

Appendix B for BT LE Test Data

Product Name: Portable Bluetooth Printer

Test Model: 581BTDM

Environmental Conditions

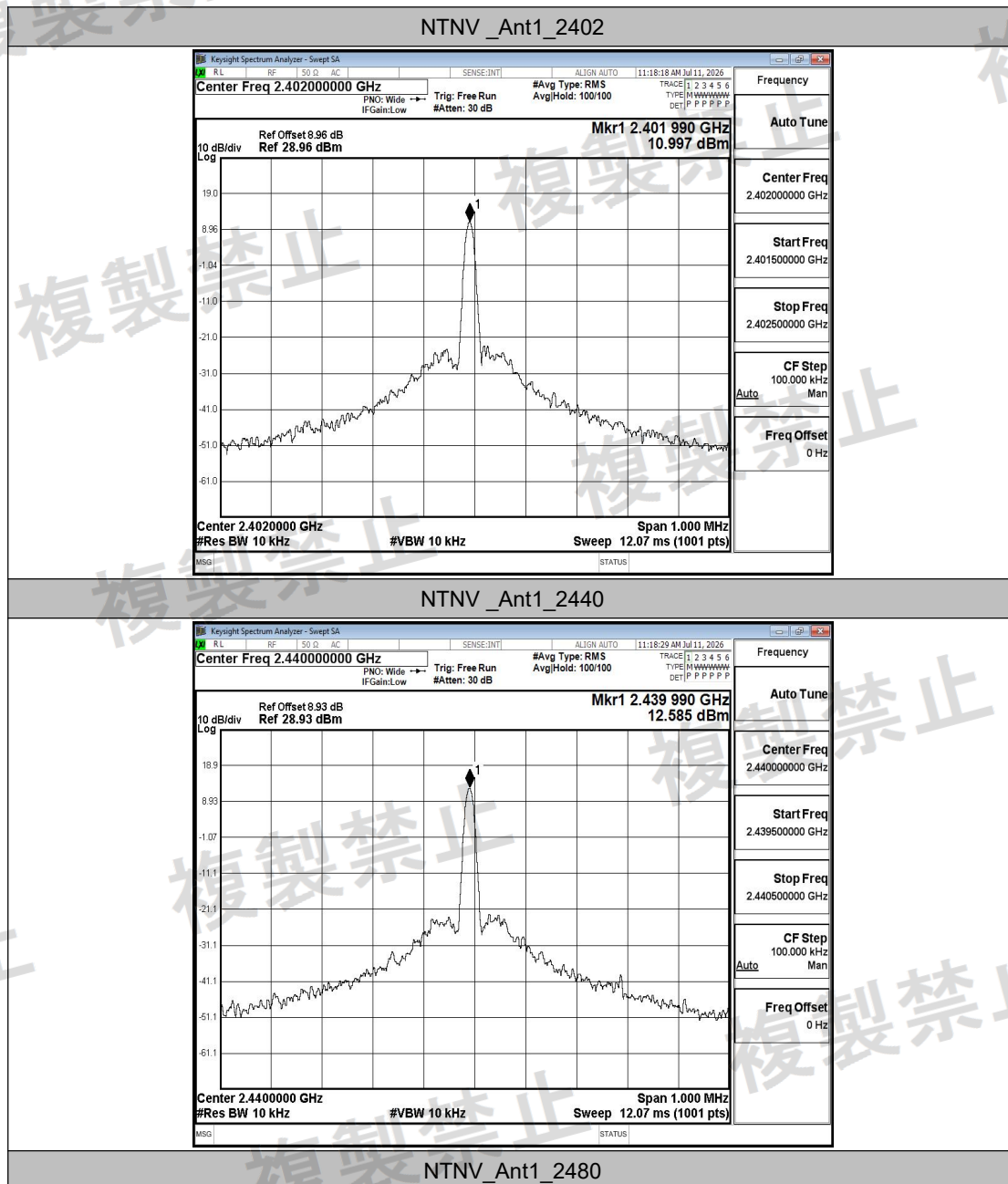
Temperature:	23.2°C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

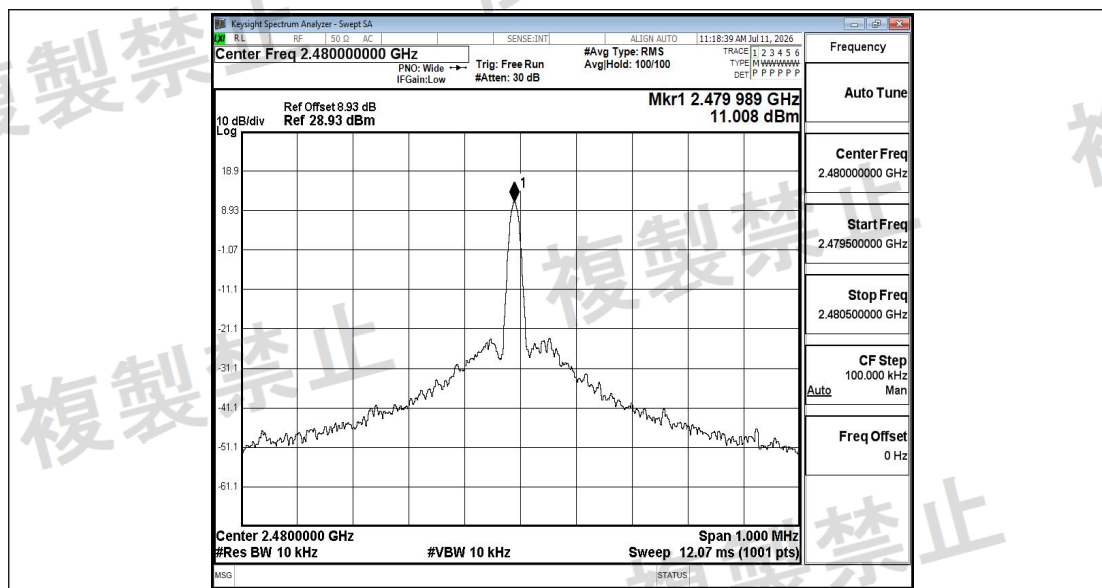
B.1 Frequency Error

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	Frequency Error	Ant1	2402	-4.16320	±50	PASS
			2440	-4.09836	±50	PASS
			2480	-4.43548	±50	PASS

Test Graphs





B.2 Antenna Power

Test Result

Antenna Power							
TestCondition	TestMode	Antenna	Freq (MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	1.90	1.55	≤10	PASS
			2440	2.49	1.77	≤10	PASS
			2480	2.47	1.77	≤10	PASS

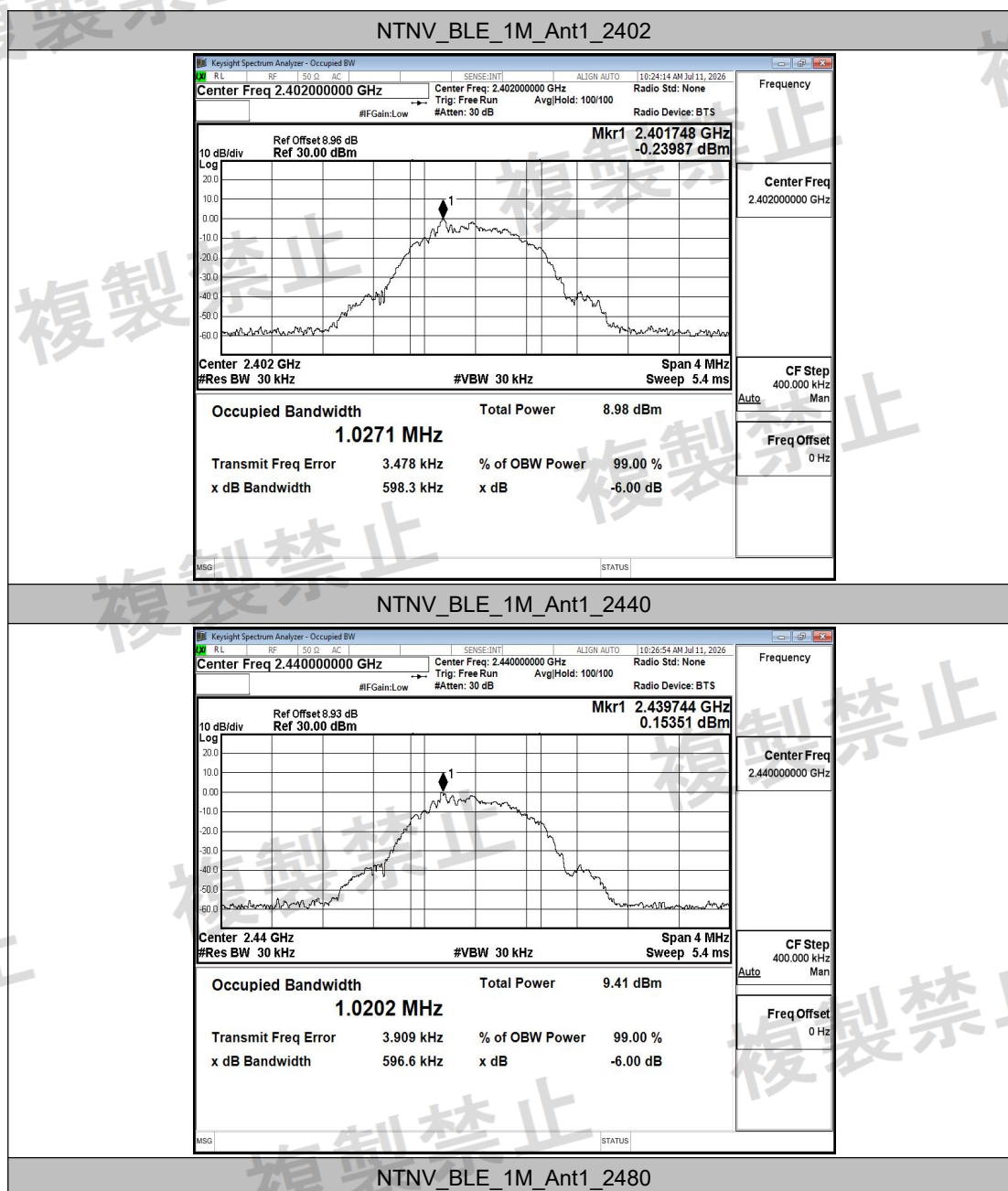
Tolerance								
Test Condition	Test Mode	Antenna	Freq (MHz)	Power (mW)	RatedPower (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	1.55	2.0	-22.50	20	PASS
			2440	1.77	2.0	-11.50	20	PASS
			2480	1.77	2.0	-11.50	20	PASS

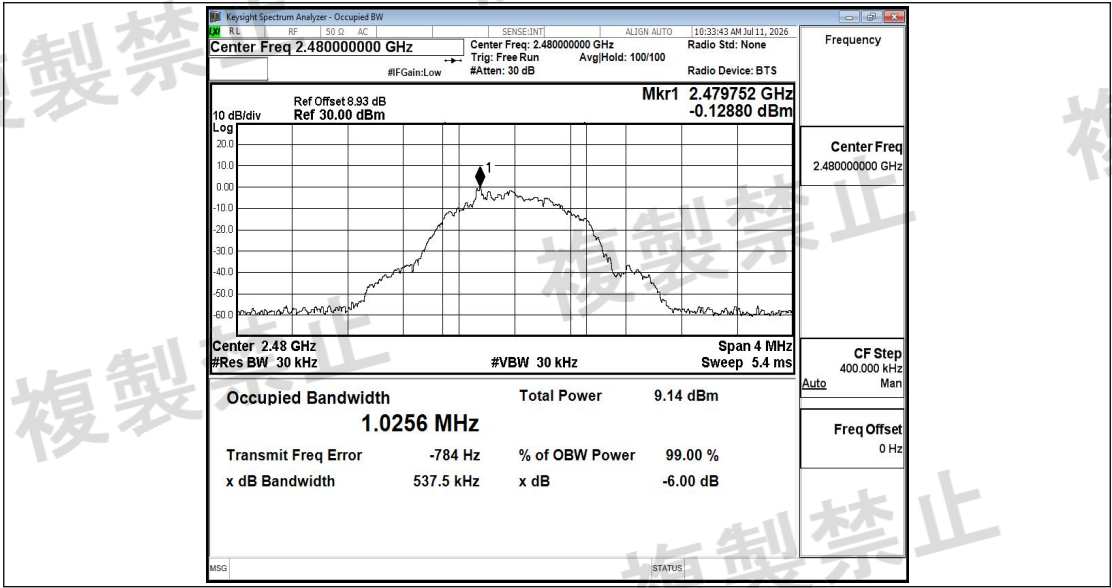
B.3 Occupied Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.027	≤26	PASS
			2440	1.020	≤26	PASS
			2480	1.026	≤26	PASS

Test Graphs





B.4 Spread Bandwidth

Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	0.666	≥0.5	PASS
			2440	0.645	≥0.5	PASS
			2480	0.673	≥0.5	PASS

NTNV_BLE_1M_Ant1_2402

Keysight Spectrum Analyzer - Occupied BW

Center Freq 2.402000000 GHz

Center Freq: 2.402000000 GHz

Trig: Free Run

Avg/Hold: 100/100

Radio Std: None

Radio Device: BTS

Frequency

Center Freq 2.402000000 GHz

10 dB/div

Ref Offset 8.96 dB

Ref 30.00 dBm

Mkr1 2.401752 GHz

-0.29195 dBm

Log

Center 2.402 GHz

#Res BW 30 kHz

#VBW 30 kHz

Span 4 MHz

Sweep 5.4 ms

Occupied Bandwidth

Total Power

9.05 dBm

665.69 kHz

Transmit Freq Error

-12.429 kHz

% of OBW Power

90.00 %

x dB Bandwidth

598.9 kHz

x dB

-6.00 dB

CF Step

400.000 kHz

Man

Freq Offset

0 Hz

MSG

STATUS

NTNV_BLE_1M_Ant1_2440

Keysight Spectrum Analyzer - Occupied BW

Center Freq 2.440000000 GHz

Center Freq: 2.440000000 GHz

Trig: Free Run

Avg/Hold: 100/100

Radio Std: None

Radio Device: BTS

Frequency

Center Freq 2.440000000 GHz

10 dB/div

Ref Offset 8.93 dB

Ref 30.00 dBm

Mkr1 2.439744 GHz

0.17019 dBm

Log

Center 2.44 GHz

#Res BW 30 kHz

#VBW 30 kHz

Span 4 MHz

Sweep 5.4 ms

Occupied Bandwidth

Total Power

9.43 dBm

644.65 kHz

Transmit Freq Error

-19.169 kHz

% of OBW Power

90.00 %

x dB Bandwidth

554.1 kHz

x dB

-6.00 dB

CF Step

400.000 kHz

Man

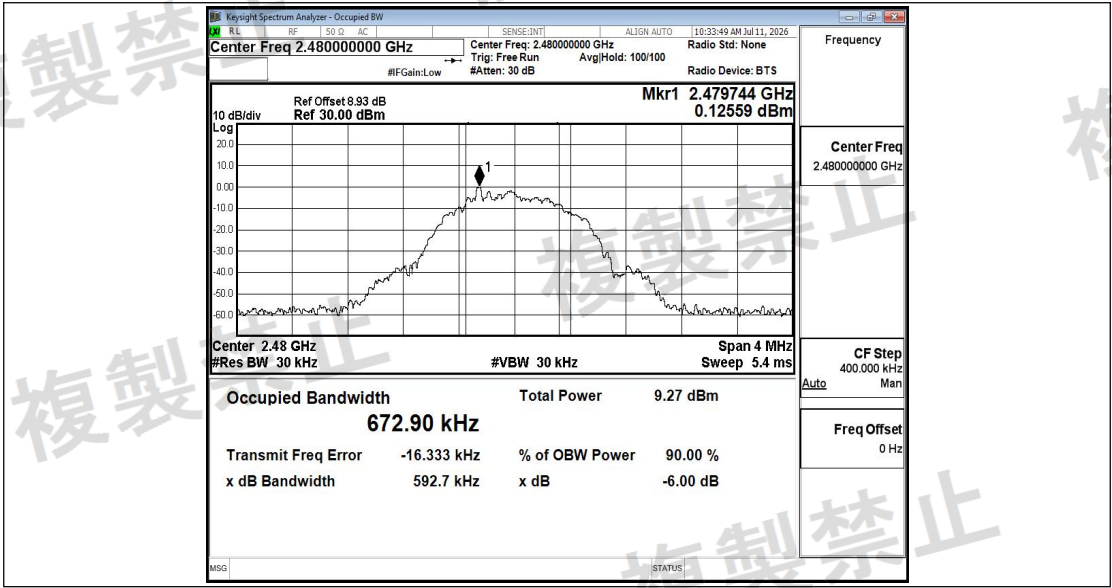
Freq Offset

0 Hz

MSG

STATUS

NTNV_BLE_1M_Ant1_2480

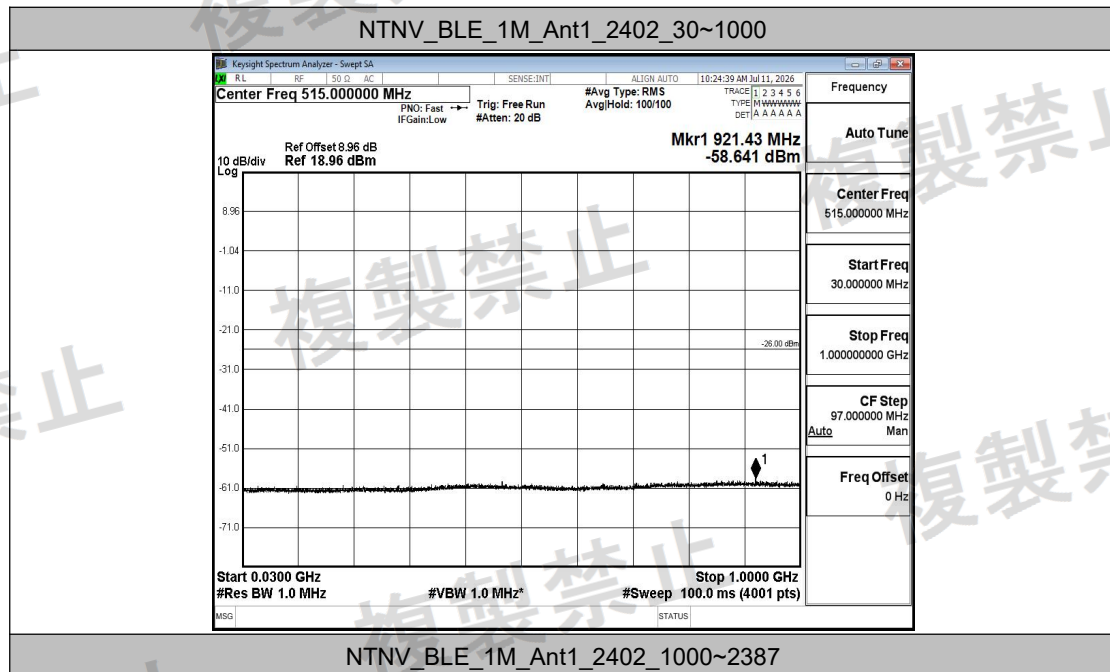


B.5 Spurious Emission of TX

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	-58.64	≤-26	0.00137	≤2.5	PASS
				1000~2387	-57.81	≤-26	0.00166	≤2.5	PASS
				2387~2400	-39.76	≤-16	0.10568	≤25	PASS
				2483.5~2496.5	-48.80	≤-16	0.01318	≤25	PASS
				2496.5~13000	-47.31	≤-26	0.01858	≤2.5	PASS
			2440	30~1000	-58.87	≤-26	0.00130	≤2.5	PASS
				1000~2387	-57.40	≤-26	0.00182	≤2.5	PASS
				2387~2400	-48.81	≤-16	0.01315	≤25	PASS
				2483.5~2496.5	-48.73	≤-16	0.01340	≤25	PASS
				2496.5~13000	-52.76	≤-26	0.00530	≤2.5	PASS
			2480	30~1000	-58.97	≤-26	0.00127	≤2.5	PASS
				1000~2387	-57.60	≤-26	0.00174	≤2.5	PASS
				2387~2400	-49.08	≤-16	0.01236	≤25	PASS
				2483.5~2496.5	-47.82	≤-16	0.01652	≤25	PASS
				2496.5~13000	-52.39	≤-26	0.00577	≤2.5	PASS

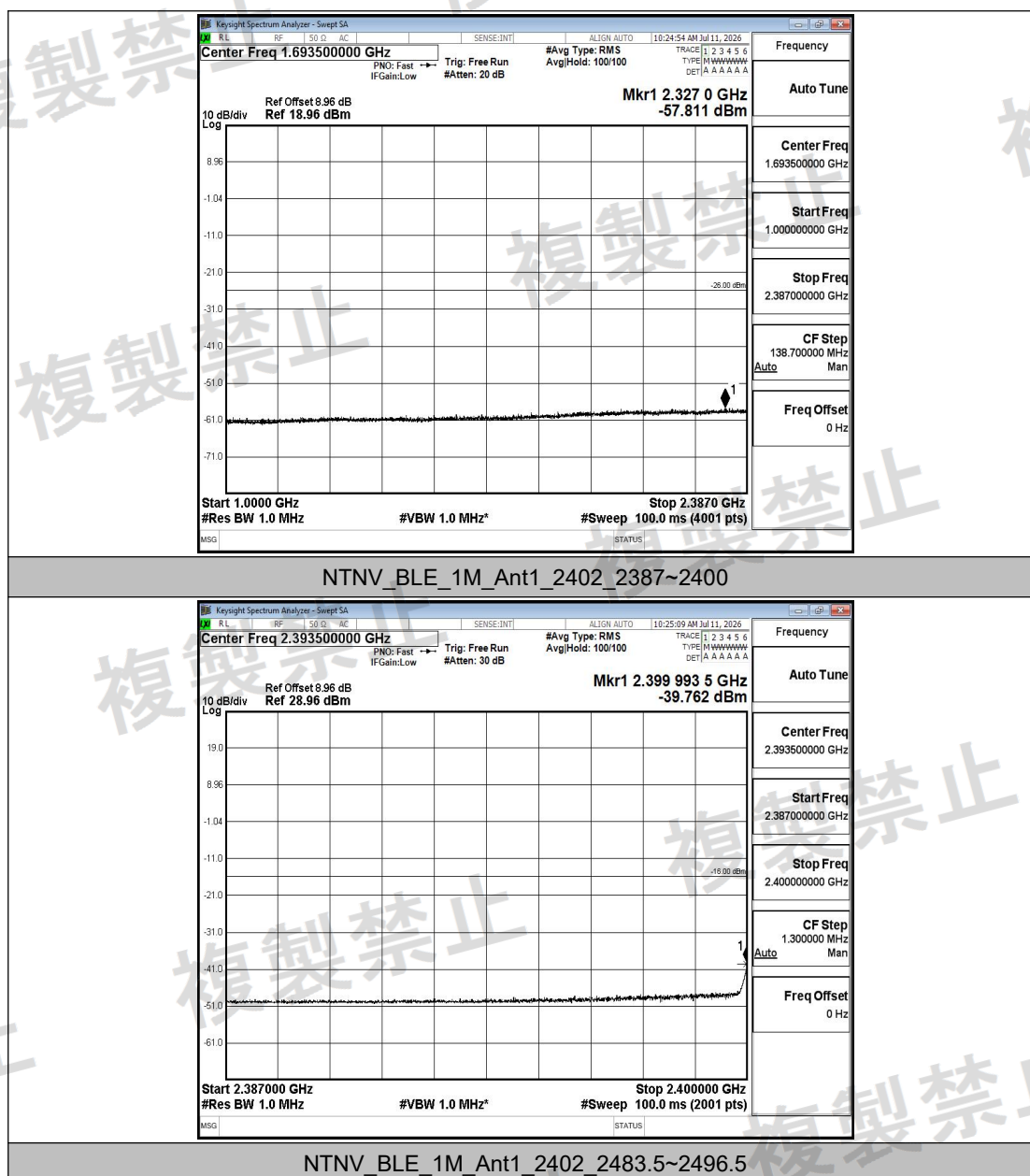
Test Graphs

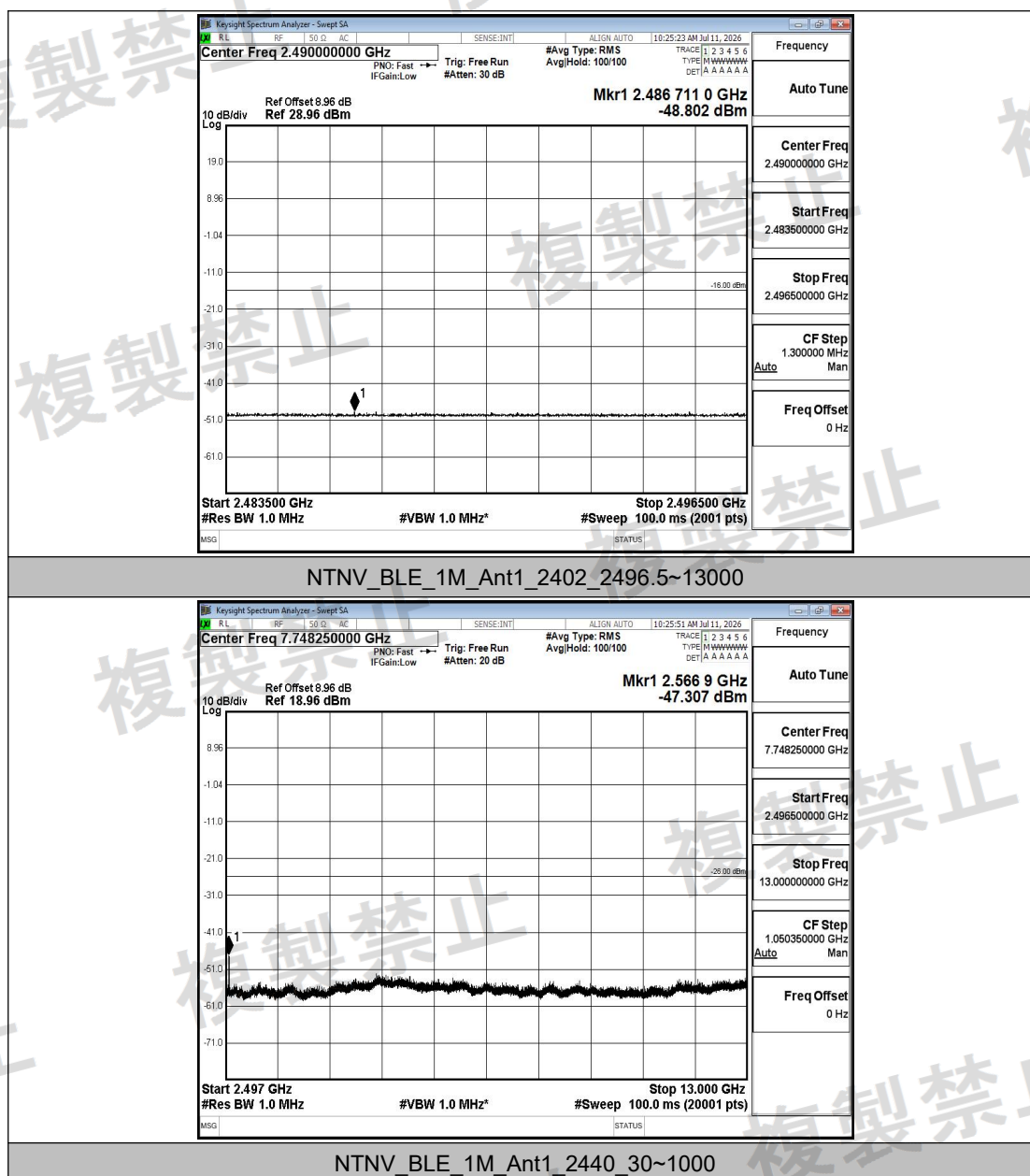


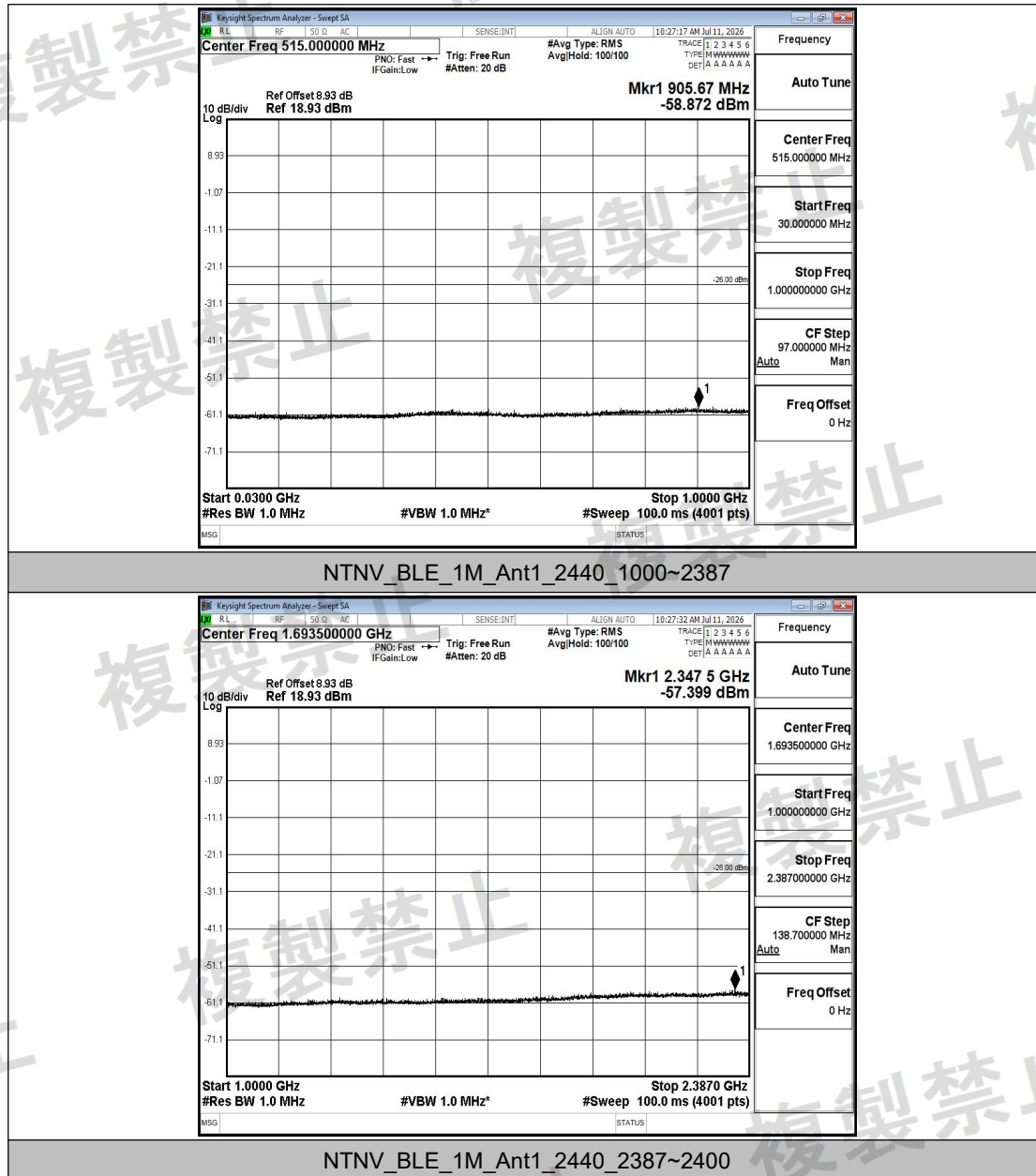
Guangzhou LCS Compliance Testing Laboratory Ltd.

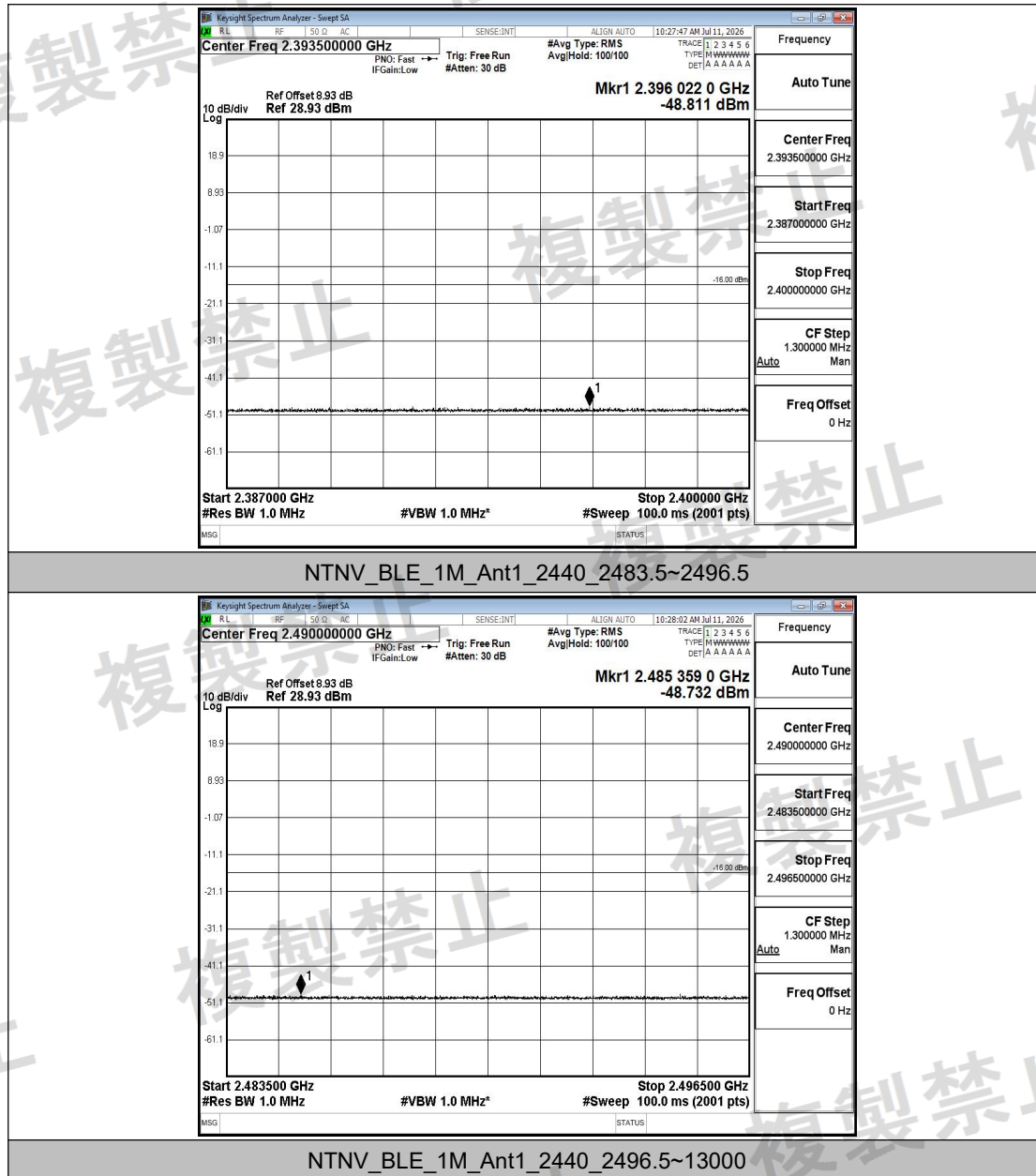
Add: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

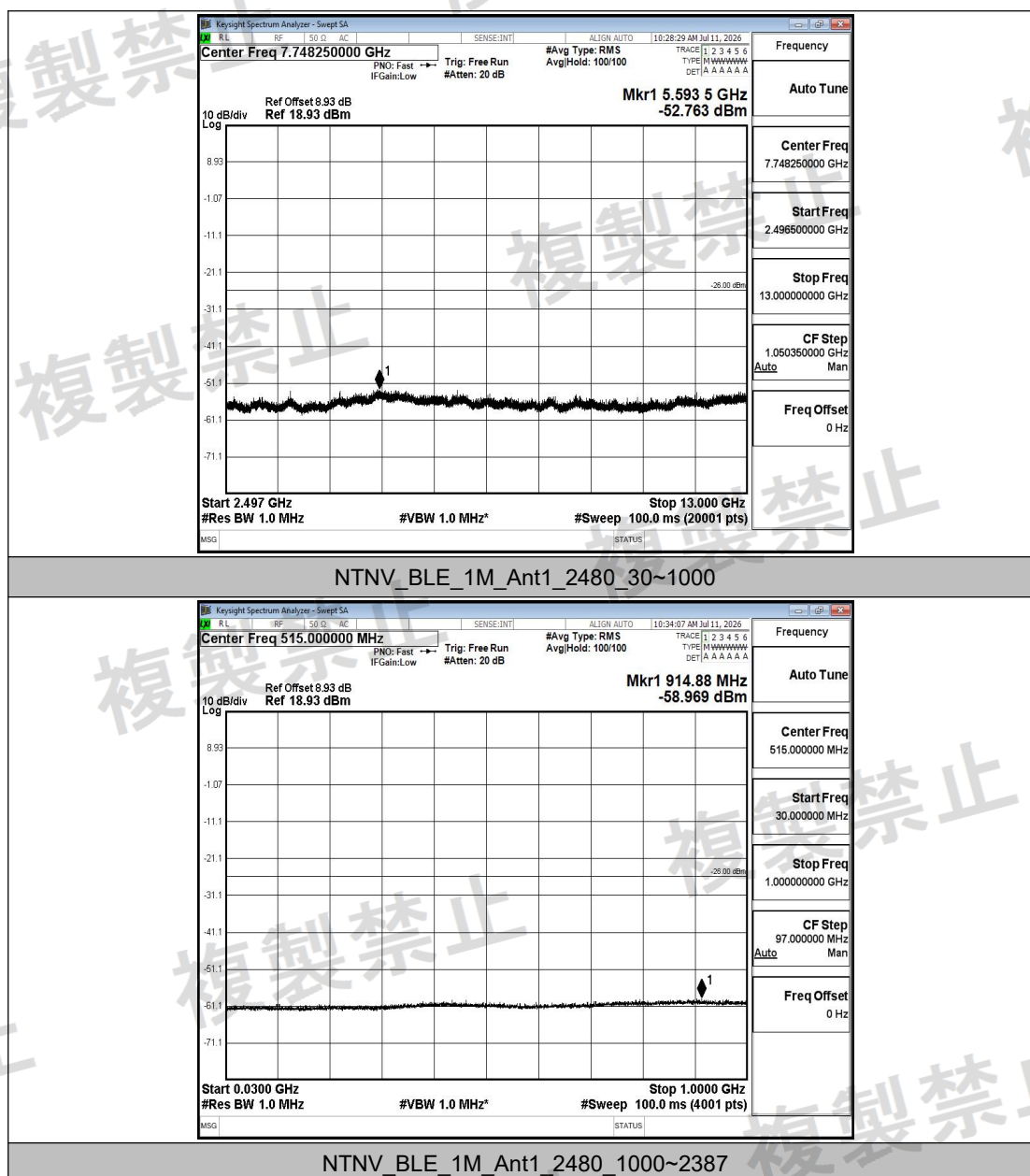
Tel: +(86) 020-39166689 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

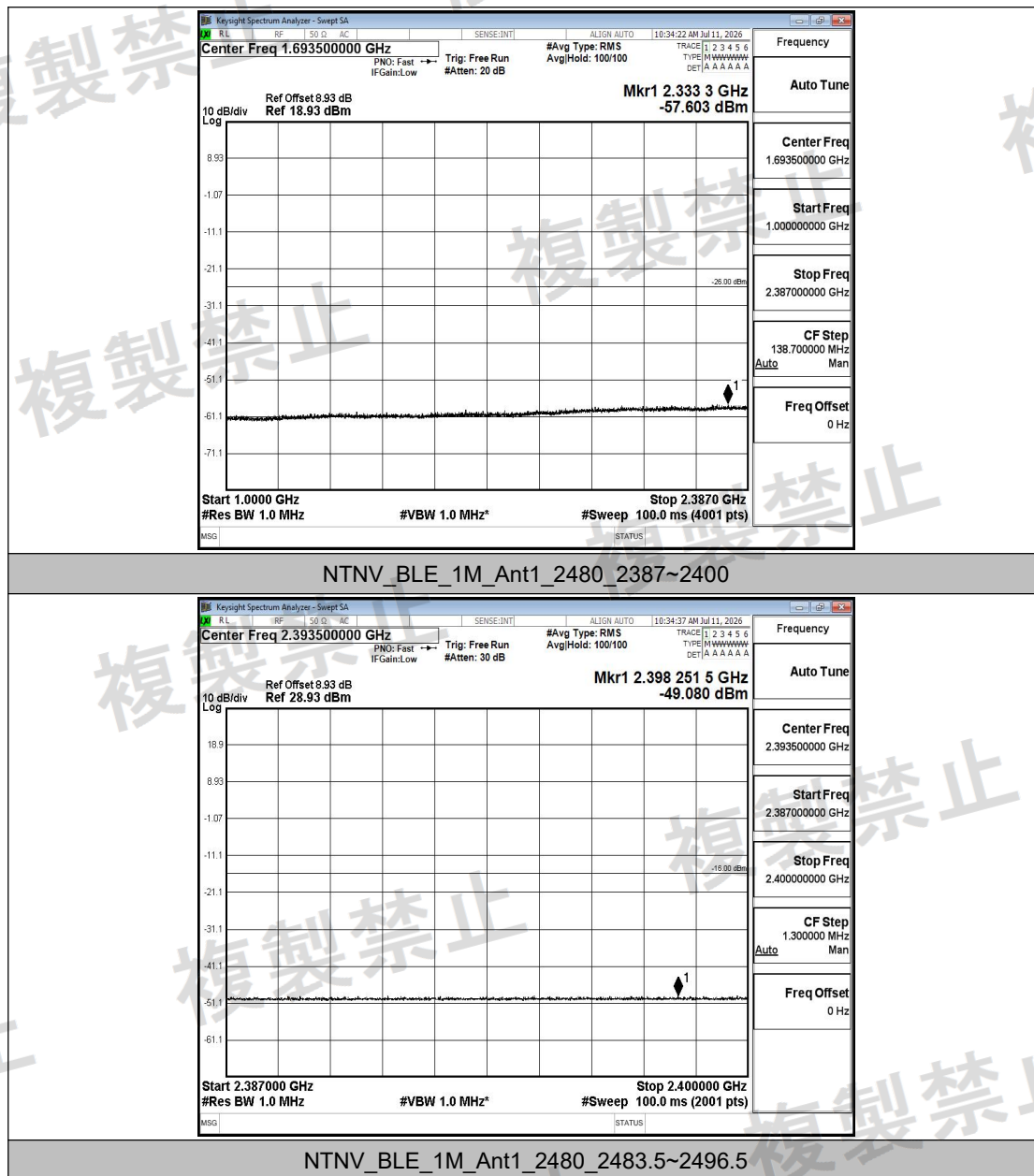


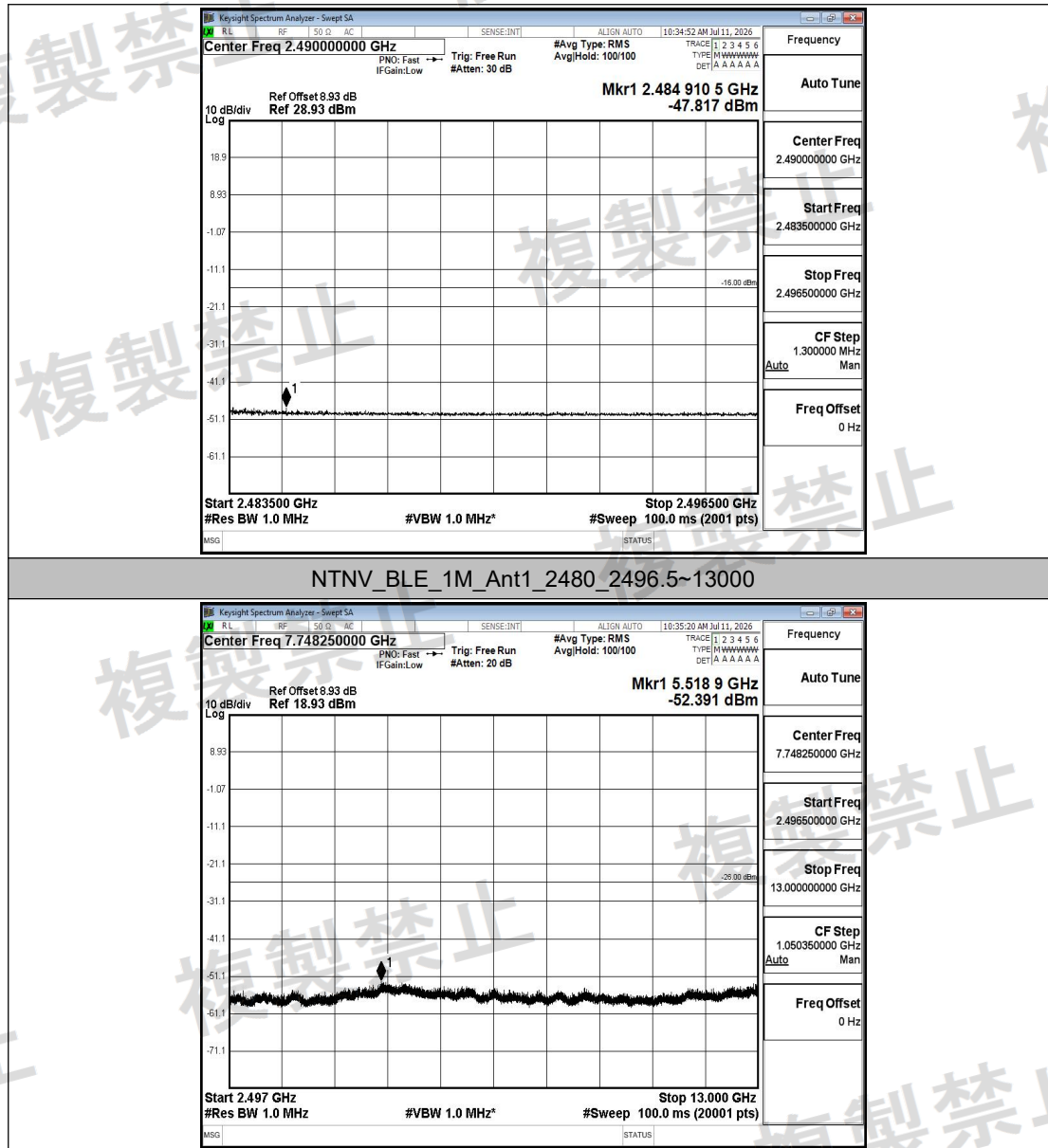












B.6 Spurious Emission of RX

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	-86.74	≤-54	0.00212	≤4	PASS
				1000~12500	-63.83	≤-47	0.41400	≤20	PASS
			2440	30~1000	-86.36	≤-54	0.00231	≤4	PASS
				1000~12500	-61.59	≤-47	0.69343	≤20	PASS
			2480	30~1000	-86.13	≤-54	0.00244	≤4	PASS
				1000~12500	-65.52	≤-47	0.28054	≤20	PASS

Test Graphs

