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Annex for 2.4G Wireless

Test Report No.: CTL2512263011-MIC

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MIC: 219-269036

1. Frequency Error

1.1 Test Result

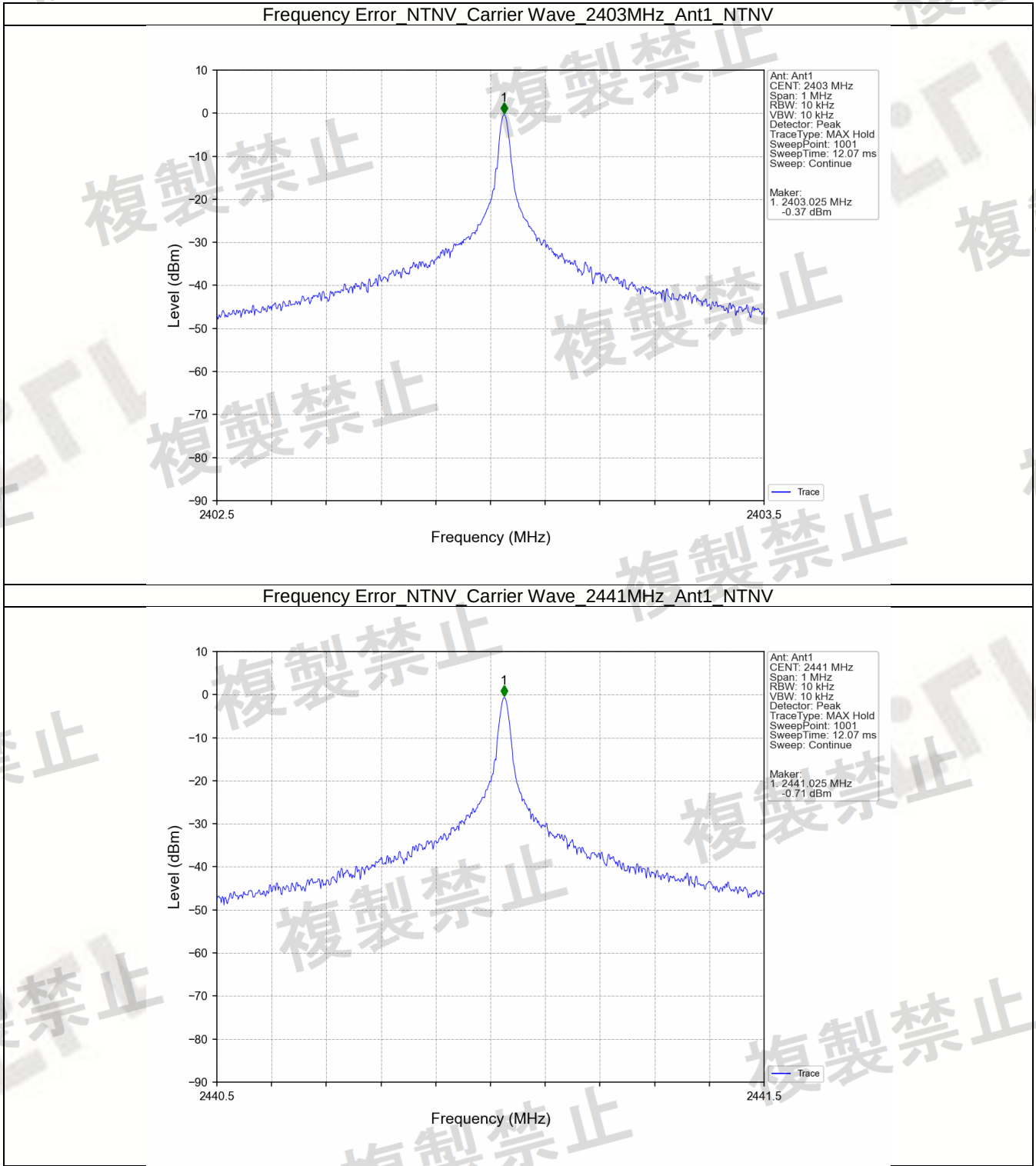
1.1.1 Ant1

Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2403	2403.025	10.40	-50 to 50	Pass
			2441	2441.025	10.24	-50 to 50	Pass
			2479	2479.026	10.49	-50 to 50	Pass

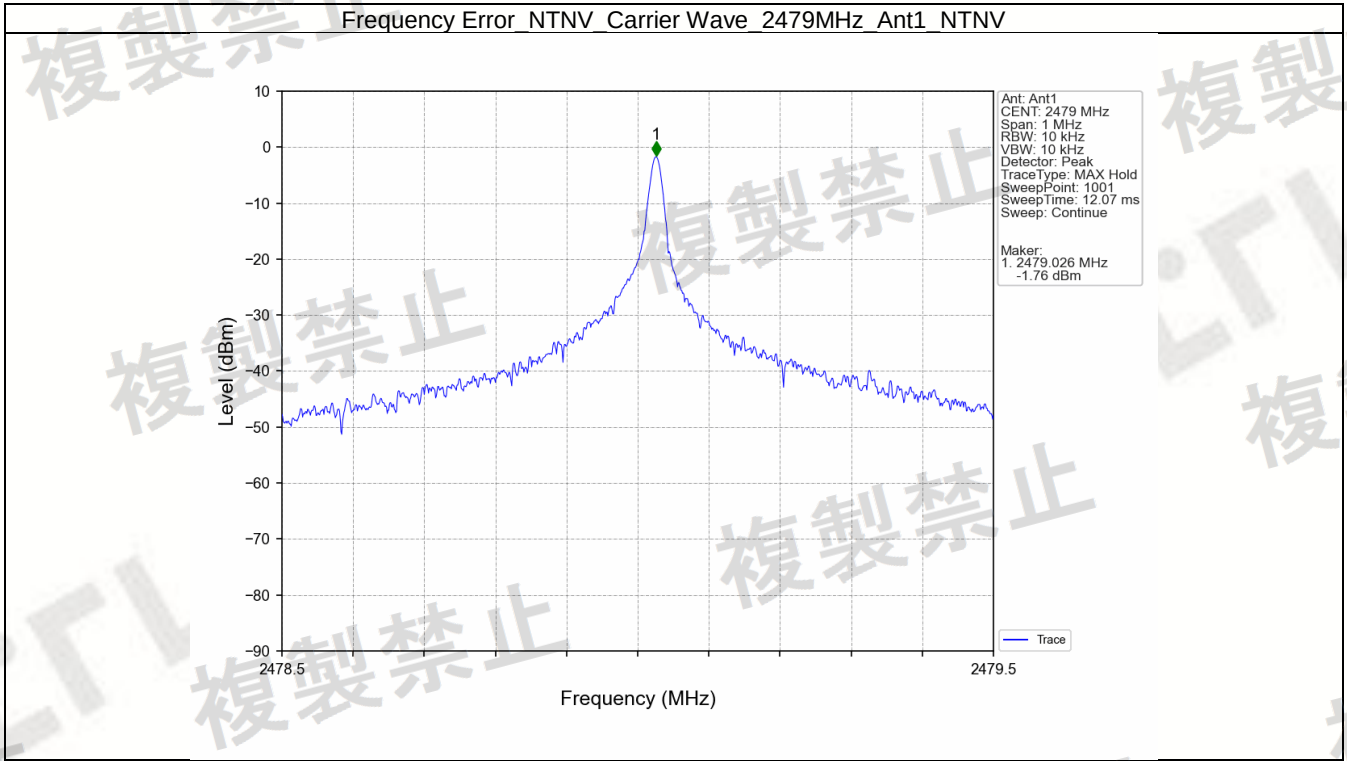
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1.2 Test Graph

1.2.1 Ant1



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2. Occupied Bandwidth

2.1 Test Result

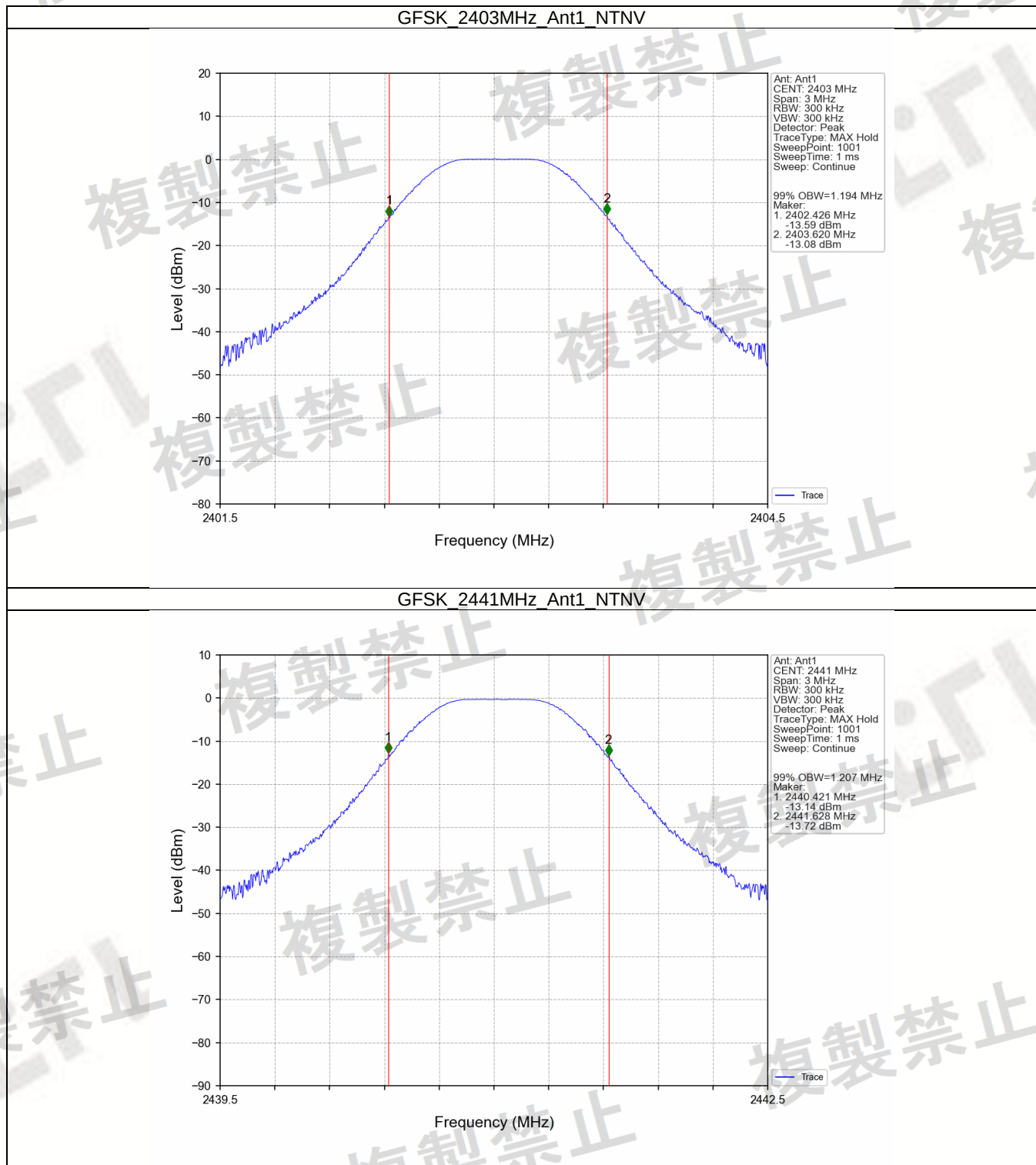
2.1.1 OBW

ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	GFSK	SISO	2403	1.194	<=26	Pass
			2441	1.207	<=26	Pass
			2479	1.210	<=26	Pass

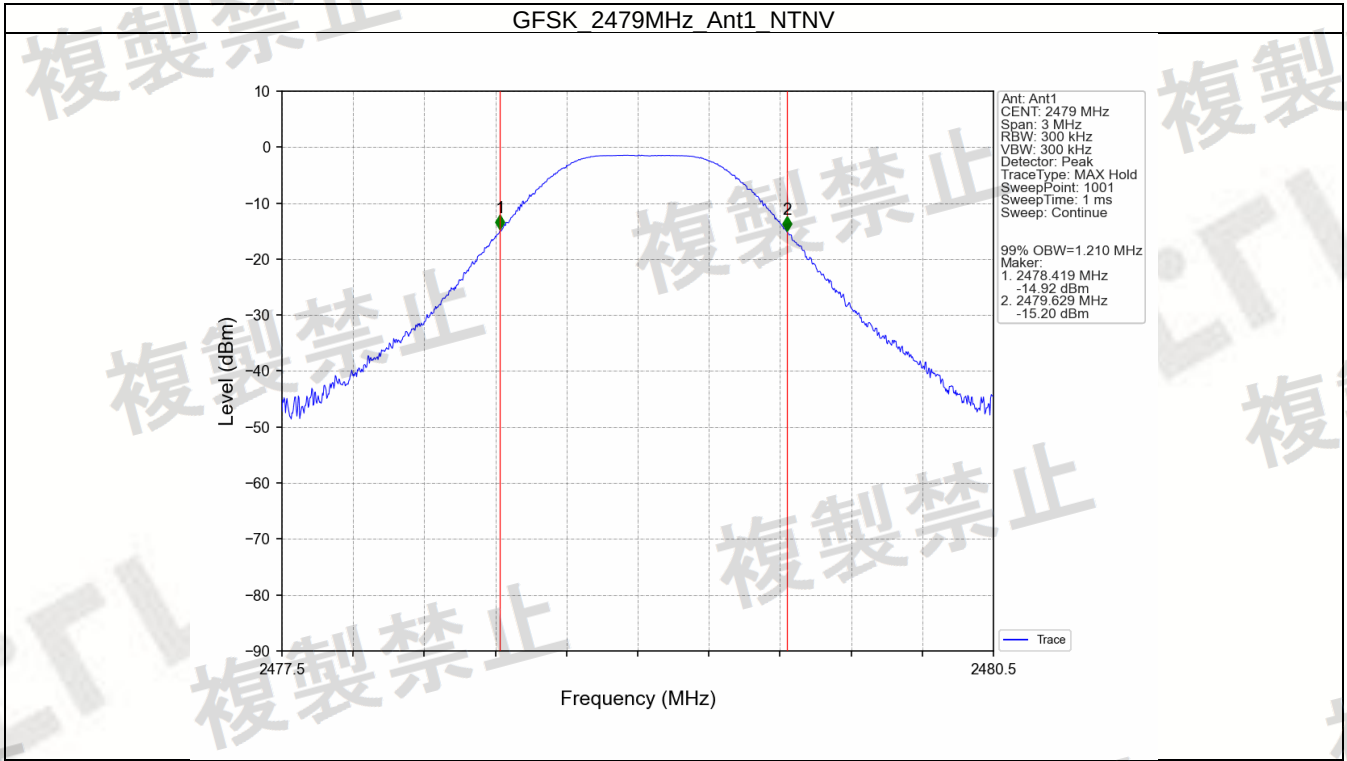
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2.2 Test Graph

2.2.1 OBW



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3. Antenna Power

3.1 Test Result

3.1.1 Power

ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (mW)		Nominal Power (mW)	Tolerance (%)		Verdict
					Measured	Limit		Measured	Limit	
NTNV	GFSK	SISO	2403	1	0.886	<=10.00	0.910	-2.64	<=20	Pass
			2441	1	0.906	<=10.00	0.910	-0.44	<=20	Pass
			2479	1	0.692	<=10.00	0.910	-23.96	<=20	Pass

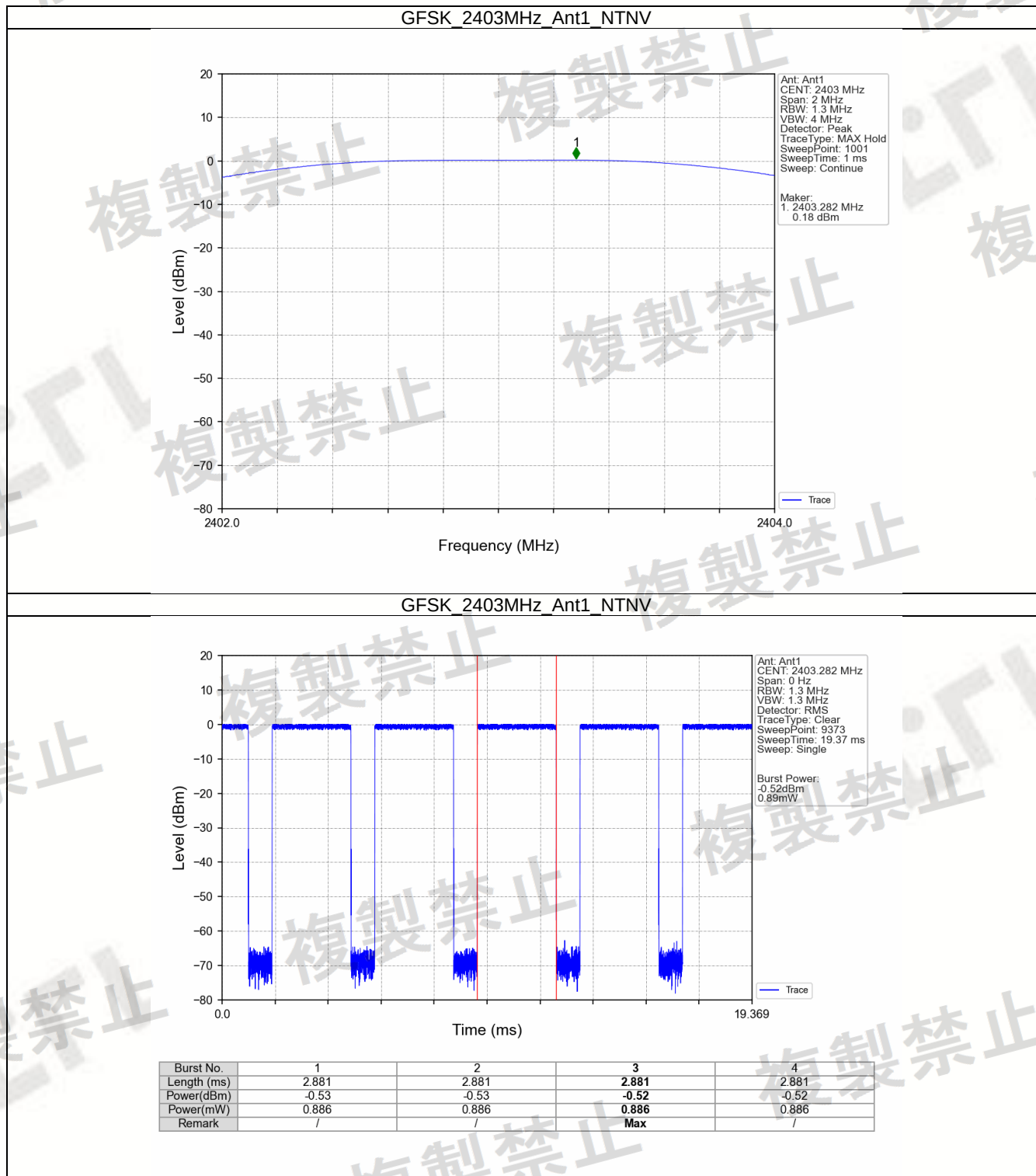
3.1.2 EIRP

ENV	Mode	TX Type	Frequency (MHz)	ANT	Gain (dBi)	EIRP (dBm)		Verdict
						Result	Limit	
NTNV	GFSK	SISO	2403	1	1.20	0.68	<=12.14	Pass
			2441	1	1.20	0.77	<=12.14	Pass
			2479	1	1.20	-0.40	<=12.14	Pass

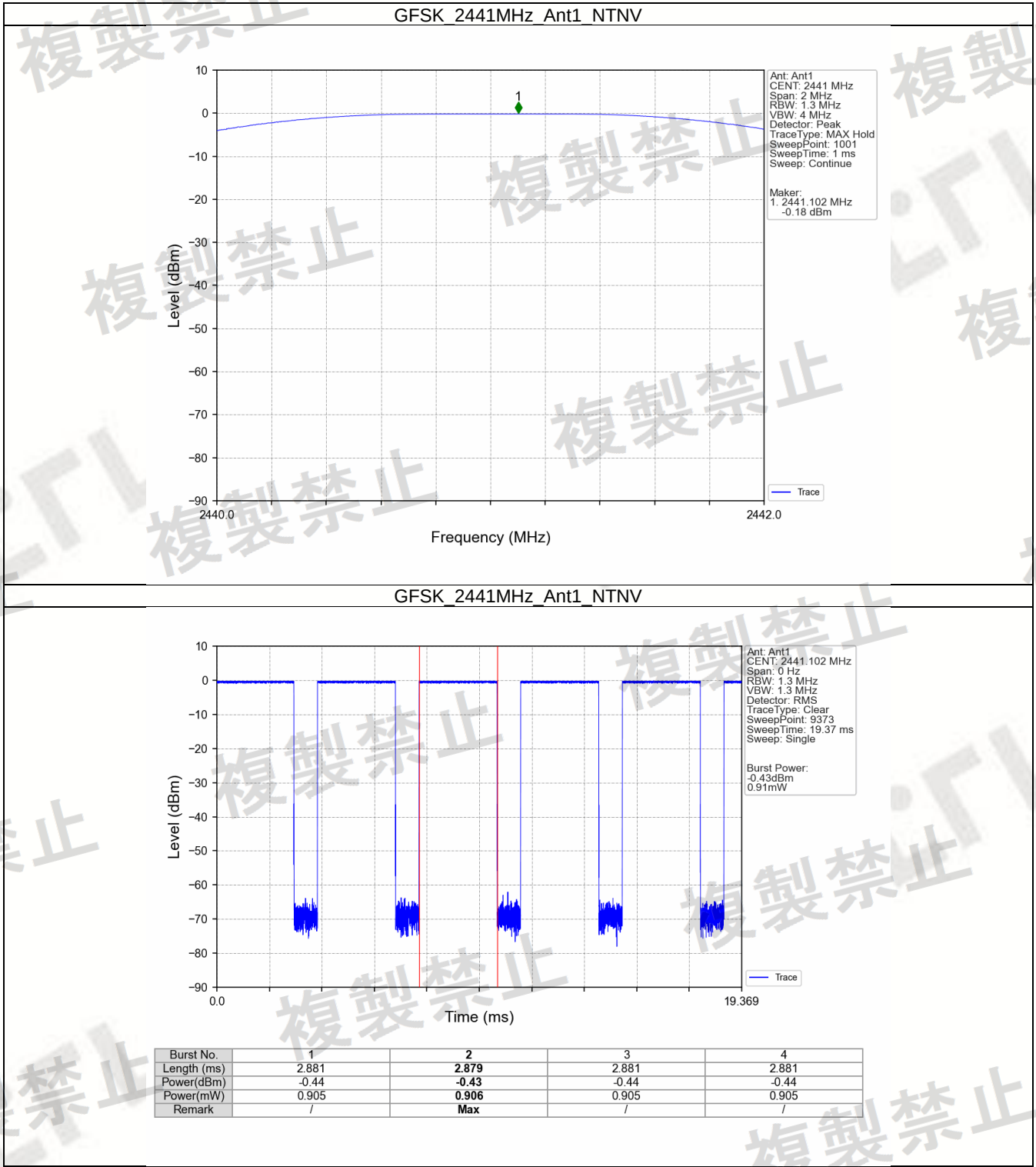
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3.2 Test Graph

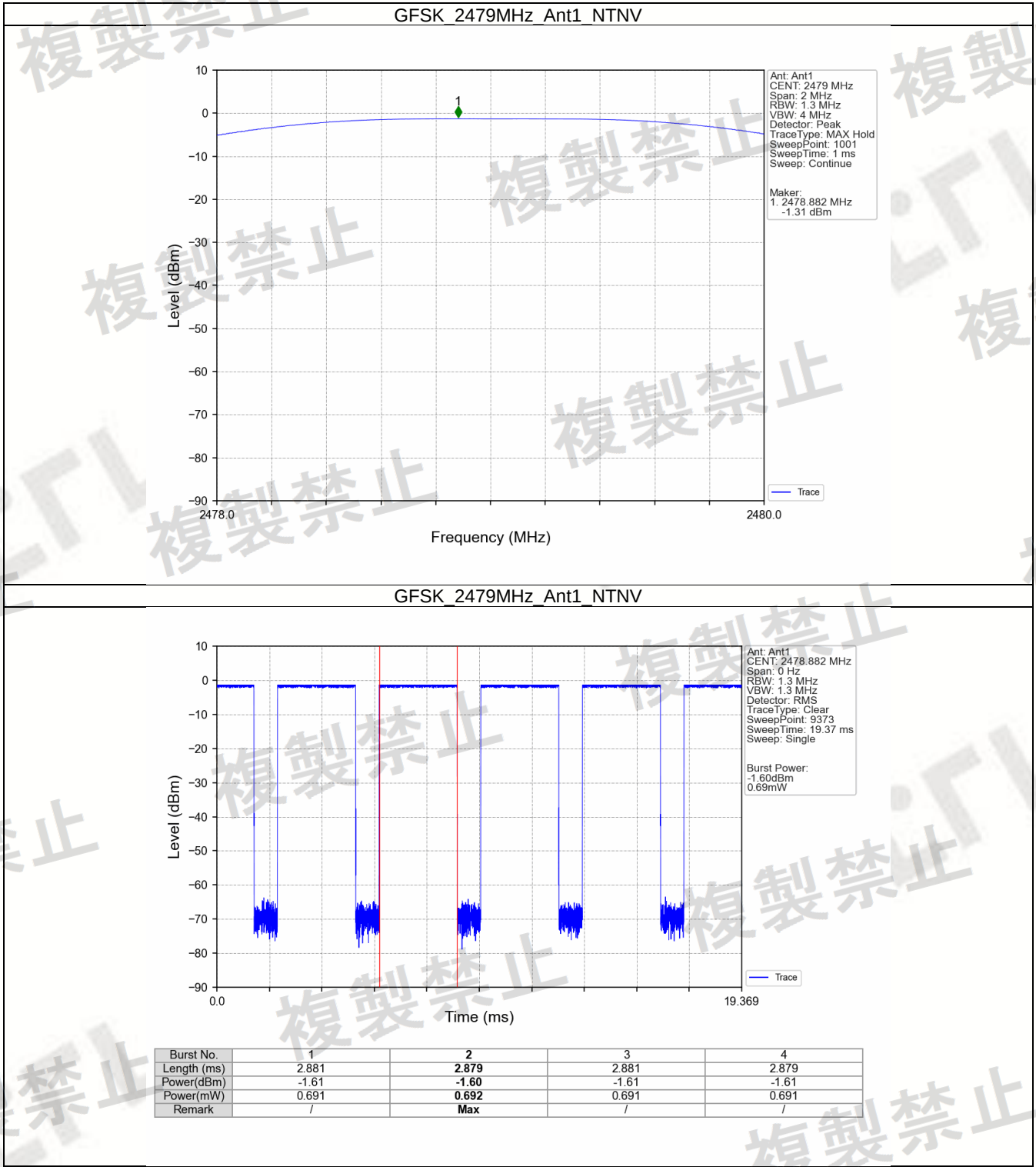
3.2.1 Power



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4. Spurious Emission Intensity

4.1 Test Result

4.1.1 TxSe_NTNV

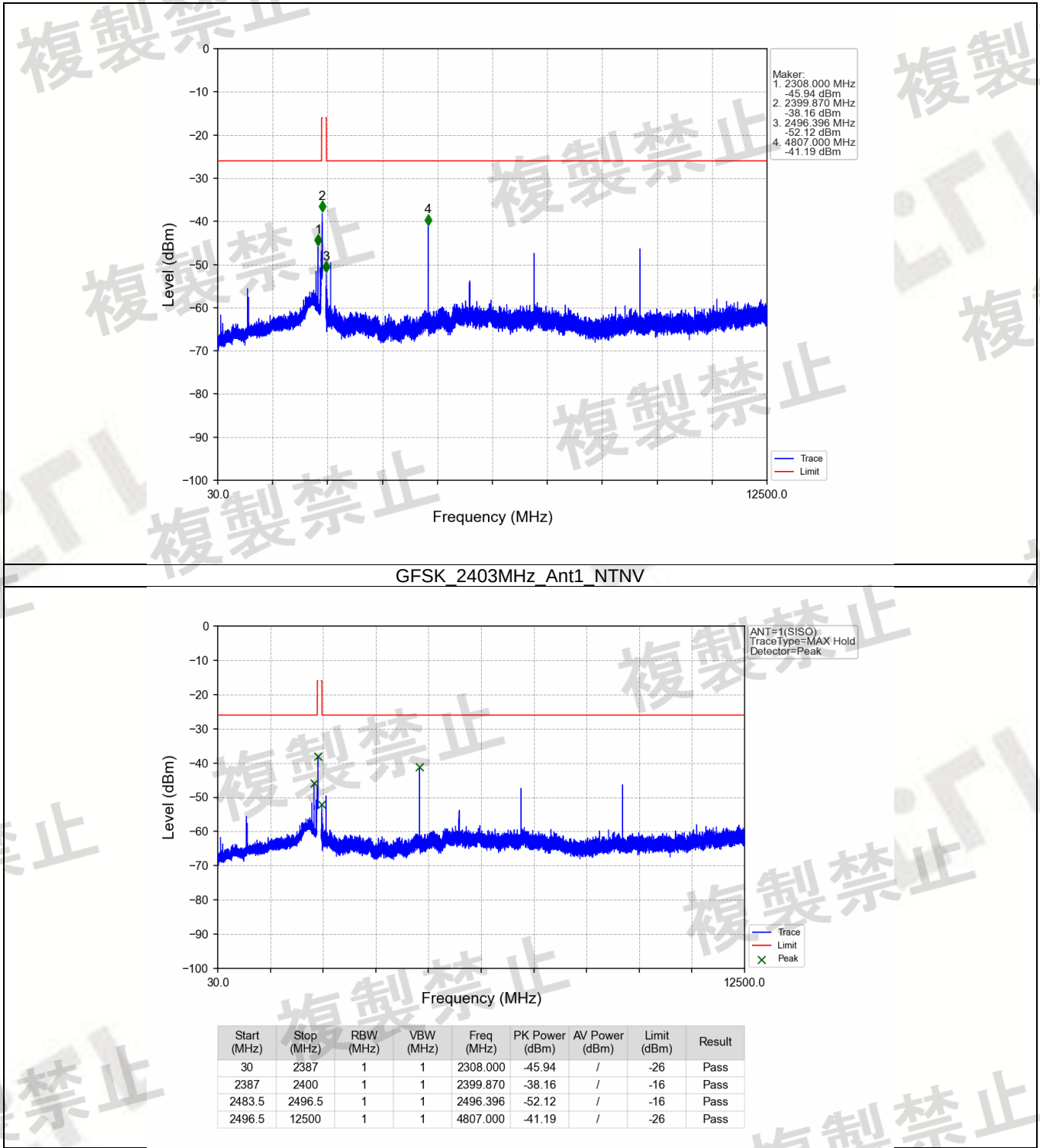
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
GFSK	SISO	2403	1	30	2387	2308	-45.94	0.025	/	/	2.5	Pass
				2387	2400	2399.87	-38.16	0.153	/	/	25	Pass
				2483.5	2496.5	2496.396	-52.12	0.006	/	/	25	Pass
				2496.5	12500	4807	-41.19	0.076	/	/	2.5	Pass
		2441	1	30	2387	2346	-45.00	0.032	/	/	2.5	Pass
				2387	2400	2393.396	-49.11	0.012	/	/	25	Pass
				2483.5	2496.5	2488.622	-48.84	0.013	/	/	25	Pass
				2496.5	12500	4882.5	-40.27	0.094	/	/	2.5	Pass
		2479	1	30	2387	2383.5	-44.24	0.038	/	/	2.5	Pass
				2387	2400	2387.39	-56.82	0.002	/	/	25	Pass
				2483.5	2496.5	2486.49	-47.34	0.018	/	/	25	Pass
				2496.5	12500	4958.5	-39.99	0.100	/	/	2.5	Pass

4.2 Test Graph

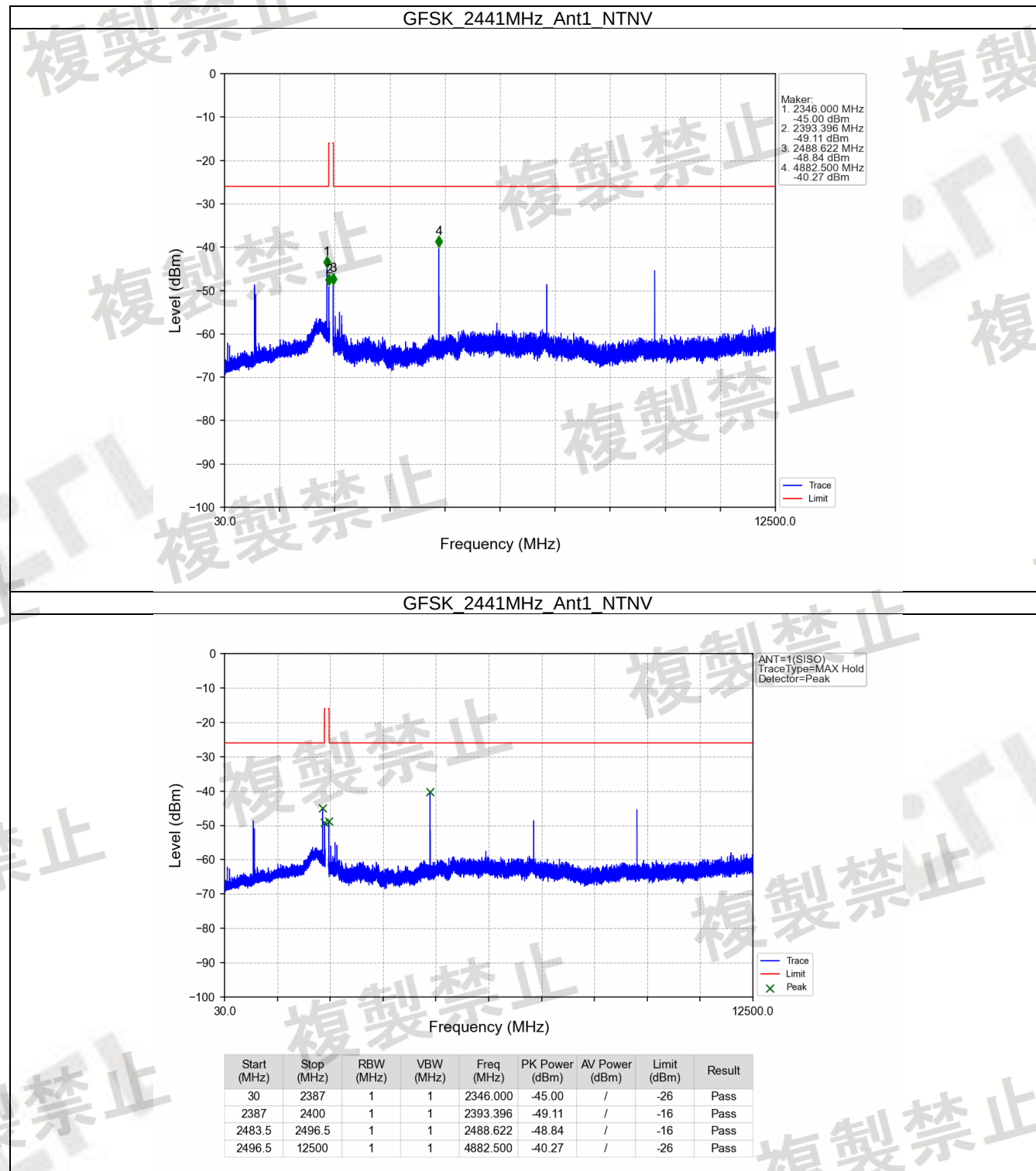
4.2.1 TxSe_NTNV

GFSK 2403MHz_Ant1_NTNV

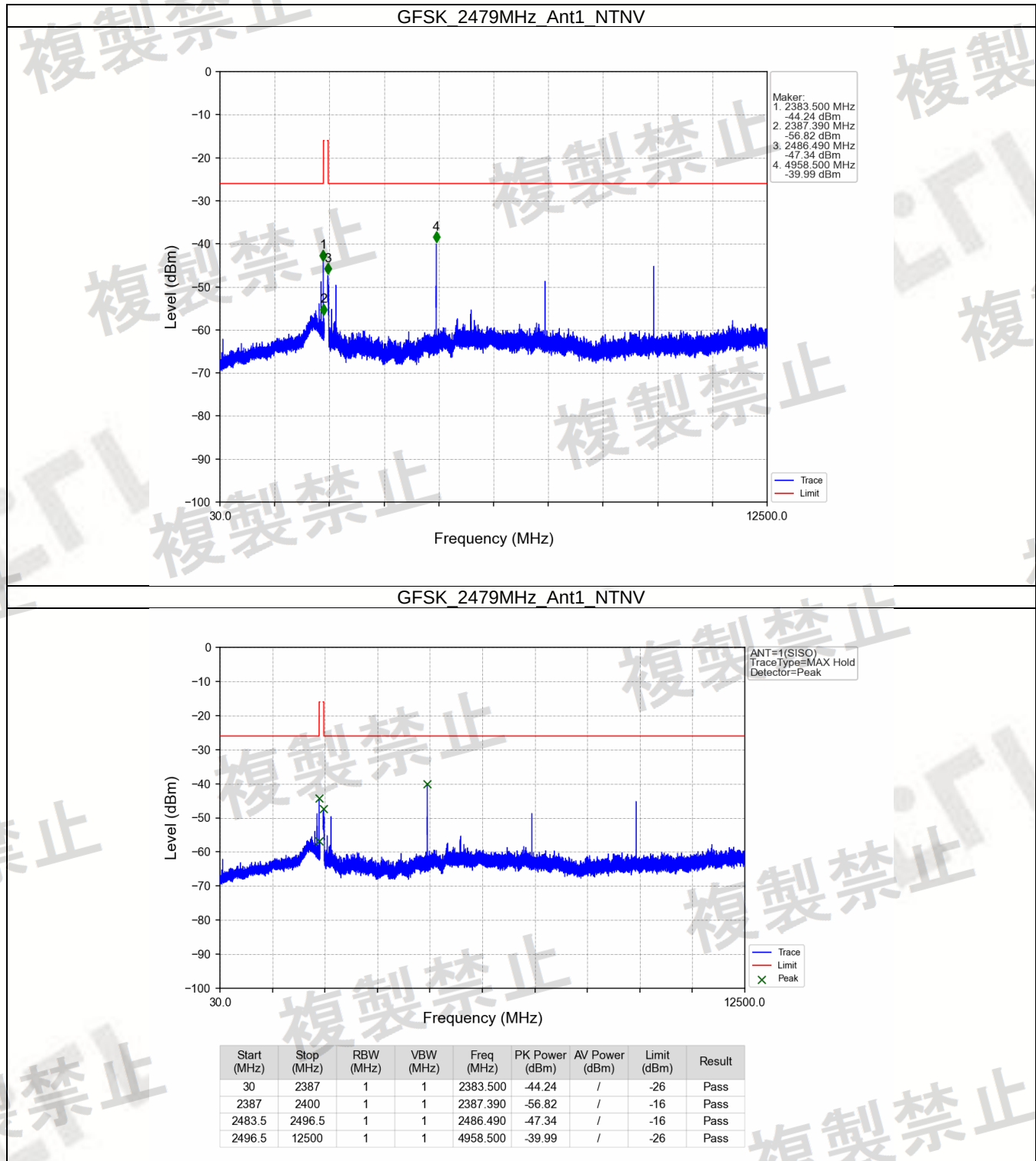
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5. Secondary Radiated Emission

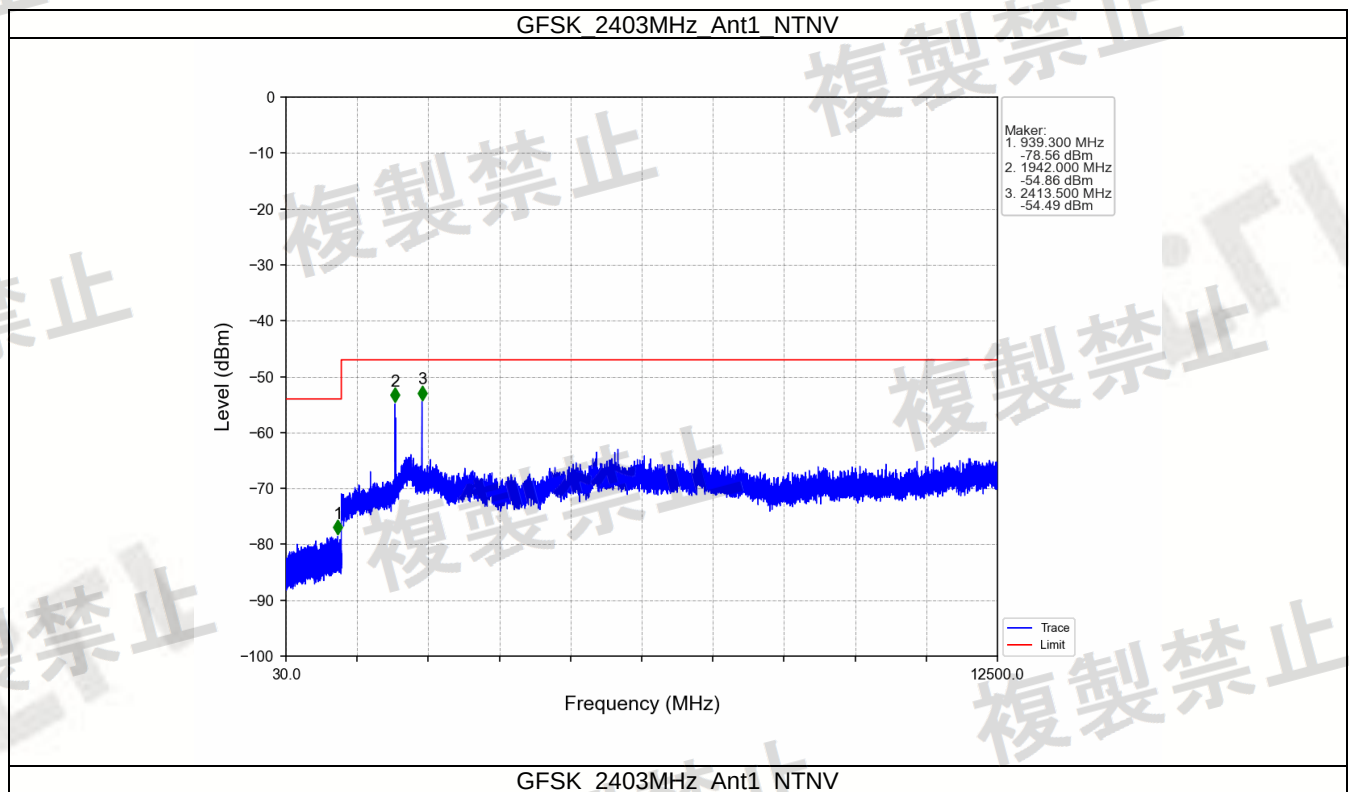
5.1 Test Result

5.1.1 RxSe_NTNV

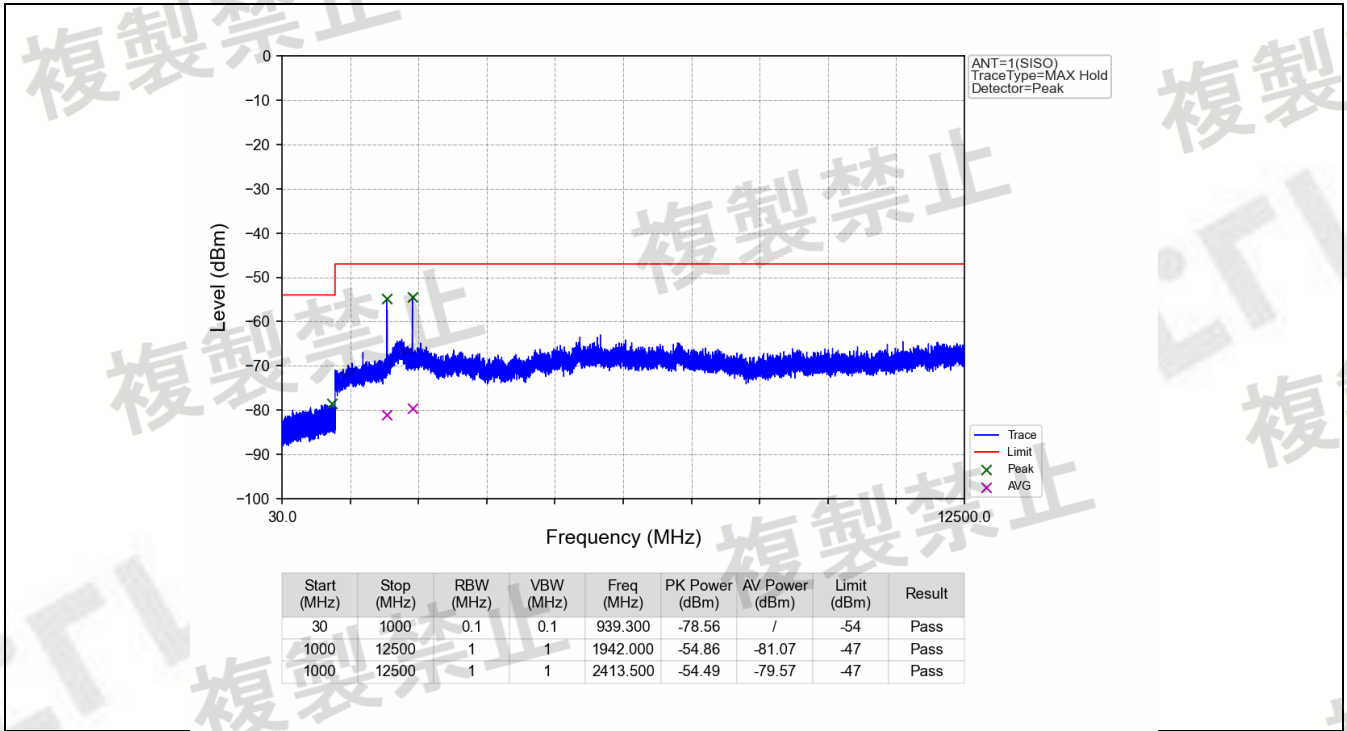
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
GFSK	SISO	2403	1	30	1000	939.3	-78.56	0.014	/	/	4	Pass
				1000	12500	1942	-54.86	3.266	-81.07	0.008	20	Pass
						2413.5	-54.49	3.556	-79.57	0.011	20	Pass
		2441	1	30	1000	944.1	-78.45	0.014	/	/	4	Pass
				1000	12500	2414	-55.16	3.048	-69.60	0.110	20	Pass
		2479	1	30	1000	950.05	-78.20	0.015	/	/	4	Pass
				1000	12500	2414	-55.40	2.884	-79.73	0.011	20	Pass

5.2 Test Graph

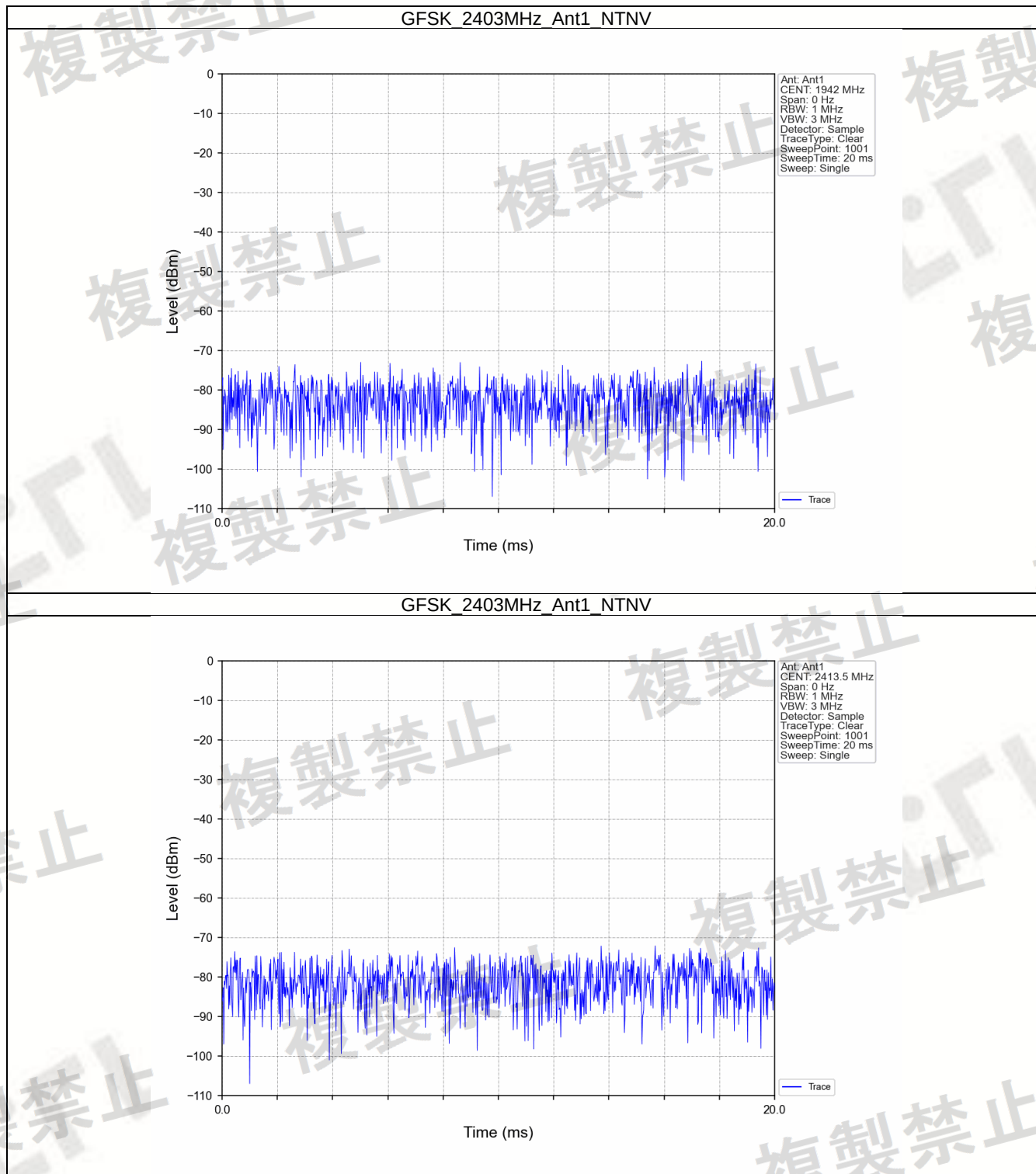
5.2.1 RxSe_NTNV



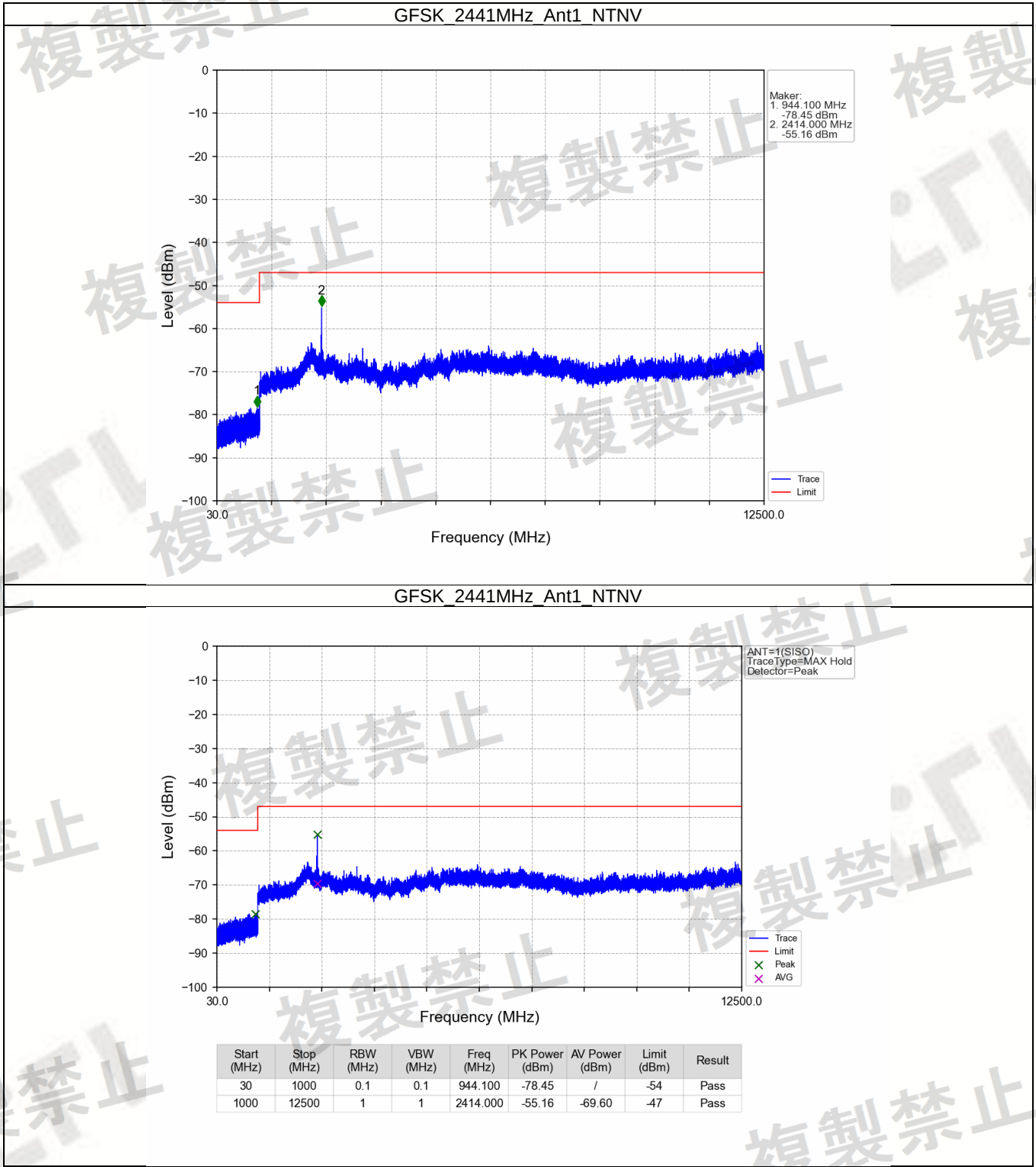
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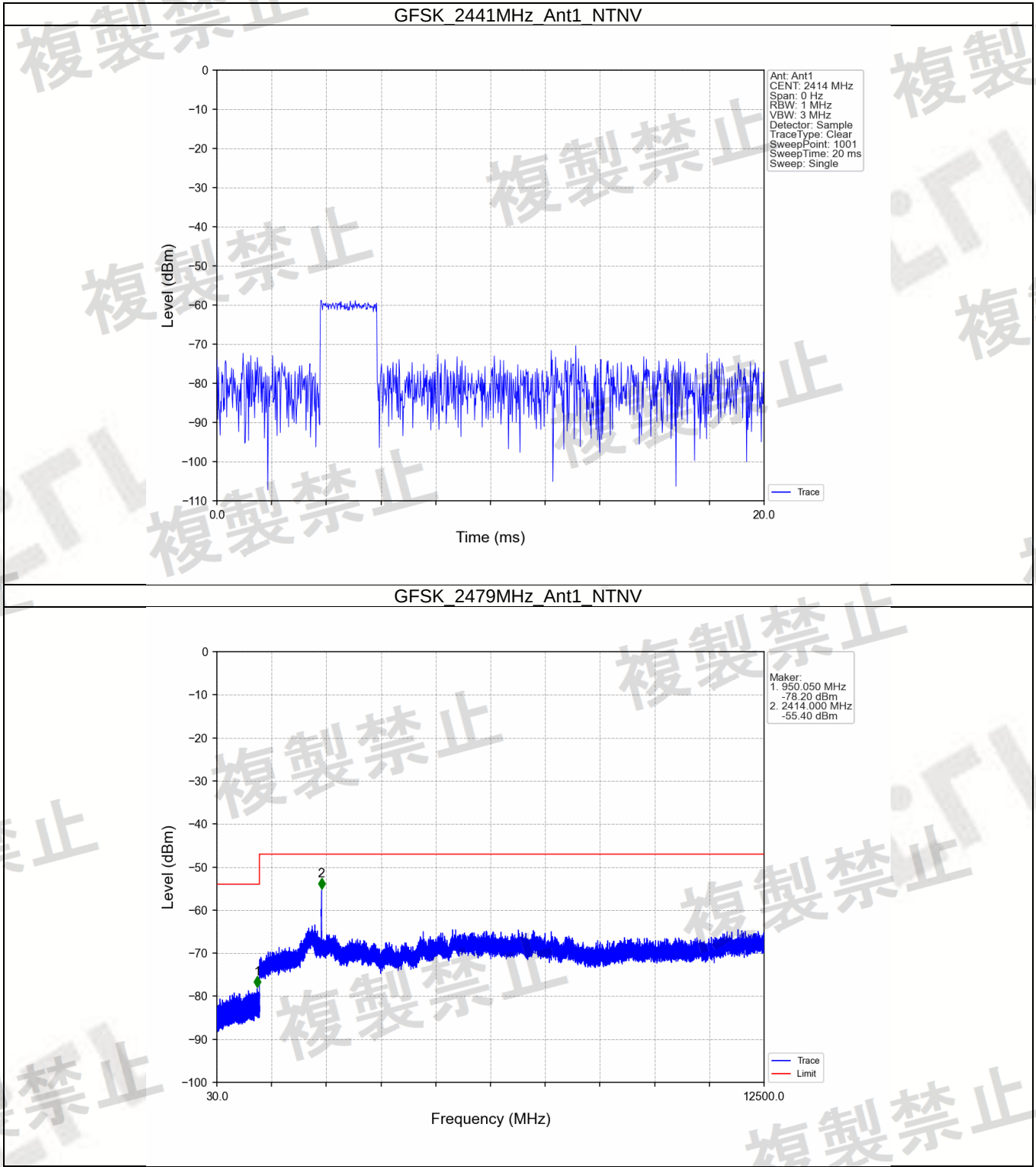
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