



Appendix B for 2.4GWIFI Test Data

Product Name: Hiking Energy Saver

Test Model: Dnsys BOOSTSUIT Z1

Environmental Conditions

Temperature:	23.6° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Billy Yu
Supervised by:	Can Kun



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B.1 Frequency Error

Test Result

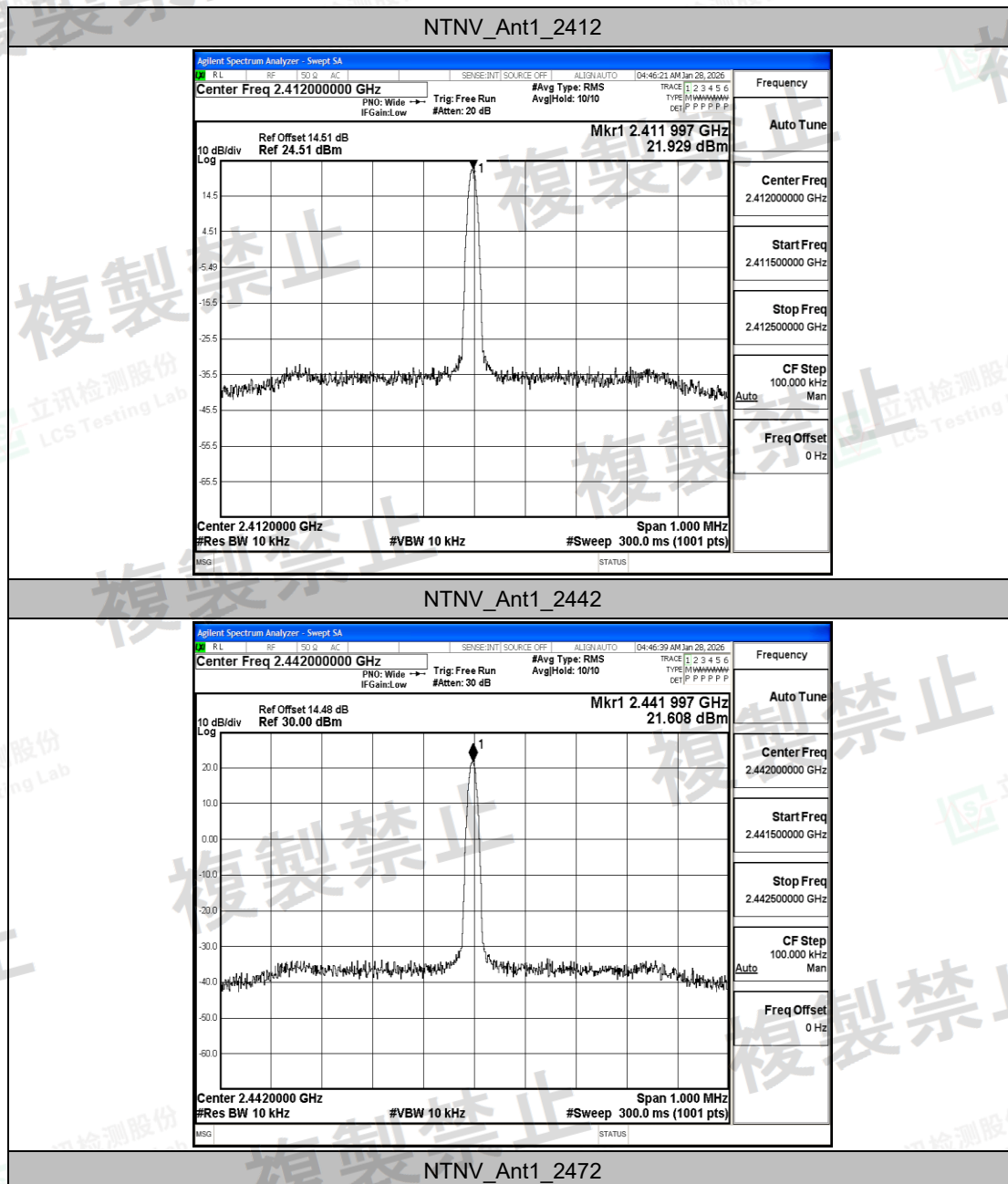
TestCondition	TestMode	Antenna	Frequency [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2412	-1.24378	±50	PASS
			2442	-1.22850	±50	PASS
			2472	-1.21359	±50	PASS
		Ant1	2422	-1.23865	±50	PASS
			2462	-1.62470	±50	PASS

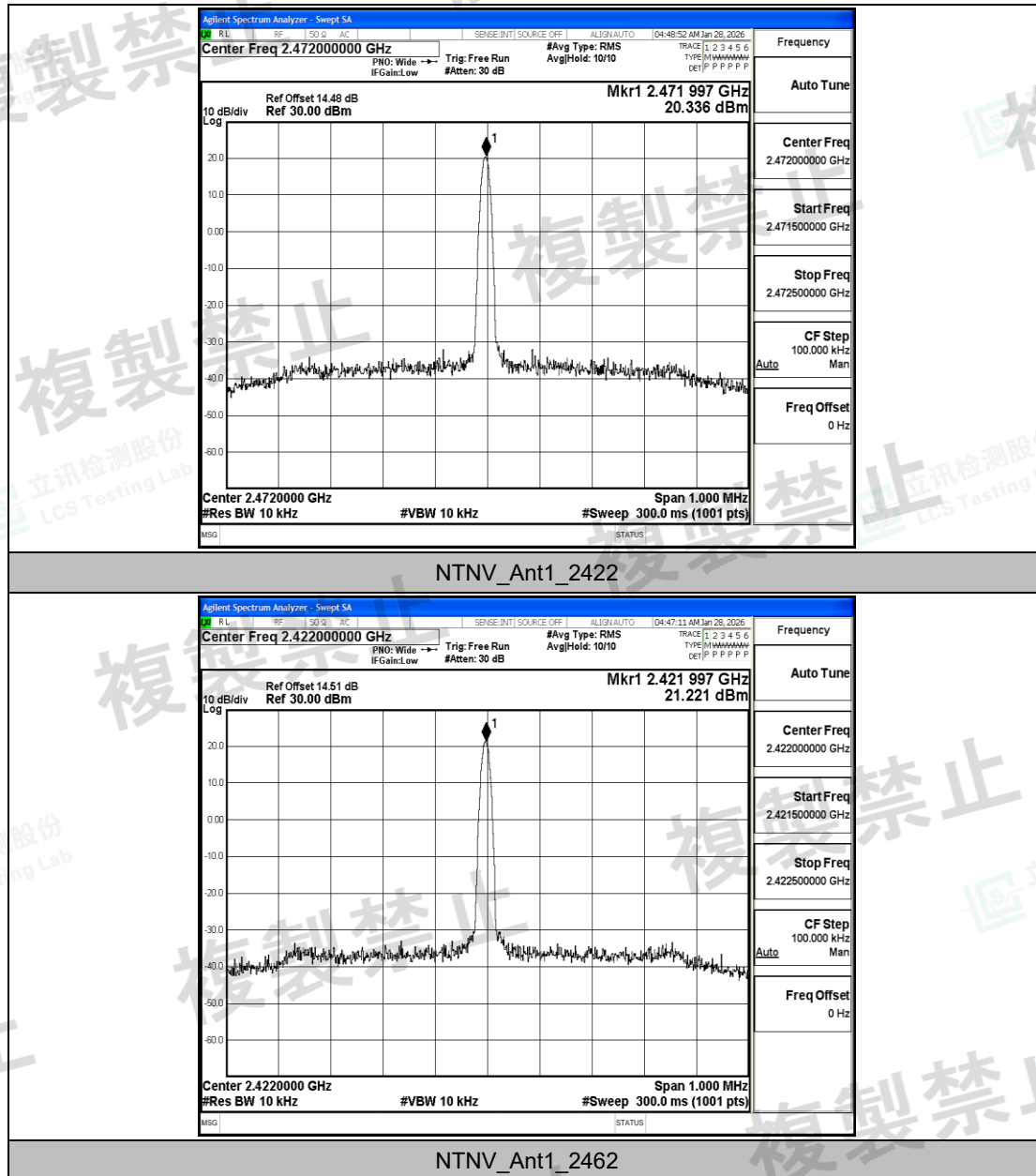


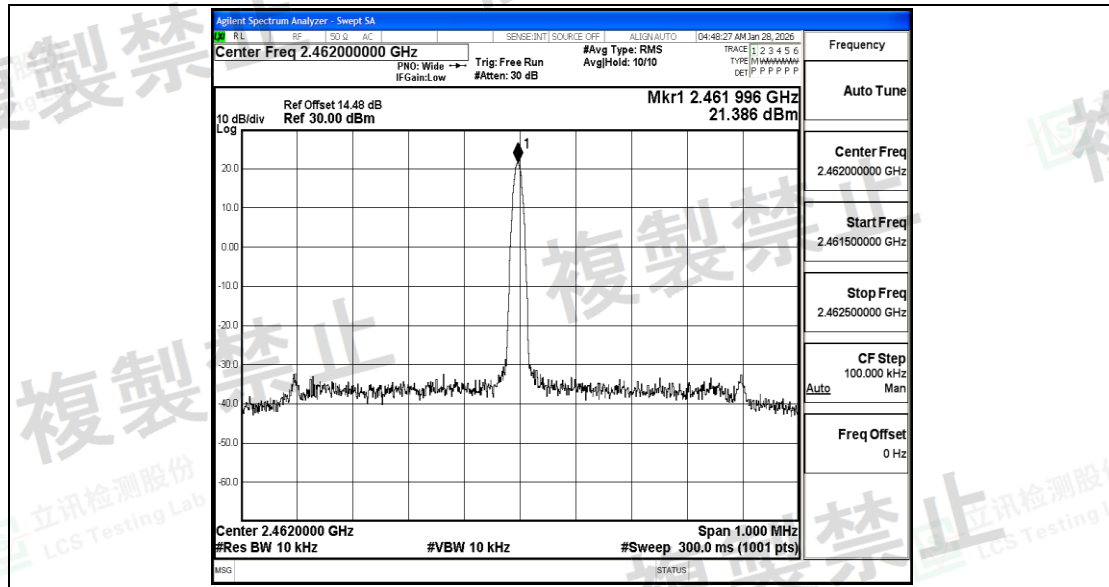
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Test Graphs









B.2 Antenna Power & E.I.R.P

Test Result

Antenna Power							
Test Condition	Test Mode	Antenna	Frequency [MHz]	Measured power [dBm/MHz]	Result [mW/MHz]	Limit [mW/MHz]	Verdict
NTNV	11B	Ant1	2412	4.99	3.16	≤10	PASS
			2442	5.18	3.30	≤10	PASS
			2472	5.31	3.40	≤10	PASS
	11G	Ant1	2412	5.08	3.22	≤10	PASS
			2442	5.15	3.27	≤10	PASS
			2472	5.27	3.37	≤10	PASS
	11N20SISO	Ant1	2412	4.96	3.13	≤10	PASS
			2442	5.35	3.43	≤10	PASS
			2472	5.10	3.24	≤10	PASS
	11N40SISO	Ant1	2422	0.63	1.16	≤5	PASS
			2442	0.50	1.12	≤5	PASS
			2462	0.65	1.16	≤5	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power [mW/MHz]	RatedPower [mW/MHz]	Result (%)	Limit (%)	Verdict
NTNV	11B	Ant1	2412	3.16	3.5	-9.71	+20	PASS
			2442	3.30	3.5	-5.71	+20	PASS
			2472	3.40	3.5	-2.86	+20	PASS
	11G	Ant1	2412	3.22	3.5	-8.00	+20	PASS
			2442	3.27	3.5	-6.57	+20	PASS
			2472	3.37	3.5	-3.71	+20	PASS
	11N20SISO	Ant1	2412	3.13	3.5	-10.57	+20	PASS
			2442	3.43	3.5	-2.00	+20	PASS
			2472	3.24	3.5	-7.43	+20	PASS
	11N40SISO	Ant1	2422	1.16	1.2	-3.33	+20	PASS
			2442	1.12	1.2	-6.67	+20	PASS
			2462	1.16	1.2	-3.33	+20	PASS





EIRP								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Measured Power (dBm/MHz)	Antenna Gain (dBi)	EIRP (dBm/MHz)	Limit (dBm/MHz)	Verdict
NTNV	11B	Ant1	2412	6.46	2.91	9.37	≤12.14	PASS
			2442	6.54	2.91	9.45	≤12.14	PASS
			2472	6.43	2.91	9.34	≤12.14	PASS
	11G	Ant1	2412	6.74	2.91	9.65	≤12.14	PASS
			2442	6.52	2.91	9.43	≤12.14	PASS
			2472	6.47	2.91	9.38	≤12.14	PASS
	11N20SI SO	Ant1	2412	6.34	2.91	9.25	≤12.14	PASS
			2442	6.48	2.91	9.39	≤12.14	PASS
			2472	6.68	2.91	9.59	≤12.14	PASS
	11N40SI SO	Ant1	2422	3.26	2.91	6.17	≤9.13	PASS
			2442	3.17	2.91	6.08	≤9.13	PASS
			2462	3.10	2.91	6.01	≤9.13	PASS





B.3 Occupied Bandwidth

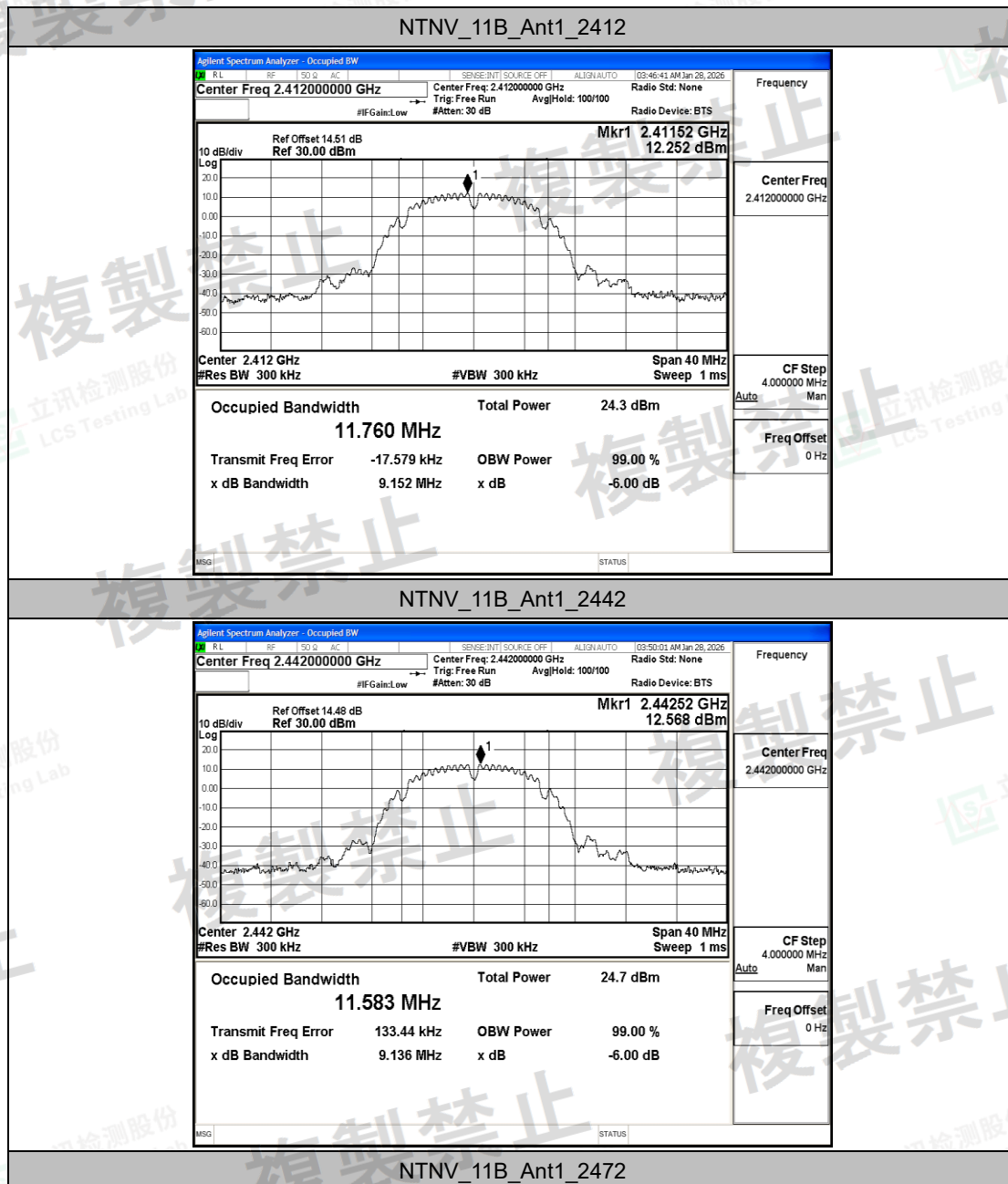
Test Result

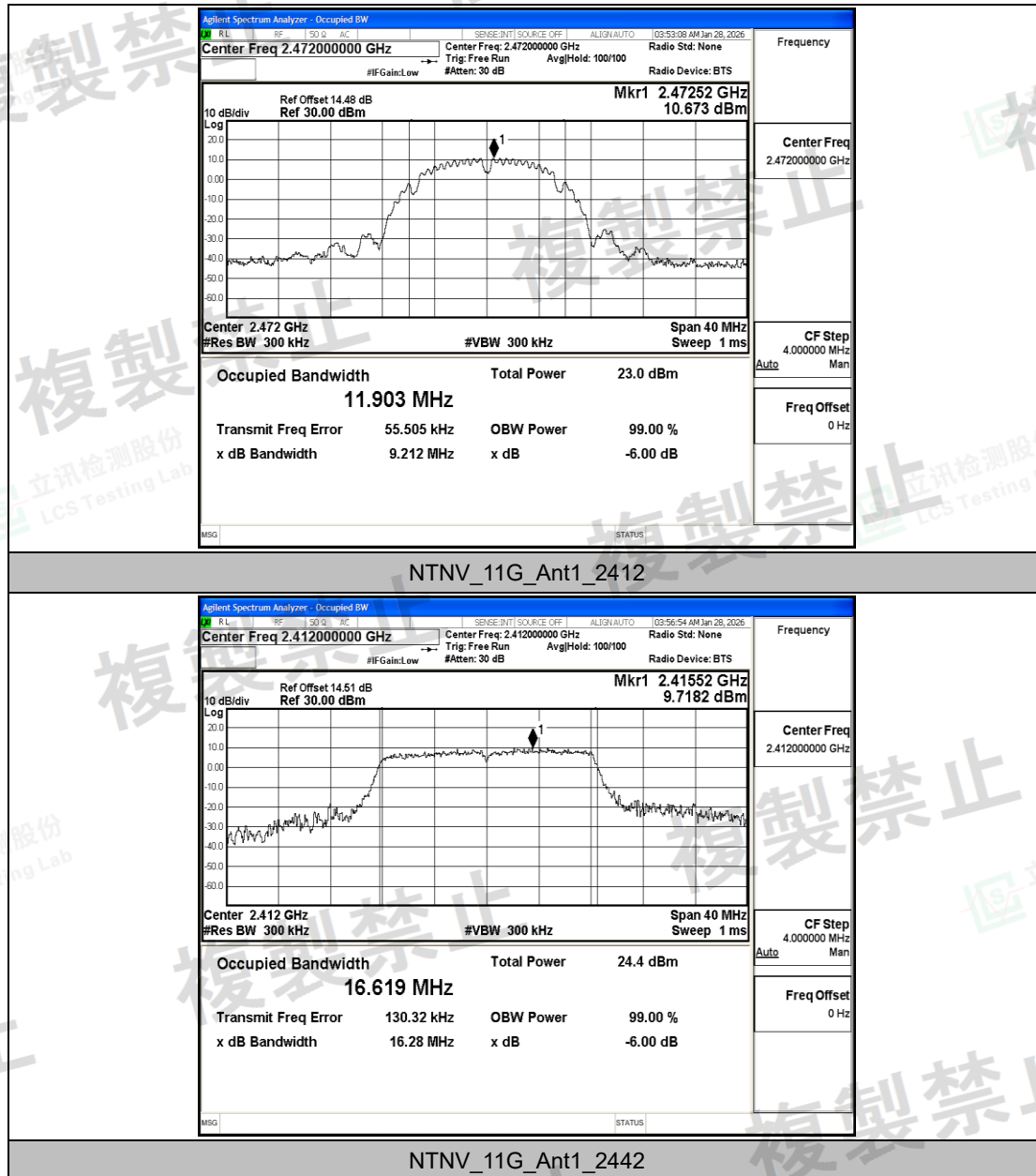
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NTNV	11B	Ant1	2412	11.760	≤26	PASS
			2442	11.583	≤26	PASS
			2472	11.903	≤26	PASS
	11G	Ant1	2412	16.619	≤26	PASS
			2442	16.625	≤26	PASS
			2472	16.662	≤26	PASS
	11N20SISO	Ant1	2412	17.602	≤26	PASS
			2442	17.662	≤26	PASS
			2472	17.672	≤26	PASS
	11N40SISO	Ant1	2422	35.989	26-40	PASS
			2442	35.943	26-40	PASS
			2462	36.101	26-40	PASS

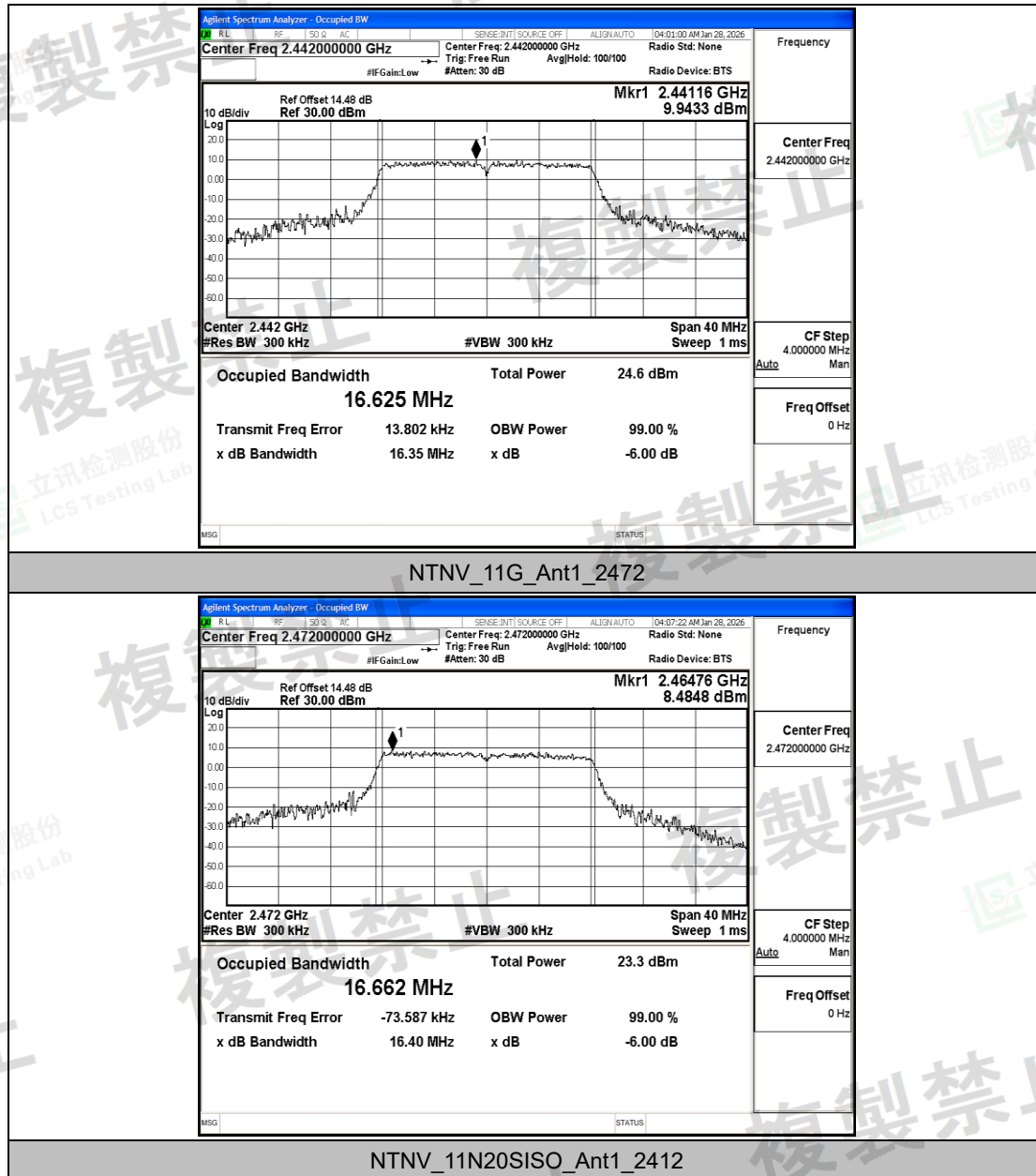


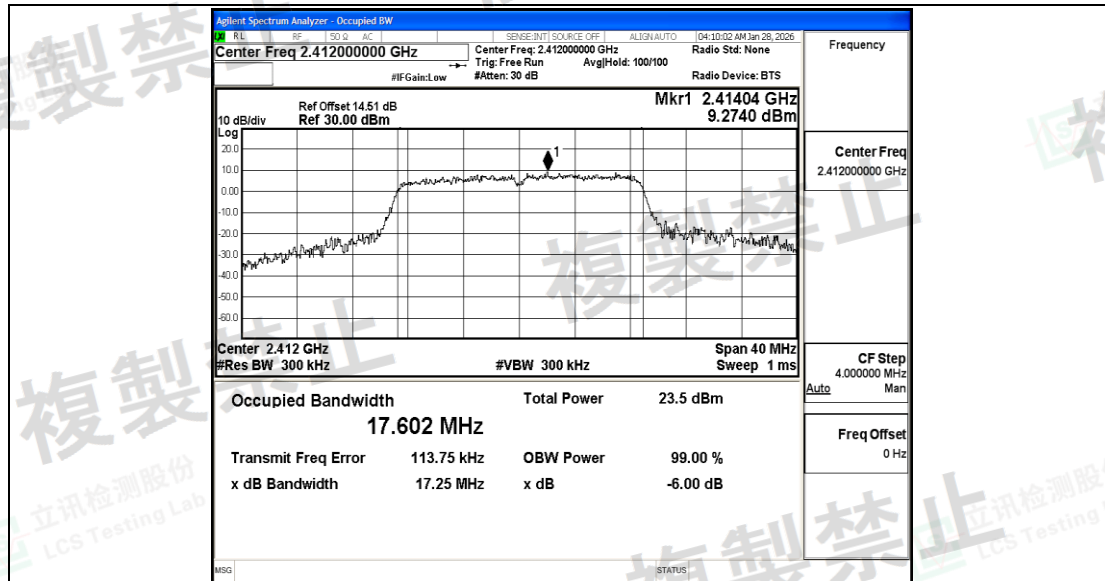


Test Graphs

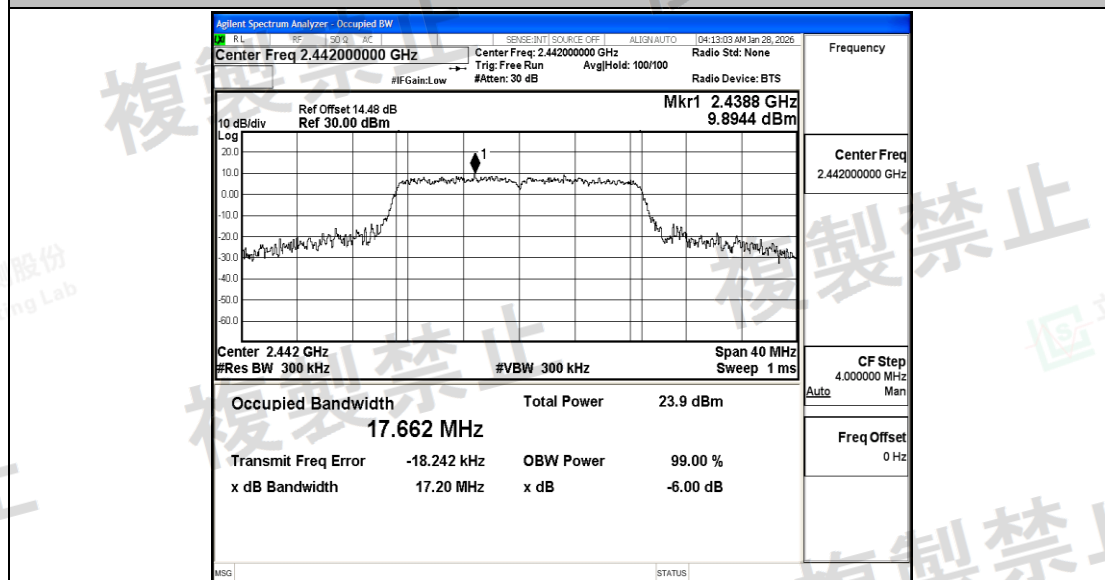






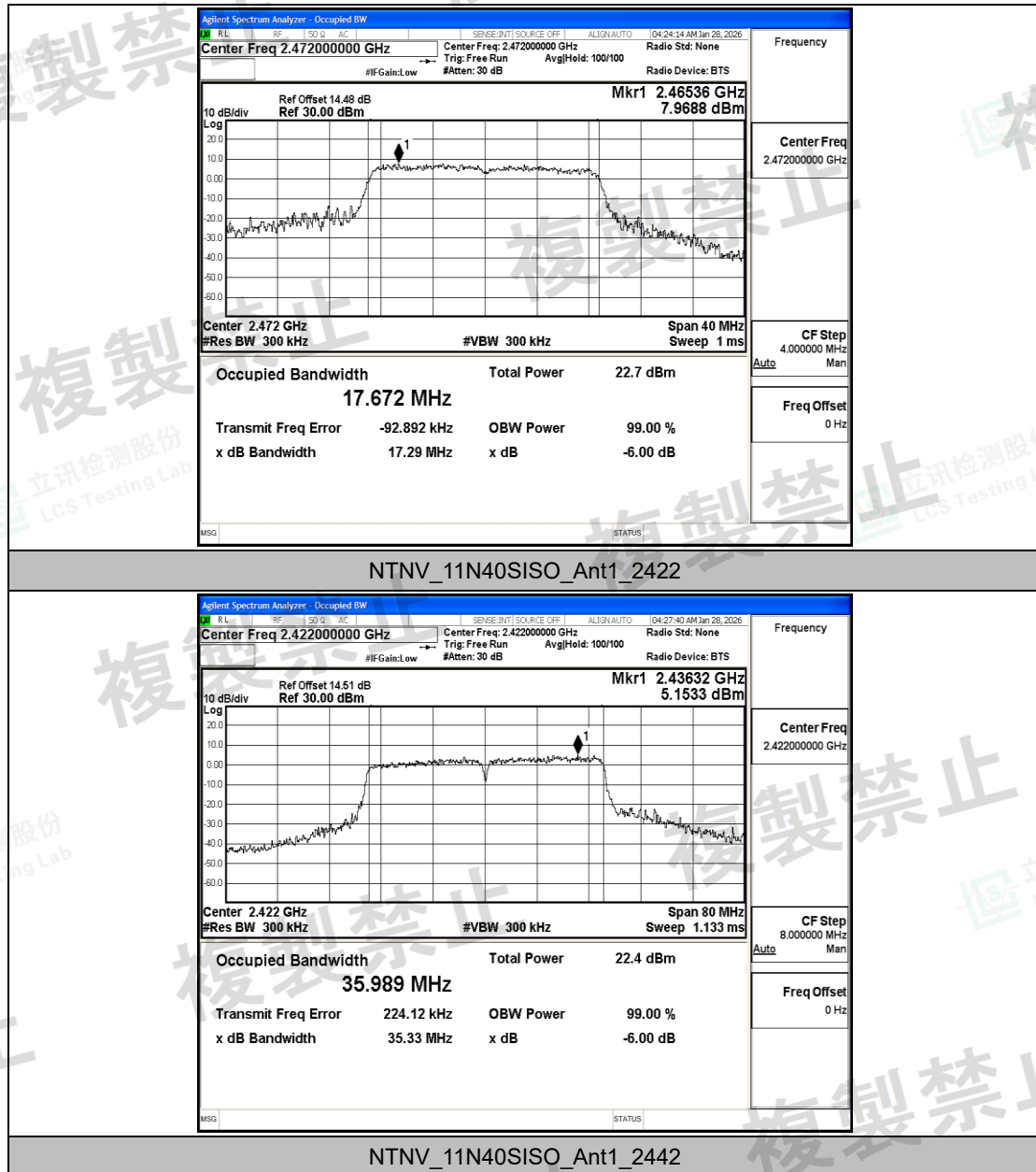


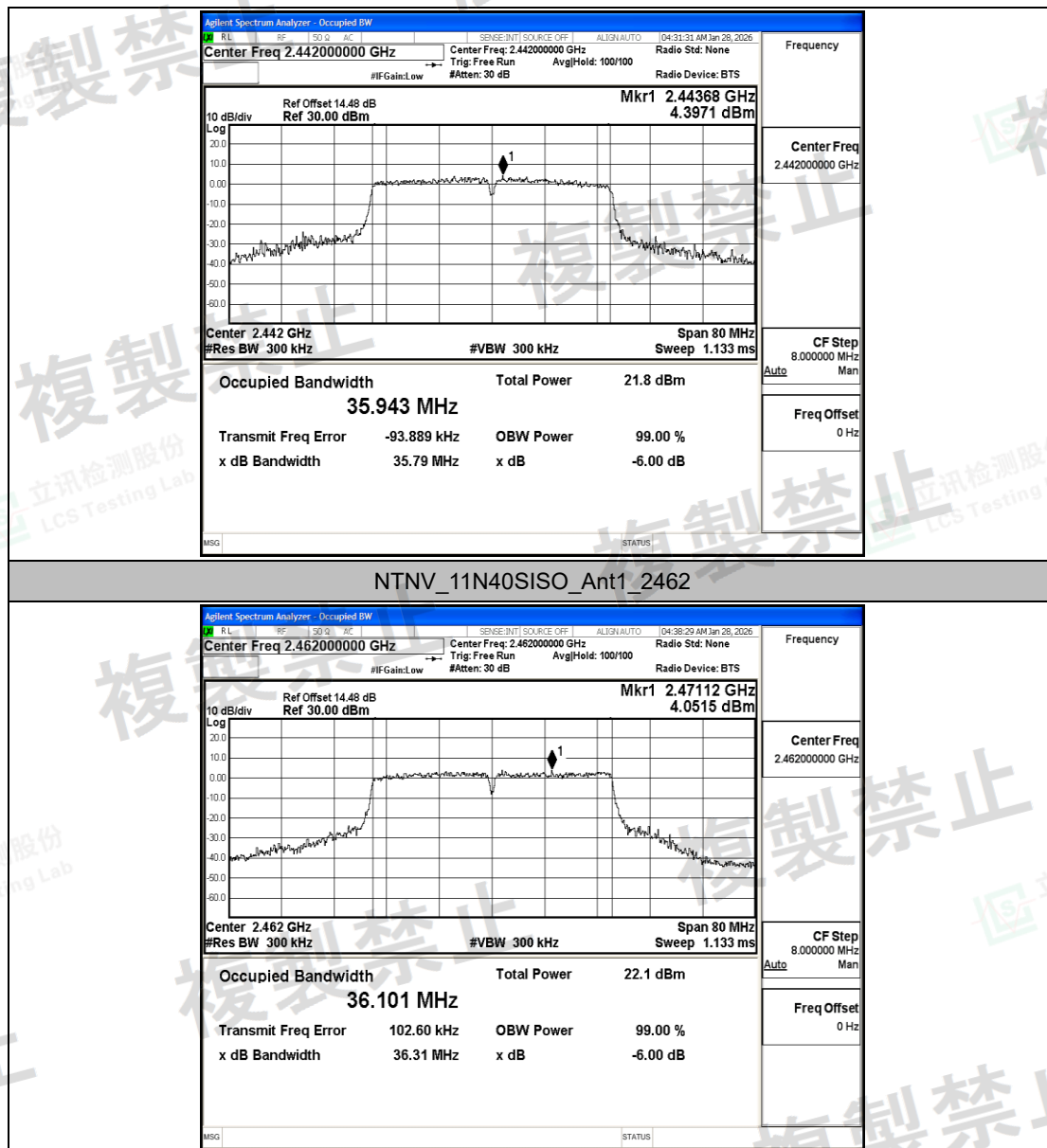
NTNV_11N20SISO_Ant1_2442



NTNV_11N20SISO_Ant1_2472









B.4 Spread Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	11B	Ant1	2412	8.168	---	PASS
			2442	8.123	---	PASS
			2472	8.295	---	PASS
	11G	Ant1	2412	14.385	---	PASS
			2442	14.602	---	PASS
			2472	14.665	---	PASS
	11N20SISO	Ant1	2412	15.282	---	PASS
			2442	15.464	---	PASS
			2472	15.471	---	PASS
	11N40SISO	Ant1	2422	31.895	---	PASS
			2442	31.340	---	PASS
			2462	32.518	---	PASS



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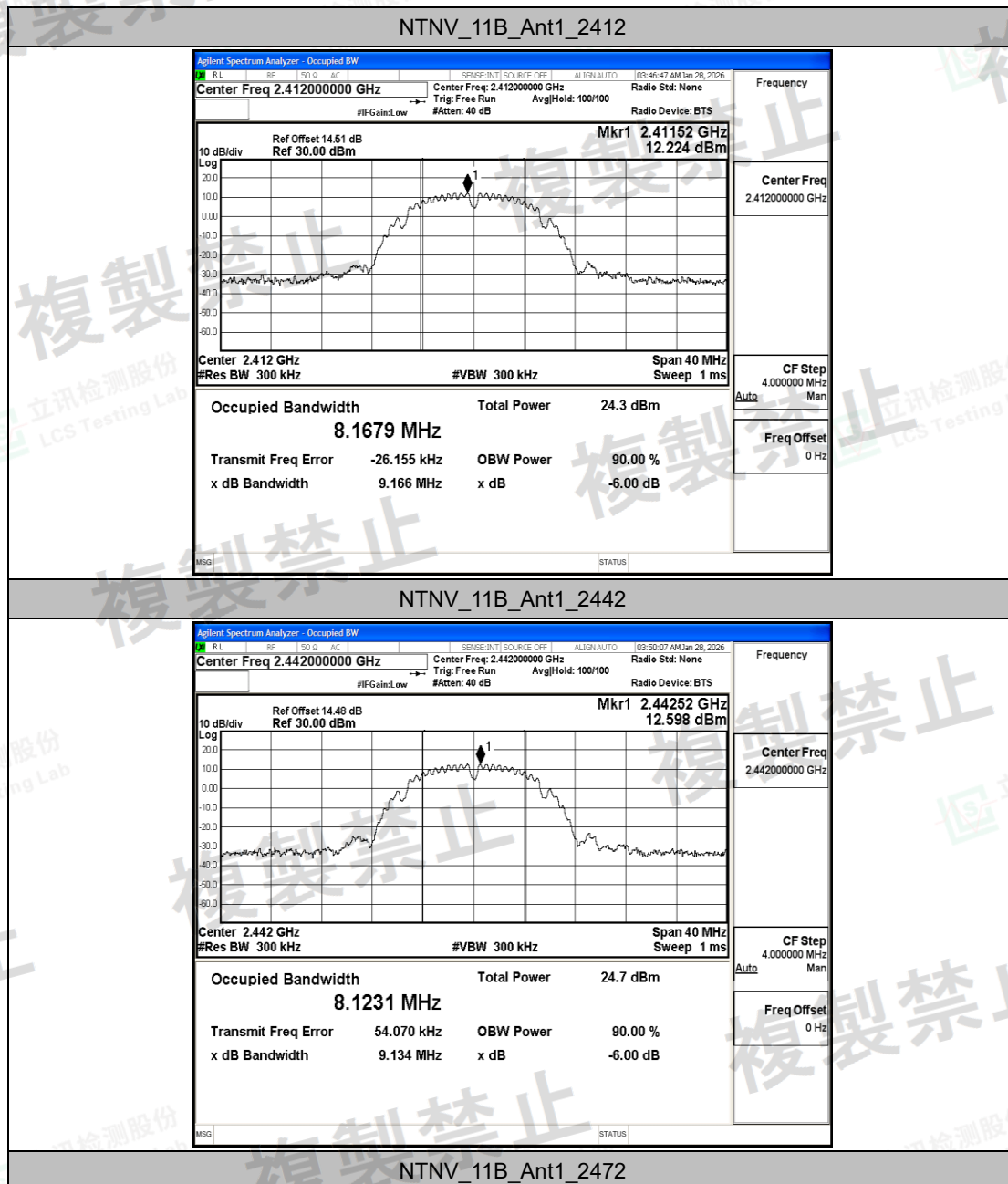
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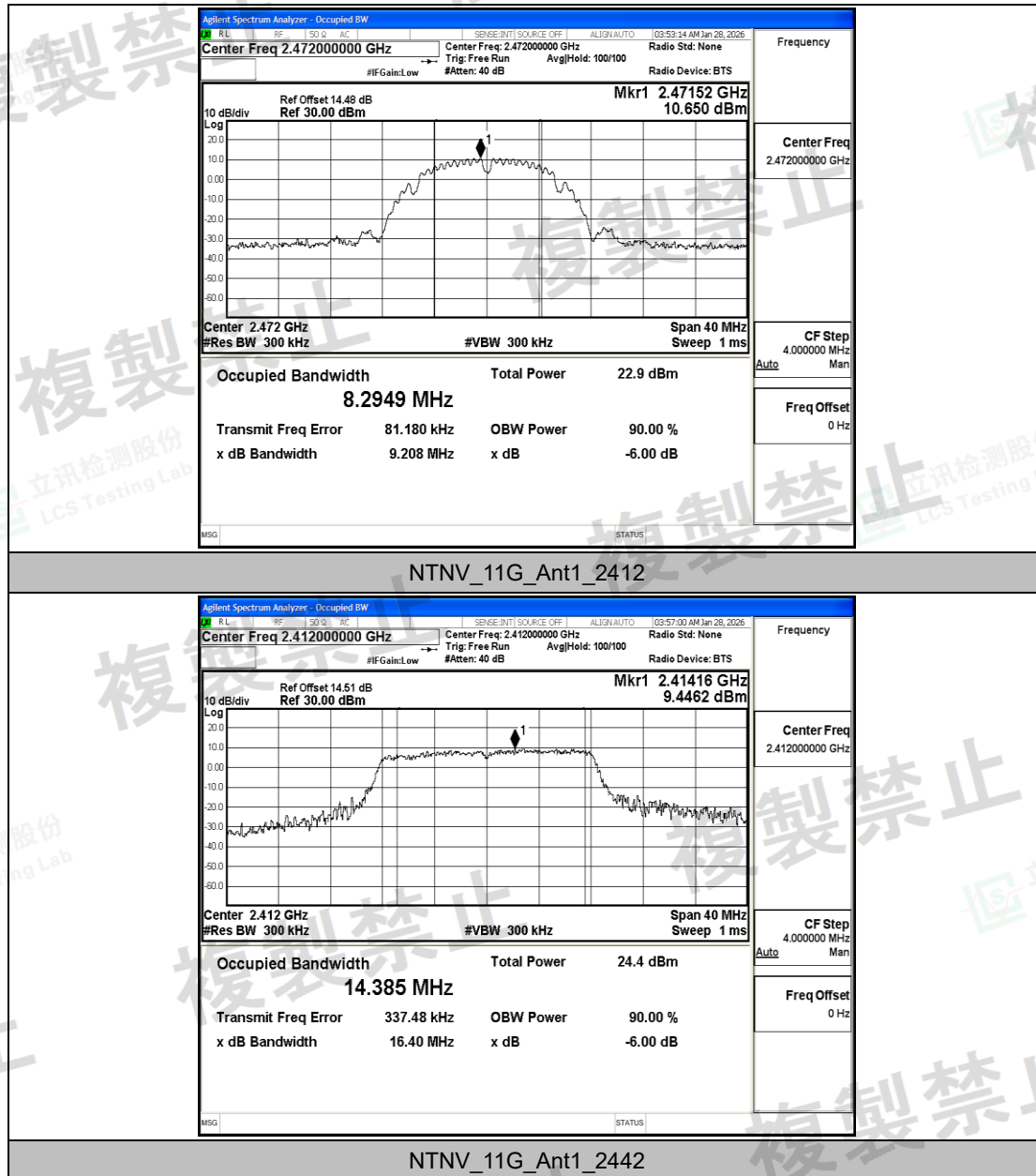
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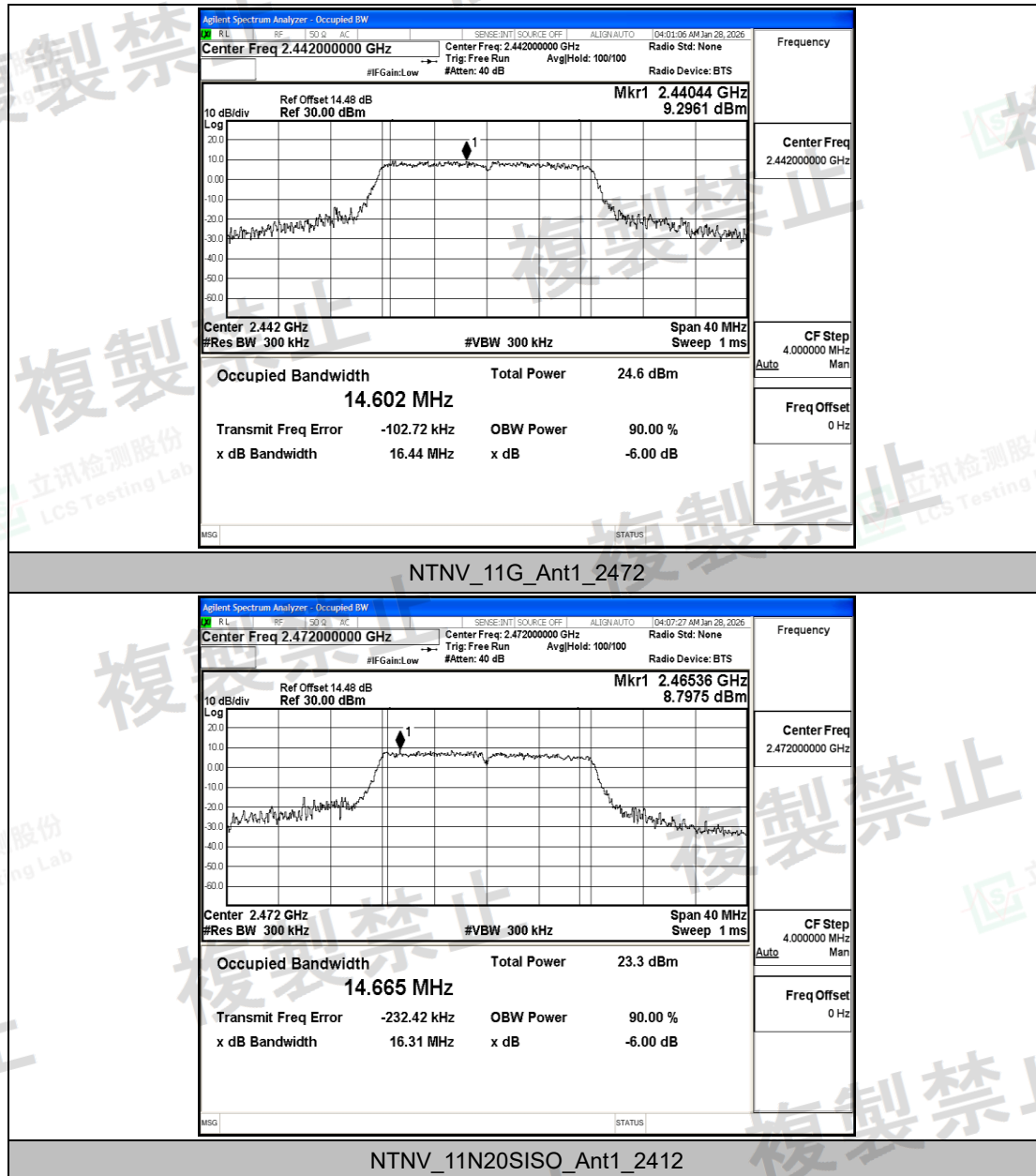
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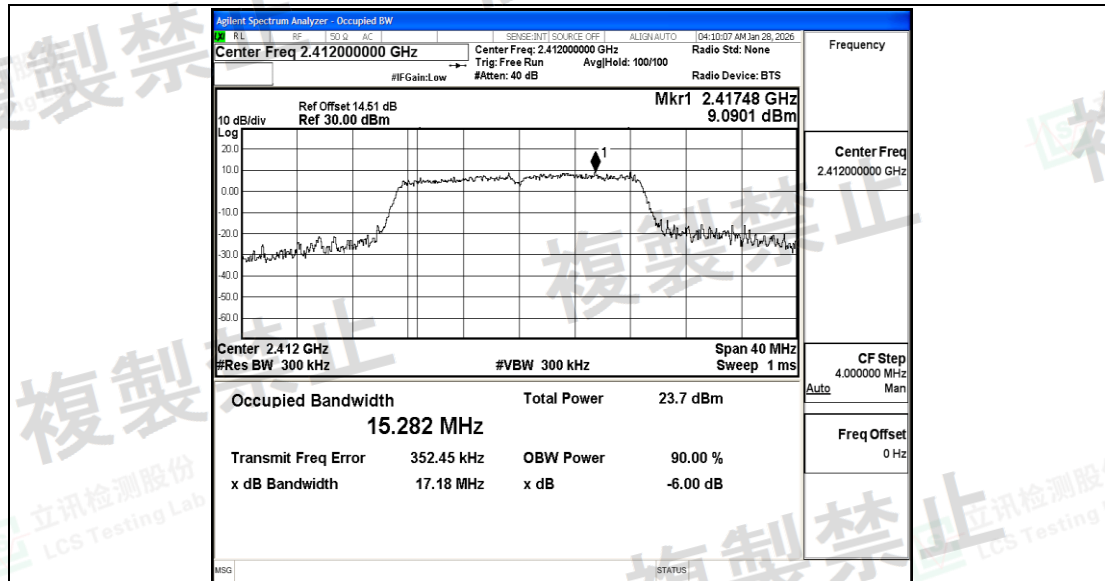


Test Graphs

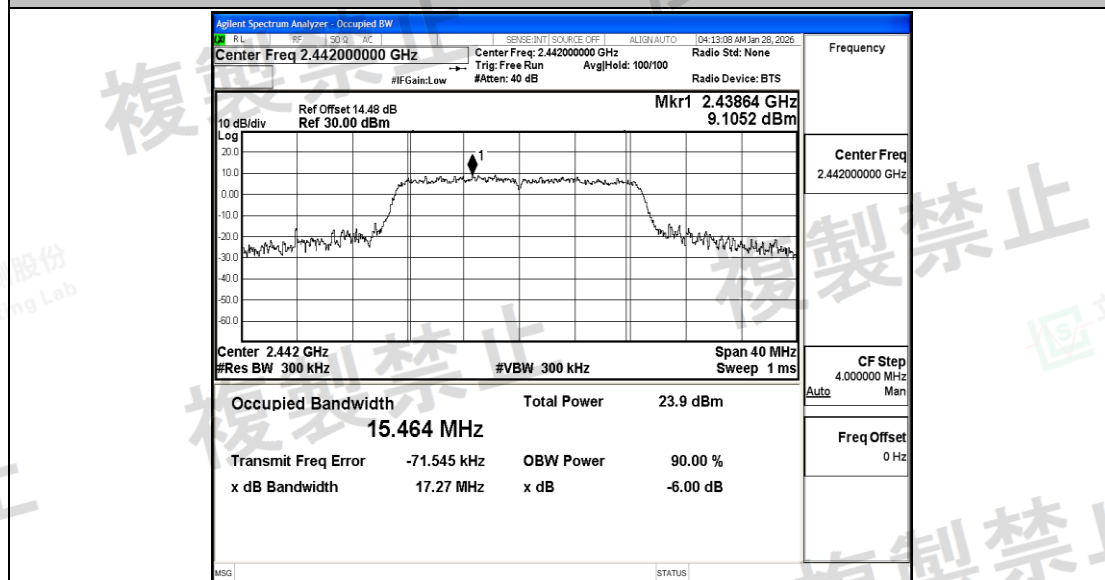






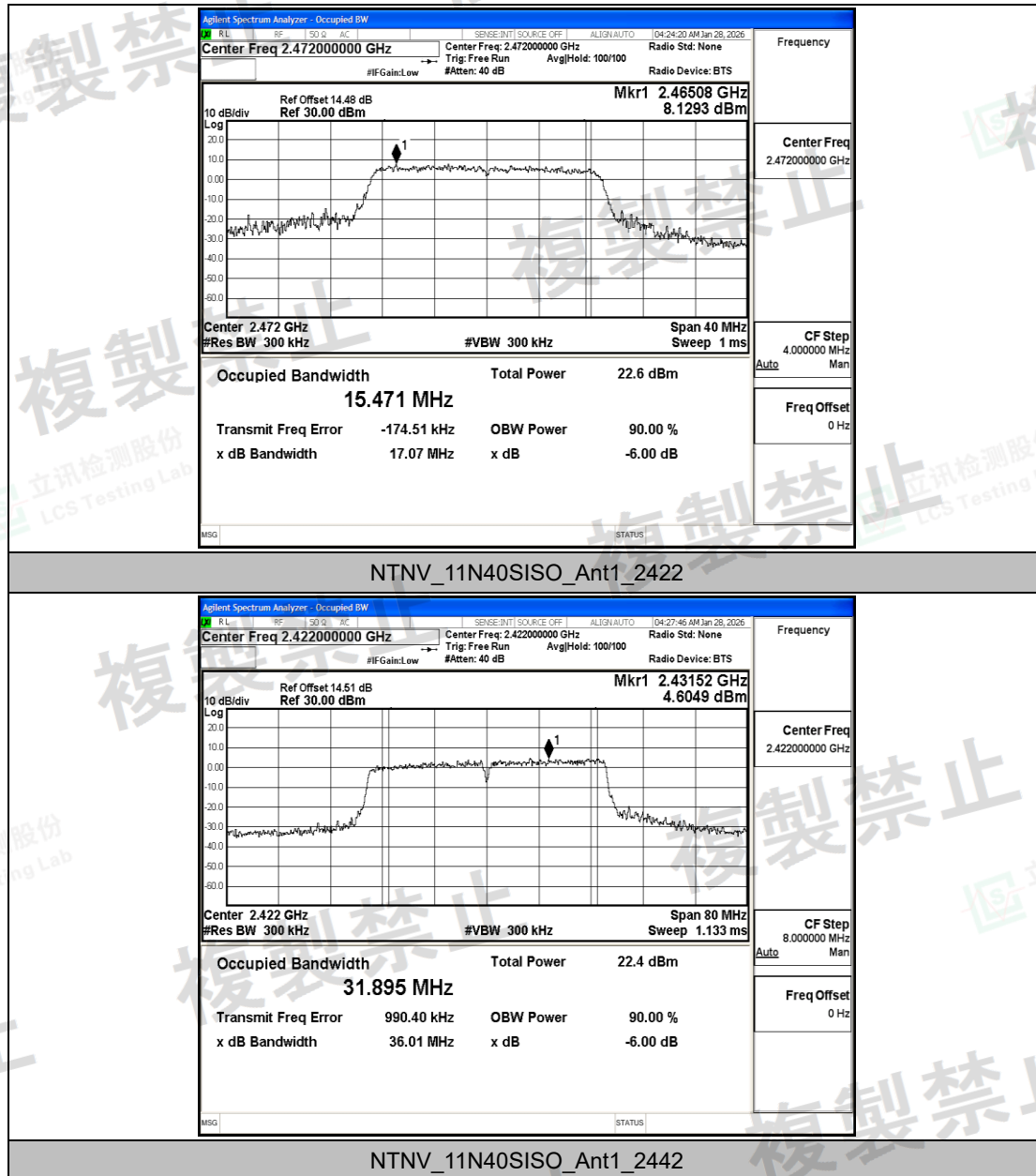


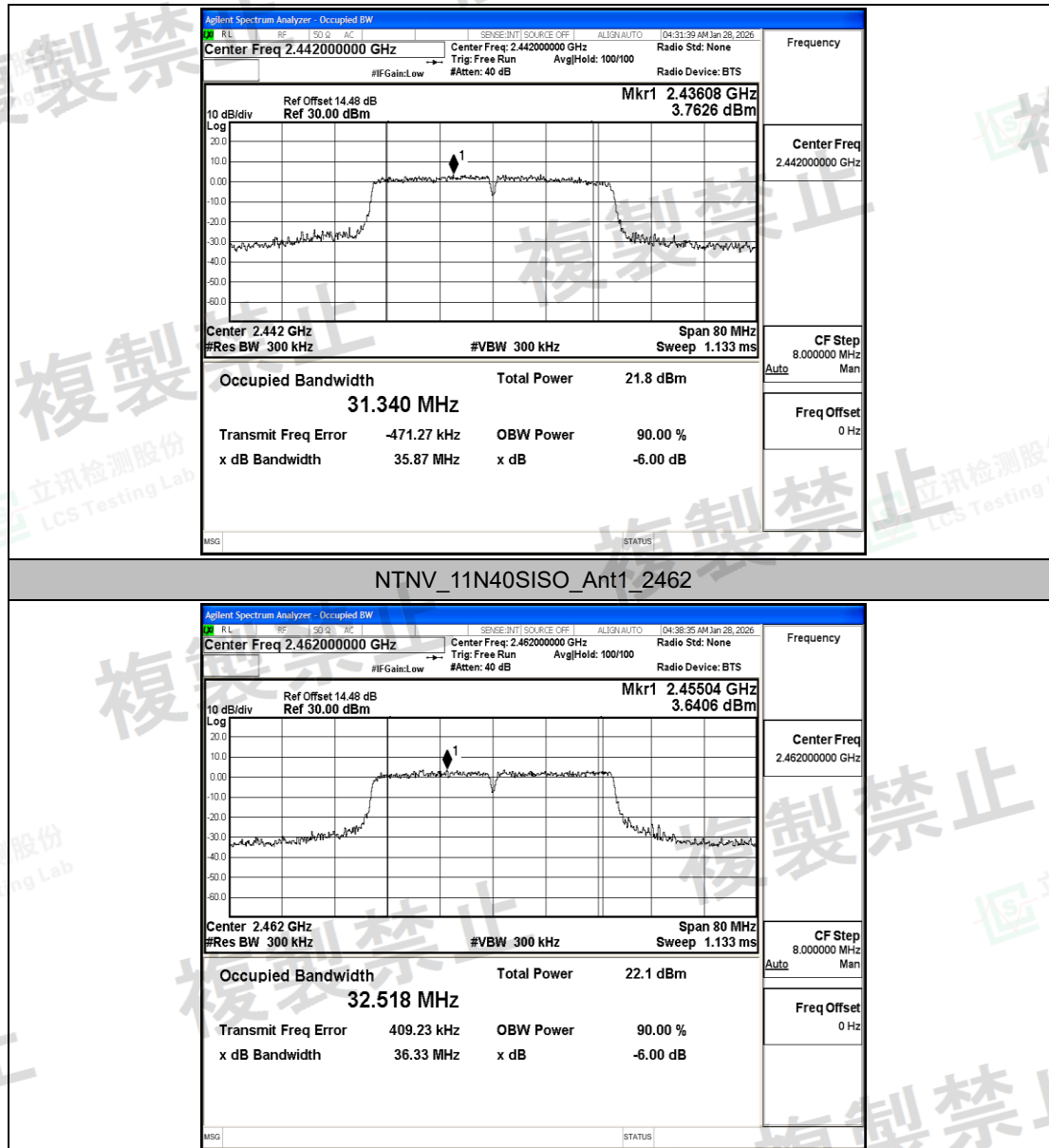
NTNV_11N20SISO_Ant1_2442



NTNV_11N20SISO_Ant1_2472









B.5 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	-53.79	≤-26	0.00418	≤2.5	PASS
				1000~2387	-52.21	≤-26	0.00601	≤2.5	PASS
				2387~2400	-32.97	≤-16	0.50466	≤25	PASS
				2483.5~2496.5	-43.42	≤-16	0.04550	≤25	PASS
				2496.5~13000	-45.44	≤-26	0.02858	≤2.5	PASS
			2442	30~1000	-53.97	≤-26	0.00401	≤2.5	PASS
				1000~2387	-52.49	≤-26	0.00564	≤2.5	PASS
				2387~2400	-43.11	≤-16	0.04887	≤25	PASS
				2483.5~2496.5	-43.22	≤-16	0.04764	≤25	PASS
				2496.5~13000	-45.84	≤-26	0.02606	≤2.5	PASS
			2472	30~1000	-53.75	≤-26	0.00422	≤2.5	PASS
				1000~2387	-52.45	≤-26	0.00569	≤2.5	PASS
				2387~2400	-43.43	≤-16	0.04539	≤25	PASS
				2483.5~2496.5	-35.68	≤-16	0.27040	≤25	PASS
				2496.5~13000	-45.28	≤-26	0.02965	≤2.5	PASS
	11G	Ant1	2412	30~1000	-53.93	≤-26	0.00405	≤2.5	PASS
				1000~2387	-46.51	≤-26	0.02234	≤2.5	PASS
				2387~2400	-25.03	≤-16	3.14051	≤25	PASS
				2483.5~2496.5	-43.40	≤-16	0.04571	≤25	PASS
				2496.5~13000	-45.72	≤-26	0.02679	≤2.5	PASS
			2442	30~1000	-53.93	≤-26	0.00405	≤2.5	PASS
				1000~2387	-52.21	≤-26	0.00601	≤2.5	PASS
				2387~2400	-42.97	≤-16	0.05047	≤25	PASS
				2483.5~2496.5	-43.07	≤-16	0.04932	≤25	PASS
				2496.5~13000	-45.51	≤-26	0.02812	≤2.5	PASS
			2472	30~1000	-53.91	≤-26	0.00406	≤2.5	PASS
				1000~2387	-52.49	≤-26	0.00564	≤2.5	PASS
				2387~2400	-43.44	≤-16	0.04529	≤25	PASS
				2483.5~2496.5	-24.20	≤-16	3.80189	≤25	PASS
				2496.5~13000	-45.12	≤-26	0.03076	≤2.5	PASS
	11N20SISO	Ant1	2412	30~1000	-53.76	≤-26	0.00421	≤2.5	PASS
				1000~2387	-45.64	≤-26	0.02729	≤2.5	PASS
				2387~2400	-23.32	≤-16	4.65586	≤25	PASS
				2483.5~2496.5	-43.31	≤-16	0.04667	≤25	PASS
				2496.5~13000	-45.50	≤-26	0.02818	≤2.5	PASS



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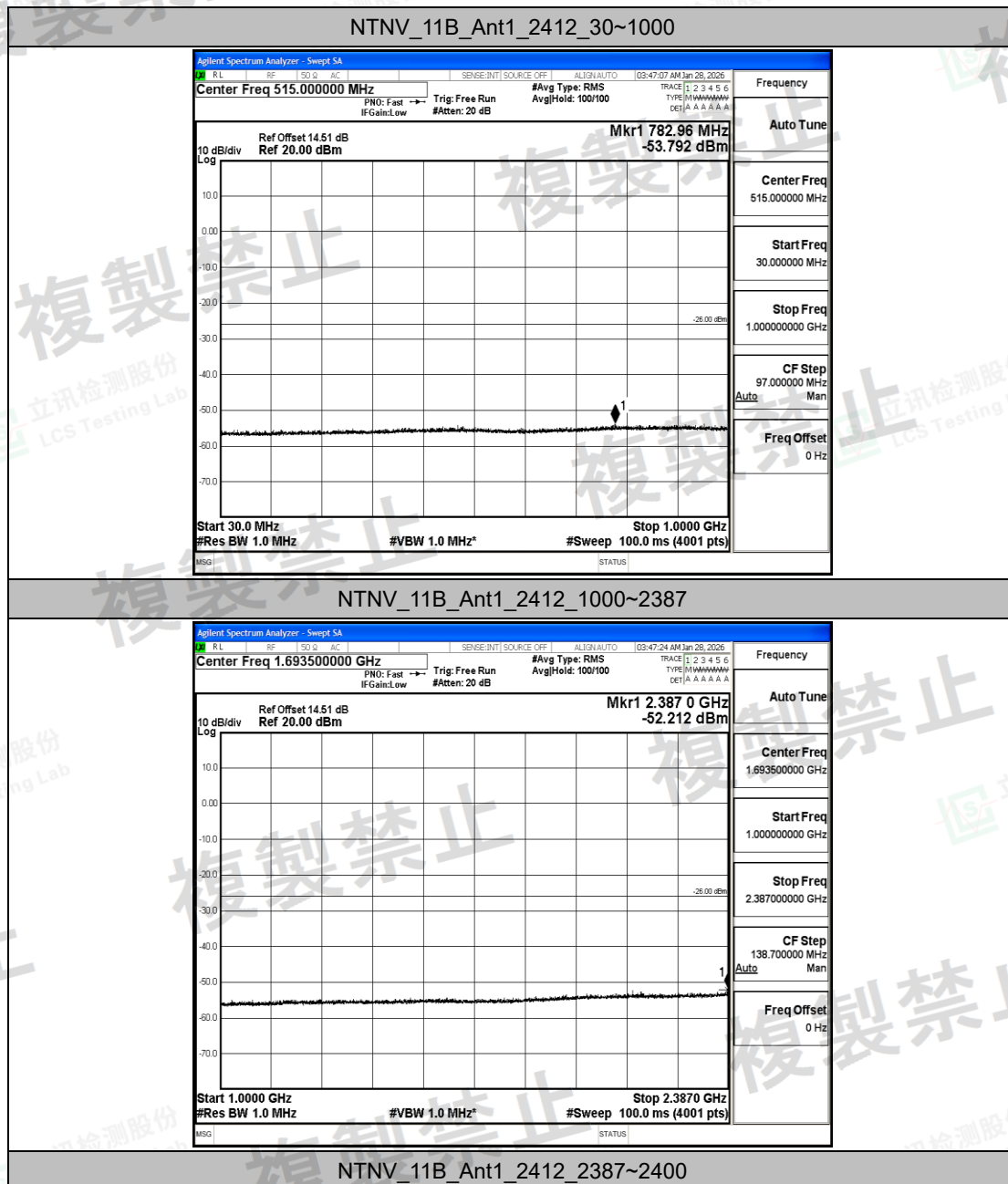


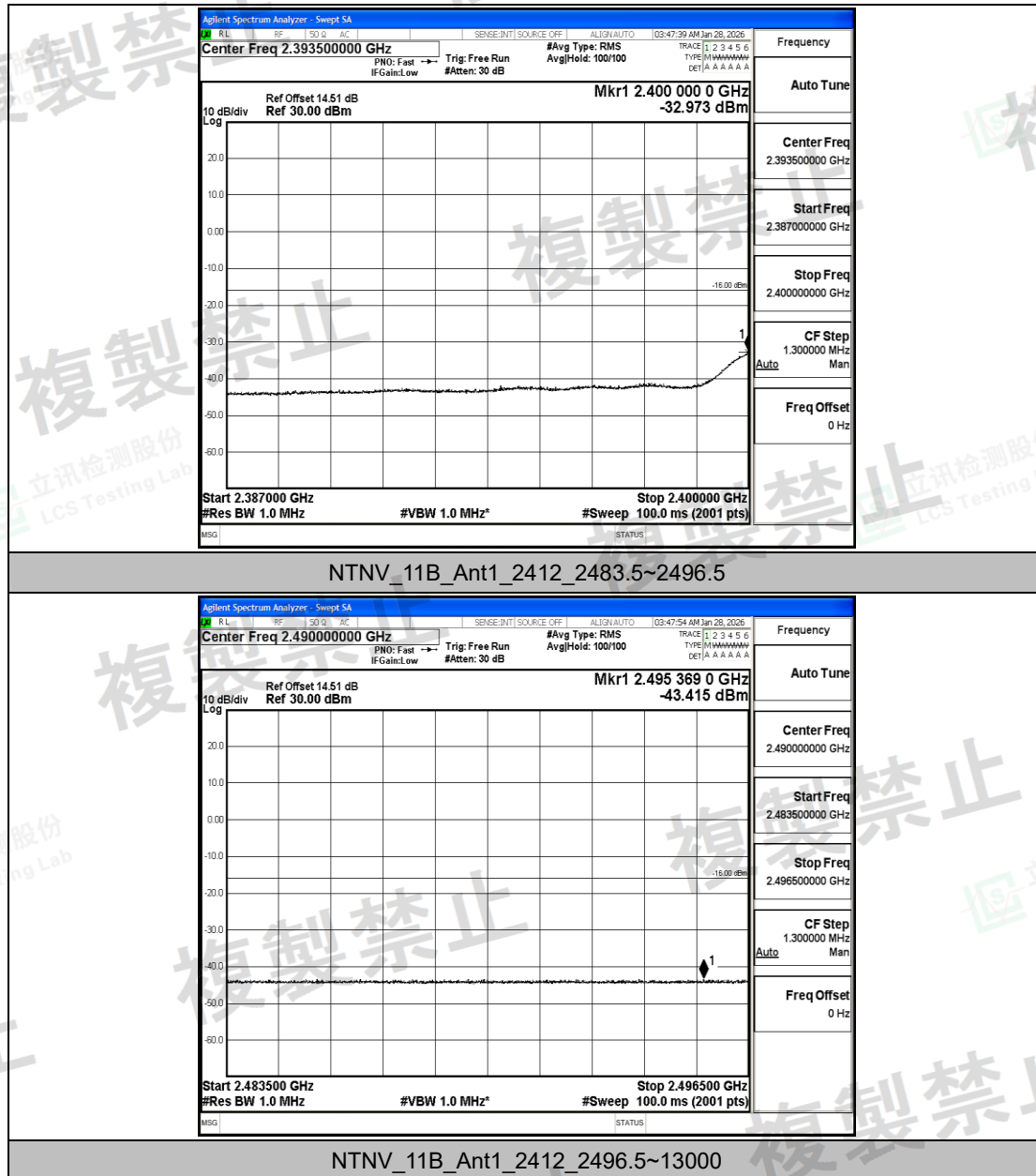
			2442	30~1000	-53.78	≤-26	0.00419	≤2.5	PASS
				1000~2387	-52.37	≤-26	0.00579	≤2.5	PASS
				2387~2400	-43.08	≤-16	0.04920	≤25	PASS
				2483.5~2496.5	-42.85	≤-16	0.05188	≤25	PASS
				2496.5~13000	-45.86	≤-26	0.02594	≤2.5	PASS
			2472	30~1000	-53.76	≤-26	0.00421	≤2.5	PASS
				1000~2387	-52.77	≤-26	0.00528	≤2.5	PASS
				2387~2400	-43.44	≤-16	0.04529	≤25	PASS
				2483.5~2496.5	-23.80	≤-16	4.16869	≤25	PASS
				2496.5~13000	-45.53	≤-26	0.02799	≤2.5	PASS
	11N40SISO	Ant1	2422	30~1000	-53.88	≤-26	0.00409	≤2.5	PASS
				1000~2387	-48.75	≤-26	0.01334	≤2.5	PASS
				2387~2400	-31.33	≤-16	0.73621	≤25	PASS
				2483.5~2496.5	-43.15	≤-16	0.04842	≤25	PASS
				2496.5~13000	-45.34	≤-26	0.02924	≤2.5	PASS
			2442	30~1000	-53.87	≤-26	0.00410	≤2.5	PASS
				1000~2387	-52.18	≤-26	0.00605	≤2.5	PASS
				2387~2400	-40.01	≤-16	0.09977	≤25	PASS
				2483.5~2496.5	-40.48	≤-16	0.08954	≤25	PASS
				2496.5~13000	-45.58	≤-26	0.02767	≤2.5	PASS
			2462	30~1000	-54.08	≤-26	0.00391	≤2.5	PASS
				1000~2387	-52.85	≤-26	0.00519	≤2.5	PASS
				2387~2400	-43.27	≤-16	0.04710	≤25	PASS
				2483.5~2496.5	-26.43	≤-16	2.27510	≤25	PASS
				2496.5~13000	-45.10	≤-26	0.03090	≤2.5	PASS



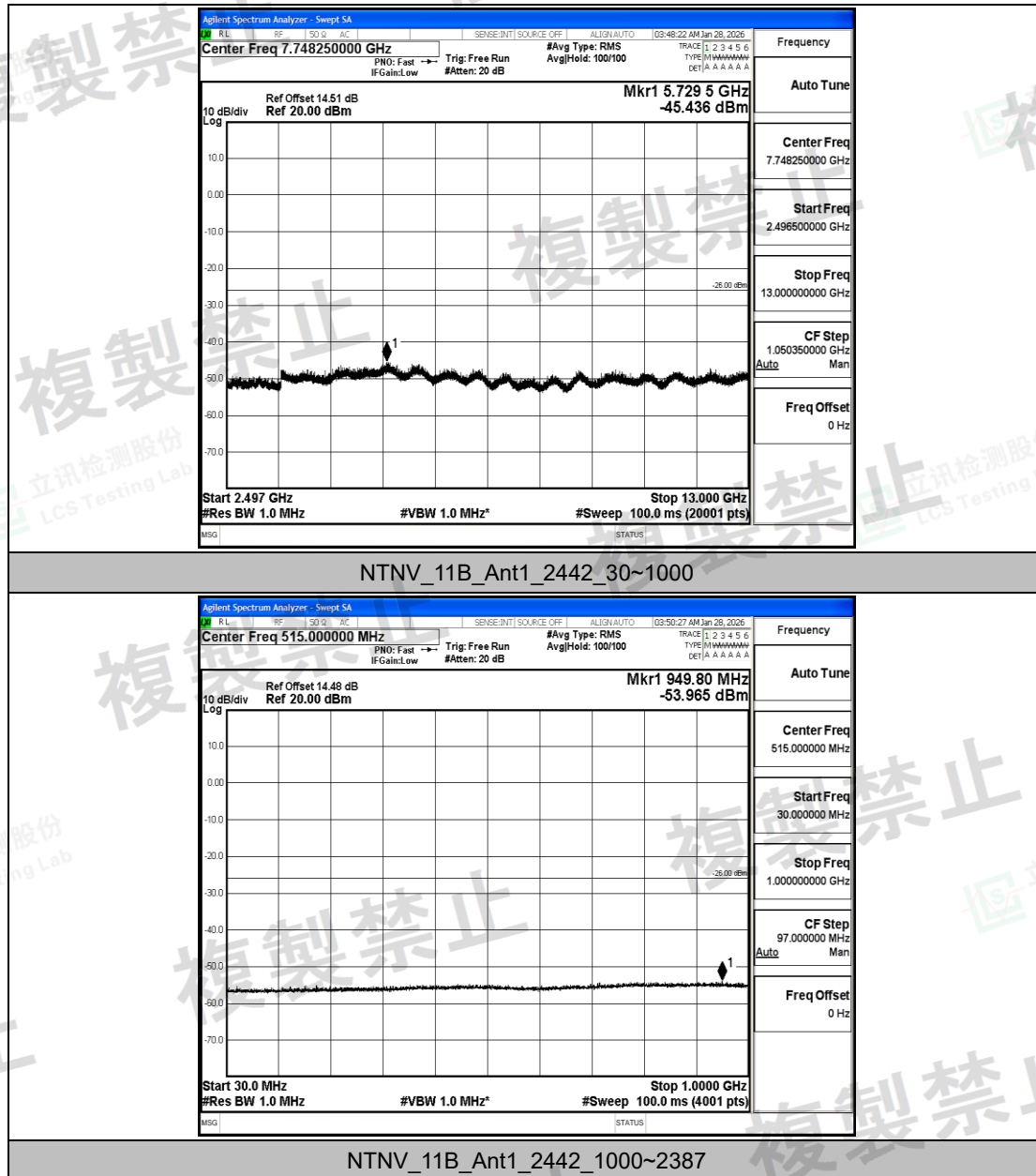


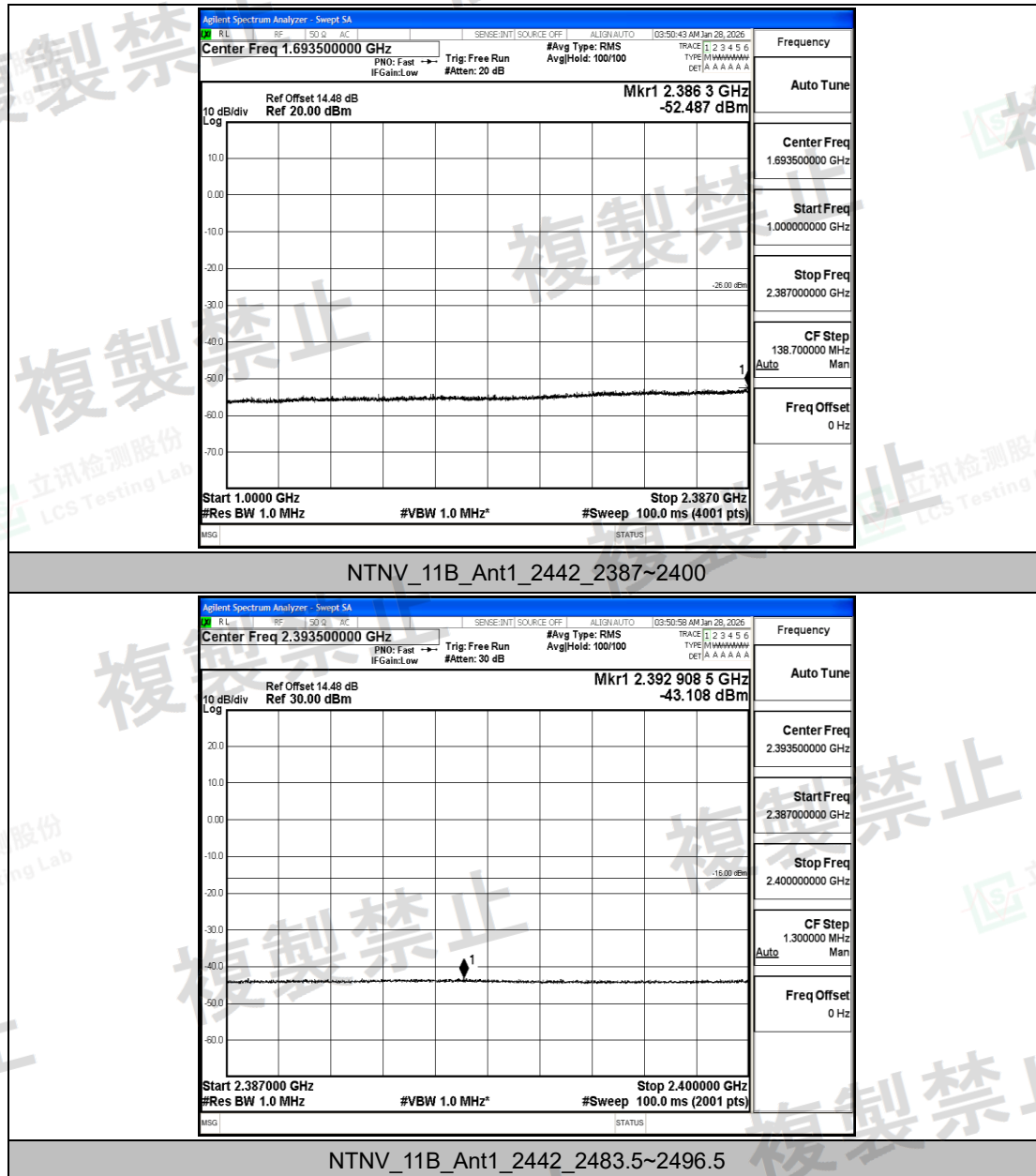
Test Graphs

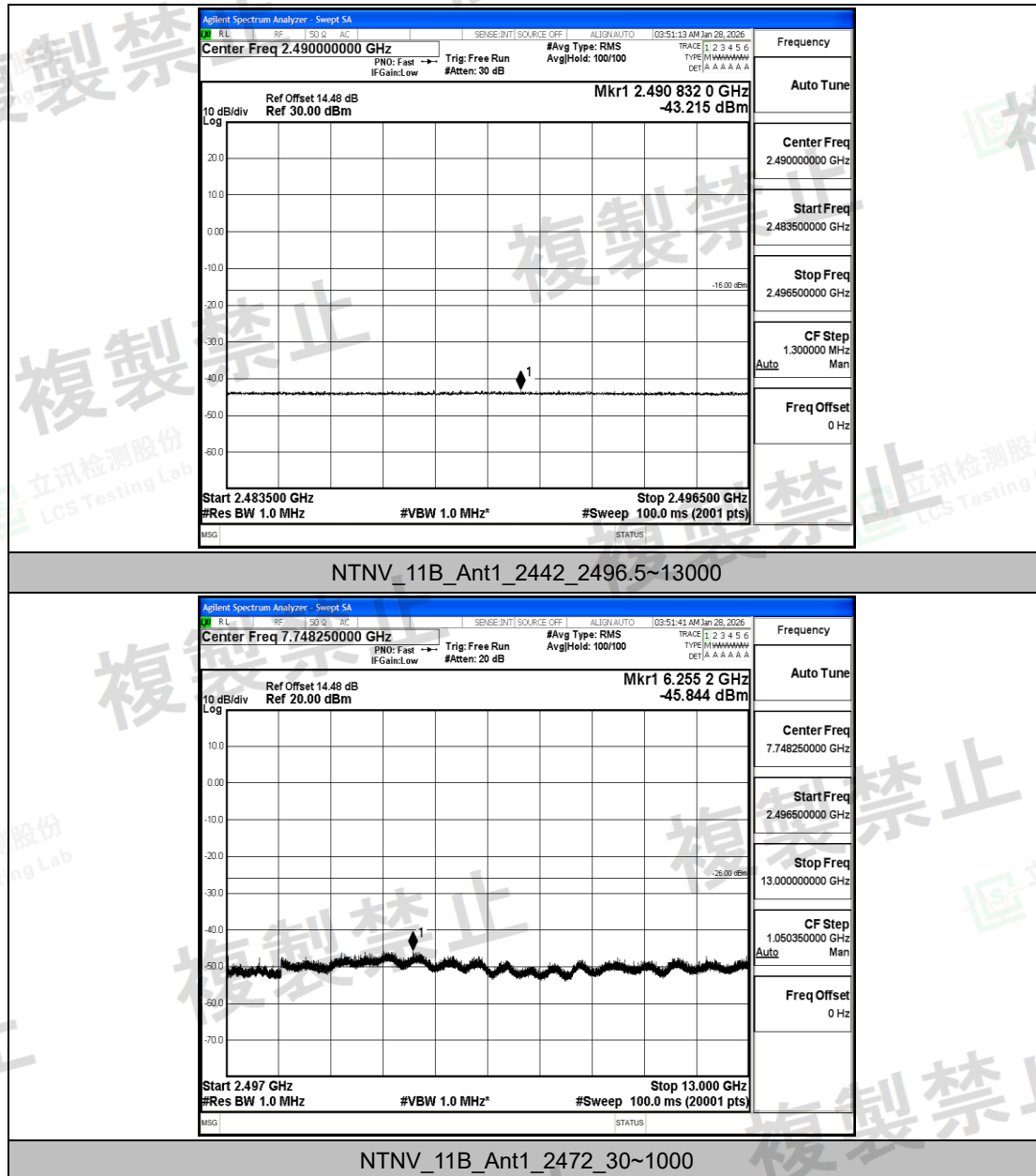


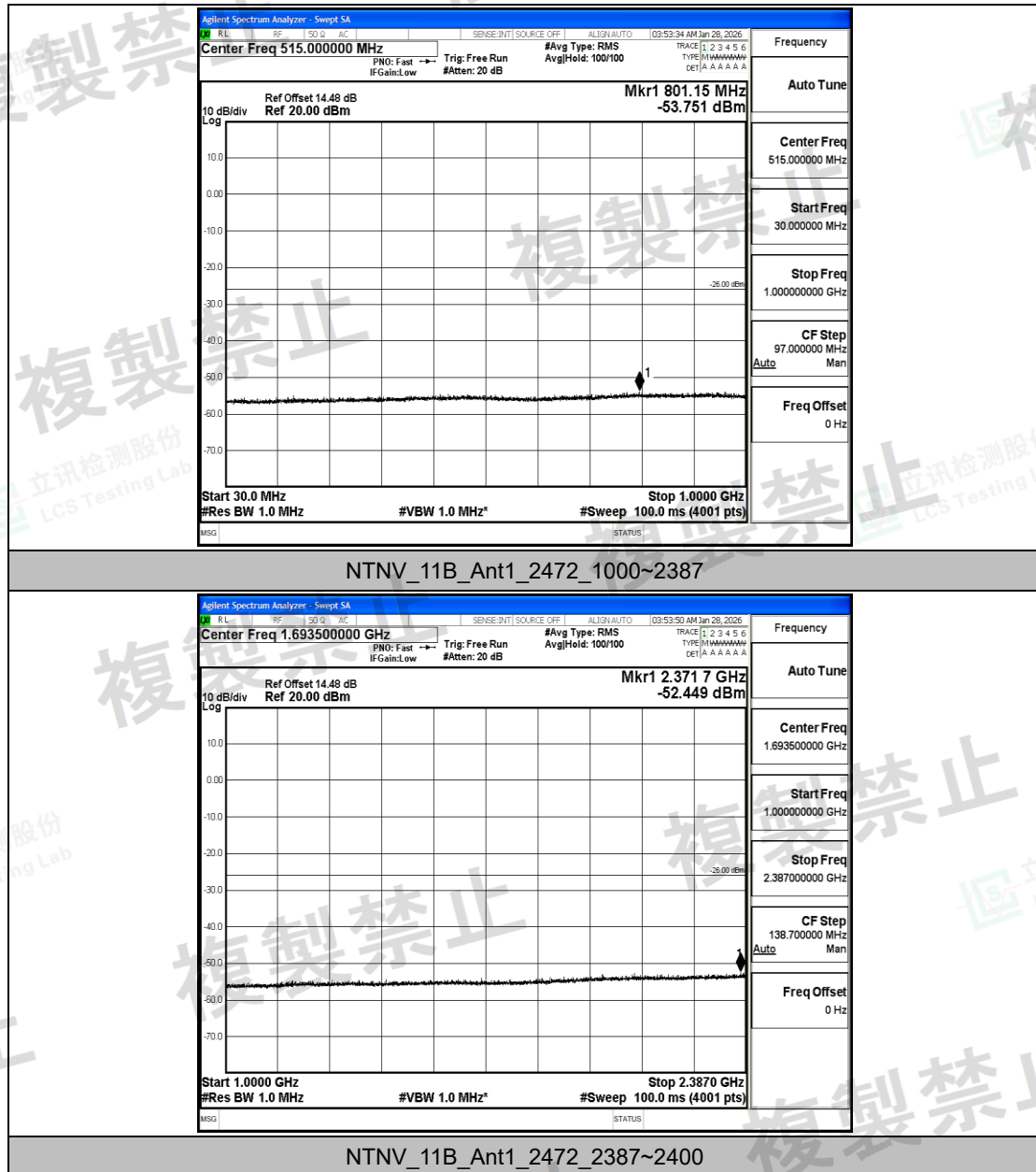


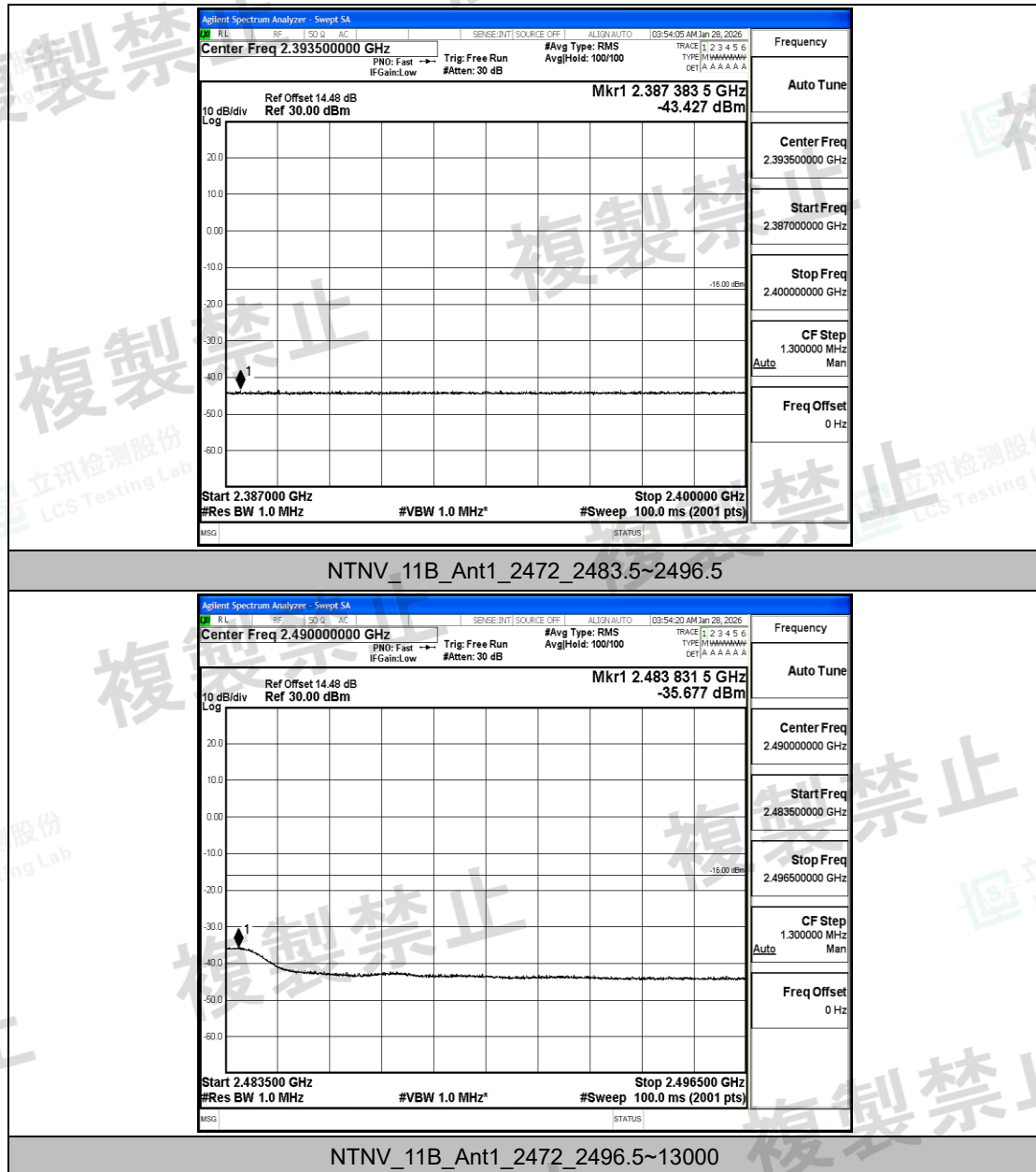
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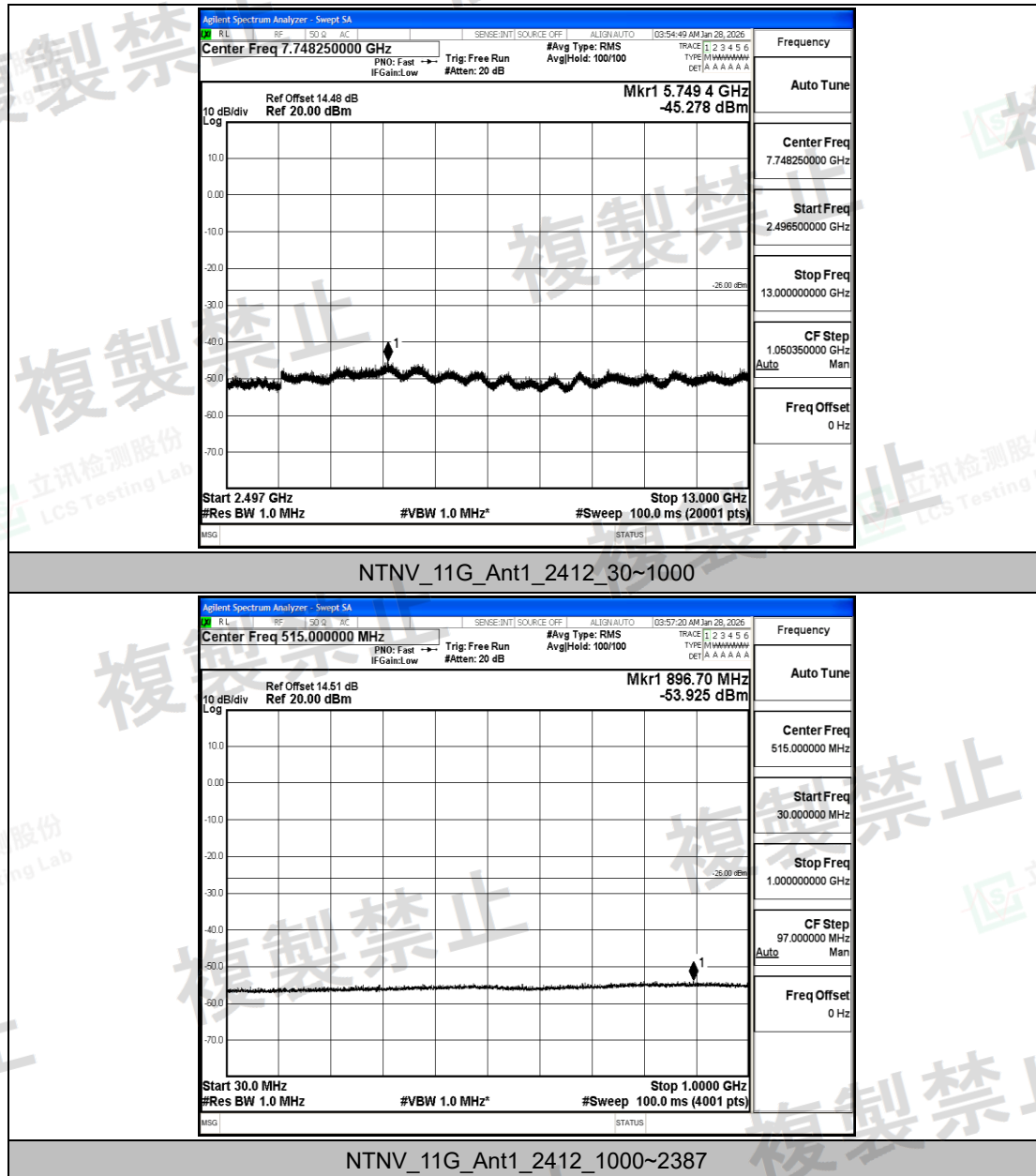




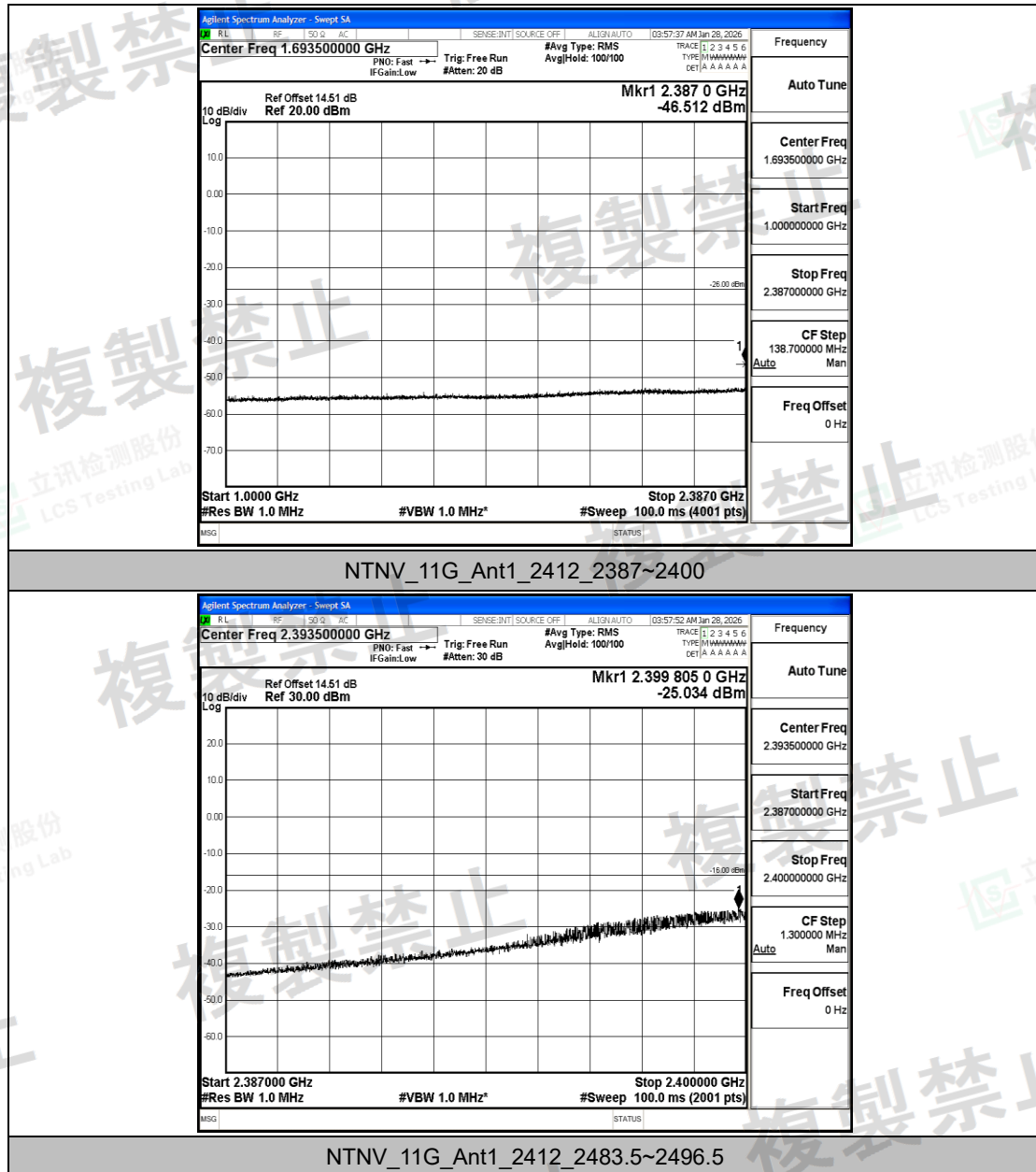


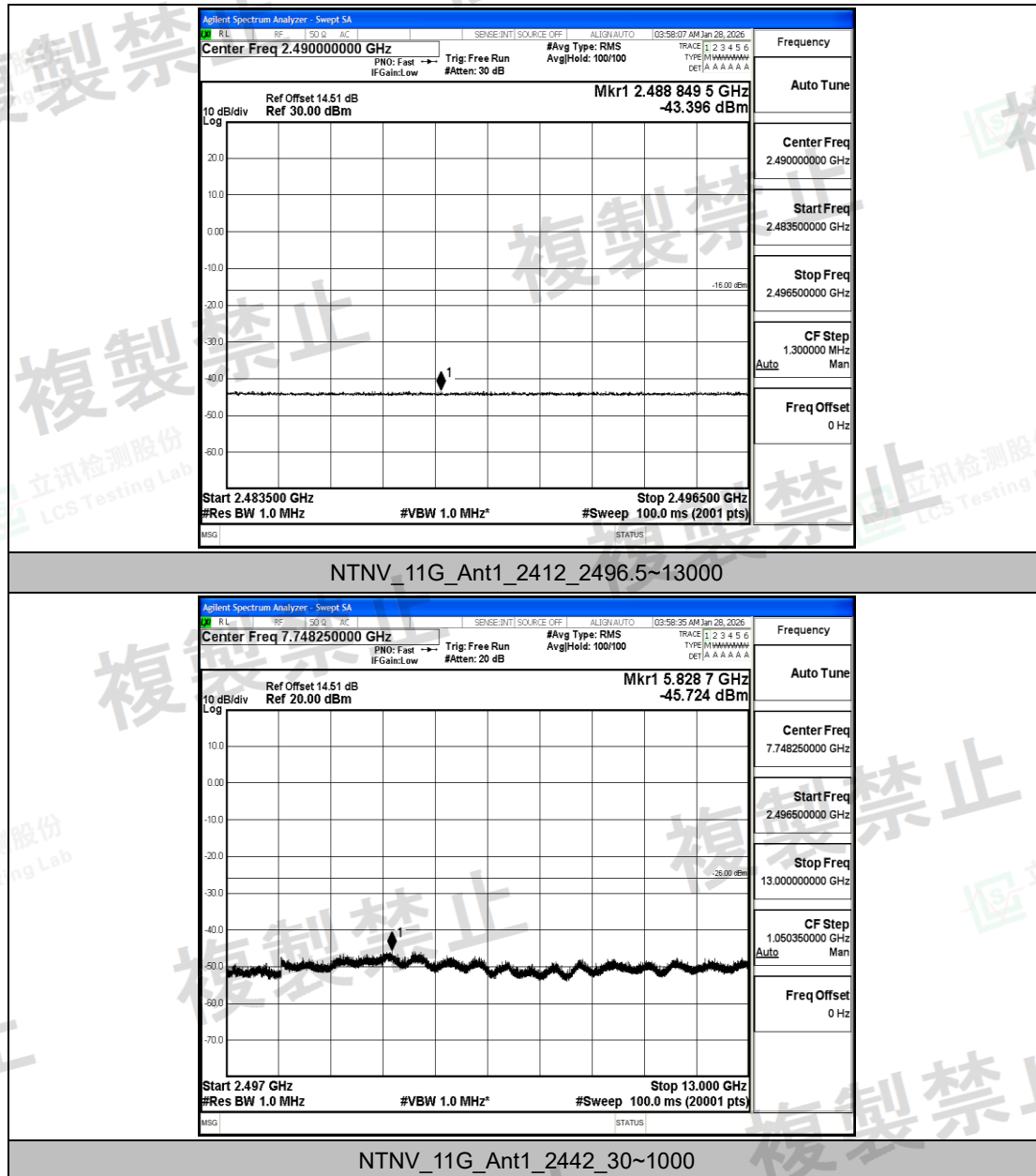


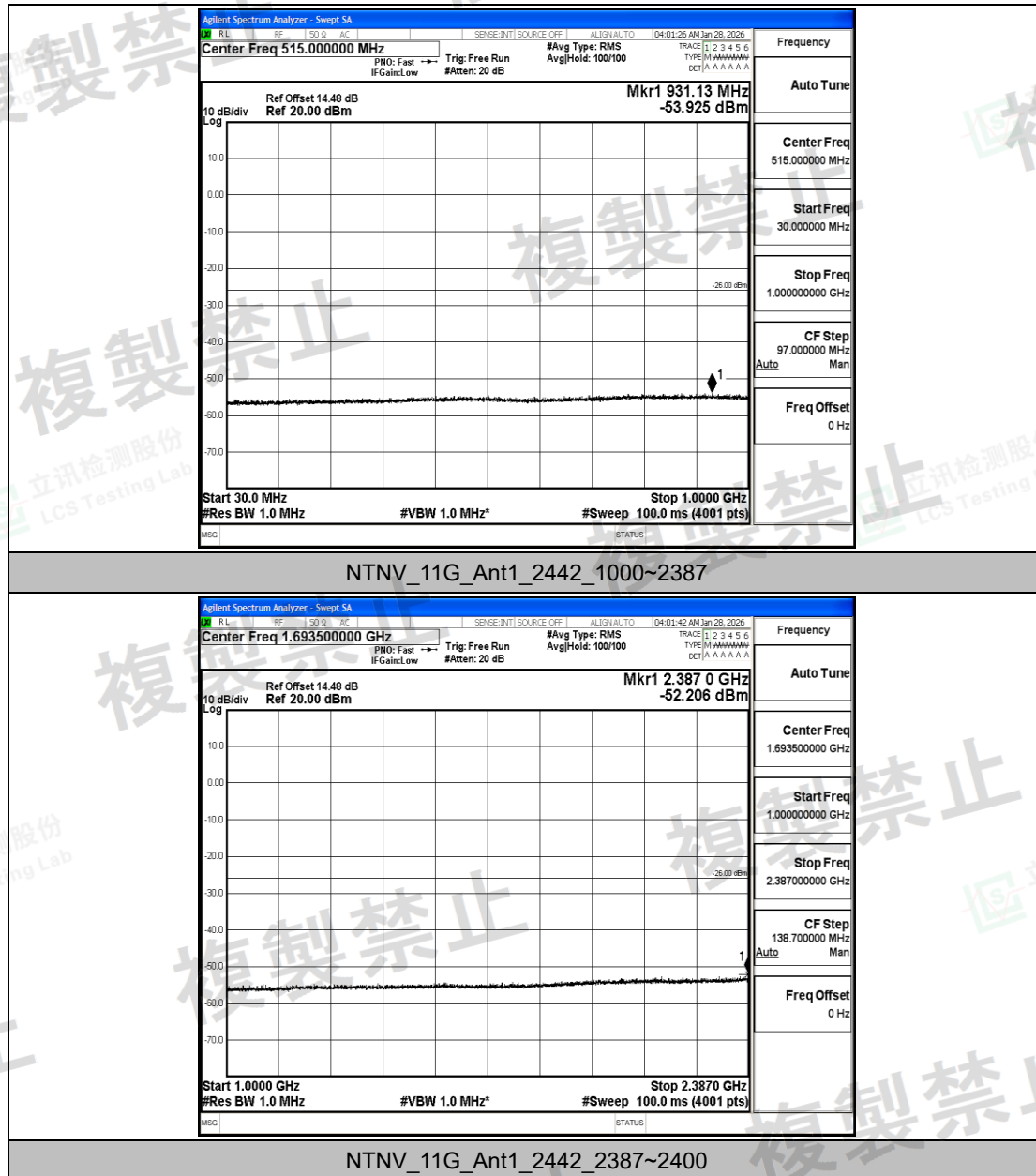
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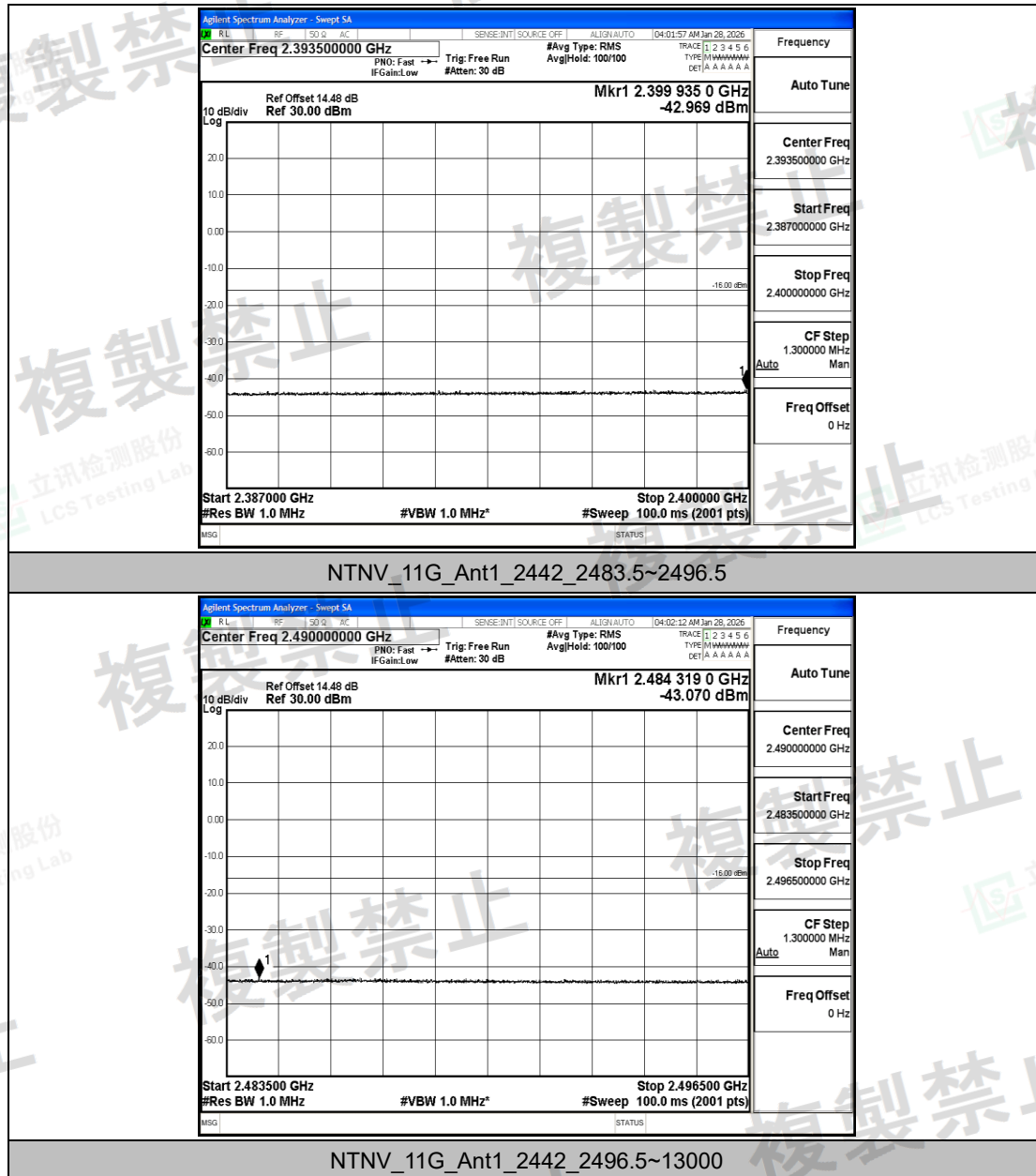


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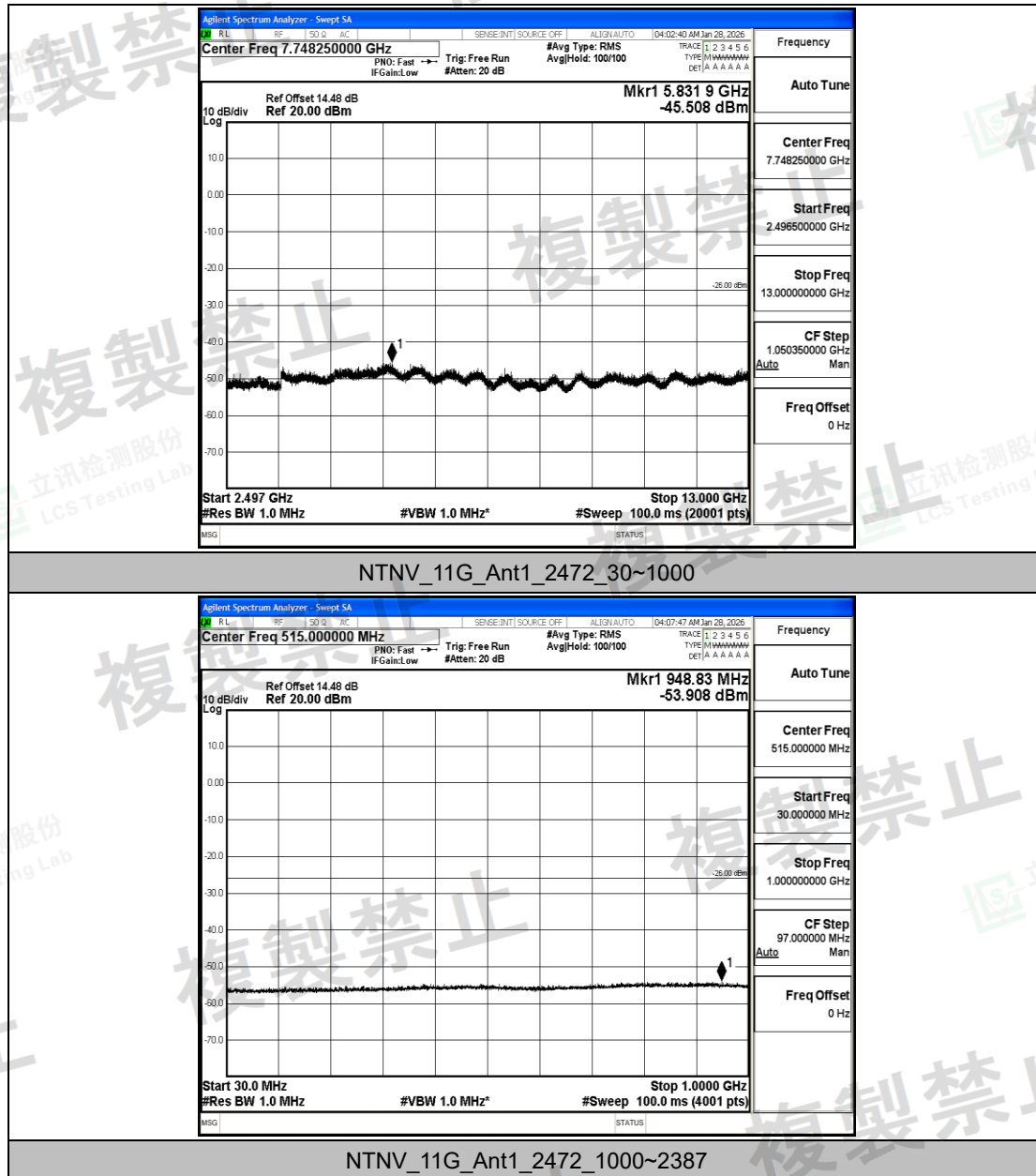


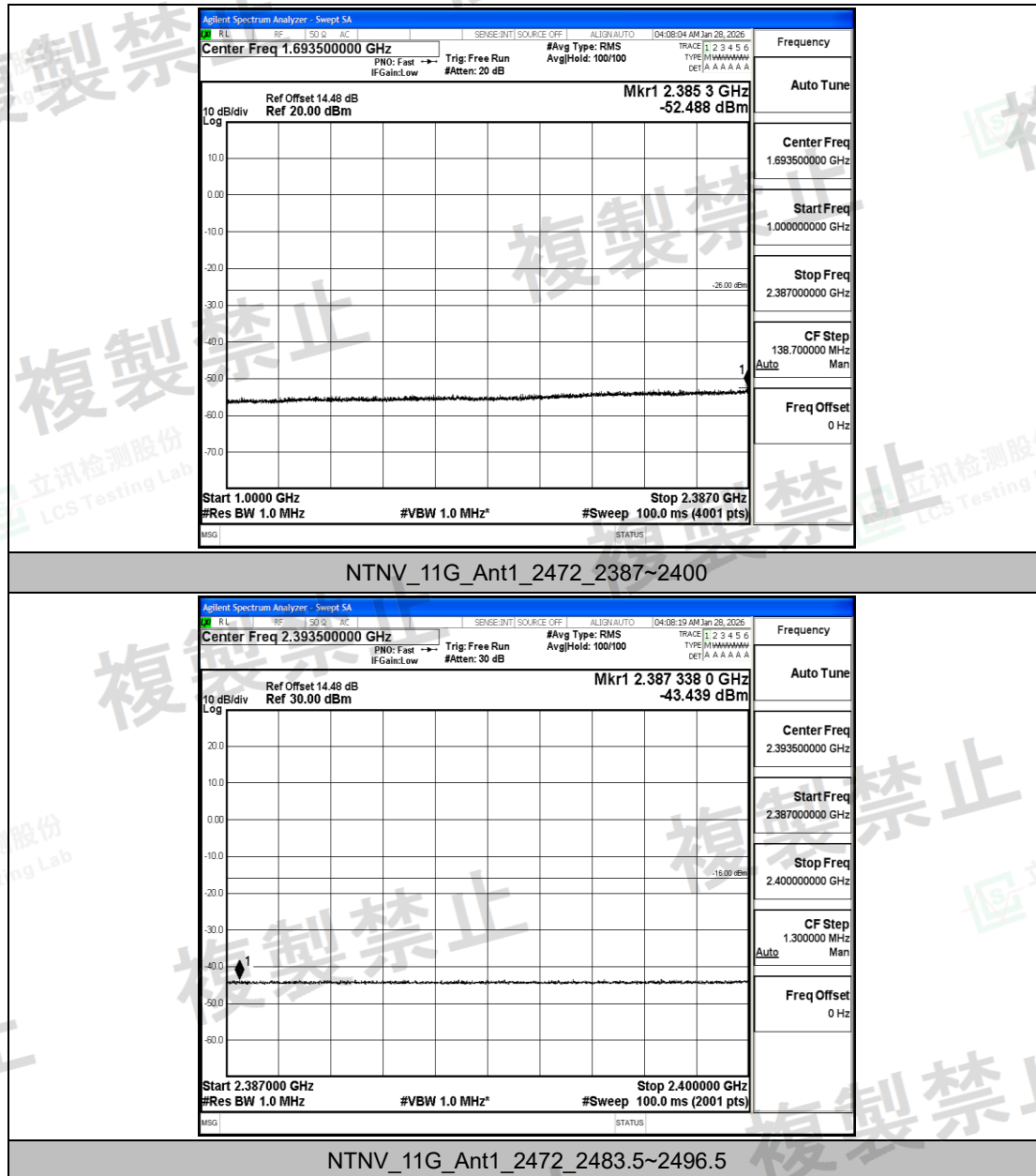


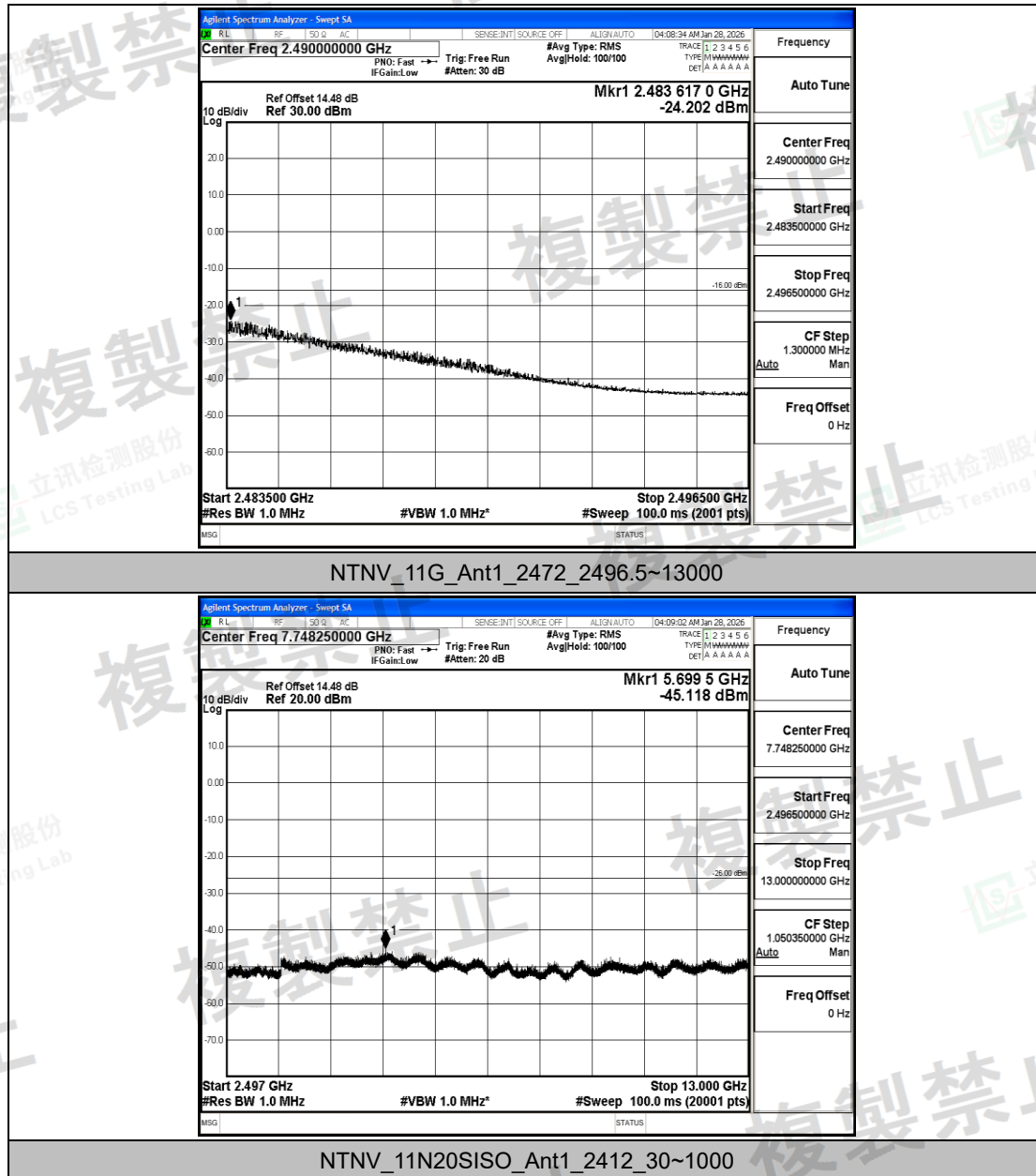




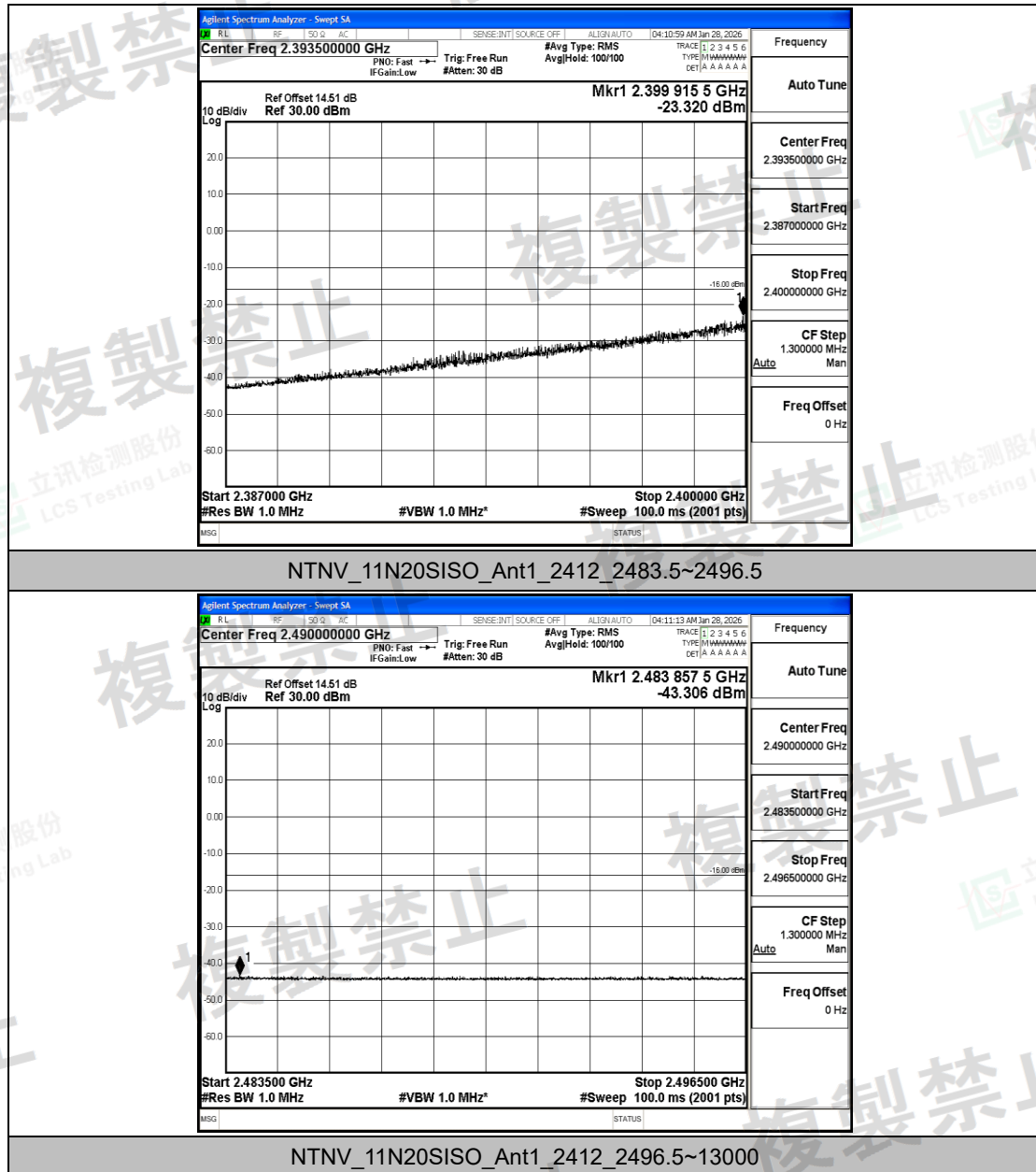
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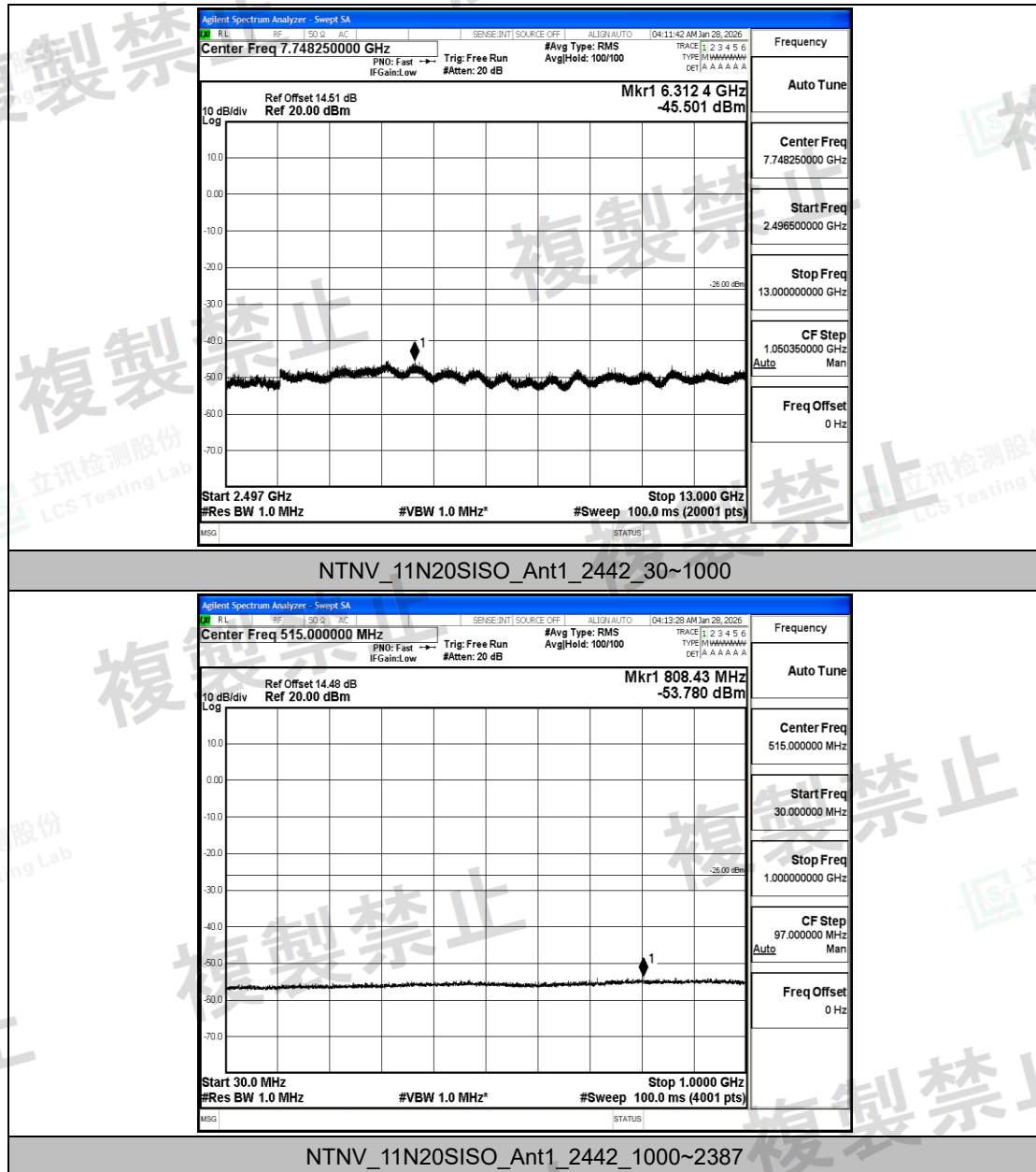


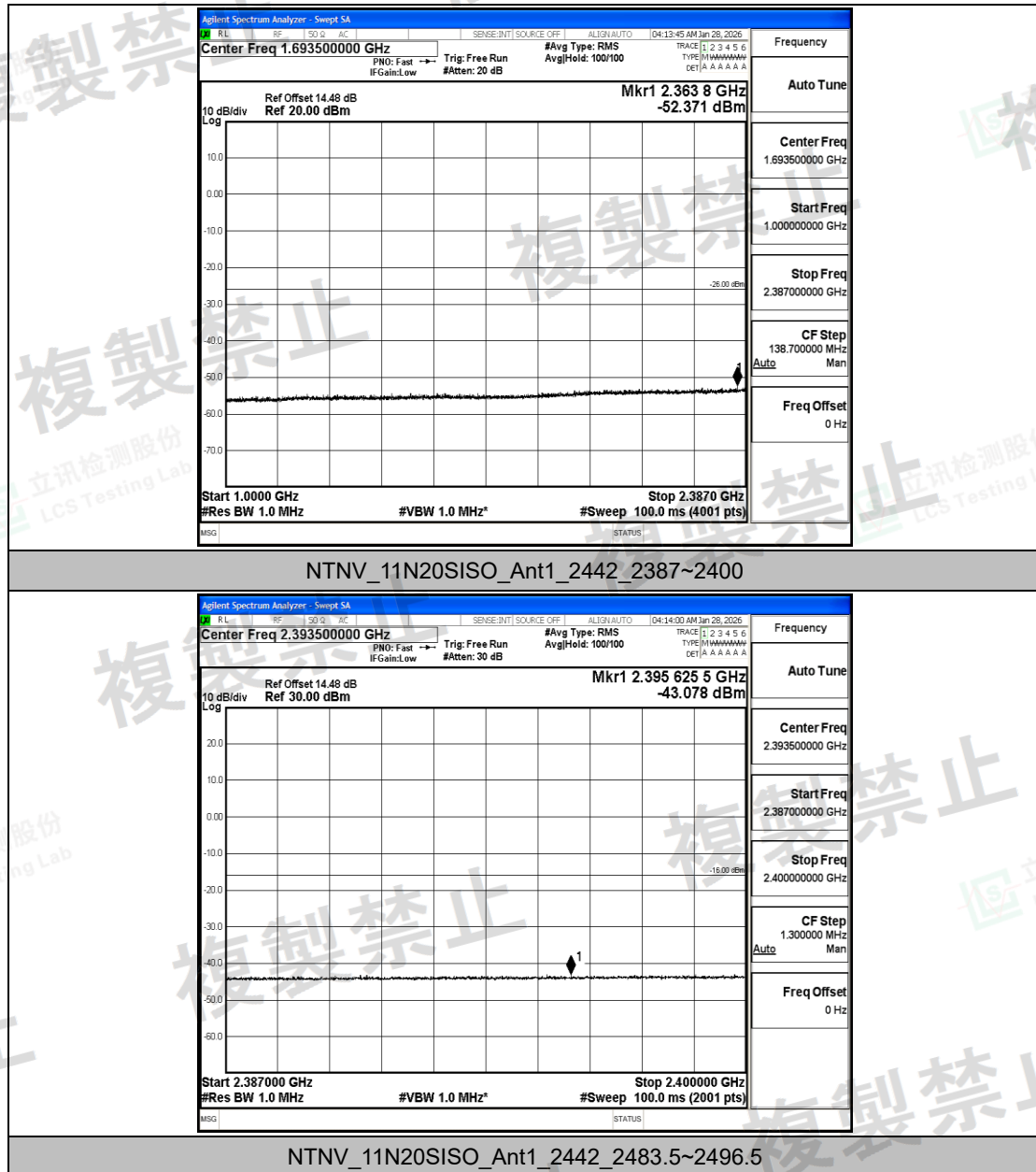


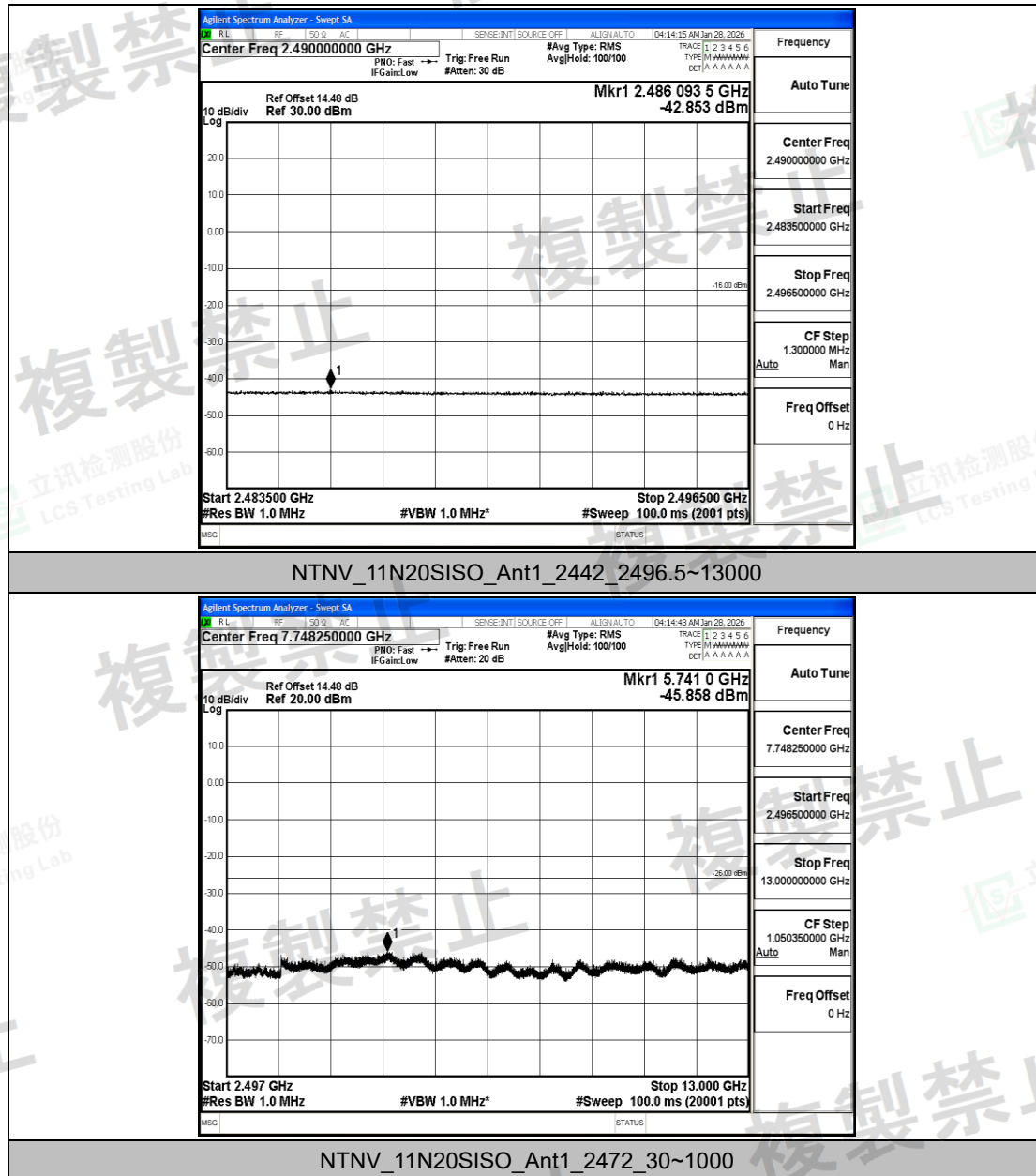




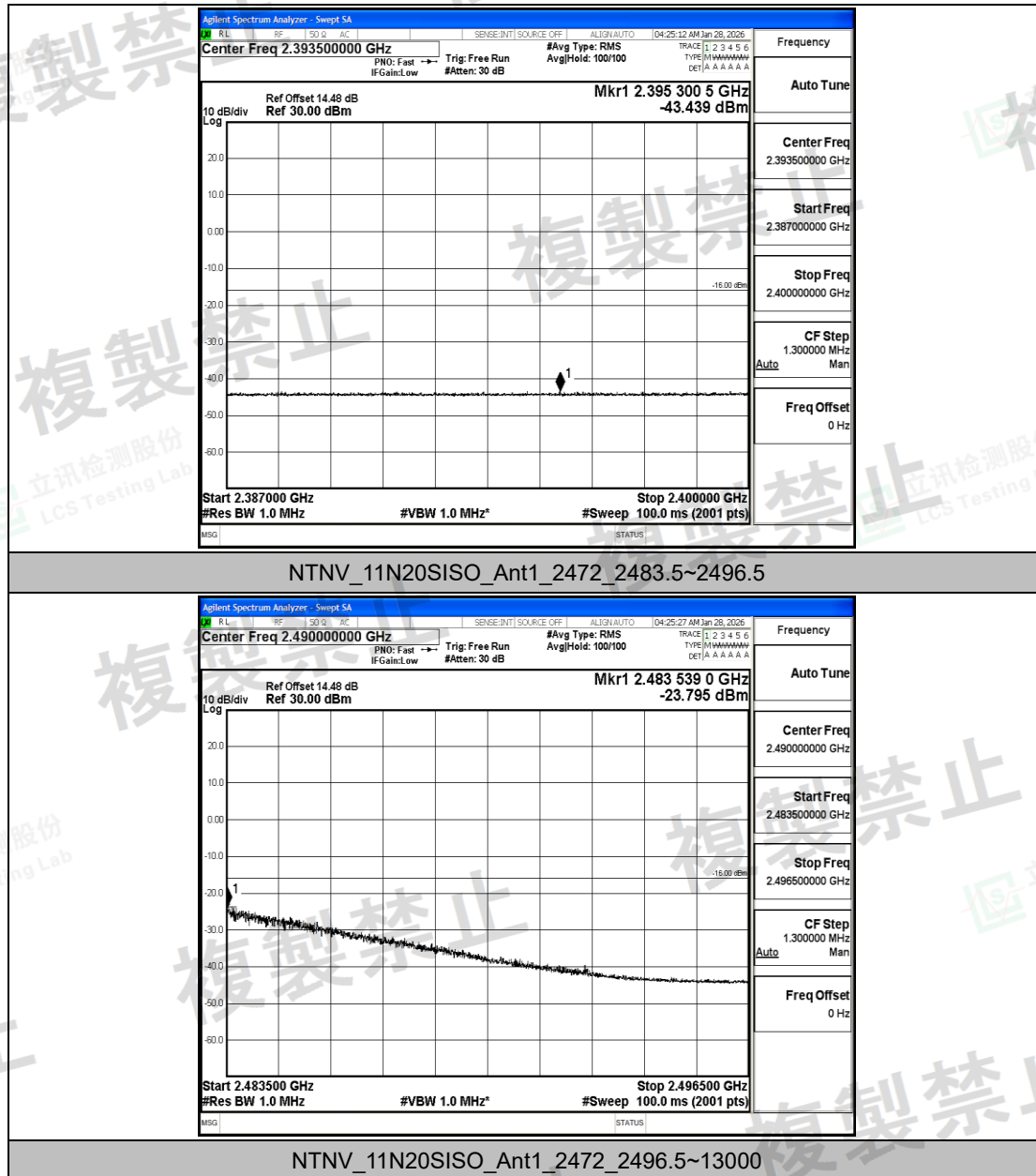
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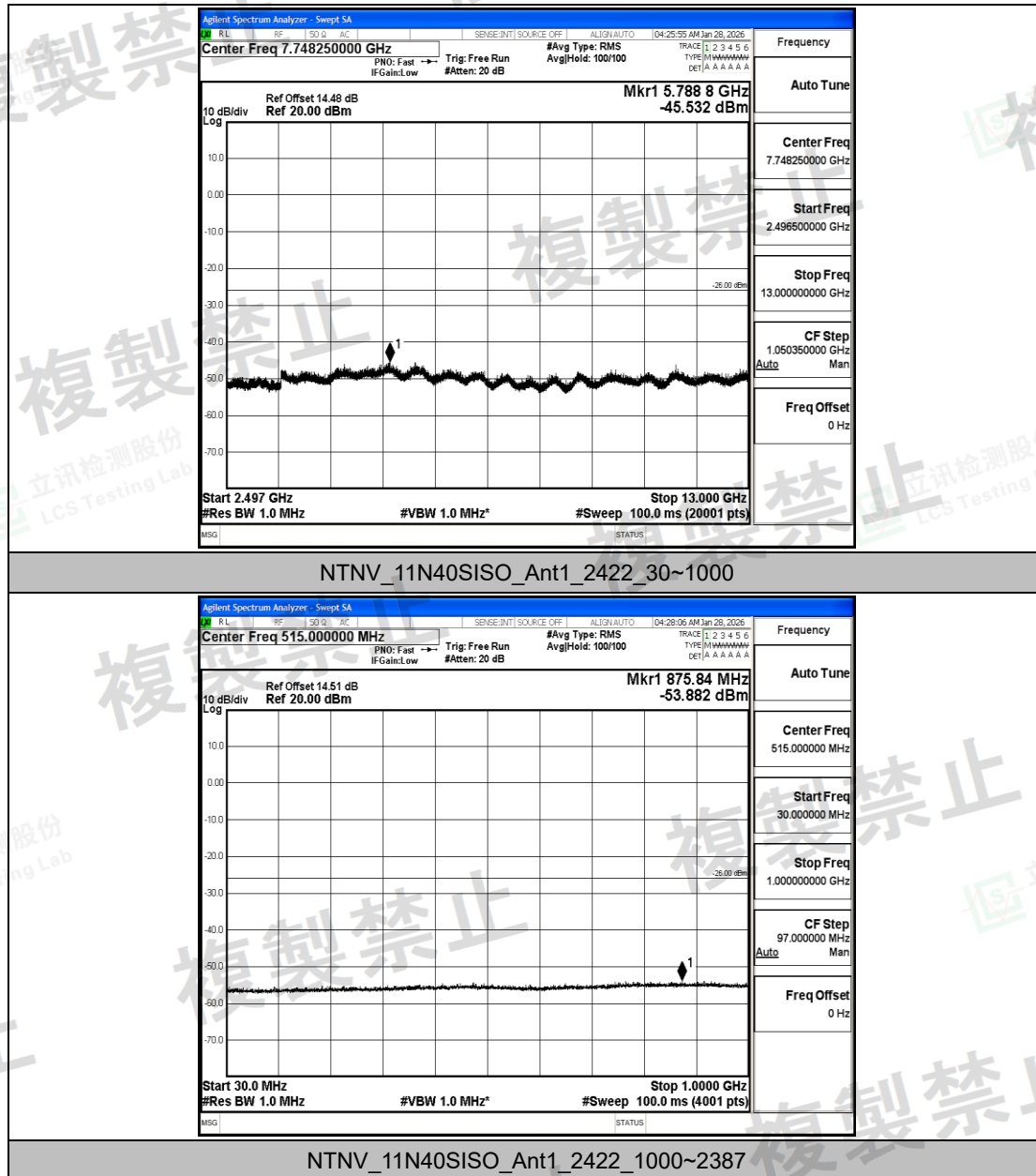


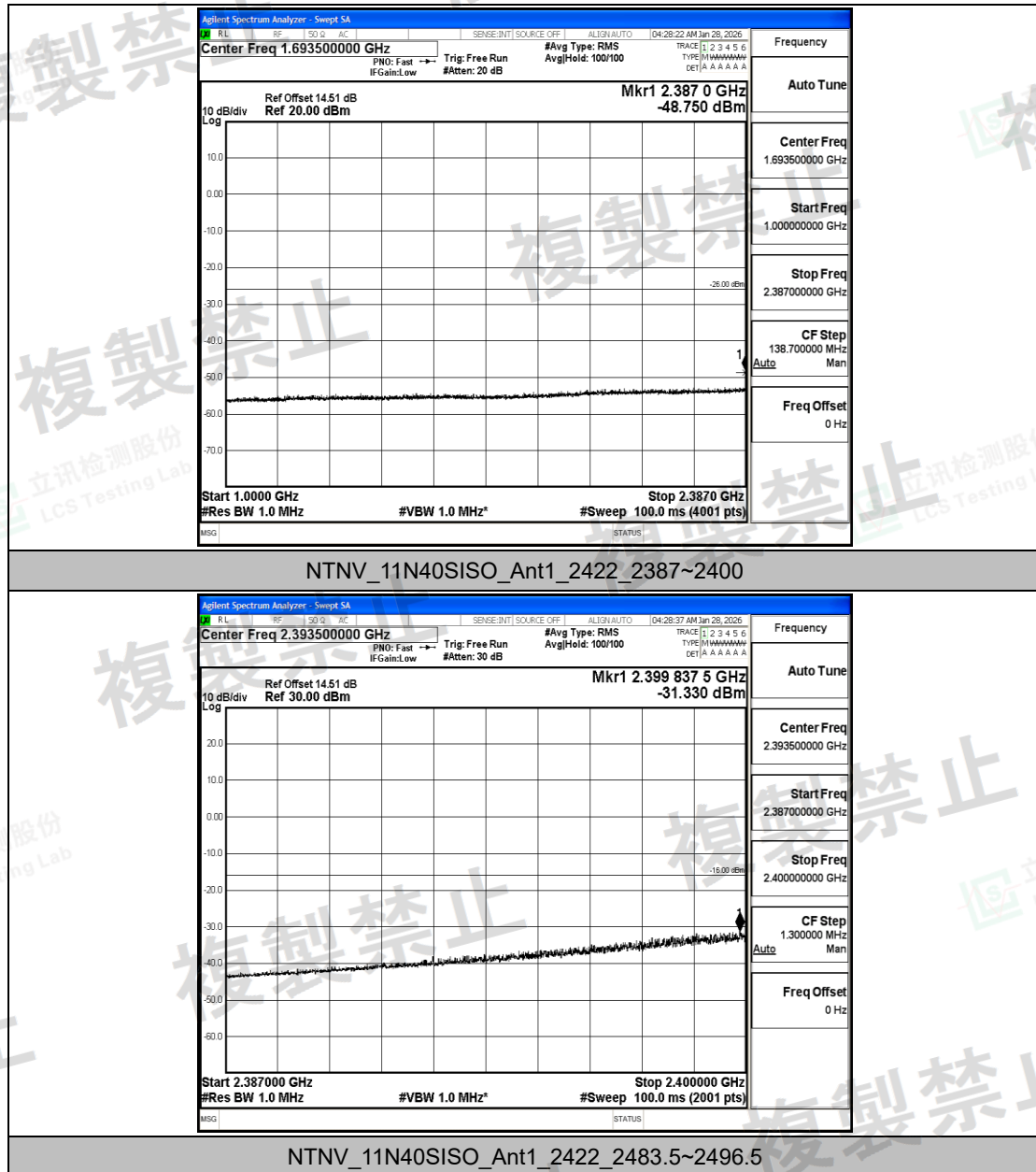


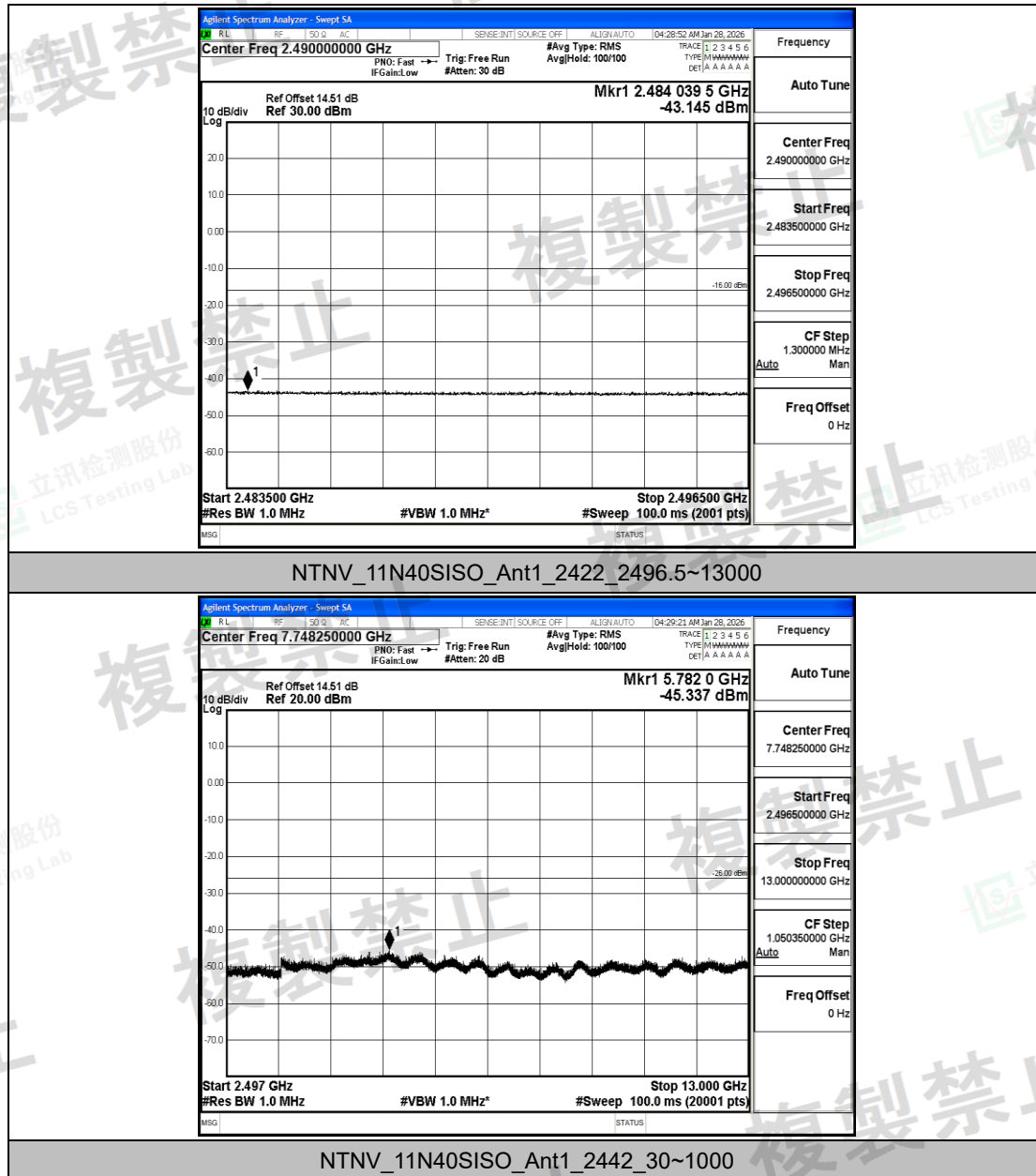








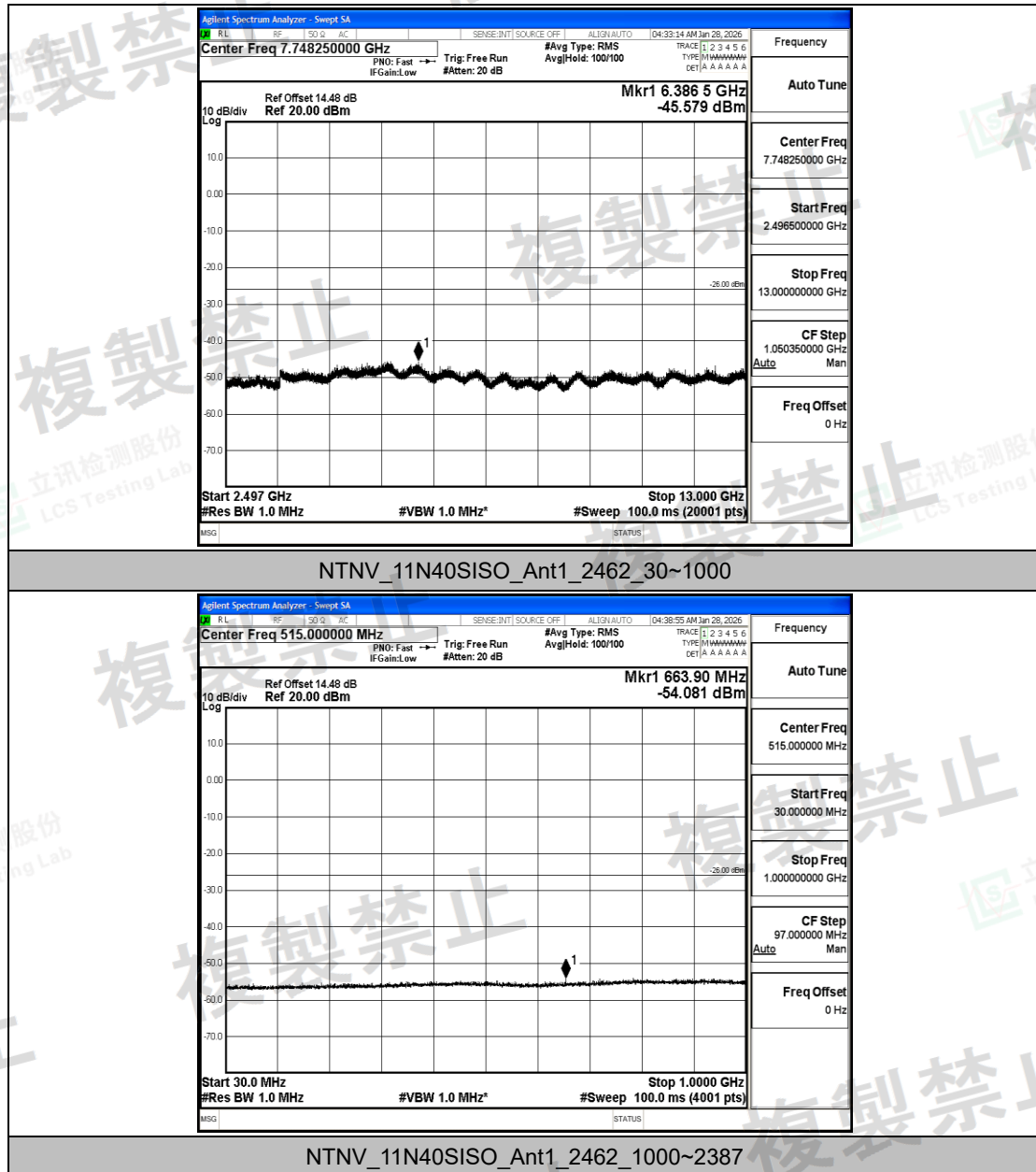




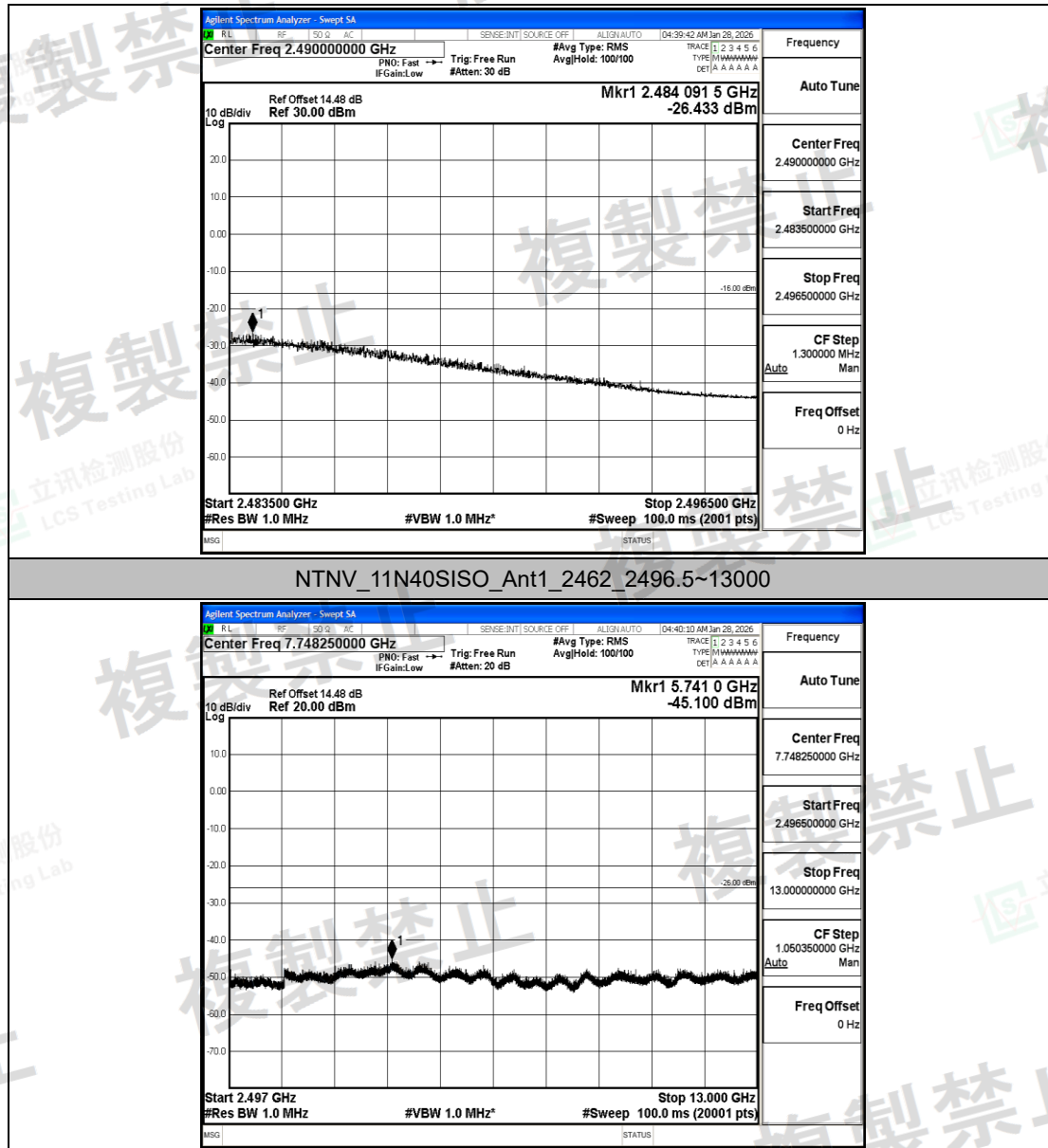




Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: Room 101/201, Building A, and Room 101/301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity









B.6 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	-83.8	≤-54	0.00417	≤4	PASS
				1000~12500	-67.12	≤-47	0.19409	≤20	PASS
			2442	30~1000	-84.17	≤-54	0.00383	≤4	PASS
				1000~12500	-66.69	≤-47	0.21429	≤20	PASS
			2472	30~1000	-84.14	≤-54	0.00385	≤4	PASS
				1000~12500	-67.03	≤-47	0.19815	≤20	PASS
	11G	Ant1	2412	30~1000	-84.09	≤-54	0.00390	≤4	PASS
				1000~12500	-67.06	≤-47	0.19679	≤20	PASS
			2442	30~1000	-83.88	≤-54	0.00409	≤4	PASS
				1000~12500	-67.02	≤-47	0.19861	≤20	PASS
			2472	30~1000	-83.77	≤-54	0.00420	≤4	PASS
				1000~12500	-66.25	≤-47	0.23714	≤20	PASS
	11N20SISO	Ant1	2412	30~1000	-83.79	≤-54	0.00418	≤4	PASS
				1000~12500	-66.92	≤-47	0.20324	≤20	PASS
			2442	30~1000	-82.06	≤-54	0.00622	≤4	PASS
				1000~12500	-66.33	≤-47	0.23281	≤20	PASS
			2472	30~1000	-84.22	≤-54	0.00378	≤4	PASS
				1000~12500	-67.2	≤-47	0.19055	≤20	PASS
	11N40SISO	Ant1	2422	30~1000	-84.13	≤-54	0.00386	≤4	PASS
				1000~12500	-66.49	≤-47	0.22439	≤20	PASS
			2442	30~1000	-84.33	≤-54	0.00369	≤4	PASS
				1000~12500	-66.95	≤-47	0.20184	≤20	PASS
			2462	30~1000	-83.94	≤-54	0.00404	≤4	PASS
				1000~12500	-66.61	≤-47	0.21827	≤20	PASS





Test Graphs

