



Appendix A for BT LE Test Data

Product Name: Hiking Energy Saver

Test Model: Dnsys X1

Environmental Conditions

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



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



A.1 Frequency Error

Test Result

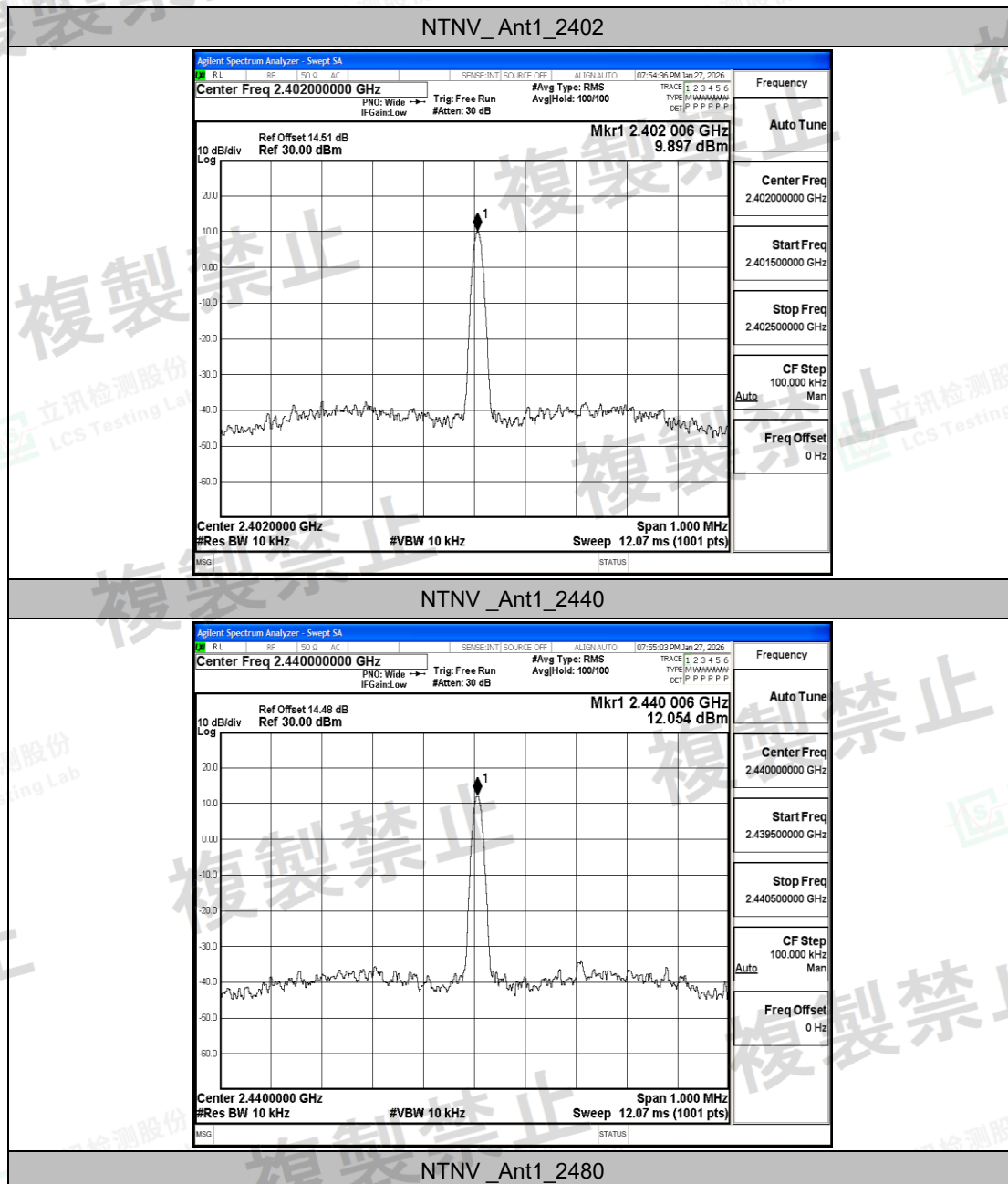
TestCondition	TestMode	Antenna	Frequency [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	2.49792	±50	PASS
			2440	2.45902	±50	PASS
			2480	2.41936	±50	PASS

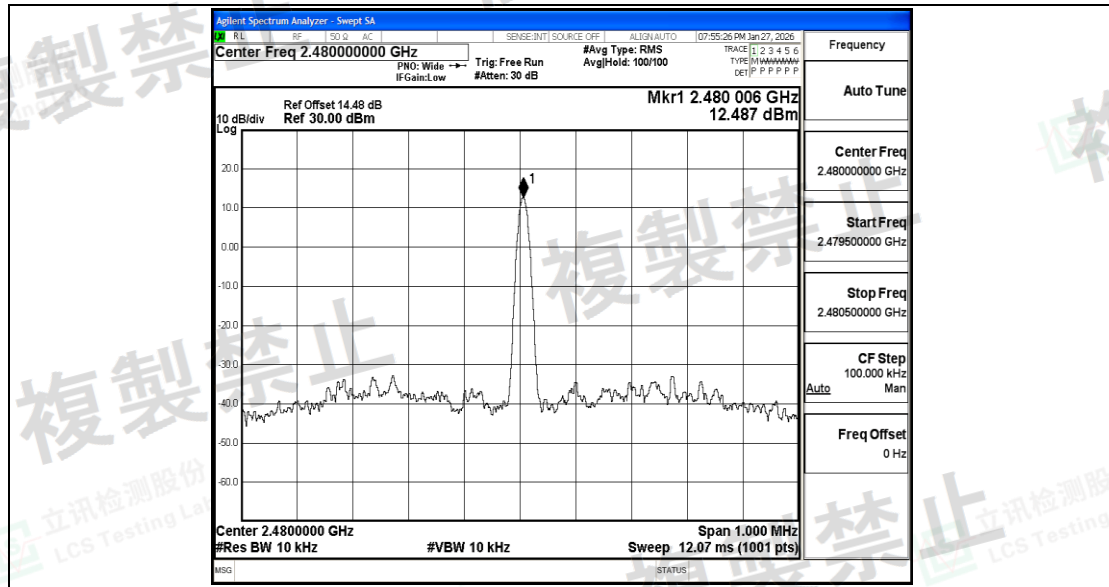


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Test Graphs







A.2 Antenna Power & EIRP

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Freq (MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	-1.31	0.74	≤10	PASS
			2440	-0.97	0.80	≤10	PASS
			2480	-0.72	0.85	≤10	PASS
	BLE_2M	Ant1	2402	-1.99	0.63	≤10	PASS
			2440	-1.26	0.75	≤10	PASS
			2480	-0.87	0.82	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Freq (MHz)	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	0.74	1.0	-26.00	20	PASS
			2440	0.80	1.0	-20.00	20	PASS
			2480	0.85	1.0	-15.00	20	PASS
	BLE_2M	Ant1	2402	0.63	1.0	-37.00	20	PASS
			2440	0.75	1.0	-25.00	20	PASS
			2480	0.82	1.0	-18.00	20	PASS

EIRP								
TestCondition	TestMode	Antenna	Frequency [MHz]	Measured Power (dBm)	Antenna gain (dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	-1.31	3.37	2.06	≤12.14	PASS
			2440	-0.97	3.37	2.40	≤12.14	PASS
			2480	-0.72	3.37	2.65	≤12.14	PASS
	BLE_2M	Ant1	2402	-1.99	3.37	1.38	≤12.14	PASS
			2440	-1.26	3.37	2.11	≤12.14	PASS
			2480	-0.87	3.37	2.50	≤12.14	PASS





A.3 Occupied Bandwidth

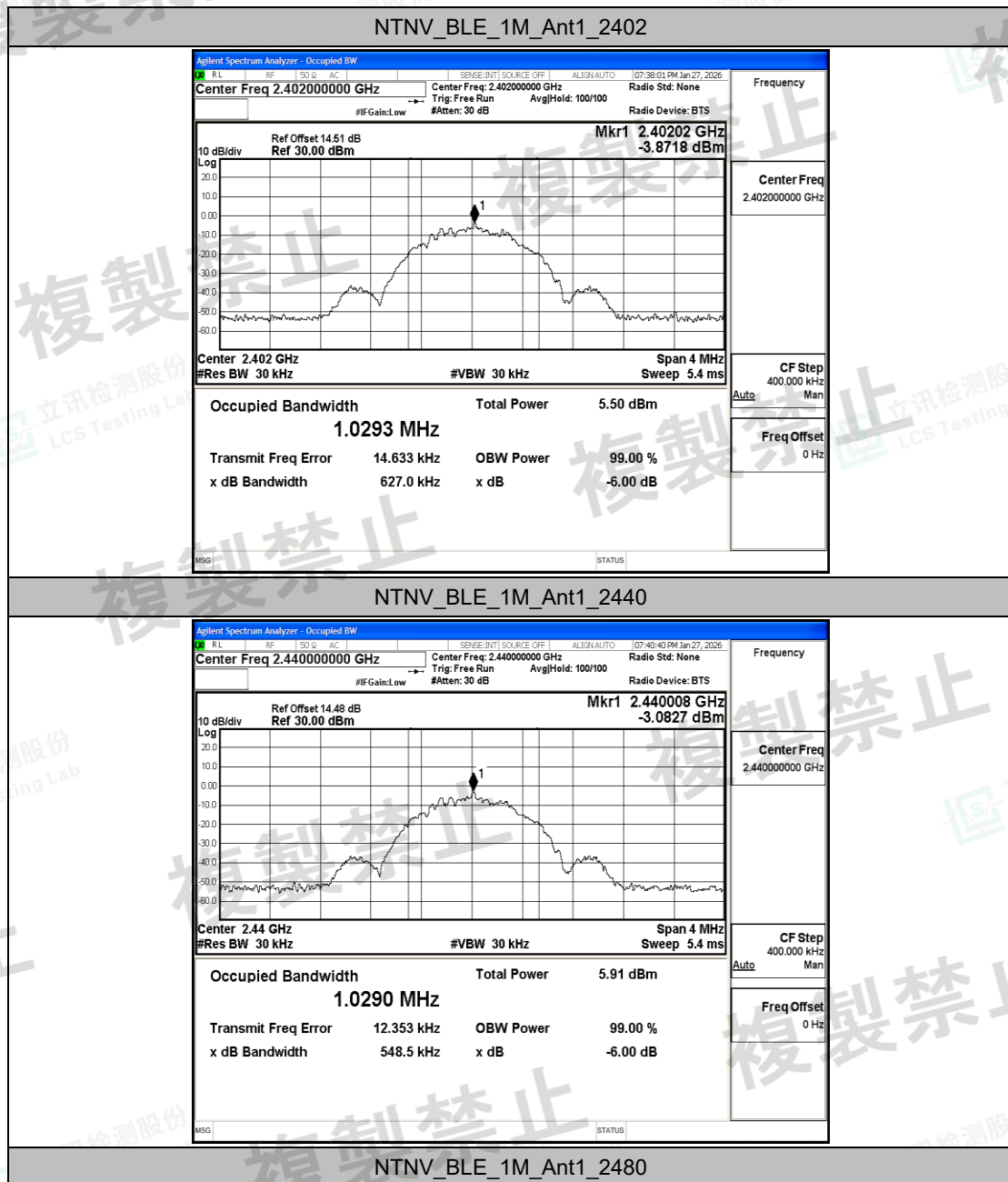
Test Result

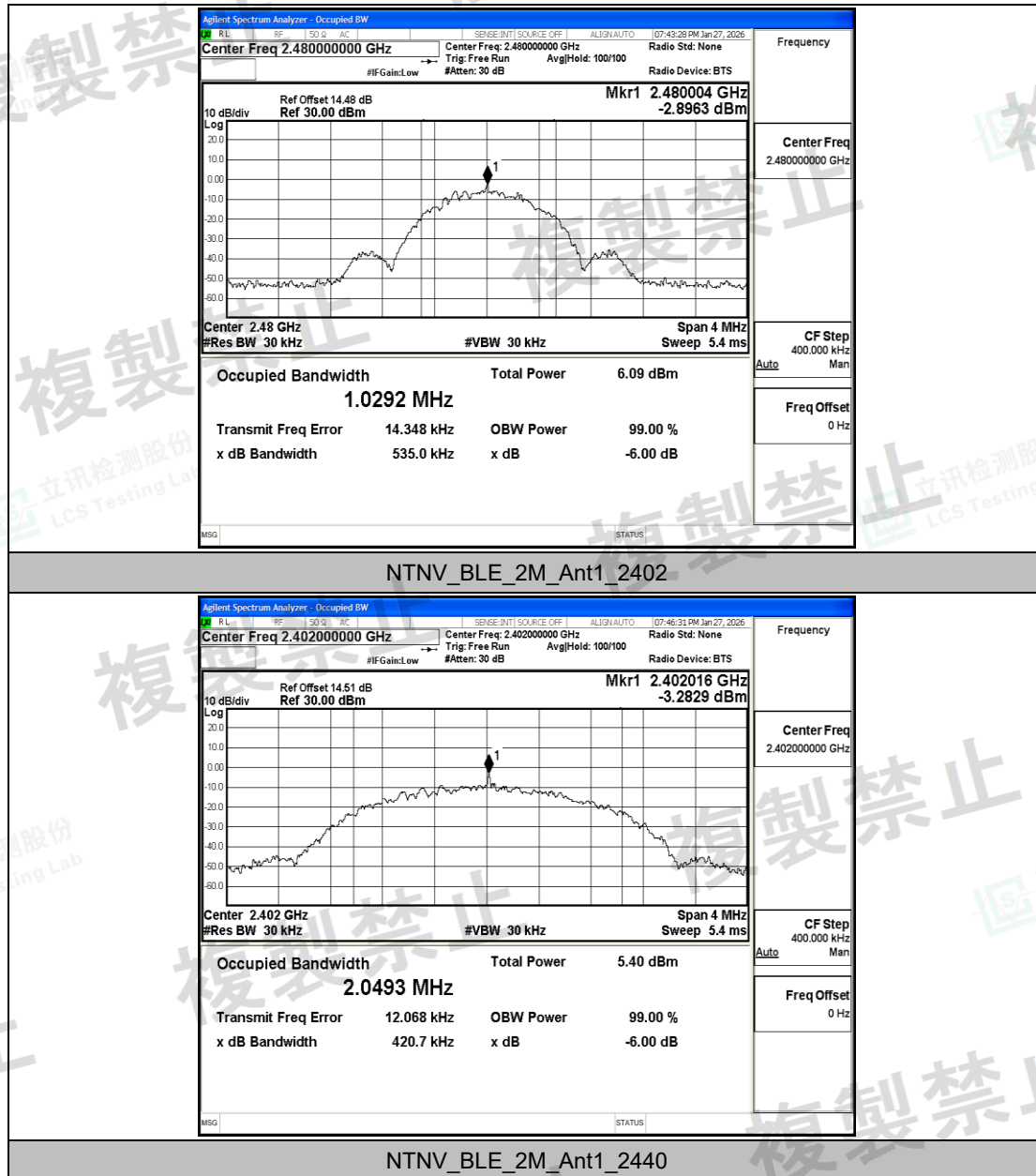
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.029	≤26	PASS
			2440	1.029	≤26	PASS
			2480	1.029	≤26	PASS
	BLE_2M	Ant1	2402	2.049	≤26	PASS
			2440	2.024	≤26	PASS
			2480	2.037	≤26	PASS

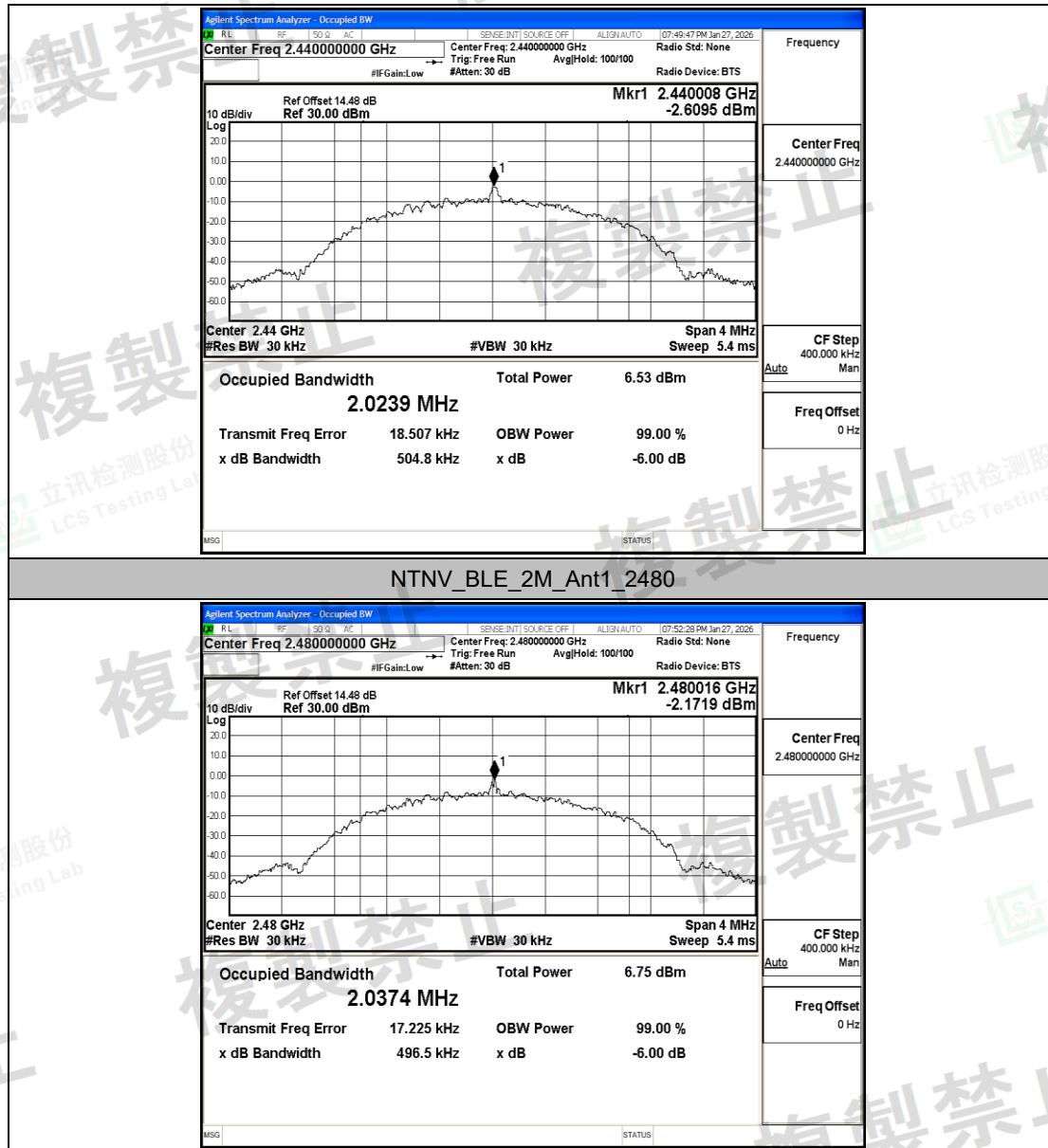




Test Graphs









A.4 Aspread Bandwidth

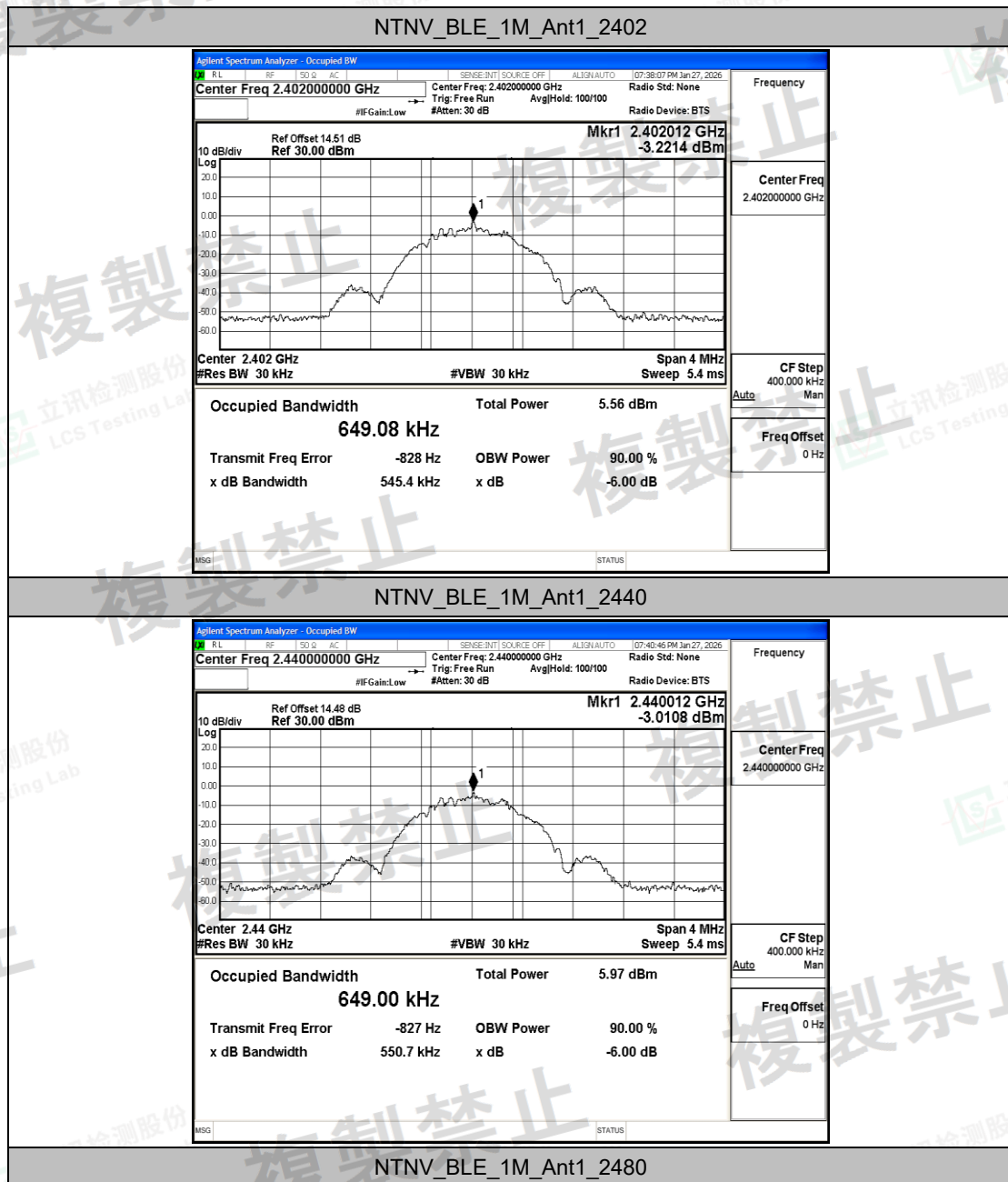
Test Result

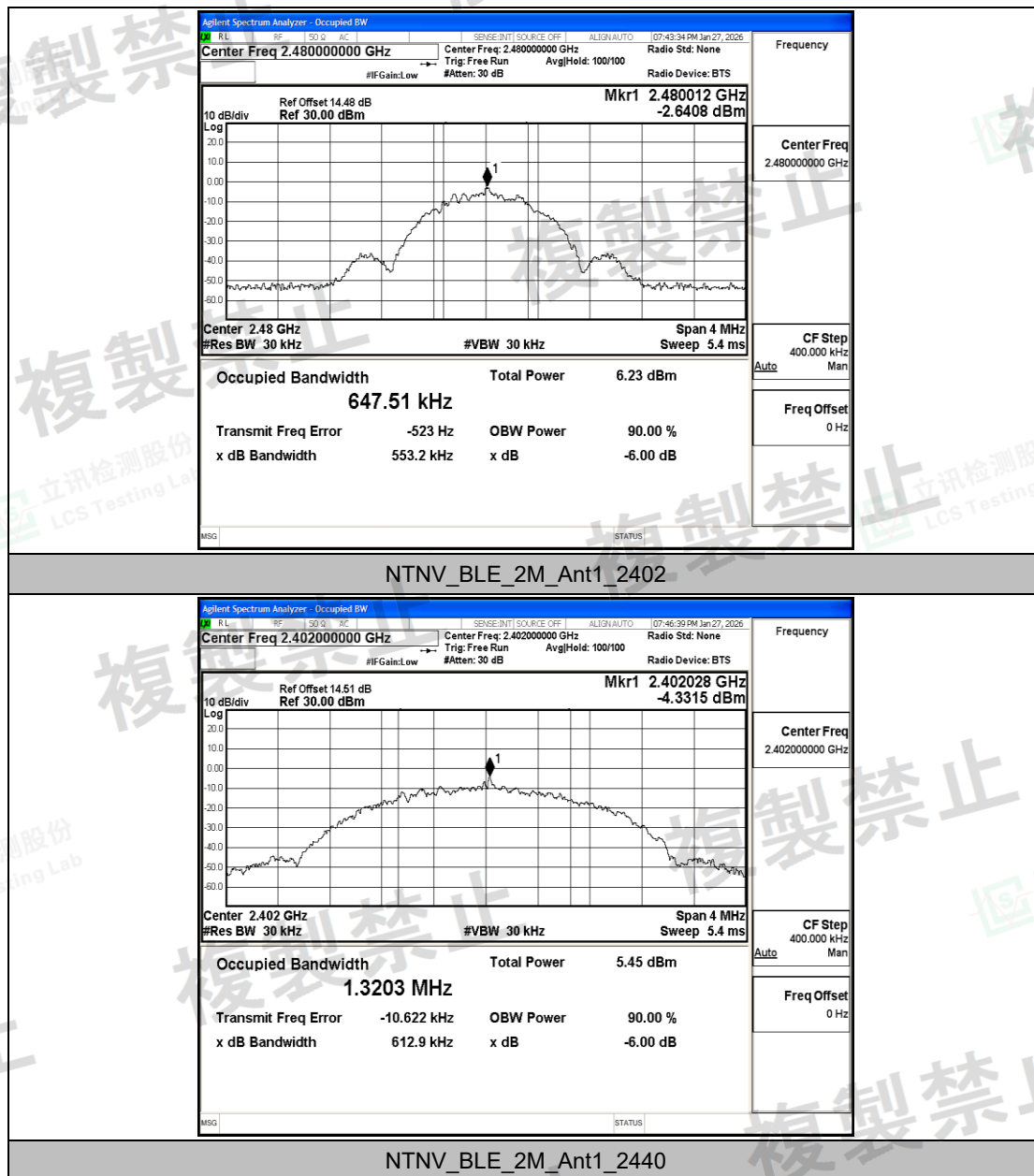
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.649	---	PASS
			2440	0.649	---	PASS
			2480	0.648	---	PASS
	BLE_2M	Ant1	2402	1.320	---	PASS
			2440	1.344	---	PASS
			2480	1.302	---	PASS

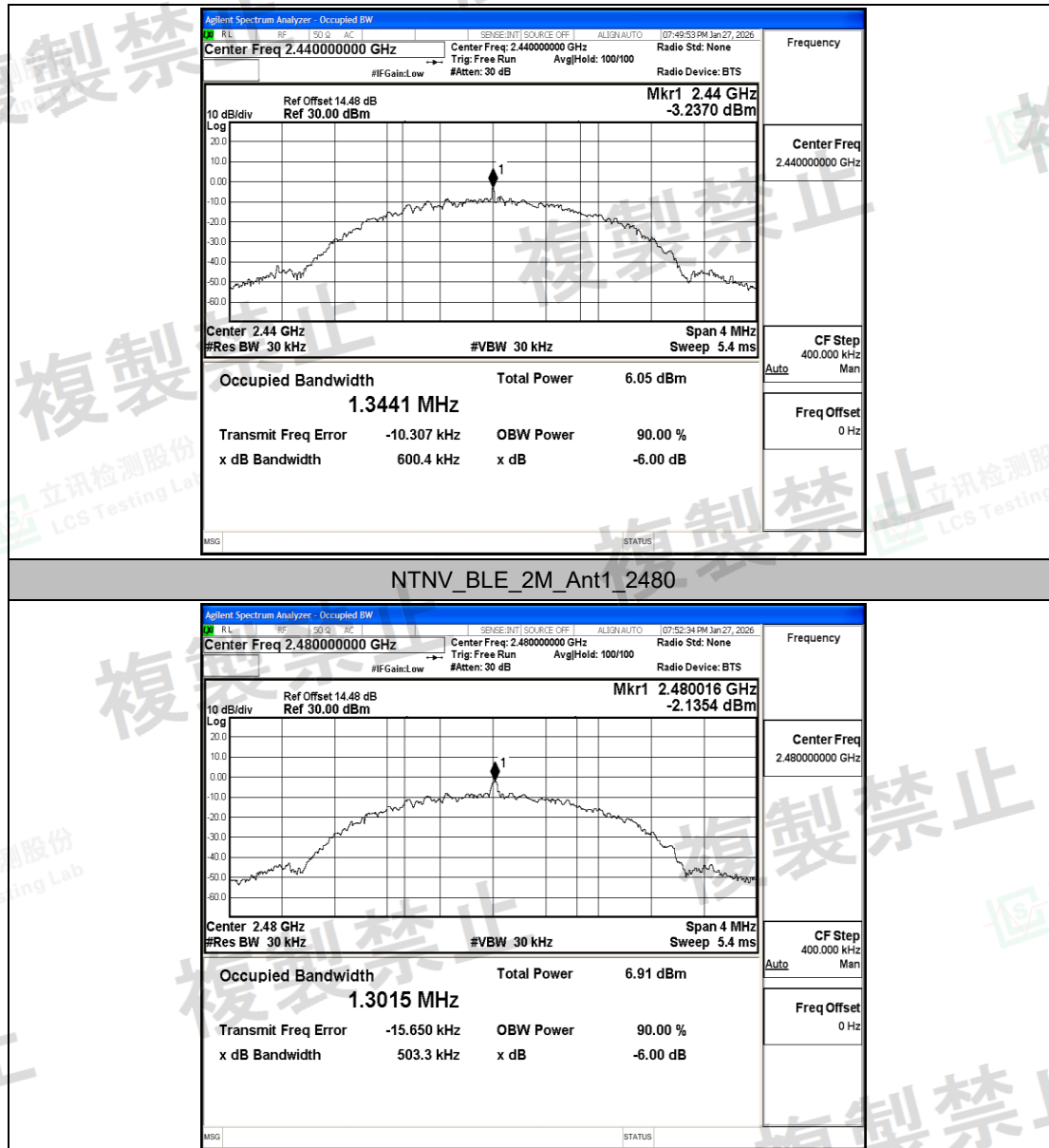




Test Graphs









A.5 Spurious Emission of TX

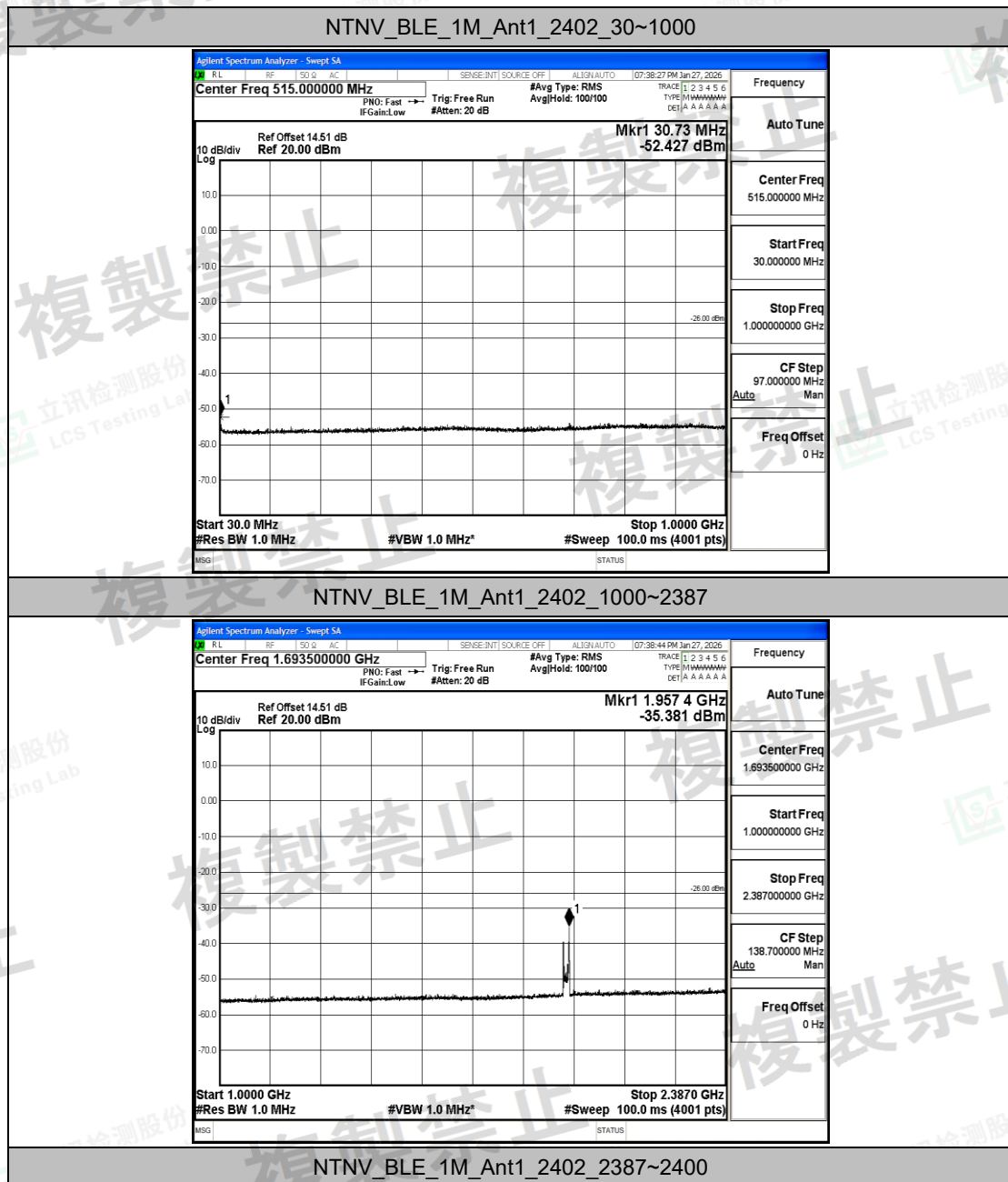
Test Result

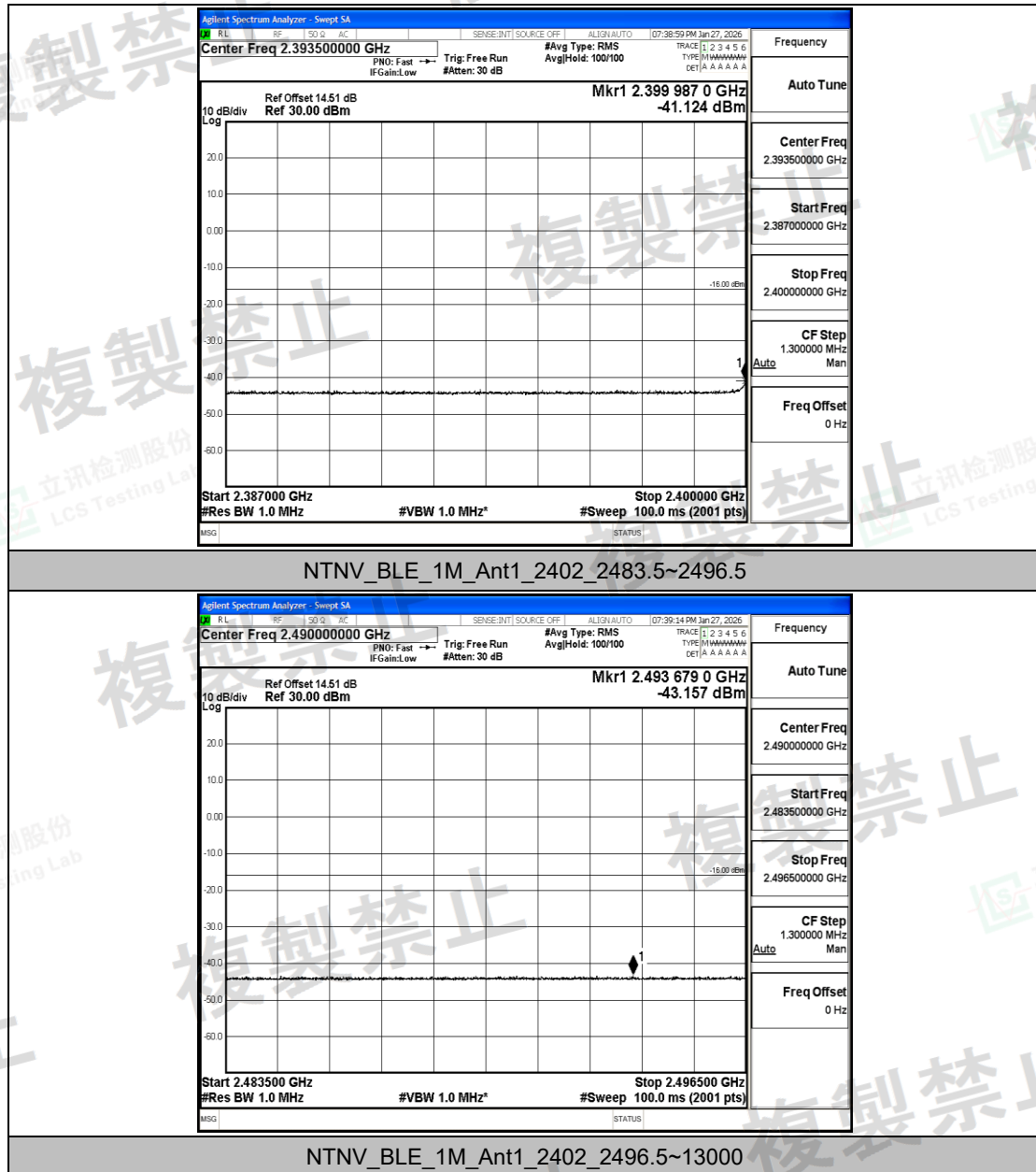
TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-52.43	≤-26	0.00571	≤2.5	PASS
				1000~2387	-35.38	≤-26	0.28973	≤2.5	PASS
				2387~2400	-41.12	≤-16	0.07727	≤25	PASS
				2483.5~2496.5	-43.16	≤-16	0.04831	≤25	PASS
				2496.5~13000	-38.29	≤-26	0.14825	≤2.5	PASS
			2440	30~1000	-52.24	≤-26	0.00597	≤2.5	PASS
				1000~2387	-38.20	≤-26	0.15136	≤2.5	PASS
				2387~2400	-43.48	≤-16	0.04487	≤25	PASS
				2483.5~2496.5	-43.35	≤-16	0.04624	≤25	PASS
				2496.5~13000	-44.68	≤-26	0.03404	≤2.5	PASS
			2480	30~1000	-52.31	≤-26	0.00587	≤2.5	PASS
				1000~2387	-52.56	≤-26	0.00555	≤2.5	PASS
				2387~2400	-43.18	≤-16	0.04808	≤25	PASS
				2483.5~2496.5	-43.35	≤-16	0.04624	≤25	PASS
				2496.5~13000	-31.79	≤-26	0.66222	≤2.5	PASS
	BLE_2M	Ant1	2402	30~1000	-52.61	≤-26	0.00548	≤2.5	PASS
				1000~2387	-38.68	≤-26	0.13552	≤2.5	PASS
				2387~2400	-27.83	≤-16	1.64816	≤25	PASS
				2483.5~2496.5	-43.19	≤-16	0.04797	≤25	PASS
				2496.5~13000	-45.25	≤-26	0.02985	≤2.5	PASS
			2440	30~1000	-52.58	≤-26	0.00552	≤2.5	PASS
				1000~2387	-42.55	≤-26	0.05559	≤2.5	PASS
				2387~2400	-43.24	≤-16	0.04742	≤25	PASS
				2483.5~2496.5	-43.38	≤-16	0.04592	≤25	PASS
				2496.5~13000	-37.45	≤-26	0.17989	≤2.5	PASS
			2480	30~1000	-52.42	≤-26	0.00573	≤2.5	PASS
				1000~2387	-52.75	≤-26	0.00531	≤2.5	PASS
				2387~2400	-43.56	≤-16	0.04406	≤25	PASS
				2483.5~2496.5	-43.32	≤-16	0.04656	≤25	PASS
				2496.5~13000	-30.41	≤-26	0.90991	≤2.5	PASS

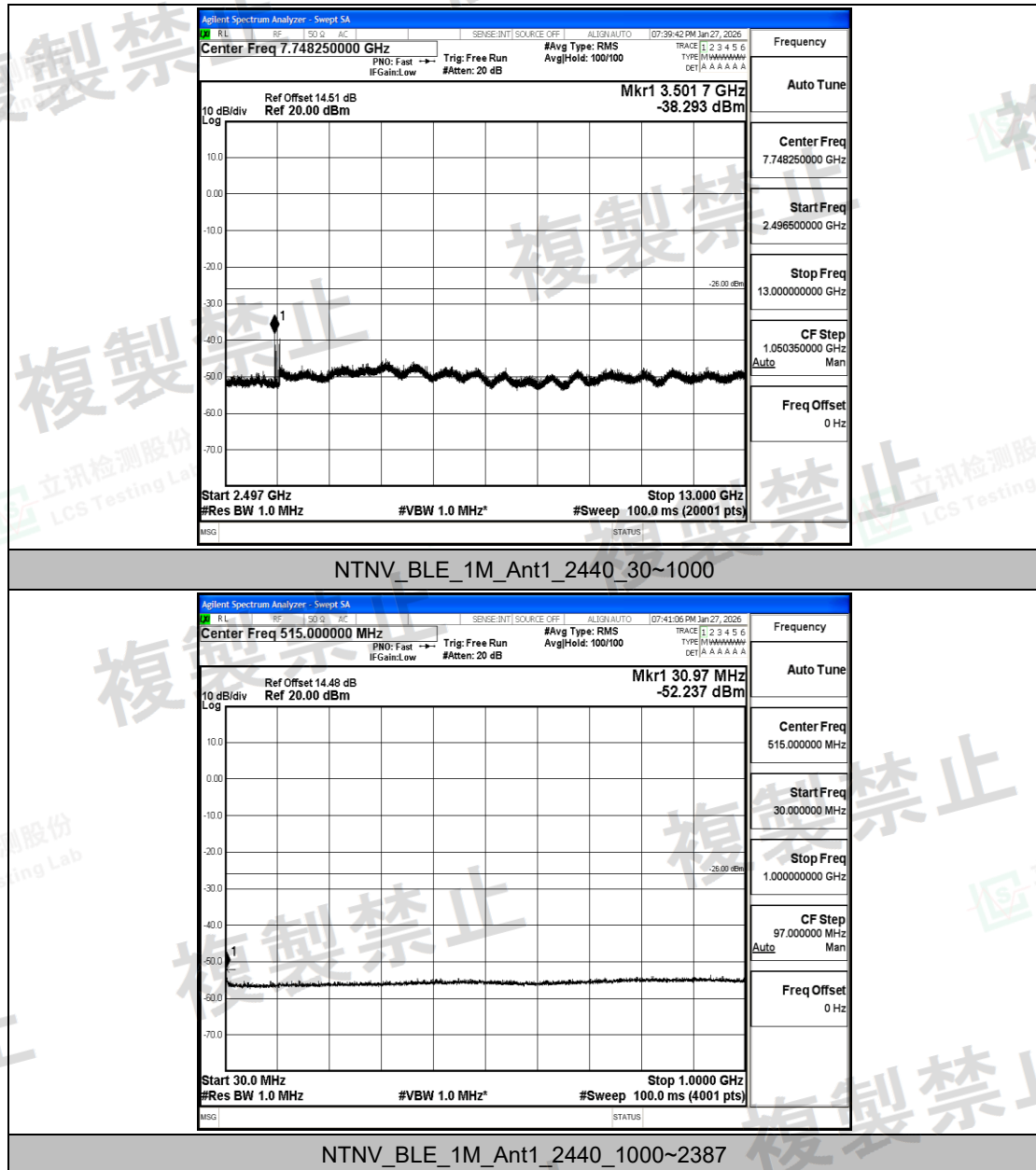


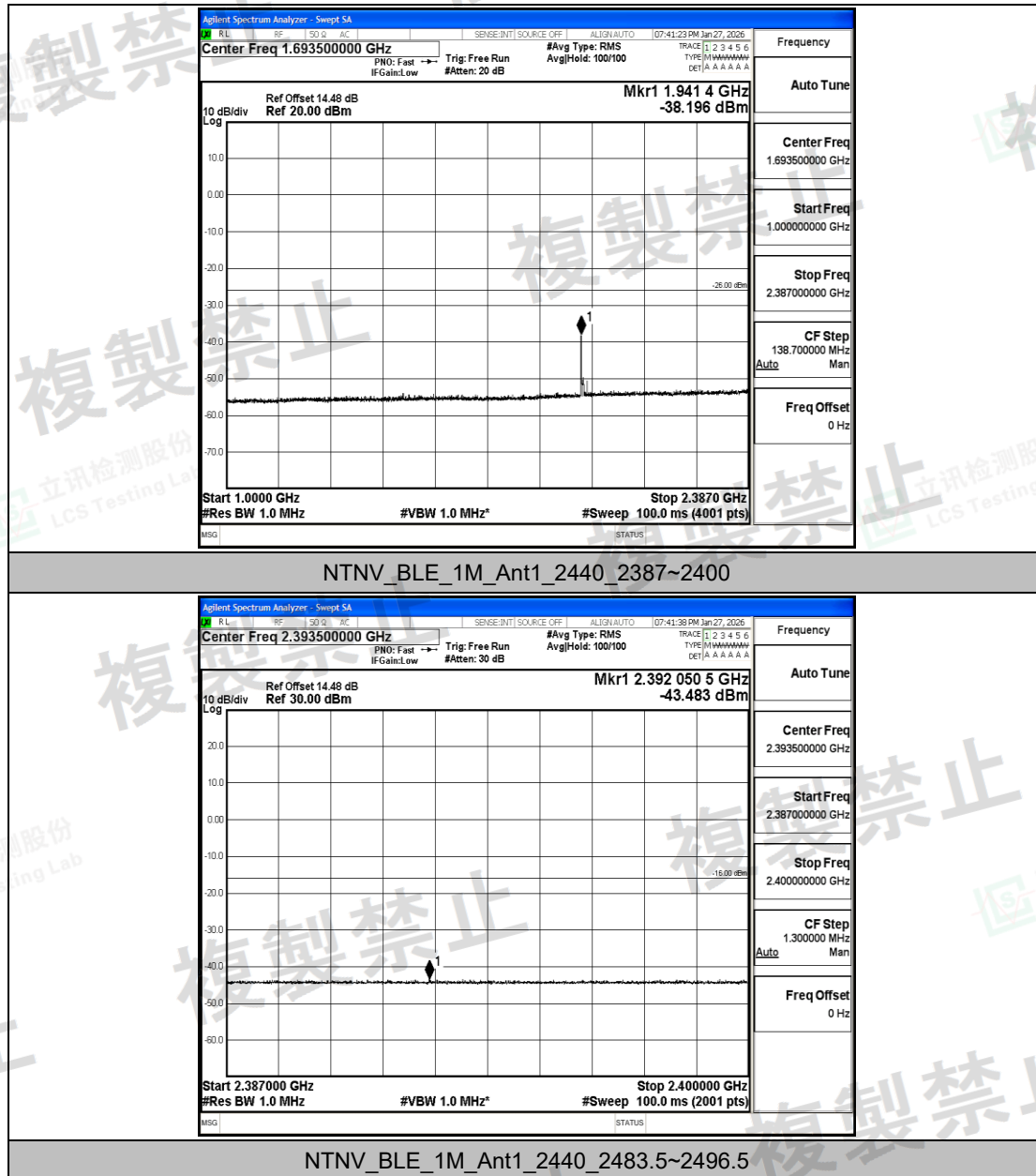


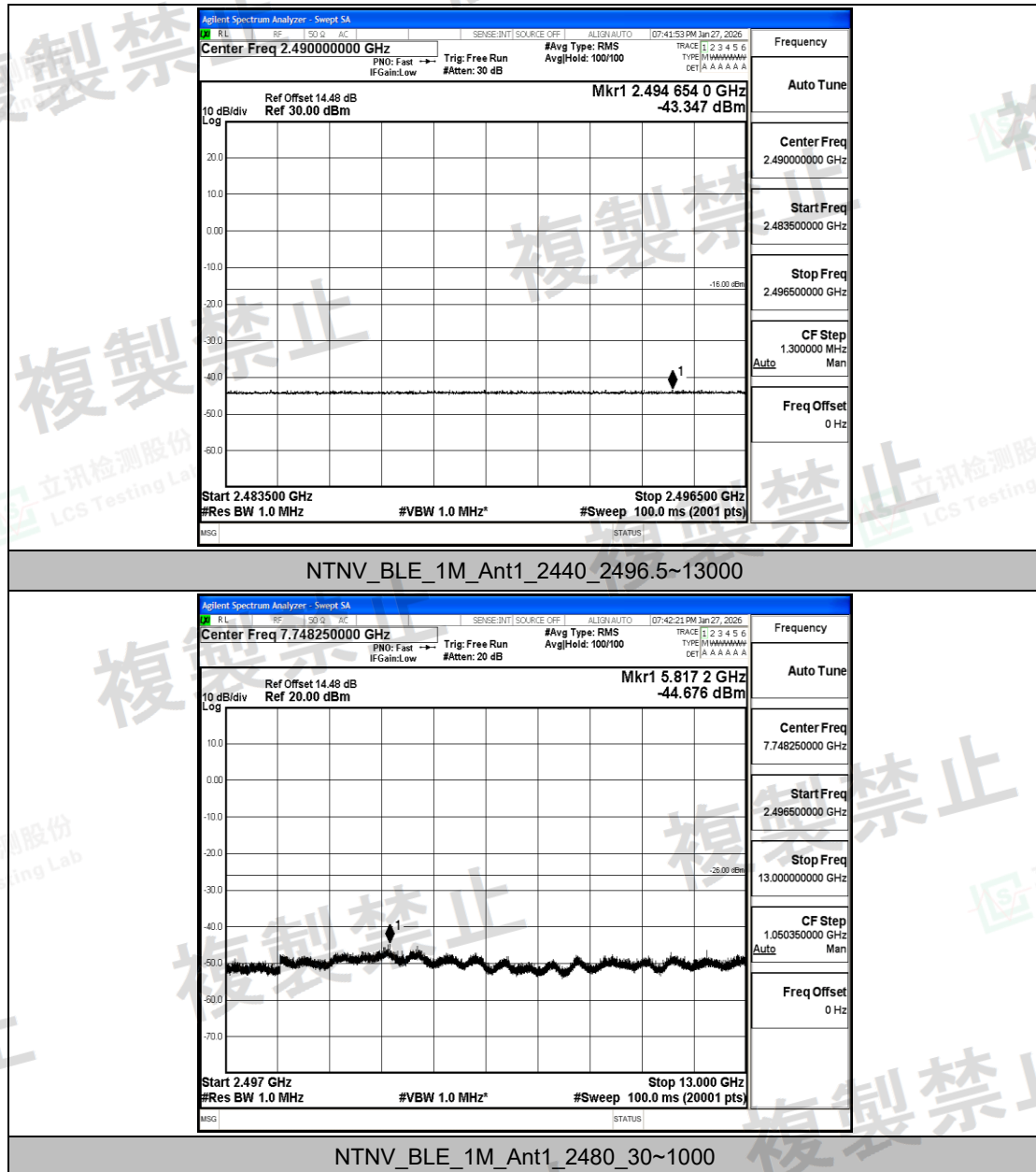
Test Graphs



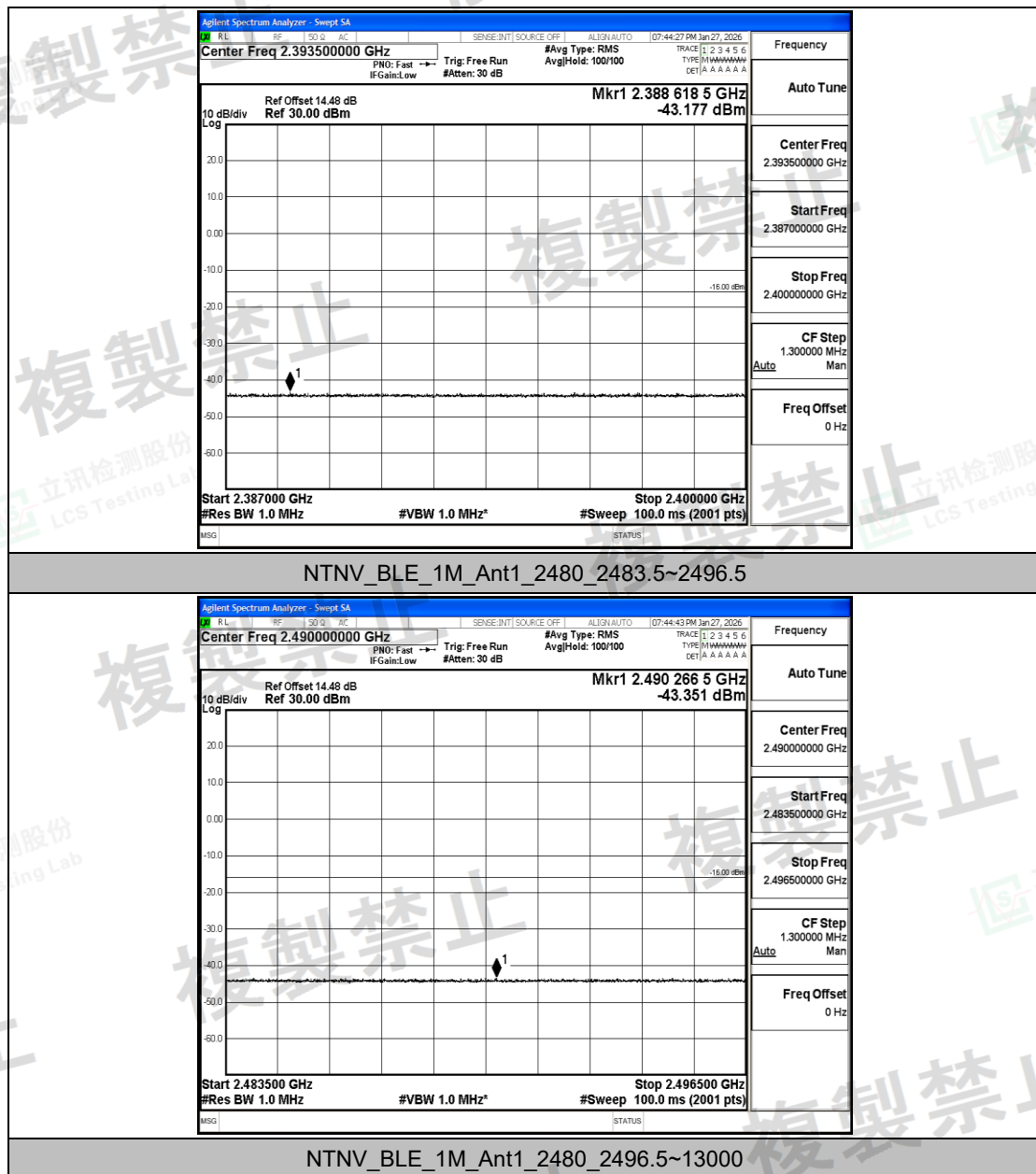


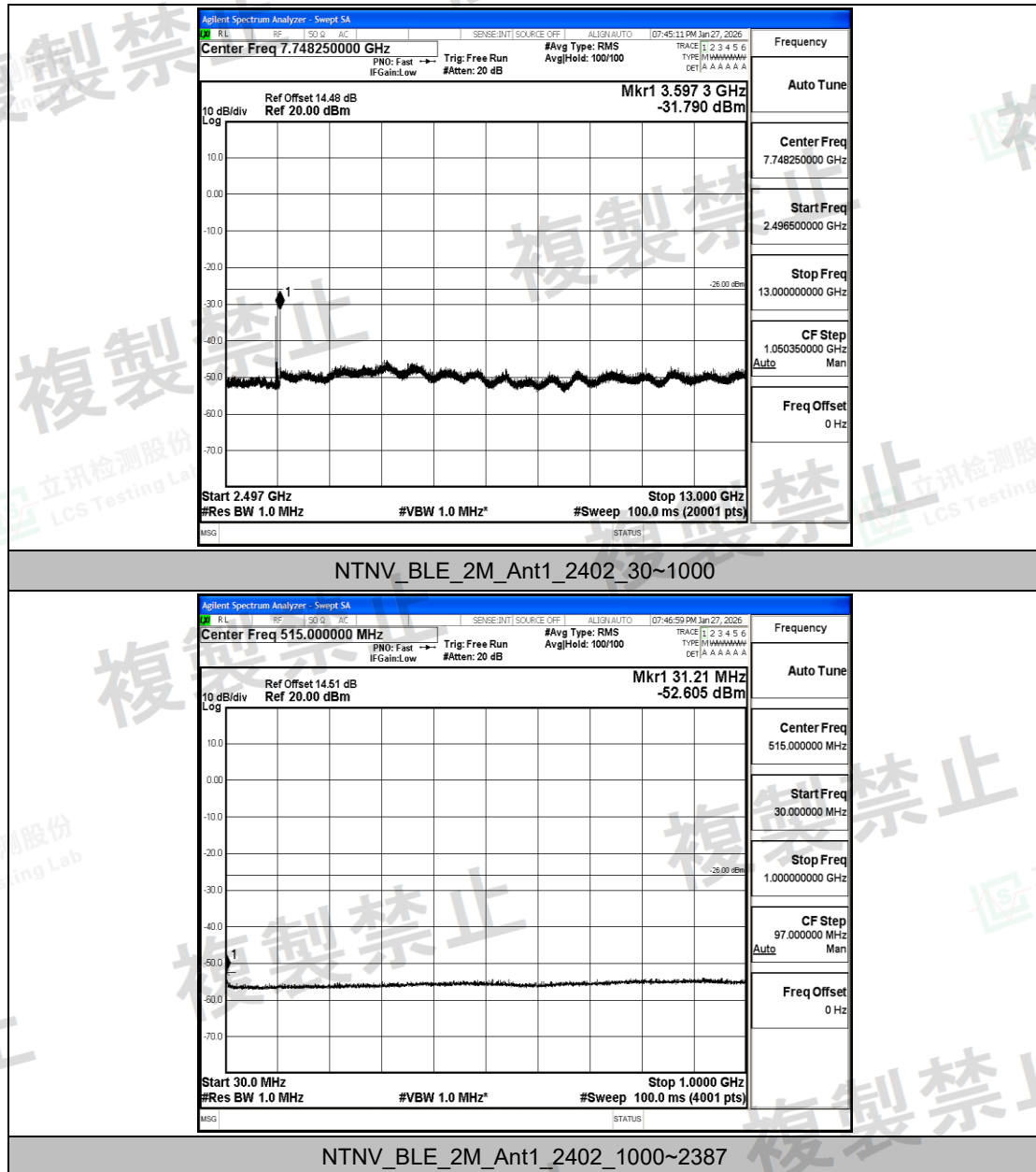


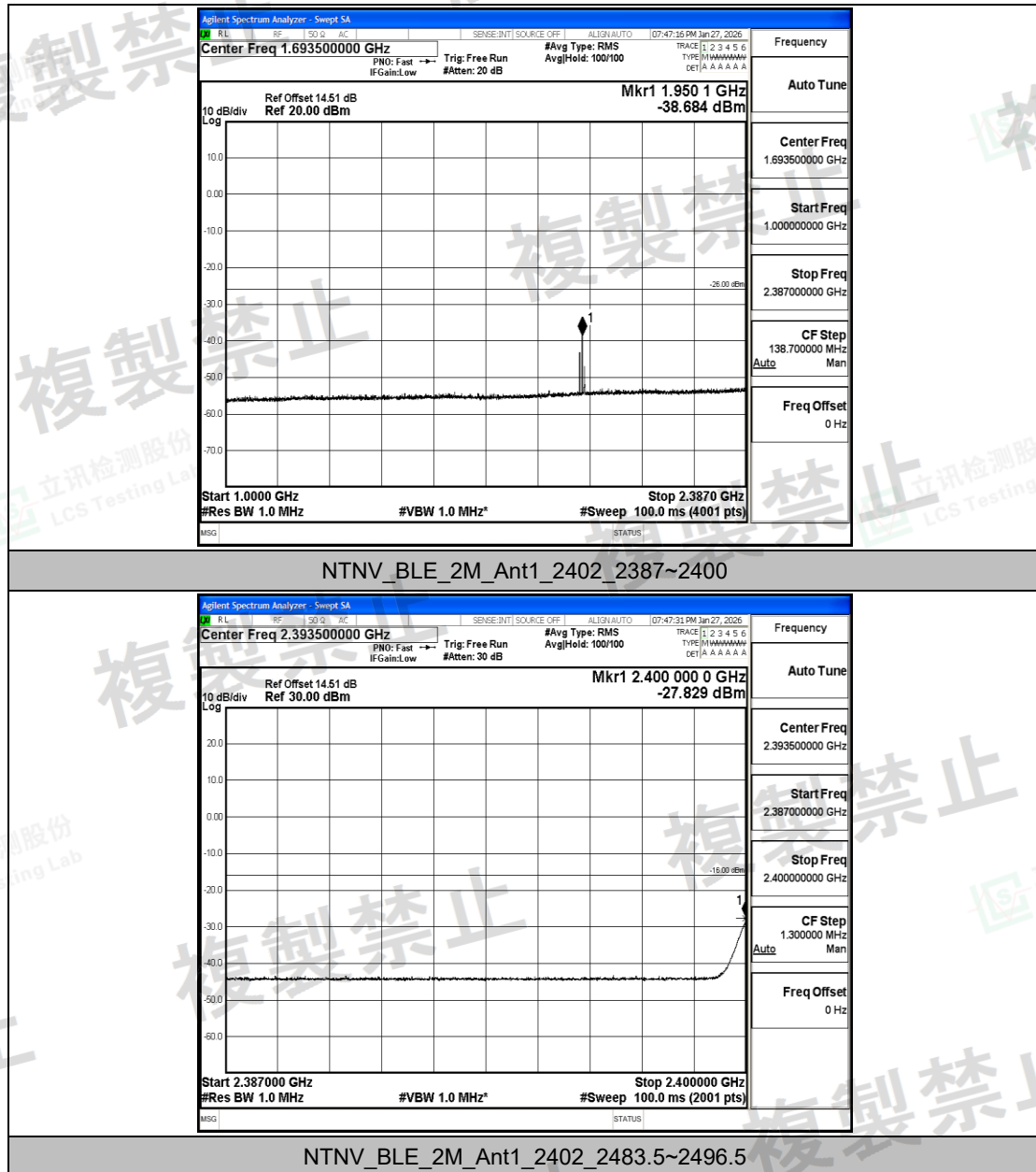


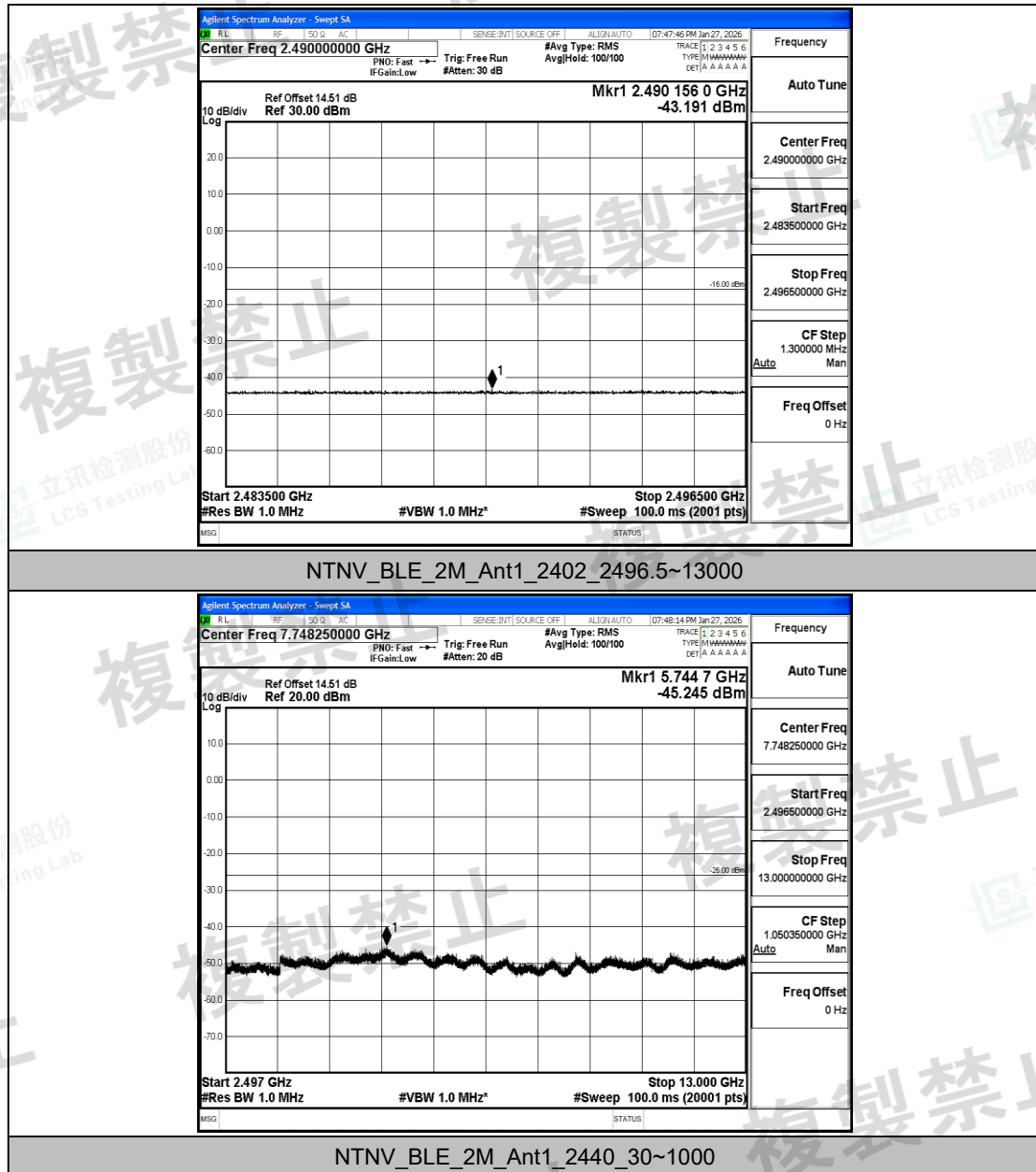




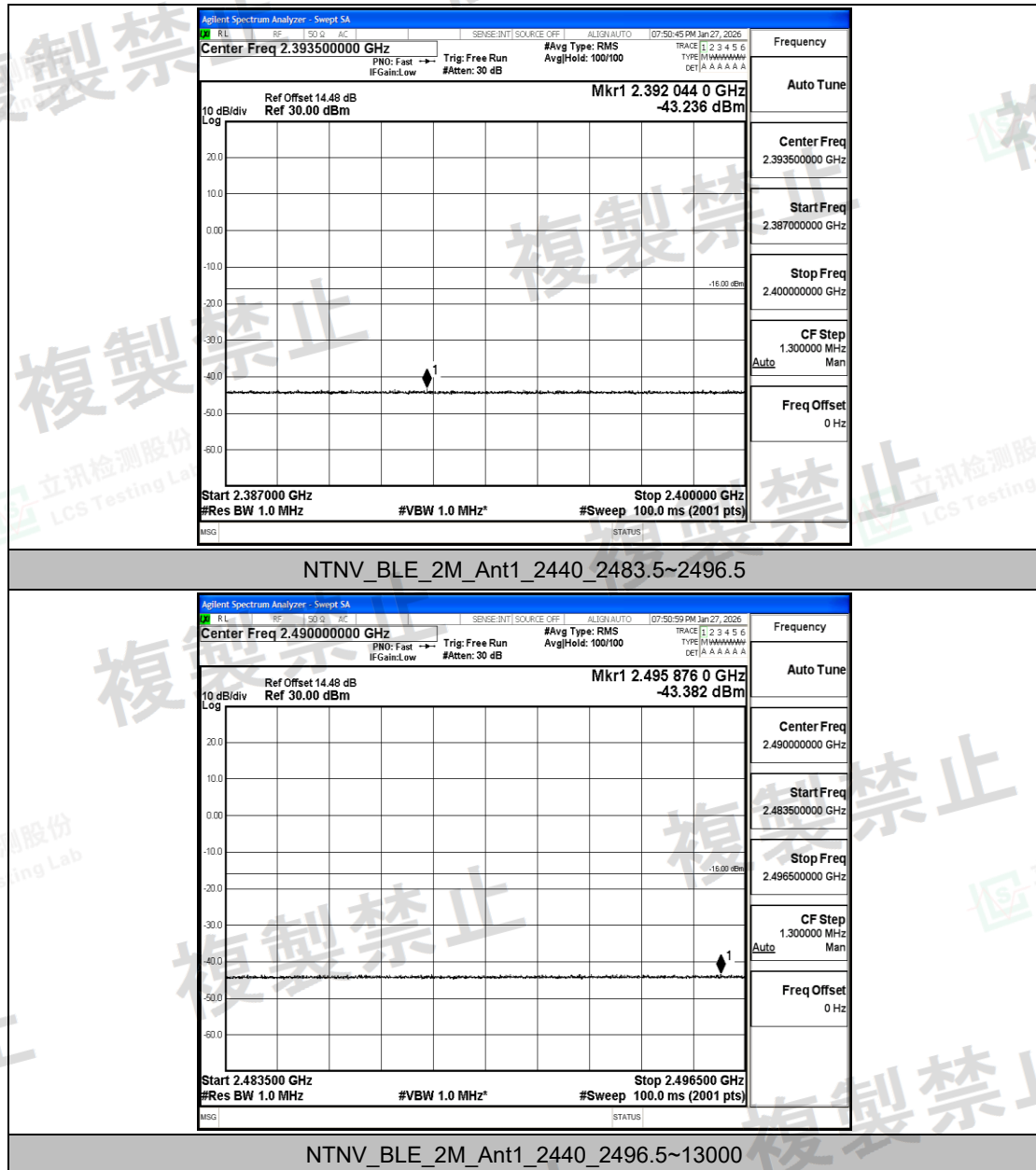


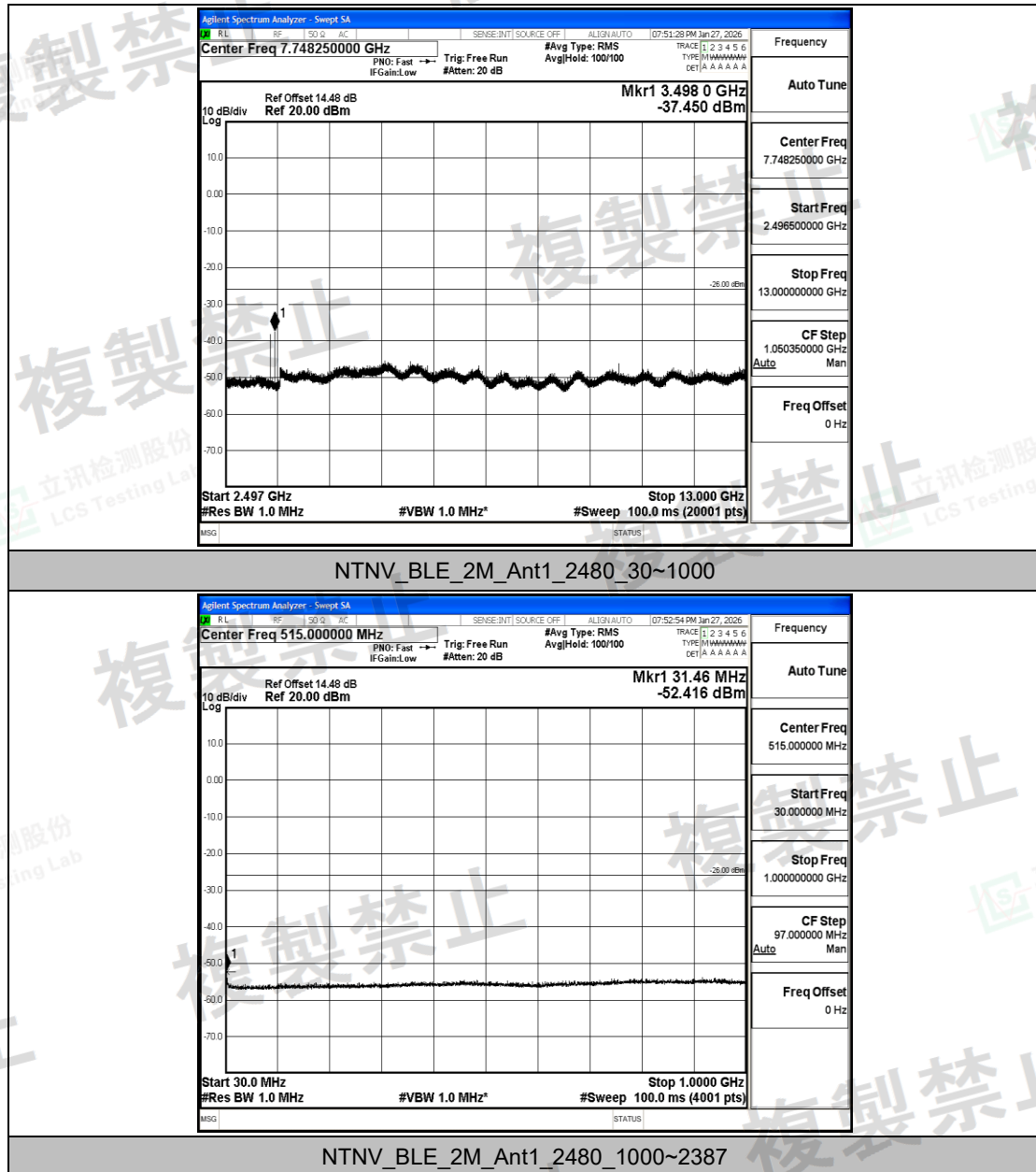


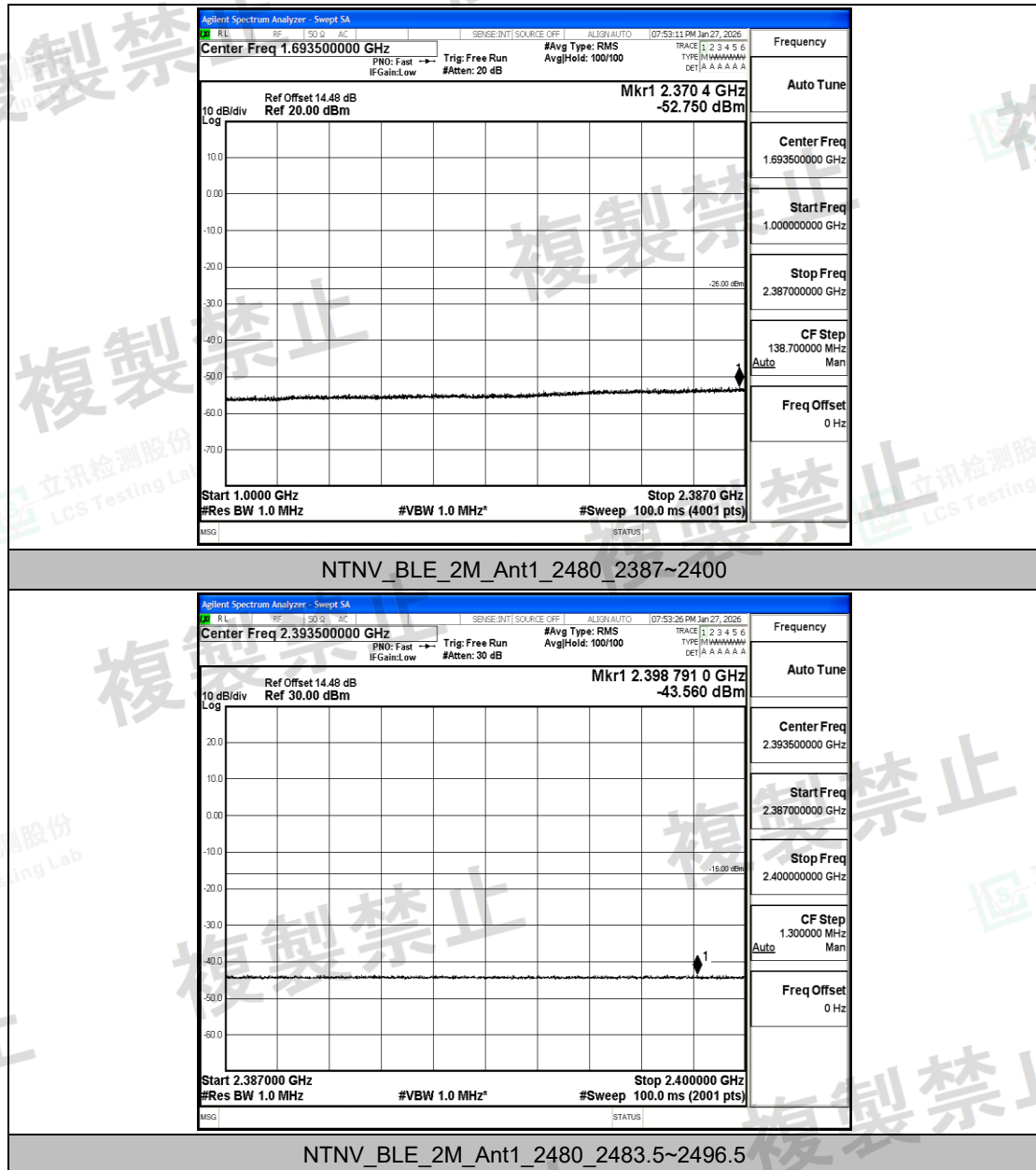


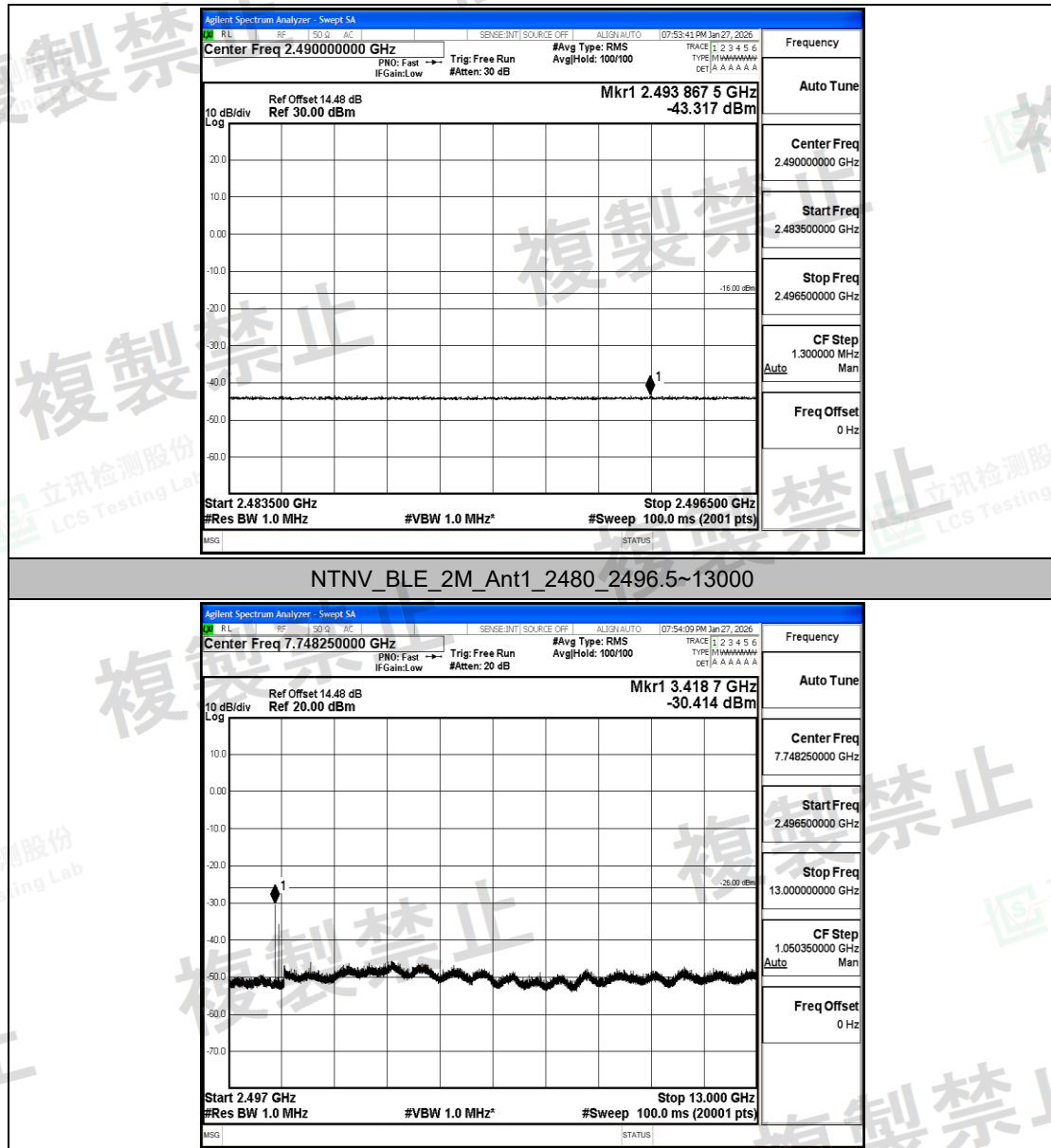














A.6 Spurious Emission of RX

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-84.11	≤-54	0.00388	≤4	PASS
				1000~12500	-66.74	≤-47	0.21184	≤20	PASS
			2440	30~1000	-83.93	≤-54	0.00405	≤4	PASS
				1000~12500	-67.31	≤-47	0.18578	≤20	PASS
			2480	30~1000	-84.45	≤-54	0.00359	≤4	PASS
				1000~12500	-67	≤-47	0.19953	≤20	PASS
	BLE_2M	Ant1	2402	30~1000	-83.46	≤-54	0.00451	≤4	PASS
				1000~12500	-66.71	≤-47	0.21330	≤20	PASS
			2440	30~1000	-83.87	≤-54	0.00410	≤4	PASS
				1000~12500	-67.03	≤-47	0.19815	≤20	PASS
			2480	30~1000	-83.96	≤-54	0.00402	≤4	PASS
				1000~12500	-67.35	≤-47	0.18408	≤20	PASS



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