



Appendix A for 2.4G Test Data

Product Name: Bicycle Light

Test Model: Goshawk 1600

Environmental Conditions

Temperature:	21.8° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Nick Peng





A.1 Frequency Error

Test Result

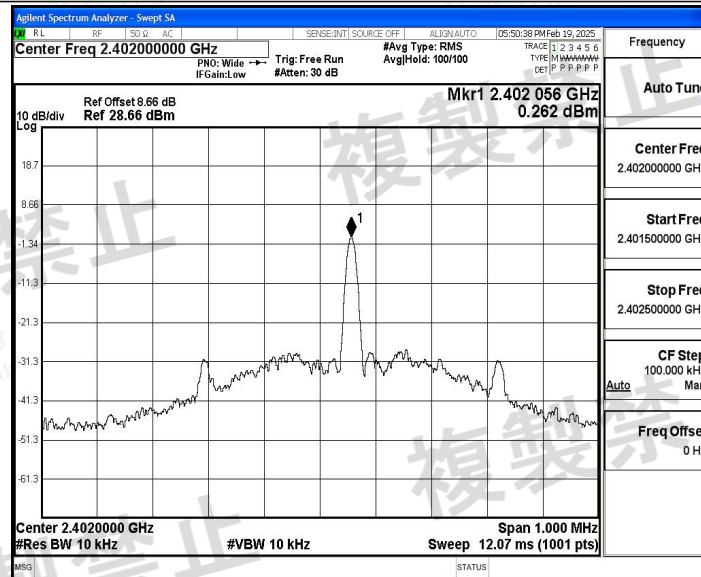
TestCondition	TestMode	Antenna	Frequency [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency_Error	Ant1	2402	23.31391	±50	PASS
			2440	23.36066	±50	PASS
			2480	23.38710	±50	PASS



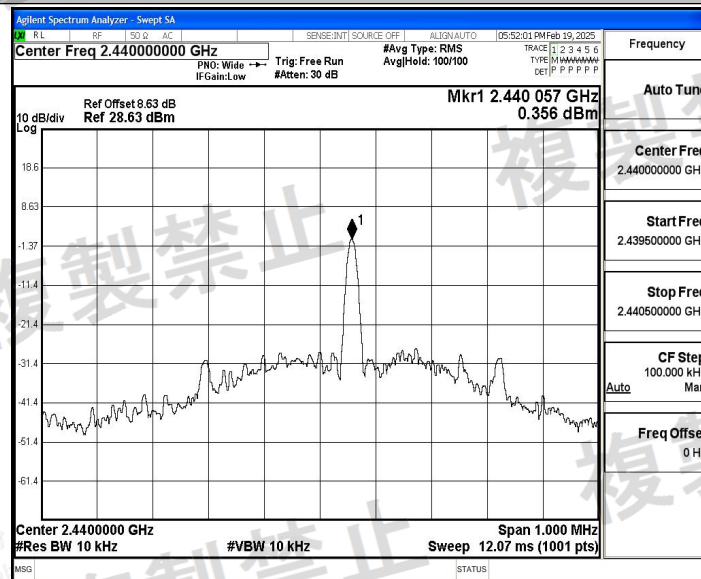


Test Graphs

NTNV_Ant1_2402

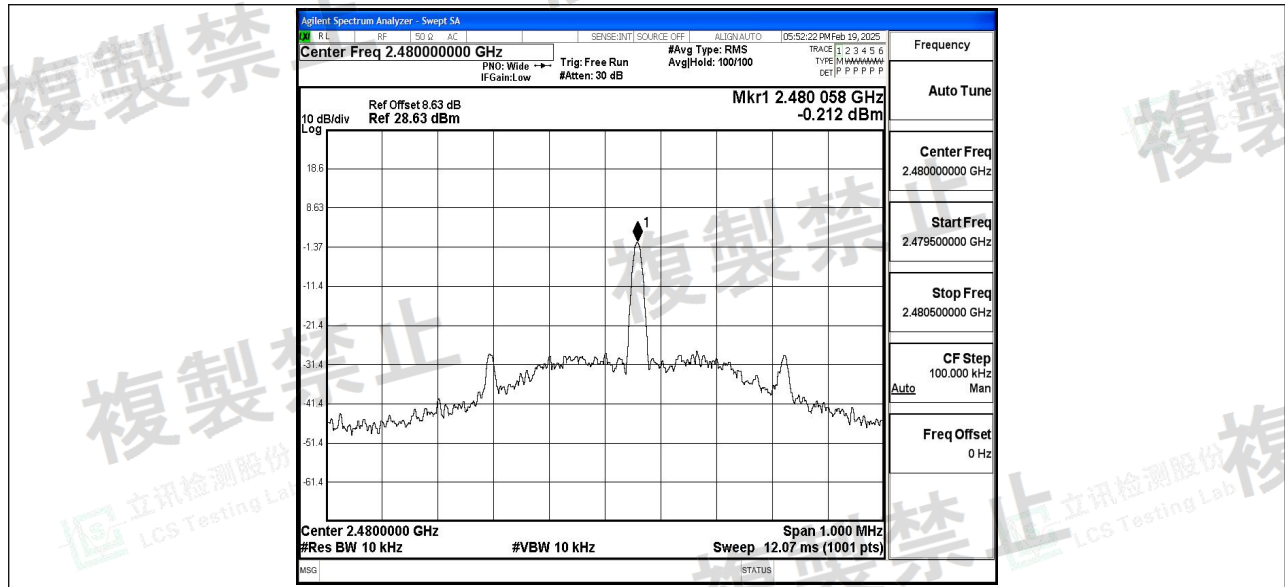


NTNV_Ant1_2440



NTNV_Ant1_2480







A.2 Antenna Power

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTNV	2.4G_1M	Ant	2402	-0.49	0.8933	≤10	PASS
			2440	-0.46	0.8995	≤10	PASS
			2480	-0.96	0.8017	≤10	PASS
	2.4G_2M	Ant	2402	-1.36	0.7311	≤10	PASS
			2440	-1.40	0.7244	≤10	PASS
			2480	-1.89	0.6471	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	2.4G_1M	Ant	2402	0.8933	1	-10.67	+20	PASS
			2440	0.8995	1	-10.05	+20	PASS
			2480	0.8017	1	-19.83	+20	PASS
	2.4G_2M	Ant	2402	0.7311	1	-26.89	+20	PASS
			2440	0.7244	1	-27.56	+20	PASS
			2480	0.6471	1	-35.29	+20	PASS





A.3 Occupied Bandwidth

Test Result

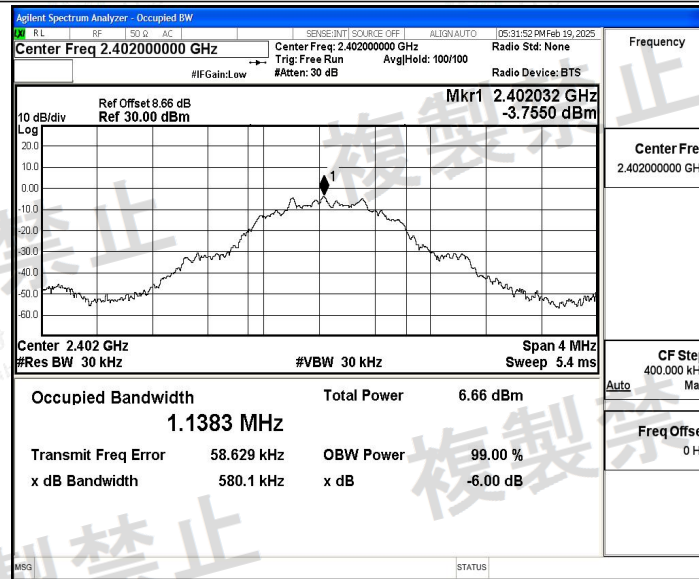
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	2.4G_1M	Ant1	2402	1.138	≤26	PASS
			2440	1.150	≤26	PASS
			2480	1.164	≤26	PASS
	2.4G_2M	Ant1	2402	2.090	≤26	PASS
			2440	2.083	≤26	PASS
			2480	2.089	≤26	PASS



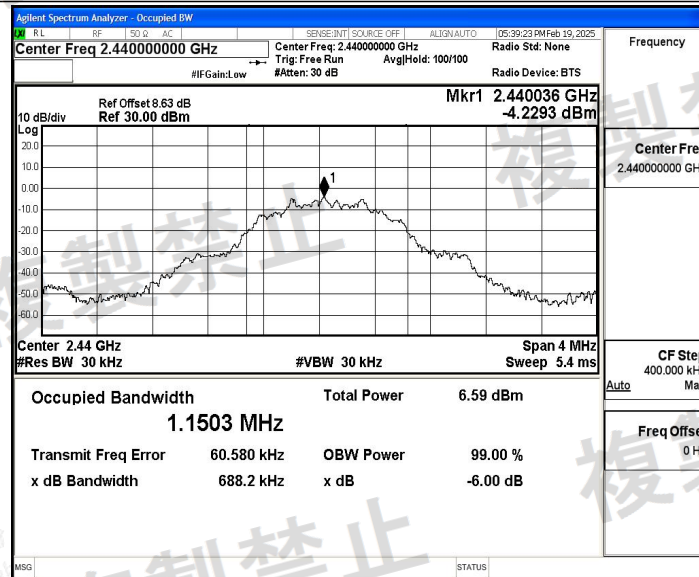


Test Graphs

NTNV_2.4G_1M_Ant1_2402

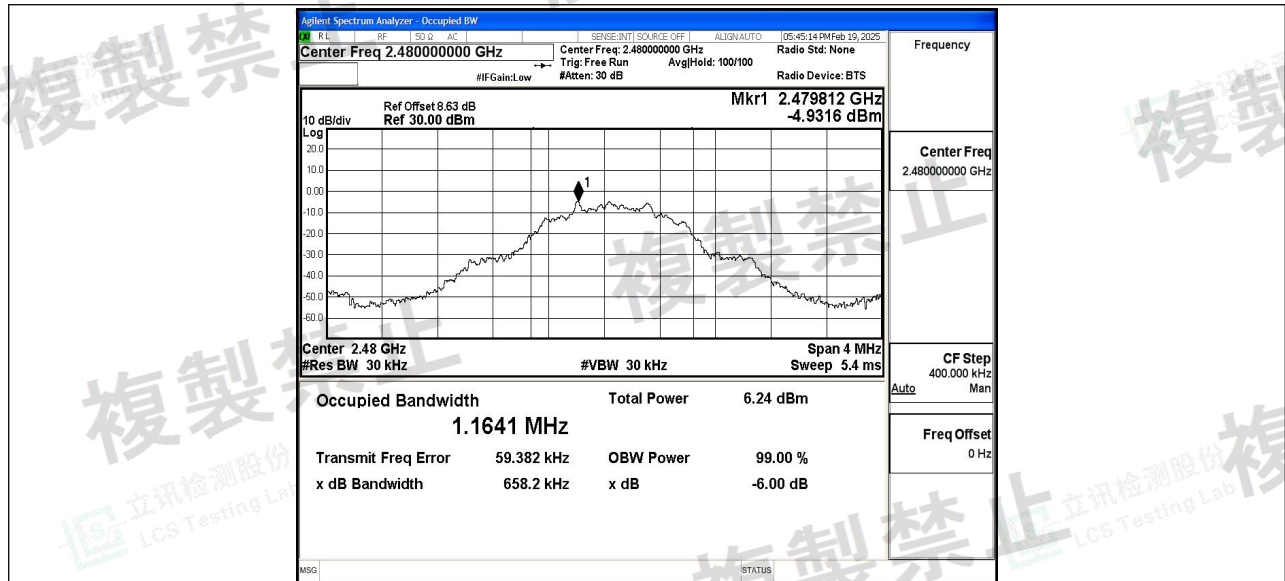


NTNV_2.4G_1M_Ant1_2440

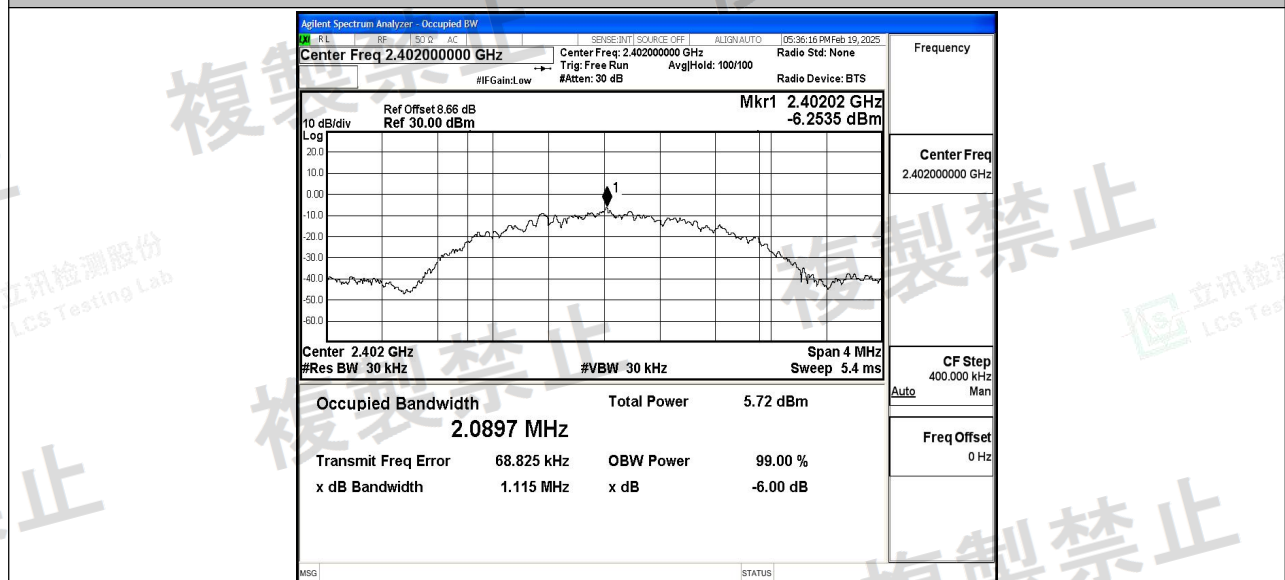


NTNV_2.4G_1M_Ant1_2480



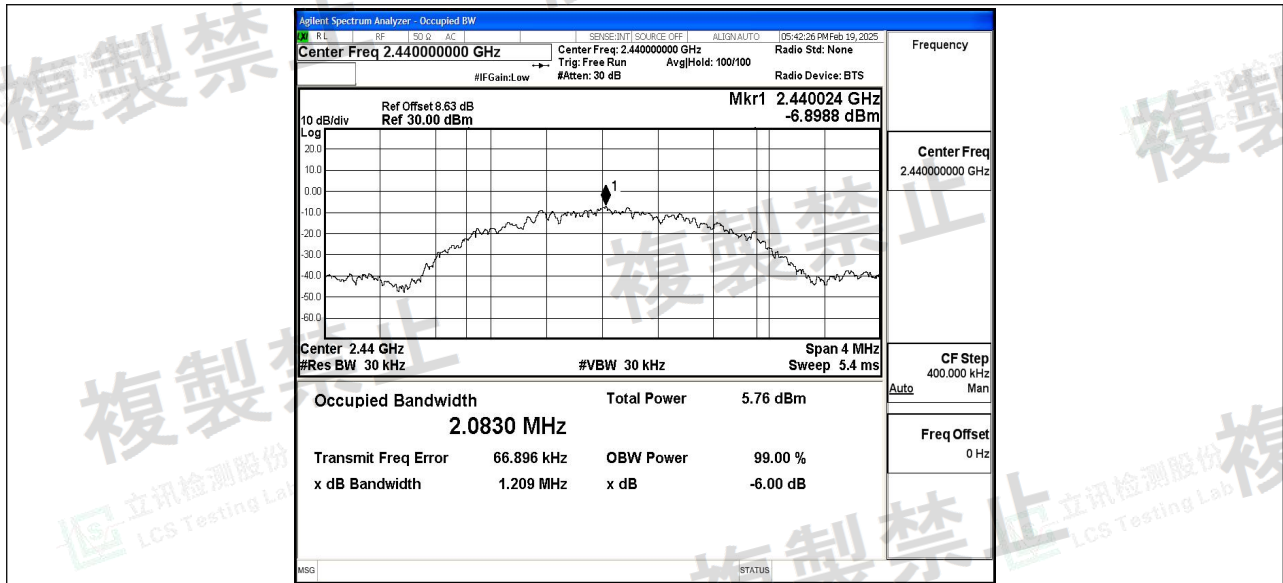


NTNV_2.4G_2M_Ant1_2402

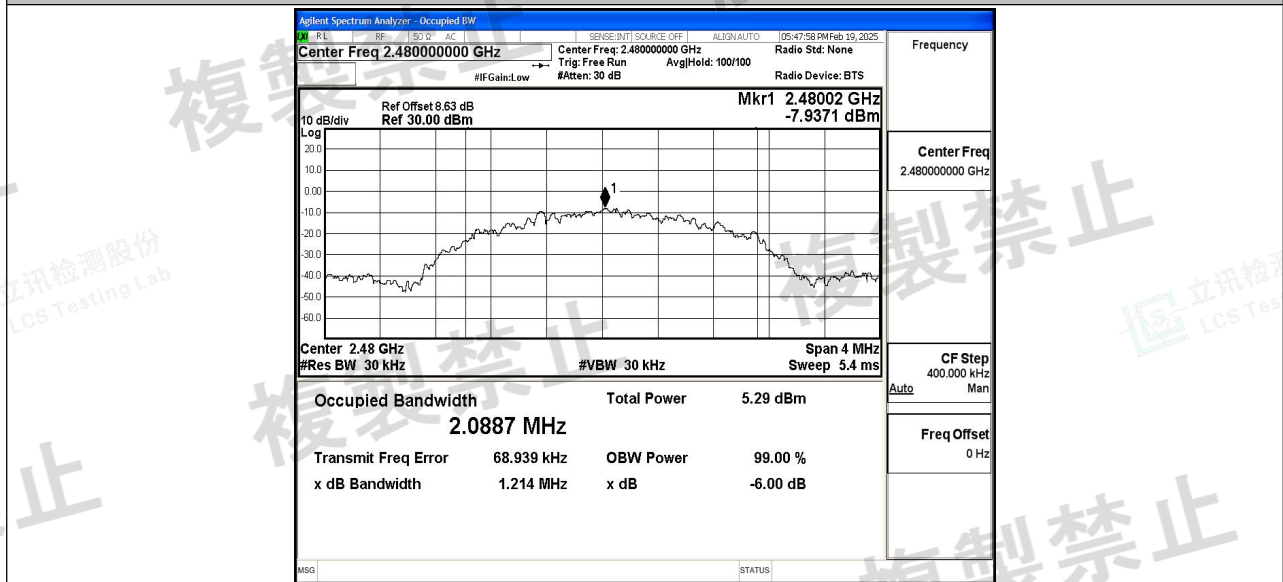


NTNV_2.4G_2M_Ant1_2440





NTNV_2.4G_2M_Ant1_2480



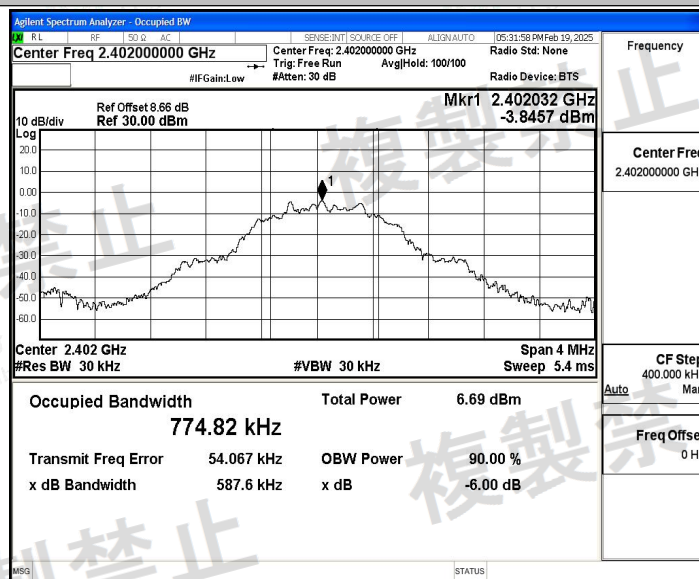


A.4 Spread Bandwidth

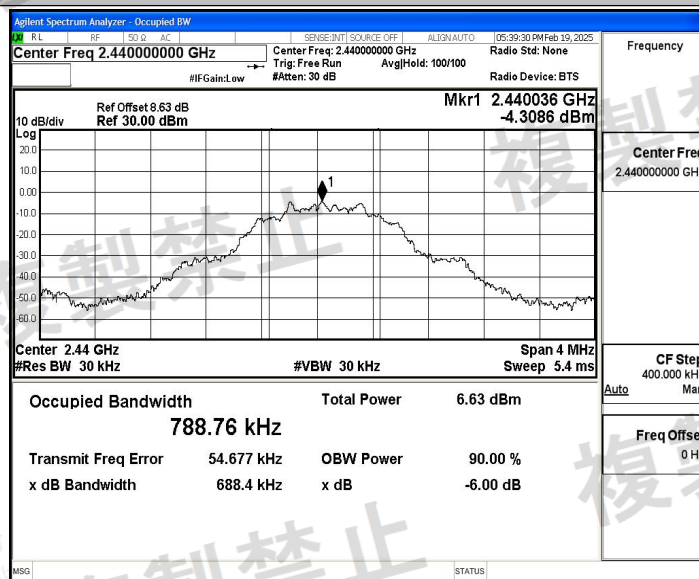
Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	2.4G_1M	Ant1	2402	0.775	---	PASS
			2440	0.789	---	PASS
			2480	0.786	---	PASS
	2.4G_2M	Ant1	2402	1.385	---	PASS
			2440	1.390	---	PASS
			2480	1.416	---	PASS



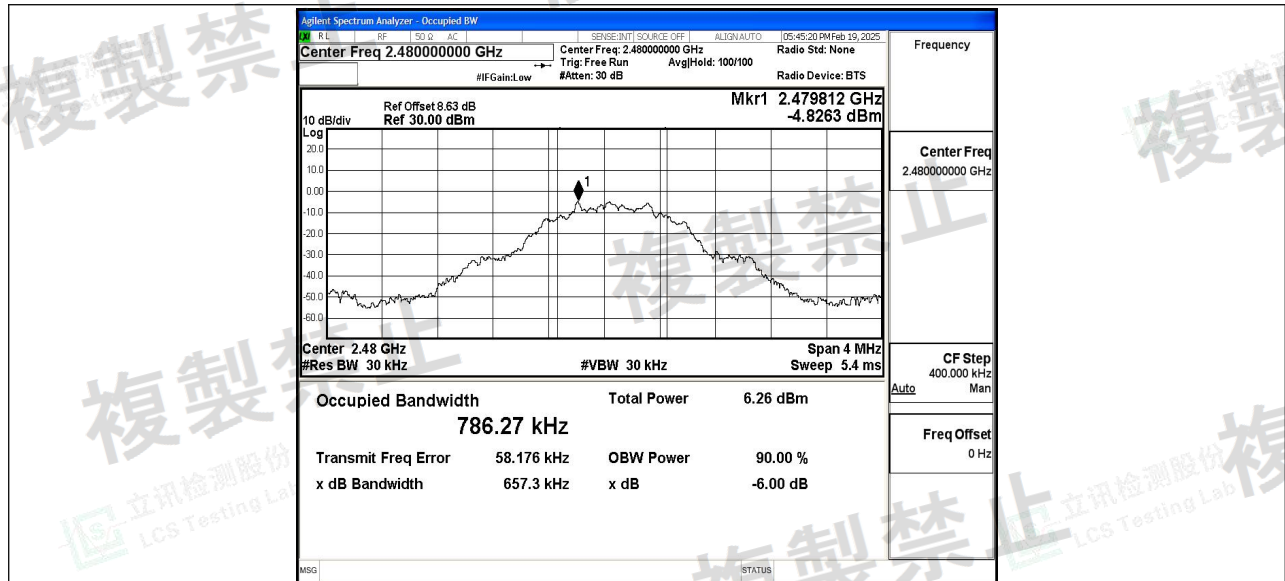


NTNV 2.4G 1M Ant1 2440

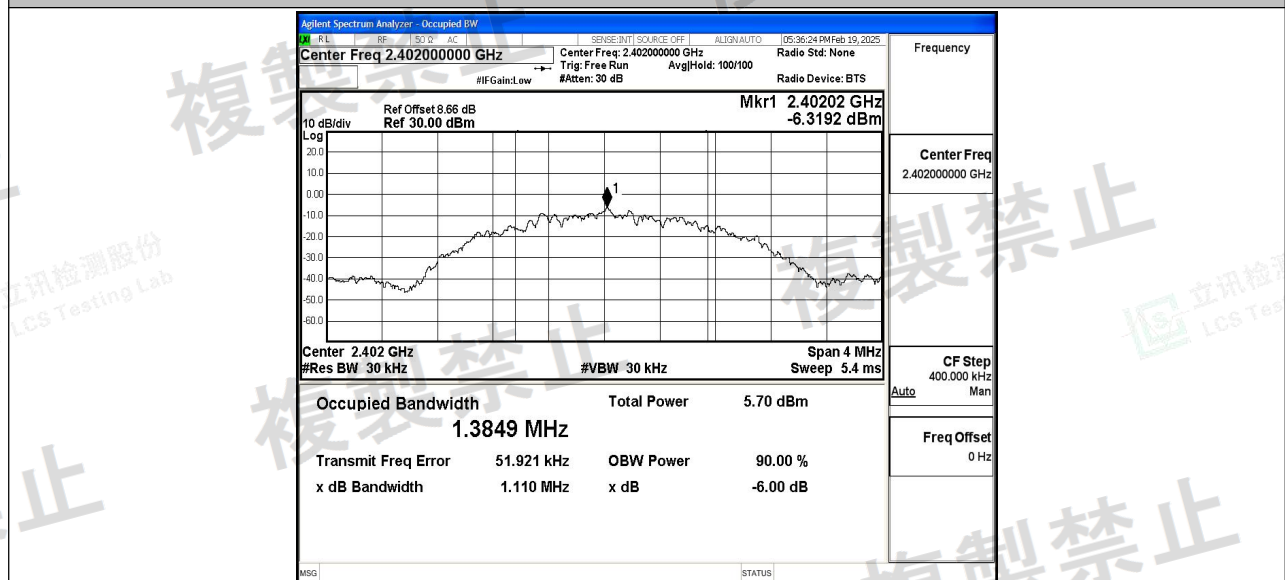


NTNV 2.4G 1M Ant1 2480



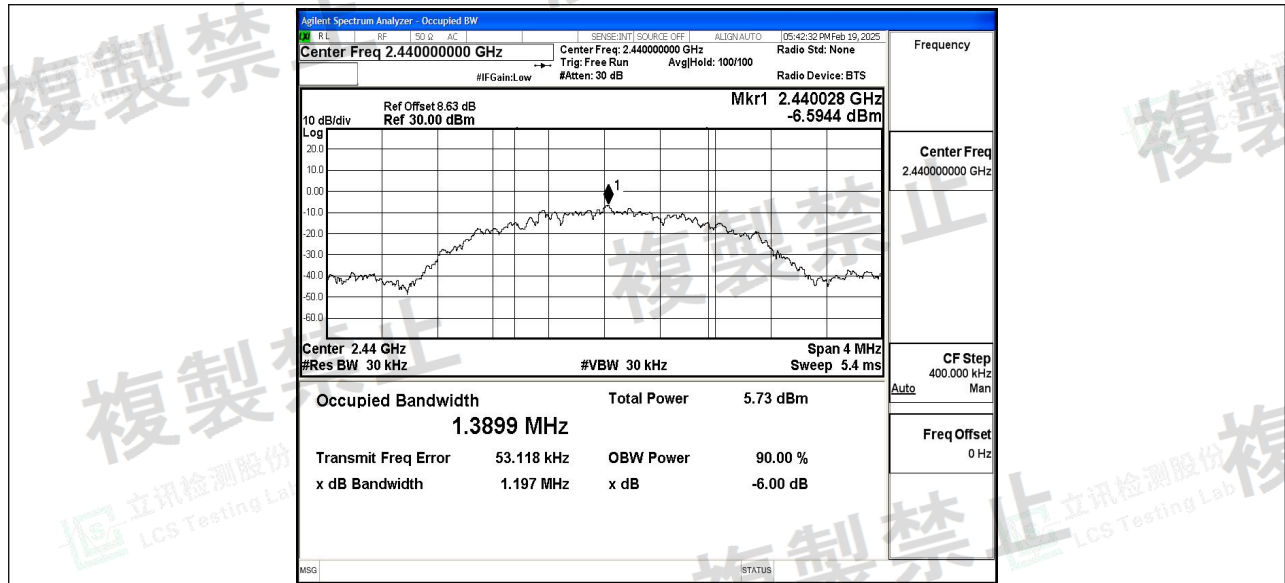


NTNV_2.4G_2M_Ant1_2402

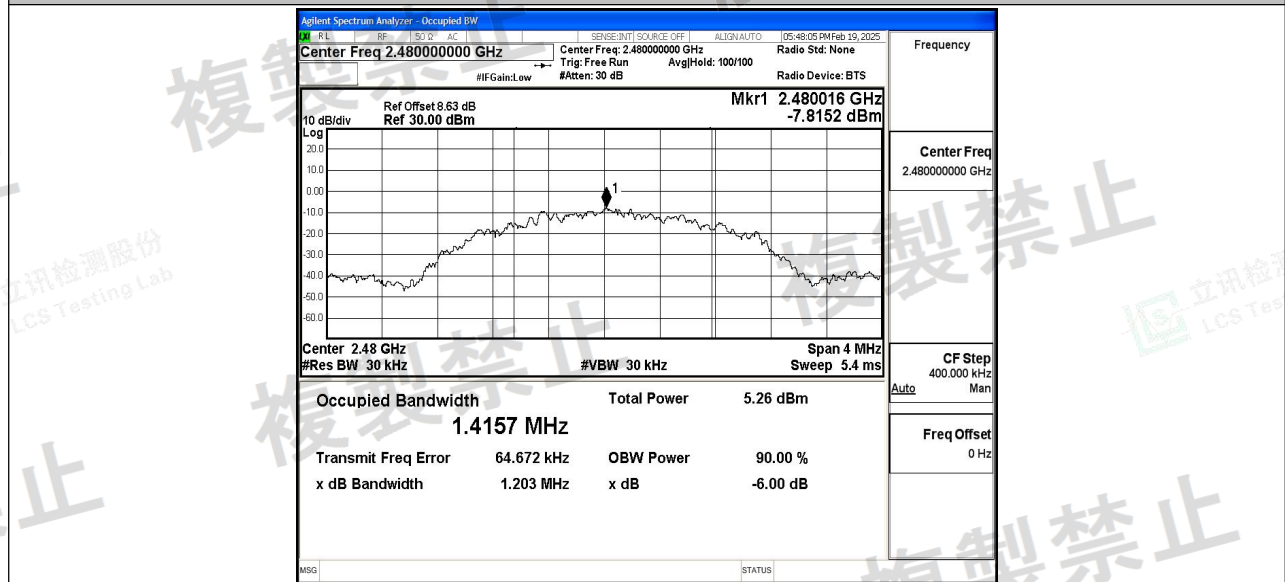


NTNV_2.4G_2M_Ant1_2440





NTNV_2.4G_2M_Ant1_2480





A.5 Spurious Emission of TX

Test Result

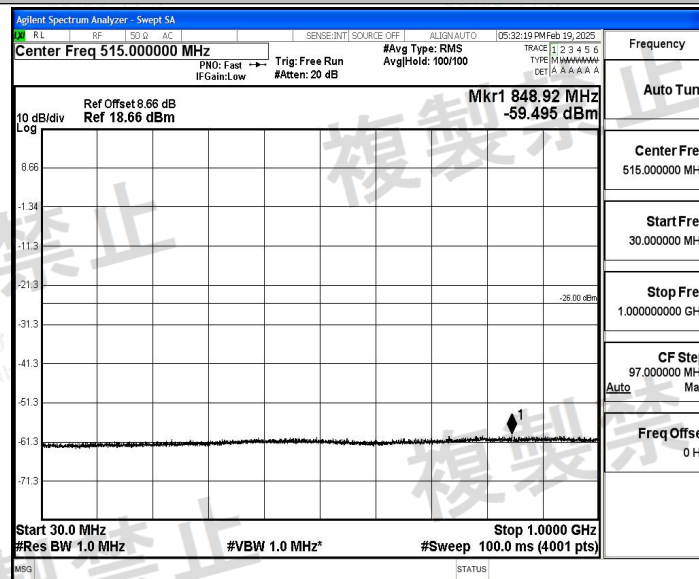
TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	2.4G_1M	Ant1	2402	30~1000	-59.50	≤-26	0.00112	≤2.5	PASS
				1000~2387	-47.81	≤-26	0.01656	≤2.5	PASS
				2387~2400	-38.36	≤-16	0.14588	≤25	PASS
				2483.5~2496.5	-49.15	≤-16	0.01216	≤25	PASS
				2496.5~13000	-43.85	≤-26	0.04121	≤2.5	PASS
			2440	30~1000	-59.75	≤-26	0.00106	≤2.5	PASS
				1000~2387	-52.17	≤-26	0.00607	≤2.5	PASS
				2387~2400	-48.76	≤-16	0.01330	≤25	PASS
				2483.5~2496.5	-48.59	≤-16	0.01384	≤25	PASS
				2496.5~13000	-44.59	≤-26	0.03475	≤2.5	PASS
			2480	30~1000	-59.57	≤-26	0.00110	≤2.5	PASS
				1000~2387	-54.56	≤-26	0.00350	≤2.5	PASS
				2387~2400	-48.75	≤-16	0.01334	≤25	PASS
				2483.5~2496.5	-46.05	≤-16	0.02483	≤25	PASS
				2496.5~13000	-44.09	≤-26	0.03899	≤2.5	PASS
	2.4G_2M	Ant1	2402	30~1000	-59.64	≤-26	0.00109	≤2.5	PASS
				1000~2387	-50.19	≤-26	0.00957	≤2.5	PASS
				2387~2400	-27.21	≤-16	1.90108	≤25	PASS
				2483.5~2496.5	-49.06	≤-16	0.01242	≤25	PASS
				2496.5~13000	-46.24	≤-26	0.02377	≤2.5	PASS
			2440	30~1000	-59.44	≤-26	0.00114	≤2.5	PASS
				1000~2387	-52.85	≤-26	0.00519	≤2.5	PASS
				2387~2400	-48.79	≤-16	0.01321	≤25	PASS
				2483.5~2496.5	-48.81	≤-16	0.01315	≤25	PASS
				2496.5~13000	-45.00	≤-26	0.03162	≤2.5	PASS
			2480	30~1000	-59.50	≤-26	0.00112	≤2.5	PASS
				1000~2387	-54.20	≤-26	0.00380	≤2.5	PASS
				2387~2400	-48.96	≤-16	0.01271	≤25	PASS
				2483.5~2496.5	-46.16	≤-16	0.02421	≤25	PASS
				2496.5~13000	-46.43	≤-26	0.02275	≤2.5	PASS



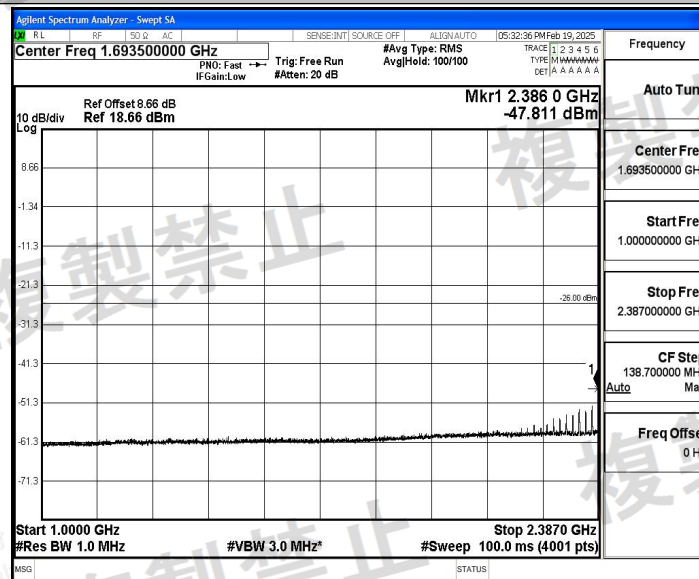


Test Graphs

NTNV_2.4G_1M_Ant1_2402_30~1000

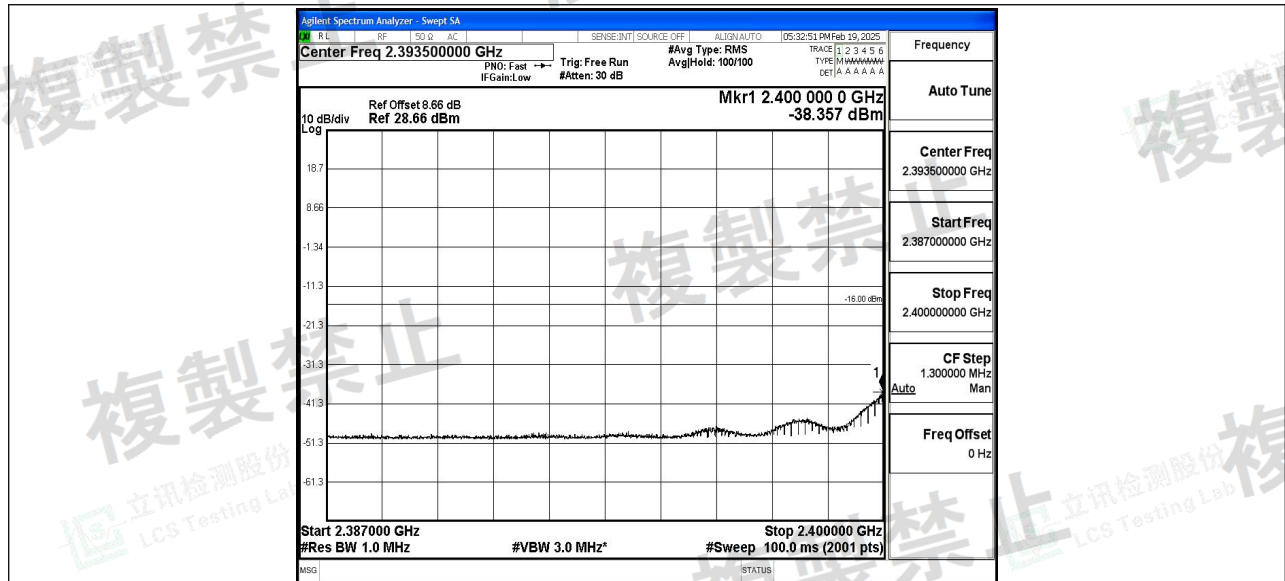


NTNV_2.4G_1M_Ant1_2402_1000~2387

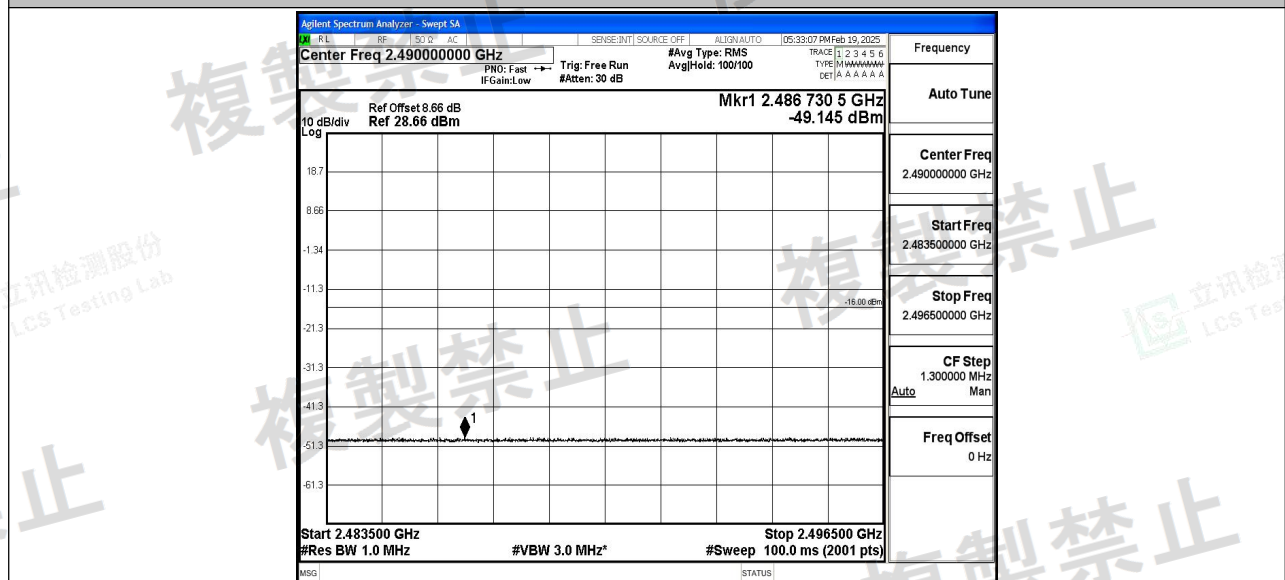


NTNV_2.4G_1M_Ant1_2402_2387~2400





NTNV_2.4G_1M_Ant1_2402_2483.5~2496.5



NTNV_2.4G_1M_Ant1_2402_2496.5~13000

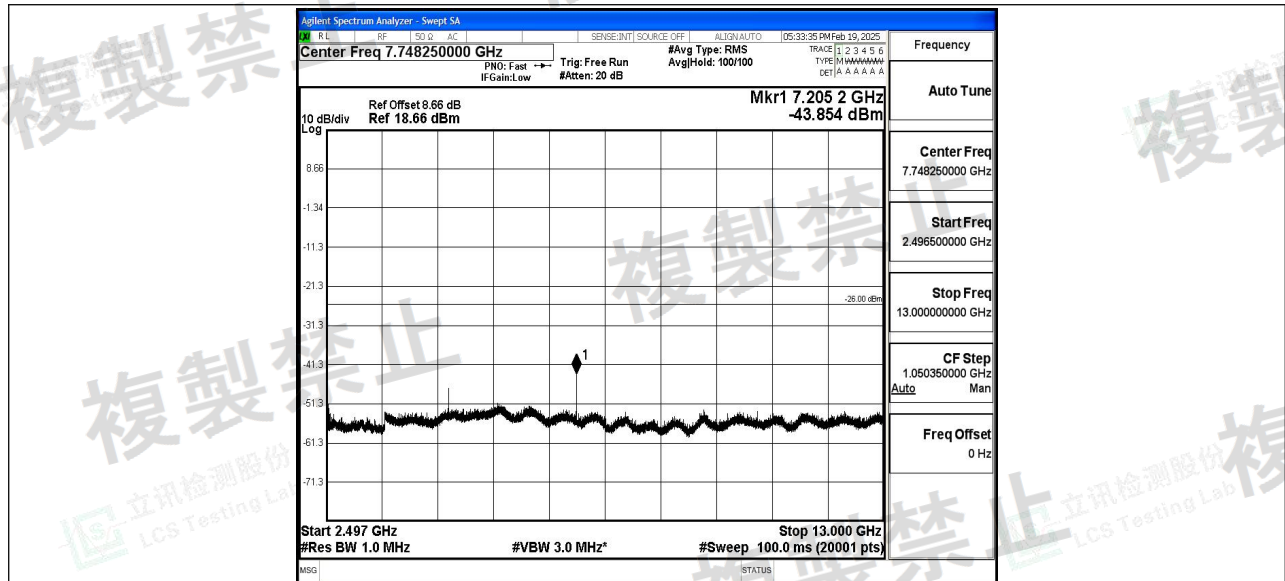


Shenzhen LCS Compliance Testing Laboratory Ltd.

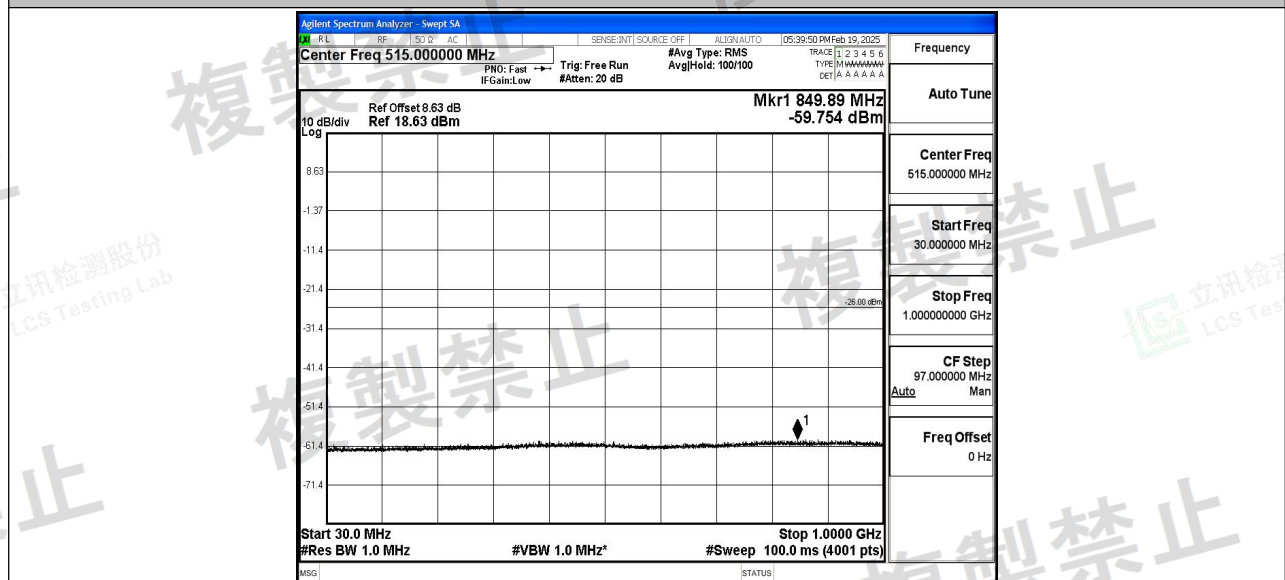
Add: Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

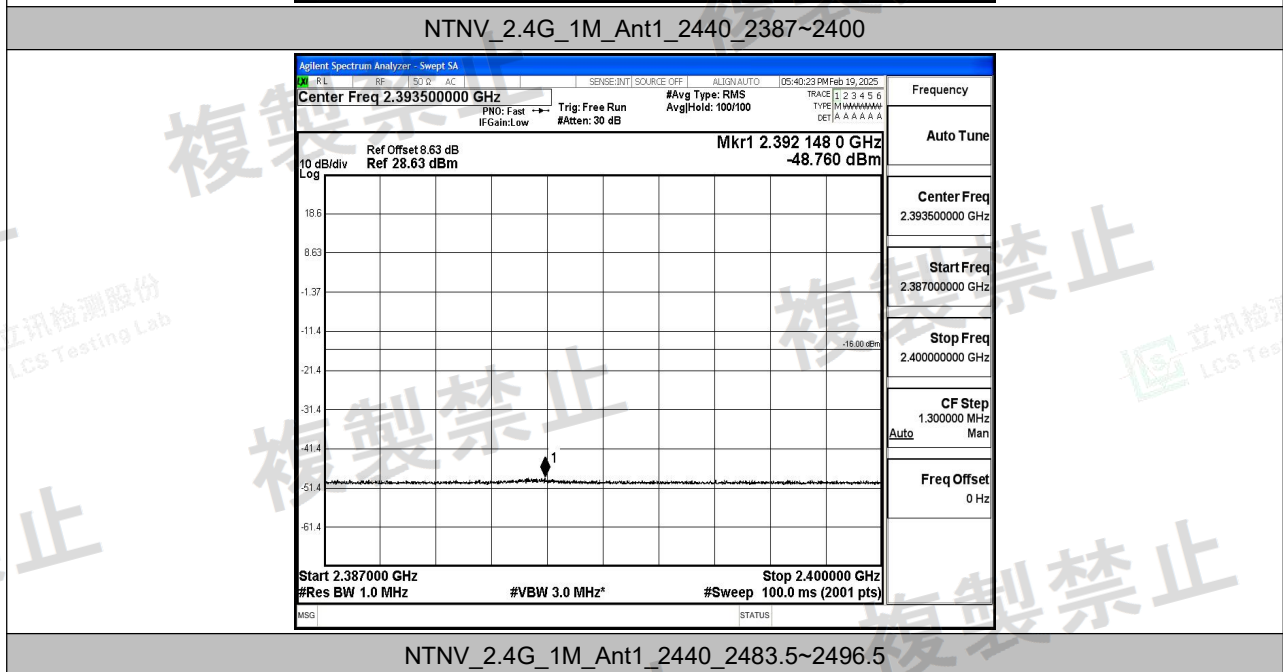
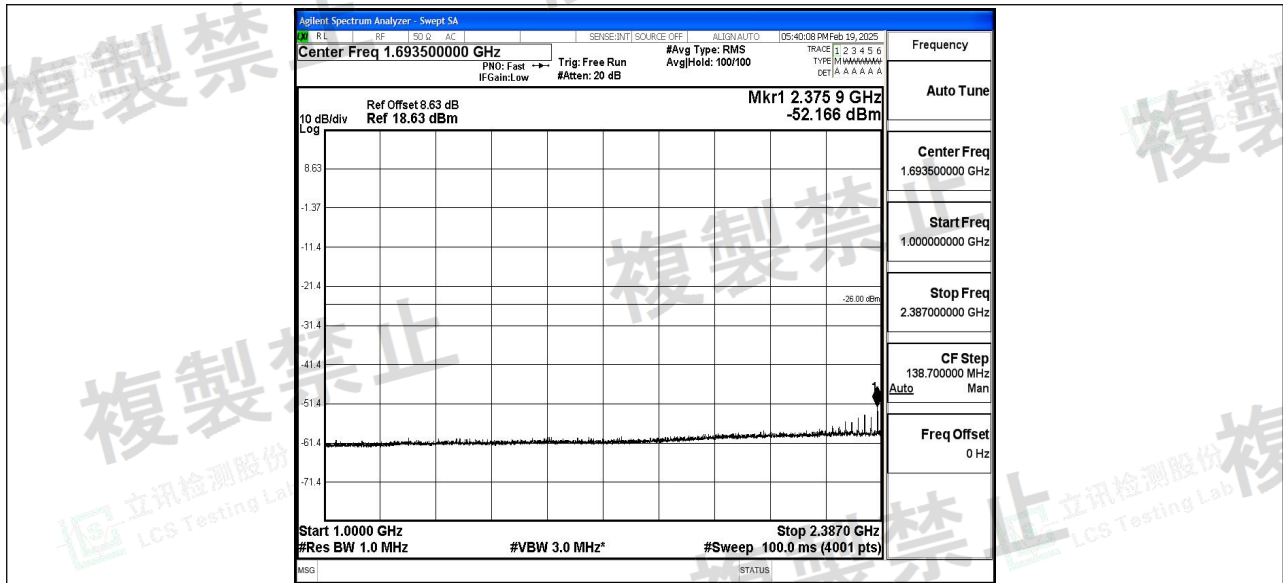


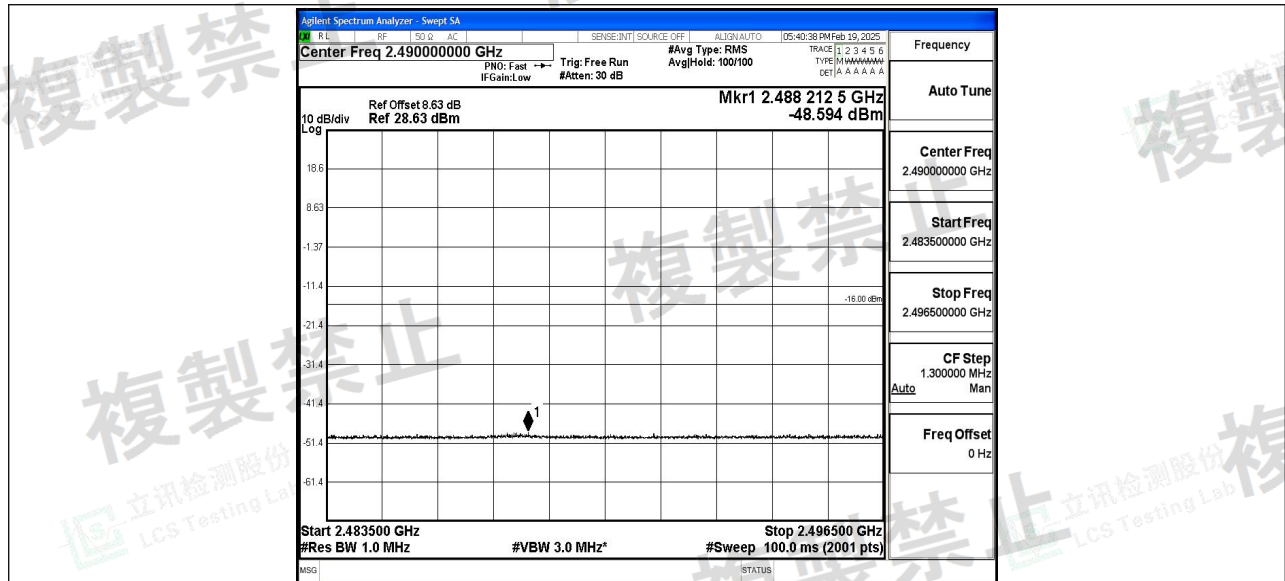
NTNV_2.4G_1M_Ant1_2440_30~1000



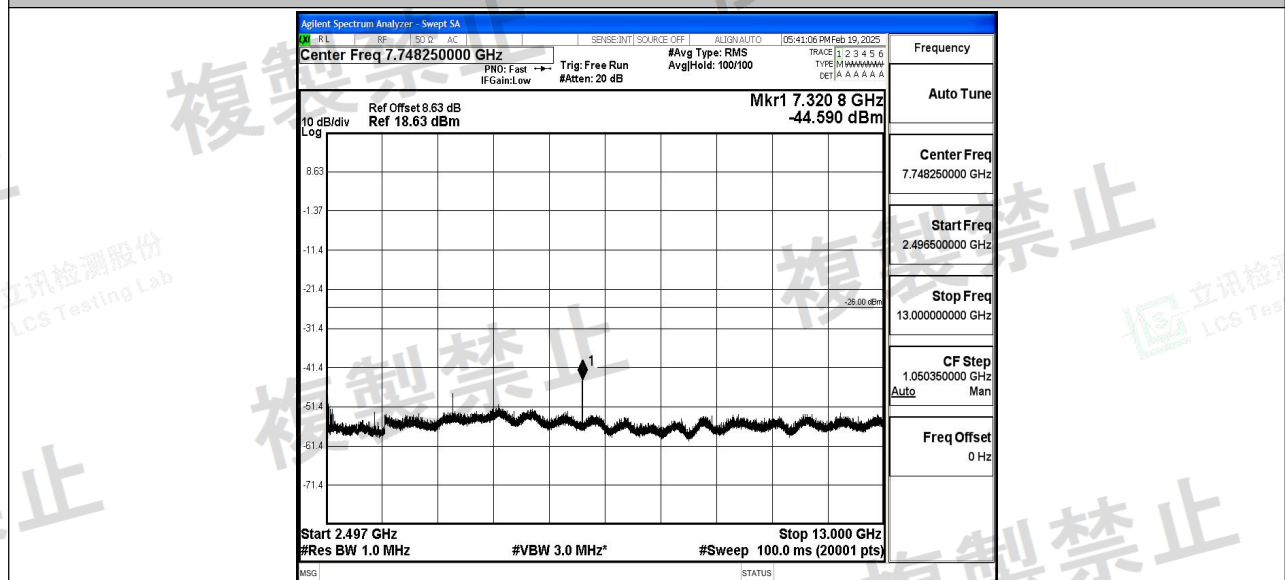
NTNV_2.4G_1M_Ant1_2440_1000~2387





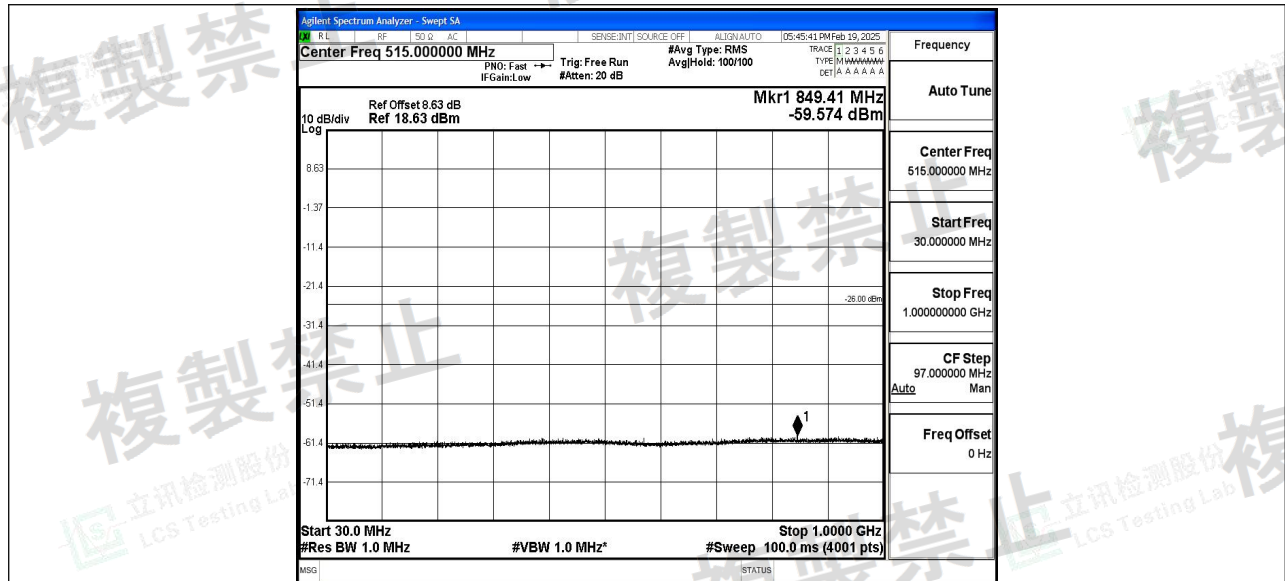


NTNV_2.4G_1M_Ant1_2440_2496.5~13000

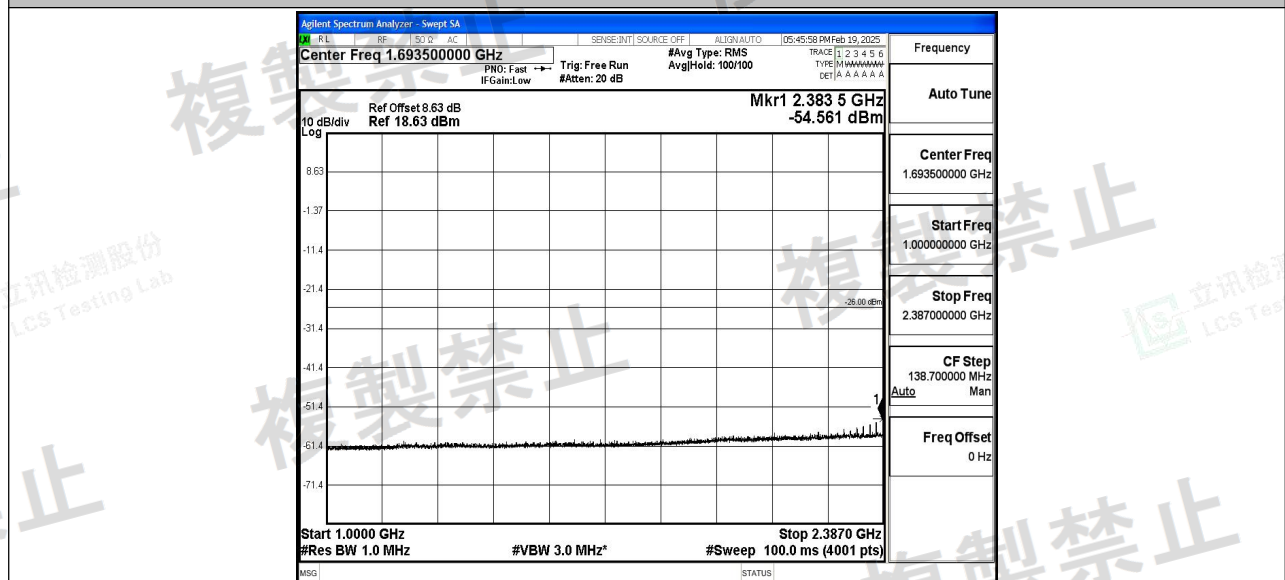


NTNV_2.4G_1M_Ant1_2480_30~1000



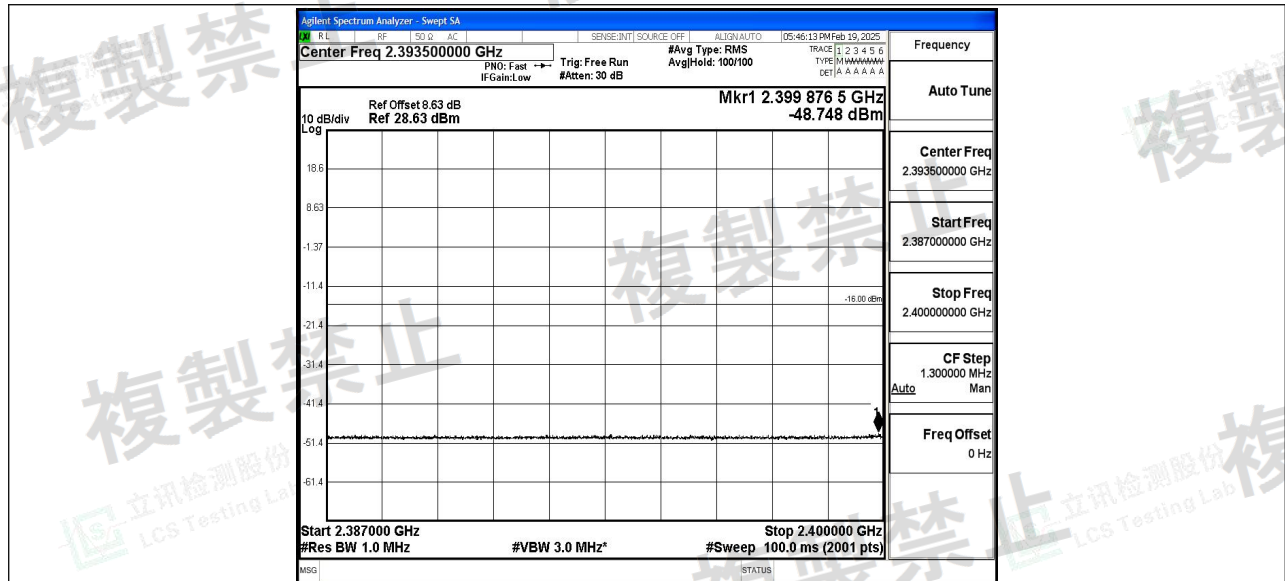


NTNV_2.4G_1M_Ant1_2480_1000~2387

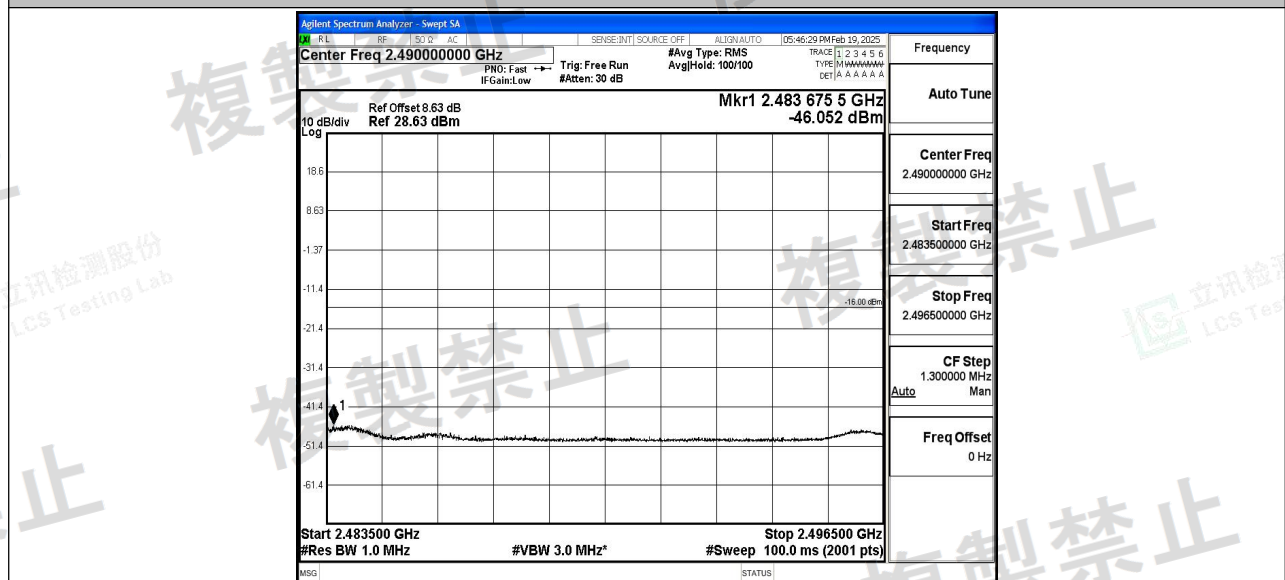


NTNV_2.4G_1M_Ant1_2480_2387~2400



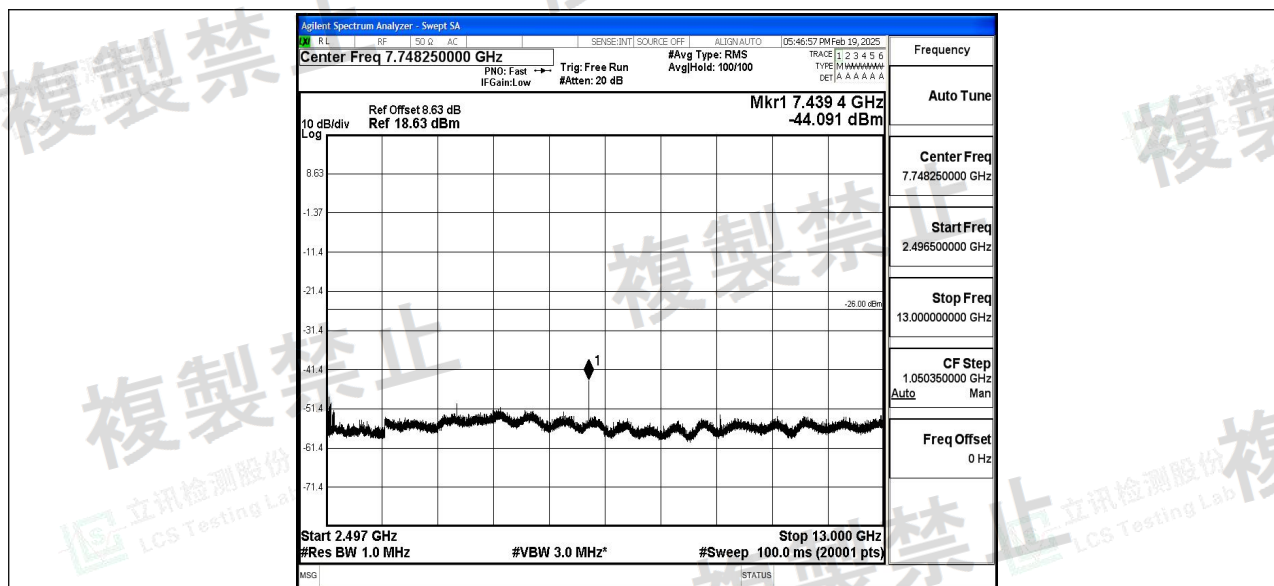


NTNV_2.4G_1M_Ant1_2480_2483.5~2496.5

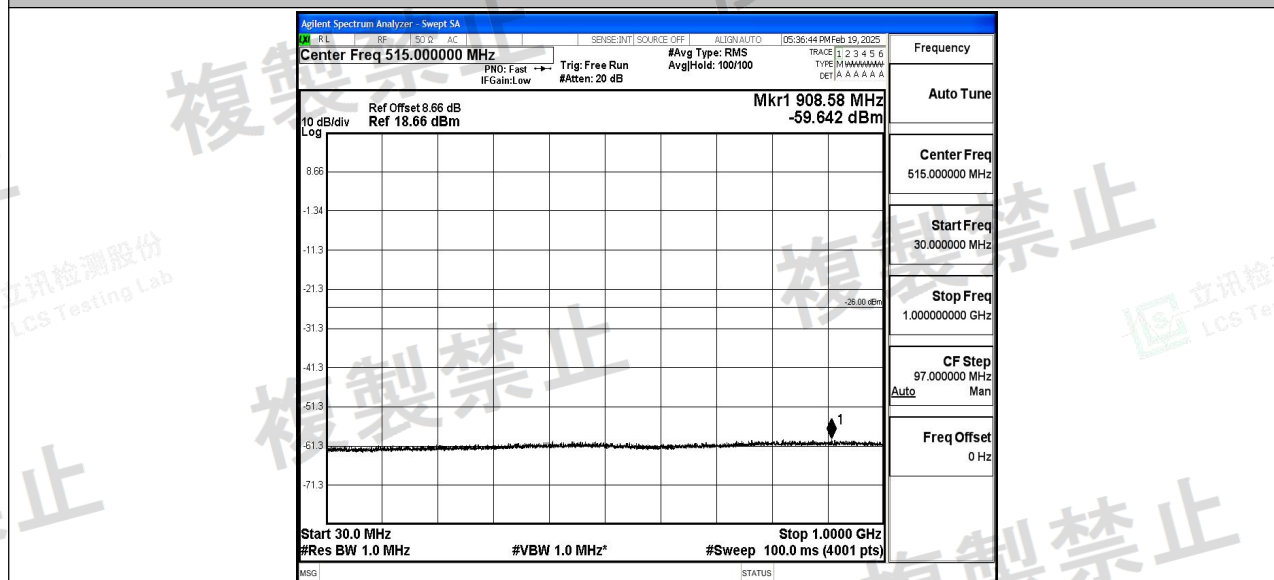


NTNV_2.4G_1M_Ant1_2480_2496.5~13000



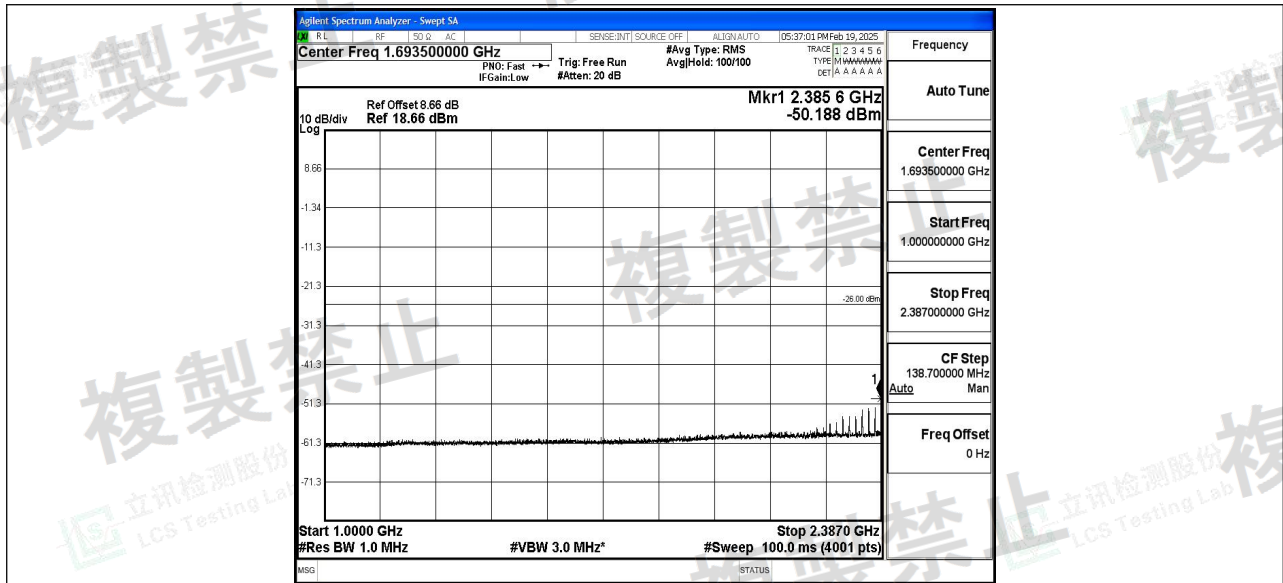


NTNV_2.4G_2M_Ant1_2402_30~1000

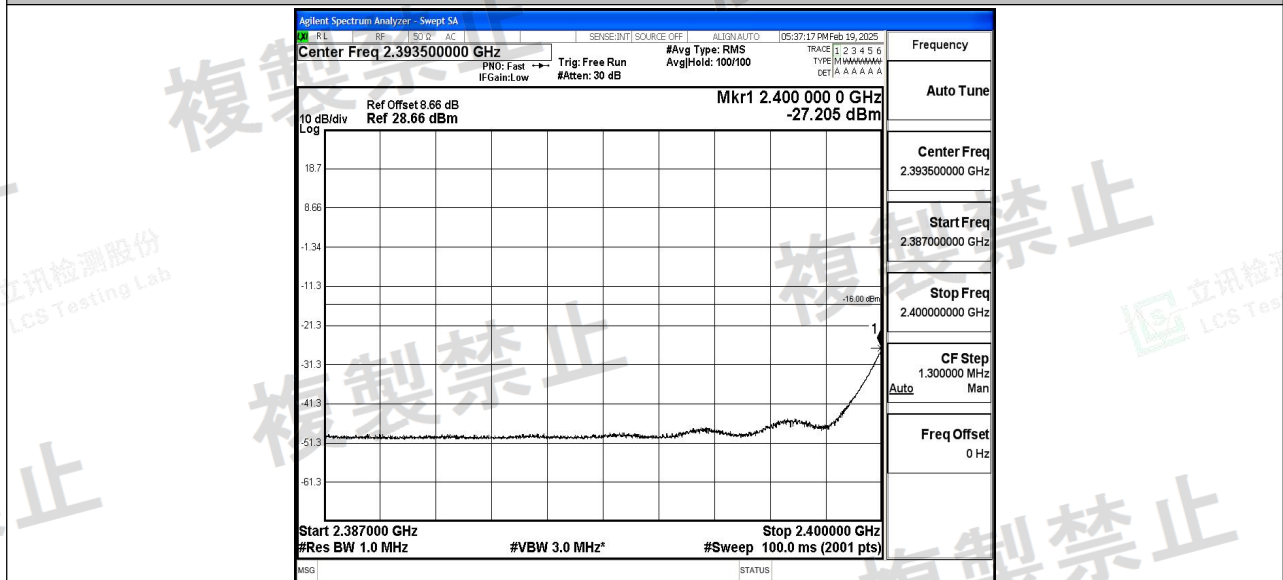


NTNV_2.4G_2M_Ant1_2402_1000~2387



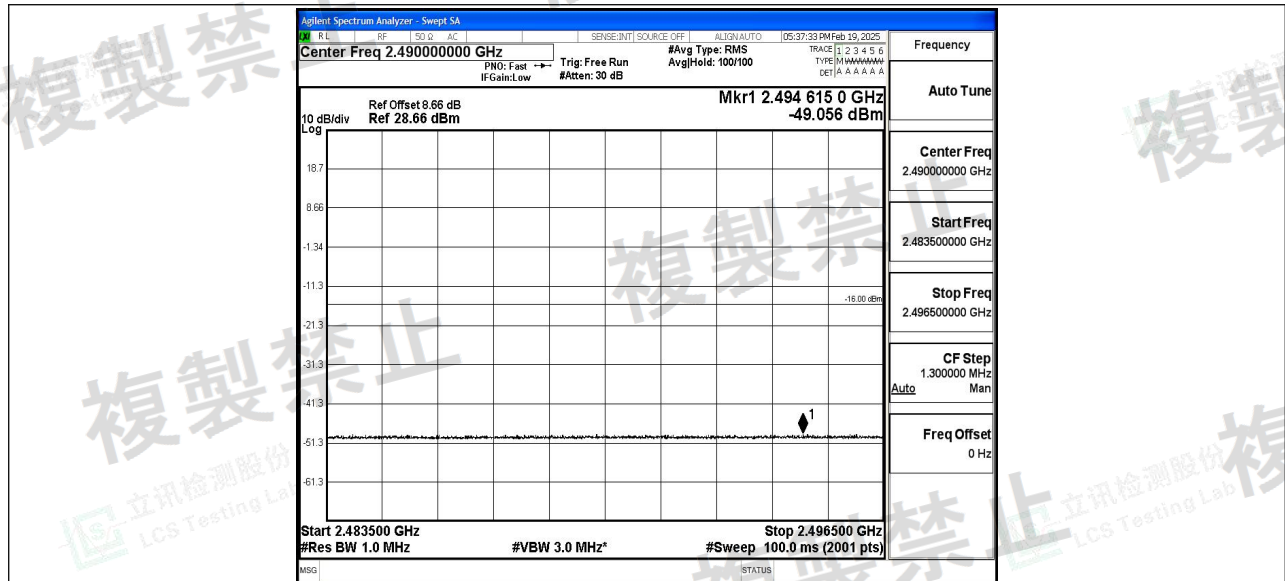


NTNV_2.4G_2M_Ant1_2402_2387~2400

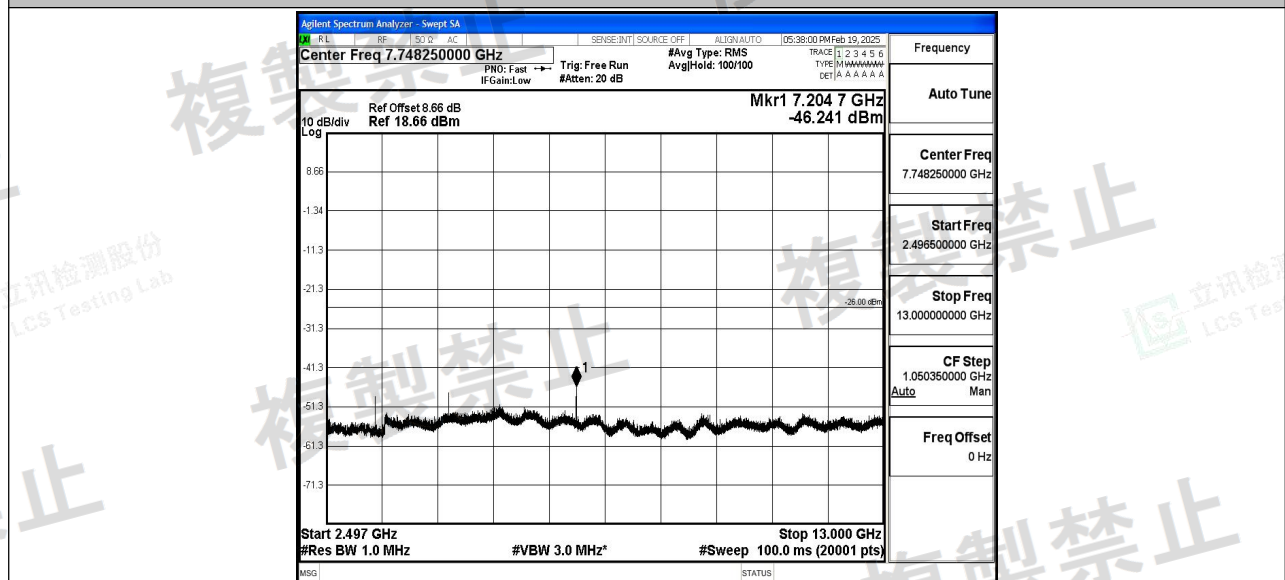


NTNV_2.4G_2M_Ant1_2402_2483.5~2496.5



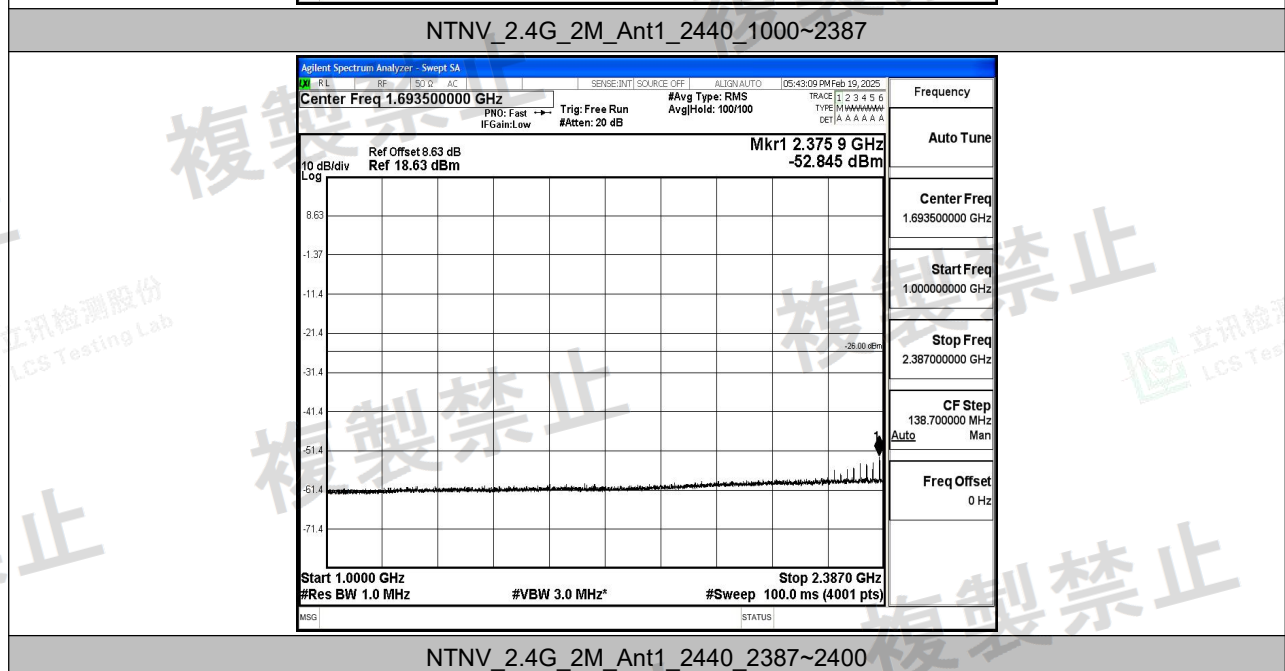
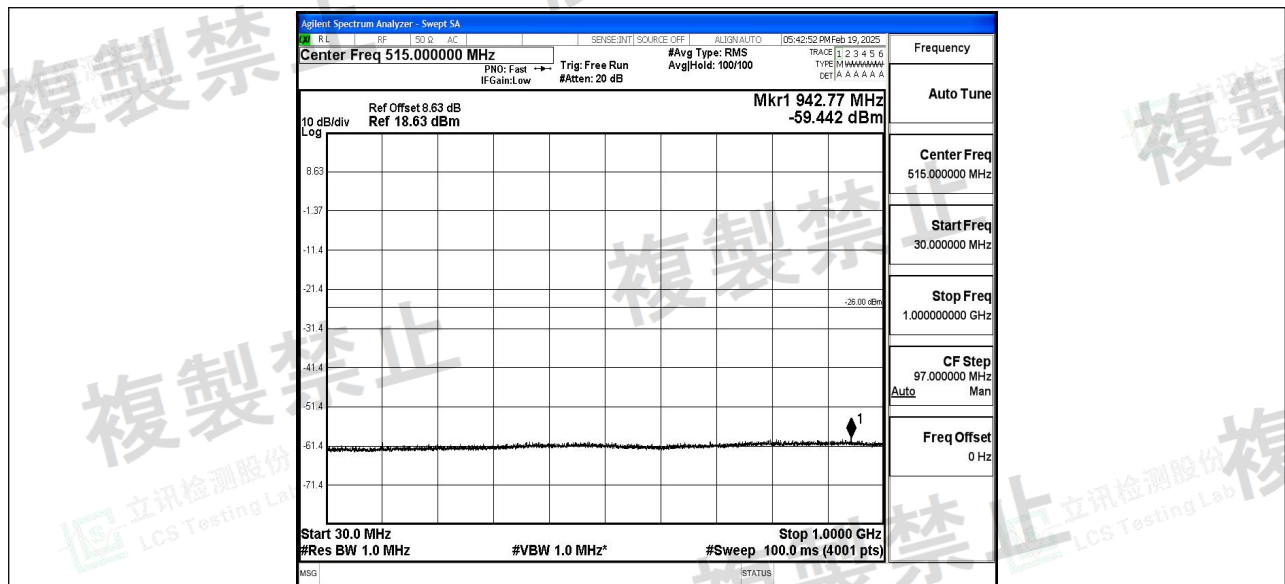


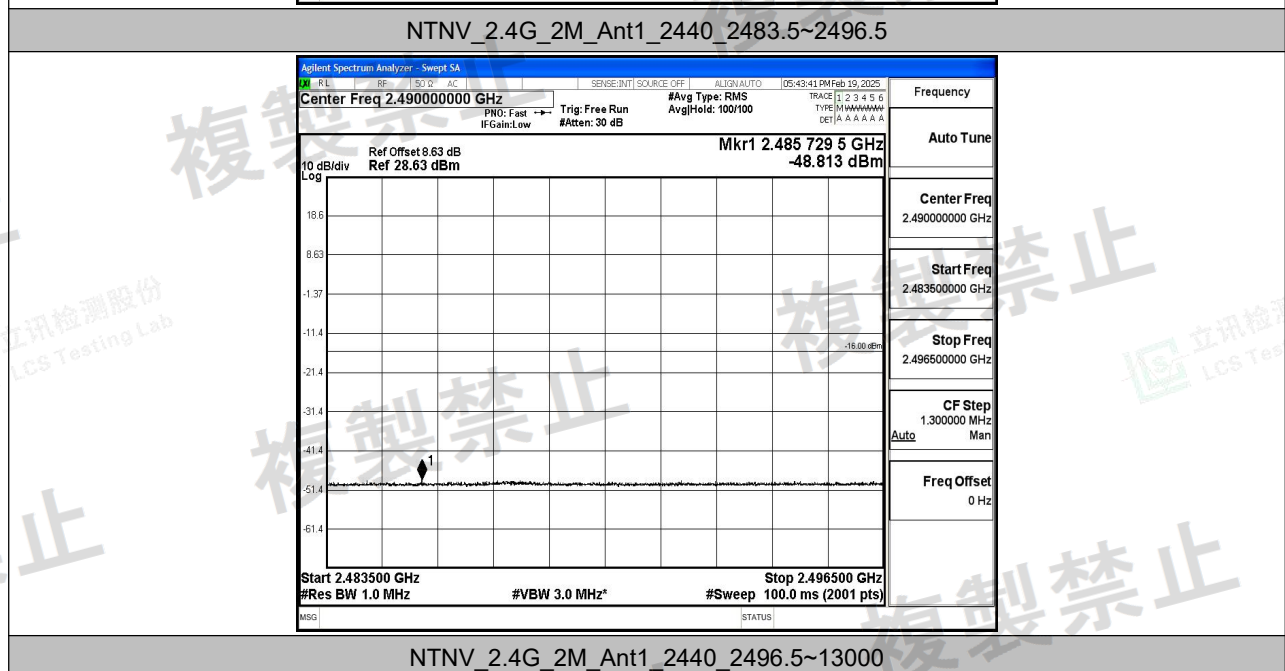
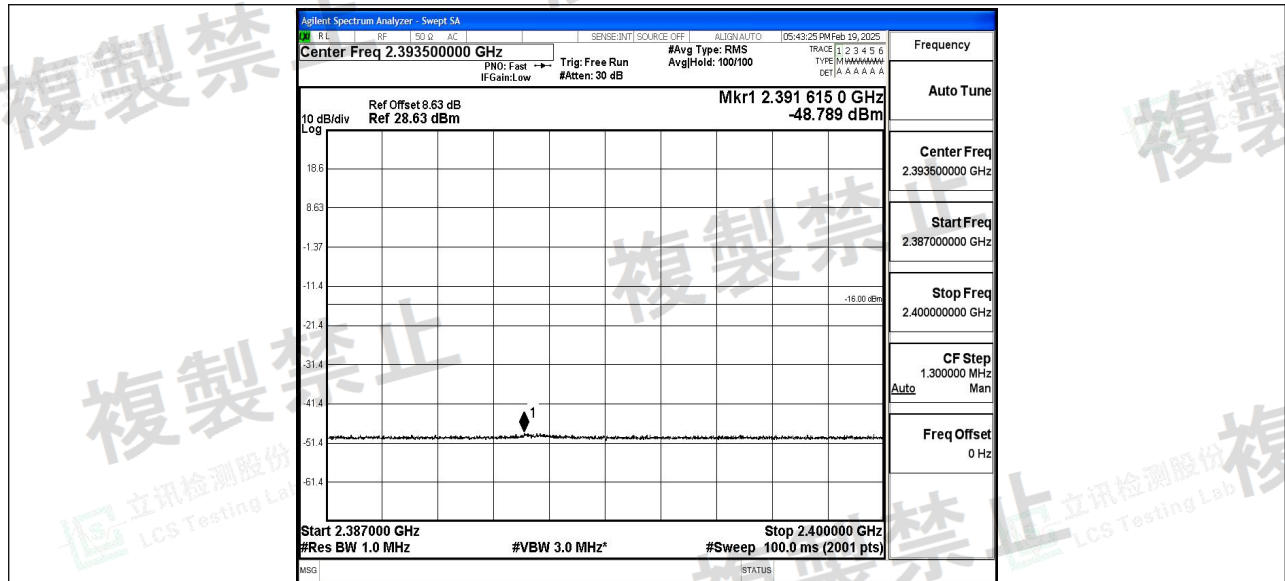
NTNV_2.4G_2M_Ant1_2402_2496.5~13000

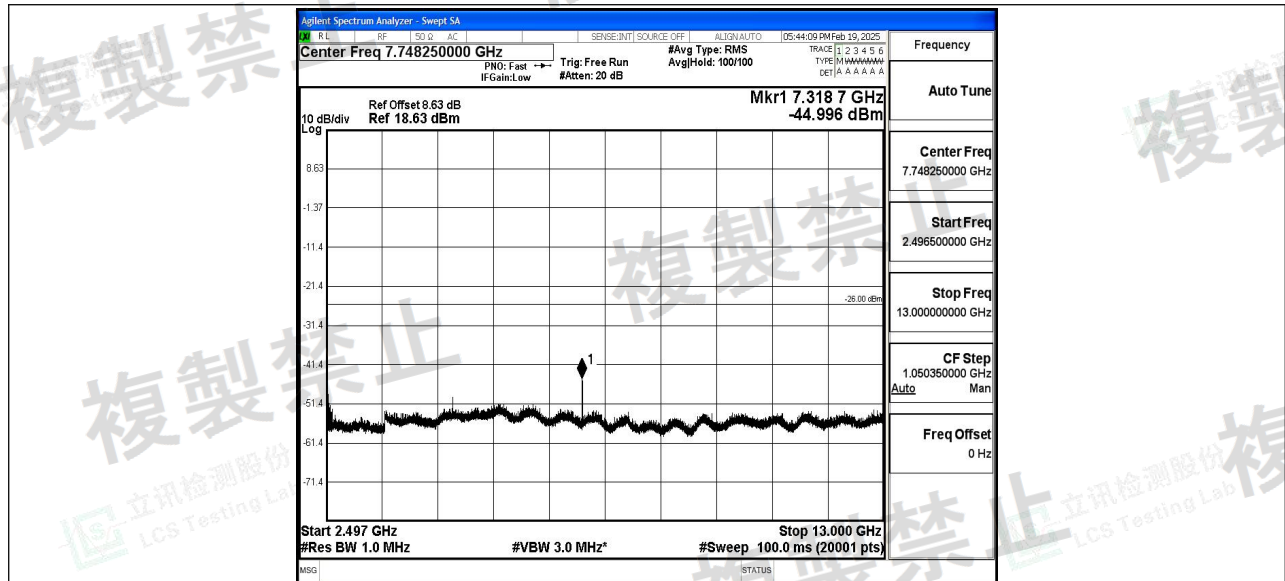


NTNV_2.4G_2M_Ant1_2440_30~1000

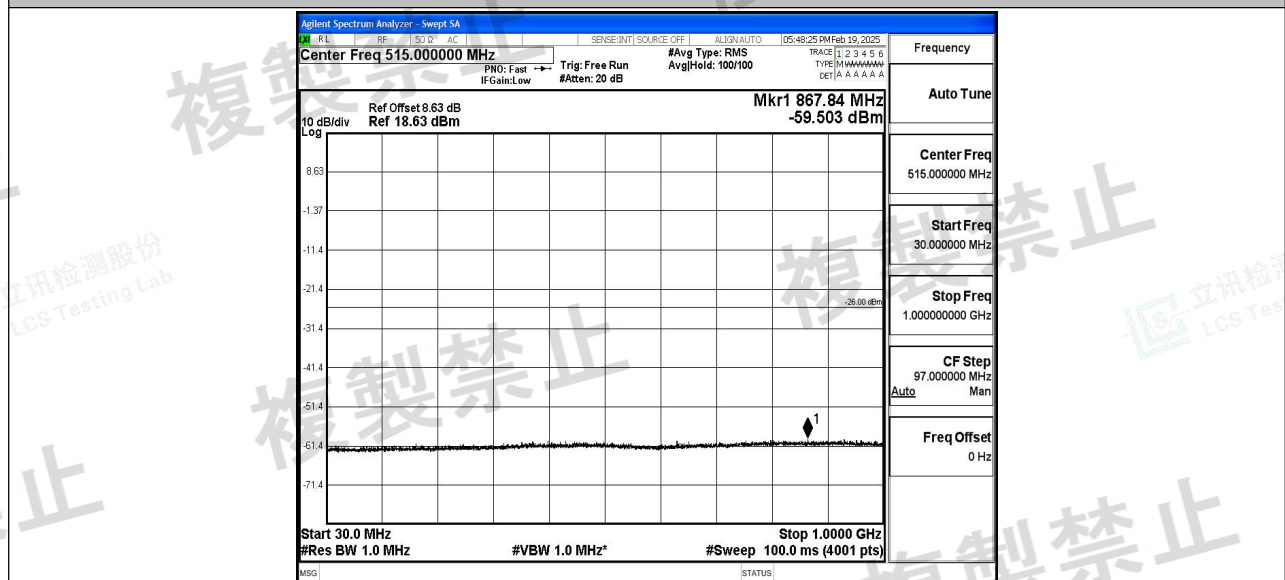






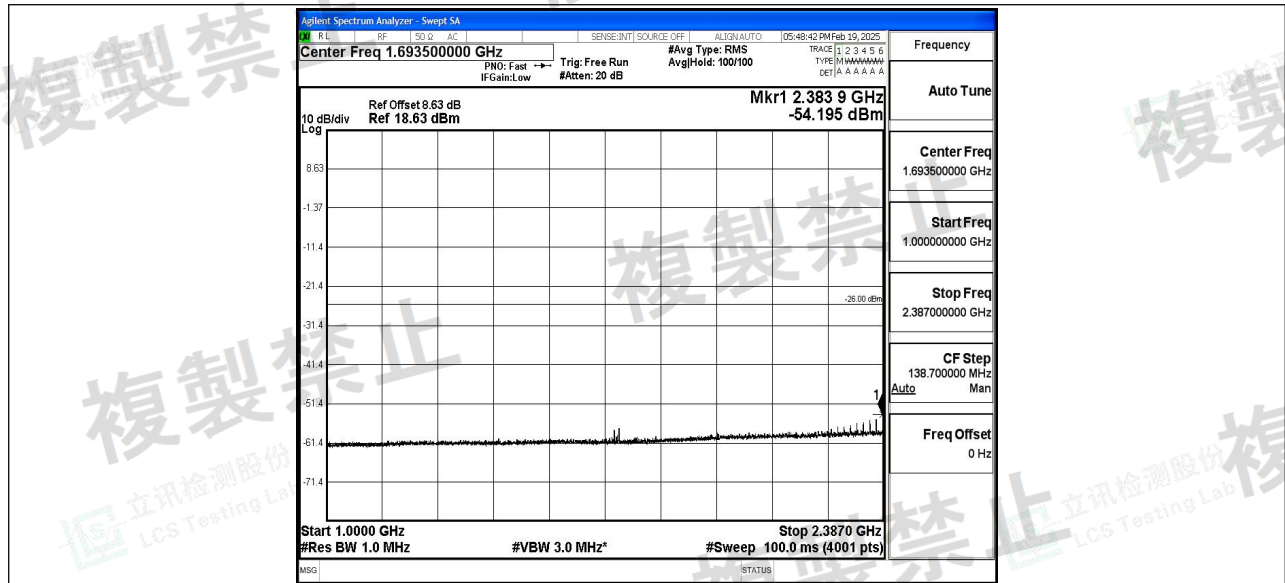


NTNV_2.4G_2M_Ant1_2480_30~1000

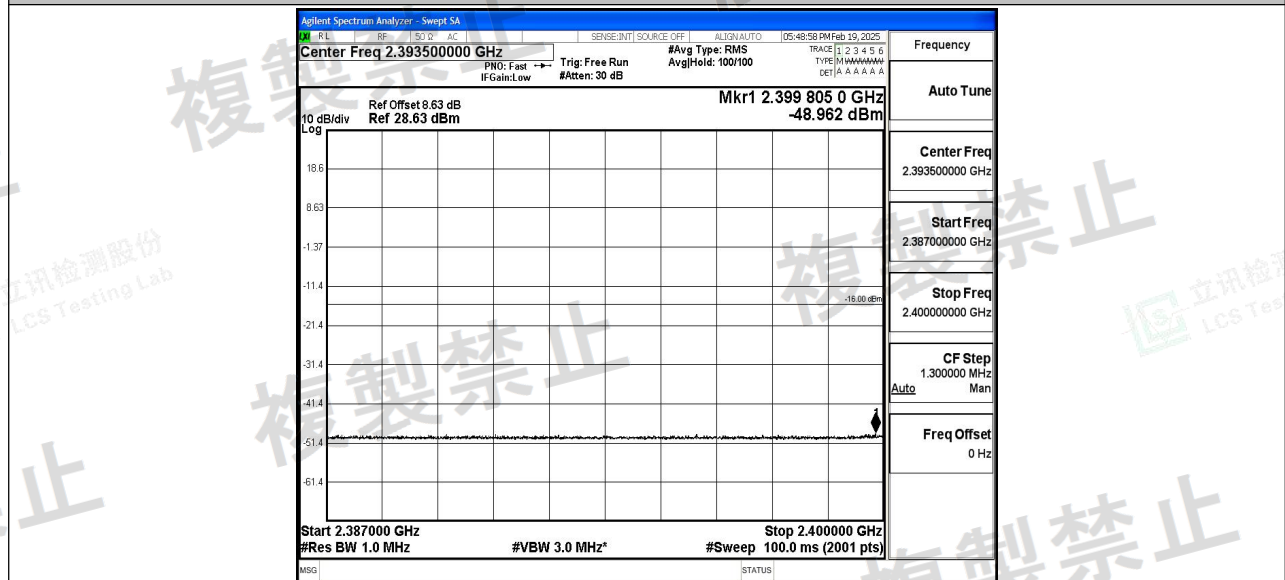


NTNV_2.4G_2M_Ant1_2480_1000~2387



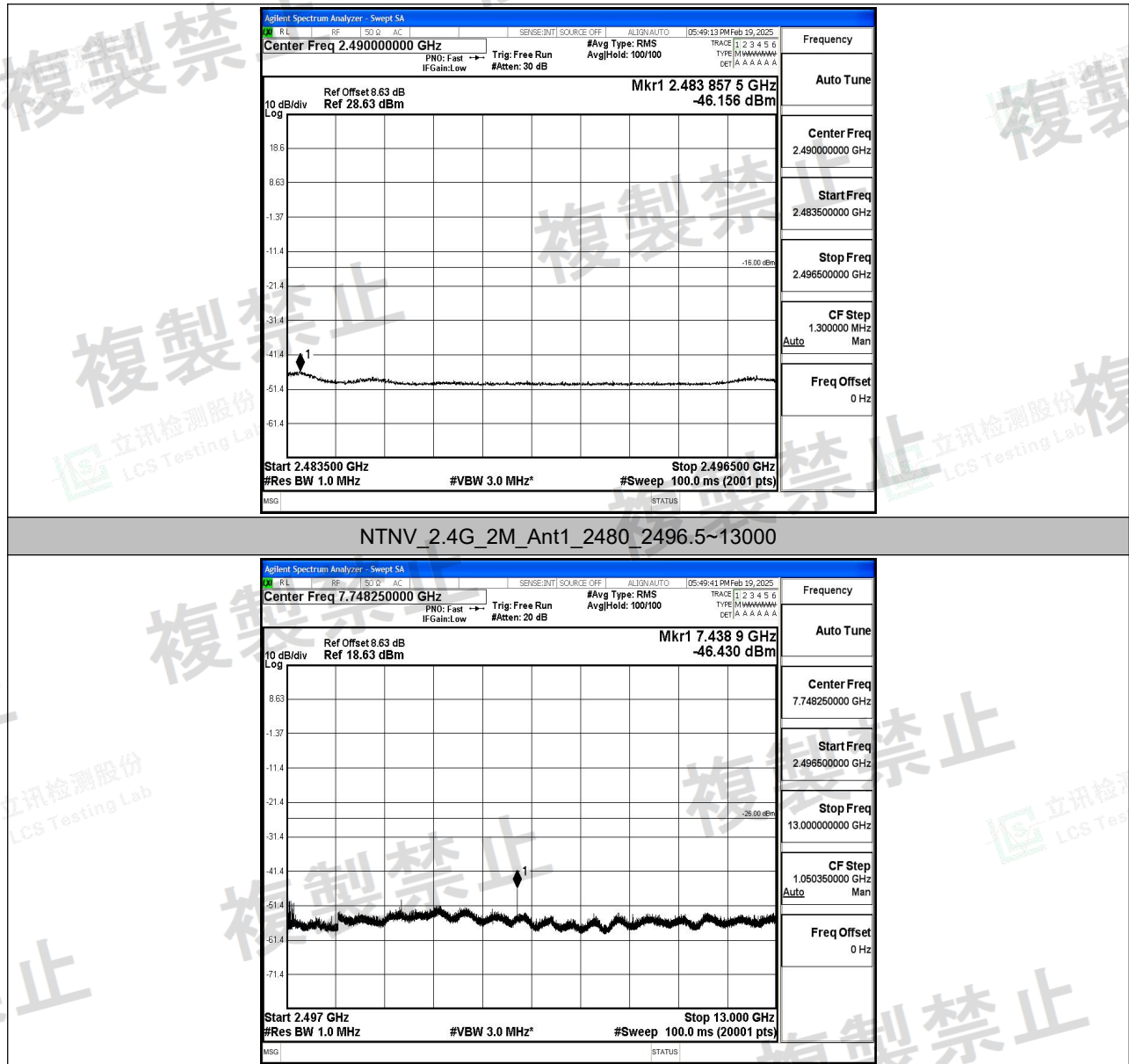


NTNV_2.4G_2M_Ant1_2480_2387~2400



NTNV_2.4G_2M_Ant1_2480_2483.5~2496.5





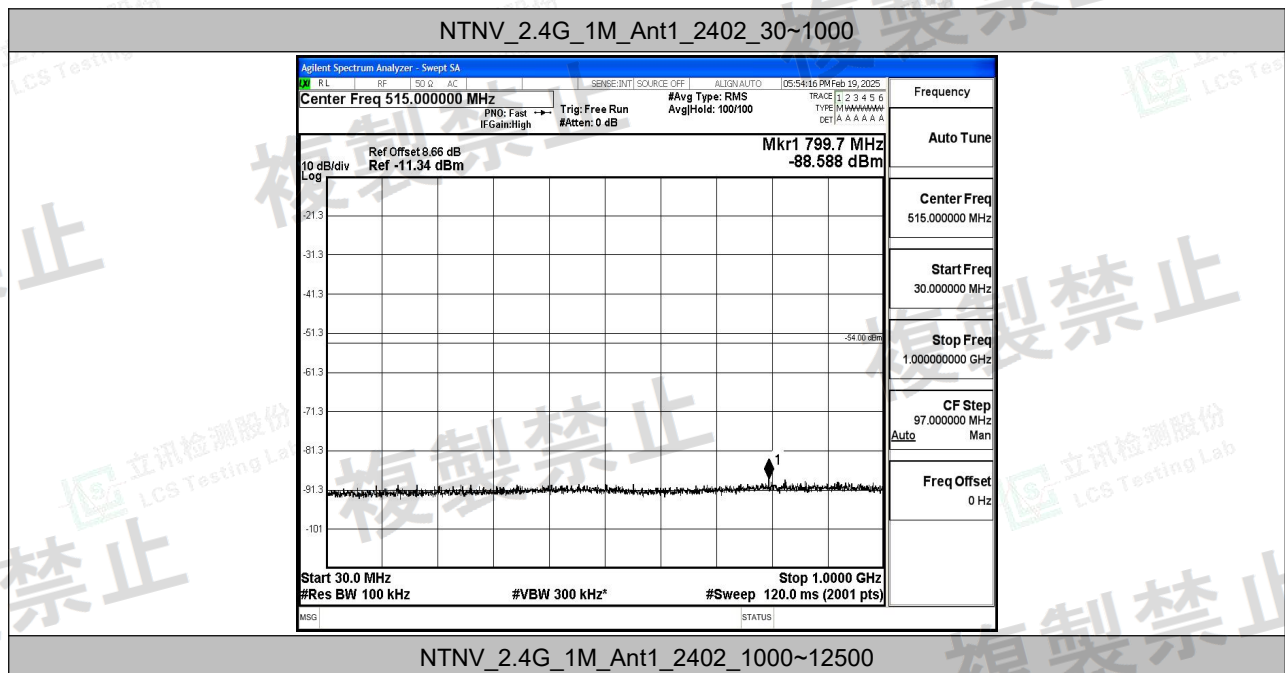


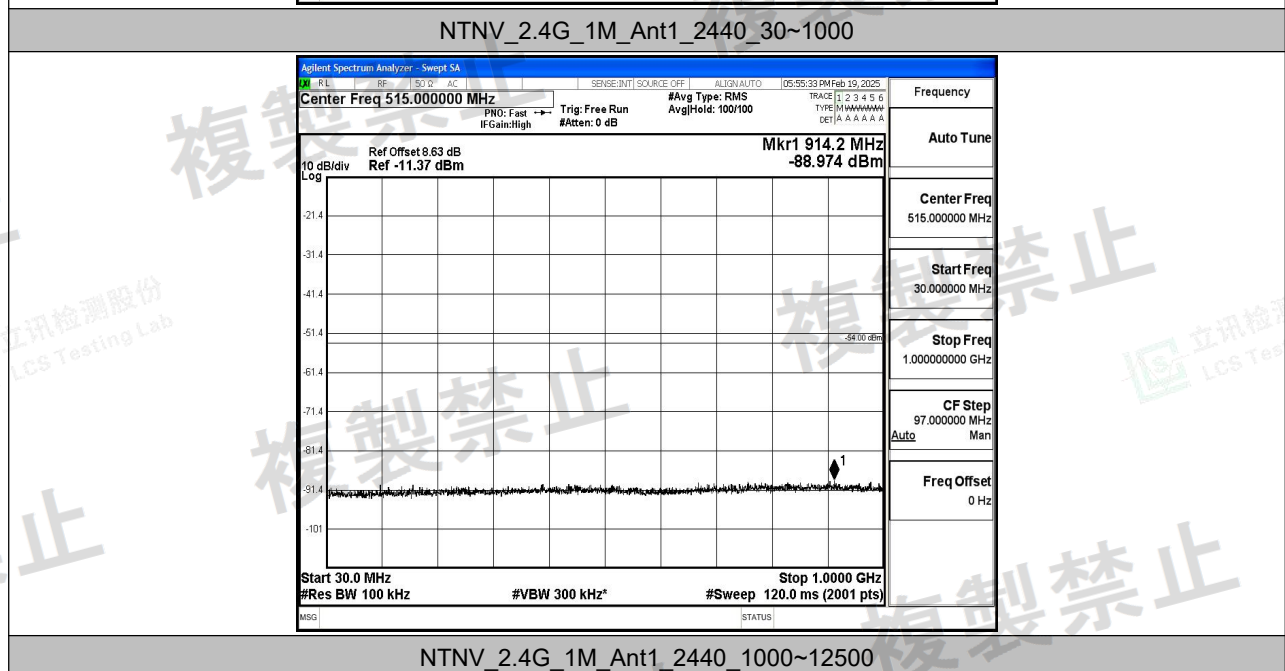
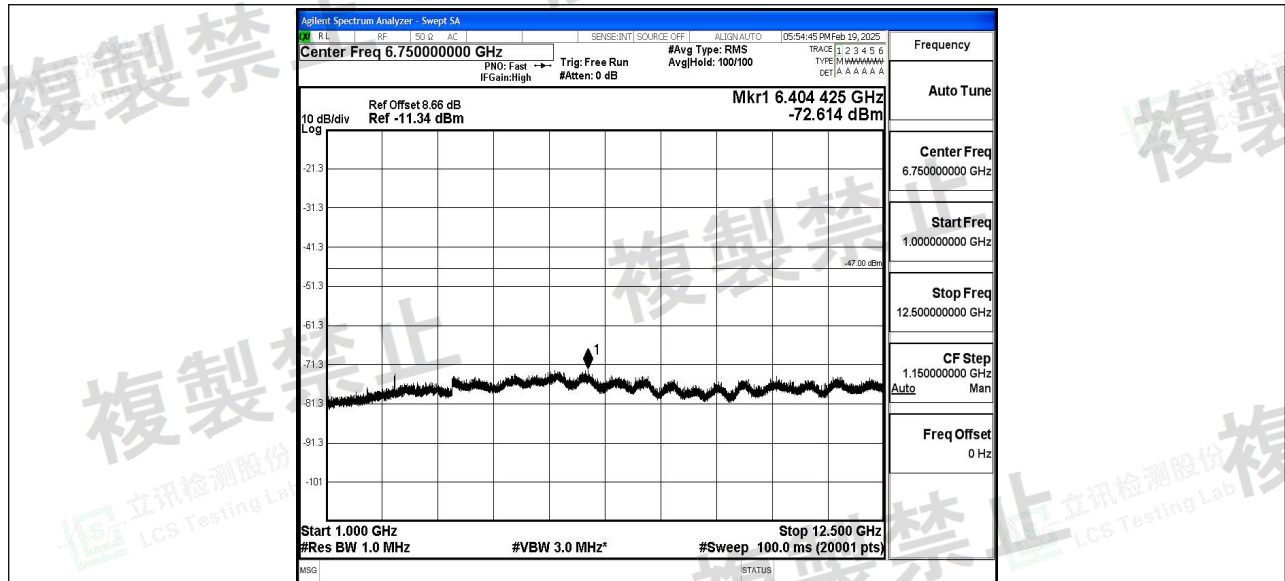
A.6 Spurious Emission of RX

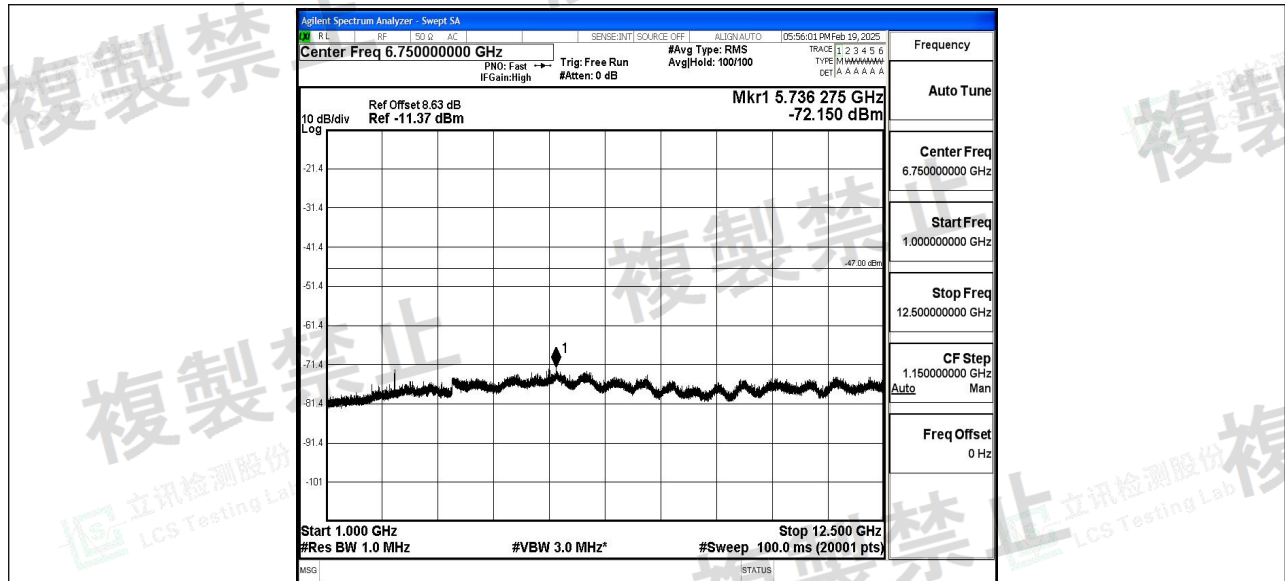
Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	2.4G_1M	Ant1	2402	30~1000	-88.59	≤-54	0.00138	≤4	PASS
				1000~12500	-72.61	≤-47	0.05483	≤20	PASS
			2440	30~1000	-88.97	≤-54	0.00127	≤4	PASS
				1000~12500	-72.15	≤-47	0.06095	≤20	PASS
			2480	30~1000	-88.79	≤-54	0.00132	≤4	PASS
				1000~12500	-72.16	≤-47	0.06081	≤20	PASS
	2.4G_2M	Ant1	2402	30~1000	-88.84	≤-54	0.00131	≤4	PASS
				1000~12500	-72.7	≤-47	0.05370	≤20	PASS
			2440	30~1000	-88.79	≤-54	0.00132	≤4	PASS
				1000~12500	-73.15	≤-47	0.04842	≤20	PASS
			2480	30~1000	-88.9	≤-54	0.00129	≤4	PASS
				1000~12500	-72.79	≤-47	0.05260	≤20	PASS

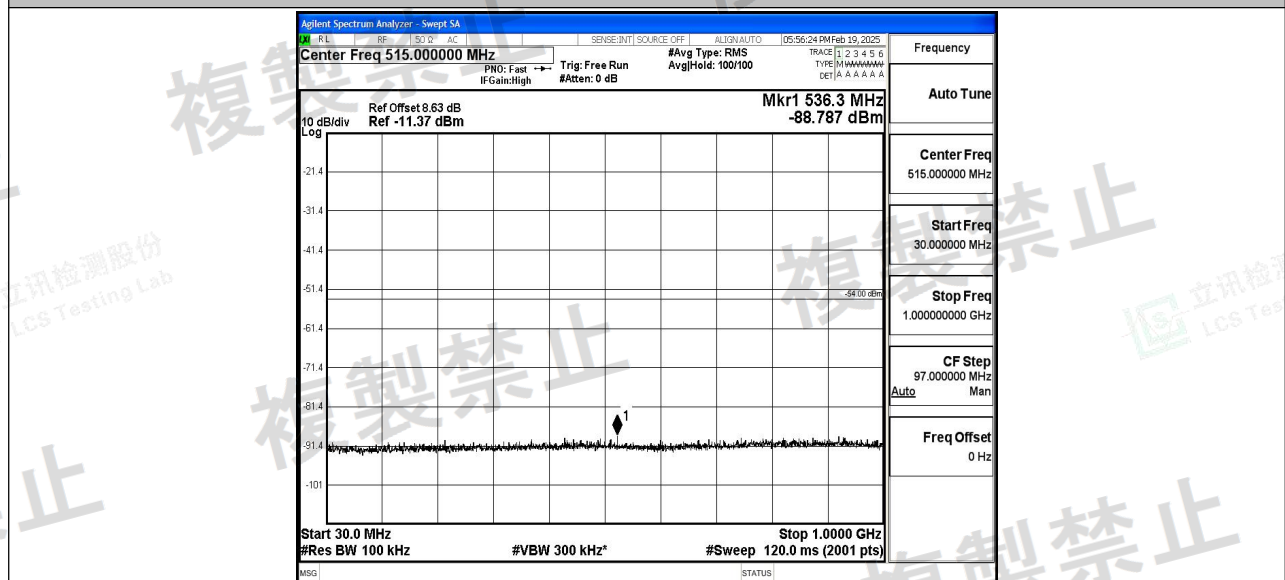
Test Graphs





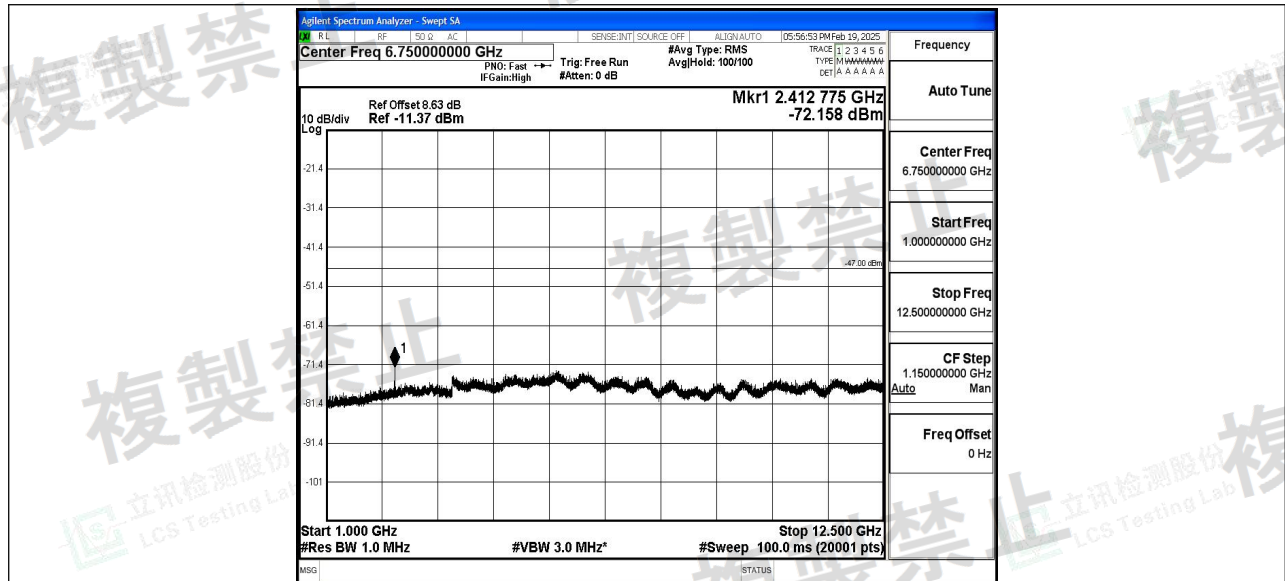


NTNV_2.4G_1M_Ant1_2480_30~1000

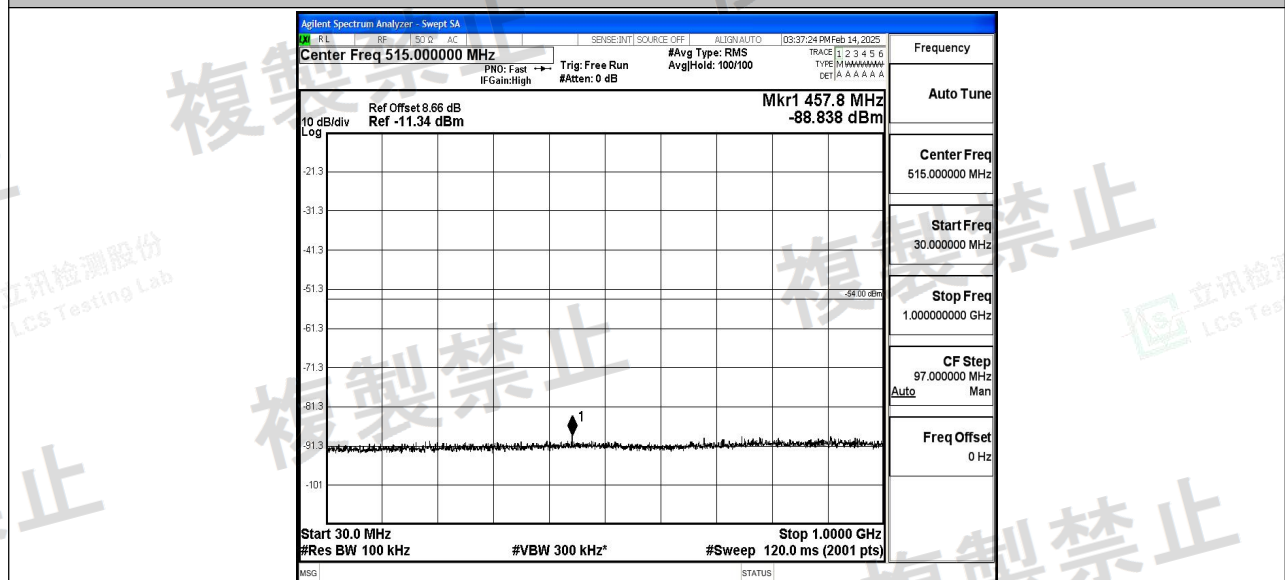


NTNV_2.4G_1M_Ant1_2480_1000~12500



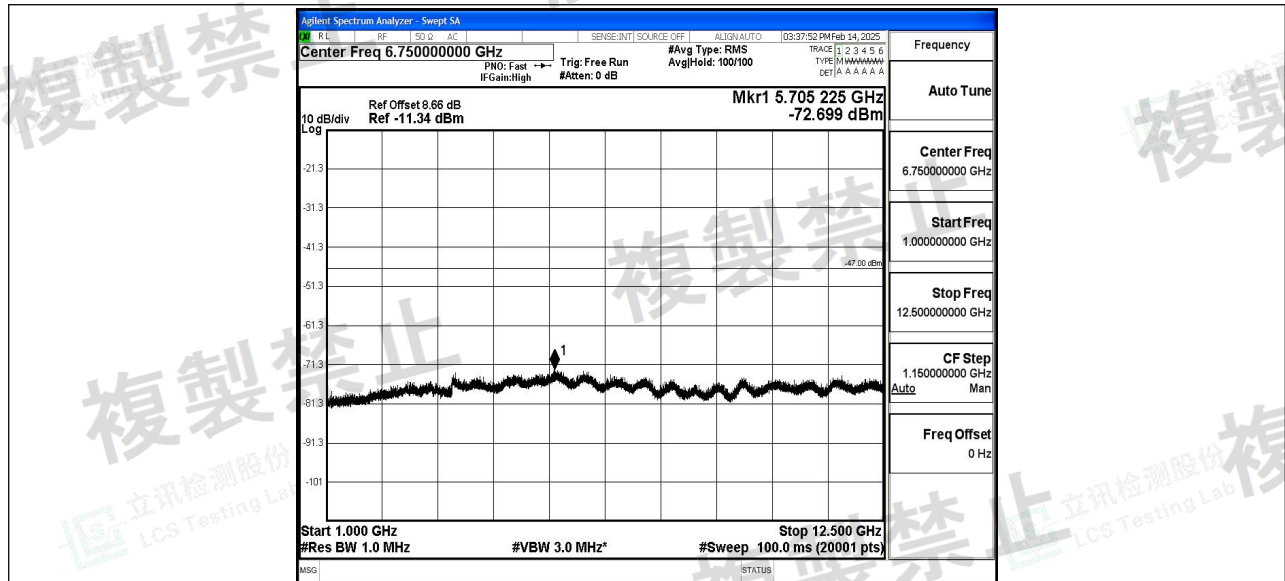


NTNV_2.4G_2M_Ant1_2402_30~1000

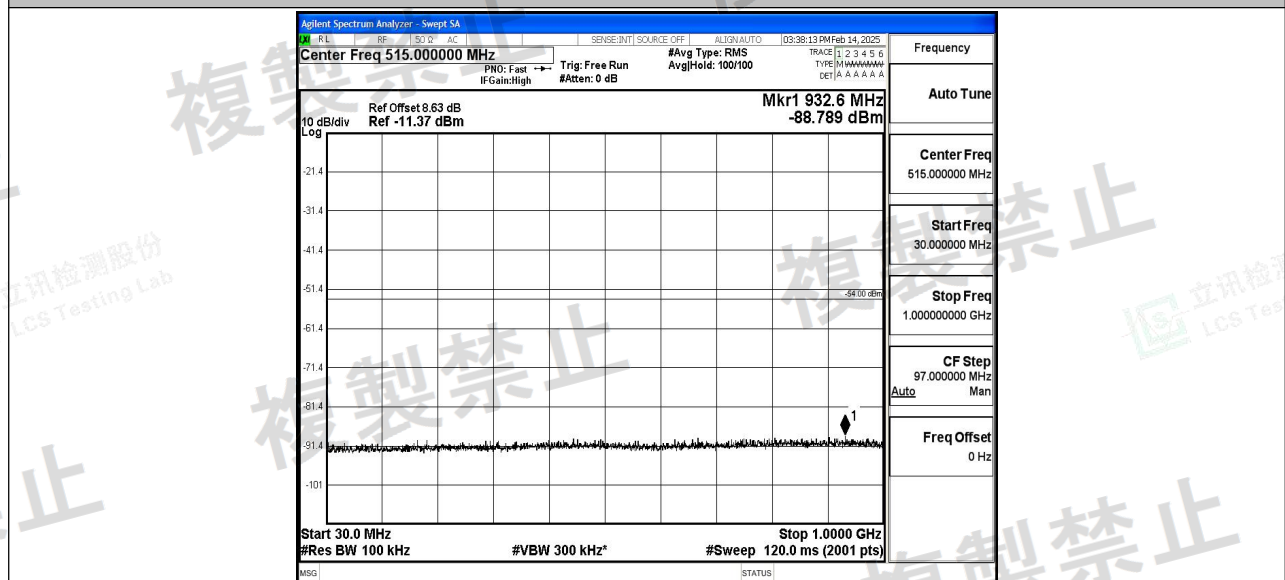


NTNV_2.4G_2M_Ant1_2402_1000~12500





NTNV_2.4G_2M_Ant1_2440_30~1000



NTNV_2.4G_2M_Ant1_2440_1000~12500



