

Appendix RF Test Data for ZIGBEE

Company: : Shen Zhen Simaru Tec Co.,Ltd
EUT : Zigbee Rainwater Leakage Detection
FCC ID : 2A87N-MG-SJ100
Model Number : MG-SJ100-W-ZIG
Report No. : HTT202507080F01
Reviewed By : Heber He

1. Duty Cycle

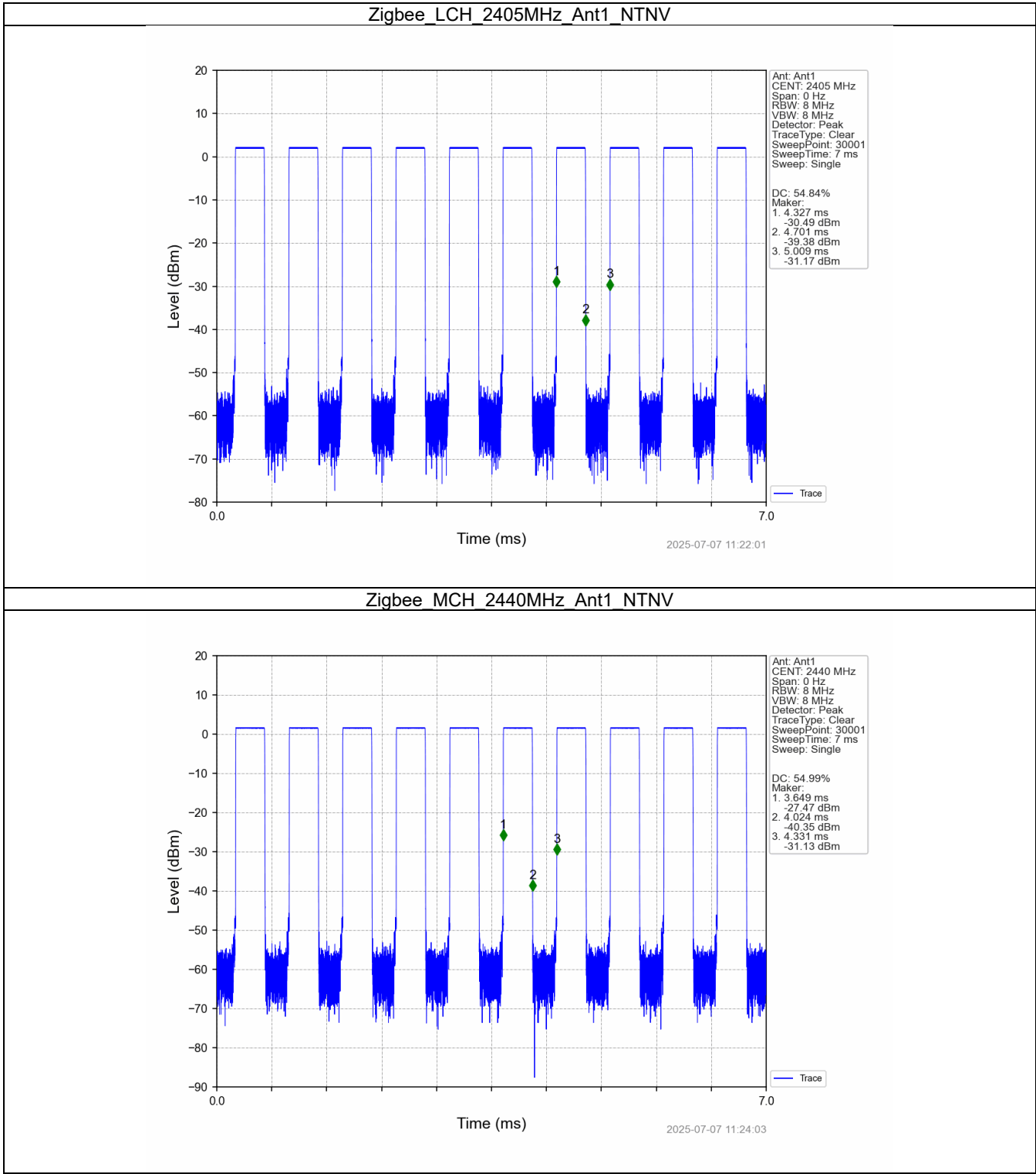
1.1 Test Result

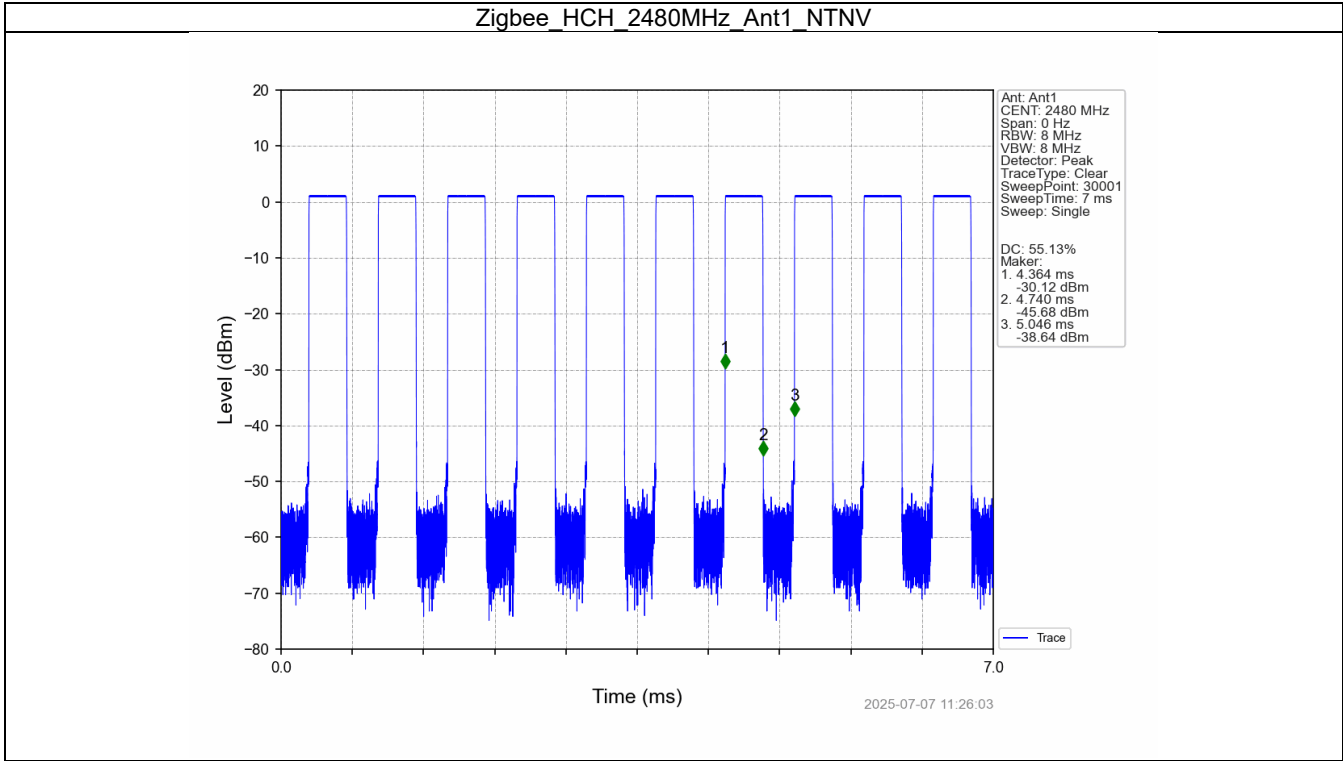
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
Zigbee	SISO	2405	0.374	0.682	54.84	2.61	0.05
		2440	0.375	0.682	54.99	2.60	0.10
		2480	0.376	0.682	55.13	2.59	0.08

1.2 Test Graph

1.2.1 Ant1





2. Bandwidth

2.1 Test Result

2.1.1 OBW

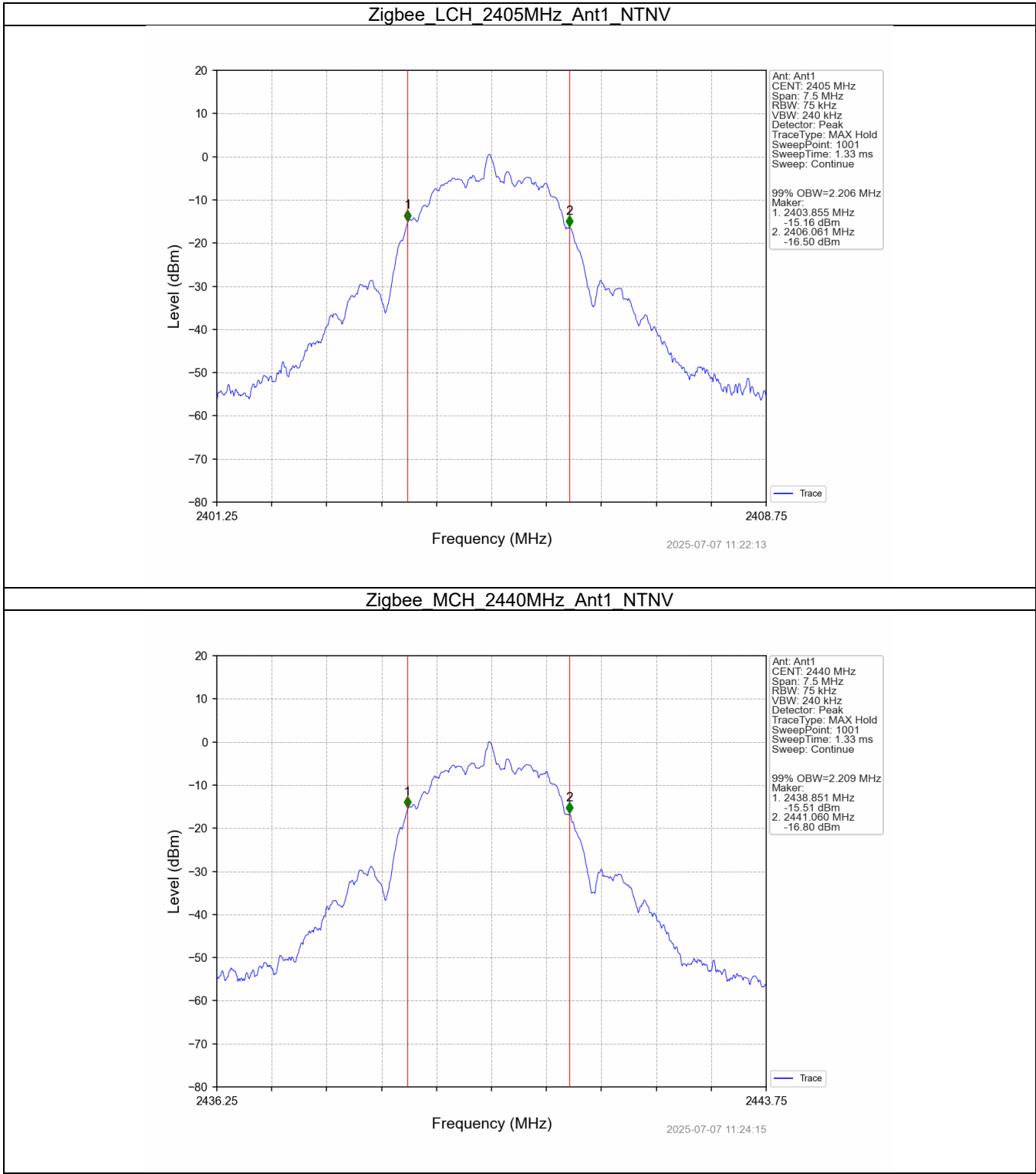
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
Zigbee	SISO	2405	1	2.206	/	Pass
		2440	1	2.209	/	Pass
		2480	1	2.214	/	Pass

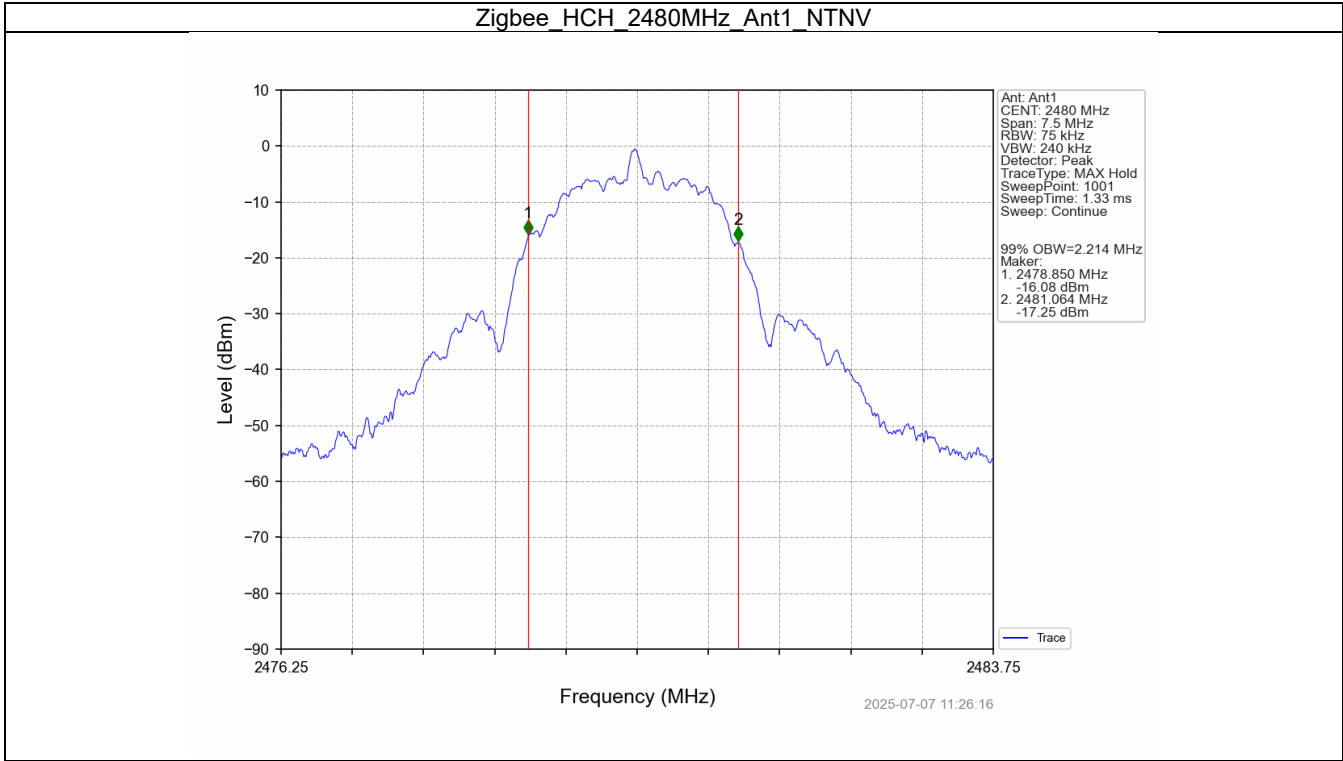
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
Zigbee	SISO	2405	1	1.240	≥ 0.5	Pass
		2440	1	1.229	≥ 0.5	Pass
		2480	1	1.159	≥ 0.5	Pass

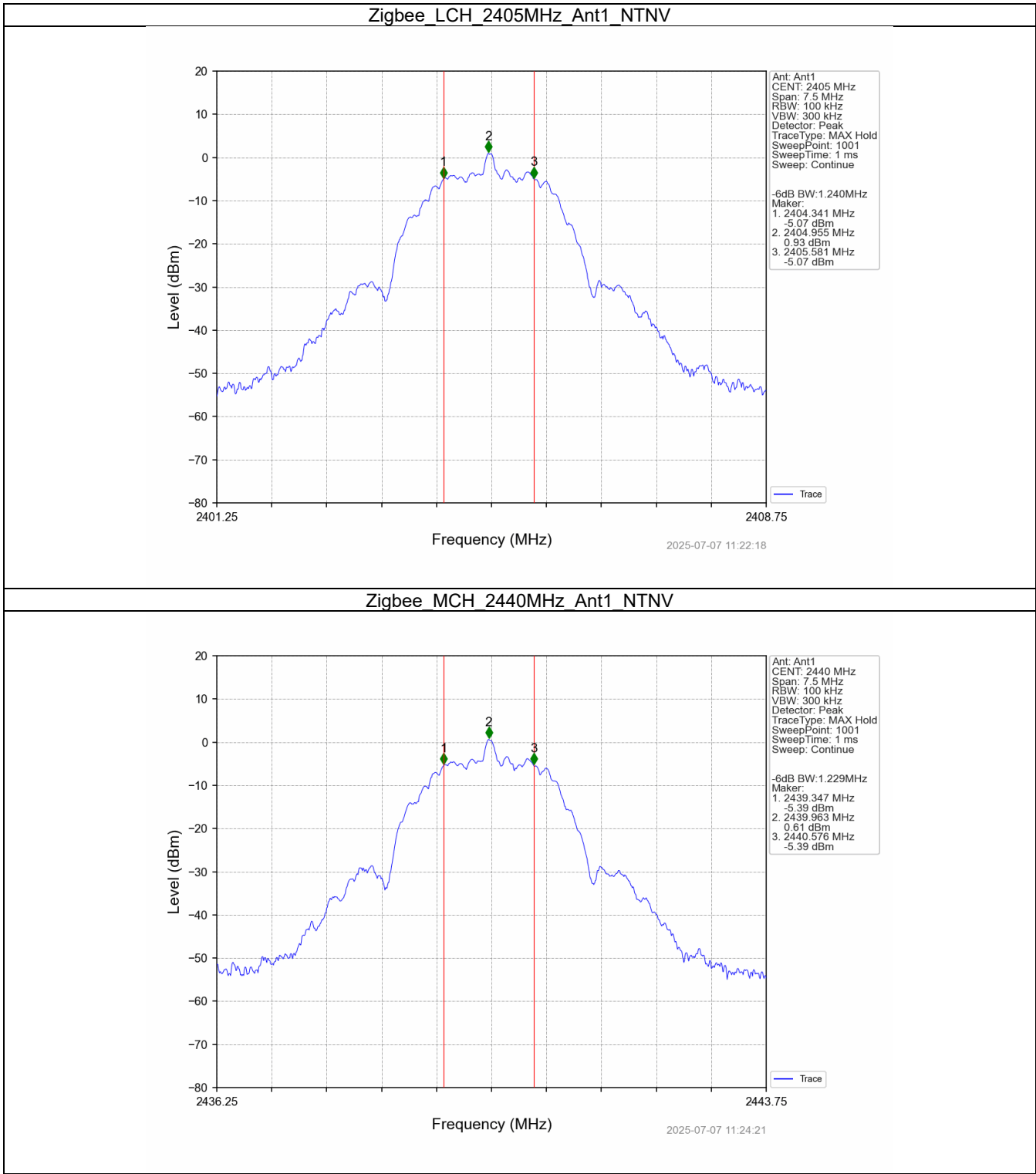
2.2 Test Graph

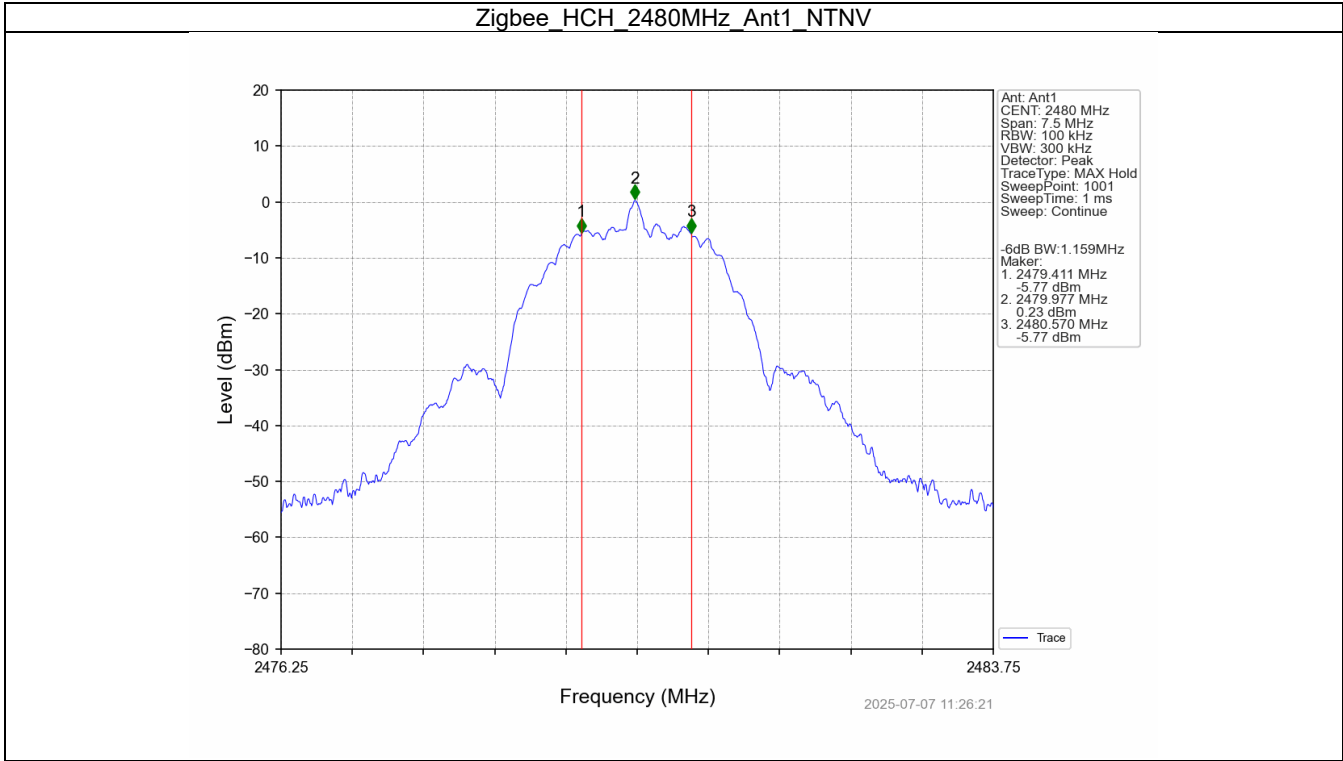
2.2.1 OBW





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	
Zigbee	SISO	2405	2.11	<=30	Pass
		2440	1.66	<=30	Pass
		2480	1.08	<=30	Pass

4. Maximum Power Spectral Density

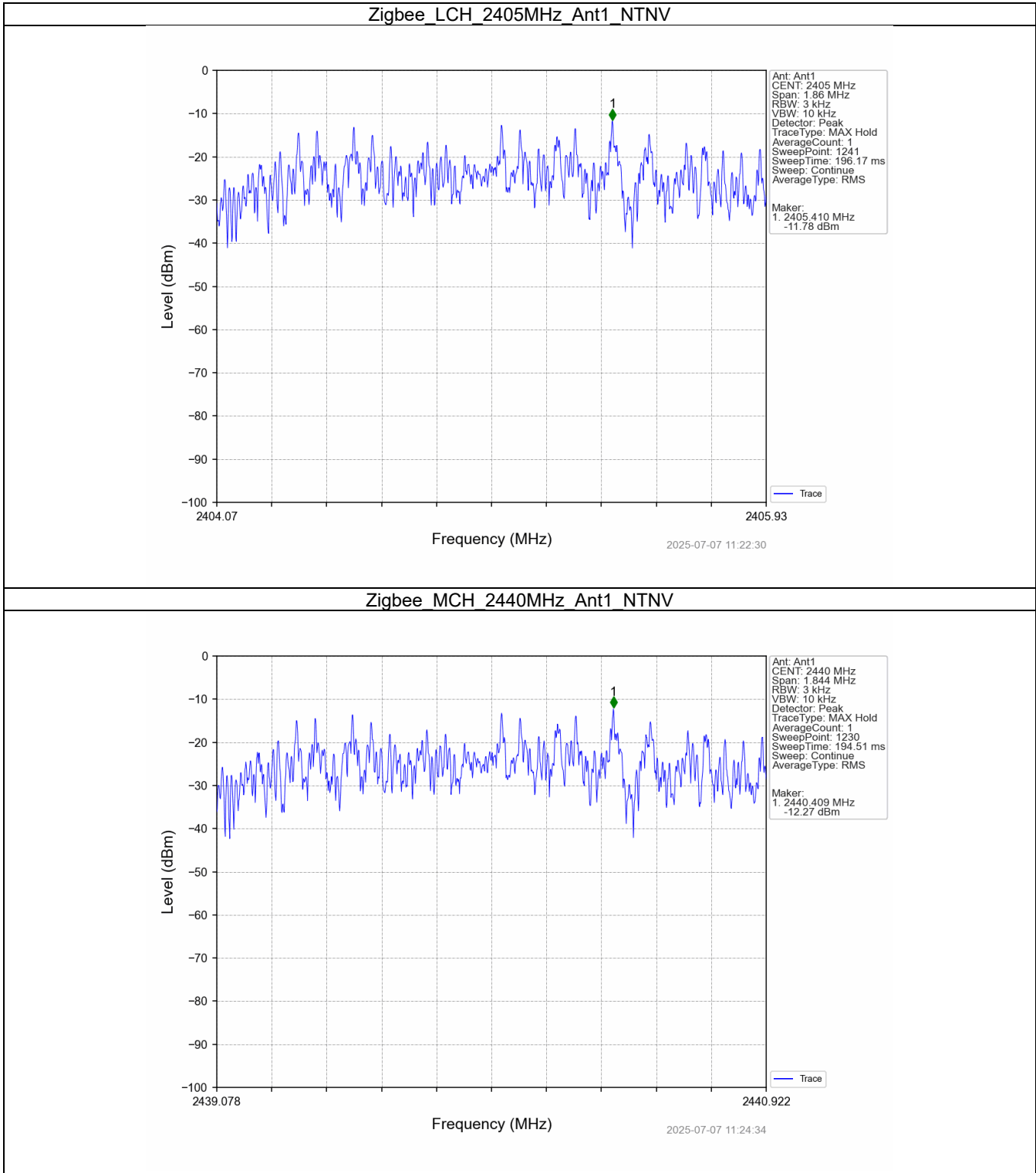
4.1 Test Result

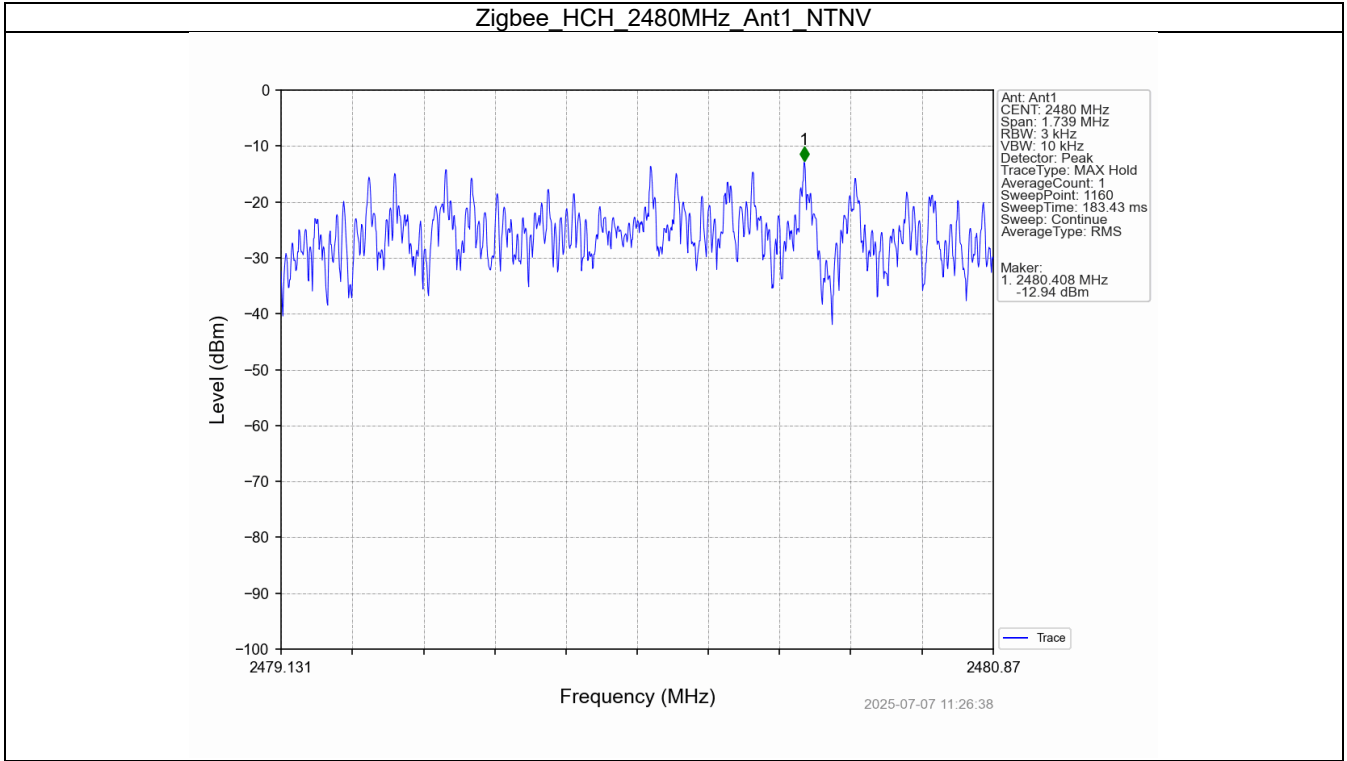
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
Zigbee	SISO	2405	-11.78	<=8	Pass
		2440	-12.27	<=8	Pass
		2480	-12.94	<=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)
Zigbee	SISO	2405	1	1.06
		2440	1	0.61
		2480	1	-0.01

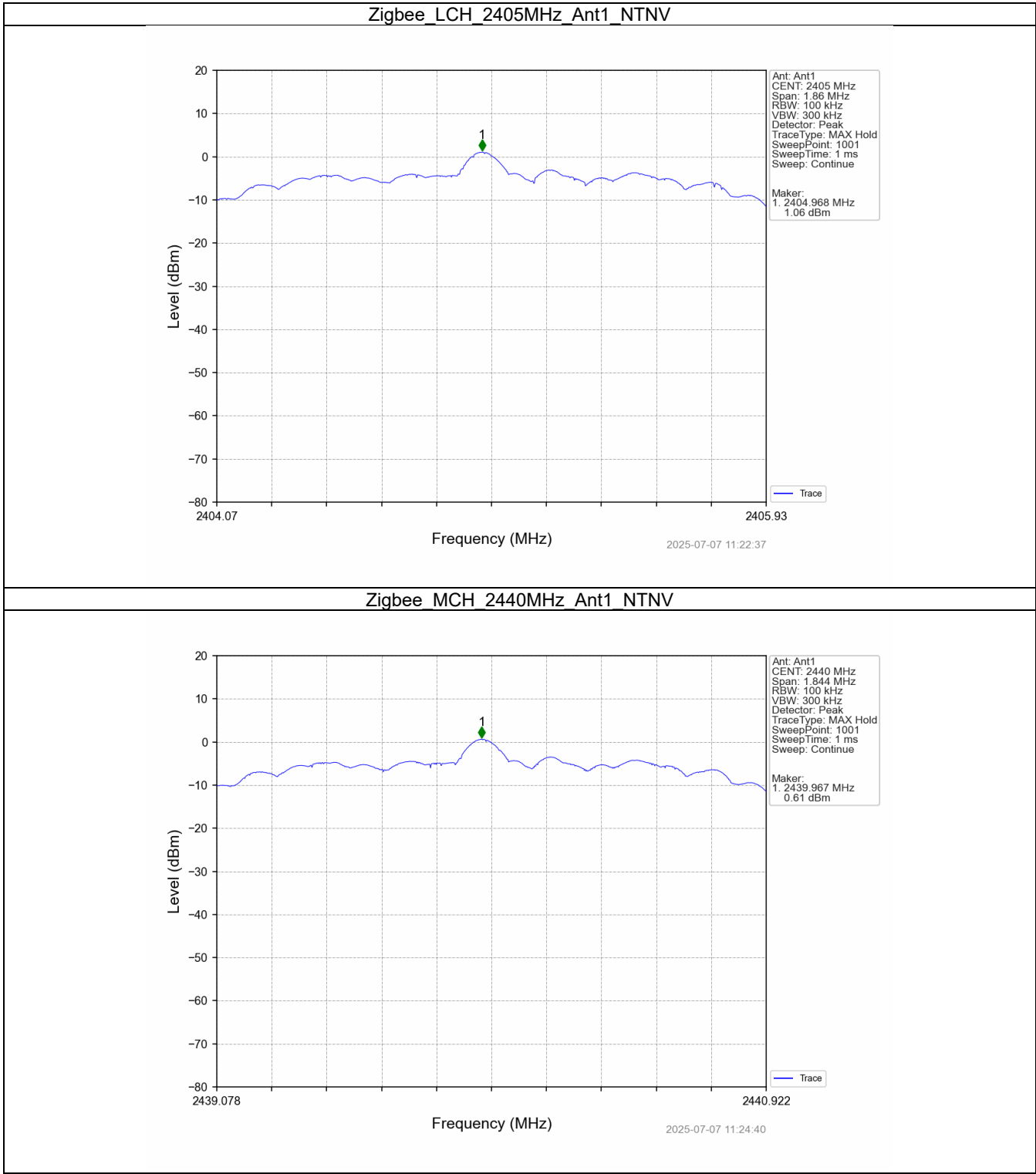
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

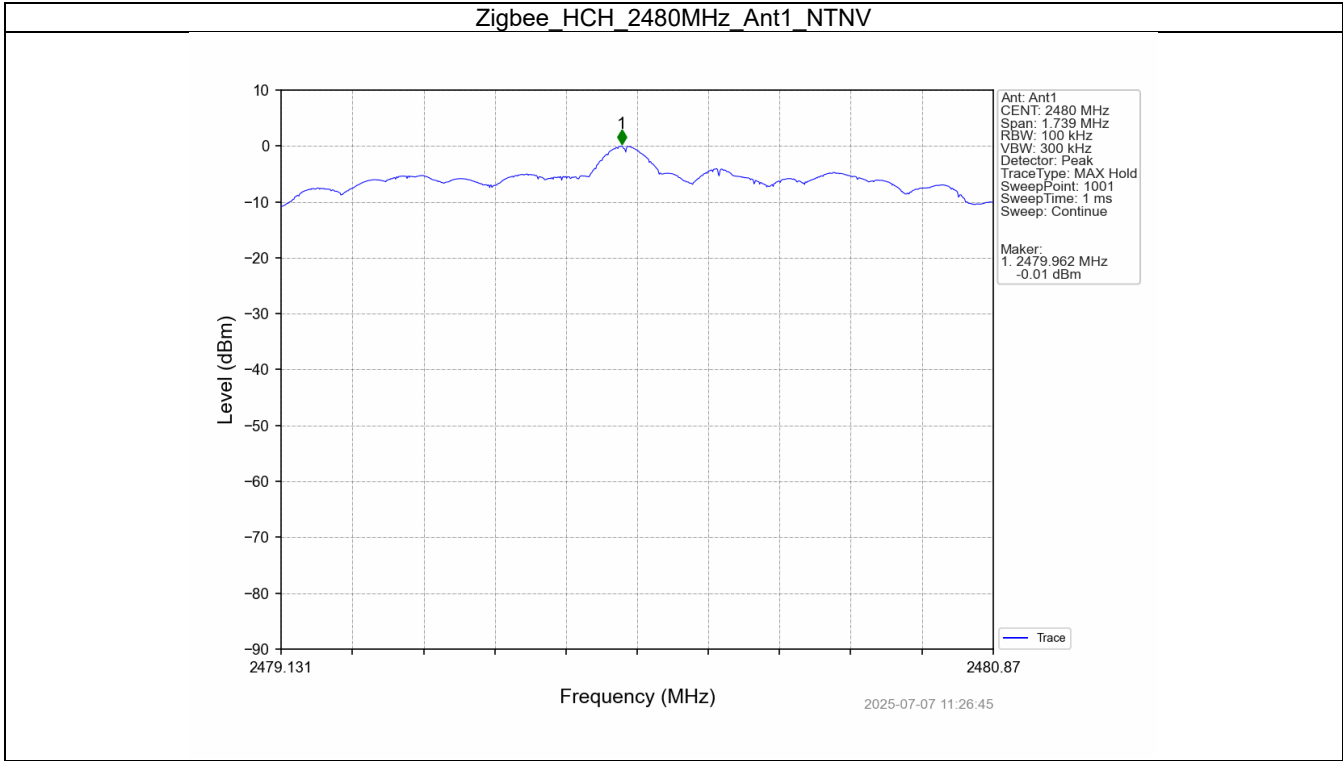
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
Zigbee	SISO	2405	1	1.06	-18.94	Pass
		2440	1	1.06	-18.94	Pass
		2480	1	1.06	-18.94	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.						

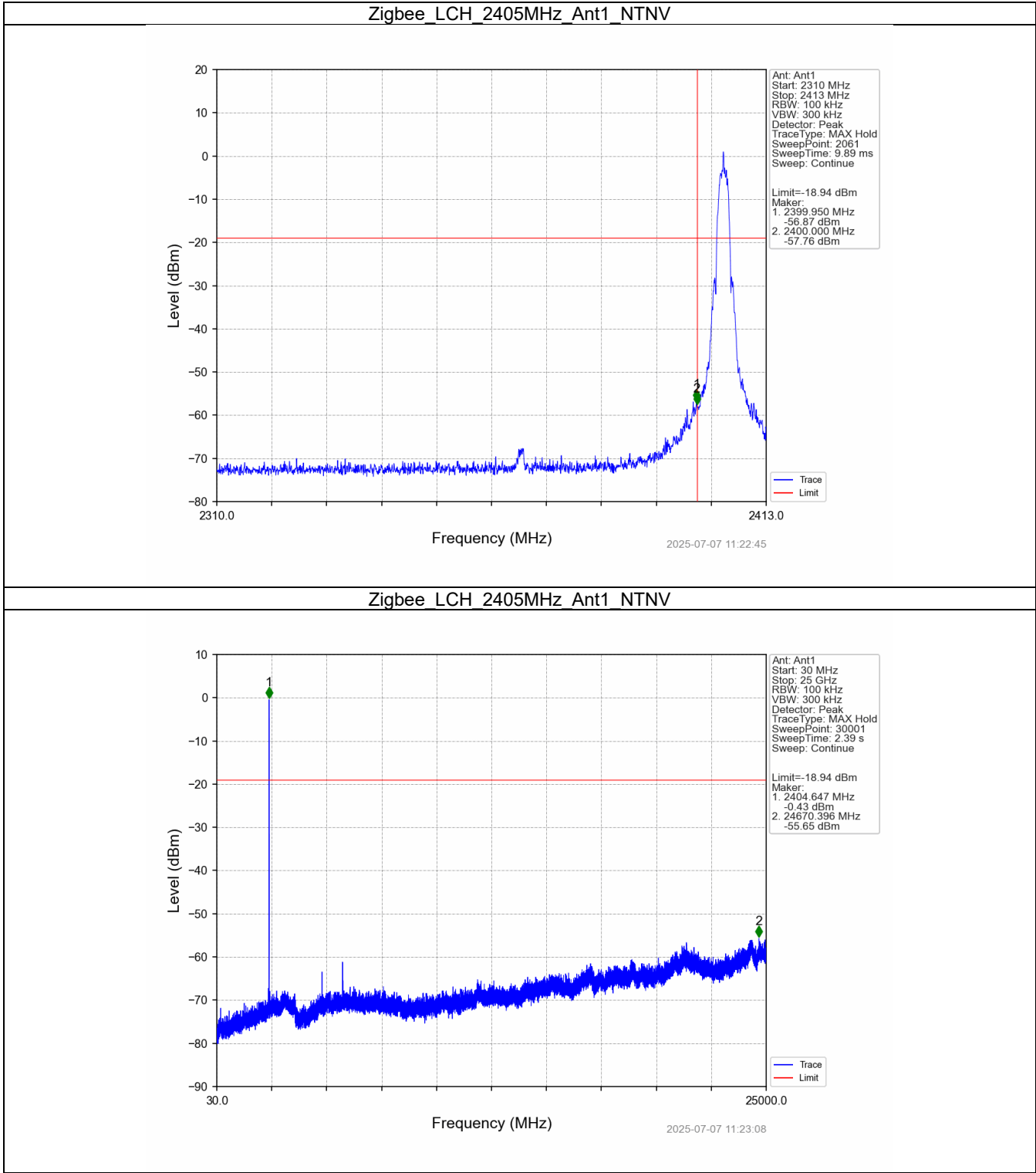
5.2 Test Graph

5.2.1 Ref

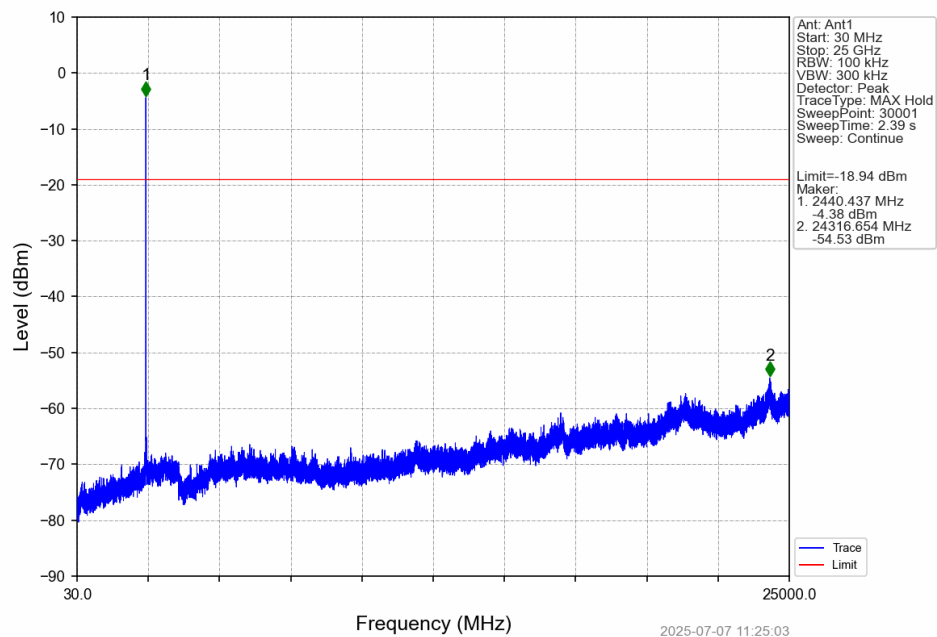




5.2.2 CSE



Zigbee_MCH_2440MHz_Ant1_NTNV



Zigbee_HCH_2480MHz_Ant1_NTNV

