

**TEST REPORT**

Report Reference No. : HTT2026031176Y1

Compiled by

(position+printed name+signature) : Heber He

Heber He

Supervised by

(position+printed name+signature) : Bruce Zhu

Bruce Zhu

Approved by

(position+printed name+signature) : Kevin Yang

Kevin Yang

Date of issue : Apr. 14, 2026

Testing Laboratory Name : Shenzhen HTT Technology Co., Ltd.

Address

1F, B Building, Huafeng International Robotics Industrial Park,
Gushu, Xixiang Street, Bao'an District, Shenzhen

Distributed by

LiveX AI Inc

Address

460 California Ave, ste 300, Palo Alto, CA 94306

Test specification :

Standard : Ordinance Article 2 paragraph 1 item (19)

Test item description : Holographic AI Avatar Interactive Display

Trade Mark :

LiveX Tower

Manufactured by :

Shenzhen Yirui Electronic Technology Co., Ltd
Room 301, Building B, Zone C, Shiwei Datianyang Industrial Zone,
Shiwei Community, Matian Subdistrict, Guangming District,
Shenzhen City

Model/Type reference..... : Tower

Serial Model.....: N/A

Rating(s) : AC 100-240V

Result : PASS





Report.No.: HTT2026031176Y1

Page 2 of 92

TEST REPORT

Test Report No. : **HTT2026031176Y1**

Apr. 14, 2026

Date of issue

Equipment under Test : Holographic AI Avatar Interactive Display

Model Name : Tower

Serial Model : N/A

Trade Mark : LiveX Tower

Applicant : LiveX AI Inc

Address : 460 California Ave, ste 300, Palo Alto, CA 94306

Manufactured by : Shenzhen Yirui Electronic Technology Co., Ltd

Address : Room 301, Building B, Zone C, Shiwei Datianyang Industrial Zone,
Shiwei Community, Matian Subdistrict, Guangming District,
Shenzhen City

Test Result:

PASS

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.



Table of Contents

Page

1. SUMMARY	4
1.1. TEST STANDARDS	4
1.2. TEST DESCRIPTION	4
1.3. TEST FACILITY	4
1.4. MEASUREMENT UNCERTAINTY	4
2. GENERAL INFORMATION.....	5
2.1. ENVIRONMENTAL CONDITIONS	5
2.2. GENERAL DESCRIPTION OF EUT	5
2.3. DESCRIPTION OF TEST MODES	6
2.4. MEASUREMENT INSTRUMENTS LIST	6
2.5. TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING	7
2.6. DESCRIPTION OF TEST MODES	7
2.7. TEST VOLTAGE	7
3. TEST CONDITIONS AND RESULTS	8
3.1. FREQUENCY ERROR	8
3.2. ANTENNA OUTPUT POWER AND OUTPUT POWER TOLERANCE	12
3.3. OCCUPIED BANDWIDTH AND SPREADING BANDWIDTH	14
3.4. UNWANTED EMISSION STRENGTH	28
3.5. SECONDARY RADIATED EMISSION STRENGTH	47
3.6. CONSTRUCTION PROTECTION METHOD	60
3.7. INTERFERENCE PREVENTION FUNCTION	61
3.8. CARRIER SENSING FUNCTION	62
4. TEST SETUP PHOTOS OF THE EUT	63
5. EXTERNAL AND INTERNAL PHOTOS OF THE EUT	64



1. SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

[ARIB STD-T66](#): Second-Generation Low-Power Data Communication System/Wireless LAN System

[MIC Notice No.88 Appendix No. 43](#): 2.4 GHz band wide-band low-power data communication system

1.2. Test Description

ARIB STD-T66		
CLAUSE	Description of Test (Transmitter Parameters)	Result
3.2 (2)	Antenna Power	Complies
3.2 (3)	Tolerances for Antenna Power	Complies
3.2 (4)	Frequency Tolerance	Complies
3.2 (5)	Transmission Rate	Complies
3.2 (7)	Occupied Frequency Bandwidth	Complies
3.2 (8)	Spread Bandwidth	Complies
3.2 (11)	Dwell Time	N/A
3.2 (6)	Spurious Emissions	Complies
3.6	Transmission Antenna Gain (EIRP Antenna Power)	Complies
3.6	Transmission Radiated Angle Width (3dB Beam width)	N/A
/	Interference prevention function	Complies
/	Carrier Sensing function	Complies
Receiver Parameters		
3.3 (1)	Secondary Radiated Emissions	Complies
Note: (1) N/A is an abbreviation for Not Applicable.		
(2) N/T means this test item is not tested.		

Note: 1: "N/A" denotes test is not applicable in this Test Report

2: MIC Public Notice 88:2004, annex 1 and annex 43

3: MIC Ordinance Regulating Radio Equipment Section 4.17 of Article 49.20

4: Referenced in the standard ARIB STD-T66

5: This device has more than 1 sub-carrier in 1MHz.

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen HTT Technology Co., Ltd.

1F, B Building, Huafeng International Robotics Industrial Park, Gushu, Xixiang Street, Bao'an District, Shenzhen

1.4. Measurement Uncertainty

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR100028-1 [2] and shall correspond to an expansion factor (coverage factor) $K=1.96$ or $K=2$ (which provide confidence levels of respectively 95% and 95.5% in the case where the distributions characterizing the actual measurement uncertainties are normal).

Parameter	Uncertainty
Frequency error / 99%&90% bandwidth	$\pm 1.62 \times 10^{-6}$
Total RF power, conducted	$\pm 0.8\text{dB}$
Spurious emissions, conducted	$\pm 0.8\text{dB}$
DC and low frequency voltages	$\pm 0.05\%$
Humidity	$\pm 5\%$
Temperature	$\pm 1^\circ\text{C}$



2. GENERAL INFORMATION

2.1. Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Voltage	Normal Voltage	AC 100V
	High Voltage	AC 110V
	Low Voltage	AC 90V
Other	Normal Temperature	25°C
	Relative Humidity	55 %
	Air Pressure	989 hPa

2.2. General Description of EUT

Product Name:	Holographic AI Avatar Interactive Display
Model:	Tower
Date of sample receipt:	Mar. 26, 2026
Date of Test:	Mar. 26, 2026 ~ Apr. 14, 2026
Trade Mark:	LiveX Tower
Frequency Range:	IEEE 802.11b: 2412MHz~2472MHz IEEE 802.11g: 2412MHz~2472MHz IEEE 802.11n HT20: 2412MHz~2472MHz IEEE 802.11n HT40: 2422MHz~2462MHz
Channel Number:	IEEE 802.11b: 13 IEEE 802.11g: 13 IEEE 802.11n HT20: 13 IEEE 802.11n HT40: 9
Channel Separation:	5 MHz
Type of Modulation:	IEEE 802.11b: DSSS (DBPSK/DQPSK/CCK) IEEE 802.11g: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT20: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT40: OFDM (BPSK/QPSK/16QAM/64QAM)
Rated Power:	IEEE 802.11b: 6.9 mW/MHz IEEE 802.11g: 2.7 mW/MHz IEEE 802.11n HT20: 2.7 mW/MHz IEEE 802.11n HT40: 1.4 mW/MHz
Antenna Type:	Small round Antenna
Antenna Gain:	3.34 dBi
Hardware Version:	/
Software version:	/

Note: For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2.3. Description of Test Modes

The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Operation Frequency List WIFI on 2.4G Band:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432	12	2467
6	2437	13	2472
7	2442		

Note: Test performed at the lowest/middle/highest frequencies selected in the list above for EUT supported while working on specified mode.

2.4. Measurement Instruments List

RF Conducted Test:

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Institution	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Oscilloscope	TEK	TDS3012B	HTT-004	LISAI	April 22, 2025	April 21, 2026
2	MXA signal analyzer	Agilent	N9020A	HTT-E024	LISAI	April 22, 2025	April 21, 2026
3	EMI Test Receiver	R&S	ESCI 7	HTT-E022	LISAI	April 22, 2025	April 21, 2026
4	DC Power	Agilent	E3632A	HTT-E023	LISAI	April 22, 2025	April 21, 2026
5	Analog signal generator	Agilent	N5181A	HTT-E025	LISAI	April 22, 2025	April 21, 2026
6	Vector signal generator	Agilent	N5182A	HTT-E026	LISAI	April 22, 2025	April 21, 2026
7	USB RF Power Sensor	Keysight	U2021XA	HTT-E027	LISAI	April 22, 2025	April 21, 2026
8	Spectrum Analyzer	KEYSIGHT	FSP	HTT-E037	LISAI	April 22, 2025	April 21, 2026
9	RF Switch Box	Shongyi	RFSW3003328	HTT-E047	LISAI	April 22, 2025	April 21, 2026
10	Programmable Constant Temp & Humi Test Chamber	SERTEP	STP-HWS225 B	HTT-092	LISAI	April 22, 2025	April 21, 2026
11	Temperature and humidity meter	Anbiao	TH10R	HTT-074	LISAI	April 22, 2025	April 21, 2026

Cal. Institution: LiSai-Guangzhou LiSai Calibration and Testing Co.,LTD.

Calibration by the calibration agencies listed in the table correspond to paragraph 4 (ii) (c) of Article 24-2 in the Radio Law".

☐ (a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) or a designated calibration agency under Article 102-18-1 of the Radio Act.

☐ (b) Calibration conducted based on the regulations of Article 135 or 144 of the Measurement Act.

☒ (c) Calibration conducted in foreign countries, which is equivalent to calibration conducted by the NICT or a designated calibration agency under Article 102-18-1 of the Radio Act.

☐ (d) Calibration, etc. conducted by using measuring instruments and other facilities listed at the bottom of appended table 3 of the Radio Act, which is to have been calibrated as described in (a) through (c) above.



2.5. Table for Parameters of Test Software Setting

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power Parameters:

Test Software Version	Realtek 11ac 8821C USB WLAN MP Diagnostic Program 0.0000.21.20170426		
Frequency	2412 MHz	2442MHz	2472 MHz
802.11b	61	61	61
802.11g	61	61	61
802.11n20	61	61	61
Frequency	2422 MHz	2442MHz	2462 MHz
802.11n40	61	61	61

2.6. Description of Test Modes

Tested channel, Frequency and Modulation Information		
CH1	2412 MHz	DSSS (IEEE 802.11b)
CH7	2442 MHz	DSSS (IEEE 802.11b)
CH13	2472 MHz	DSSS (IEEE 802.11b)
CH1	2412 MHz	OFDM (IEEE 802.11g)
CH7	2442 MHz	OFDM (IEEE 802.11g)
CH13	2472 MHz	OFDM (IEEE 802.11g)
CH1	2412 MHz	OFDM (IEEE 802.11n HT20)
CH7	2442 MHz	OFDM (IEEE 802.11n HT20)
CH13	2472 MHz	OFDM (IEEE 802.11n HT20)
CH3	2422 MHz	OFDM (IEEE 802.11n HT40)
CH7	2442 MHz	OFDM (IEEE 802.11n HT40)
CH11	2462 MHz	OFDM (IEEE 802.11n HT40)

Note: According exploratory test, EUT has maximum output power, All the test modes were tested, but only the worst case was recorded in this report.

2.7. Test Voltage

POWER SUPPLY VOLTAGE FLUCTUATION TEST

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input to EUT	AC 100V	AC 110V	AC 90V
Output to RF Module	DC 3.30V	DC 3.30V	DC 3.30V
Voltage Variation (%)	--	--	--

Note:

Voltage Variation (%)

= (Output high or Low Voltage - Output Normal Voltage) / Output Normal Voltage * 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%. Exempt extremely high and low supply voltage condition test, EUT only operated in normal voltage to test all regulations.

The sample power supply was confirmed that input voltage variation at the radio unit in the radio equipment to be tested is less than +1% against a variation of +10% at the input voltage from the external power supply to the radio equipment, and the radio equipment was designed so as to be operated in a specified voltage variation limit within +10%, Radio can only tested at rated voltage.



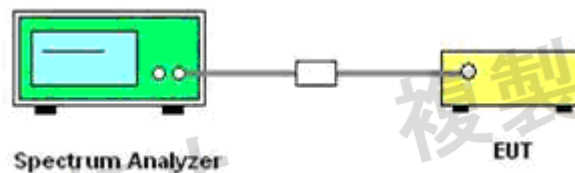
3. Test conditions and Results

3.1. Frequency Error

LIMIT

Tolerance of frequency shall be $\pm 50 \times 10^{-6}$.

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: non-modulation

Spectrum Condition:

Frequency: test frequency

Span: 1 MHz

RBW: 10 KHz

VBW: 10 KHz

Sweep time: Auto

Detector mode: Positive peak

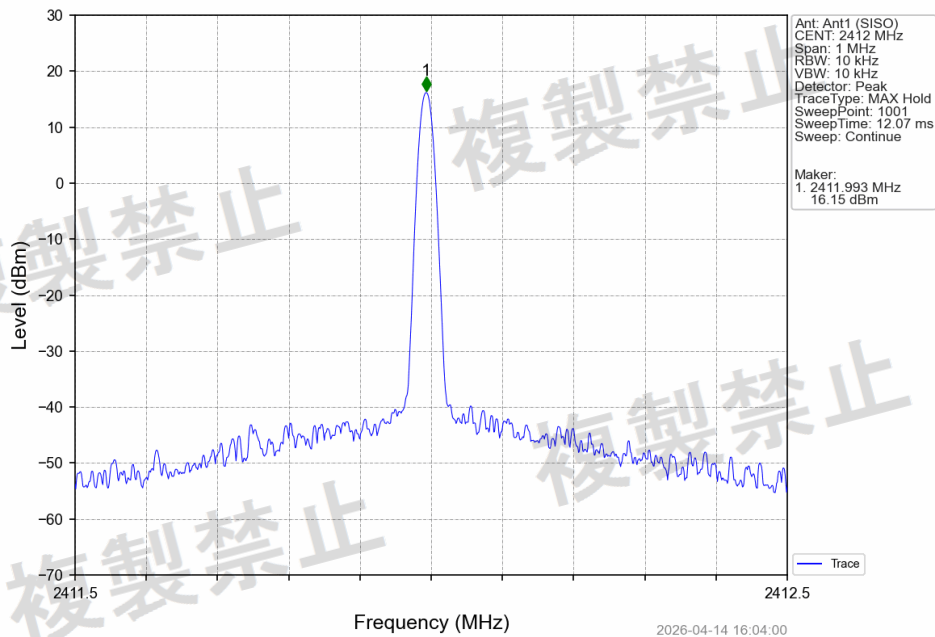
Indication mode: max hold

TEST RESULTS

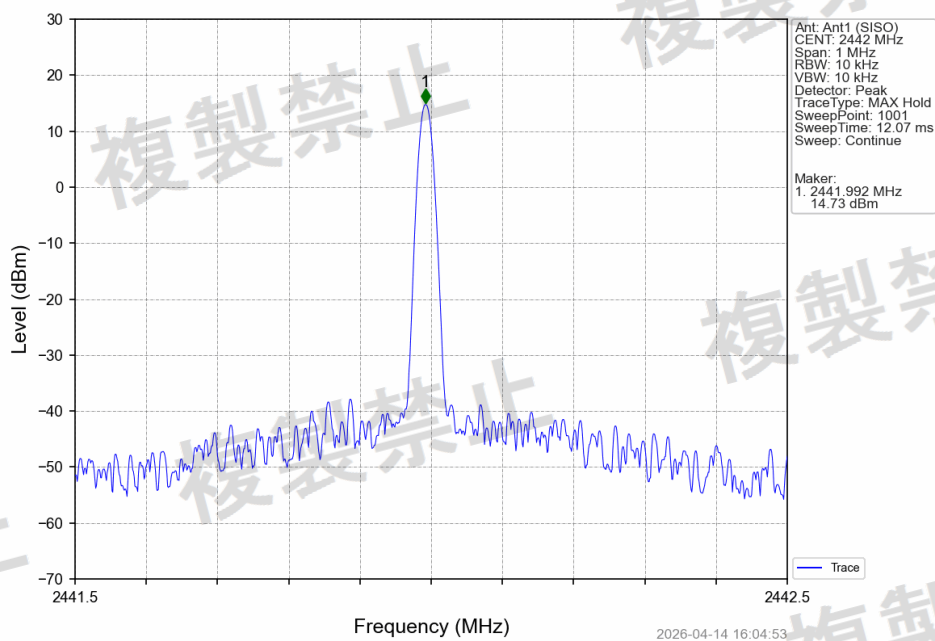
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2412	2411.993	-2.90	-50 to 50	Pass
			2442	2441.992	-3.28	-50 to 50	Pass
			2472	2471.992	-3.24	-50 to 50	Pass
			2422	2421.993	-2.89	-50 to 50	Pass
			2462	2461.993	-2.84	-50 to 50	Pass



Frequency Error_NTNV_Carrier Wave_2412MHz_Ant1 (SISO)_NTNV

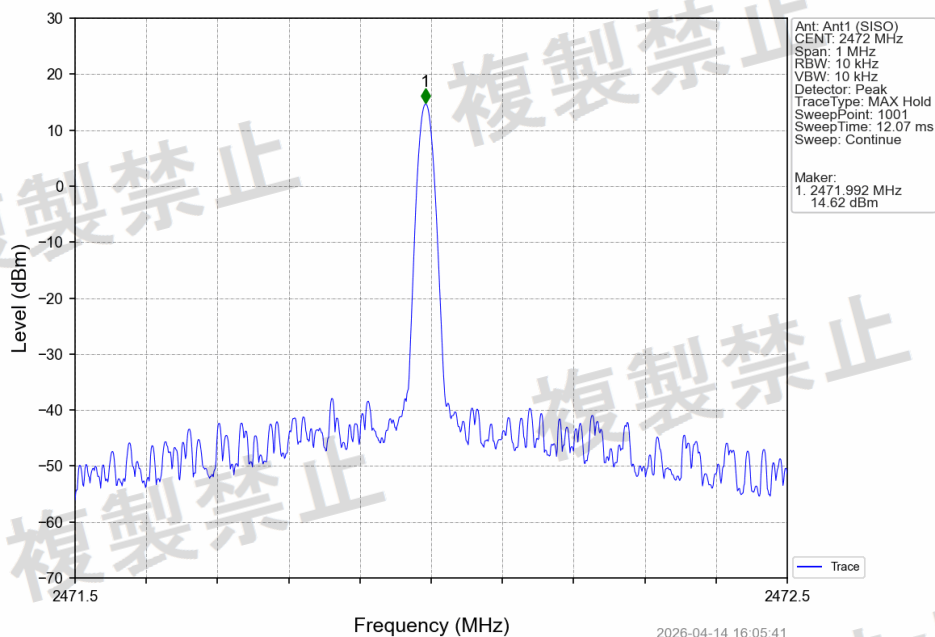


Frequency Error_NTNV_Carrier Wave_2442MHz_Ant1 (SISO)_NTNV

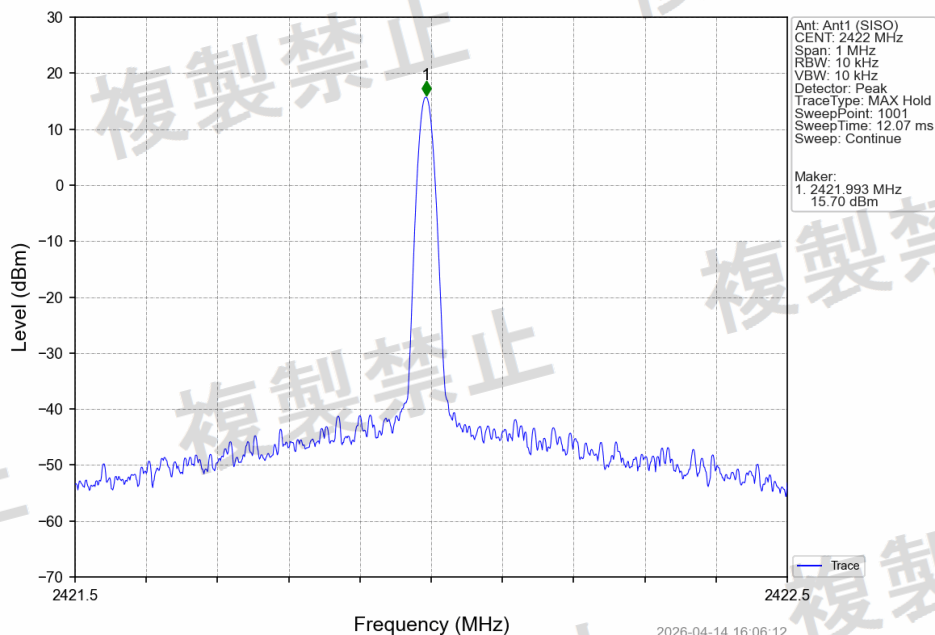


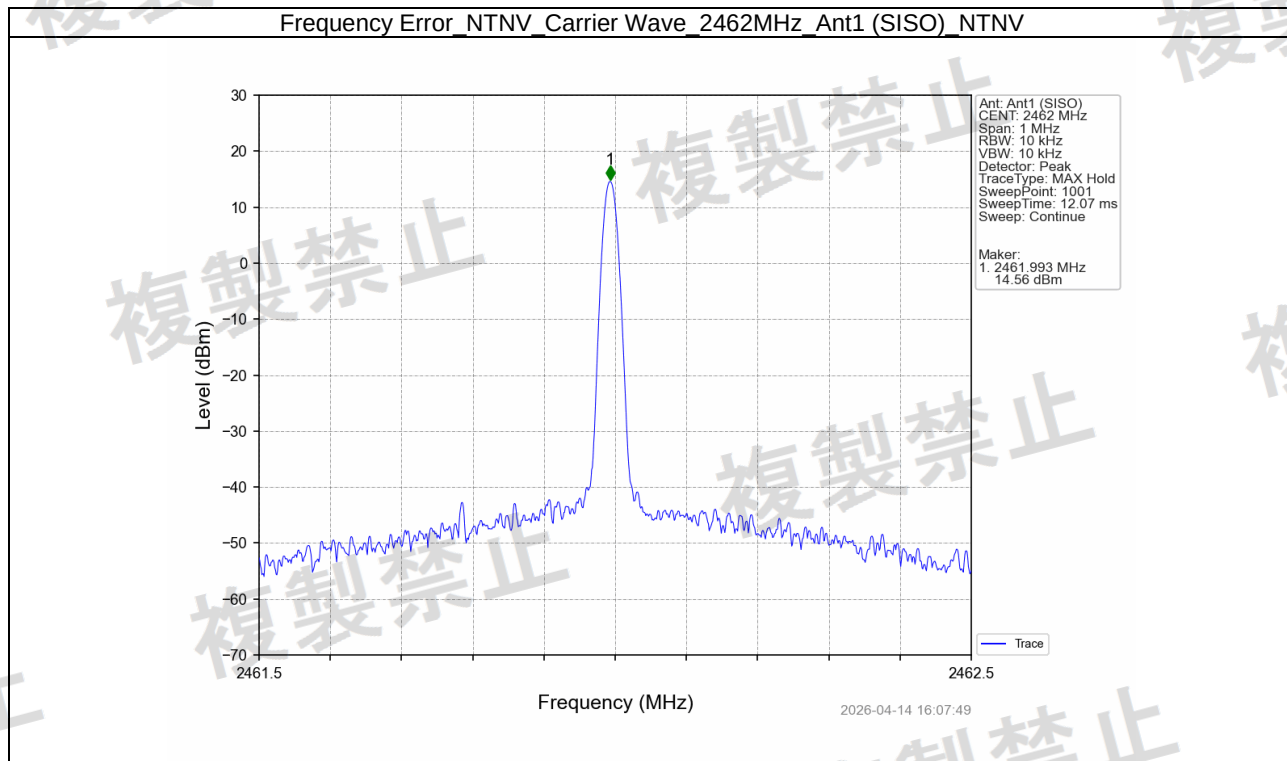


Frequency Error_NTNV_Carrier Wave 2472MHz_Ant1 (SISO) NTNv



Frequency Error_NTNV_Carrier Wave 2422MHz_Ant1 (SISO) NTNv







3.2. Antenna Output Power and Output Power Tolerance

LIMIT

- $\leq 3 \text{ mW /MHz}$ (FHSS from 2402-2480 MHz)
- $\leq 10 \text{ mW/MHz}$ (OFDM, DSSS from 2400-2483.5 MHz)
- $\leq 5 \text{ mW/MHz}$ (OFDM $26\text{MHz} \leq \text{OBW} \leq 40\text{MHz}$)
- $\leq 10 \text{ mW}$ (other from 2400-2483.5 MHz)

The Output Power Tolerance must be within +20%.

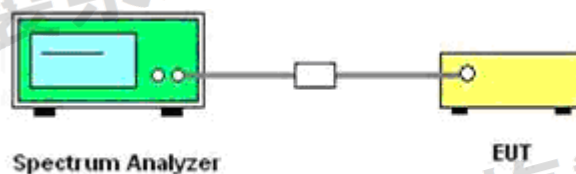
E.i.r.p:

$\leq 12.14\text{dBm/MHz}$ (OFDM, DS for 2400-2483.5MHz)

$\leq 9.13\text{dBm/MHz}$ (OFDM $26\text{MHz} \leq \text{OBW} \leq 40\text{MHz}$)

Note: E.I.R.P will not be applied to the transmission antenna which has a gain of 2.14dBi or less.

TEST CONFIGURATION



TEST PROCEDURE

Step 1:

Connect the UUT to the spectrum analyzer as TEST CONFIGURATION and use the following settings:

Centre Frequency: The centre frequency of the channel under test.

RBW: 1 MHz

VBW: 1 MHz

Span: Wide enough to cover the complete power envelope of the signal of the UUT.

Detector: Peak

Trace Mode: Max Hold

Step 2:

When the trace is complete, find the peak value of the power envelope and record the frequency.

Step 3:

Make the following changes to the settings of the spectrum analyzer:

Centre Frequency: Equal to the frequency recorded in step 2.

Span: 0 MHz

RBW: 1 MHz

VBW: 1 MHz

Detector: RMS

Trace Mode: Clear Write

**TEST RESULTS****Conducted Power**

ENV	Mode	TX Type	Frequency (MHz)	ANT	Antenna Power (mW/MHz)		Nominal Power (mW/MHz)	Tolerance (%)		Verdict
					Measured	Limit		Measured	Limit	
NTNV	802.11b	SISO	2412	1	6.868	<=10.00	6.900	-0.46	+ 20	Pass
			2442	1	5.622	<=10.00	6.900	-18.52	+ 20	Pass
			2472	1	6.585	<=10.00	6.900	-4.57	+ 20	Pass
	802.11g	SISO	2412	1	2.667	<=10.00	2.700	-1.22	+ 20	Pass
			2442	1	2.290	<=10.00	2.700	-15.19	+ 20	Pass
			2472	1	2.326	<=10.00	2.700	-13.85	+ 20	Pass
	802.11n (HT20)	SISO	2412	1	2.688	<=10.00	2.700	-0.44	+ 20	Pass
			2442	1	2.314	<=10.00	2.700	-14.30	+ 20	Pass
			2472	1	2.463	<=10.00	2.700	-8.78	+ 20	Pass
	802.11n (HT40)	SISO	2422	1	1.422	<=5.00	1.400	1.57	+ 20	Pass
			2442	1	1.476	<=5.00	1.400	5.43	+ 20	Pass
			2462	1	1.412	<=5.00	1.400	0.86	+ 20	Pass

Note:

1). Test Result: Pass.

2). All test modes have been tested and we only record the worst result.

EIRP:

Mode	Channel (MHz)	ANT	Average burst power	Gain	EIRP Result	EIRP Limit
			dBm/MHz			
802.11b	2412	1	8.37	3.34	11.71	12.14
	2442	1	7.50	3.34	10.84	12.14
	2472	1	8.19	3.34	11.53	12.14
802.11g	2412	1	4.26	3.34	7.6	12.14
	2442	1	3.60	3.34	6.94	12.14
	2472	1	3.67	3.34	7.01	12.14
802.11n (HT20)	2412	1	4.29	3.34	7.63	12.14
	2442	1	3.64	3.34	6.98	12.14
	2472	1	3.91	3.34	7.25	12.14
802.11n (HT40)	2422	1	1.53	3.34	4.87	9.13
	2442	1	1.69	3.34	5.03	9.13
	2462	1	1.50	3.34	4.84	9.13

EIRP=Antenna conducted power + Antenna gain

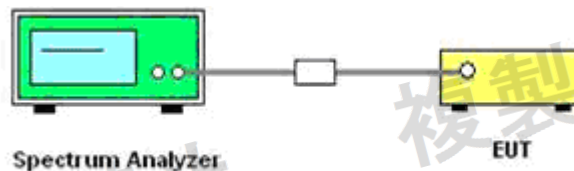


3.3. OCCUPIED BANDWIDTH AND SPREADING BANDWIDTH

LIMIT

- Occupied bandwidth: FH $\leq$ 83.5 MHz; OFDM $\leq$ 40 MHz; DS $\leq$ 26 MHz; Others $\leq$ 26 MHz
- Spread Bandwidth: $\geq$ 500 kHz (FH, DS)
- Spread factor $>$ 5.

TEST CONFIGURATION



TEST PROCEDURE

Setting of SA is following as follow:

Technology	99% Occupied Bandwidth	90% Spread Bandwidth
BT	RBW = 1 MHz / VBW = 1 MHz	RBW = 1 MHz / VBW = 1 MHz
BT LE	RBW = 30 KHz / VBW = 30 KHz	RBW = 30 KHz / VBW = 30 KHz
WLAN (BW = 20 MHz)	RBW = 300 KHz / VBW = 300 KHz	RBW = 300 KHz / VBW = 300 KHz
WLAN (BW = 40 MHz)	RBW = 300 KHz / VBW = 300 KHz	RBW = 300 KHz / VBW = 300 KHz

Sweep time: Auto

Sweep Mode: Continuous sweep

Detect mode: Positive peak

Trace mode: Max hold

EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth.

EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 90% of occupied bandwidth to measure spread bandwidth.

Spread Factor=Spread Bandwidth/modulation rate.

The modulation rate: MR=1.375Mbps for 802.11b

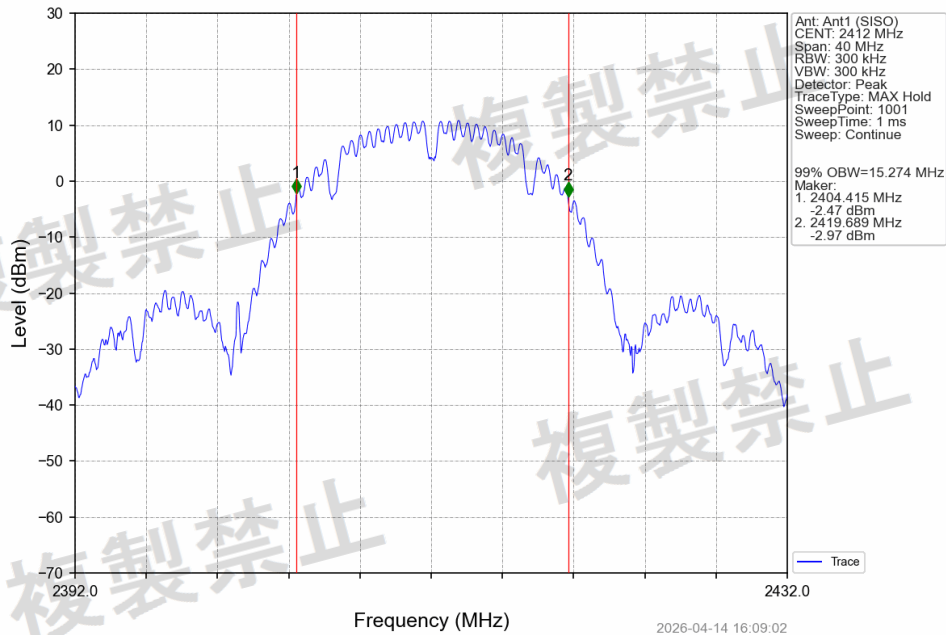
TEST RESULTS

99% Occupied Bandwidth

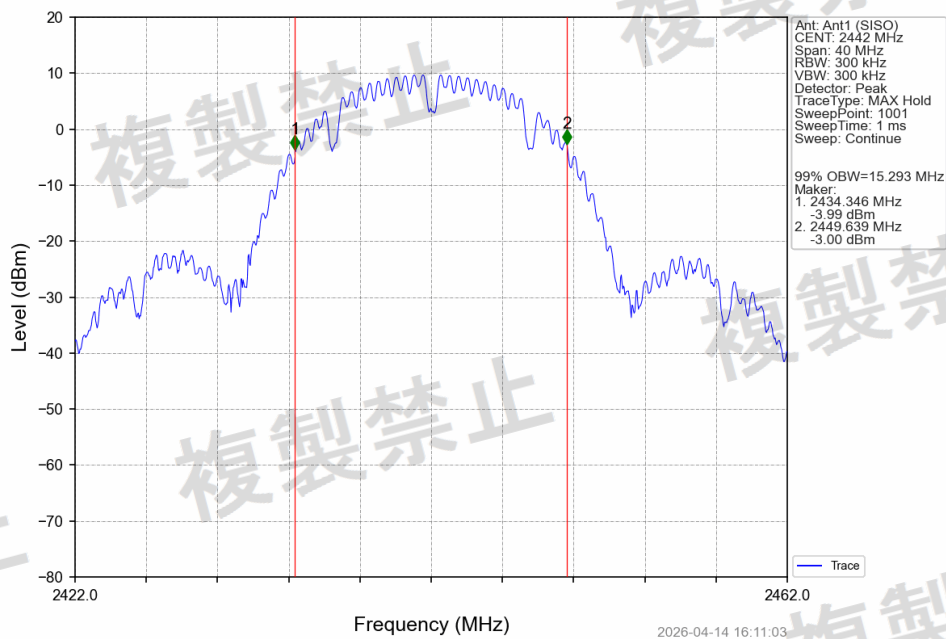
ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	15.274	≤ 26	Pass
			2442	15.293	≤ 26	Pass
			2472	15.071	≤ 26	Pass
	802.11g	SISO	2412	16.775	≤ 40	Pass
			2442	16.832	≤ 40	Pass
			2472	16.784	≤ 40	Pass
	802.11n (HT20)	SISO	2412	17.825	≤ 40	Pass
			2442	17.857	≤ 40	Pass
			2472	17.785	≤ 40	Pass
	802.11n (HT40)	SISO	2422	36.009	≤ 40	Pass
			2442	36.128	≤ 40	Pass
			2462	36.057	≤ 40	Pass



802.11b 2412MHz_Ant1 (SISO) NTN

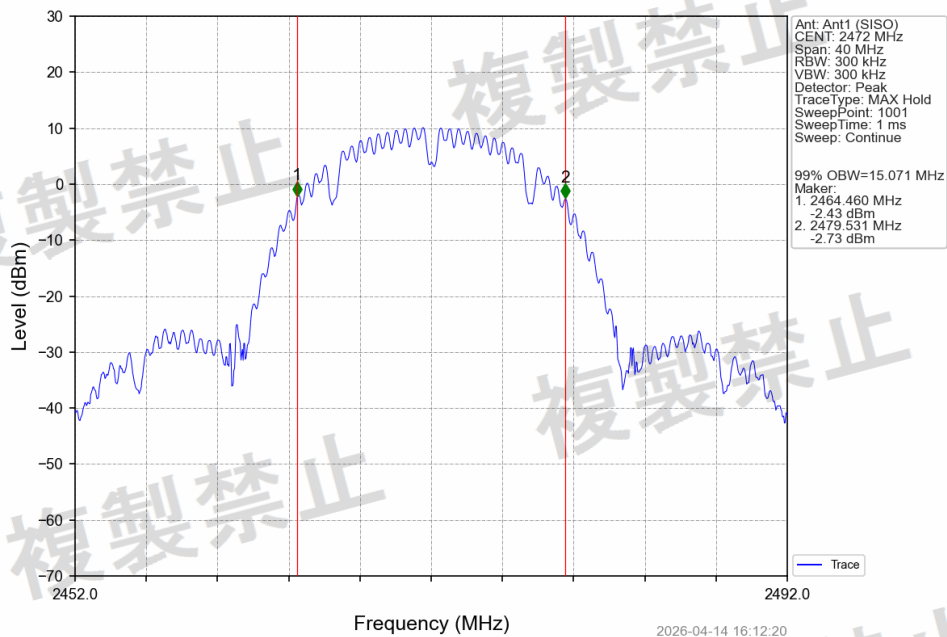


802.11b 2442MHz_Ant1 (SISO) NTN

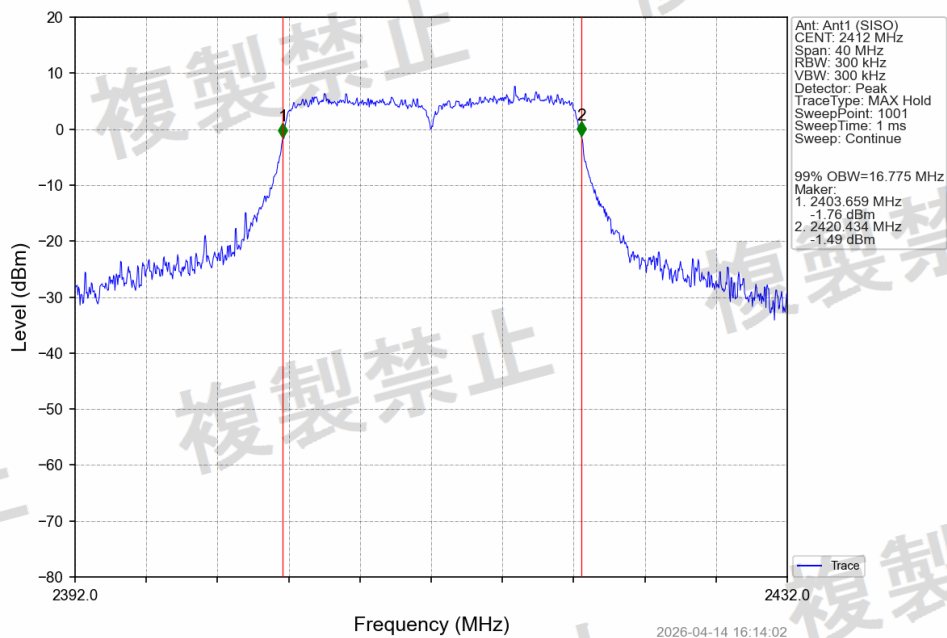




802.11b 2472MHz_Ant1 (SISO) NTN

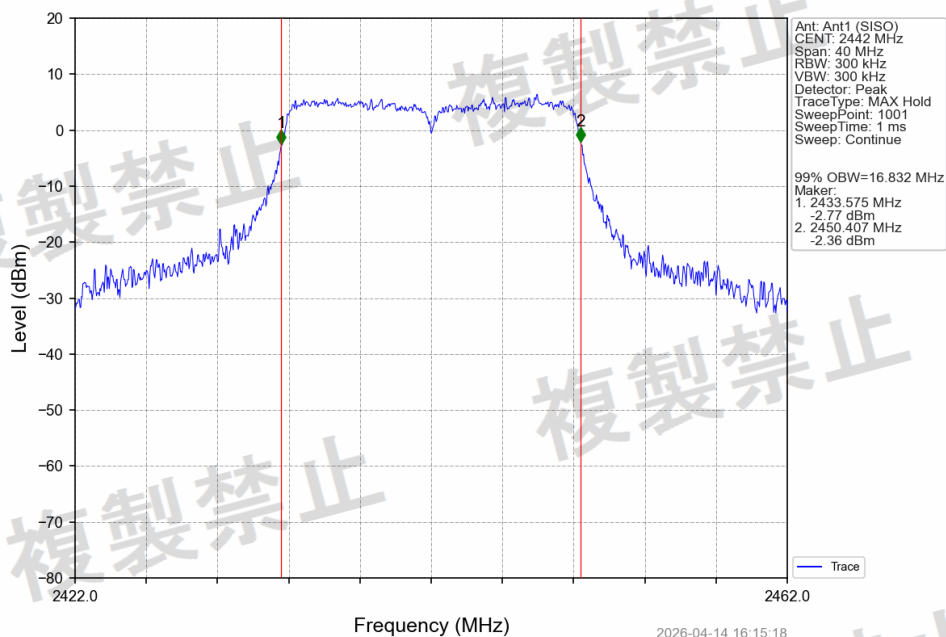


802.11g 2412MHz_Ant1 (SISO) NTN

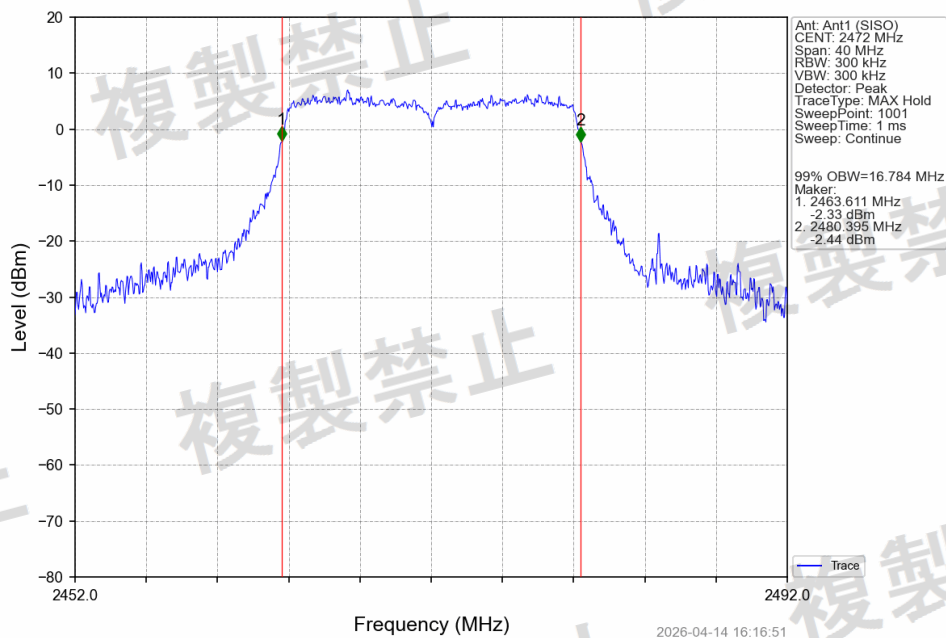




802.11g_2442MHz_Ant1 (SISO) NTN

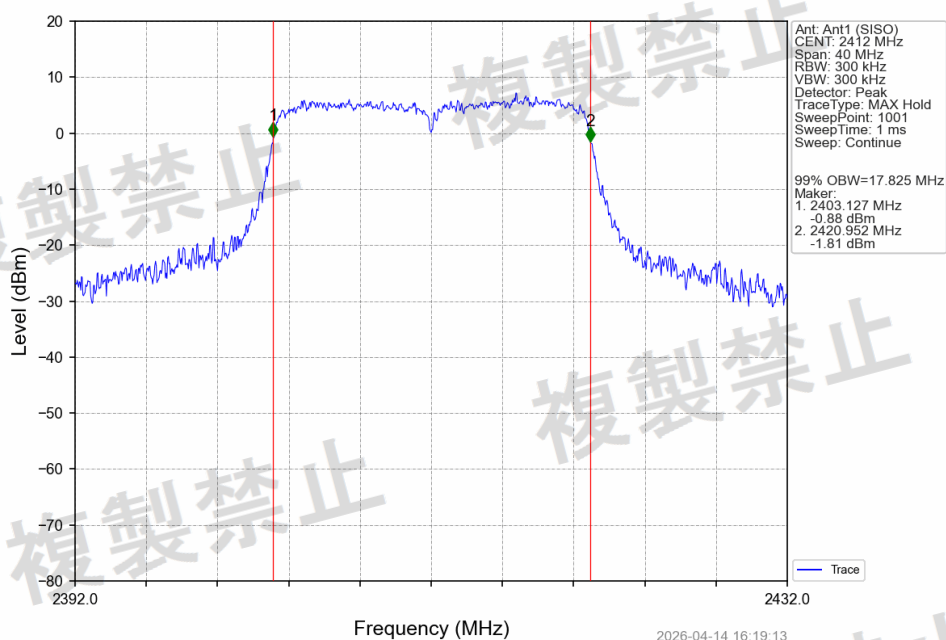


802.11g_2472MHz_Ant1 (SISO) NTN

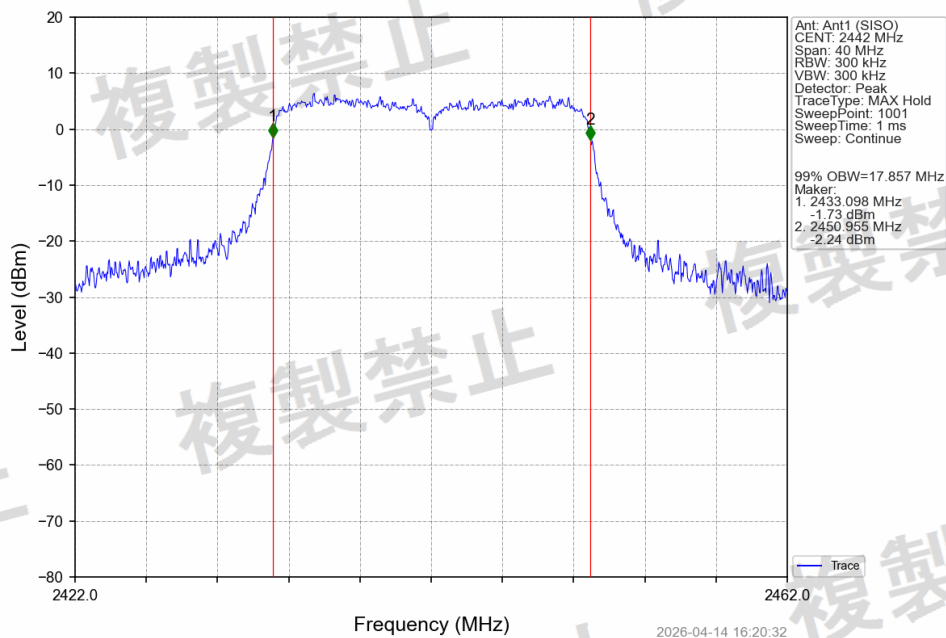




802.11n(HT20) 2412MHz Ant1 (SISO) NTN

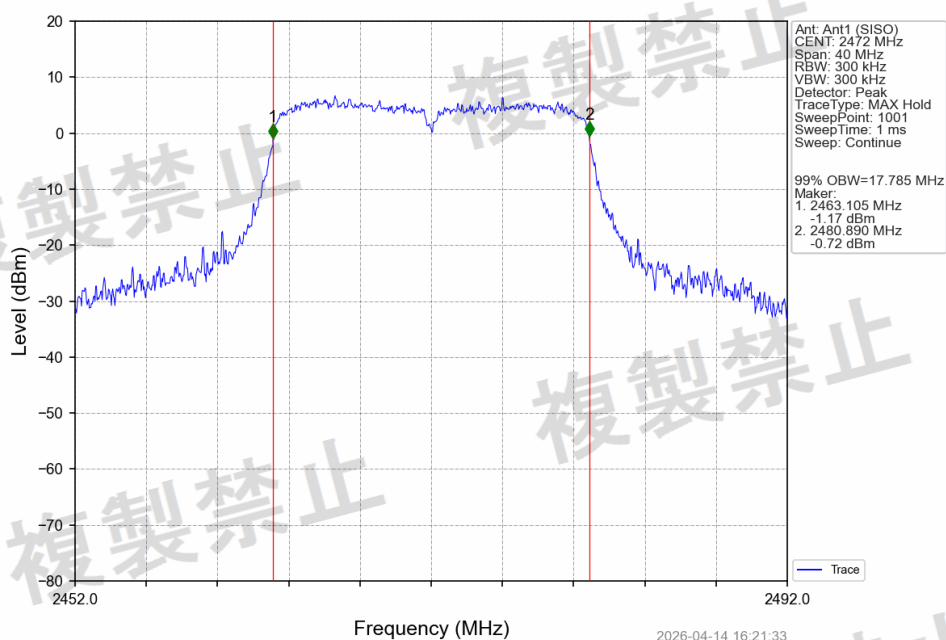


802.11n(HT20) 2442MHz Ant1 (SISO) NTN

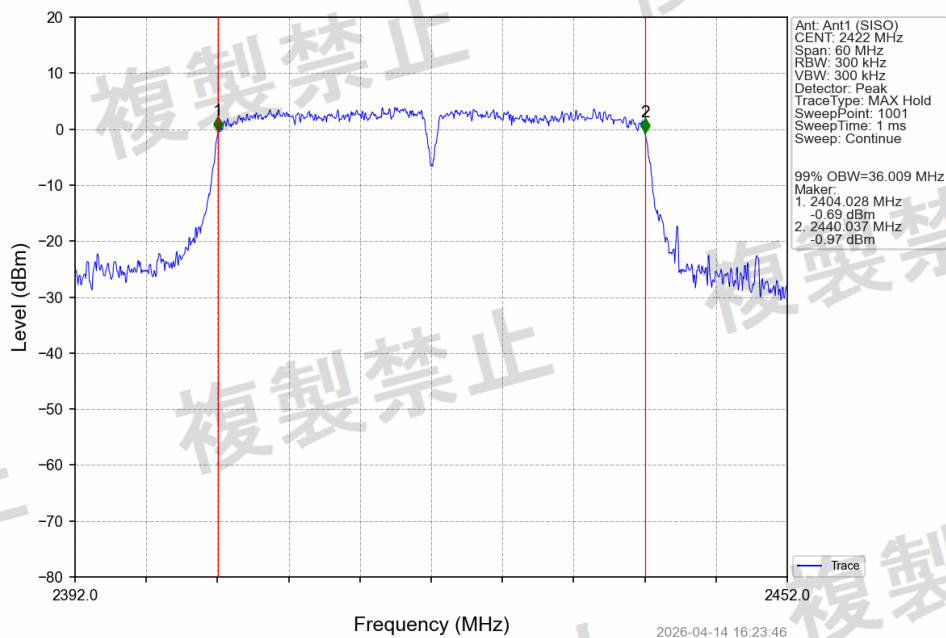




802.11n(HT20) 2472MHz Ant1 (SISO) NTN

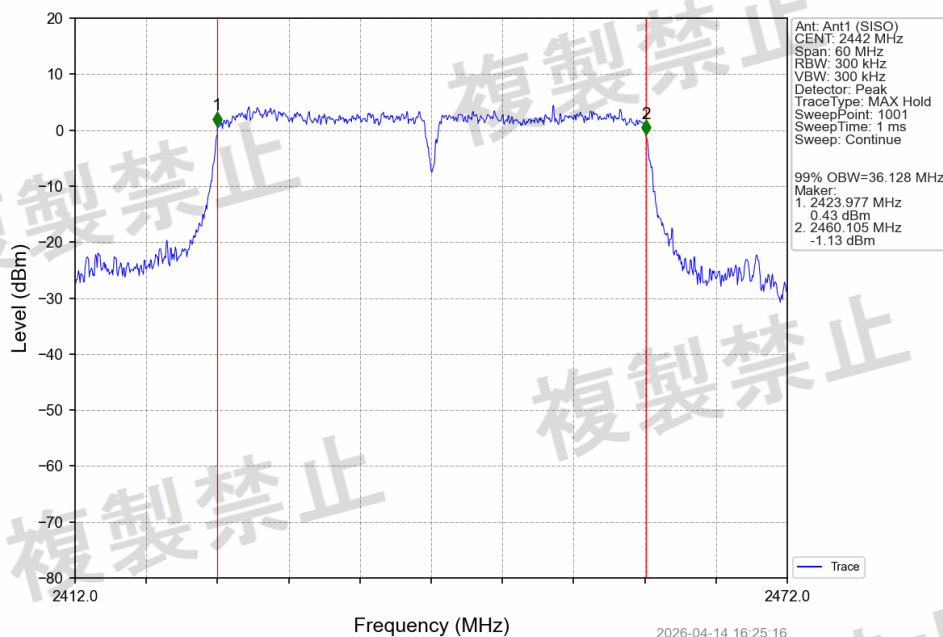


802.11n(HT40) 2422MHz Ant1 (SISO) NTN

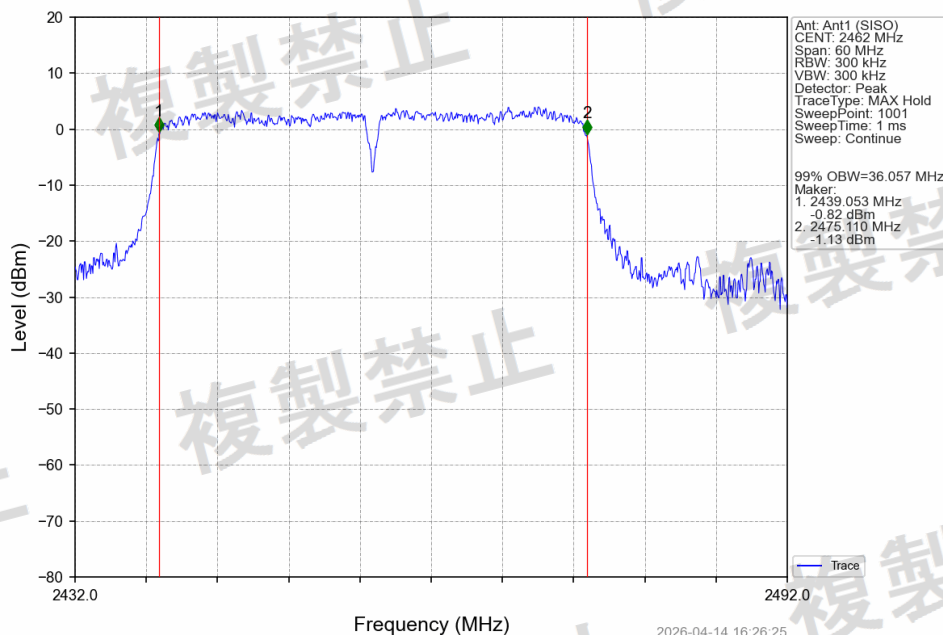




802.11n(HT40) 2442MHz_Ant1 (SISO) NTN



802.11n(HT40) 2462MHz_Ant1 (SISO) NTN



**90% Spread Bandwidth**

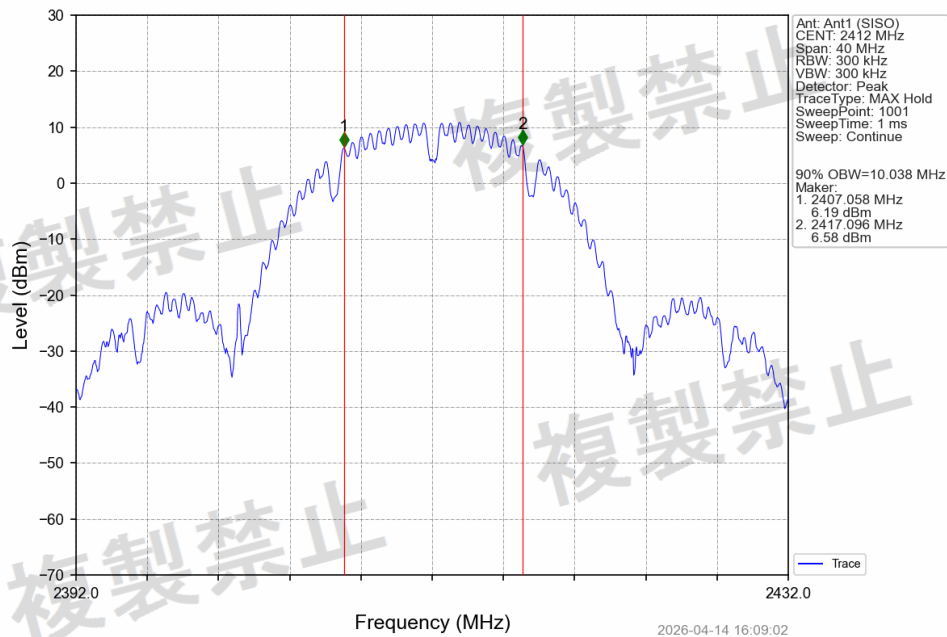
ENV	Mode	TX Type	Frequency (MHz)	Spread Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	10.038	≥ 0.5	Pass
			2442	10.074	≥ 0.5	Pass
			2472	9.963	≥ 0.5	Pass
	802.11g	SISO	2412	14.720	≥ 0.5	Pass
			2442	14.816	≥ 0.5	Pass
			2472	14.743	≥ 0.5	Pass
	802.11n (HT20)	SISO	2412	15.590	≥ 0.5	Pass
			2442	15.633	≥ 0.5	Pass
			2472	15.521	≥ 0.5	Pass
	802.11n (HT40)	SISO	2422	31.784	≥ 0.5	Pass
			2442	32.315	≥ 0.5	Pass
			2462	32.018	≥ 0.5	Pass

ENV	Mode	TX Type	Frequency (MHz)	Spread Factor		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	7.300	≥ 5	Pass
			2442	7.327	≥ 5	Pass
			2472	7.246	≥ 5	Pass

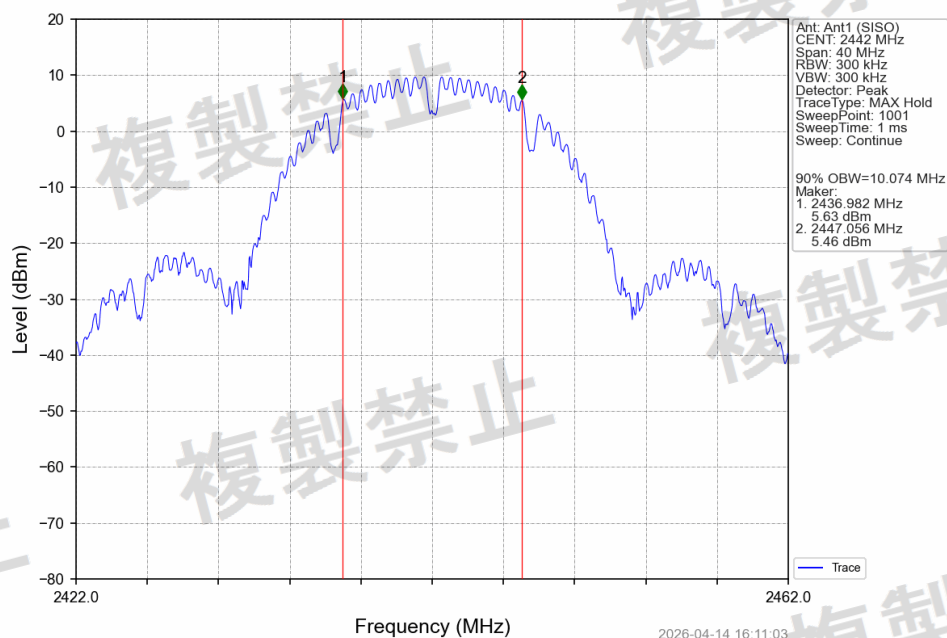
Note1: Spread Factor = Spread Bandwidth / Symbol Rate, For 802.11b mode, Symbol Rate = 1.375



802.11b 2412MHz_Ant1 (SISO) NTN

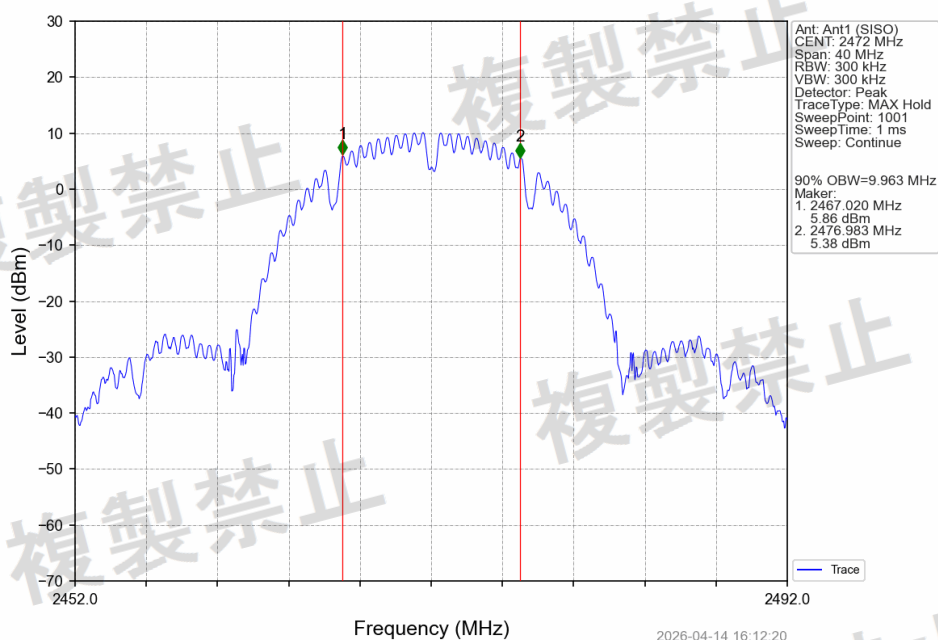


802.11b 2442MHz_Ant1 (SISO) NTN

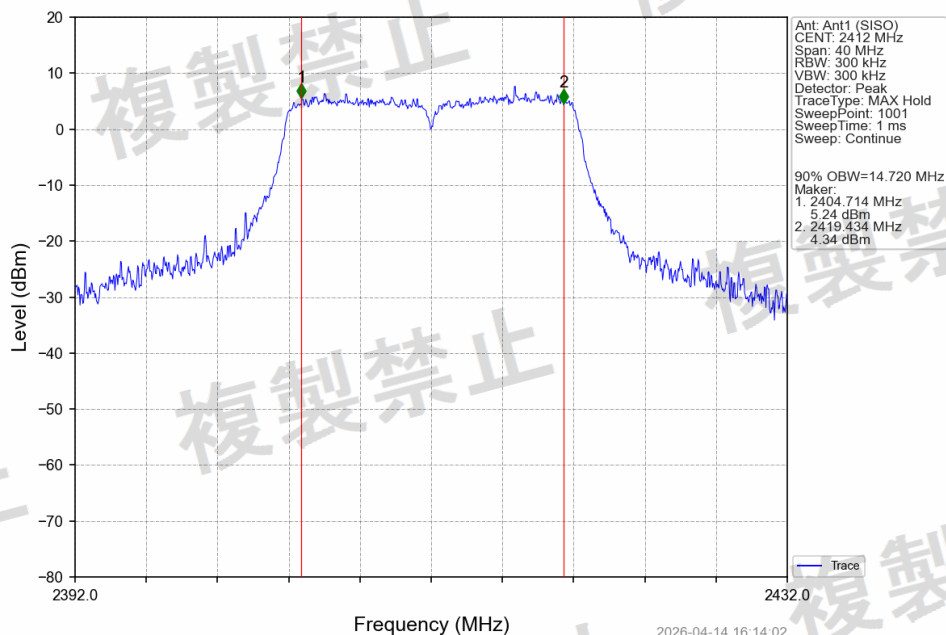




802.11b 2472MHz_Ant1 (SISO) NTN

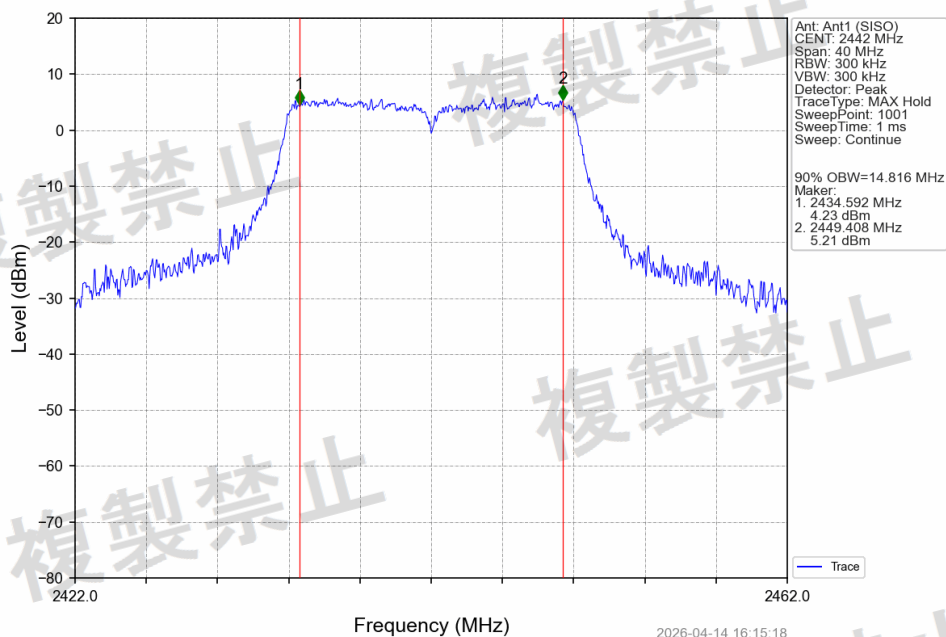


802.11g 2412MHz_Ant1 (SISO) NTN

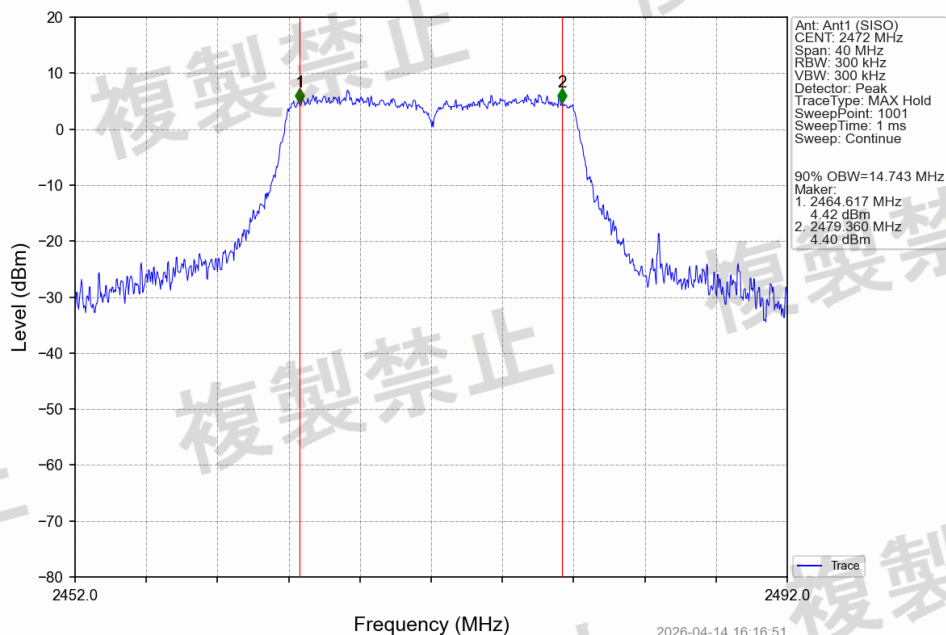




802.11g_2442MHz_Ant1 (SISO) NTN

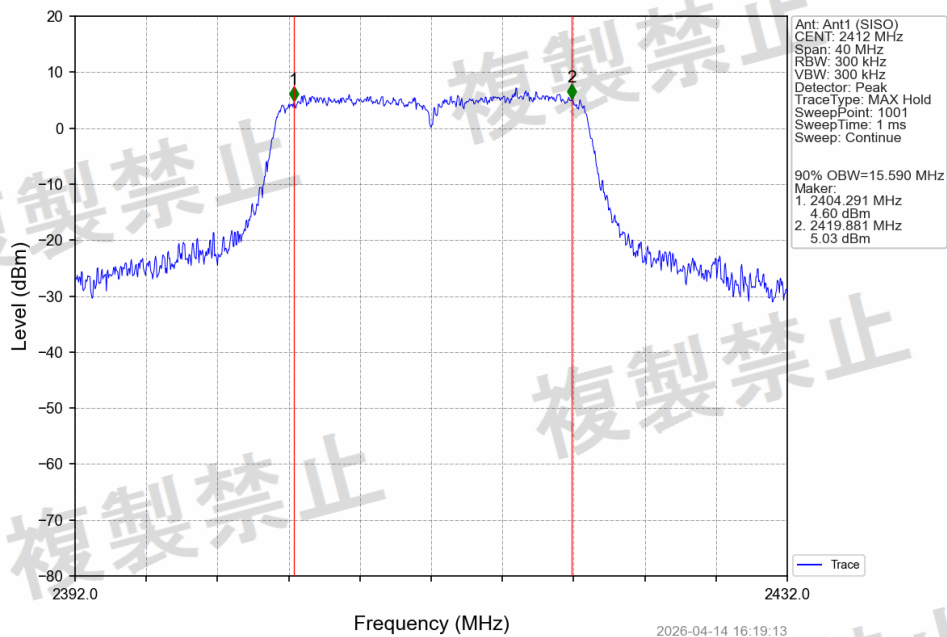


802.11g_2472MHz_Ant1 (SISO) NTN

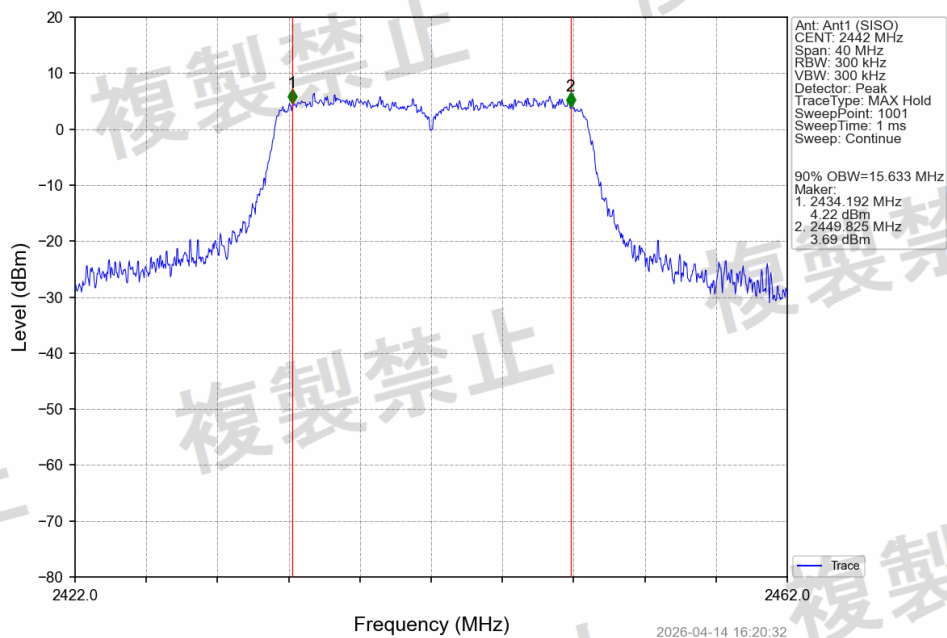




802.11n(HT20) 2412MHz Ant1 (SISO) NTN

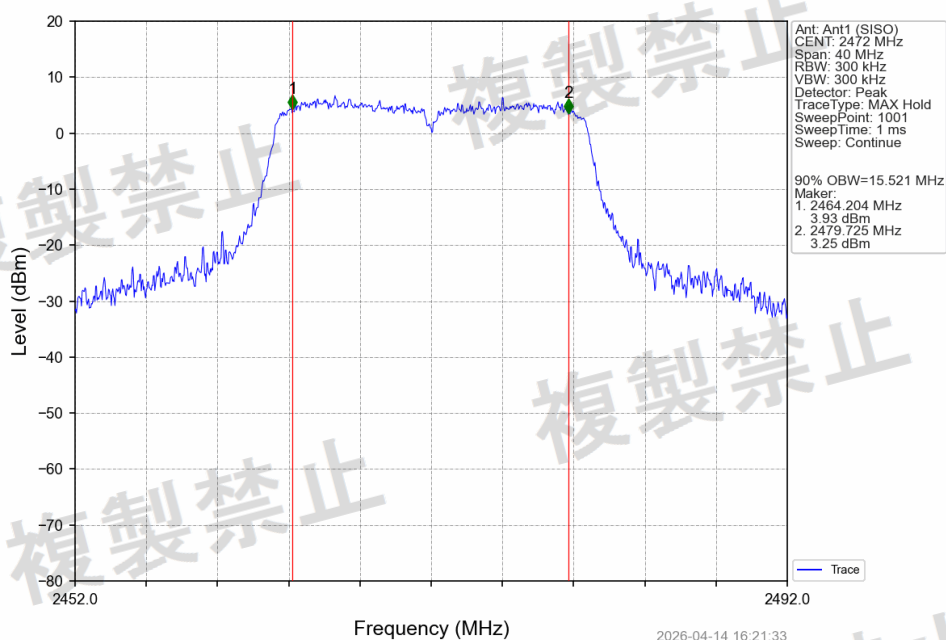


802.11n(HT20) 2442MHz Ant1 (SISO) NTN

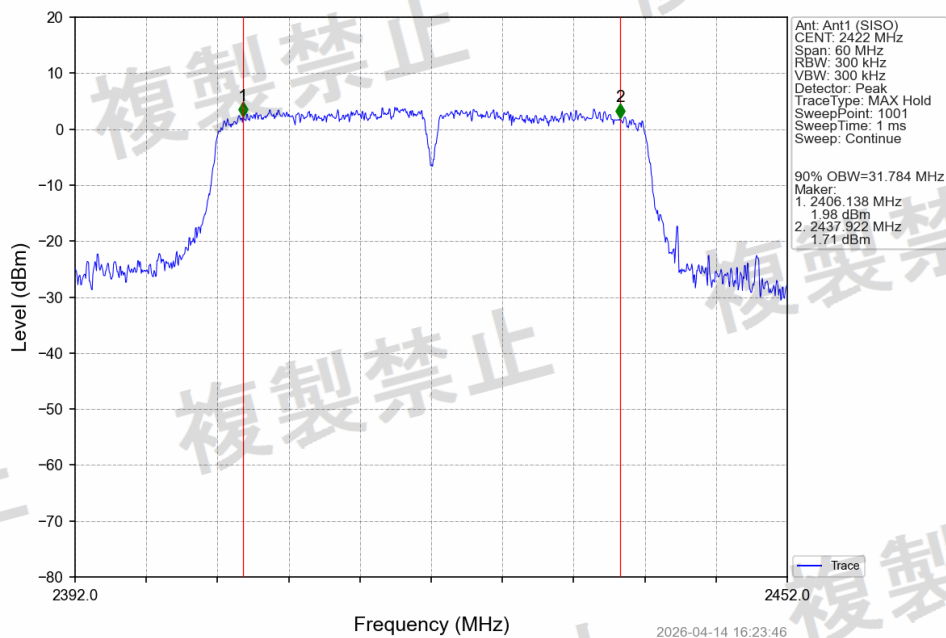




802.11n(HT20) 2472MHz Ant1 (SISO) NTN

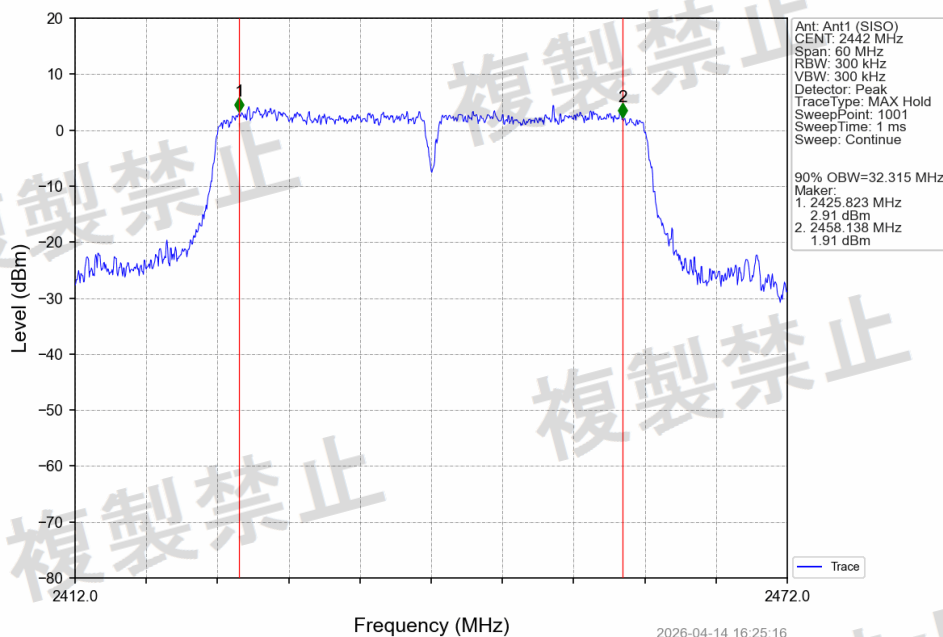


802.11n(HT40) 2422MHz Ant1 (SISO) NTN

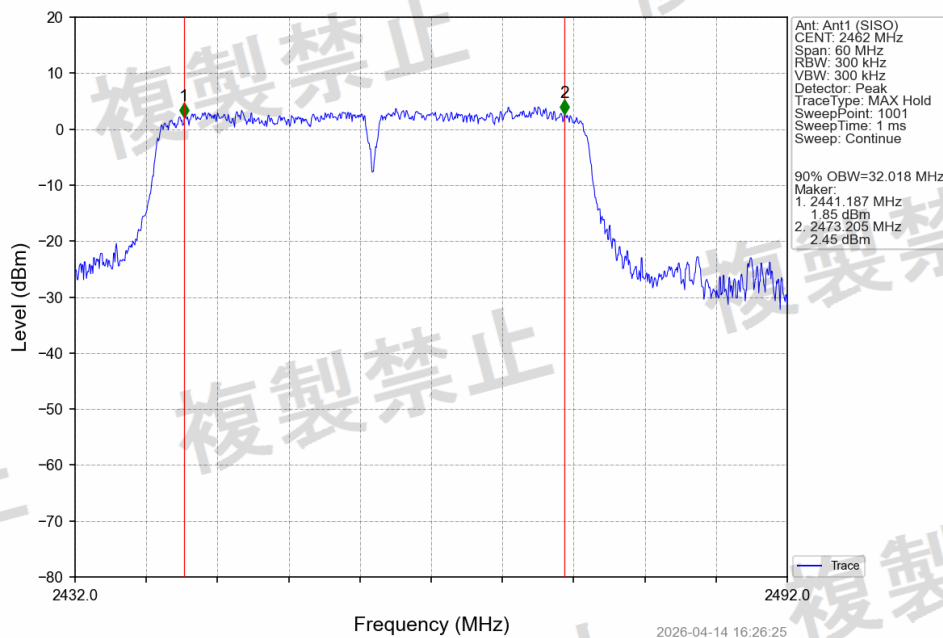




802.11n(HT40) 2442MHz Ant1 (SISO) NTN



802.11n(HT40) 2462MHz Ant1 (SISO) NTN



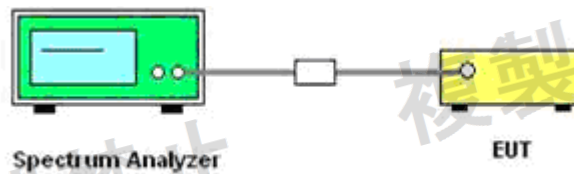
3.4. Unwanted Emission Strength

LIMIT

Permissible mean power of spurious emission of each frequency supplied to a feeder, that is, mean power of spurious emission in the 1 MHz bandwidth at frequency f other than frequency band used shall be as follows:

- a. $2,387\text{MHz} \leq f \leq 2,400\text{MHz}$ and $2,483.5\text{MHz} < f \leq 2,496.5\text{MHz}$ 25 μW or less
b. $2,387\text{MHz} > f$ and $2,496.5\text{MHz} < f$ 2.5 μW or less

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyser and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: modulation

Spectrum Condition:

- Frequency: 30MHz-13GHz
- RBW: 1MHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)
- VBW: 1MHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)
- Sweep time: Auto
- Detector mode: Positive peak
- Indication mode: max hold

TEST RESULTS

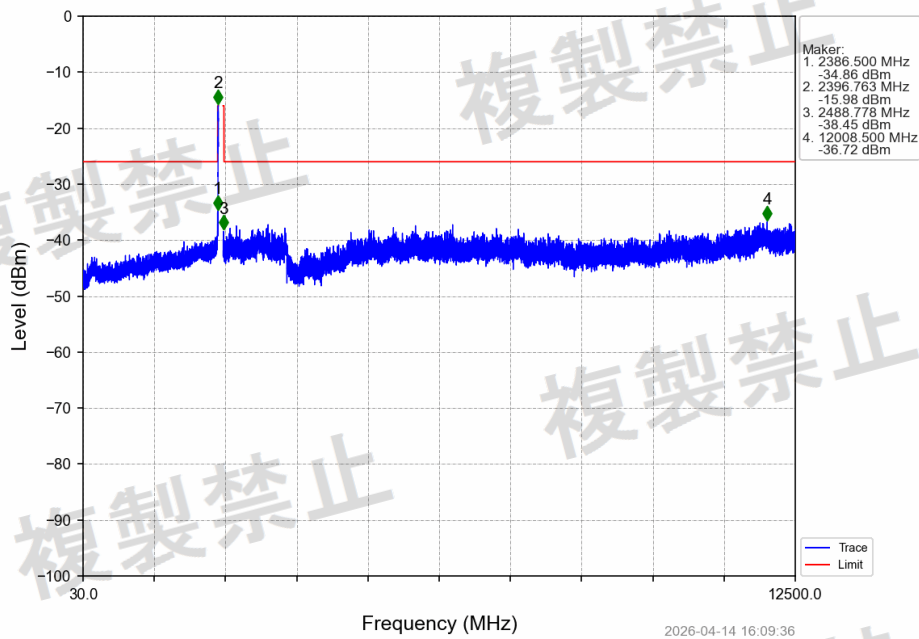
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (uW /MHz)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm /MHz)	PK Power (uW /MHz)	AV Power (dBm /MHz)	AV Power (uW /MHz)		
802.11b	SISO	2412	1	30	2387	2386.5	-34.86	0.327	/	/	2.5	Pass
				2387	2400	2396.763	-15.98	25.235	-24.35	3.673	25	Pass
				2483.5	2496.5	2488.778	-38.45	0.143	/	/	25	Pass
				2496.5	12500	12008.5	-36.72	0.213	/	/	2.5	Pass
		2442	1	30	2387	1998.5	-39.26	0.119	/	/	2.5	Pass
				2387	2400	2387.169	-39.91	0.102	/	/	25	Pass
				2483.5	2496.5	2488.96	-39.39	0.115	/	/	25	Pass
				2496.5	12500	12315	-36.27	0.236	/	/	2.5	Pass
		2472	1	30	2387	2296.5	-39.68	0.108	/	/	2.5	Pass
				2387	2400	2397.933	-39.96	0.101	/	/	25	Pass
				2483.5	2496.5	2486.789	-22.40	5.754	/	/	25	Pass
				2496.5	12500	2500	-34.99	0.317	/	/	2.5	Pass
802.11g	SISO	2412	1	30	2387	2386	-33.55	0.442	/	/	2.5	Pass
				2387	2400	2398.544	-10.85	82.224	-32.57	0.553	25	Pass
				2483.5	2496.5	2495.941	-38.91	0.129	/	/	25	Pass
				2496.5	12500	12060	-36.55	0.221	/	/	2.5	Pass
		2442	1	30	2387	2161	-39.38	0.115	/	/	2.5	Pass
				2387	2400	2399.532	-37.87	0.163	/	/	25	Pass
				2483.5	2496.5	2483.955	-34.19	0.381	/	/	25	Pass
				2496.5	12500	11839.5	-36.64	0.217	/	/	2.5	Pass



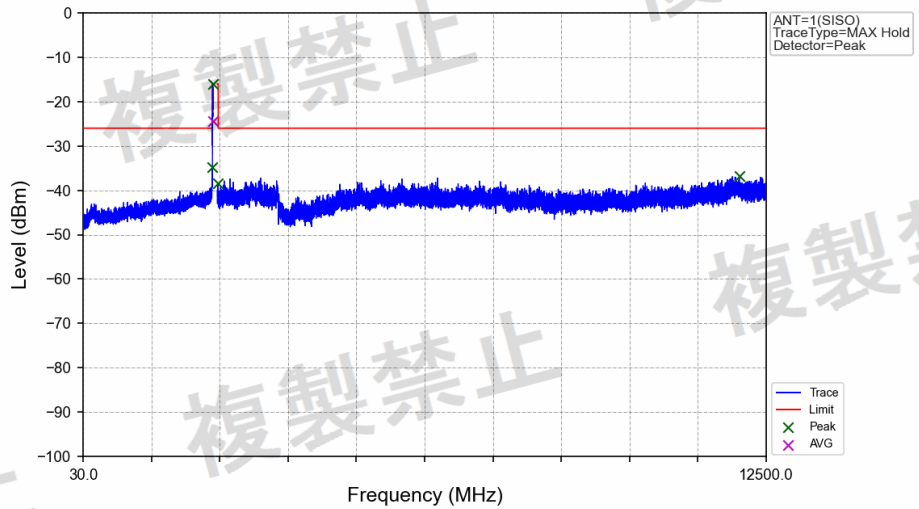
		2472	1	30	2387	2231.5	-40.08	0.098	/	/	2.5	Pass
				2387	2400	2399.597	-39.65	0.108	/	/	25	Pass
				2483.5	2496.5	2486.932	-11.90	64.565	-37.76	0.167	25	Pass
				2496.5	12500	2499.5	-33.27	0.471	/	/	2.5	Pass
802.11n (HT20)	SISO	2412	1	30	2387	2386.5	-31.92	0.643	/	/	2.5	Pass
				2387	2400	2398.804	-8.73	133.968	-31.07	0.782	25	Pass
				2483.5	2496.5	2496.045	-39.40	0.115	/	/	25	Pass
				2496.5	12500	12079	-36.60	0.219	/	/	2.5	Pass
		2442	1	30	2387	1994.5	-40.00	0.100	/	/	2.5	Pass
				2387	2400	2398.856	-38.39	0.145	/	/	25	Pass
				2483.5	2496.5	2484.124	-33.30	0.468	/	/	25	Pass
				2496.5	12500	11978	-36.08	0.247	/	/	2.5	Pass
		2472	1	30	2387	2324.5	-39.28	0.118	/	/	2.5	Pass
				2387	2400	2398.557	-40.26	0.094	/	/	25	Pass
				2483.5	2496.5	2483.565	-9.75	105.925	-31.27	0.746	25	Pass
				2496.5	12500	2500.5	-32.64	0.545	/	/	2.5	Pass
802.11n (HT40)	SISO	2422	1	30	2387	2380	-18.33	14.689	-37.37	0.183	2.5	Pass
				2387	2400	2396.451	-12.83	52.119	-31.37	0.729	25	Pass
				2483.5	2496.5	2489.22	-31.69	0.678	/	/	25	Pass
				2496.5	12500	11957.5	-35.48	0.283	/	/	2.5	Pass
		2442	1	30	2387	2382.5	-34.35	0.367	/	/	2.5	Pass
				2387	2400	2399.558	-20.39	9.141	/	/	25	Pass
				2483.5	2496.5	2484.956	-21.33	7.362	/	/	25	Pass
				2496.5	12500	2505	-31.70	0.676	/	/	2.5	Pass
		2462	1	30	2387	2379	-39.41	0.115	/	/	2.5	Pass
				2387	2400	2395.749	-32.49	0.564	/	/	25	Pass
				2483.5	2496.5	2485.437	-13.85	41.210	-34.03	0.395	25	Pass
				2496.5	12500	2502	-23.33	4.645	-39.15	0.122	2.5	Pass



802.11b 2412MHz_Ant1 (SISO) NTN



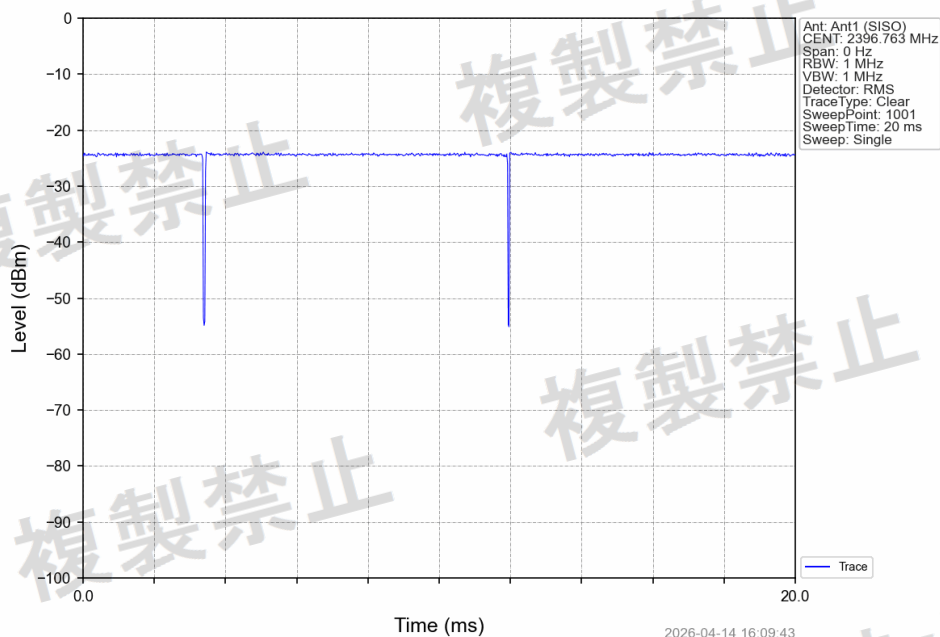
802.11b 2412MHz_Ant1 (SISO) NTN



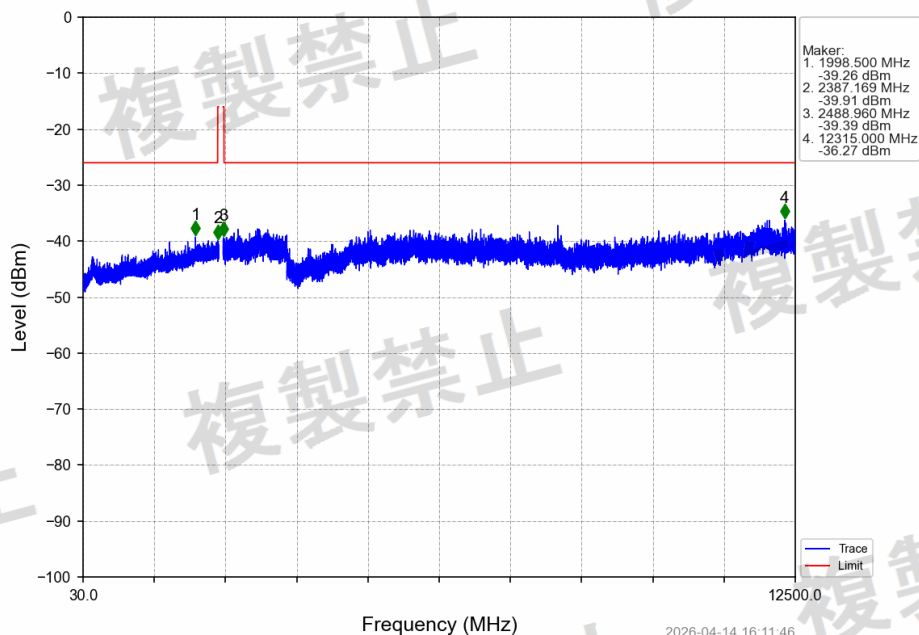
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2386.500	-34.86	/	-26	Pass
2387	2400	1	1	2396.763	-15.98	-24.35	-16	Pass
2483.5	2496.5	1	1	2488.778	-38.45	/	-16	Pass
2496.5	12500	1	1	12008.500	-36.72	/	-26	Pass



802.11b 2412MHz_Ant1 (SISO) NTN

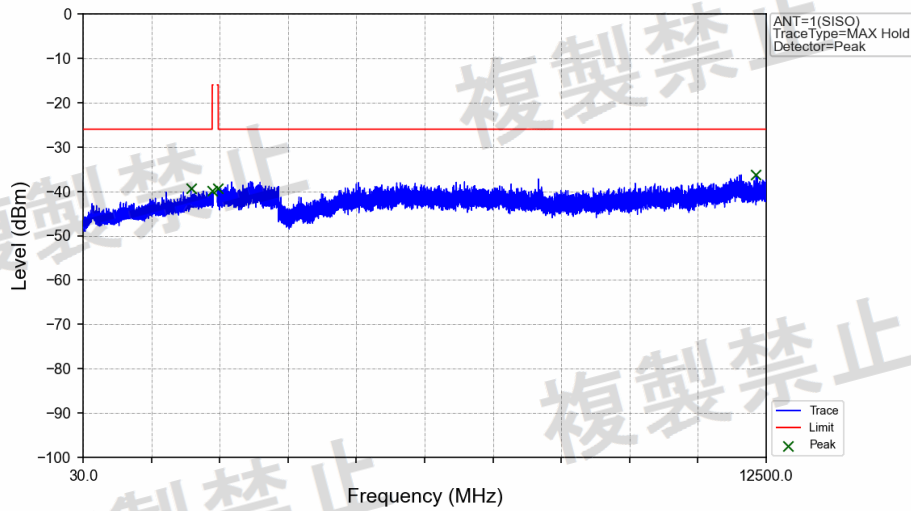


802.11b 2442MHz_Ant1 (SISO) NTN



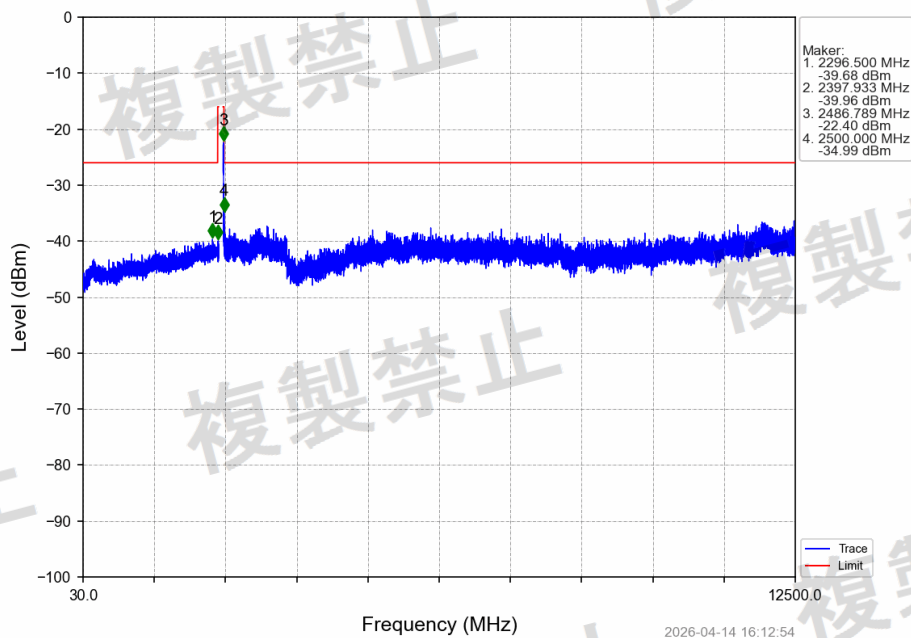


802.11b 2442MHz_Ant1 (SISO) NTN



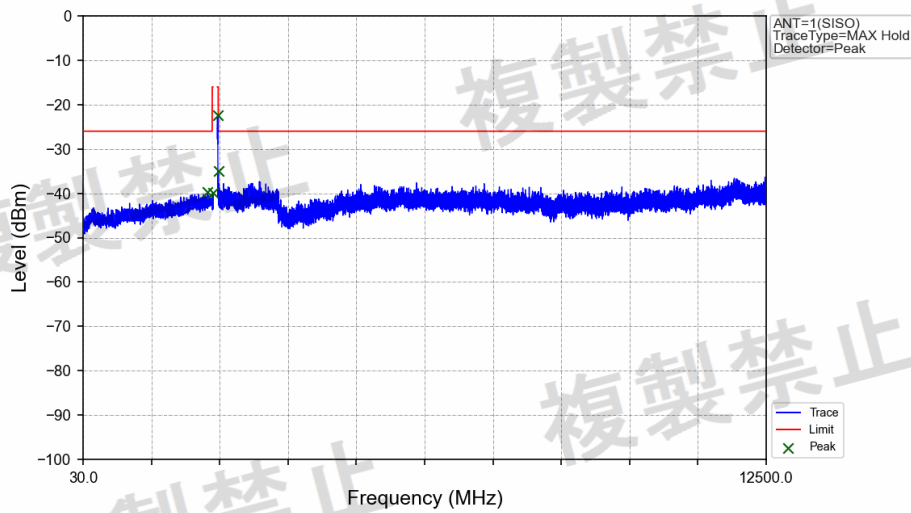
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1998.500	-39.26	/	-26	Pass
2387	2400	1	1	2387.169	-39.91	/	-16	Pass
2483.5	2496.5	1	1	2488.960	-39.39	/	-16	Pass
2496.5	12500	1	1	12315.000	-36.27	/	-26	Pass

802.11b 2472MHz_Ant1 (SISO) NTN



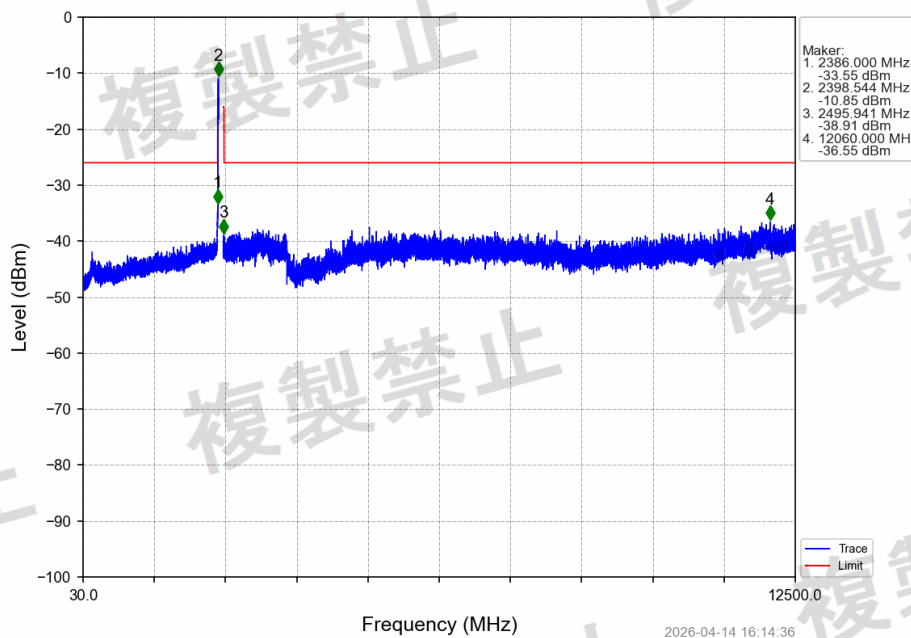


802.11b 2472MHz_Ant1 (SISO) NTN



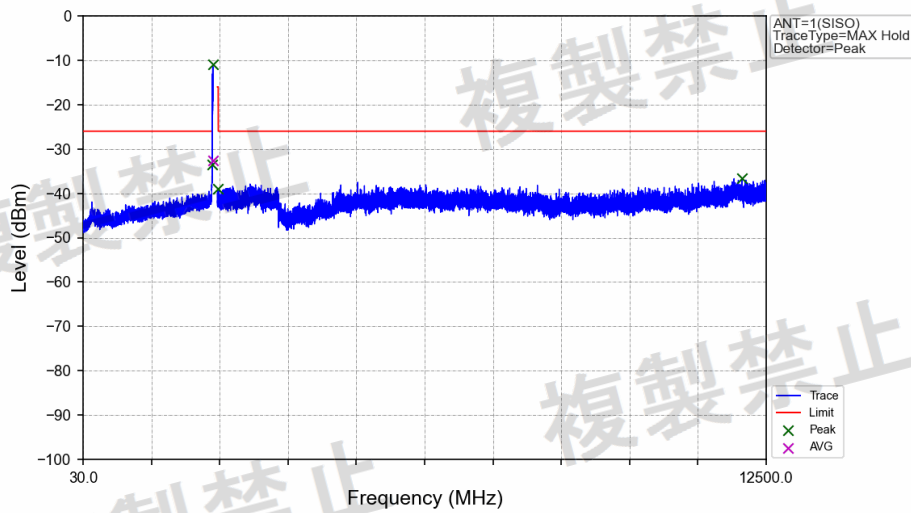
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2296.500	-39.68	/	-26	Pass
2387	2400	1	1	2397.933	-39.96	/	-16	Pass
2483.5	2496.5	1	1	2486.789	-22.40	/	-16	Pass
2496.5	12500	1	1	2500.000	-34.99	/	-26	Pass

802.11g 2412MHz_Ant1 (SISO) NTN

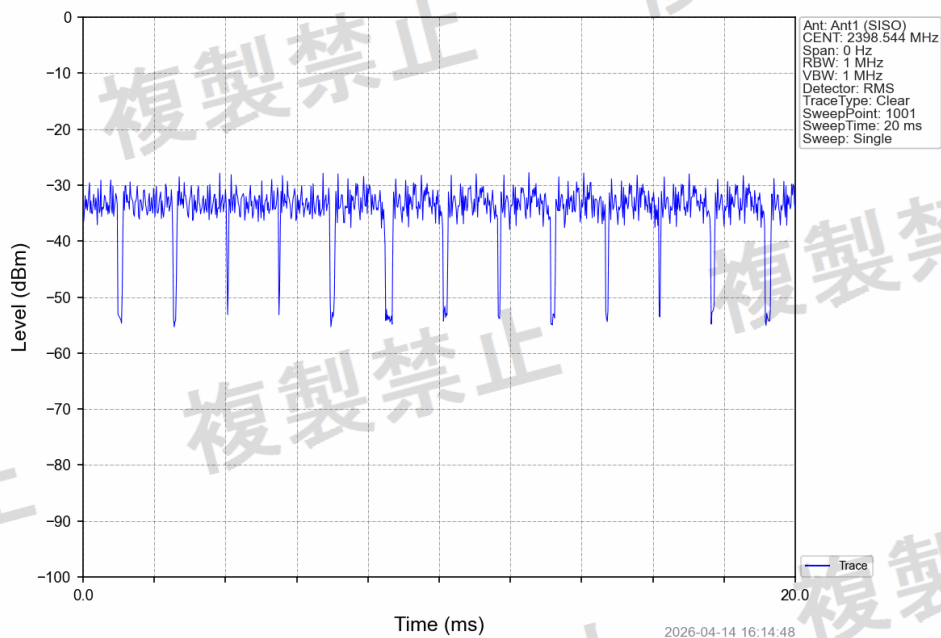




802.11g 2412MHz Ant1 (SISO) NTN

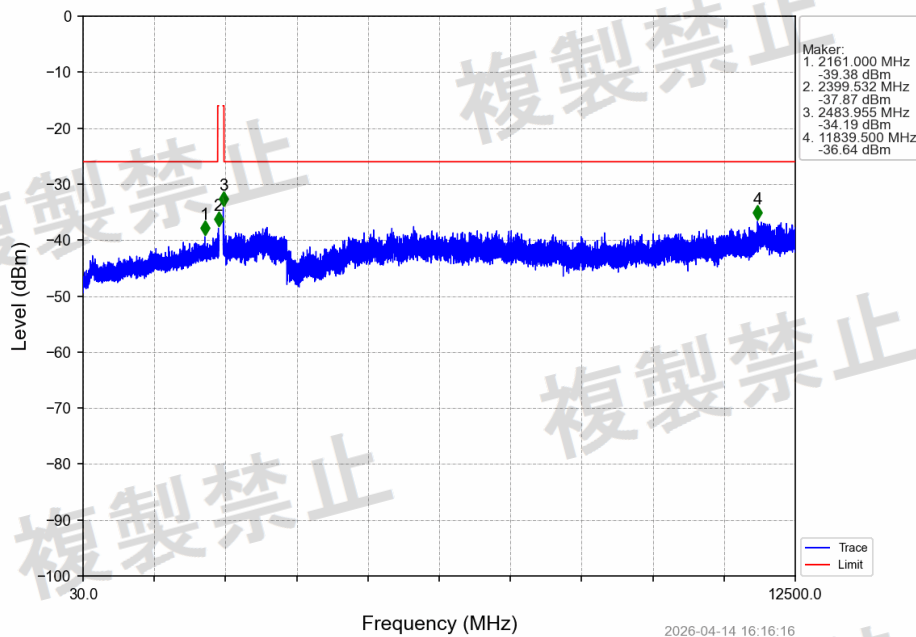


802.11g 2412MHz Ant1 (SISO) NTN

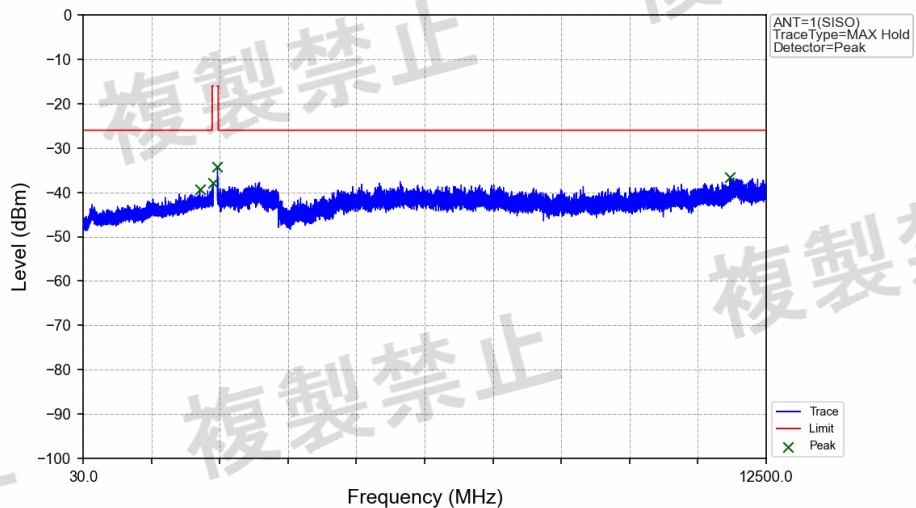




802.11g 2442MHz_Ant1 (SISO) NTN



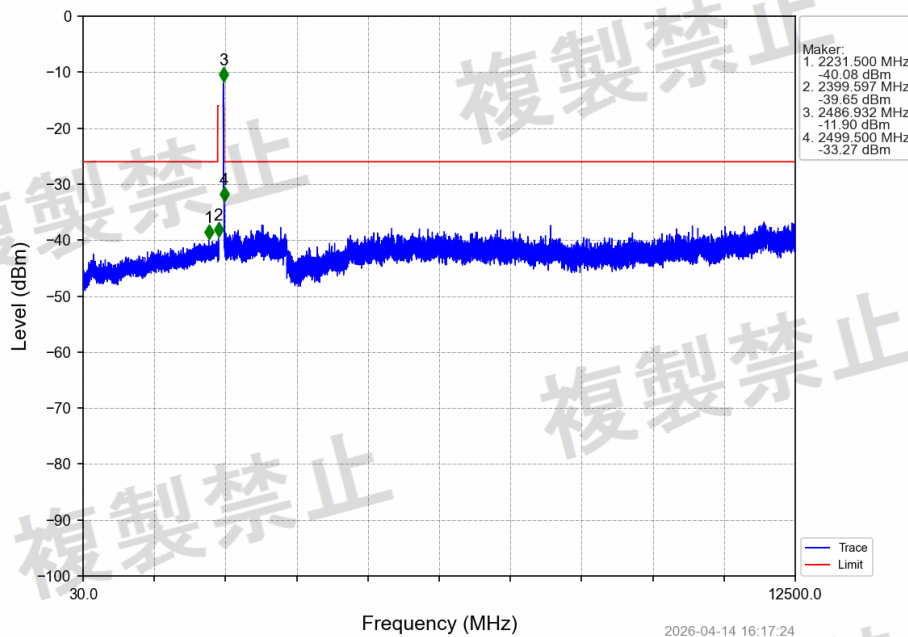
802.11g 2442MHz_Ant1 (SISO) NTN



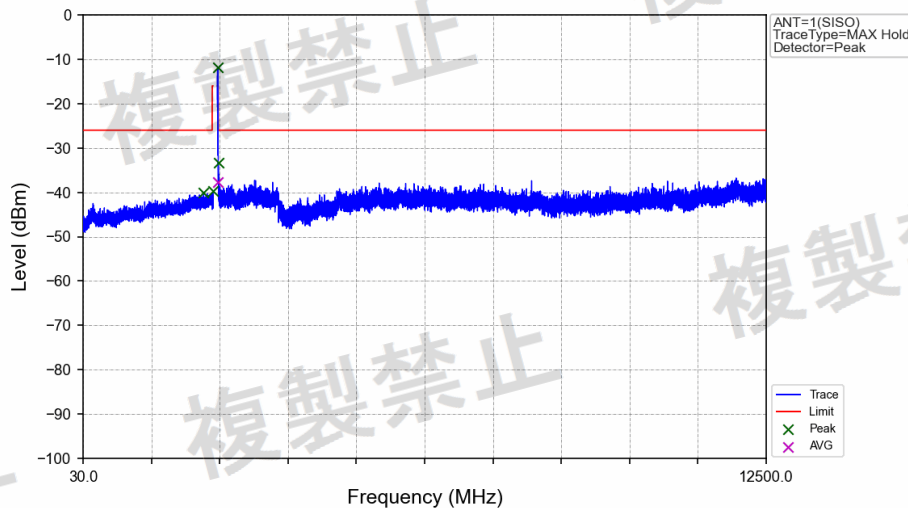
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2161.000	-39.38	/	-26	Pass
2387	2400	1	1	2399.532	-37.87	/	-16	Pass
2483.5	2496.5	1	1	2483.955	-34.19	/	-16	Pass
2496.5	12500	1	1	11839.500	-36.64	/	-26	Pass



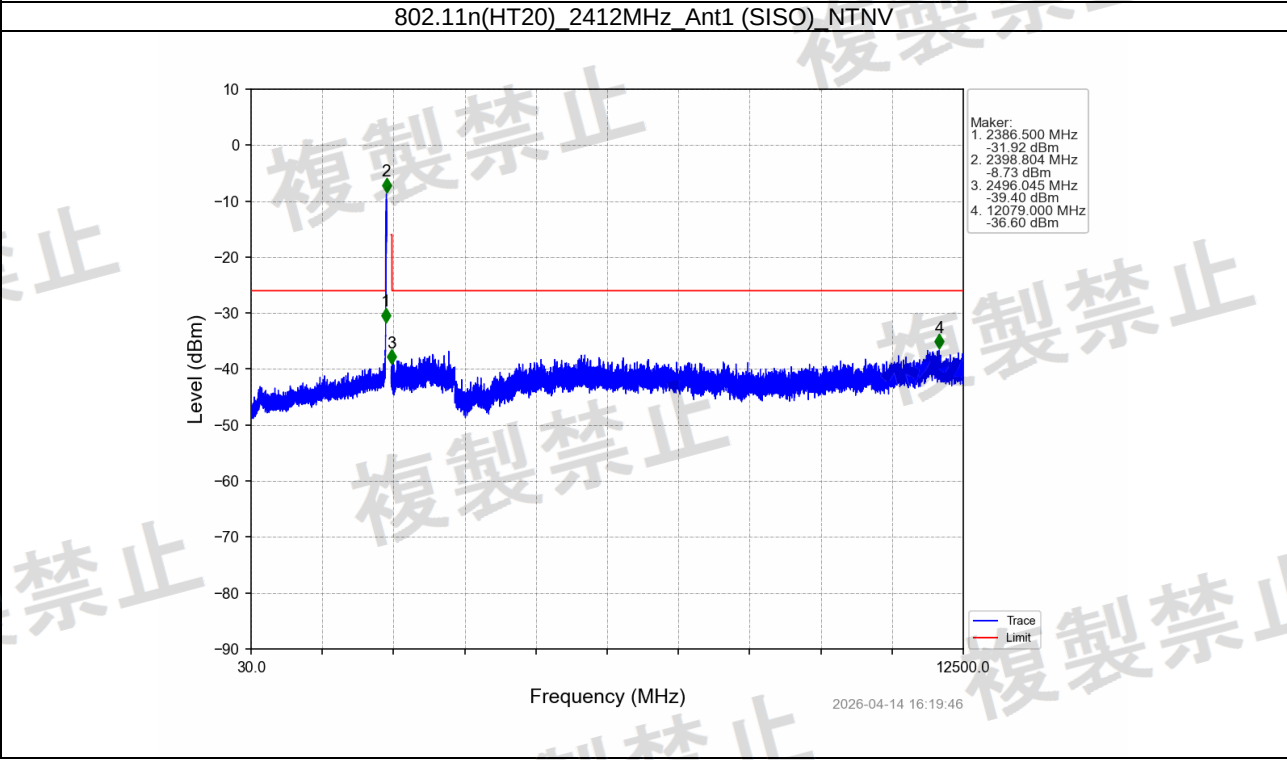
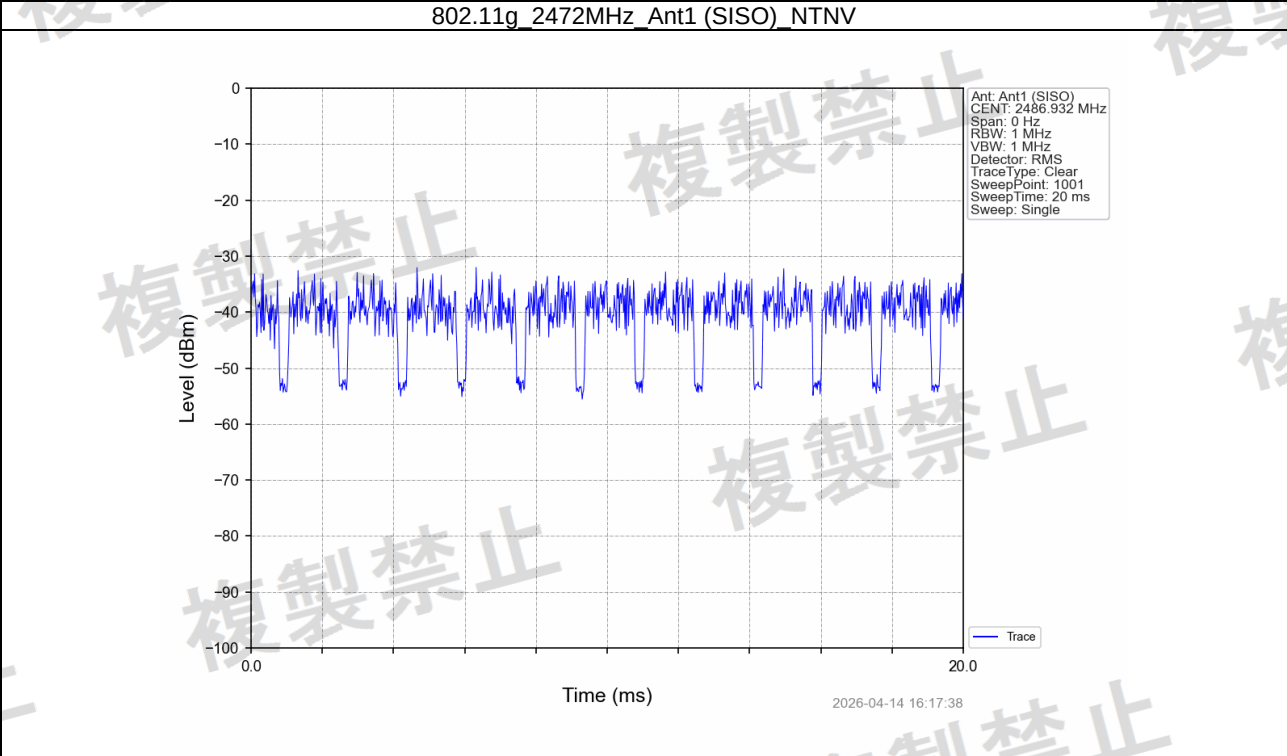
802.11g 2472MHz_Ant1 (SISO) NTN

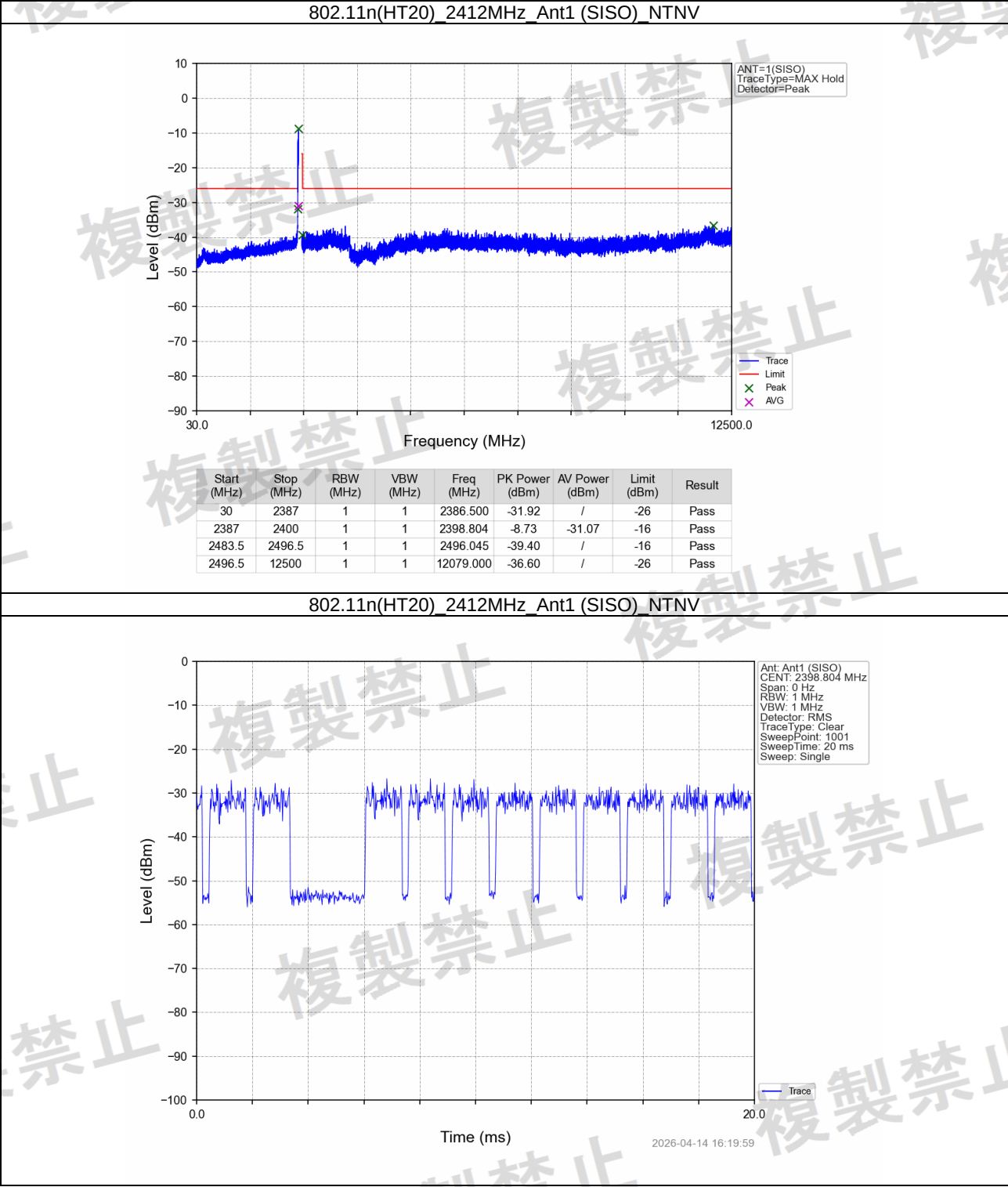


802.11g 2472MHz_Ant1 (SISO) NTN



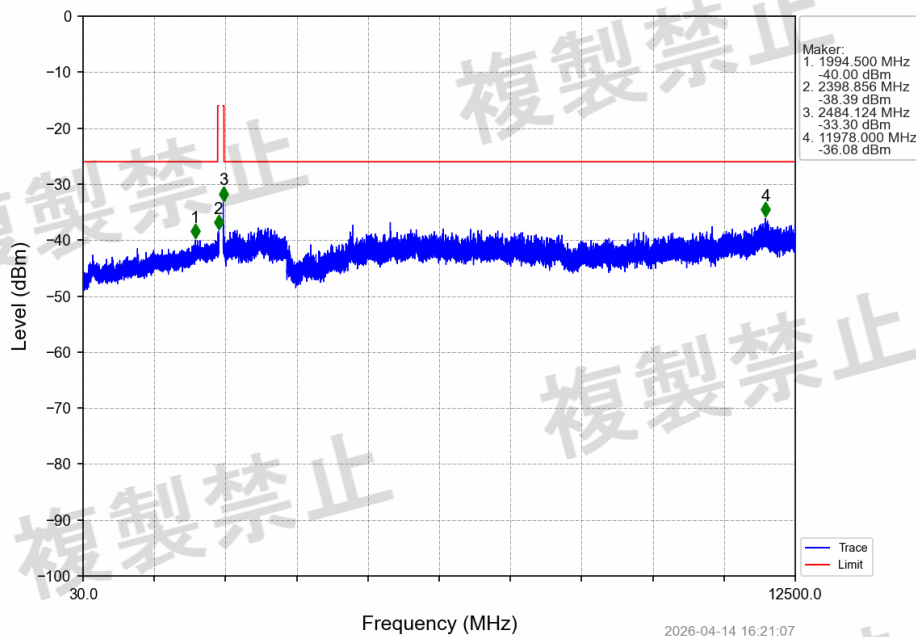
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2231.500	-40.08	/	-26	Pass
2387	2400	1	1	2399.597	-39.65	/	-16	Pass
2483.5	2496.5	1	1	2486.932	-11.90	-37.76	-16	Pass
2496.5	12500	1	1	2499.500	-33.27	/	-26	Pass



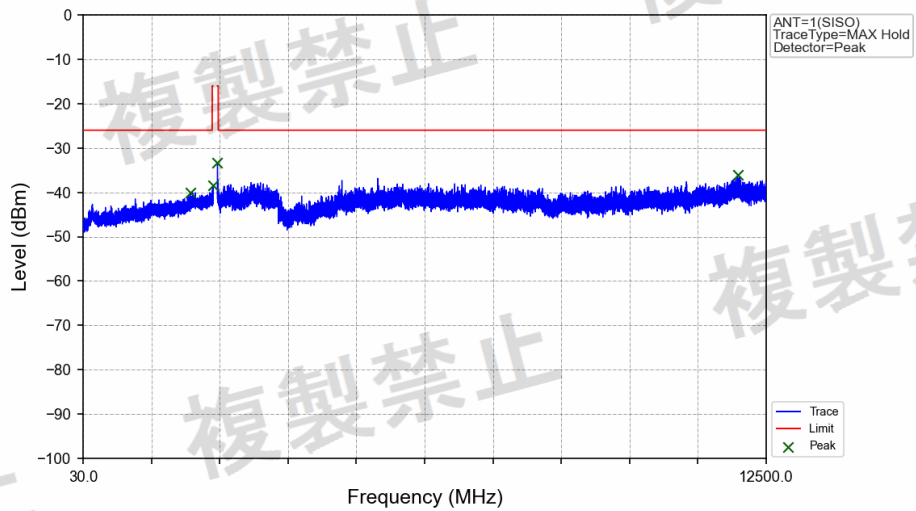




802.11n(HT20) 2442MHz Ant1 (SISO) NTNV



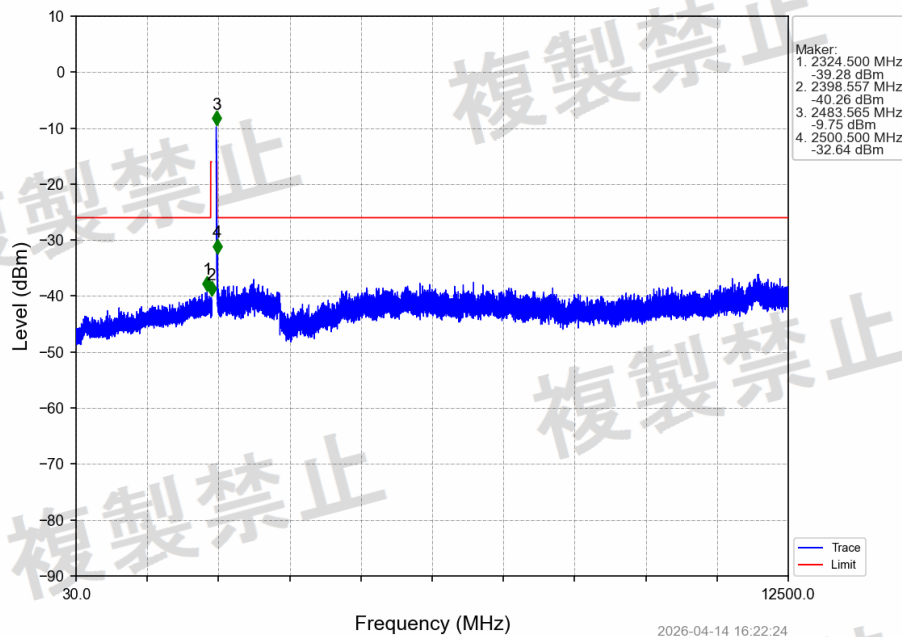
802.11n(HT20) 2442MHz Ant1 (SISO) NTNV



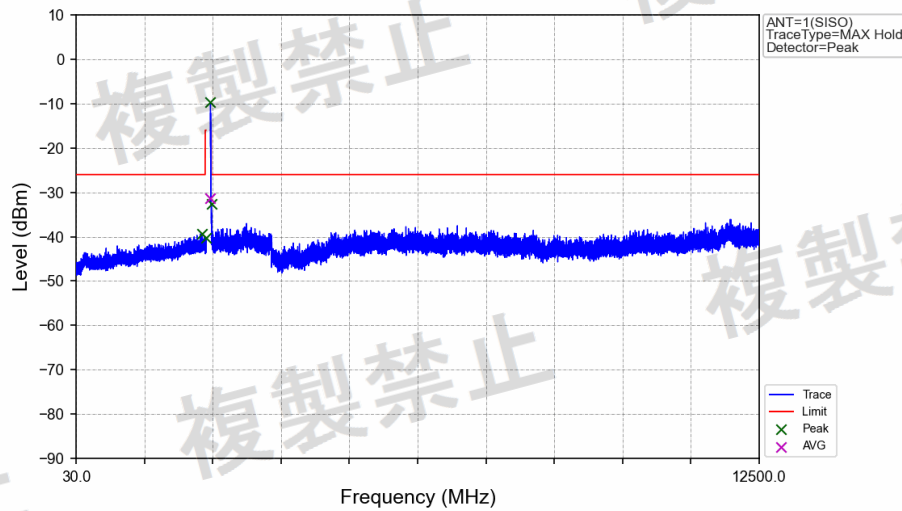
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1994.500	-40.00	/	-26	Pass
2387	2400	1	1	2398.856	-38.39	/	-16	Pass
2483.5	2496.5	1	1	2484.124	-33.30	/	-16	Pass
2496.5	12500	1	1	11978.000	-36.08	/	-26	Pass



802.11n(HT20) 2472MHz Ant1 (SISO) NTNV



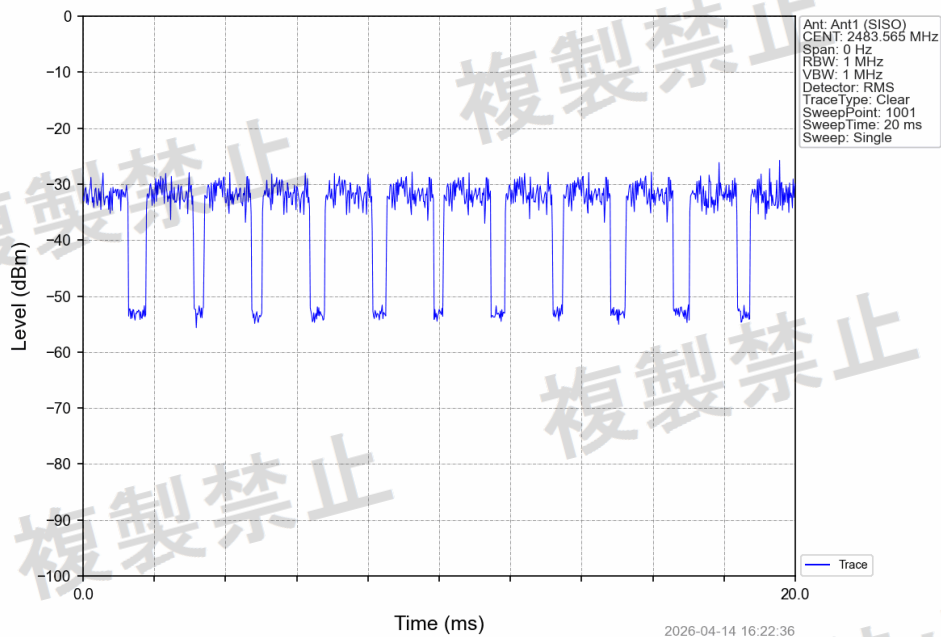
802.11n(HT20) 2472MHz Ant1 (SISO) NTNV



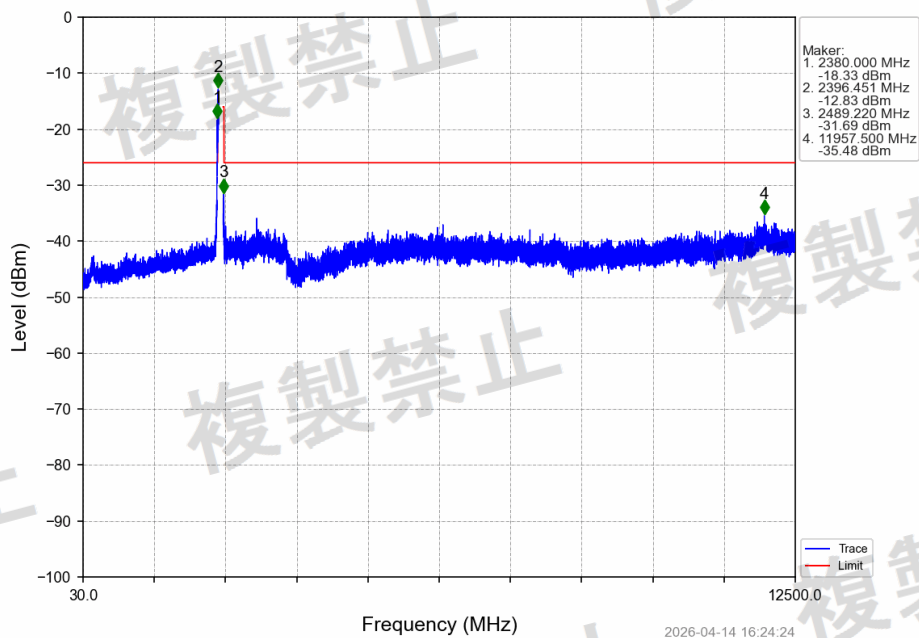
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2324.500	-39.28	/	-26	Pass
2387	2400	1	1	2398.557	-40.26	/	-16	Pass
2483.5	2496.5	1	1	2483.565	-9.75	-31.27	-16	Pass
2496.5	12500	1	1	2500.500	-32.64	/	-26	Pass

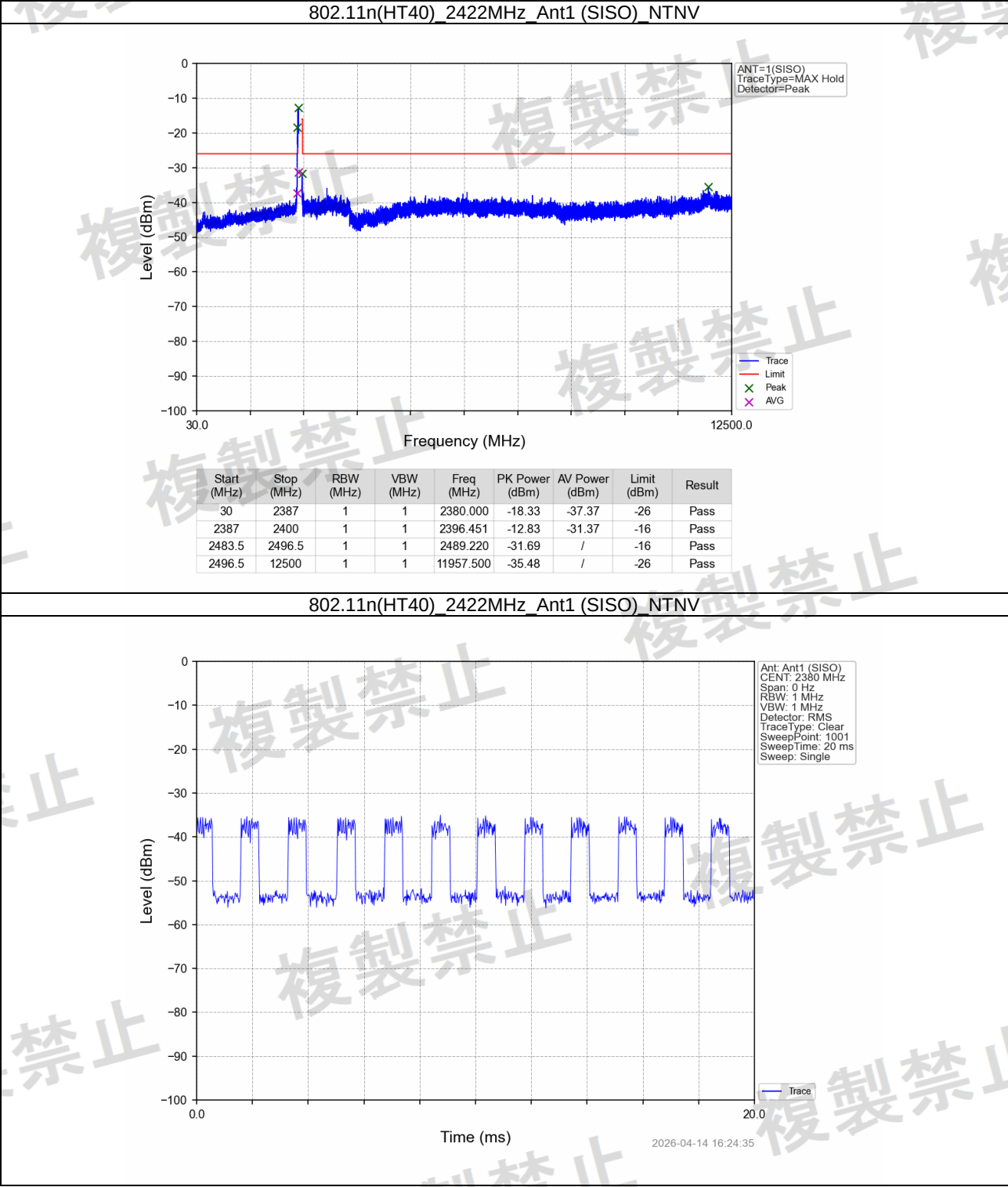


802.11n(HT20) 2472MHz Ant1 (SISO) NTNV



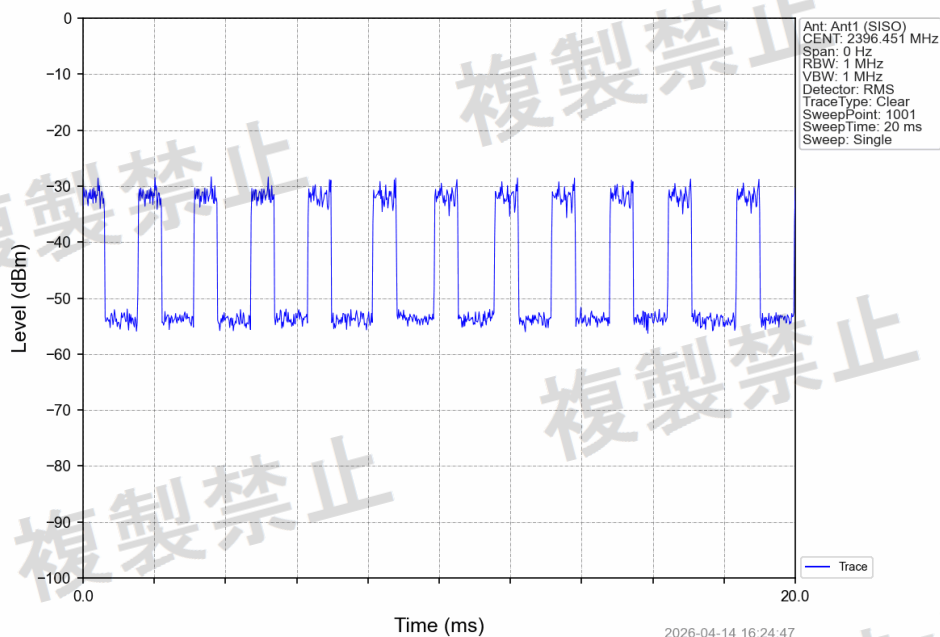
802.11n(HT40) 2422MHz Ant1 (SISO) NTNV



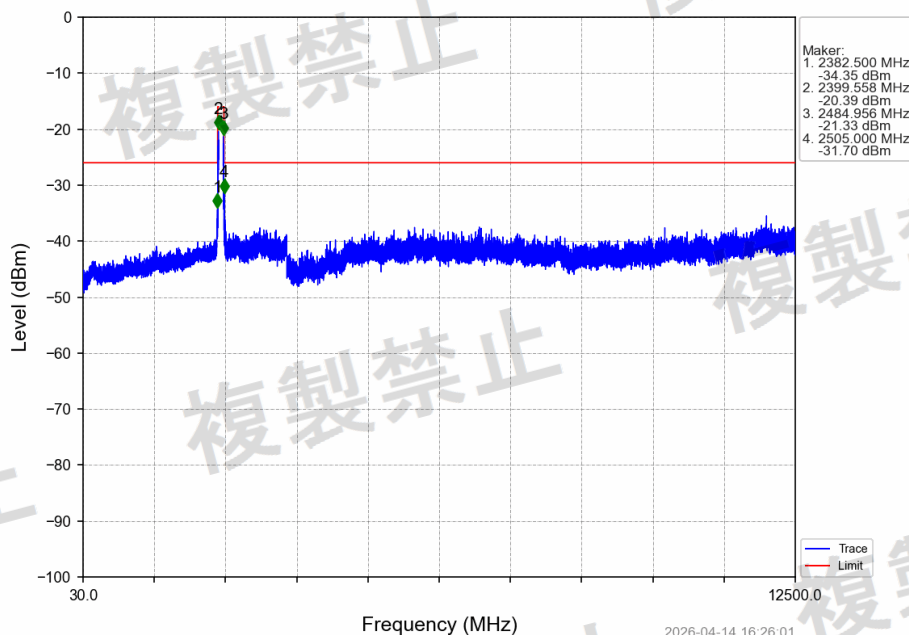




802.11n(HT40) 2442MHz Ant1 (SISO) NTNV

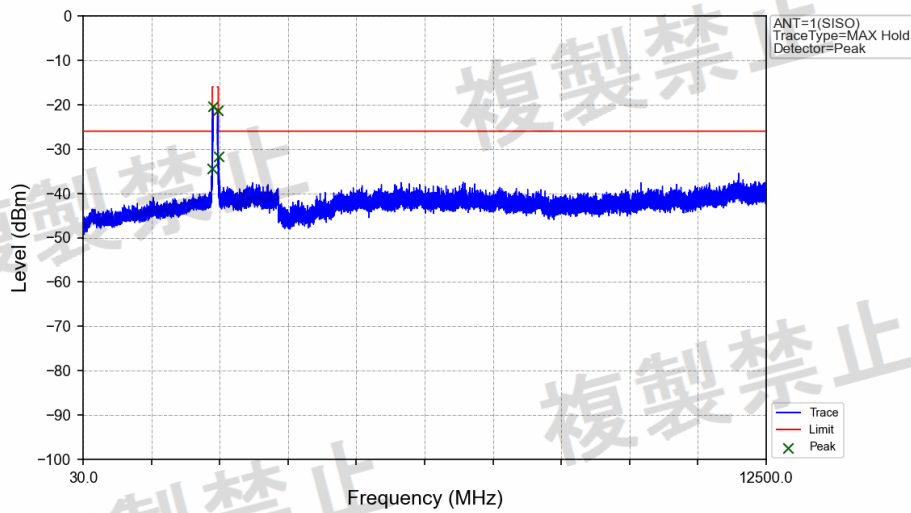


802.11n(HT40) 2442MHz Ant1 (SISO) NTNV



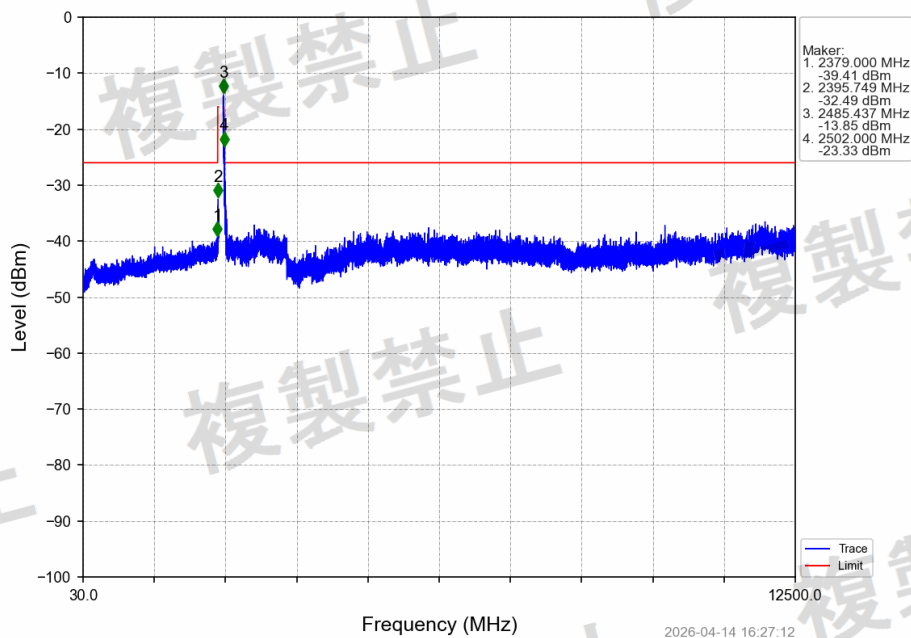


802.11n(HT40) 2442MHz Ant1 (SISO) NTN



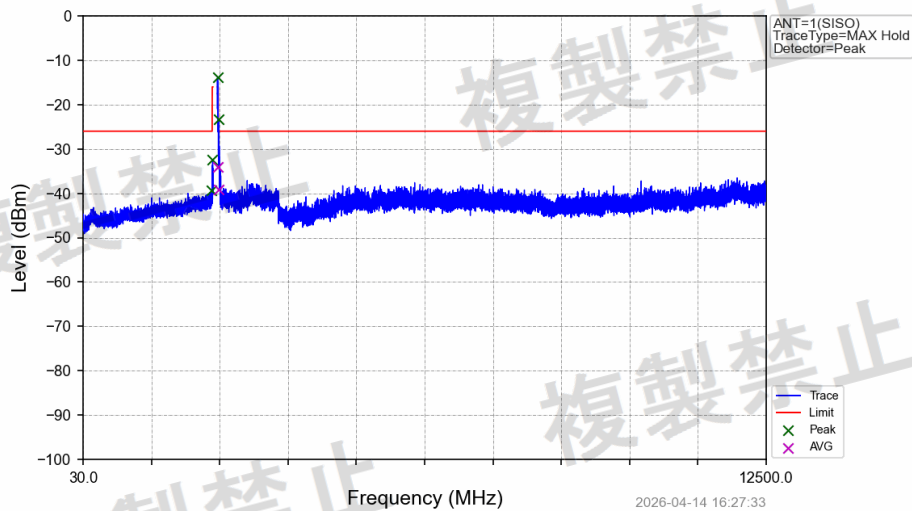
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2382.500	-34.35	/	-26	Pass
2387	2400	1	1	2399.558	-20.39	/	-16	Pass
2483.5	2496.5	1	1	2484.956	-21.33	/	-16	Pass
2496.5	12500	1	1	2505.000	-31.70	/	-26	Pass

802.11n(HT40) 2462MHz Ant1 (SISO) NTN



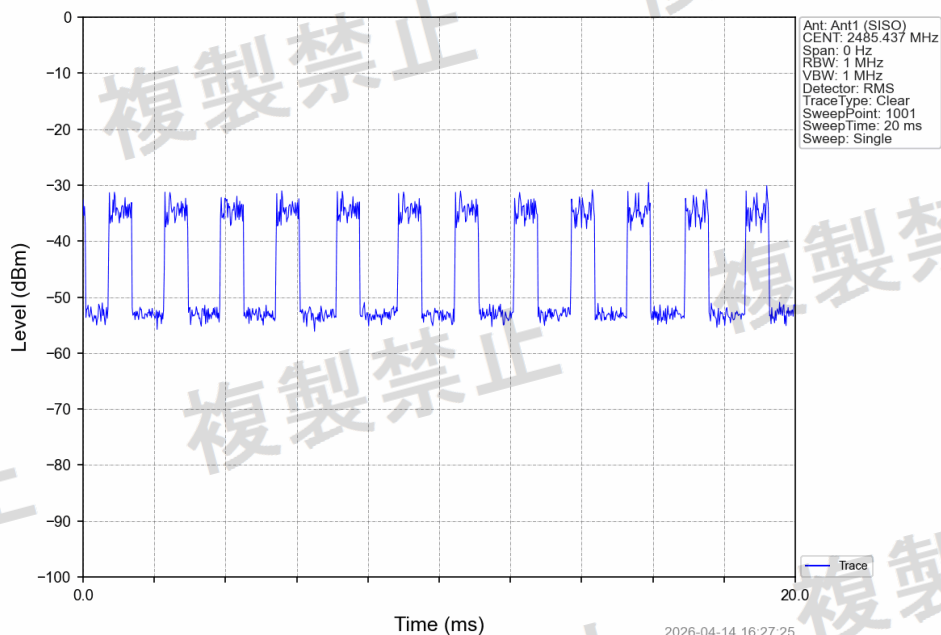


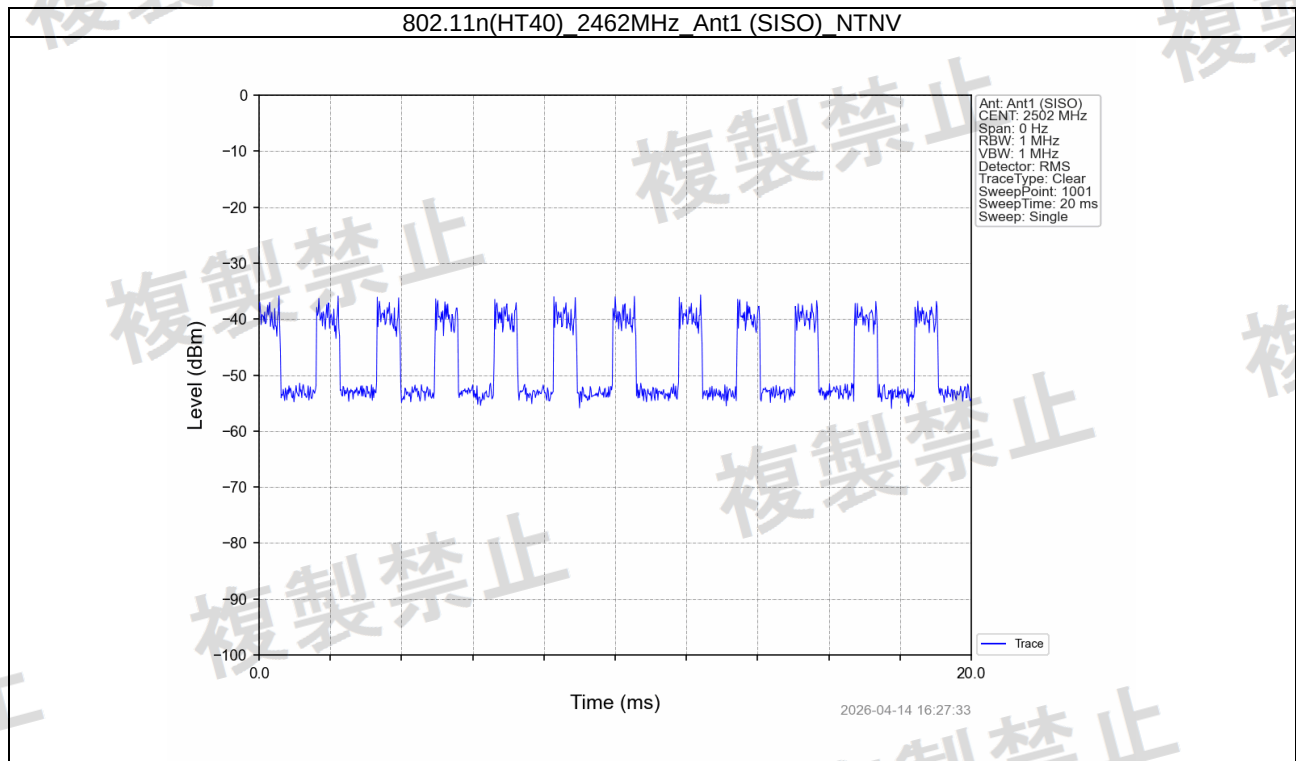
802.11n(HT40) 2462MHz Ant1 (SISO) NTN



Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2379.000	-39.41	/	-26	Pass
2387	2400	1	1	2395.749	-32.49	/	-16	Pass
2483.5	2496.5	1	1	2485.437	-13.85	-34.03	-16	Pass
2496.5	12500	1	1	2502.000	-23.33	-39.15	-26	Pass

802.11n(HT40) 2462MHz Ant1 (SISO) NTN



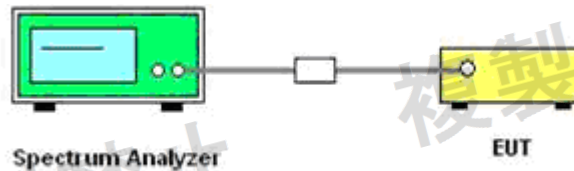


3.5. Secondary Radiated Emission Strength

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, 4nW or less at a frequency below 1 GHz and 20nW or less at a frequency of 1 GHz or higher as measured using the circuit.

TEST CONFIGURATION



TEST PROCEDURE

The EUT was directly connected to the spectrum analyser and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

EUT Condition: modulation

Spectrum Condition:

Frequency: 30MHz-12.75GHz

RBW: 100 KHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)

VBW: 100 KHz (30MHz-1GHz), 1MHz (1GHz-12.5GHz)

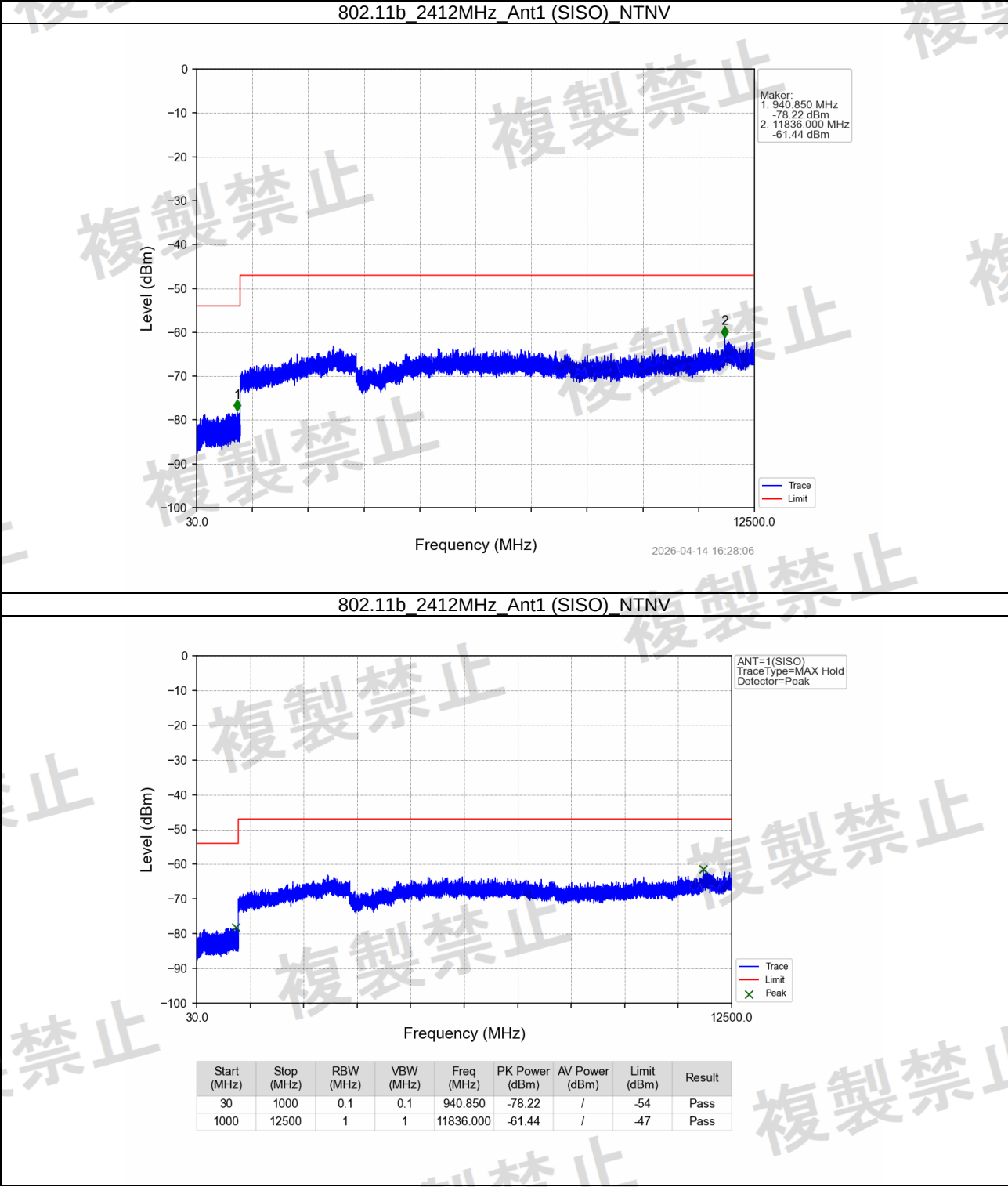
Sweep time: Auto

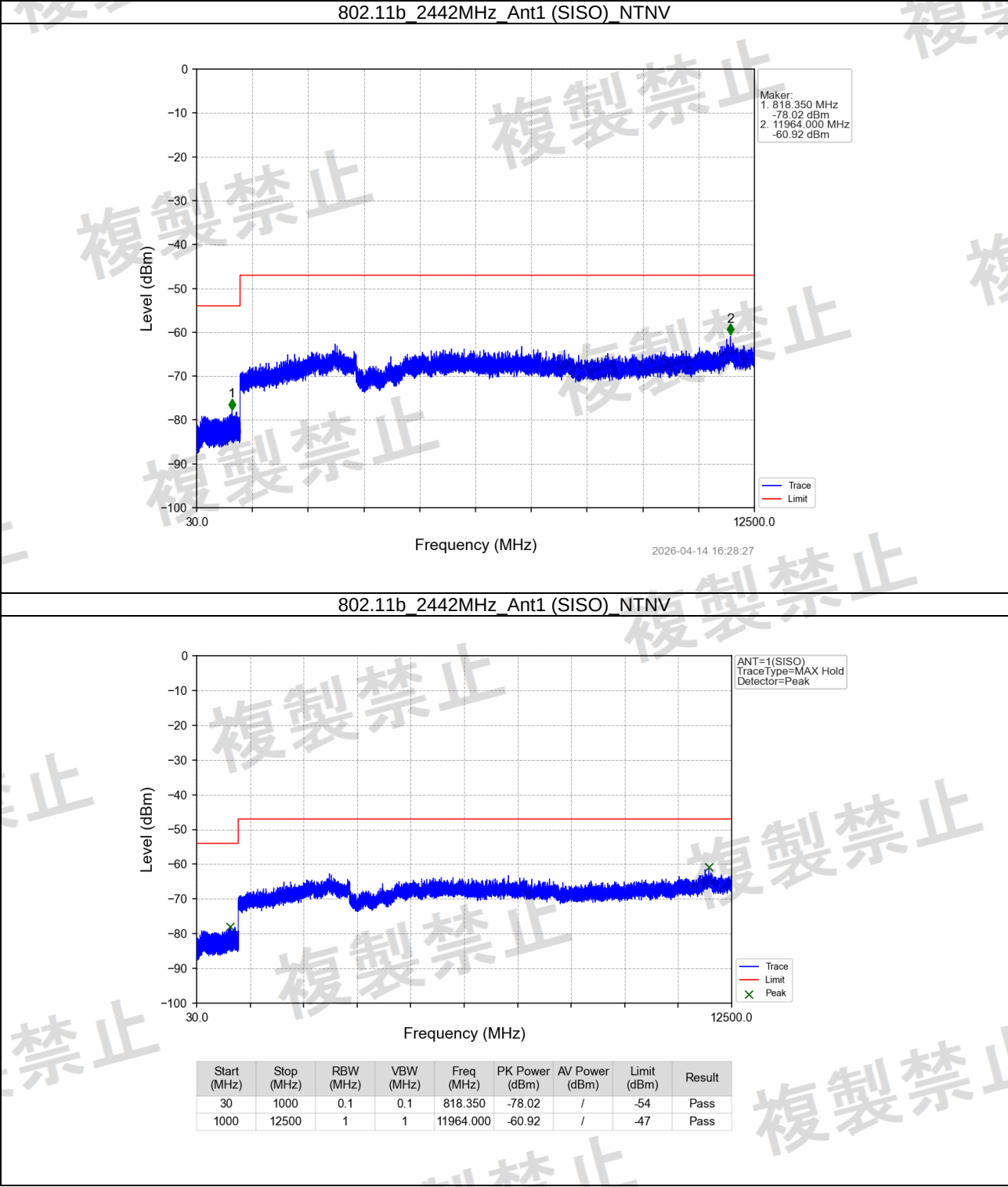
Detector mode: Positive peak

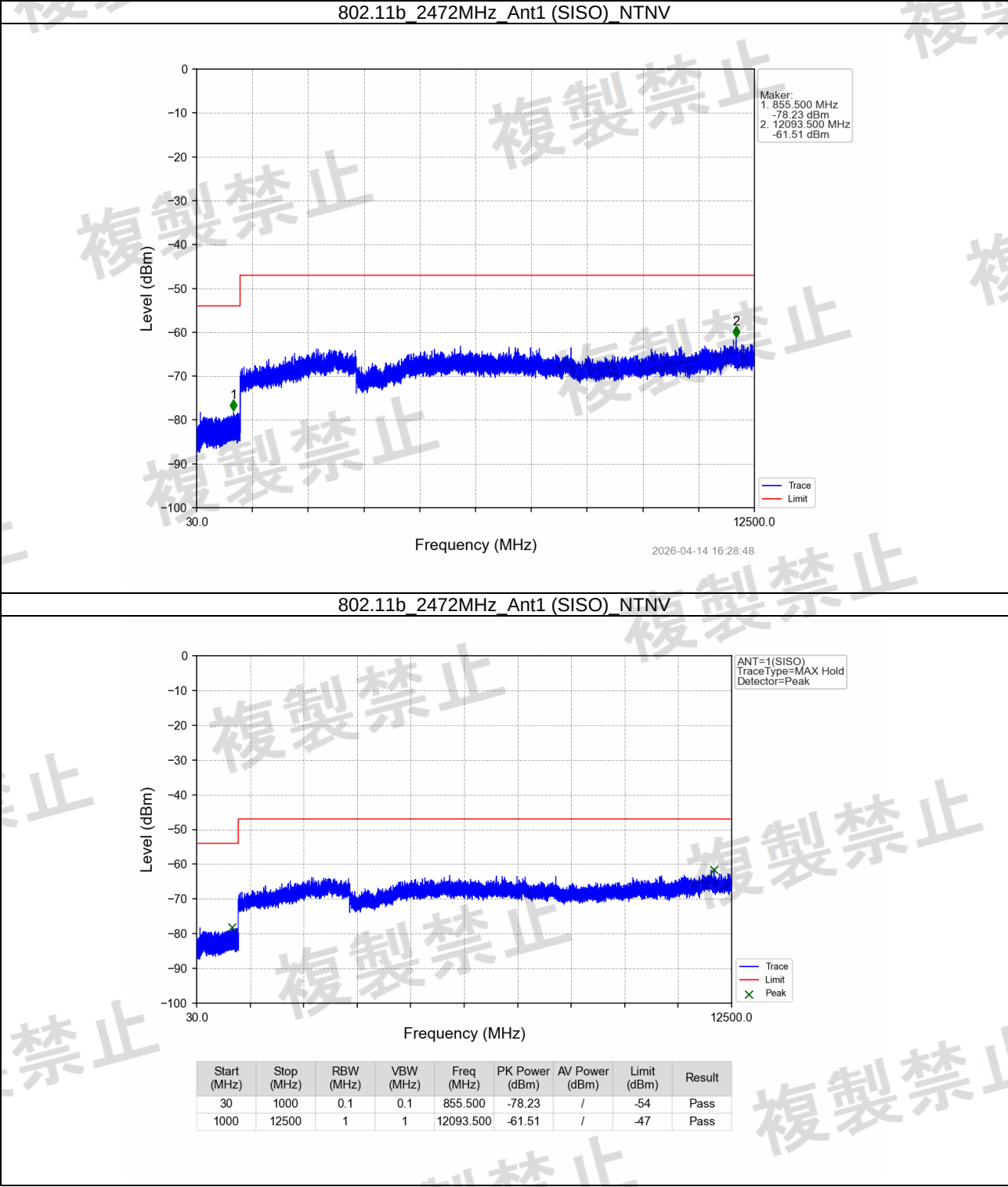
Indication mode: max hold

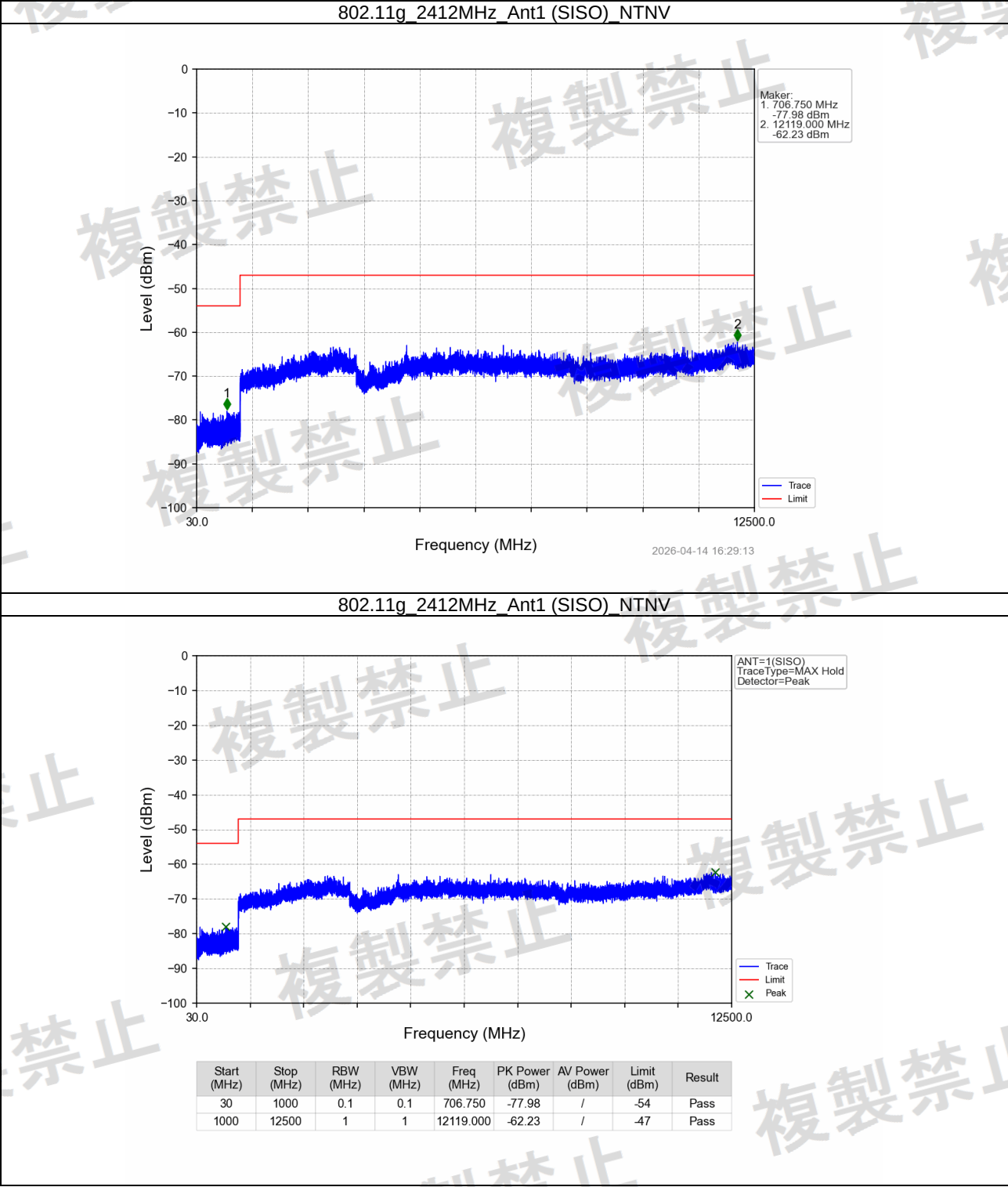
TEST RESULTS

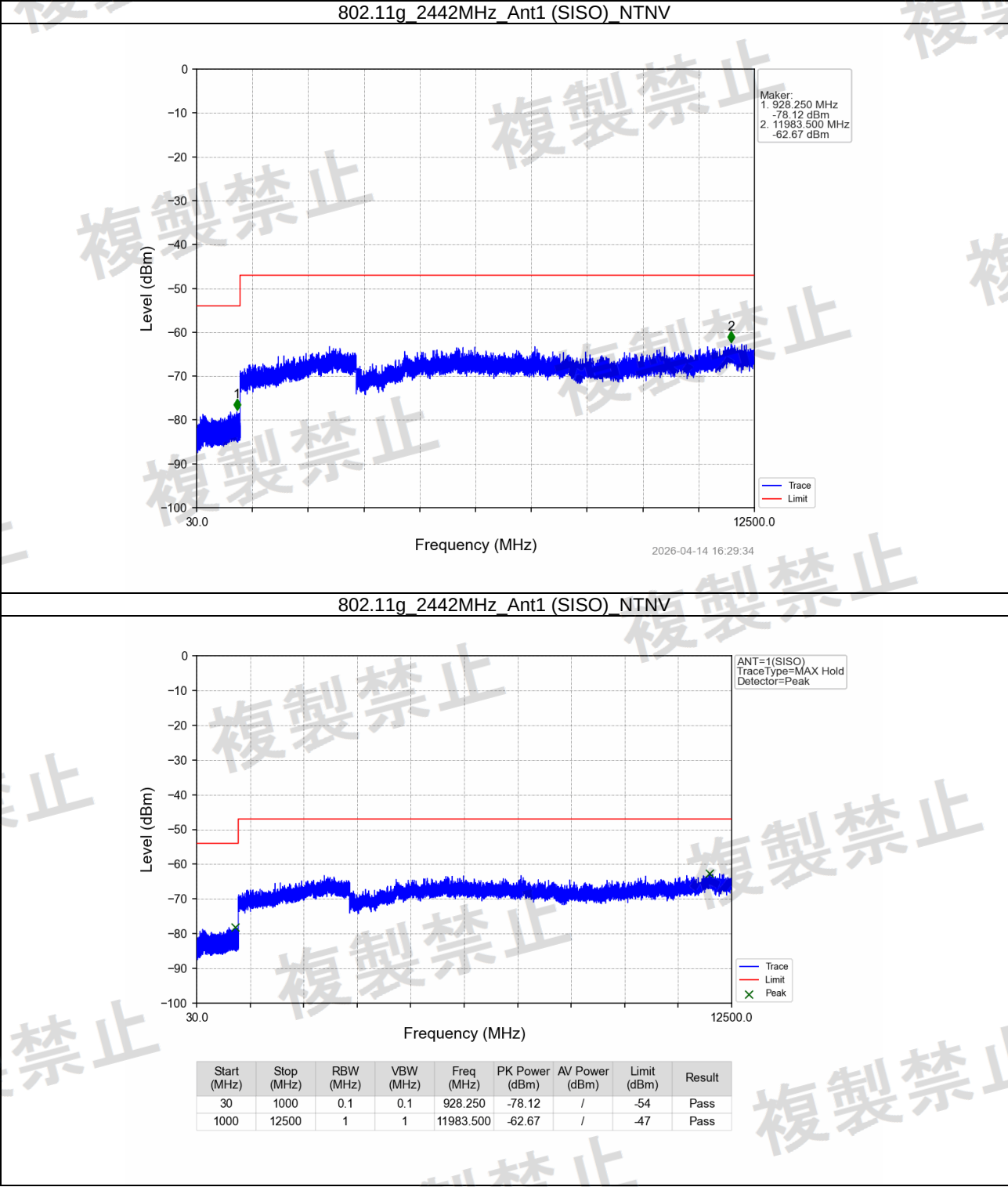
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
802.11b	SISO	2412	1	30	1000	940.85	-78.22	0.015	/	/	4	Pass
				1000	12500	11836	-61.44	0.718	/	/	20	Pass
		2442	1	30	1000	818.35	-78.02	0.016	/	/	4	Pass
				1000	12500	11964	-60.92	0.809	/	/	20	Pass
		2472	1	30	1000	855.5	-78.23	0.015	/	/	4	Pass
				1000	12500	12093.5	-61.51	0.706	/	/	20	Pass
802.11g	SISO	2412	1	30	1000	706.75	-77.98	0.016	/	/	4	Pass
				1000	12500	12119	-62.23	0.598	/	/	20	Pass
		2442	1	30	1000	928.25	-78.12	0.015	/	/	4	Pass
				1000	12500	11983.5	-62.67	0.541	/	/	20	Pass
		2472	1	30	1000	911.1	-78.25	0.015	/	/	4	Pass
				1000	12500	12121.5	-62.59	0.551	/	/	20	Pass
802.11n (HT20)	SISO	2412	1	30	1000	976.05	-77.38	0.018	/	/	4	Pass
				1000	12500	12269.5	-62.38	0.578	/	/	20	Pass
		2442	1	30	1000	793.8	-78.16	0.015	/	/	4	Pass
				1000	12500	11941	-62.23	0.598	/	/	20	Pass
		2472	1	30	1000	817.45	-77.12	0.019	/	/	4	Pass
				1000	12500	12084.5	-61.58	0.695	/	/	20	Pass
802.11n (HT40)	SISO	2422	1	30	1000	110	-78.00	0.016	/	/	4	Pass
				1000	12500	11862	-62.02	0.628	/	/	20	Pass
		2442	1	30	1000	875.25	-78.16	0.015	/	/	4	Pass
				1000	12500	12466.5	-61.18	0.762	/	/	20	Pass
		2462	1	30	1000	685.25	-78.07	0.016	/	/	4	Pass
				1000	12500	2730	-62.23	0.598	/	/	20	Pass

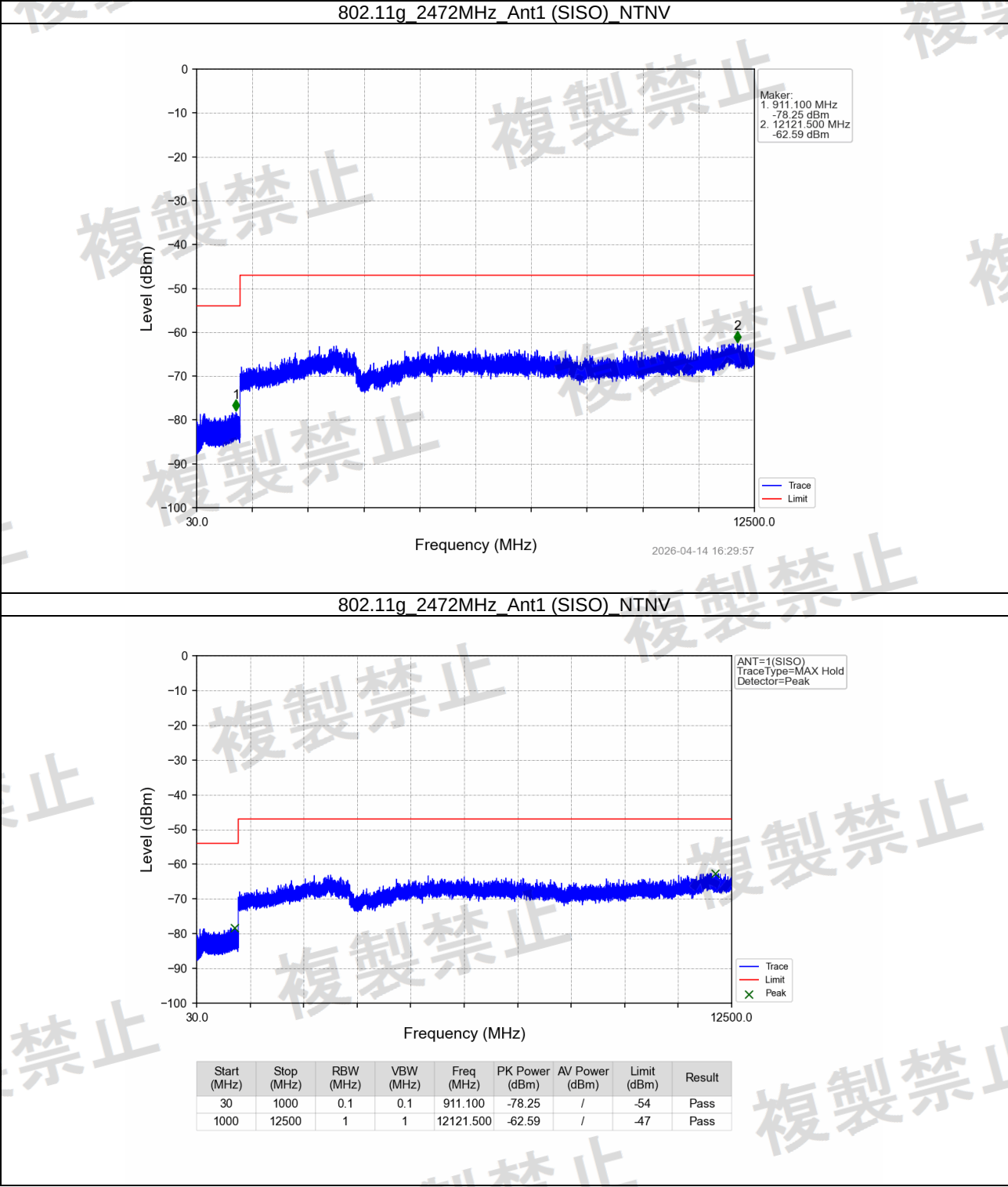


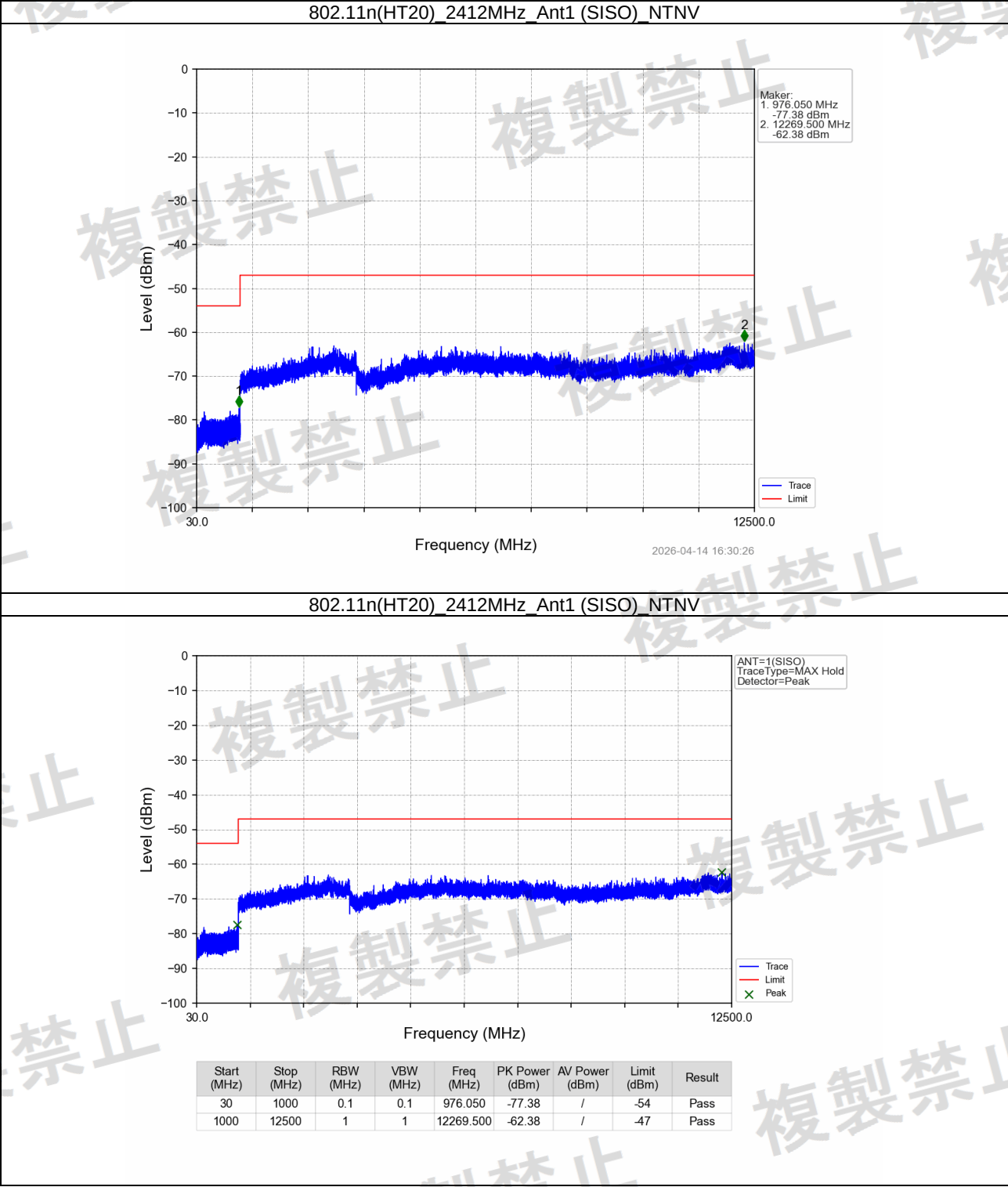


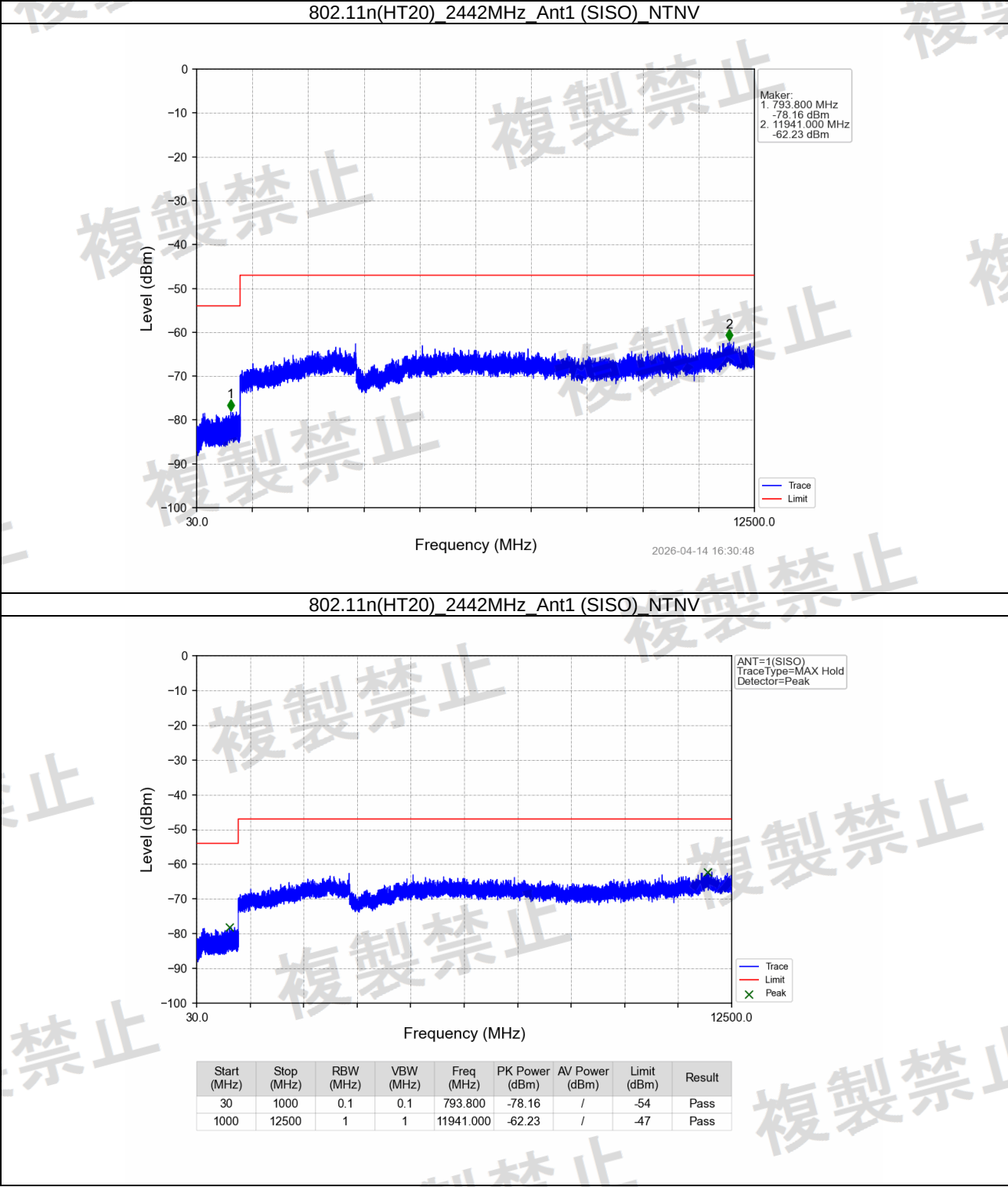


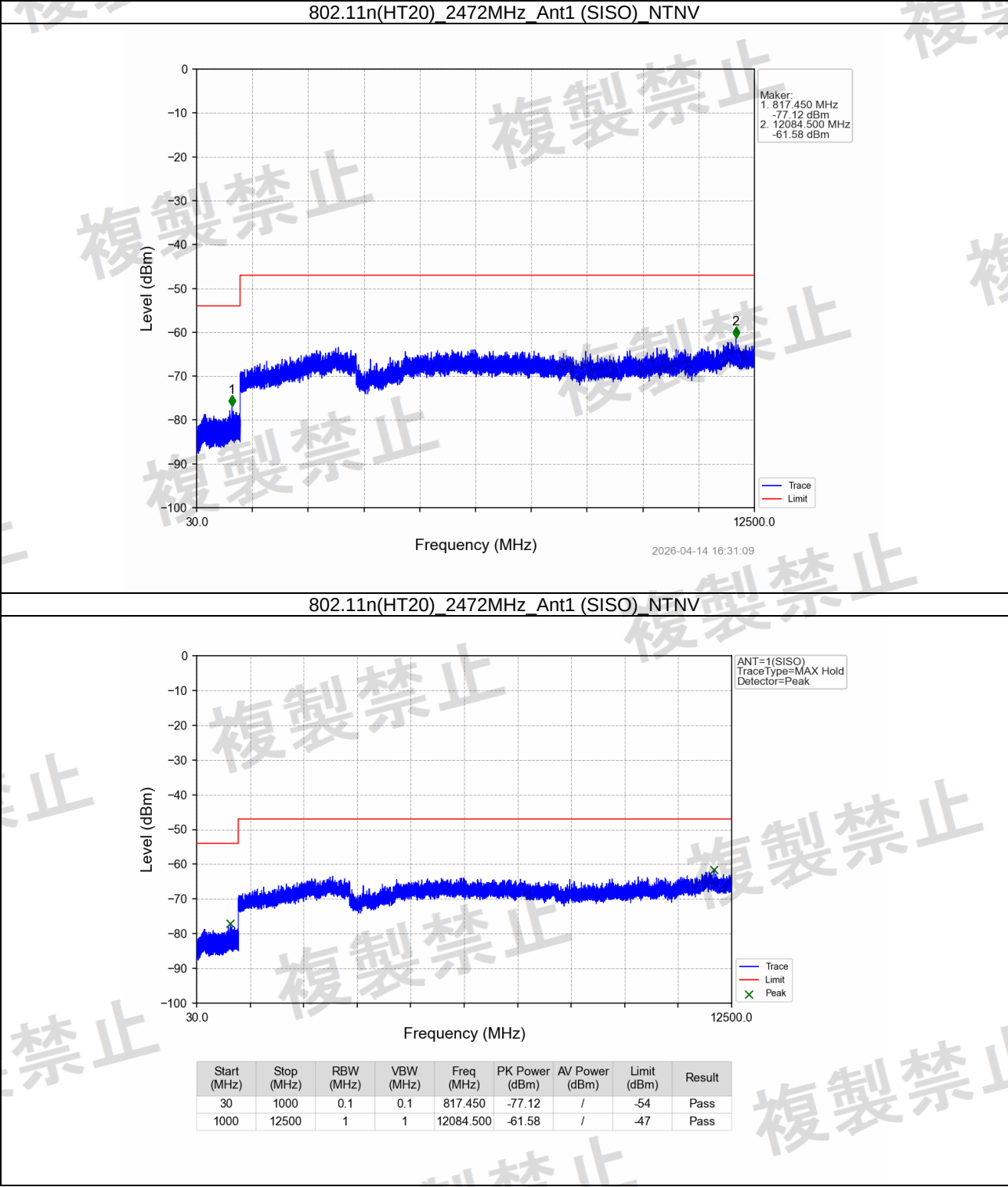


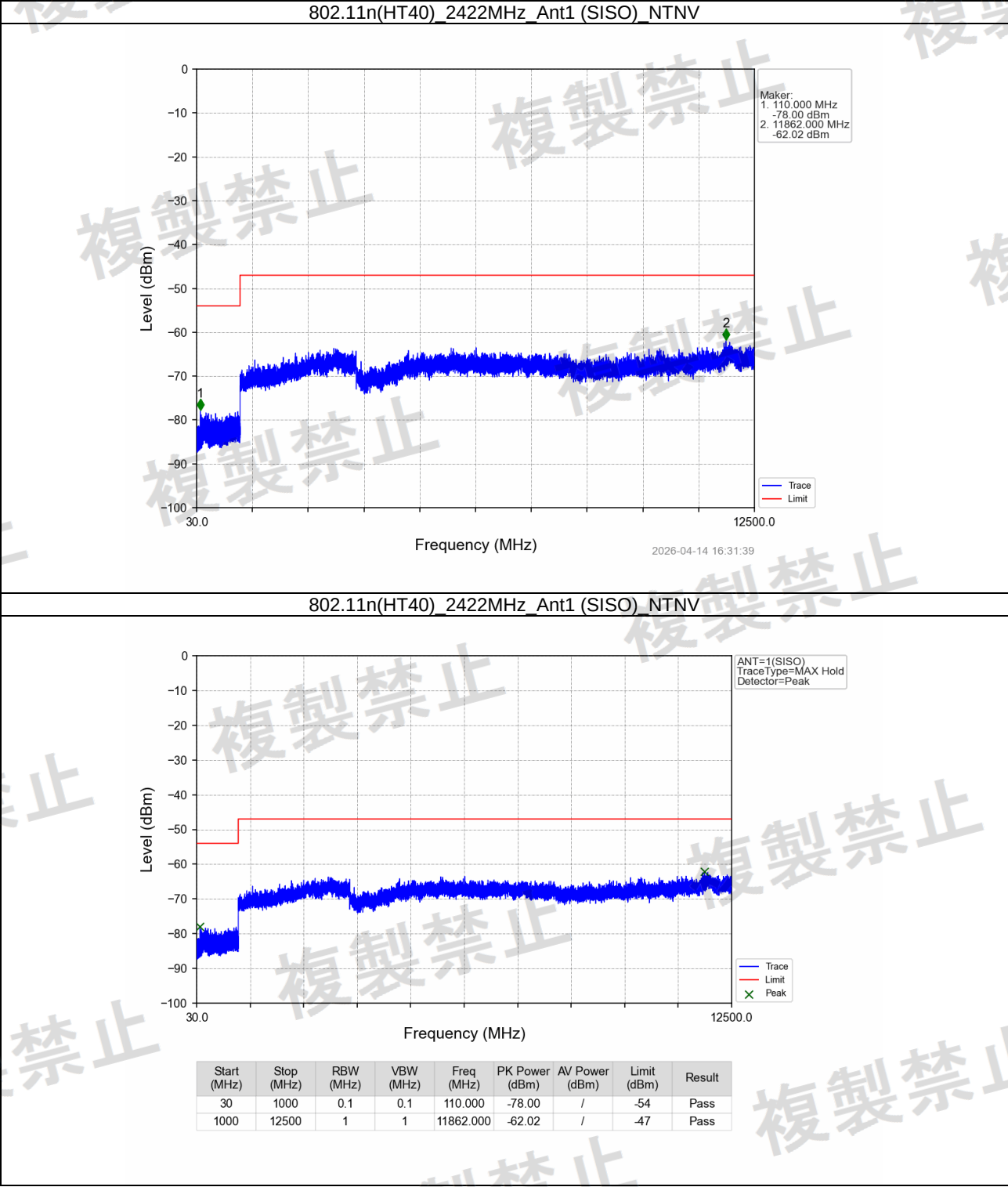


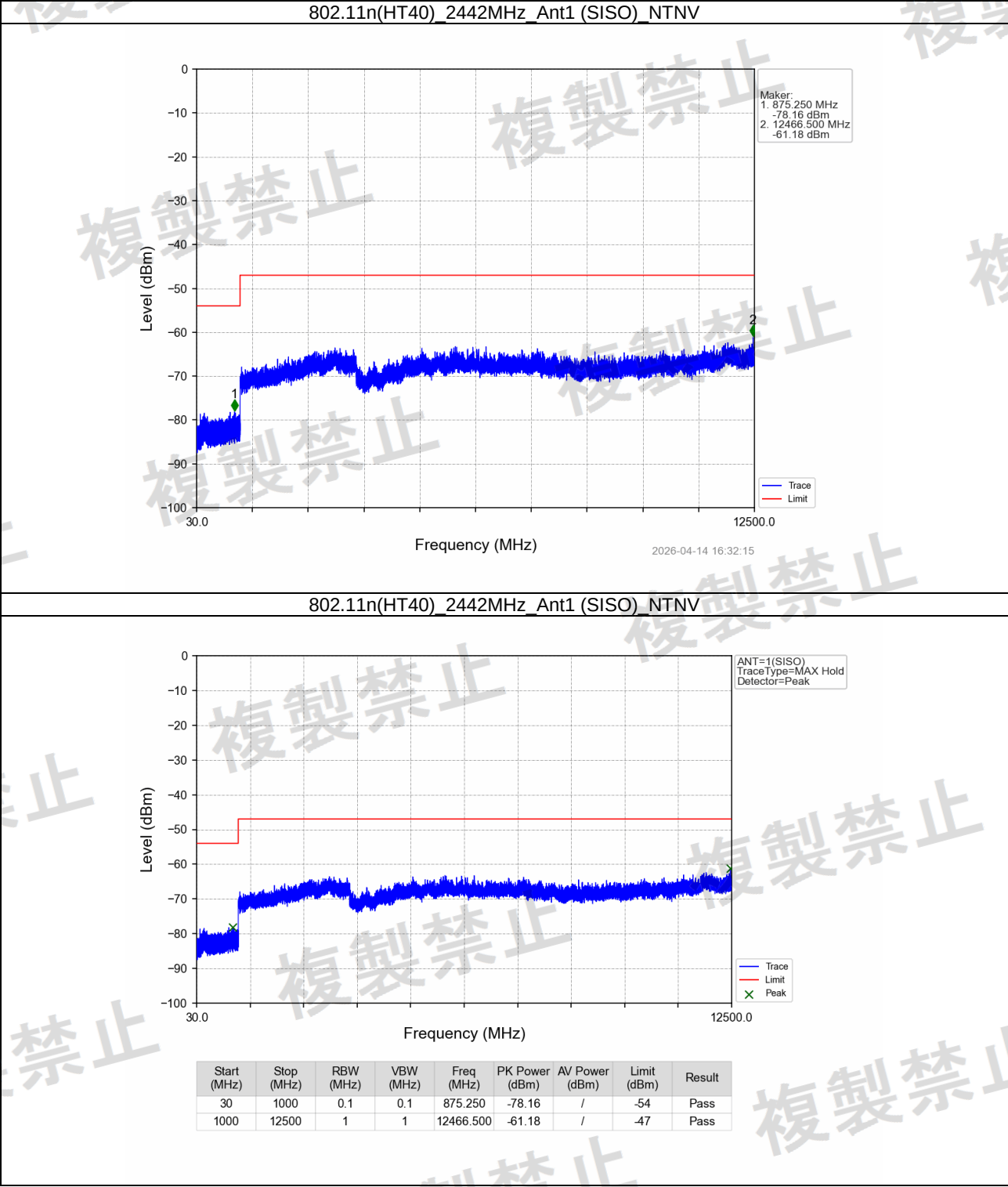


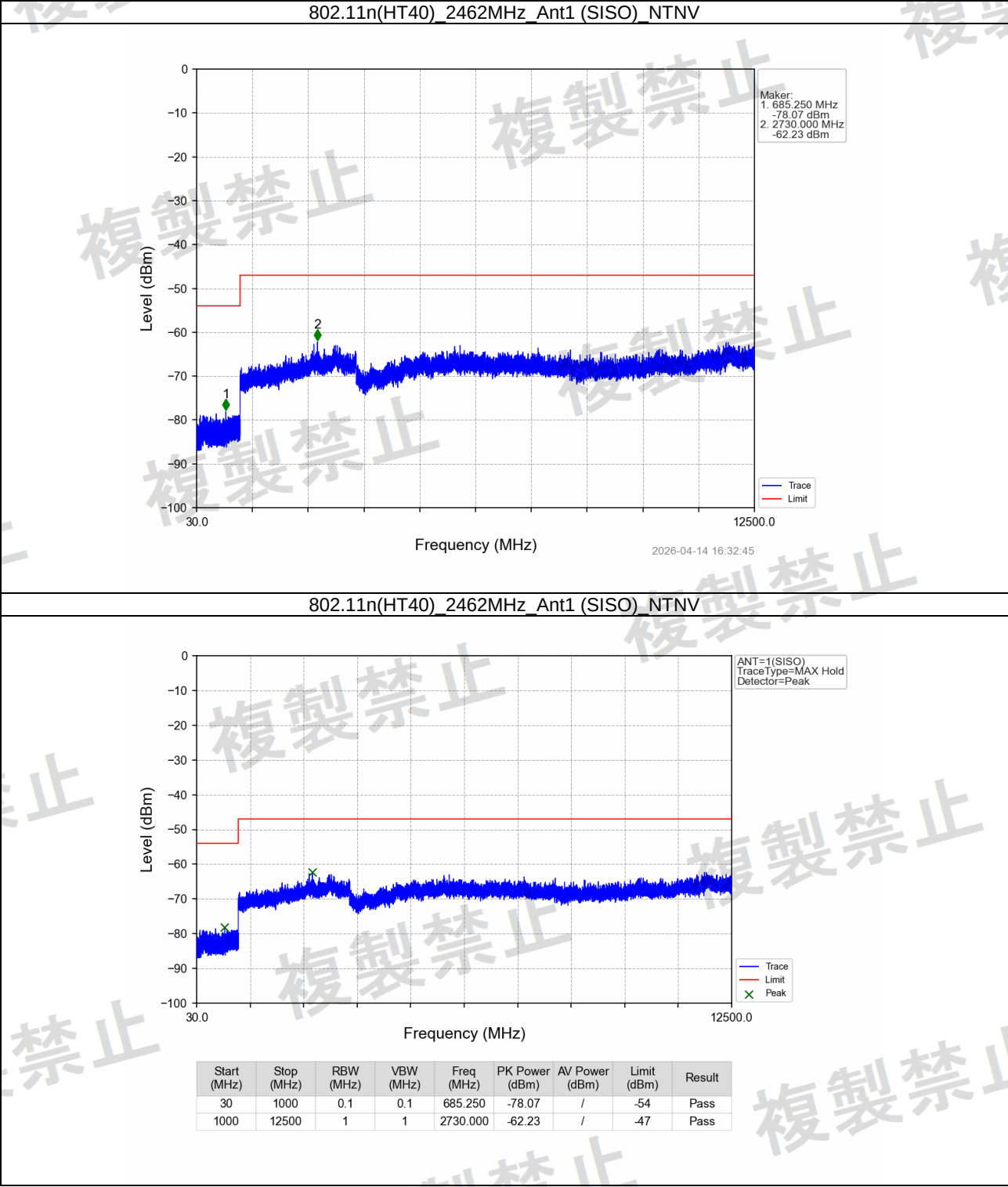














3.6. Construction Protection Method

REQUIREMENT

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

CONFIRMATION METHOD

All high-frequency section and modulation section was packaged in one IC, it can not be easily open.



3.7. Interference Prevention Function

REQUIREMENT

Clarify the one automatically to transmit and to receive identification code with the wireless equipment of the wireless station used in the same premises.

Item	Limits
Identification code	≥ 48 bits

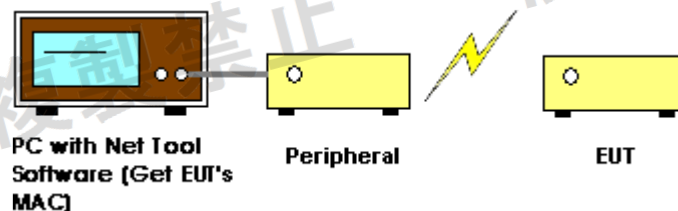
CONFIRMATION METHOD

A communication link was made where the ID code is correct (Identical).

TEST PROCEDURE

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes from EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification code: a. Transmit the predetermined identification codes from the counterpart. b. Check if communication is normal. c. Transmit the other signals than predetermined ID codes from the counterpart. d. check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

TEST CONFIGURATION



TEST RESULTS

PASS

MAC Address:C3: D2: A1: 5F: B6: 0D

3.8. Carrier Sensing function

LIMIT

Item	Limits
Carrier Sense	Good - EUT stop RF transmission signal after carrier inject to EUT. (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz) or 100mV/m)

INSTRUMENTS SETTING

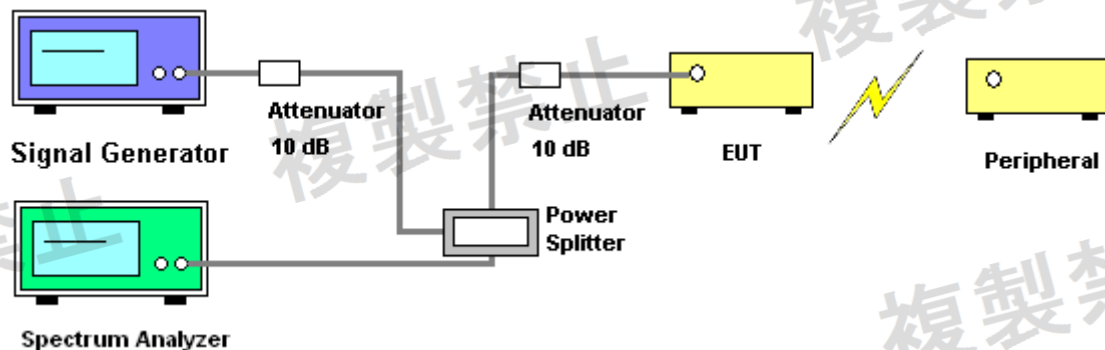
The following table is the setting of spectrum analyser and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	1 MHz
Span	0 MHz
Sweep	Continuous
Detector	Peak
Trigger mode	Video

TEST PROCEDURE

1. SSG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SSG and power level is (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz). Then turn off the RF signal of SSG.
2. EUT have transmitted the maximum modulation signal and fixed channelize.
3. Setting of SA is following as: RB: 1MHz / VB: 1MHz / SPAN: 50MHz / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak.
4. SSG RF Signal On.
5. EUT shall be stop the transmitted any signal and SSG RF Signal Off. Then EUT will be continuous transmitted signal.

TEST CONFIGURATION



TEST RESULTS

Test mode	Test frequency (MHz)	Interference signal level (dBm)	Test result
IEEE 802.11n HT40	2442	-43.27	Good



4. Test Setup Photos of the EUT





Report.No.: HTT2026031176Y1

Page 64 of 92

5. External and Internal Photos of the EUT

External Photo





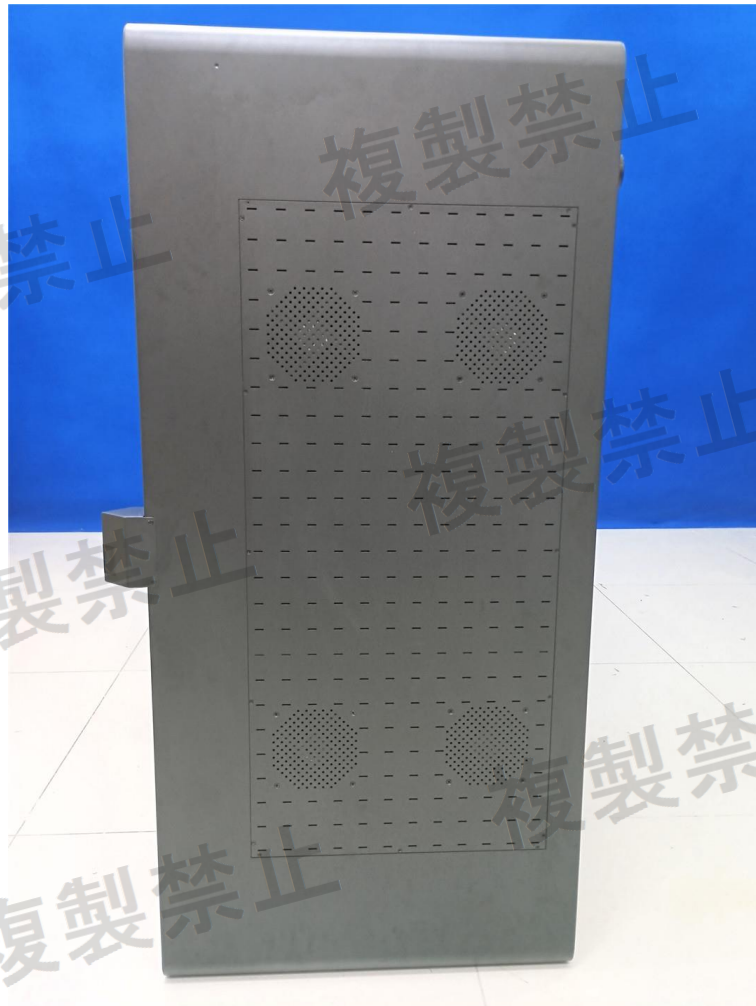
Report.No.: HTT2026031176Y1

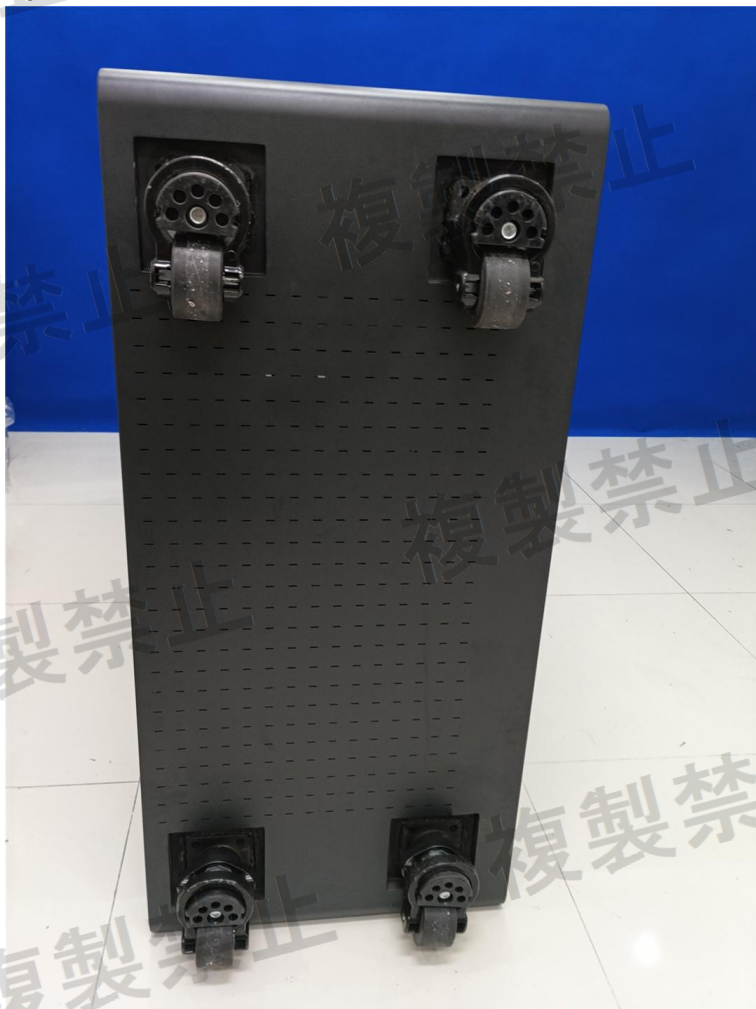
Page 65 of 92













Report.No.: HTT2026031176Y1

Page 70 of 92









Report.No.: HTT2026031176Y1

Page 73 of 92

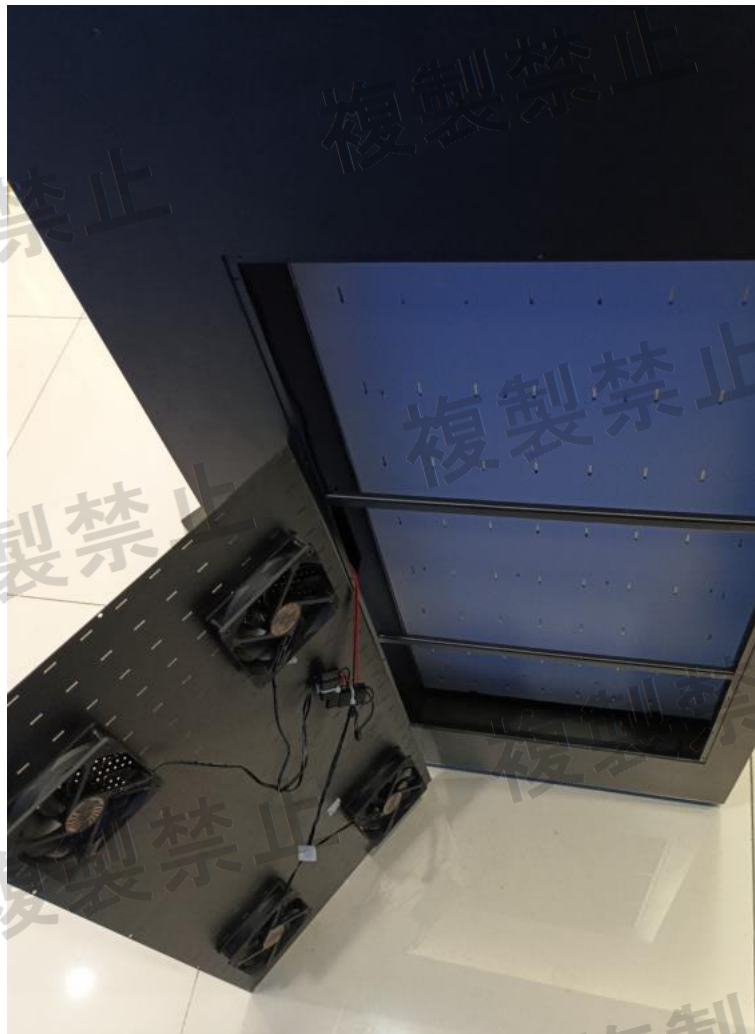




Report.No.: HTT2026031176Y1

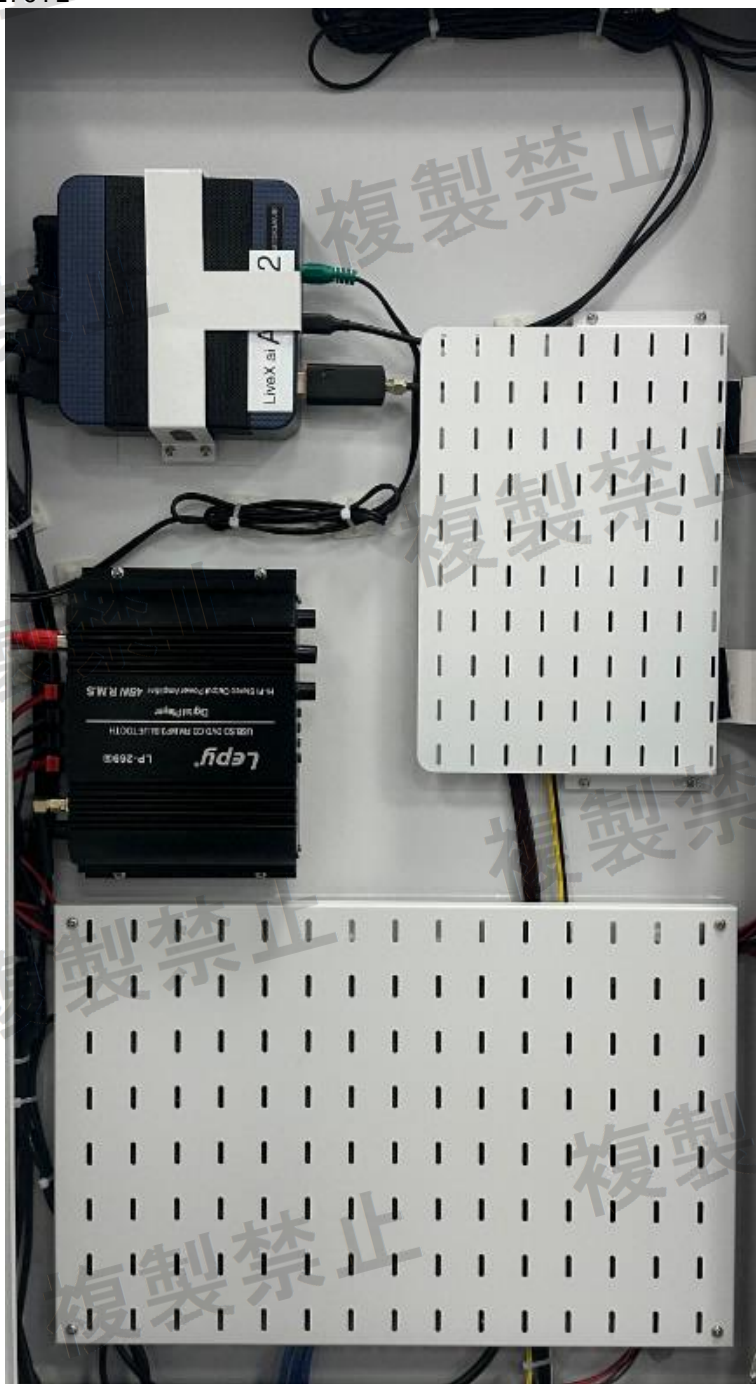
Page 74 of 92

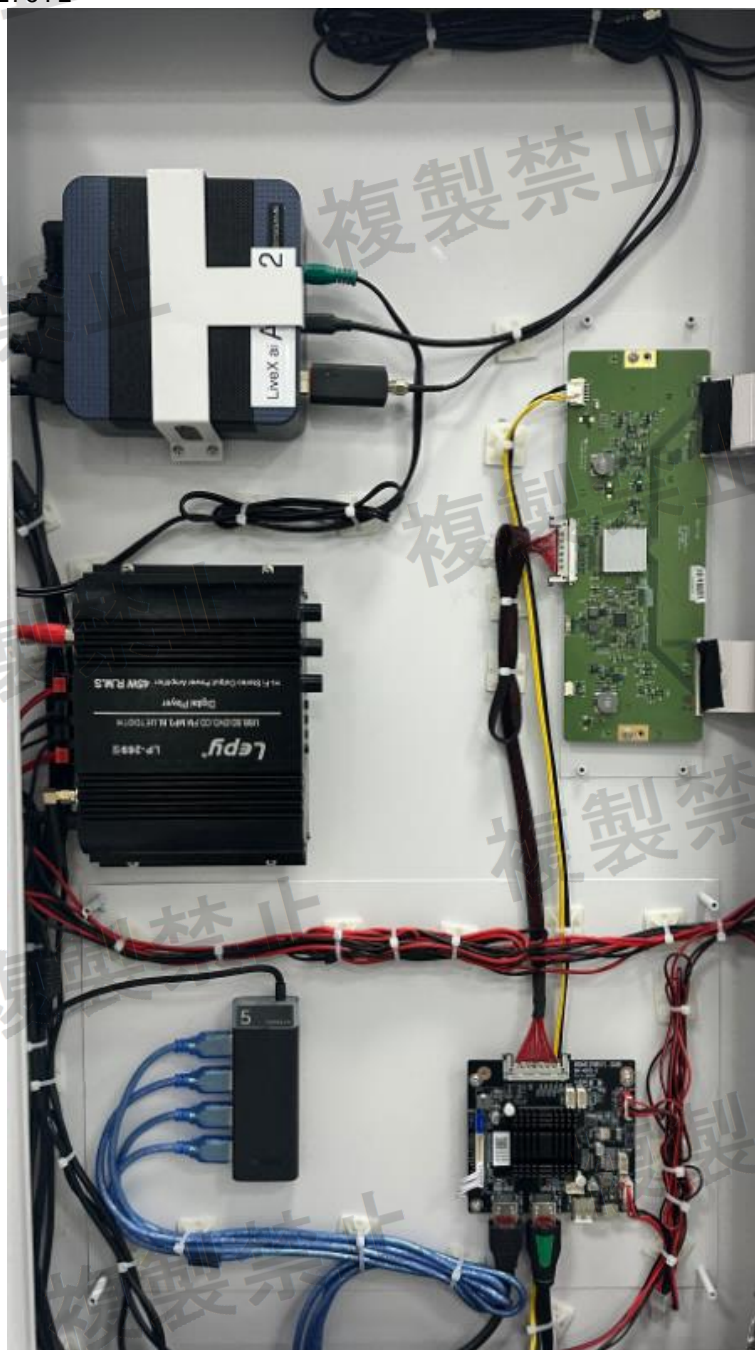
Internal Photo





2.4G WIFI ANT

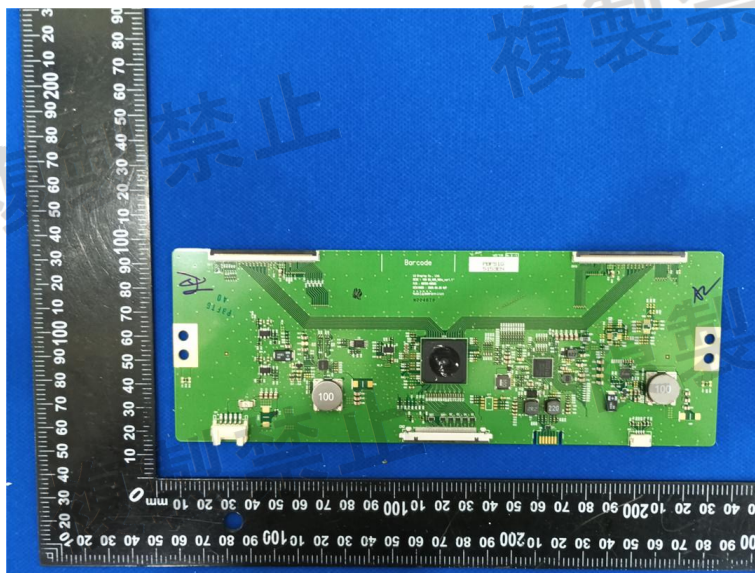


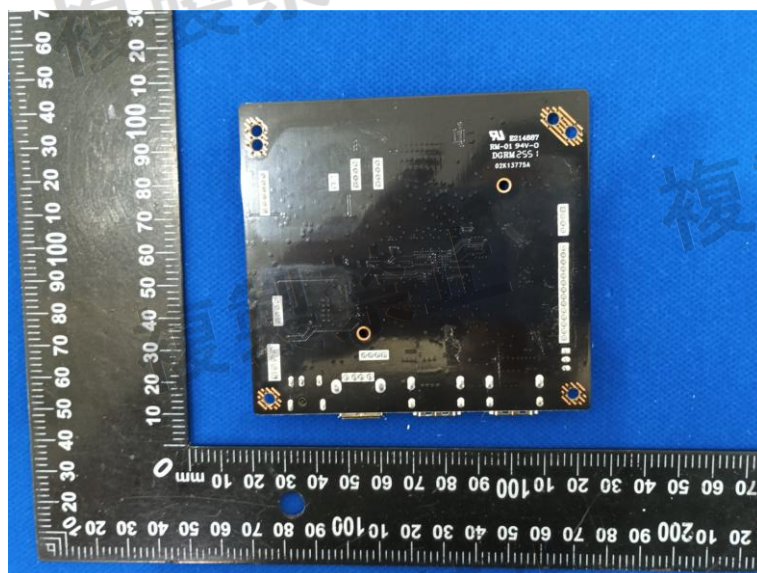
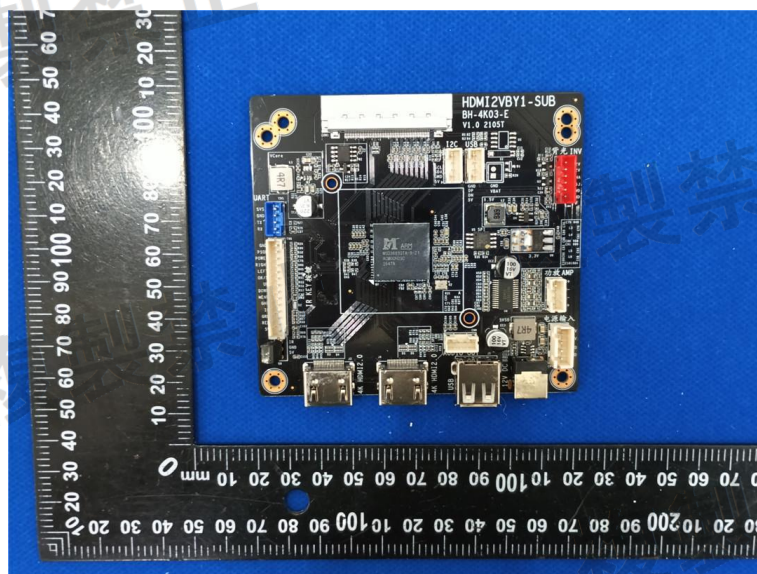
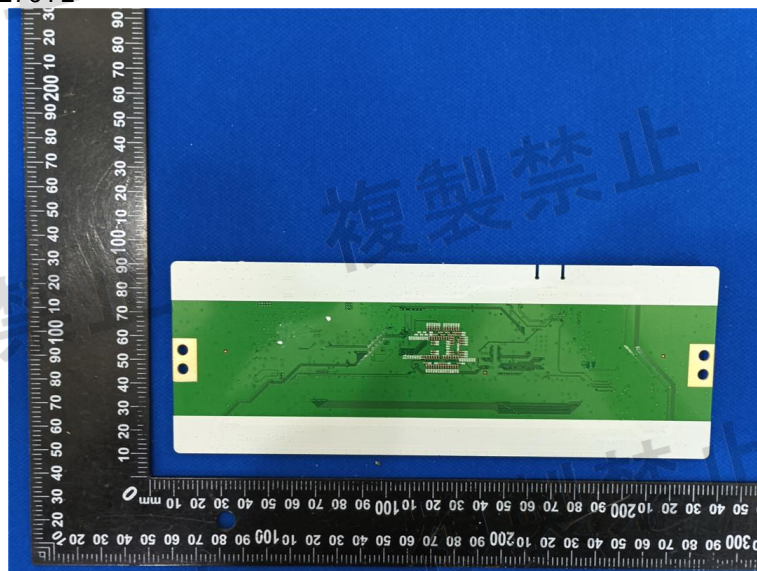




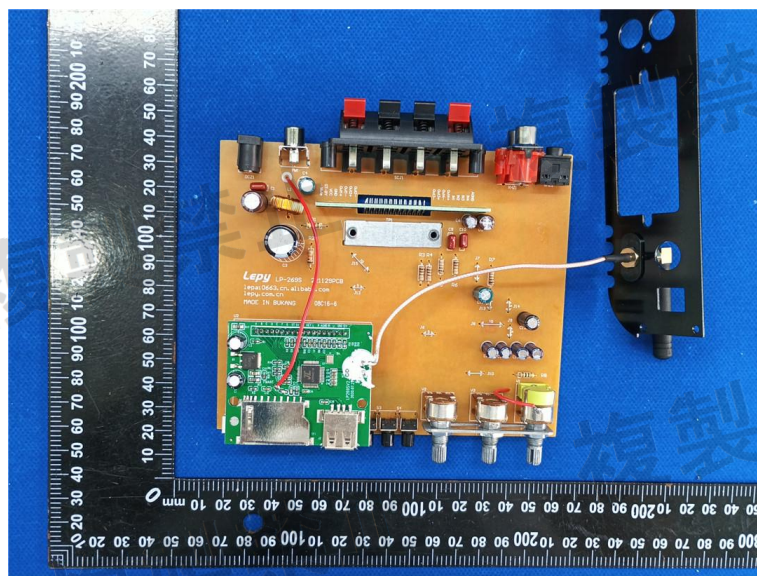
Report.No.: HTT2026031176Y1

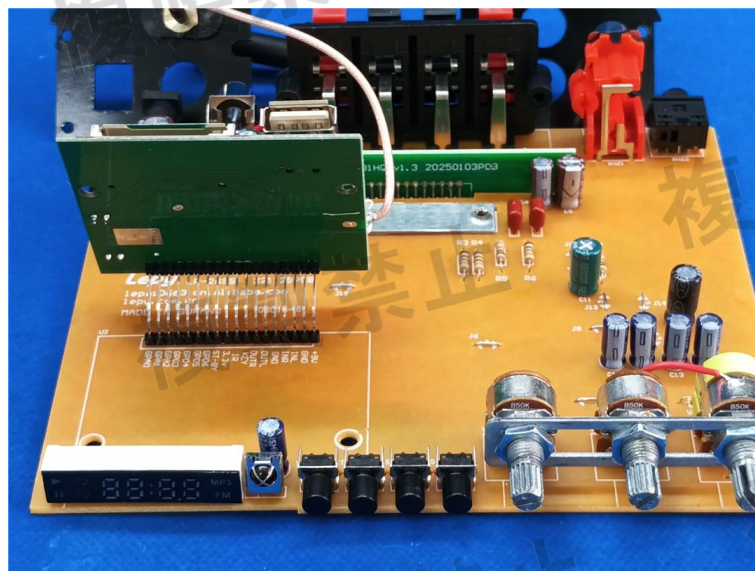
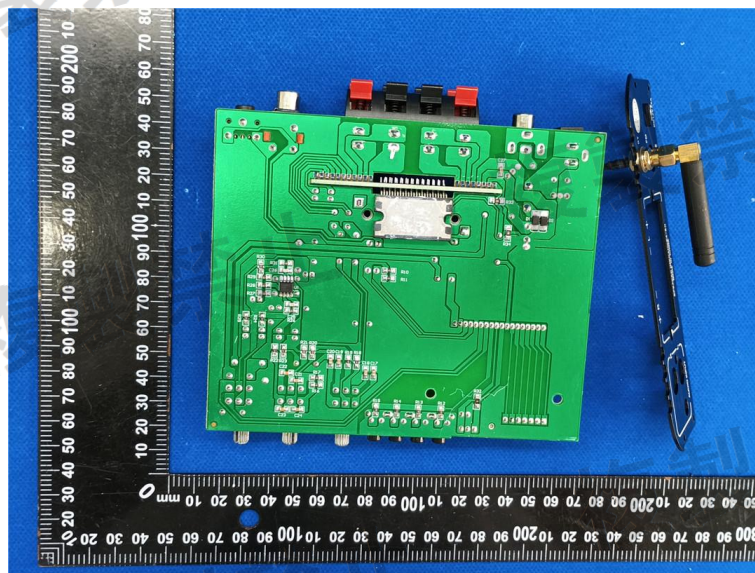
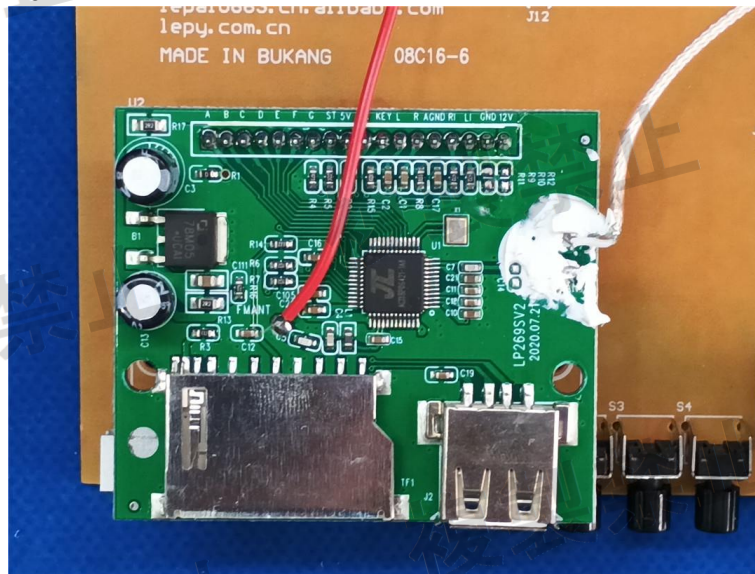
Page 78 of 92

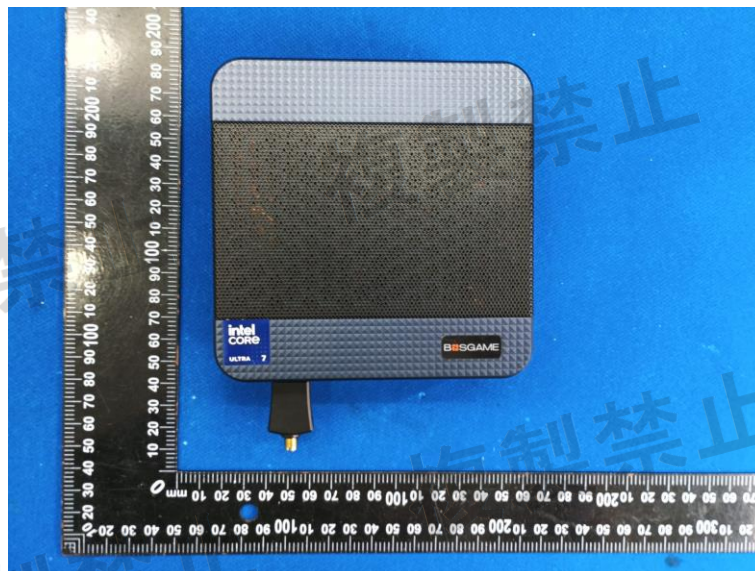




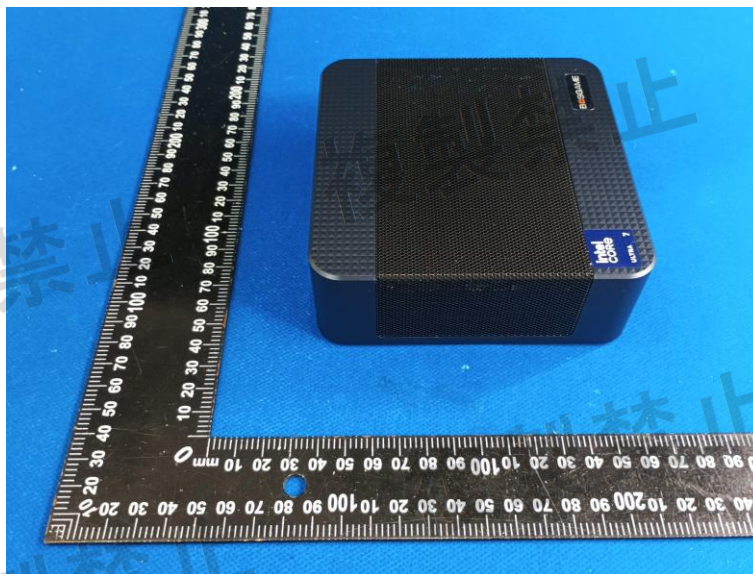
BT ANT





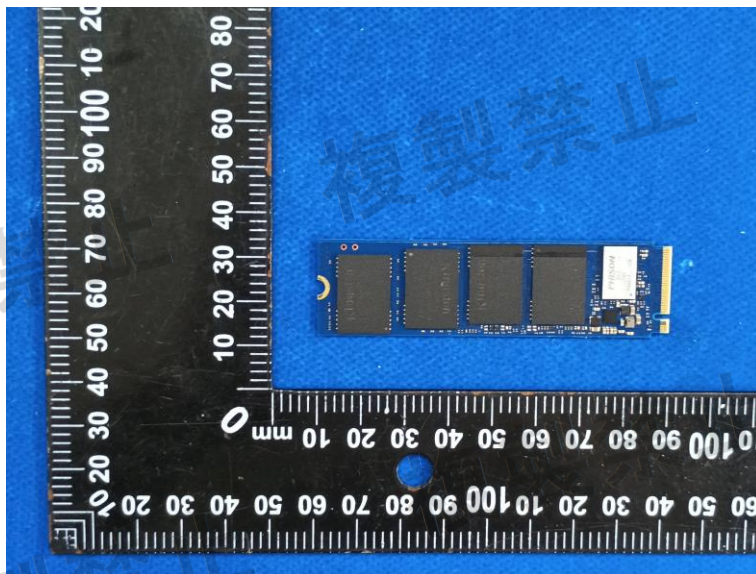


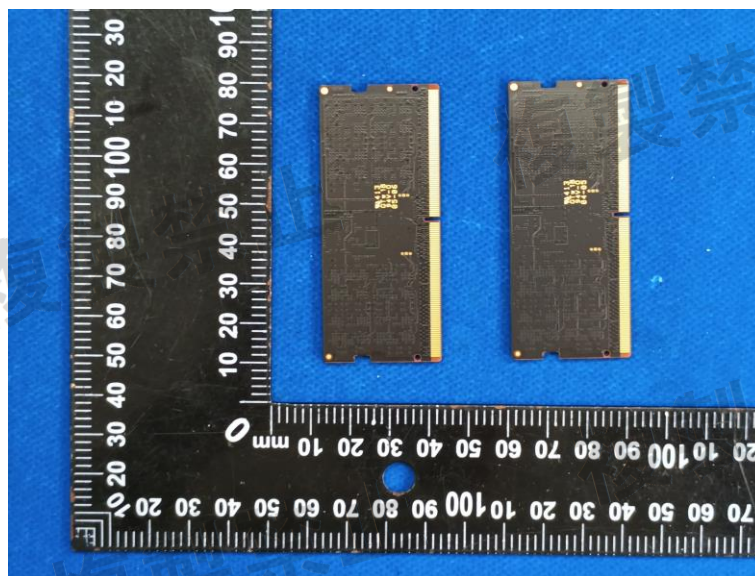
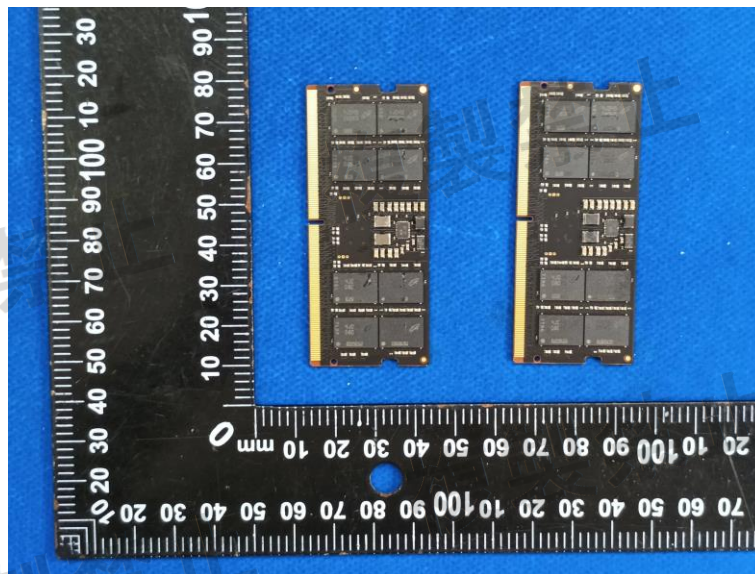


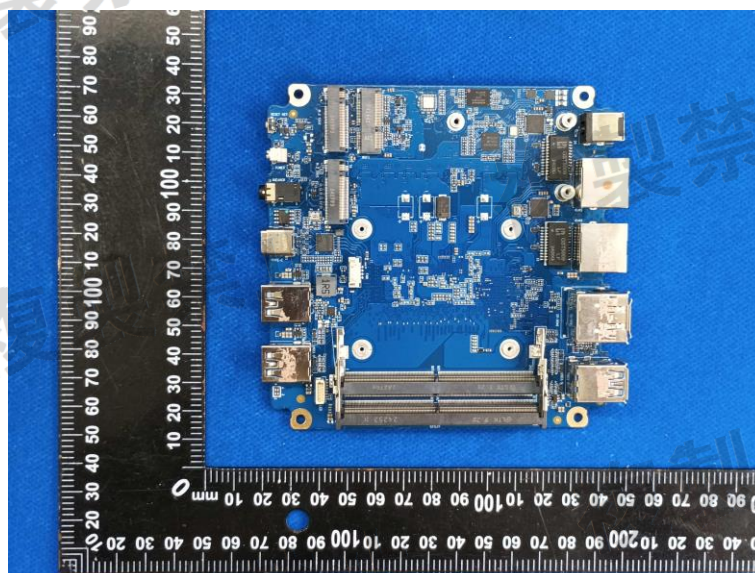
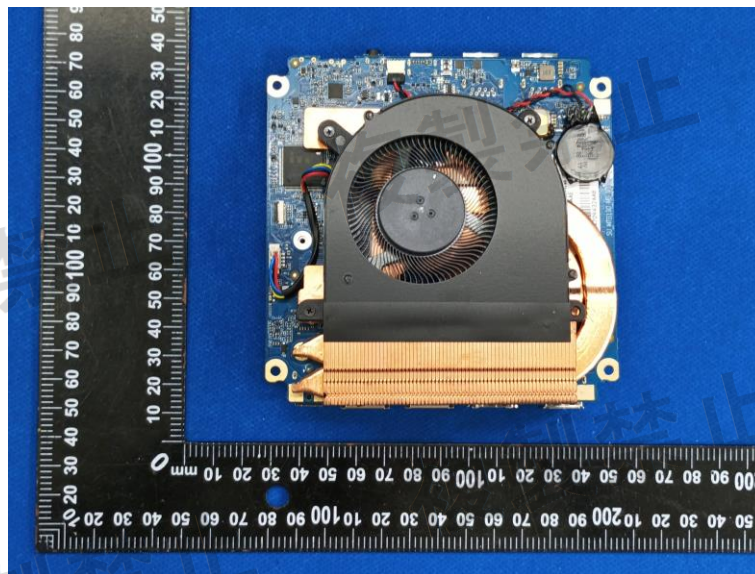


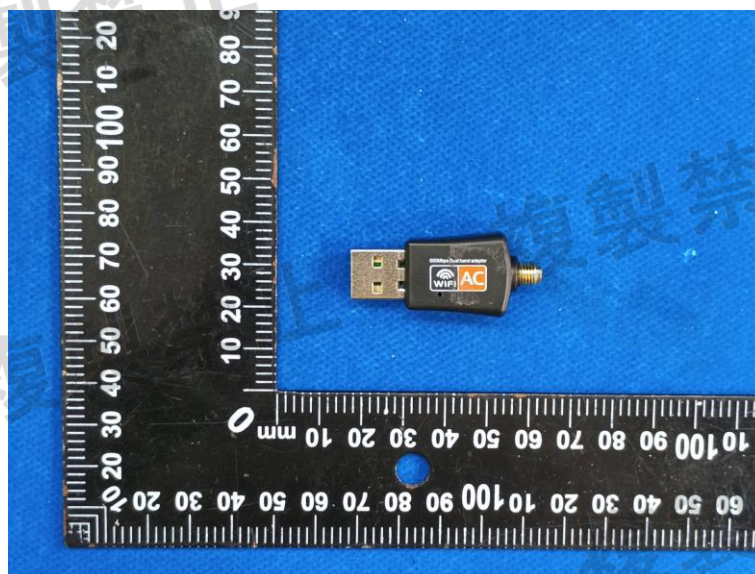
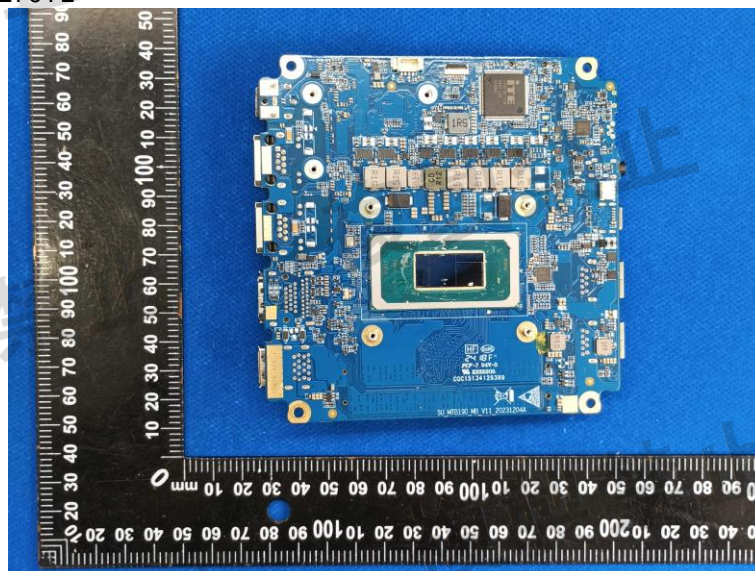


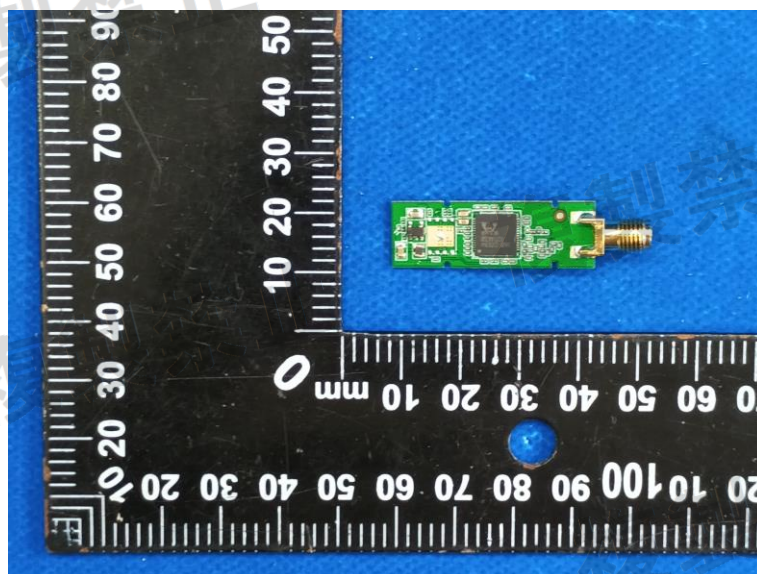
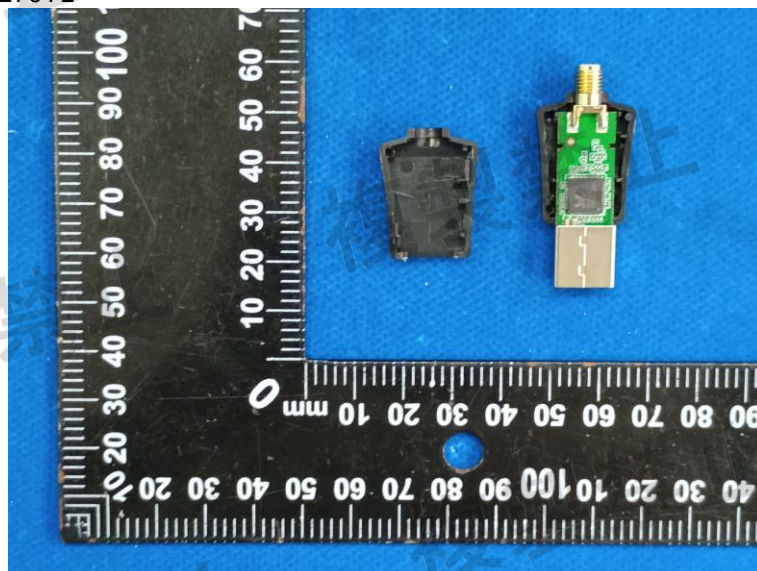


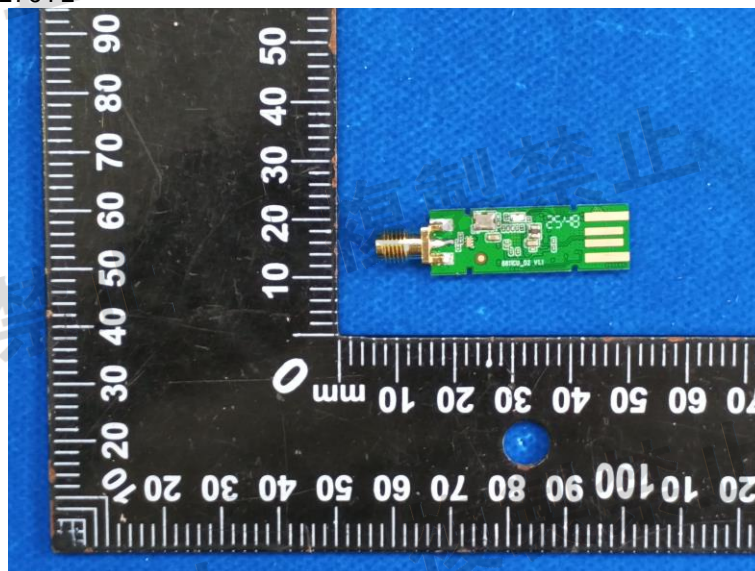












*****THE END*****