



Appendix A for BT LE Test Data

Product Name: BLE Module (A66-C2G4A08S2a) with JHUN210F245H07T

Test Model: J30008

Environmental Conditions

Temperature:	23.2°C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ethan zhu
Supervised by:	Can Kun



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A.1 Frequency Error

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	0.41632	±50	PASS
			2440	0.00000	±50	PASS
			2480	0.00000	±50	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTHV	Frequency Error	Ant1	2402	0.41630	±50	PASS
			2440	0.00000	±50	PASS
			2480	0.00000	±50	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTLV	Frequency Error	Ant1	2402	0.41631	±50	PASS
			2440	0.00000	±50	PASS
			2480	0.00000	±50	PASS

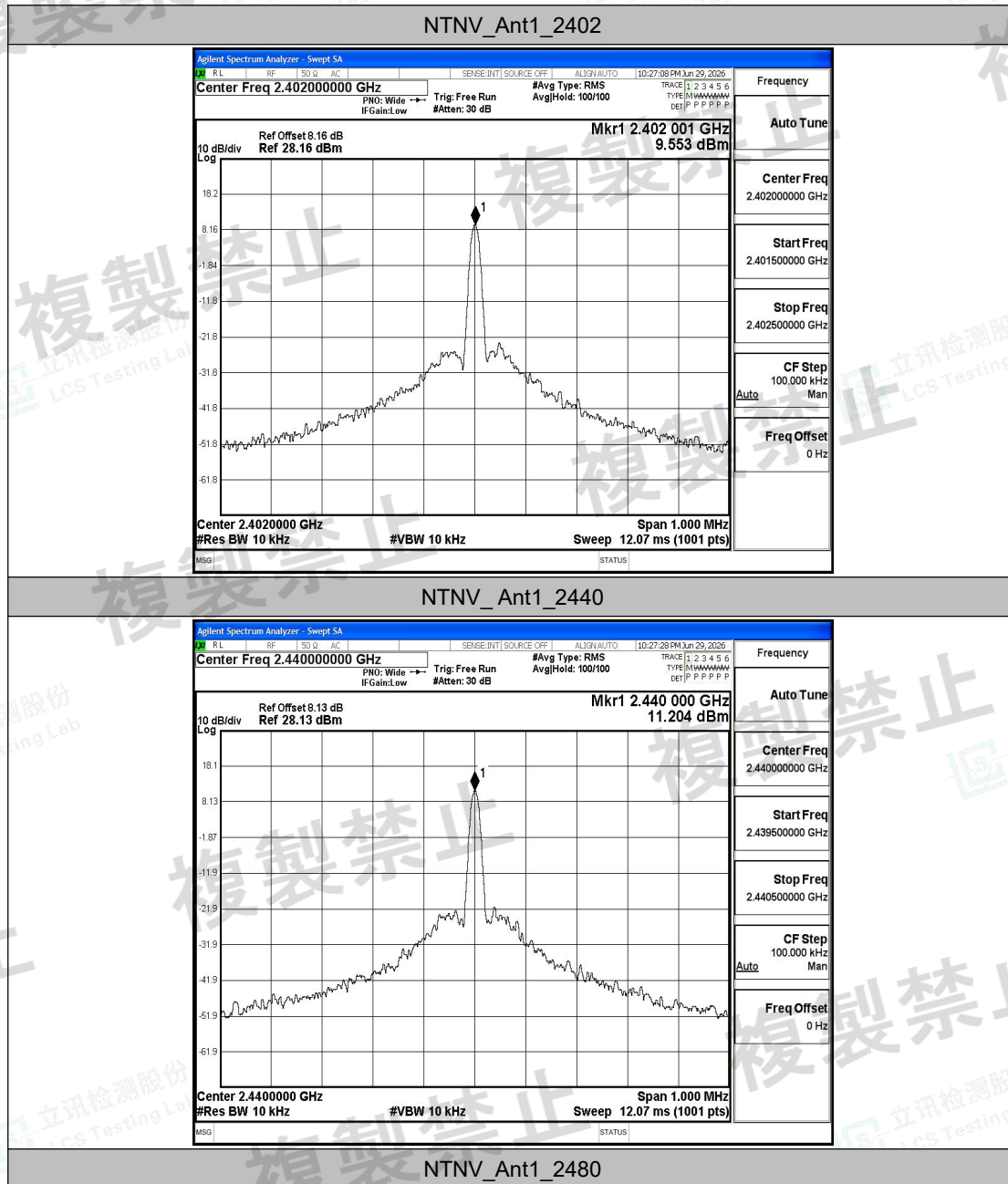
Remark: only recorded the plots of worst data(NTNV) in the report.



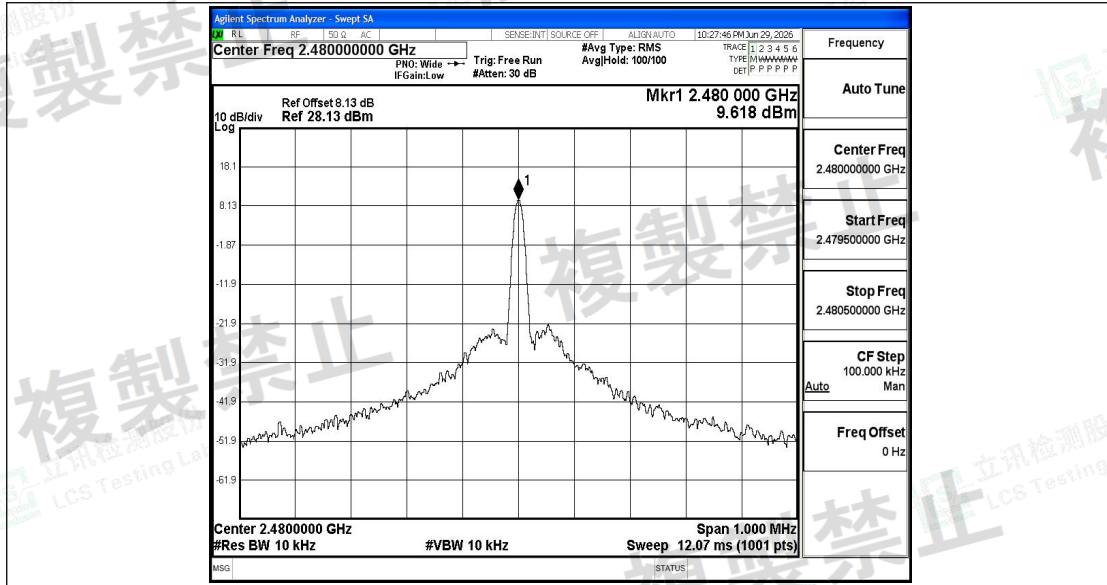
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Test Graphs



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A.2 Antenna Power

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Frequency[MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTNV	BLE_1M	Ant1	2402	2.56	1.80	≤10	PASS
			2440	6.05	4.03	≤10	PASS
			2480	4.39	2.75	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency[MHz]	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	1.80	4.0	-55.00	+20	PASS
			2440	4.03	4.0	0.75	+20	PASS
			2480	2.75	4.0	-31.25	+20	PASS

Antenna Power							
TestCondition	TestMode	Antenna	Frequency[MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTHV	BLE_1M	Ant1	2402	2.53	1.79	≤10	PASS
			2440	6.02	4.00	≤10	PASS
			2480	4.37	2.74	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency[MHz]	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTHV	BLE_1M	Ant1	2402	1.79	4.0	-55.25	+20	PASS
			2440	4.00	4.0	0.00	+20	PASS
			2480	2.74	4.0	-31.50	+20	PASS





Antenna Power							
TestCondition	TestMode	Antenna	Frequency[MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTLV	BLE_1M	Ant1	2402	2.50	1.78	≤10	PASS
			2440	6.00	3.98	≤10	PASS
			2480	4.33	2.71	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency[MHz]	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTLV	BLE_1M	Ant1	2402	1.78	4.0	-55.50	+20	PASS
			2440	3.98	4.0	-0.50	+20	PASS
			2480	2.71	4.0	-32.25	+20	PASS

Remark: only recorded the plots of worst data(NTNV) in the report.



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A.3 Occupied Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.023	≤26	PASS
			2440	1.023	≤26	PASS
			2480	1.010	≤26	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTHV	BLE_1M	Ant1	2402	1.022	≤26	PASS
			2440	1.022	≤26	PASS
			2480	1.009	≤26	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTLV	BLE_1M	Ant1	2402	1.022	≤26	PASS
			2440	1.021	≤26	PASS
			2480	1.008	≤26	PASS

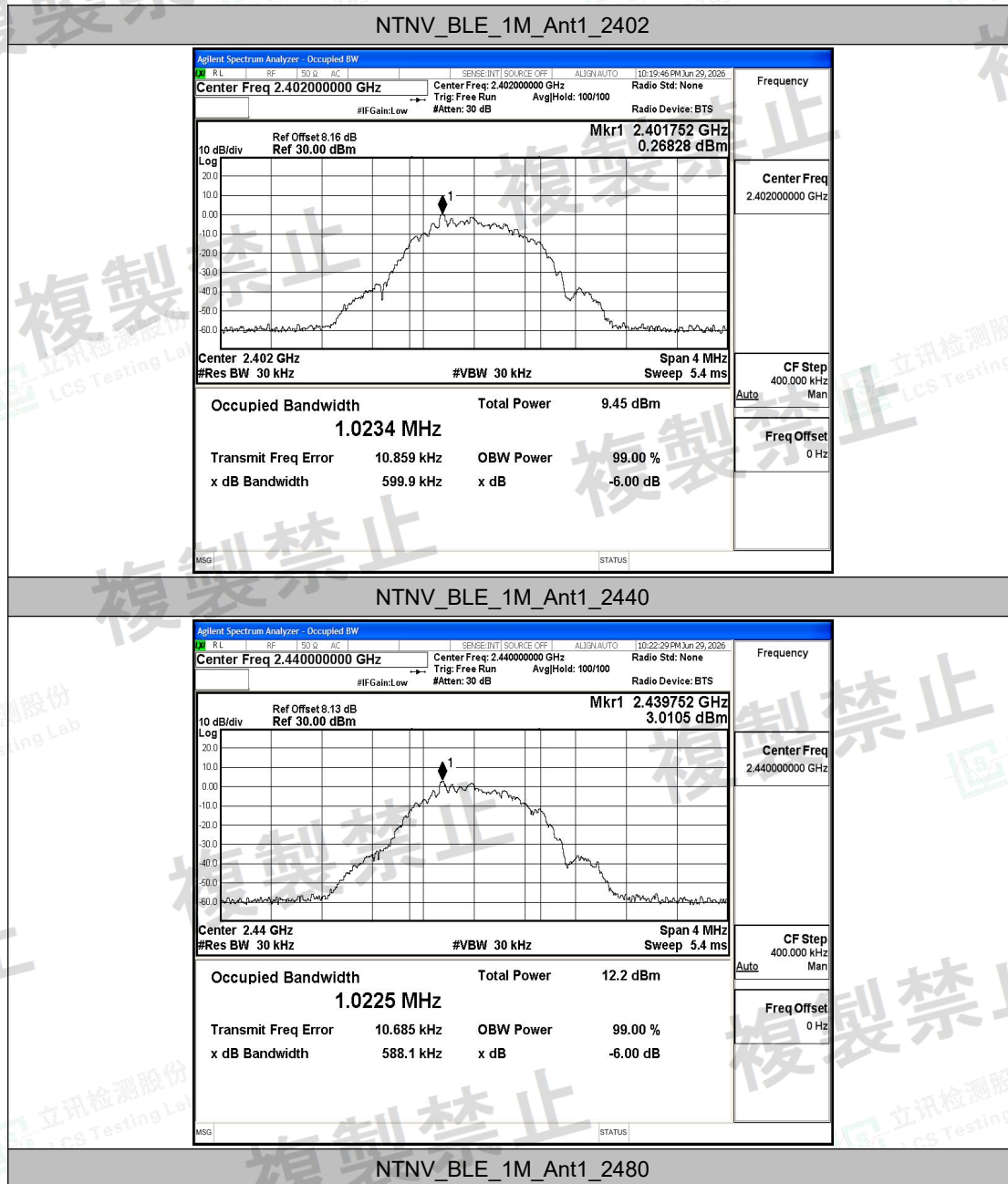
Remark: only recorded the plots of worst data(NTNV) in the report.



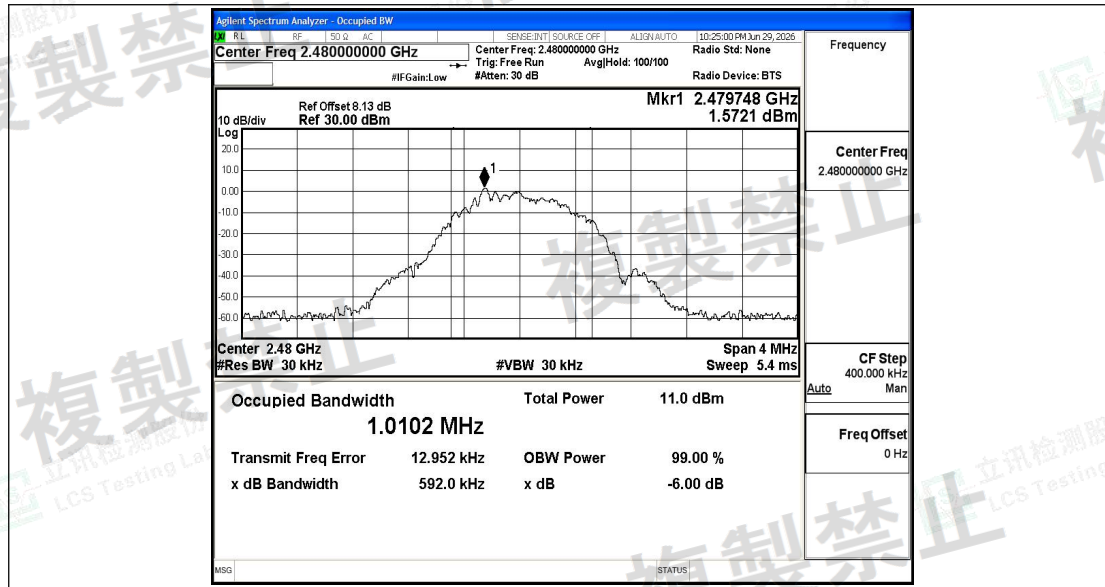
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Test Graphs



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A.4 Spread Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.664	≥0.5	PASS
			2440	0.674	≥0.5	PASS
			2480	0.663	≥0.5	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTHV	BLE_1M	Ant1	2402	0.662	≥0.5	PASS
			2440	0.672	≥0.5	PASS
			2480	0.661	≥0.5	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTLV	BLE_1M	Ant1	2402	0.663	≥0.5	PASS
			2440	0.673	≥0.5	PASS
			2480	0.662	≥0.5	PASS

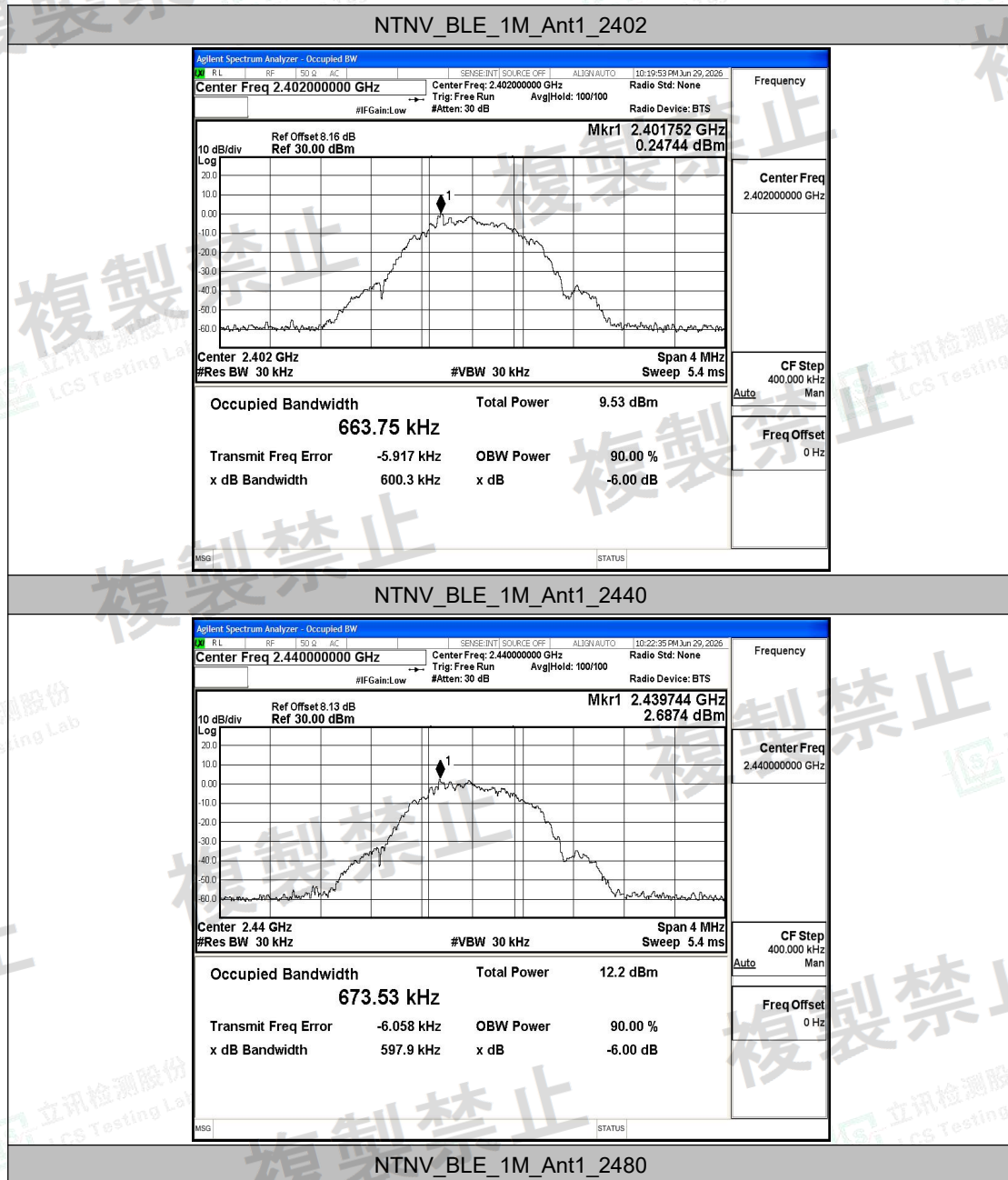
Remark: only recorded the plots of worst data(NTNV) in the report.



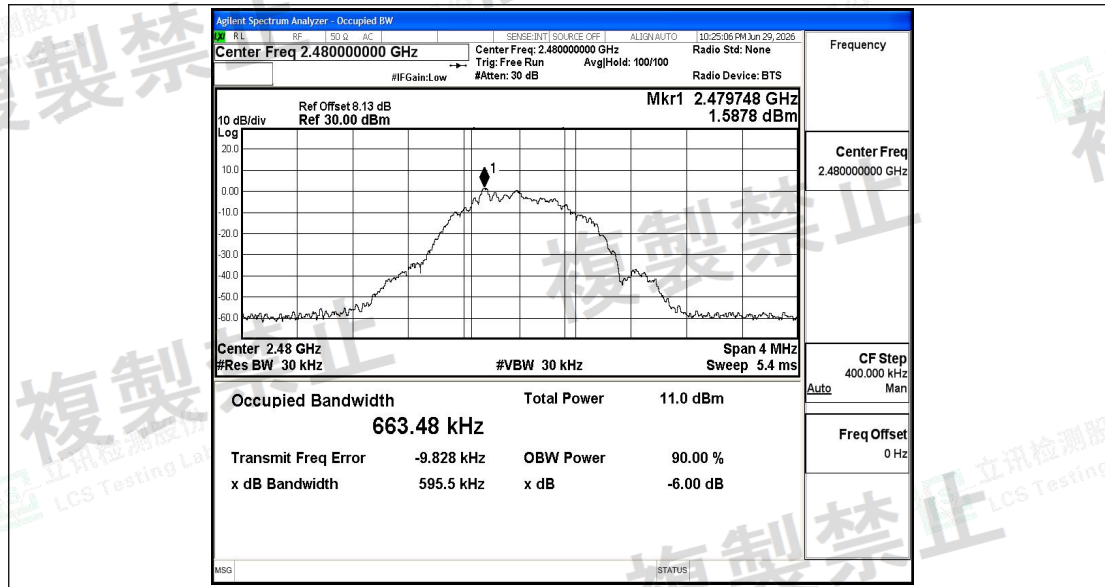
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A.5 Spurious Emission of TX

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	-60.17	≤-26	0.00096	≤2.5	PASS
				1000~2387	-58.79	≤-26	0.00132	≤2.5	PASS
				2387~2400	-39.21	≤-16	0.11995	≤25	PASS
				2483.5~2496.5	-49.74	≤-16	0.01062	≤25	PASS
				2496.5~13000	-51.57	≤-26	0.00697	≤2.5	PASS
			2440	30~1000	-60.30	≤-26	0.00093	≤2.5	PASS
				1000~2387	-59.20	≤-26	0.00120	≤2.5	PASS
				2387~2400	-49.76	≤-16	0.01057	≤25	PASS
				2483.5~2496.5	-49.70	≤-16	0.01072	≤25	PASS
				2496.5~13000	-51.85	≤-26	0.00653	≤2.5	PASS
			2480	30~1000	-60.25	≤-26	0.00094	≤2.5	PASS
				1000~2387	-59.20	≤-26	0.00120	≤2.5	PASS
				2387~2400	-49.69	≤-16	0.01074	≤25	PASS
				2483.5~2496.5	-49.38	≤-16	0.01153	≤25	PASS
				2496.5~13000	-51.86	≤-26	0.00652	≤2.5	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTHV	BLE_1M	Ant1	2402	30~1000	-60.19	≤-26	0.00096	≤2.5	PASS
				1000~2387	-58.81	≤-26	0.00132	≤2.5	PASS
				2387~2400	-39.24	≤-16	0.11912	≤25	PASS
				2483.5~2496.5	-49.76	≤-16	0.01057	≤25	PASS
				2496.5~13000	-51.59	≤-26	0.00693	≤2.5	PASS
			2440	30~1000	-60.32	≤-26	0.00093	≤2.5	PASS
				1000~2387	-59.22	≤-26	0.00120	≤2.5	PASS
				2387~2400	-49.78	≤-16	0.01052	≤25	PASS
				2483.5~2496.5	-49.73	≤-16	0.01064	≤25	PASS
				2496.5~13000	-51.87	≤-26	0.00650	≤2.5	PASS
			2480	30~1000	-60.28	≤-26	0.00094	≤2.5	PASS
				1000~2387	-59.23	≤-26	0.00119	≤2.5	PASS
				2387~2400	-49.72	≤-16	0.01067	≤25	PASS
				2483.5~2496.5	-49.42	≤-16	0.01143	≤25	PASS
				2496.5~13000	-51.89	≤-26	0.00647	≤2.5	PASS



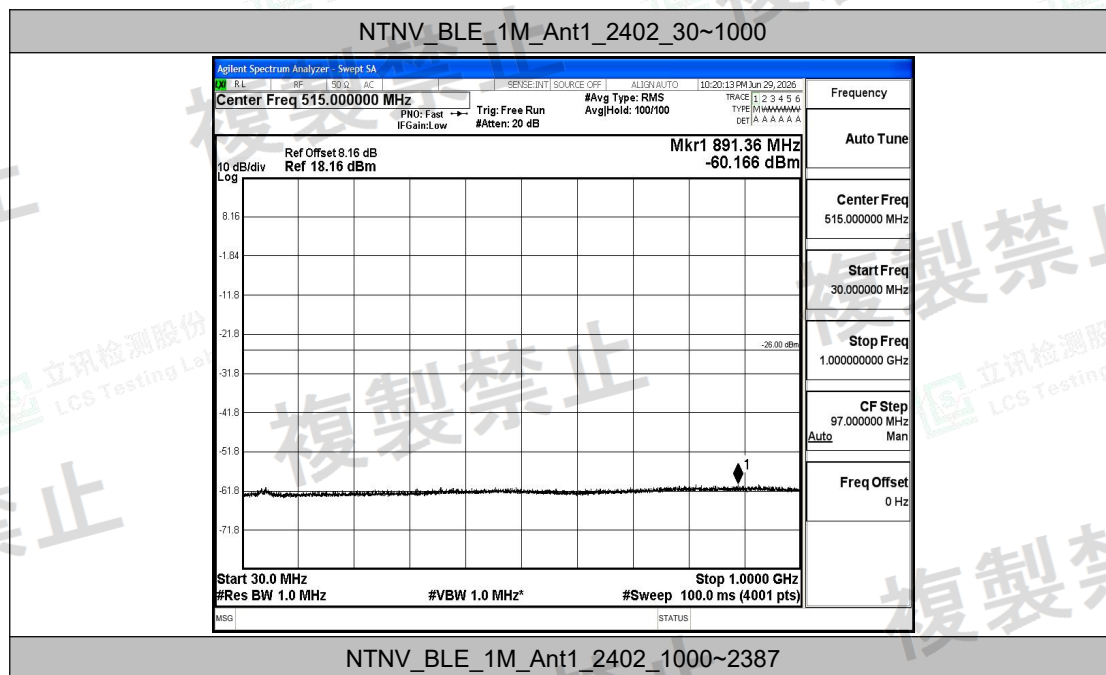
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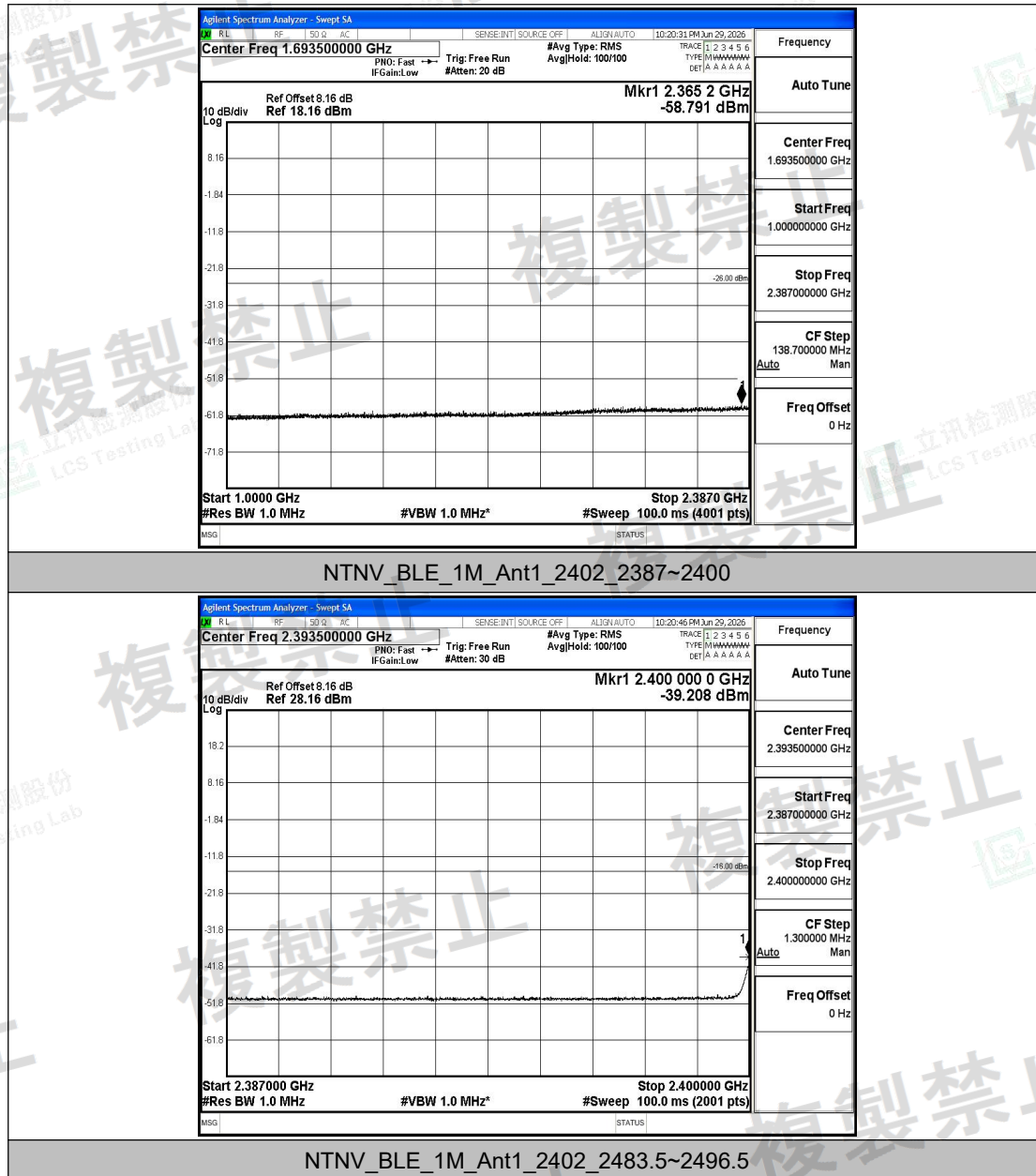
TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTLV	BLE_1M	Ant1	2402	30~1000	-60.22	≤-26	0.00095	≤2.5	PASS
				1000~2387	-58.83	≤-26	0.00131	≤2.5	PASS
				2387~2400	-39.26	≤-16	0.11858	≤25	PASS
				2483.5~2496.5	-49.79	≤-16	0.01050	≤25	PASS
				2496.5~13000	-51.63	≤-26	0.00687	≤2.5	PASS
			2440	30~1000	-60.36	≤-26	0.00092	≤2.5	PASS
				1000~2387	-59.25	≤-26	0.00119	≤2.5	PASS
				2387~2400	-49.79	≤-16	0.01050	≤25	PASS
				2483.5~2496.5	-49.75	≤-16	0.01059	≤25	PASS
				2496.5~13000	-51.89	≤-26	0.00647	≤2.5	PASS
			2480	30~1000	-60.29	≤-26	0.00094	≤2.5	PASS
				1000~2387	-59.26	≤-26	0.00119	≤2.5	PASS
				2387~2400	-49.75	≤-16	0.01059	≤25	PASS
				2483.5~2496.5	-49.45	≤-16	0.01135	≤25	PASS
				2496.5~13000	-51.93	≤-26	0.00641	≤2.5	PASS

Remark: only recorded the plots of worst data(NTNV) in the report.

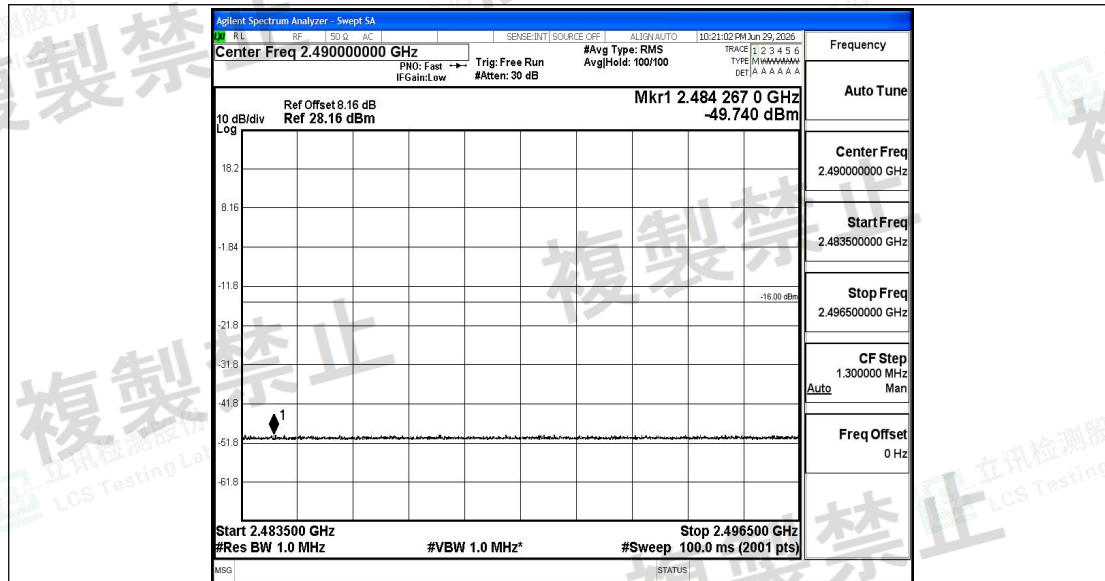
Test Graphs



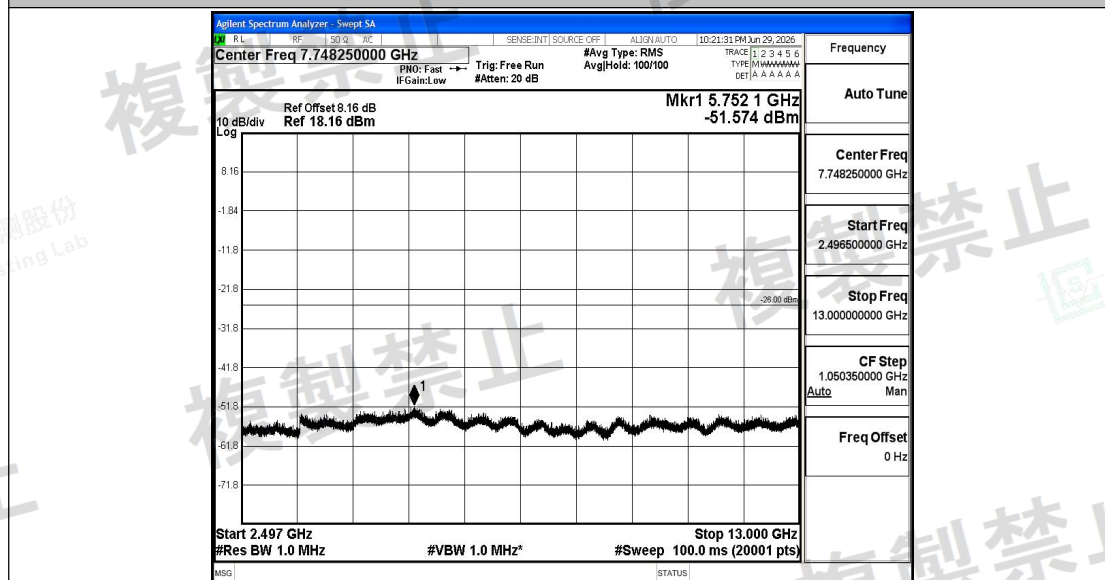
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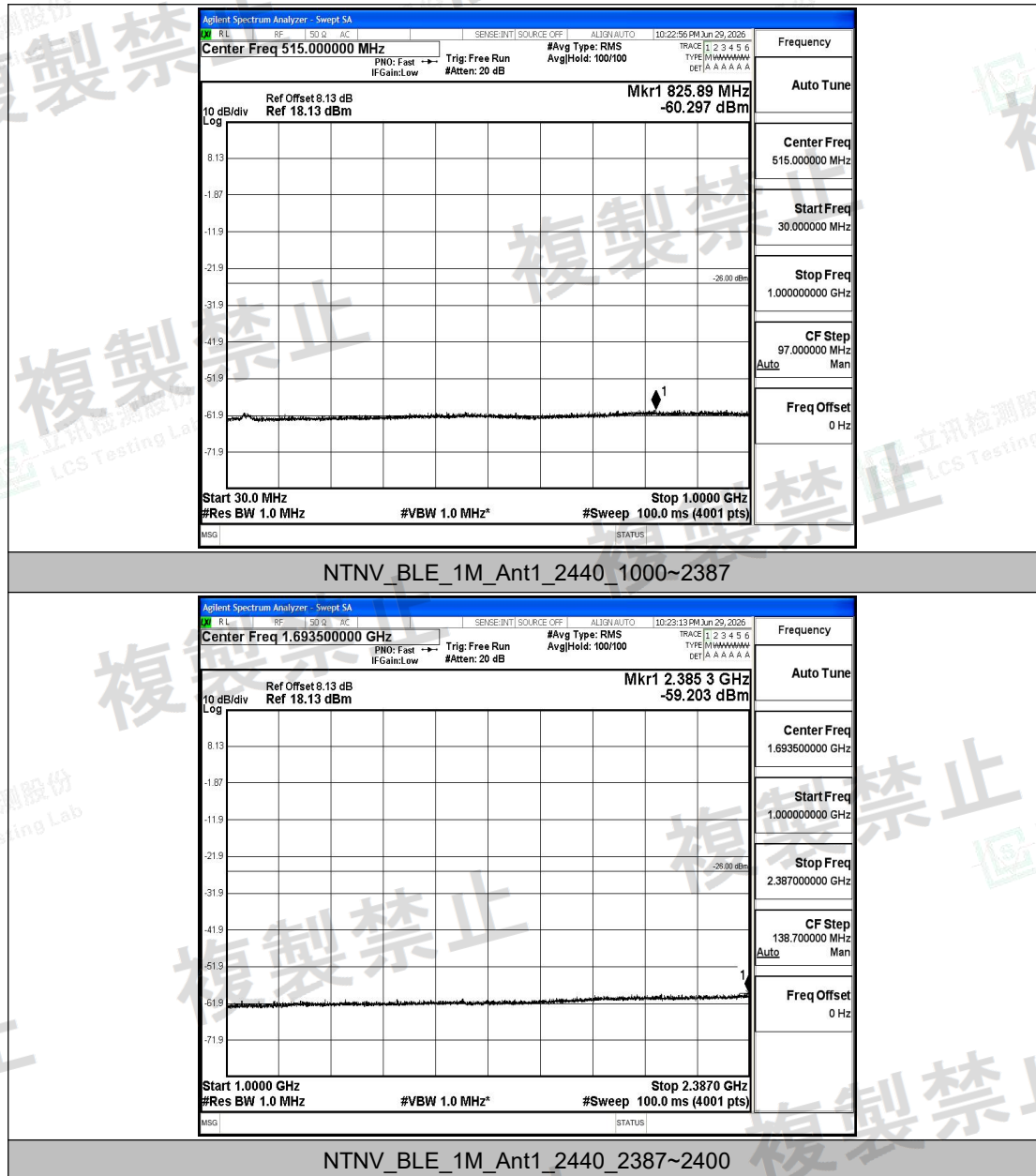
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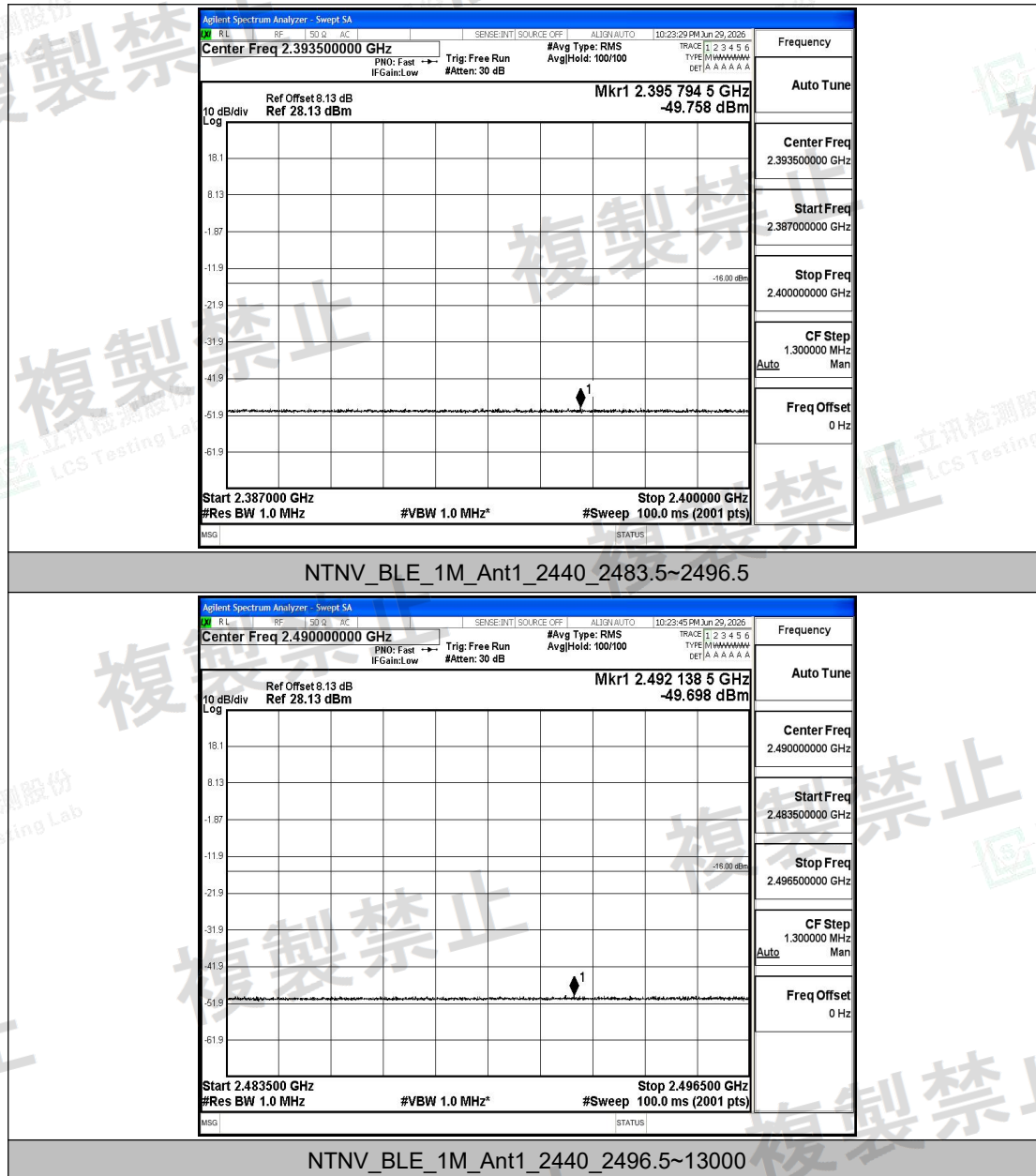
NTNV_BLE_1M_Ant1_2440_30~1000



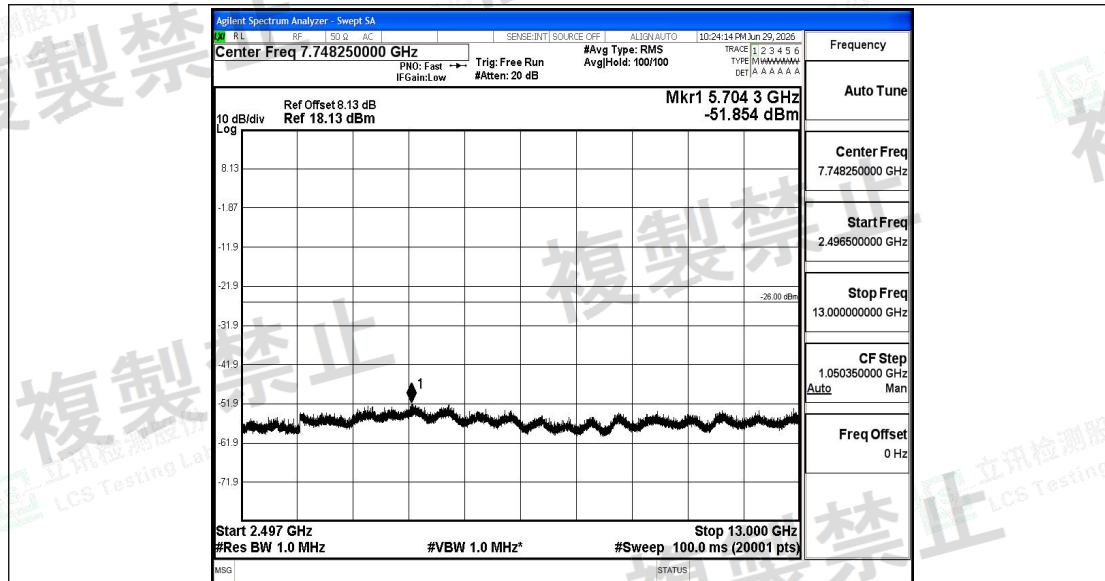
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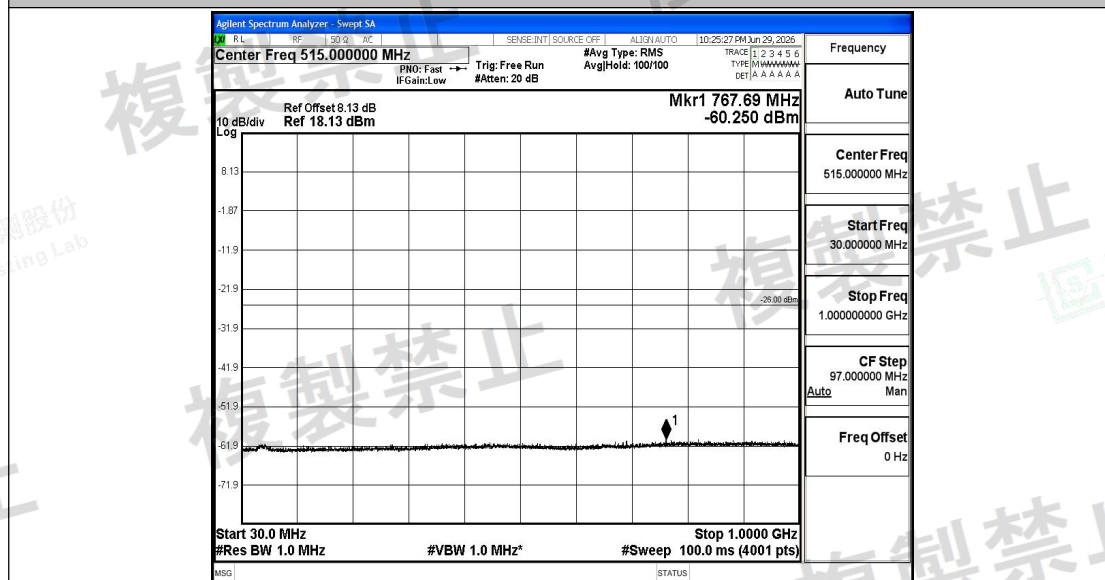
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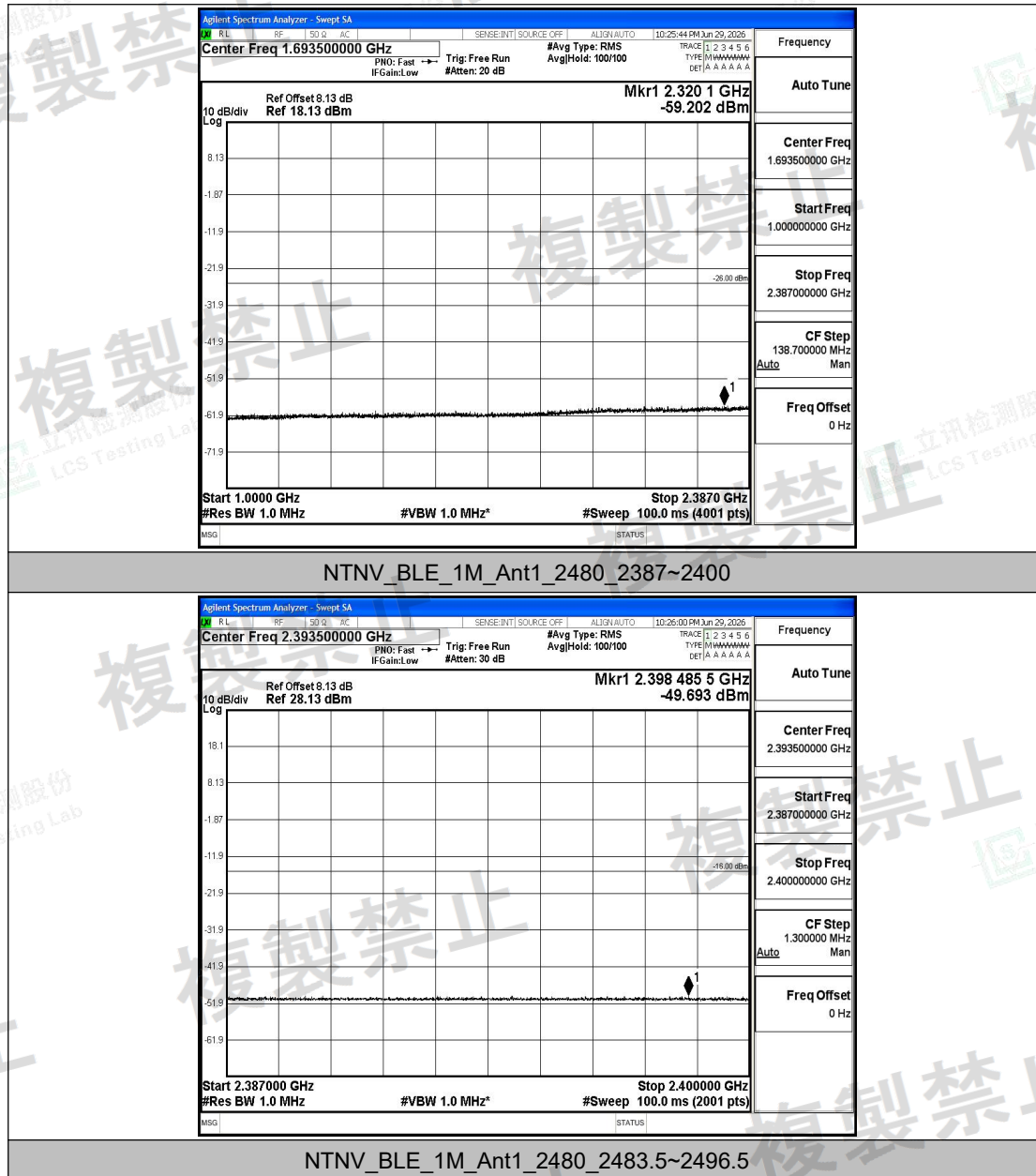
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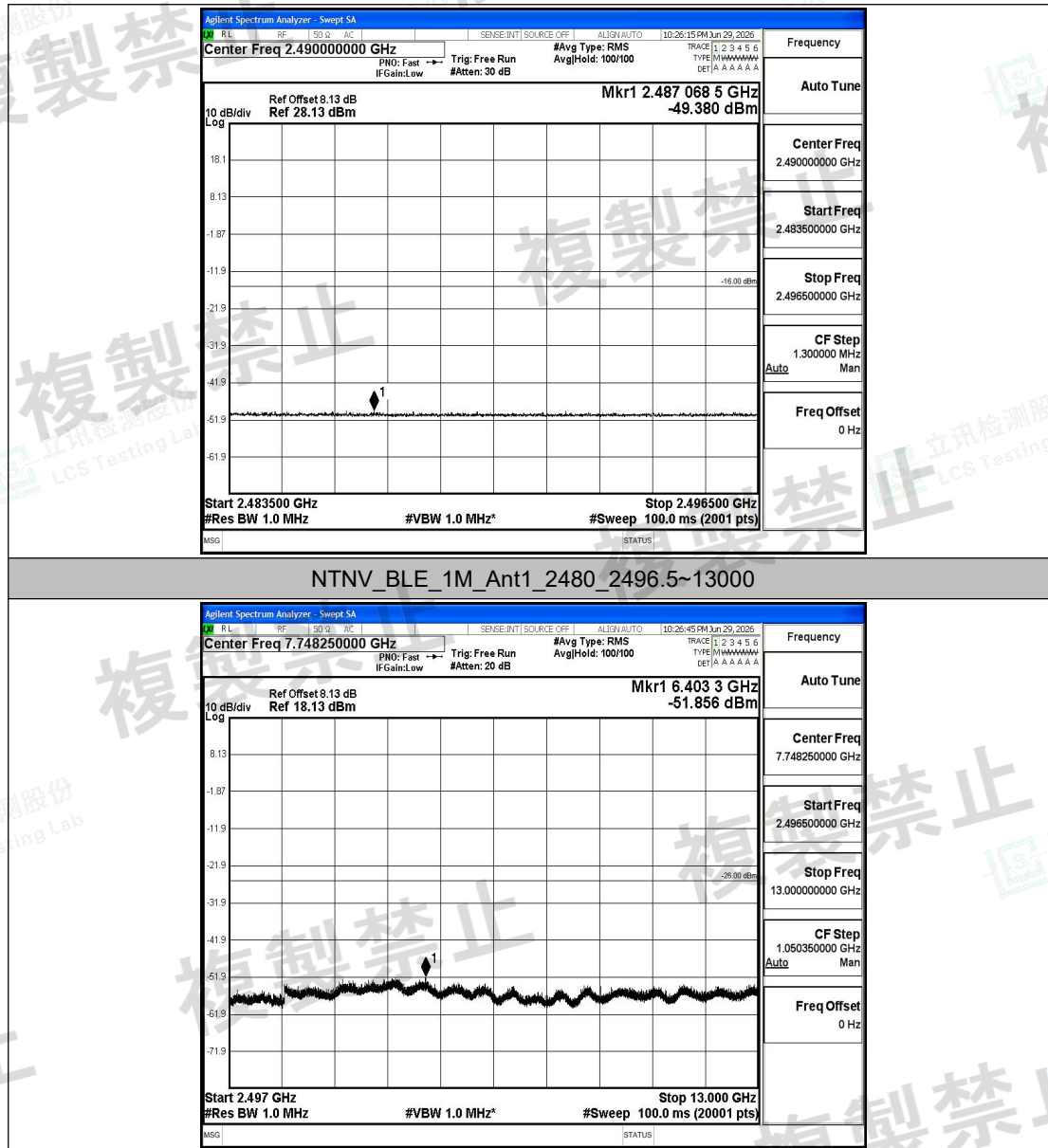
NTNV_BLE_1M_Ant1_2480_1000~2387



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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	-90.57	≤-54	0.00088	≤4	PASS
				1000~12500	-72.95	≤-47	0.05070	≤20	PASS
			2440	30~1000	-90.6	≤-54	0.00087	≤4	PASS
				1000~12500	-73.44	≤-47	0.04529	≤20	PASS
			2480	30~1000	-90.52	≤-54	0.00089	≤4	PASS
				1000~12500	-73.41	≤-47	0.04560	≤20	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTHV	BLE_1M	Ant1	2402	30~1000	-90.59	≤-54	0.00087	≤4	PASS
				1000~12500	-72.97	≤-47	0.05047	≤20	PASS
			2440	30~1000	-90.63	≤-54	0.00086	≤4	PASS
				1000~12500	-73.47	≤-47	0.04498	≤20	PASS
			2480	30~1000	-90.55	≤-54	0.00088	≤4	PASS
				1000~12500	-73.43	≤-47	0.04539	≤20	PASS

TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTLV	BLE_1M	Ant1	2402	30~1000	-90.61	≤-54	0.00087	≤4	PASS
				1000~12500	-72.99	≤-47	0.05023	≤20	PASS
			2440	30~1000	-90.65	≤-54	0.00086	≤4	PASS
				1000~12500	-73.49	≤-47	0.04477	≤20	PASS
			2480	30~1000	-90.58	≤-54	0.00087	≤4	PASS
				1000~12500	-73.47	≤-47	0.04498	≤20	PASS

Remark: only recorded the plots of worst data(NTNV) in the report.

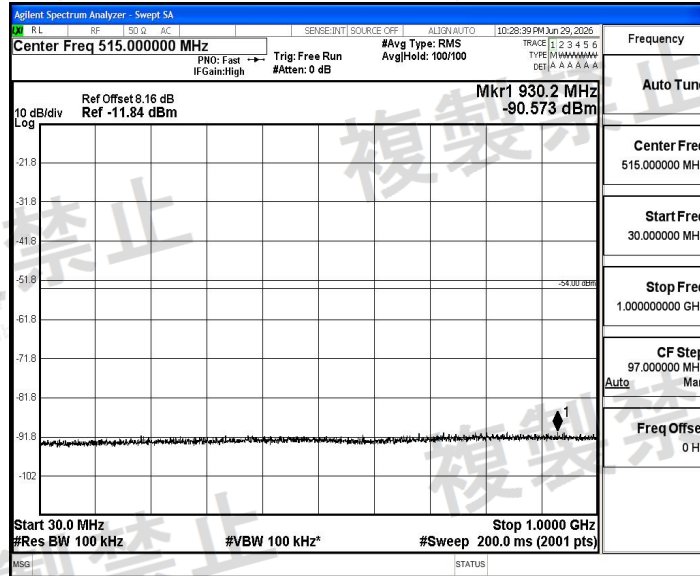


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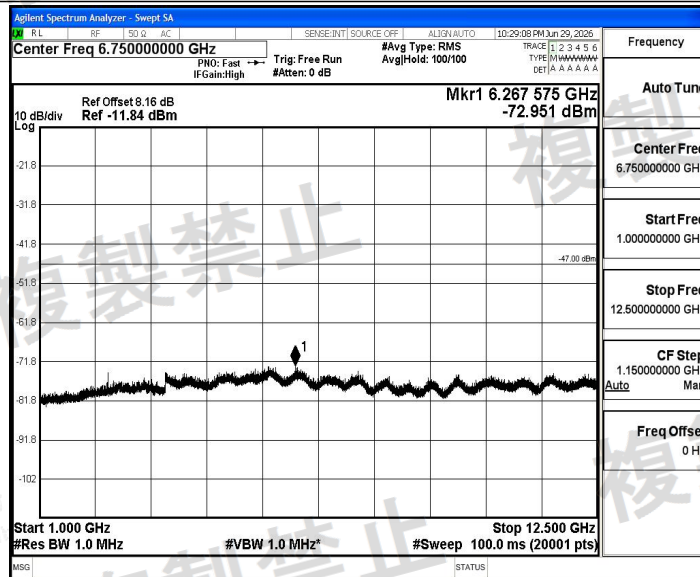


Test Graphs

NTNV_BLE_1M_Ant1_2402_30~1000



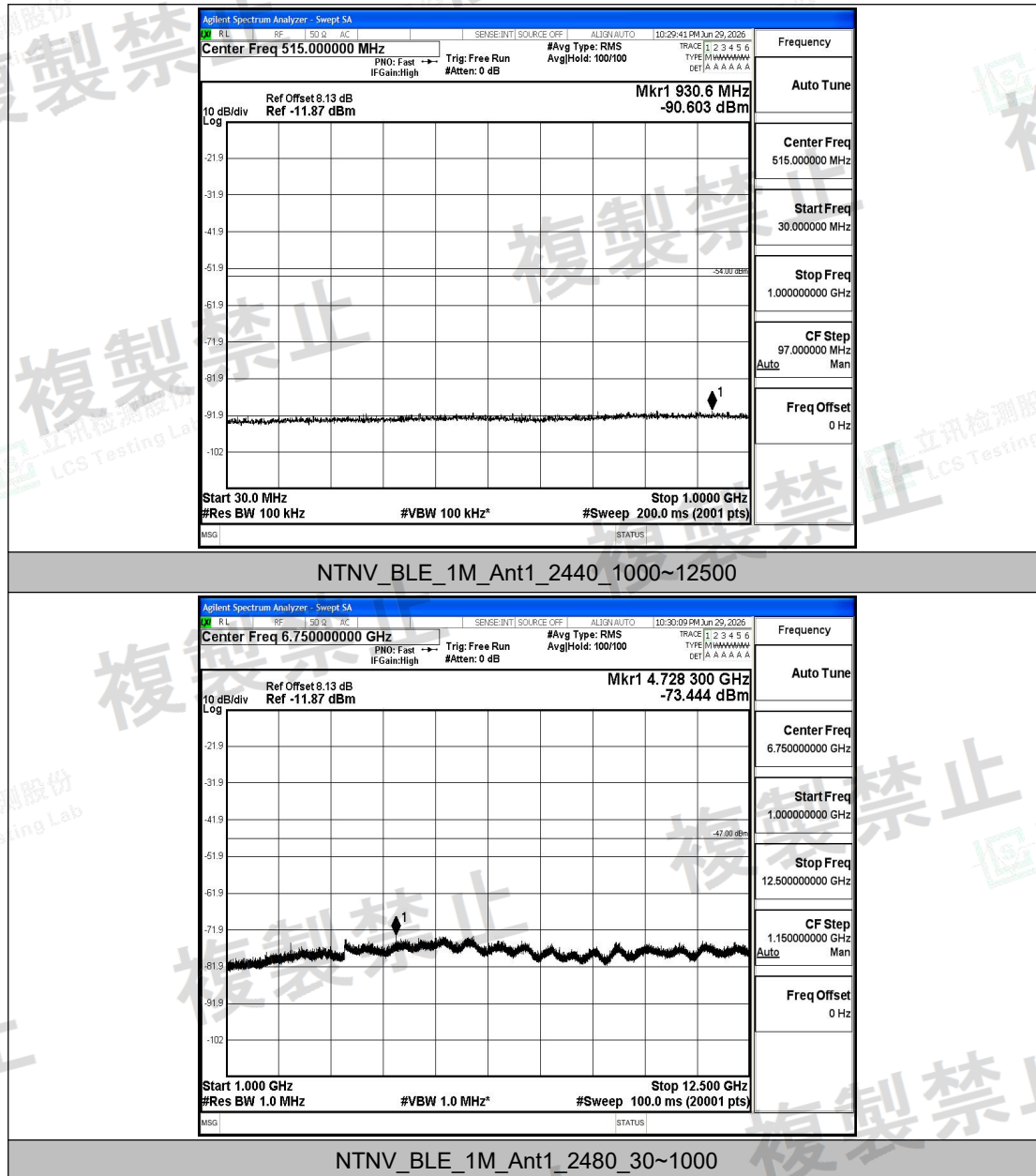
NTNV_BLE_1M_Ant1_2402_1000~12500



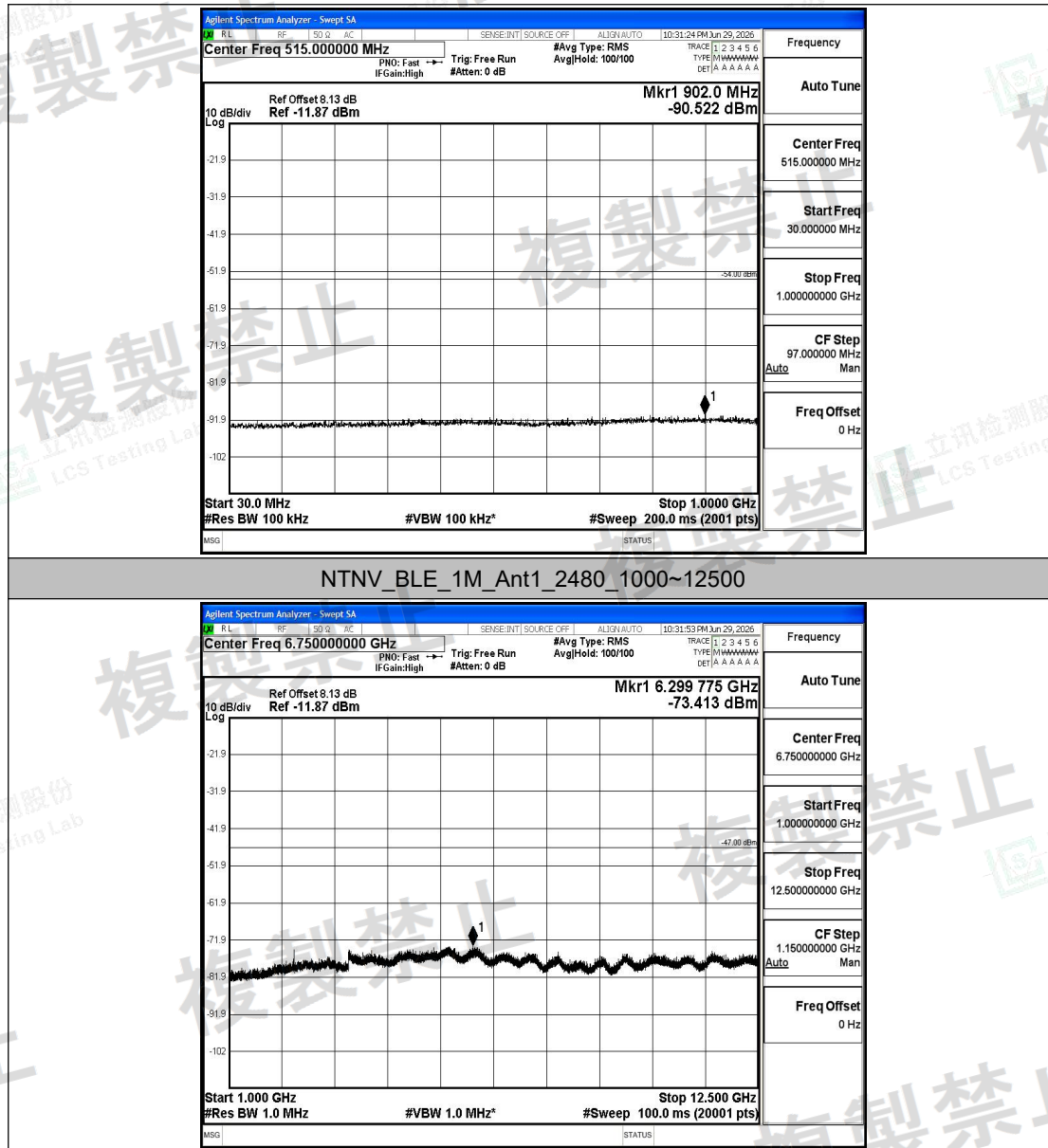
NTNV_BLE_1M_Ant1_2440_30~1000



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