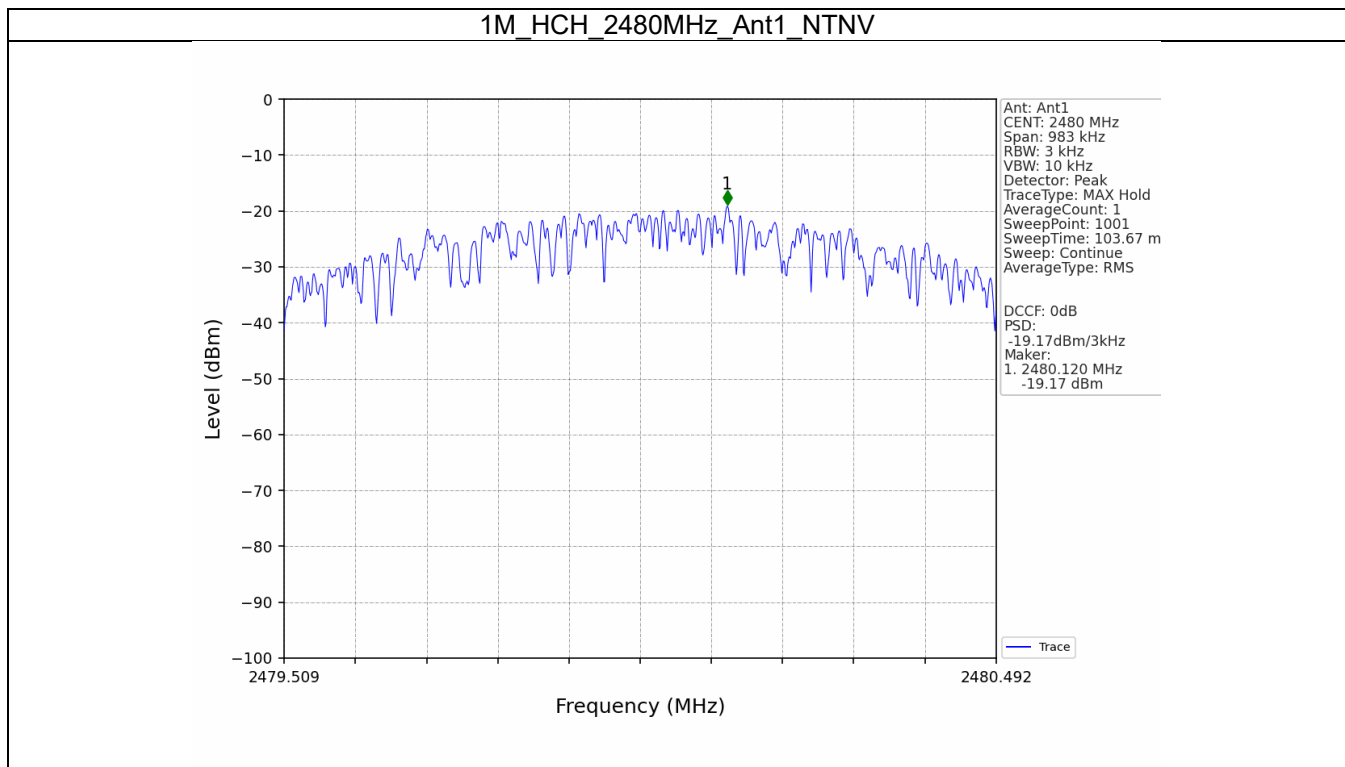
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-18.50	<=8	Pass
		2440	-19.21	<=8	Pass
		2480	-19.17	<=8	Pass

4.2 Test Graph

4.2.1 PSD





5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

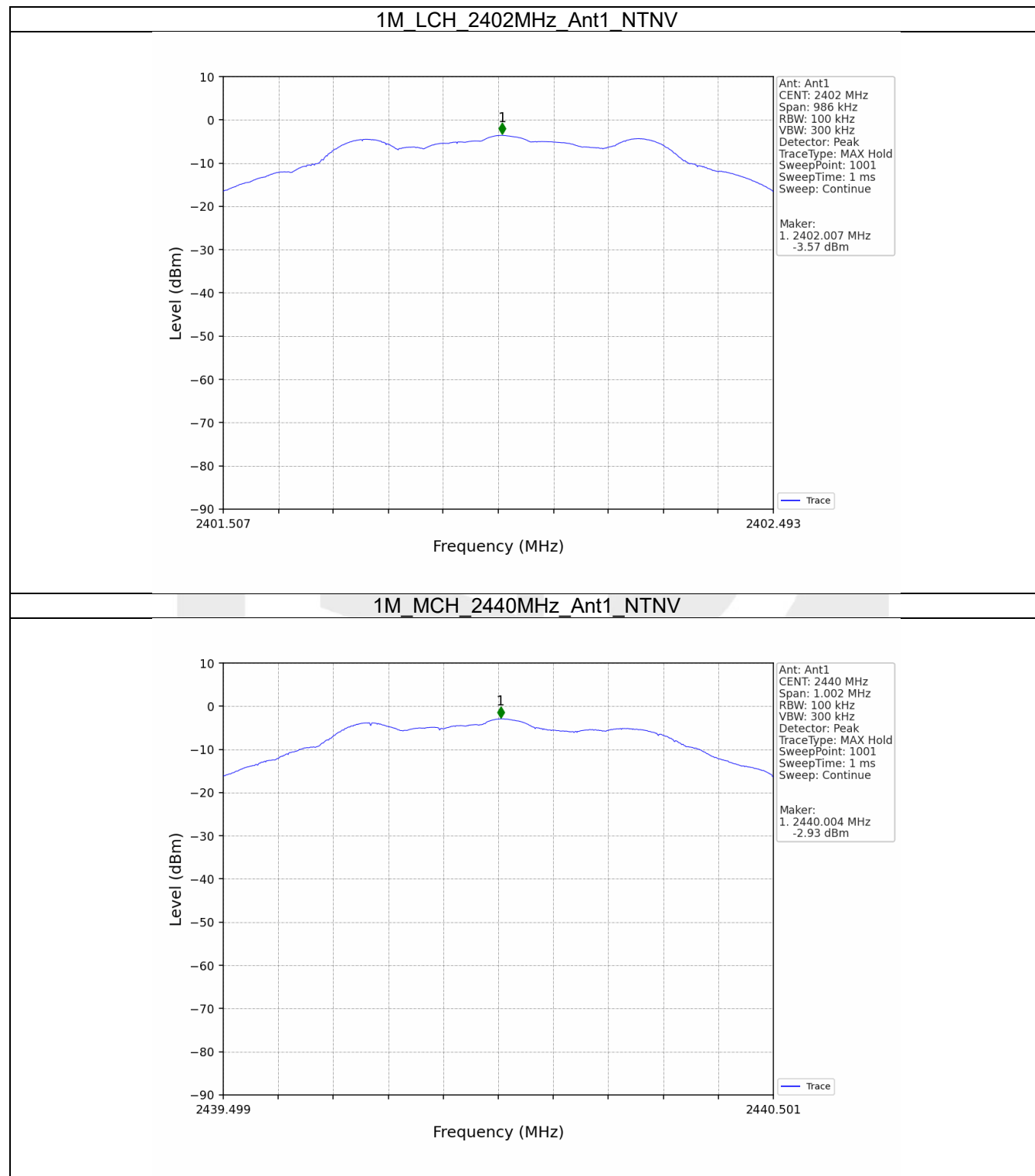
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-3.57
		2440	1	-2.93
		2480	1	-3.80
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.				

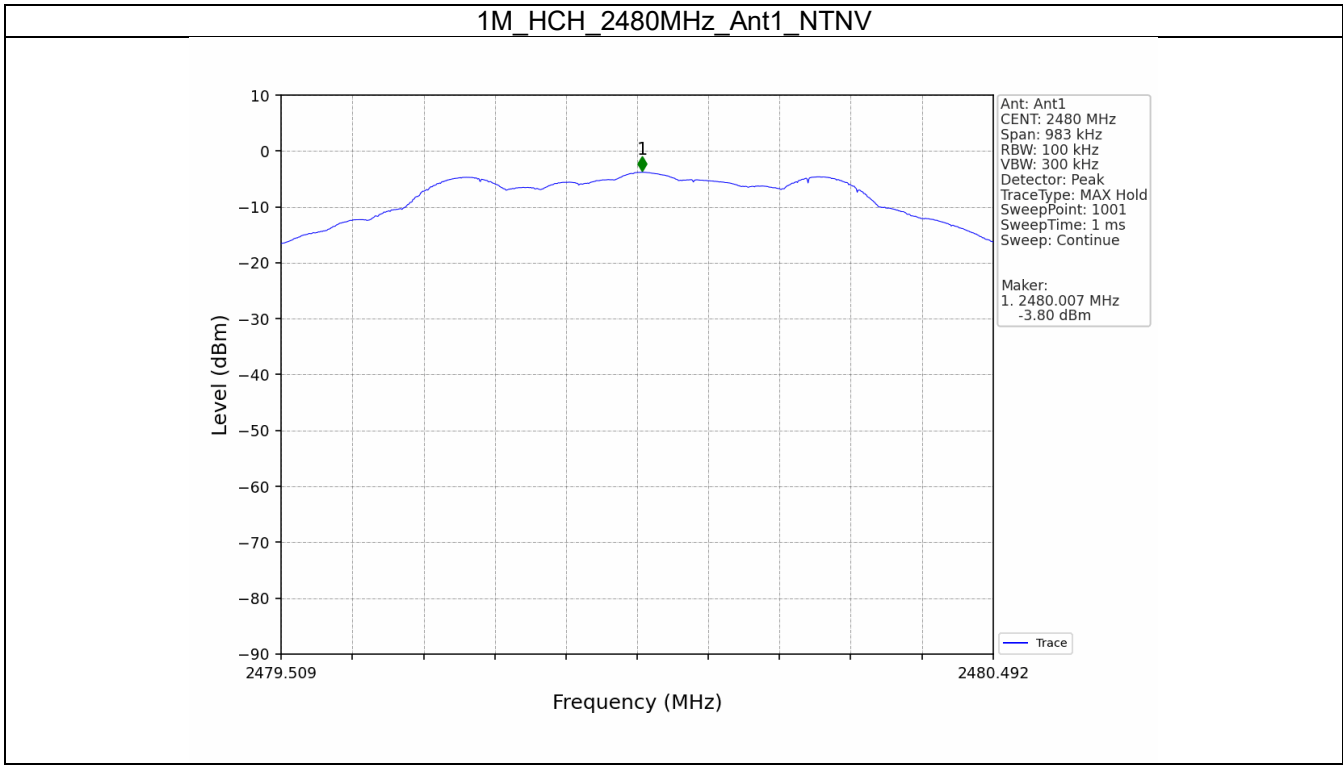
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-3.57	-23.57	Pass
		2440	1	-2.93	-22.93	Pass
		2480	1	-3.80	-23.80	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.						

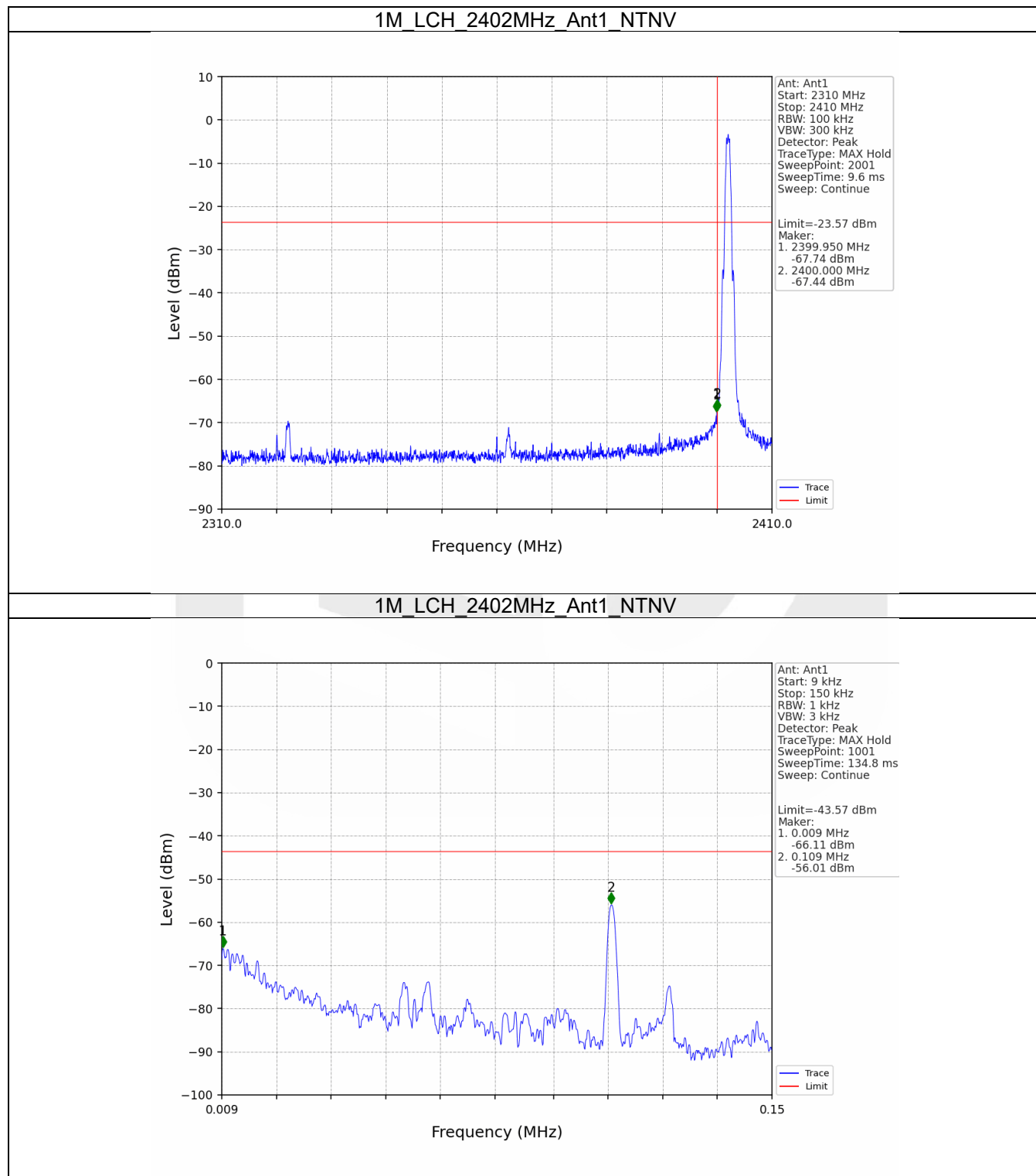
5.2 Test Graph

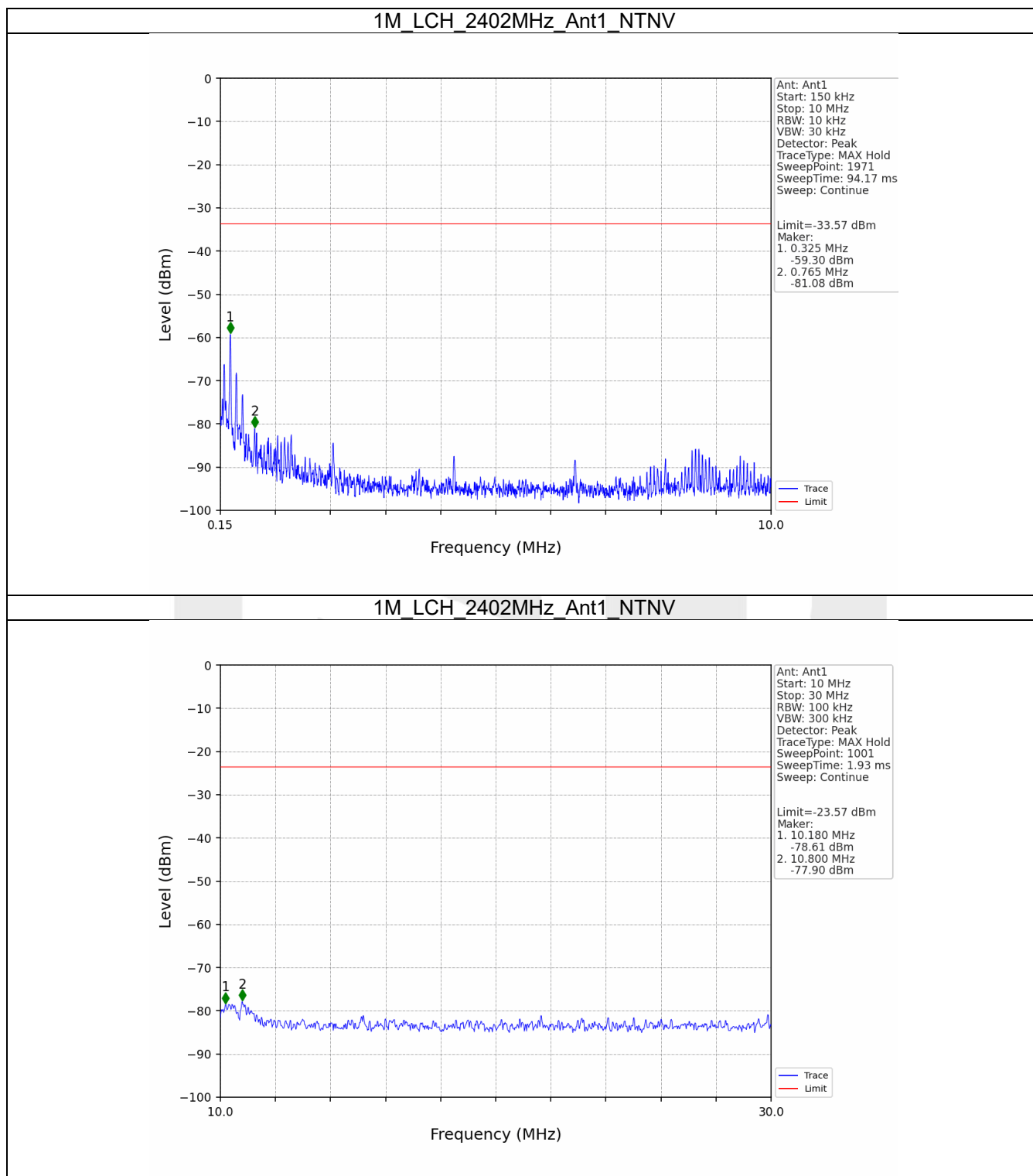
5.2.1 Ref

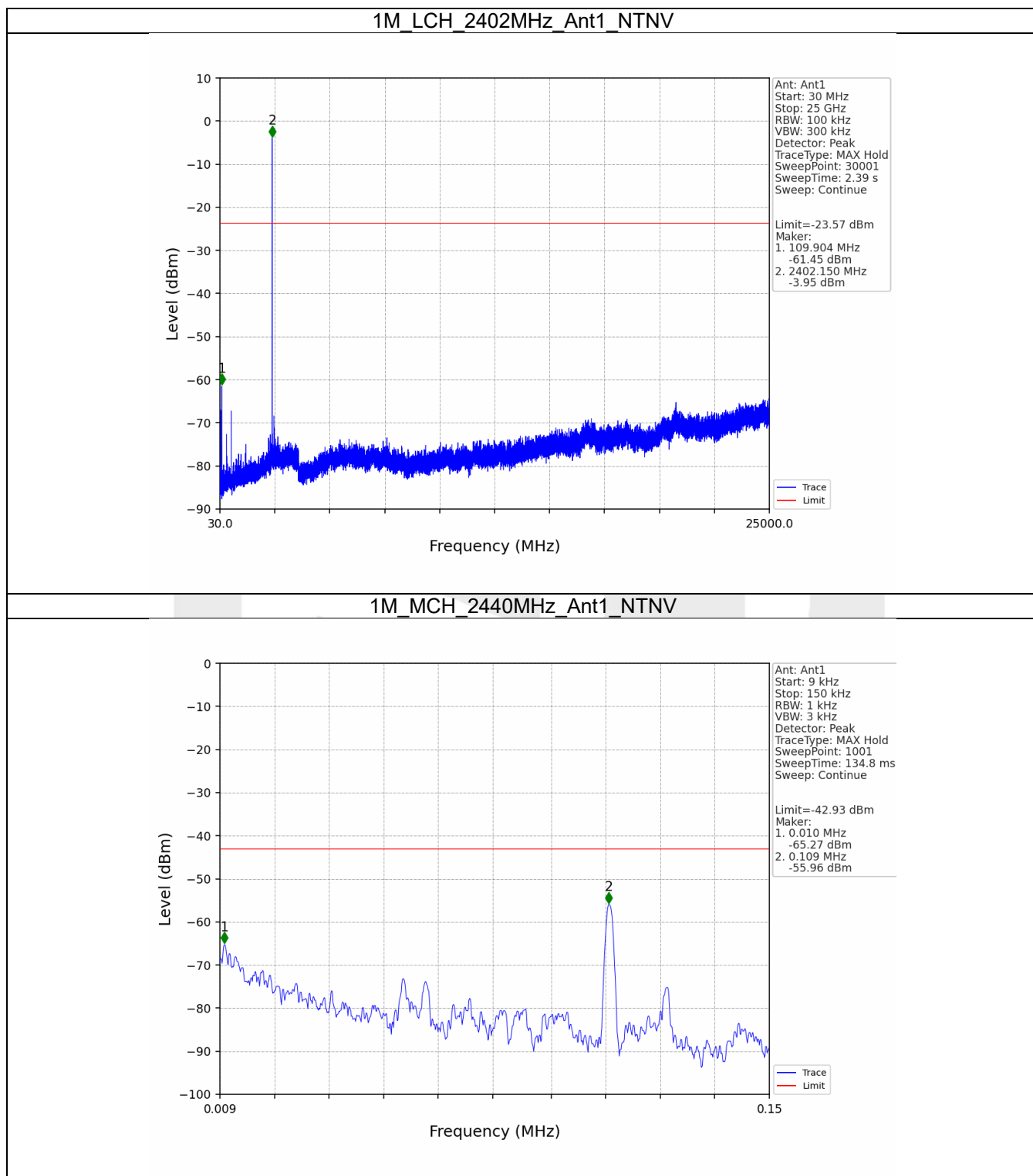


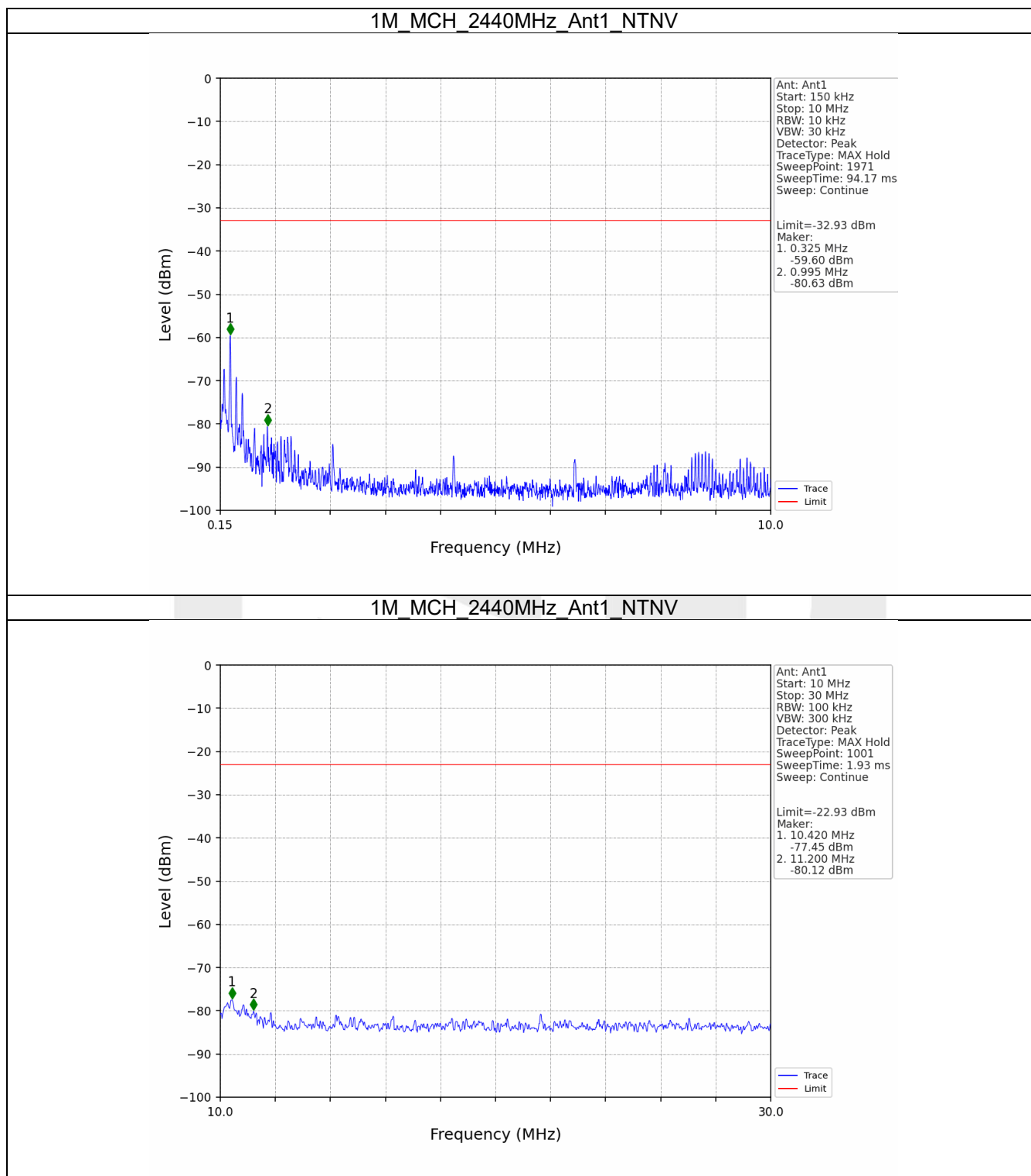


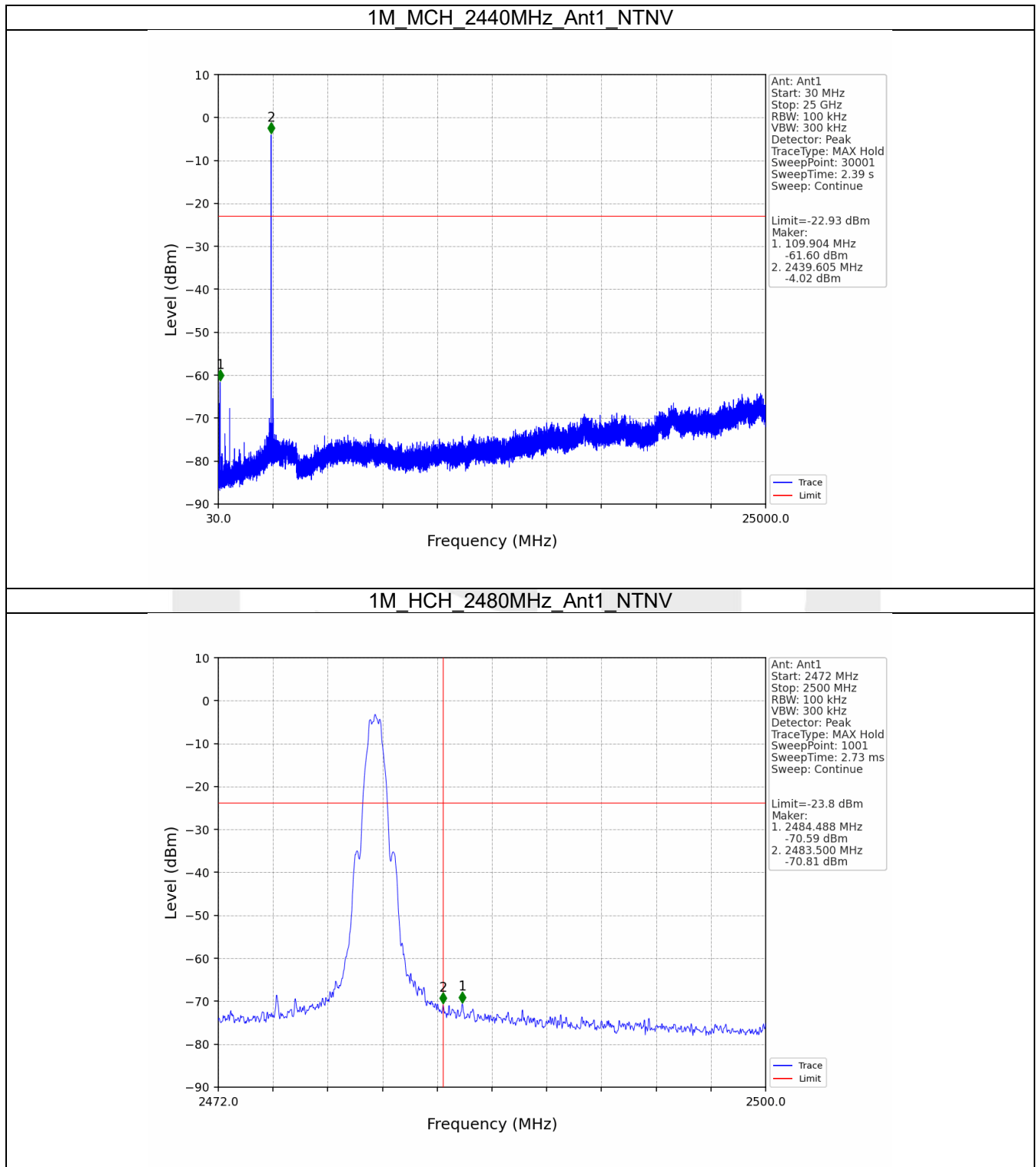
5.2.2 CSE

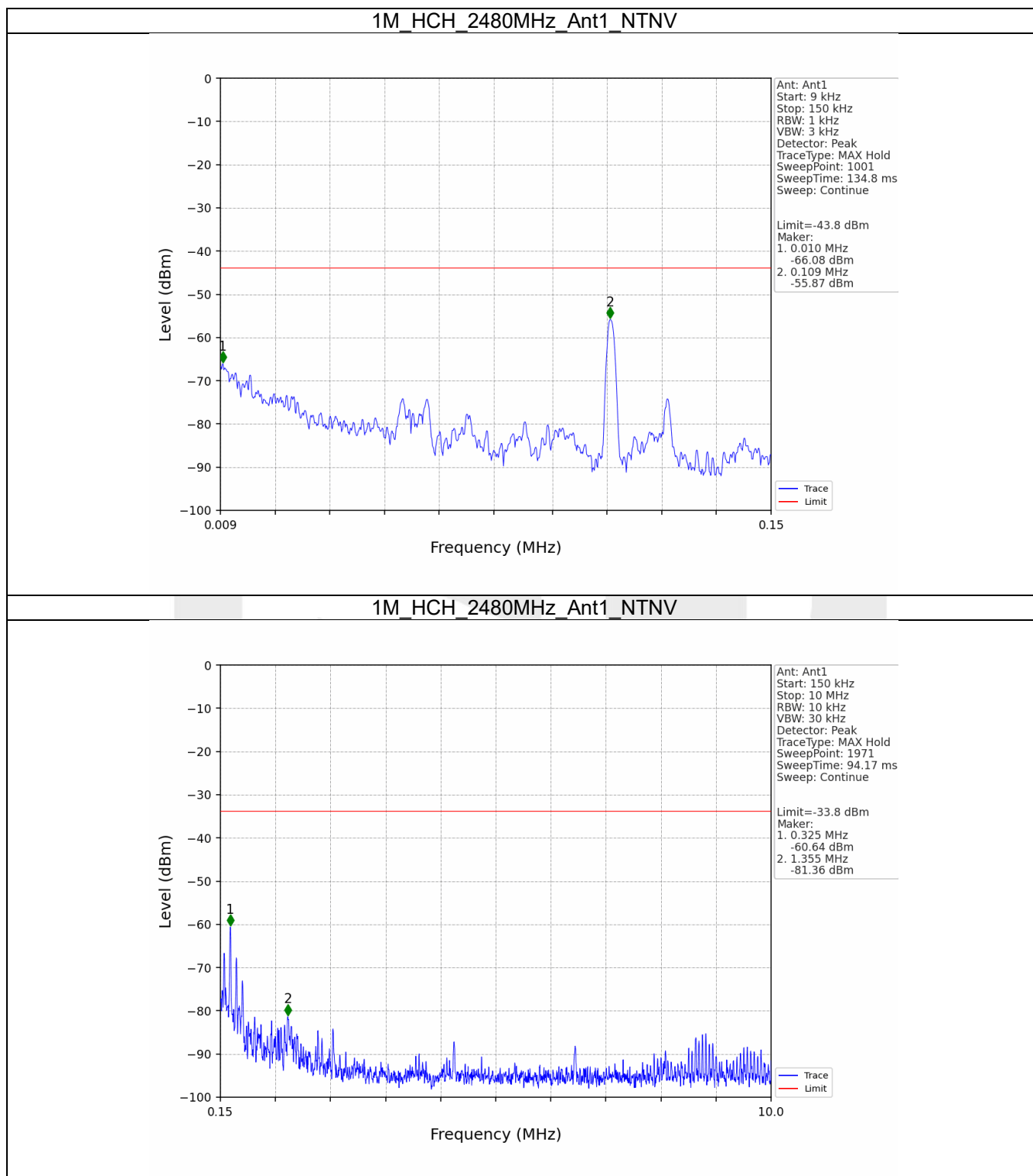


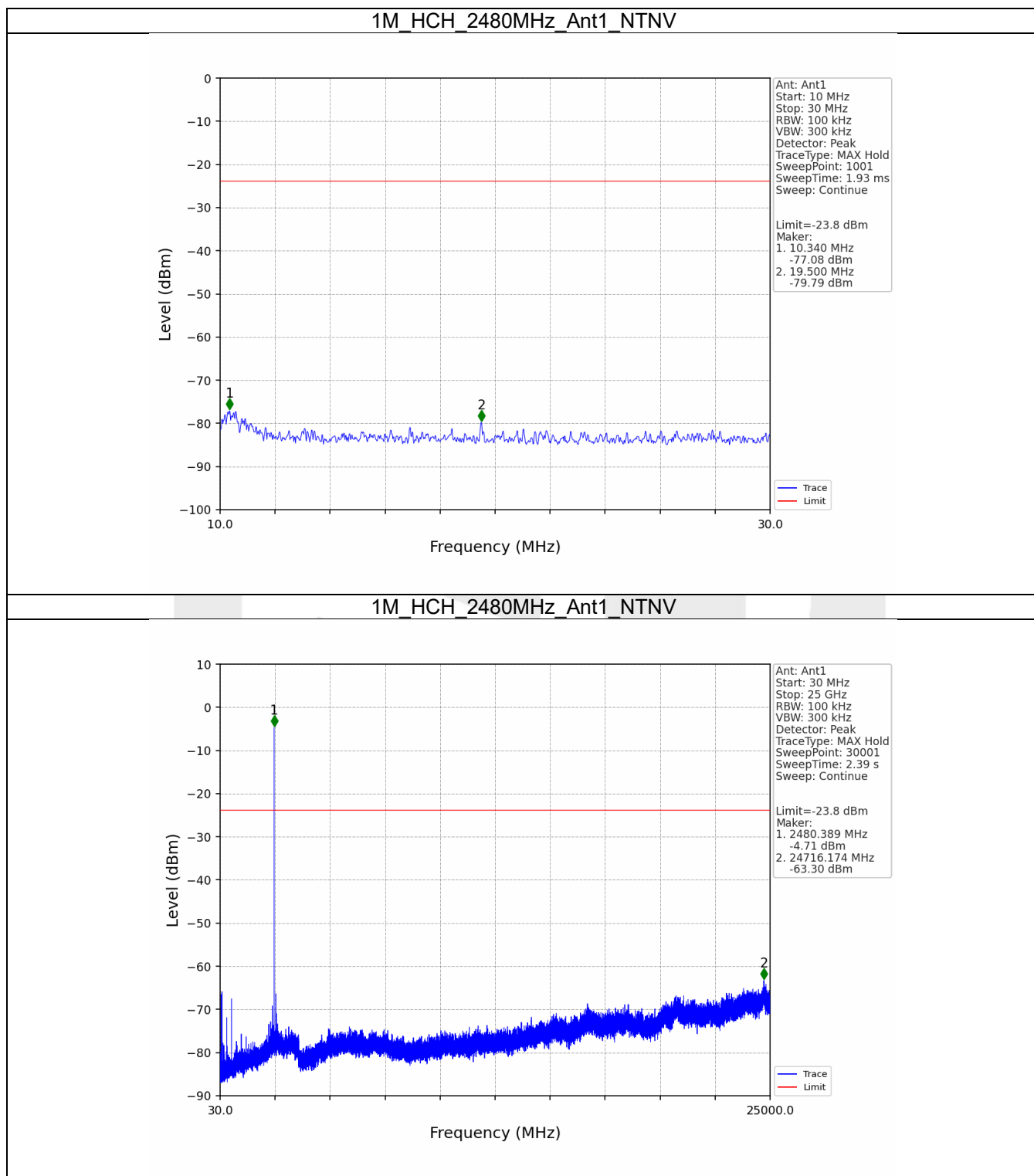












----- End of Report -----