

Appendix B for BT LE Test Data**Product Name: SecondBrain Note****Test Model: GSA011****Environmental Conditions**

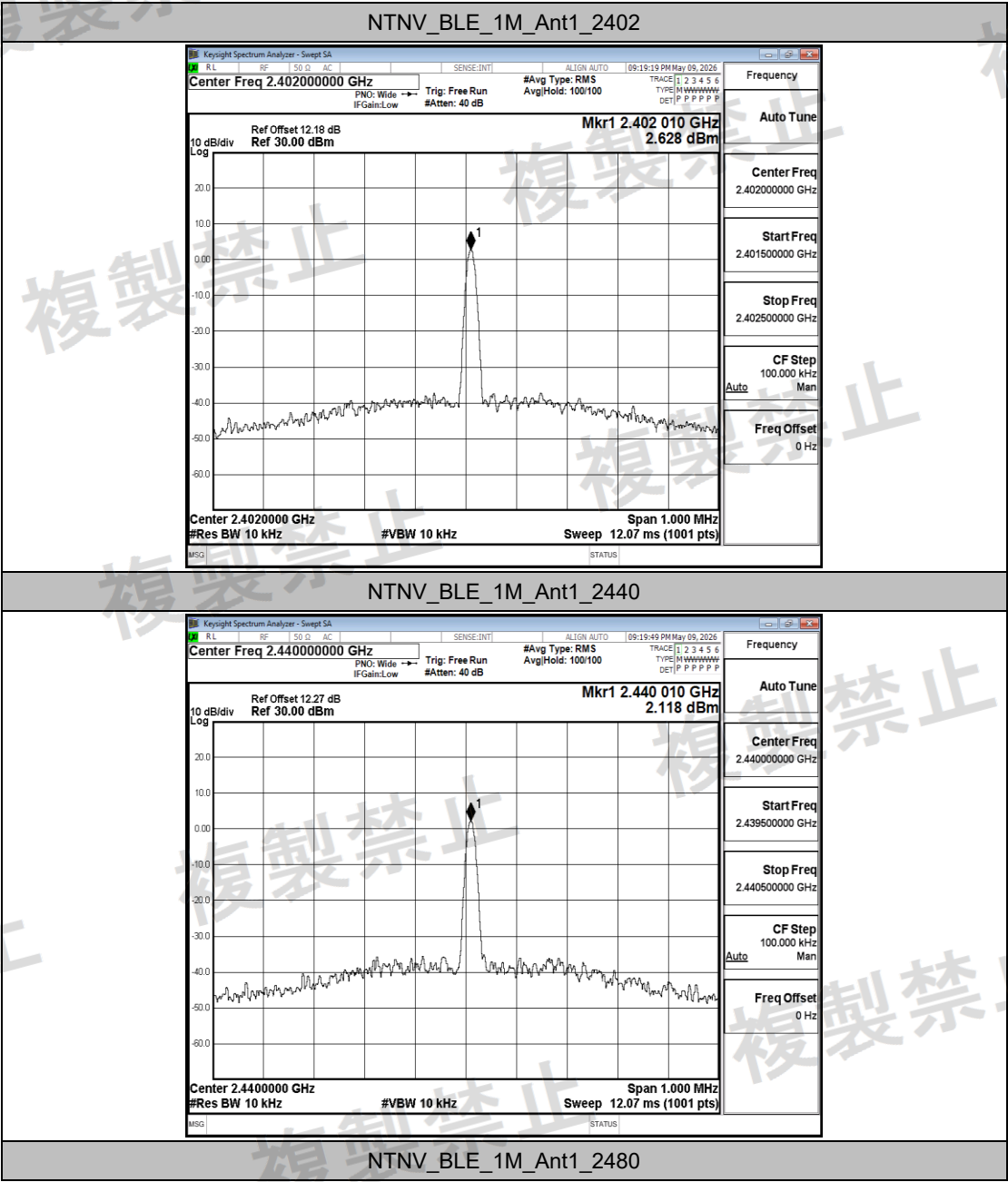
Temperature:	23.2° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

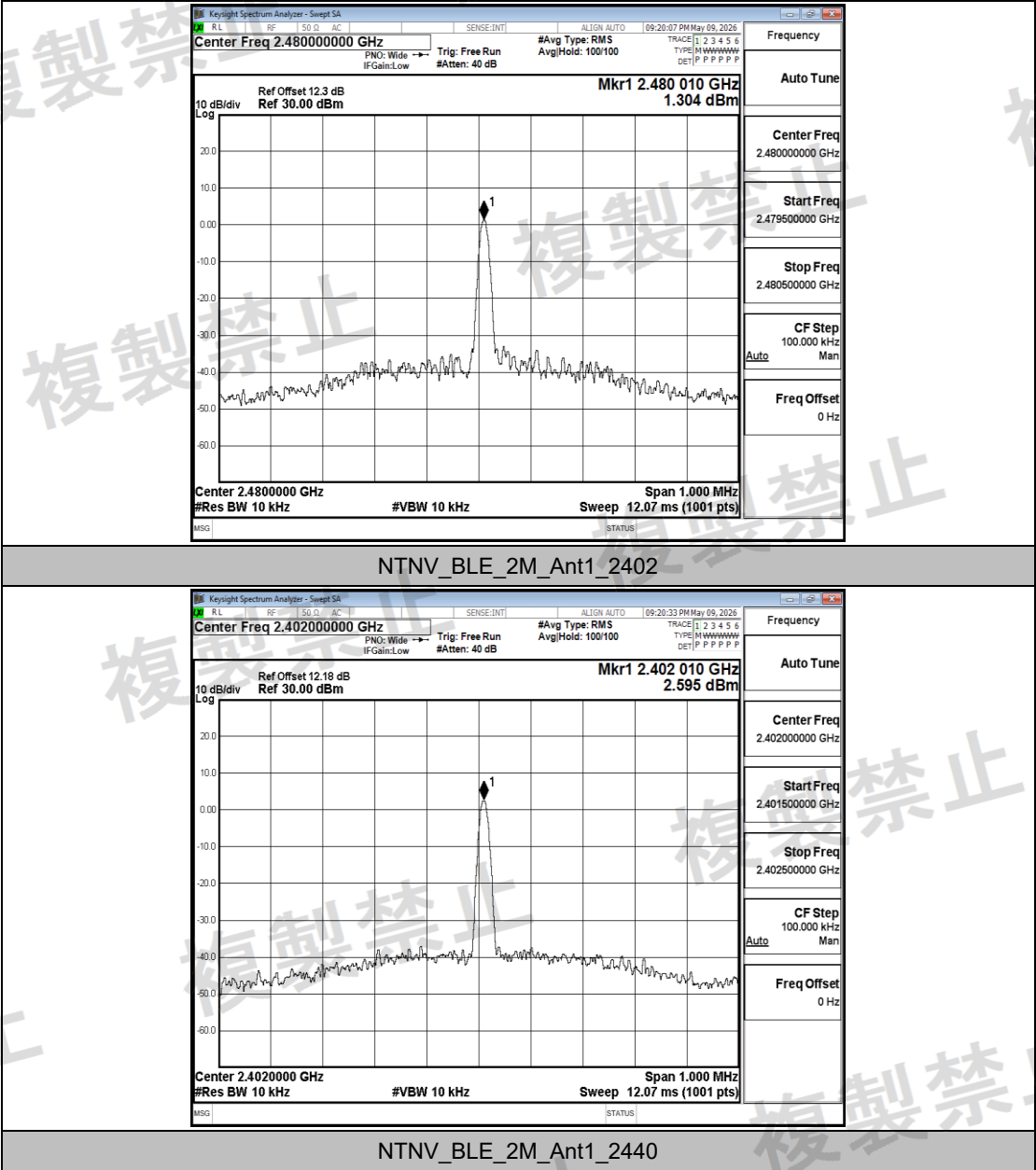
B.1 Frequency Error

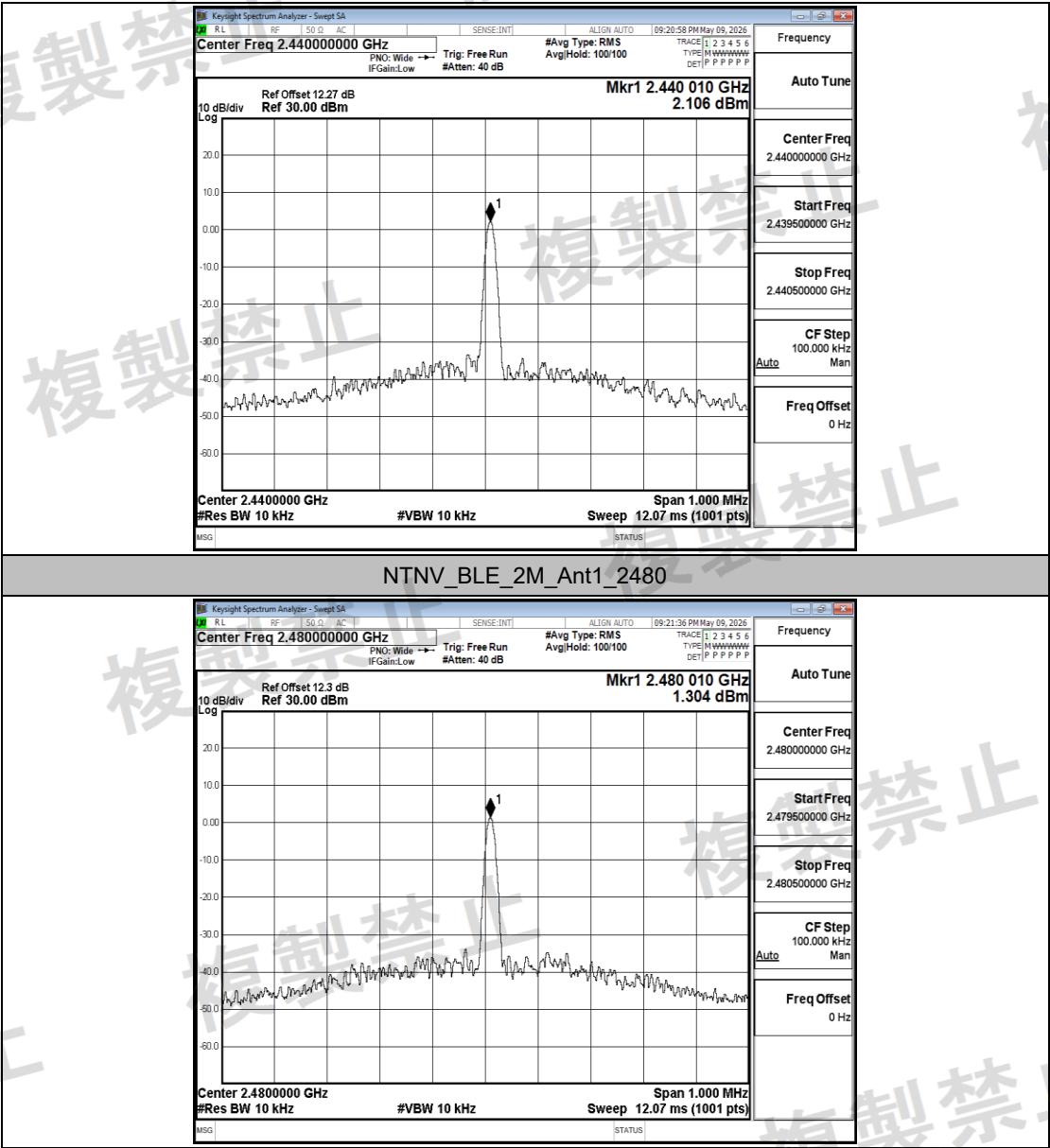
Test Result

TestCondition	TestMode	Antenna	Freq (MHz)	Result[ppm]	Limit[ppm]	Verdict
NTNV	BLE_1M	Ant1	2402	4.16320	±50	PASS
			2440	4.09836	±50	PASS
			2480	4.03226	±50	PASS
	BLE_2M	Ant1	2402	4.16320	±50	PASS
			2440	4.09836	±50	PASS
			2480	4.03226	±50	PASS

Test Graphs







B.2 Antenna Power

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Frequency [MHz]	Result [dBm]	Result [mW]	Limit [mW]	Verdict
NTNV	BLE_1M	Ant	2402	2.85	1.9275	≤10	PASS
			2440	2.62	1.8281	≤10	PASS
			2480	2.33	1.7100	≤10	PASS
	BLE_2M	Ant	2402	2.82	1.9143	≤10	PASS
			2440	2.59	1.8155	≤10	PASS
			2480	2.38	1.7298	≤10	PASS

Tolerance								
Test Condition	Test Mode	Antenna	Frequency [MHz]	Power [mW]	Rated Power [mW]	Result [%]	Limit [%]	Verdict
NTNV	BLE_1M	Ant	2402	1.9275	2.0	-3.63	+20	PASS
			2440	1.8281	2.0	-8.60	+20	PASS
			2480	1.7100	2.0	-14.50	+20	PASS
	BLE_2M	Ant	2402	1.9143	2.0	-4.29	+20	PASS
			2440	1.8155	2.0	-9.23	+20	PASS
			2480	1.7298	2.0	-13.51	+20	PASS

B.3 Occupied Bandwidth

Test Result

TestCondition	TestMode	Antenna	Freq (MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.020	≤26	PASS
			2440	1.014	≤26	PASS
			2480	1.016	≤26	PASS
	BLE_2M	Ant1	2402	2.033	≤26	PASS
			2440	2.027	≤26	PASS
			2480	2.016	≤26	PASS

NTNV_BLE_1M_Ant1_2402

Agilent Spectrum Analyzer - Occupied BW

RL RF 150.0 AC SENSE: [NT] SOURCE: OFF ALIGN: AUTO 11:42:16 AM May 09, 2026

Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None

#IF Gain: Low #Atten: 30 dB Radio Device: BTS

Ref Offset 14.51 dB Mkr1 2.401748 GHz
Ref 30.00 dBm 5.5019 dBm

10 dB/div Log

Center 2.402 GHz Span 4 MHz
#Res BW 30 kHz #VBW 30 kHz Sweep 5.4 ms

Occupied Bandwidth Total Power 14.5 dBm
1.0197 MHz

Transmit Freq Error 1.741 kHz OBW Power 99.00 %
x dB Bandwidth 599.6 kHz x dB -6.00 dB

Frequency

Center Freq 2.402000000 GHz

CF Step 400.000 kHz
Auto Man

Freq Offset 0 Hz

NTNV_BLE_1M_Ant1_2440

Agilent Spectrum Analyzer - Occupied BW

RL RF 150.0 AC SENSE: [NT] SOURCE: OFF ALIGN: AUTO 11:42:43 AM May 09, 2026

Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Trig: Free Run Avg/Hold: 100/100 Radio Std: None

#IF Gain: Low #Atten: 30 dB Radio Device: BTS

Ref Offset 14.48 dB Mkr1 2.439744 GHz
Ref 30.00 dBm 5.8632 dBm

10 dB/div Log

Center 2.44 GHz Span 4 MHz
#Res BW 30 kHz #VBW 30 kHz Sweep 5.4 ms

Occupied Bandwidth Total Power 14.9 dBm
1.0139 MHz

Transmit Freq Error 748 Hz OBW Power 99.00 %
x dB Bandwidth 588.0 kHz x dB -6.00 dB

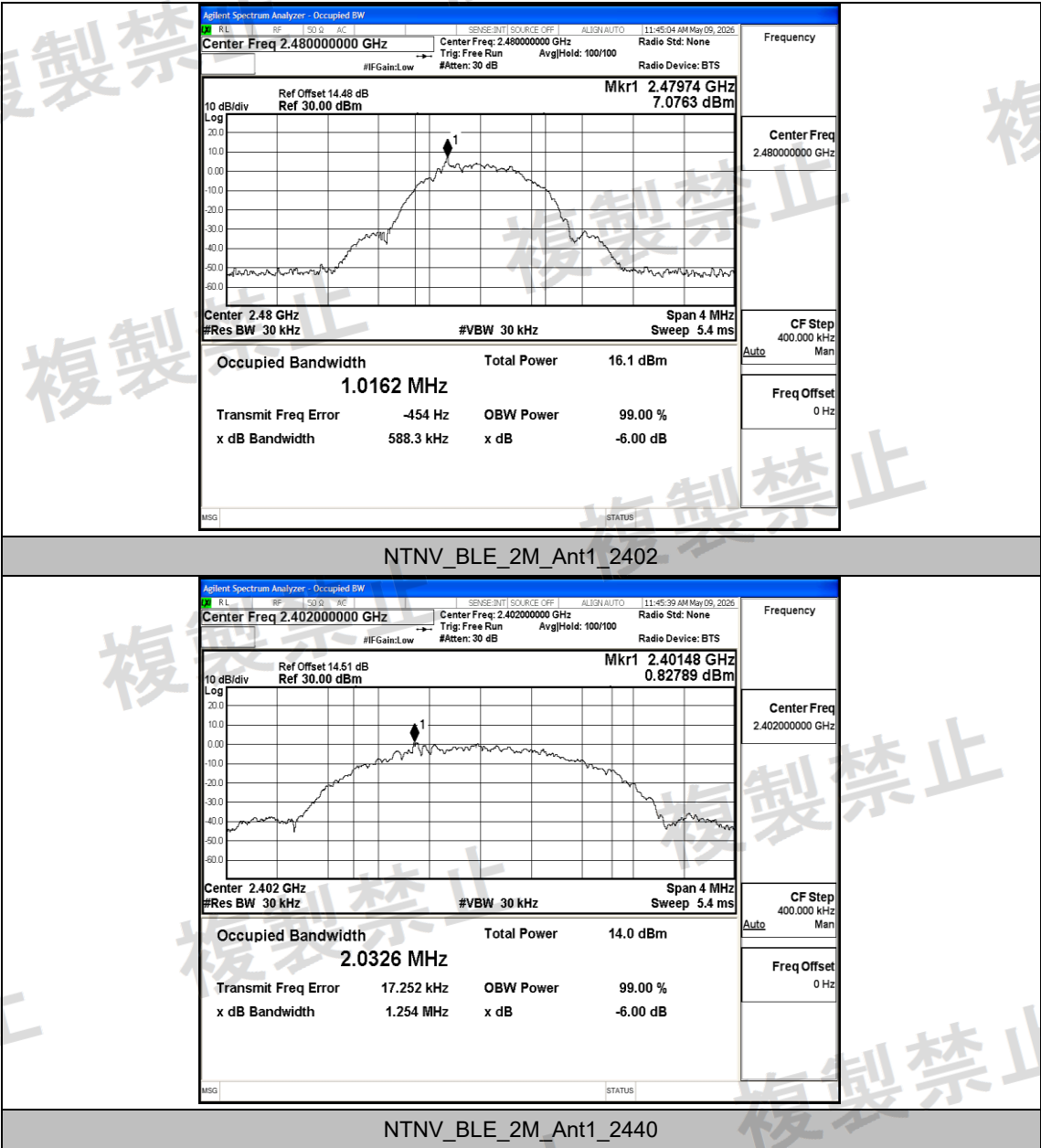
Frequency

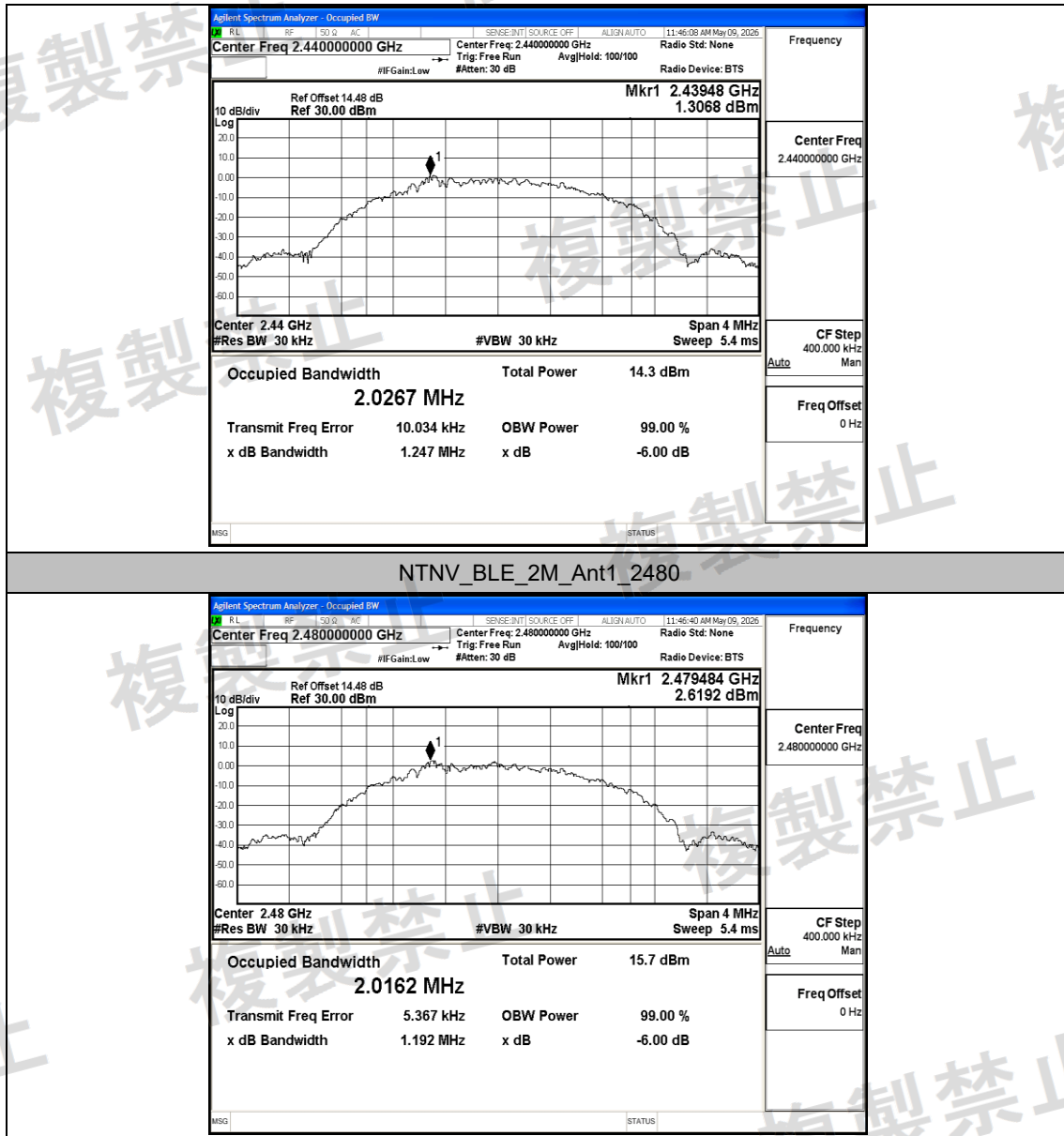
Center Freq 2.440000000 GHz

CF Step 400.000 kHz
Auto Man

Freq Offset 0 Hz

NTNV_BLE_1M_Ant1_2480



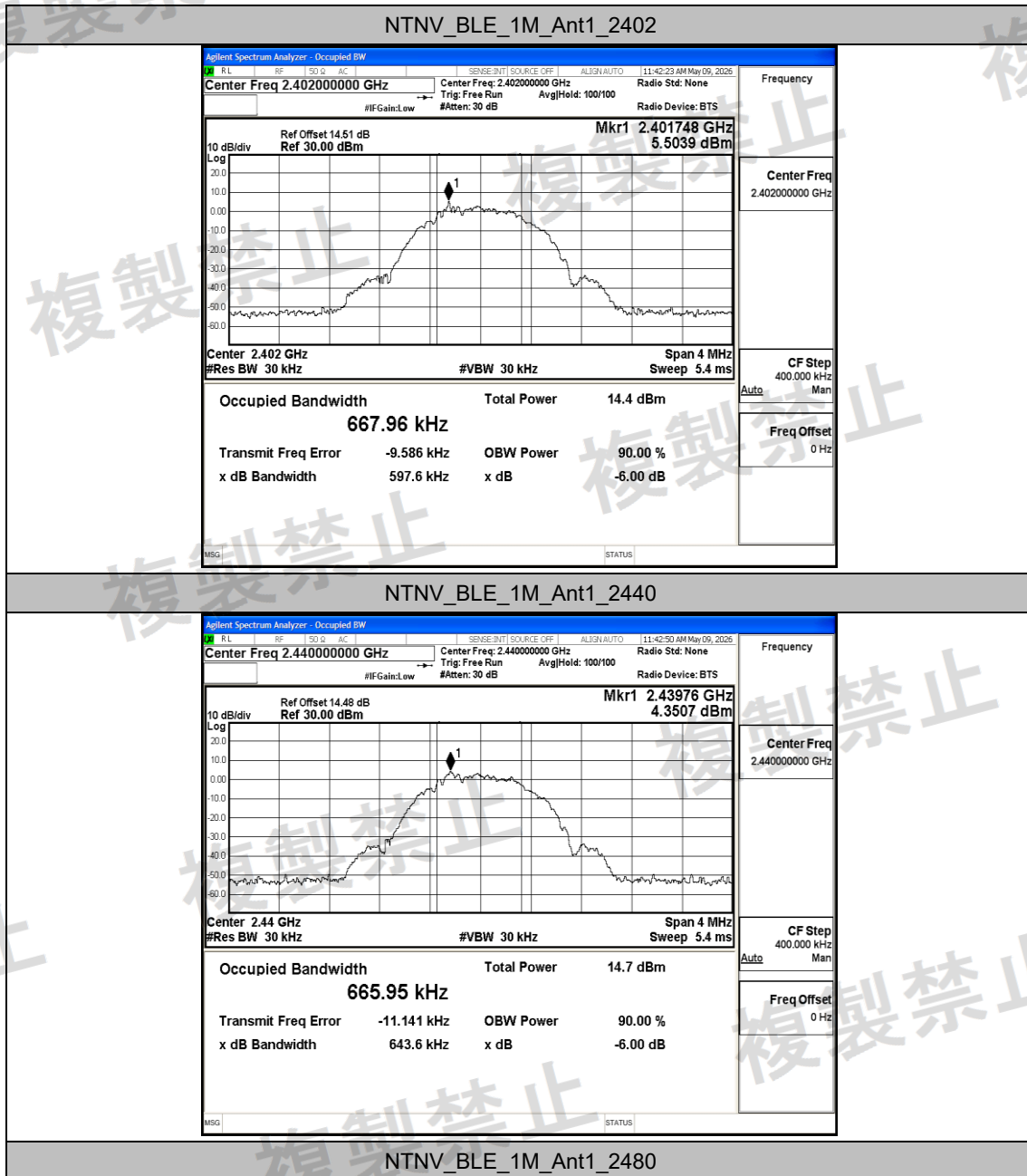


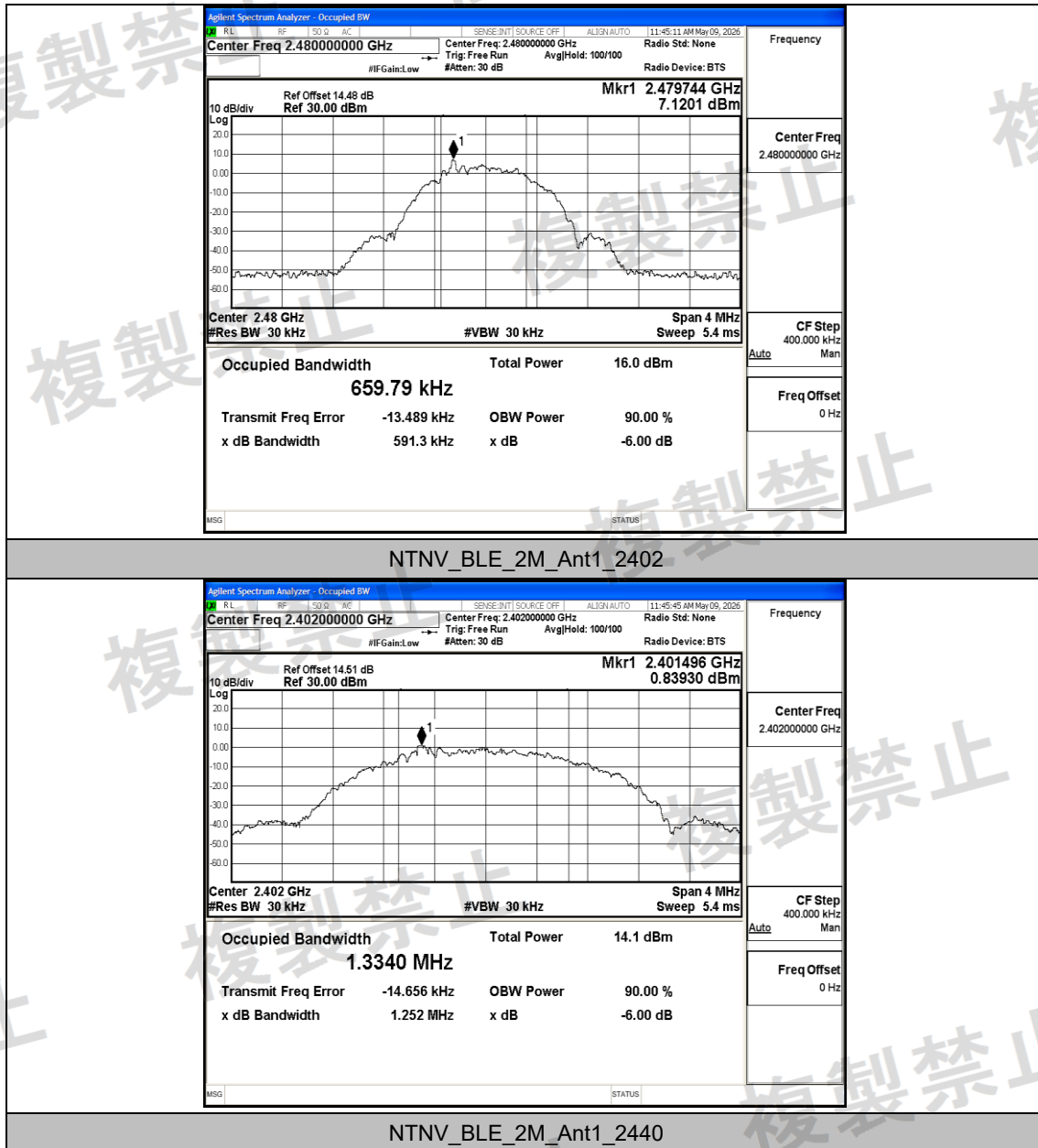
B.4 Spread Bandwidth

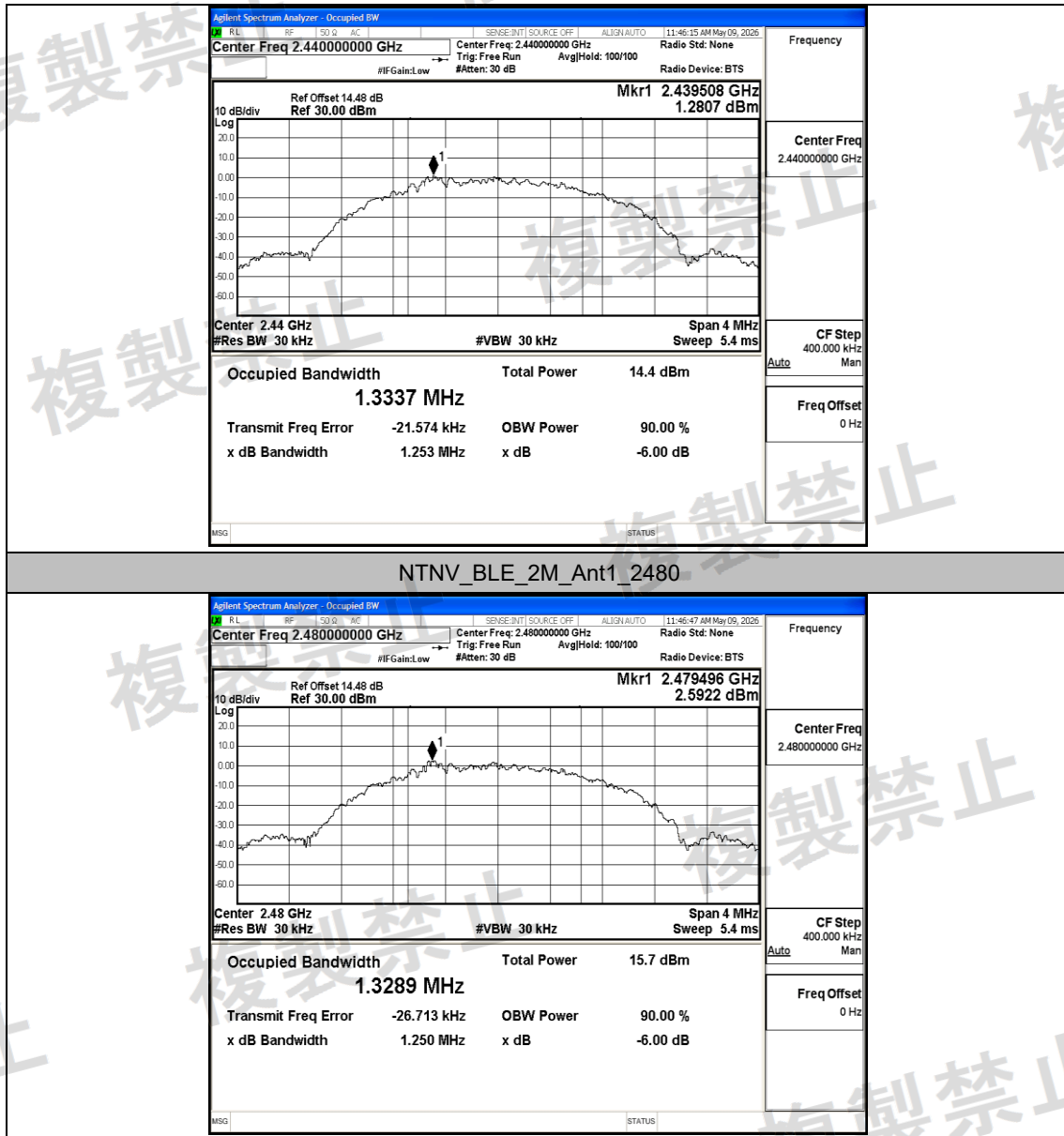
Test Result

TestCondition	TestMode	Antenna	Freq (MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.668	---	PASS
			2440	0.666	---	PASS
			2480	0.660	---	PASS
	BLE_2M	Ant1	2402	1.334	---	PASS
			2440	1.334	---	PASS
			2480	1.329	---	PASS

Test Graphs







B.5 Spurious Emission of TX

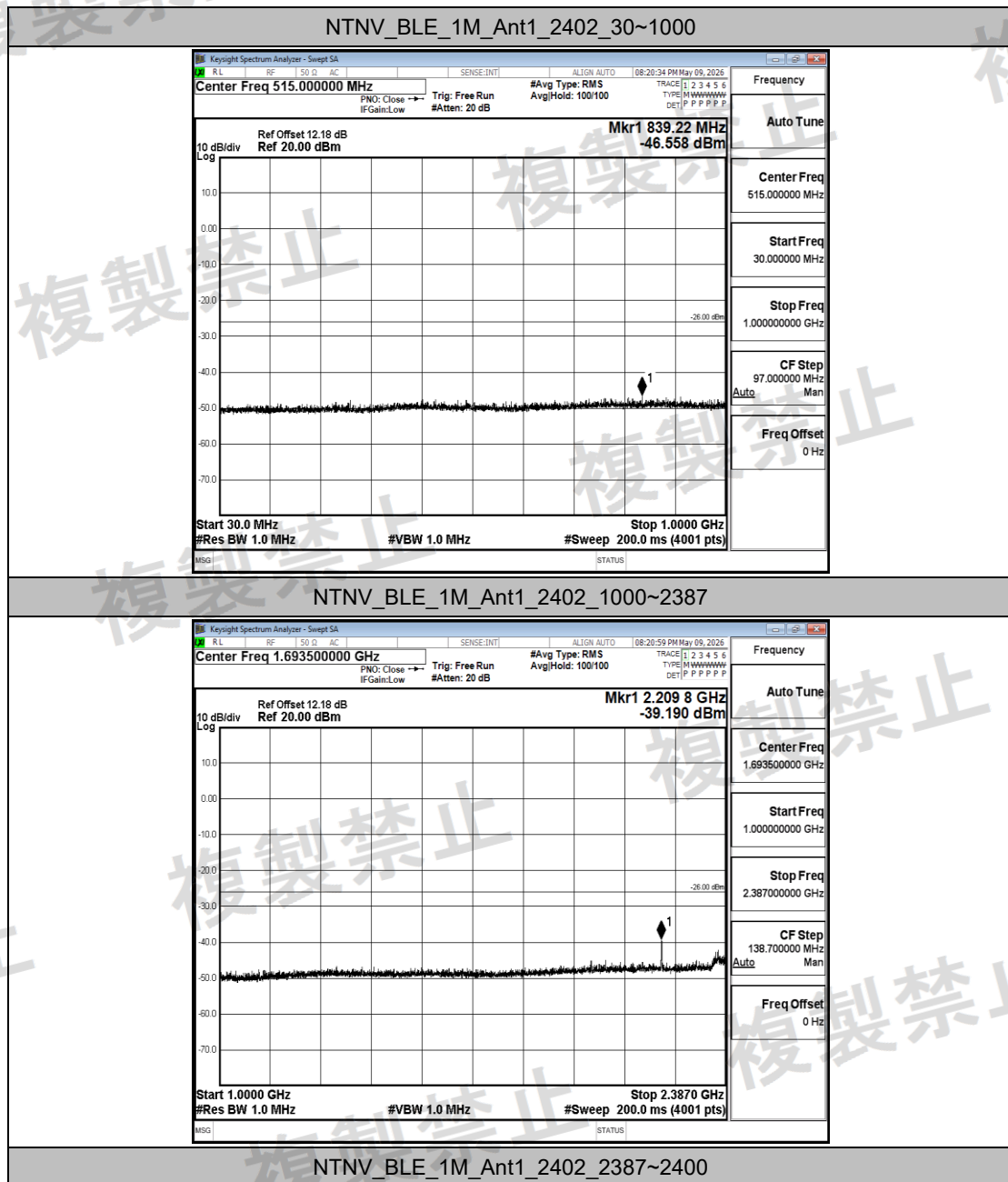
Test Result

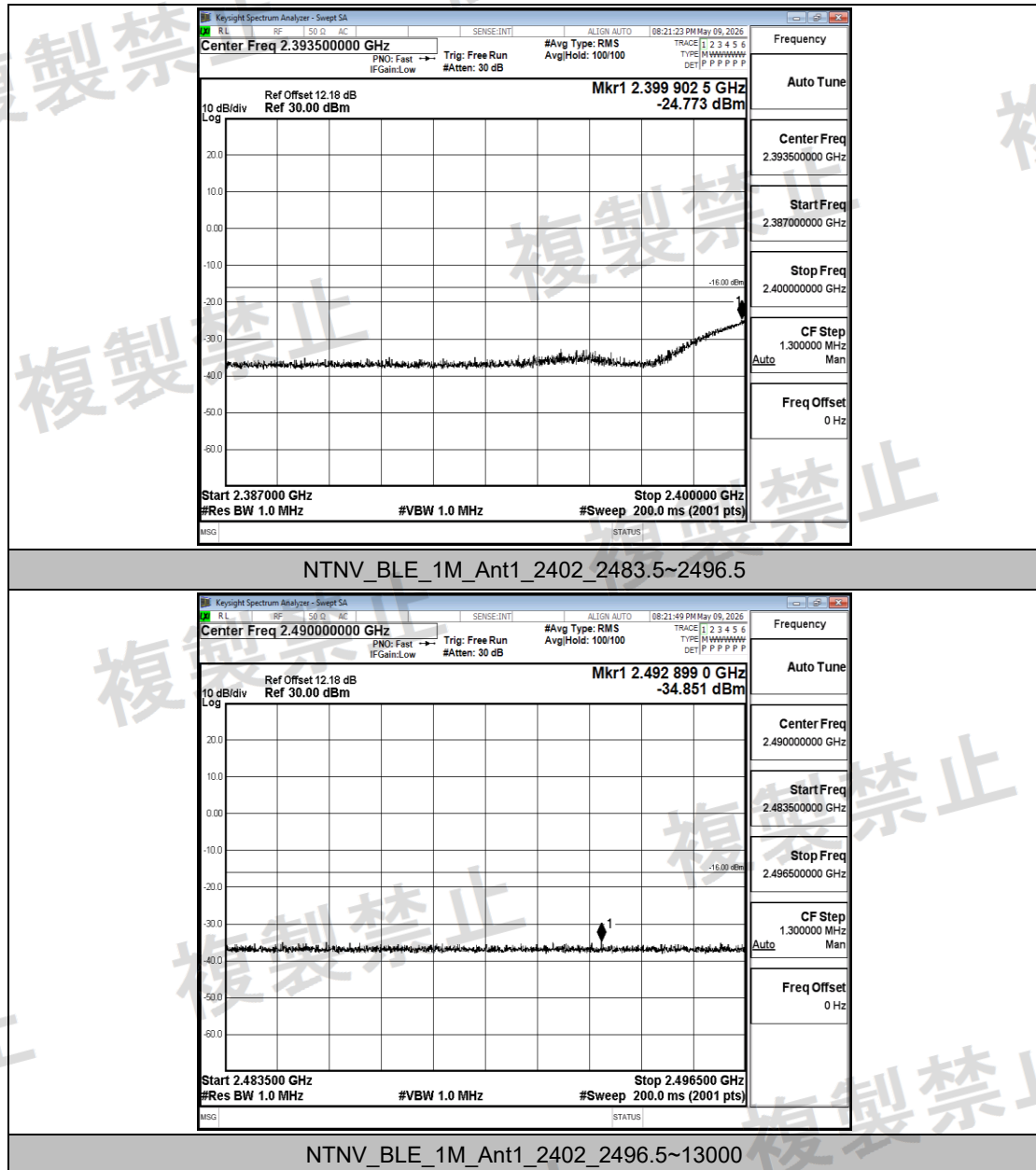
TestCondition	TestMode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	839.22	-46.56	≤-26	0.02208	≤2.5	PASS
				1000~2387	2209.81	-39.19	≤-26	0.12050	≤2.5	PASS
				2387~2400	2399.90	-24.77	≤-16	3.33426	≤25	PASS
				2483.5~2496.5	2492.90	-34.85	≤-16	0.32734	≤25	PASS
				2496.5~13000	7205.74	-28.26	≤-26	1.49279	≤2.5	See table below
			2440	30~1000	738.83	-46.88	≤-26	0.02051	≤2.5	PASS
				1000~2387	2247.95	-37.83	≤-26	0.16482	≤2.5	PASS
				2387~2400	2397.18	-34.52	≤-16	0.35318	≤25	PASS
				2483.5~2496.5	2494.37	-34.19	≤-16	0.38107	≤25	PASS
				2496.5~13000	4879.74	-31.32	≤-26	0.73790	≤2.5	PASS
			2480	30~1000	719.19	-47.16	≤-26	0.01923	≤2.5	PASS
				1000~2387	2287.83	-36.81	≤-26	0.20845	≤2.5	PASS
				2387~2400	2399.84	-34.72	≤-16	0.33729	≤25	PASS
				2483.5~2496.5	2483.58	-31.89	≤-16	0.64714	≤25	PASS
				2496.5~13000	4960.10	-33.98	≤-26	0.39994	≤2.5	PASS
	BLE_2M	Ant1	2402	30~1000	873.90	-45.99	≤-26	0.02518	≤2.5	PASS
				1000~2387	2209.46	-43.24	≤-26	0.04742	≤2.5	PASS
				2387~2400	2400.00	-20.57	≤-16	8.77001	≤25	PASS
				2483.5~2496.5	2492.13	-34.63	≤-16	0.34435	≤25	PASS
				2496.5~13000	9608.42	-42.70	≤-26	0.05370	≤2.5	PASS
			2440	30~1000	789.27	-46.00	≤-26	0.02512	≤2.5	PASS
				1000~2387	2247.95	-38.58	≤-26	0.13868	≤2.5	PASS
				2387~2400	2393.49	-34.31	≤-16	0.37068	≤25	PASS
				2483.5~2496.5	2486.20	-34.07	≤-16	0.39174	≤25	PASS
				2496.5~13000	7320.23	-32.35	≤-26	0.58210	≤2.5	PASS
			2480	30~1000	757.26	-46.63	≤-26	0.02173	≤2.5	PASS
				1000~2387	2287.48	-37.26	≤-26	0.18793	≤2.5	PASS
				2387~2400	2398.82	-34.31	≤-16	0.37068	≤25	PASS
				2483.5~2496.5	2485.50	-27.82	≤-16	1.65196	≤25	PASS
				2496.5~13000	4960.10	-34.40	≤-26	0.36308	≤2.5	PASS

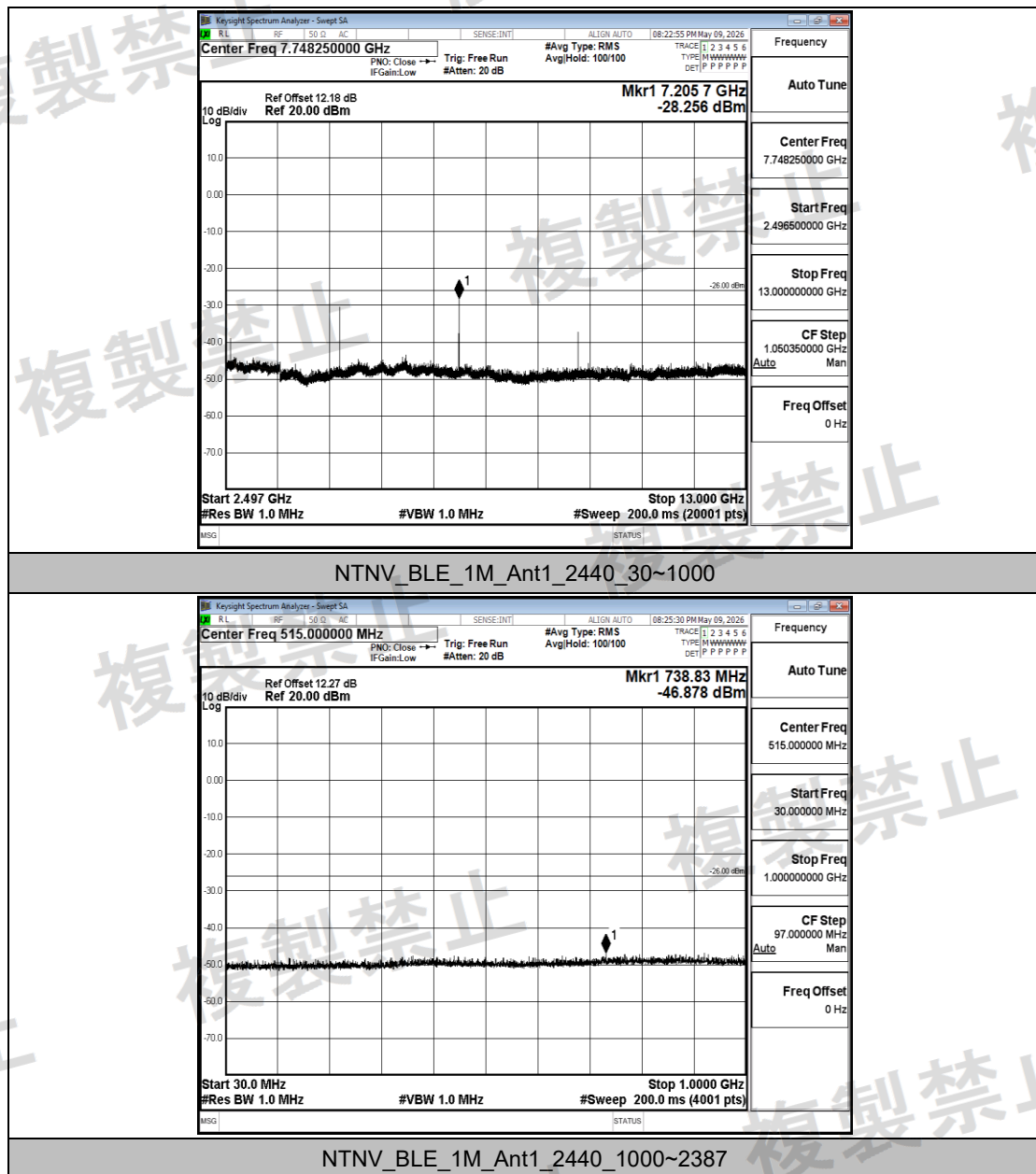
Test Result_Step2

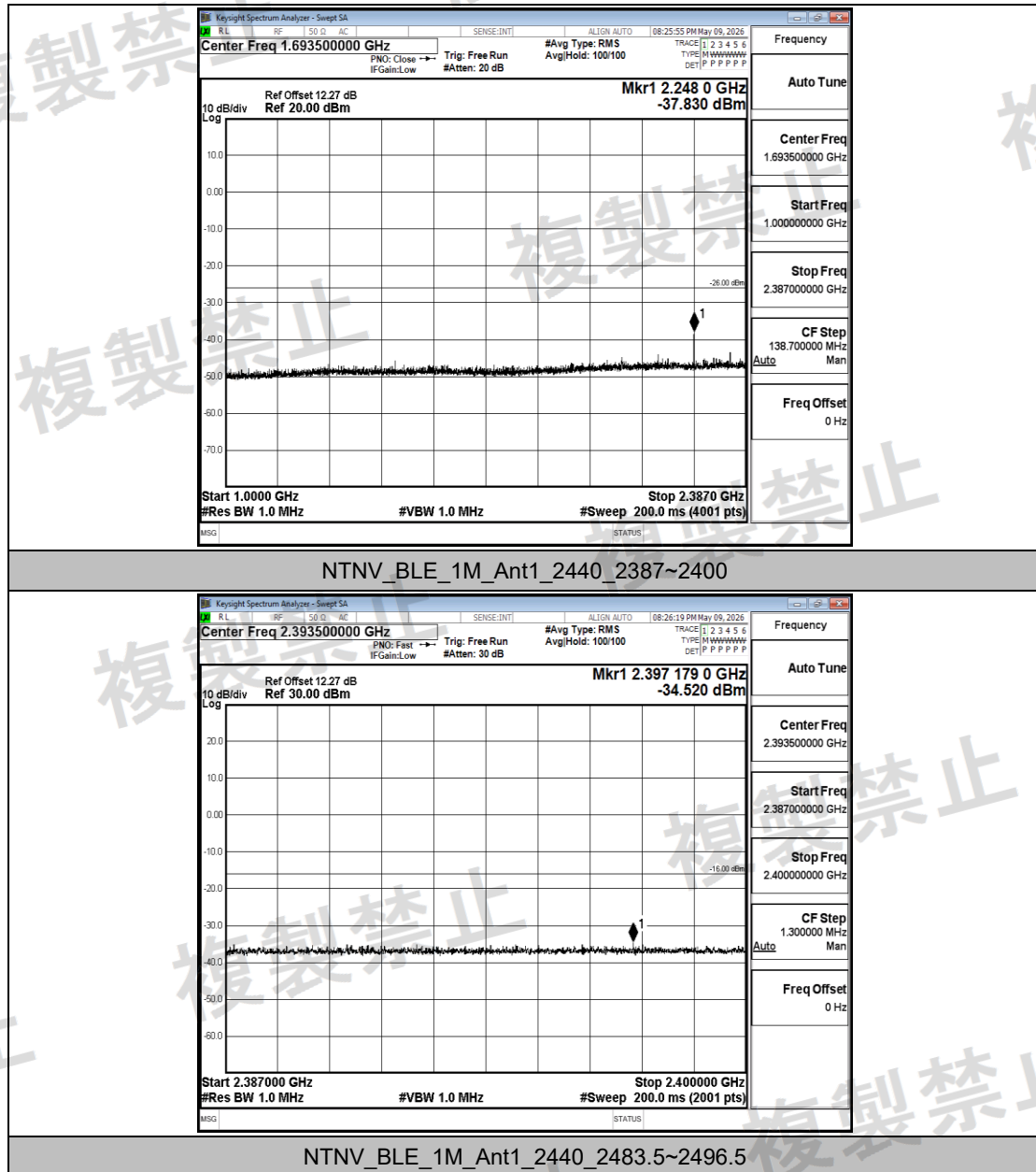
TestCondition	TestMode	Antenna	Freq (MHz)	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [μW]	Limit [μW]	Verdict
NTNV	BLE_1M	Ant1	2402	7205.74	-32.83	≤-26	0.52119	≤2.5	PASS

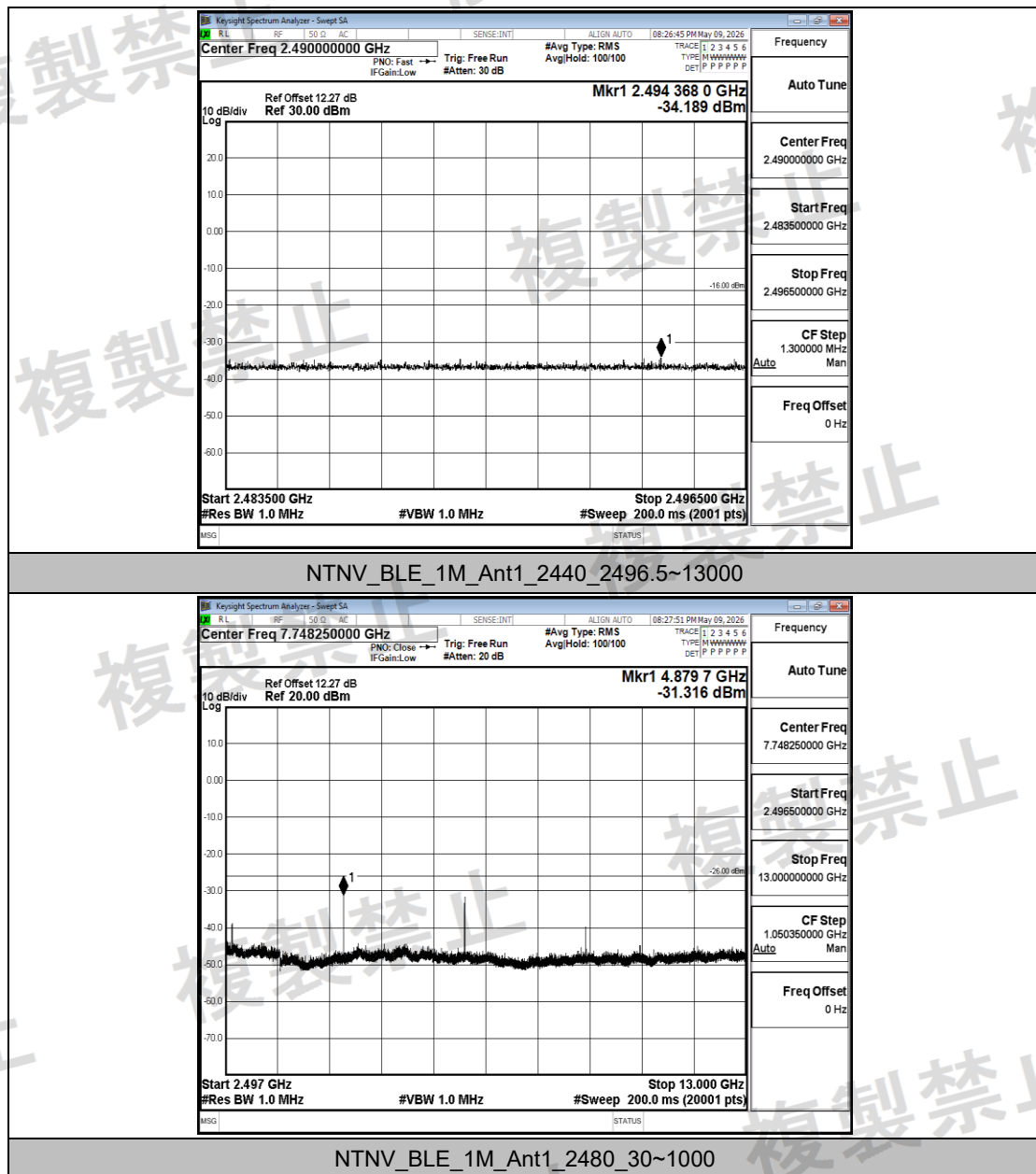
Test Graphs

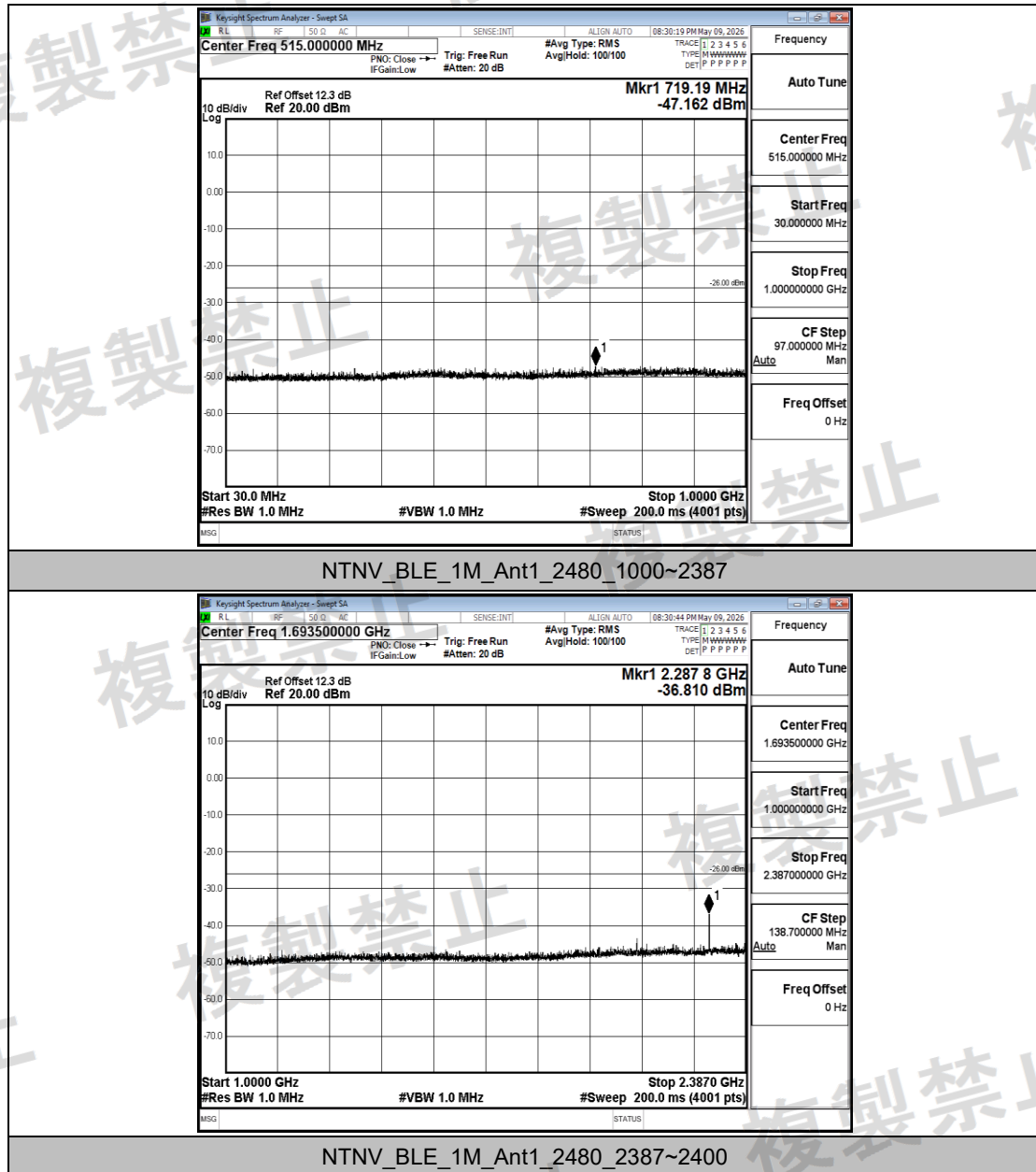


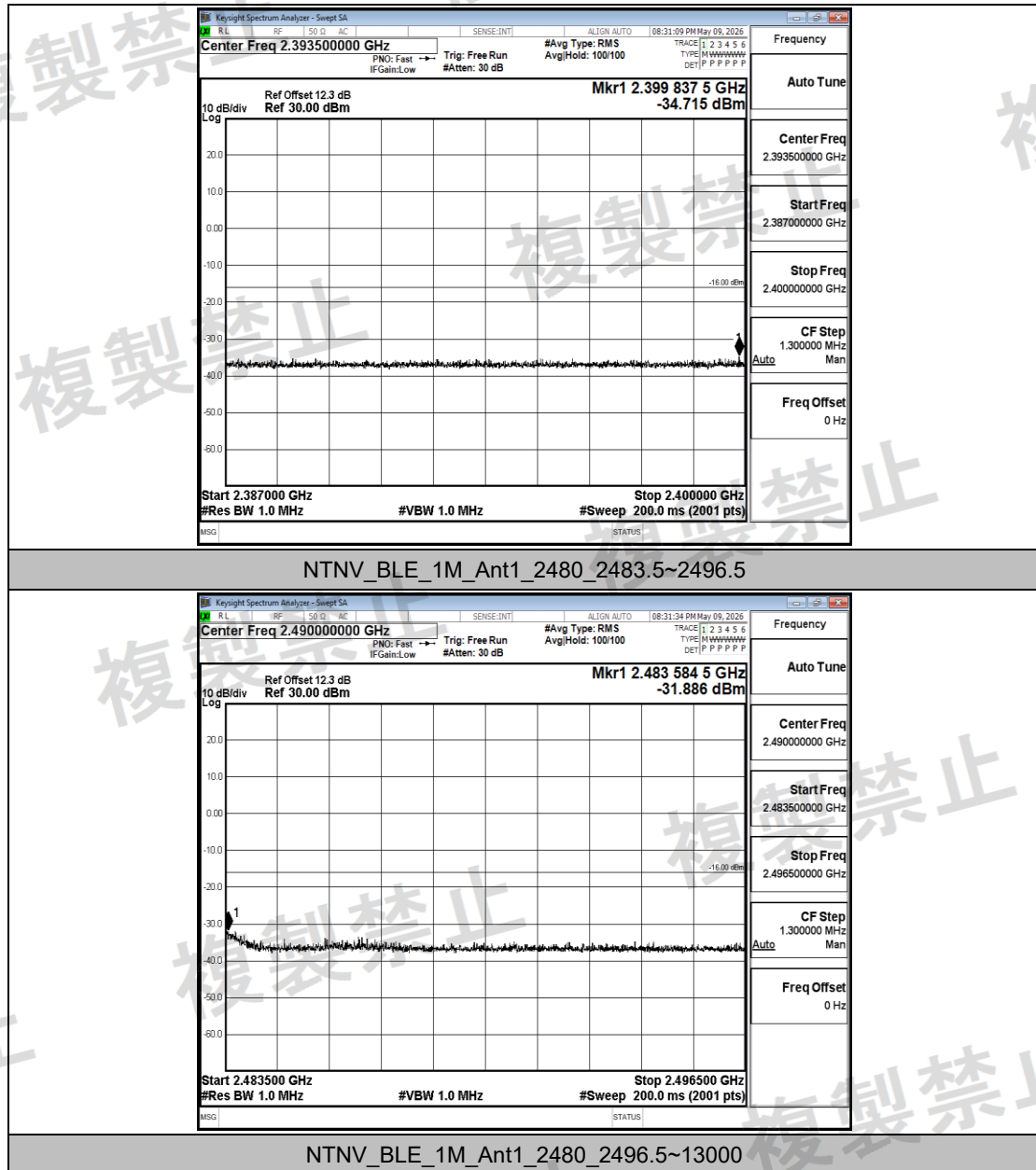


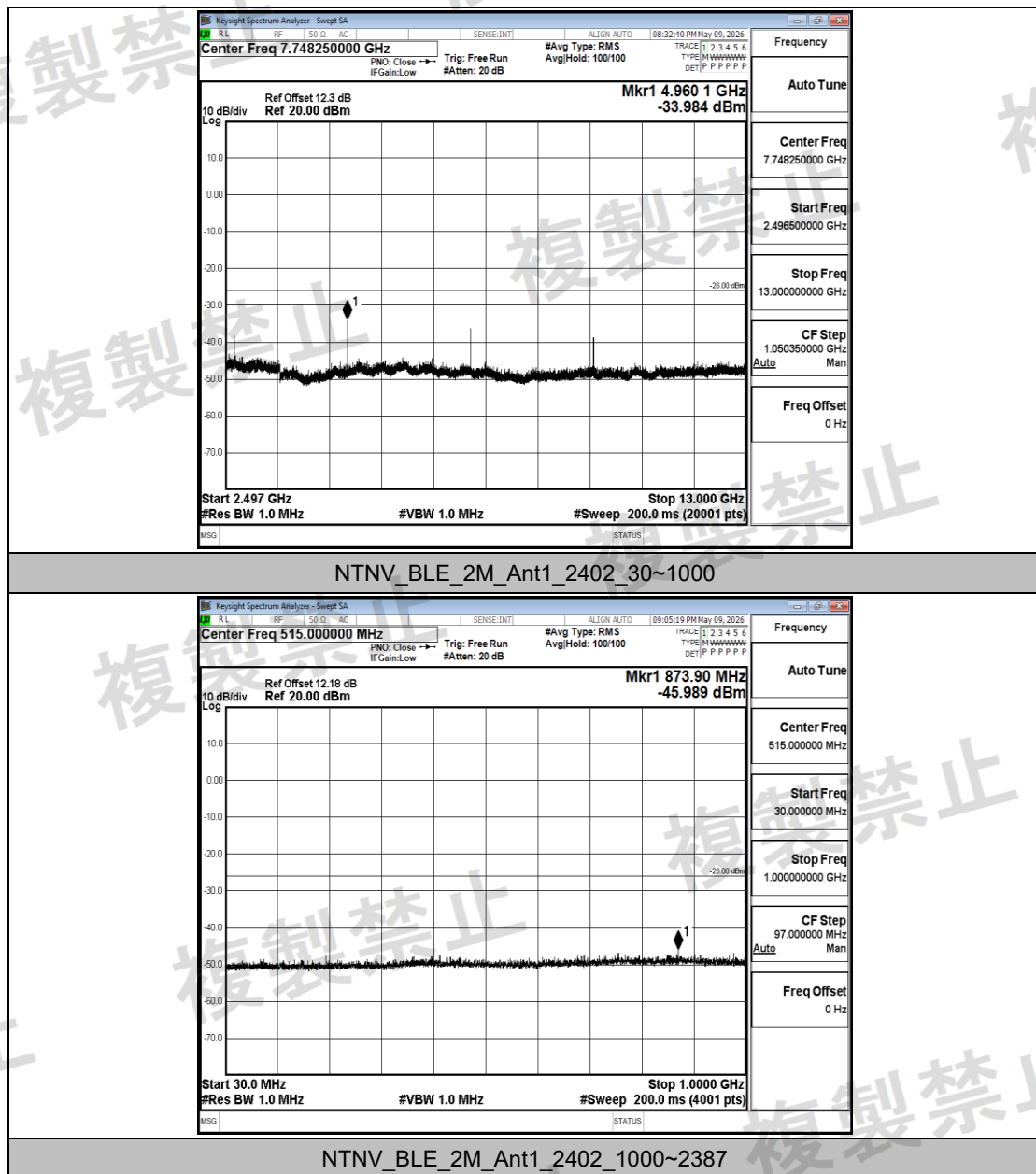


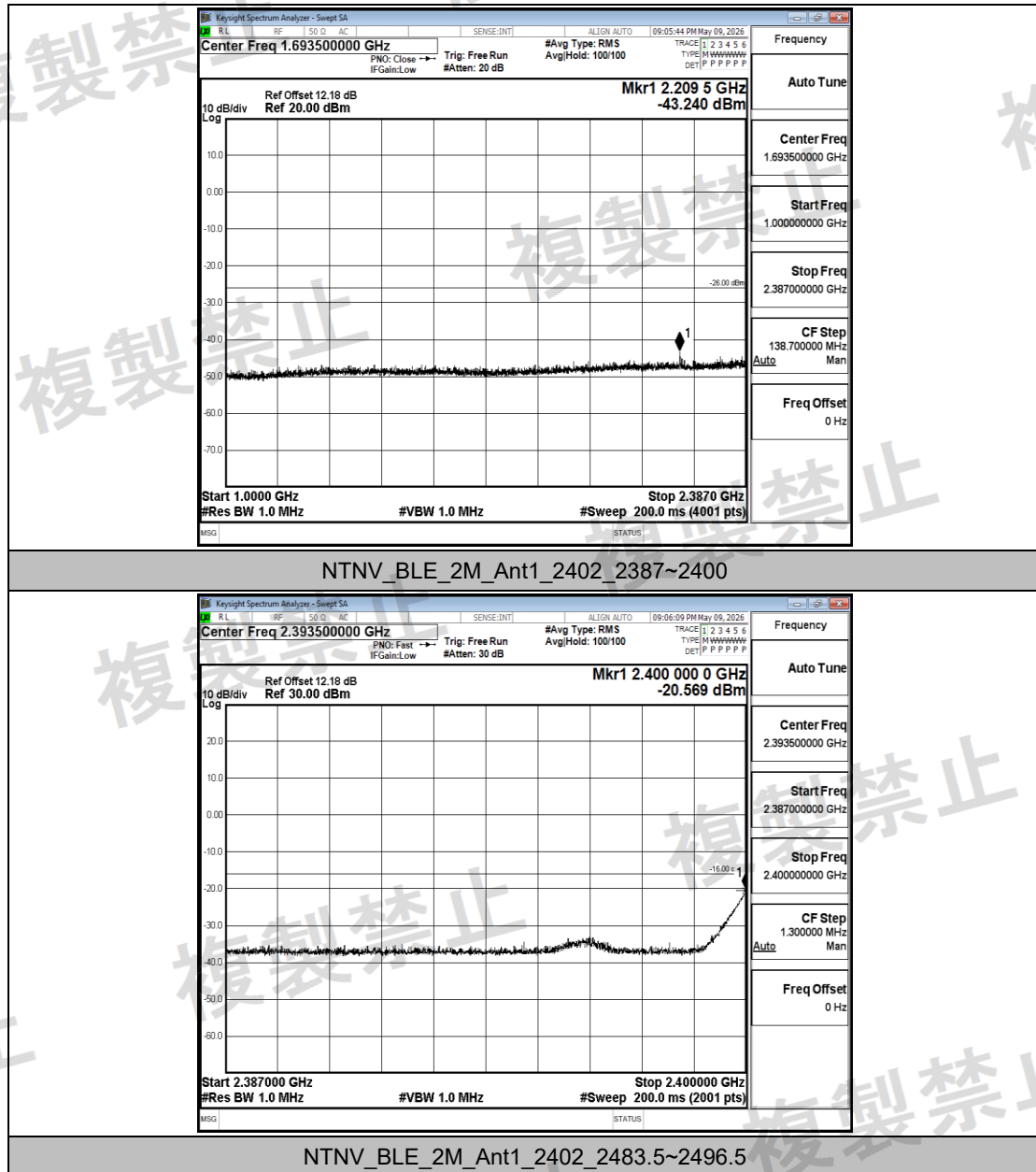


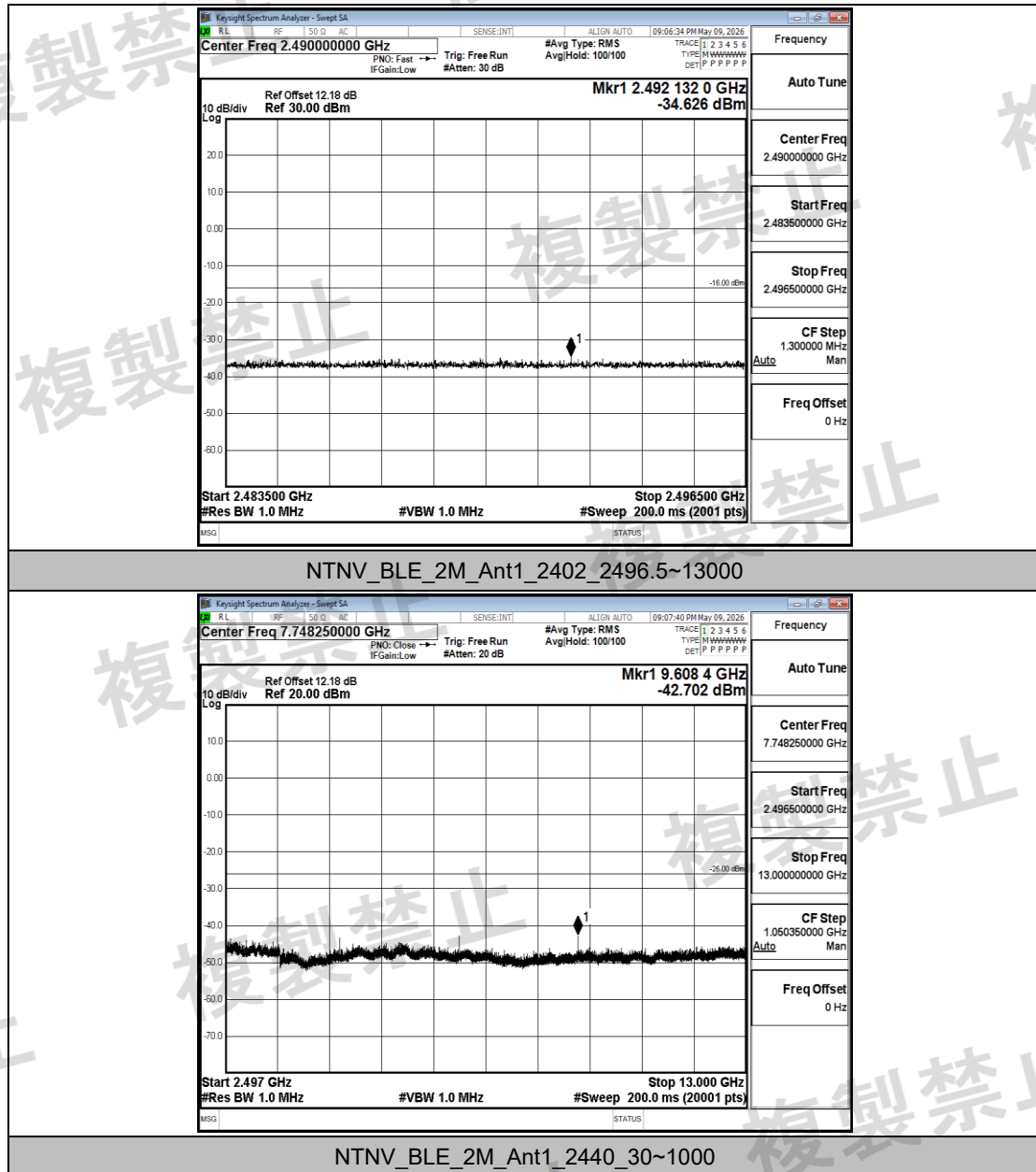


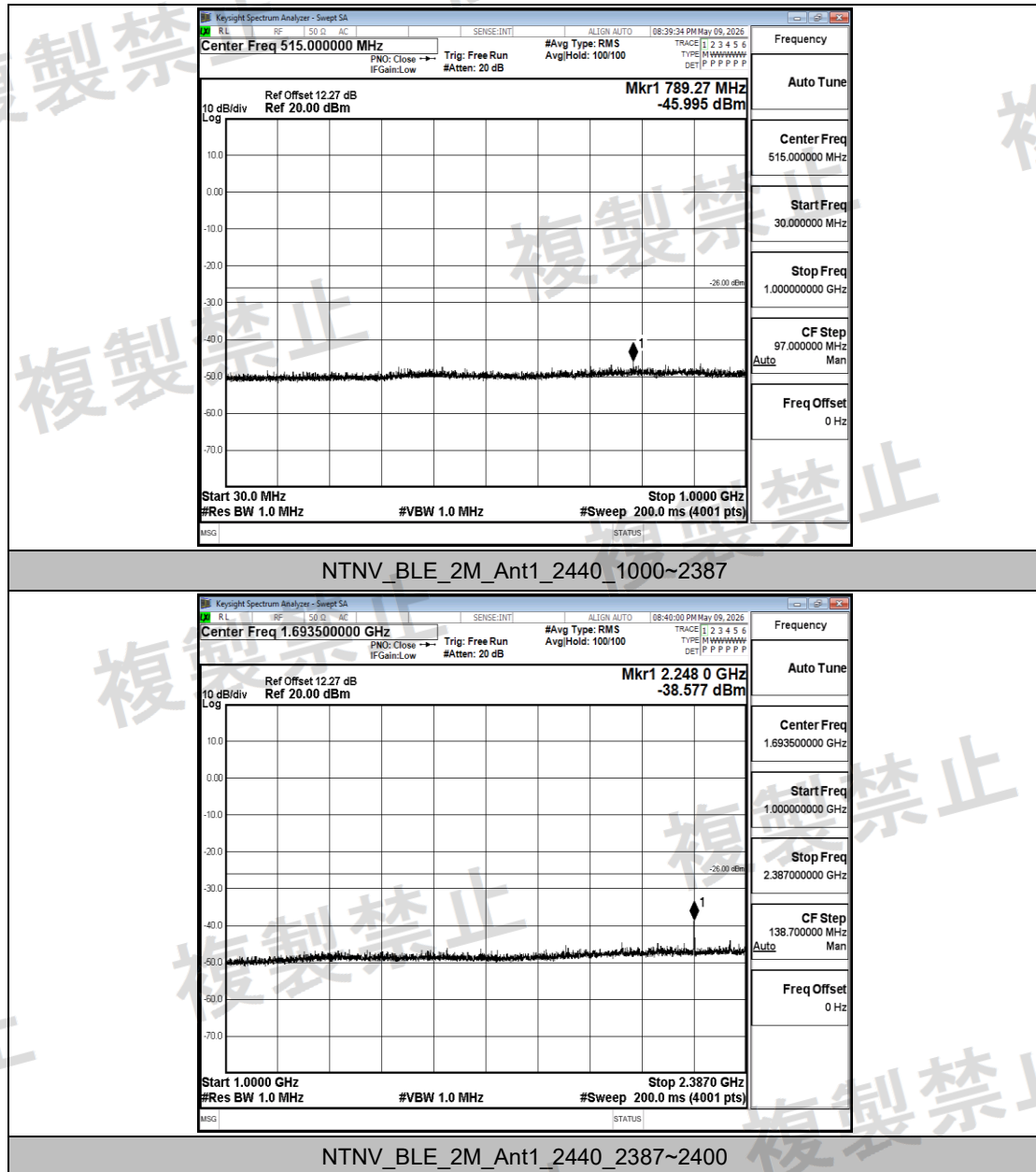


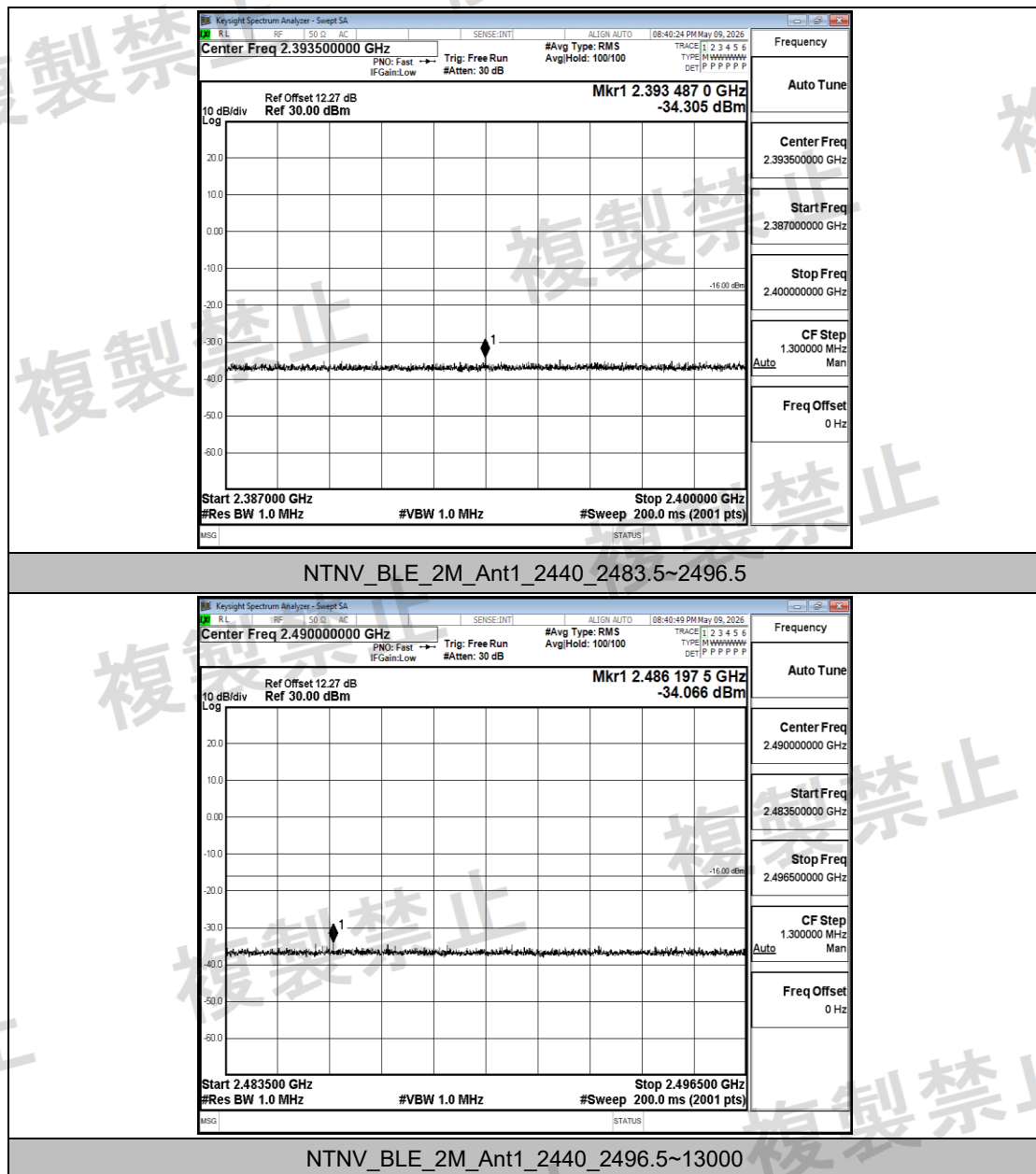


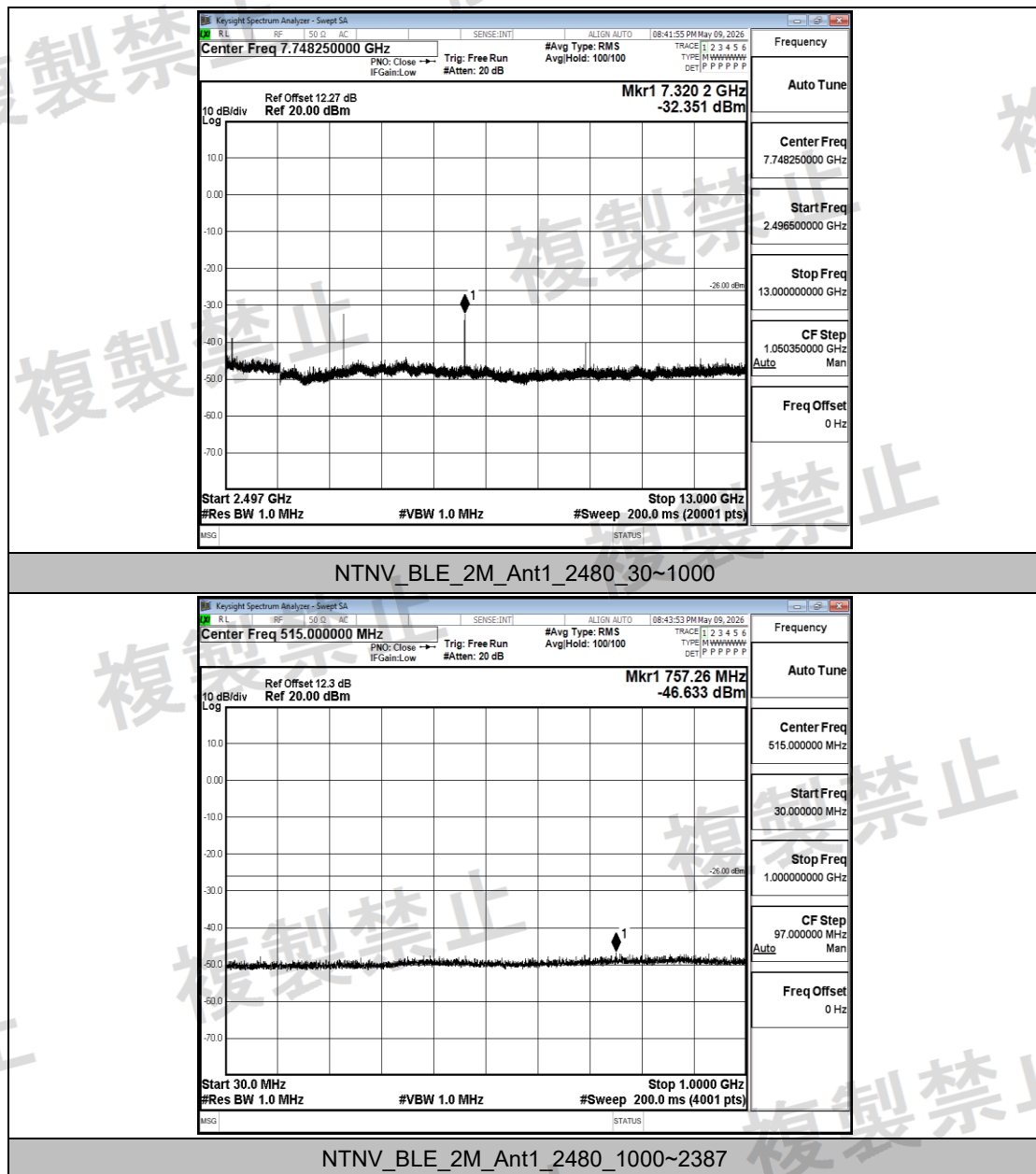


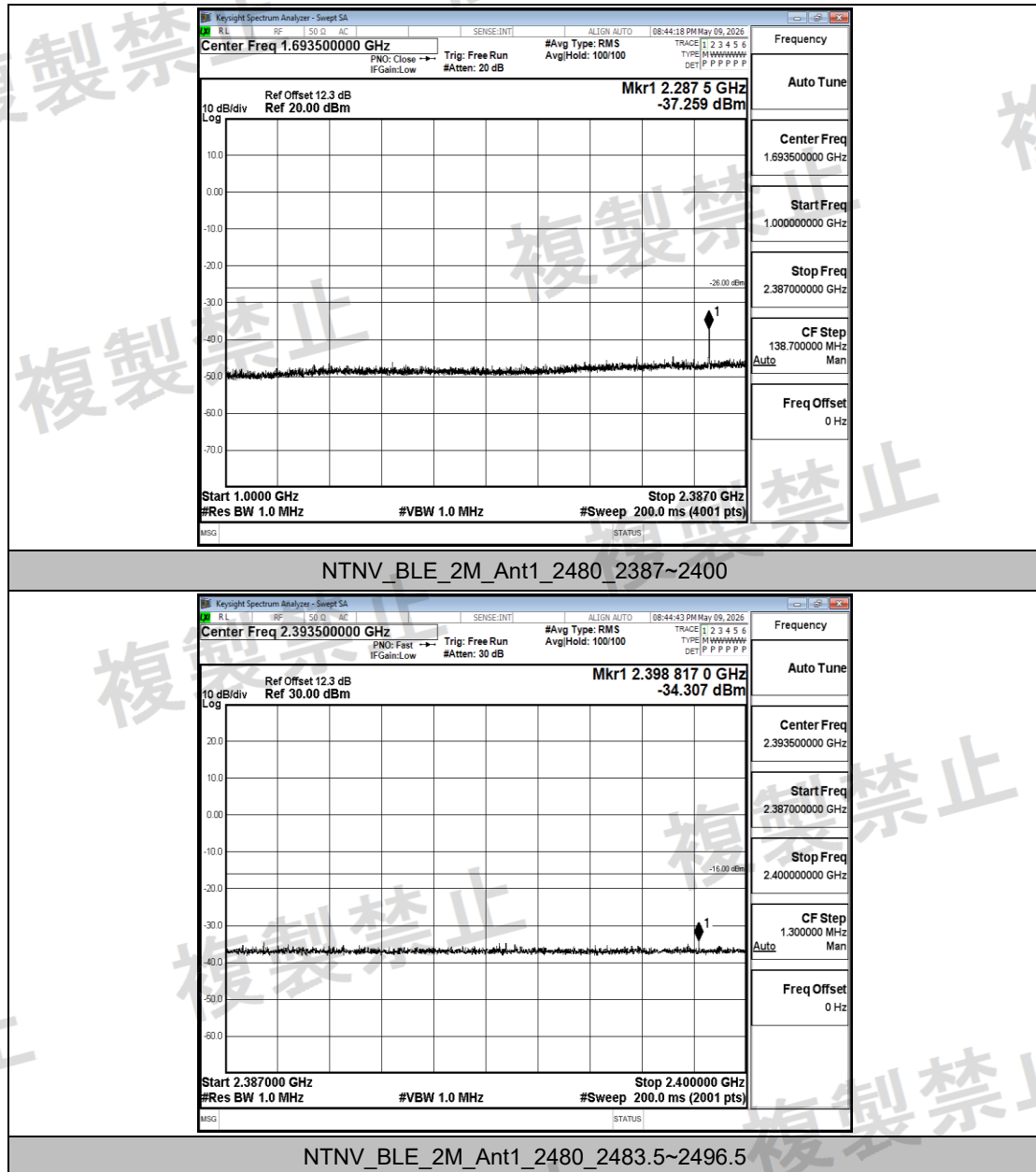


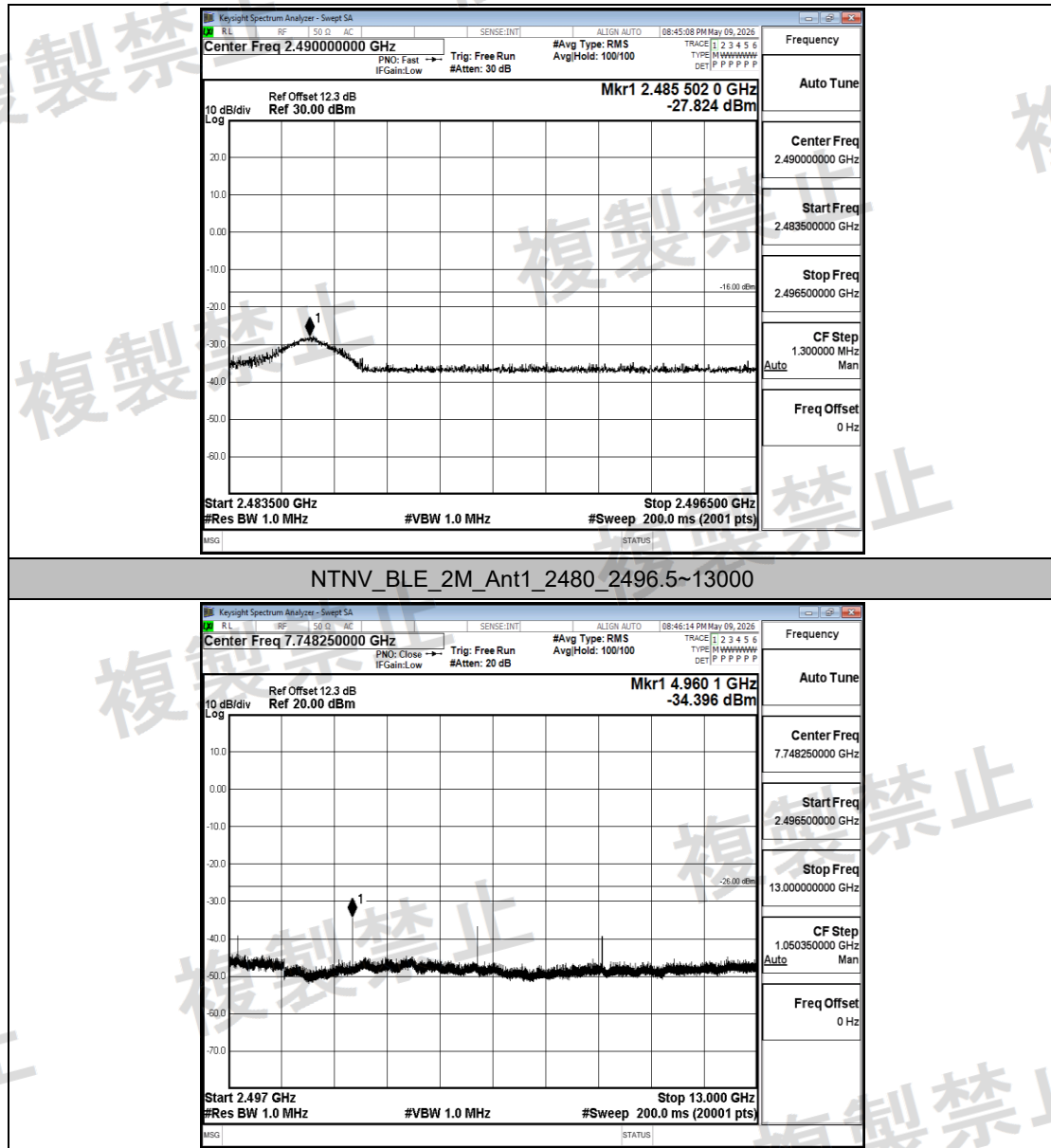




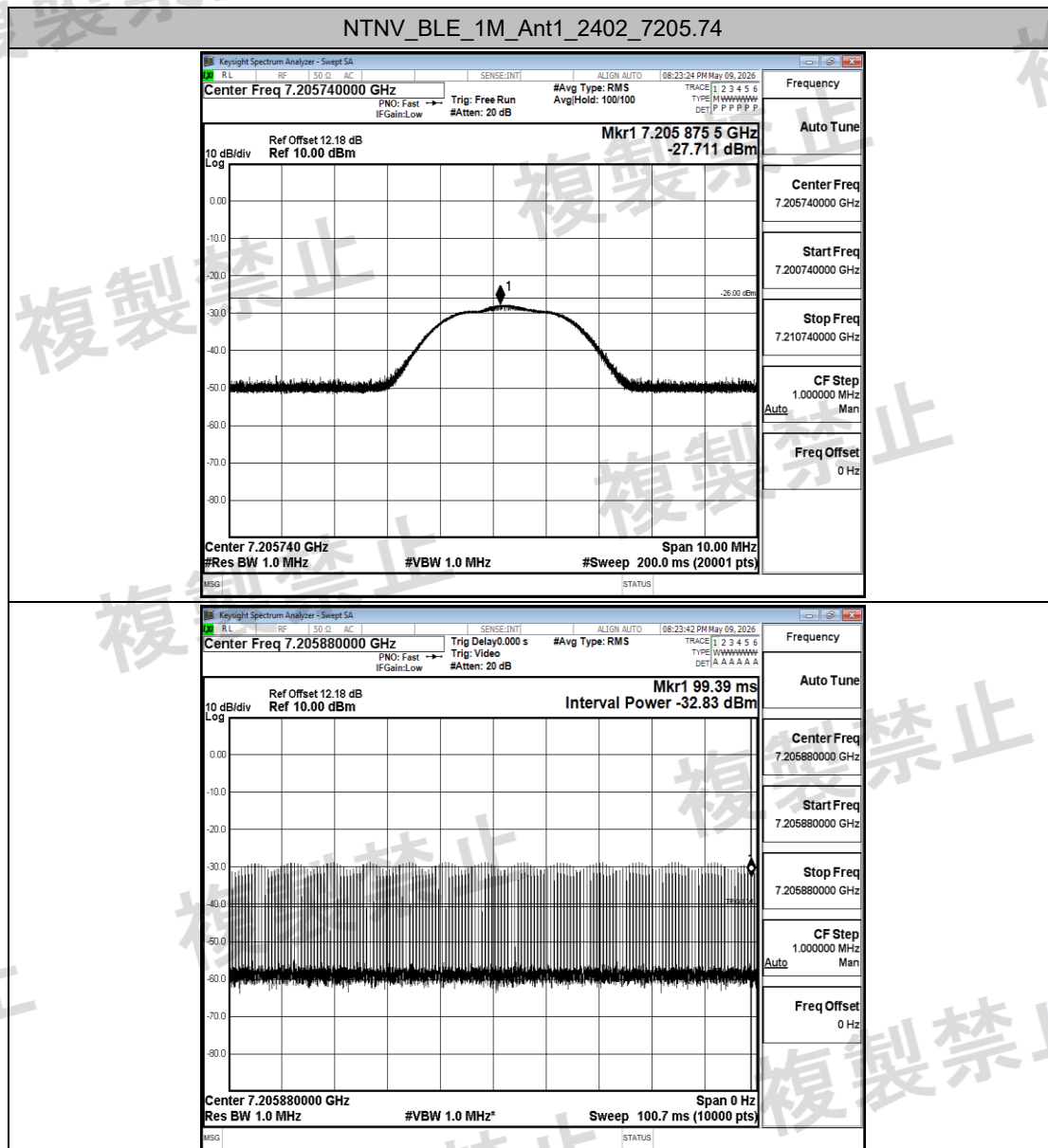








Test Graphs_Step2



B.6 Spurious Emission of RX

Test Result

TestCondition	TestMode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	806.49	-78.71	≤-54	0.01346	≤4	PASS
				1000~12500	3409.25	-65.51	≤-47	0.28119	≤20	PASS
			2440	30~1000	742.47	-78.27	≤-54	0.01489	≤4	PASS
				1000~12500	2805.50	-65.09	≤-47	0.30974	≤20	PASS
			2480	30~1000	871.48	-78.41	≤-54	0.01442	≤4	PASS
				1000~12500	2695.68	-65.16	≤-47	0.30479	≤20	PASS
	BLE_2M	Ant1	2402	30~1000	669.72	-78.66	≤-54	0.01361	≤4	PASS
				1000~12500	2402.43	-65.26	≤-47	0.29785	≤20	PASS
			2440	30~1000	881.18	-78.60	≤-54	0.01380	≤4	PASS
				1000~12500	2569.75	-65.01	≤-47	0.31550	≤20	PASS
			2480	30~1000	680.39	-78.56	≤-54	0.01393	≤4	PASS
				1000~12500	2671.53	-64.76	≤-47	0.33420	≤20	PASS

Test Graphs

