



Shenzhen CTL Testing Technology Co., Ltd.

Unit 01A&B&C&D-1, Building A3, Guangming Sci-Tech Park, Guan Guang Road,
Fenghuang Subdistrict, Guangming District, Shenzhen, Guangdong, China
Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Annex for LoRa

Test Report No.: CTL2605153021-WF

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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	
lor	SISO	902.3	1	0.127	/	Pass
		908.7	1	0.127	/	Pass
		914.9	1	0.126	/	Pass

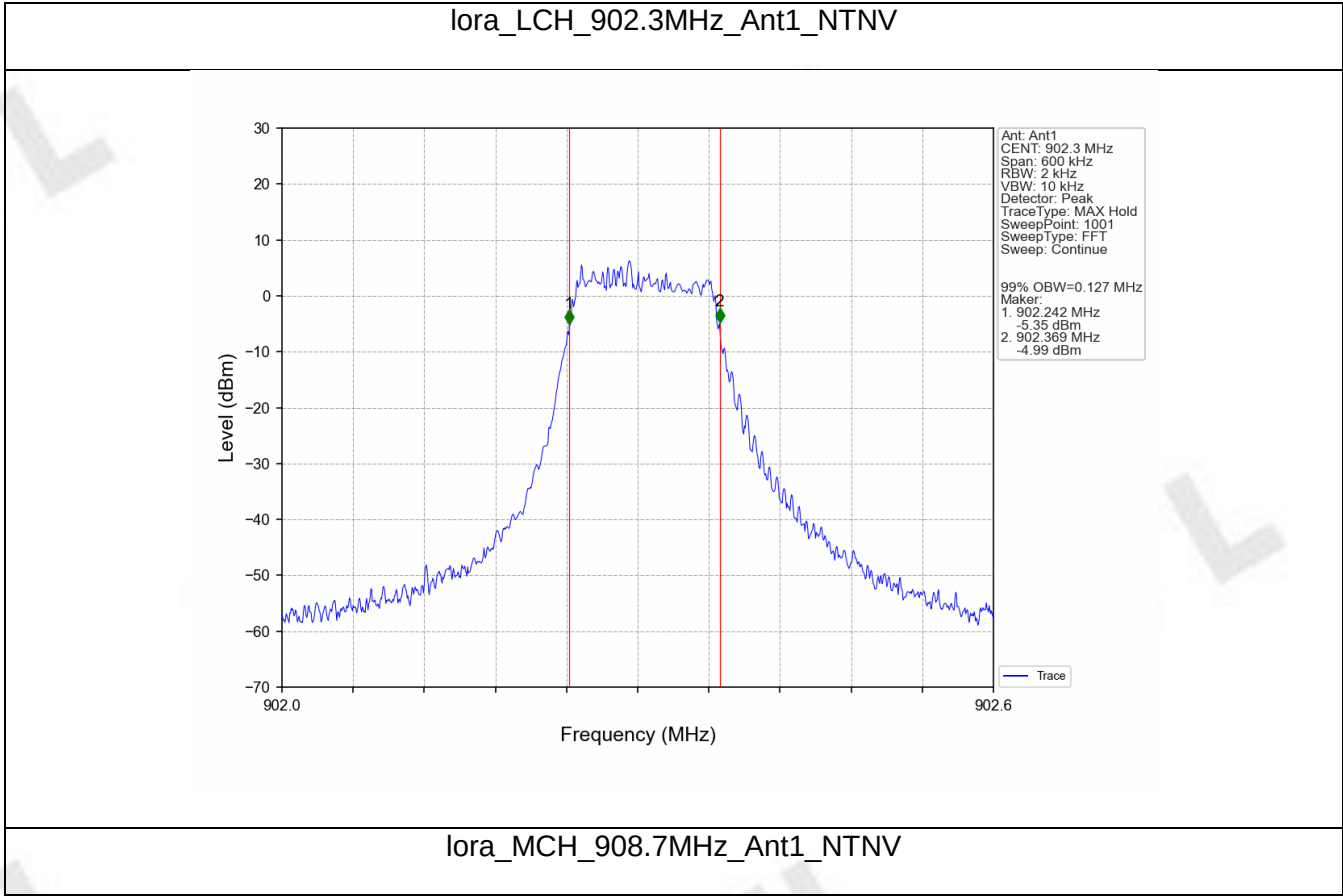
1.1.2 20dB BW

Mode	TX Type	Frequency (MHz)	ANT	20dB Bandwidth (MHz)		Verdict
				Result	Limit	
lor	SISO	902.3	1	0.141	/	Pass
		908.7	1	0.140	/	Pass
		914.9	1	0.144	/	Pass

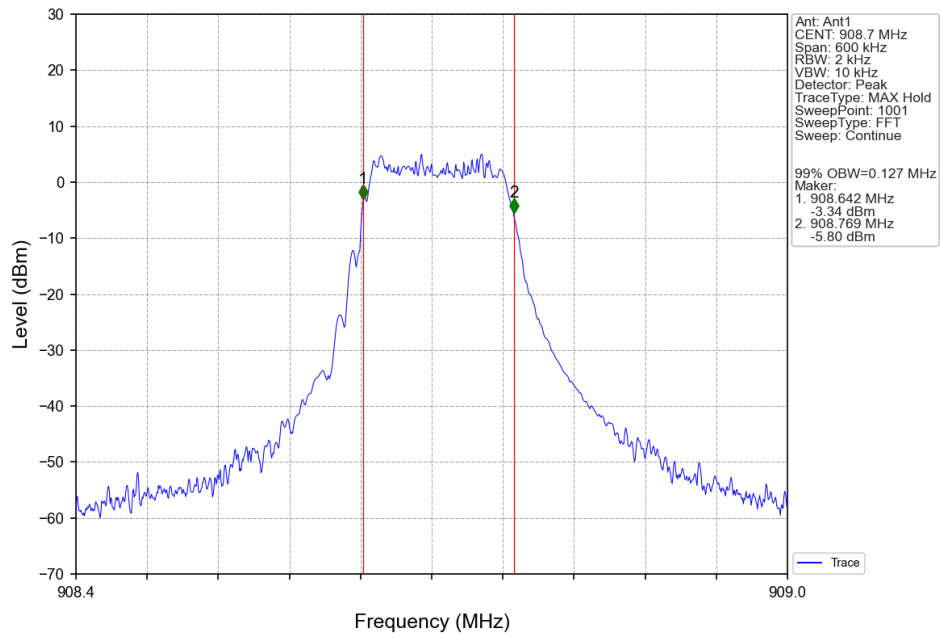
FCCID: 2AXYM-N3

1.2 Test Graph

1.2.1 OBW

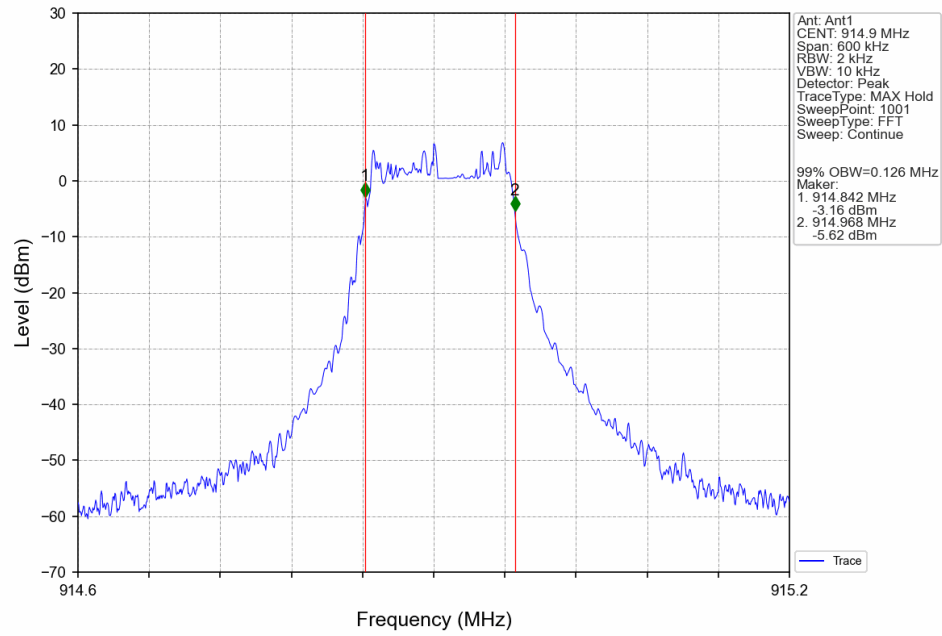


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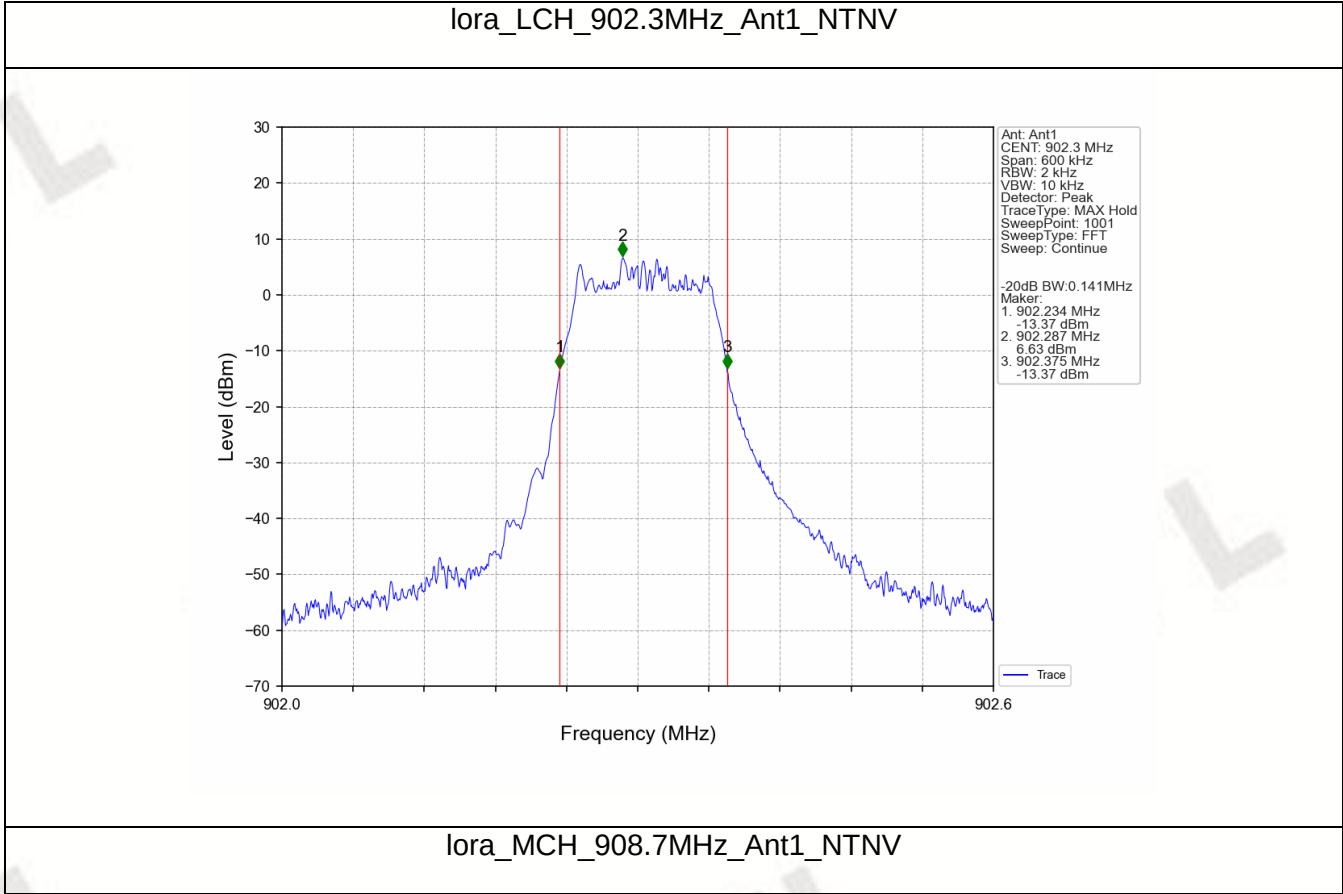
FCCID: 2AXYM-N3

lora_HCH_914.9MHz_Ant1_NTNV

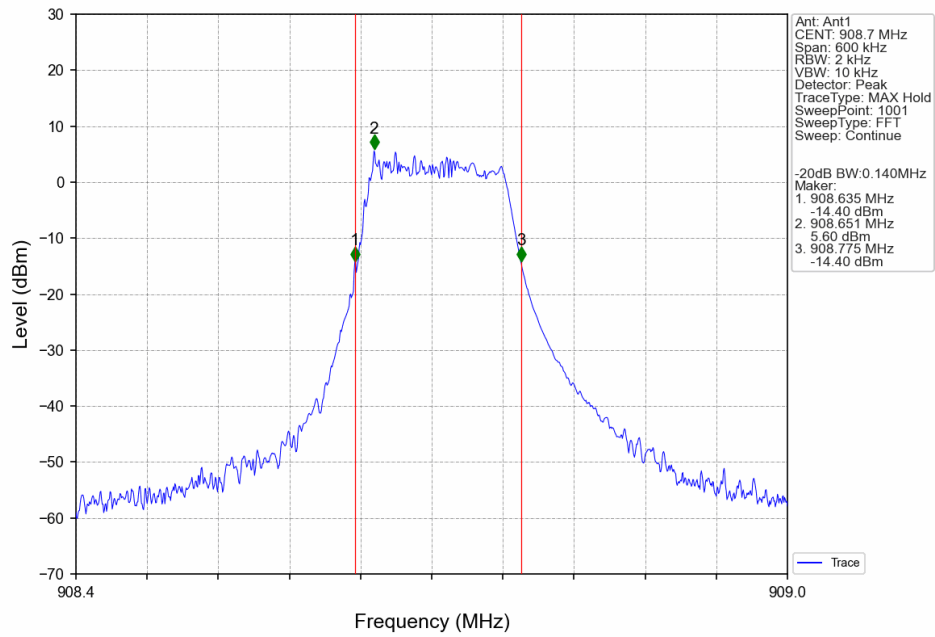


FCCID: 2AXYM-N3

1.2.2 20dB BW

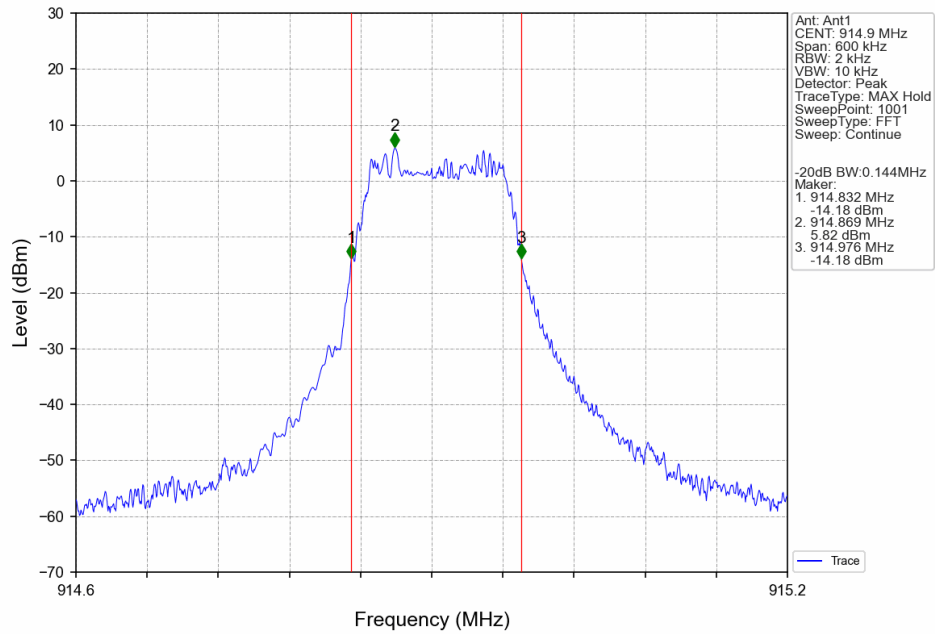


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FCCID: 2AXYM-N3

lora_HCH_914.9MHz_Ant1_NTNV



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	
lora	SISO	902.3	12.38	<=30	Pass
		908.7	12.30	<=30	Pass
		914.9	12.15	<=30	Pass
Note1: Antenna Gain: Ant1: 2.47dBi;					

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3. Carrier Frequency Separation

3.1 Test Result

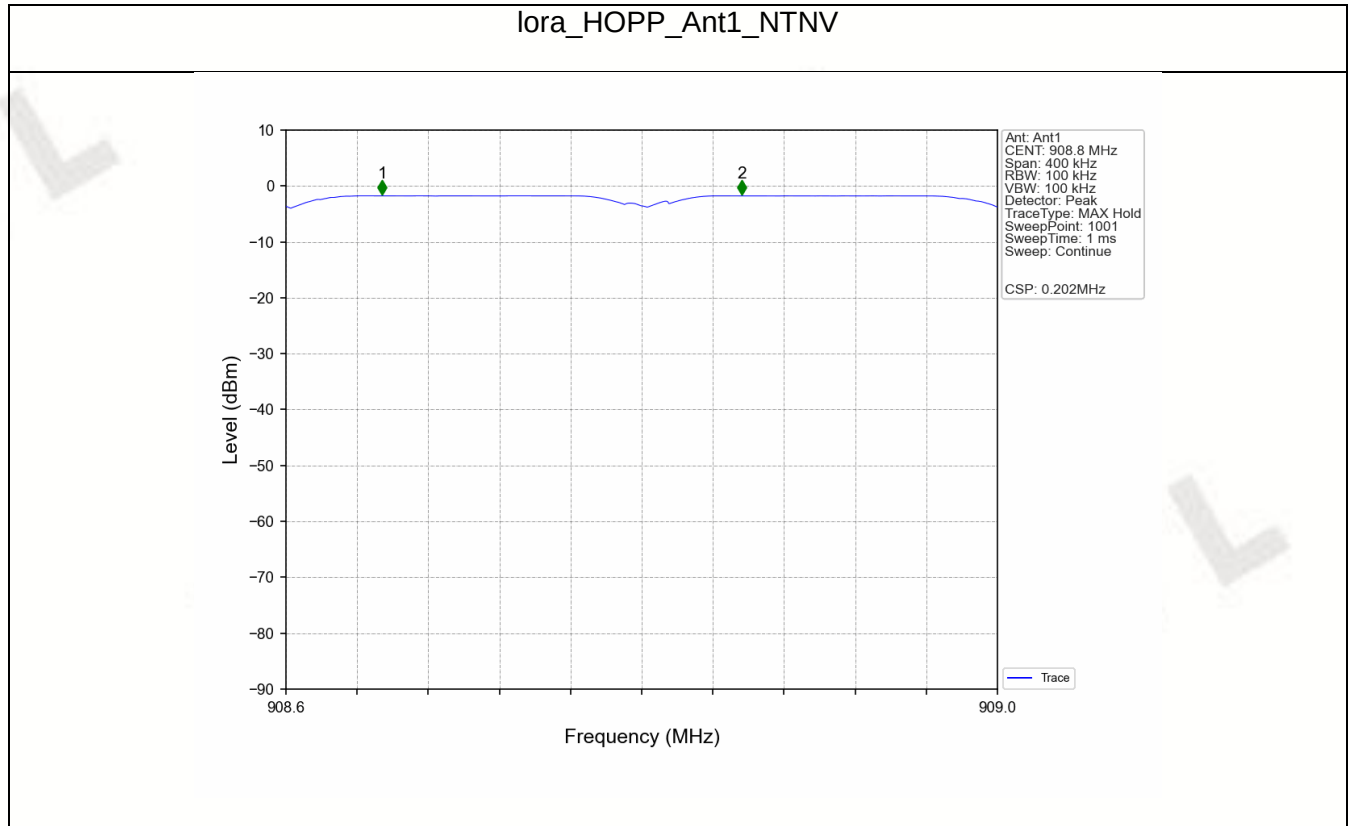
3.1.1 Ant1

Ant1						
Mode	TX Type	Frequency (MHz)	Channel Separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz)	Verdict
loro	SISO	HOPP	0.202	0.144	≥ 0.144	Pass

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3.2 Test Graph

3.2.1 Ant1



4. Number of Hopping Frequencies

4.1 Test Result

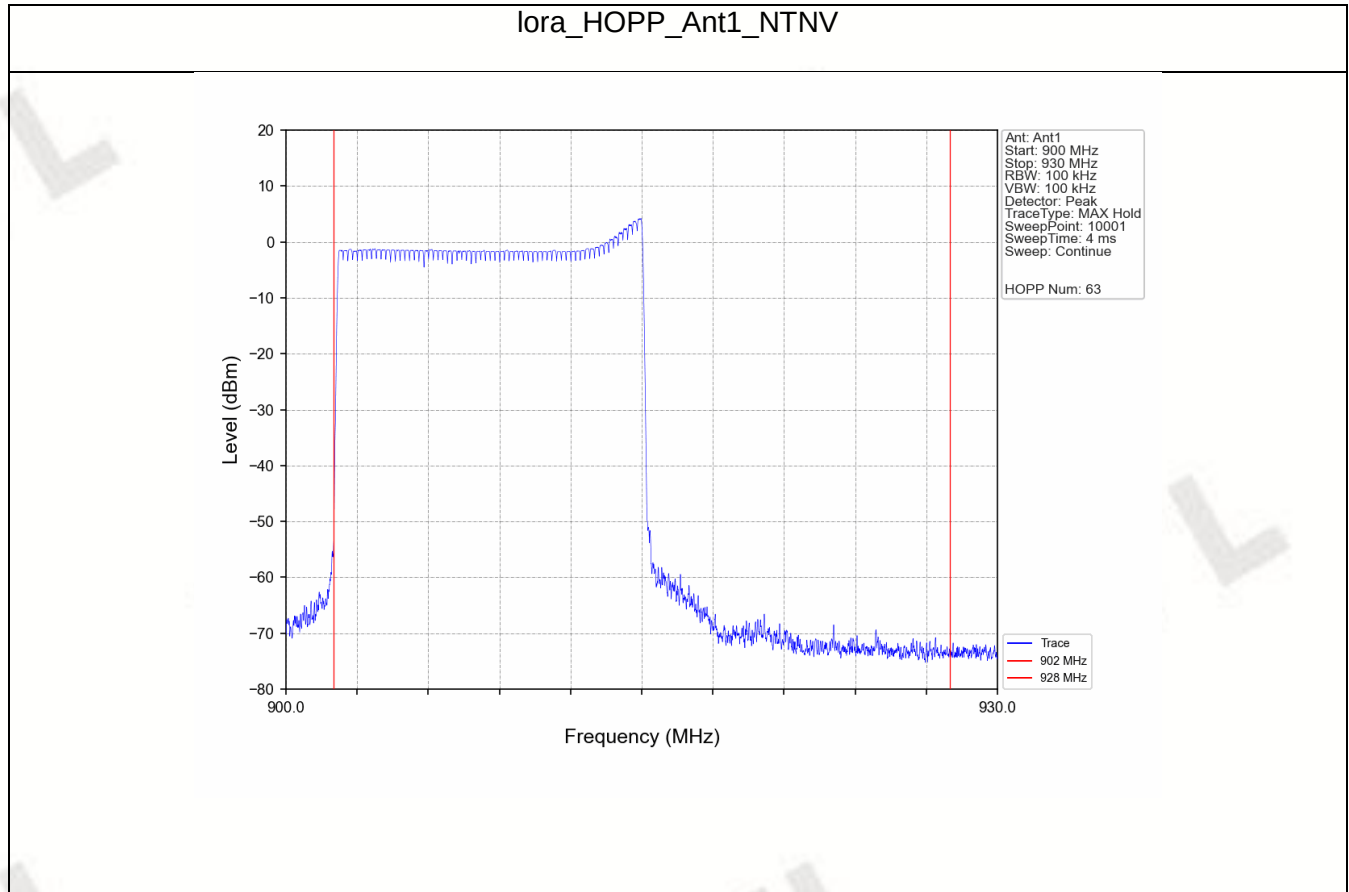
4.1.1 HoppNum

Mode	TX Type	Frequency (MHz)	Num of Hopping Frequencies		Verdict
			ANT1	Limit	
lor	SISO	HOPP	63	≥ 50	Pass

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4.2 Test Graph

4.2.1 HoppNum



5. Time of Occupancy (Dwell Time)

5.1 Test Result

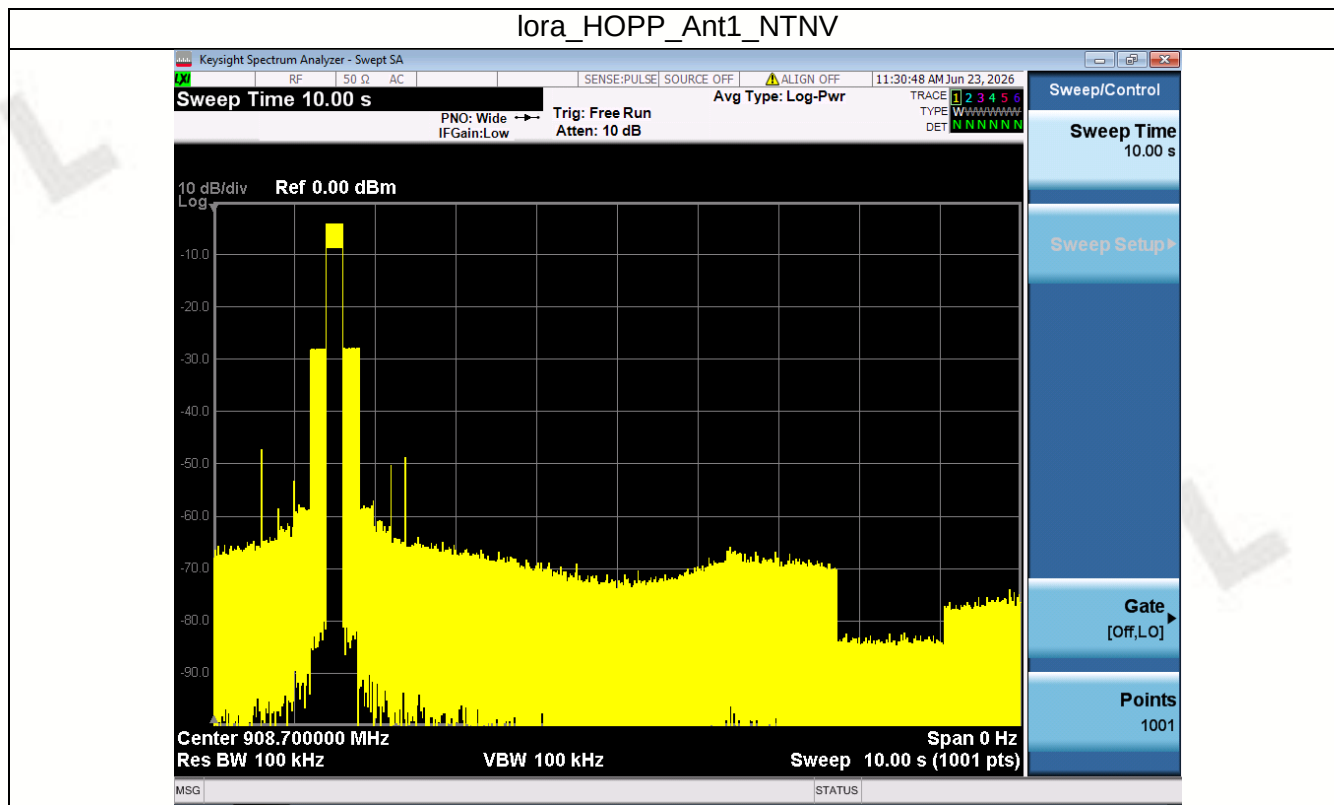
5.1.1 Ant1

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
lorar	SISO	HOPP	190	20.000	2	380	<=400	Pass

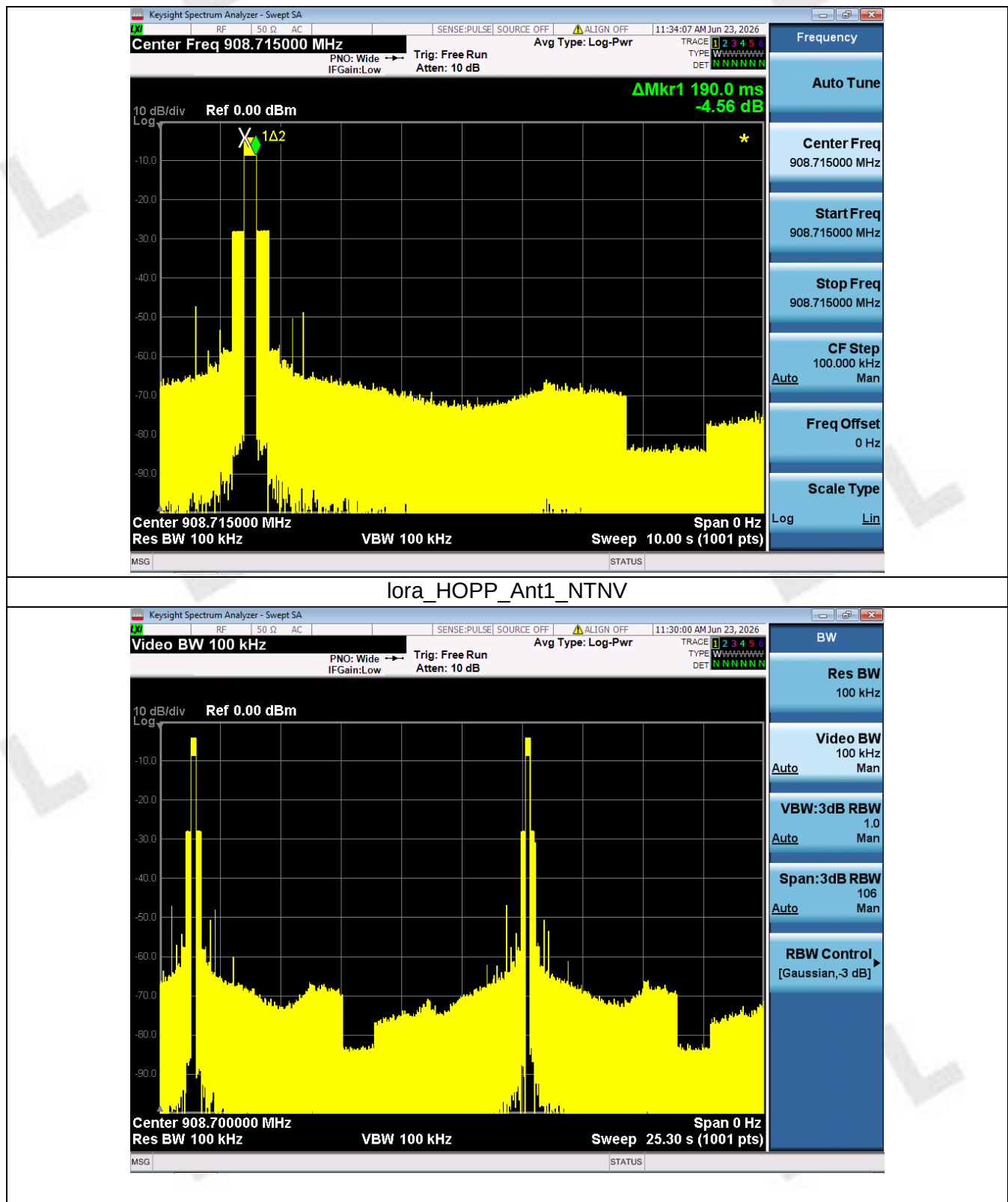
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5.2 Test Graph

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)
lora	SISO	902.3	1	12.33
		908.7	1	12.26
		914.9	1	12.11
		HOPP	1	-1.16
				-1.16

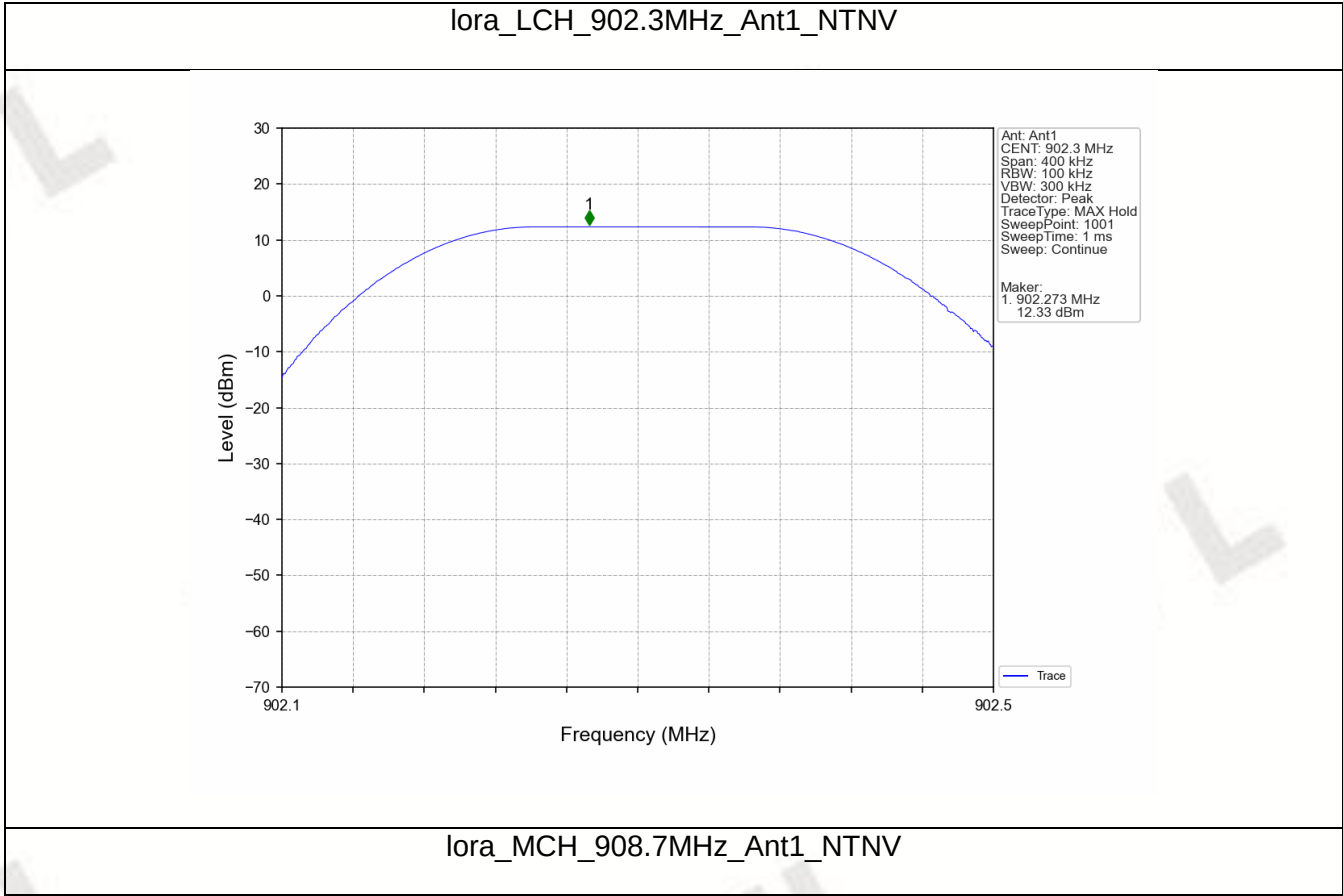
6.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
lora	SISO	902.3	1	12.33	-7.67	Pass
		908.7	1	12.26	-7.74	Pass
		914.9	1	12.11	-7.89	Pass
		HOPP	1	-1.16	-21.16	Pass
				-1.16	-21.16	Pass

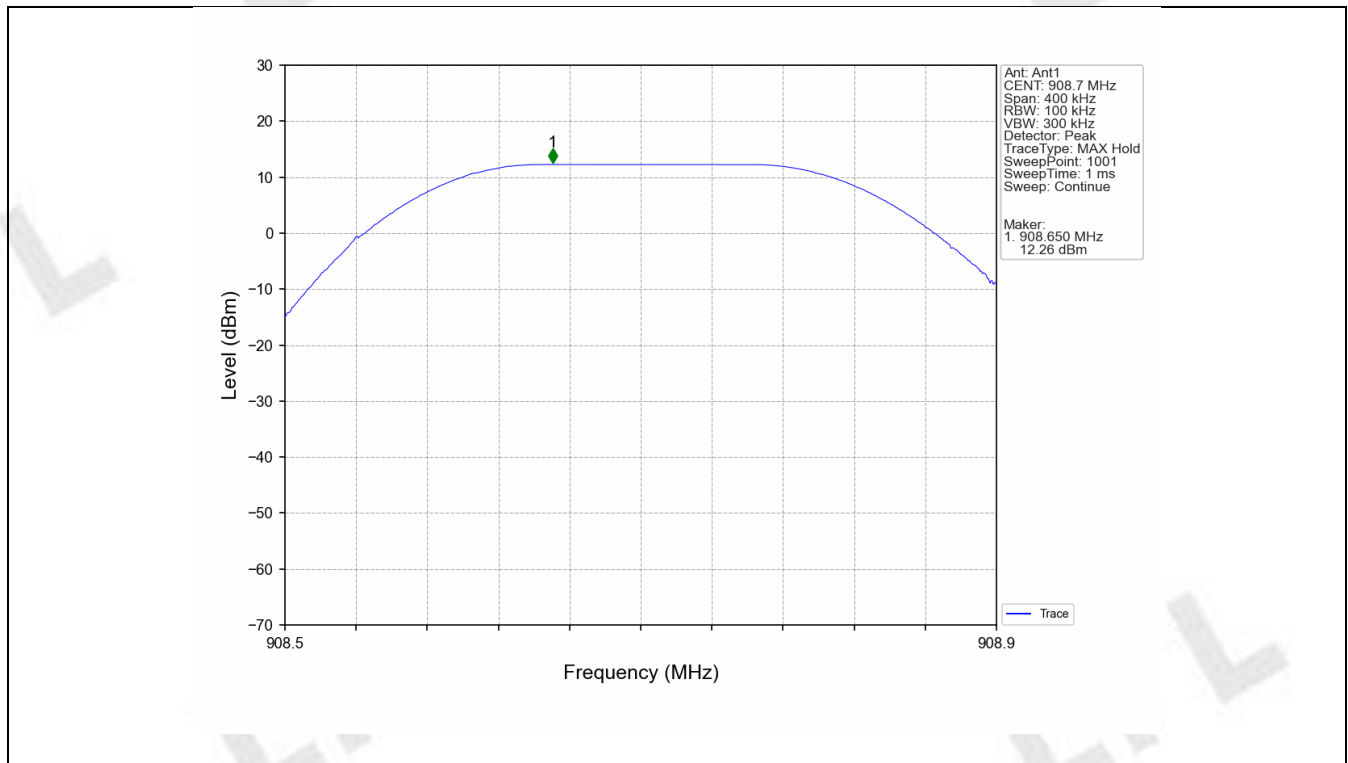
FCCID: 2AXYM-N3

6.2 Test Graph

6.2.1 Ref

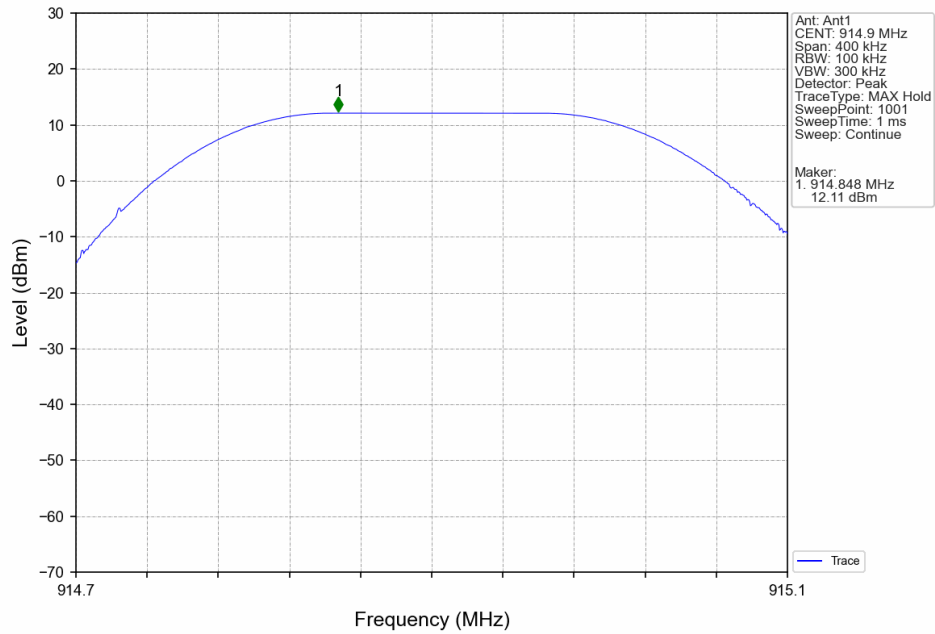


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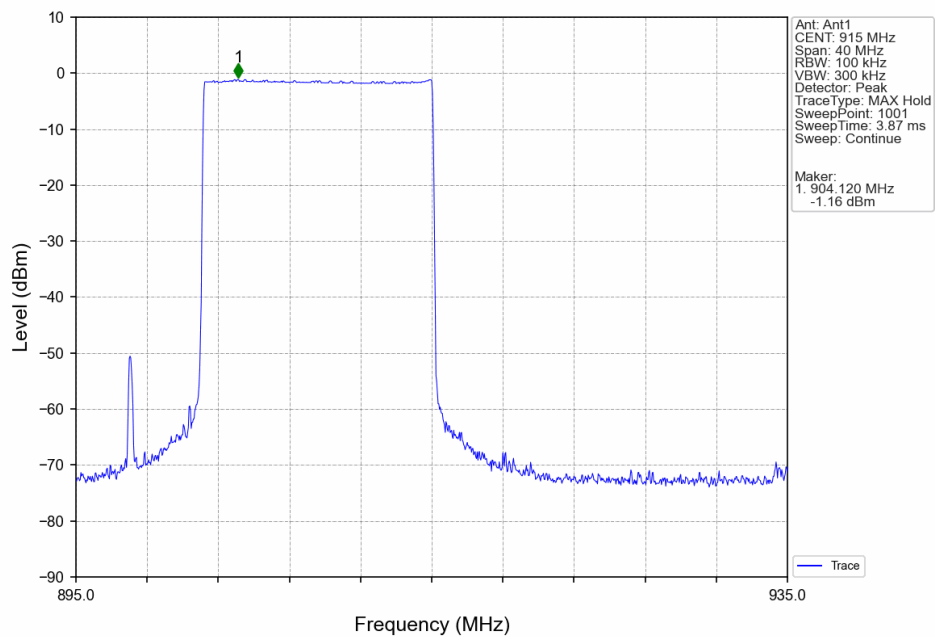


FCCID: 2AXYM-N3

lora_HCH_914.9MHz_Ant1_NTNV

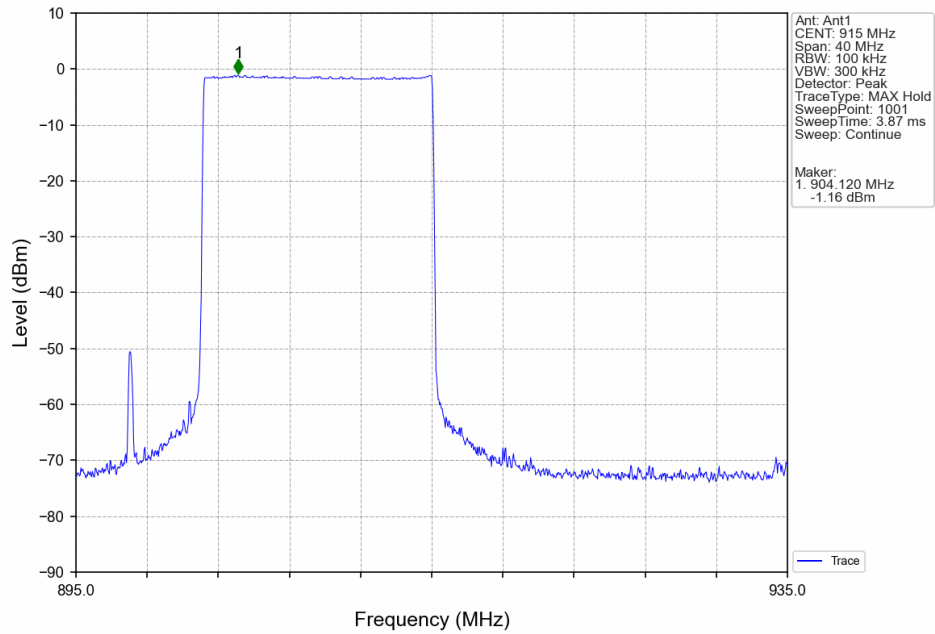


lora_HOPP_915MHz_Ant1_NTNV



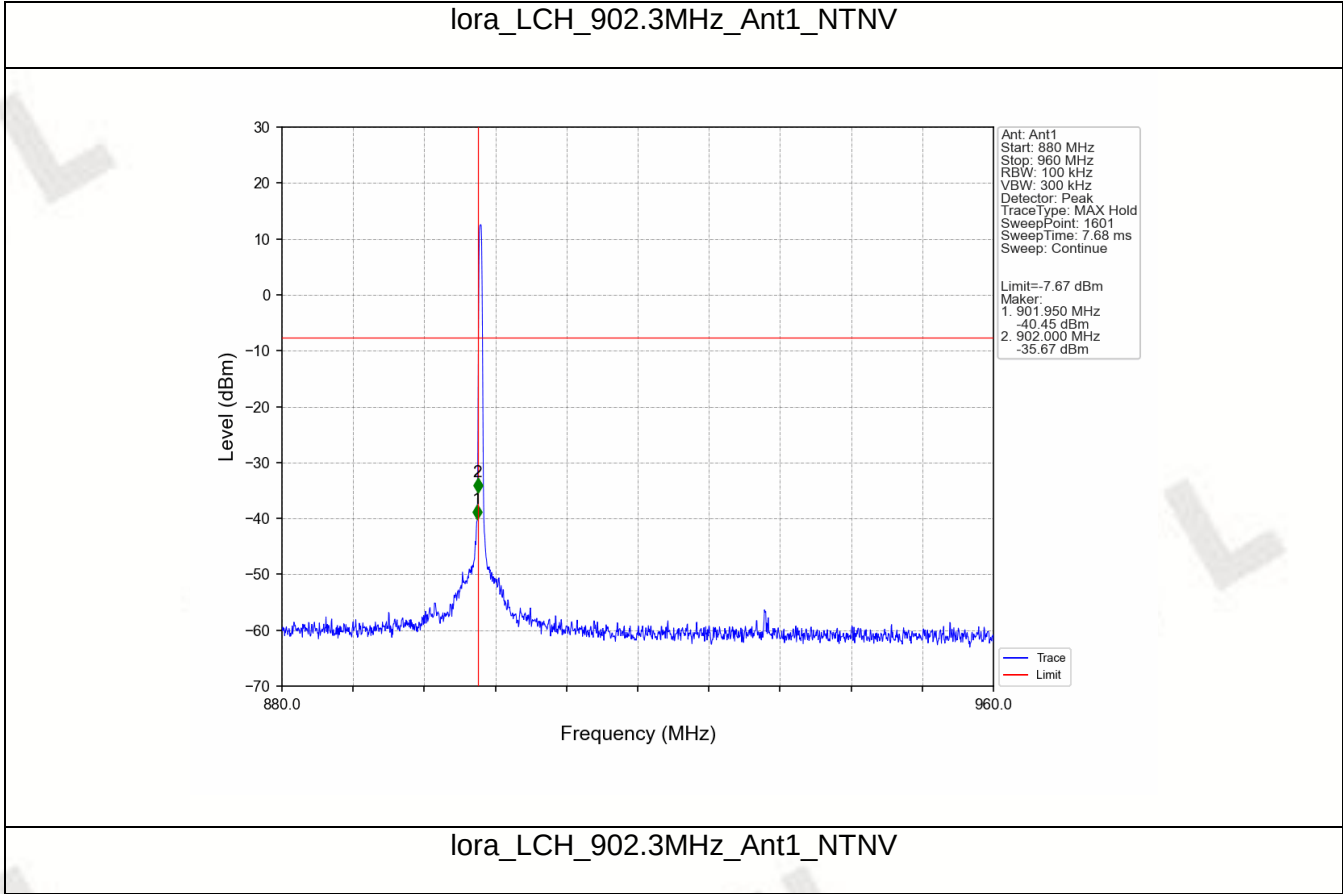
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lora_HOPP_Ant1_NTNV

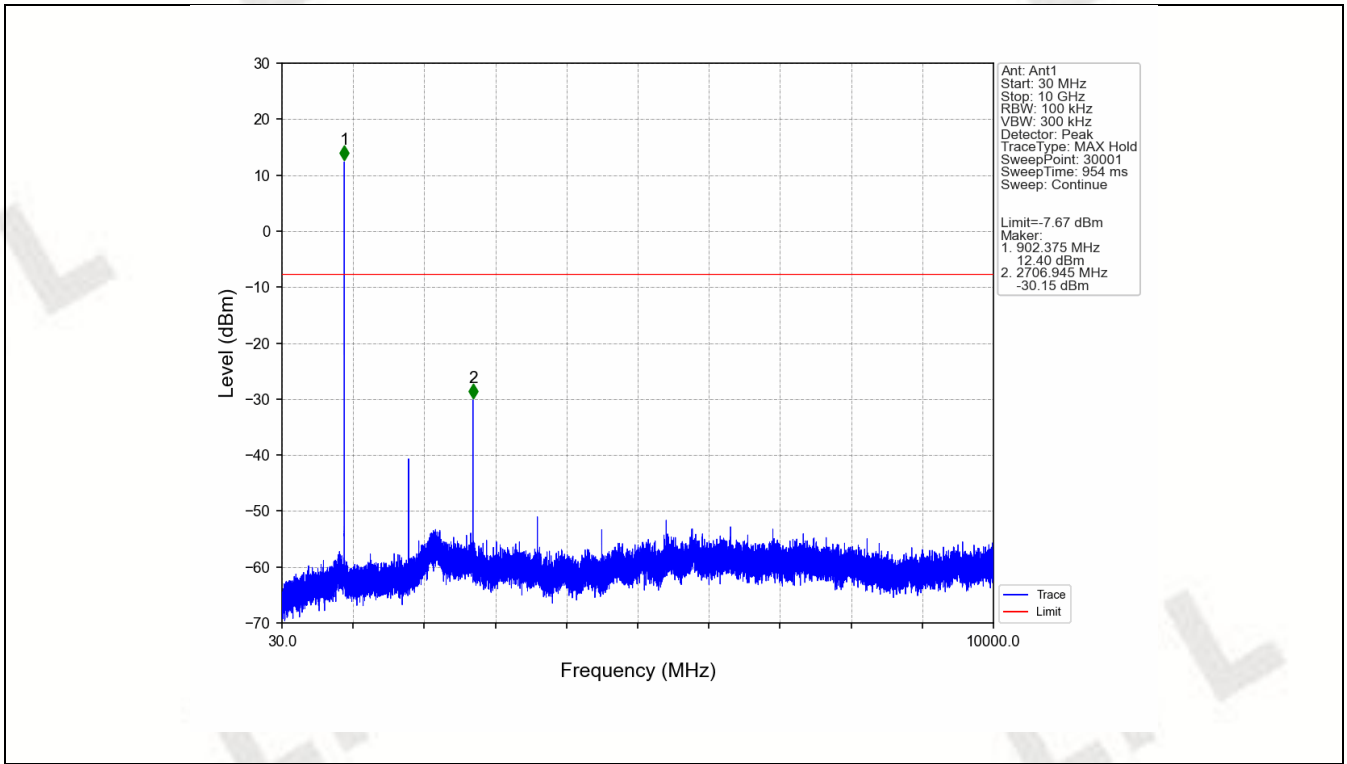


FCCID: 2AXYM-N3

6.2.2 CSE

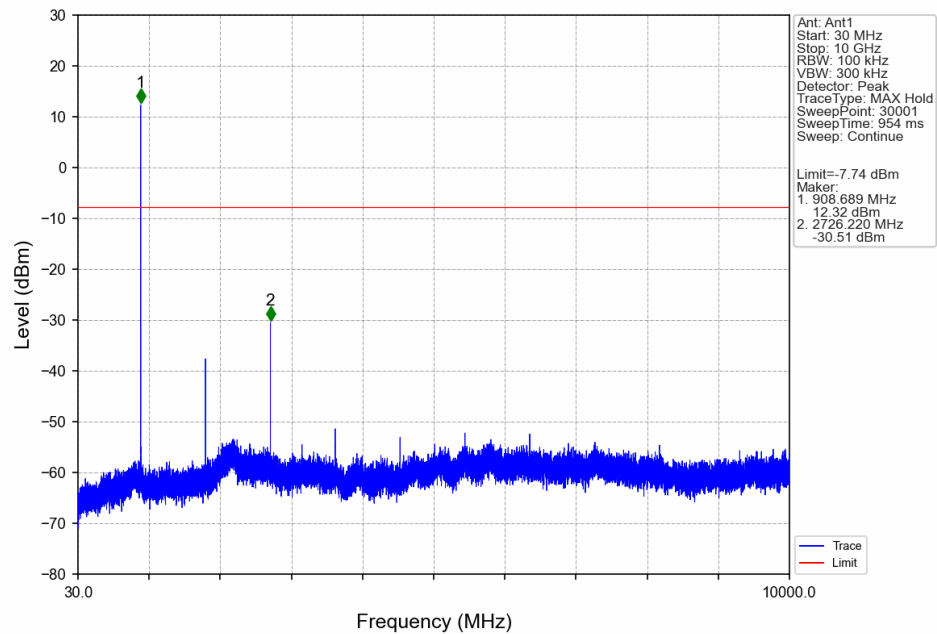


FCCID: 2AXYM-N3

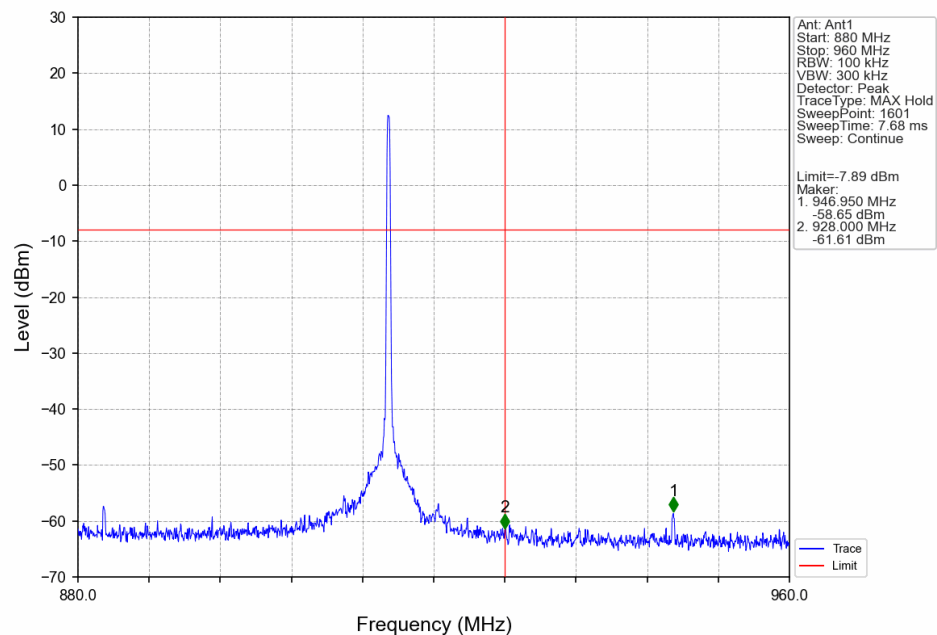


FCCID: 2AXYM-N3

lora_MCH_908.7MHz_Ant1_NTNV

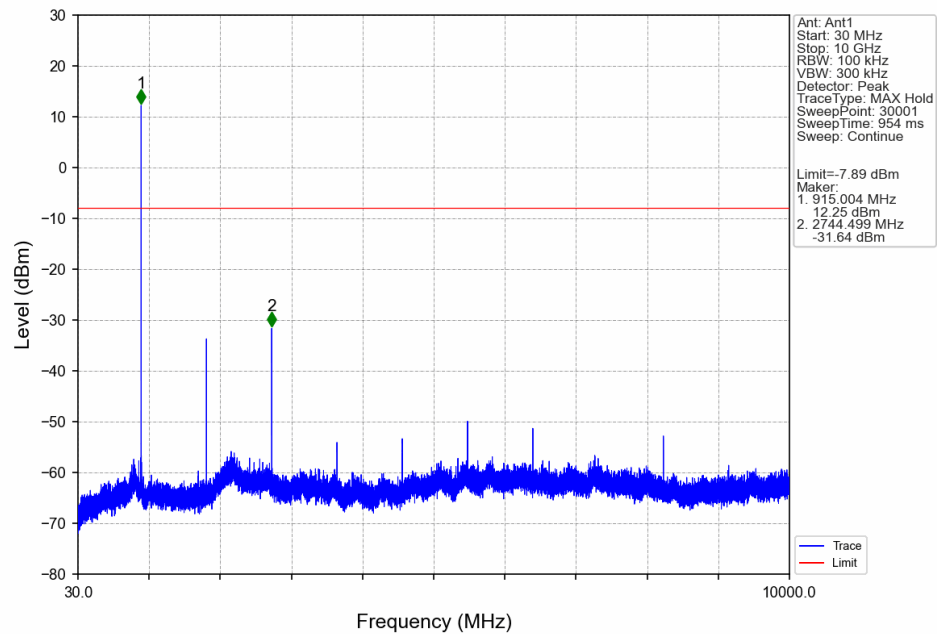


lora_HCH_914.9MHz_Ant1_NTNV

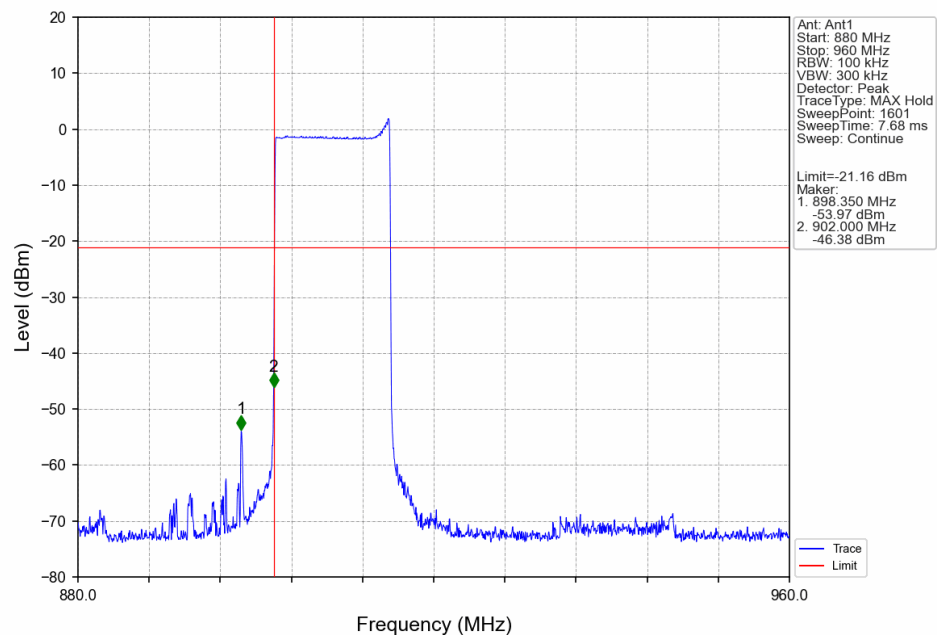


FCCID: 2AXYM-N3

lora_HCH_914.9MHz_Ant1_NTNV



lora_HOPP_Ant1_NTNV



FCCID: 2AXYM-N3

lora_HOPP_Ant1_NTNV

