

Appendix: Bluetooth LE

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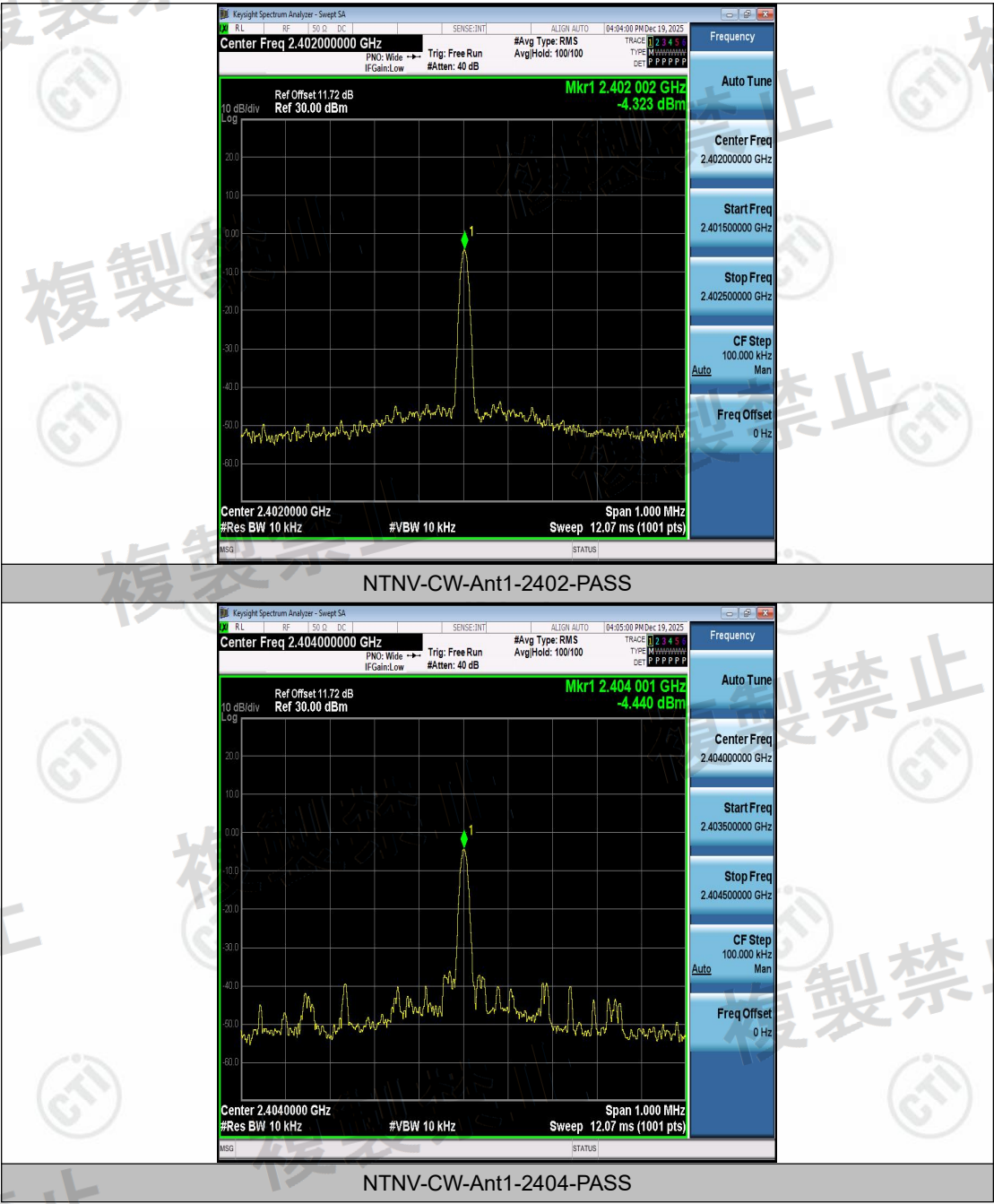
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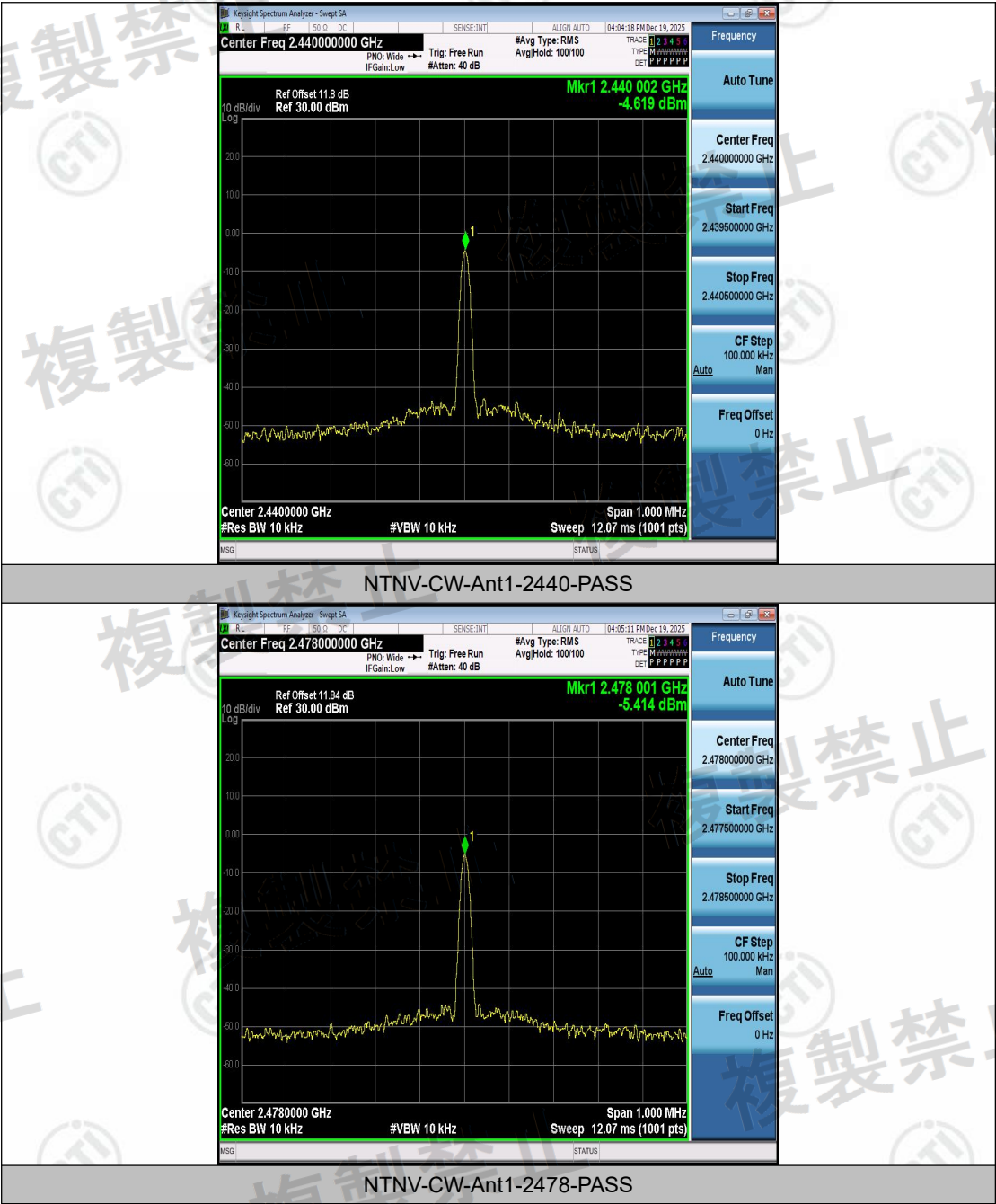
Appendix A: Frequency Error

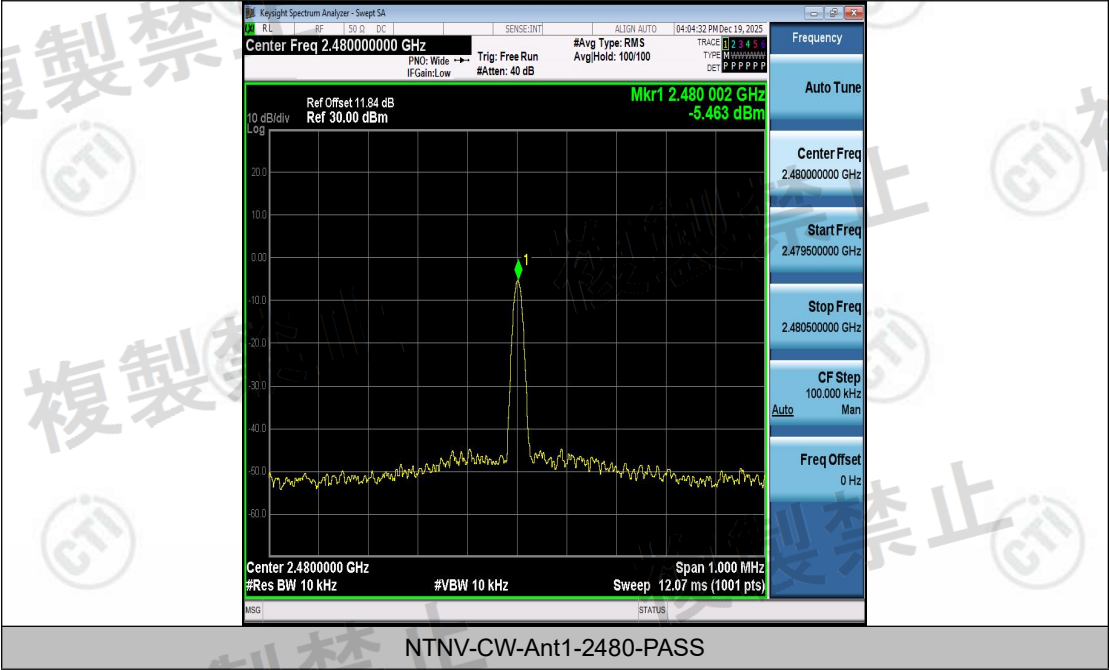
Test Result

TestCondition	TestMode	Antenna	Freq(MHz)	CenterFreq [MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	CW	Ant1	2402	2402.002	0.83264	±50	PASS
NTNV	CW	Ant1	2404	2404.001	0.41597	±50	PASS
NTNV	CW	Ant1	2440	2440.002	0.81967	±50	PASS
NTNV	CW	Ant1	2478	2478.001	0.40355	±50	PASS
NTNV	CW	Ant1	2480	2480.002	0.80645	±50	PASS

Test Graphs







Appendix B: Antenna Power

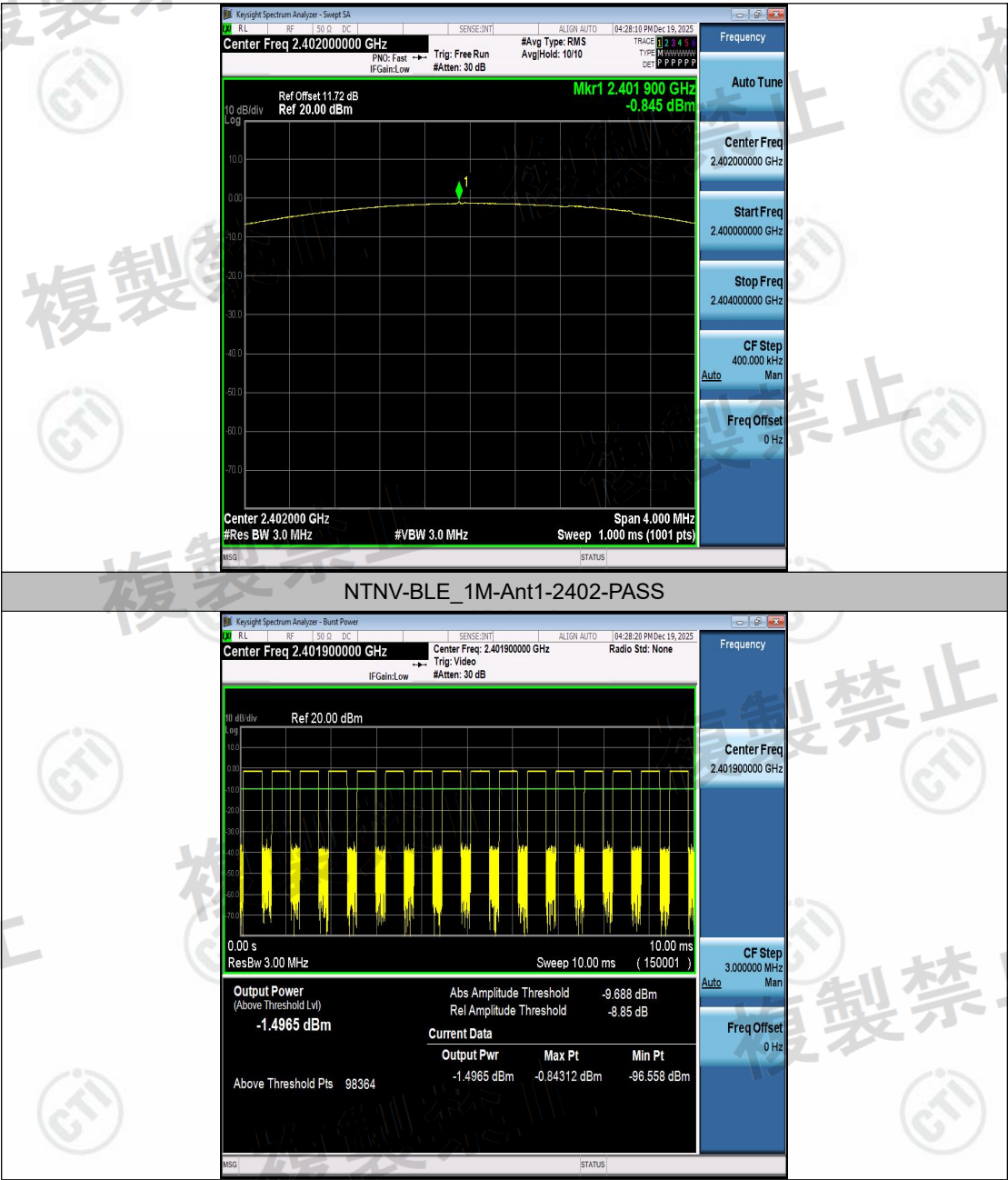
Test Result

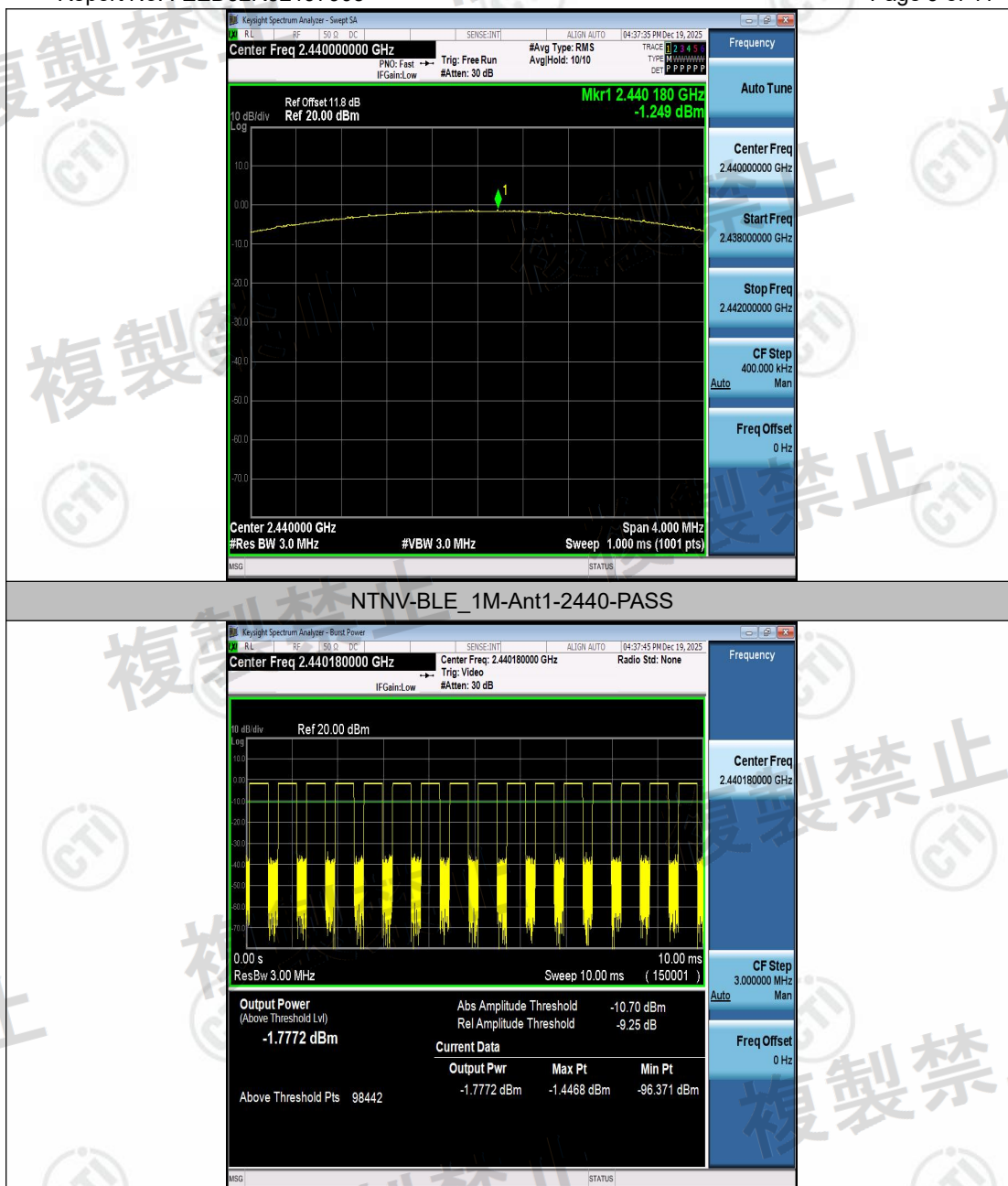
TestCondition	TestMode	Antenna	Freq(MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	-1.50	0.7079	≤10	PASS
NTNV	BLE_1M	Ant1	2440	-1.78	0.6637	≤10	PASS
NTNV	BLE_1M	Ant1	2480	-2.60	0.5495	≤10	PASS
NTNV	BLE_2M	Ant1	2404	-1.56	0.6982	≤10	PASS
NTNV	BLE_2M	Ant1	2440	-1.76	0.6668	≤10	PASS
NTNV	BLE_2M	Ant1	2478	-2.50	0.5623	≤10	PASS

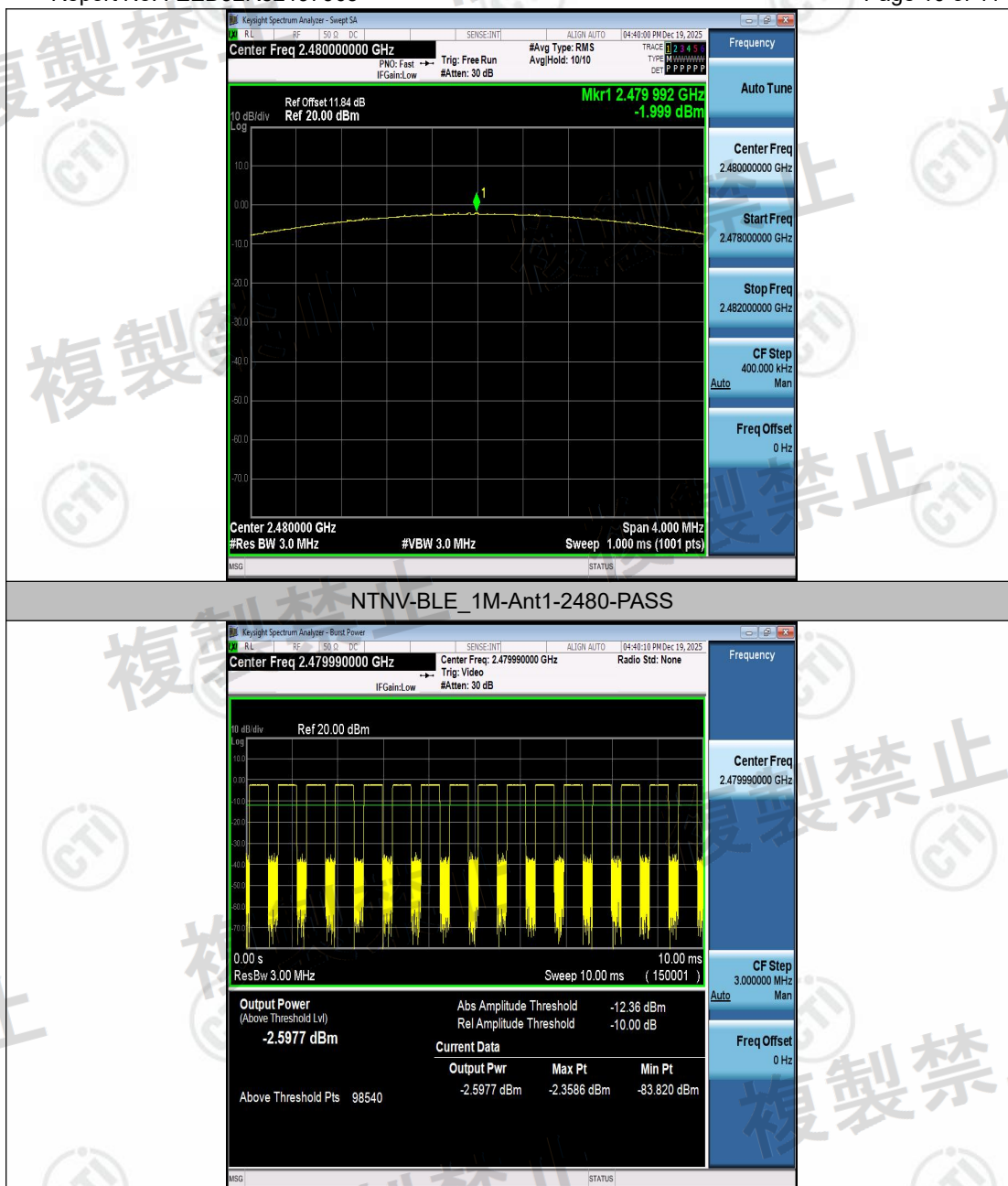
Test Condition	Test Mode	Antenna	Freq(MHz)	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	0.7079	1	-29.210	NA, +20	PASS
NTNV	BLE_1M	Ant1	2440	0.6637	1	-33.630	NA, +20	PASS
NTNV	BLE_1M	Ant1	2480	0.5495	1	-45.050	NA, +20	PASS
NTNV	BLE_2M	Ant1	2404	0.6982	1	-30.180	NA, +20	PASS
NTNV	BLE_2M	Ant1	2440	0.6668	1	-33.320	NA, +20	PASS
NTNV	BLE_2M	Ant1	2478	0.5623	1	-43.770	NA, +20	PASS

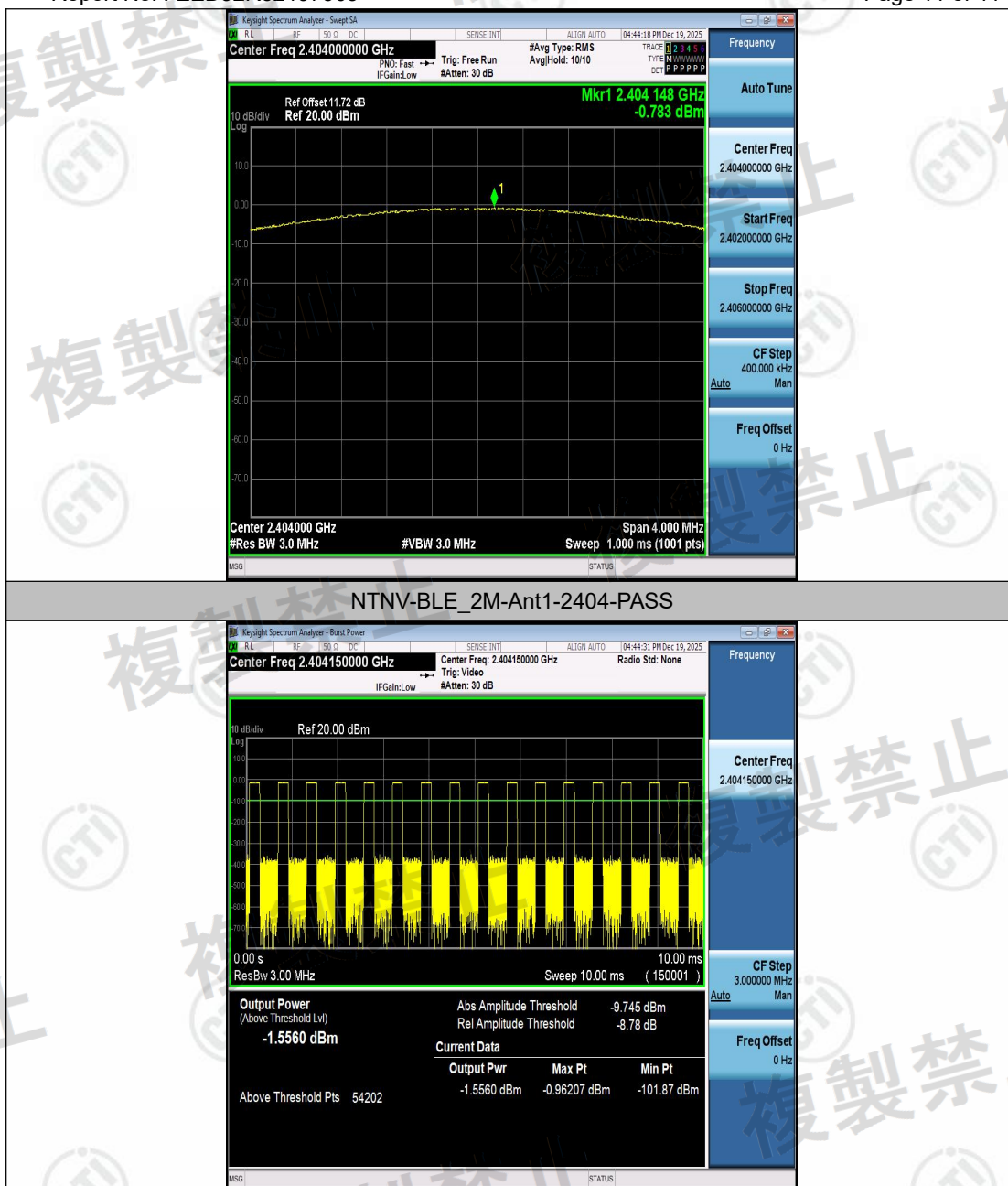
TestCondition	TestMode	Antenna	Freq(MHz)	Result(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
NTNV	BLE_1M	Ant1	2402	-1.50	0.20	≤12.14	PASS
NTNV	BLE_1M	Ant1	2440	-1.78	-0.08	≤12.14	PASS
NTNV	BLE_1M	Ant1	2480	-2.60	-0.90	≤12.14	PASS
NTNV	BLE_2M	Ant1	2404	-1.56	0.14	≤12.14	PASS
NTNV	BLE_2M	Ant1	2440	-1.76	-0.06	≤12.14	PASS
NTNV	BLE_2M	Ant1	2478	-2.50	-0.80	≤12.14	PASS

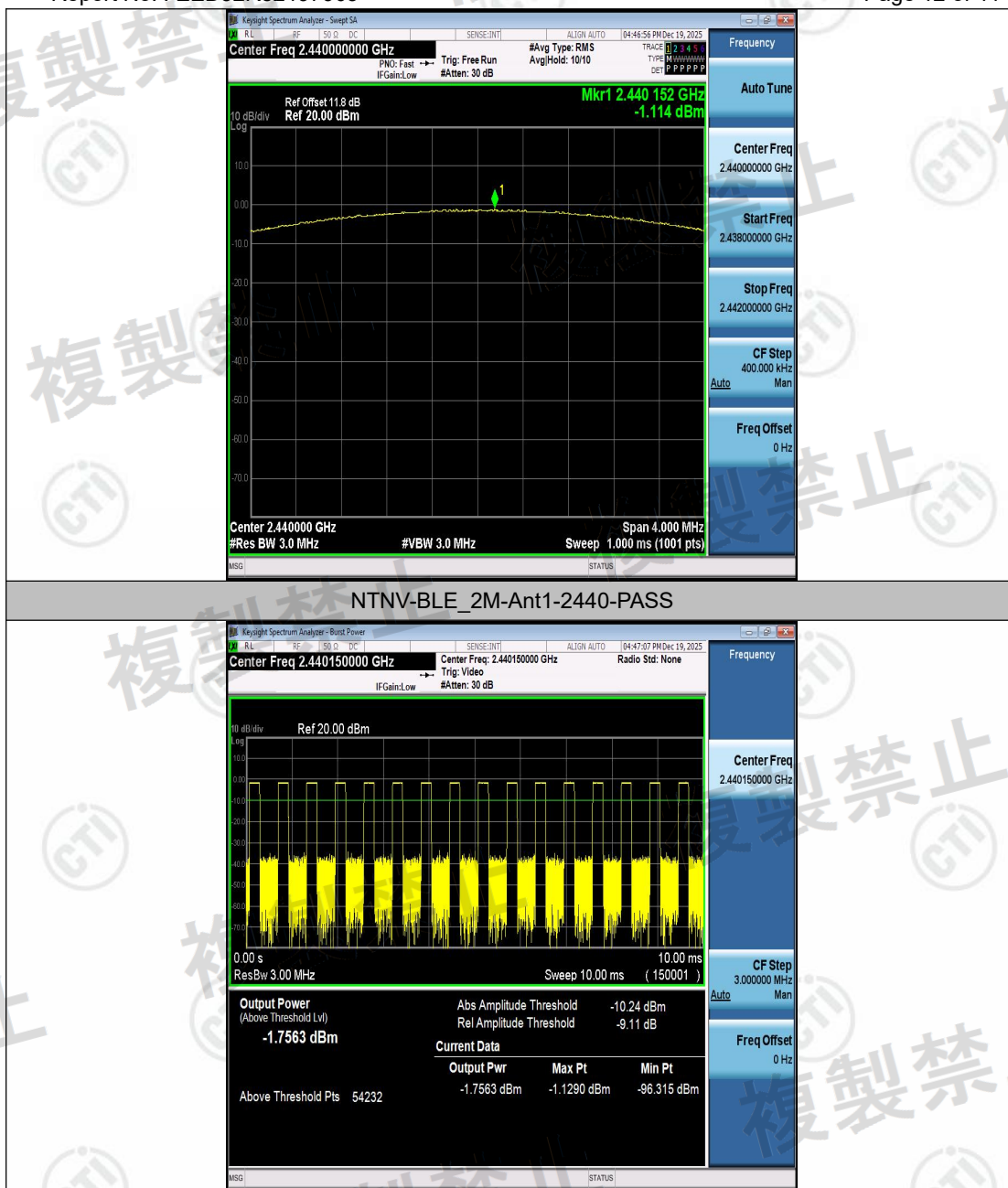
Test Graphs

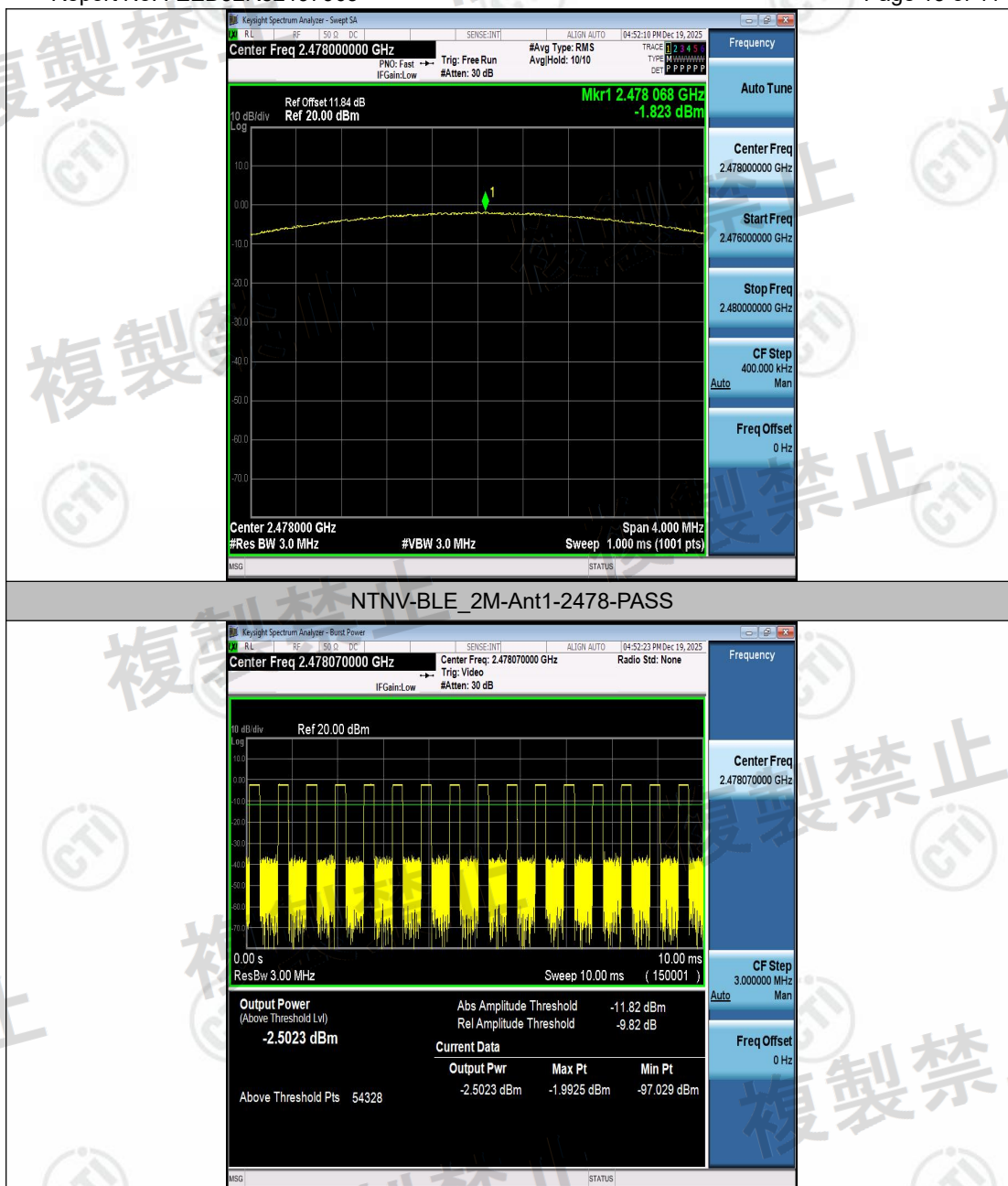








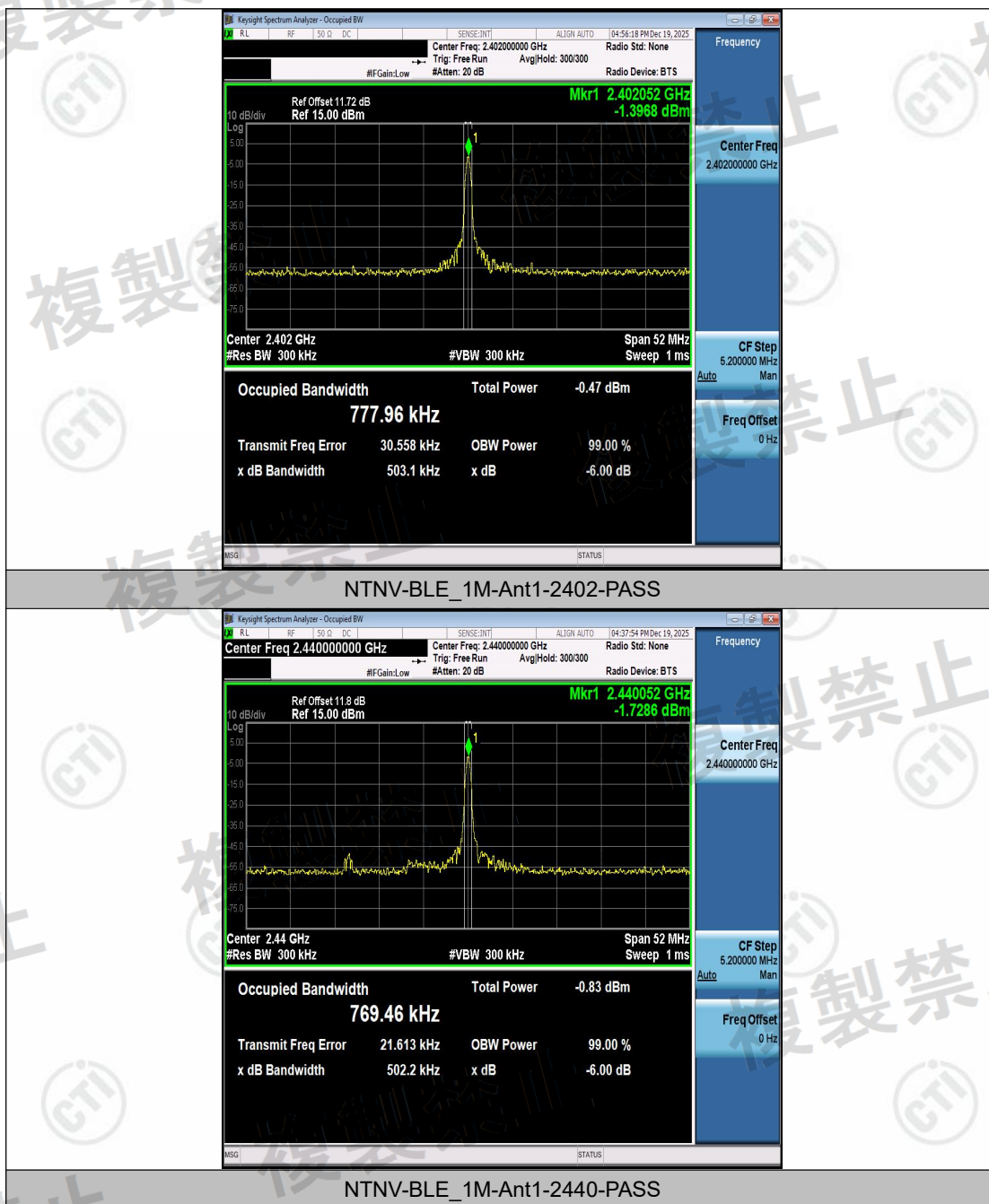


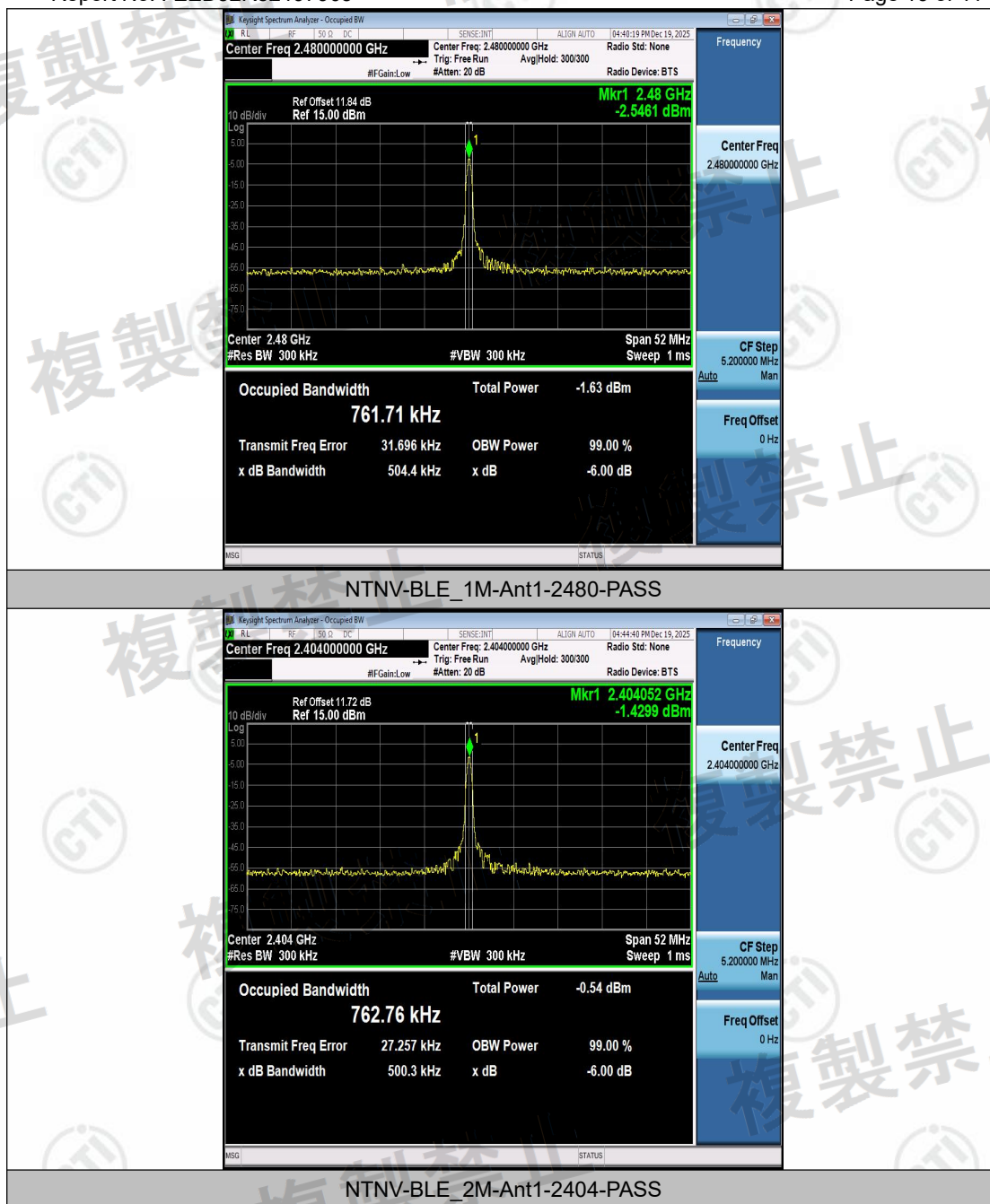


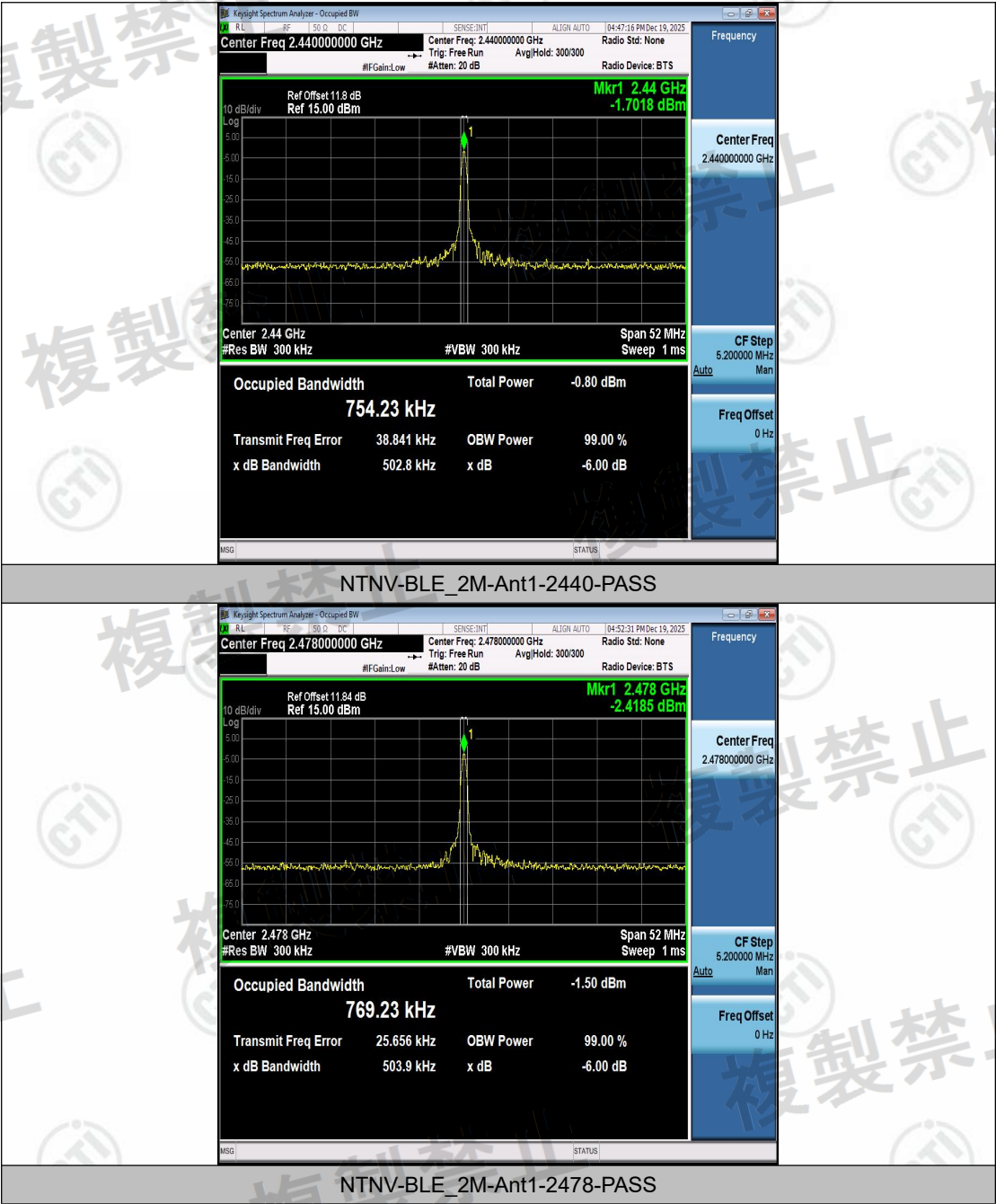
Appendix C: Occupied Bandwidth**Test Result**

TestCondition	TestMode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.767	≤26	PASS
NTNV	BLE_1M	Ant1	2440	0.769	≤26	PASS
NTNV	BLE_1M	Ant1	2480	0.762	≤26	PASS
NTNV	BLE_2M	Ant1	2404	0.763	≤26	PASS
NTNV	BLE_2M	Ant1	2440	0.754	≤26	PASS
NTNV	BLE_2M	Ant1	2478	0.769	≤26	PASS

Test Graphs







Appendix D: Unwanted Emission Strength

Test Result

TestCondition	TestMode	Antenna	Freq(MHz)	Freq.Range [MHz]	ResultFrequency (MHz)	Result [dBm/MHz]	Result [μW/MHz]	Limit [μW/MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	143.98	-52.67	0.00541	≤2.5	PASS
NTNV	BLE_1M	Ant1	2402	1000~2387	2345.74	-47.08	0.01959	≤2.5	PASS
NTNV	BLE_1M	Ant1	2402	2387~2400	2399.91	-36.34	0.23227	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2483.5~2496.5	2485.96	-37.00	0.19953	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2496.5~13000	4804.12	-29.54	1.11173	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	143.98	-52.42	0.00573	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	1000~2387	2343.66	-46.47	0.02254	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	2387~2400	2390.89	-37.63	0.17258	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2483.5~2496.5	2488.71	-37.25	0.18836	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2496.5~13000	4880.27	-30.30	0.93325	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	143.98	-52.28	0.00592	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	1000~2387	1782.96	-45.21	0.03013	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	2387~2400	2398.77	-37.73	0.16866	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2483.5~2496.5	2487.80	-37.09	0.19543	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2496.5~13000	4960.10	-33.66	0.43053	≤2.5	PASS
NTNV	BLE_2M	Ant1	2404	30~1000	143.98	-52.01	0.00630	≤2.5	PASS
NTNV	BLE_2M	Ant1	2404	1000~2387	2307.94	-47.27	0.01875	≤2.5	PASS
NTNV	BLE_2M	Ant1	2404	2387~2400	2394.89	-37.42	0.18113	≤25	PASS
NTNV	BLE_2M	Ant1	2404	2483.5~2496.5	2494.93	-37.17	0.19187	≤25	PASS
NTNV	BLE_2M	Ant1	2404	2496.5~13000	4808.32	-29.44	1.13763	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	143.98	-52.56	0.00555	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	1000~2387	2343.66	-47.11	0.01945	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	2387~2400	2397.87	-37.62	0.17298	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2483.5~2496.5	2488.86	-37.27	0.18750	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2496.5~13000	4880.27	-30.68	0.85507	≤2.5	PASS

NTNV	BLE_2M	Ant1	2478	30~1000	143.98	-51.95	0.00638	≤2.5	PASS
NTNV	BLE_2M	Ant1	2478	1000~2387	2268.76	-46.77	0.02104	≤2.5	PASS
NTNV	BLE_2M	Ant1	2478	2387~2400	2396.62	-37.78	0.16672	≤25	PASS
NTNV	BLE_2M	Ant1	2478	2483.5~2496.5	2493.20	-37.70	0.16982	≤25	PASS
NTNV	BLE_2M	Ant1	2478	2496.5~13000	4956.42	-33.21	0.47753	≤2.5	PASS

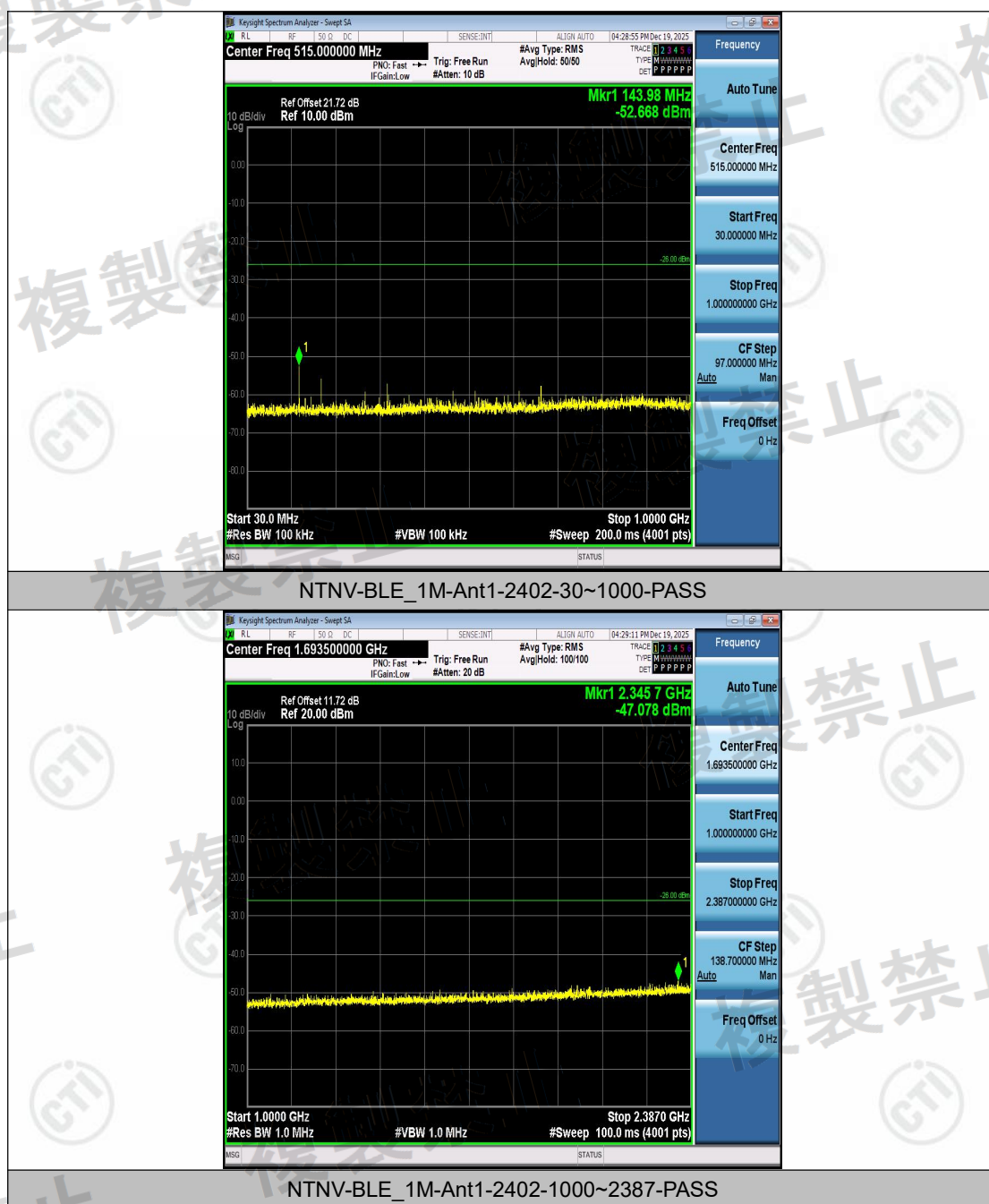
Note:

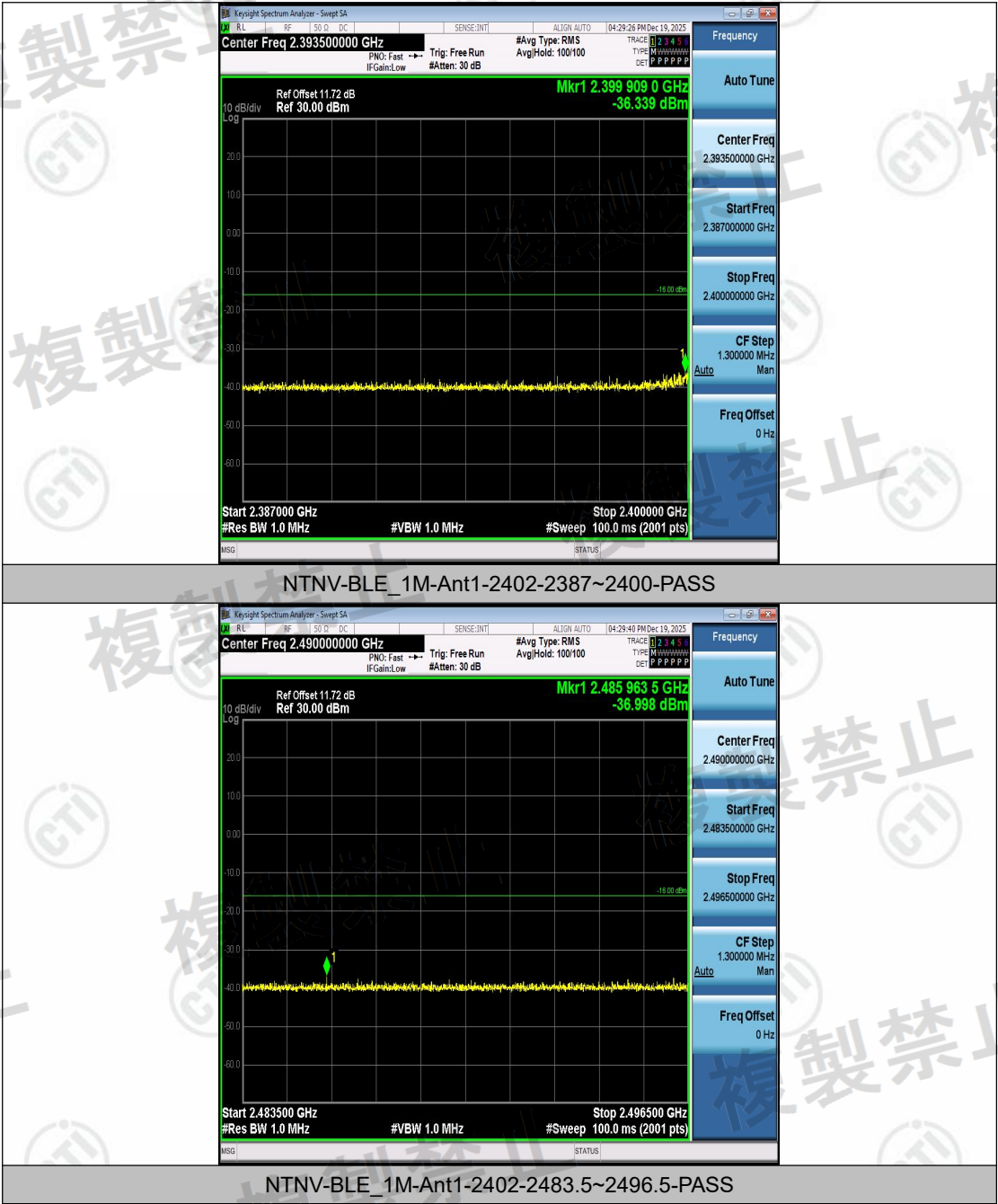
$\text{dBm}/1\text{MHz} = \text{dBm}/100\text{kHz} + 10 \times \log_{10} (1\text{MHz}/100\text{KHz})$

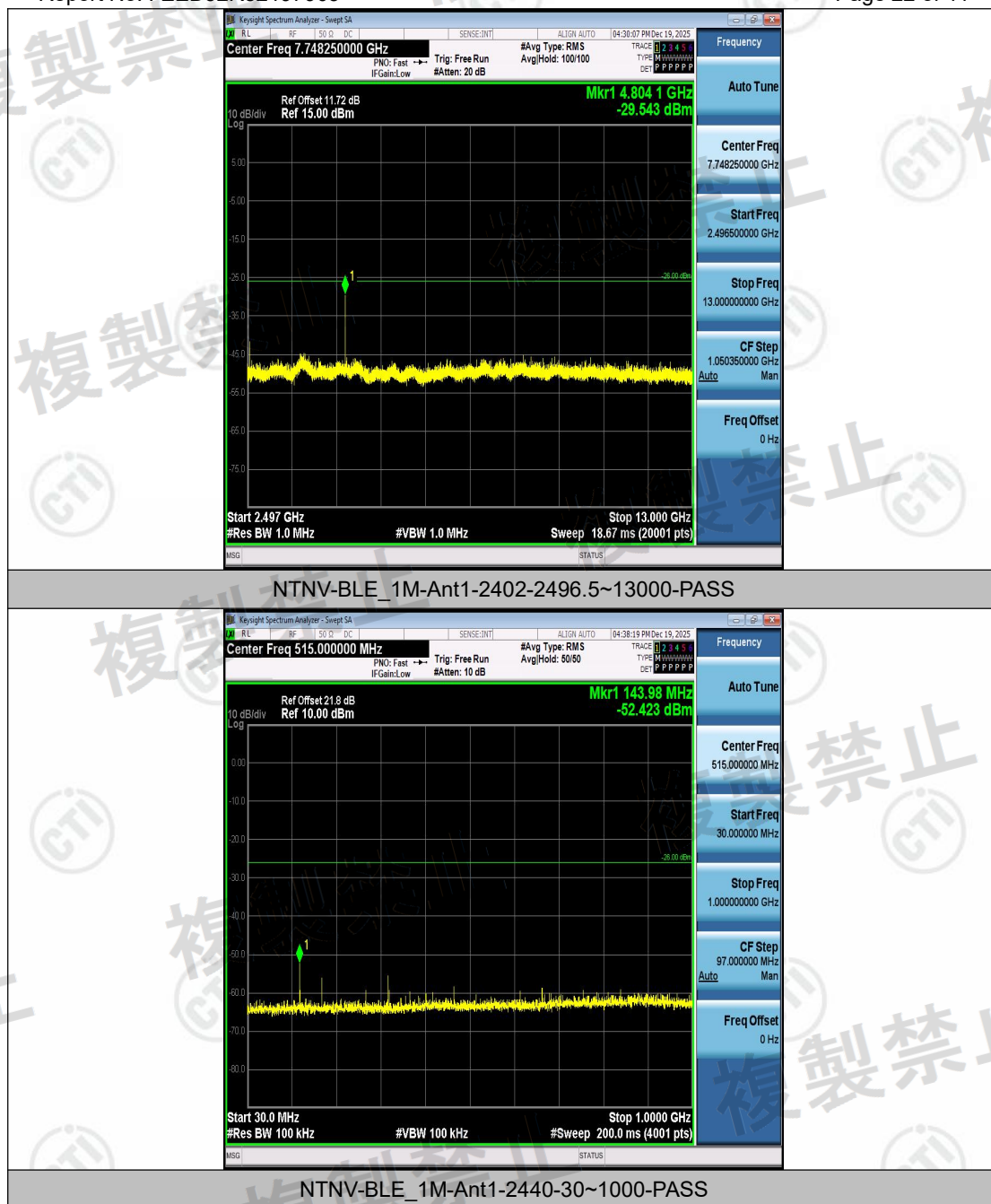
$\text{dBm}/1\text{MHz} = \text{dBm}/100\text{kHz} + 10$

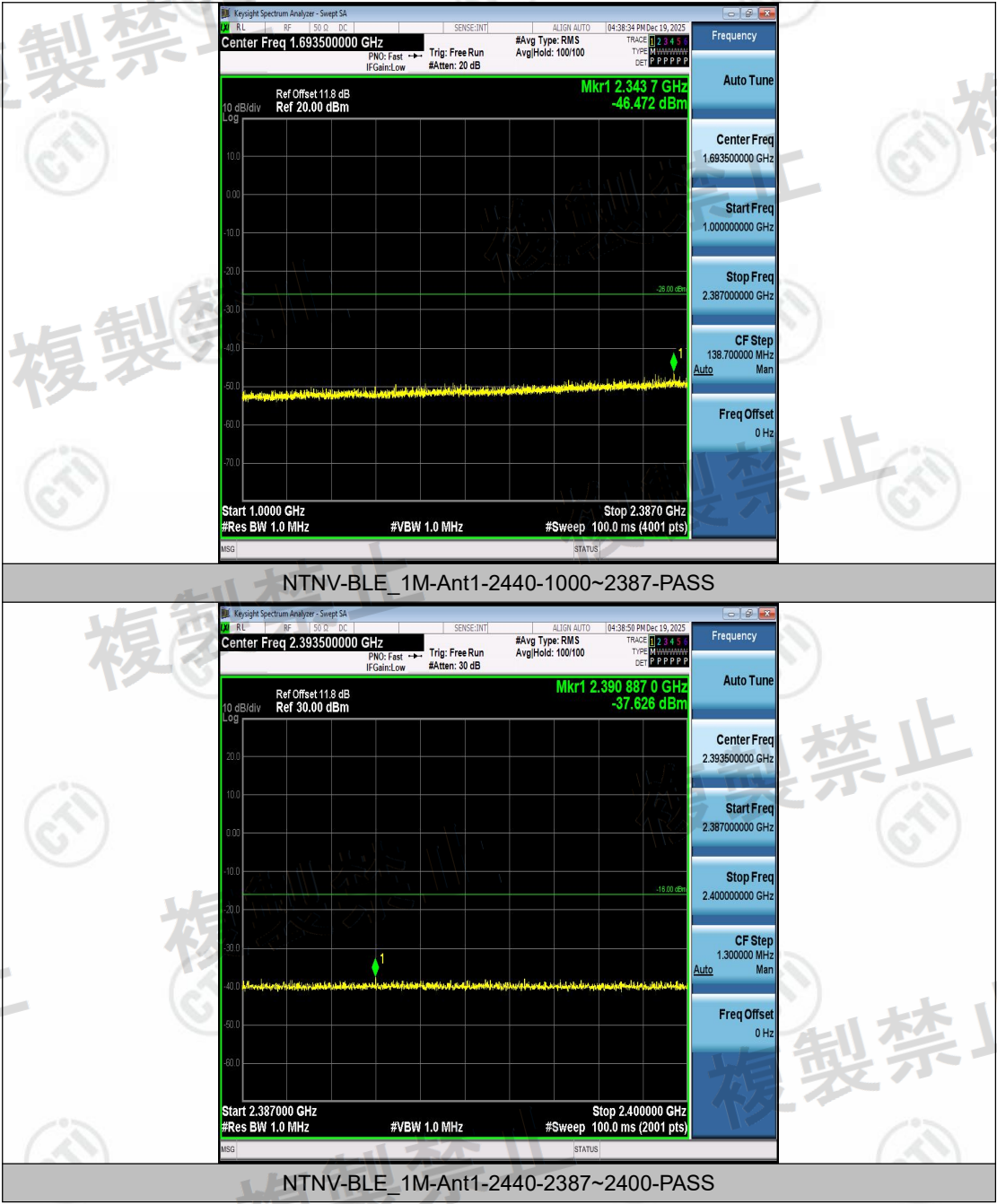
During the 30M-1000M testing process, a 10 dB factor was added for the test.

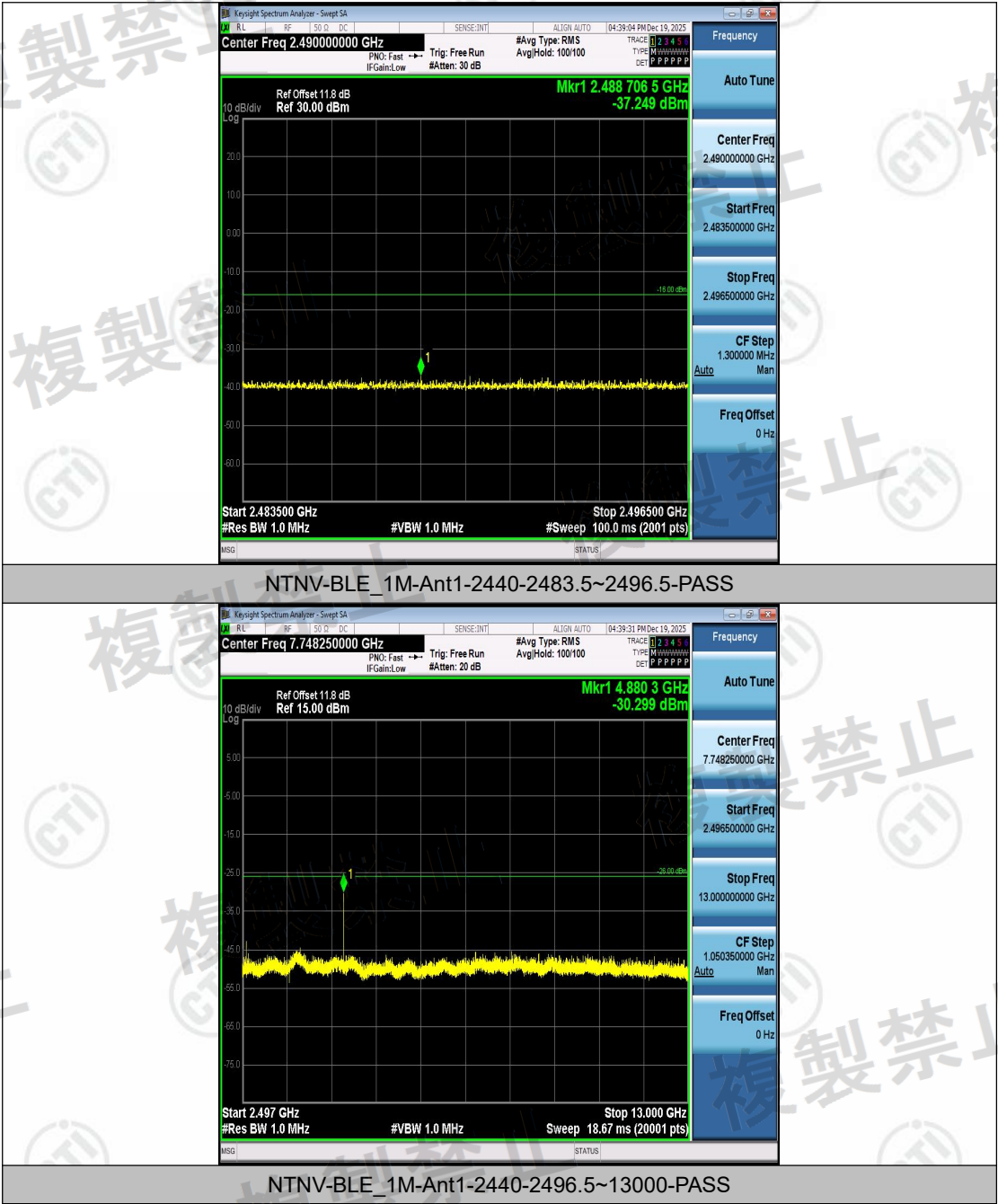
Test Graphs

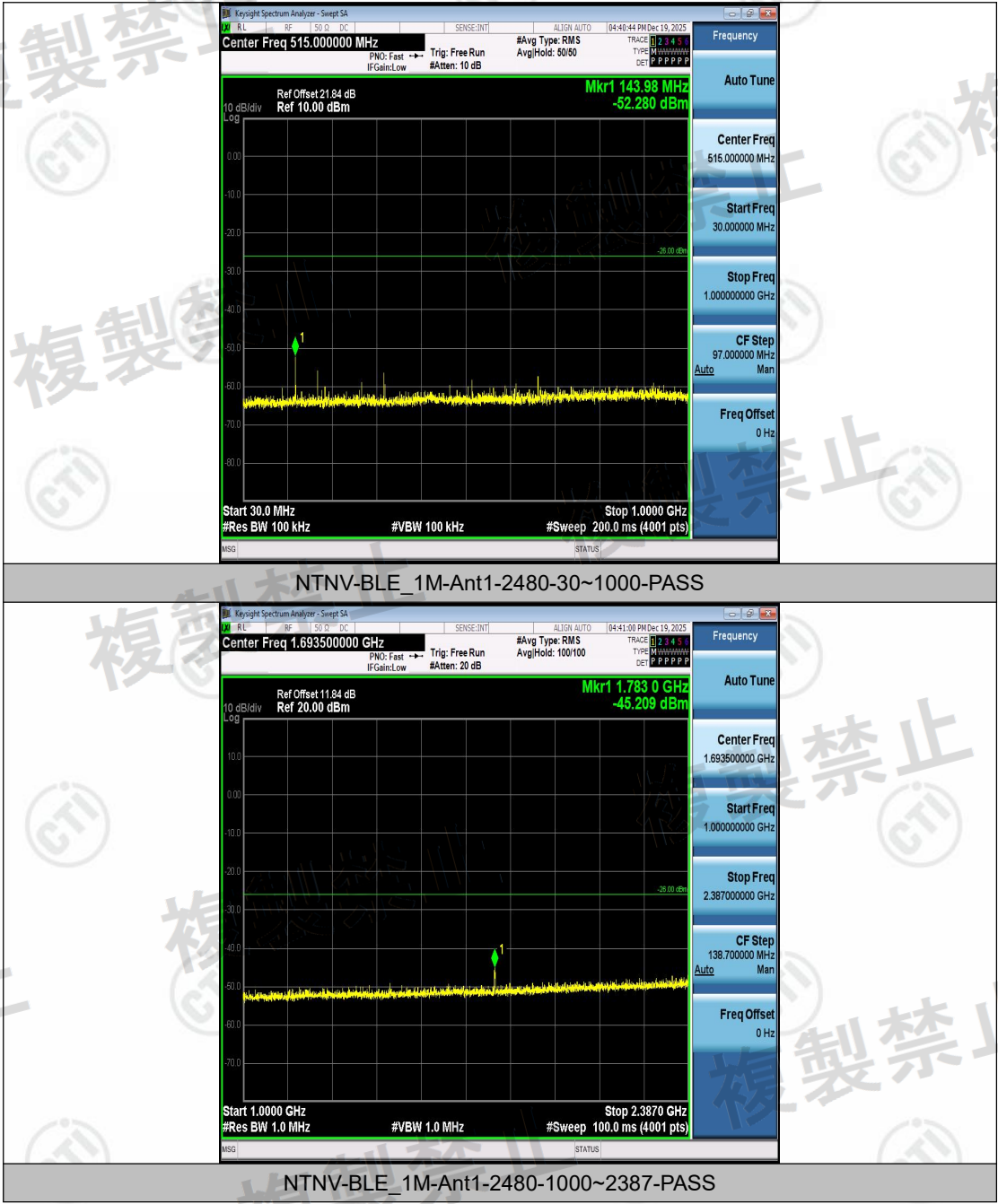


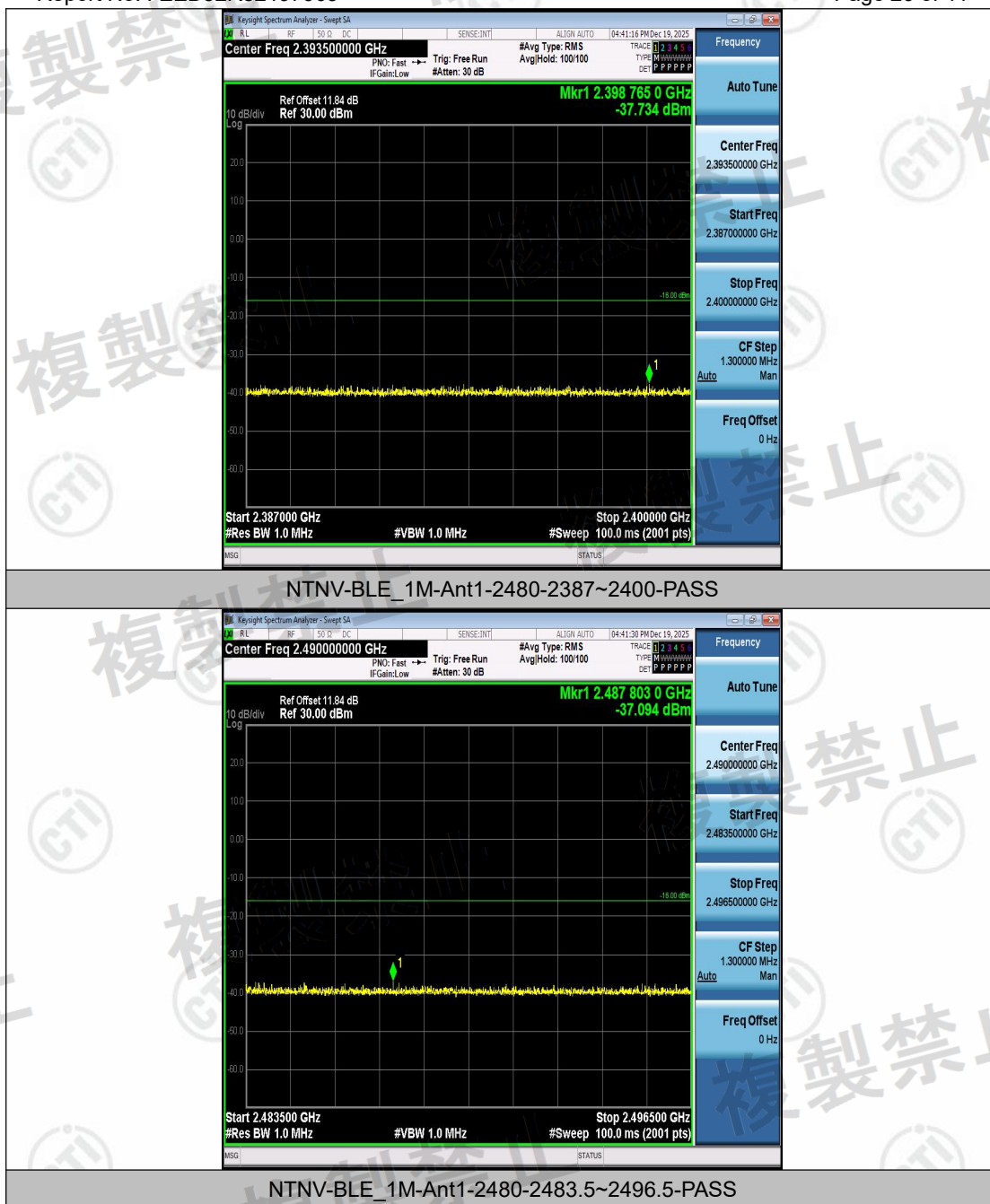


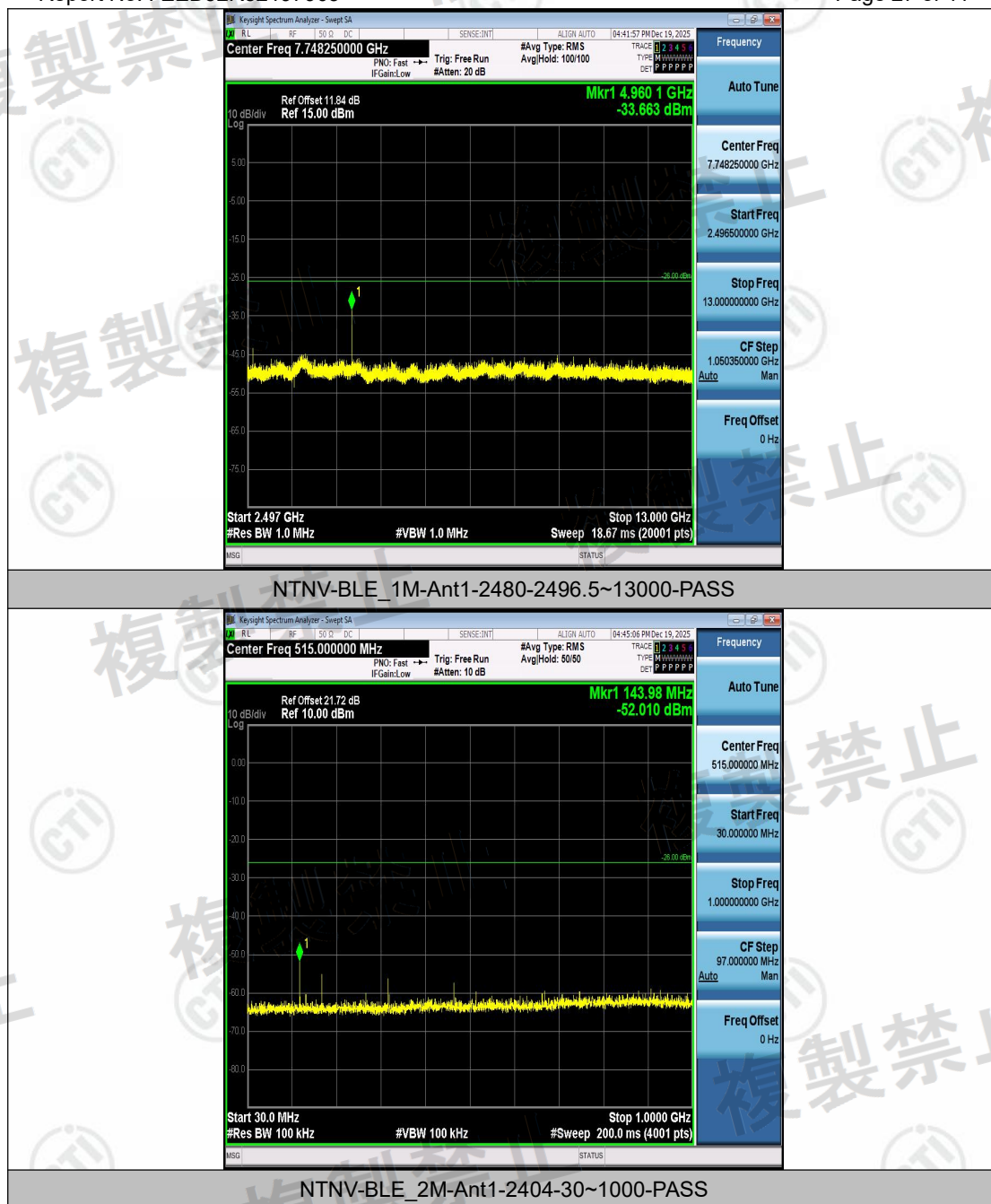


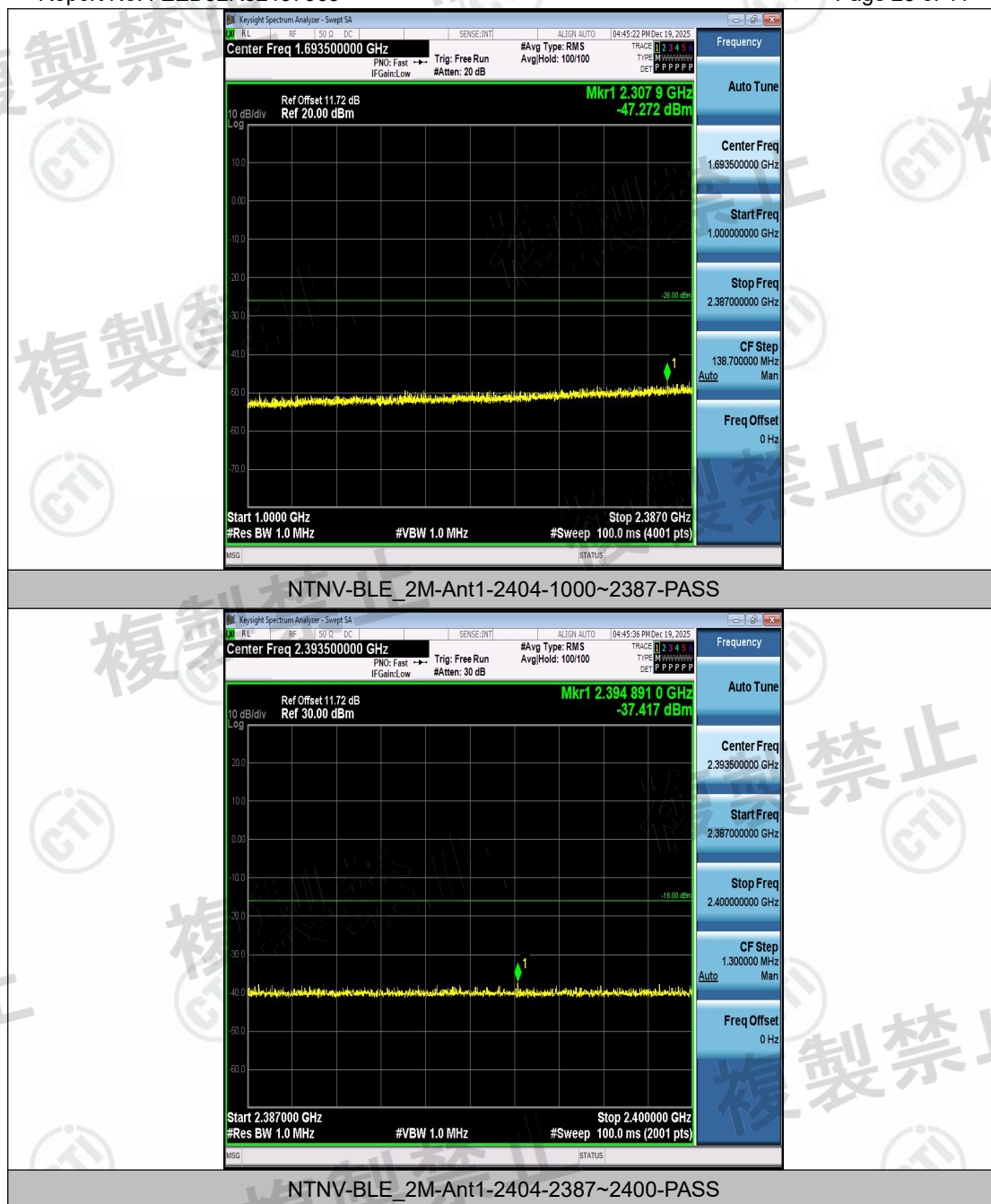


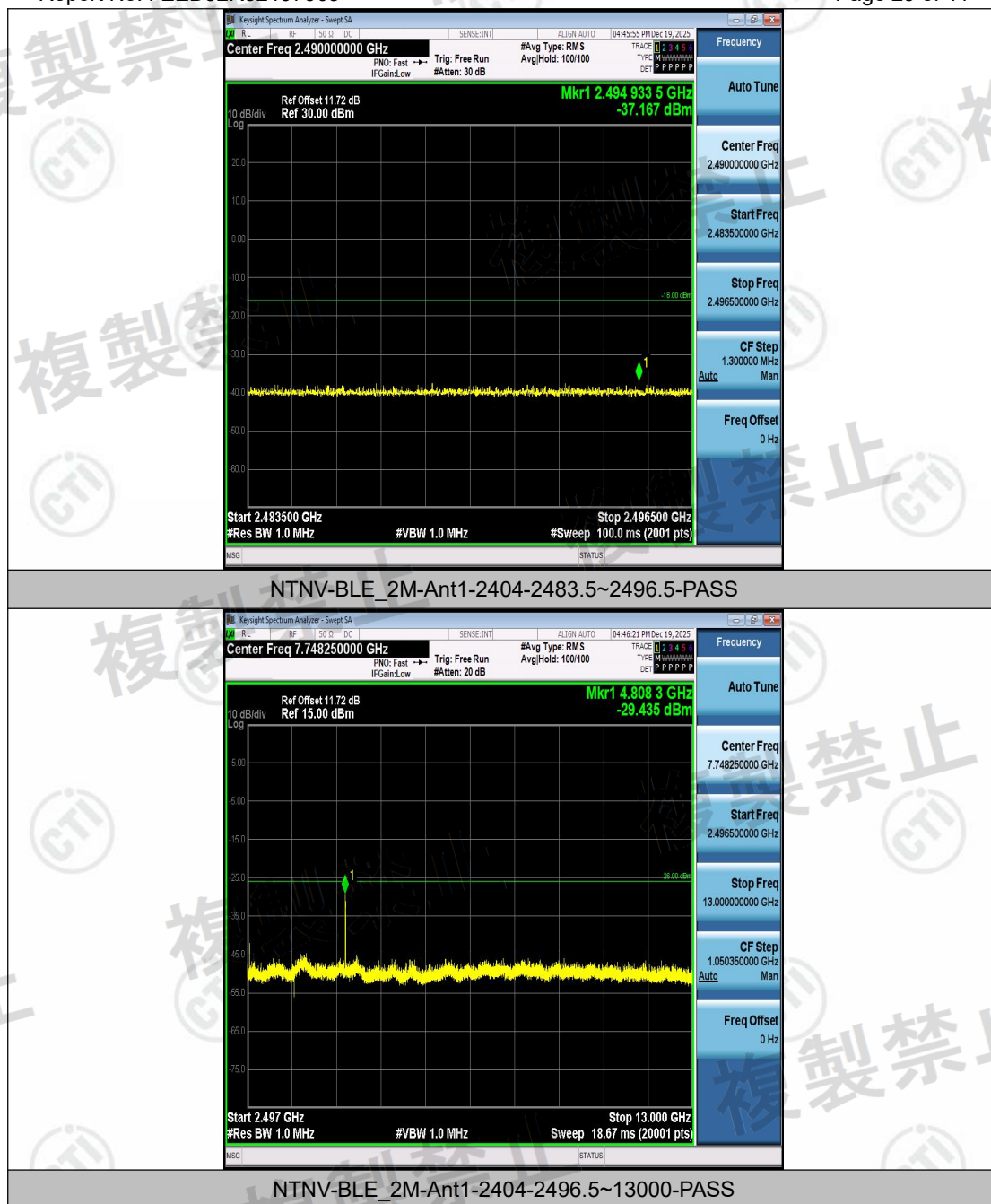


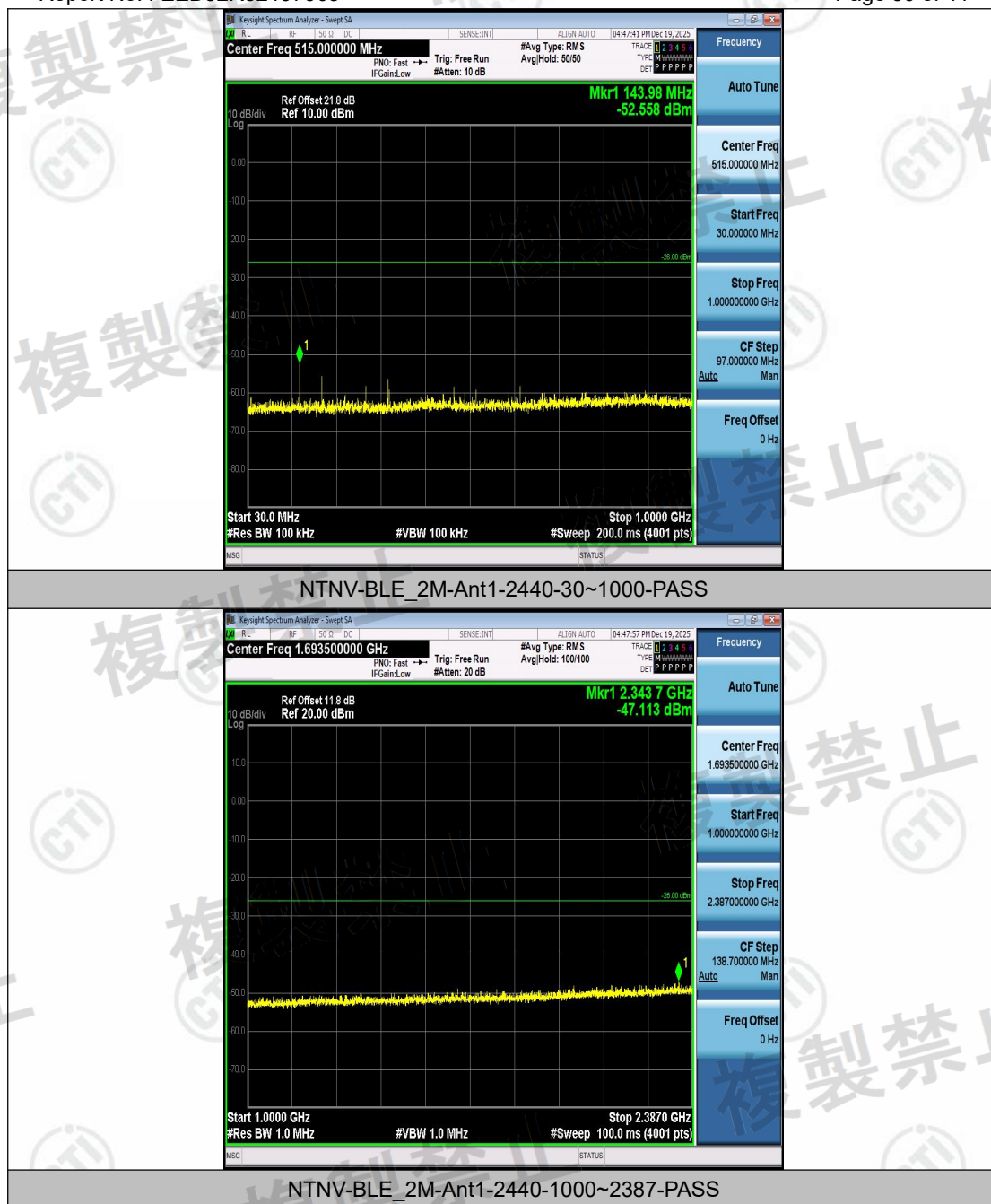


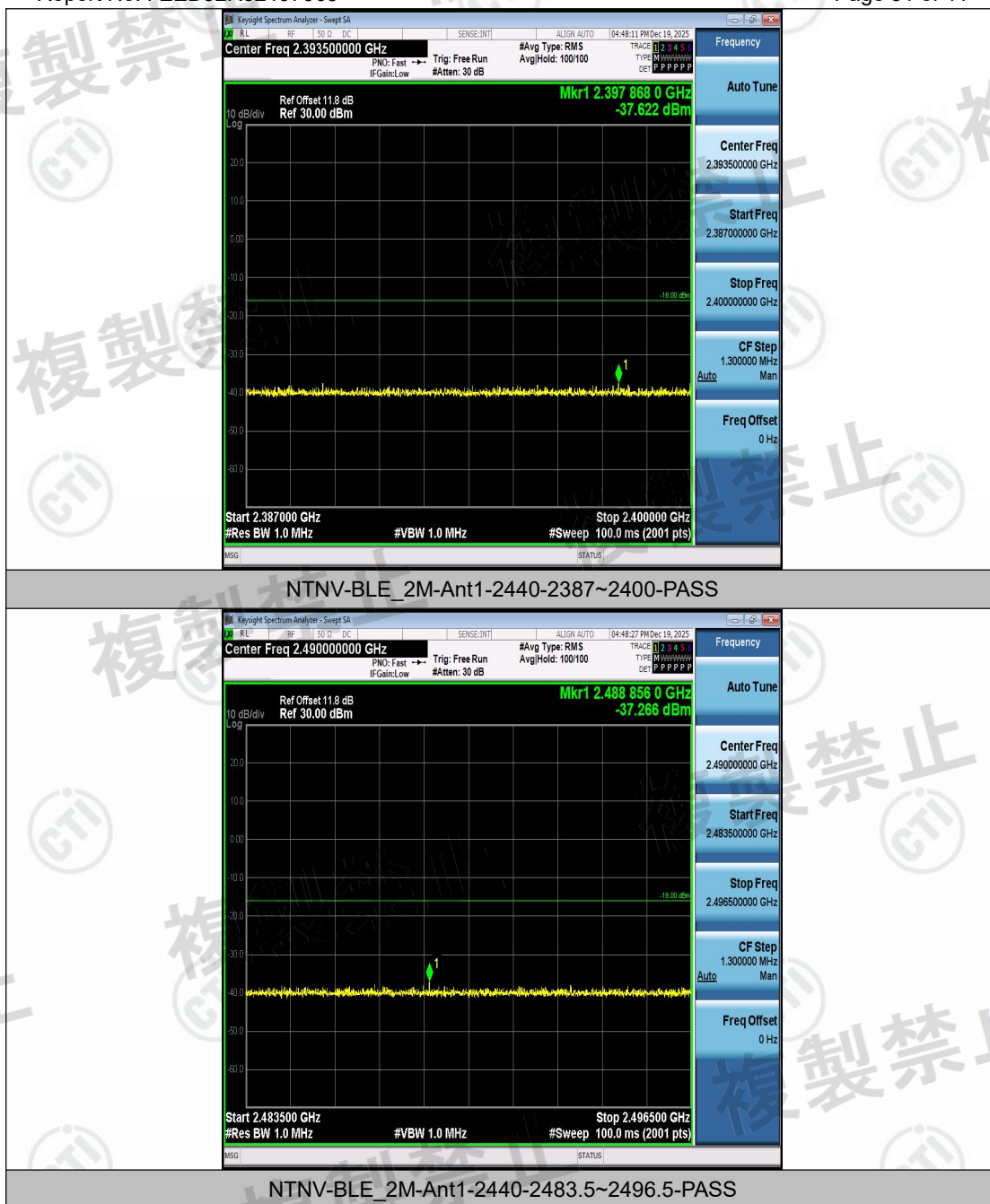


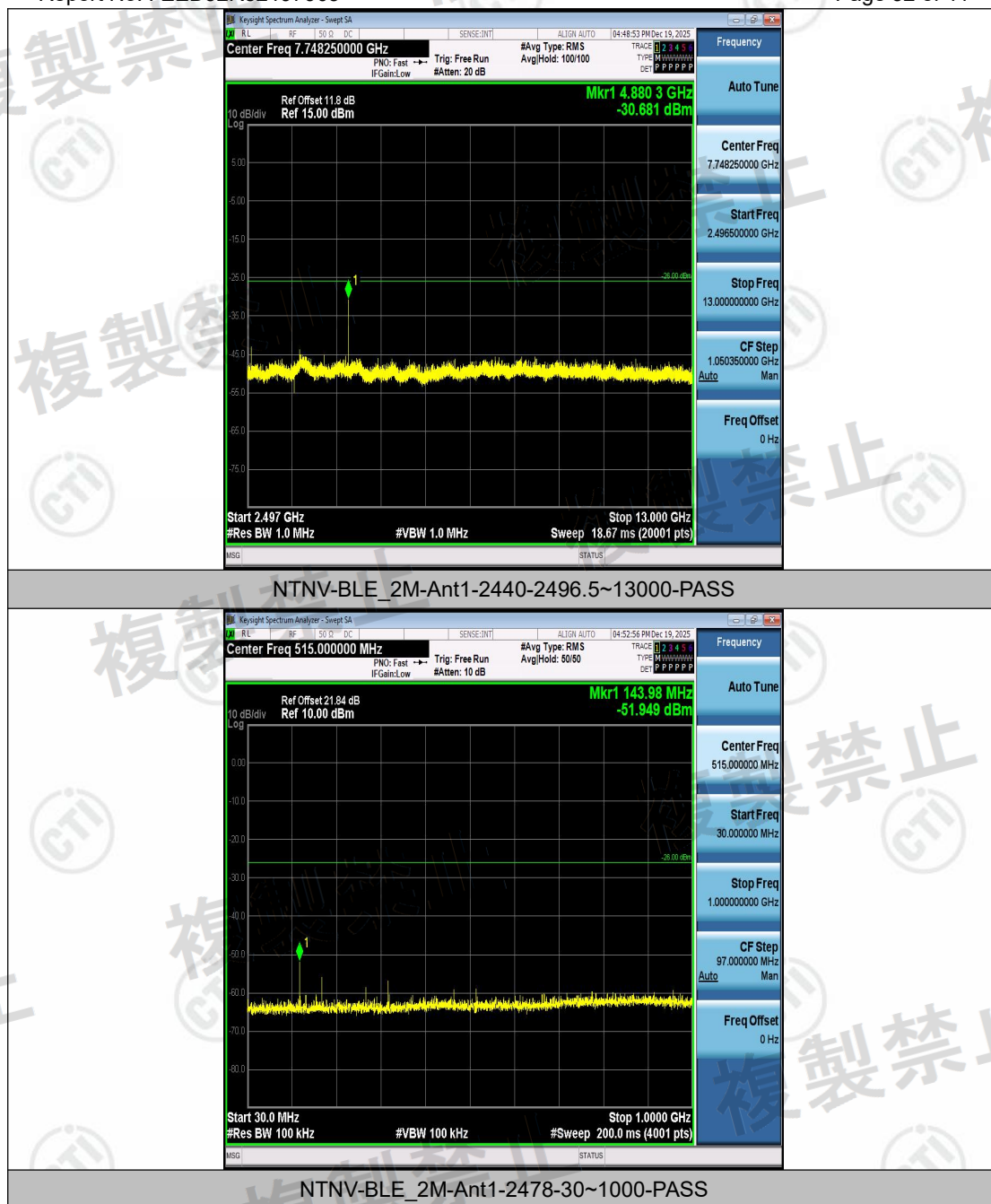


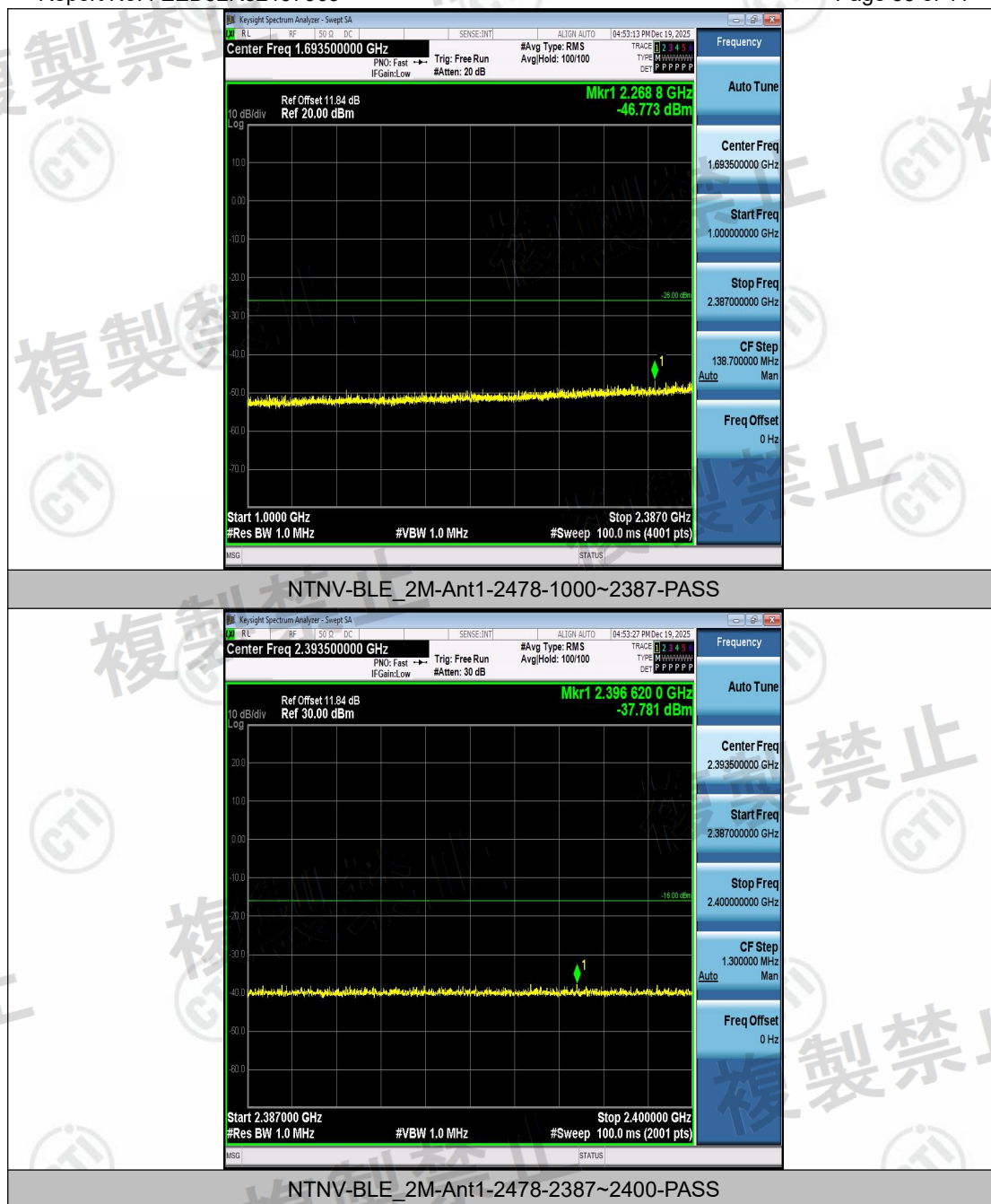


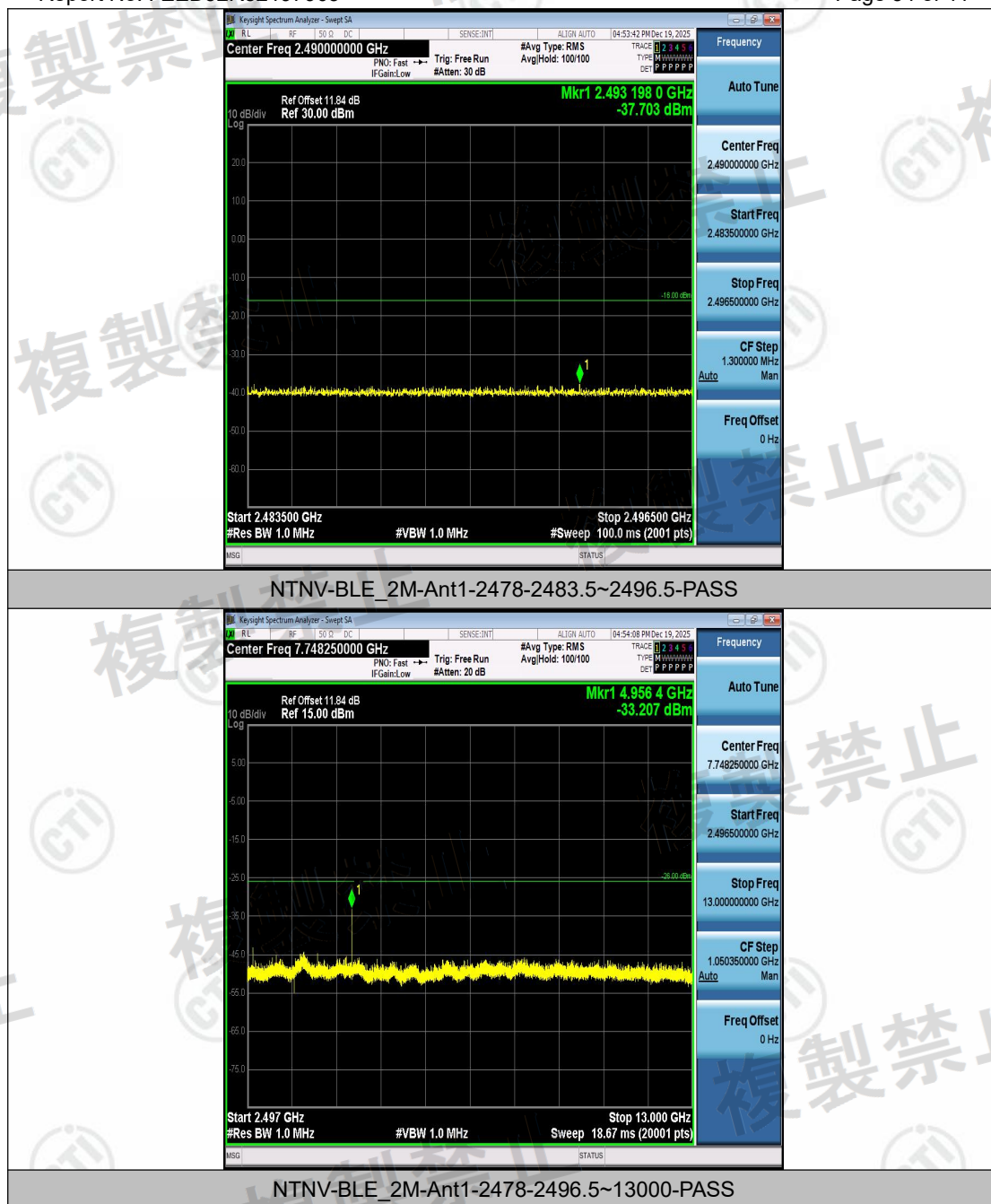










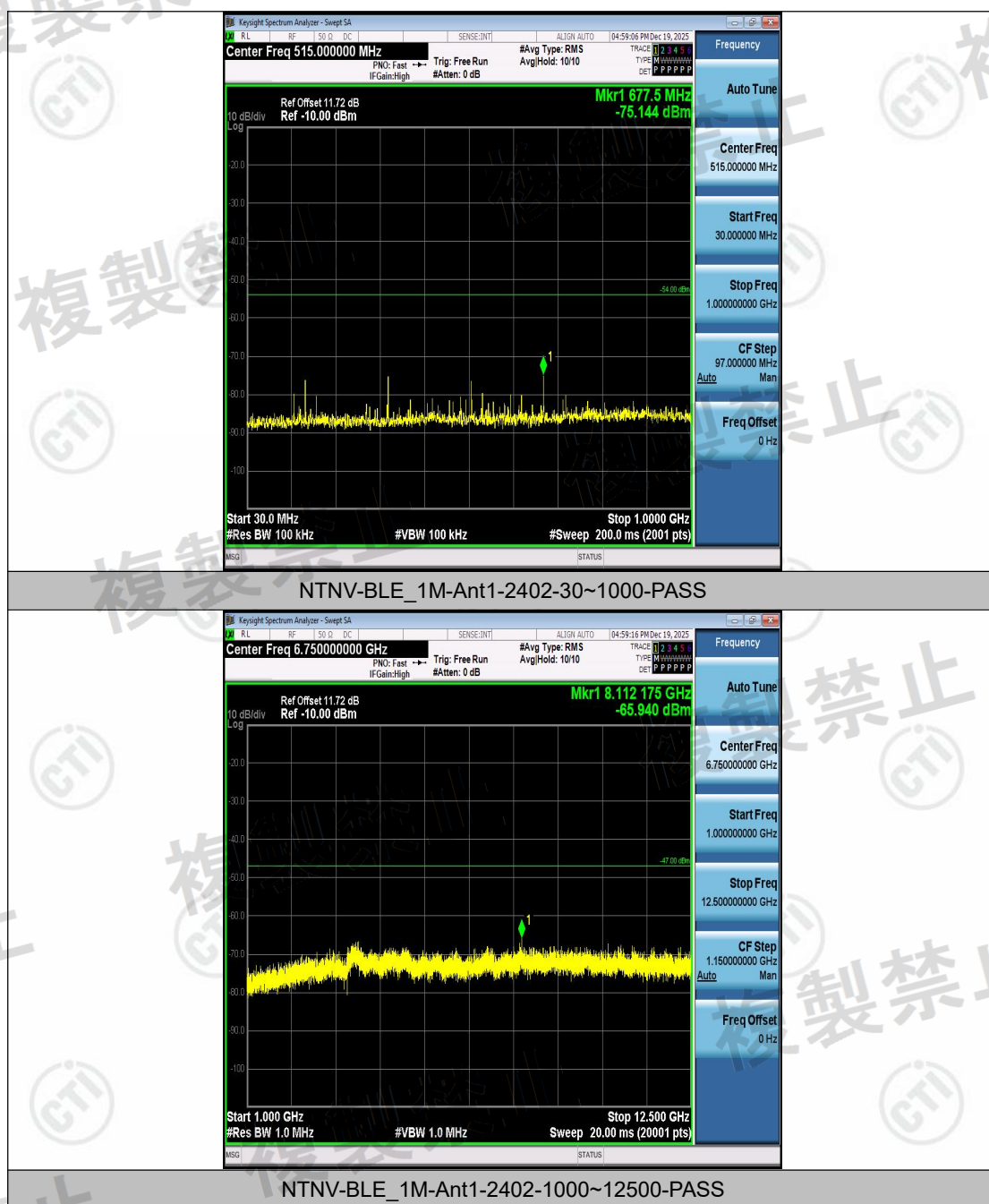


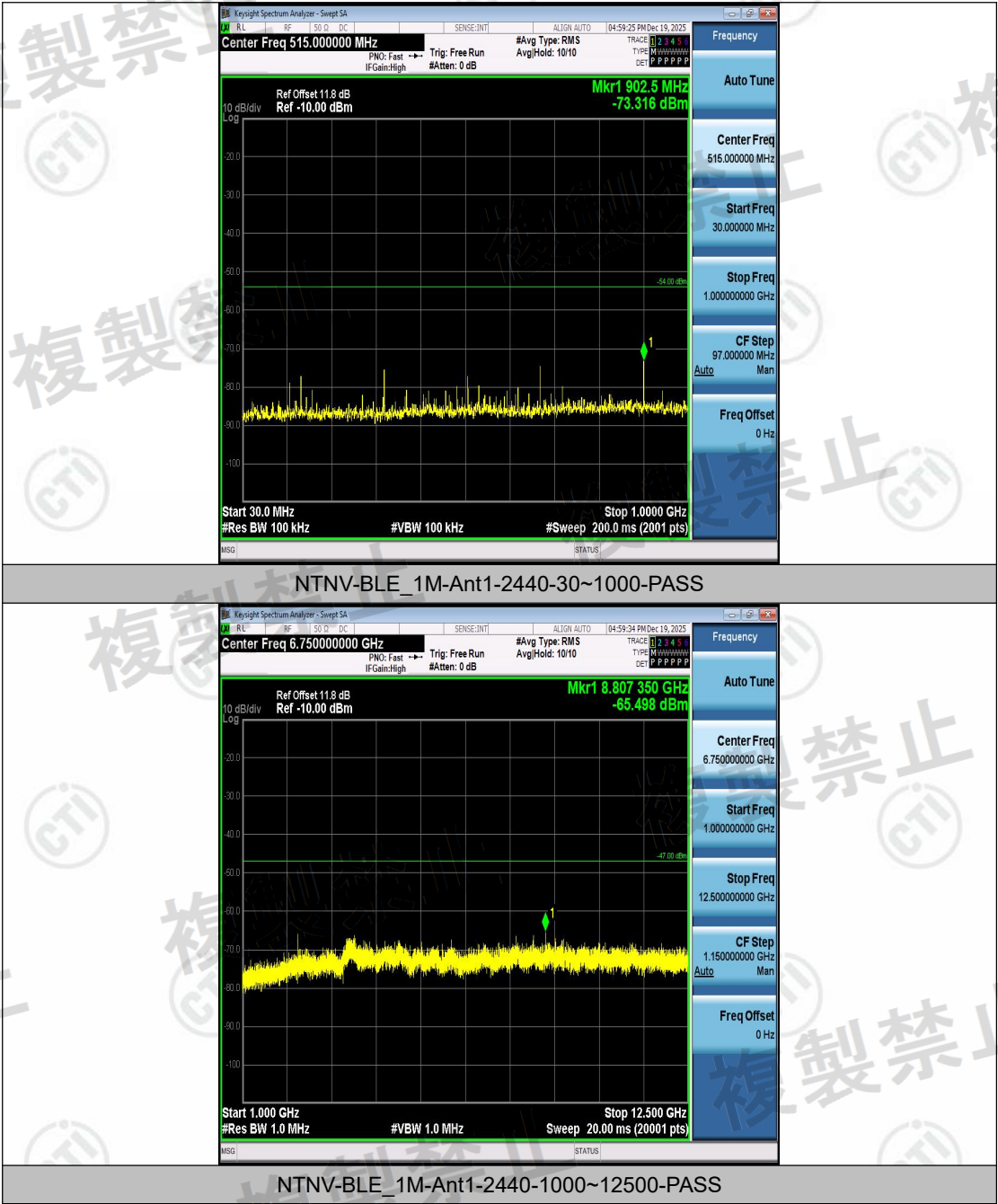
Appendix E: Secondary Radiated Emission Strength

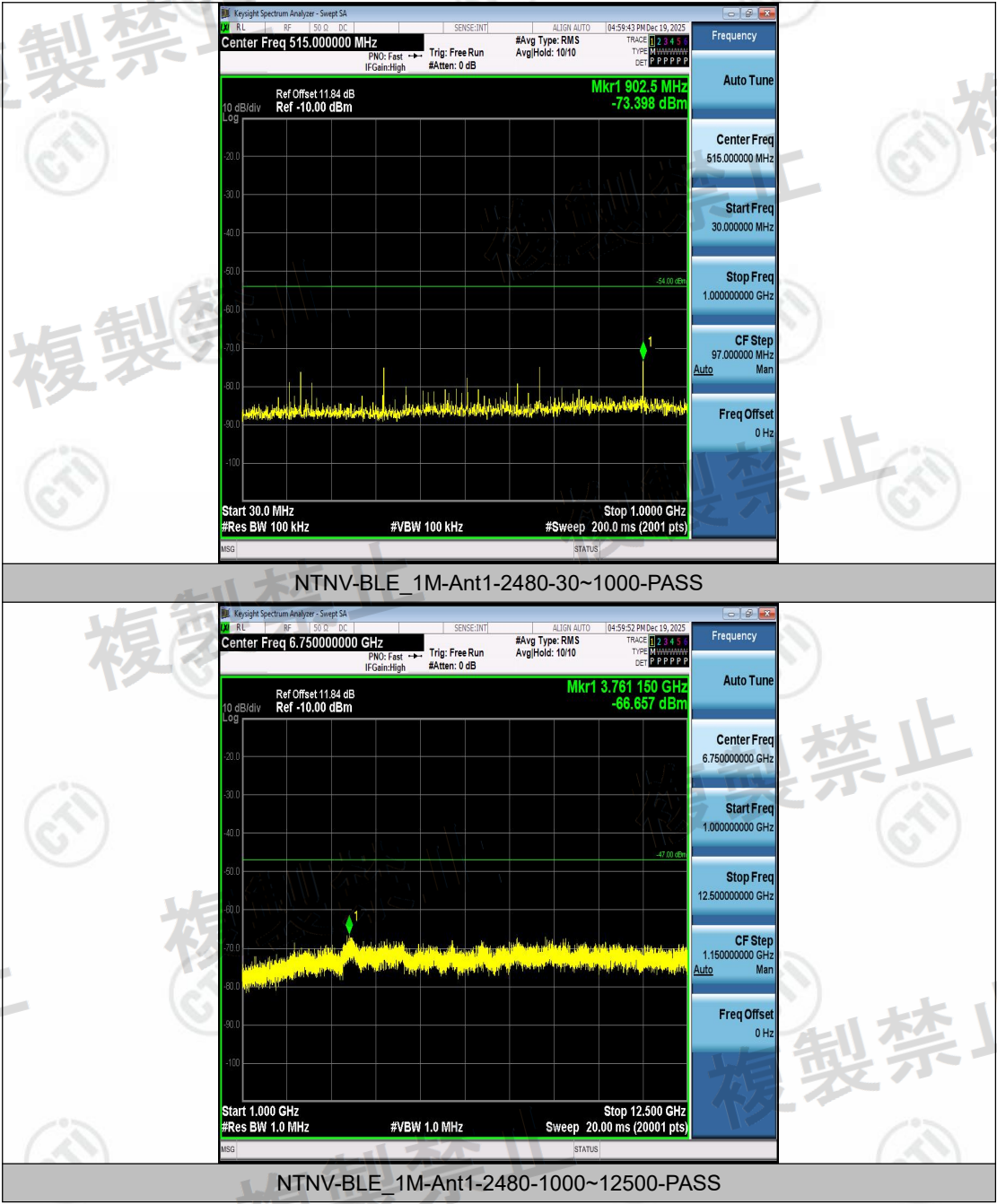
Test Result

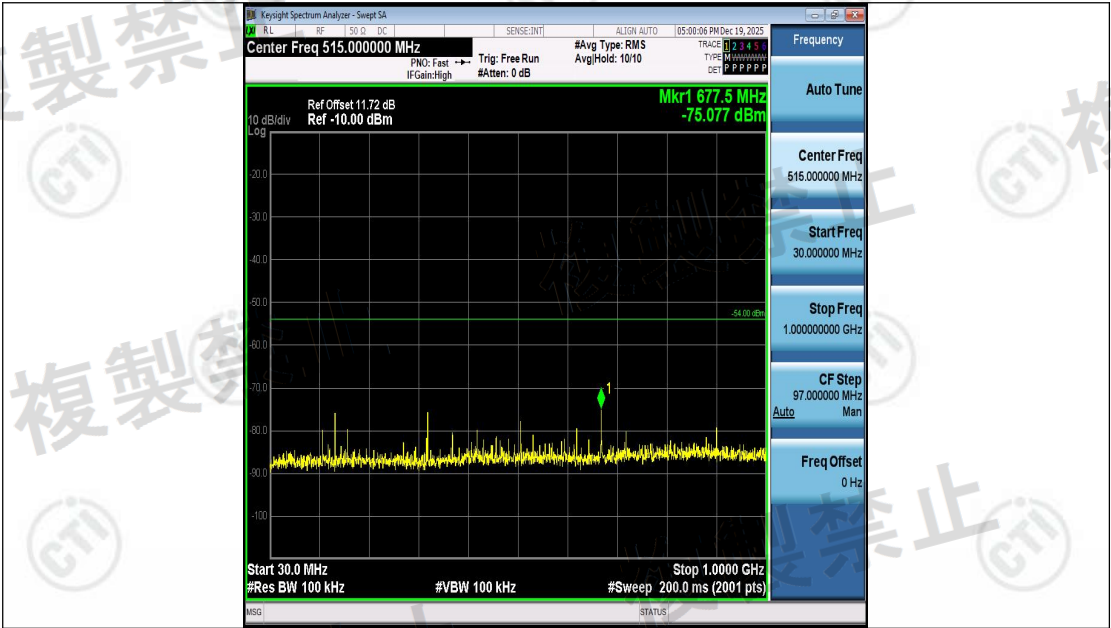
Test Condition	Test Mode	Antenna	Freq (MHz)	Freq.Range [MHz]	Result Freq (MHz)	Result [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	677.48	-75.14	0.03062	≤4	PASS
NTNV	BLE_1M	Ant1	2402	1000~12500	8112.18	-65.94	0.25468	≤20	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	902.52	-73.32	0.04656	≤4	PASS
NTNV	BLE_1M	Ant1	2440	1000~12500	8807.35	-65.50	0.28184	≤20	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	902.52	-73.40	0.04571	≤4	PASS
NTNV	BLE_1M	Ant1	2480	1000~12500	3761.15	-66.66	0.21577	≤20	PASS
NTNV	BLE_2M	Ant1	2404	30~1000	677.48	-75.08	0.03105	≤4	PASS
NTNV	BLE_2M	Ant1	2404	1000~12500	3768.05	-66.06	0.24774	≤20	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	677.48	-74.93	0.03214	≤4	PASS
NTNV	BLE_2M	Ant1	2440	1000~12500	8985.60	-66.12	0.24434	≤20	PASS
NTNV	BLE_2M	Ant1	2478	30~1000	677.48	-74.61	0.03459	≤4	PASS
NTNV	BLE_2M	Ant1	2478	1000~12500	3776.10	-65.93	0.25527	≤20	PASS

Test Graphs

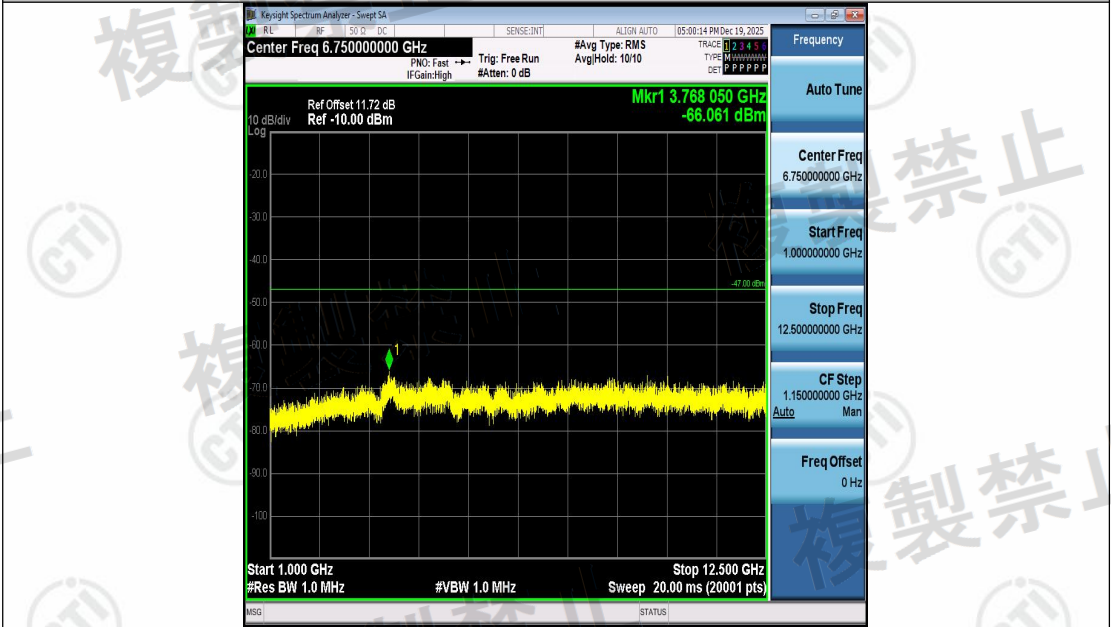




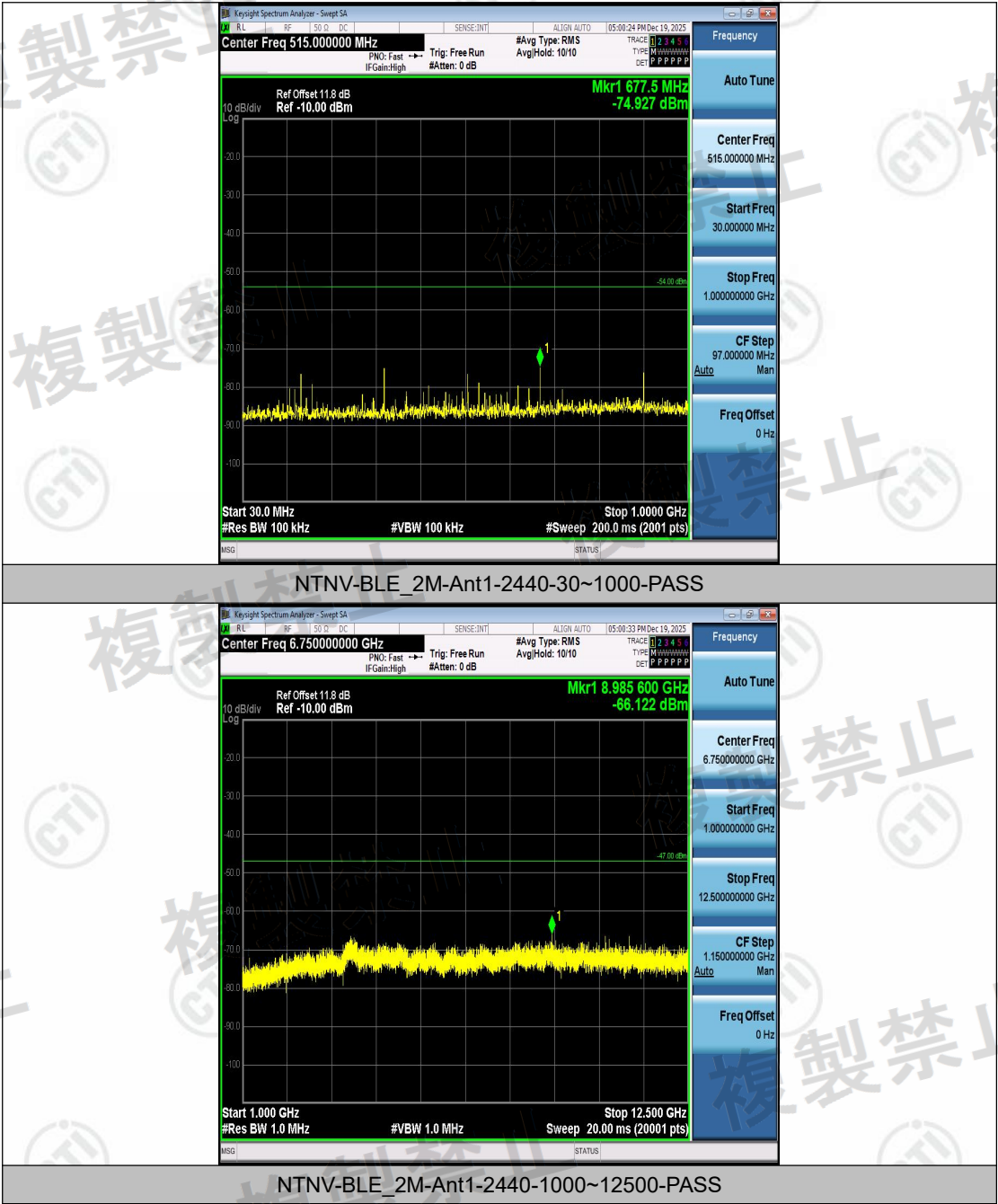


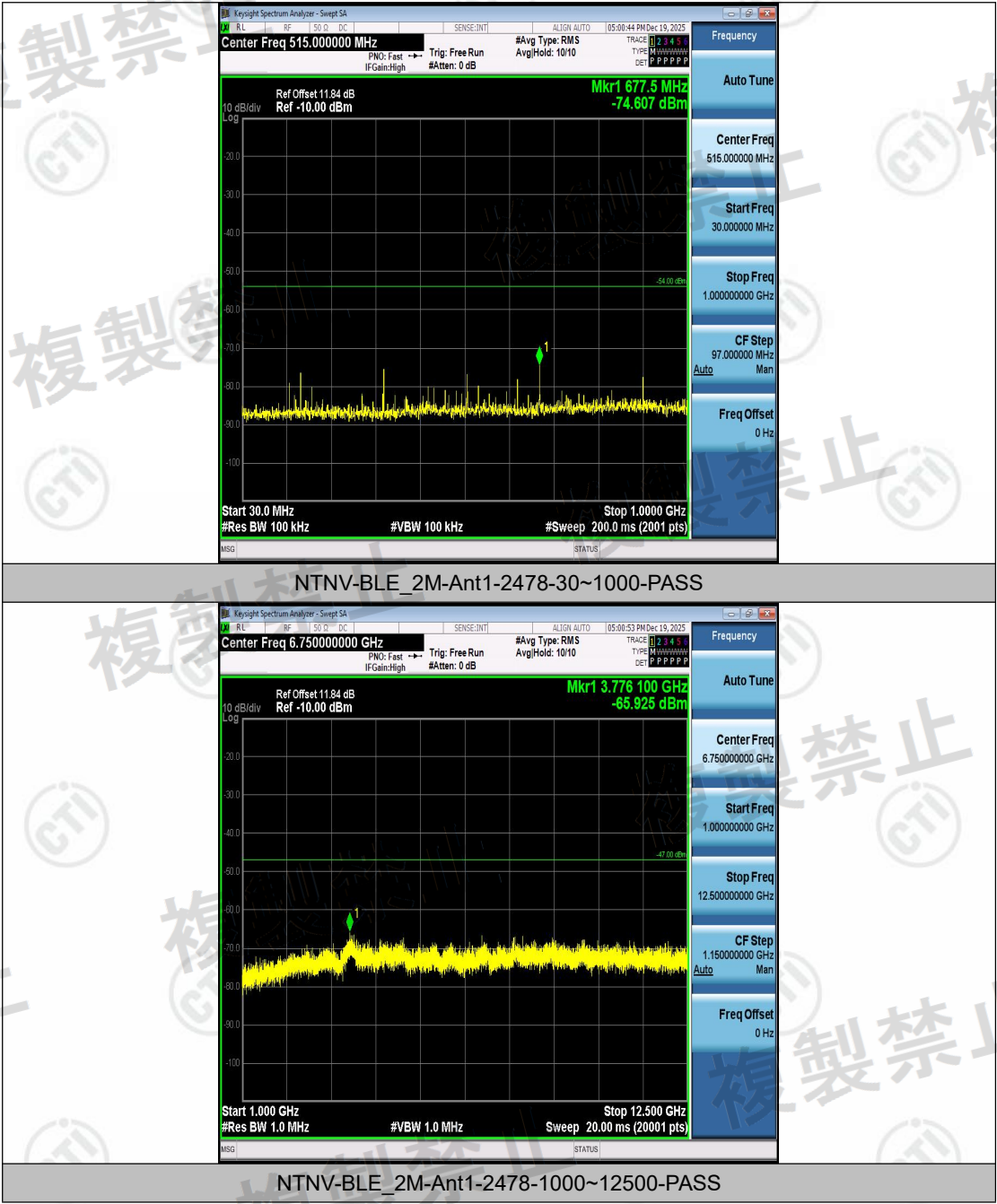


NTNV-BLE_2M-Ant1-2404-30~1000-PASS



NTNV-BLE_2M-Ant1-2404-1000~12500-PASS





*** End of Report ***