

ANNEX D TEST DATA

For

Project No.:	8332EU121106W
Client:	Dongguan Zornher Electronic Technology Co., Ltd.
Product Name:	MECHANICAL KEYBOARD
Model No.:	ZH980
Technology:	Bluetooth Low Energy (BLE)
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2025-07-31

Test Summary

Item	Result
Duty Cycle	Pass
Frequency Error	Pass
Occupied Bandwidth	Pass
Antenna Power	Pass
Spurious Emission Intensity	Pass
Secondary Radiated Emission	Pass

1. Duty Cycle

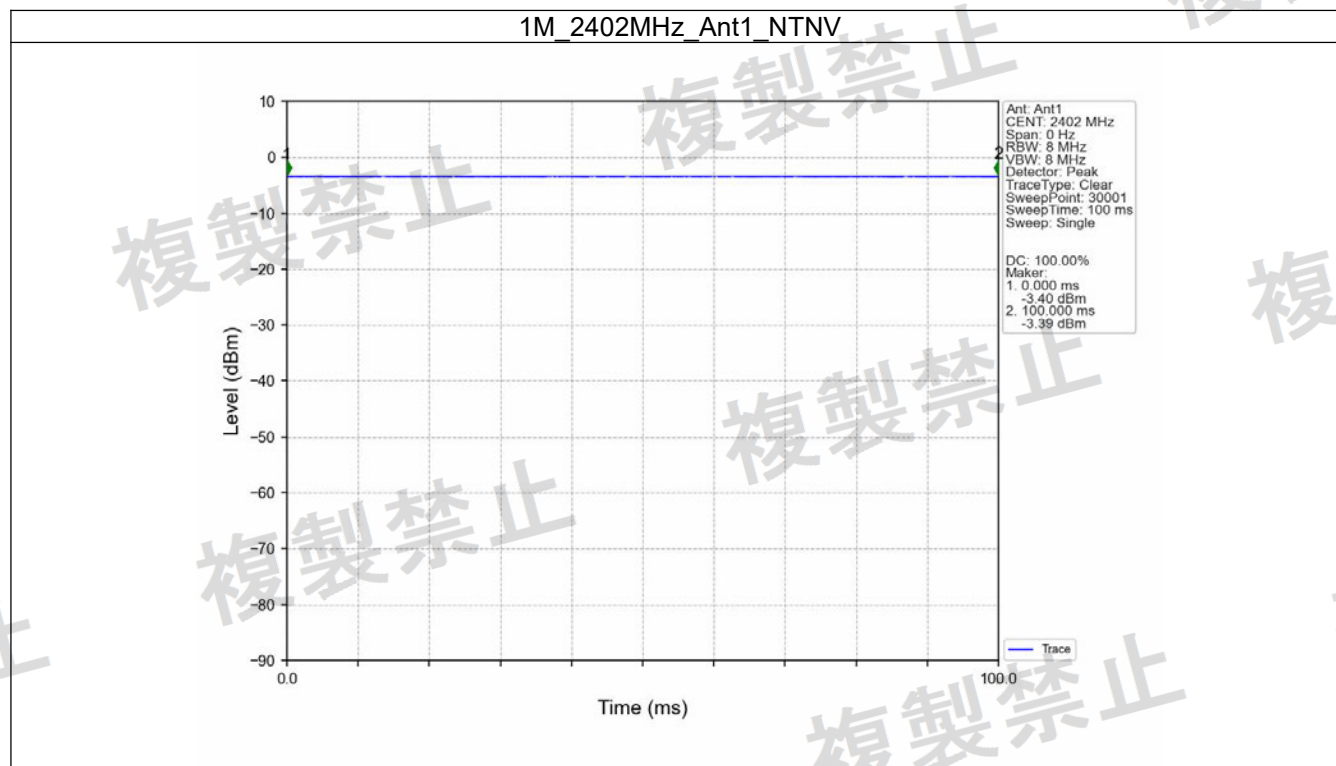
1.1 Test Result

1.1.1 Ant1

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

1.2 Test Graph

1.2.1 Ant1



2. Frequency Error

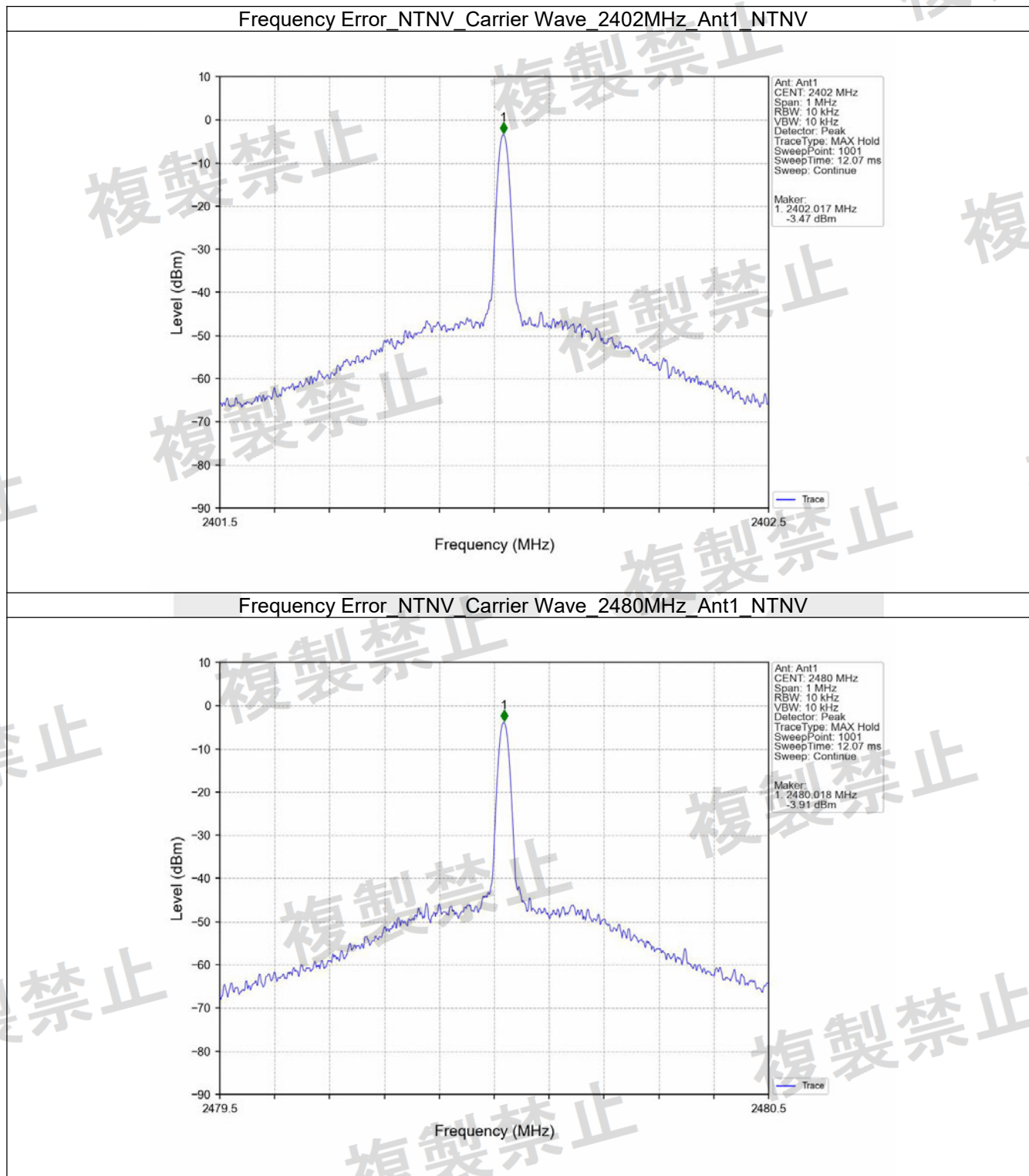
2.1 Test Result

2.1.1 Ant1

Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2402	2402.017	7.08	-50 to 50	Pass
			2480	2480.018	7.26	-50 to 50	Pass

2.2 Test Graph

2.2.1 Ant1



3. Occupied Bandwidth

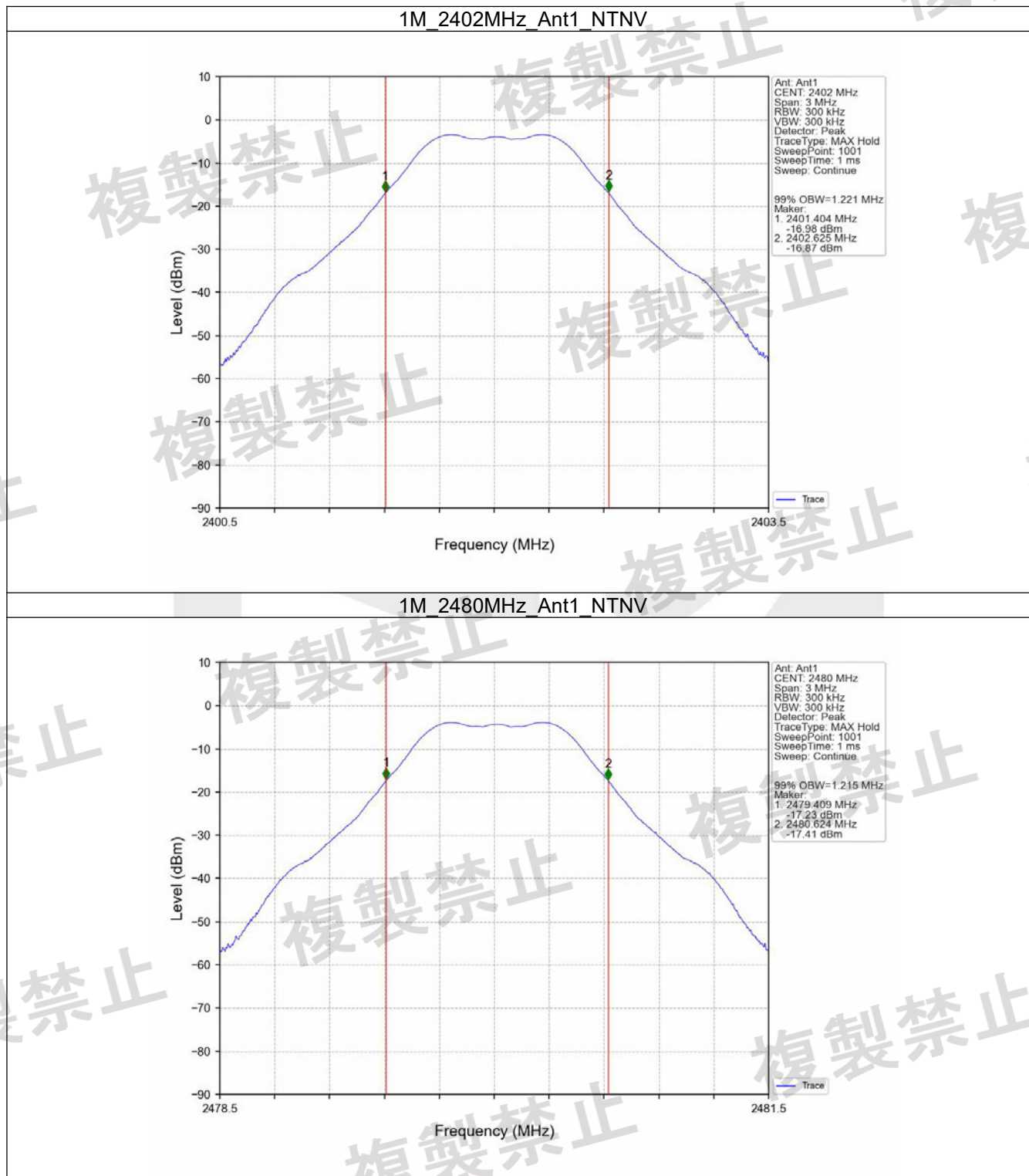
3.1 Test Result

3.1.1 OBW

ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1M	SISO	2402	1.221	≤ 26	Pass
			2480	1.215	≤ 26	Pass

3.2 Test Graph

3.2.1 OBW



4. Spread Bandwidth

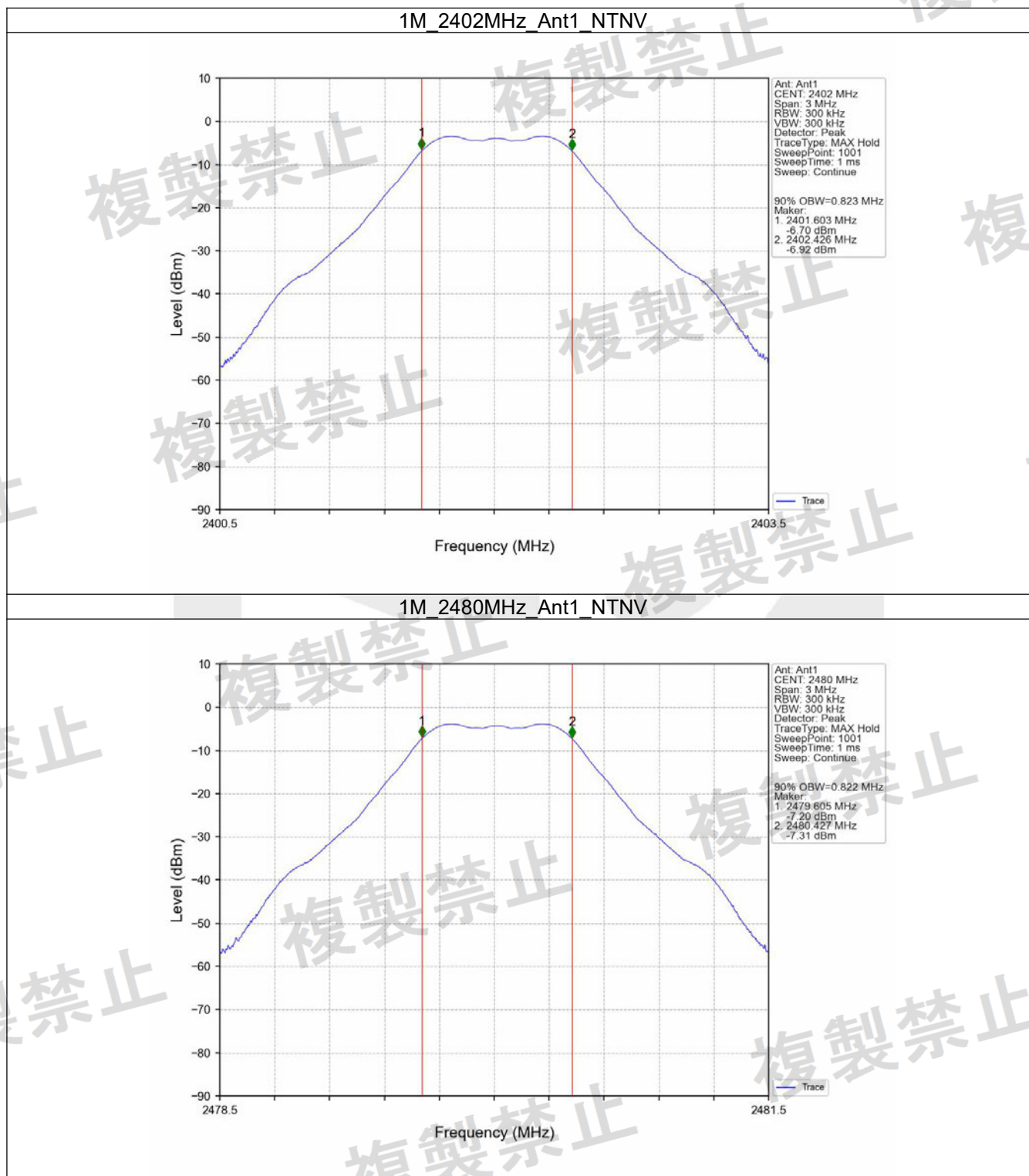
4.1 Test Result

4.1.1 SPBW

ENV	Mode	TX Type	Frequency (MHz)	Spread Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	1M	SISO	2402	0.823	/	Pass
			2480	0.822	/	Pass

4.2 Test Graph

4.2.1 SPBW



5. Antenna Power

5.1 Test Result

5.1.1 Power

ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (mW)		Nominal Power (mW)	Tolerance (%)		Verdict
					Measured	Limit		Measured	Limit	
NTNV	1M	SISO	2402	1	0.390	<=10.00	1.200	-67.50	<=20	Pass
			2480	1	0.348	<=10.00	1.200	-71.00	<=20	Pass

5.1.2 EIRP

ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	Measured Power (dBm)	EIRP (dBm)		Verdict
							Result	Limit	
NTNV	1M	SISO	2402	1	2.94	-4.089	-1.149	12.14	Pass
			2480	1	2.94	-4.584	-1.644	12.14	Pass

Note: E.I.R.P = Measured Power + Antenna Gain

6. Spurious Emission Intensity

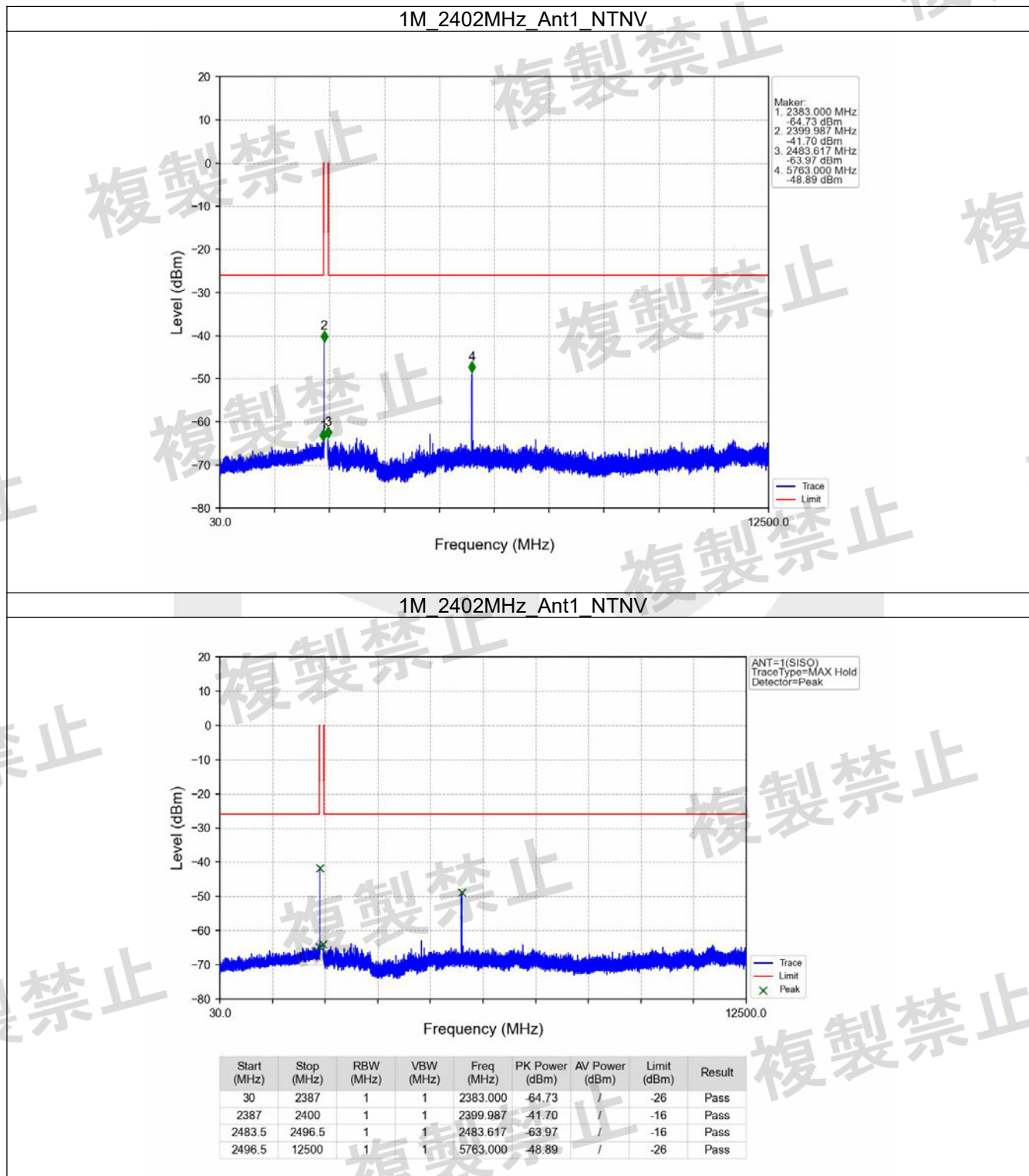
6.1 Test Result

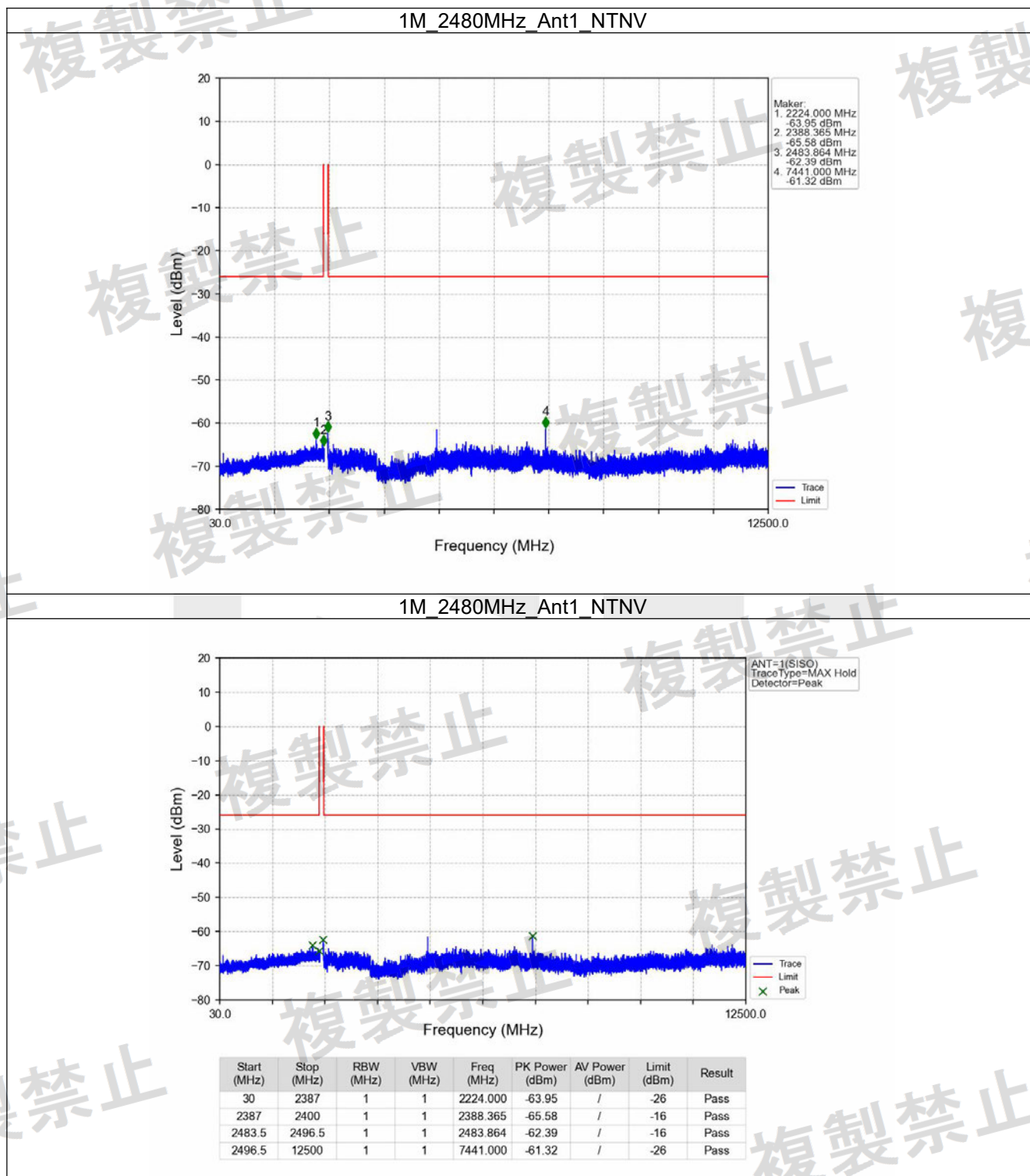
6.1.1 TxSe_NTNV

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	2383	-64.73	0.000	/	/	2.5	Pass
				2387	2400	2399.987	-41.70	0.068	/	/	25	Pass
				2483.5	2496.5	2483.617	-63.97	0.000	/	/	25	Pass
				2496.5	12500	5763	-48.89	0.013	/	/	2.5	Pass
		2480	1	30	2387	2224	-63.95	0.000	/	/	2.5	Pass
				2387	2400	2388.365	-65.58	0.000	/	/	25	Pass
				2483.5	2496.5	2483.864	-62.39	0.001	/	/	25	Pass
				2496.5	12500	7441	-61.32	0.001	/	/	2.5	Pass

6.2 Test Graph

6.2.1 TxSe_NTNV





7. Secondary Radiated Emission

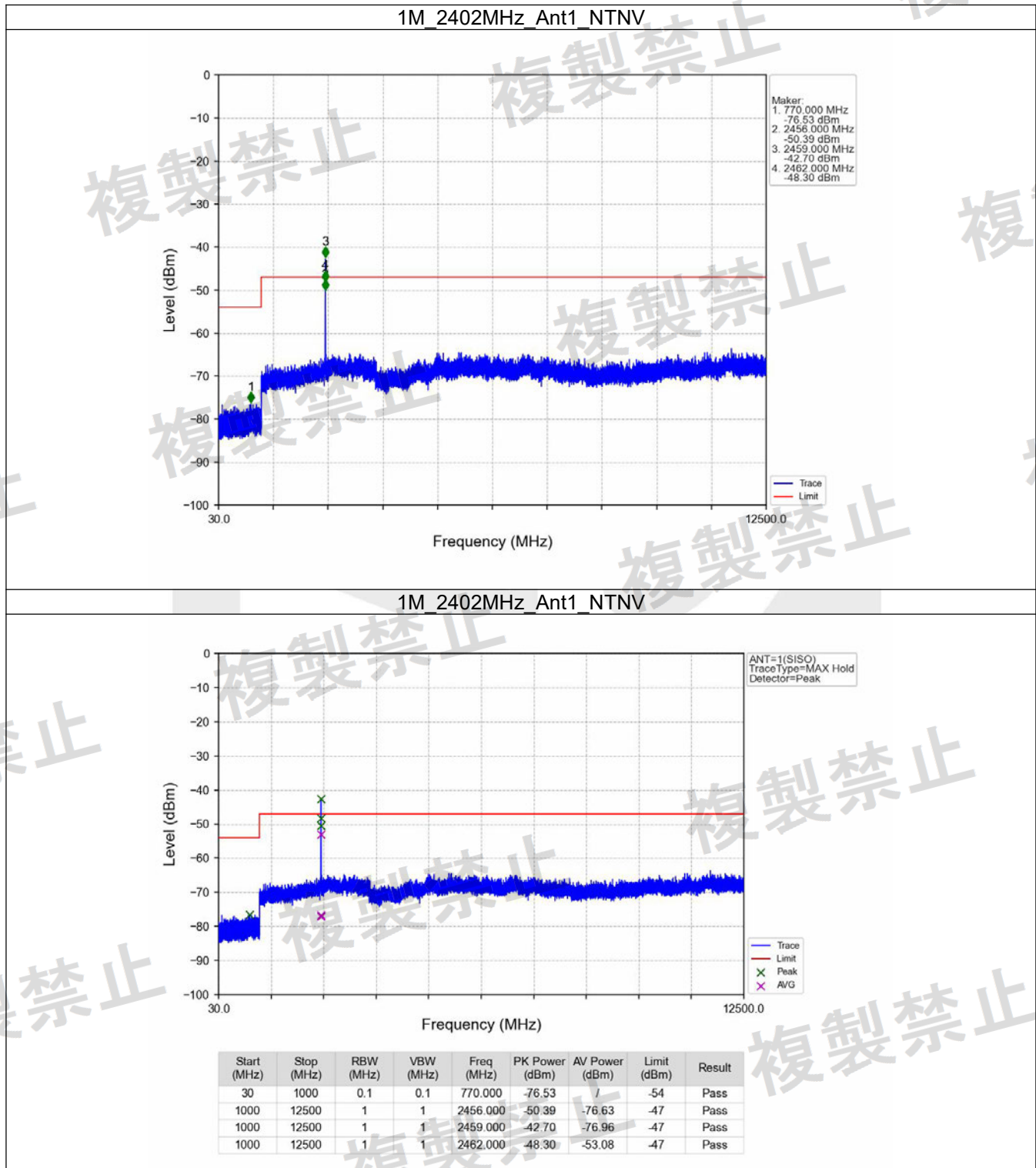
7.1 Test Result

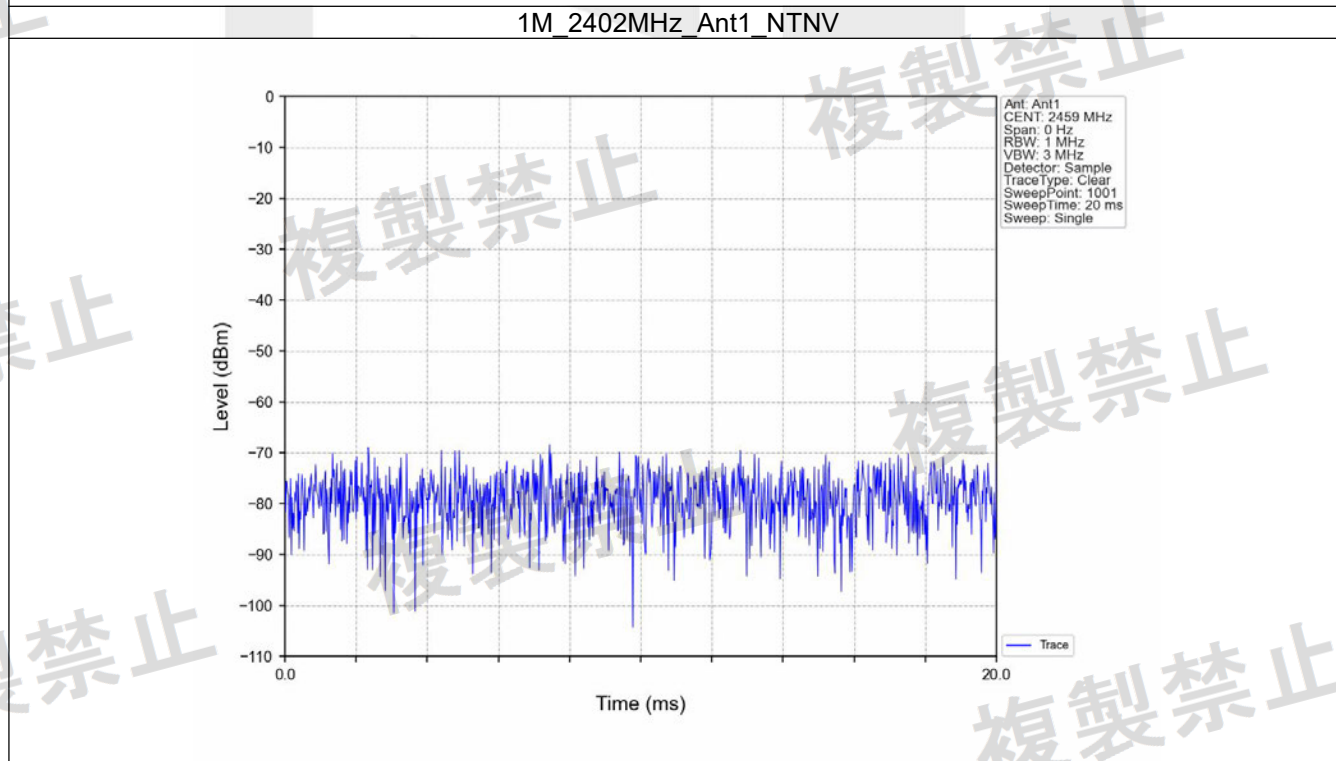
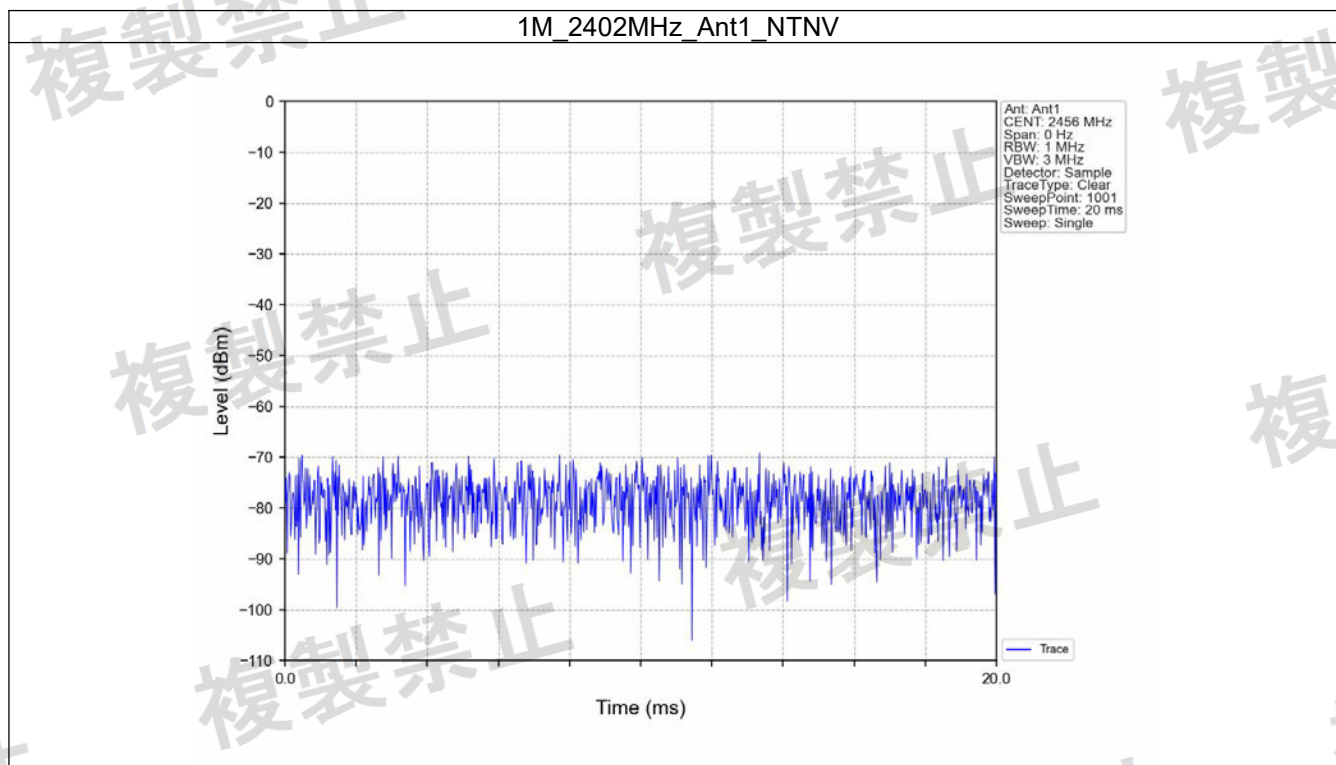
7.1.1 RxSe_NTNV

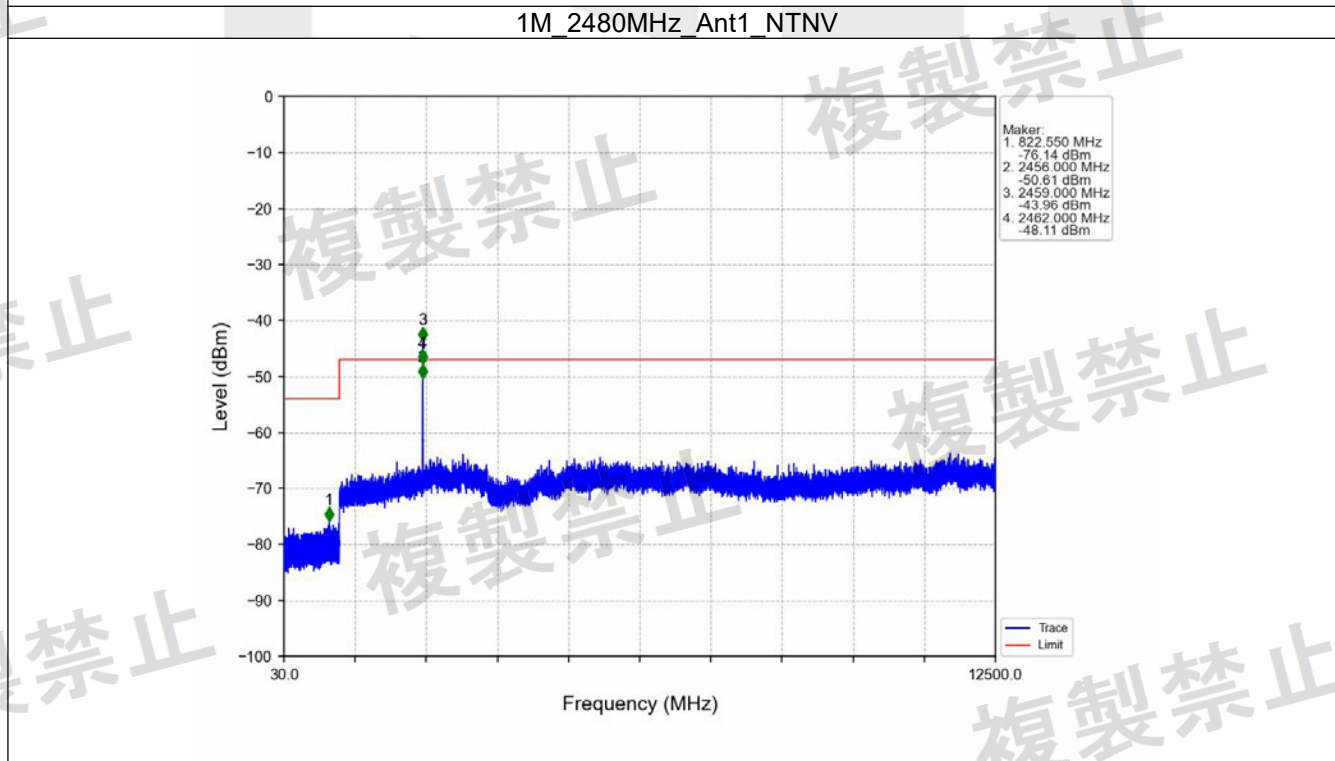
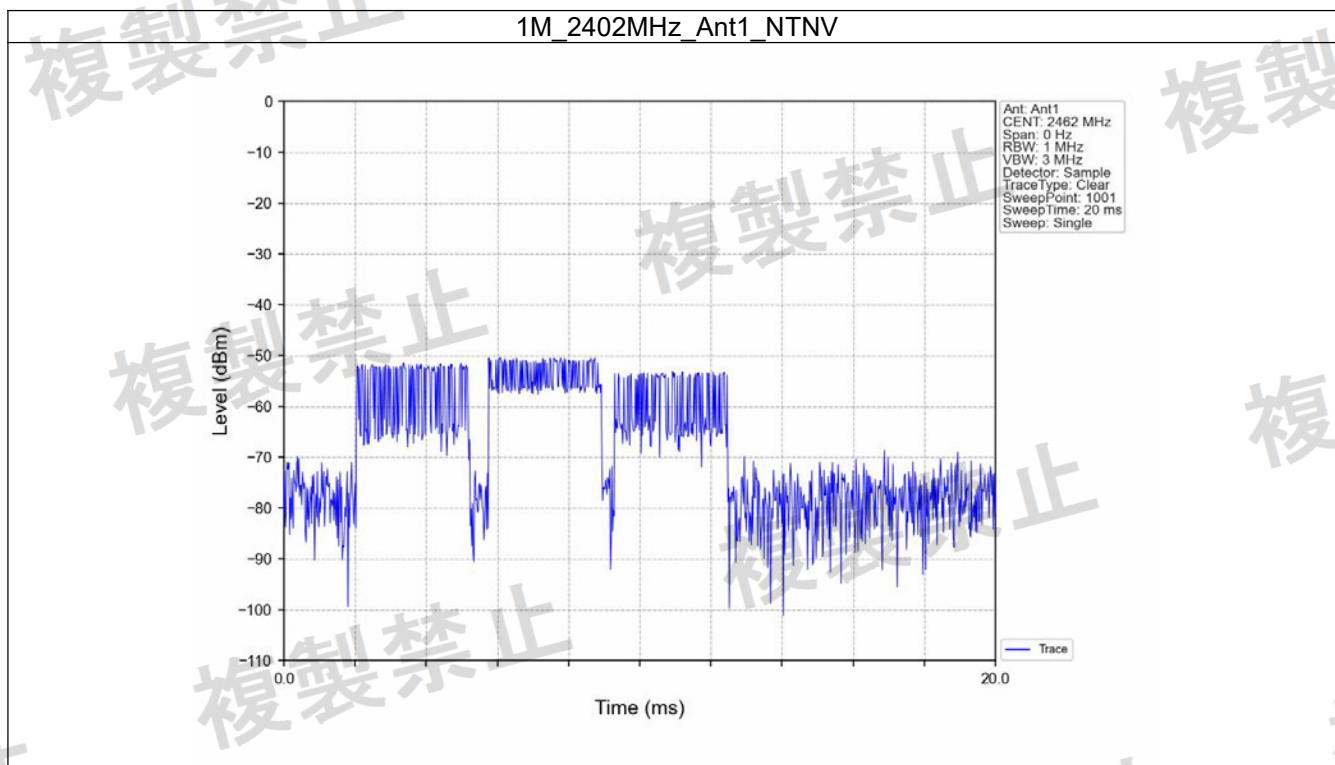
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
1M	SISO	2402	1	30	1000	770	-76.53	0.022	/	/	4	Pass
				1000	12500	2456	-50.39	9.141	-76.63	0.022	20	Pass
						2459	-42.70	53.703	-76.96	0.020	20	Pass
						2462	-48.30	14.791	-53.08	4.920	20	Pass
		2480	1	30	1000	822.55	-76.14	0.024	/	/	4	Pass
				1000	12500	2456	-50.61	8.690	-64.80	0.331	20	Pass
						2459	-43.96	40.179	-76.82	0.021	20	Pass
						2462	-48.11	15.453	-70.31	0.093	20	Pass

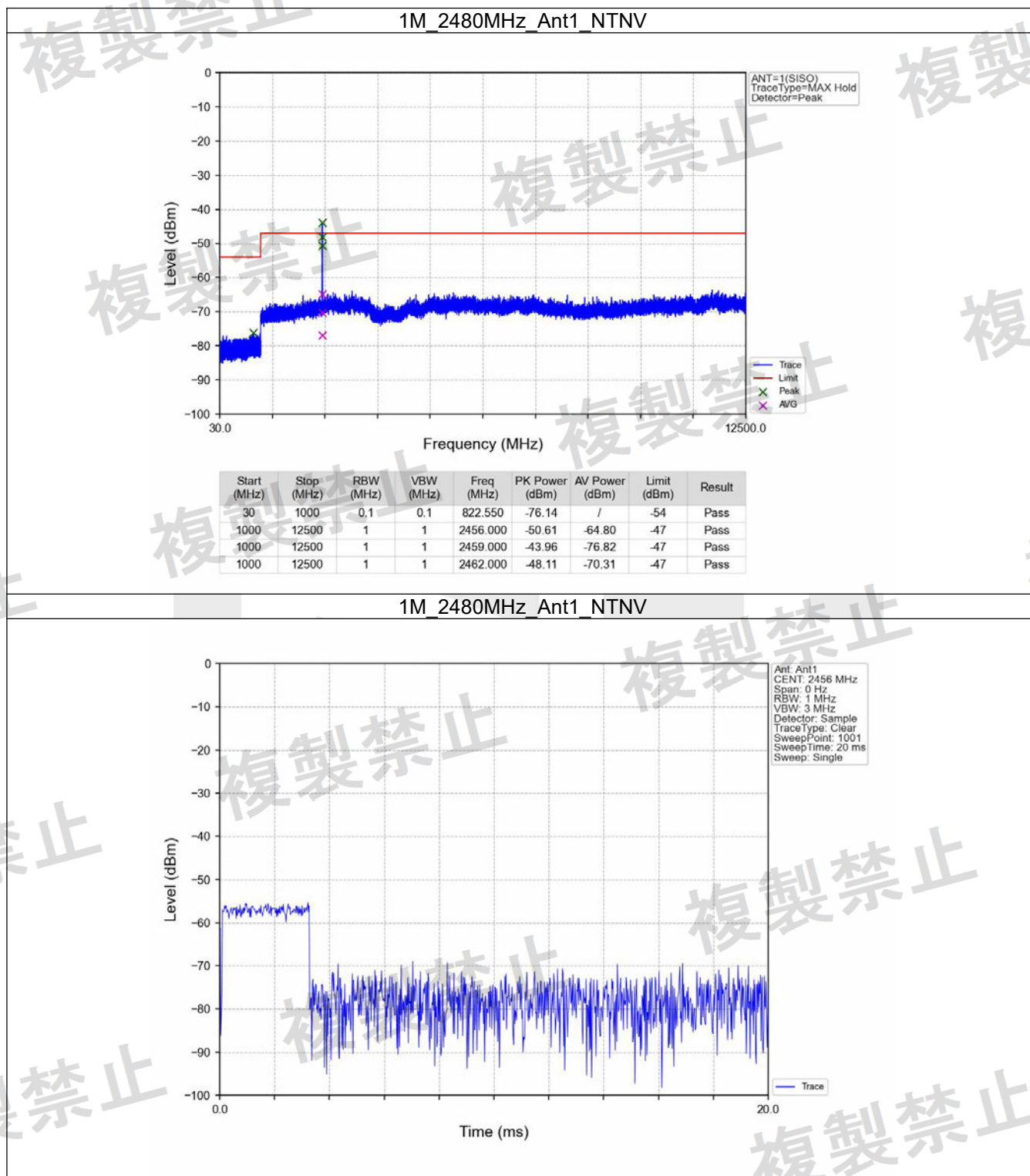
7.2 Test Graph

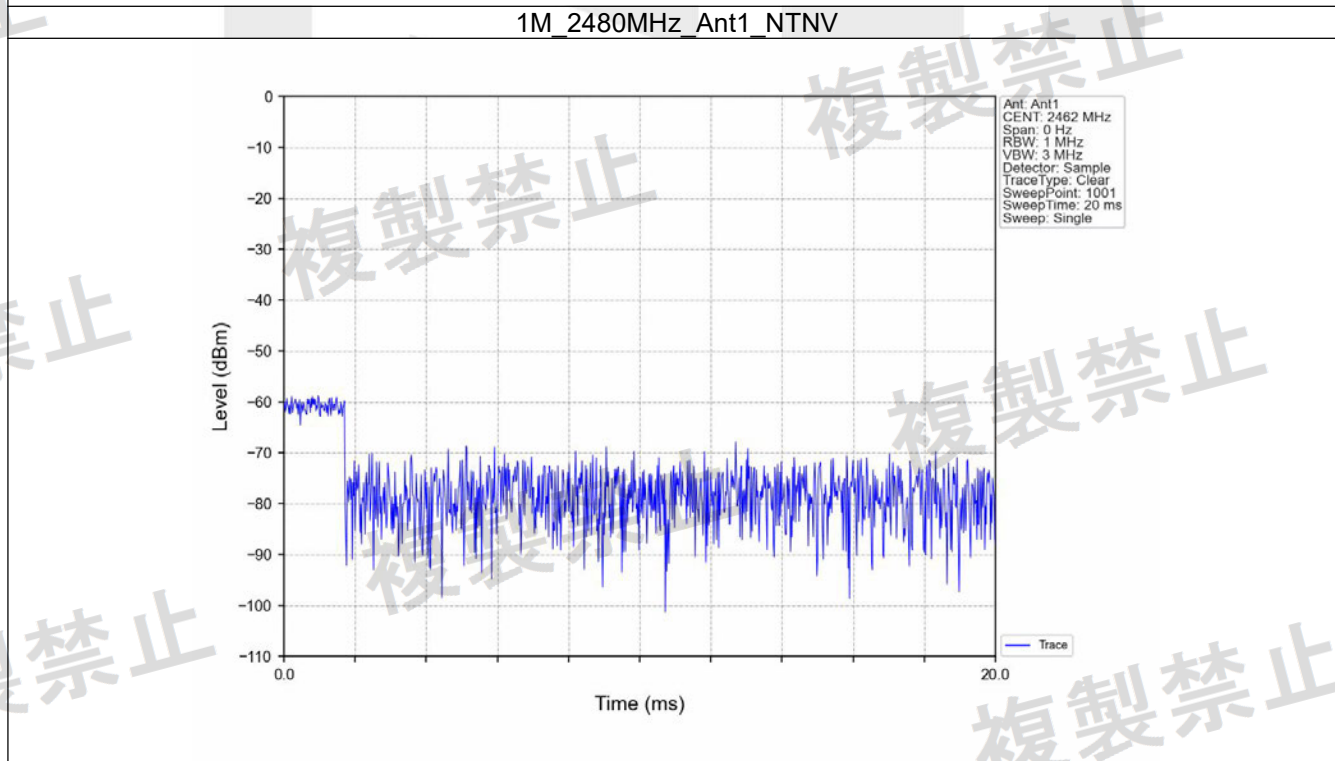
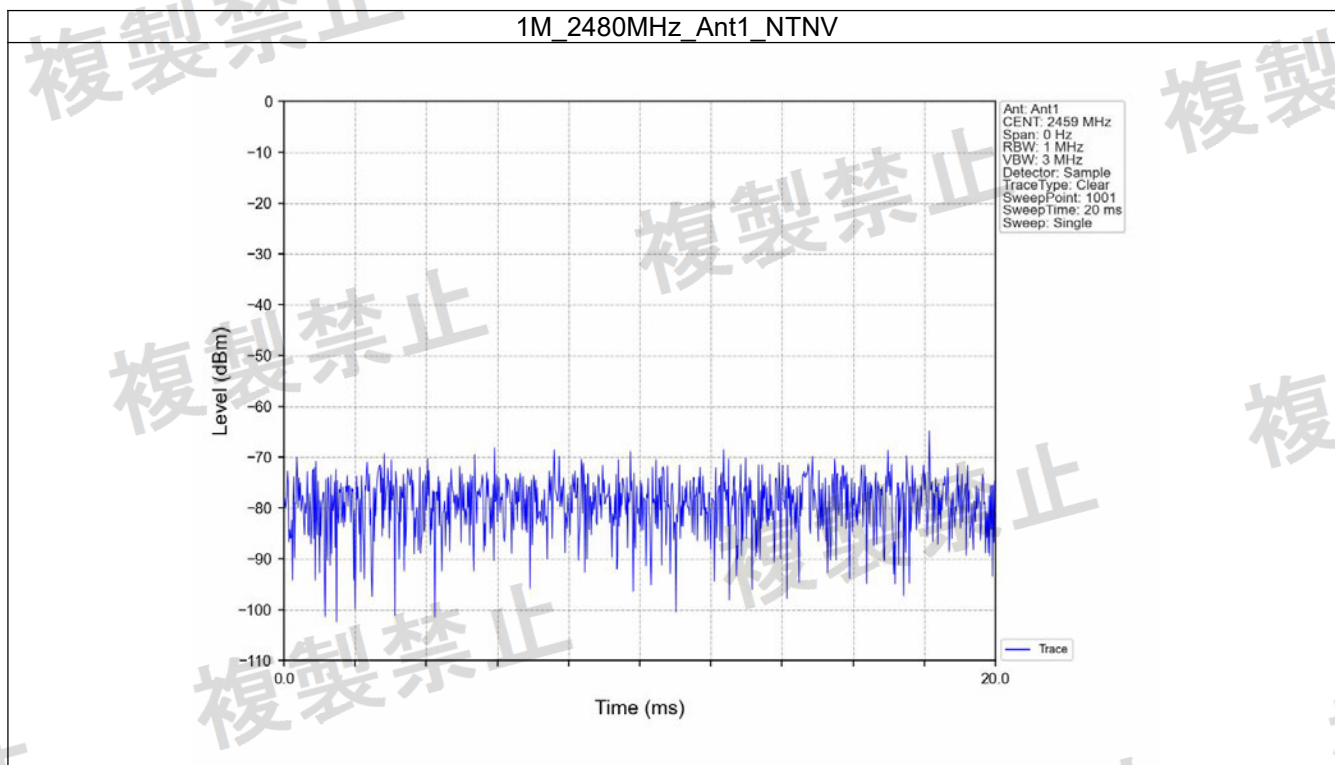
7.2.1 RxSe_NTNV











----- End of Report -----