



Appendix B for BT LE Test Data

Product Name: Air conduction Bluetooth headset

Test Model: VEXA (SSW-1120)

Environmental Conditions

Temperature:	23.4°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Can Kun



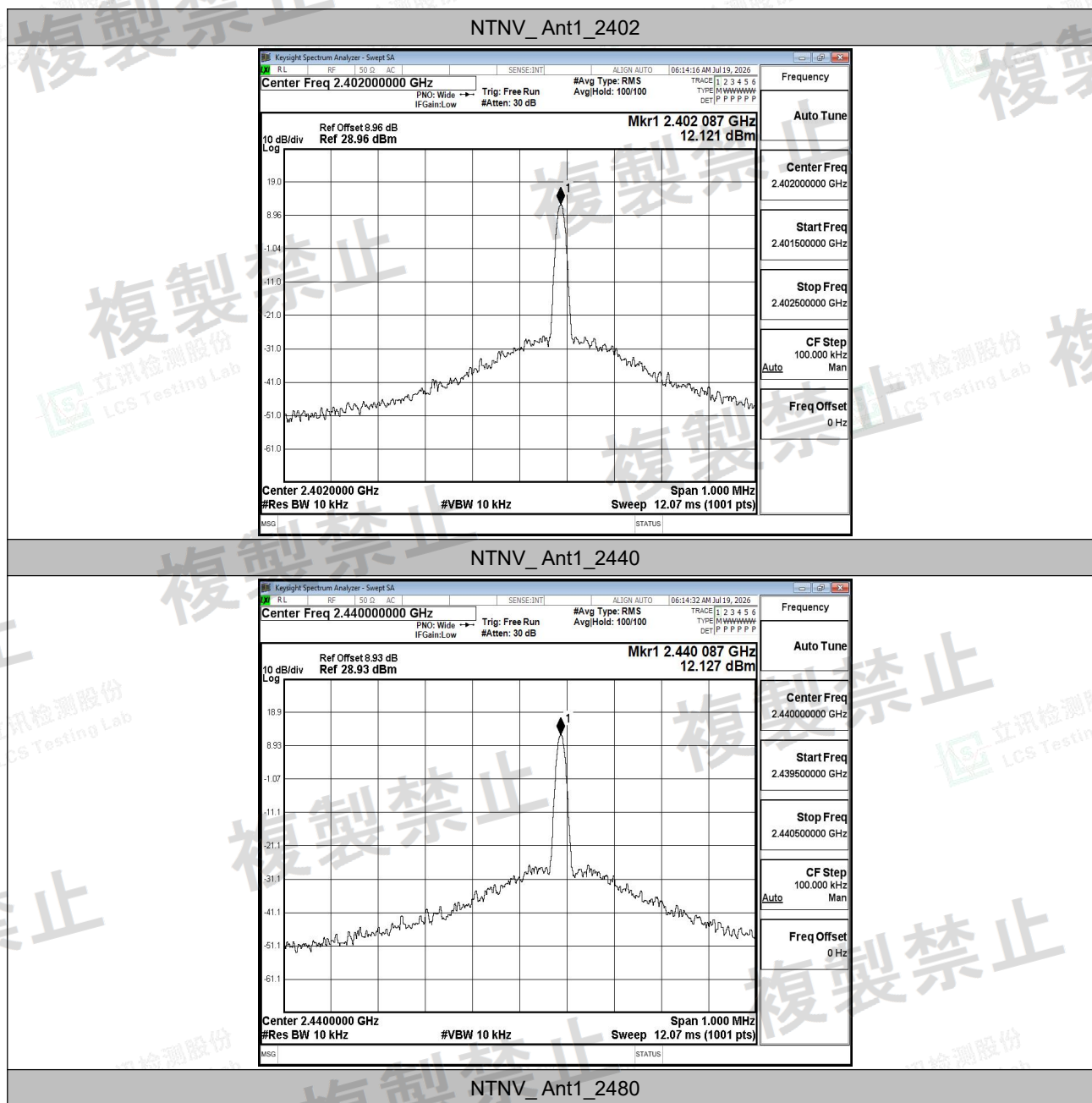
B.1 Frequency Error

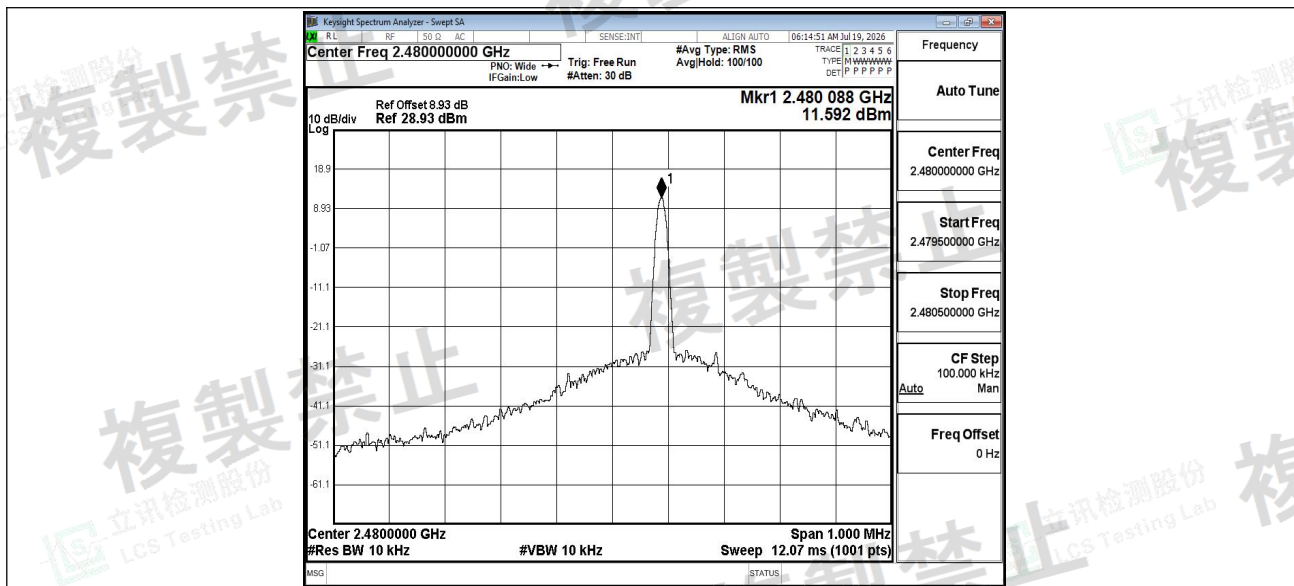
Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	36.21982	±50	PASS
			2440	35.65574	±50	PASS
			2480	35.48387	±50	PASS



Test Graphs







B.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	5.73	3.7411	≤10	PASS
			2440	6.61	4.5814	≤10	PASS
			2480	6.73	4.7098	≤10	PASS
	BLE_2M	Ant1	2402	5.79	3.7931	≤10	PASS
			2440	6.73	4.7098	≤10	PASS
			2480	6.88	4.8753	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency[MHz]	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	3.7411	5.0	-25.18	+20	PASS
			2440	4.5814	5.0	-8.37	+20	PASS
			2480	4.7098	5.0	-5.80	+20	PASS
	BLE_2M	Ant1	2402	3.7931	5.0	-24.14	+20	PASS
			2440	4.7098	5.0	-5.80	+20	PASS
			2480	4.8753	5.0	-2.49	+20	PASS

EIRP								
TestCondition	TestMode	Antenna	Frequency[MHz]	Measured Power (dBm/MHz)	Antenna gain (dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	5.73	2.7	8.43	≤12.14	PASS
			2440	6.61	2.7	9.31	≤12.14	PASS
			2480	6.73	2.7	9.43	≤12.14	PASS
	BLE_2M	Ant1	2402	5.79	2.7	8.49	≤12.14	PASS
			2440	6.73	2.7	9.43	≤12.14	PASS
			2480	6.88	2.7	9.58	≤12.14	PASS



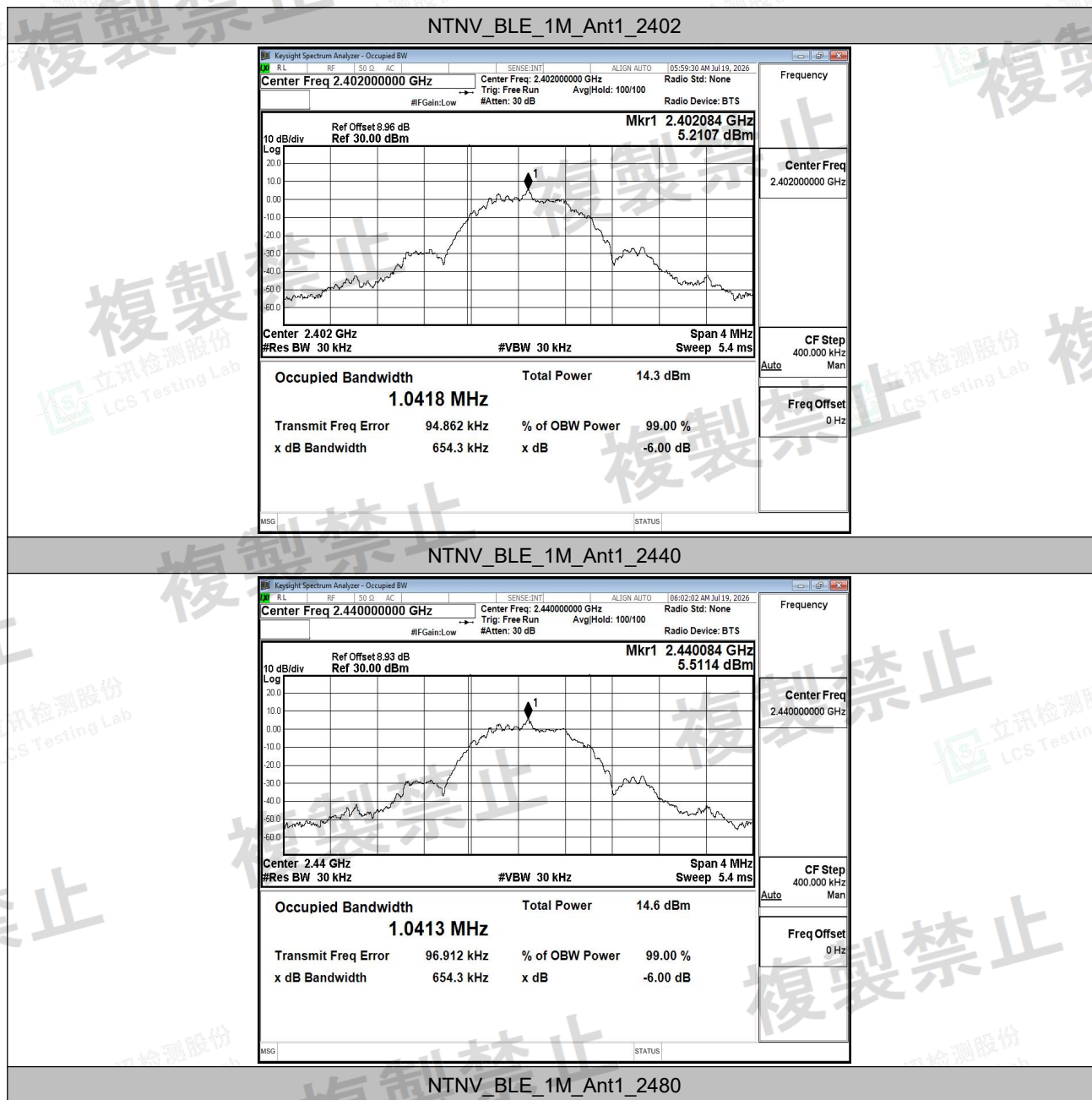
B.3 Occupied Bandwidth

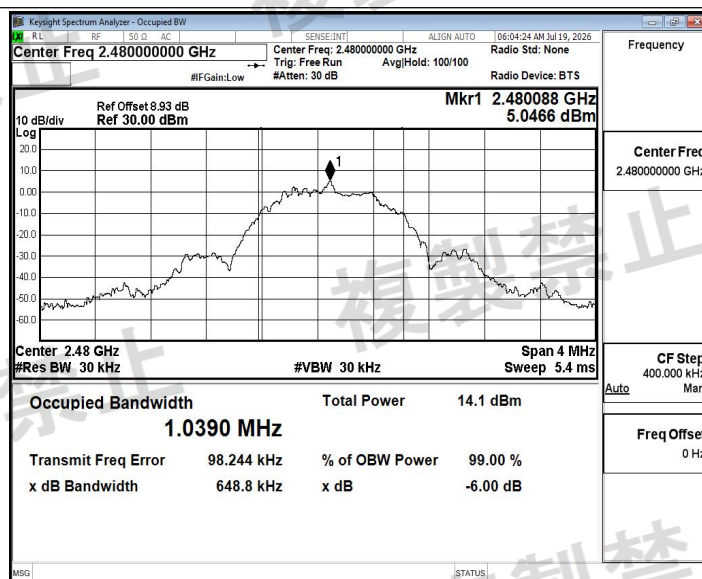
Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.042	≤26	PASS
			2440	1.041	≤26	PASS
			2480	1.039	≤26	PASS
	BLE_2M	Ant1	2402	2.045	≤26	PASS
			2440	2.047	≤26	PASS
			2480	2.046	≤26	PASS

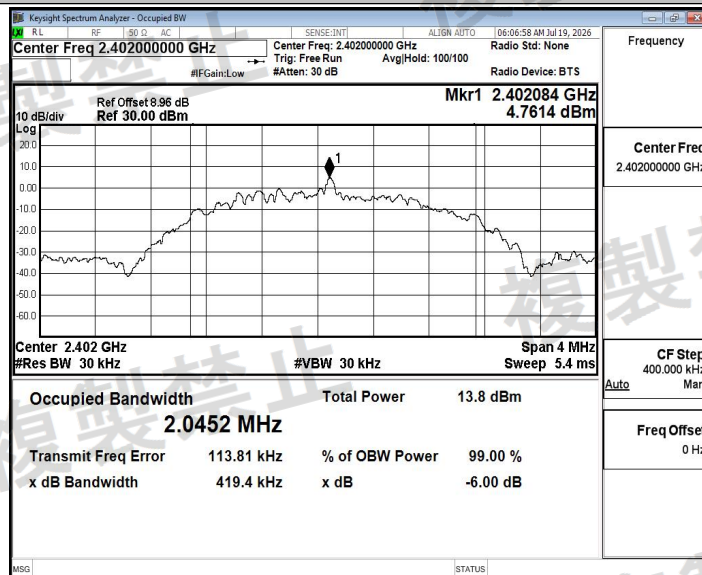


Test Graphs

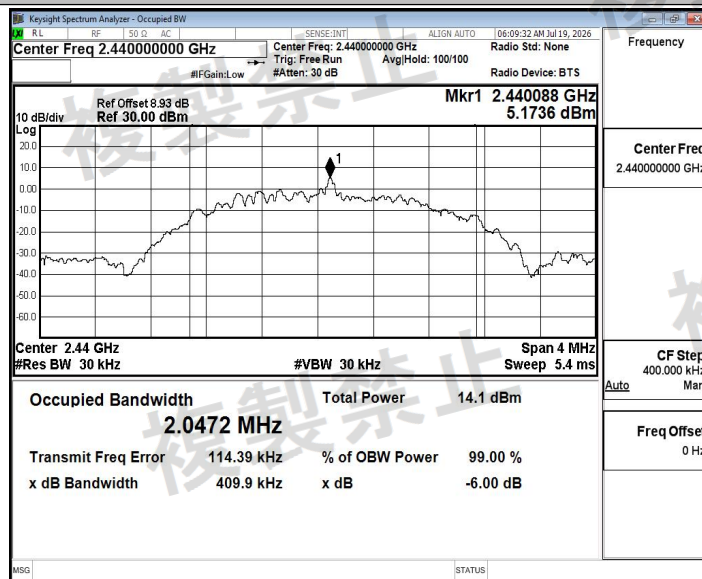




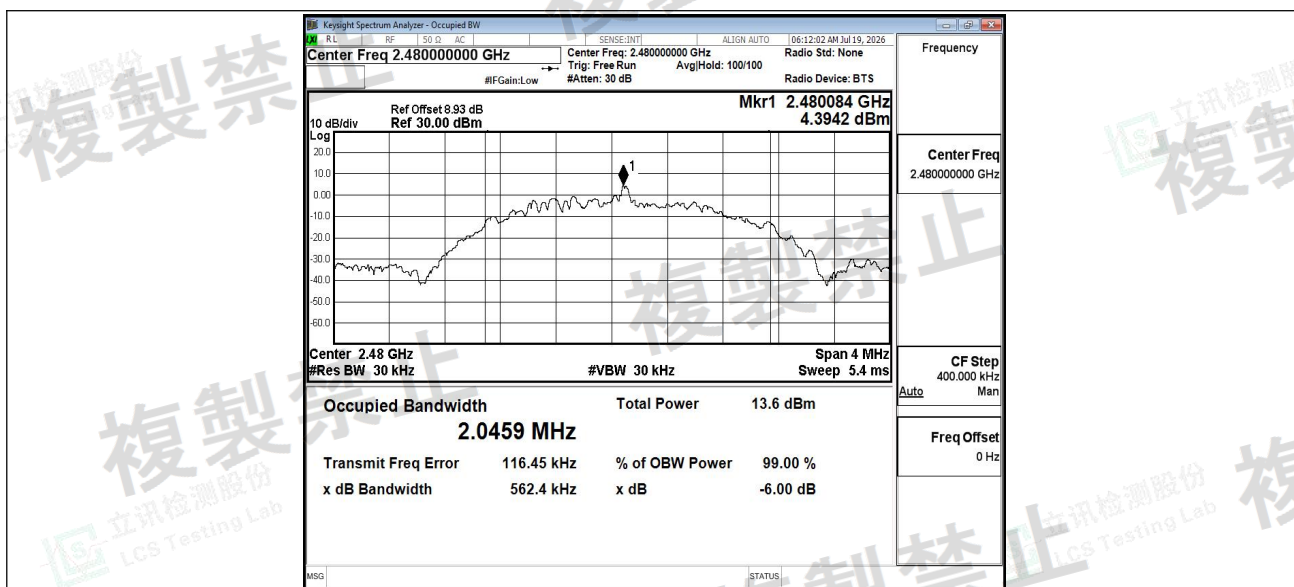
NTNV_BLE_2M_Ant1_2402



NTNV_BLE_2M_Ant1_2440



NTNV_BLE_2M_Ant1_2480





B.4 Spread Bandwidth

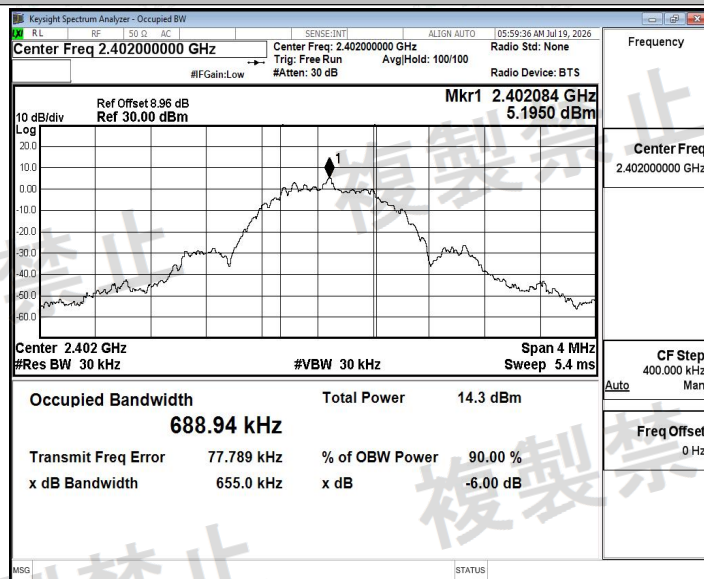
Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.689	---	PASS
			2440	0.688	---	PASS
			2480	0.687	---	PASS
	BLE_2M	Ant1	2402	1.348	---	PASS
			2440	1.338	---	PASS
			2480	1.336	---	PASS

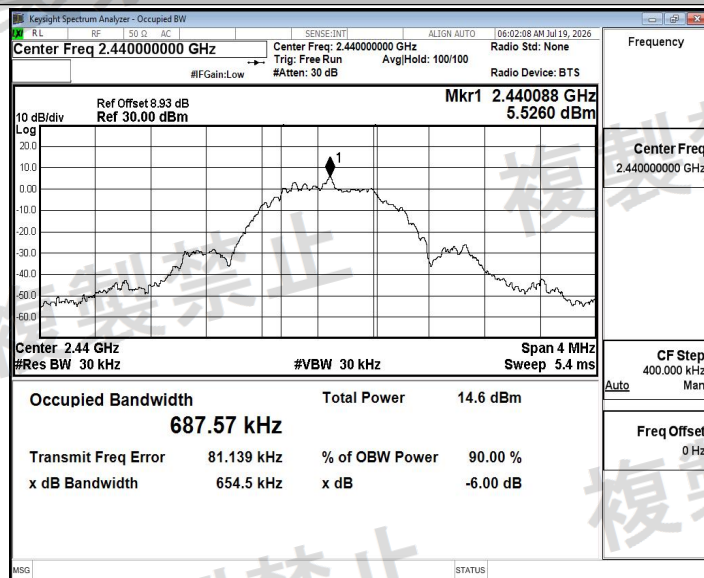


Test Graphs

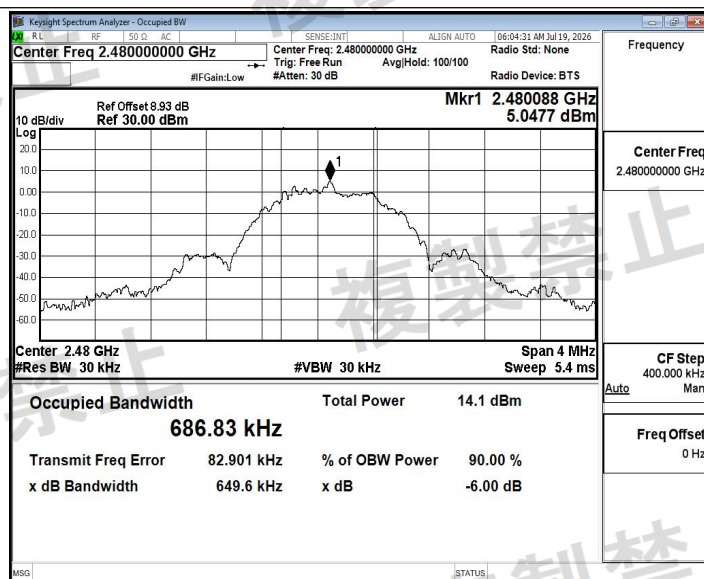
NTNV_BLE_1M_Ant1_2402



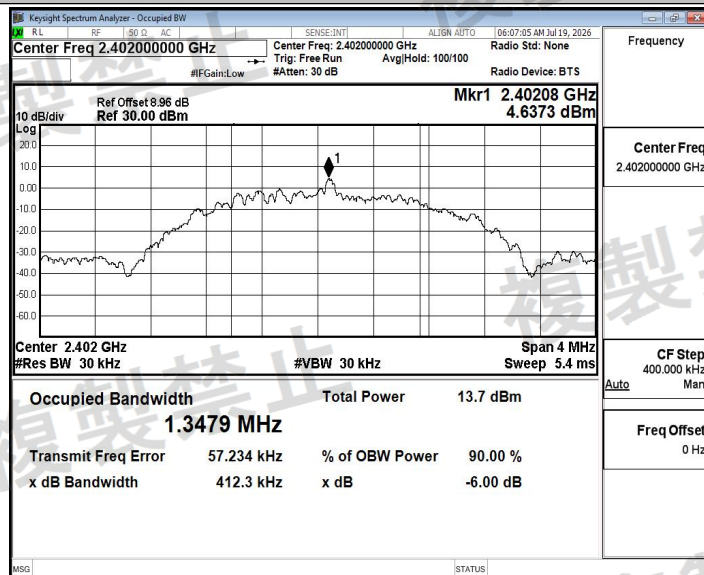
NTNV_BLE_1M_Ant1_2440



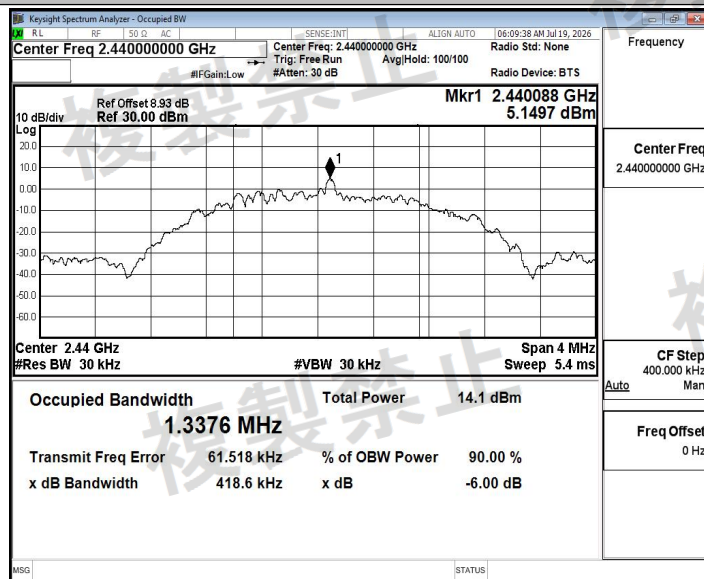
NTNV_BLE_1M_Ant1_2480



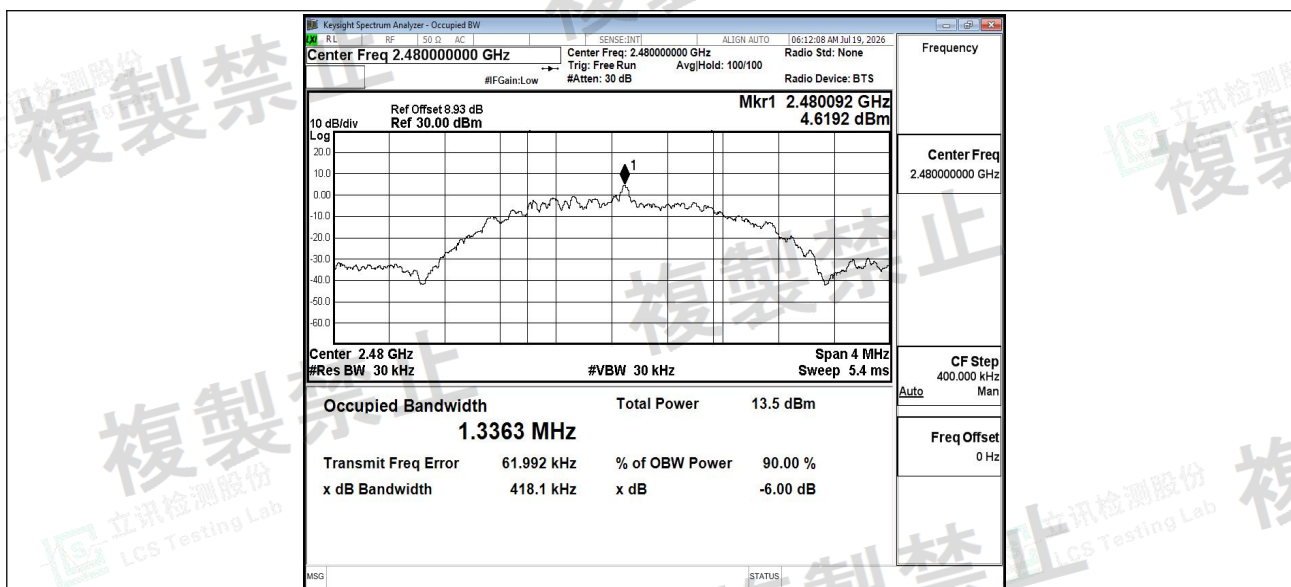
NTNV_BLE_2M_Ant1_2402



NTNV_BLE_2M_Ant1_2440



NTNV_BLE_2M_Ant1_2480





B.5 Spurious Emission of TX

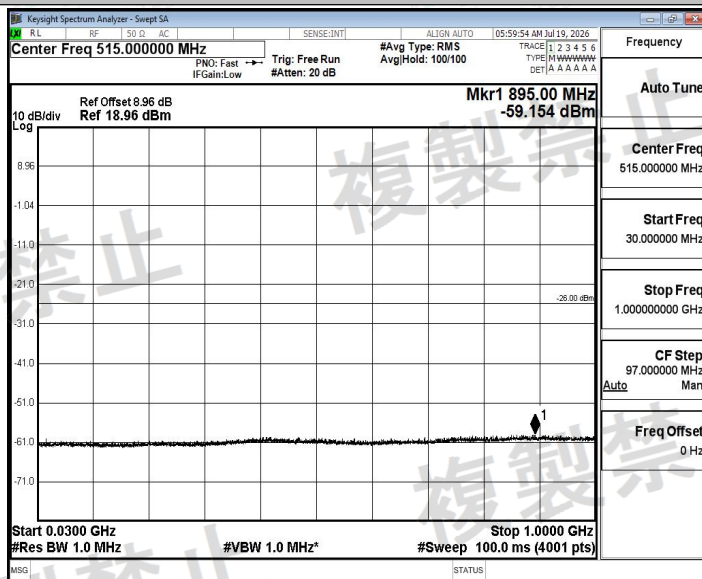
Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-59.15	≤-26	0.00122	≤2.5	PASS
				1000~2387	-56.91	≤-26	0.00204	≤2.5	PASS
				2387~2400	-35.85	≤-16	0.26002	≤25	PASS
				2483.5~2496.5	-48.73	≤-16	0.01340	≤25	PASS
				2496.5~13000	-51.61	≤-26	0.00690	≤2.5	PASS
			2440	30~1000	-59.11	≤-26	0.00123	≤2.5	PASS
				1000~2387	-57.46	≤-26	0.00179	≤2.5	PASS
				2387~2400	-48.89	≤-16	0.01291	≤25	PASS
				2483.5~2496.5	-48.84	≤-16	0.01306	≤25	PASS
				2496.5~13000	-52.06	≤-26	0.00622	≤2.5	PASS
	BLE_2M	Ant1	2480	30~1000	-58.89	≤-26	0.00129	≤2.5	PASS
				1000~2387	-57.56	≤-26	0.00175	≤2.5	PASS
				2387~2400	-49.05	≤-16	0.01245	≤25	PASS
				2483.5~2496.5	-47.80	≤-16	0.01660	≤25	PASS
				2496.5~13000	-49.73	≤-26	0.01064	≤2.5	PASS
			2402	30~1000	-59.02	≤-26	0.00125	≤2.5	PASS
				1000~2387	-57.25	≤-26	0.00188	≤2.5	PASS
				2387~2400	-20.00	≤-16	10.00000	≤25	PASS
				2483.5~2496.5	-48.86	≤-16	0.01300	≤25	PASS
				2496.5~13000	-51.69	≤-26	0.00678	≤2.5	PASS
			2440	30~1000	-58.87	≤-26	0.00130	≤2.5	PASS
				1000~2387	-57.54	≤-26	0.00176	≤2.5	PASS
				2387~2400	-49.00	≤-16	0.01259	≤25	PASS
				2483.5~2496.5	-49.00	≤-16	0.01259	≤25	PASS
				2496.5~13000	-51.65	≤-26	0.00684	≤2.5	PASS
			2480	30~1000	-58.44	≤-26	0.00143	≤2.5	PASS
				1000~2387	-57.52	≤-26	0.00177	≤2.5	PASS
				2387~2400	-48.70	≤-16	0.01349	≤25	PASS
				2483.5~2496.5	-42.53	≤-16	0.05585	≤25	PASS
				2496.5~13000	-52.13	≤-26	0.00612	≤2.5	PASS

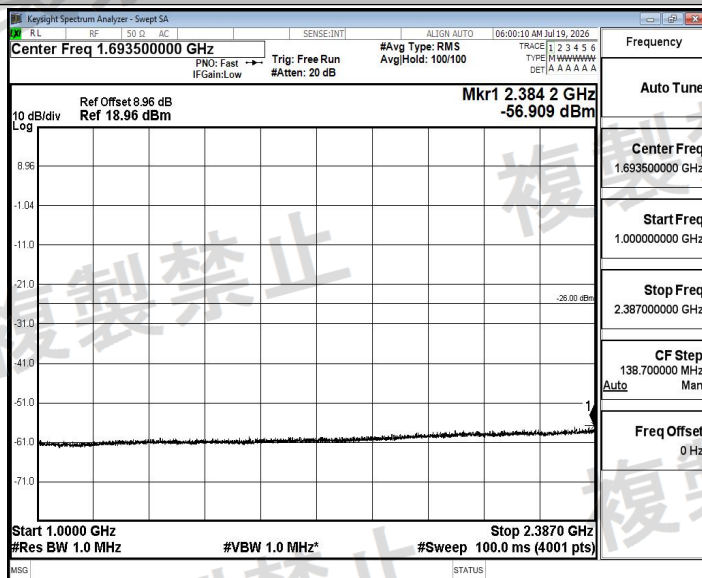


Test Graphs

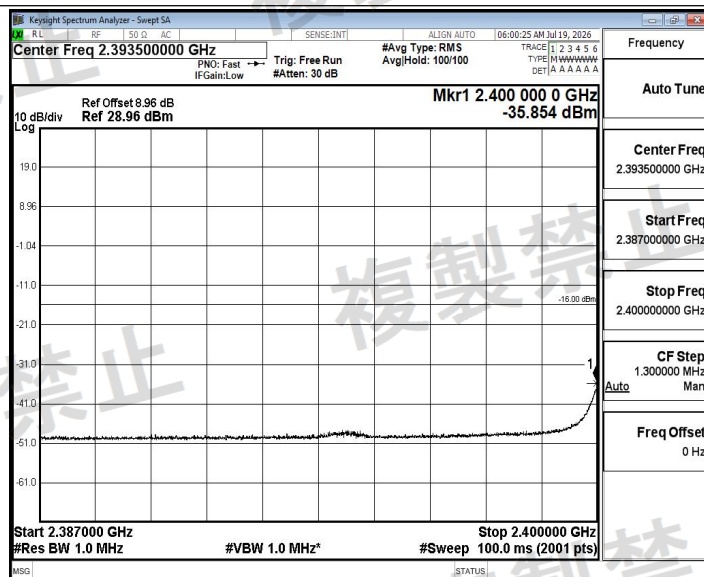
NTNV_BLE_1M_Ant1_2402_30~1000



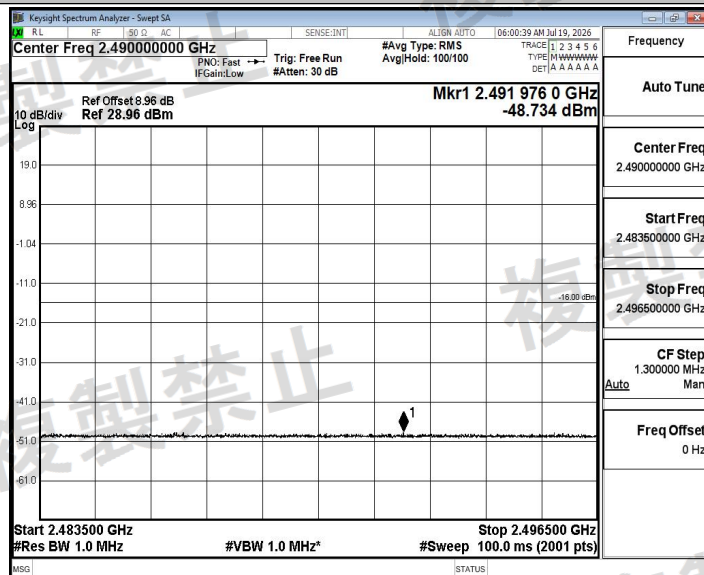
NTNV_BLE_1M_Ant1_2402_1000~2387



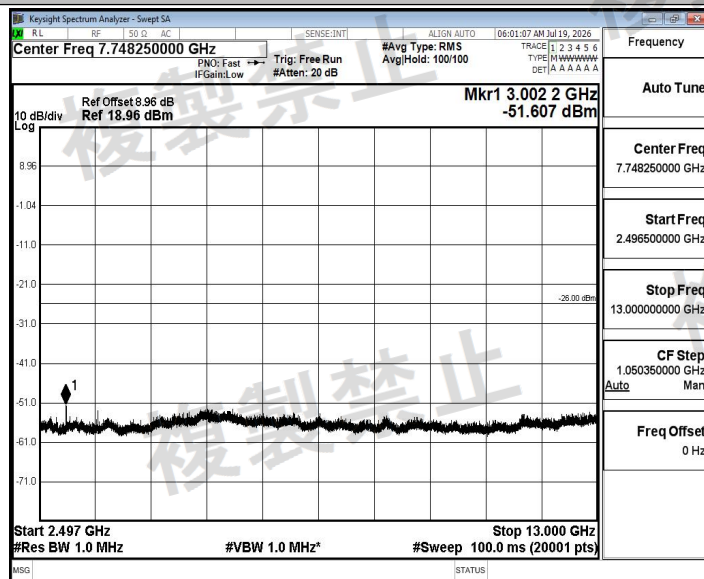
NTNV_BLE_1M_Ant1_2402_2387~2400



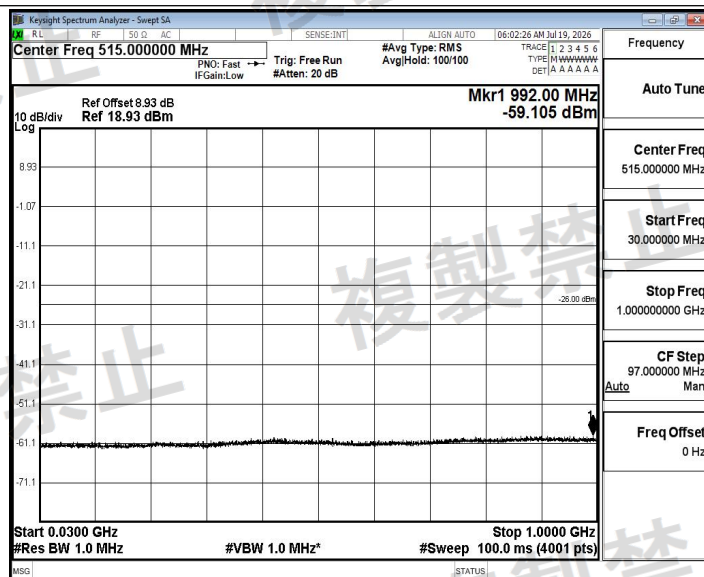
NTNV_BLE_1M_Ant1_2402_2483.5~2496.5



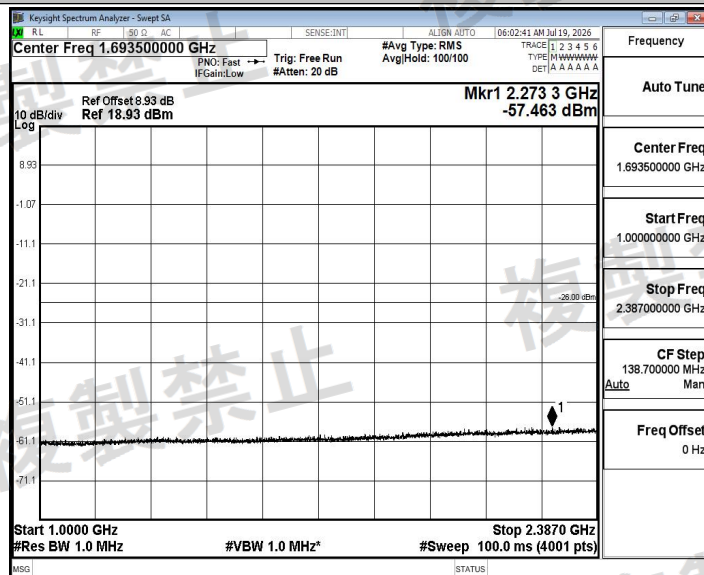
NTNV_BLE_1M_Ant1_2402_2496.5~13000



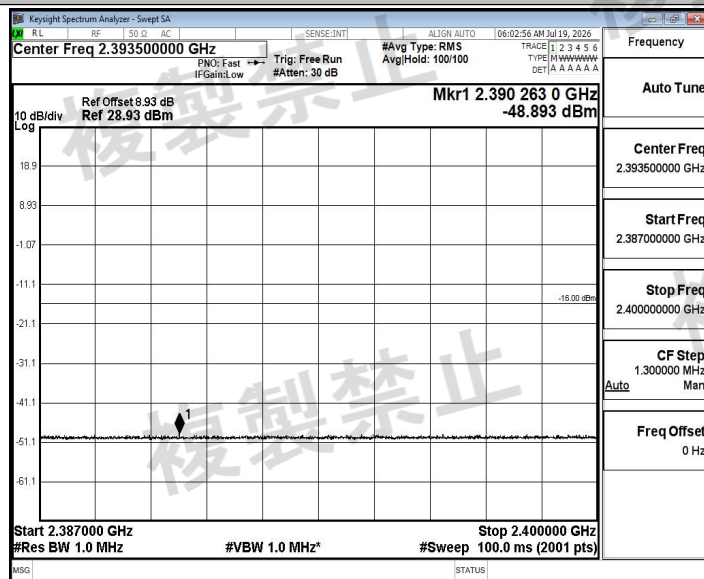
NTNV_BLE_1M_Ant1_2440_30~1000



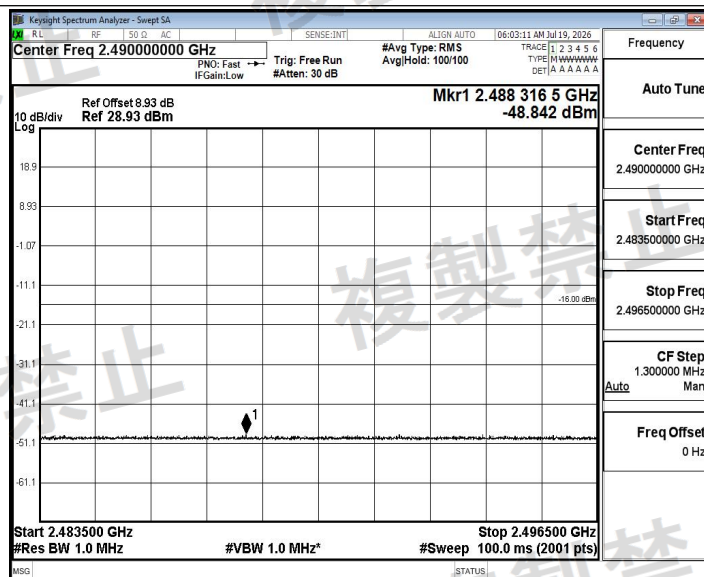
NTNV_BLE_1M_Ant1_2440_1000~2387



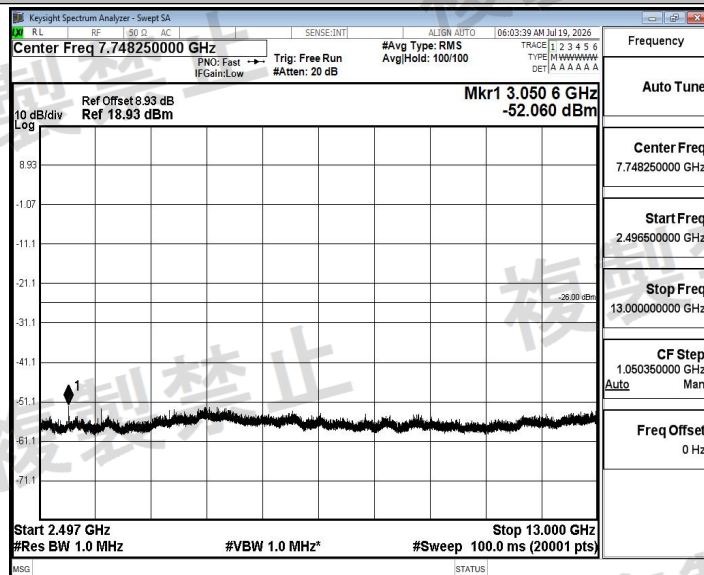
NTNV_BLE_1M_Ant1_2440_2387~2400



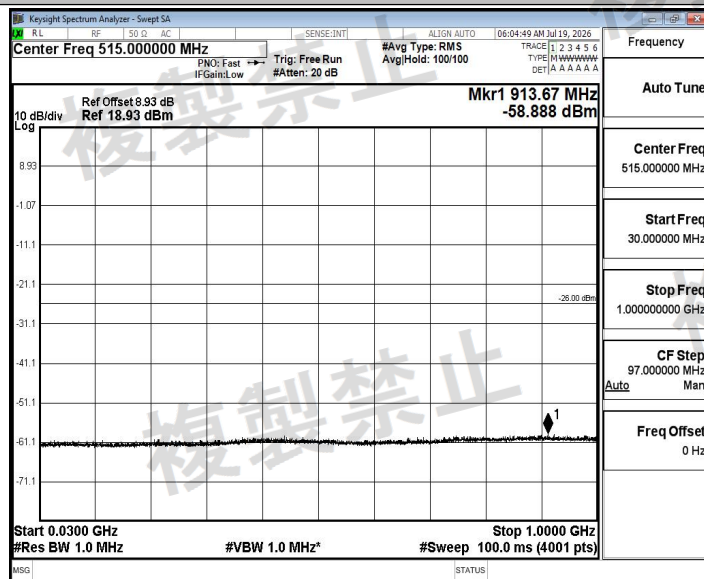
NTNV_BLE_1M_Ant1_2440_2483.5~2496.5



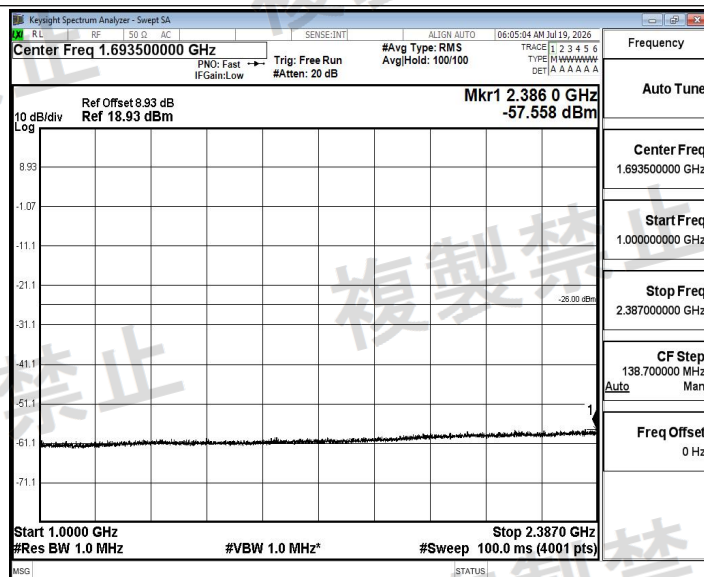
NTNV_BLE_1M_Ant1_2440_2496.5~13000



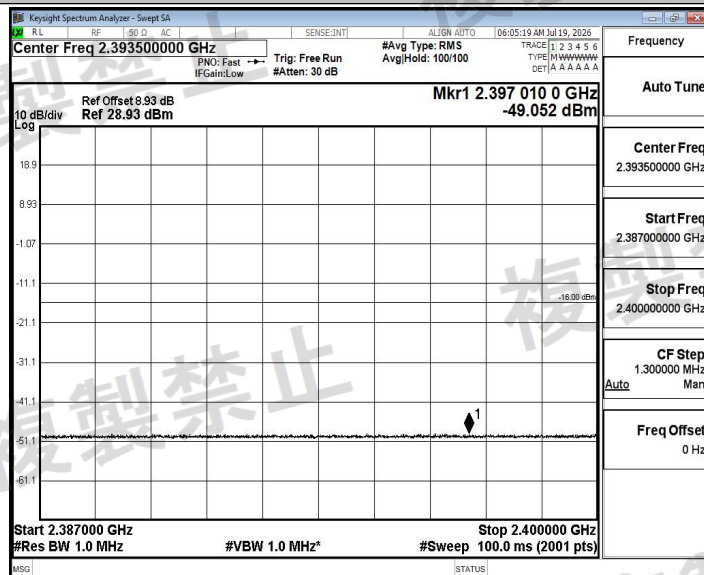
NTNV_BLE_1M_Ant1_2480_30~1000



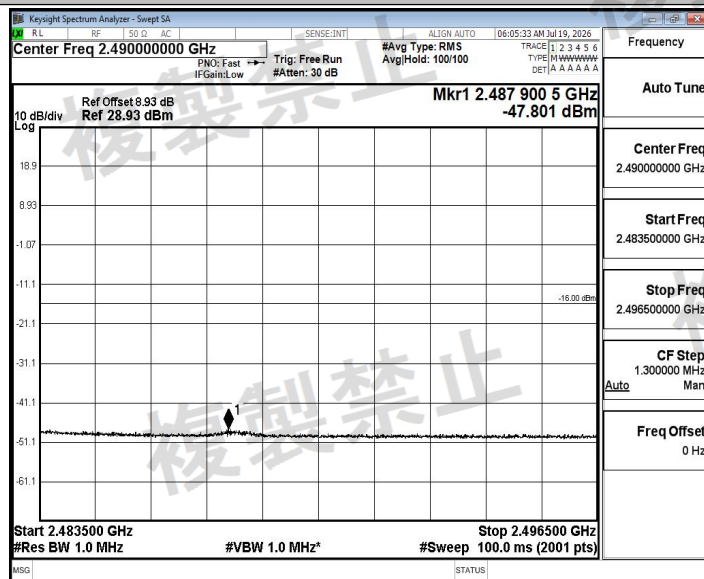
NTNV_BLE_1M_Ant1_2480_1000~2387



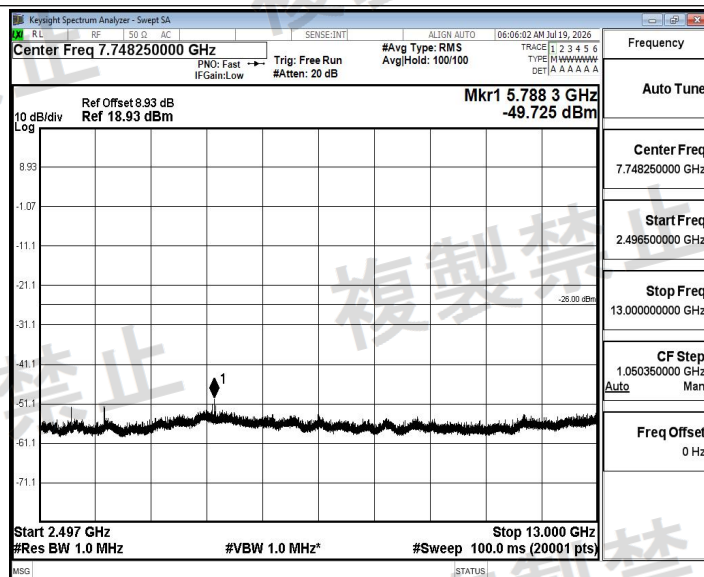
NTNV_BLE_1M_Ant1_2480_2387~2400



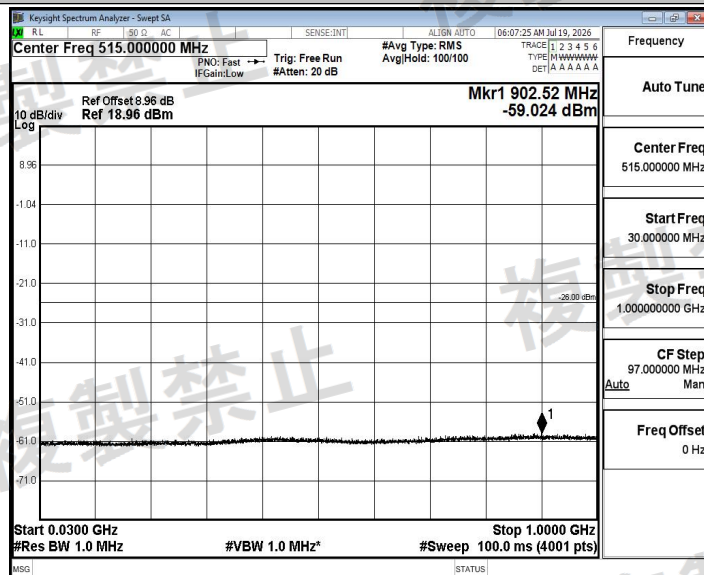
NTNV_BLE_1M_Ant1_2480_2483.5~2496.5



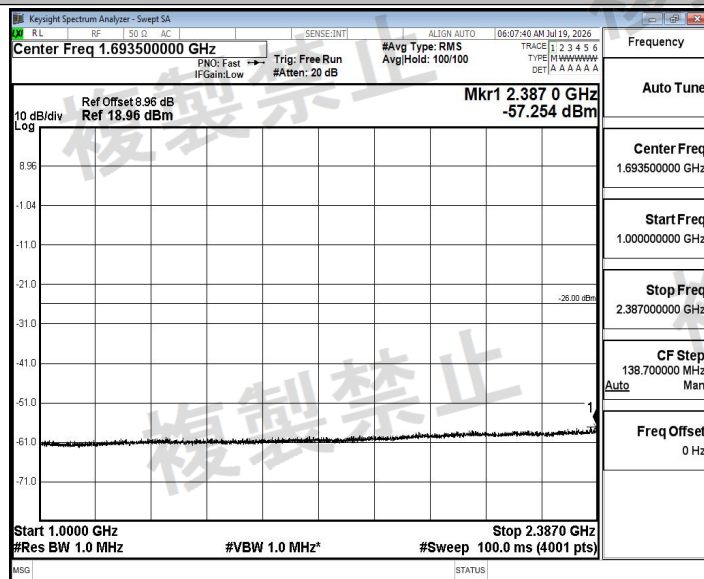
NTNV_BLE_1M_Ant1_2480_2496.5~13000



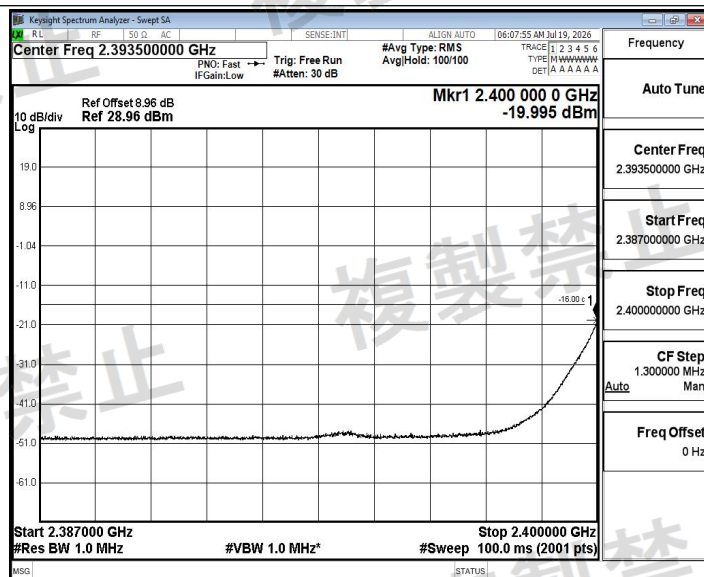
NTNV_BLE_2M_Ant1_2402_30~1000



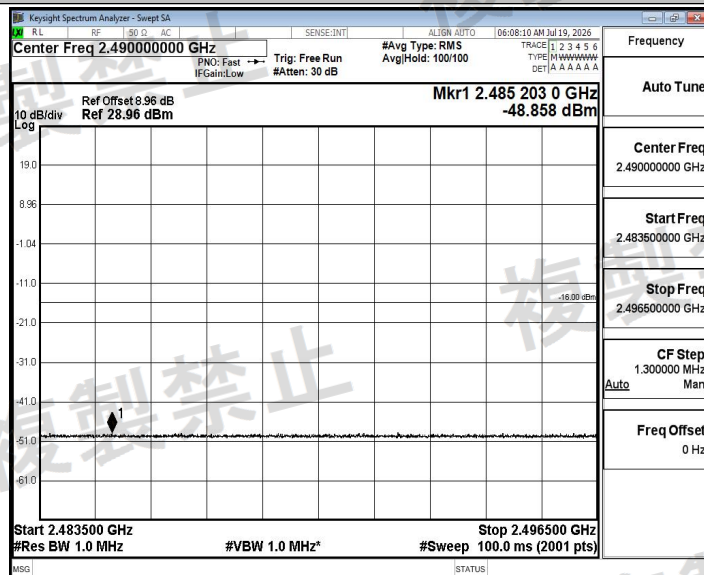
NTNV_BLE_2M_Ant1_2402_1000~2387



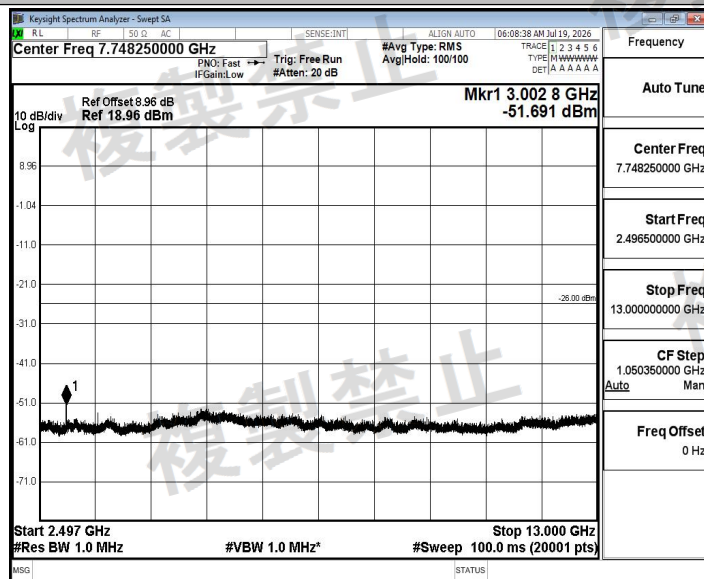
NTNV_BLE_2M_Ant1_2402_2387~2400



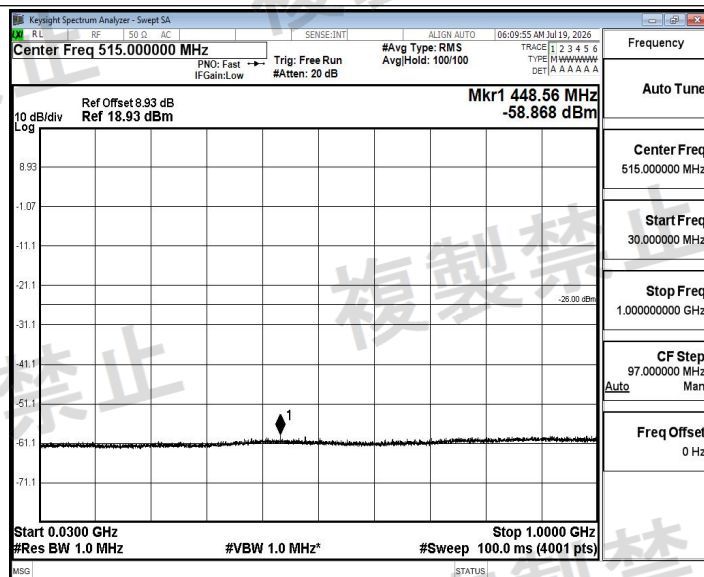
NTNV_BLE_2M_Ant1_2402_2483.5~2496.5



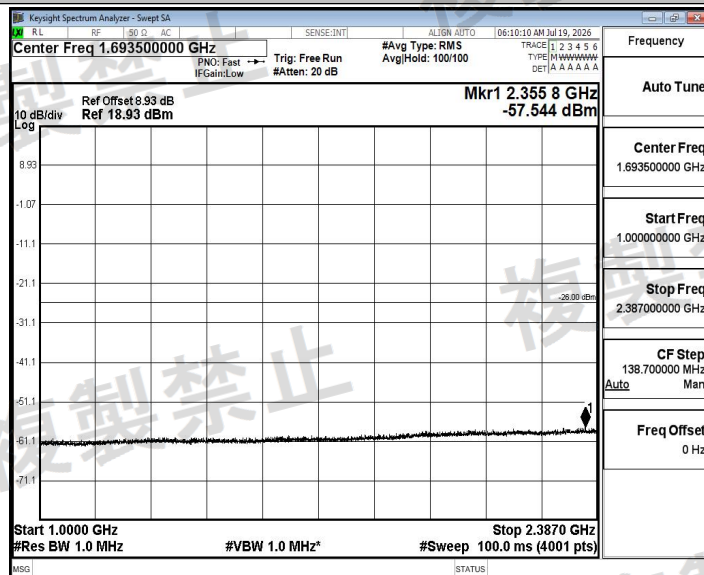
NTNV_BLE_2M_Ant1_2402_2496.5~13000



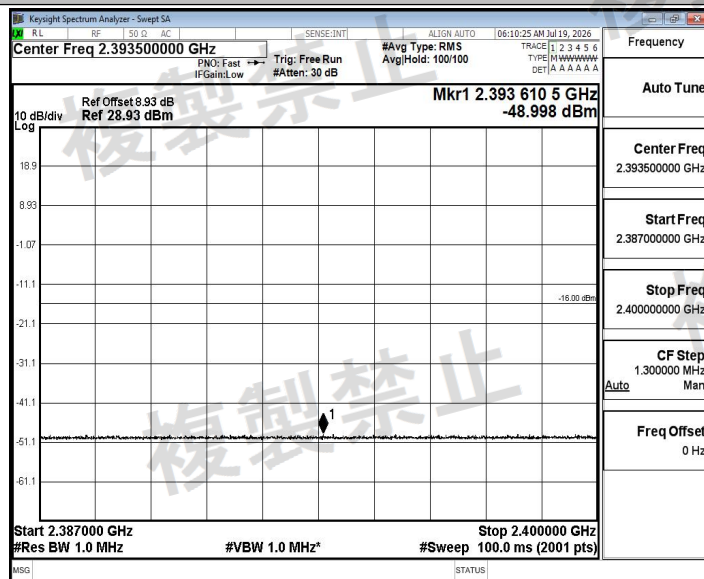
NTNV_BLE_2M_Ant1_2440_30~1000



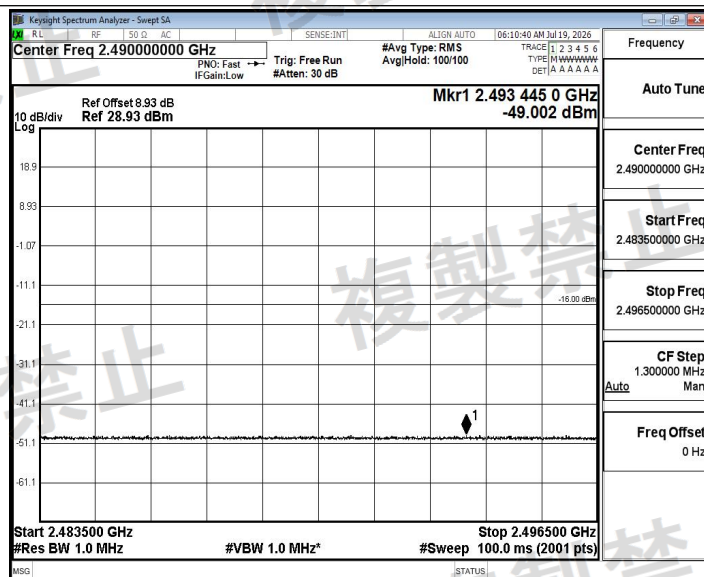
NTNV_BLE_2M_Ant1_2440_1000~2387



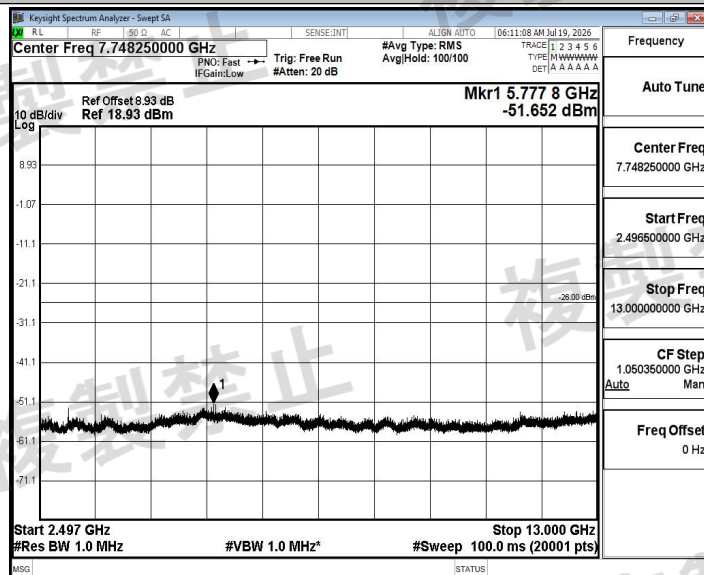
NTNV_BLE_2M_Ant1_2440_2387~2400



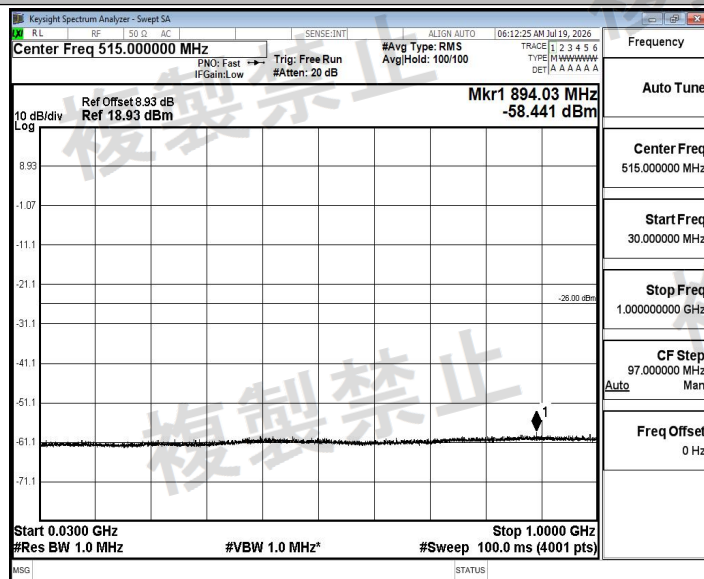
NTNV_BLE_2M_Ant1_2440_2483.5~2496.5



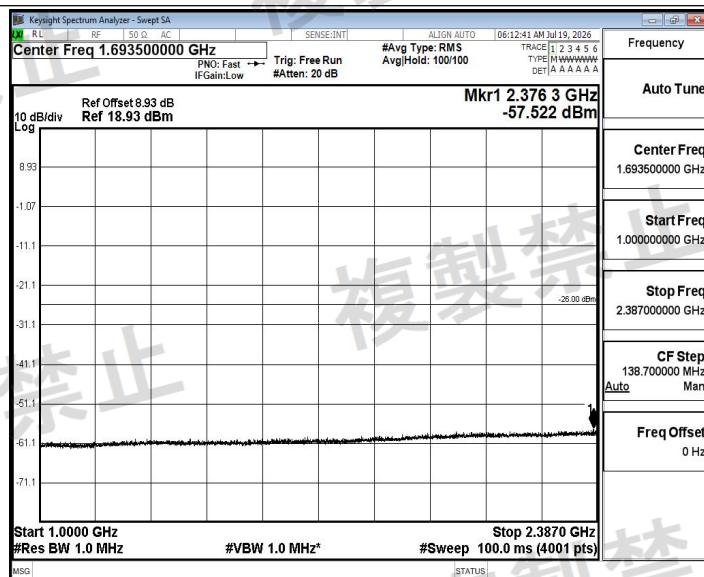
NTNV_BLE_2M_Ant1_2440_2496.5~13000



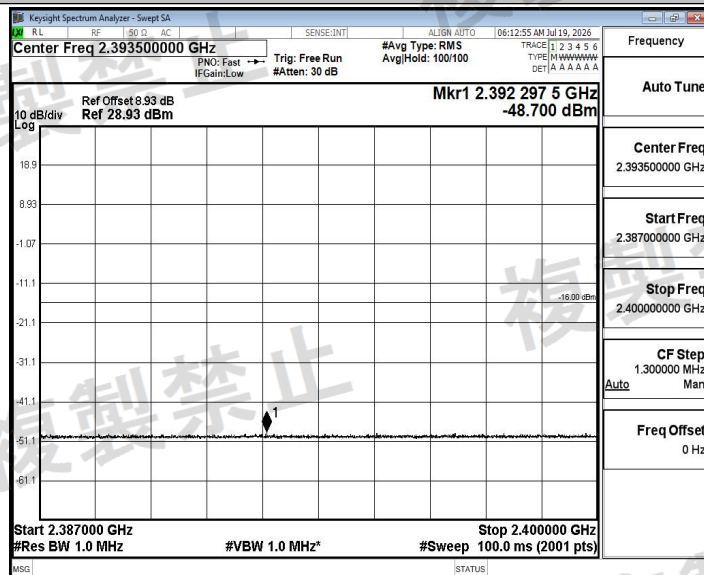
NTNV_BLE_2M_Ant1_2480_30~1000



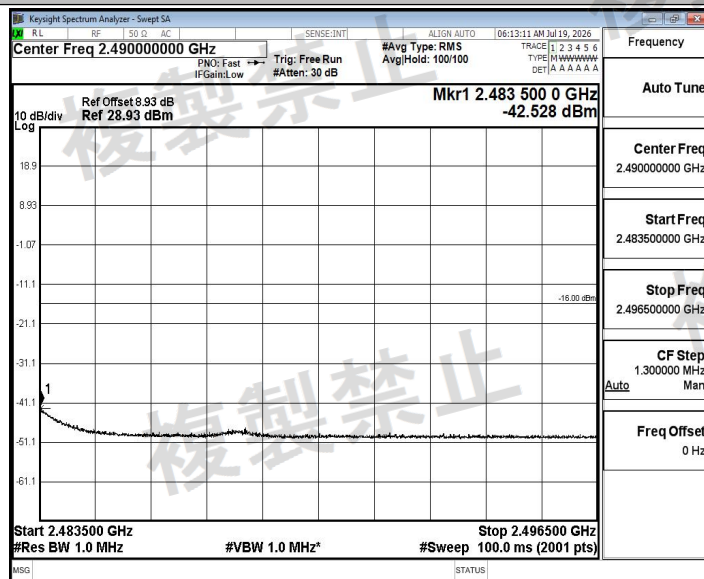
NTNV_BLE_2M_Ant1_2480_1000~2387



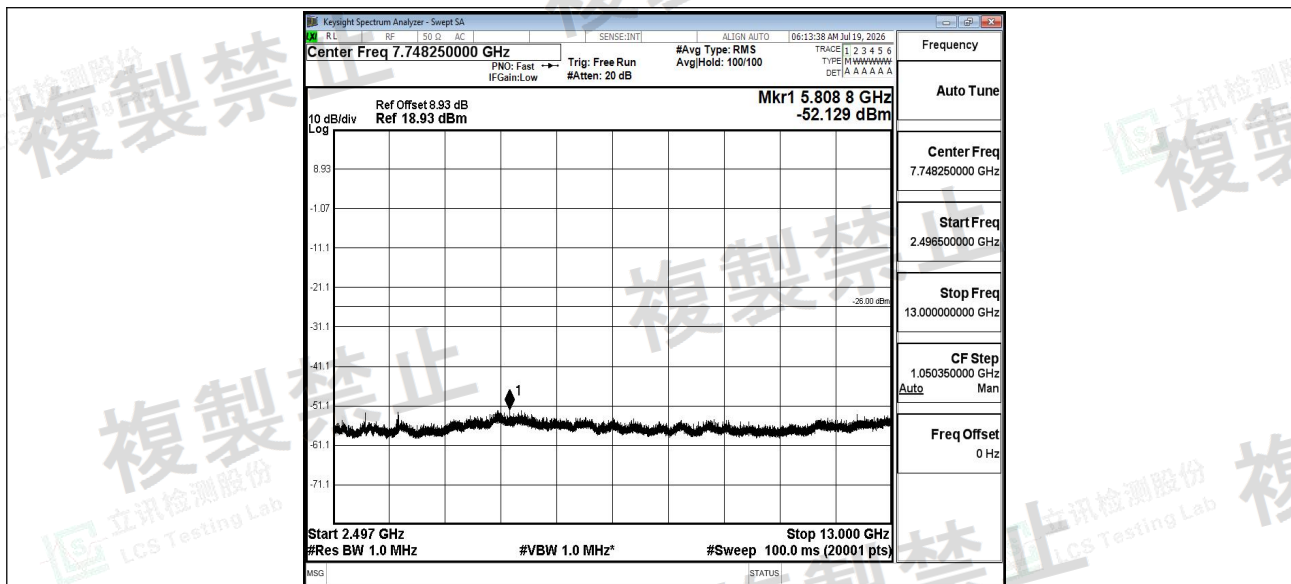
NTNV_BLE_2M_Ant1_2480_2387~2400



NTNV_BLE_2M_Ant1_2480_2483.5~2496.5



NTNV_BLE_2M_Ant1_2480_2496.5~13000





B.6 Spurious Emission of RX

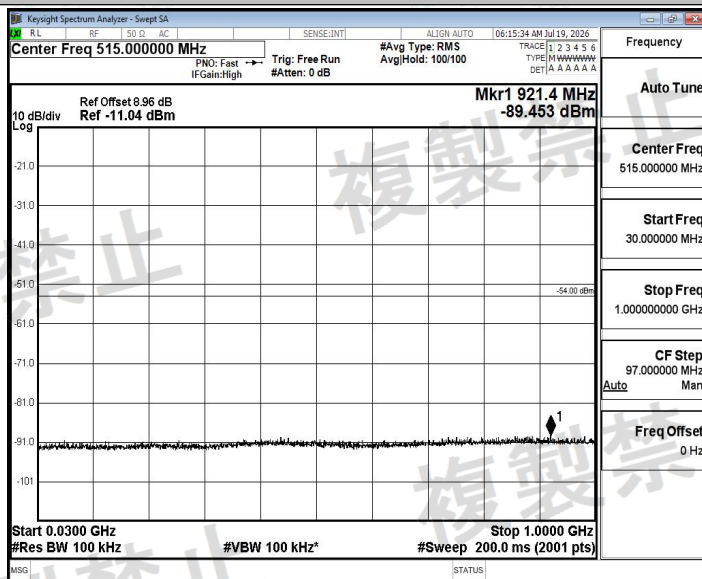
Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Freq.Range [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	-89.45	≤-54	0.00114	≤4	PASS
				1000~12500	-73.78	≤-47	0.04188	≤20	PASS
			2440	30~1000	-89.18	≤-54	0.00121	≤4	PASS
				1000~12500	-73.08	≤-47	0.04920	≤20	PASS
			2480	30~1000	-89.24	≤-54	0.00119	≤4	PASS
				1000~12500	-73.79	≤-47	0.04178	≤20	PASS
	BLE_2M	Ant1	2402	30~1000	-89.29	≤-54	0.00118	≤4	PASS
				1000~12500	-74.4	≤-47	0.03631	≤20	PASS
			2440	30~1000	-89.53	≤-54	0.00111	≤4	PASS
				1000~12500	-74.13	≤-47	0.03864	≤20	PASS
			2480	30~1000	-88.82	≤-54	0.00131	≤4	PASS
				1000~12500	-73.76	≤-47	0.04207	≤20	PASS

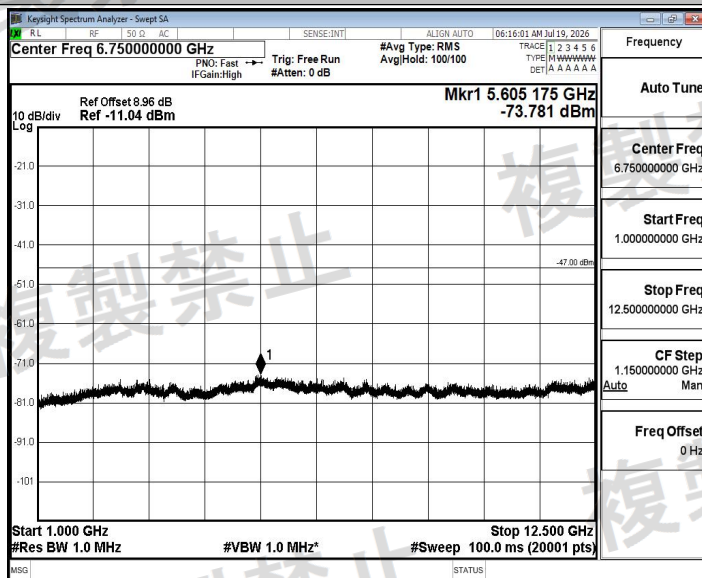


Test Graphs

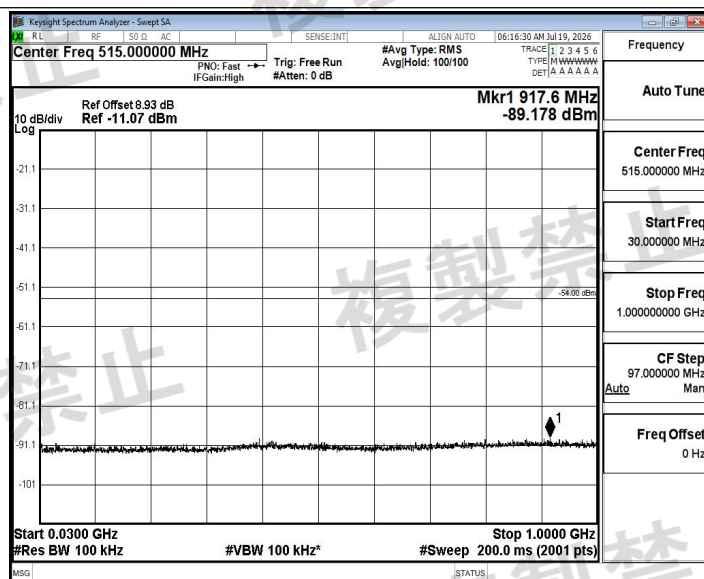
NTNV_BLE_1M_Ant1_2402_30~1000



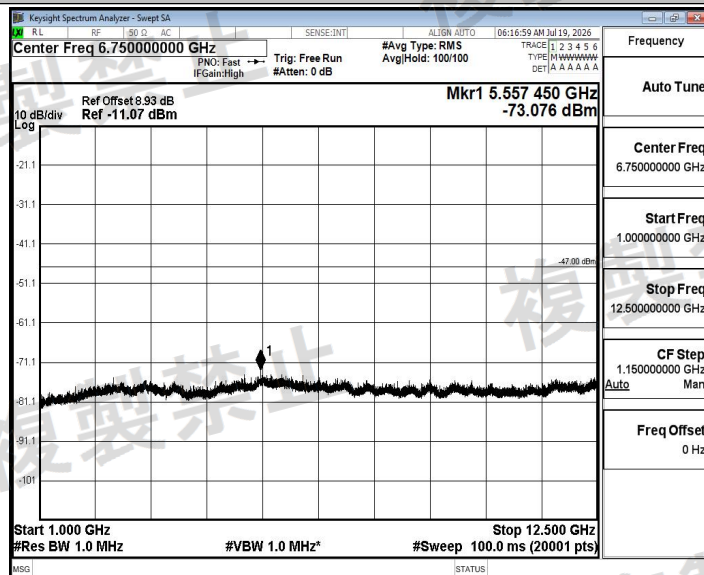
NTNV_BLE_1M_Ant1_2402_1000~12500



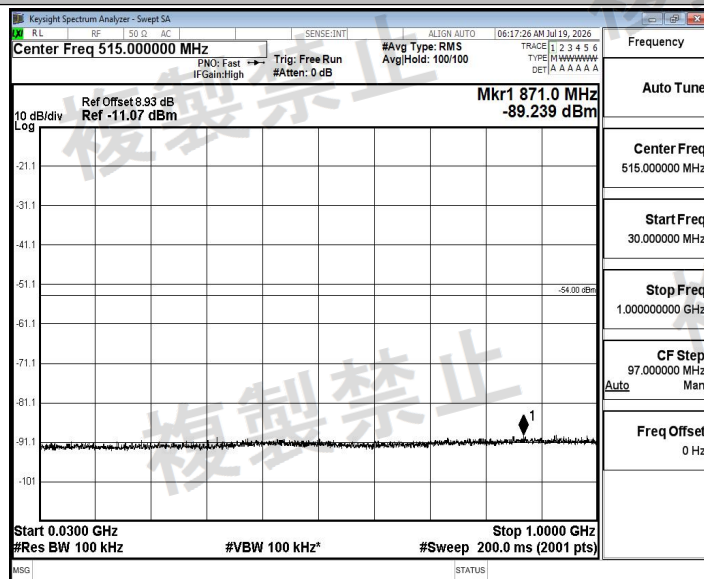
NTNV_BLE_1M_Ant1_2440_30~1000



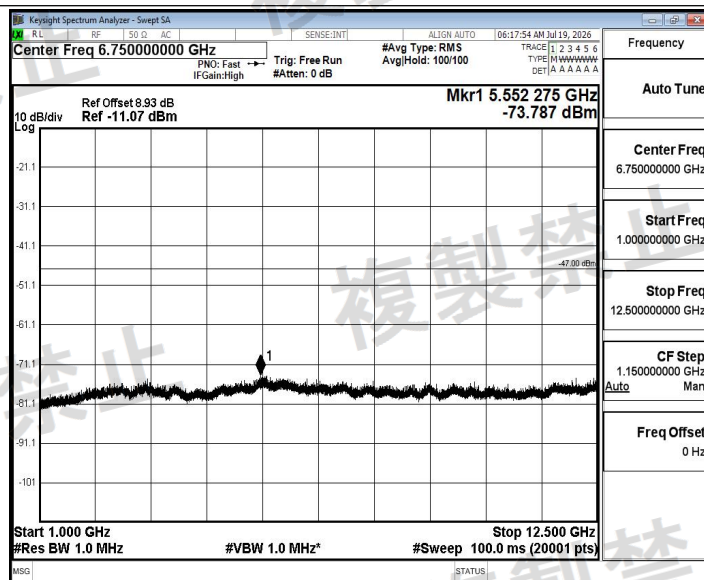
NTNV_BLE_1M_Ant1_2440_1000~12500



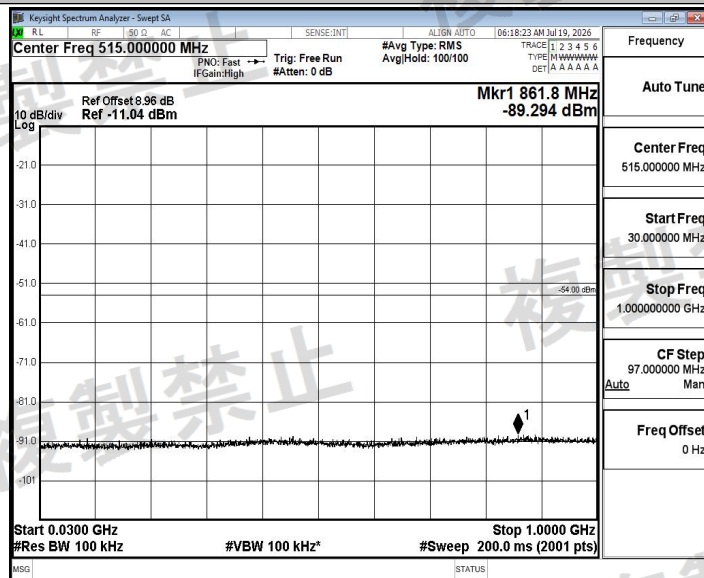
NTNV_BLE_1M_Ant1_2480_30~1000



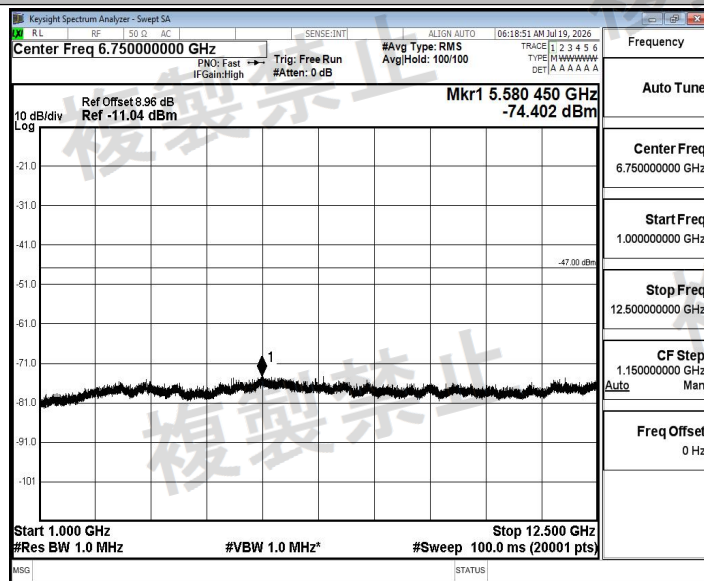
NTNV_BLE_1M_Ant1_2480_1000~12500



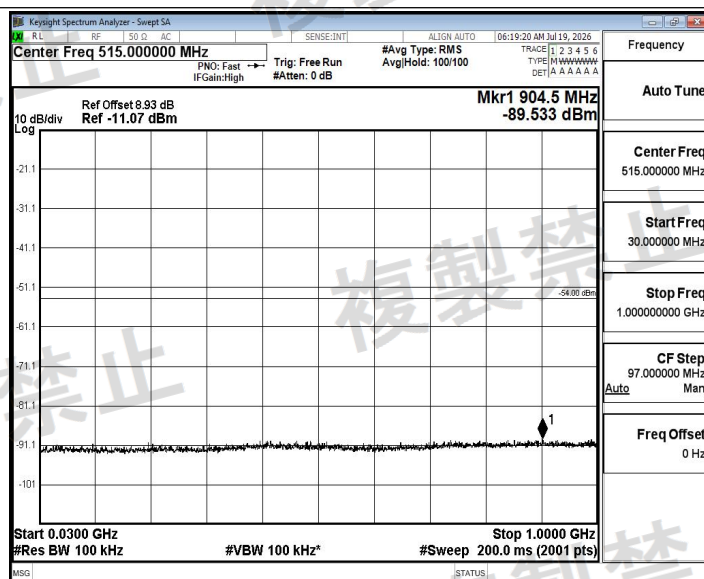
NTNV_BLE_2M_Ant1_2402_30~1000



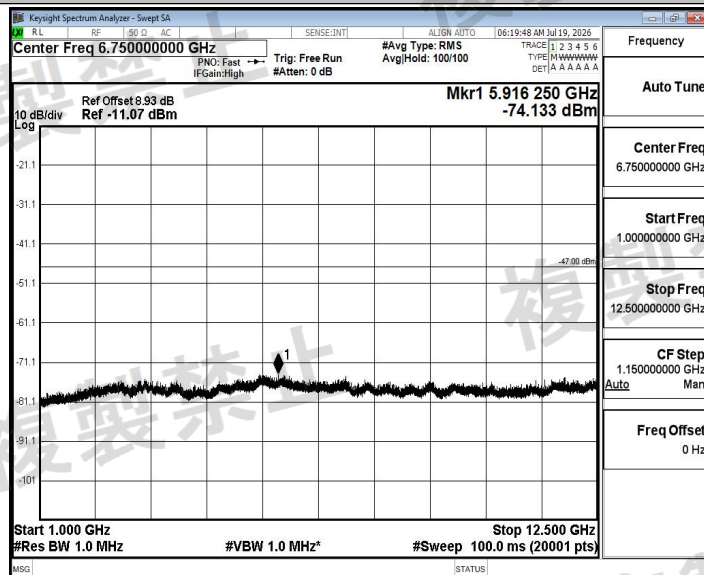
NTNV_BLE_2M_Ant1_2402_1000~12500



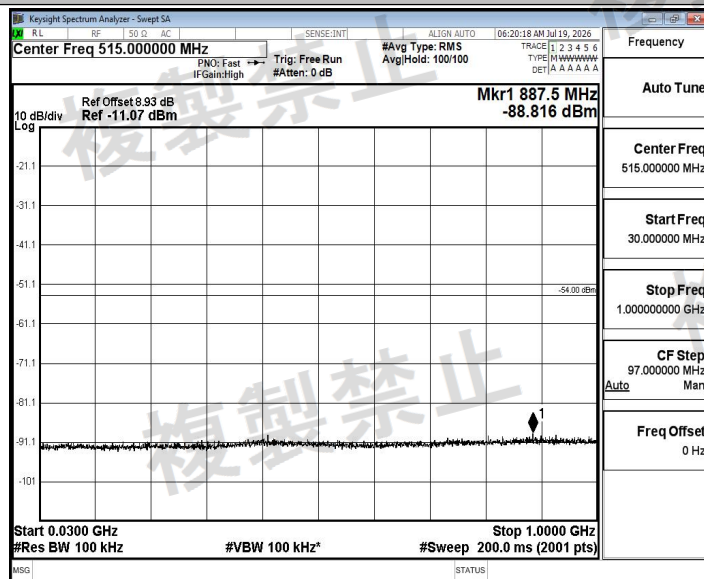
NTNV_BLE_2M_Ant1_2440_30~1000



NTNV_BLE_2M_Ant1_2440_1000~12500



NTNV_BLE_2M_Ant1_2480_30~1000



NTNV_BLE_2M_Ant1_2480_1000~12500

