

Appendix A for BT LE Test Data

Product Name: smart Tag

Test Model: GH-SMTB

Environmental Conditions

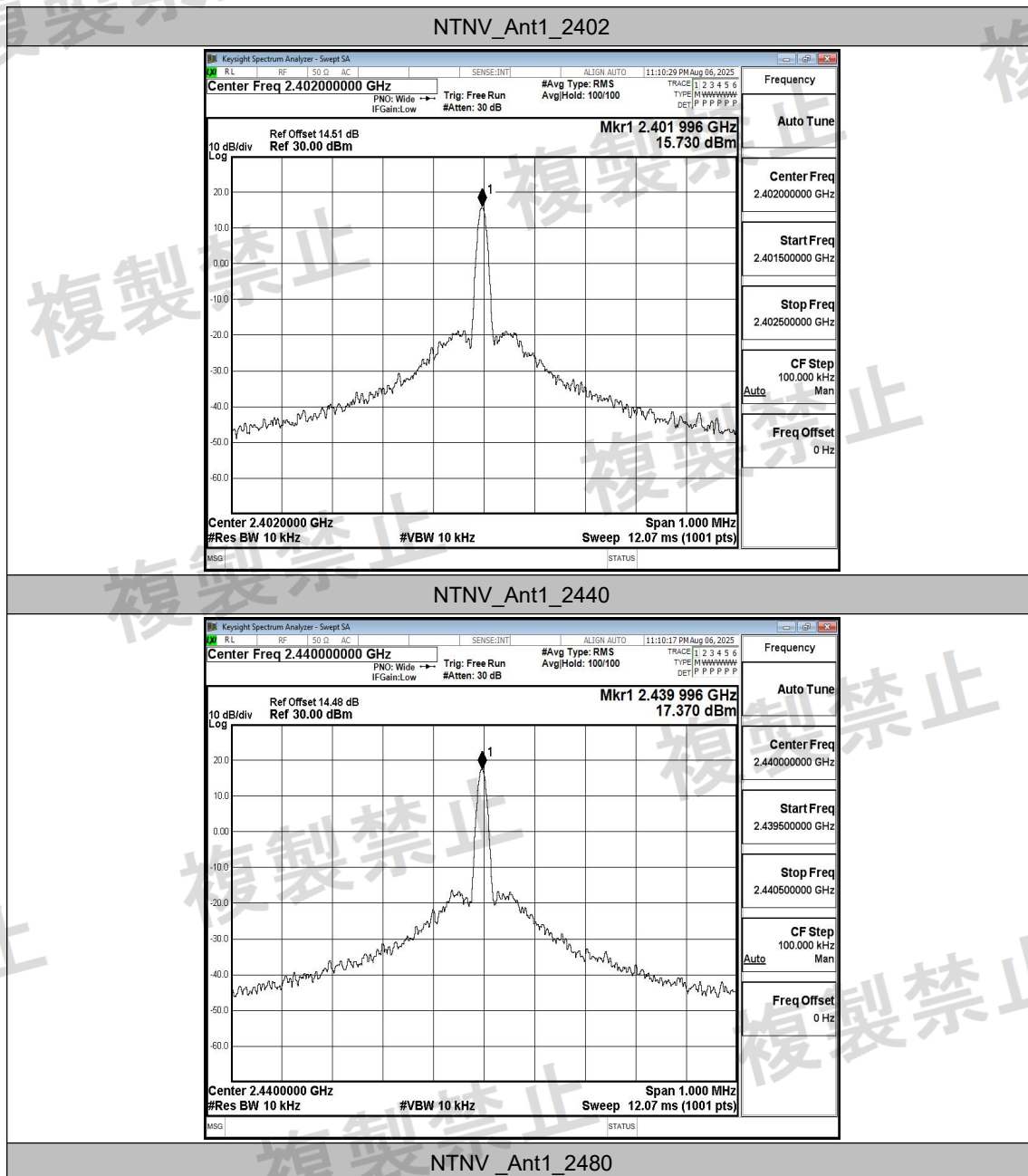
Temperature:	23.7°C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

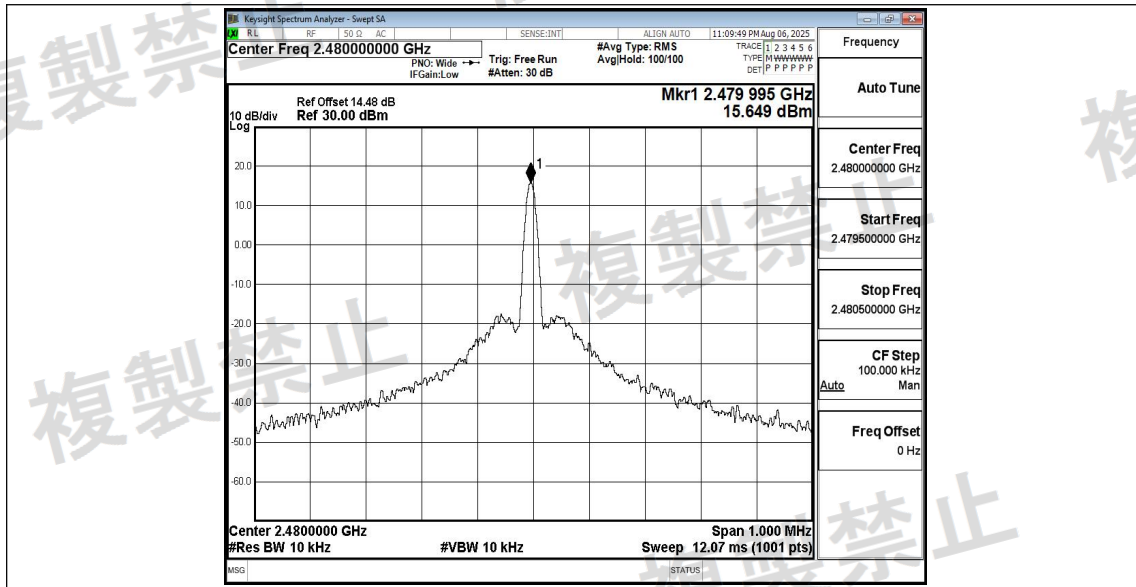
A.1 Frequency Error

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	-1.66528	±50	PASS
			2440	-1.63934	±50	PASS
			2480	-2.01613	±50	PASS

Test Graphs





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	5.18	3.30	≤10	PASS
			2440	5.23	3.33	≤10	PASS
			2480	4.96	3.13	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	3.30	3.0	10.00	+20	PASS
			2440	3.33	3.0	11.00	+20	PASS
			2480	3.13	3.0	4.33	+20	PASS

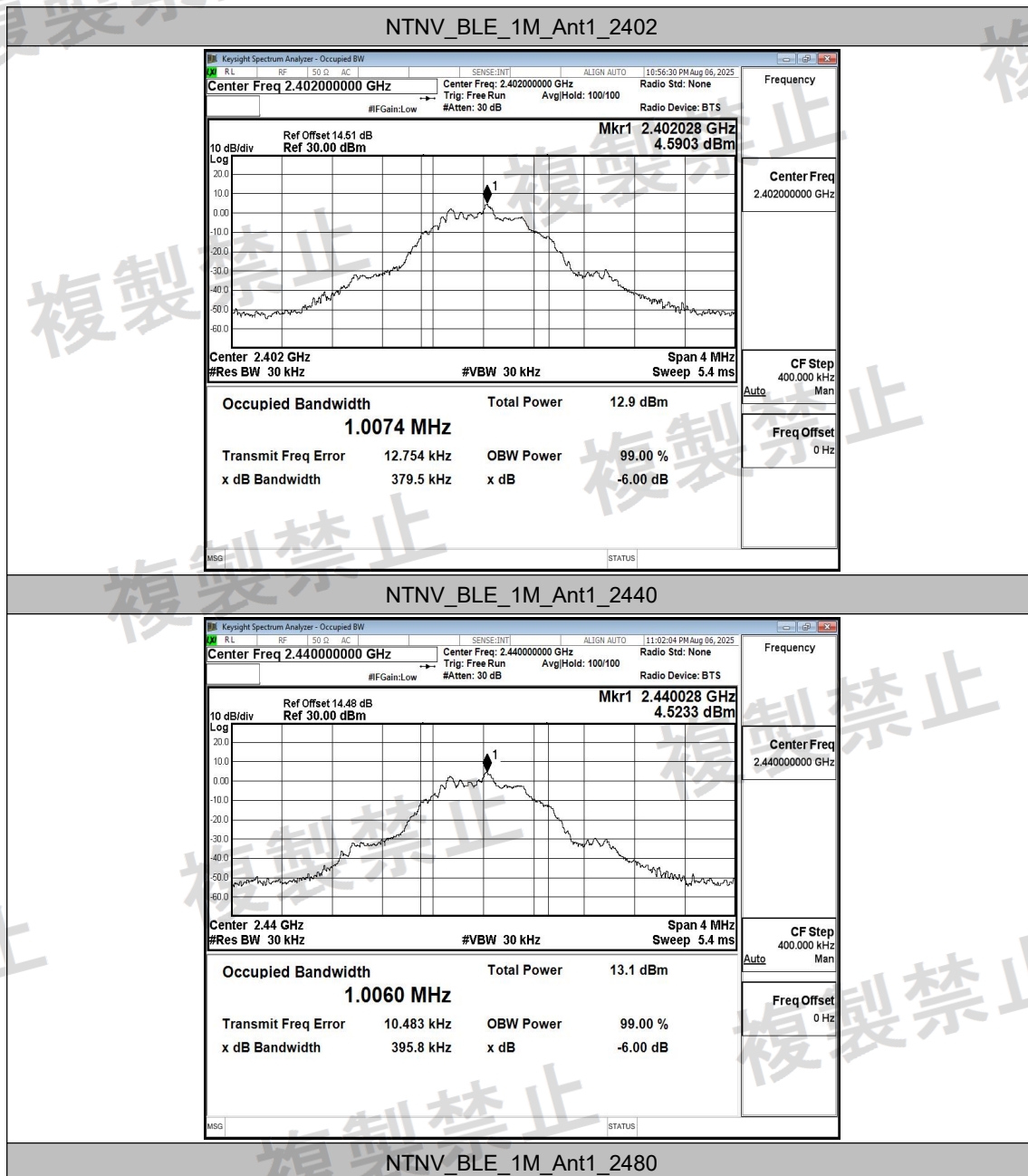
EIRP								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Measured Power (dBm)	Antenna gain (dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	5.18	2.34	7.52	≤12.14	PASS
			2440	5.23	2.34	7.57	≤12.14	PASS
			2480	4.96	2.34	7.30	≤12.14	PASS

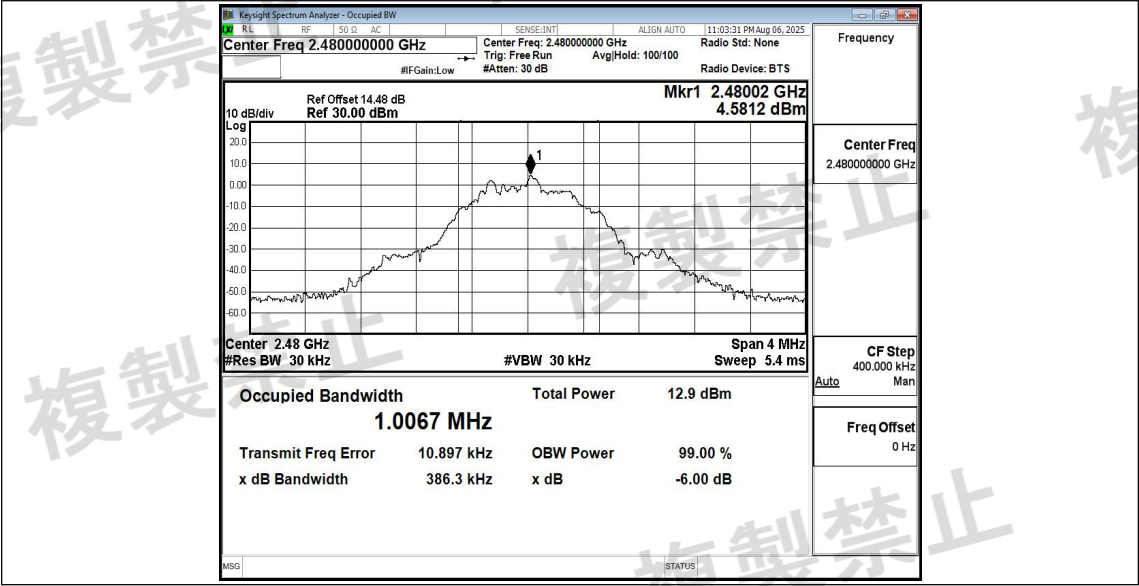
A.3 Occupied Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.007	≤26	PASS
			2440	1.006	≤26	PASS
			2480	1.007	≤26	PASS

Test Graphs



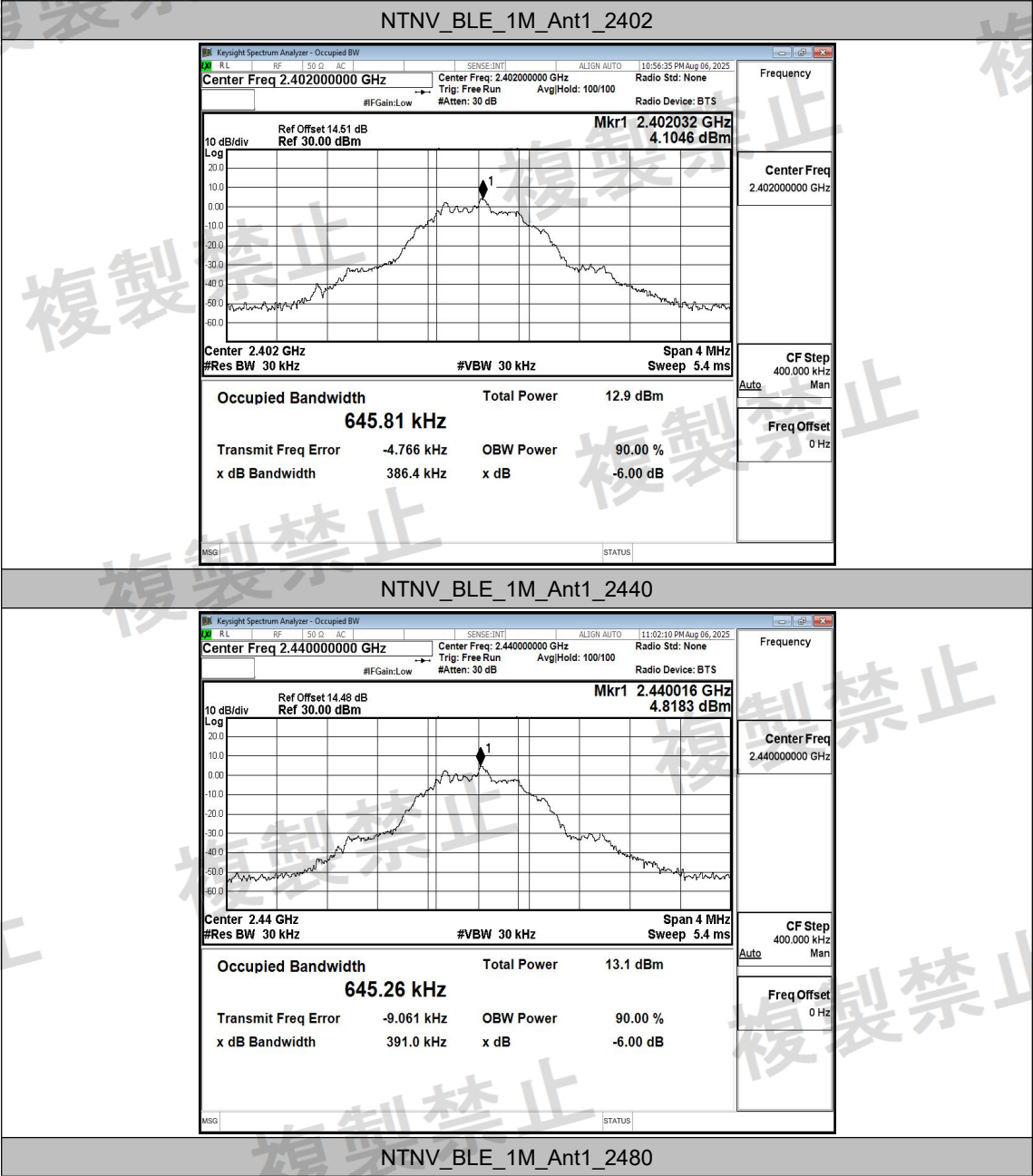


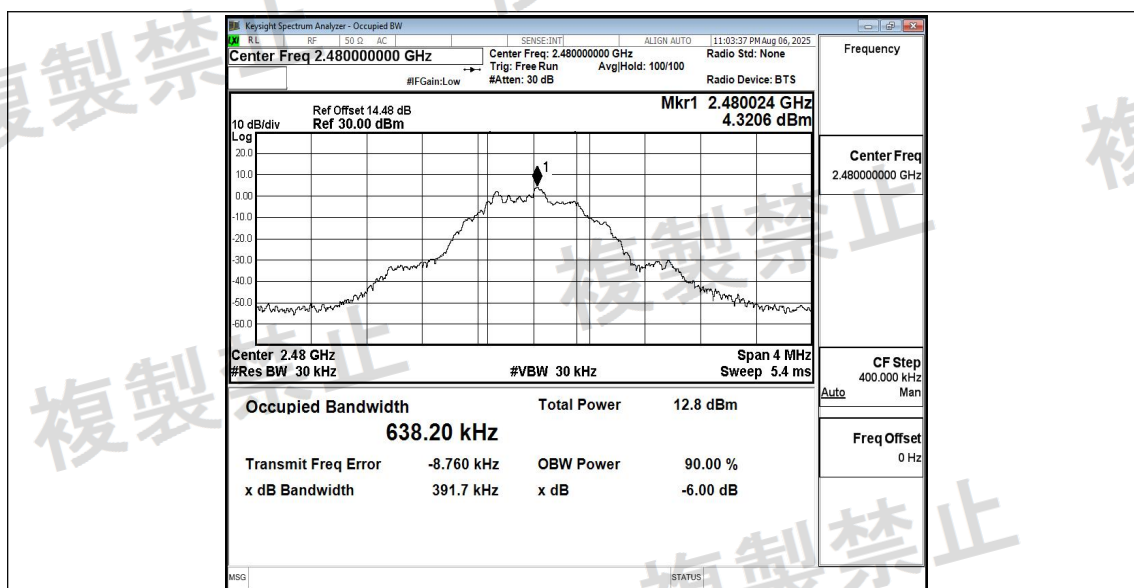
A.4 Spread Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Result [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.646	PASS
			2440	0.645	PASS
			2480	0.638	PASS

Test Graphs



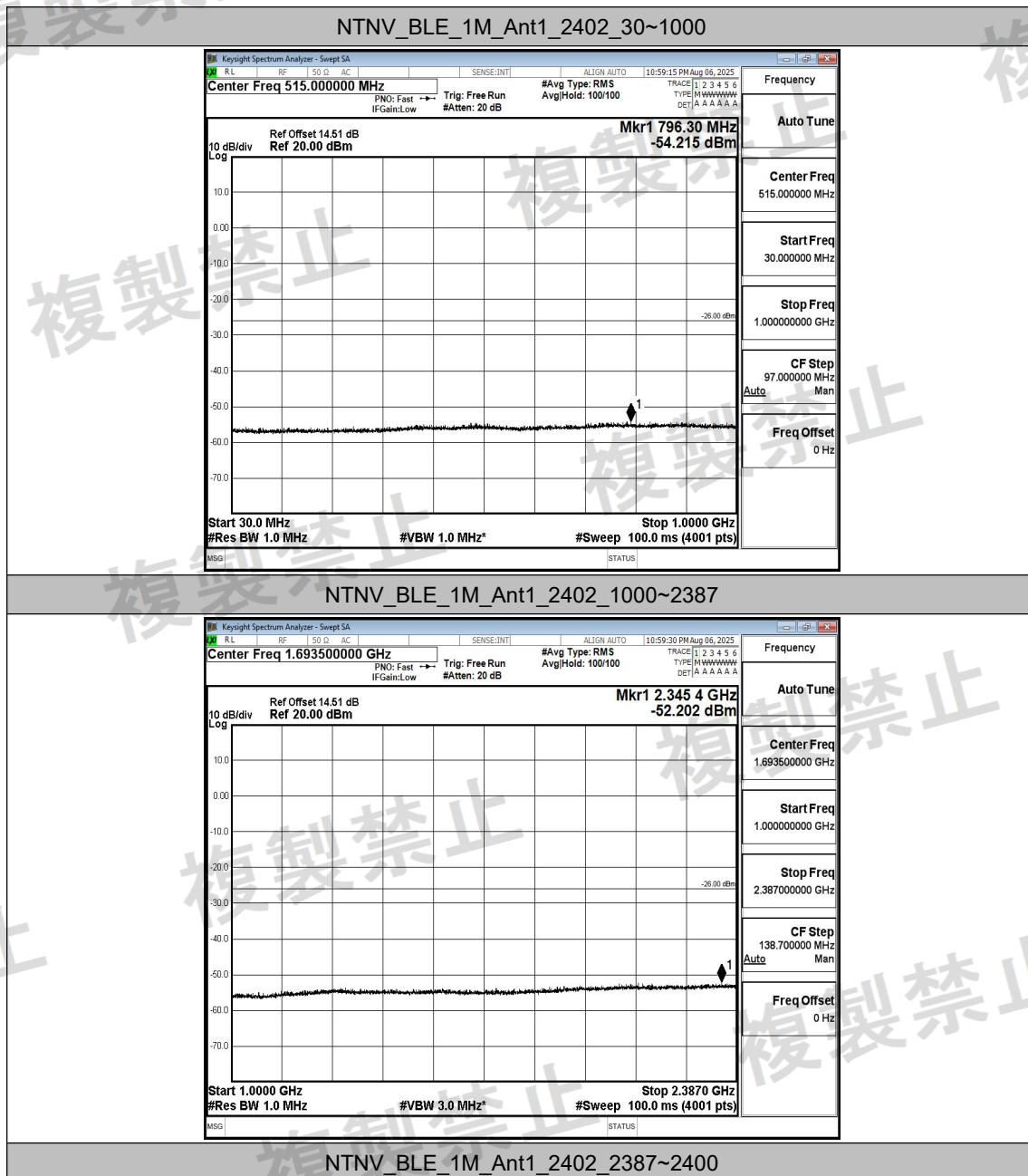


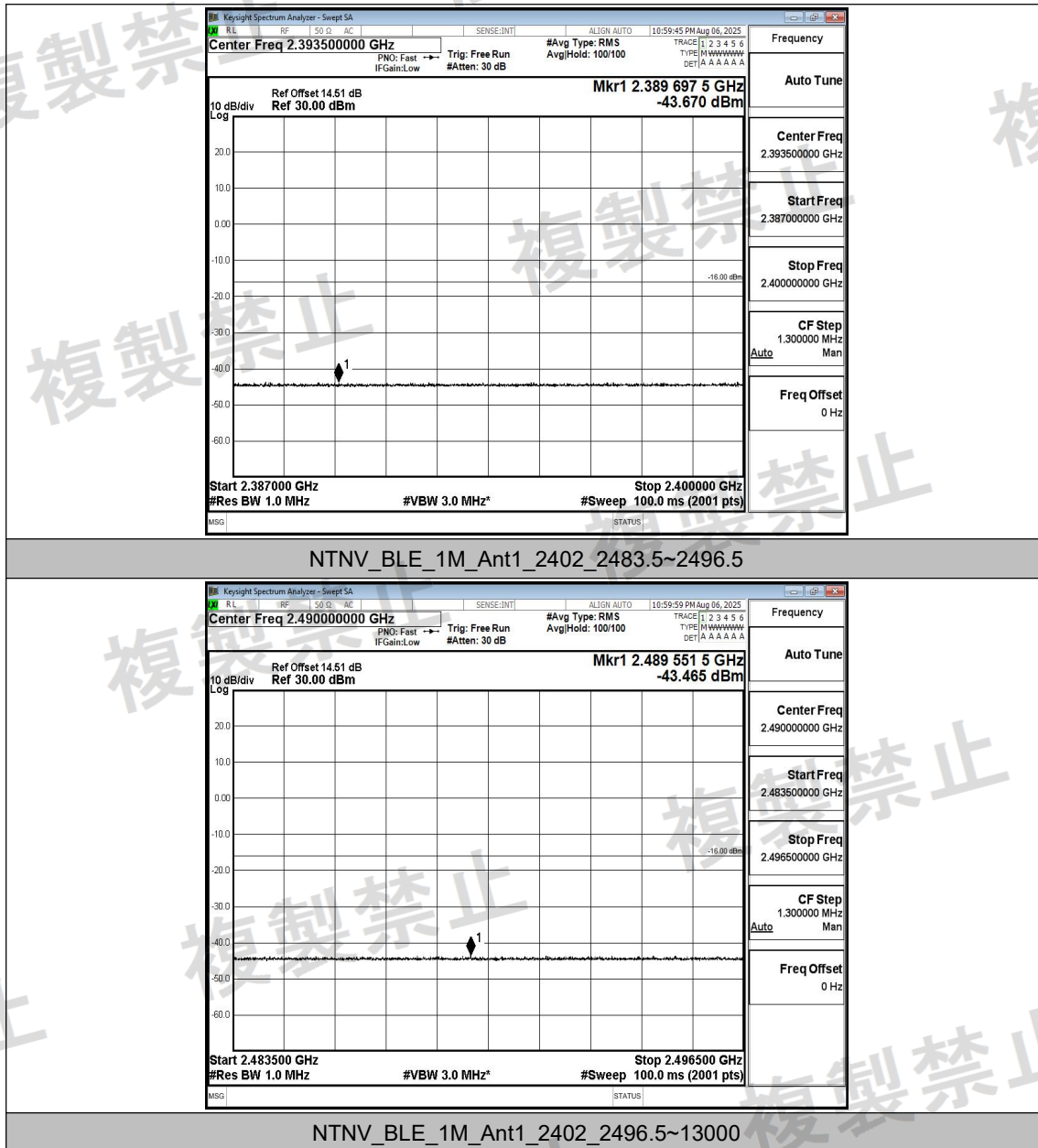
A.5 Spurious Emission of TX

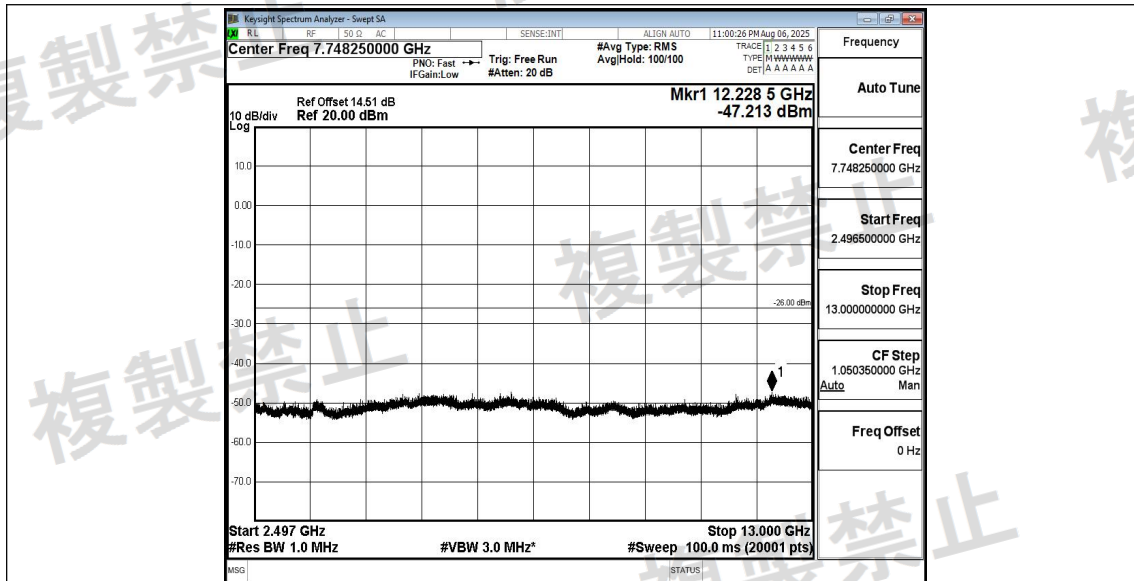
Test Result

TestCondition	TestMode	Antenna	Frequency [MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-54.22	≤-26	0.00378	≤2.5	PASS
				1000~2387	-52.20	≤-26	0.00603	≤2.5	PASS
				2387~2400	-43.67	≤-16	0.04295	≤25	PASS
				2483.5~2496.5	-43.47	≤-16	0.04498	≤25	PASS
				2496.5~13000	-47.21	≤-26	0.01901	≤2.5	PASS
			2440	30~1000	-54.04	≤-26	0.00394	≤2.5	PASS
				1000~2387	-52.38	≤-26	0.00578	≤2.5	PASS
				2387~2400	-43.57	≤-16	0.04395	≤25	PASS
				2483.5~2496.5	-43.59	≤-16	0.04375	≤25	PASS
				2496.5~13000	-47.46	≤-26	0.01795	≤2.5	PASS
			2480	30~1000	-53.84	≤-26	0.00413	≤2.5	PASS
				1000~2387	-52.17	≤-26	0.00607	≤2.5	PASS
				2387~2400	-43.60	≤-16	0.04365	≤25	PASS
				2483.5~2496.5	-43.54	≤-16	0.04426	≤25	PASS
				2496.5~13000	-46.64	≤-26	0.02168	≤2.5	PASS

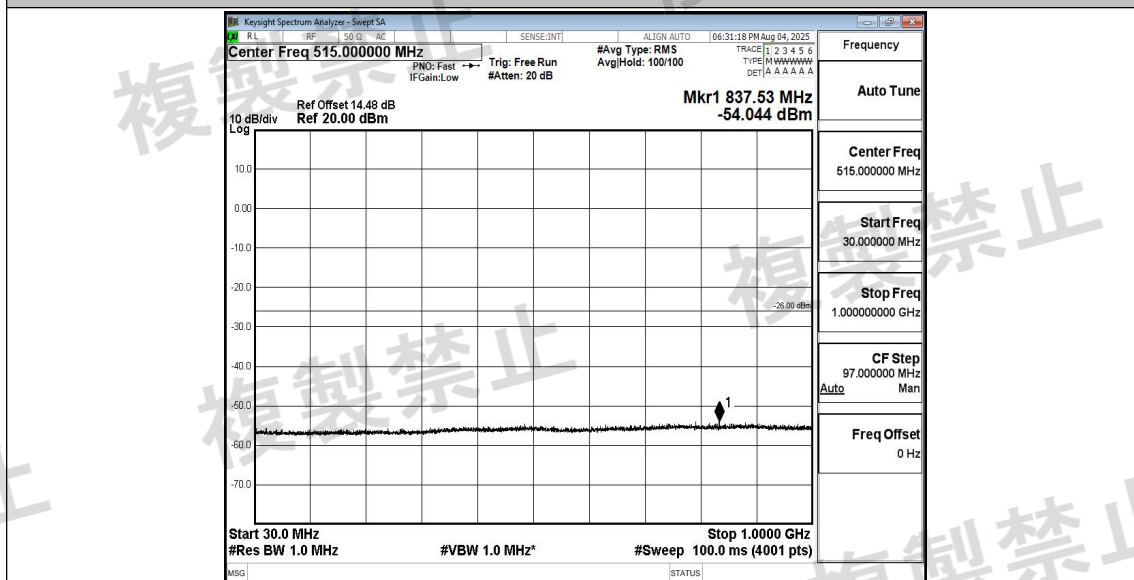
Test Graphs



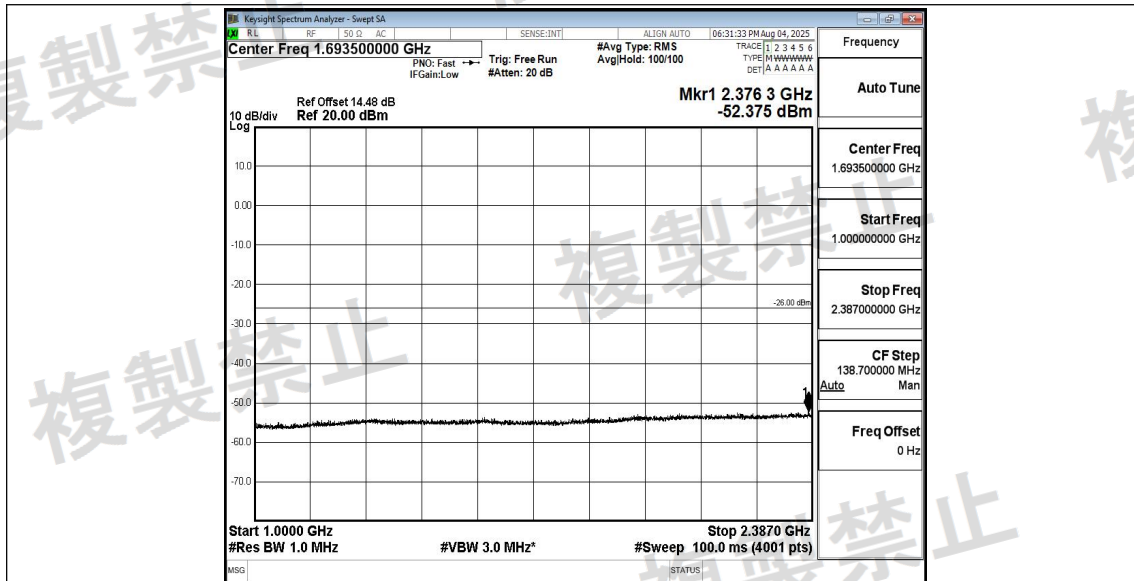




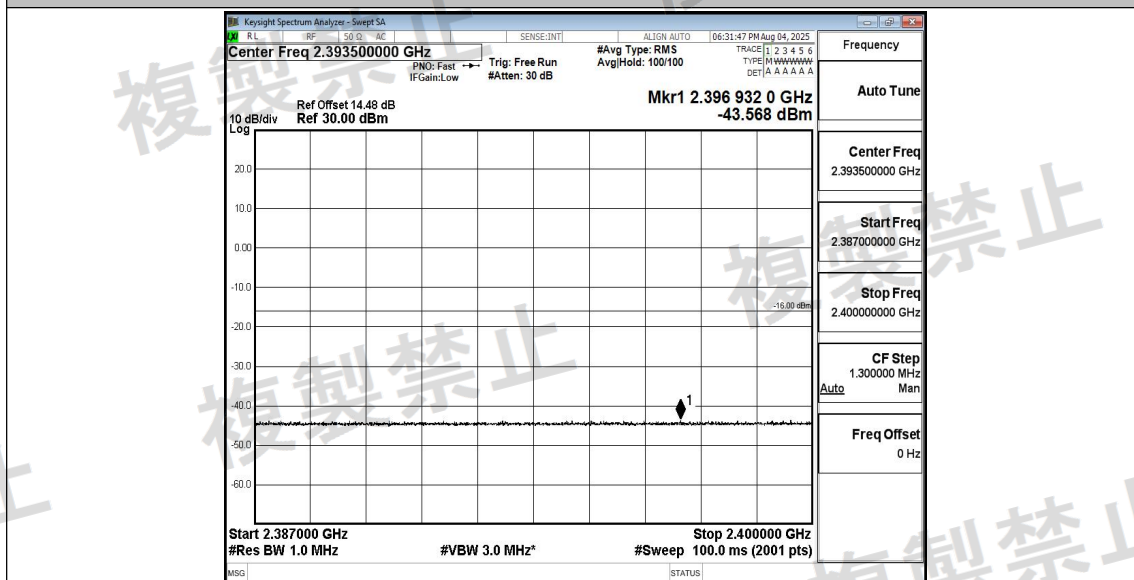
NTNV_BLE_1M_Ant1_2440_30~1000



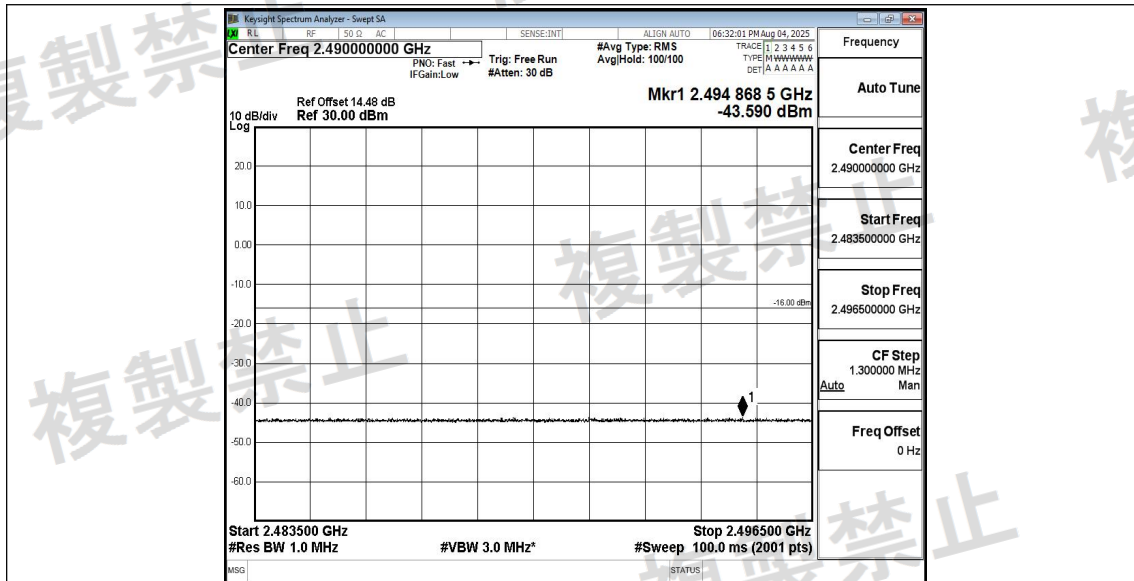
NTNV_BLE_1M_Ant1_2440_1000~2387



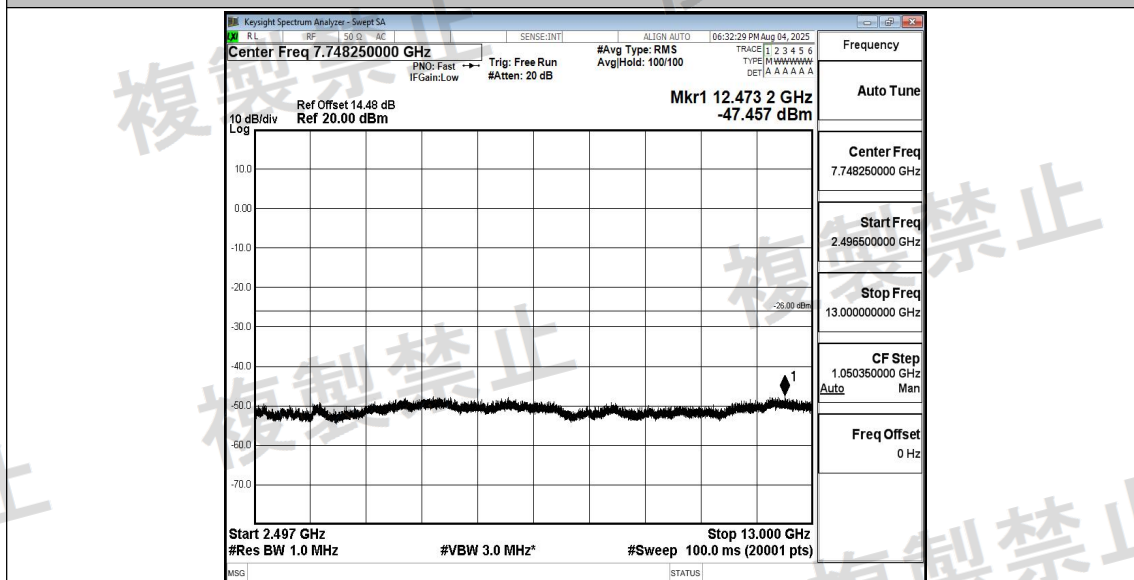
NTNV_BLE_1M_Ant1_2440_2387~2400



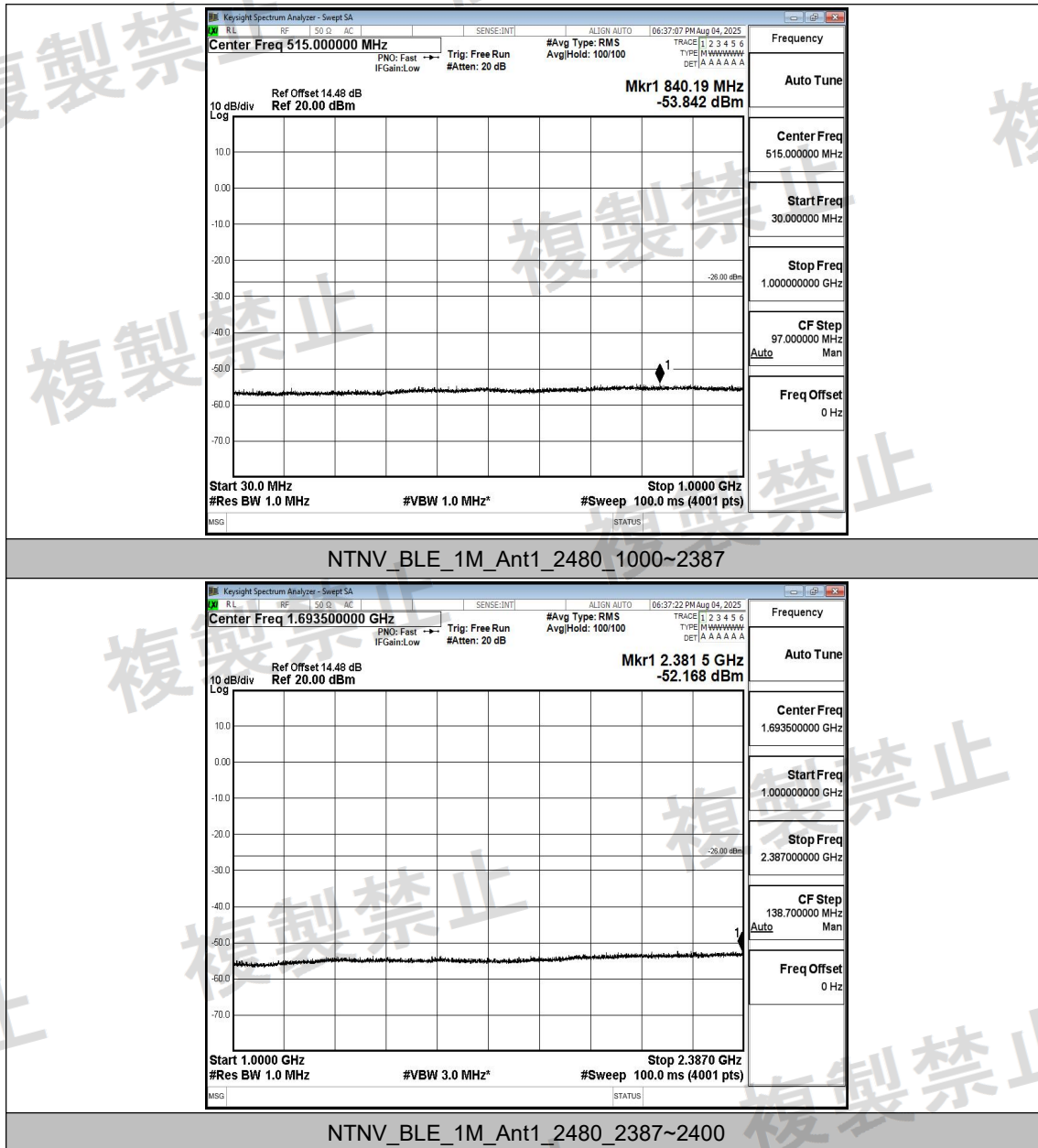
NTNV_BLE_1M_Ant1_2440_2483.5~2496.5

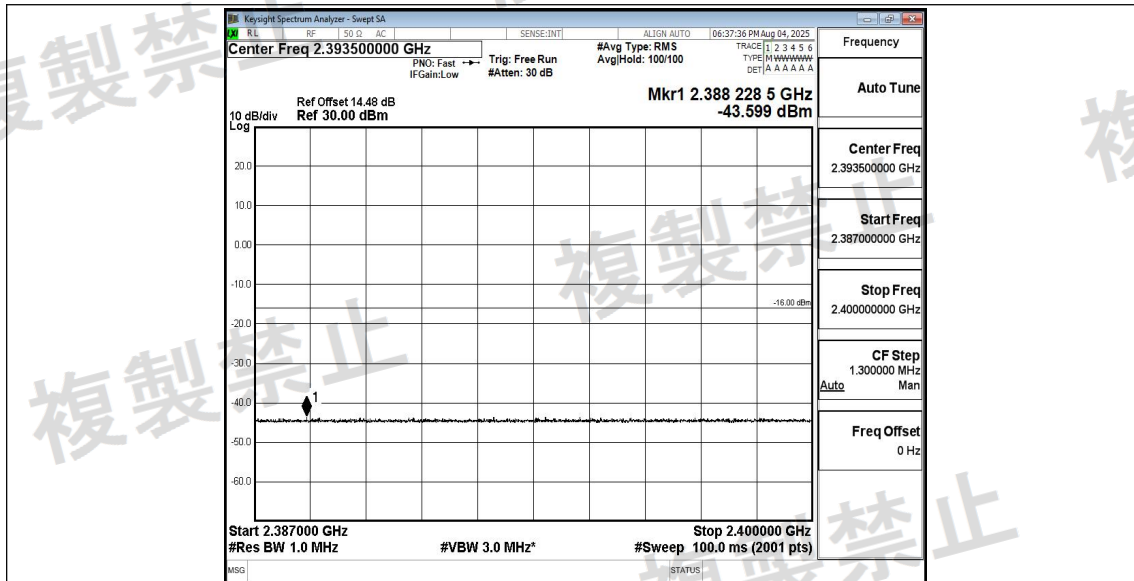


NTNV_BLE_1M_Ant1_2440_2496.5~13000

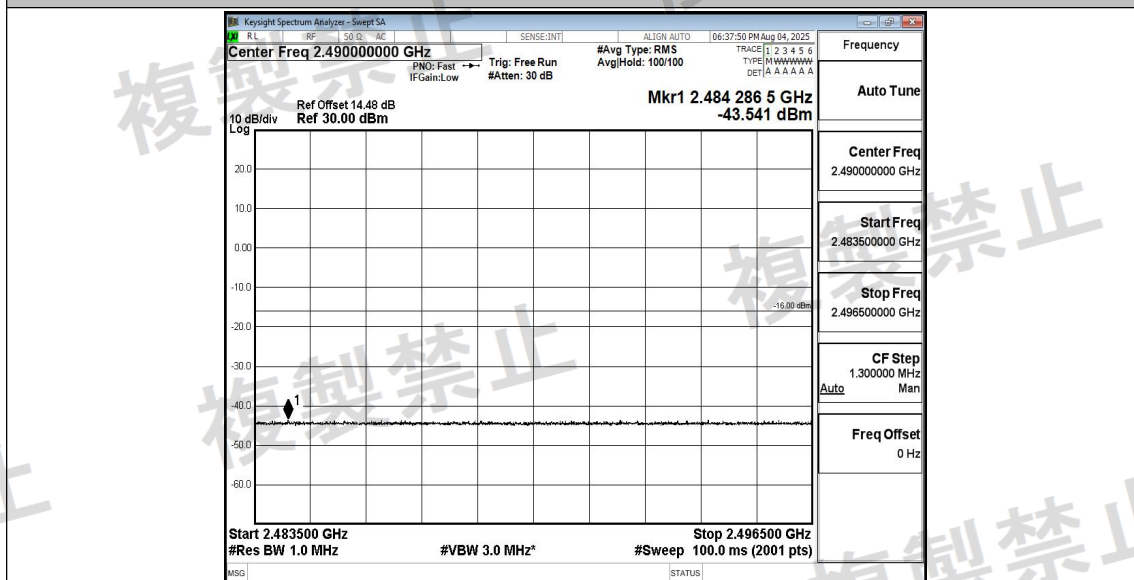


NTNV_BLE_1M_Ant1_2480_30~1000

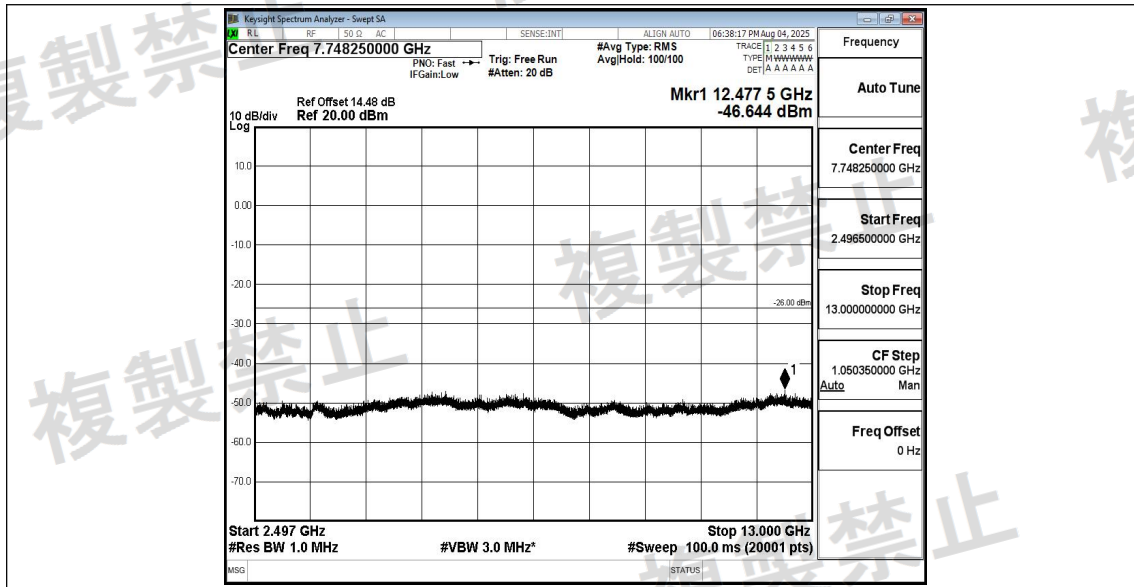




NTNV_BLE_1M_Ant1_2480_2483.5~2496.5



NTNV_BLE_1M_Ant1_2480_2496.5~13000



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	-83.87	≤-54	0.00410	≤4	PASS
				1000~12500	-68.01	≤-47	0.15812	≤20	PASS
			2440	30~1000	-83.7	≤-54	0.00427	≤4	PASS
				1000~12500	-68.37	≤-47	0.14555	≤20	PASS
			2480	30~1000	-83.95	≤-54	0.00403	≤4	PASS
				1000~12500	-67.98	≤-47	0.15922	≤20	PASS

Test Graphs

