

Appendix A for BT LE Test Data

Product Name: Security Camera

Test Model: S5

Environmental Conditions

Temperature:	22.6° C
Relative Humidity:	54.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

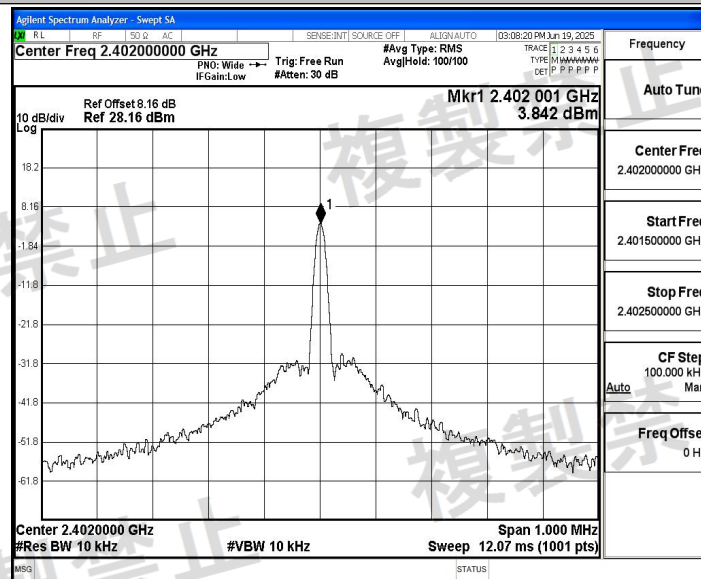
A.1 Frequency Error

Test Result

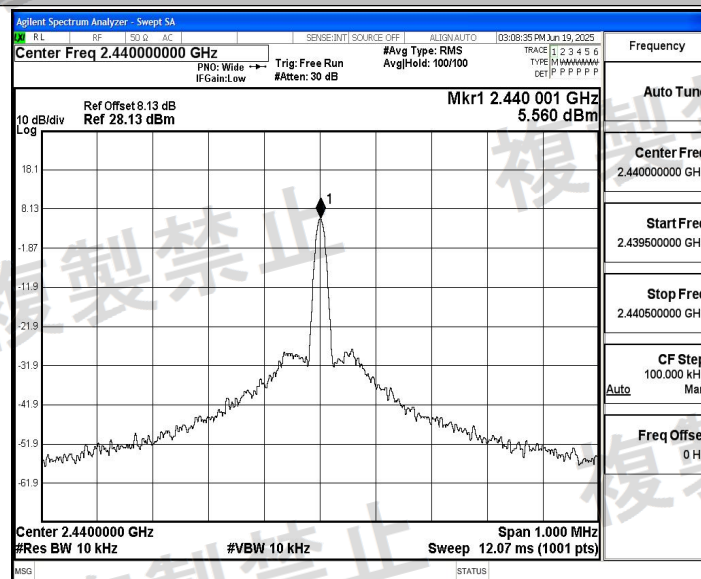
TestCondition	TestMode	Antenna	Channel	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	0.41632	±50	PASS
			2440	0.40984	±50	PASS
			2480	0.40323	±50	PASS

Test Graphs

NTNV_Ant1_2402



NTNV_Ant1_2440

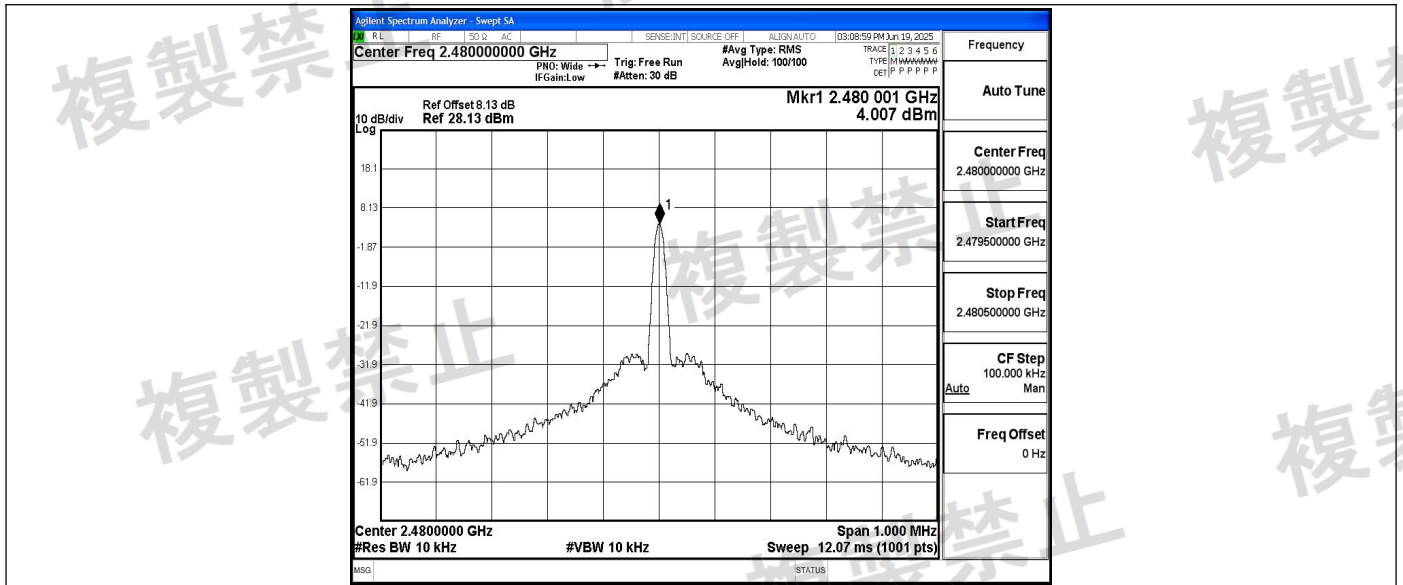


NTNV_Ant1_2480

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A.2 Antenna Power & EIRP

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTNV	BLE_1M	Ant1	2402	-3.22	0.48	≤10	PASS
			2440	-0.25	0.94	≤10	PASS
			2480	-1.39	0.73	≤10	PASS
	BLE_2M	Ant1	2402	-4.05	0.39	≤10	PASS
			2440	-1.01	0.79	≤10	PASS
			2480	-2.52	0.56	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	0.48	1.0	-52.00	+20	PASS
			2440	0.94	1.0	-6.00	+20	PASS
			2480	0.73	1.0	-27.00	+20	PASS
	BLE_2M	Ant1	2402	0.39	1.0	-61.00	+20	PASS
			2440	0.79	1.0	-21.00	+20	PASS
			2480	0.56	1.0	-44.00	+20	PASS

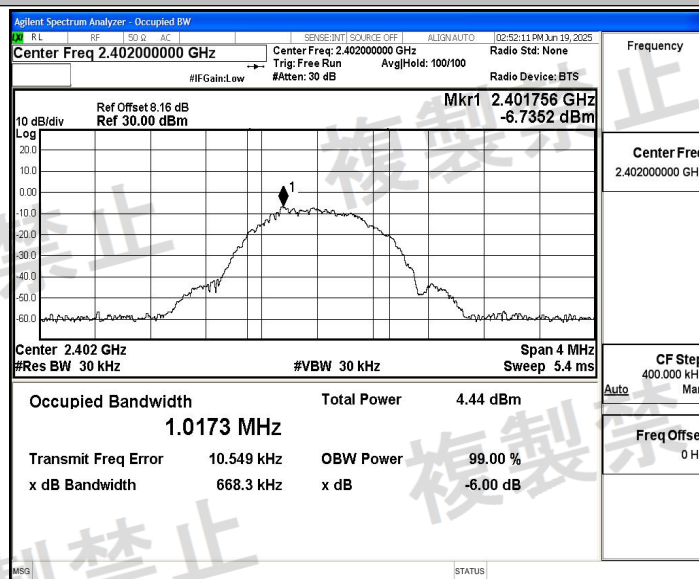
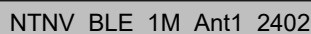
EIRP								
TestCondition	TestMode	Antenna	Frequency [MHz]	Measured Power (dBm)	Antenna gain (dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	-3.22	2.76	-0.46	≤12.14	PASS
			2440	-0.25	2.76	2.51	≤12.14	PASS
			2480	-1.39	2.76	1.37	≤12.14	PASS
	BLE_2M	Ant1	2402	-4.05	2.76	-1.29	≤12.14	PASS
			2440	-1.01	2.76	1.75	≤12.14	PASS
			2480	-2.52	2.76	0.24	≤12.14	PASS

A.3 Occupied Bandwidth

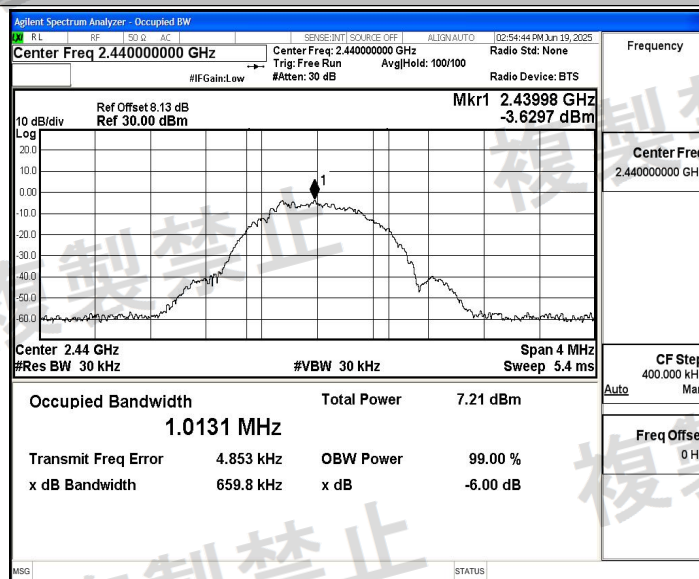
Test Result

TestCondition	TestMode	Antenna	Channel	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.017	≤26	PASS
			2440	1.013	≤26	PASS
			2480	1.024	≤26	PASS
	BLE_2M	Ant1	2402	2.022	≤26	PASS
			2440	2.030	≤26	PASS
			2480	2.031	≤26	PASS

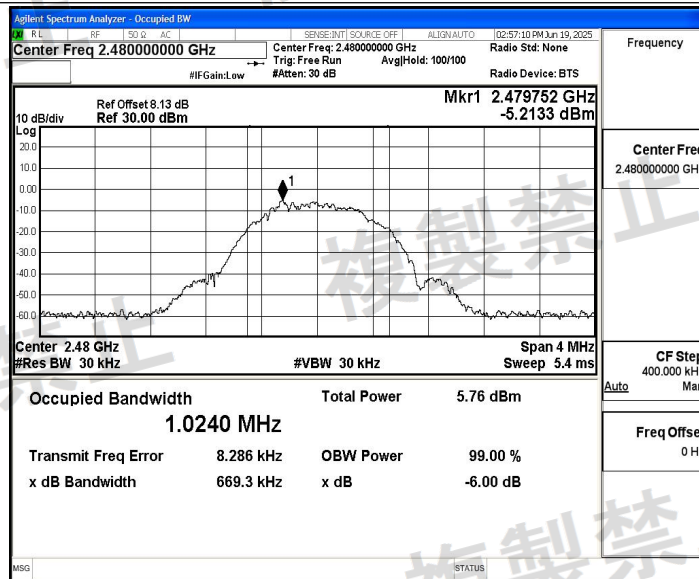
Test Graphs



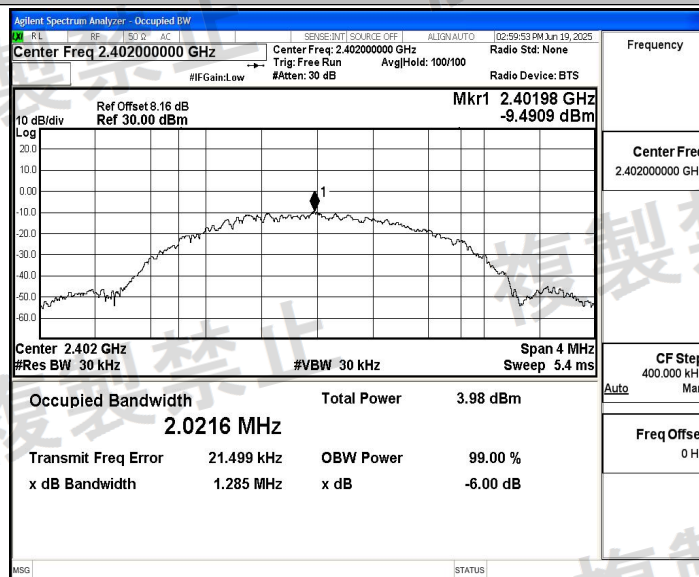
NTNV BLE 1M Ant1 2440



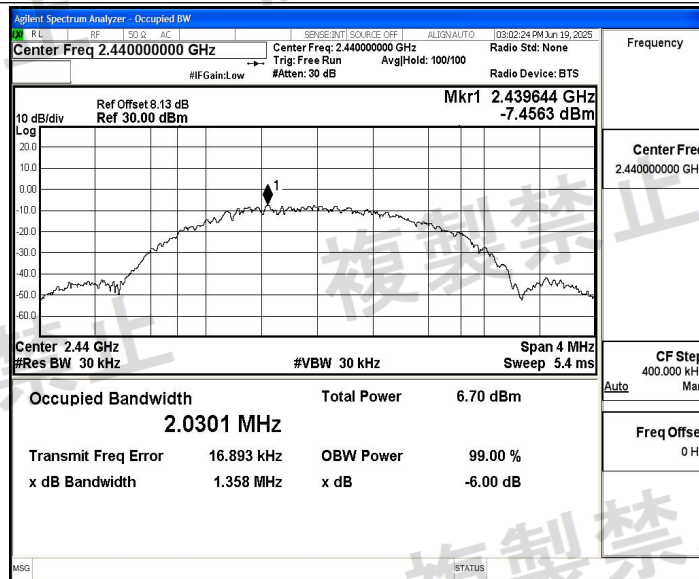
NTNV BLE 1M Ant1 2480



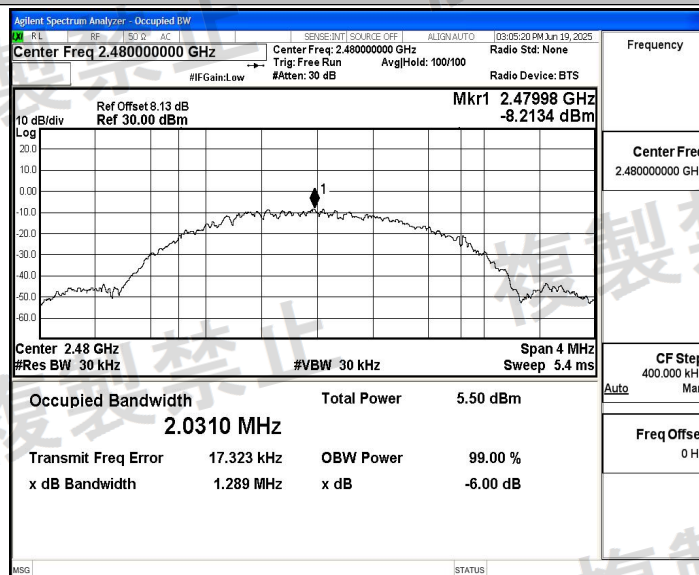
NTNV_BLE_2M_Ant1_2402



NTNV_BLE_2M_Ant1_2440



NTNV_BLE_2M_Ant1_2480



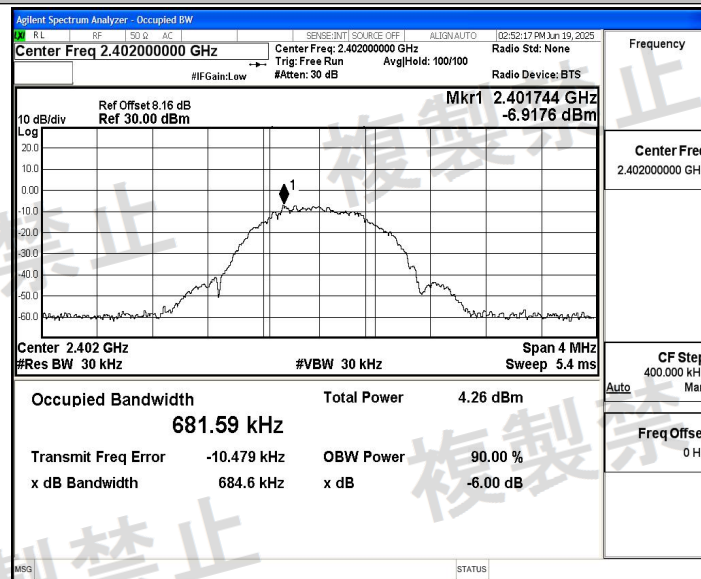
A.4 Spread Bandwidth

Test Result

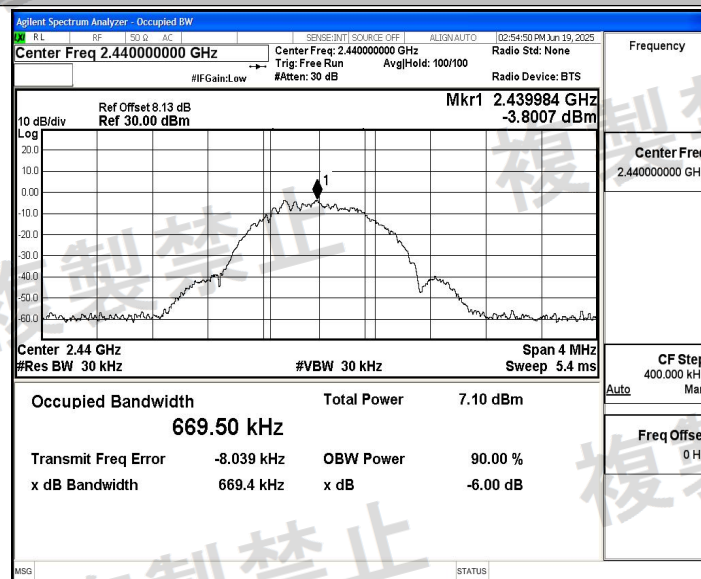
TestCondition	TestMode	Antenna	Channel	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.682	---	PASS
			2440	0.670	---	PASS
			2480	0.681	---	PASS
	BLE_2M	Ant1	2402	1.364	---	PASS
			2440	1.359	---	PASS
			2480	1.355	---	PASS

Test Graphs

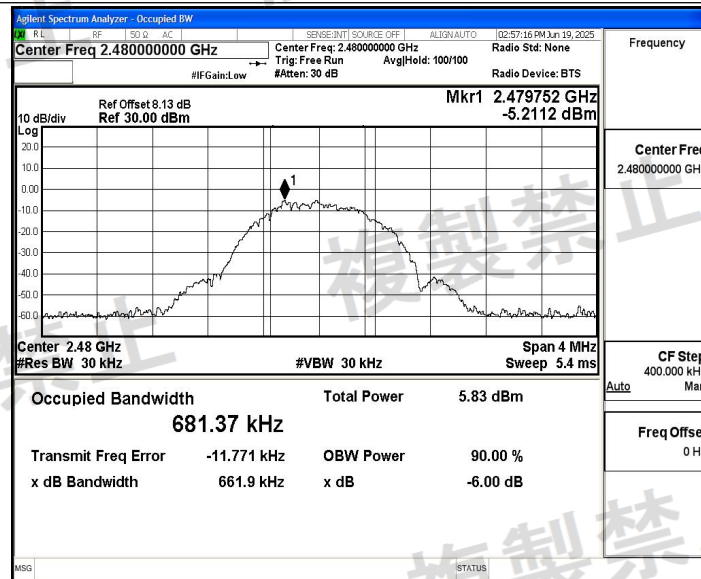
NTNV_BLE_1M_Ant1_2402



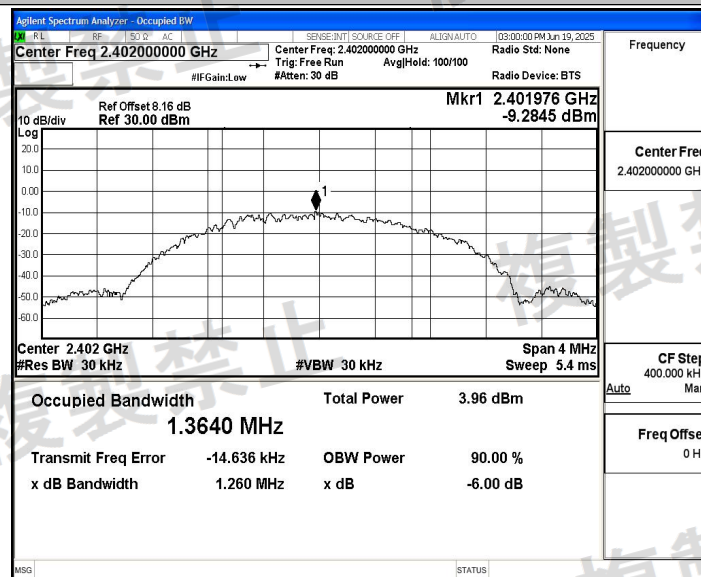
NTNV_BLE_1M_Ant1_2440



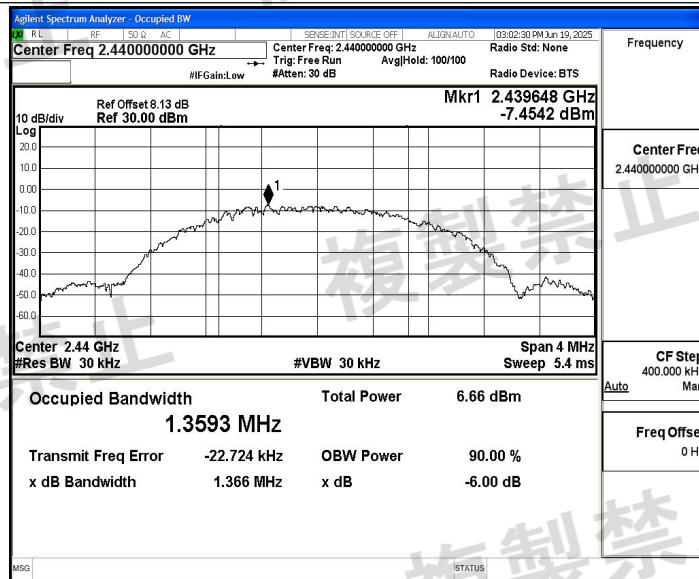
NTNV_BLE_1M_Ant1_2480



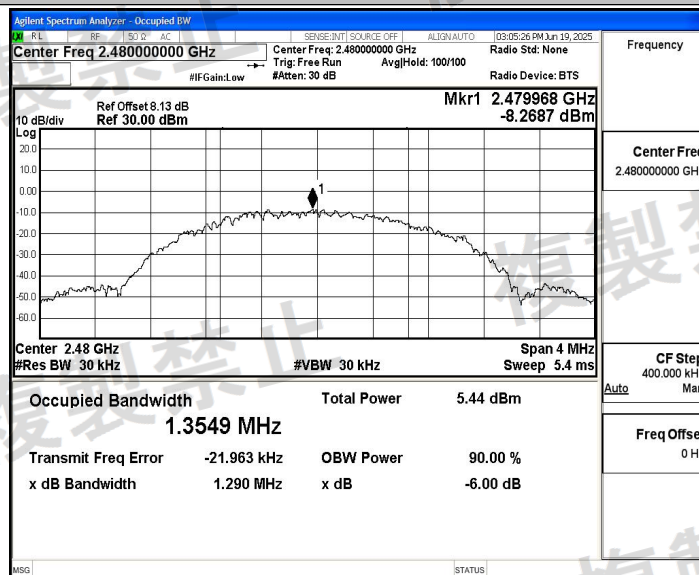
NTNV_BLE_2M_Ant1_2402



NTNV_BLE_2M_Ant1_2440



NTNV_BLE_2M_Ant1_2480



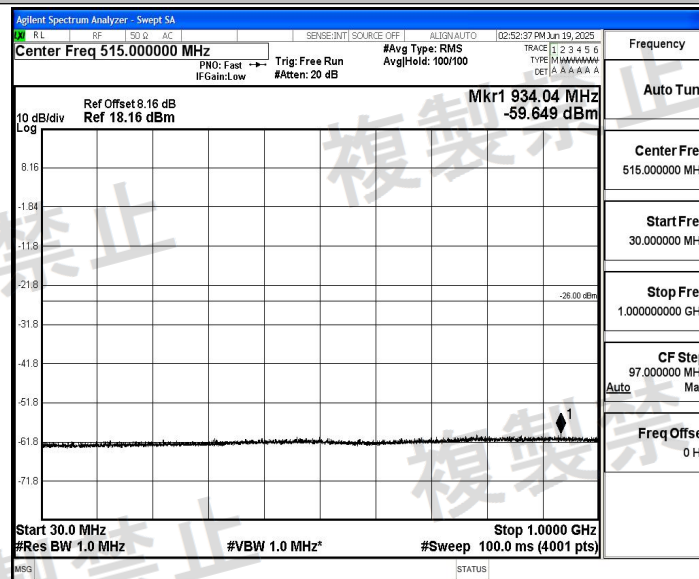
A.5 Spurious Emission of TX

Test Result

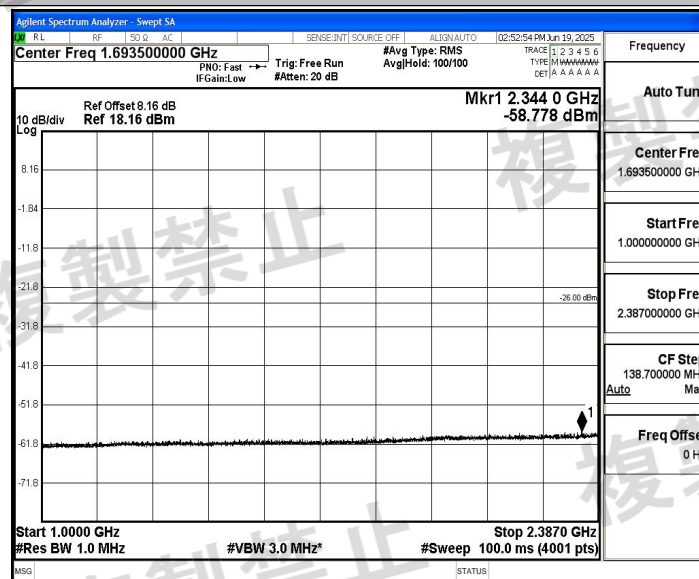
TestCondition	TestMode	Antenna	Channel	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-59.65	≤-26	0.00108	≤2.5	PASS
				1000~2387	-58.78	≤-26	0.00132	≤2.5	PASS
				2387~2400	-44.35	≤-16	0.03673	≤25	PASS
				2483.5~2496.5	-49.51	≤-16	0.01119	≤25	PASS
				2496.5~13000	-51.70	≤-26	0.00676	≤2.5	PASS
			2440	30~1000	-60.00	≤-26	0.00100	≤2.5	PASS
				1000~2387	-58.74	≤-26	0.00134	≤2.5	PASS
				2387~2400	-49.46	≤-16	0.01132	≤25	PASS
				2483.5~2496.5	-49.56	≤-16	0.01107	≤25	PASS
				2496.5~13000	-51.87	≤-26	0.00650	≤2.5	PASS
			2480	30~1000	-60.20	≤-26	0.00095	≤2.5	PASS
				1000~2387	-59.01	≤-26	0.00126	≤2.5	PASS
				2387~2400	-49.67	≤-16	0.01079	≤25	PASS
				2483.5~2496.5	-49.49	≤-16	0.01125	≤25	PASS
				2496.5~13000	-51.87	≤-26	0.00650	≤2.5	PASS
	BLE_2M	Ant1	2402	30~1000	-60.12	≤-26	0.00097	≤2.5	PASS
				1000~2387	-59.00	≤-26	0.00126	≤2.5	PASS
				2387~2400	-29.47	≤-16	1.12980	≤25	PASS
				2483.5~2496.5	-49.42	≤-16	0.01143	≤25	PASS
				2496.5~13000	-51.78	≤-26	0.00664	≤2.5	PASS
			2440	30~1000	-59.21	≤-26	0.00120	≤2.5	PASS
				1000~2387	-58.90	≤-26	0.00129	≤2.5	PASS
				2387~2400	-49.48	≤-16	0.01127	≤25	PASS
				2483.5~2496.5	-49.26	≤-16	0.01186	≤25	PASS
				2496.5~13000	-51.92	≤-26	0.00643	≤2.5	PASS
			2480	30~1000	-53.01	≤-26	0.00500	≤2.5	PASS
				1000~2387	-58.90	≤-26	0.00129	≤2.5	PASS
				2387~2400	-49.38	≤-16	0.01153	≤25	PASS
				2483.5~2496.5	-49.55	≤-16	0.01109	≤25	PASS
				2496.5~13000	-51.43	≤-26	0.00719	≤2.5	PASS

Test Graphs

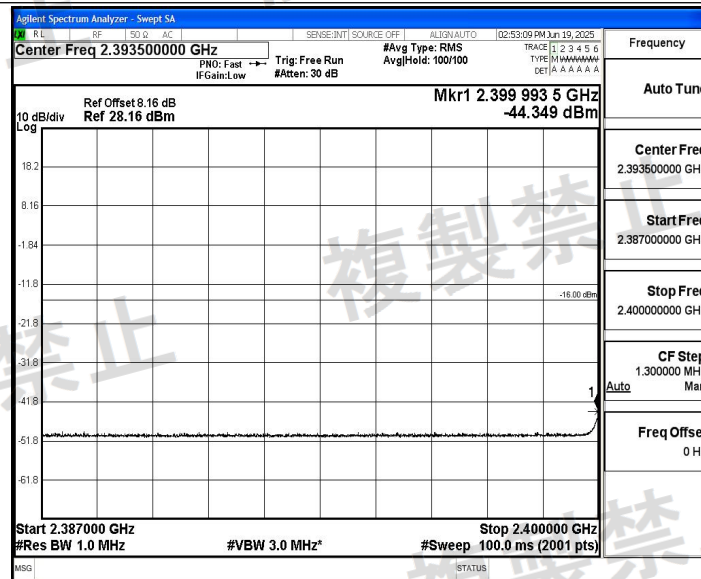
NTNV_BLE_1M_Ant1_2402_30~1000



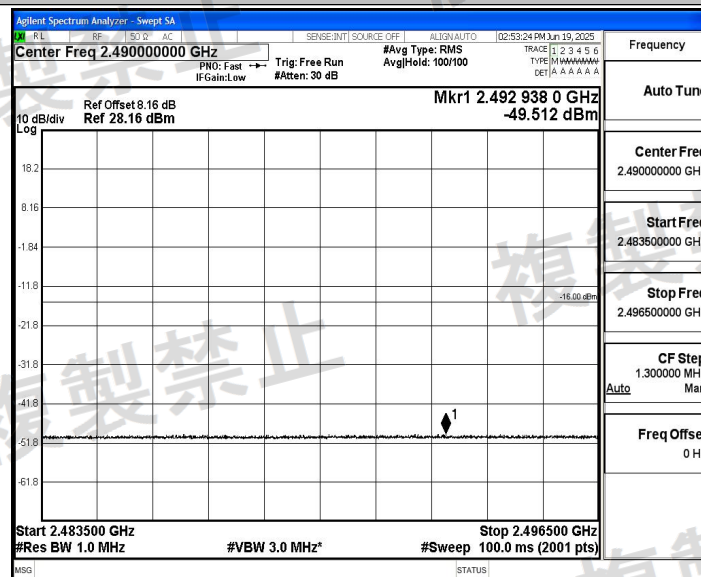
NTNV_BLE_1M_Ant1_2402_1000~2387



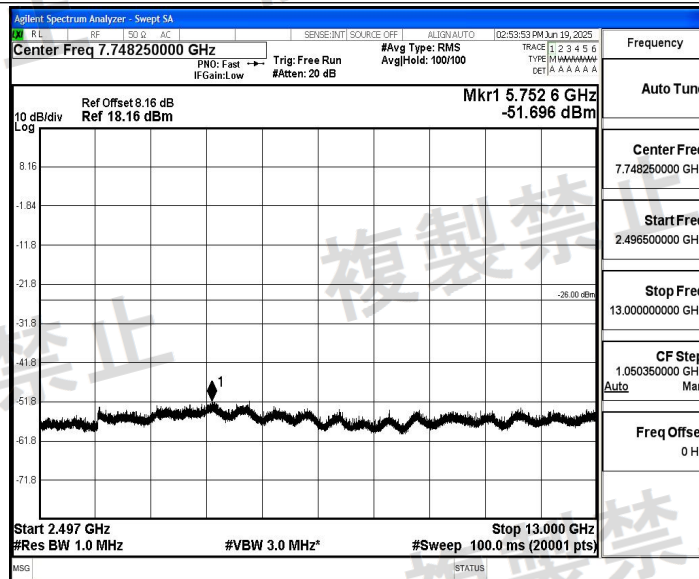
NTNV_BLE_1M_Ant1_2402_2387~2400



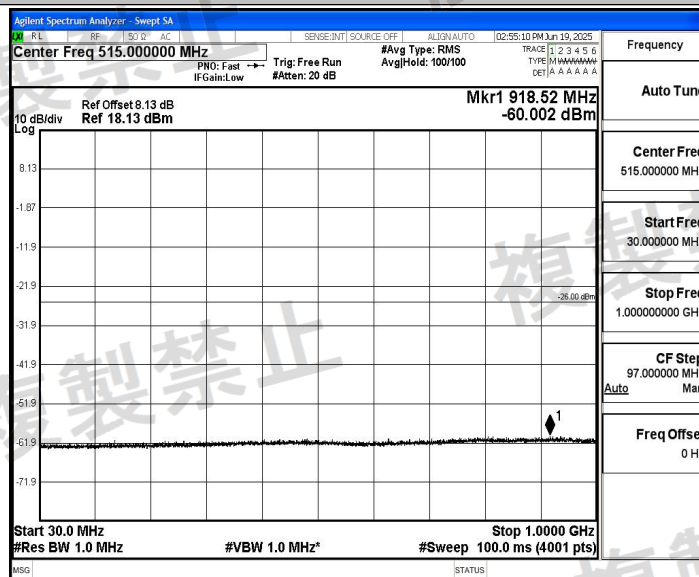
NTNV_BLE_1M_Ant1_2402_2483.5~2496.5



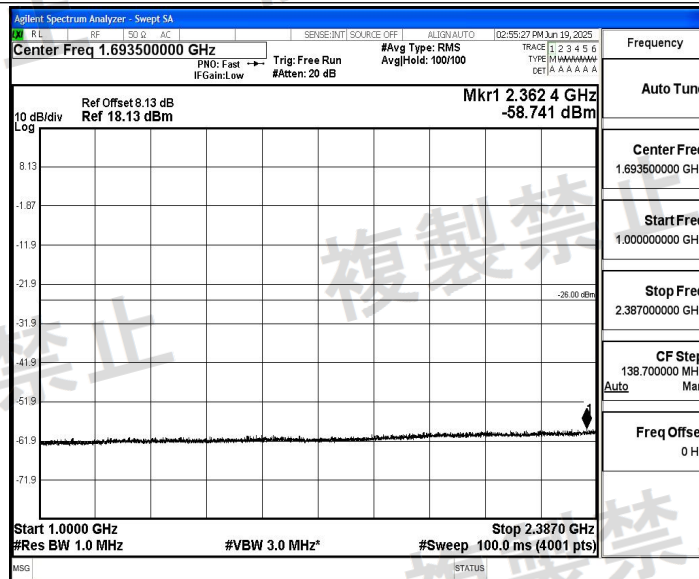
NTNV_BLE_1M_Ant1_2402_2496.5~13000



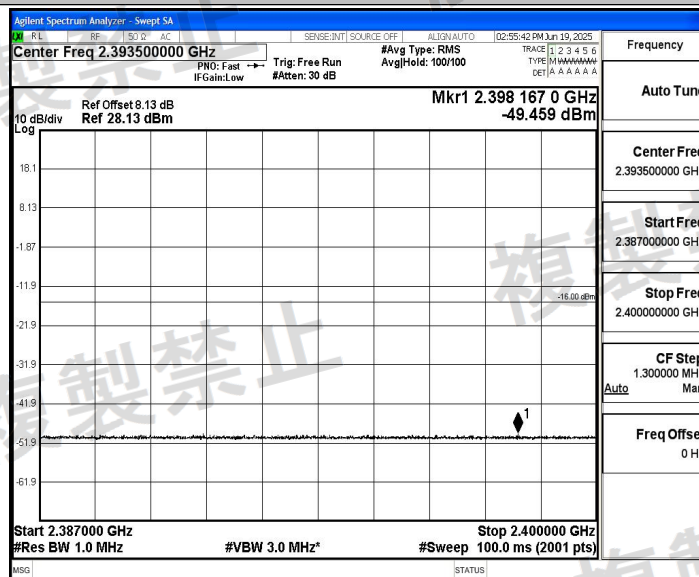
NTNV_BLE_1M_Ant1_2440_30~1000



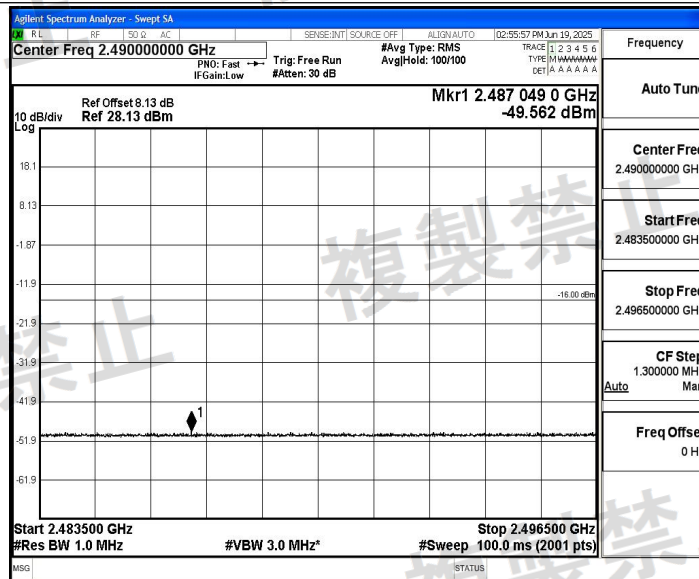
NTNV_BLE_1M_Ant1_2440_1000~2387



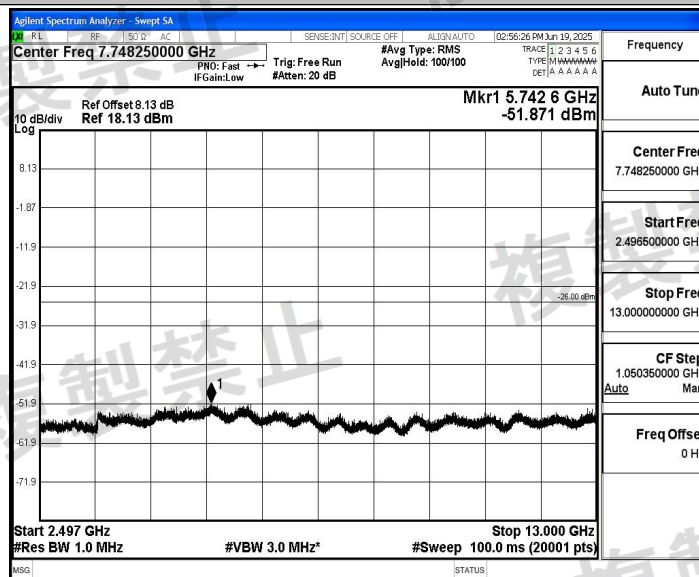
NTNV_BLE_1M_Ant1_2440_2387~2400



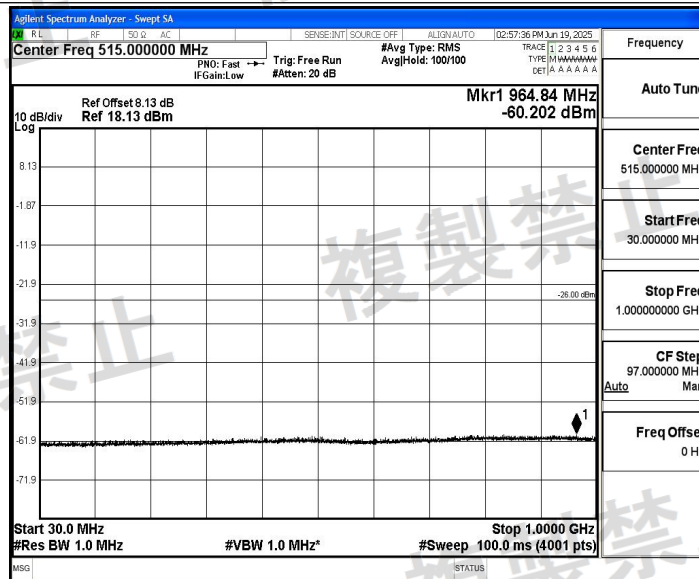
NTNV_BLE_1M_Ant1_2440_2483.5~2496.5



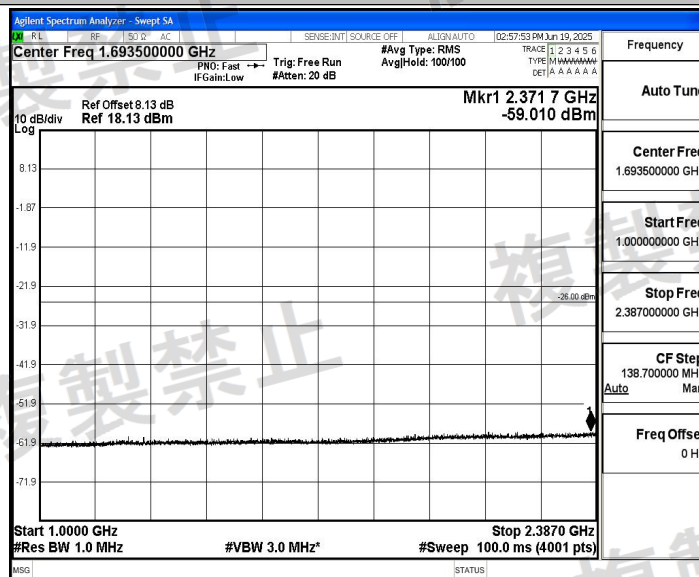
NTNV_BLE_1M_Ant1_2440_2496.5~13000



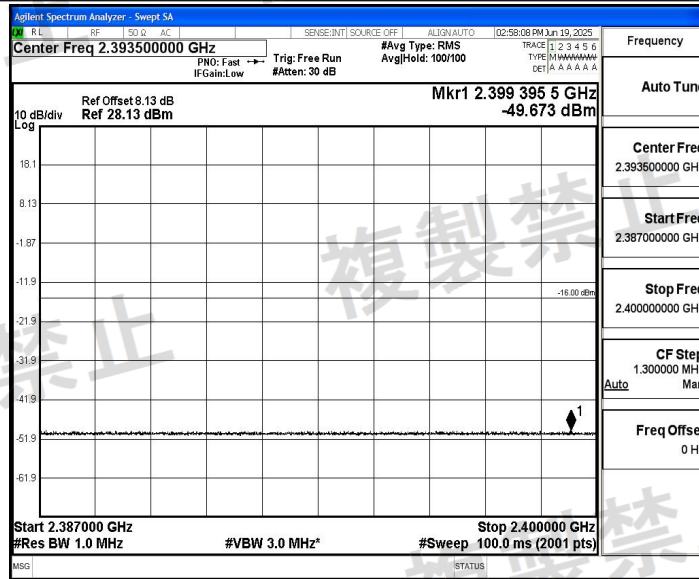
NTNV_BLE_1M_Ant1_2480_30~1000



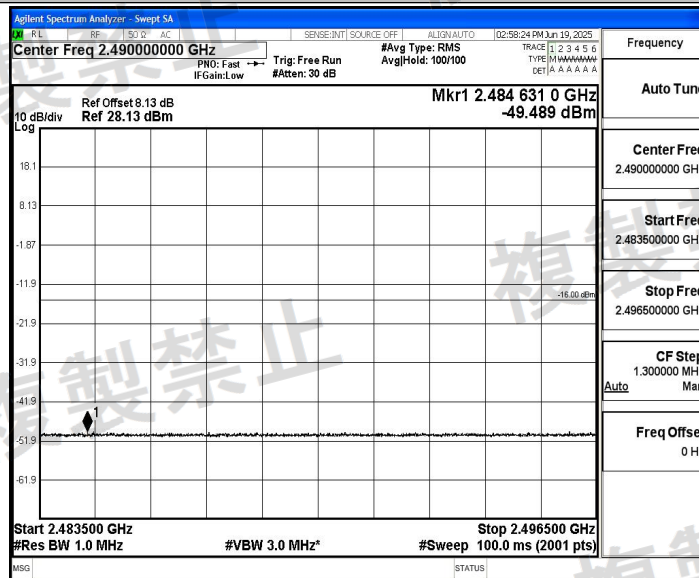
NTNV_BLE_1M_Ant1_2480_1000~2387



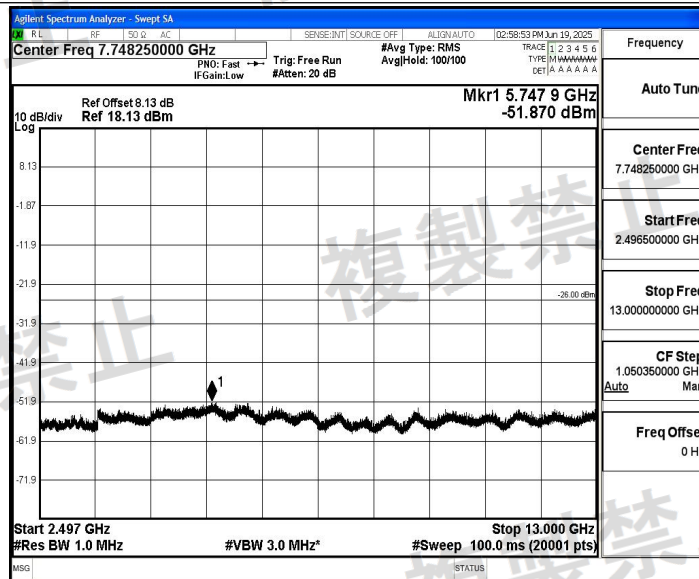
NTNV_BLE_1M_Ant1_2480_2387~2400



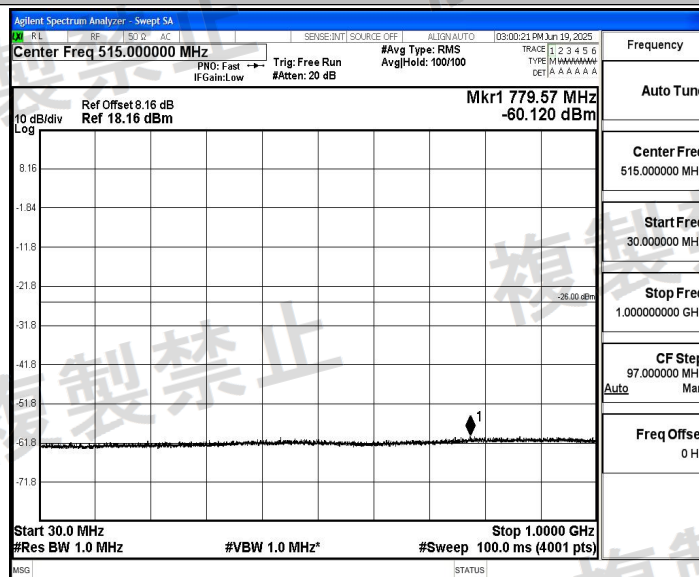
NTNV_BLE_1M_Ant1_2480_2483.5~2496.5



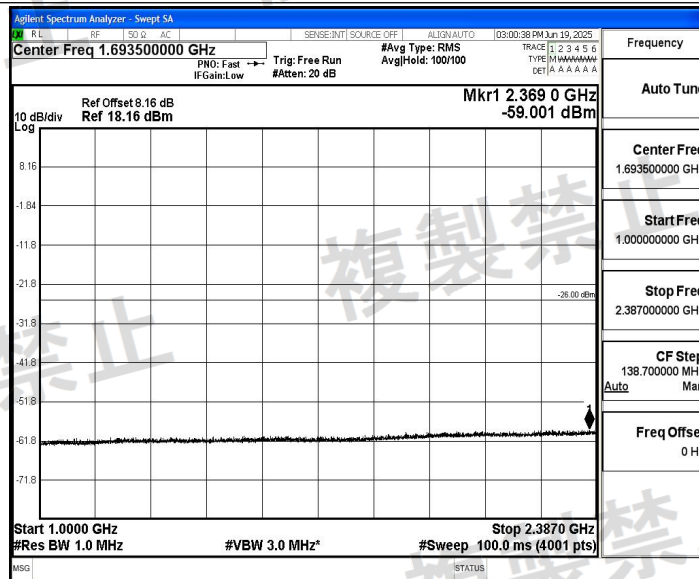
NTNV_BLE_1M_Ant1_2480_2496.5~13000



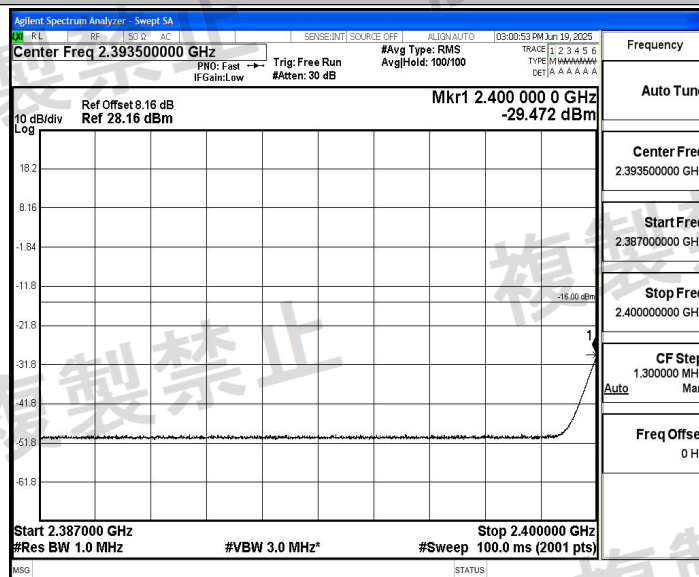
NTNV_BLE_2M_Ant1_2402_30~1000



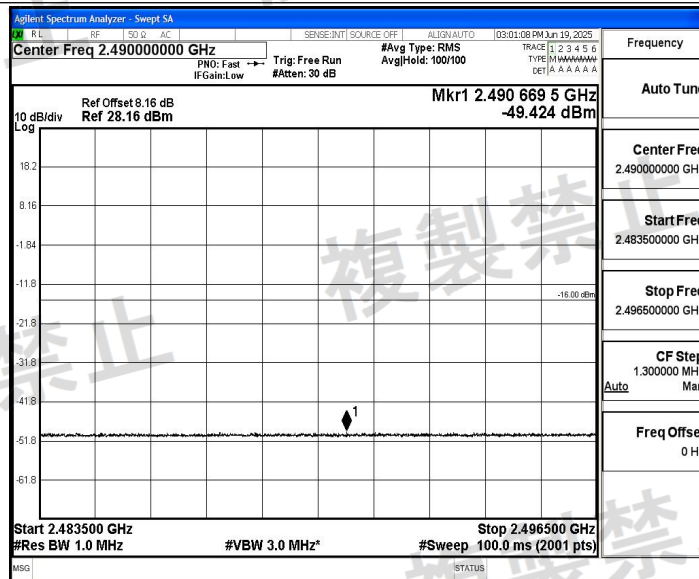
NTNV_BLE_2M_Ant1_2402_1000~2387



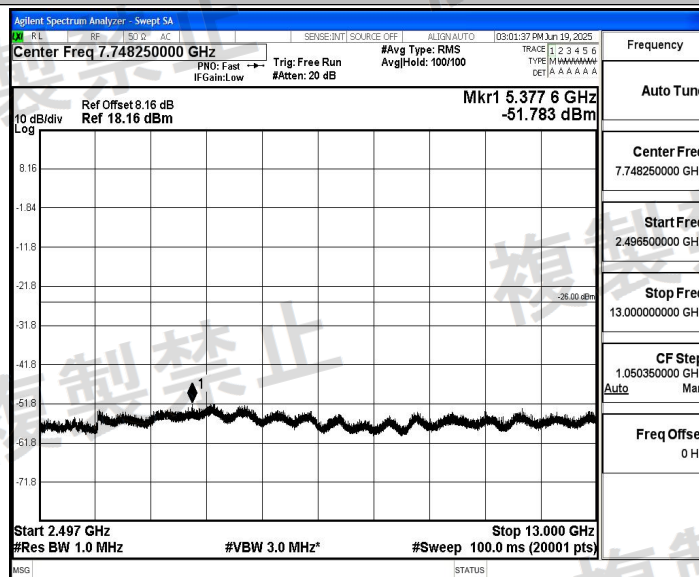
NTNV_BLE_2M_Ant1_2402_2387~2400



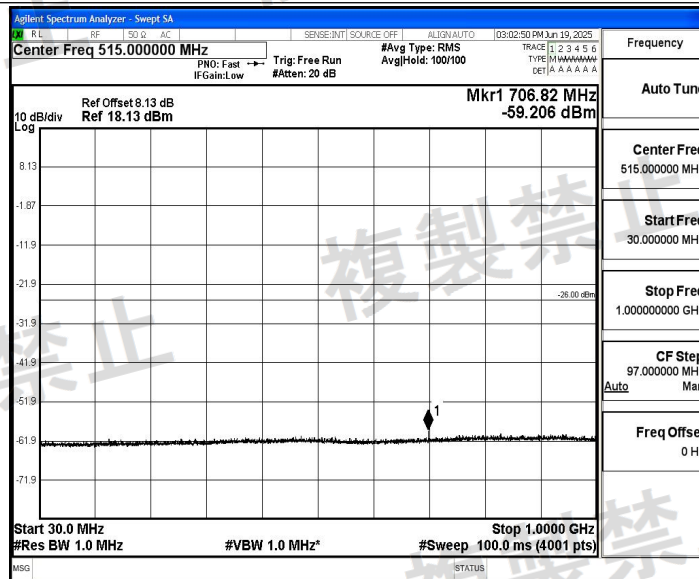
NTNV_BLE_2M_Ant1_2402_2483.5~2496.5



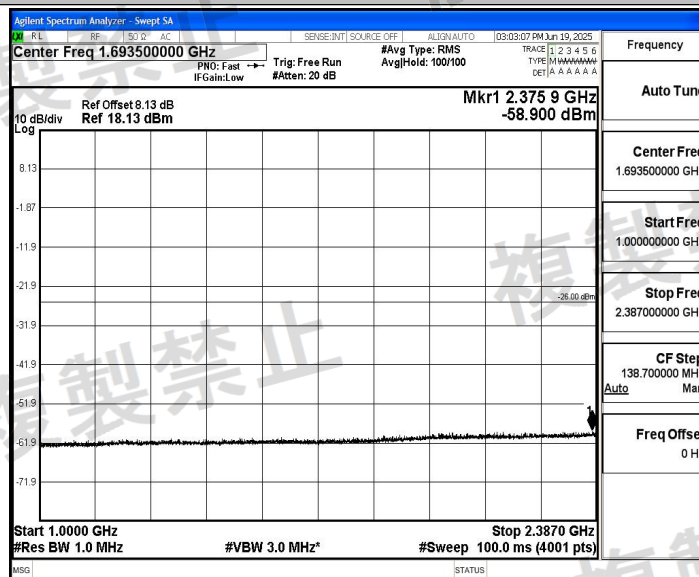
NTNV_BLE_2M_Ant1_2402_2496.5~13000



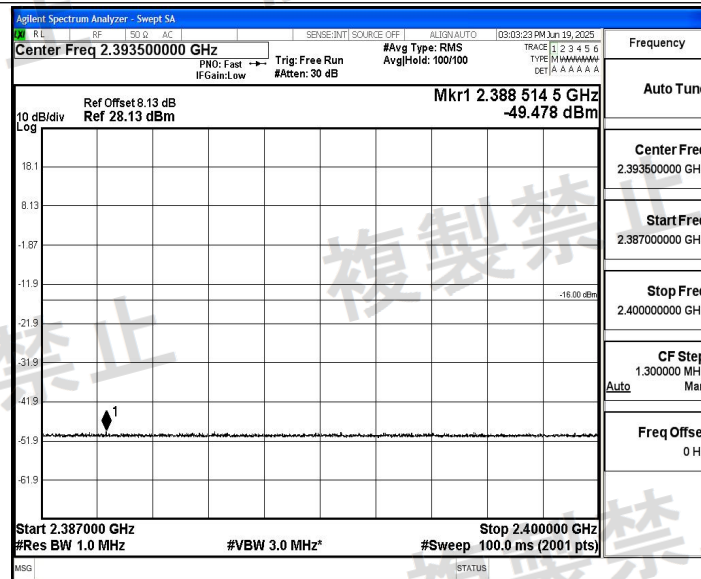
NTNV_BLE_2M_Ant1_2440_30~1000



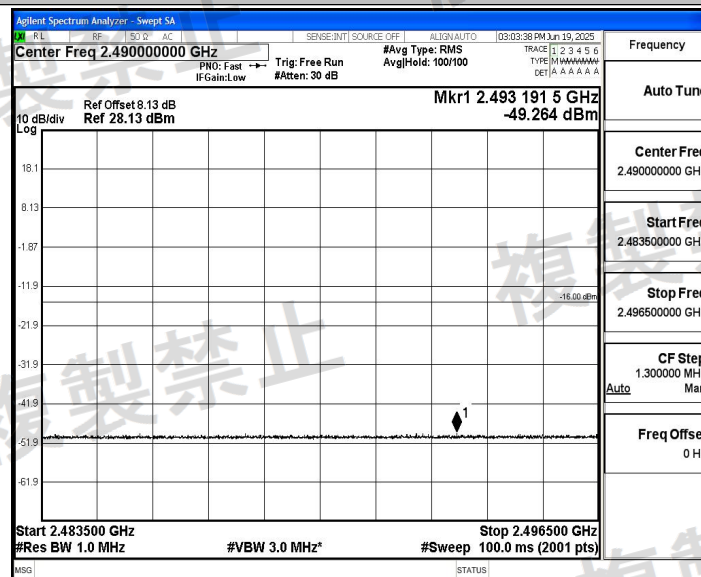
NTNV_BLE_2M_Ant1_2440_1000~2387



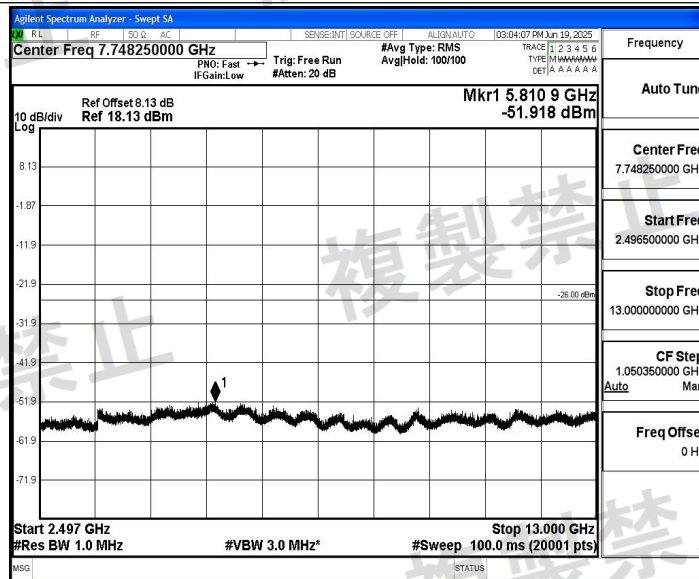
NTNV_BLE_2M_Ant1_2440_2387~2400



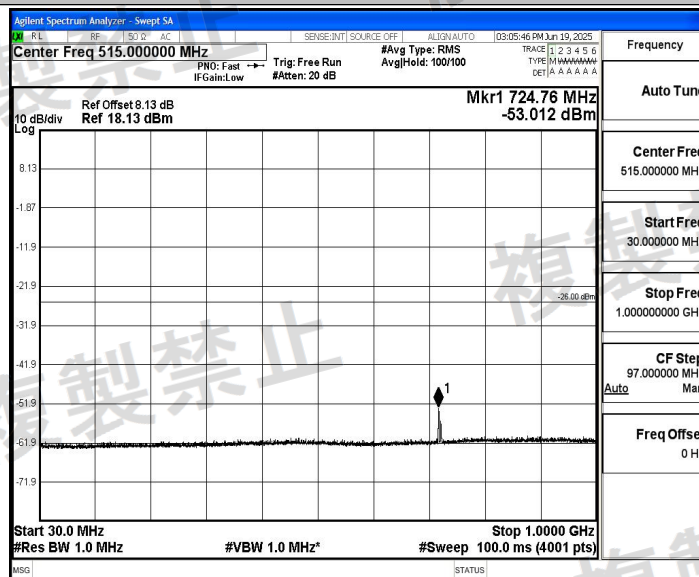
NTNV_BLE_2M_Ant1_2440_2483.5~2496.5



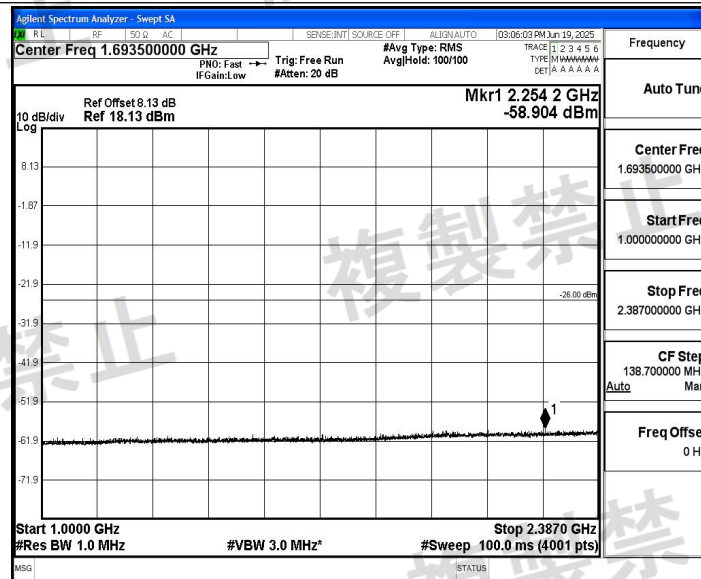
NTNV_BLE_2M_Ant1_2440_2496.5~13000



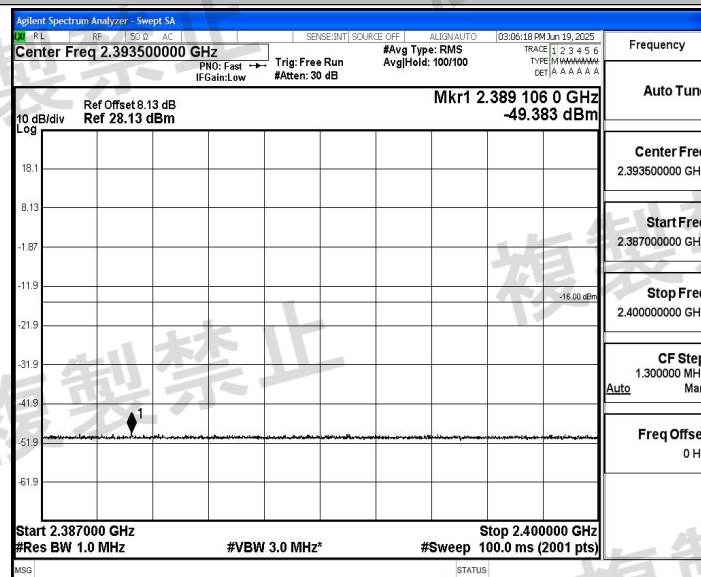
NTNV_BLE_2M_Ant1_2480_30~1000



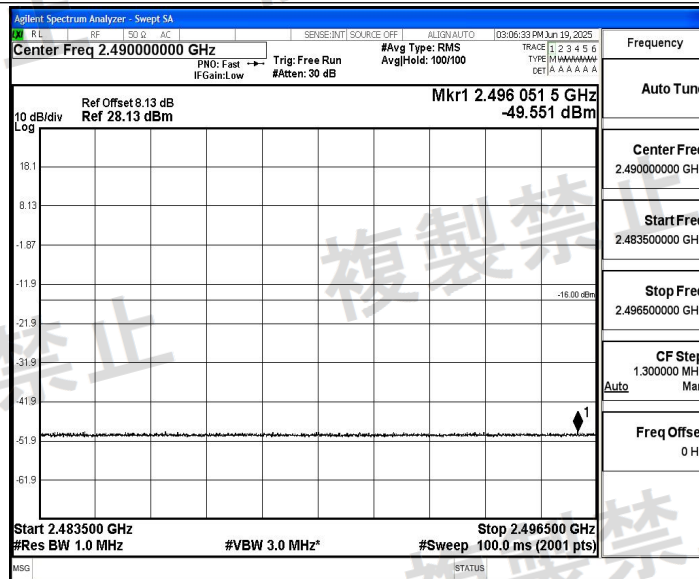
NTNV_BLE_2M_Ant1_2480_1000~2387



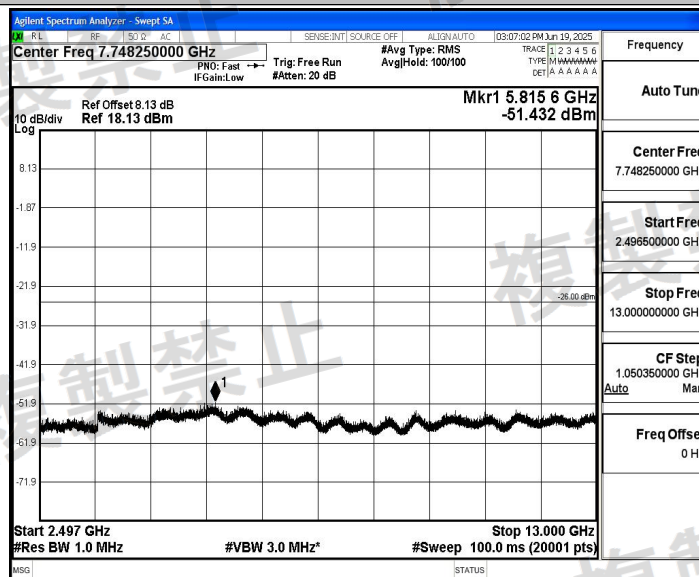
NTNV_BLE_2M_Ant1_2480_2387~2400



NTNV_BLE_2M_Ant1_2480_2483.5~2496.5



NTNV_BLE_2M_Ant1_2480_2496.5~13000

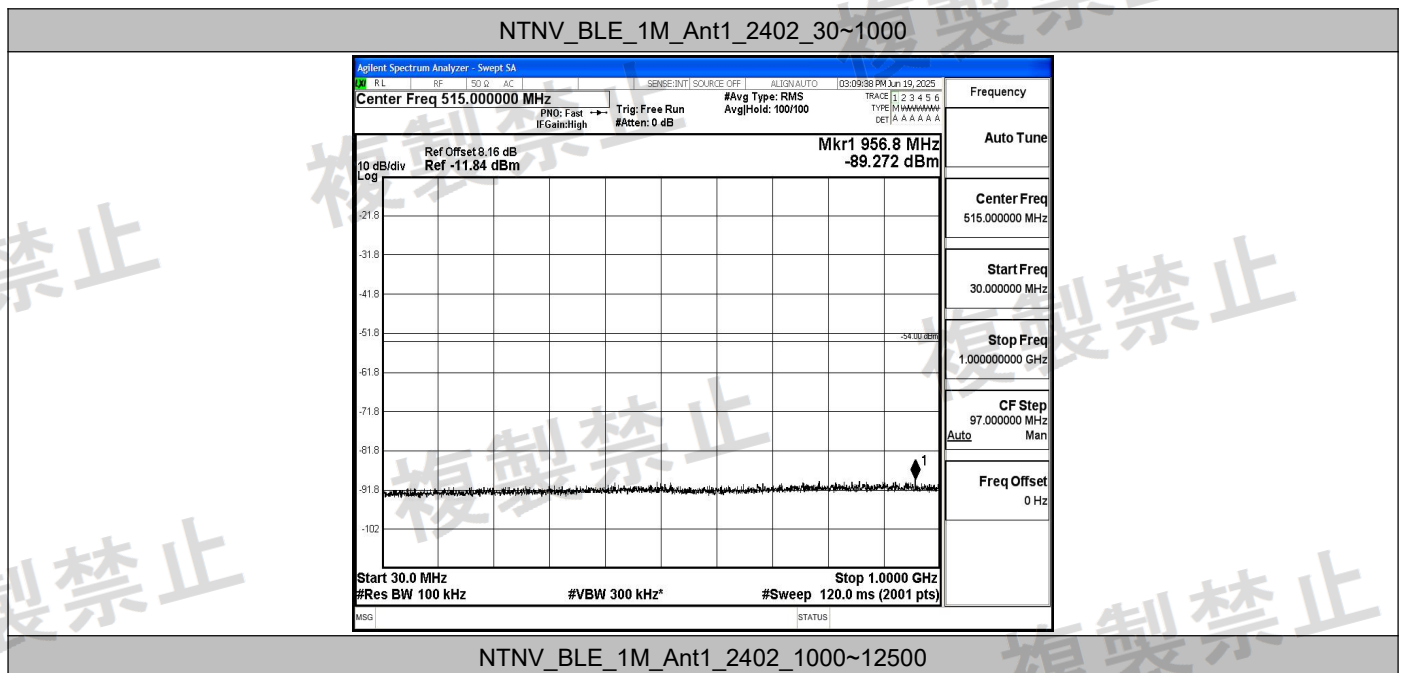


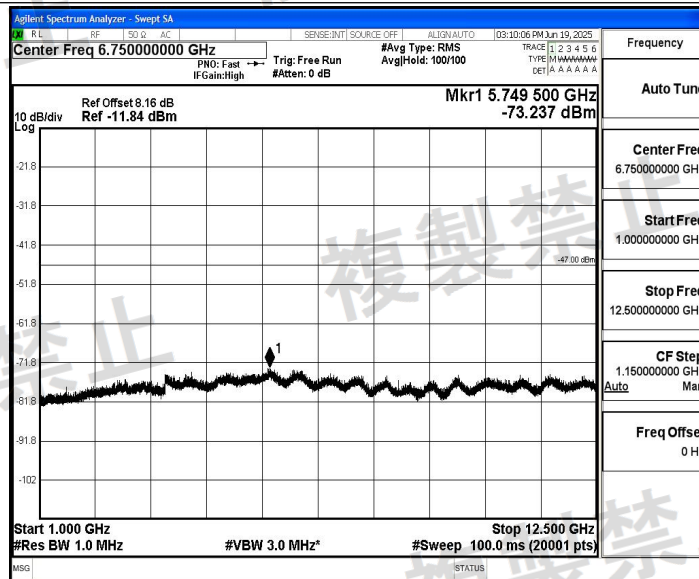
A.6 Spurious Emission of RX

Test Result

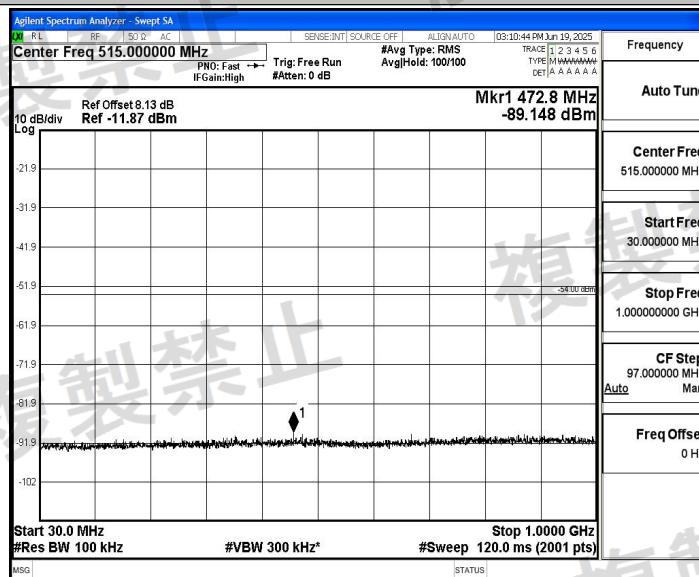
TestCondition	TestMode	Antenna	Channel	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-89.27	≤-54	0.00118	≤4	PASS
				1000~12500	-73.24	≤-47	0.04742	≤20	PASS
			2440	30~1000	-89.15	≤-54	0.00122	≤4	PASS
				1000~12500	-73.27	≤-47	0.04710	≤20	PASS
			2480	30~1000	-88.64	≤-54	0.00137	≤4	PASS
				1000~12500	-72.88	≤-47	0.05152	≤20	PASS
	BLE_2M	Ant1	2402	30~1000	-88.73	≤-54	0.00134	≤4	PASS
				1000~12500	-73.26	≤-47	0.04721	≤20	PASS
			2440	30~1000	-89.42	≤-54	0.00114	≤4	PASS
				1000~12500	-73.43	≤-47	0.04539	≤20	PASS
			2480	30~1000	-89.76	≤-54	0.00106	≤4	PASS
				1000~12500	-73.08	≤-47	0.04920	≤20	PASS

Test Graphs

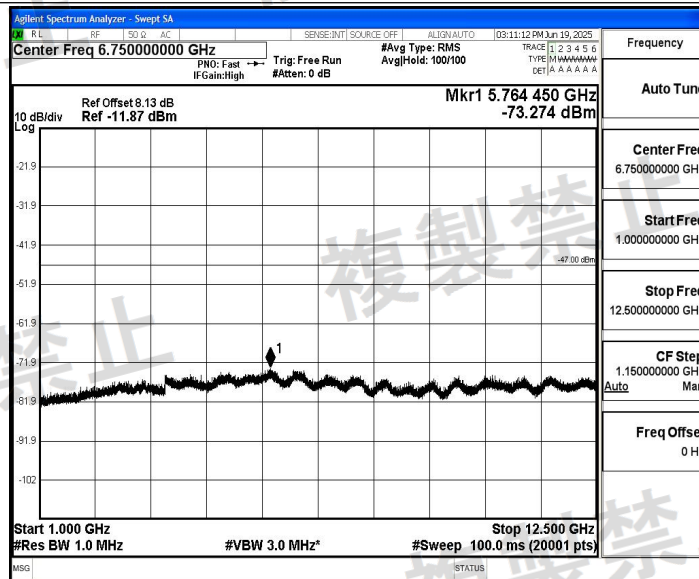




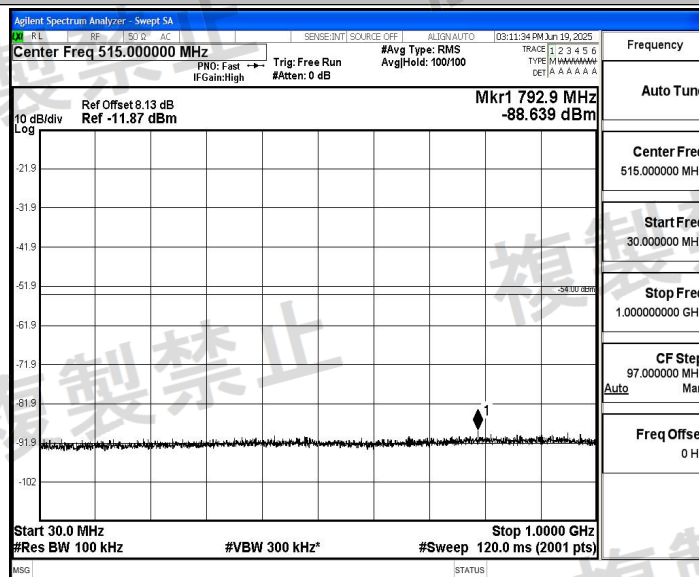
NTNV_BLE_1M_Ant1_2440_30~1000



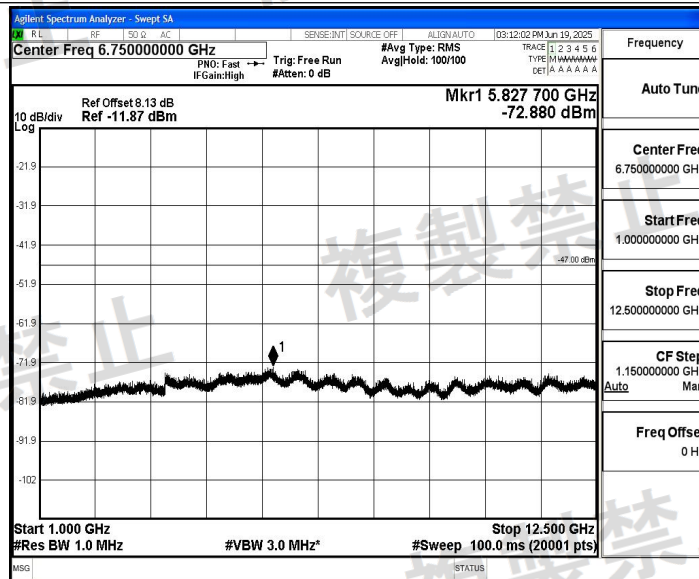
NTNV_BLE_1M_Ant1_2440_1000~12500



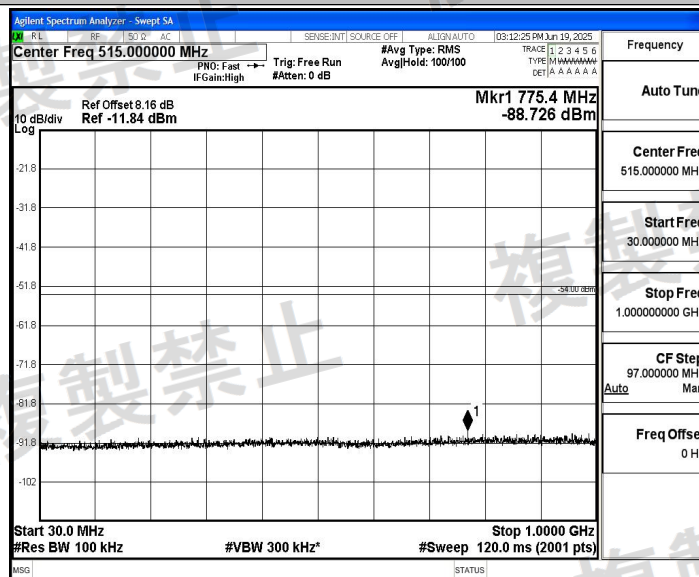
NTNV_BLE_1M_Ant1_2480_30~1000



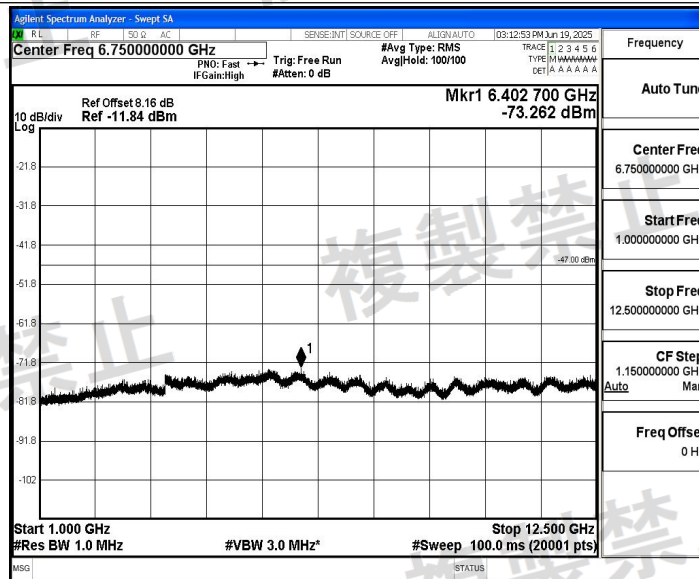
NTNV_BLE_1M_Ant1_2480_1000~12500



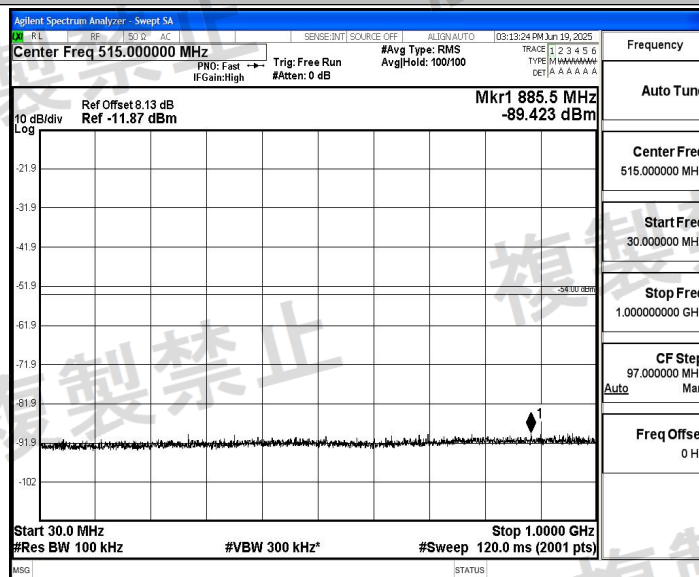
NTNV_BLE_2M_Ant1_2402_30~1000



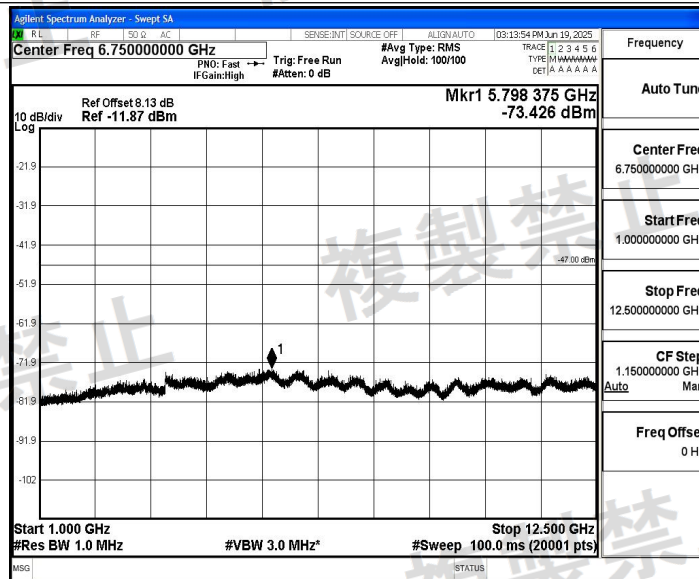
NTNV_BLE_2M_Ant1_2402_1000~12500



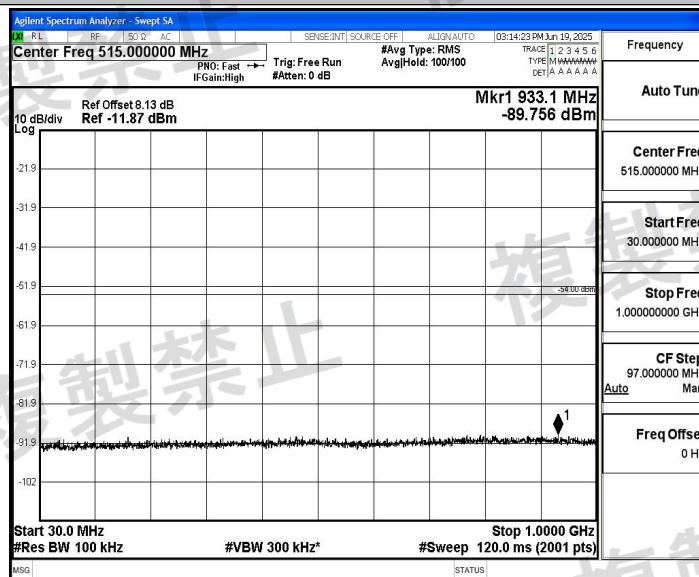
NTNV_BLE_2M_Ant1_2440_30~1000



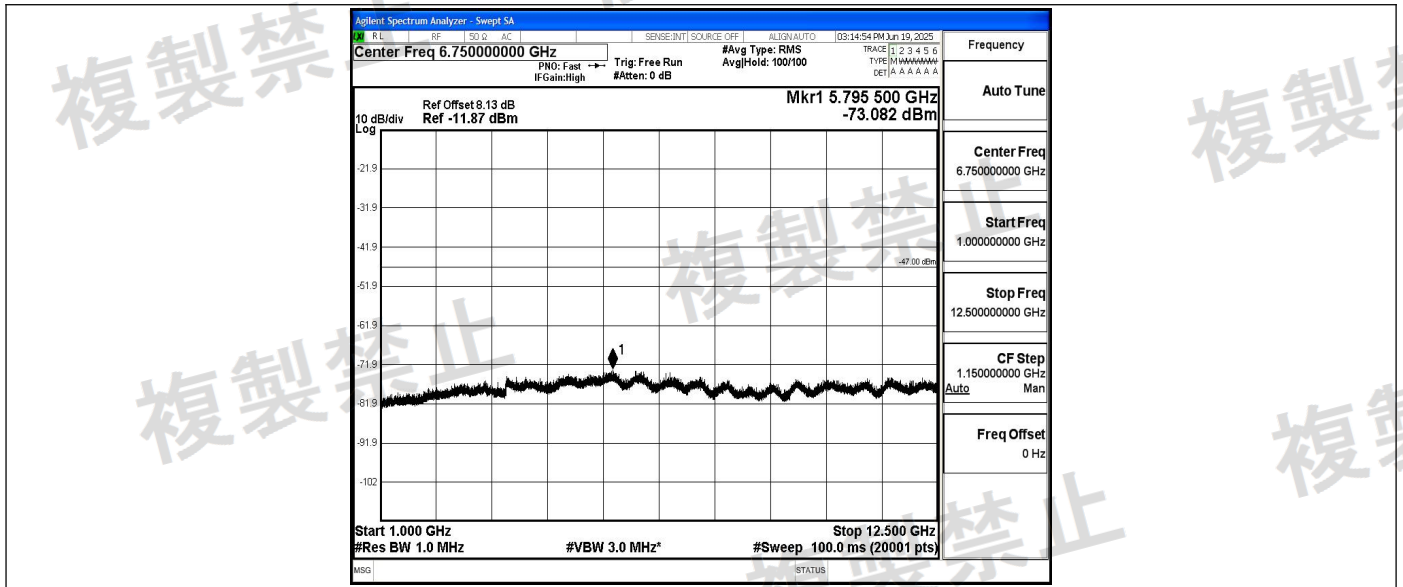
NTNV_BLE_2M_Ant1_2440_1000~12500



NTNV_BLE_2M_Ant1_2480_30~1000



NTNV_BLE_2M_Ant1_2480_1000~12500



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