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Annex for LoRa

Test Report No.: CTL2608253053-WF03

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1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
loro	SISO	902.5	1	0.256	/	Pass
		915.25	1	0.260	/	Pass
		927.49	1	0.258	/	Pass

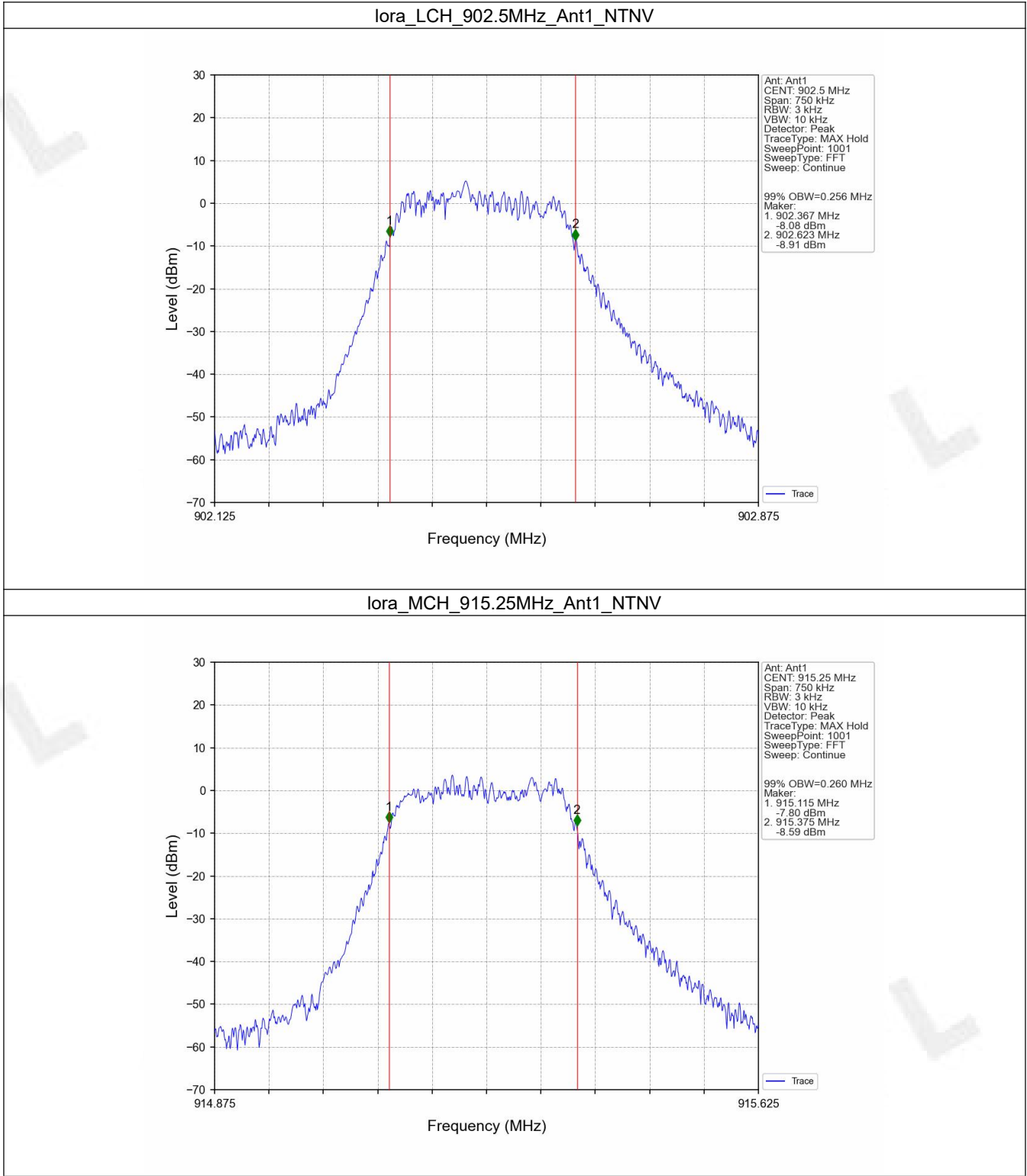
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	ANT	20dB Bandwidth (MHz)		Verdict
				Result	Limit	
loro	SISO	902.5	1	0.296	/	Pass
		915.25	1	0.288	/	Pass
		927.49	1	0.290	/	Pass

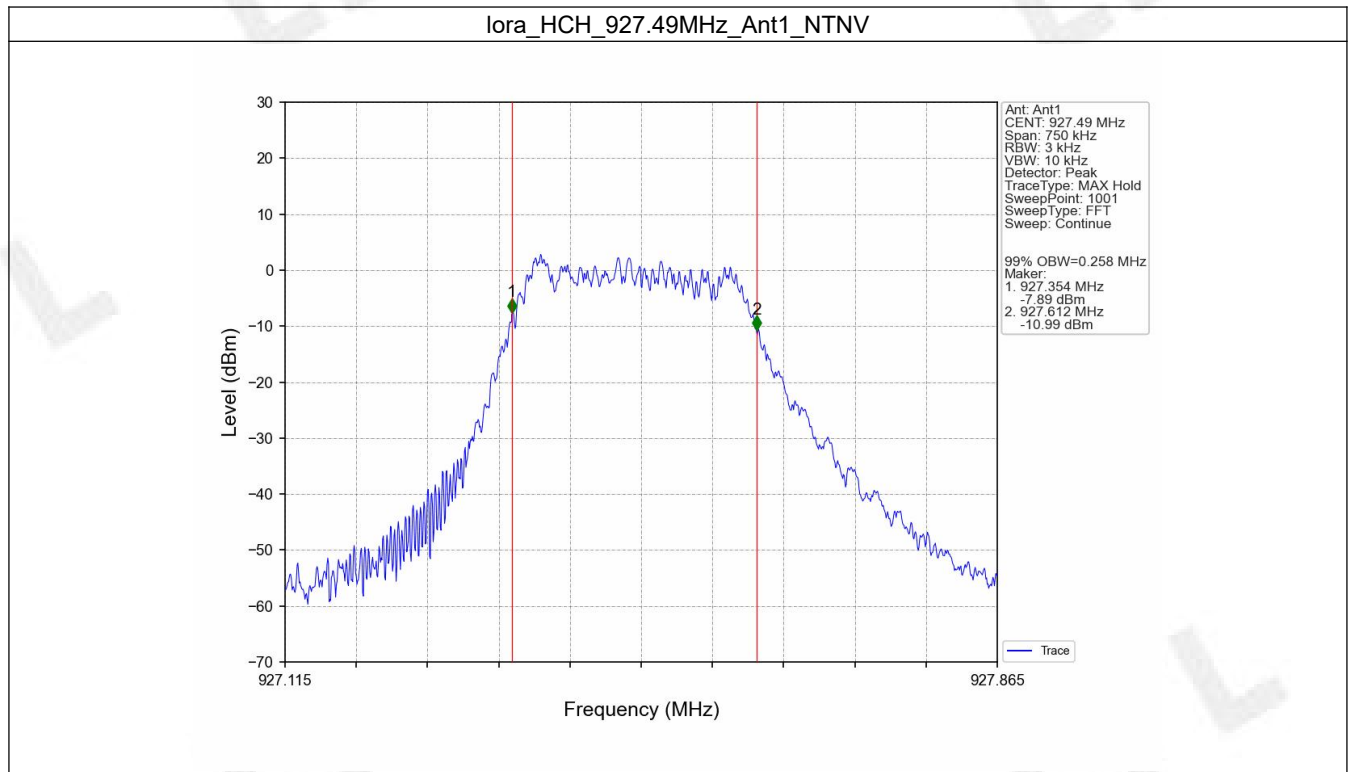
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1.2 Test Graph

1.2.1 OBW

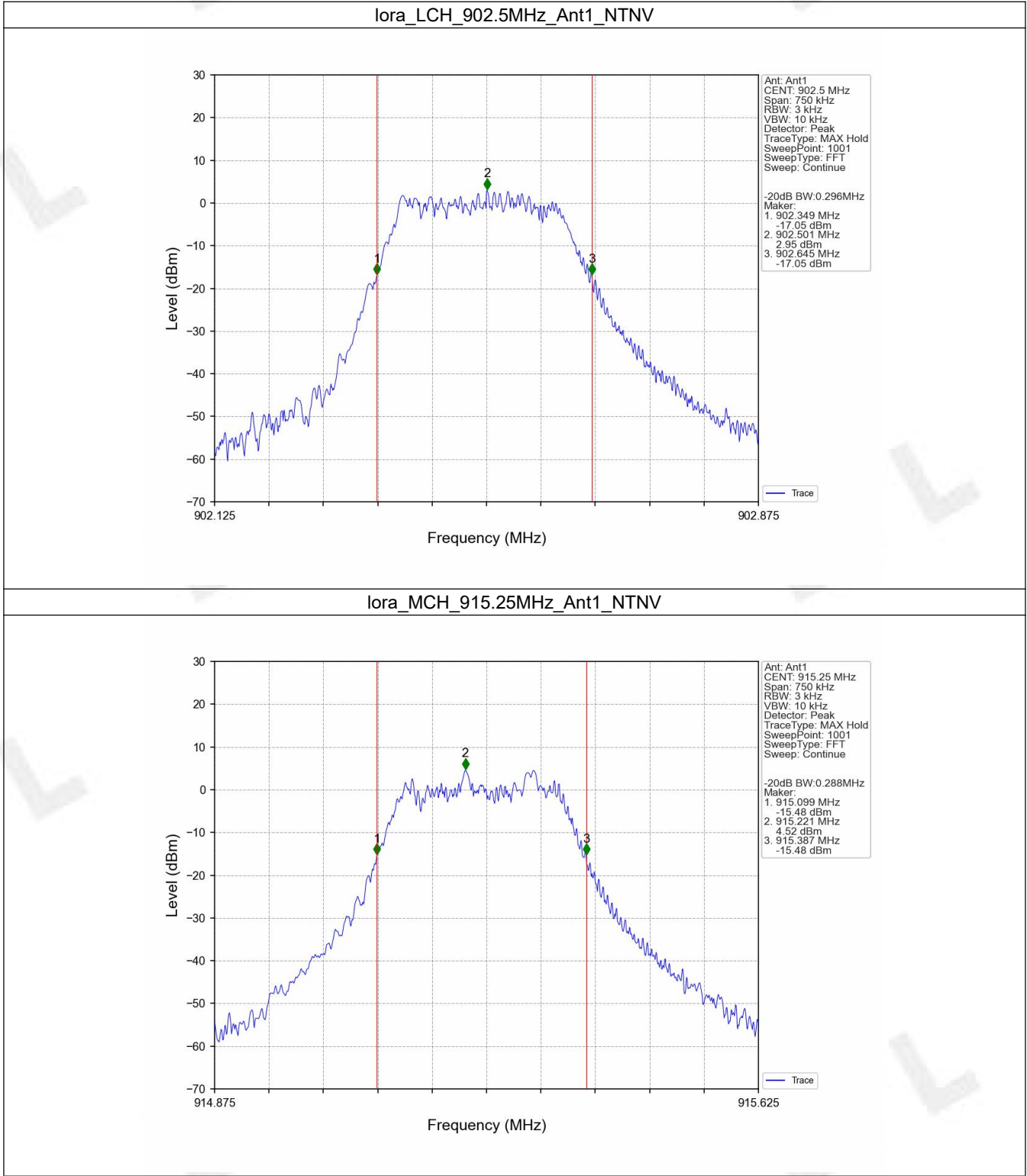


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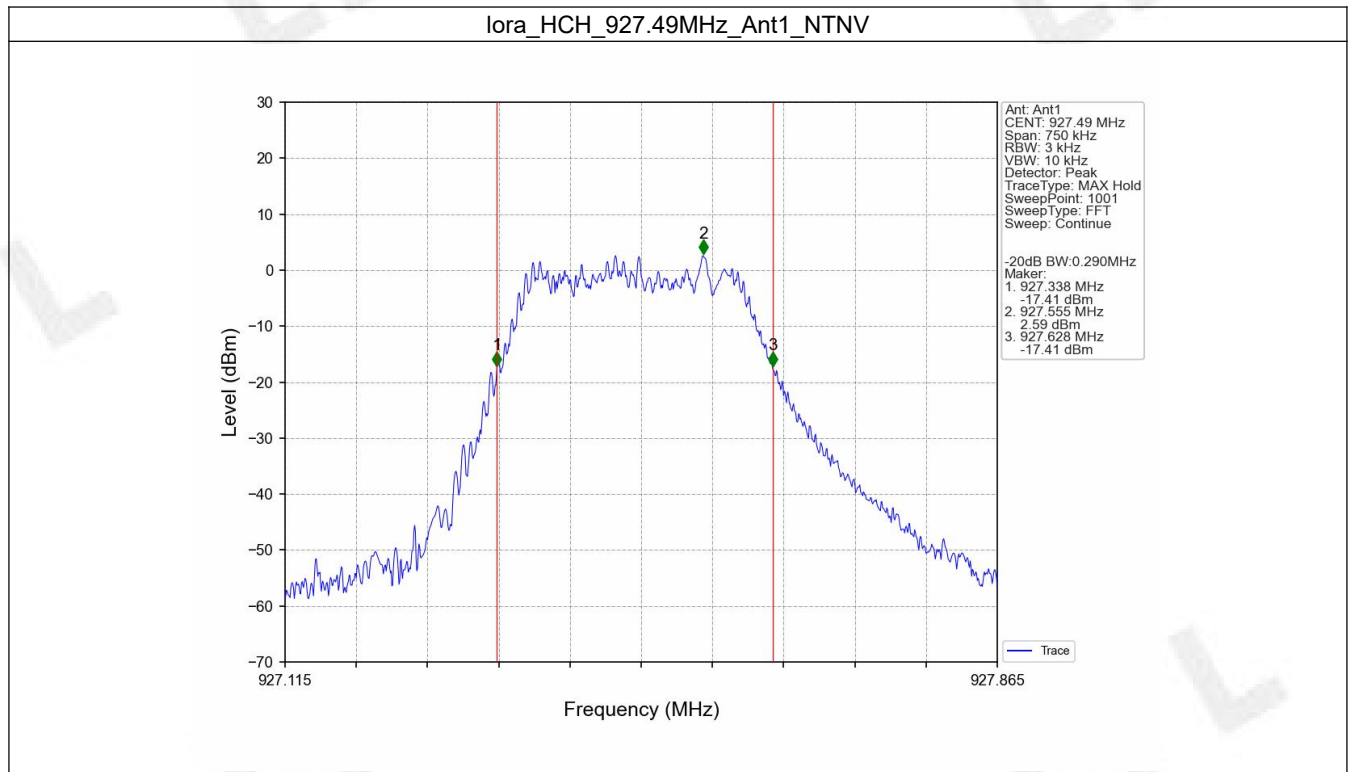


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1.2.2 20dB BW



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2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
loro	SISO	902.5	14.85	<=30	Pass
		915.25	14.58	<=30	Pass
		927.49	13.96	<=30	Pass
Note1: Antenna Gain: Ant1: 1.25dBi;					

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3. Carrier Frequency Separation

3.1 Test Result

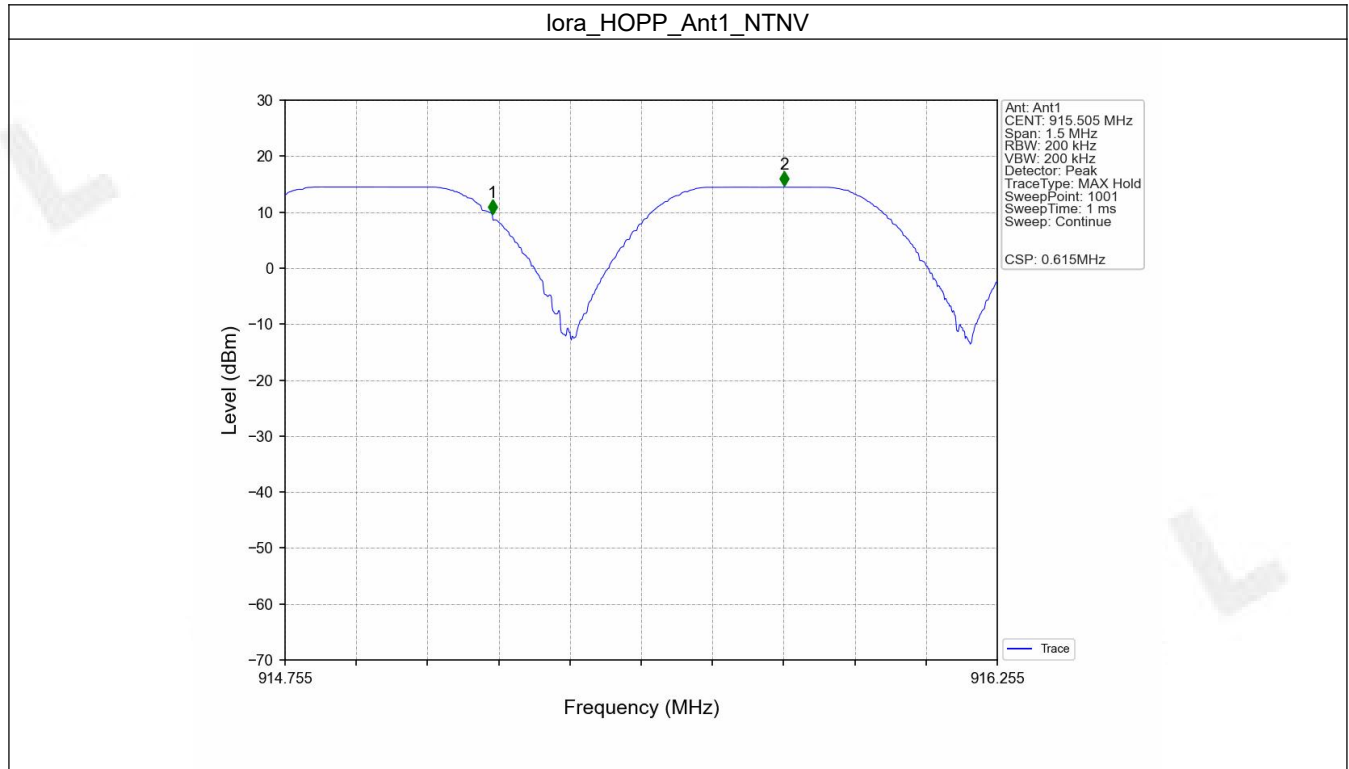
3.1.1 Ant1

Ant1						
Mode	TX Type	Frequency (MHz)	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
lora	SISO	HOPP	0.615	0.296	≥ 0.296	Pass

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3.2 Test Graph

3.2.1 Ant1



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4. Number of Hopping Frequencies

4.1 Test Result

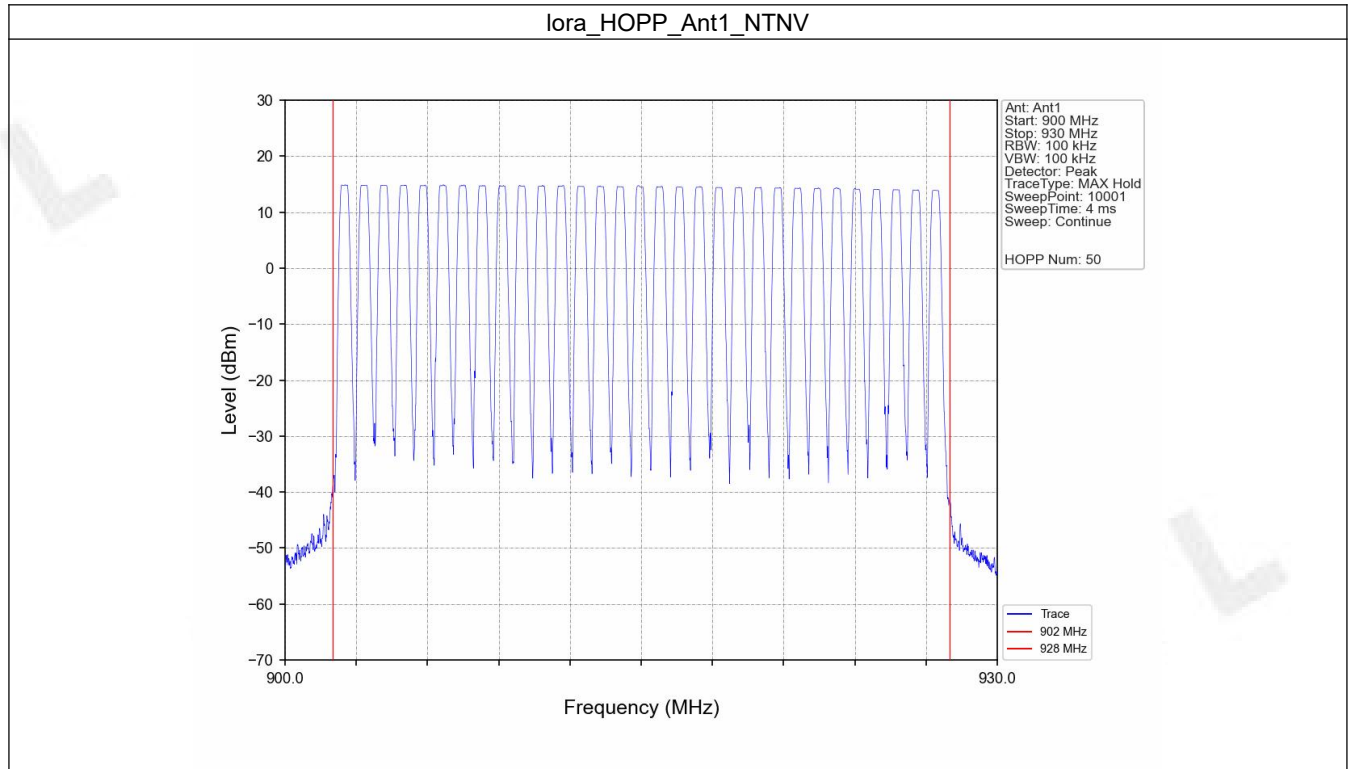
4.1.1 HoppNum

Mode	TX Type	Frequency (MHz)	Num of Hopping Frequencies		Verdict
			ANT1	Limit	
loro	SISO	HOPP	50	>=25	Pass

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4.2 Test Graph

4.2.1 HoppNum



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5. Time of Occupancy (Dwell Time)

5.1 Test Result

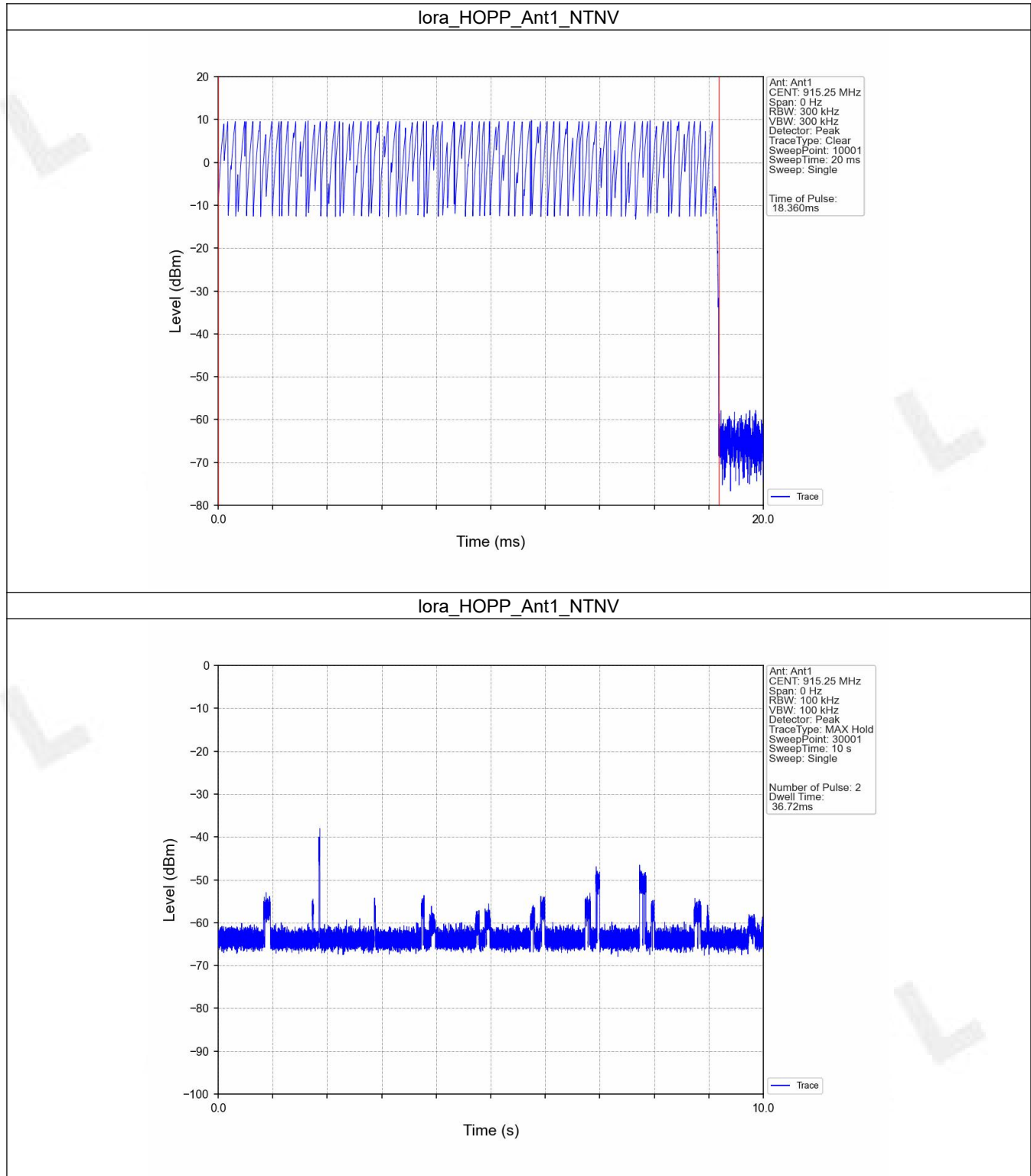
5.1.1 Ant1

Ant1								
Mode	TX Type	Frequency (MHz)	Duration of Single Pulse (ms)	Observation Period (s)	Num of Pulse in Observation Period	Dwell Time (ms)	Limit (ms)	Verdict
loro	SISO	HOPP	18.360	10.000	2	36.720	<=400	Pass

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5.2 Test Graph

5.2.1 Ant1



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6. Unwanted Emissions In Non-restricted Frequency Bands

6.1 Test Result

6.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
loro	SISO	902.5	1	14.73
		915.25	1	14.47
		927.49	1	13.86
		HOPP	1	15.06
				15.06

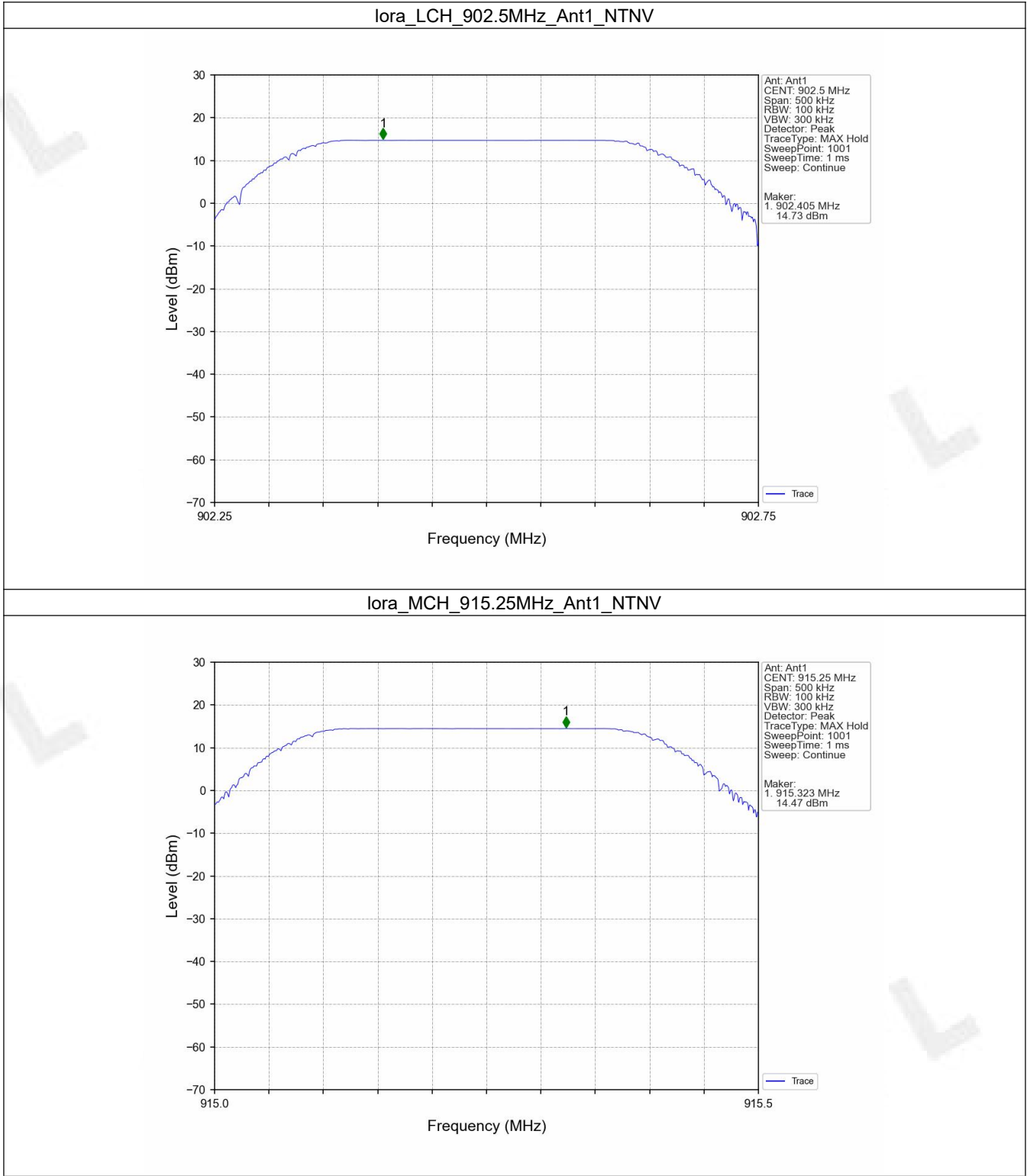
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
loro	SISO	902.5	1	14.73	-5.27	Pass
		915.25	1	14.47	-5.53	Pass
		927.49	1	13.86	-6.14	Pass
		HOPP	1	15.06	-4.94	Pass
				15.06	-4.94	Pass

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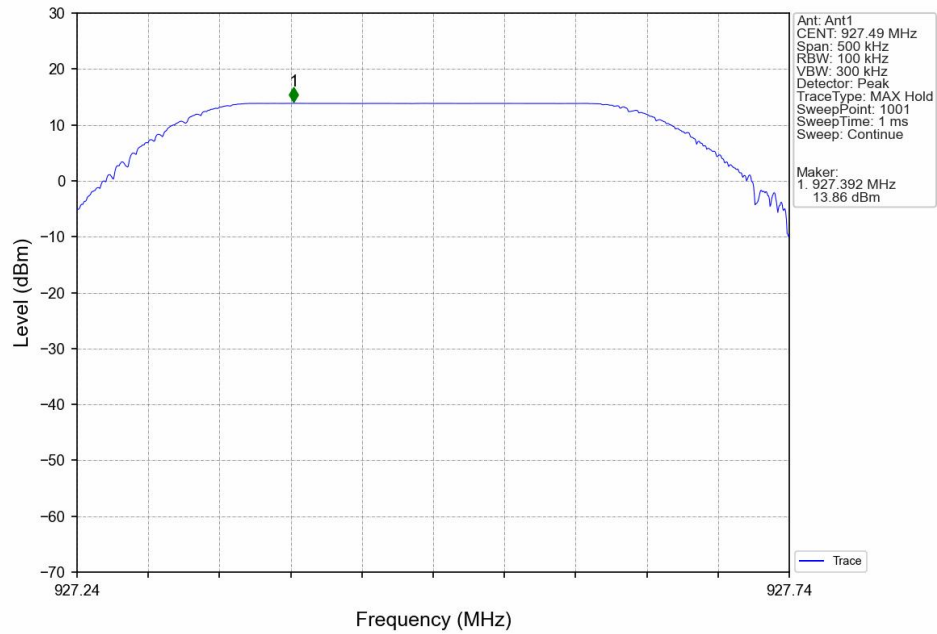
6.2 Test Graph

6.2.1 Ref

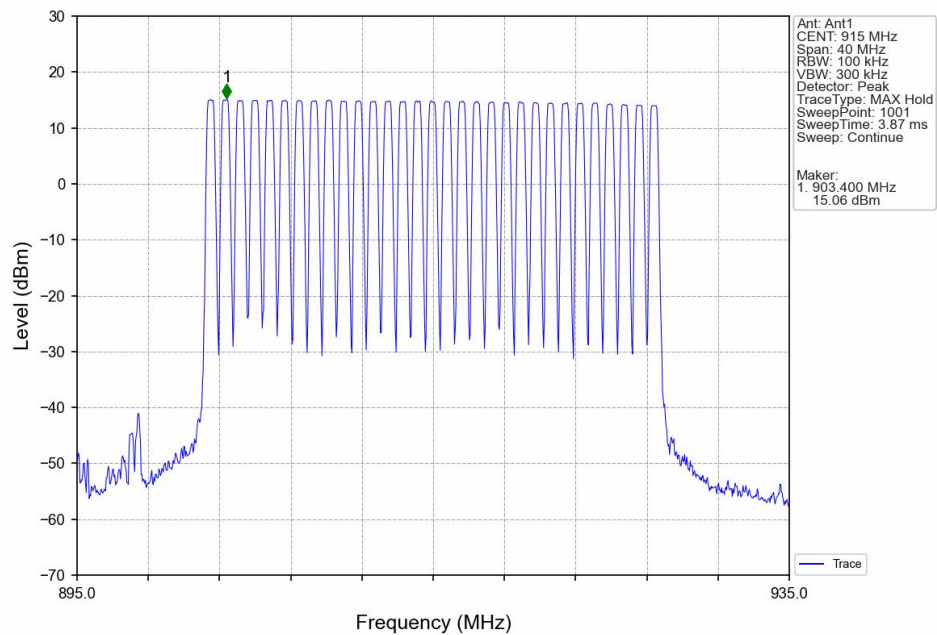


FCC ID: 2BYAF-XFIX-EX30B

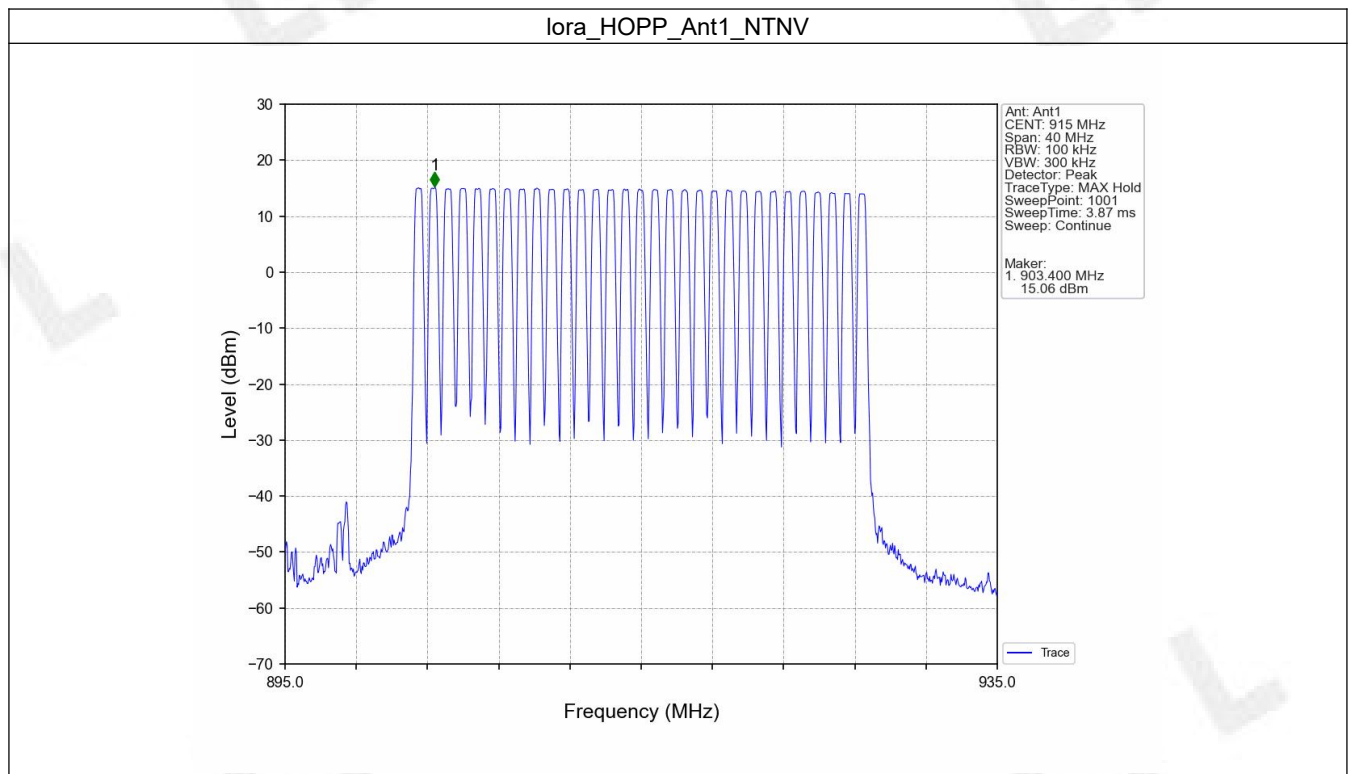
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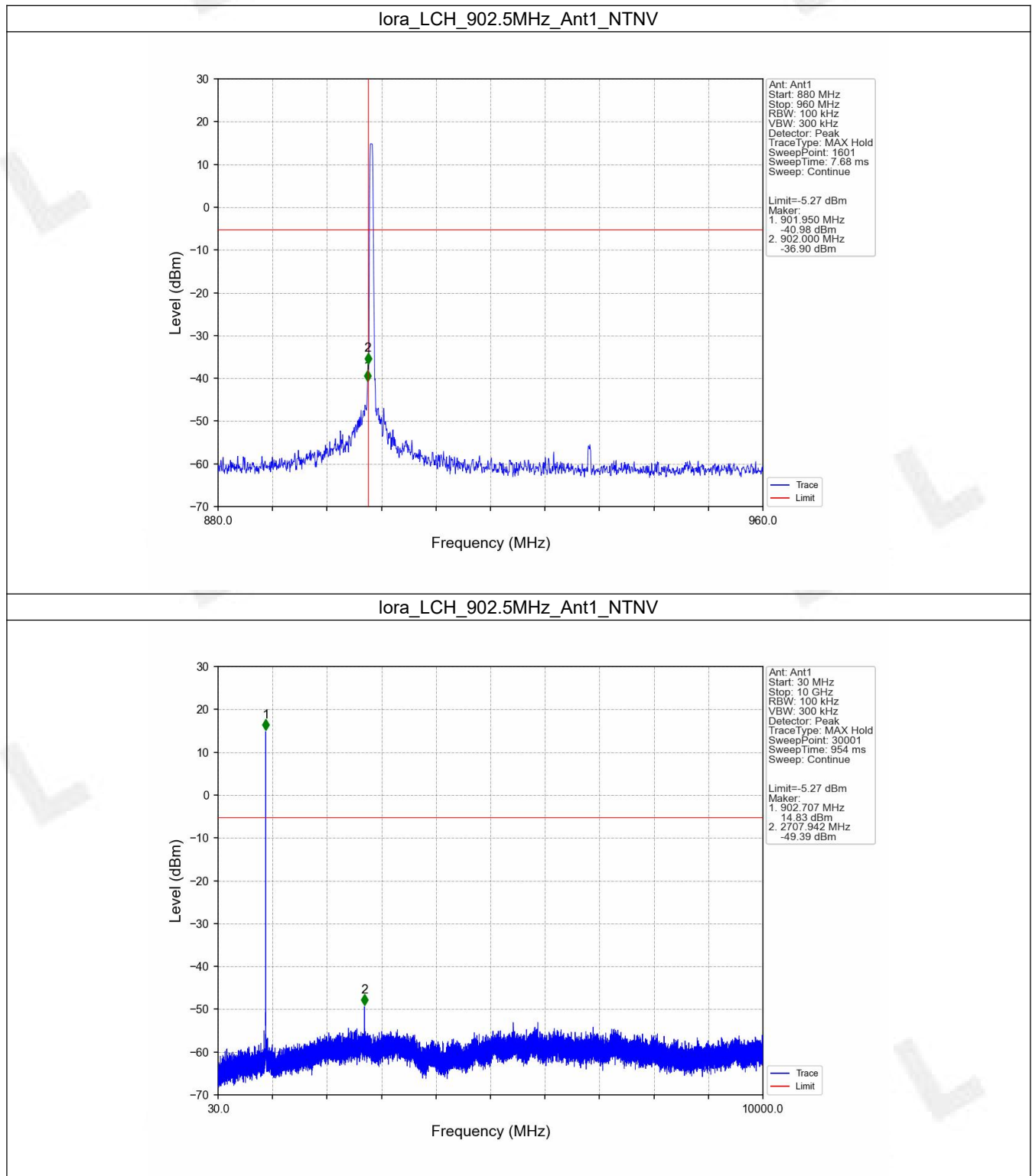
lora_HOPP_915MHz_Ant1_NTNV



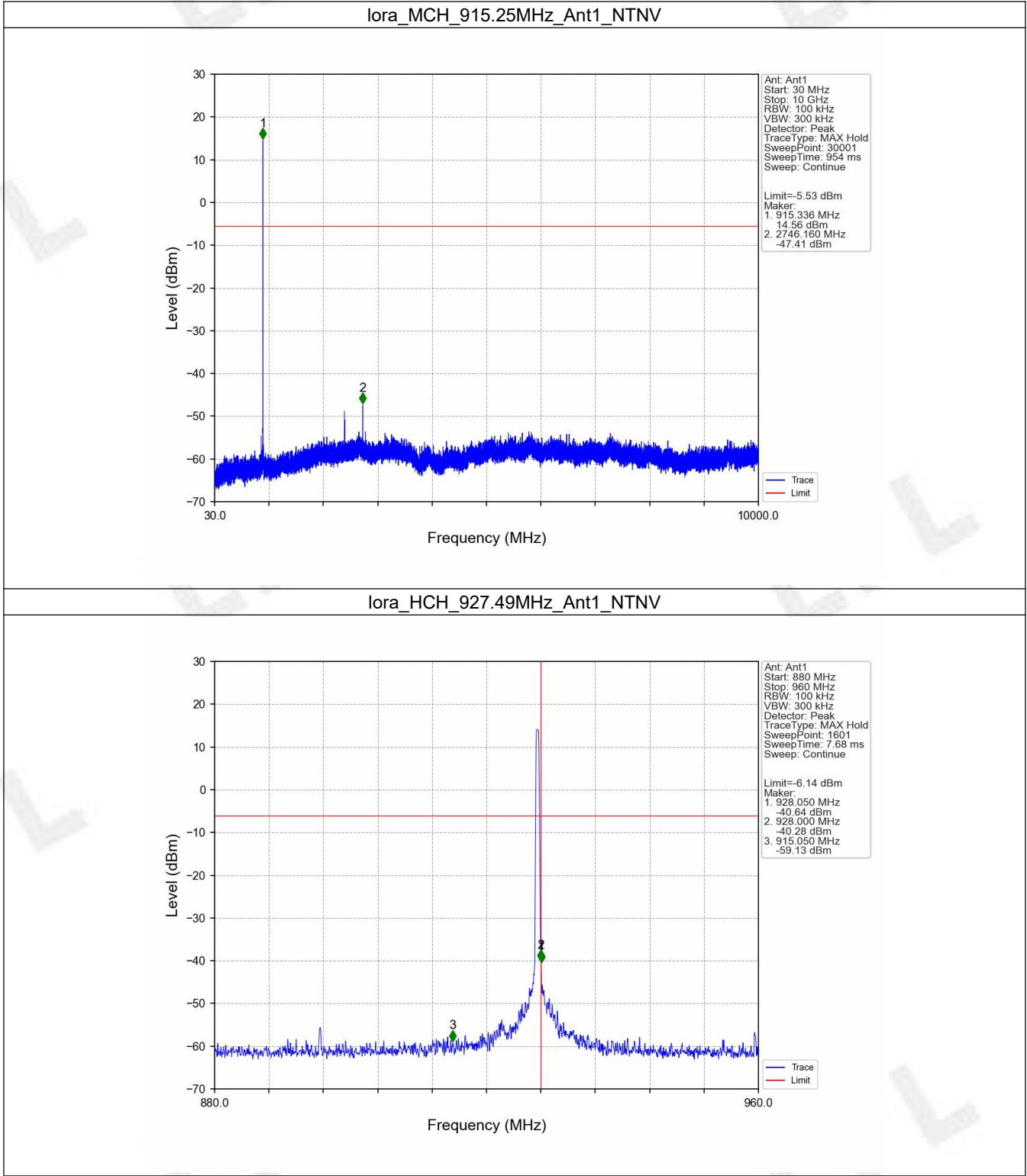
FCC ID: 2BYAF-XFIX-EX30B



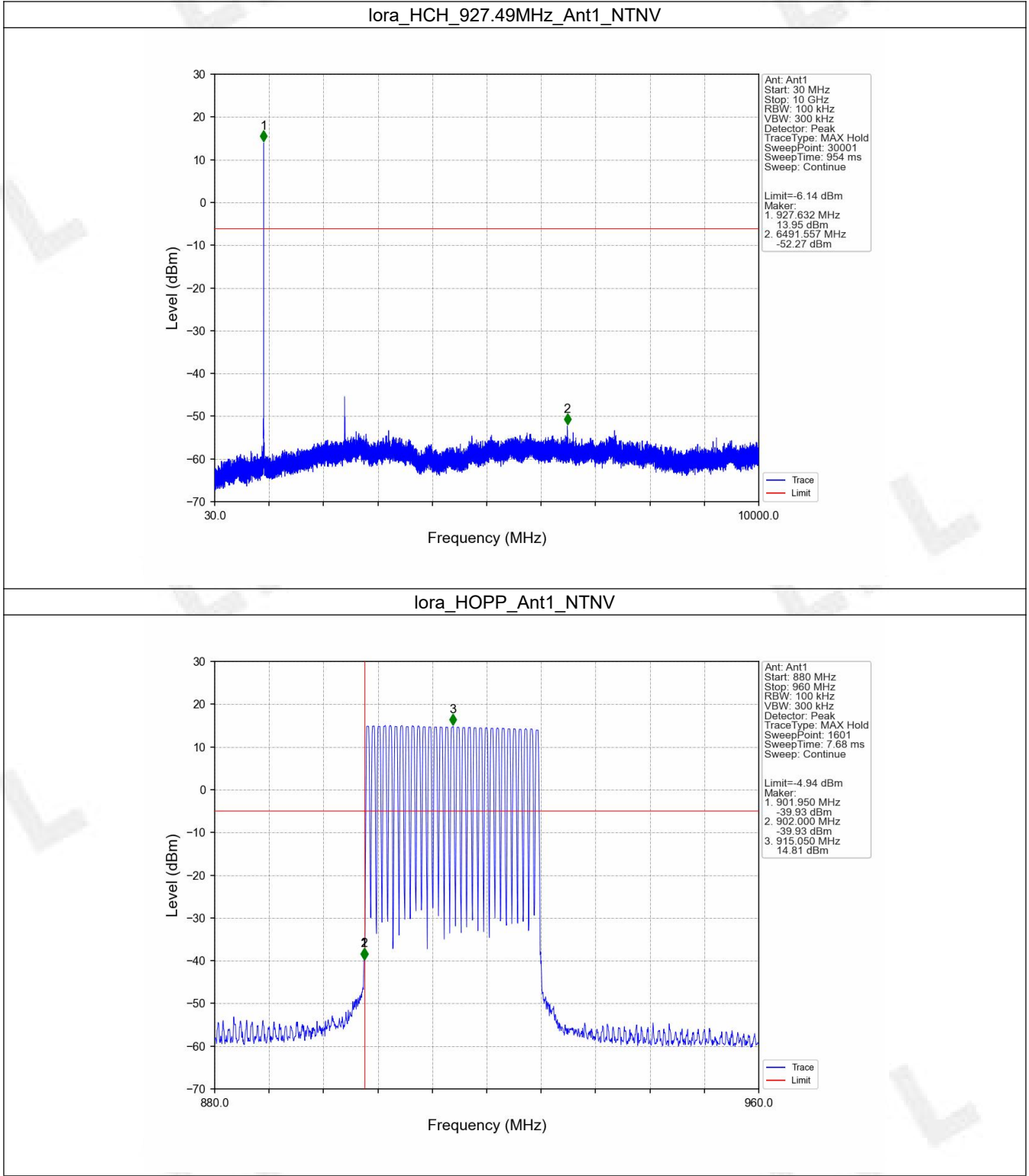
FCC ID: 2BYAF-XFIX-EX30B

6.2.2 CSE

FCC ID: 2BYAF-XFIX-EX30B



FCC ID: 2BYAF-XFIX-EX30B



FCC ID: 2BYAF-XFIX-EX30B

