

Annex for 2.4G WIFI

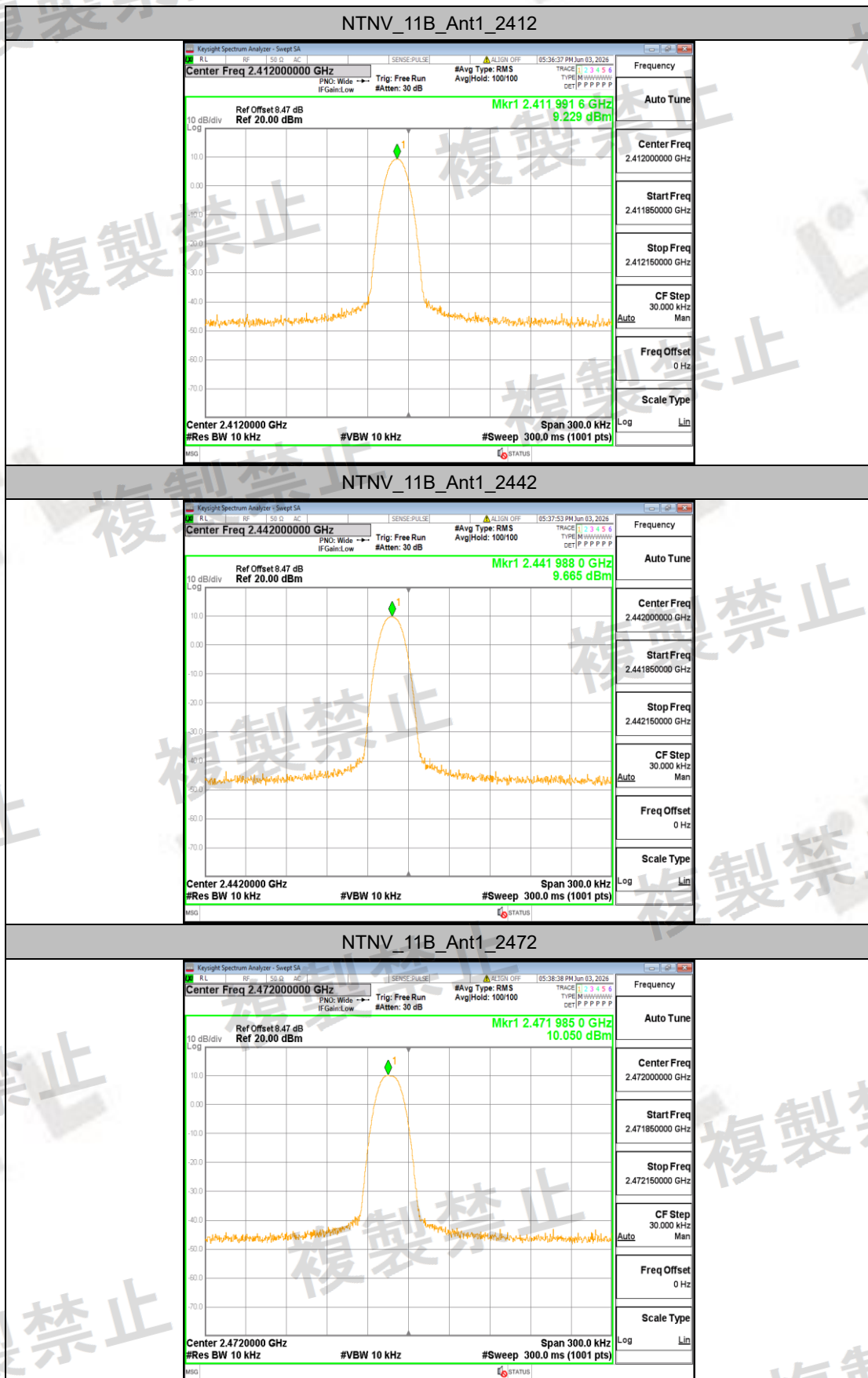
Test Report No. : GML2605188021-MIC

Appendix A: Frequency Error

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Carrier	Ant1	2412	-3.48259	±50	PASS
			2442	-4.91401	±50	PASS
			2472	-6.06796	±50	PASS

Test Graphs



Appendix B: Antenna Power

Test Result

Antenna Power									
Test Condition	Test Mode	Antenna	Frequency [MHz]	Test Data (dBm/MHz)	Duty Cycle Factor (dB)	Result (dBm/MHz)	Result (mw/MHz)	Limit (mw/MHz)	Verdict
NTNV	11B	Ant1	2412	6.21	0.00	6.21	4.1783	≤10	PASS
			2442	5.88	0.00	5.88	3.8726	≤10	PASS
			2472	6.07	0.00	6.07	4.0458	≤10	PASS
	11G	Ant1	2412	1.78	0.06	1.84	1.5276	≤10	PASS
			2442	1.64	0.09	1.73	1.4894	≤10	PASS
			2472	1.48	0.09	1.57	1.4355	≤10	PASS
	11N20SISO	Ant1	2412	1.83	0.10	1.93	1.5596	≤10	PASS
			2442	1.22	0.10	1.32	1.3552	≤10	PASS
			2472	1.78	0.10	1.88	1.5417	≤10	PASS
	11AX20SISO	Ant1	2412	1.35	0.09	1.44	1.3932	≤10	PASS
			2442	1.11	0.09	1.20	1.3183	≤10	PASS
			2472	1.50	0.09	1.59	1.4421	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power (mw/MHz)	Rated Power (mw/MHz)	Result (%)	Limit (%)	Verdict
NTNV	11B	Ant1	2412	4.1783	10	-58.22	-∞ to +20	PASS
			2442	3.8726	10	-61.27	-∞ to +20	PASS
			2472	4.0458	10	-59.54	-∞ to +20	PASS
	11G	Ant1	2412	1.5276	10	-84.72	-∞ to +20	PASS
			2442	1.4894	10	-85.11	-∞ to +20	PASS
			2472	1.4355	10	-85.65	-∞ to +20	PASS
	11N20SISO	Ant1	2412	1.5596	10	-84.40	-∞ to +20	PASS
			2442	1.3552	10	-86.45	-∞ to +20	PASS
			2472	1.5417	10	-84.58	-∞ to +20	PASS
	11AX20SISO	Ant1	2412	1.3932	10	-86.07	-∞ to +20	PASS
			2442	1.3183	10	-86.82	-∞ to +20	PASS
			2472	1.4421	10	-85.58	-∞ to +20	PASS

EIRP								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Result (dBm/MHz)	Antenna gain (dBi)	EIRP (dBm/MHz)	Limit (dBm/MHz)	Verdict
NTNV	11B	Ant1	2412	6.21	1.2	7.41	≤12.14	PASS

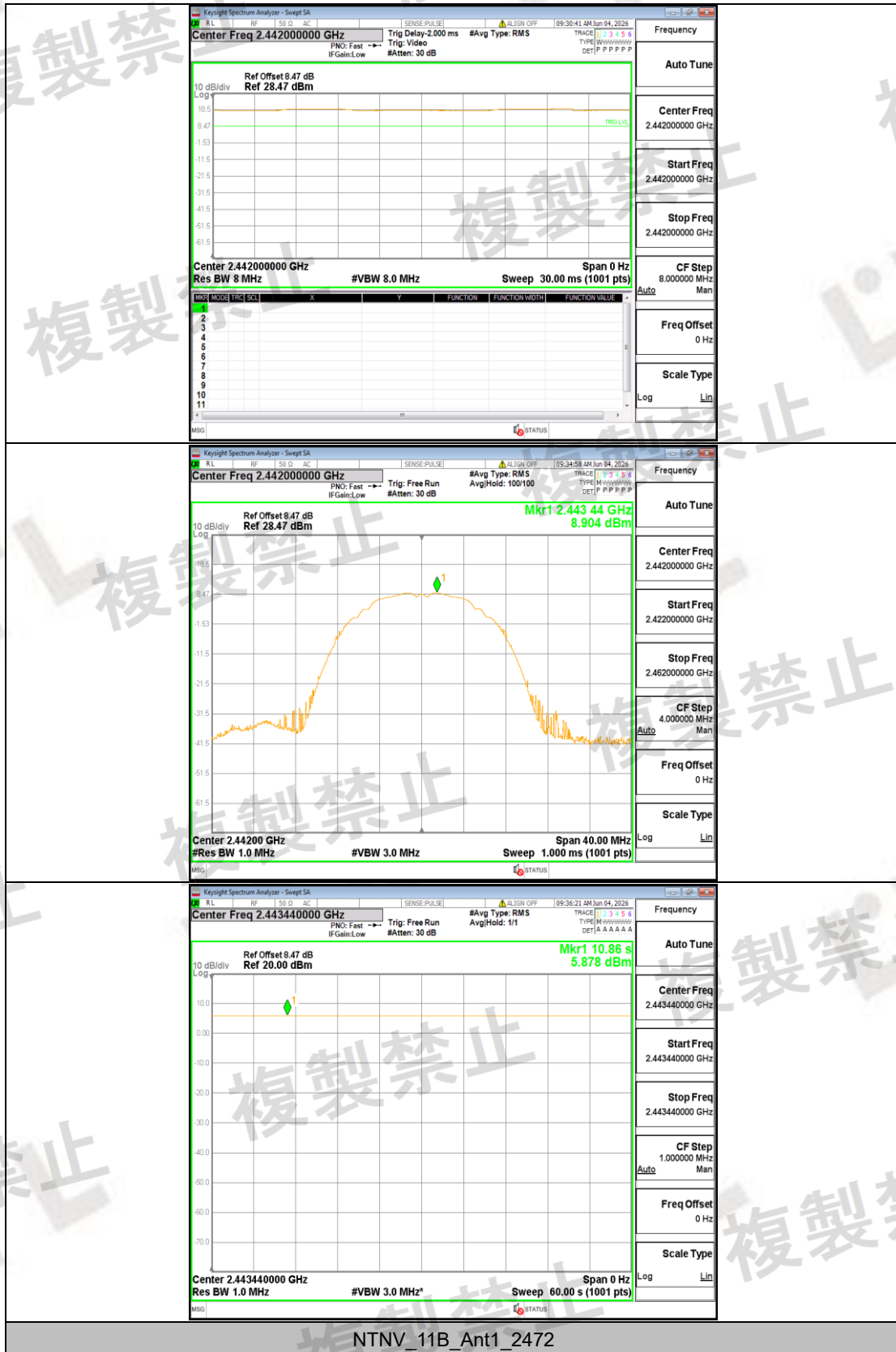
	11G	Ant1	2442	5.88	1.2	7.08	≤12.14	PASS
			2472	6.07	1.2	7.27	≤12.14	PASS
			2412	1.84	1.2	3.04	≤12.14	PASS
			2442	1.73	1.2	2.93	≤12.14	PASS
			2472	1.57	1.2	2.77	≤12.14	PASS
	11N20SISO	Ant1	2412	1.93	1.2	3.13	≤12.14	PASS
			2442	1.32	1.2	2.52	≤12.14	PASS
			2472	1.88	1.2	3.08	≤12.14	PASS
	11AX20SISO	Ant1	2412	1.44	1.2	2.64	≤12.14	PASS
			2442	1.20	1.2	2.40	≤12.14	PASS
			2472	1.59	1.2	2.79	≤12.14	PASS

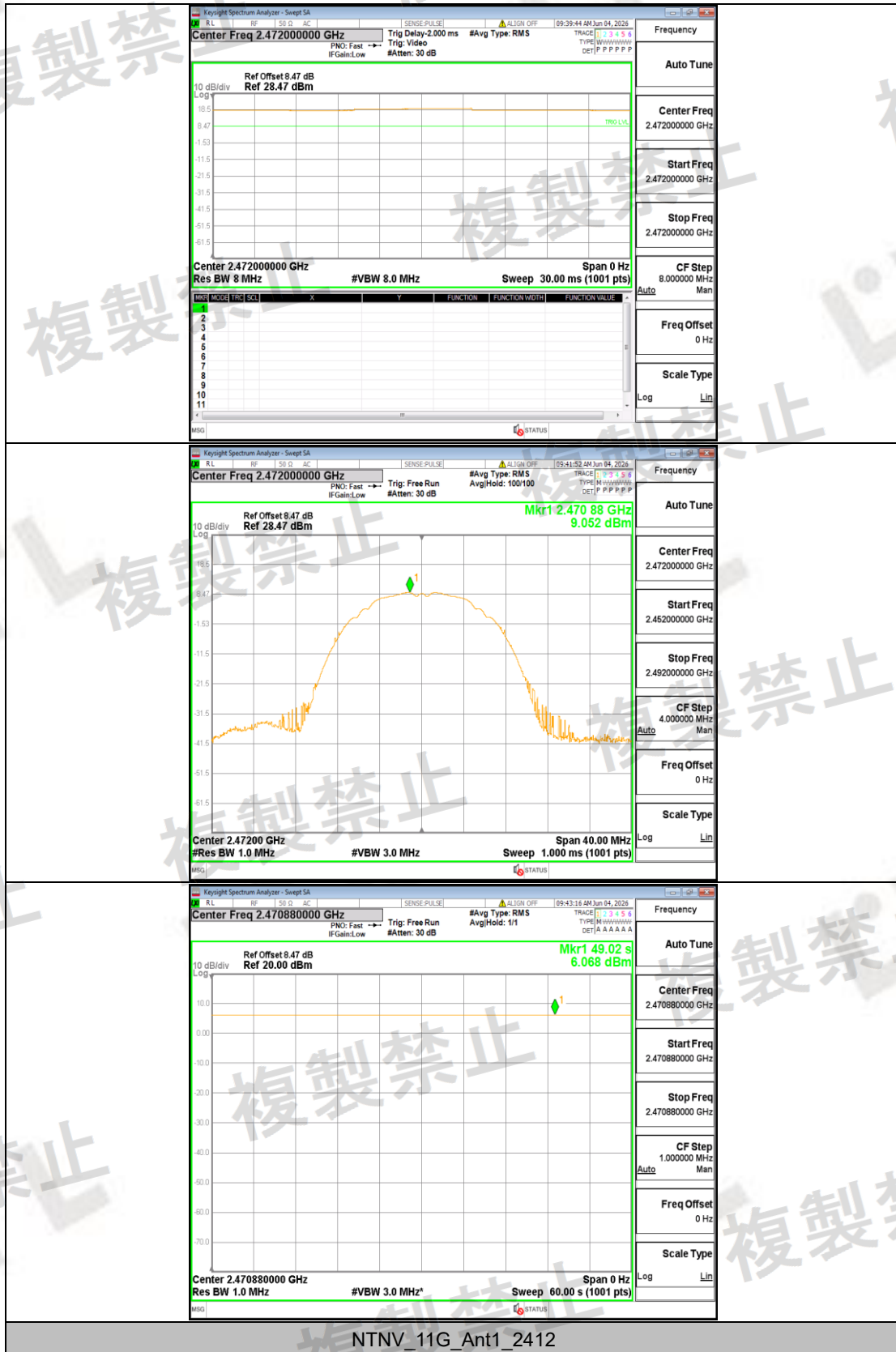
For SISO: EIRP = Antenna Power + Antenna gain

Test Graphs

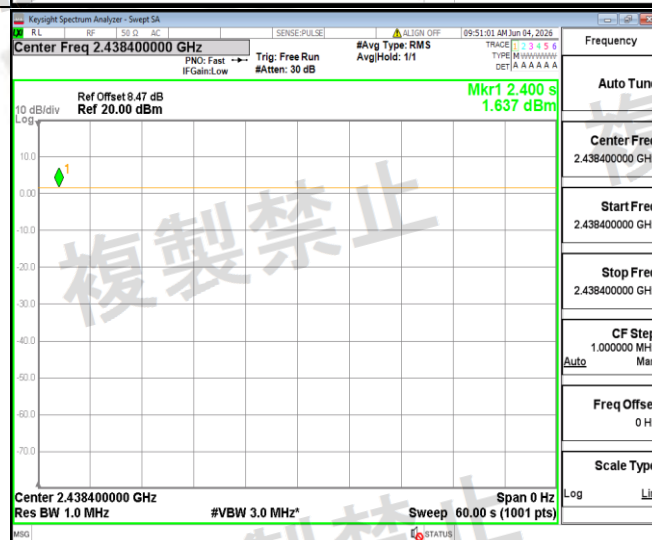


NTNV_11B_Ant1_2442

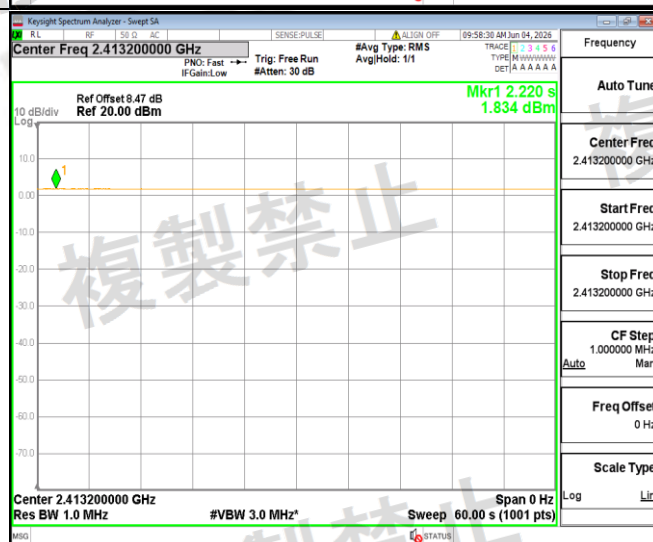
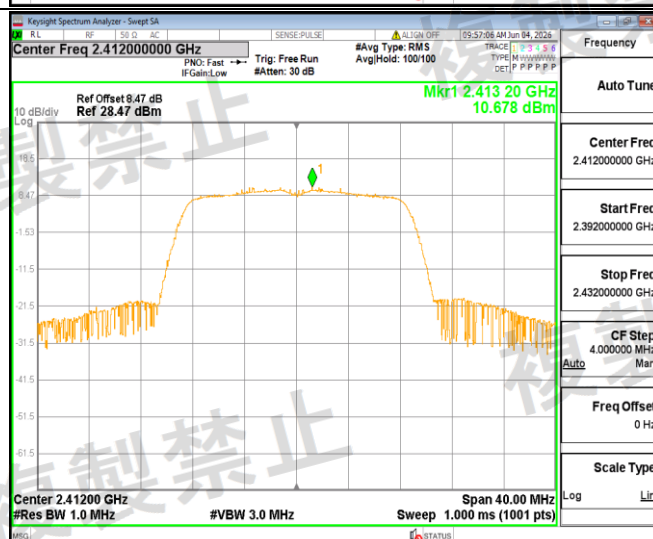




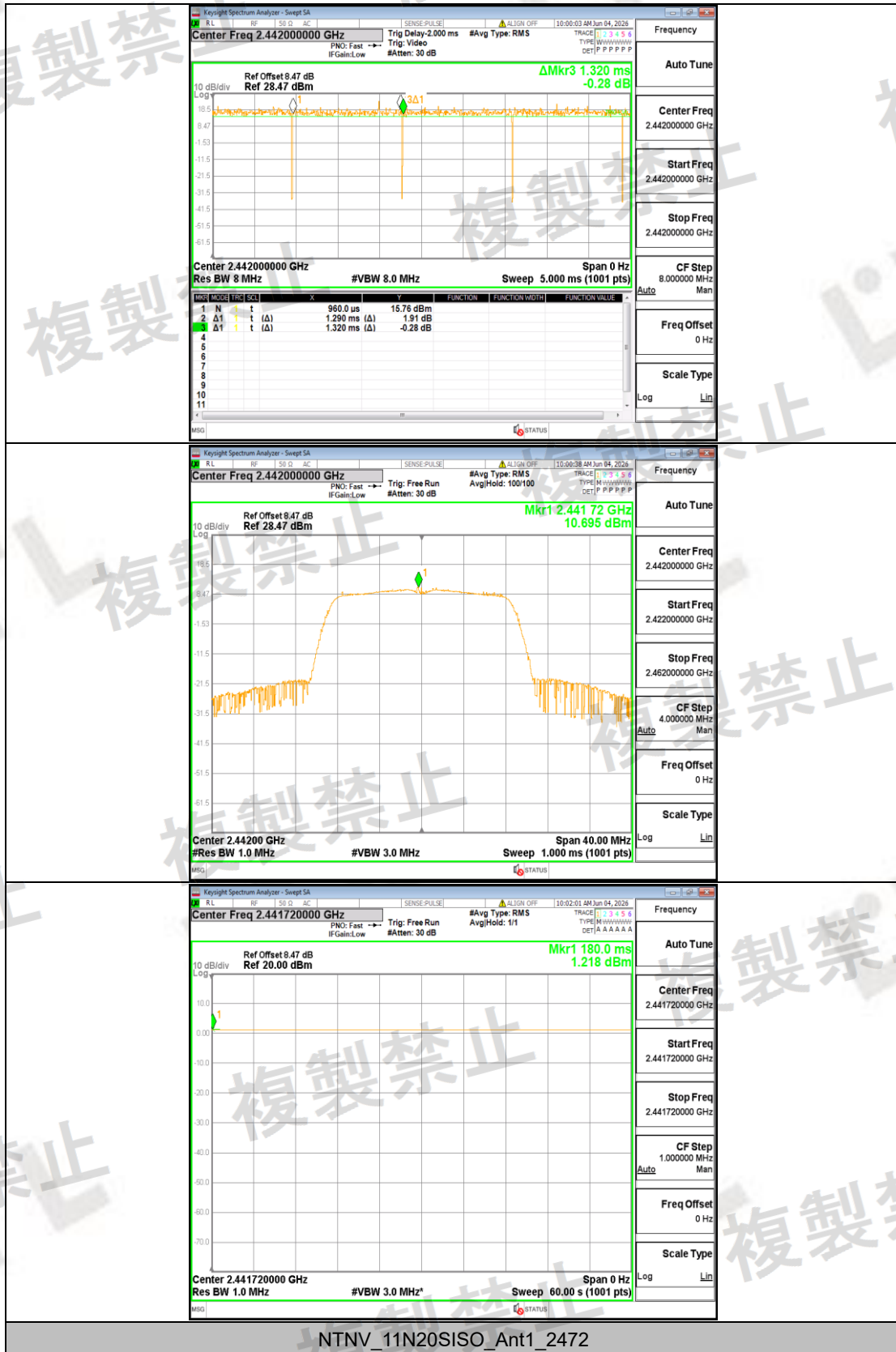


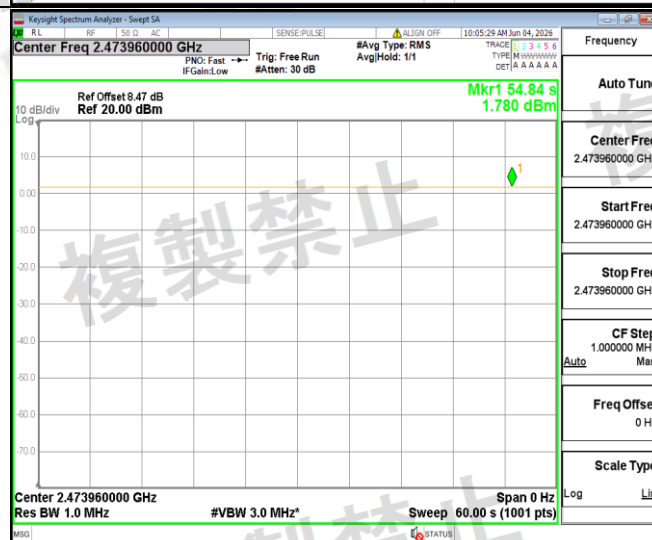


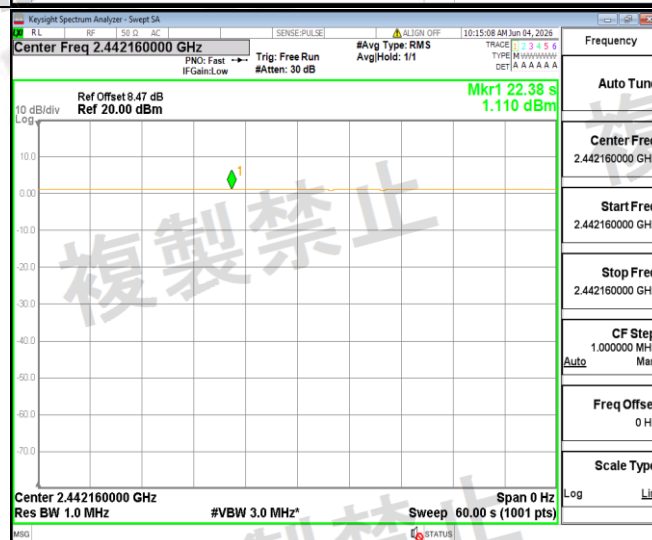


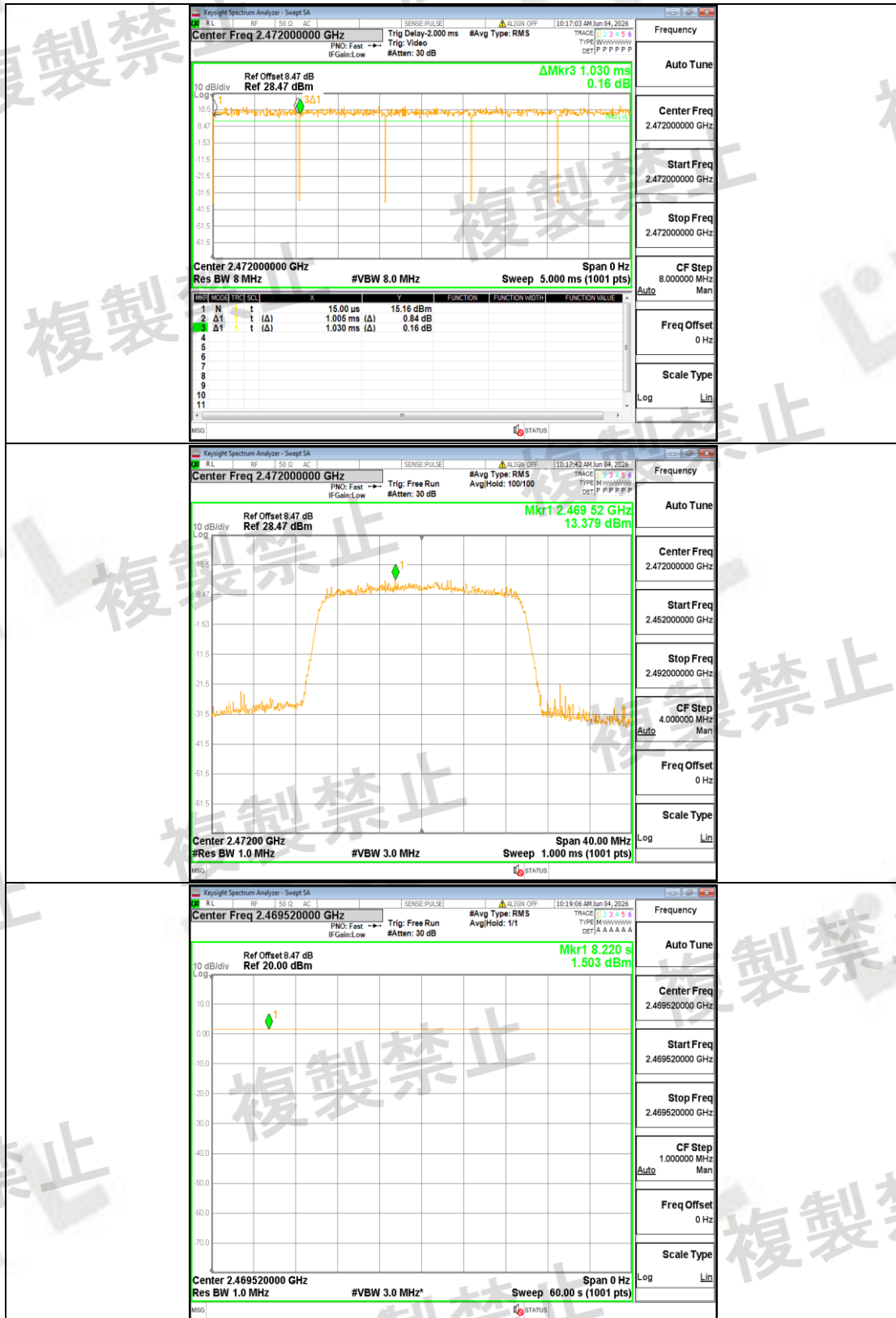


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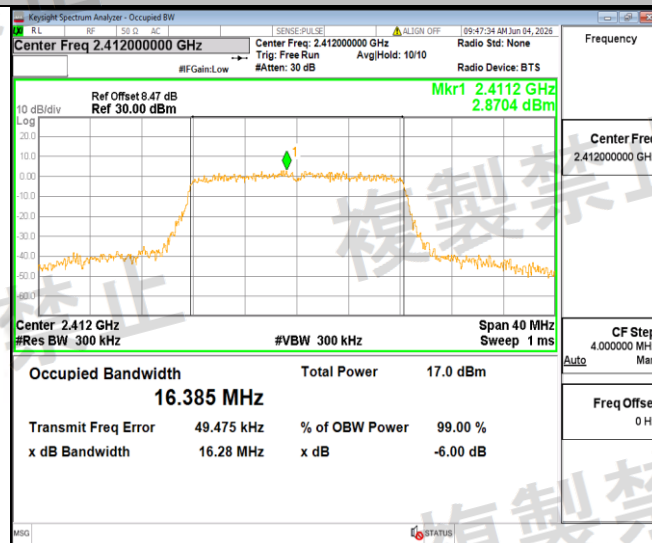


Appendix C: Occupied Bandwidth

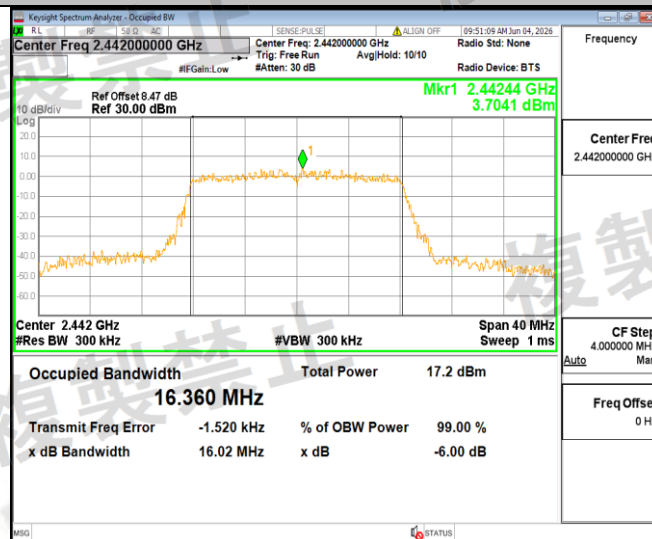
Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	11B	Ant1	2412	14.831	≤26	PASS
			2442	14.851	≤26	PASS
			2472	14.775	≤26	PASS
	11G	Ant1	2412	16.385	≤26	PASS
			2442	16.360	≤26	PASS
			2472	16.396	≤26	PASS
	11N20SI SO	Ant1	2412	17.562	≤26	PASS
			2442	17.526	≤26	PASS
			2472	17.498	≤26	PASS
	11AX20S ISO	Ant1	2412	18.865	≤26	PASS
			2442	18.810	≤26	PASS
			2472	18.904	≤26	PASS

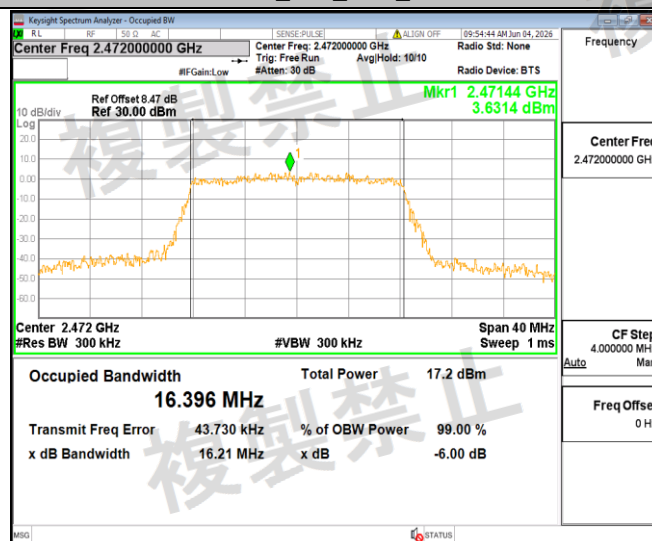
NTNV_11G_Ant1_2412



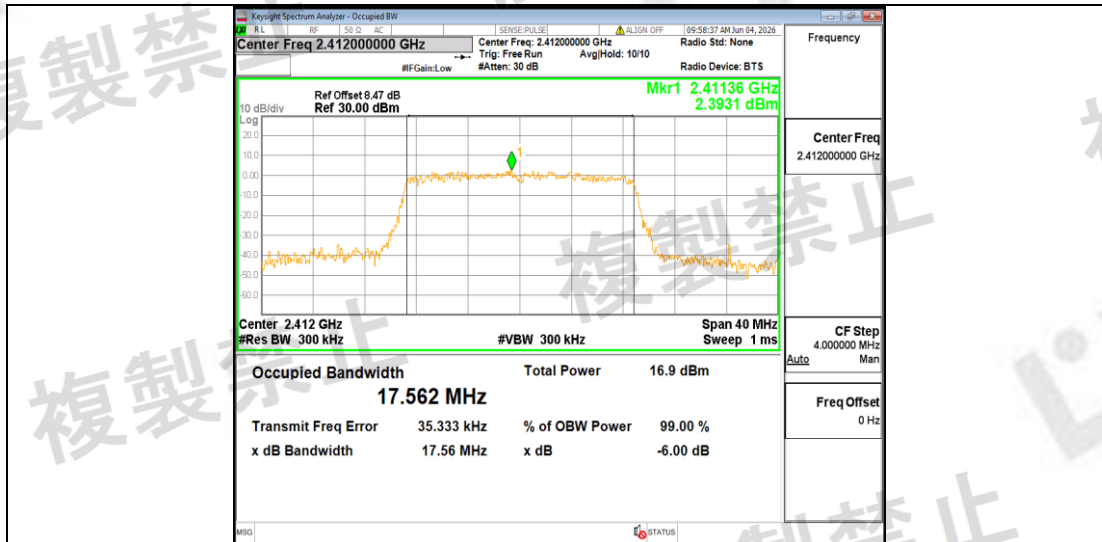
NTNV_11G_Ant1_2442



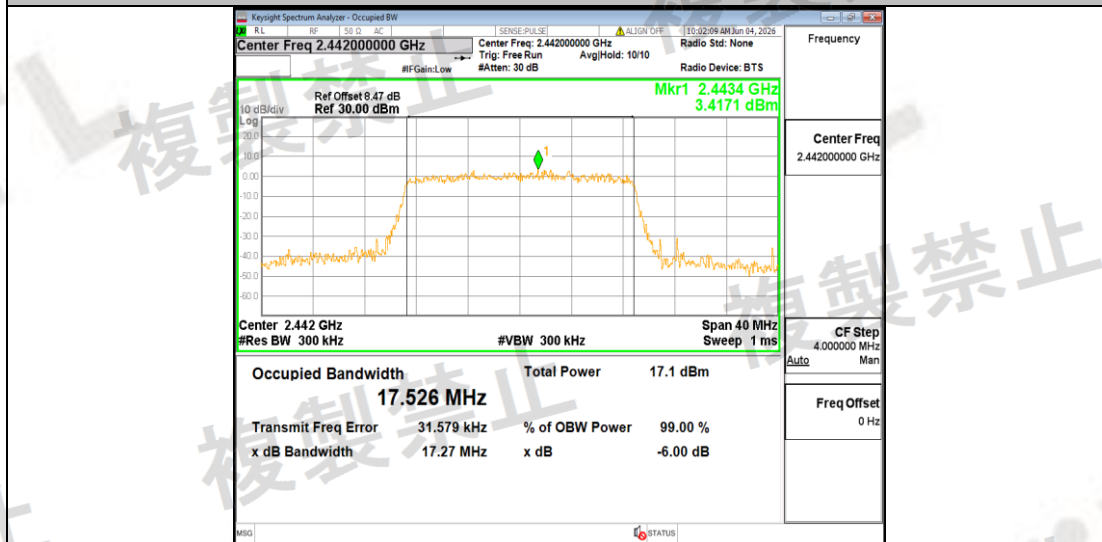
NTNV_11G_Ant1_2472



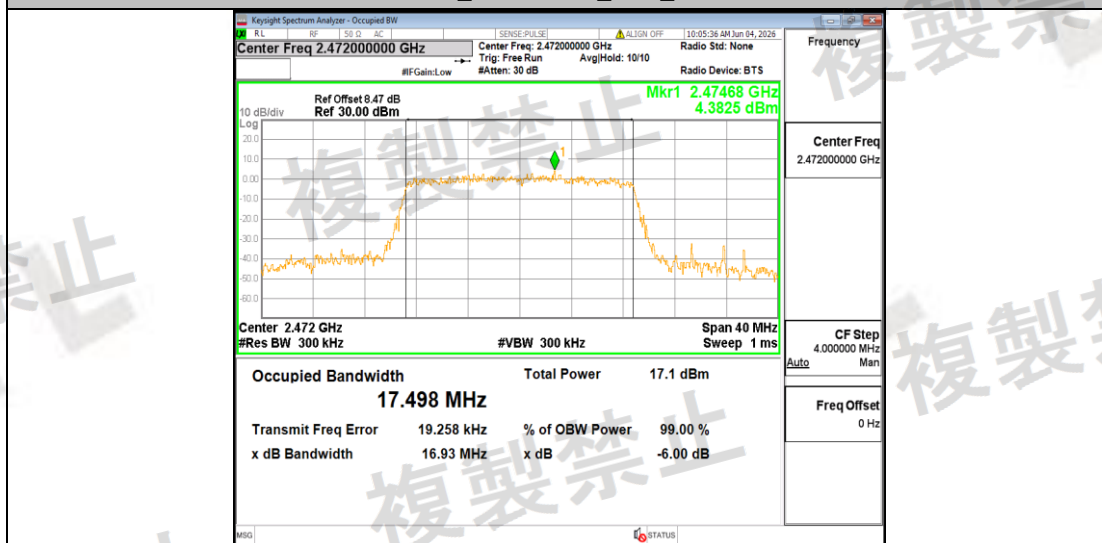
NTNV_11N20SISO_Ant1_2412



NTNV_11N20SISO_Ant1_2442



NTNV_11N20SISO_Ant1_2472



NTNV_11AX20SISO_Ant1_2412



Appendix D: Spread Bandwidth

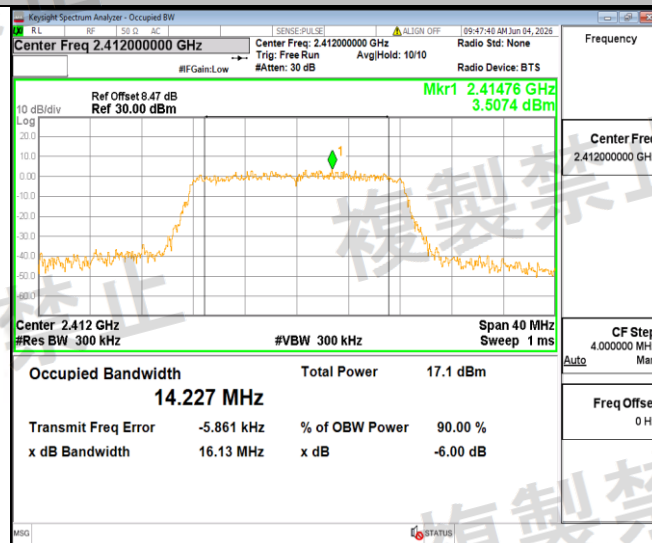
Test Result

TestCondition	TestMode	Antenna	Frequenc y[MHz]	Result [MHz]	Limit [MHz]	Spread Factor	Limit	Verdict
NTNV	11B	Ant1	2412	9.934	≥ 0.5	7.225	>5	PASS
			2442	9.971	≥ 0.5	7.252	>5	PASS
			2472	9.977	≥ 0.5	7.256	>5	PASS
	11G	Ant1	2412	14.227	≥ 0.5	---	---	PASS
			2442	14.153	≥ 0.5	---	---	PASS
			2472	14.286	≥ 0.5	---	---	PASS
	11N20SI SO	Ant1	2412	15.179	≥ 0.5	---	---	PASS
			2442	15.102	≥ 0.5	---	---	PASS
			2472	15.306	≥ 0.5	---	---	PASS
	11AX20S ISO	Ant1	2412	16.203	≥ 0.5	---	---	PASS
			2442	16.190	≥ 0.5	---	---	PASS
			2472	16.503	≥ 0.5	---	---	PASS

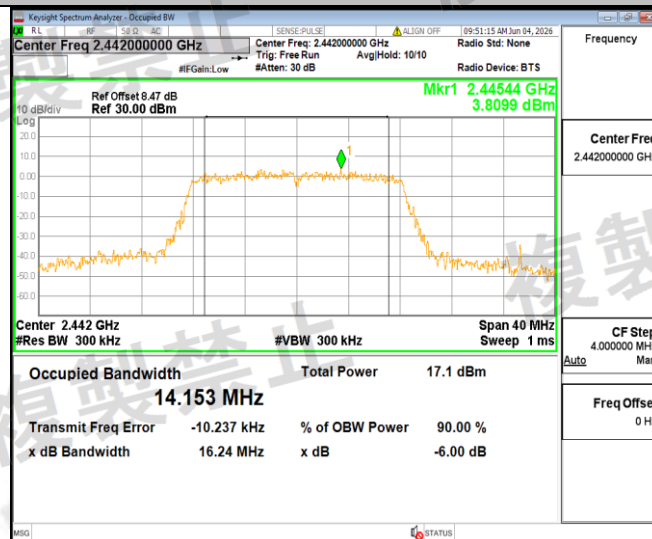
Test Graphs



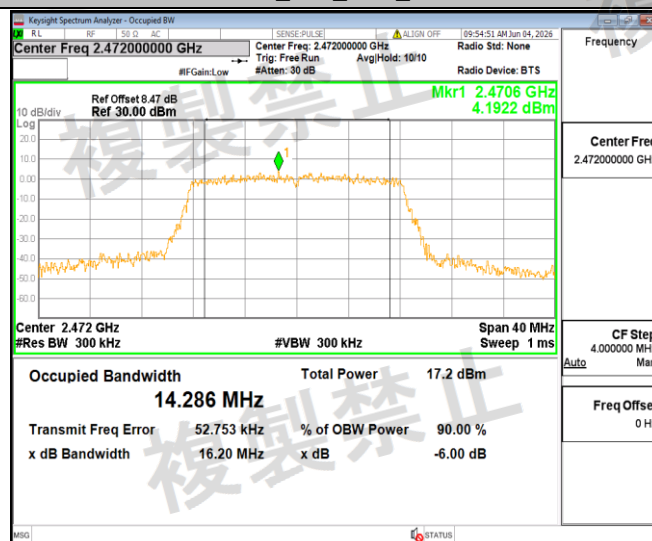
NTNV_11G_Ant1_2412



NTNV_11G_Ant1_2442



NTNV_11G_Ant1_2472



NTNV_11N20SISO_Ant1_2412





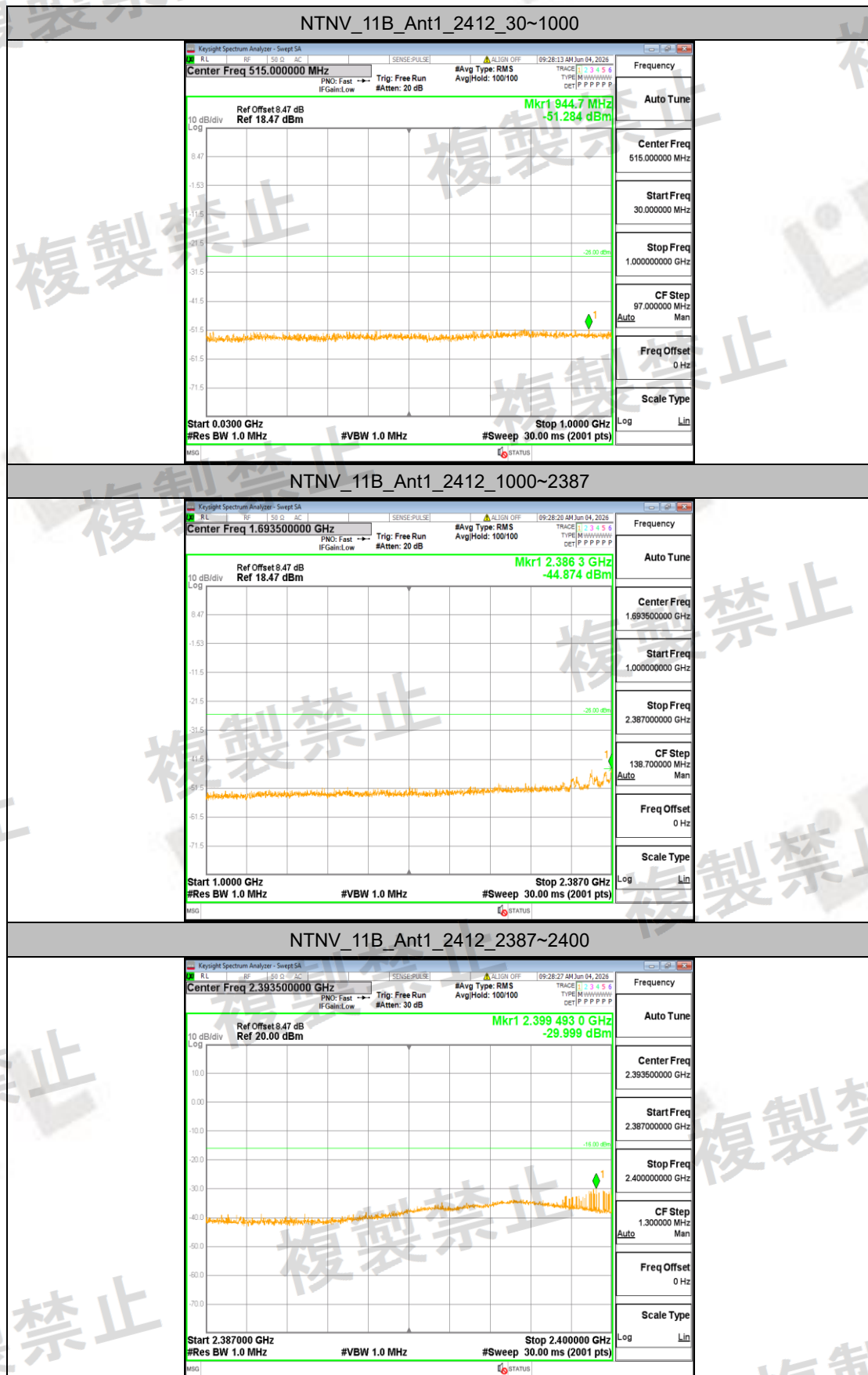
Appendix E: Spurious Emission of TX

Test Result

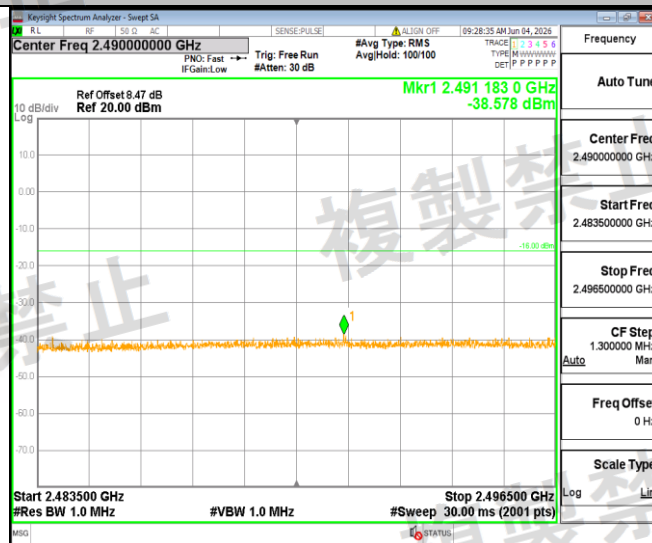
TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	11B	Ant1	2412	30~1000	-51.28	≤-26	0.00745	≤2.5	PASS
				1000~2387	-44.87	≤-26	0.03258	≤2.5	PASS
				2387~2400	-30.00	≤-16	1.00000	≤25	PASS
				2483.5~2496.5	-38.58	≤-16	0.13868	≤25	PASS
				2496.5~12750	-31.45	≤-26	0.71614	≤2.5	PASS
			2442	30~1000	-50.24	≤-26	0.00946	≤2.5	PASS
				1000~2387	-46.02	≤-26	0.02500	≤2.5	PASS
				2387~2400	-39.13	≤-16	0.12218	≤25	PASS
				2483.5~2496.5	-38.69	≤-16	0.13521	≤25	PASS
				2496.5~12750	-32.06	≤-26	0.62230	≤2.5	PASS
			2472	30~1000	-51.03	≤-26	0.00789	≤2.5	PASS
				1000~2387	-45.67	≤-26	0.02710	≤2.5	PASS
				2387~2400	-39.83	≤-16	0.10399	≤25	PASS
				2483.5~2496.5	-29.69	≤-16	1.07399	≤25	PASS
				2496.5~12750	-33.27	≤-26	0.47098	≤2.5	PASS
	11G	Ant1	2412	30~1000	-51.19	≤-26	0.00760	≤2.5	PASS
				1000~2387	-36.56	≤-26	0.22080	≤2.5	PASS
				2387~2400	-21.91	≤-16	6.44169	≤25	PASS
				2483.5~2496.5	-38.84	≤-16	0.13062	≤25	PASS
				2496.5~12750	-34.99	≤-26	0.31696	≤2.5	PASS
			2442	30~1000	-50.36	≤-26	0.00920	≤2.5	PASS
				1000~2387	-45.15	≤-26	0.03055	≤2.5	PASS
				2387~2400	-39.22	≤-16	0.11967	≤25	PASS
				2483.5~2496.5	-39.17	≤-16	0.12106	≤25	PASS
				2496.5~12750	-35.84	≤-26	0.26062	≤2.5	PASS
			2472	30~1000	-50.96	≤-26	0.00802	≤2.5	PASS
				1000~2387	-45.96	≤-26	0.02535	≤2.5	PASS
				2387~2400	-39.77	≤-16	0.10544	≤25	PASS
				2483.5~2496.5	-23.05	≤-16	4.95450	≤25	PASS
				2496.5~12750	-36.94	≤-26	0.20230	≤2.5	PASS
	11N20SI SO	Ant1	2412	30~1000	-50.49	≤-26	0.00893	≤2.5	PASS
				1000~2387	-31.33	≤-26	0.73621	≤2.5	PASS
				2387~2400	-20.62	≤-16	8.66962	≤25	PASS
				2483.5~2496.5	-39.59	≤-16	0.10990	≤25	PASS
				2496.5~12750	-34.67	≤-26	0.34119	≤2.5	PASS
			2442	30~1000	-50.71	≤-26	0.00849	≤2.5	PASS
				1000~2387	-46.82	≤-26	0.02080	≤2.5	PASS

複製禁止	11AX20S ISO	Ant1		2387~2400	-39.50	≤-16	0.11220	≤25	PASS
				2483.5~2496.5	-39.08	≤-16	0.12359	≤25	PASS
				2496.5~12750	-35.64	≤-26	0.27290	≤2.5	PASS
			2472	30~1000	-50.88	≤-26	0.00817	≤2.5	PASS
				1000~2387	-45.72	≤-26	0.02679	≤2.5	PASS
				2387~2400	-39.99	≤-16	0.10023	≤25	PASS
				2483.5~2496.5	-20.70	≤-16	8.51138	≤25	PASS
				2496.5~12750	-35.75	≤-26	0.26607	≤2.5	PASS
			2412	30~1000	-50.08	≤-26	0.00982	≤2.5	PASS
				1000~2387	-34.60	≤-26	0.34674	≤2.5	PASS
				2387~2400	-24.60	≤-16	3.46737	≤25	PASS
	2483.5~2496.5	-39.29		≤-16	0.11776	≤25	PASS		
	2496.5~12750	-37.09		≤-26	0.19543	≤2.5	PASS		
	2442	30~1000	-50.94	≤-26	0.00805	≤2.5	PASS		
		1000~2387	-46.09	≤-26	0.02460	≤2.5	PASS		
		2387~2400	-39.52	≤-16	0.11169	≤25	PASS		
		2483.5~2496.5	-38.82	≤-16	0.13122	≤25	PASS		
		2496.5~12750	-37.27	≤-26	0.18750	≤2.5	PASS		
	2472	30~1000	-50.77	≤-26	0.00838	≤2.5	PASS		
		1000~2387	-45.37	≤-26	0.02904	≤2.5	PASS		
		2387~2400	-39.98	≤-16	0.10046	≤25	PASS		
		2483.5~2496.5	-23.78	≤-16	4.18794	≤25	PASS		
		2496.5~12750	-37.20	≤-26	0.19055	≤2.5	PASS		

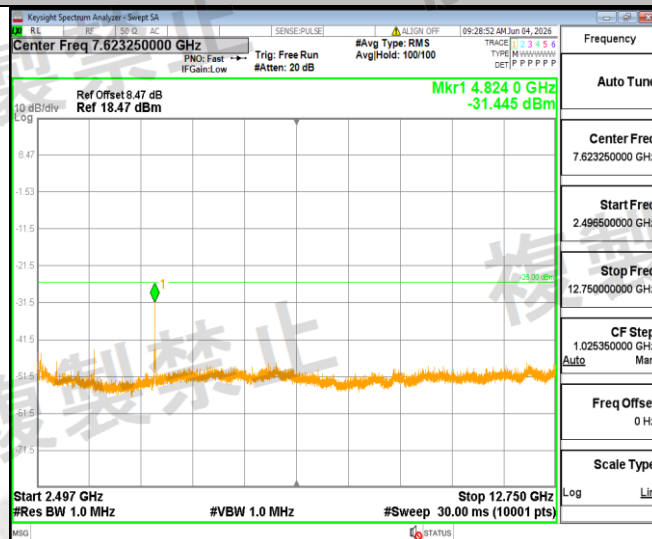
Test Graphs



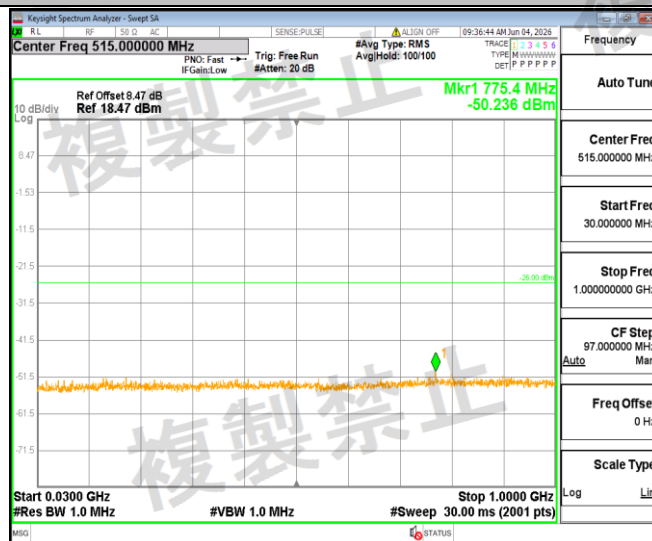
NTNV_11B_Ant1_2412_2483.5~2496.5



NTNV_11B_Ant1_2412_2496.5~12750

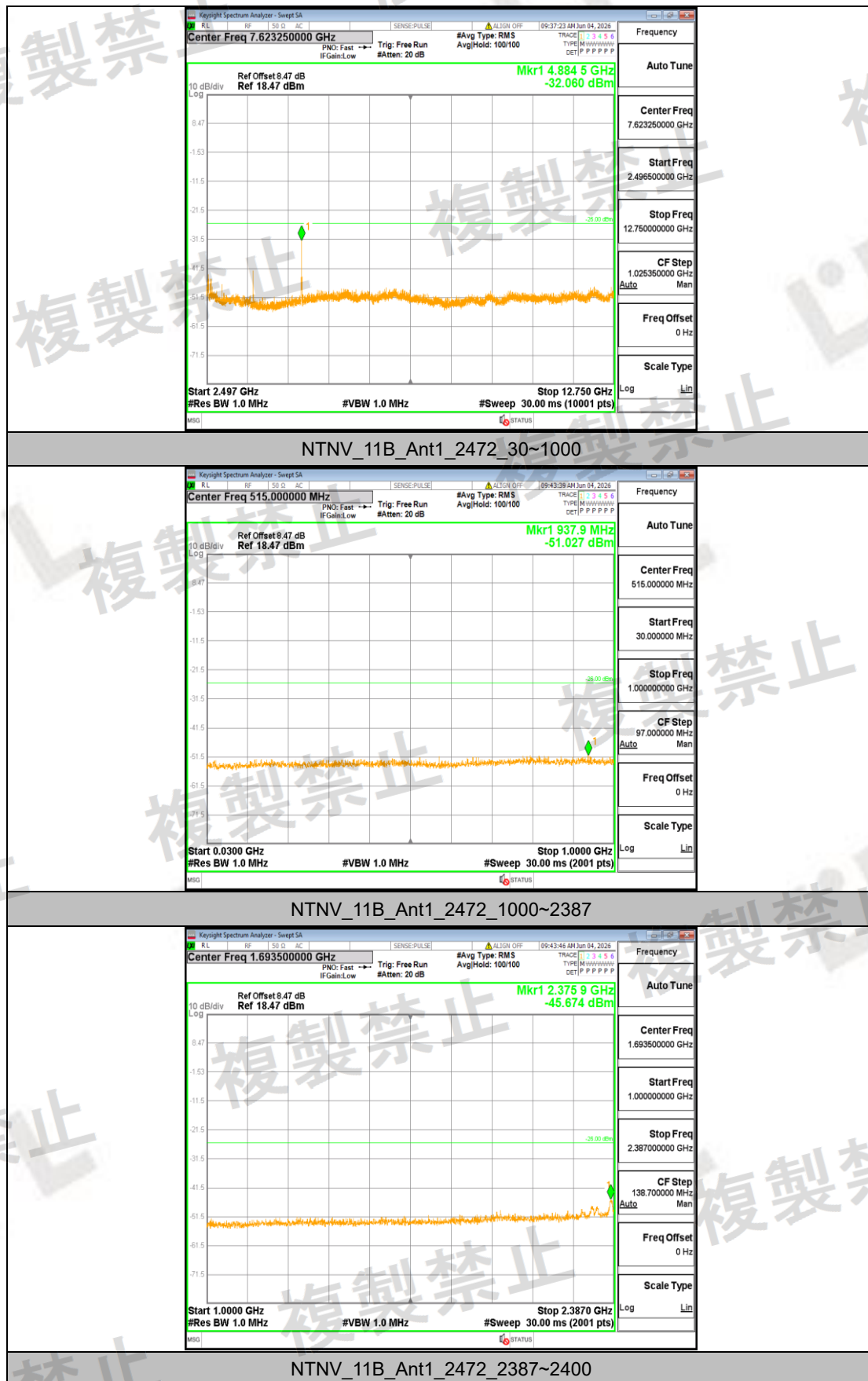


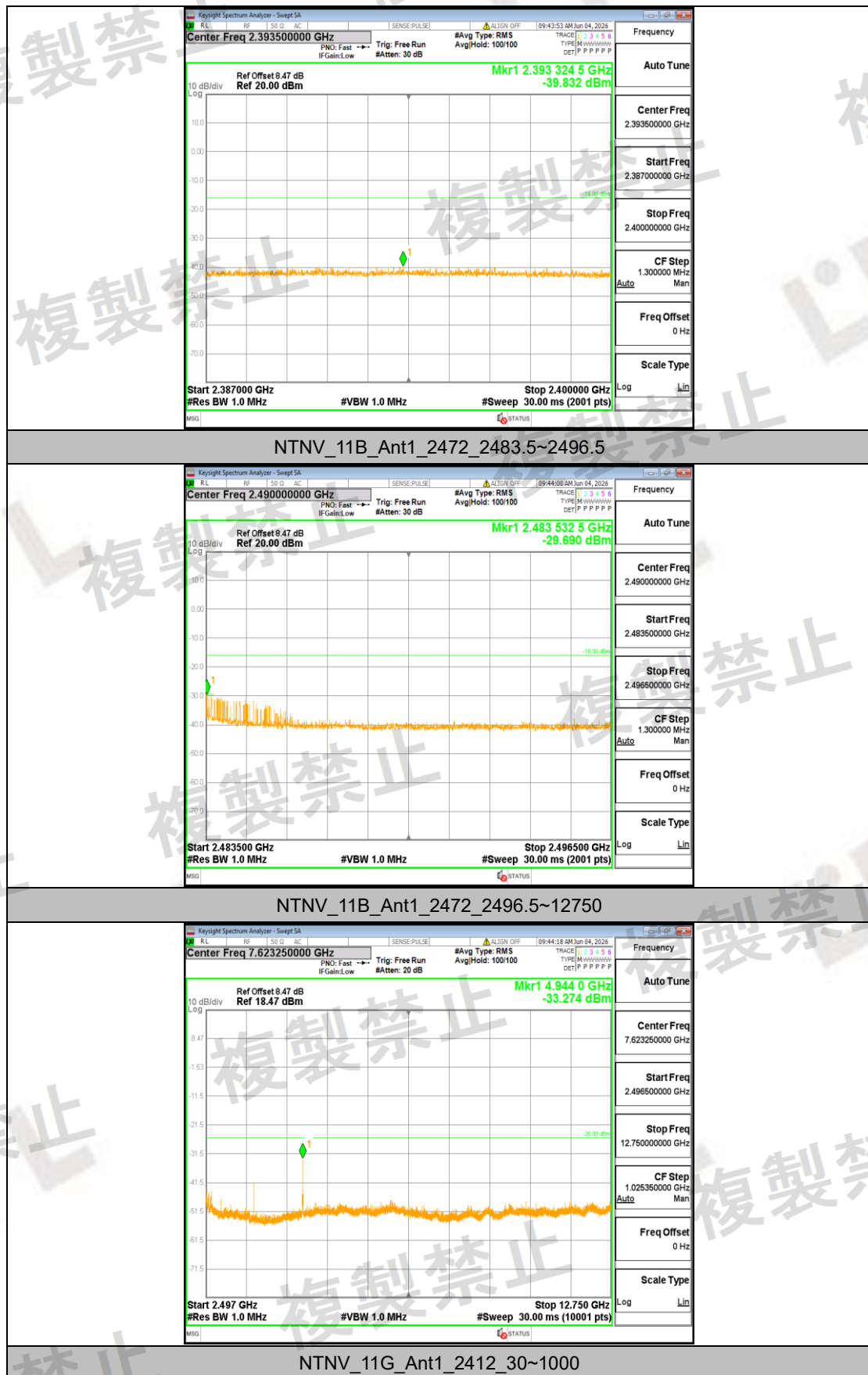
NTNV_11B_Ant1_2442_30~1000

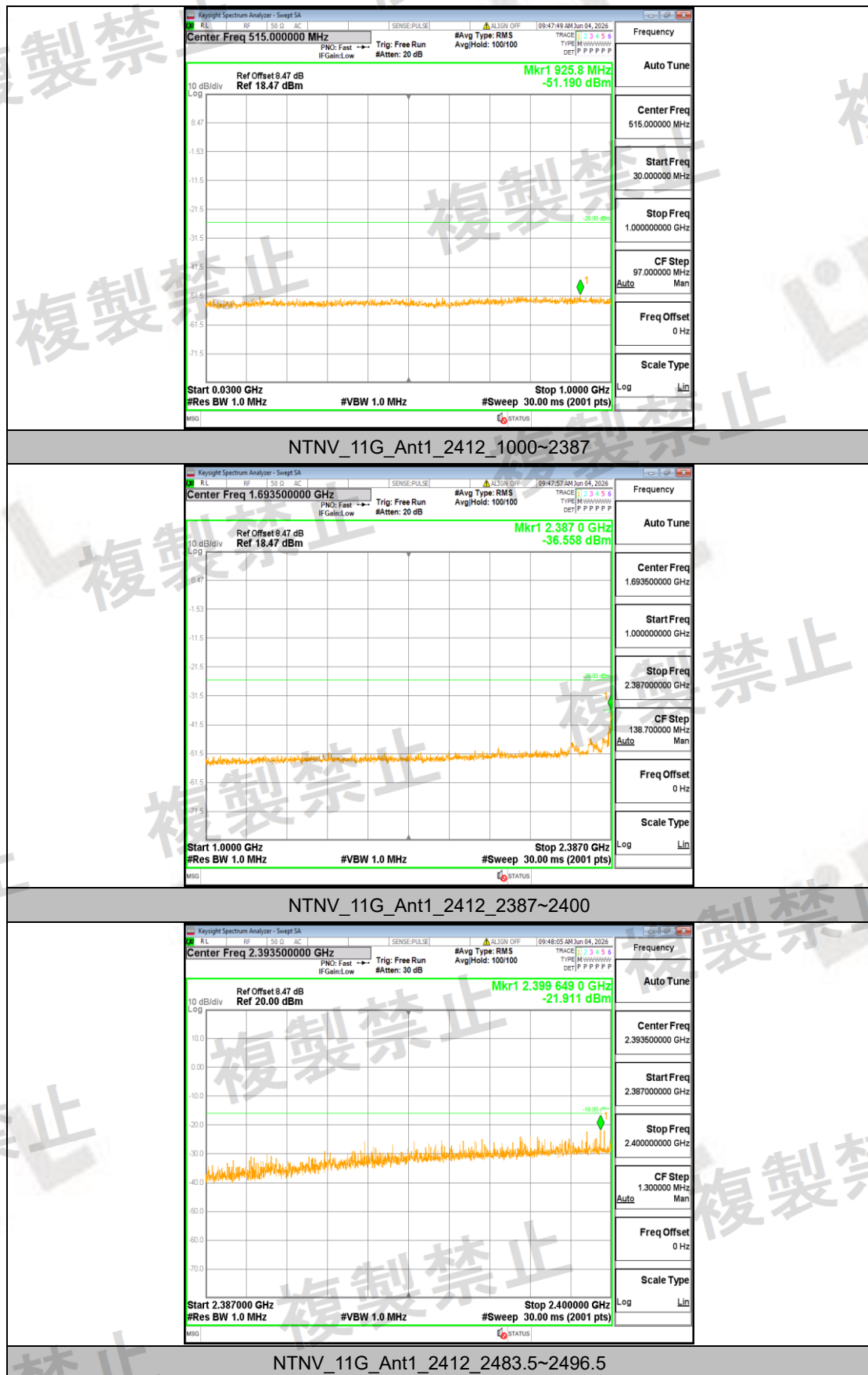


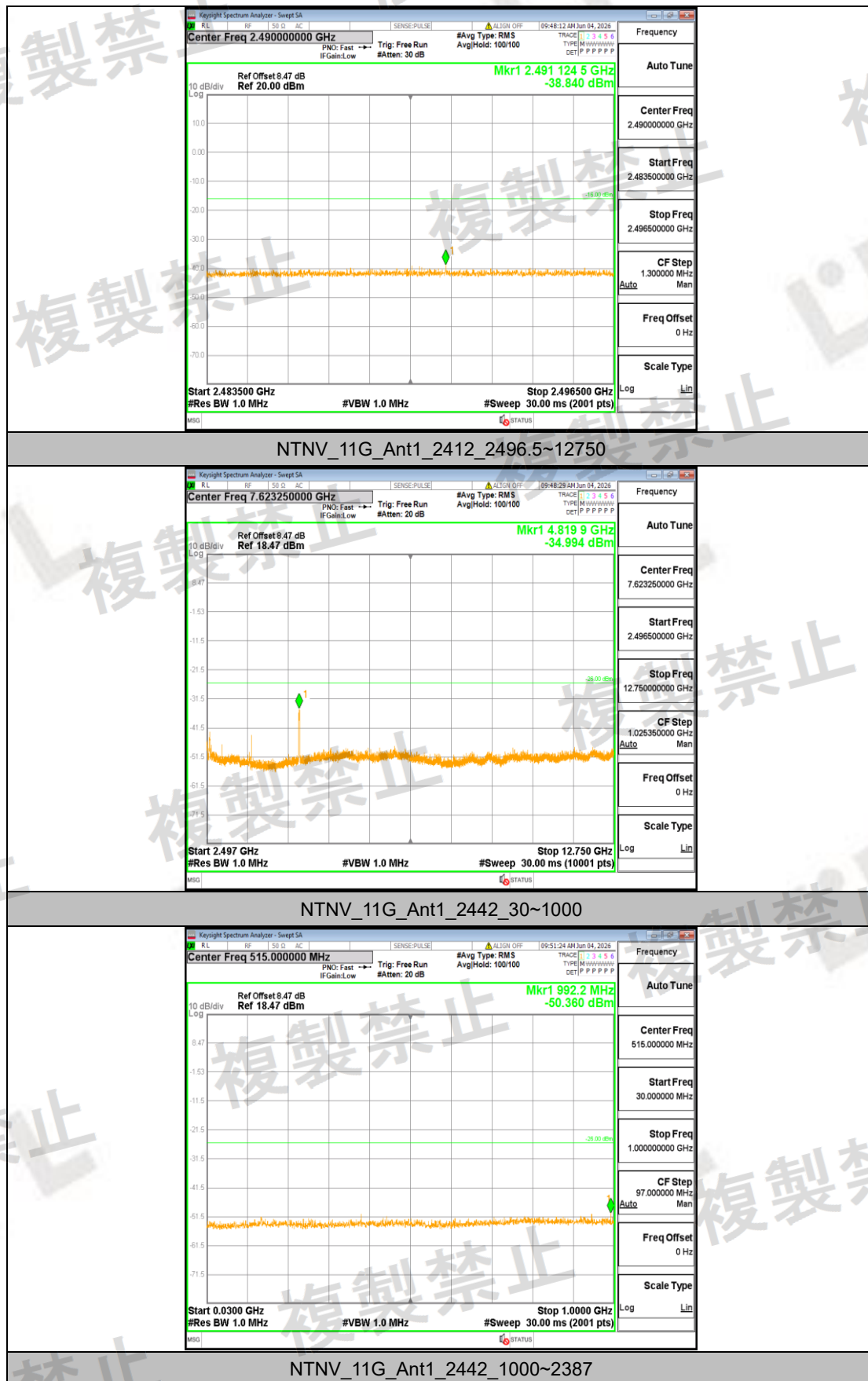
NTNV_11B_Ant1_2442_1000~2387



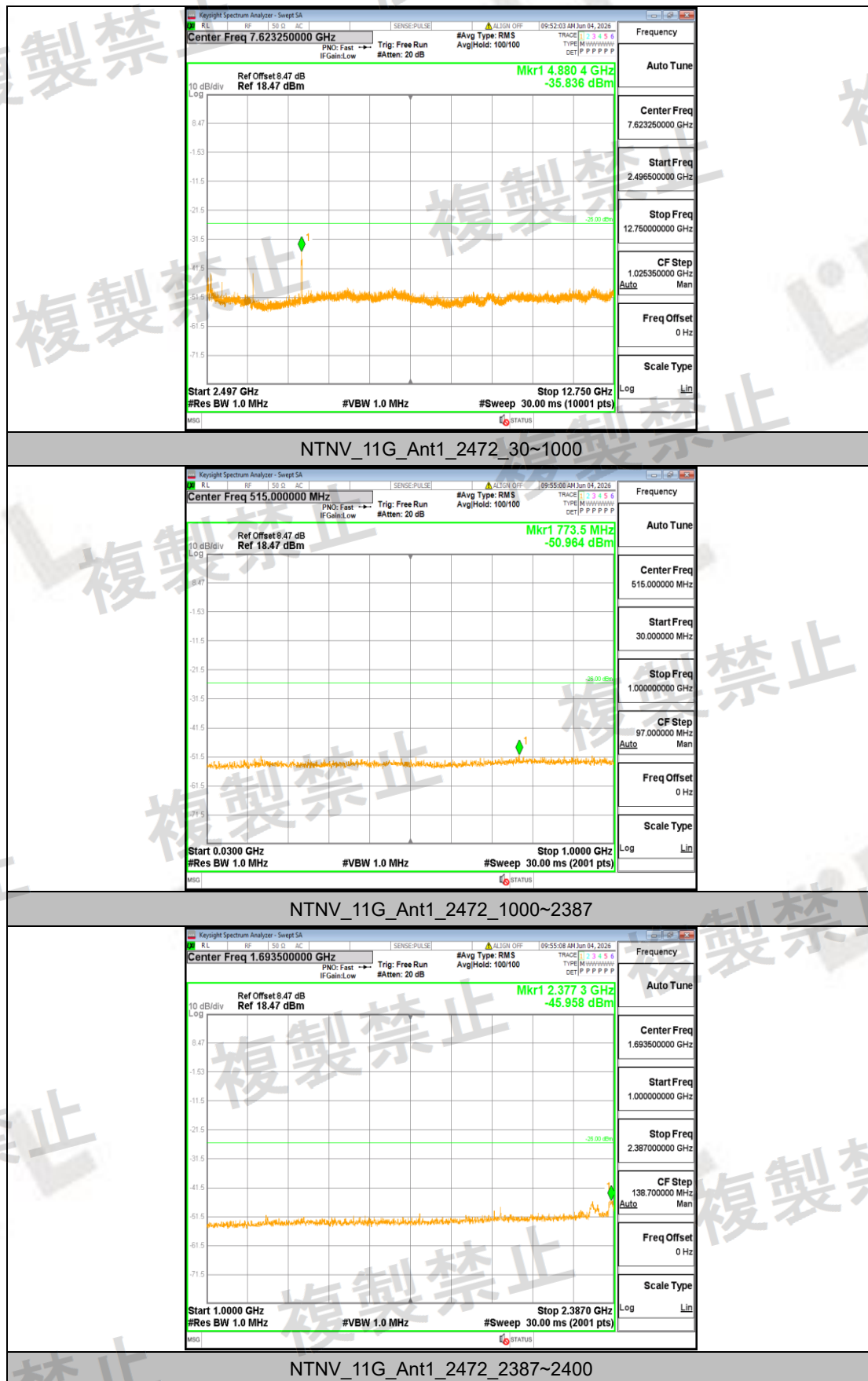


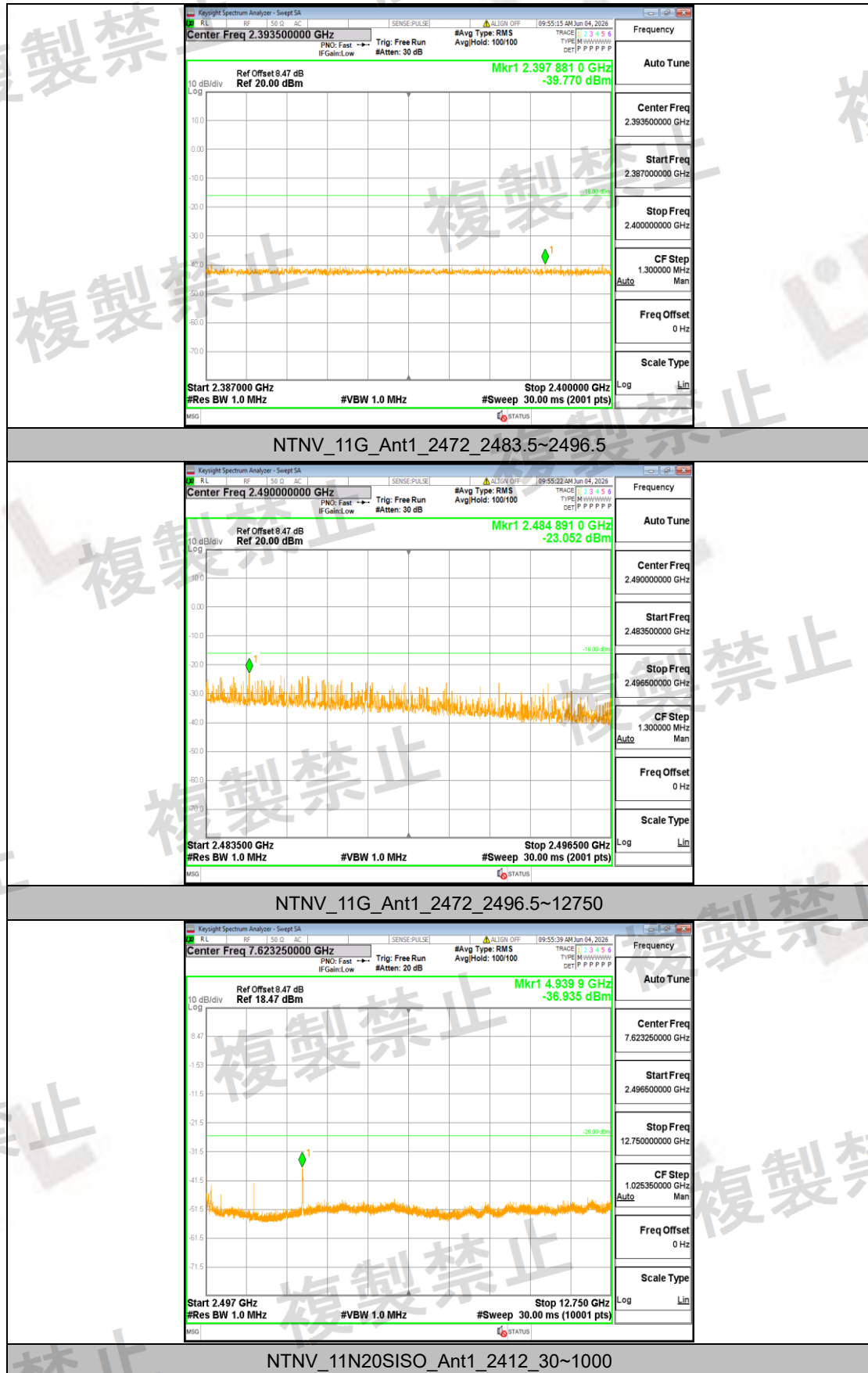


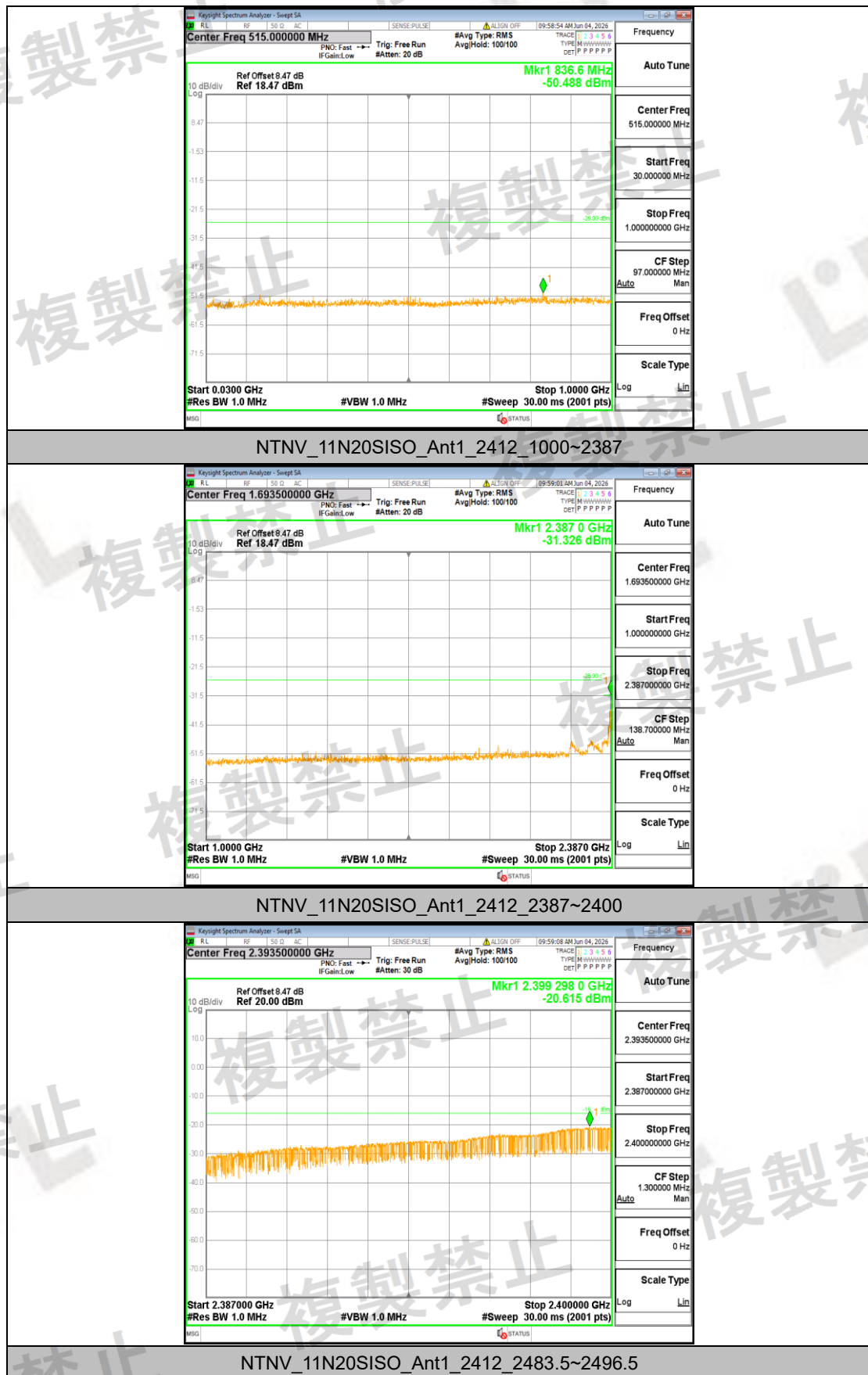


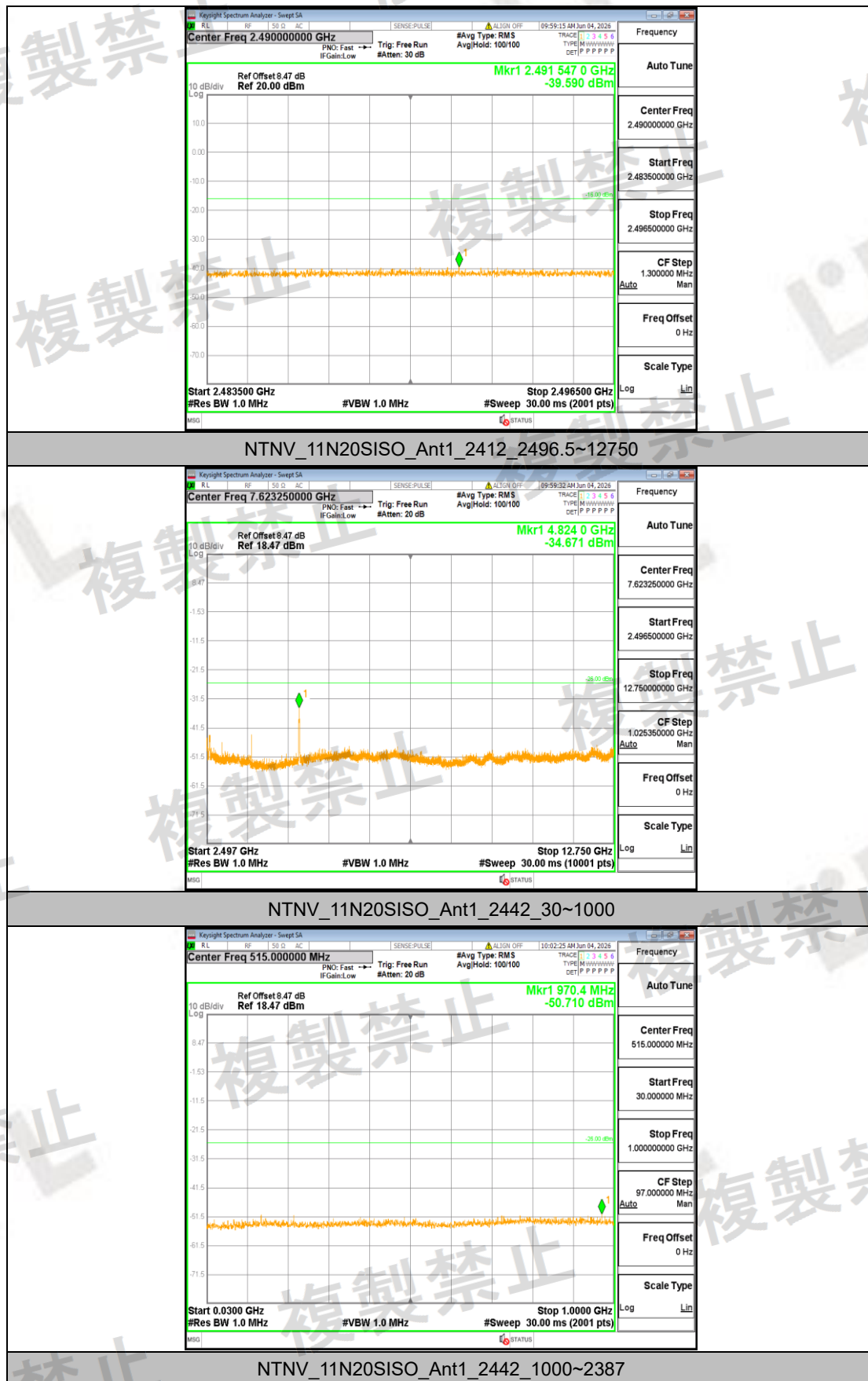


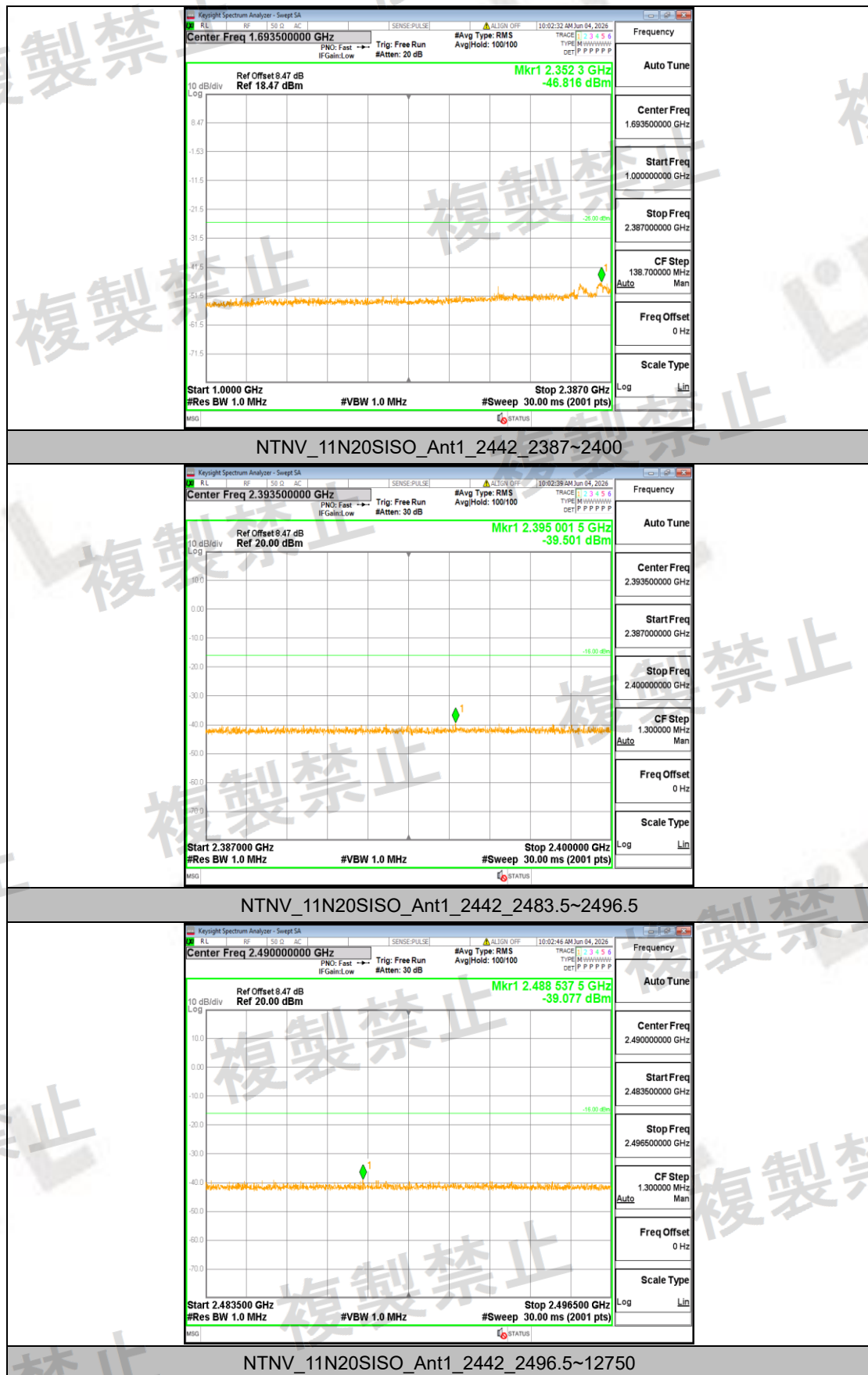


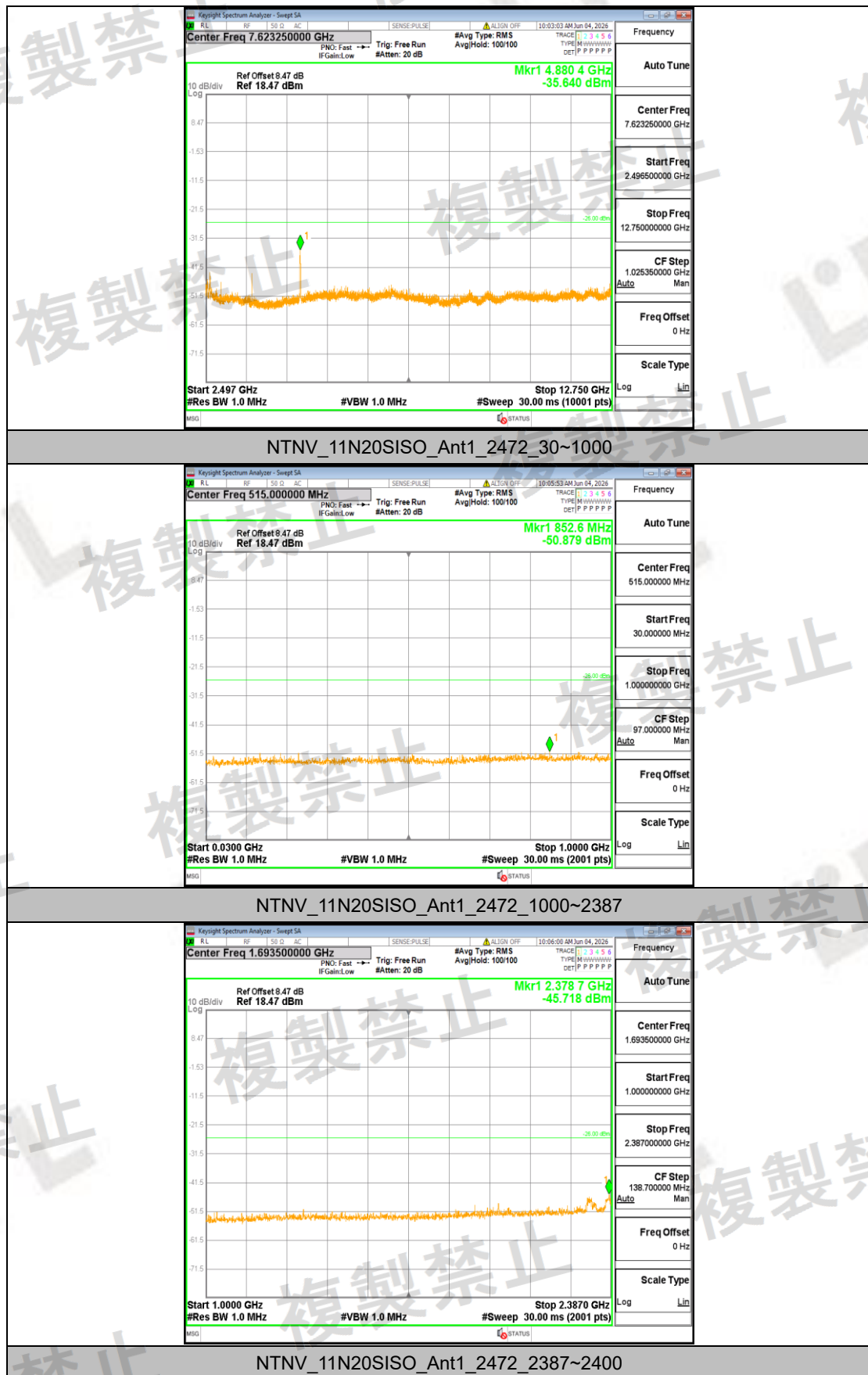


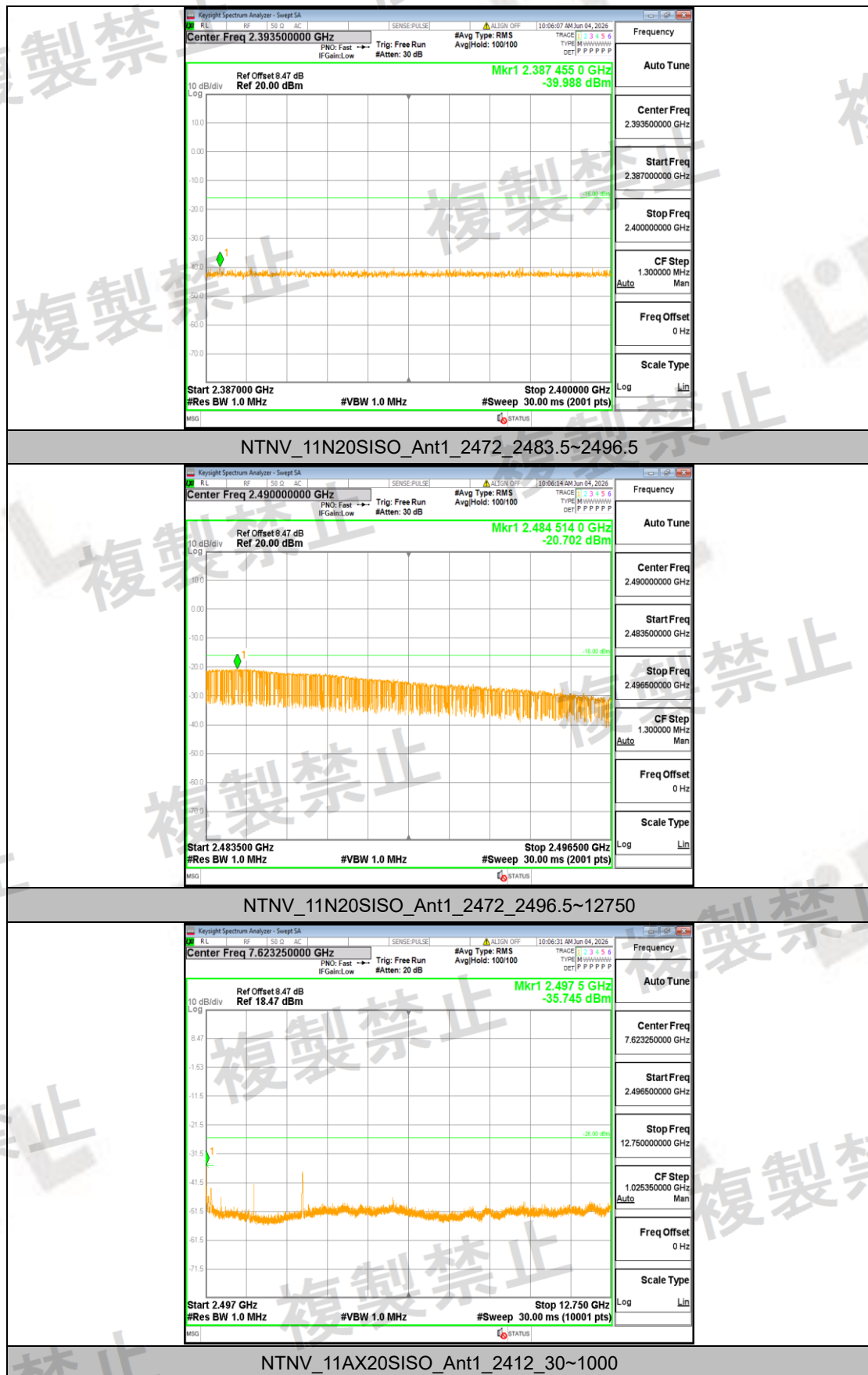


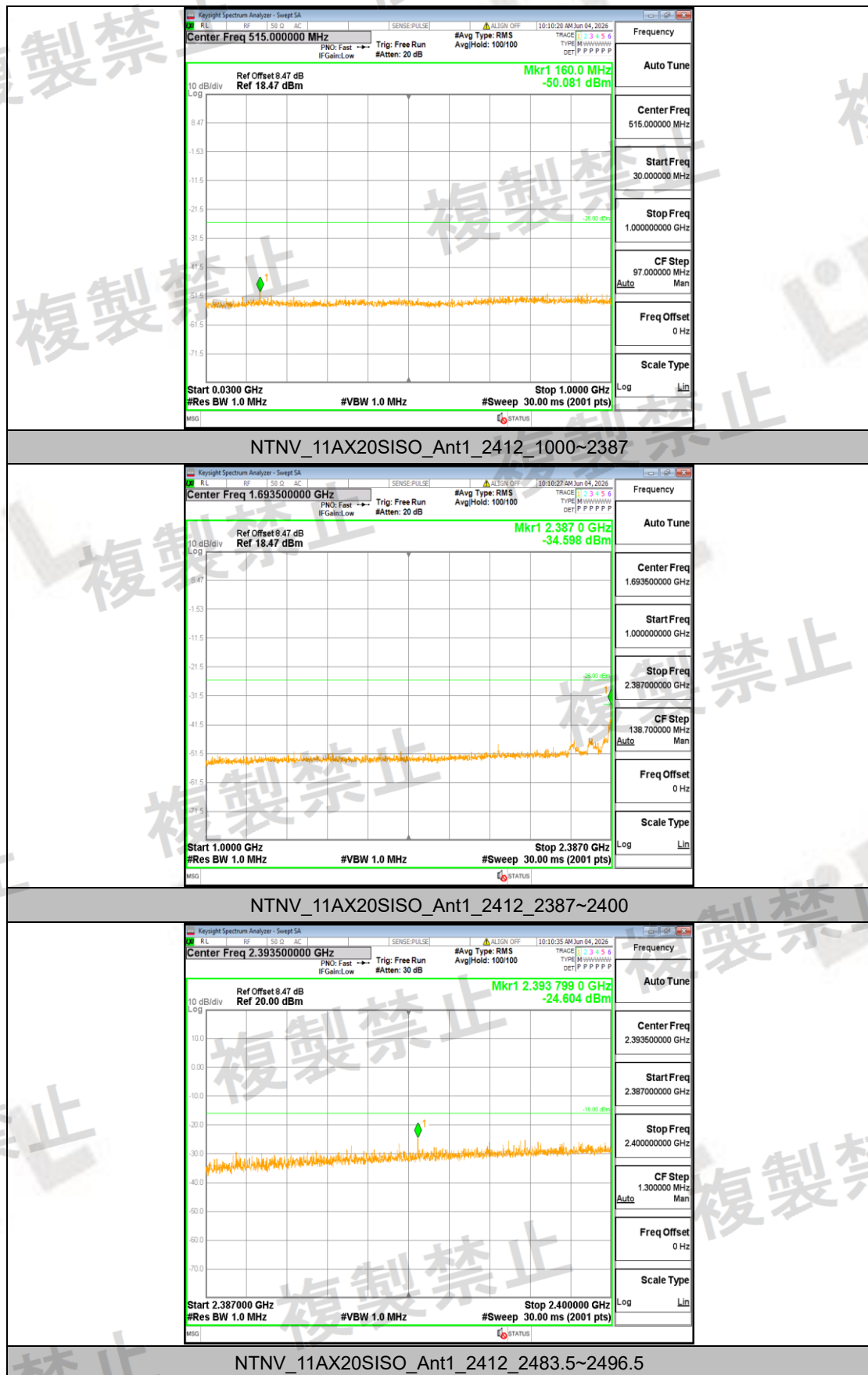


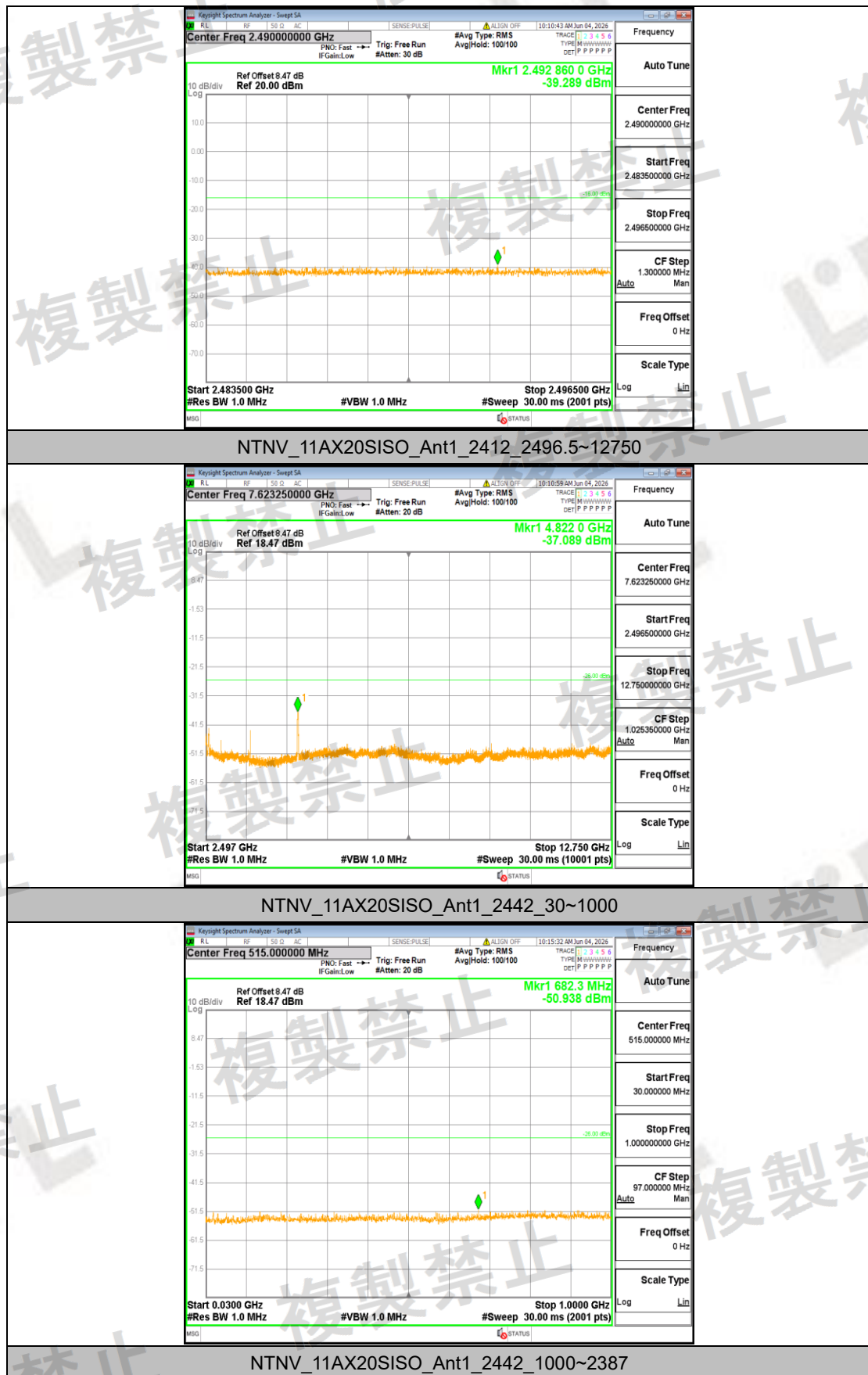




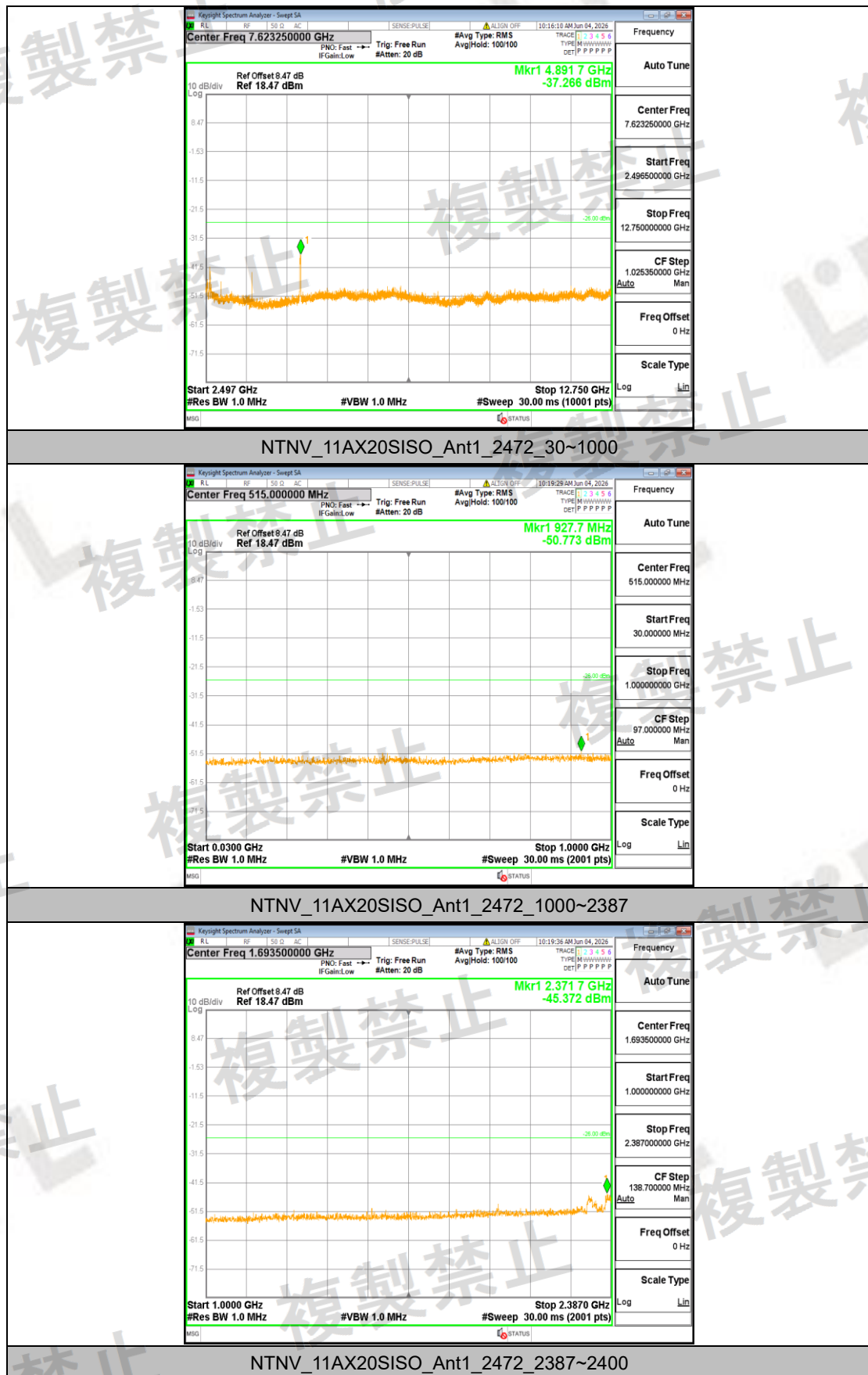


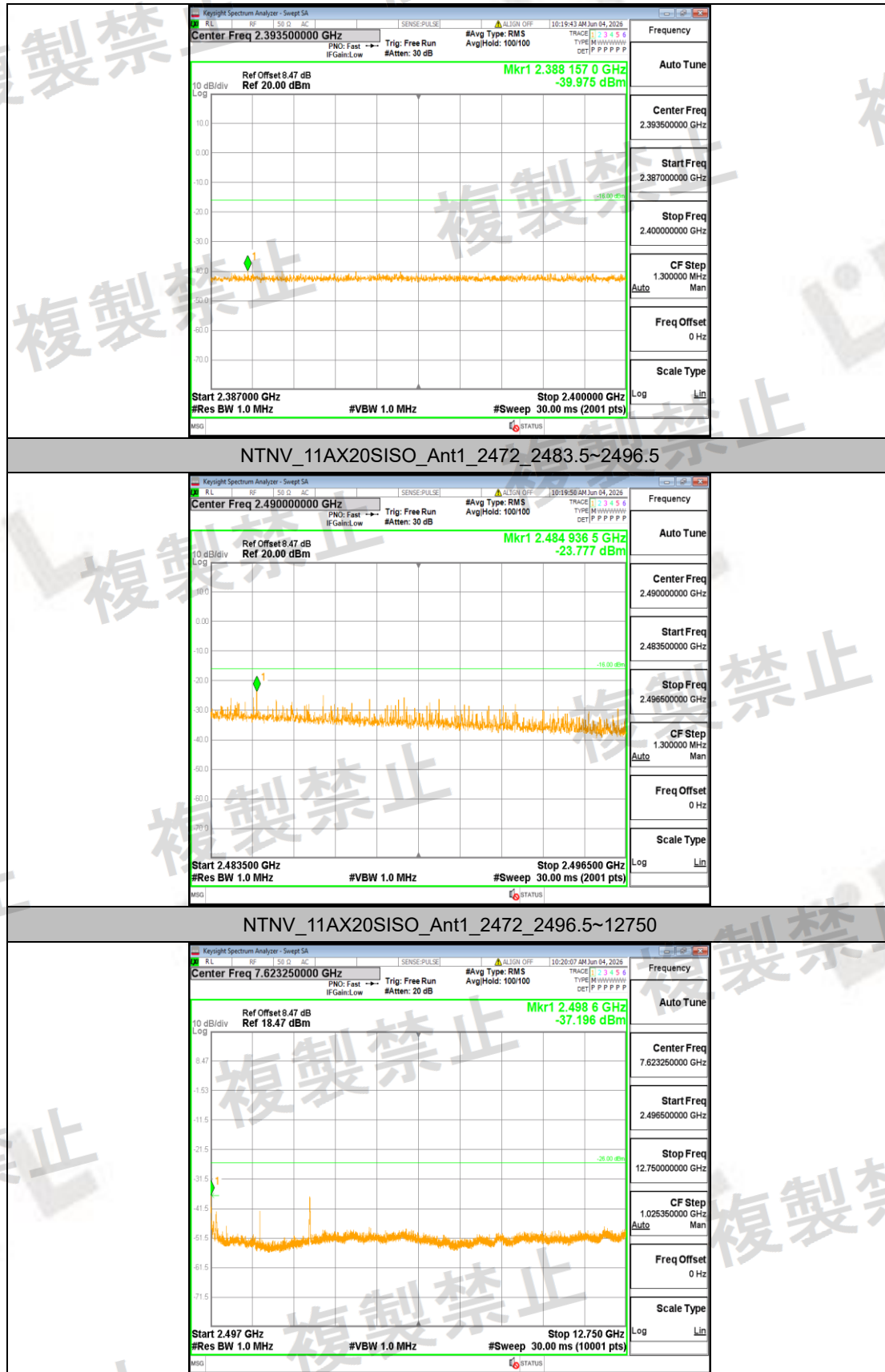










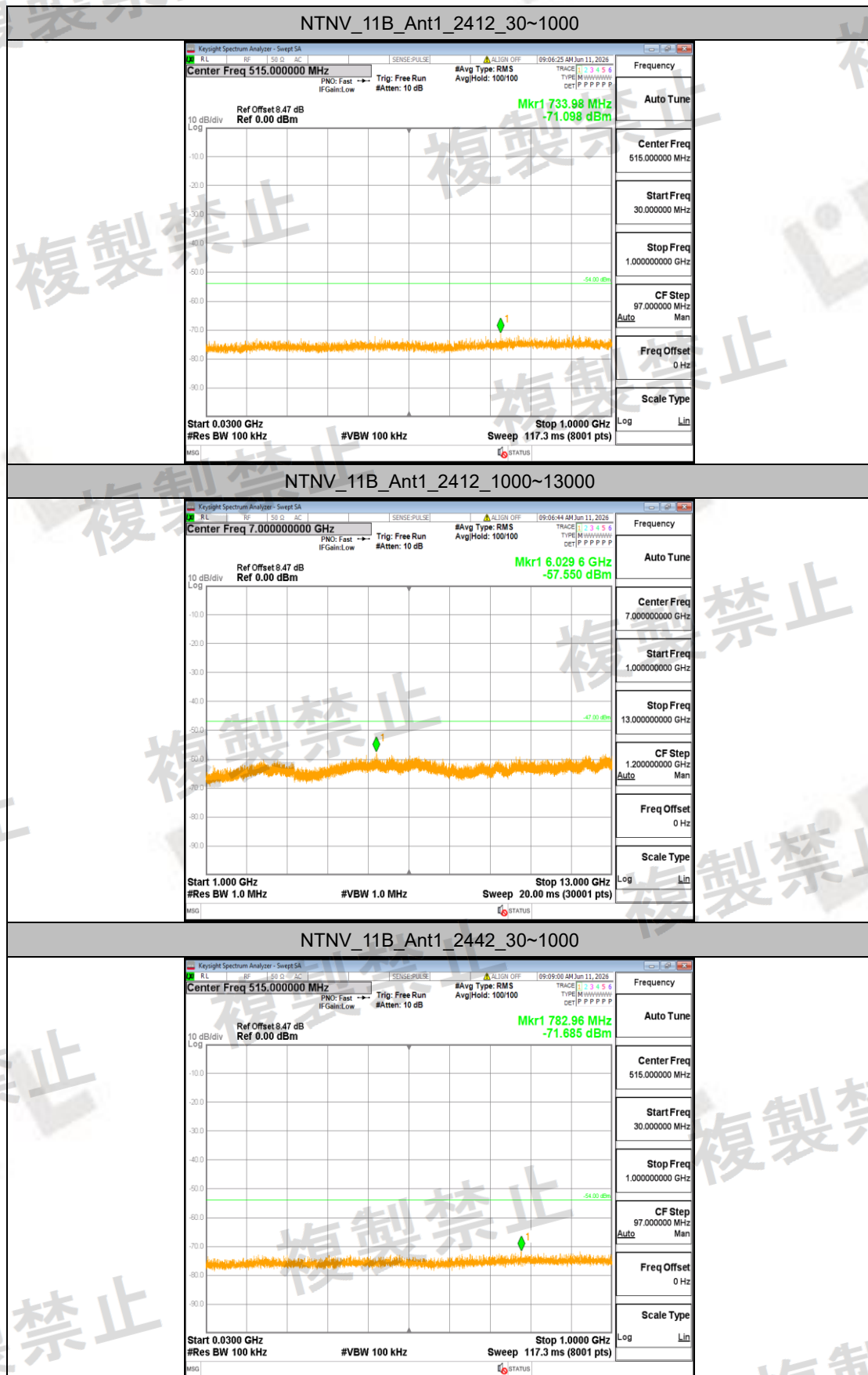


Appendix F: Spurious Emission of RX

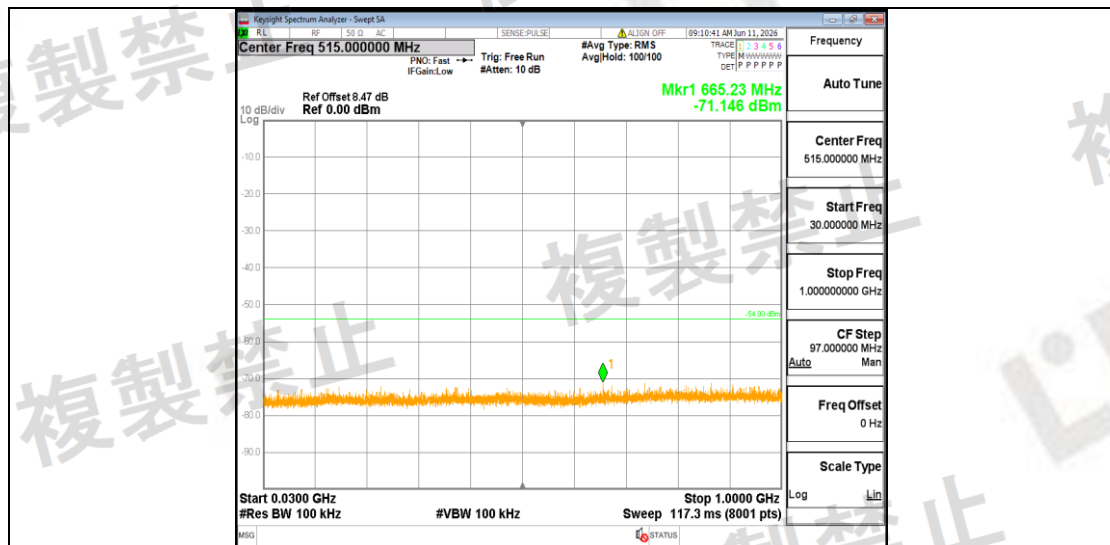
Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	11B	Ant1	2412	30~1000	-71.10	≤-54	0.07762	≤4	PASS
				1000~13000	-57.55	≤-47	1.75792	≤20	PASS
			2442	30~1000	-71.69	≤-54	0.06776	≤4	PASS
				1000~13000	-57.98	≤-47	1.59221	≤20	PASS
			2472	30~1000	-71.28	≤-54	0.07447	≤4	PASS
				1000~13000	-58.02	≤-47	1.57761	≤20	PASS
	11G	Ant1	2412	30~1000	-71.15	≤-54	0.07674	≤4	PASS
				1000~13000	-57.78	≤-47	1.66725	≤20	PASS
			2442	30~1000	-71.33	≤-54	0.07362	≤4	PASS
				1000~13000	-57.99	≤-47	1.58855	≤20	PASS
			2472	30~1000	-71.84	≤-54	0.06546	≤4	PASS
				1000~13000	-58.00	≤-47	1.58489	≤20	PASS
	11N20SI SO	Ant1	2412	30~1000	-70.58	≤-54	0.08750	≤4	PASS
				1000~13000	-57.71	≤-47	1.69434	≤20	PASS
			2442	30~1000	-70.99	≤-54	0.07962	≤4	PASS
				1000~13000	-56.04	≤-47	2.48886	≤20	PASS
			2472	30~1000	-71.92	≤-54	0.06427	≤4	PASS
				1000~13000	-58.16	≤-47	1.52757	≤20	PASS
	11AX20S ISO	Ant1	2412	30~1000	-71.73	≤-54	0.06714	≤4	PASS
				1000~13000	-57.96	≤-47	1.59956	≤20	PASS
			2442	30~1000	-70.65	≤-54	0.08610	≤4	PASS
				1000~13000	-58.11	≤-47	1.54525	≤20	PASS
			2472	30~1000	-71.85	≤-54	0.06531	≤4	PASS
				1000~13000	-57.90	≤-47	1.62181	≤20	PASS

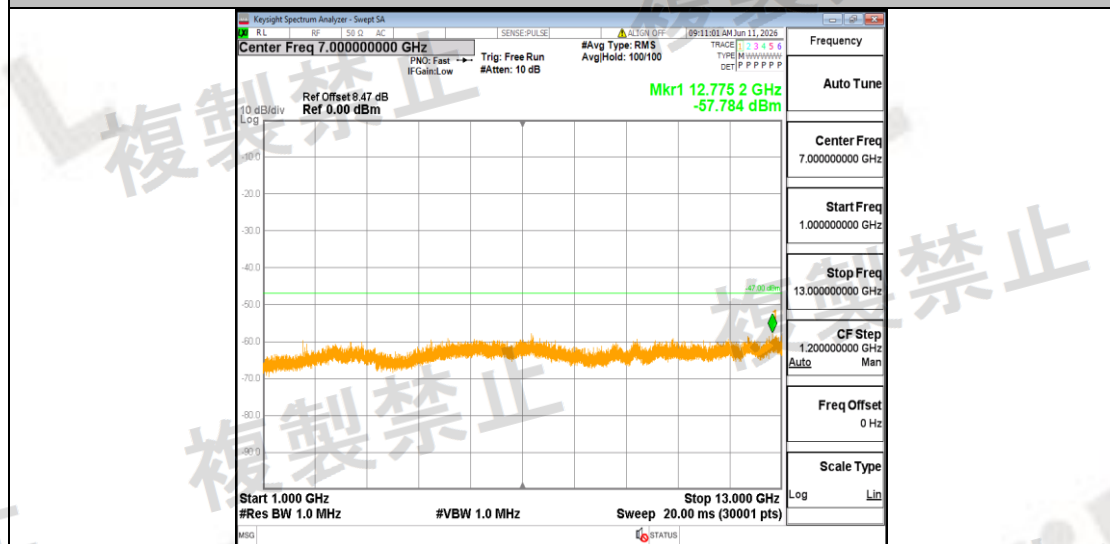
Test Graphs



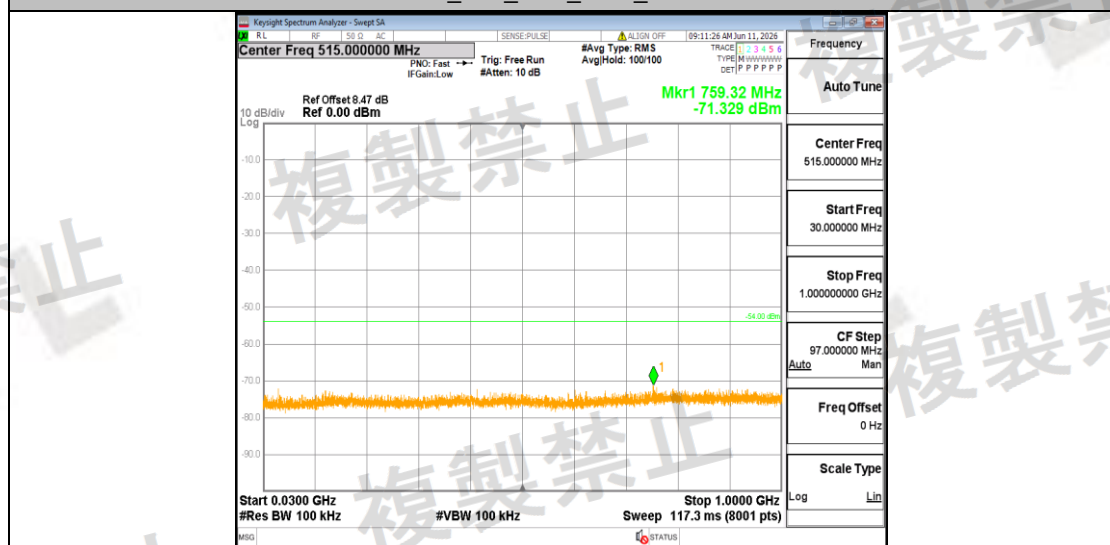




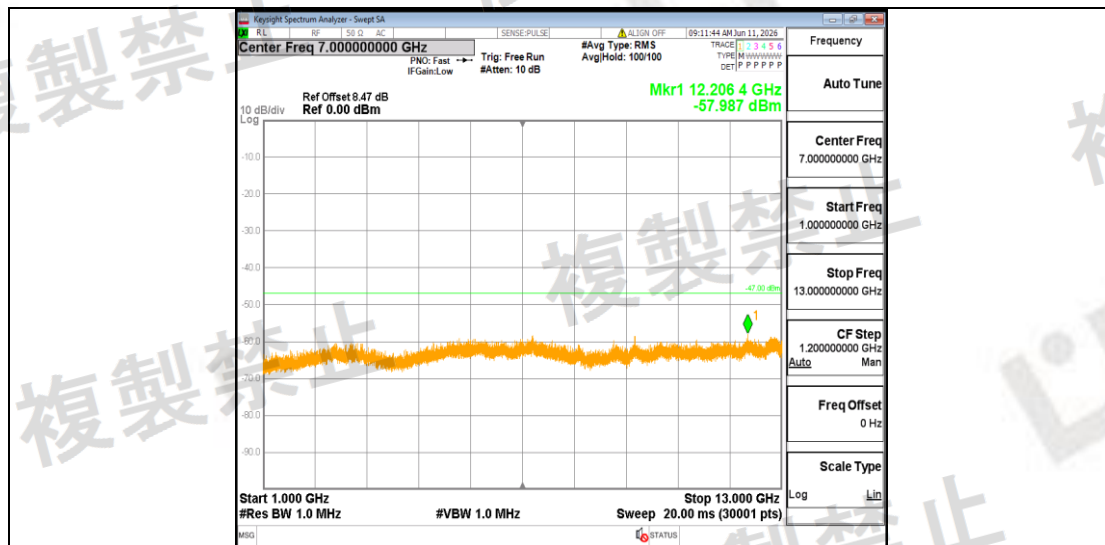
NTNV_11G_Ant1_2412_1000~13000



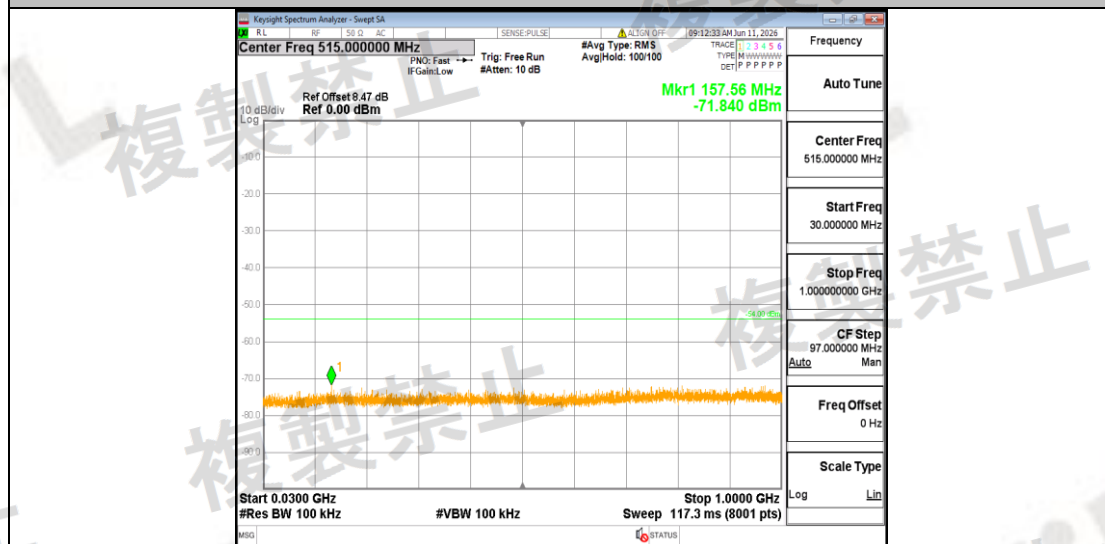
NTNV_11G_Ant1_2442_30~1000



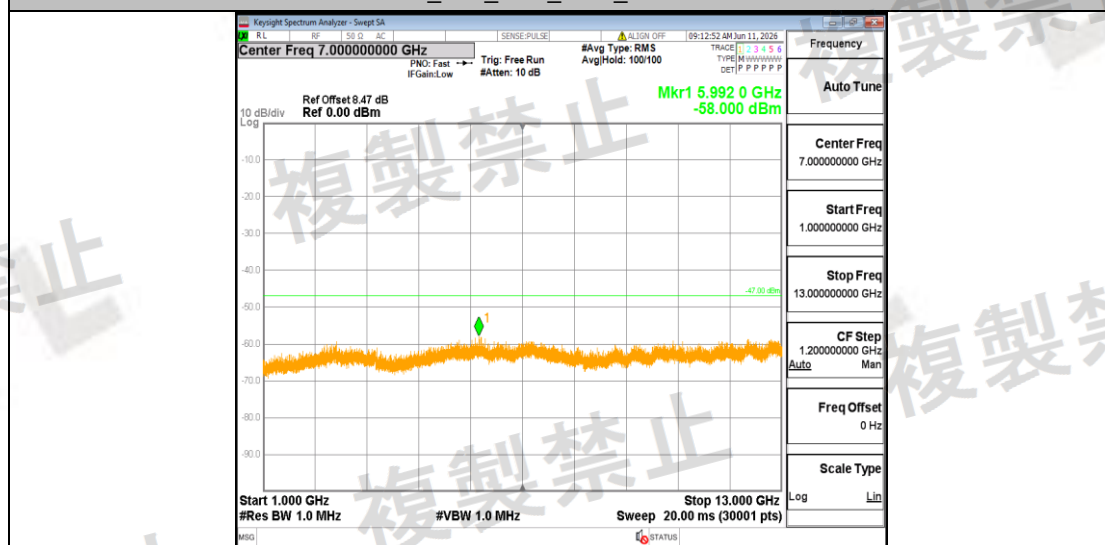
NTNV_11G_Ant1_2442_1000~13000



NTNV_11G_Ant1_2472_30~1000



NTNV_11G_Ant1_2472_1000~13000



NTNV_11N20SISO_Ant1_2412_30~1000

