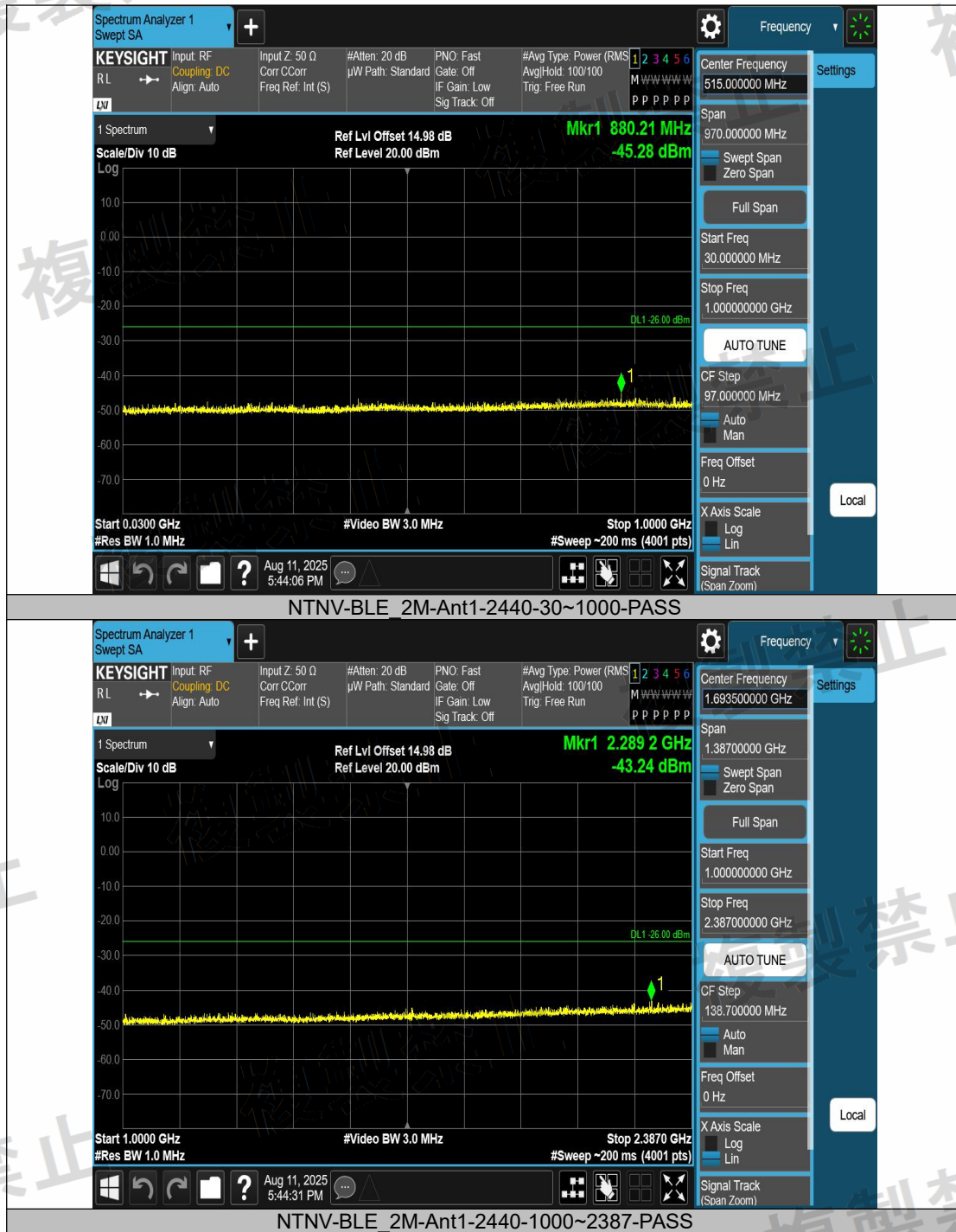
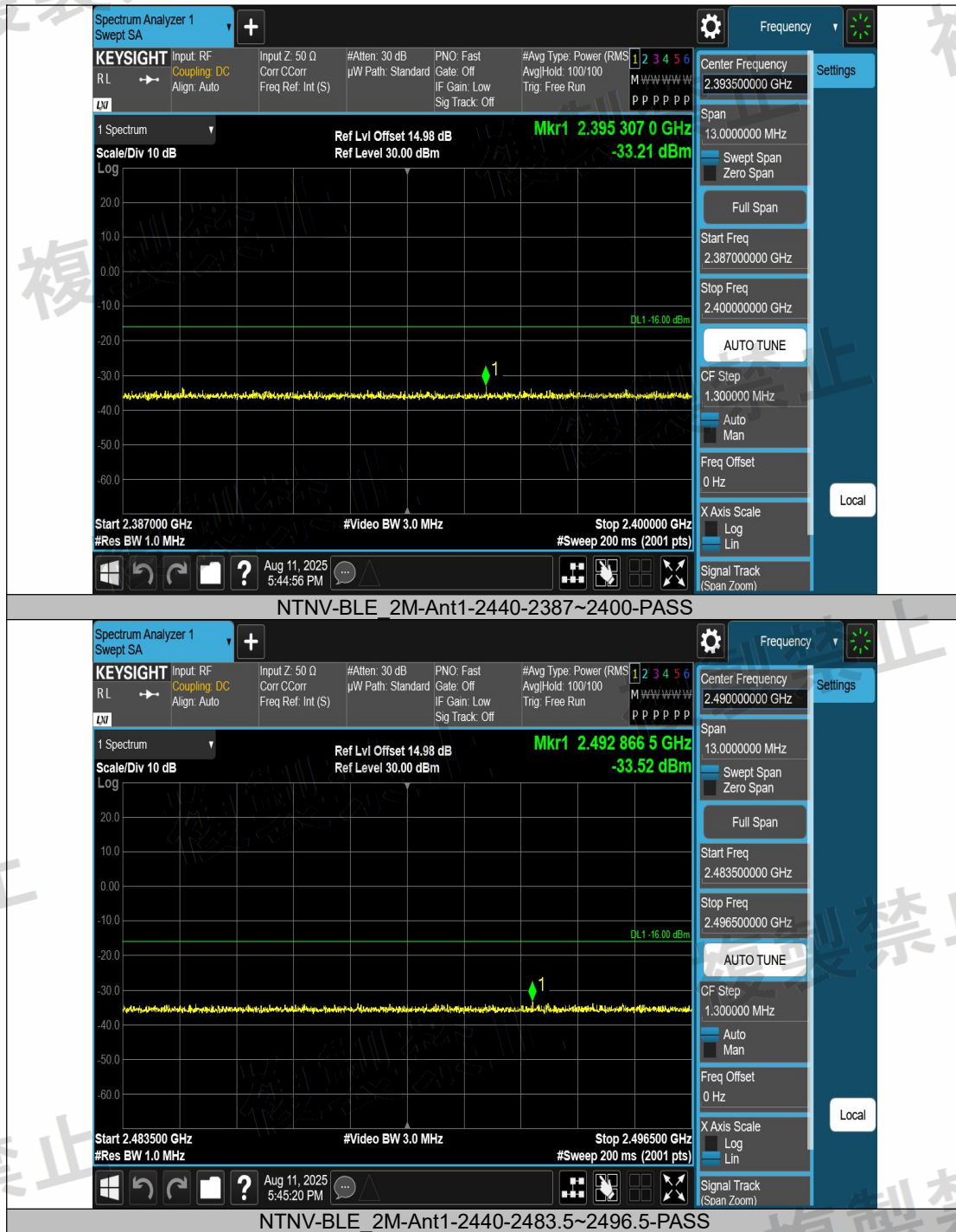
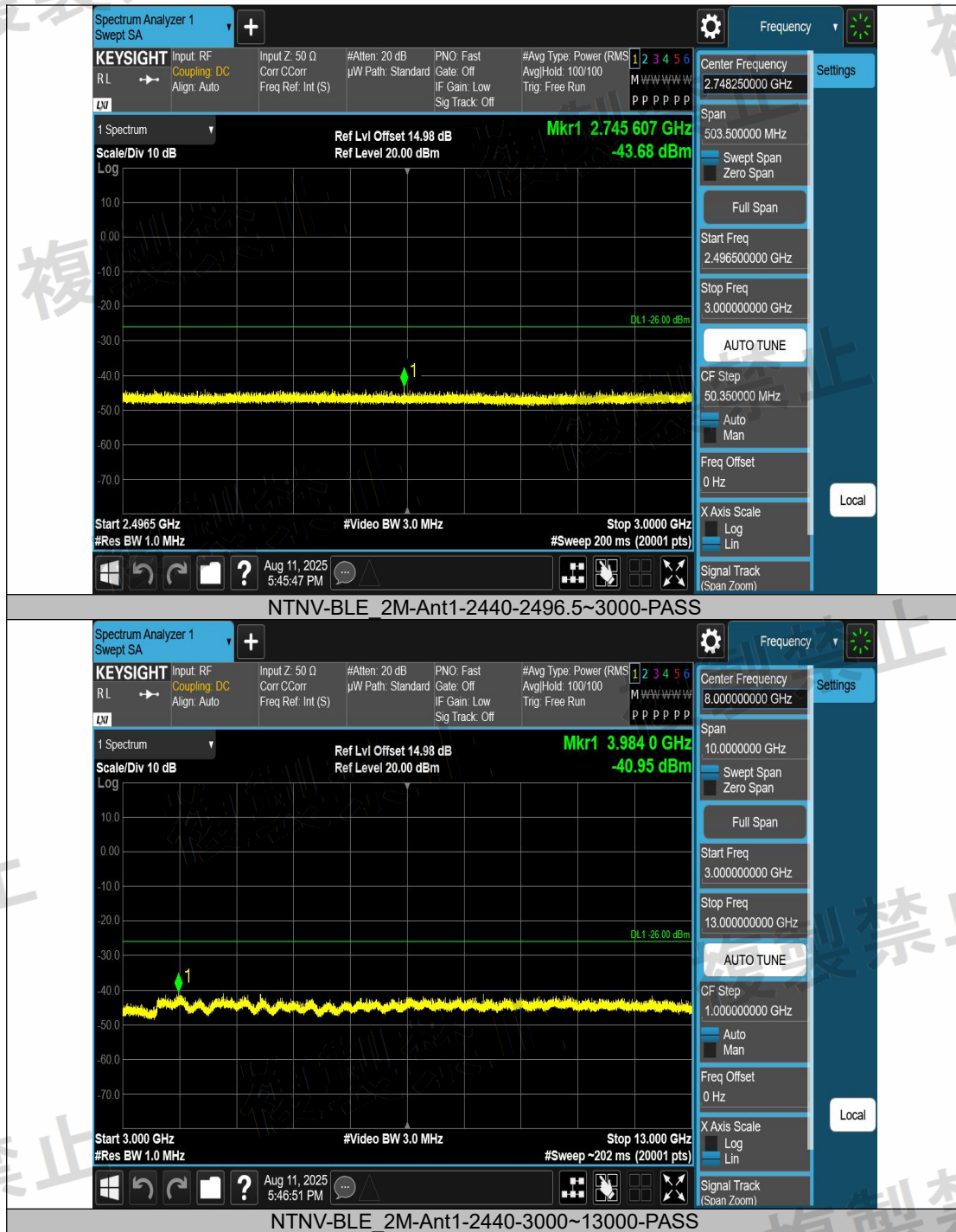
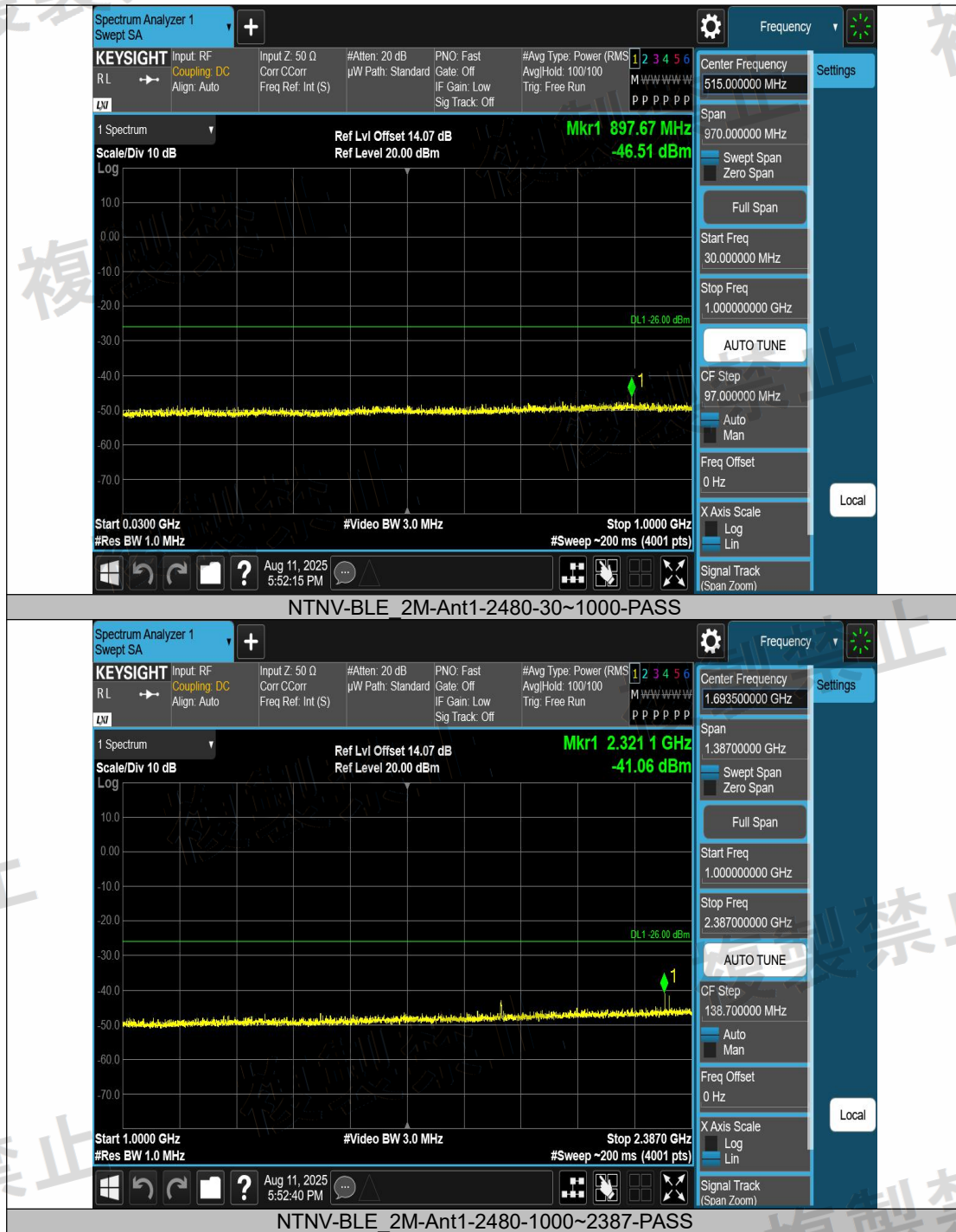
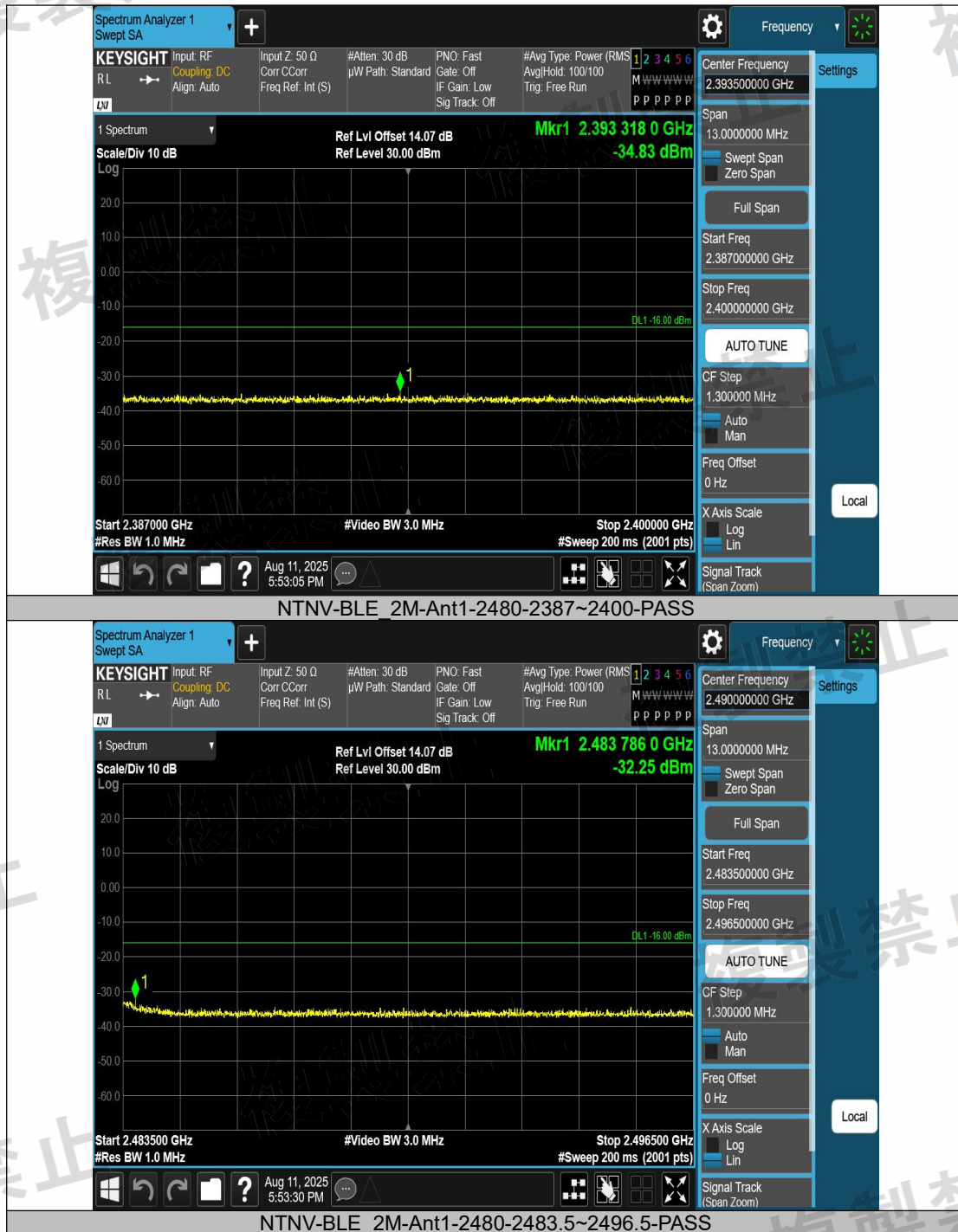


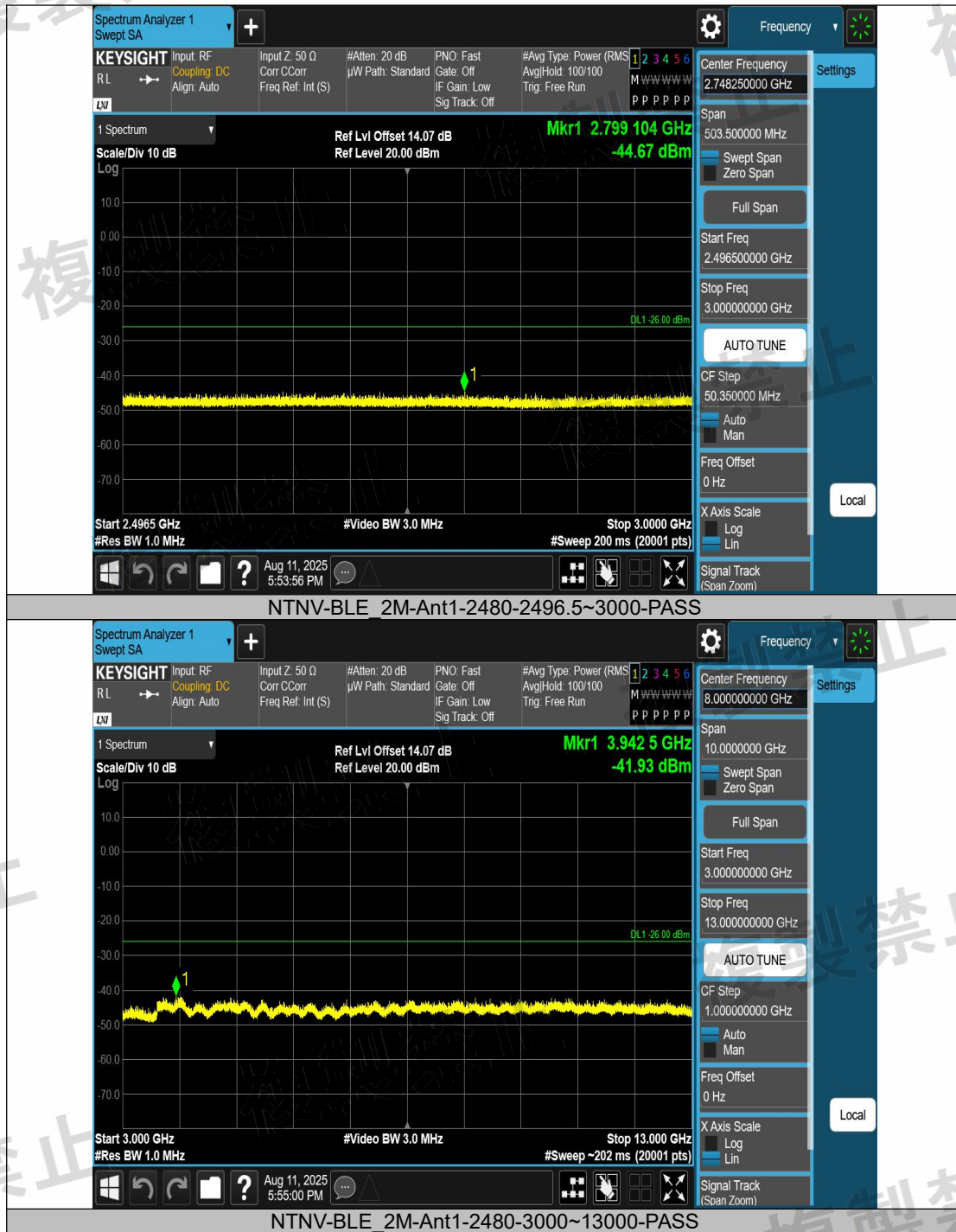




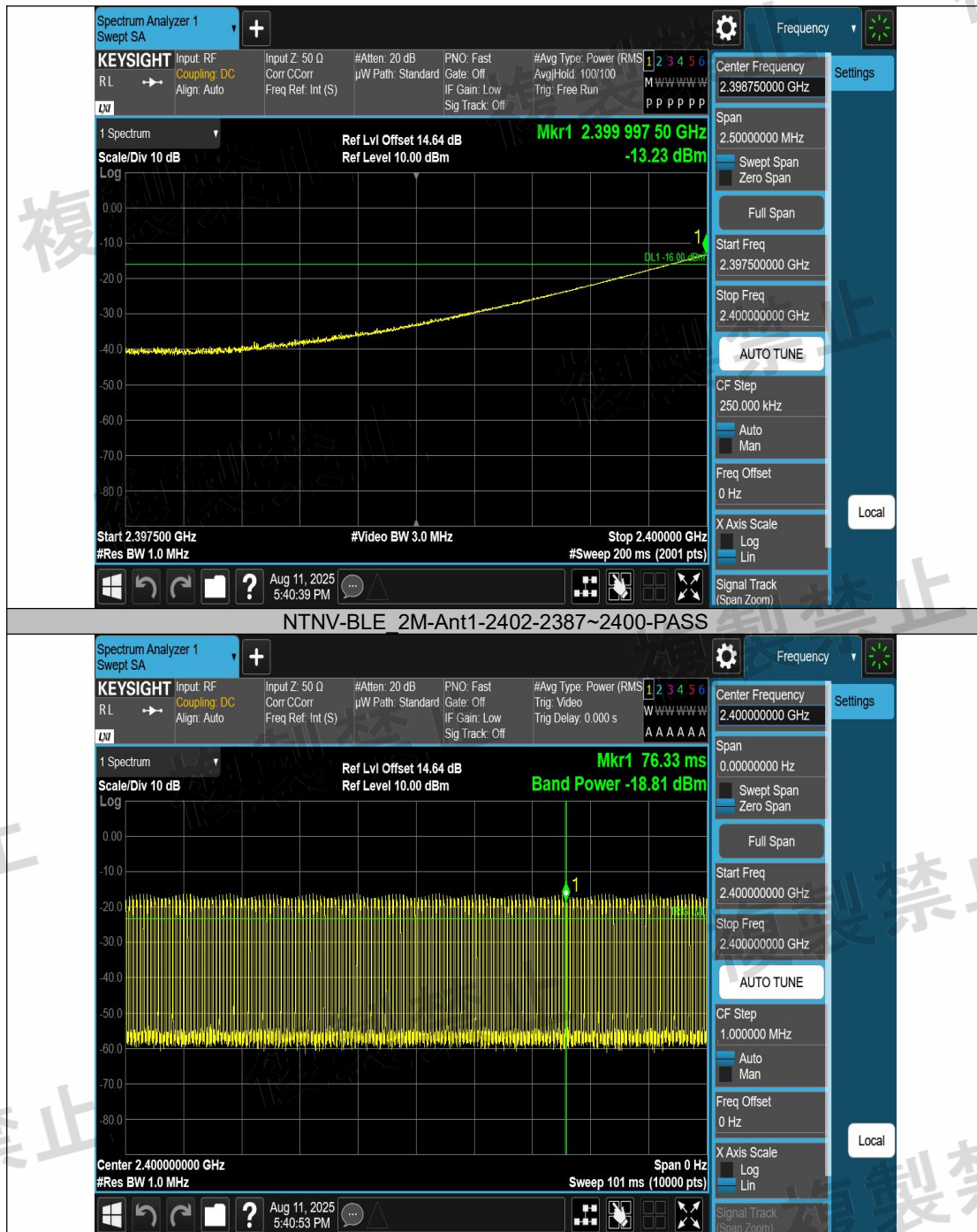








Test Graphs_Step2



7.6 COLLATERAL EMISSIONS OF RECEIVER

7.6.1 Applicable Standard

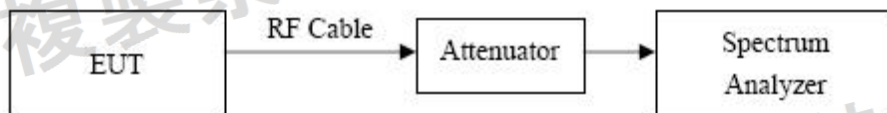
According to Item 19 of Article 2 Paragraph 1.

7.6.2 Conformance Limit

The limit on secondary emissions radiated from the receiving equipment within which the function of other radio equipment will not be impaired shall be, in terms of the power of a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4 nW (-54dBm) or less at a frequency below 1 GHz and 20 nW(-47dBm) or less at a frequency of 1 GHz or higher as measured using the circuit.

- | | |
|----------------------|-----------------------|
| a. 30 MHz - 1000 MHz | 4 nW (-54dBm) or less |
| b. 1GHz – 12.5 GHz | 20 nW(-47dBm) or less |

7.6.3 Test Setup Block Diagram



7.6.4 Test Procedure

Set the EUT so that the test frequency is can be measured receipt consecutively all the time.

(1) Set the attenuation value of the dummy load lowest as possible, due to low level of the measured object.

(2) Set Spectrum analyzer for seeking the collateral emission is set as below.

Sweeping Bandwidth	30MHz to 5 times of carrier frequency
Resolution Bandwidth	In case of frequency lower than 1 GHz, 100 kHz In case of frequency higher than 1 MHz
Video Bandwidth	Same level as the resolution bandwidth
Sweep Time	Minimum time to assure the measurement accuracy
Y-Axis Scale	10 dB/Div
Sweep Mode	Single sweep
Phase-Detection Mode	Positive peak

(3) Spectrum analyzer for measuring the collateral emission is set as below.

Central Frequency	Collateral emission frequency
Sweeping Bandwidth	0 Hz
Resolution Bandwidth	In case of frequency lower than 1 GHz, 100 kHz In case of frequency higher than 1 MHz
Video Bandwidth	Same level as the resolution bandwidth
Sweep Mode	Single sweep
Detection Mode	Sample

Set the spectrum analyzer as (2), seek the maximum amplitude of the collateral emission.

In case of sought result lower than 1/10 limit value, employ the sought value as the measured value.

In case the sought value exceeds 1/10 limit value, seek the collateral emission frequency by narrowing the sweeping band sequentially to 1/10 for the purpose of higher accuracy of the spectrum analyzer. Set the

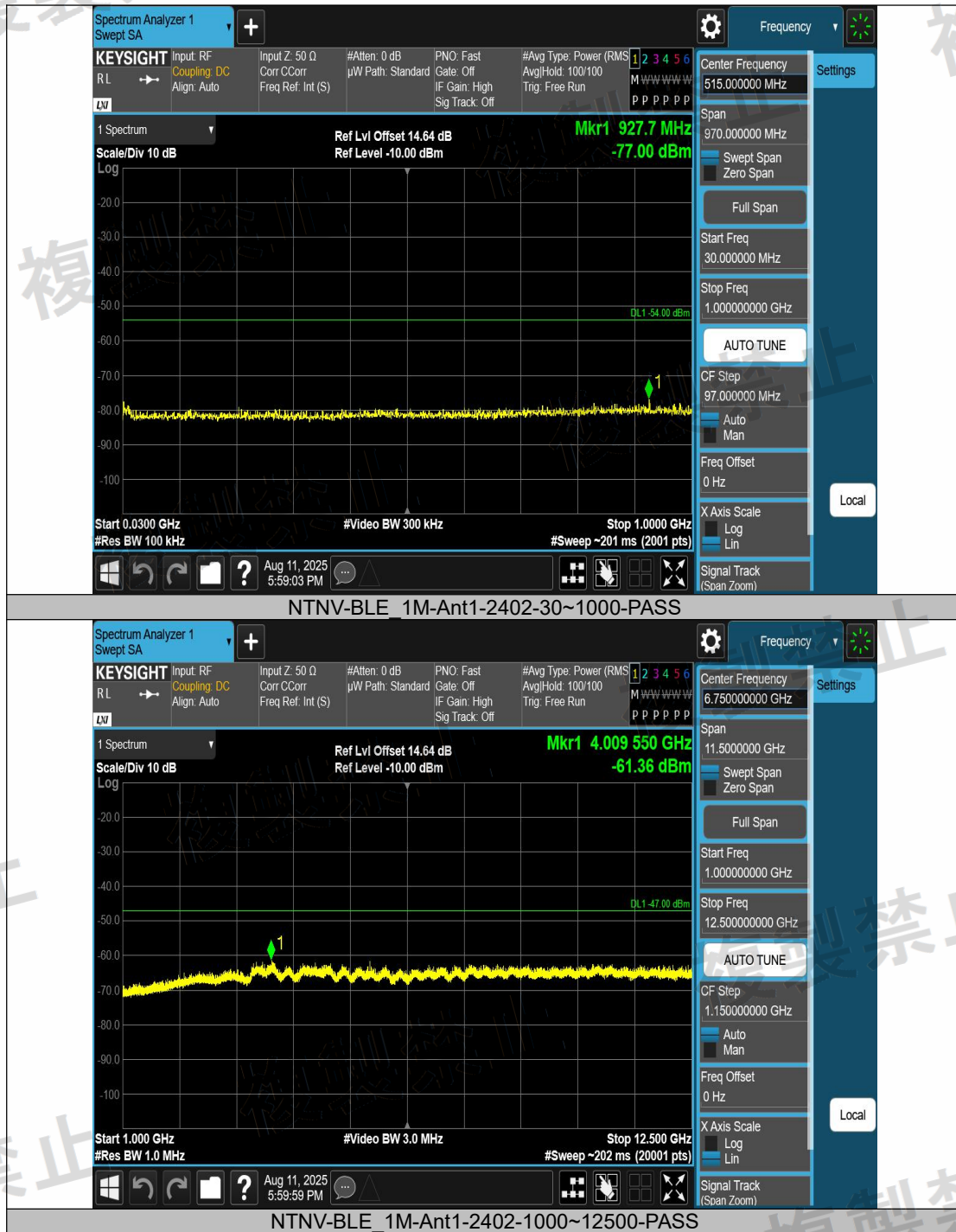
spectrum analyzer as (3).

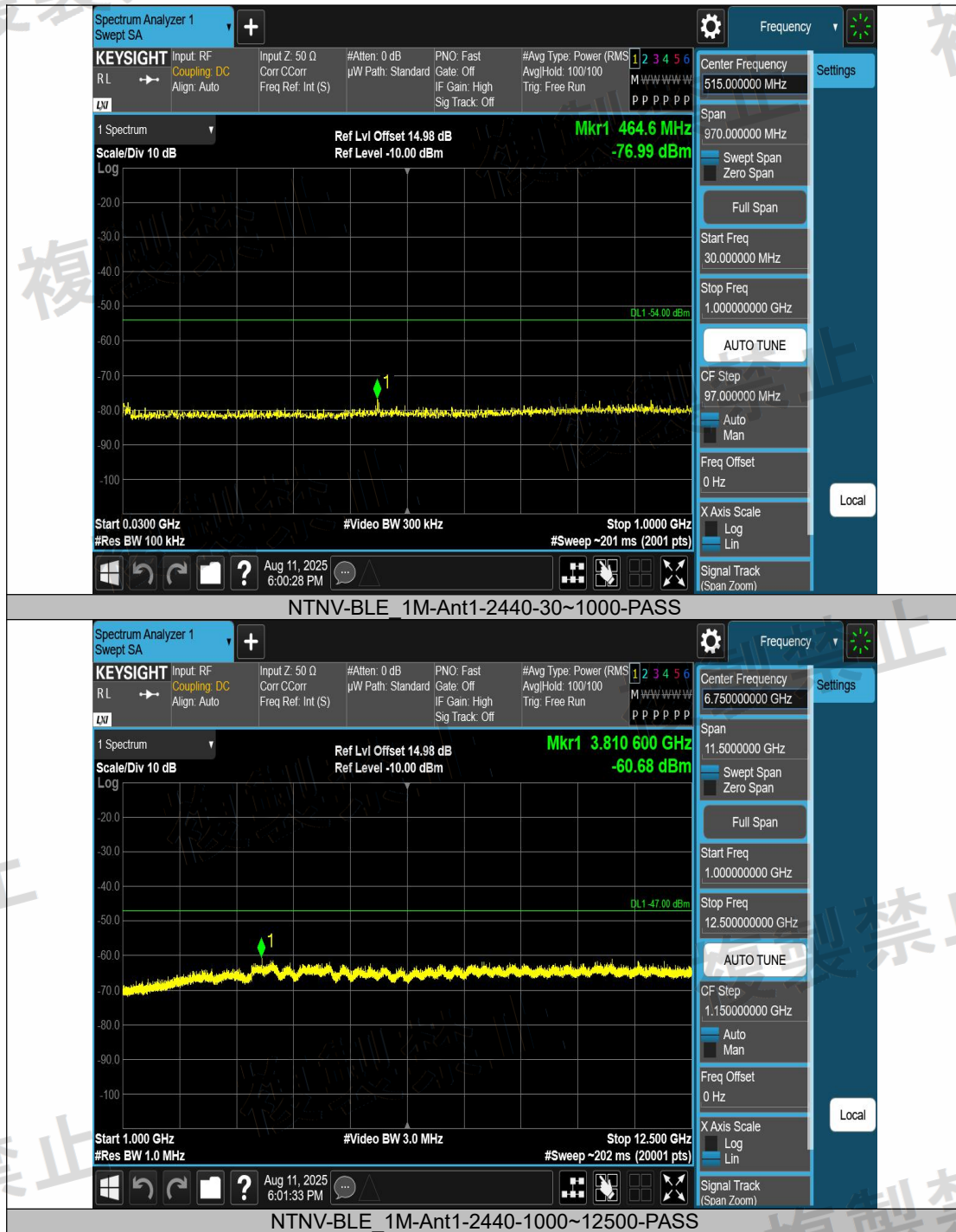
7.6.5 Environmental Conditions

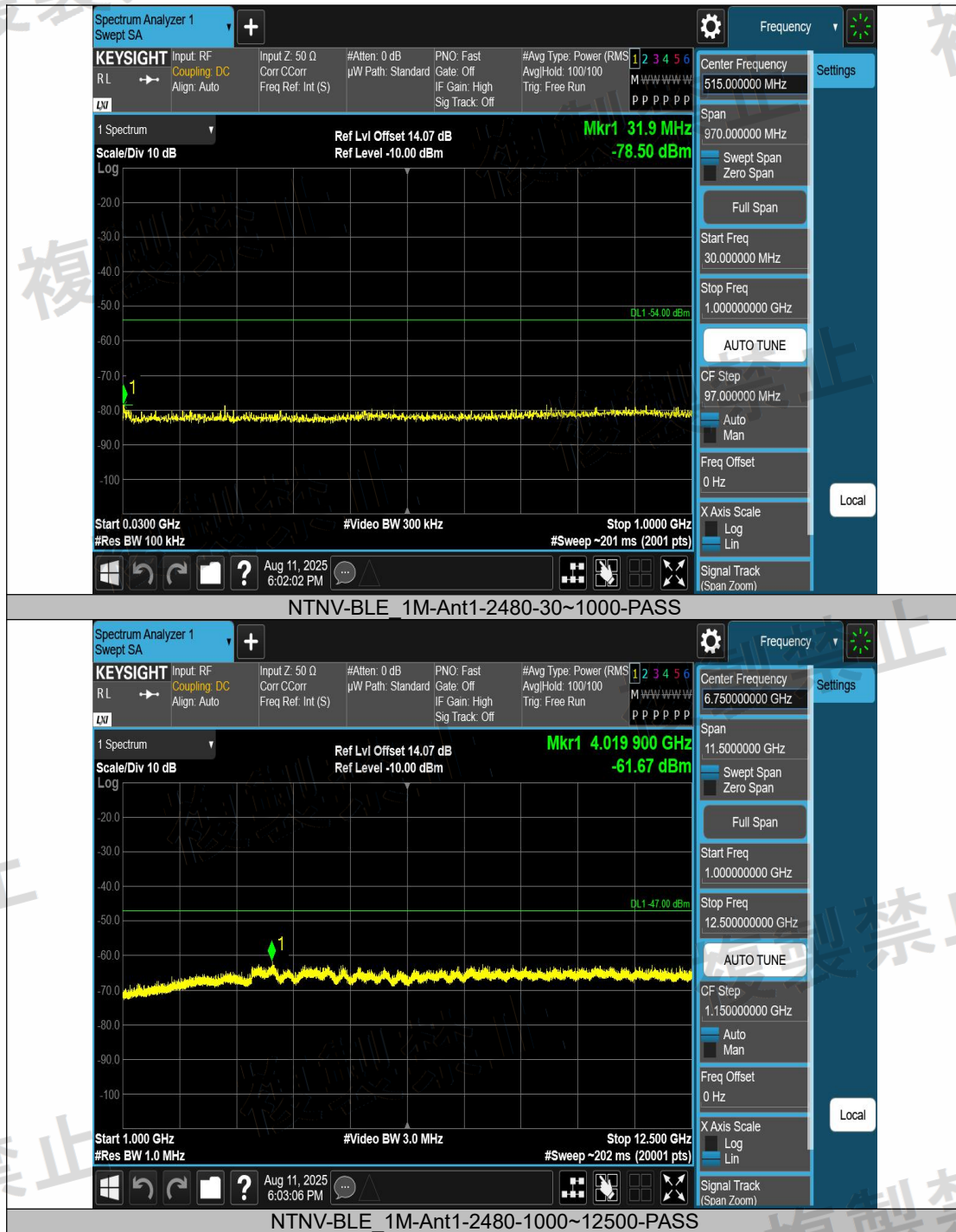
Temperature:	25 °C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

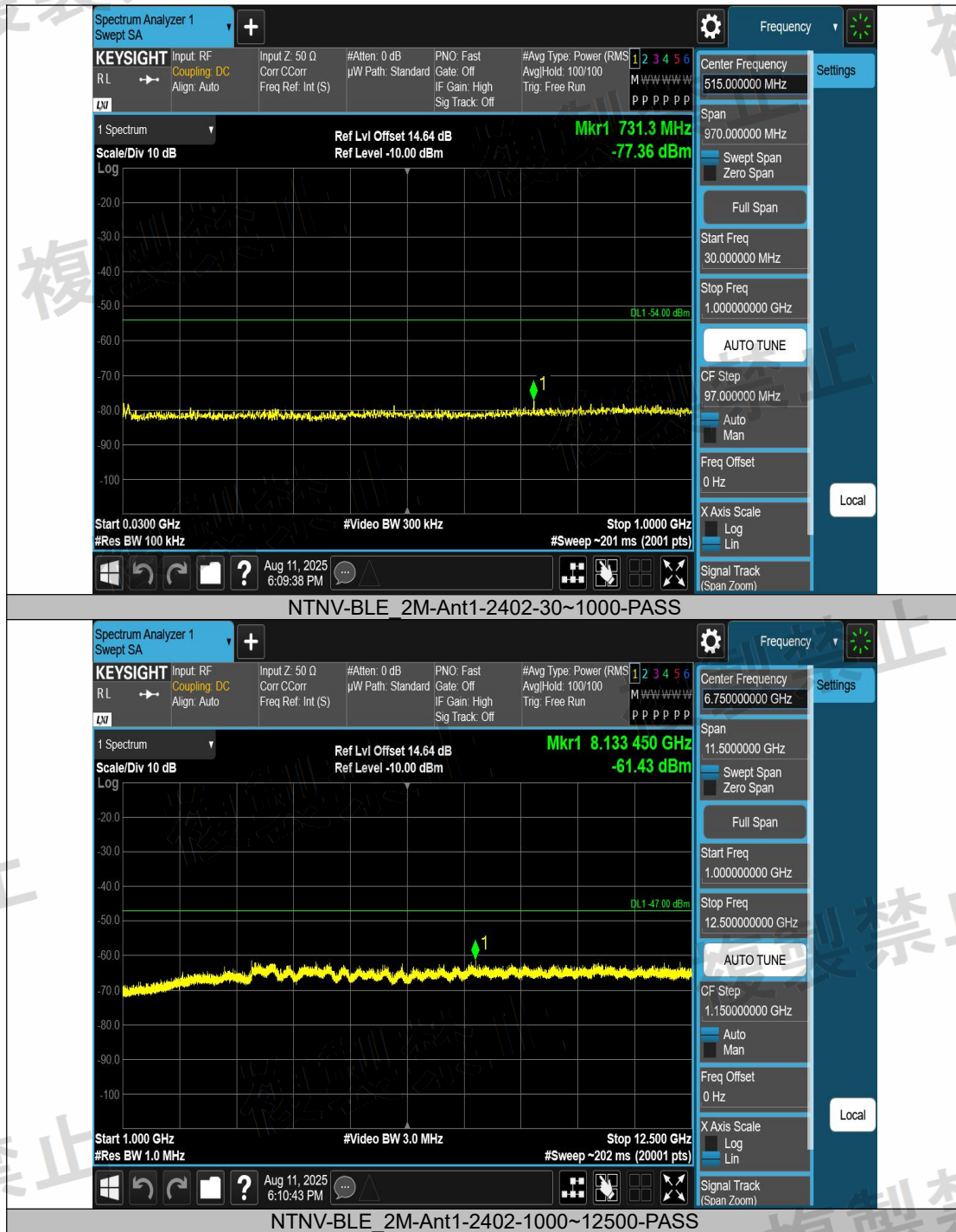
7.6.6 Test Results

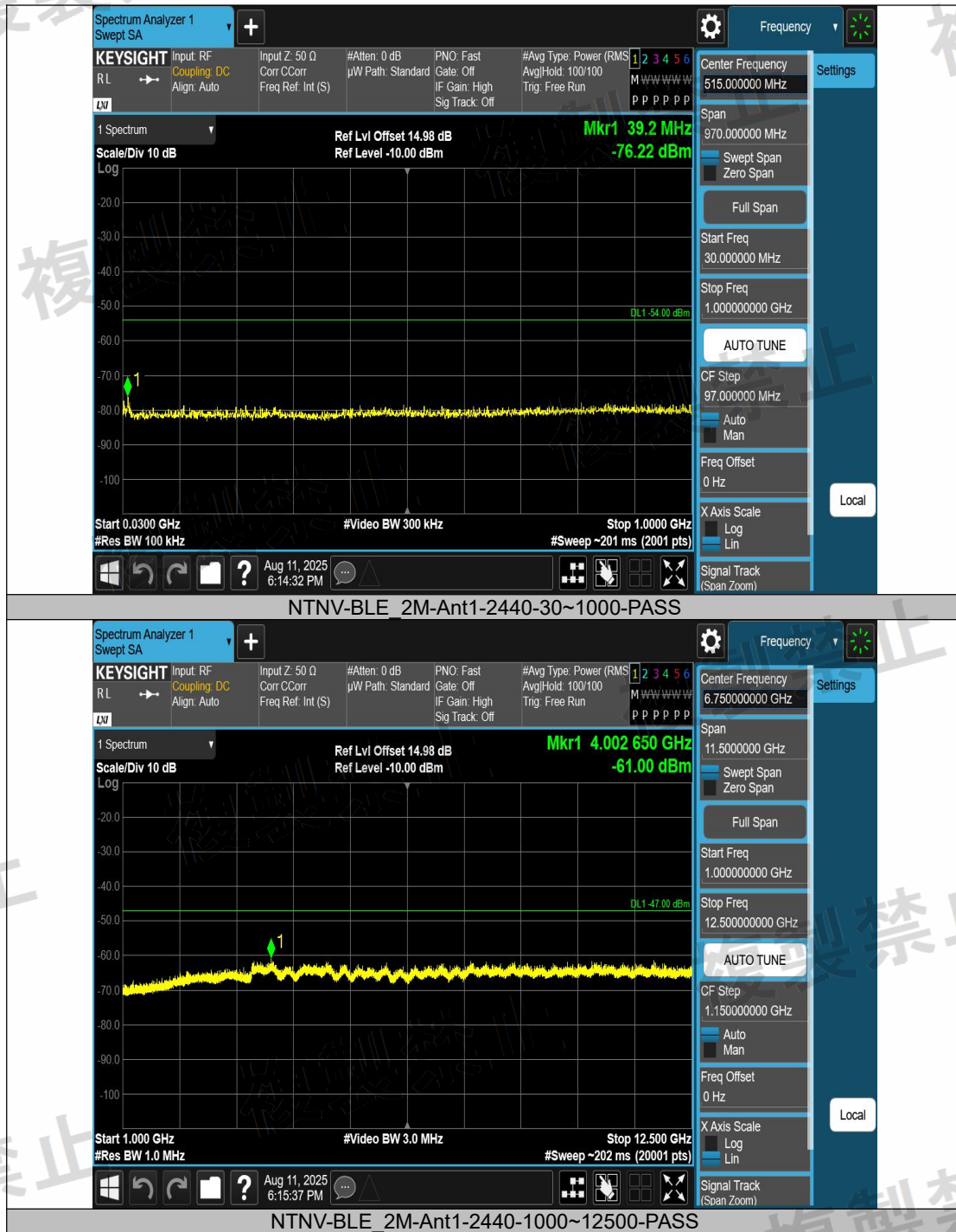
TestCondition	TestMode	Antenna	Freq(M Hz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	927.74	-77.00	≤-54	0.01995	≤4	PASS
NTNV	BLE_1M	Ant1	2402	1000~12500	4009.55	-61.36	≤-47	0.73114	≤20	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	464.56	-76.99	≤-54	0.02000	≤4	PASS
NTNV	BLE_1M	Ant1	2440	1000~12500	3810.60	-60.68	≤-47	0.85507	≤20	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	31.94	-78.50	≤-54	0.01413	≤4	PASS
NTNV	BLE_1M	Ant1	2480	1000~12500	4019.90	-61.67	≤-47	0.68077	≤20	PASS
NTNV	BLE_2M	Ant1	2402	30~1000	731.31	-77.36	≤-54	0.01837	≤4	PASS
NTNV	BLE_2M	Ant1	2402	1000~12500	8133.45	-61.43	≤-47	0.71945	≤20	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	39.22	-76.22	≤-54	0.02388	≤4	PASS
NTNV	BLE_2M	Ant1	2440	1000~12500	4002.65	-61.00	≤-47	0.79433	≤20	PASS
NTNV	BLE_2M	Ant1	2480	30~1000	31.94	-78.24	≤-54	0.01500	≤4	PASS
NTNV	BLE_2M	Ant1	2480	1000~12500	3772.65	-62.34	≤-47	0.58345	≤20	PASS

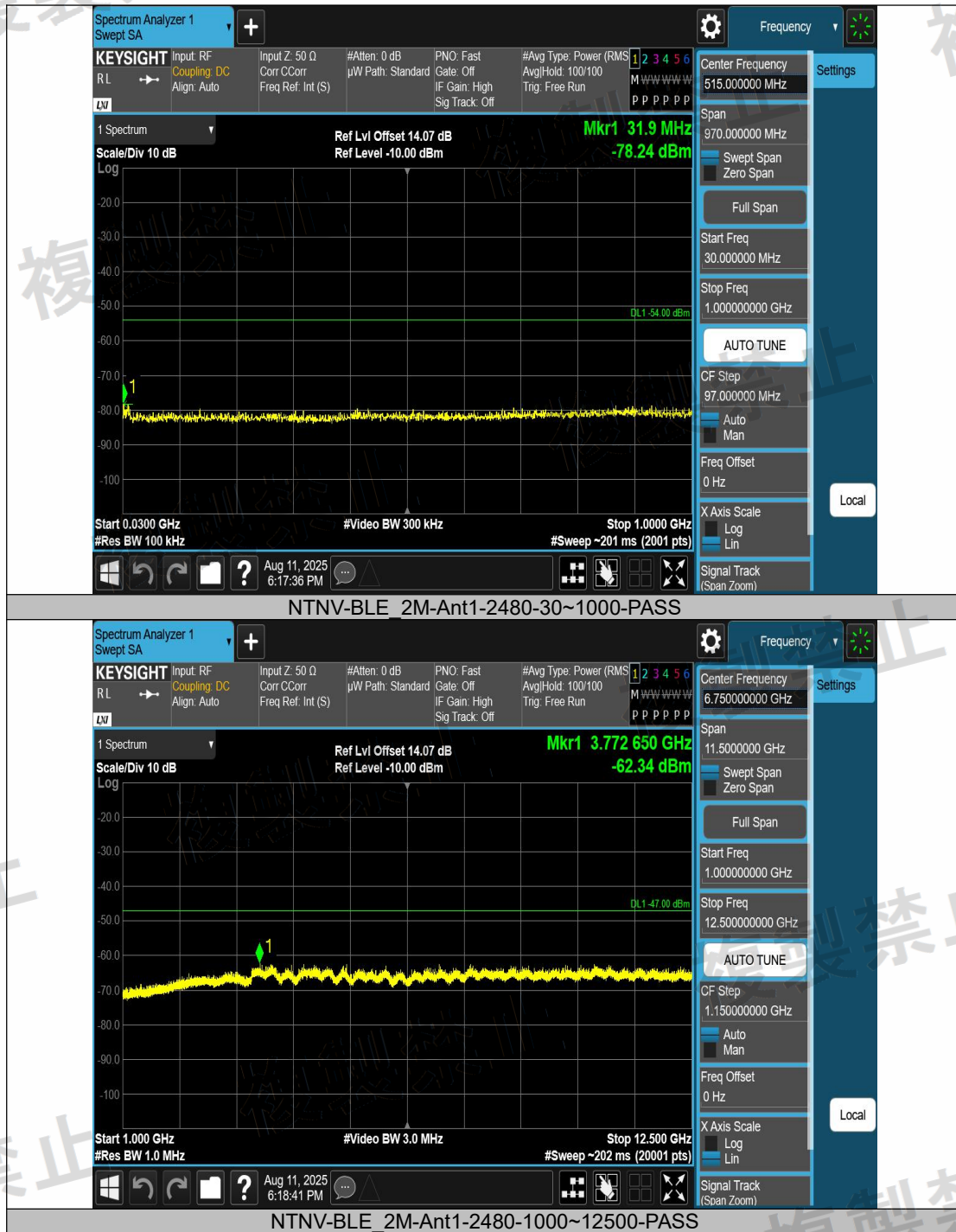










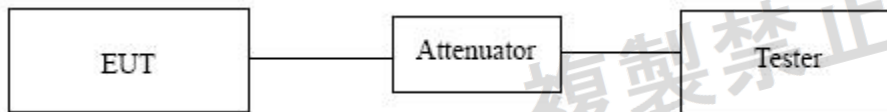


7.7 INTERFACE PREVENTION FUNCTION

7.7.1 Standard Applicable

According to Item 19 of Article 2 Paragraph 1. The device shall have the function of automatic transmission or reception of identification code.

7.7.2 Test Setup Block Diagram



7.7.3 Test Procedure

1. Set the EUT in the usual operation condition
2. The radio equipment with automatic transmitting function of identification code
 - A. Transmit the assigned identification code from the radio equipment.
 - B. Confirm the identification code received by the demodulator.
3. The radio equipment with automatic receiving function of identification code
 - A. Transmit the assigned identification code from the opposite equipment.
 - B. Confirm that the usual communication is available.
 - C. Transmit the identification code distinct from the assigned one from the opposite equipment.
 - D. Confirm that the radio equipment is stopped or an indication is displayed as the identification code is different.

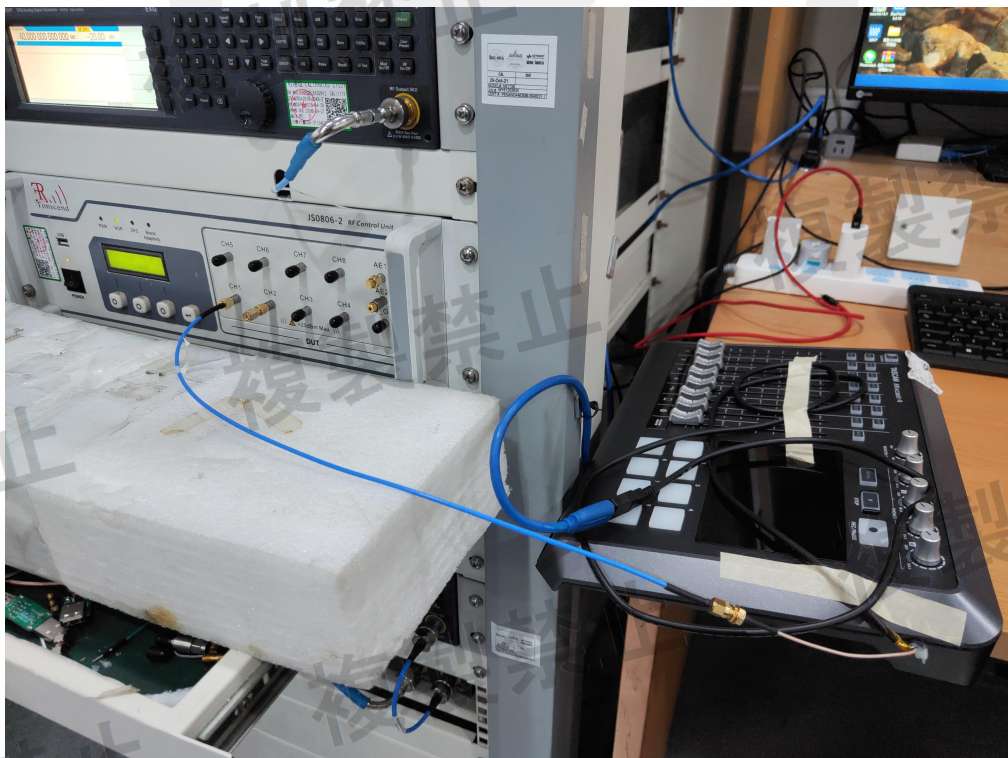
The identification function shall be recorded.

7.7.4 Summary of Test Results/Plots

All the modes were tested and recorded, the results of the test item are good.

Test Item	Test Result
Transmitting Function of Identification Code	>48 bits
Receiving Function of Identification Code	>48 bits
MAC address code	7C:96:D2:FB:37:B6
Results	Pass

8 APPENDIX PHOTOGRAPHS OF TEST SETUP



--- End of Report ---