

Appendix RF Test Data for BLE

Company: : Zhongshan Bolong Electronic Technology Co., Ltd.

EUT : Smart Projector Bulb

FCC ID: : 2BCZO-BL-DP01

Model Number : BL-DP01

Report No. : HTT2026071137F02

Reviewed By : Heber He

1. Duty Cycle

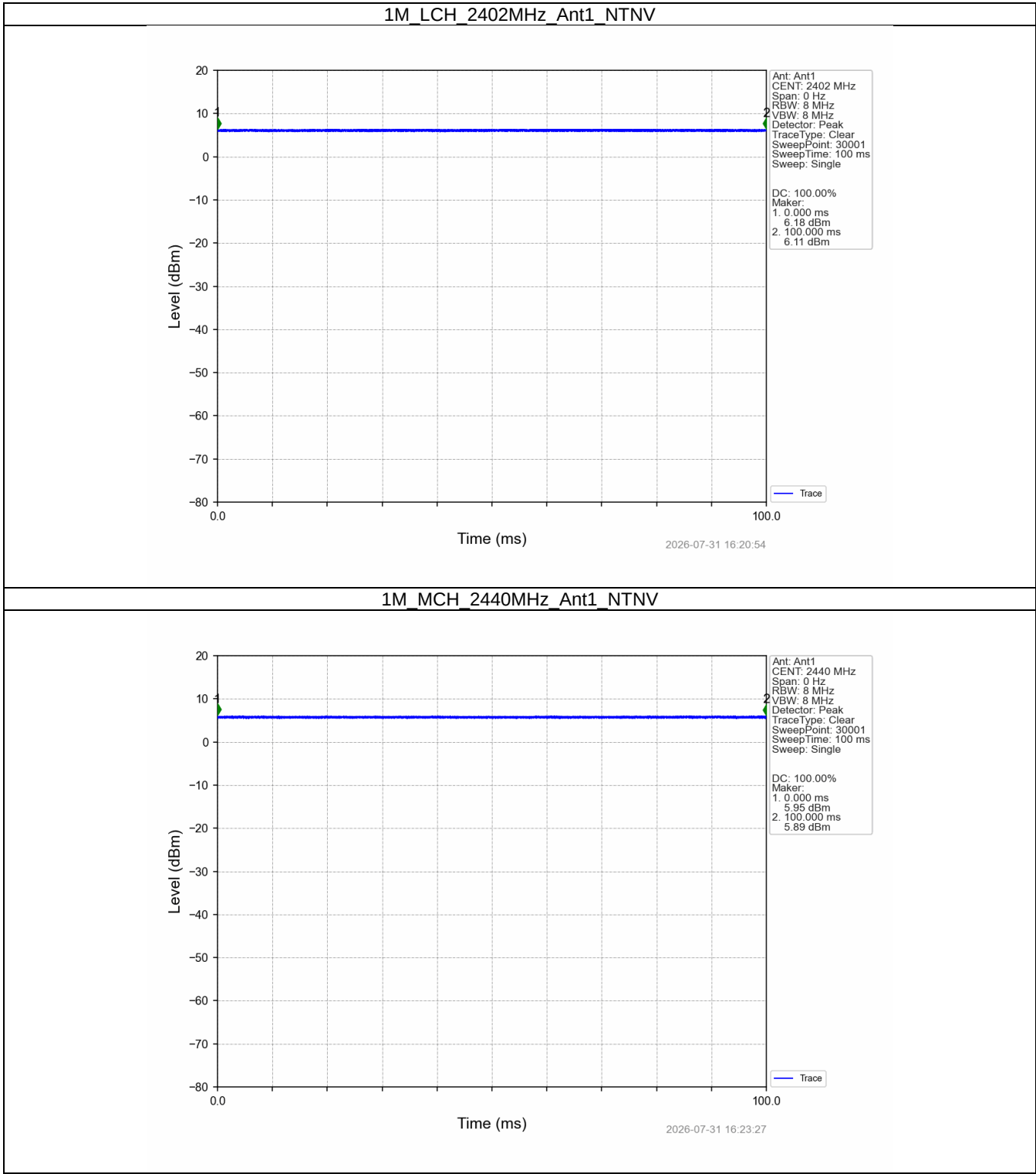
1.1 Test Result

1.1.1 Ant1

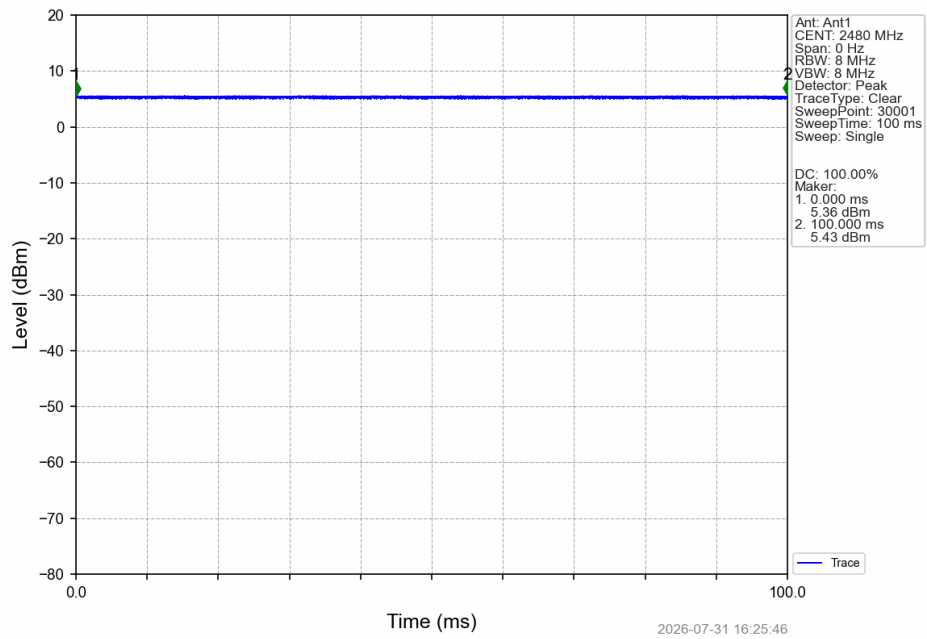
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	100.000	100.000	100.00	0.00	0.00
		2440	100.000	100.000	100.00	0.00	0.00
		2480	100.000	100.000	100.00	0.00	0.00

1.2 Test Graph

1.2.1 Ant1



1M_HCH_2480MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

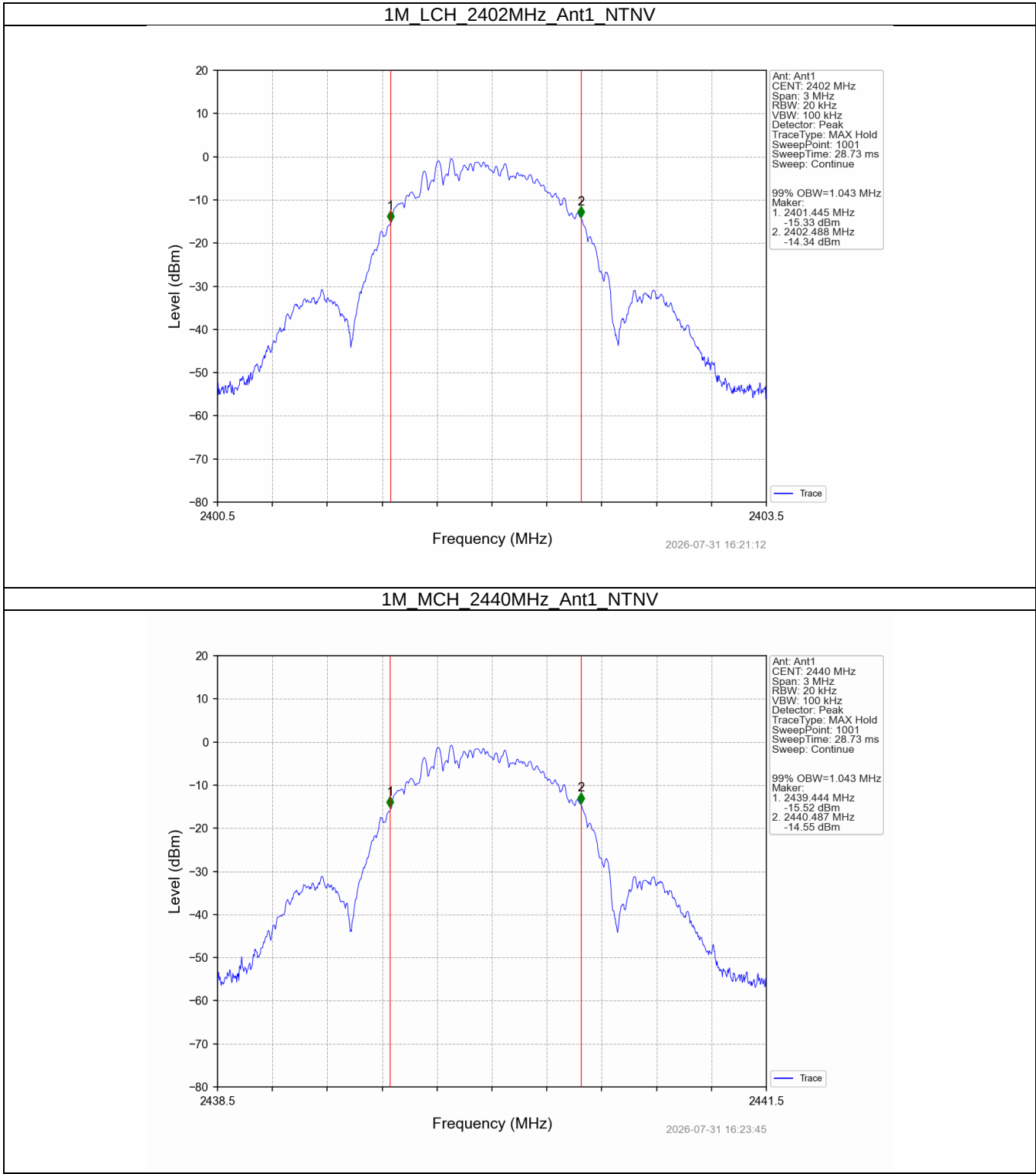
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.043	/	Pass
		2440	1	1.043	/	Pass
		2480	1	1.043	/	Pass

2.1.2 6dB BW

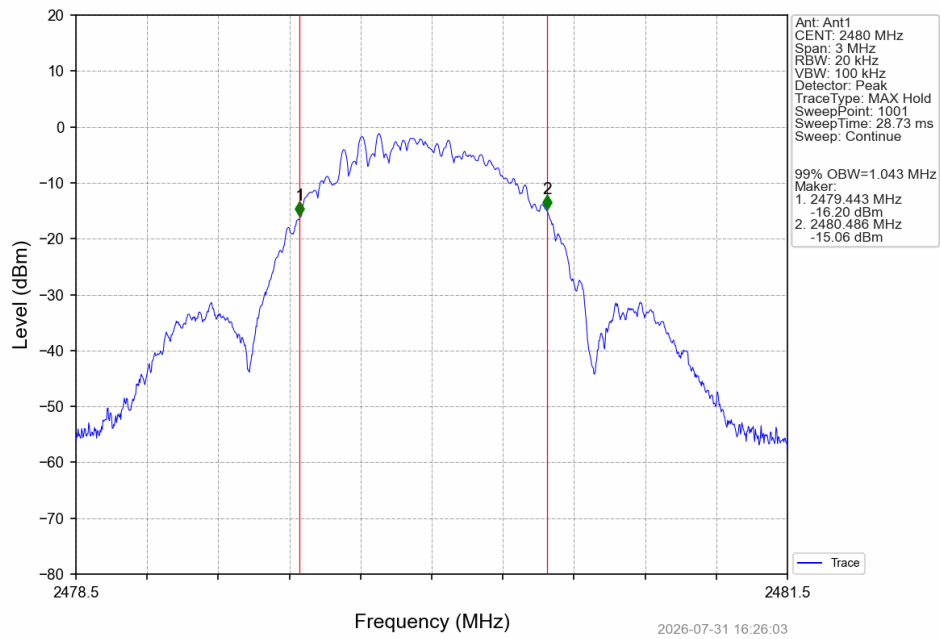
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.733	≥ 0.5	Pass
		2440	1	0.735	≥ 0.5	Pass
		2480	1	0.736	≥ 0.5	Pass

2.2 Test Graph

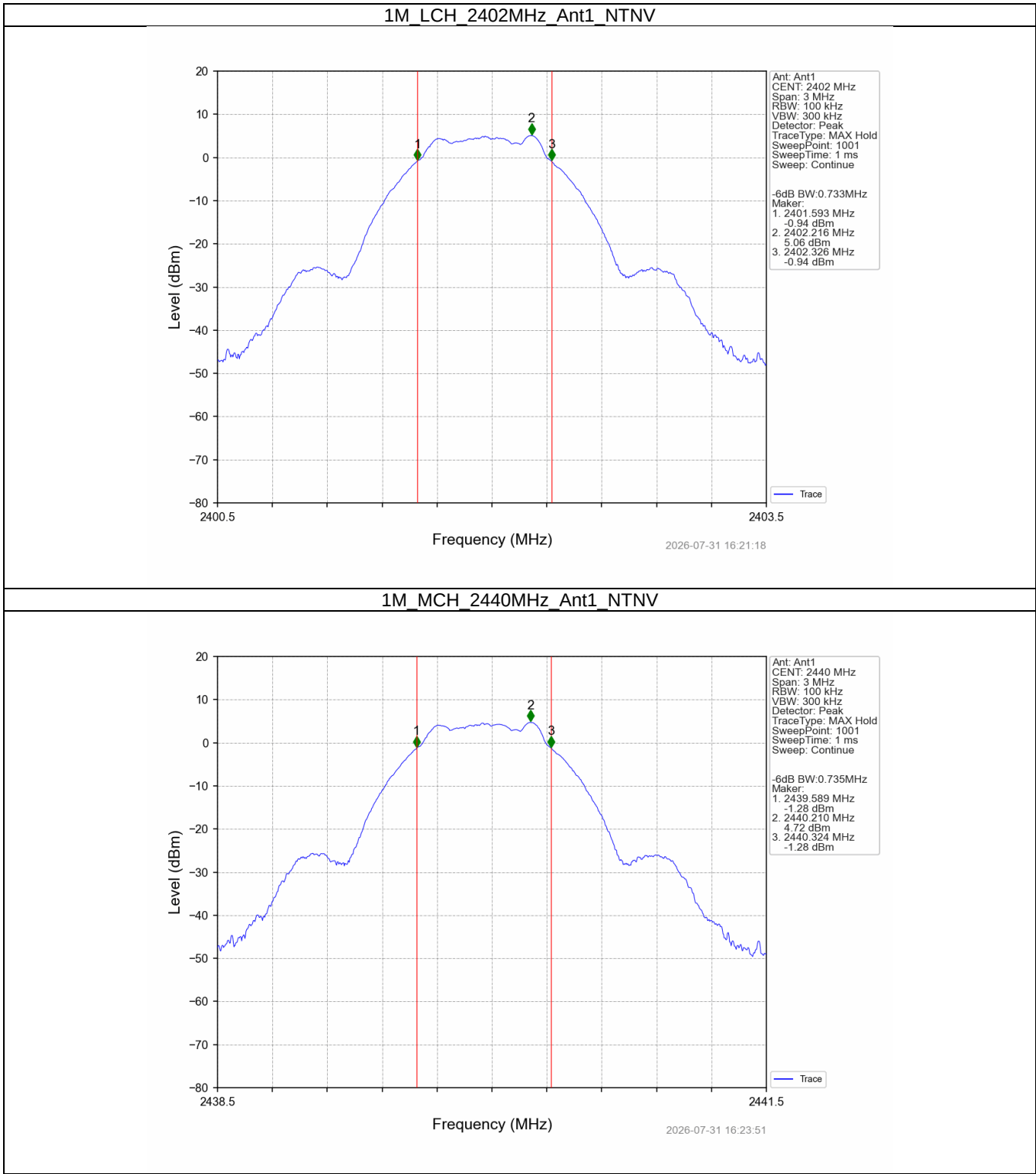
2.2.1 OBW



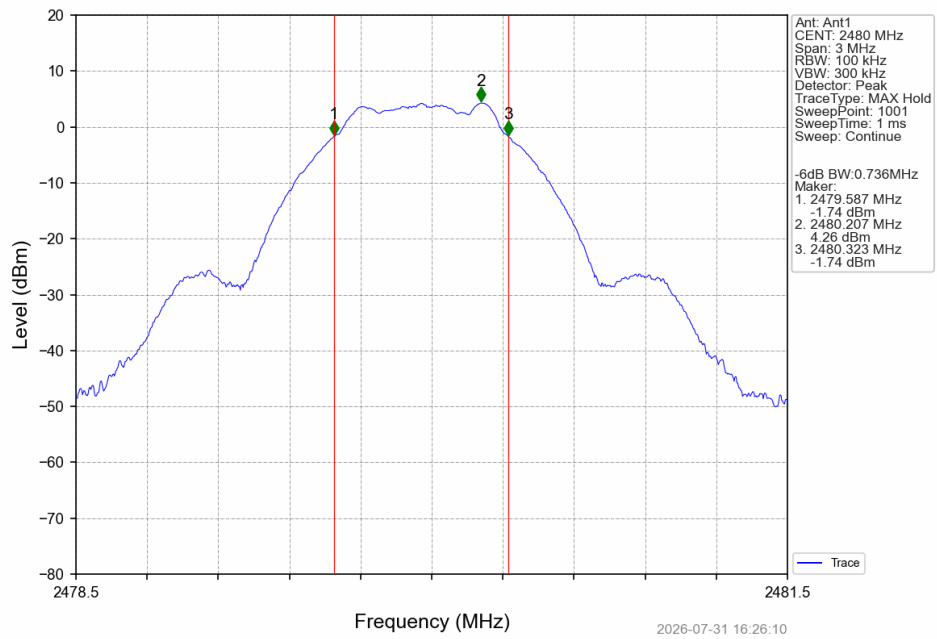
1M_HCH_2480MHz_Ant1_NTNV



2.2.2 6dB BW



1M_HCH_2480MHz_Ant1_NTNV



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	6.20	<=30	Pass
		2440	5.92	<=30	Pass
		2480	5.47	<=30	Pass

4. Maximum Power Spectral Density

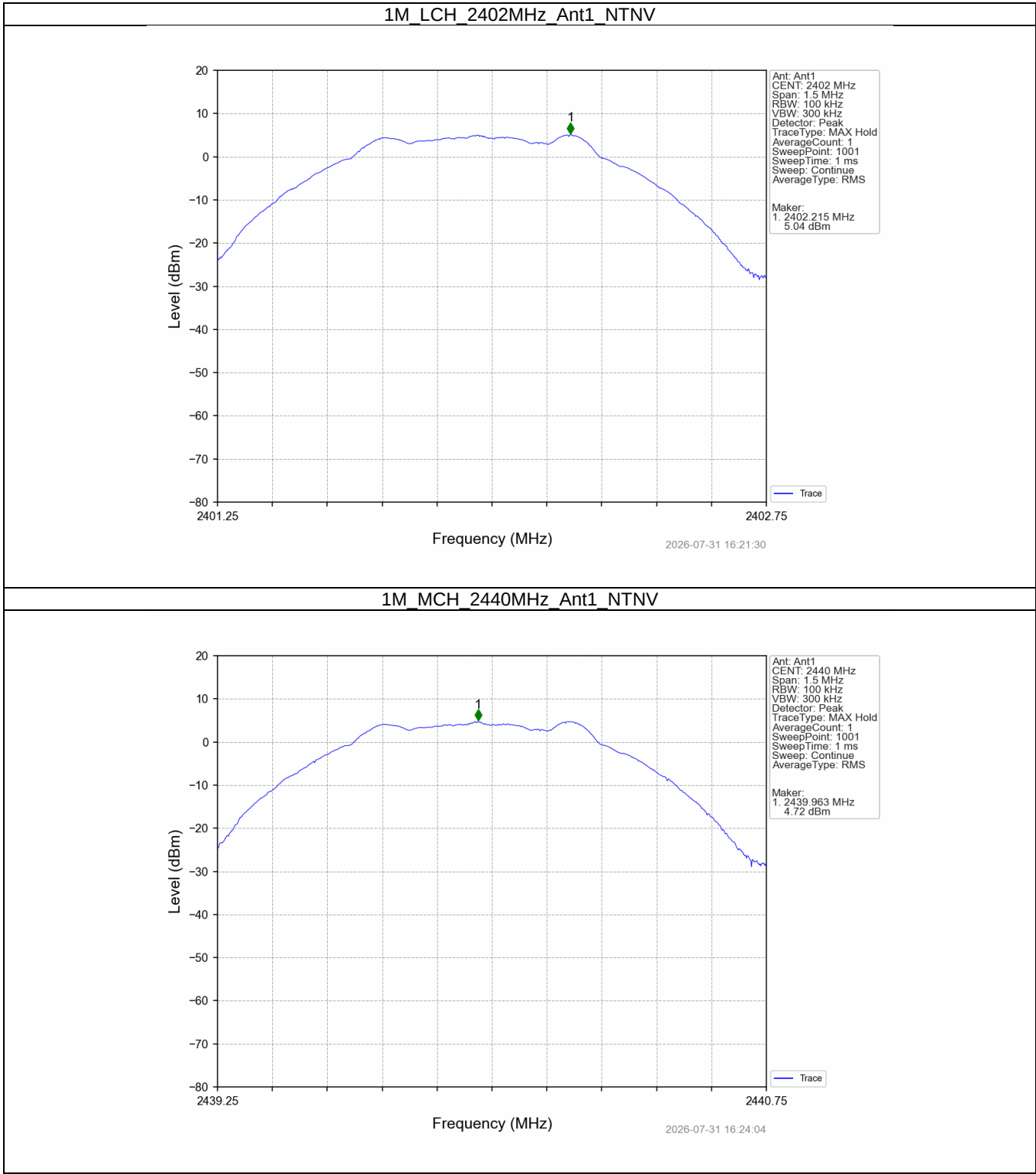
4.1 Test Result

4.1.1 PSD

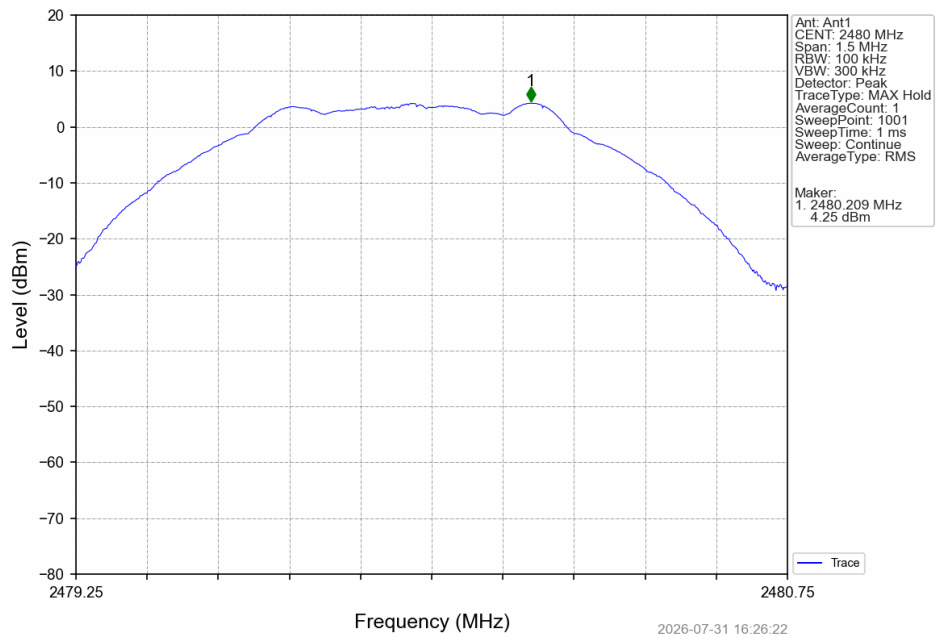
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit(dBm/3kHz)	
1M	SISO	2402	5.04dBm/100kHz	<=8	Pass
		2440	4.72dBm/100kHz	<=8	Pass
		2480	4.25dBm/100kHz	<=8	Pass

4.2 Test Graph

4.2.1 PSD



1M_HCH_2480MHz_Ant1_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

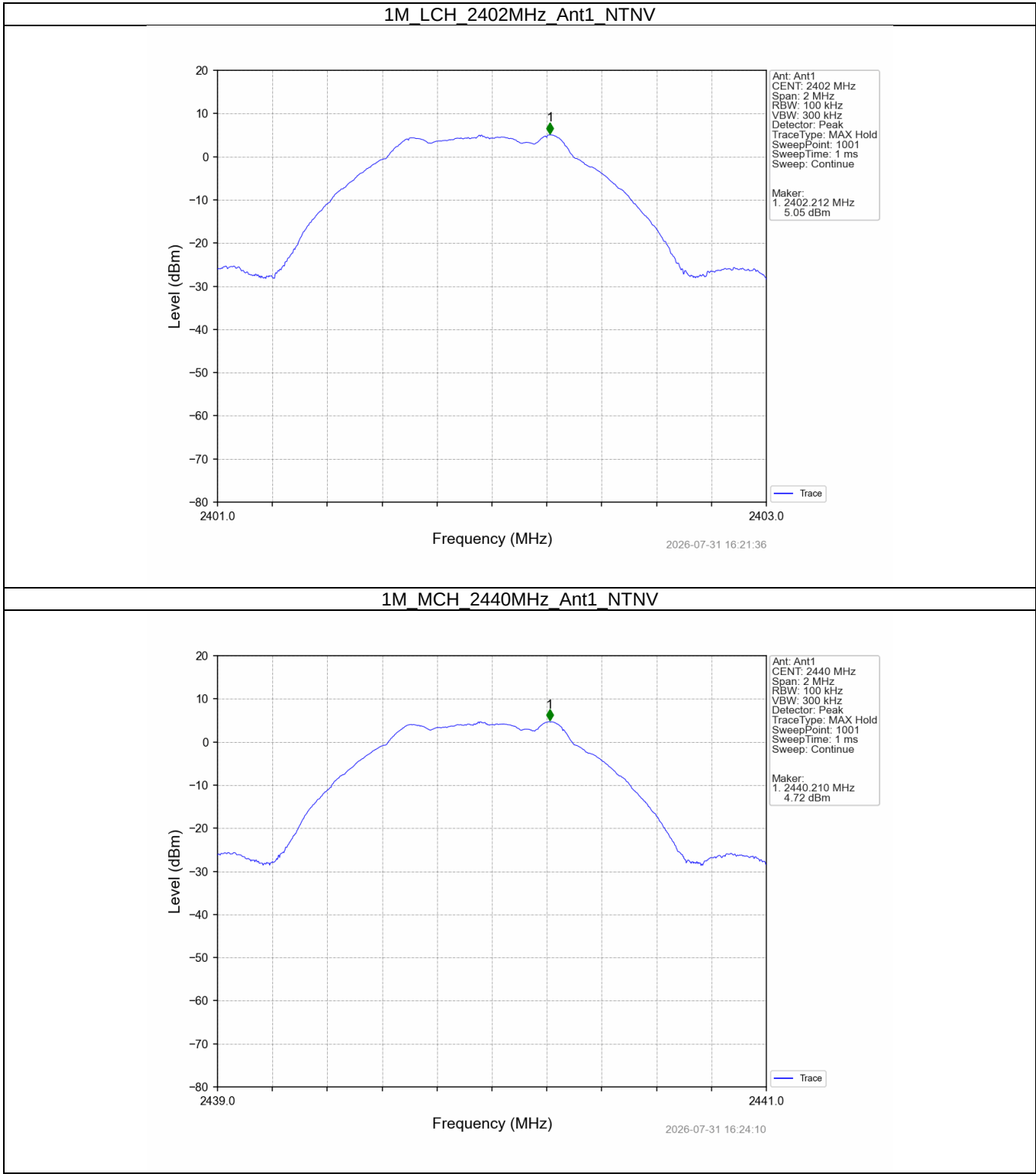
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	5.05
		2440	1	4.72
		2480	1	4.26

5.1.2 CSE

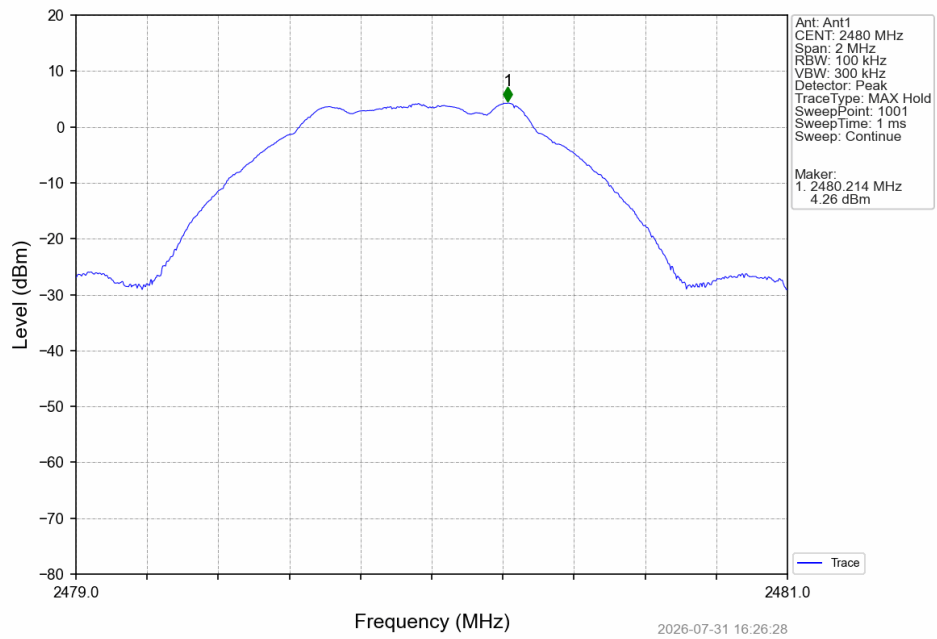
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	5.05	-14.95	Pass
		2440	1	4.72	-15.28	Pass
		2480	1	4.26	-15.74	Pass

5.2 Test Graph

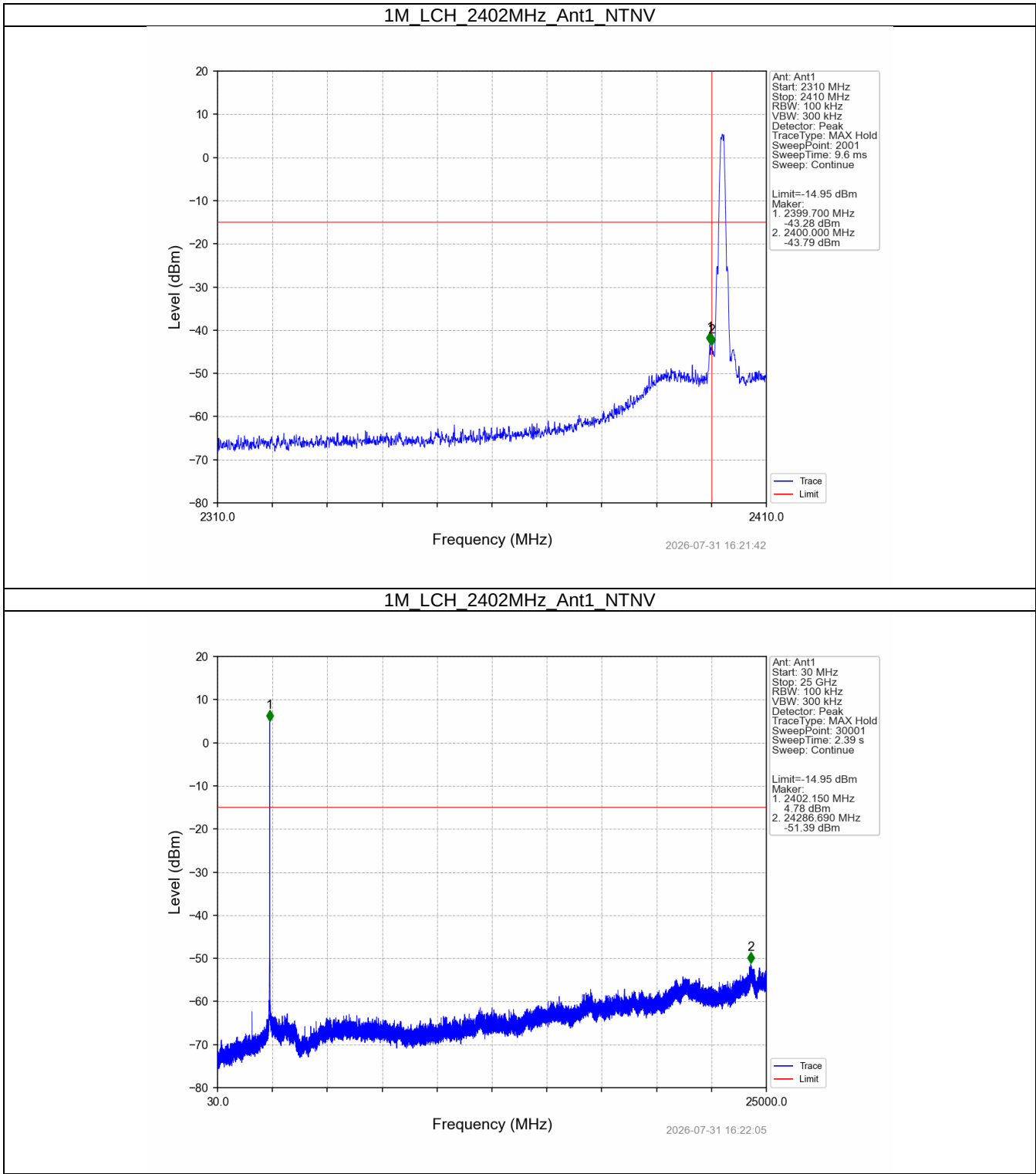
5.2.1 Ref



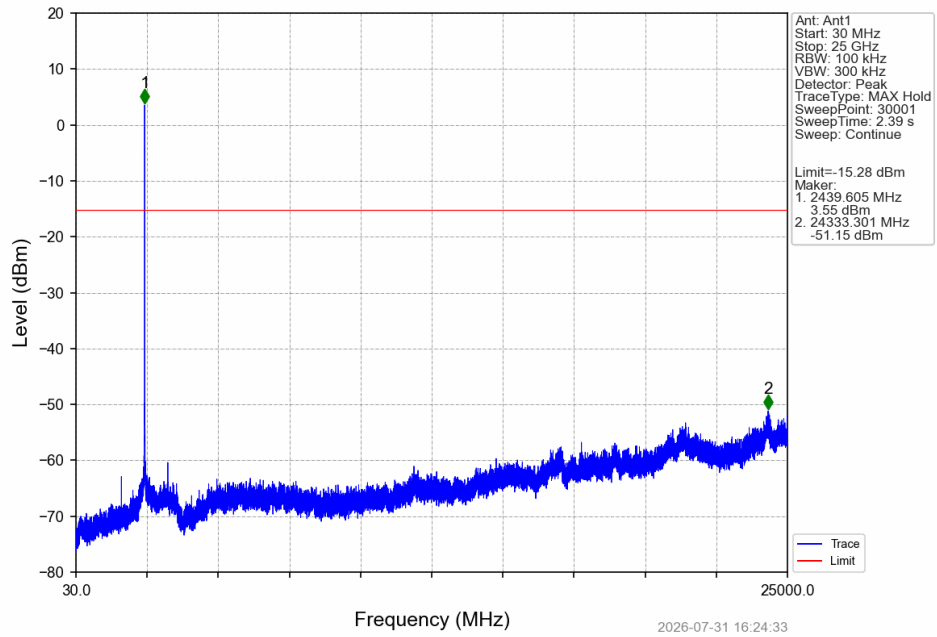
1M_HCH_2480MHz_Ant1_NTNV



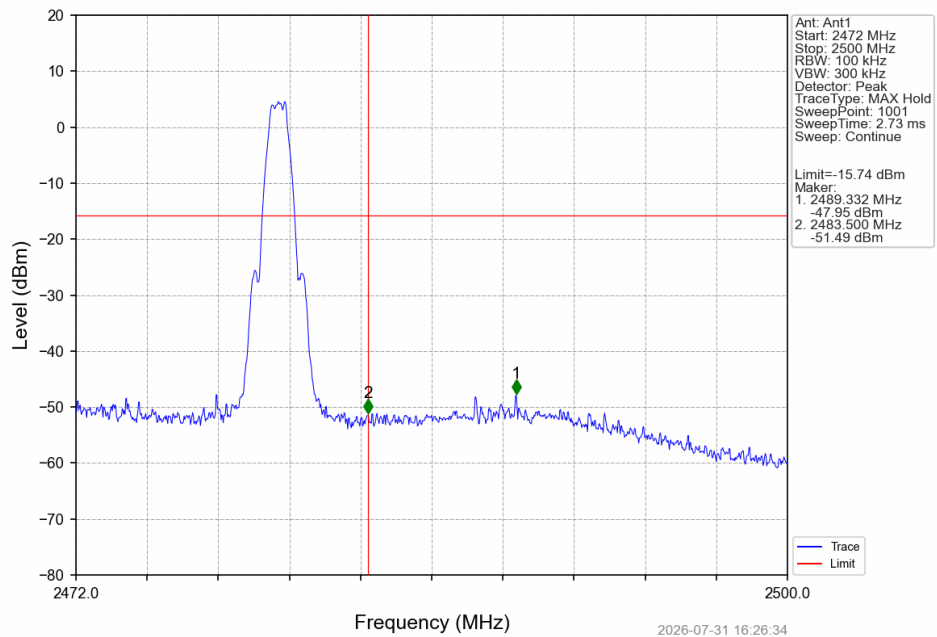
5.2.2 CSE



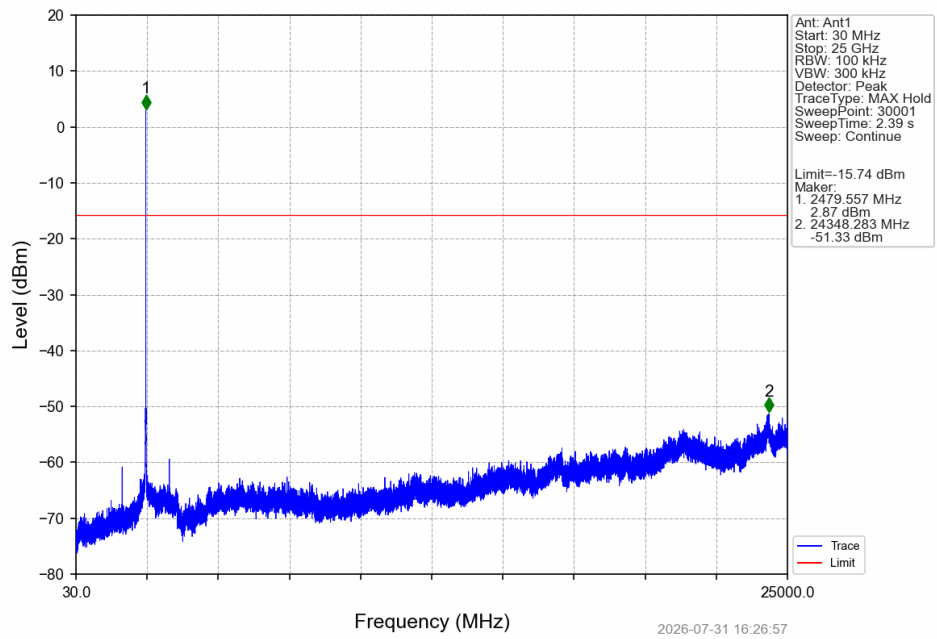
1M_MCH_2440MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV



6. Unwanted Emissions In Restricted Frequency Bands

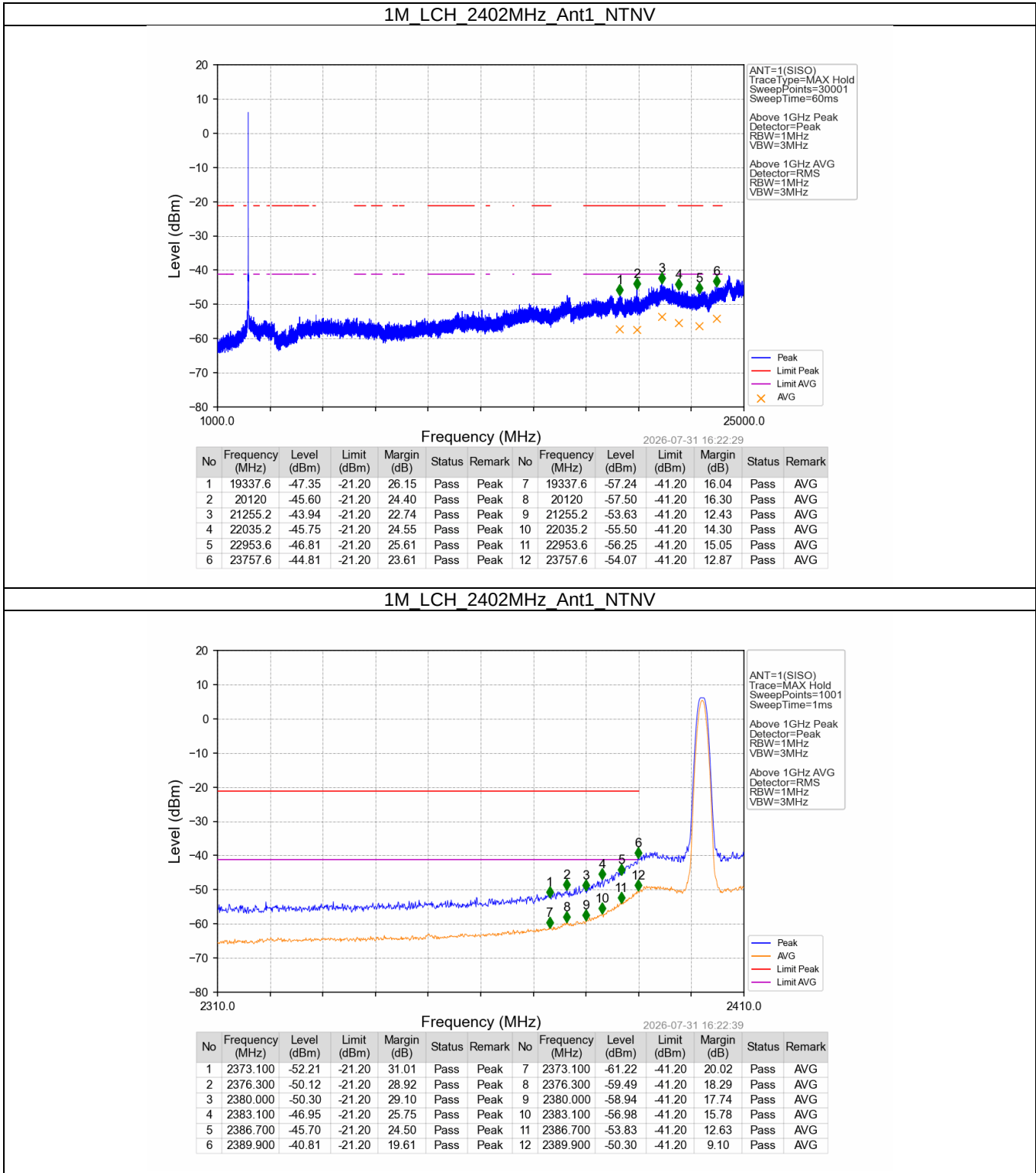
6.1 Test Result

6.1.1 RSE

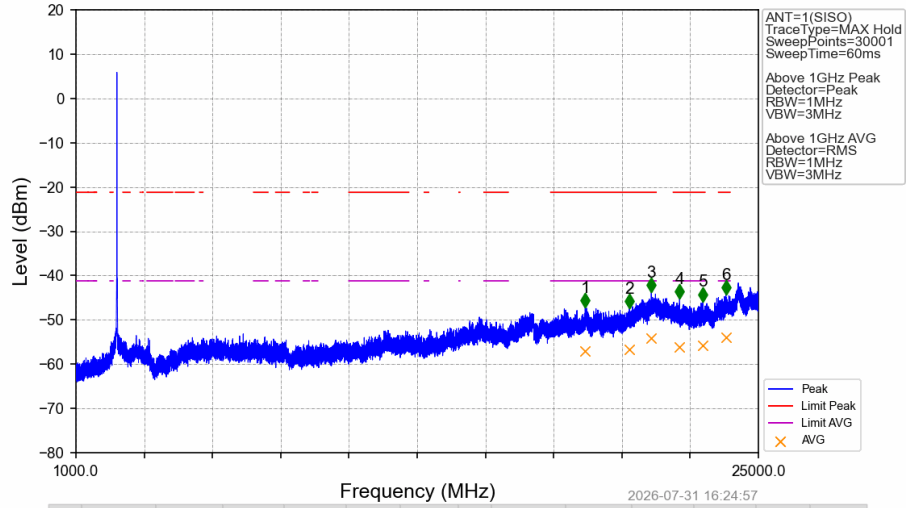
Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
1M	SISO	2402	1	Refer To Test Graph		Pass
		2440	1	Refer To Test Graph		Pass
		2480	1	Refer To Test Graph		Pass

6.2 Test Graph

6.2.1 RSE

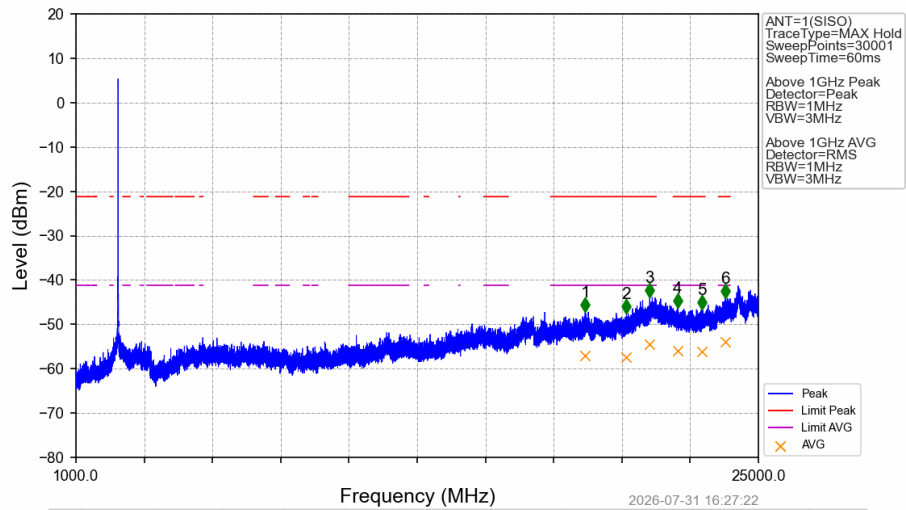


1M_MCH_2440MHz_Ant1_NTNV



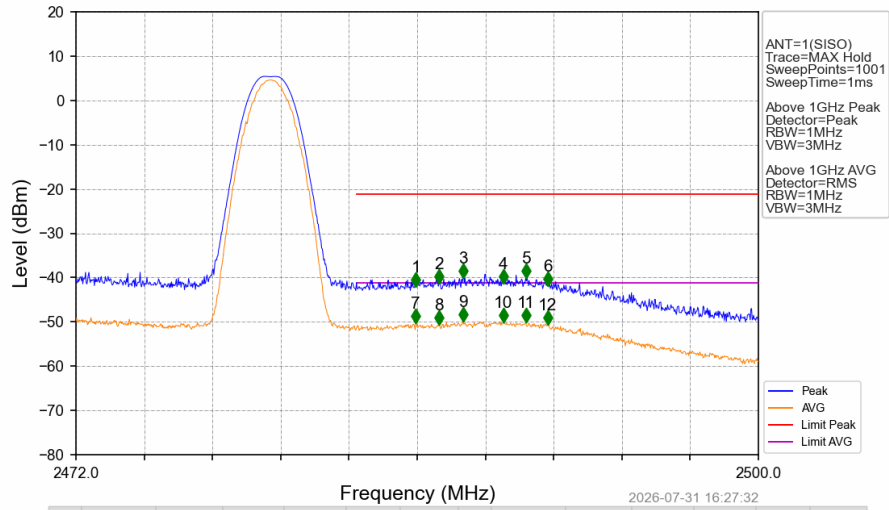
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	18908	-47.13	-21.20	25.93	Pass	Peak	7	18908	-57.06	-41.20	15.86	Pass	AVG
2	20463.2	-47.39	-21.20	26.19	Pass	Peak	8	20463.2	-56.69	-41.20	15.49	Pass	AVG
3	21233.6	-43.64	-21.20	22.44	Pass	Peak	9	21233.6	-54.11	-41.20	12.91	Pass	AVG
4	22227.2	-45.22	-21.20	24.02	Pass	Peak	10	22227.2	-56.06	-41.20	14.86	Pass	AVG
5	23045.6	-45.80	-21.20	24.60	Pass	Peak	11	23045.6	-55.83	-41.20	14.63	Pass	AVG
6	23856.8	-44.33	-21.20	23.13	Pass	Peak	12	23856.8	-53.97	-41.20	12.77	Pass	AVG

1M_HCH_2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	18906.4	-47.18	-21.20	25.98	Pass	Peak	7	18906.4	-57.02	-41.20	15.82	Pass	AVG
2	20360.8	-47.48	-21.20	26.28	Pass	Peak	8	20360.8	-57.36	-41.20	16.16	Pass	AVG
3	21177.6	-43.80	-21.20	22.60	Pass	Peak	9	21177.6	-54.54	-41.20	13.34	Pass	AVG
4	22162.4	-46.22	-21.20	25.02	Pass	Peak	10	22162.4	-55.97	-41.20	14.77	Pass	AVG
5	23016.8	-46.58	-21.20	25.38	Pass	Peak	11	23016.8	-56.11	-41.20	14.91	Pass	AVG
6	23832.8	-44.01	-21.20	22.81	Pass	Peak	12	23832.8	-54.02	-41.20	12.82	Pass	AVG

1M_HCH_2480MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	2485.944	-42.02	-21.20	20.82	Pass	Peak	7	2485.944	-50.17	-41.20	8.97	Pass	AVG
2	2486.896	-41.31	-21.20	20.11	Pass	Peak	8	2486.896	-50.60	-41.20	9.40	Pass	AVG
3	2487.876	-40.10	-21.20	18.90	Pass	Peak	9	2487.876	-49.84	-41.20	8.64	Pass	AVG
4	2489.528	-41.29	-21.20	20.09	Pass	Peak	10	2489.528	-50.05	-41.20	8.85	Pass	AVG
5	2490.452	-40.06	-21.20	18.86	Pass	Peak	11	2490.452	-50.08	-41.20	8.88	Pass	AVG
6	2491.348	-41.88	-21.20	20.68	Pass	Peak	12	2491.348	-50.62	-41.20	9.42	Pass	AVG