

Appendix RF test data for BLE



1. Frequency Error

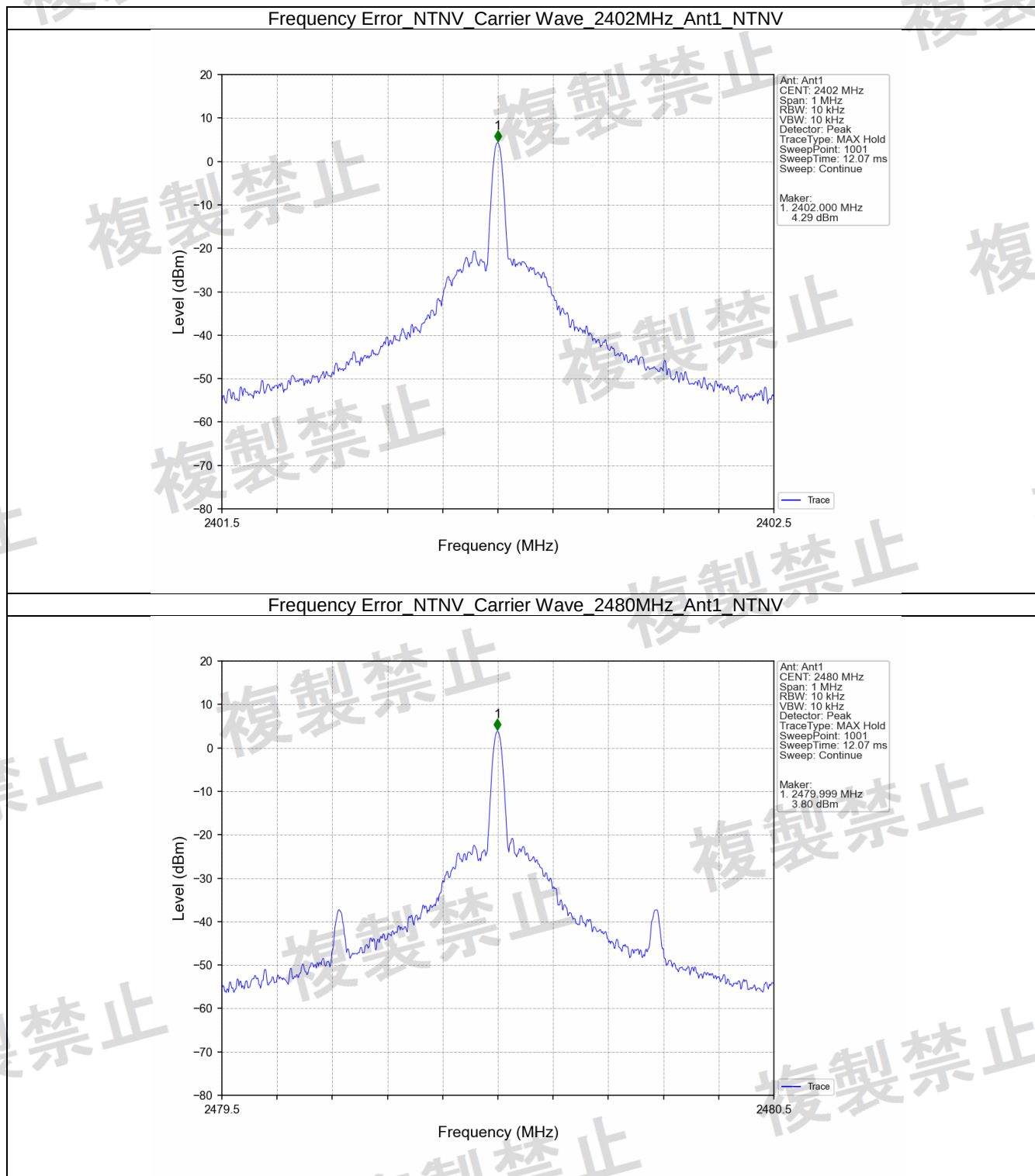
1.1 Test Result

1.1.1 Ant1

Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2402	2402.000	0.00	-50 to 50	Pass
			2480	2479.999	-0.40	-50 to 50	Pass

1.2 Test Graph

1.2.1 Ant1





2. Occupied Bandwidth

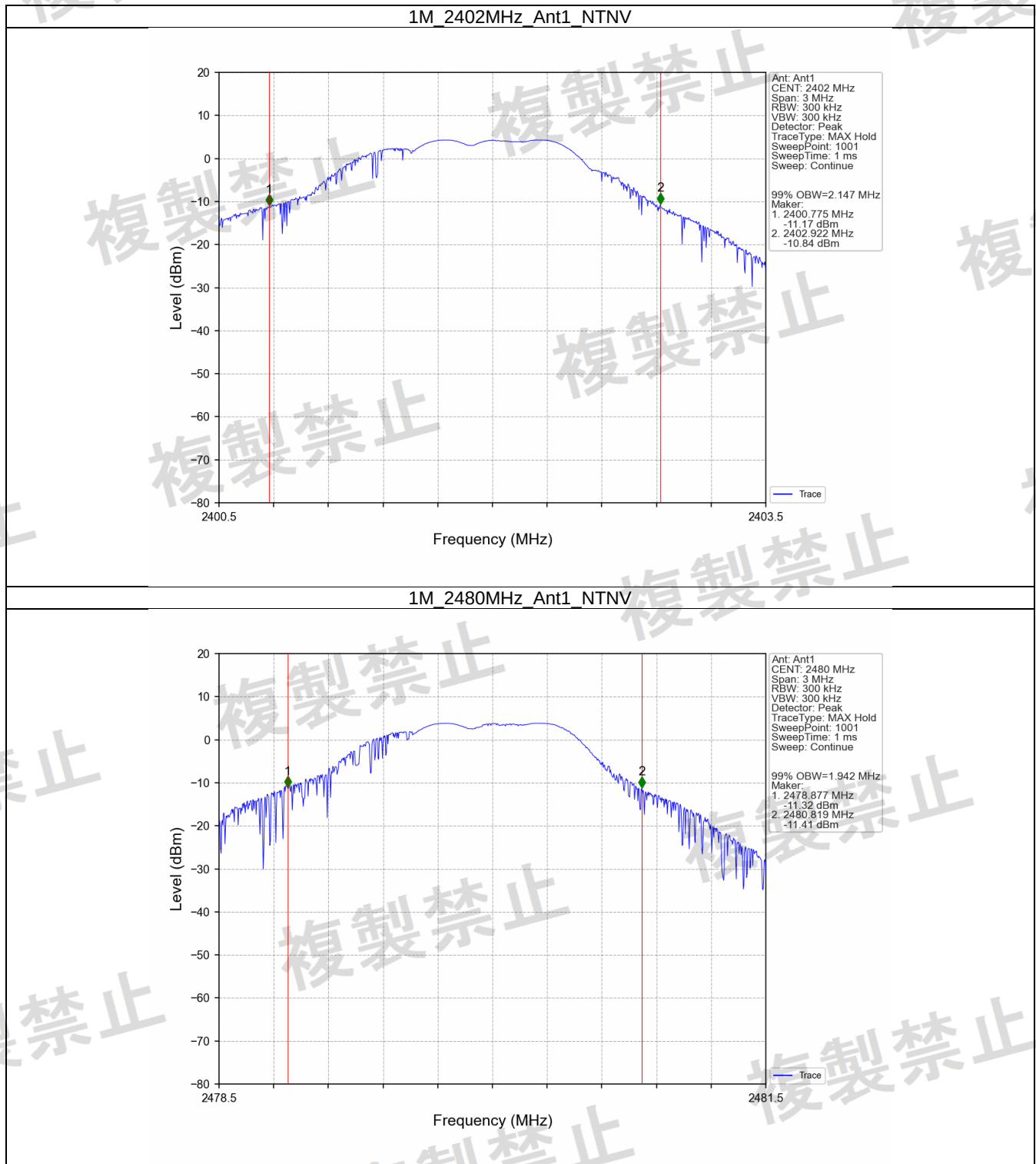
2.1 Test Result

2.1.1 OBW

ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1M	SISO	2402	2.147	≤ 26	Pass
			2480	1.942	≤ 26	Pass

2.2 Test Graph

2.2.1 OBW



3. Spread Bandwidth

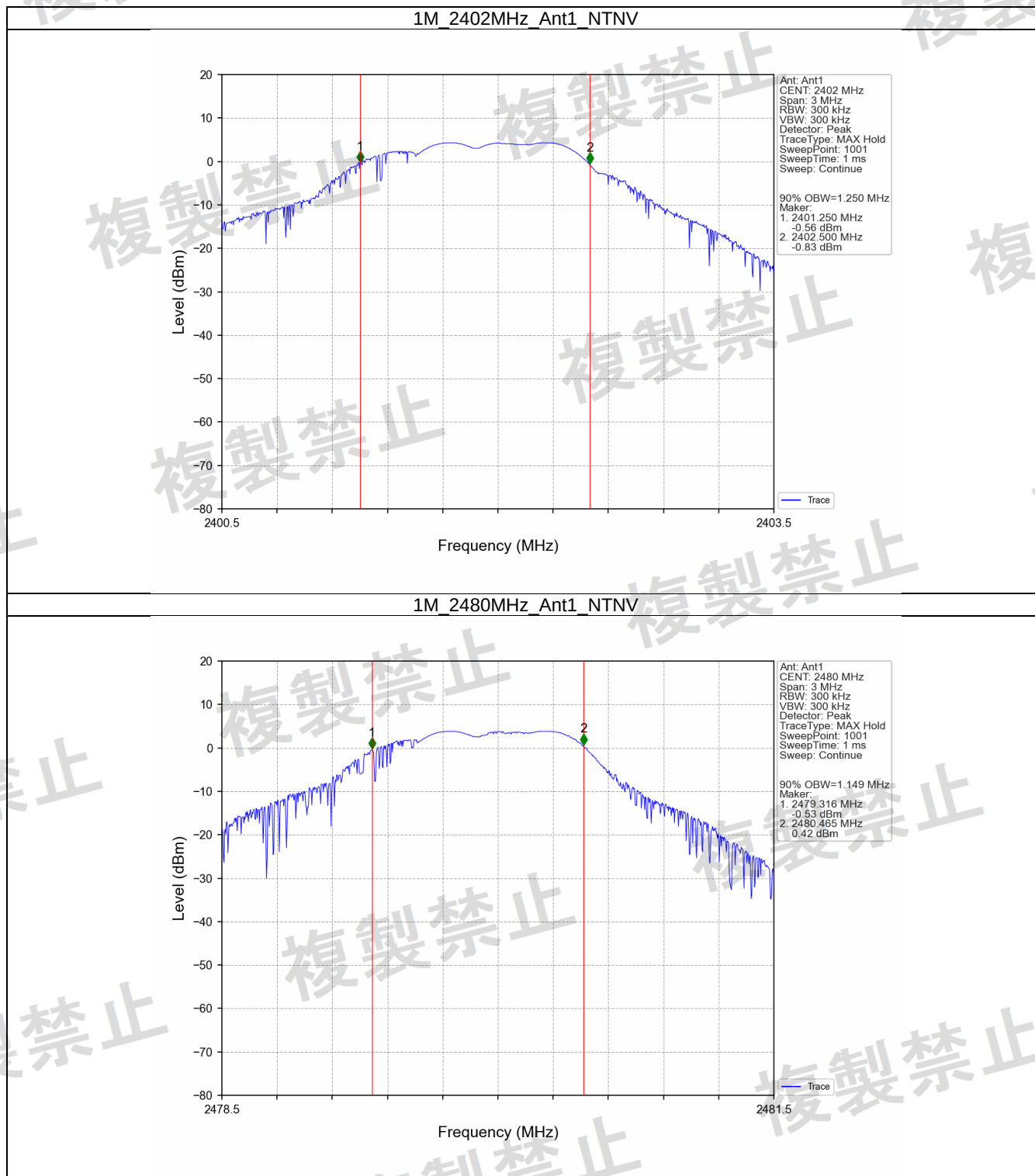
3.1 Test Result

3.1.1 SPBW

ENV	Mode	TX Type	Frequency (MHz)	Spread Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1M	SISO	2402	1.250	≥ 0.5	Pass
			2480	1.149	≥ 0.5	Pass

3.2 Test Graph

3.2.1 SPBW



4. Antenna Power

4.1 Test Result

4.1.1 Power

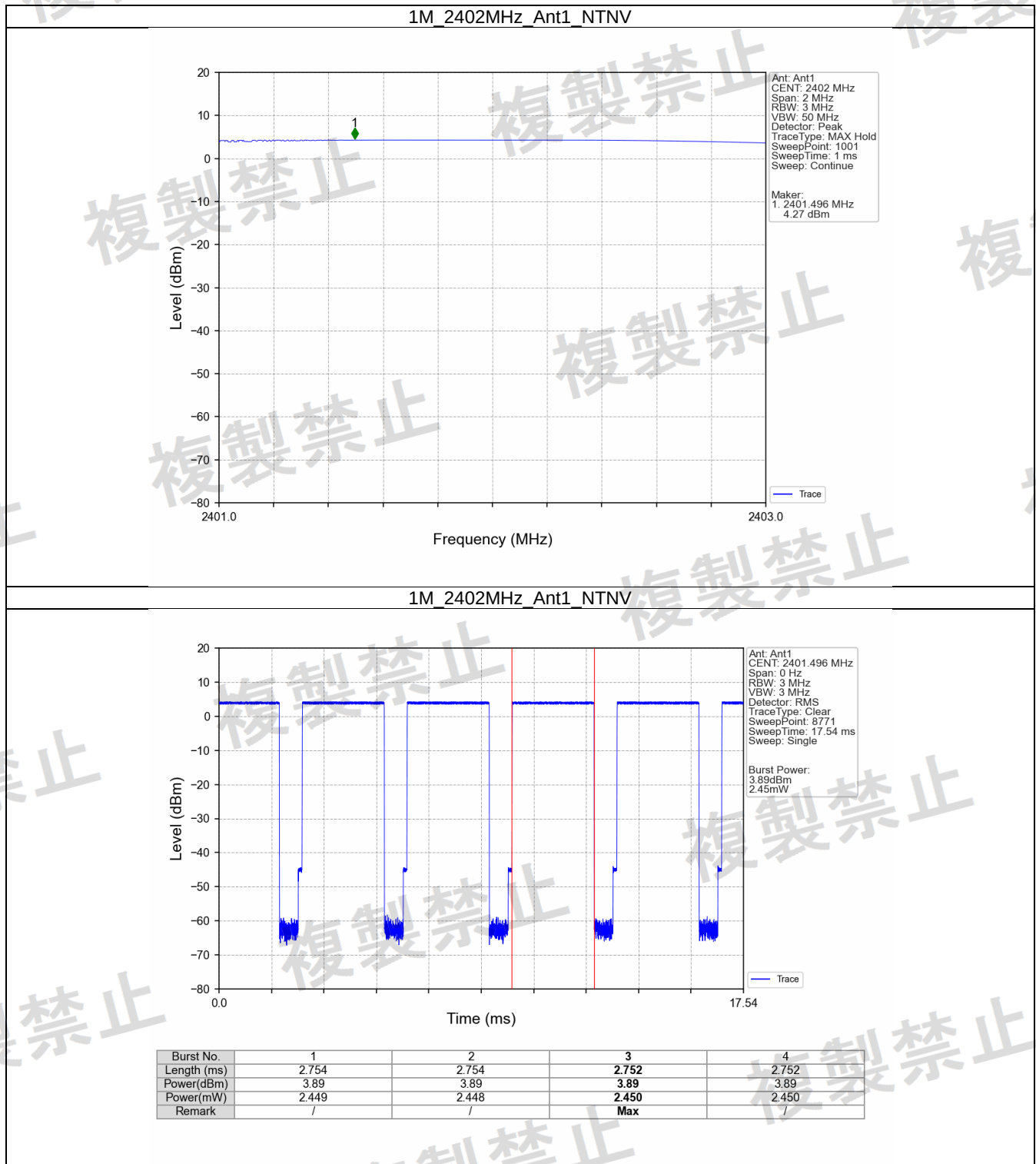
ENV	Mode	TX Type	Frequency (MHz)	ANT	Burst Power(dBm)	Antenna Power (mW)		Nominal Power (mW)	Tolerance (%)		Verdict
						Measured	Limit		Measured	Limit	
NTNV	1M	SISO	2402	1	3.89	2.450	<=10.00	2.500	-2.00	<=20	Pass
			2480	1	3.21	2.095	<=10.00	2.500	-16.20	<=20	Pass

4.1.2 EIRP

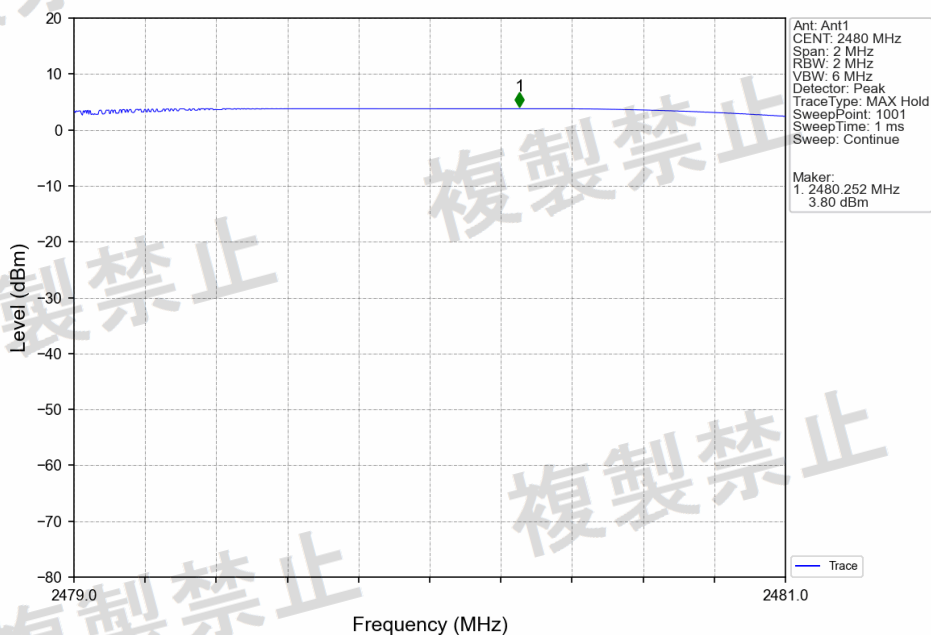
ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	EIRP (dBm)		Verdict
						Result	Limit	
NTNV	1M	SISO	2402	1	-0.10	3.79	<=12.14	Pass
			2480	1	-0.10	3.11	<=12.14	Pass

4.2 Test Graph

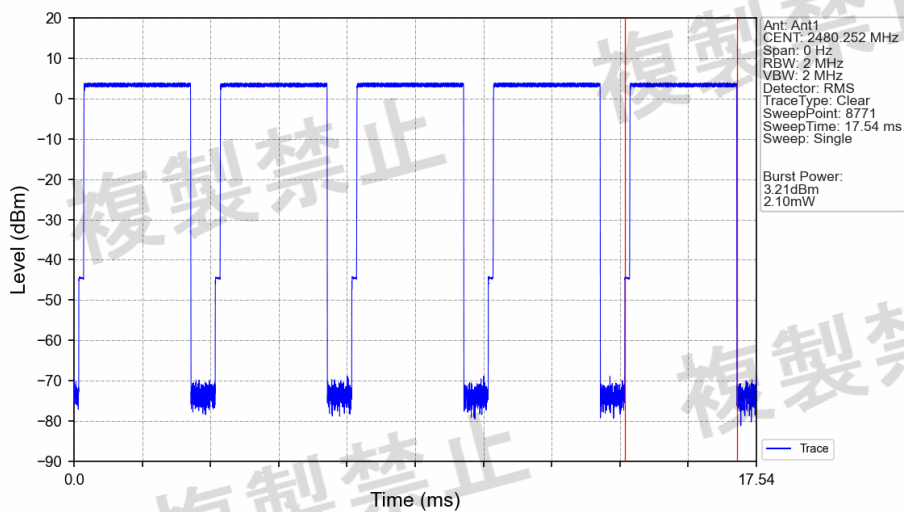
4.2.1 Power



1M_2480MHz_Ant1_NTNV



1M_2480MHz_Ant1_NTNV



Burst No.	1	2	3	4	5
Length (ms)	2.880	2.880	2.880	2.880	2.878
Power(dBm)	3.21	3.21	3.21	3.21	3.21
Power(mW)	2.093	2.093	2.093	2.093	2.095
Remark	/	/	/	/	Max

5. Spurious Emission Intensity

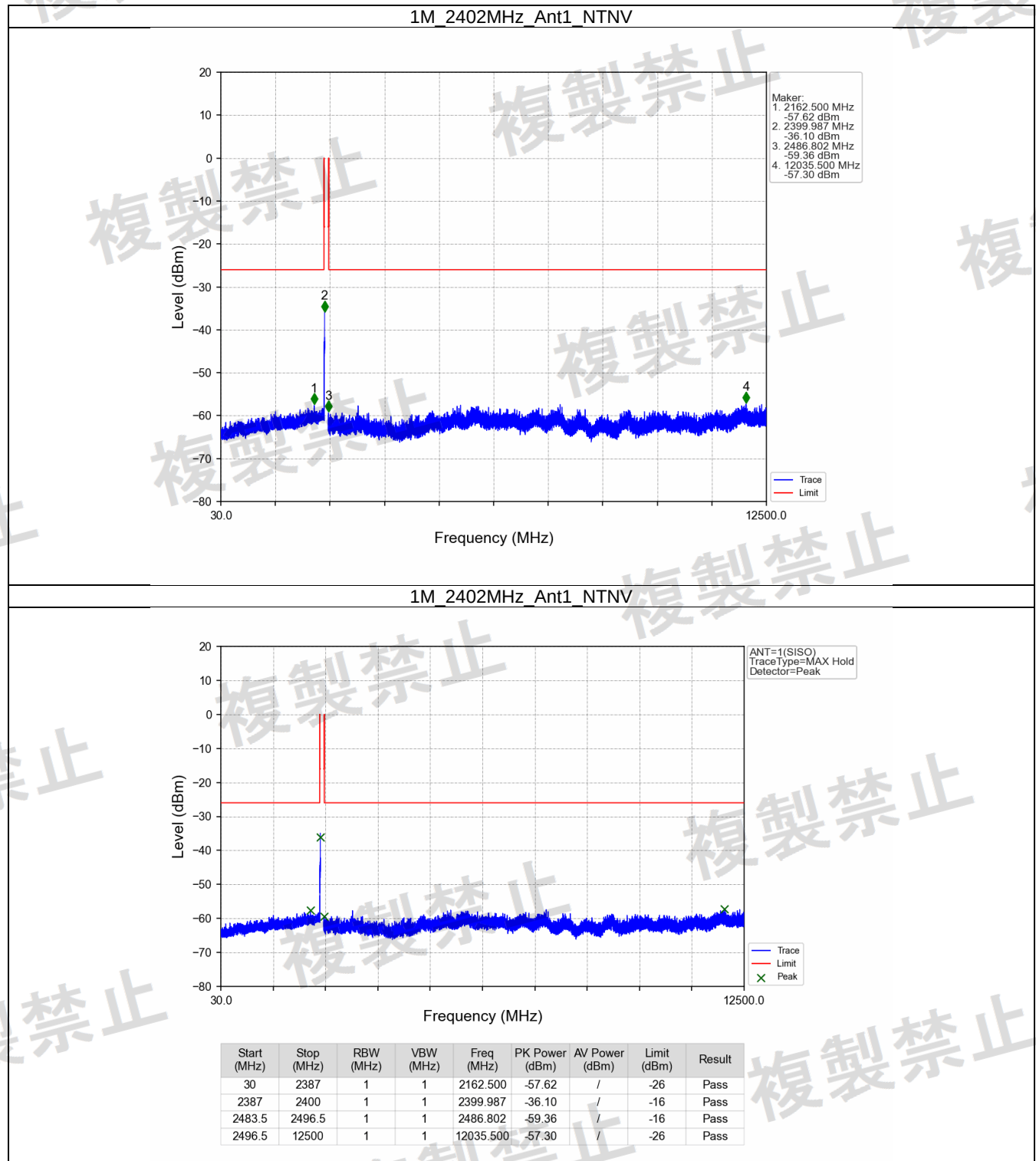
5.1 Test Result

5.1.1 TxSe_NTNV

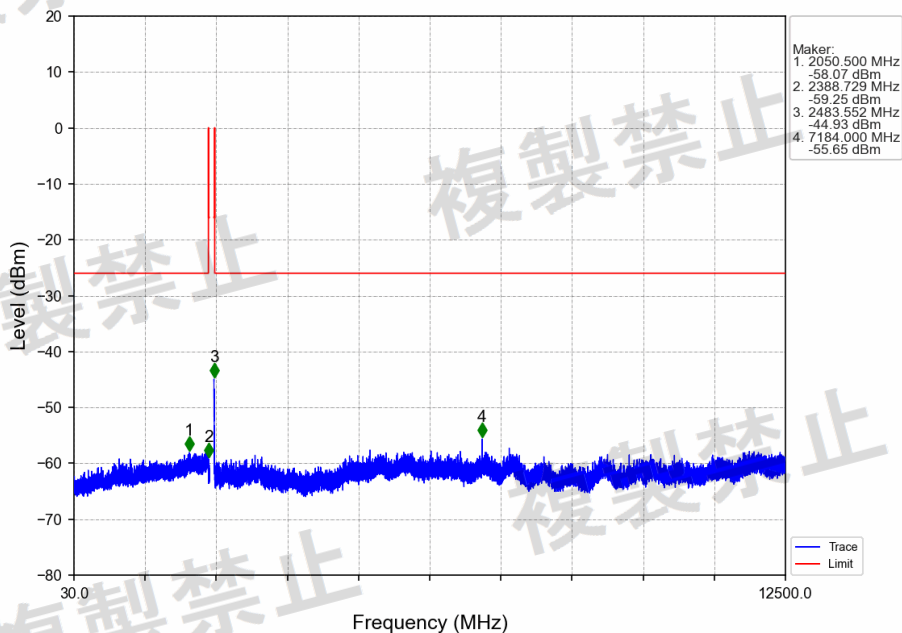
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
1M	SISO	2402	1	30	2387	2162.5	-57.62	0.002	/	/	2.5	Pass
				2387	2400	2399.987	-36.10	0.245	/	/	25	Pass
				2483.5	2496.5	2486.802	-59.36	0.001	/	/	25	Pass
				2496.5	12500	12035.5	-57.30	0.002	/	/	2.5	Pass
		2480	1	30	2387	2050.5	-58.07	0.002	/	/	2.5	Pass
				2387	2400	2388.729	-59.25	0.001	/	/	25	Pass
				2483.5	2496.5	2483.552	-44.93	0.032	/	/	25	Pass
				2496.5	12500	7184	-55.65	0.003	/	/	2.5	Pass

5.2 Test Graph

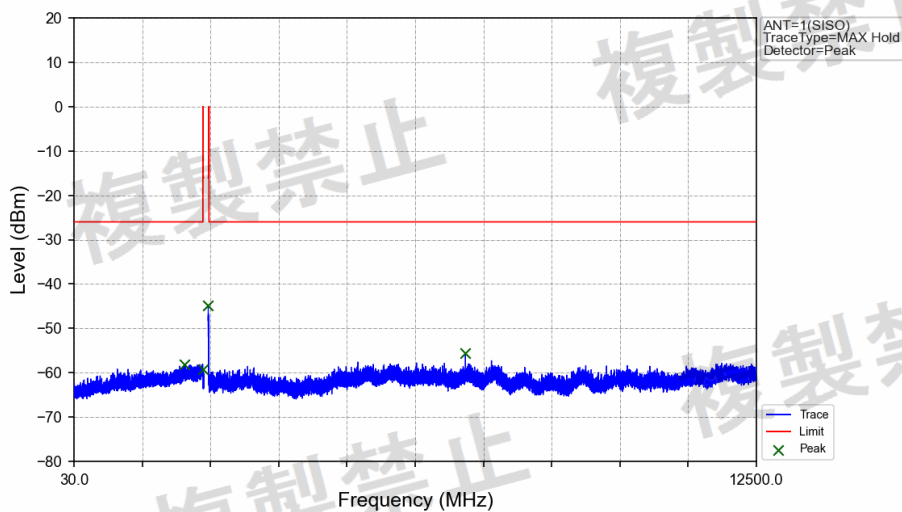
5.2.1 TxSe_NTNV



1M_2480MHz_Ant1_NTNV



1M_2480MHz_Ant1_NTNV



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2050.500	-58.07	/	-26	Pass
2387	2400	1	1	2388.729	-59.25	/	-16	Pass
2483.5	2496.5	1	1	2483.552	-44.93	/	-16	Pass
2496.5	12500	1	1	7184.000	-55.65	/	-26	Pass

6. Secondary Radiated Emission

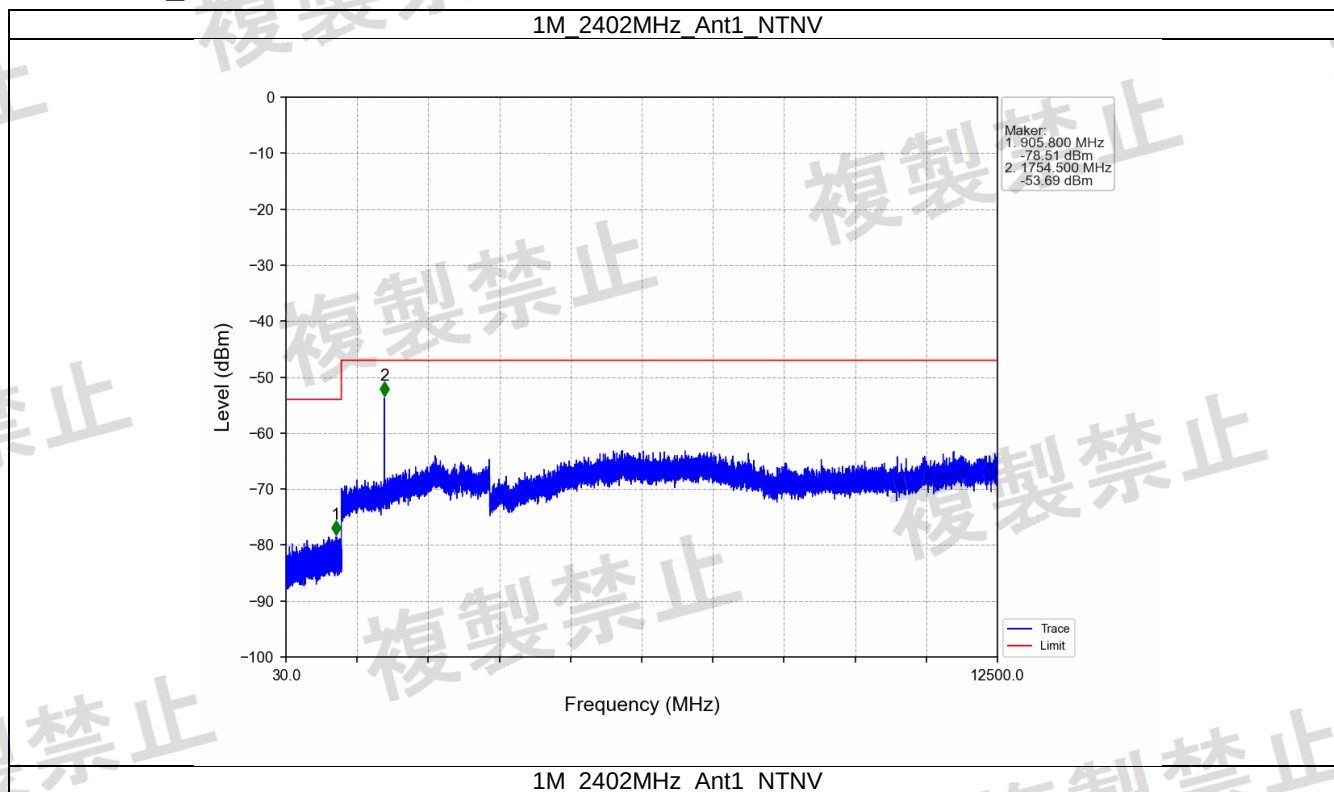
6.1 Test Result

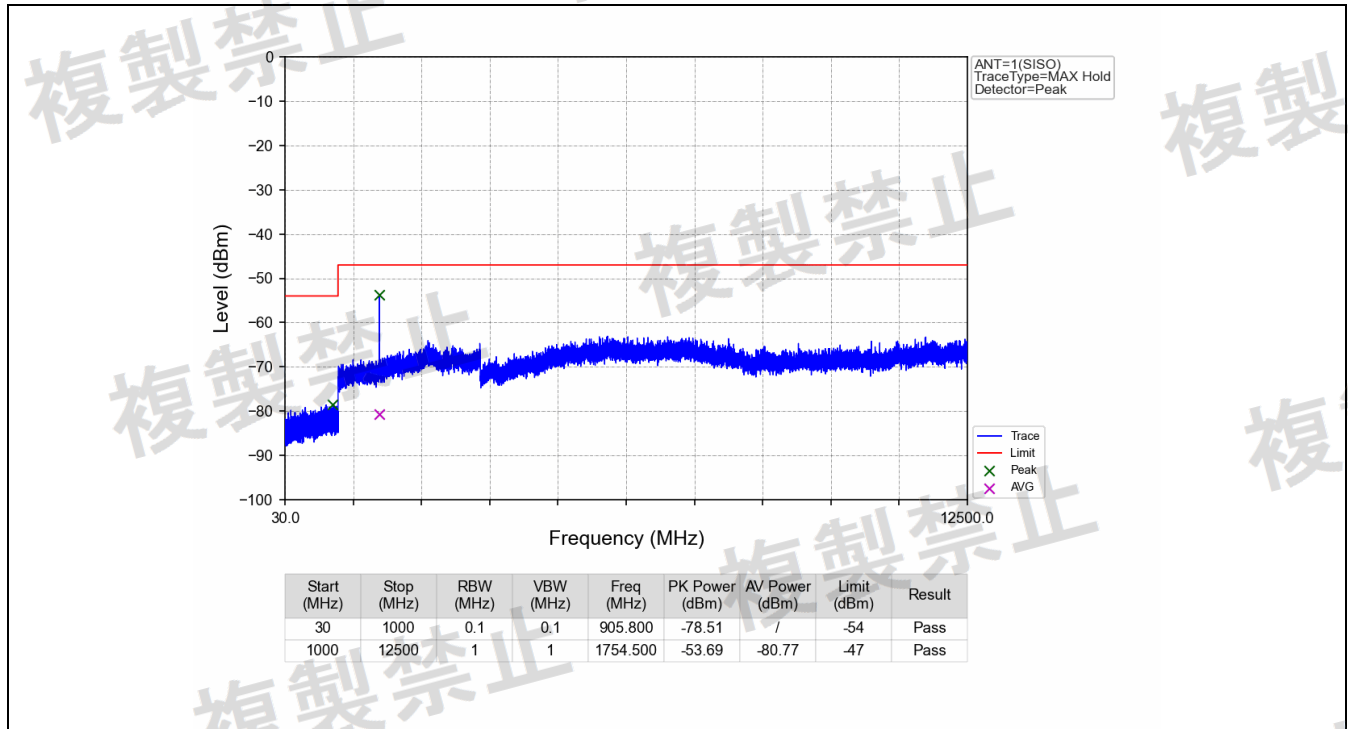
6.1.1 RxSe_NTNV

NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
1M	SISO	2402	1	30	1000	905.8	-78.51	0.014	/	/	4	Pass
				1000	12500	1754.5	-53.69	4.276	-80.77	0.008	20	Pass
		2480	1	30	1000	847.55	-78.19	0.015	/	/	4	Pass
				1000	12500	7363	-62.53	0.558	/	/	20	Pass

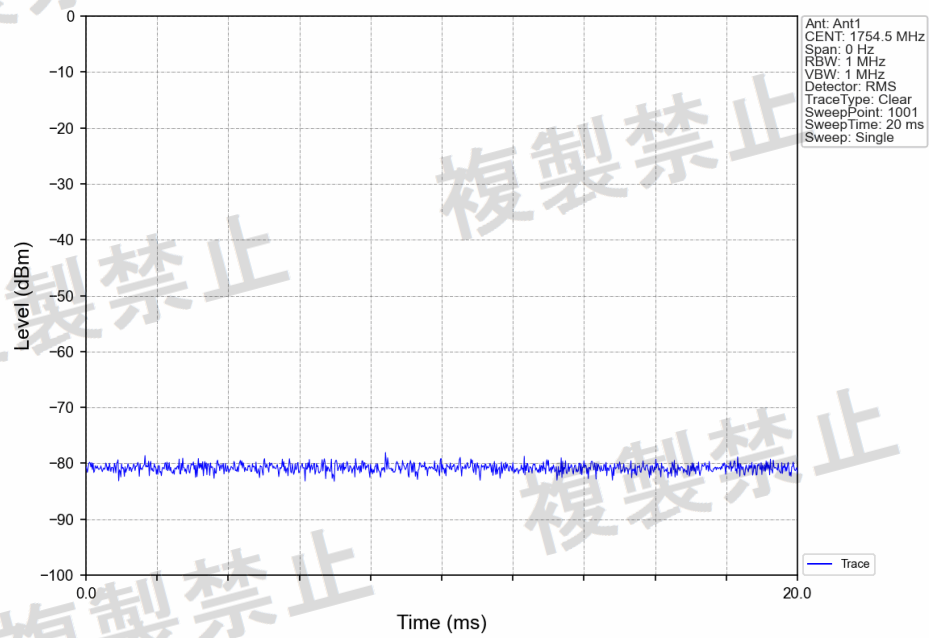
6.2 Test Graph

6.2.1 RxSe_NTNV





1M_2402MHz_Ant1_NTNV



1M_2480MHz_Ant1_NTNV

