



RF TEST REPORT

Product Name: Pongbot Smart Eagle Eye

Model Number: SPOTTER S, SPOTTER, SPOTTER S PLUS, SPOTTER S PRO

Issued For : Shanghai Future Mind. Co., Ltd.

Floor 2, Building 13, No. 27 Xinqiniao Road, Pudong,
Shanghai, China

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park,
No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan
District, Shenzhen, Guangdong, China

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Shenzhen LGT Test Service Co., Ltd. Tel: 0755-89668180 E-mail: lgt@lgt-cert.com Web: www.lgt-cert.com
Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District,
Shenzhen, Guangdong, China



TEST REPORT CERTIFICATION

Applicant: Shanghai Future Mind. Co., Ltd.
Address: Floor 2, Building 13, No. 27 Xinjinqiao Road, Pudong, Shanghai, China
Manufacturer: Shanghai Future Mind. Co., Ltd.
Address: Floor 2, Building 13, No. 27 Xinjinqiao Road, Pudong, Shanghai, China
Product Name: Pongbot Smart Eagle Eye
Trademark: PONGBOT
Model Number: SPOTTER S, SPOTTER, SPOTTER S PLUS, SPOTTER S PRO
Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
Article 2 Paragraph 1 of Item 19, annex 43 and annex 1& Notification No.88	PASS

Prepared by:

chris chen

Chris Chen
Engineer

Approved by:

Vita Li

Vita Li
Technical Director





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Revision History

Rev.	Issue Date	Contents
00	Jul. 22, 2026	Initial Issue



1. SUMMARY OF THE TEST RESULTS

Test procedures according to the technical standards: annex 43 of Notification No.88.

Rule Section	Description of Test	Judgement
3.2	Frequency Error	PASS
3.2	Occupied Bandwidth (99%)	PASS
3.2	Unwanted Emission Intensity	PASS
3.2	Power Error	PASS
3.3	Limitation of Collateral Emission of Receiver	PASS
3.6	Transmission Radiation power	PASS
3.2	Transmission Radiation Angle Width (3dBBeamwidth)	N/A
3.4	Radio Interference Prevention Capability	PASS
Note (2)	Carrier Sense Capability	PASS
3.7 Note (4)	Construction Protection Confirmation	PASS

Note:

- (1) "N/A" denotes test is not applicable in this Test Report.
- (2) Article 2 Paragraph 1 of Item 19.
- (3) This device has more than 1 subcarrier in 1MHz, compliances with the requirement.
- (4) Please refer to Japan Radio Protection Declaration.



1.1 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.71\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.80\text{dB}$
3	Frequency tolerance	$\pm 0.02\text{ppm}$

Note: The measurement uncertainty is not included in the test result.



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Pongbot Smart Eagle Eye	
Test Model Number:	SPOTTER S	
Series Number:	SPOTTER, SPOTTER S PLUS, SPOTTER S PRO	
Model Difference:	Only difference in appearance color.	
Product Description:	Operation Frequency:	802.11b/g/n(20MHz): 2412~2472 MHz 802.11n(40MHz):2422~2462MHz
	Modulation Type:	802.11b(DSSS): CCK, DQPSK, DBPSK 802.11g(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM
	Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz): MCS7~MCS0: 65/58.5/52/39/26/19.5/13/6.5Mbps 802.11n(40MHz): MCS7~MCS0: 135/121.5/108/81/54/40.5/27/13.5Mbps
	Number Of Channel:	802.11b/g/n20: 13CH 802.11n40: 9CH
	Antenna Designation:	FPC Antenna
	AntennaGain(dBi):	1.84
	Based on the application, features, or specification exhibited in User Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User Manual.	
Channel List:	Please refer to the Note 3.	
Rating:	Input: DC 5V 2A	
Hardware Version:	N/A	
Software Version:	N/A	
Connecting I/O Port(s):	Please refer to the Note 1.	

Note:

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

2.The antenna information refers to the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.



3.

Operation Frequency of channel			
802.11b/g/n(20MHz)		Channel List for 802.11n(40MHz)	
Channel	Frequency	Channel	Frequency
01	2412	03	2422
02	2417	04	2427
03	2422	05	2432
04	2427	06	2437
05	2432	07	2442
06	2437	08	2447
07	2442	09	2452
08	2447	10	2457
09	2452	11	2462
10	2457		
11	2462		
12	2467		
13	2472		

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11b/g/n(HT20)		For 802.11n(HT40)	
Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	2412	03	2422
13	2472	11	2462



2.2 DESCRIPTION OF THE TEST MODES

Pretest Mode	Description	Data Rate
Mode 1	TX IEEE 802.11b CH1	1 Mbps
Mode 2	TX IEEE 802.11 b CH13	1 Mbps
Mode 3	TX IEEE 802.11g CH1	6 Mbps
Mode 4	TX IEEE 802.11g CH13	6 Mbps
Mode 5	TX IEEE 802.11n HT20 CH1	MCS 0
Mode 6	TX IEEE 802.11n HT20 CH13	MCS 0
Mode 7	TX IEEE 802.11n HT40 CH3	MCS 0
Mode 8	TX IEEE 802.11n HT40 CH11	MCS 0

2.3 TABLE FOR PARAMETERS OF THE TEST SOFTWARE SETTING

Type	Mode Or Modulation type	Power Class	Software For Testing
2.4G WIFI	802.11b	Default	CMD
	802.11g	Default	
	802.11n(HT20)	Default	
	802.11n(HT40)	Default	



2.4 TEST CONDITIONS

The WIFI module was tested while in a continuous transmitter/receiver mode.

The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input DC Power(V)	5	5.5	4.5
RF Chip Input DC Power(V)	3.300	3.321	3.280
Voltage Variation (%)	/	0.64	-0.61

Note: 1. Voltage Variation (%)

= (RF chip Input high or Low Voltage - RF chip Input Normal Voltage)/ RF chip Input Normal Voltage* 100

2. RF chip Input DC power fluctuation is verified at the power input PIN of the RF chip.

When the input supply voltage to the EUT from the external power source is varied by +/- 10%, the 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%, and the DC power fluctuation at the power input PIN of the RF chip is equal to or less than +/-1%. Exempt extremely high and low supply voltage condition tests, EUT only operated in normal voltage to test all regulations.

2.5 TEST ENVIRONMENTAL

During the measurement the environmental conditions:

Normal Temperature: 24.5°C

Relative Humidity: 53 %

Air Pressure: 101.78 kPa



2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.7 EQUIPMENTS LIST FOR ALL TEST ITEMS

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Until	Classification
Signal Analyzer	Keysight	N9020A	MY50530994	2026-03-02	2027-03-01	(c)
Power Sensor	R&S	NRP8S	104963	2026-03-02	2027-03-01	(c)
RF Automatic Test system	TST	TST PASS	293	2025-07-15	2026-07-14	(c)
MXG Vector Signal Generator	Keysight	N5182B	MY59100717	2026-03-03	2027-03-02	(c)
Temperature& Humidity test chamber	AISRY	LX-1000L	171200018	2025-07-30	2026-07-29	(c)
Attenuator	eastsheep	90db	N.A	2026-03-02	2027-03-01	(c)
Temperature & Humidity	JINGCHUANG	BT-3	N.A	2026-03-05	2027-03-04	(c)
Digital multimeter	MASTECH	MS8261	MBGBC83053	2025-07-30	2026-07-29	(c)
DC source	Keysight	E3634A	MY58036468	2026-03-05	2027-03-04	(c)
Testing Software	TST Pass_2.0.2					

Remark:

(a) Calibration conducted by the National institute of Information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph(1) in JRL.

(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (ActNo. 51 of 1992).

(c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1). (d) Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c)

From JRL Article 24-2, paragraph 4, Item 2

Notice: Calibration duration for above equipments is 1 year.

Test Equipment Calibration

All of the test equipment is effective use and calibration certification institution, LISAI, the address is No.8.South Street Shi li institute Guangzhou.Guangdong.China



3. FREQUENCY ERROR

3.1 LIMIT

Item	Limits
Frequency Error	$\pm 50\text{ppm}$

3.2 TEST PROCEDURES

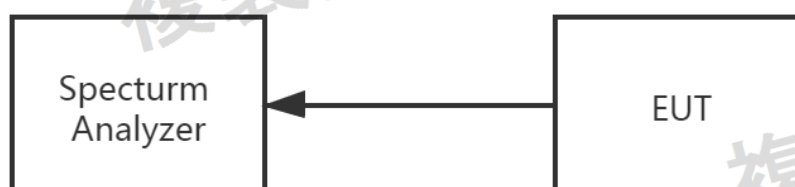
The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	10KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- (1) In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.
- (2) In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.
- (3) In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.
- (4) In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

3.3 TEST SETUP



3.4 TEST RESULT

For the measurement records, refer to the appendix I.



4. ANTENNA POWER

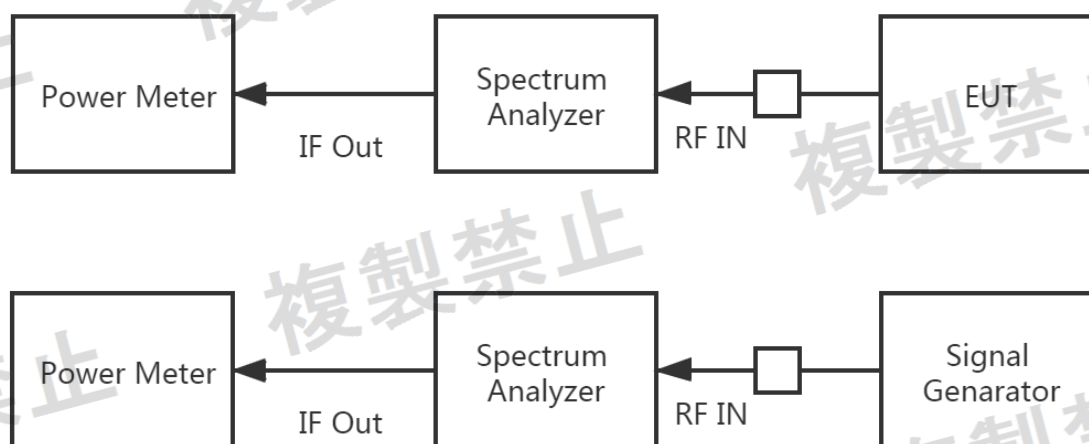
4.1 LIMIT

Item	Limits
Antenna PowerDensity	$\leq 3\text{mW/MHz}$ (FH from 2400 – 2483.5 MHz) $\leq 10\text{mW/MHz}$ (OFDM, DS from 2400~2483.5MHz, 802.11b/g/n HT20) $\leq 5\text{mW/MHz}$ (OFDM, DS from 2400~2483.5MHz, 802.11n HT40) $\leq 10\text{mW}$ (Other from 2400~2483.5MHz)
Power Error	+20%

4.2 TEST PROCEDURE

1. A power meter is connected on the IF output port of the spectrum analyzer.
2. EUT turn to test frequency channel and keep continuous transmitting.
3. Connected the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGaug: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
4. Reading the output power from the Power meter as P_{EUT} .
5. Turn the Signal generator to frequency channel the same as the EUT.
6. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGaug: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
7. Turn the level of Signal generator, scan with the power meter until the power equal to P_{EUT} , the level of Signal generator recorded as "P".
8. The antenna power of EUT is "P".
9. EIRP power="P"+antenna gain.

4.3 TEST SETUP



4.4 TEST DEVIATION

There is no deviation with the original standard.

4.5 TEST RESULT

For the measurement records, refer to the appendix I.



5. EIRP POWER

5.1 LIMIT

Item	Limits
Radiation powerEIRP	FH form 2400 – 2483.5MHz,EIRP $\leq$ 6.91dBm/MHz CCK/OFDM/DBPSK (2400~2483.5MHz) OFDM or DS other than (802.11b/g/n HT20) EIRP $\leq$ 12.14 dBm/MHz OFDM or DS other than (802.11n HT40) EIRP $\leq$ 9.13dBm/MHz Other from 2400~2483.5MHz: 12.14 dBm or less

5.2 TEST RESULT

For the measurement records, refer to the appendix I.



6. OCCUPIED BANDWITH

6.1 LIMIT

Item	Limits
Occupied Band Width:	83.5MHz for FHSS; 26MHz for DSSS and OFDM; 26 ~ 40MHz for OFDM(HT40)

6.2 TEST PROCEDURES

1. EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode (For FHSS Device).
SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26MHz (For DSSS or OFDM Device), 83.5MHz (For FHSS Device) or 38MHz (For OFDM (HT 40)).

6.3 TEST SETUP



6.4 TEST DEVIATION

There is no deviation with the original standard.

6.6 TEST RESULT

For the measurement records, refer to the appendix I.



7. UNWANTED EMISSION INTENSITY MEASUREMENT

7.1 LIMIT

Item	Limits
TX Spurious Emission	$\leq 2.5 \text{ mW/MHz}$ ($30\text{MHz} \leq f \leq 1000\text{MHz}$)
	$\leq 2.5 \text{ }\mu\text{W/MHz}$ ($1000\text{MHz} < f \leq 2387\text{MHz}$)
	$\leq 25 \text{ }\mu\text{W/MHz}$ ($2387\text{MHz} < f \leq 2400\text{MHz}$)
	$\leq 25 \text{ }\mu\text{W/MHz}$ ($2483.5\text{MHz} \leq f < 2496.5\text{MHz}$)
	$\leq 2.5 \text{ }\mu\text{W/MHz}$ ($2496.5\text{MHz} \leq f < 12500\text{MHz}$)

7.2 TEST PROCEDURES

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RBW / VBW	1MHz / 1MHz (Below 1GHz)
RBW / VBW	1MHz / 1MHz (Above 1GHz)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB: 1MHz / VB: 1MHz, Above 1GHz RB: 1MHz / VB: 1MHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency 1000MHz, then to mark peak reading value + cable loss shall be less than 2.5 μ W.
4. Setting of SA is following as 1000MHz and stop frequency 2387MHz, then to mark peak reading value + cable loss shall be less than 2.5 μ W.
5. SA adjusted to start frequency 2387MHz and stop frequency 2400MHz, then to mark peak reading value + cable loss shall be less than 25 μ W.
6. SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz, then to mark peak reading value + cable loss shall be less than 25 μ W
7. SA adjusted to start frequency 2496.5MHz and stop frequency 12750MHz, then to mark peak reading value + cable loss shall be less than 2.5 μ W
8. If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.



7.3 TEST SETUP



7.4 TEST DEVIATION

There is no deviation with the original standard.

7.5 TEST RESULT

For the measurement records, refer to the appendix I.



8. IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

8.1 LIMIT

Item	Limits
RX Spurious Emission:	$\leq 4\text{nW}$ ($f < 1\text{GHz}$)
	$\leq 20\text{nW}$ ($1\text{GHz} \leq f$)

8.2 TEST PROCEDURES

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RBW	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VBW	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW.
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW.
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

8.3 TEST RESULT

For the measurement records, refer to the appendix I.



9. TRANSMISSION RADIATION ANGLE WIDTH (3DB BEAMWIDTH) MEASUREMENT

9.1 LIMIT

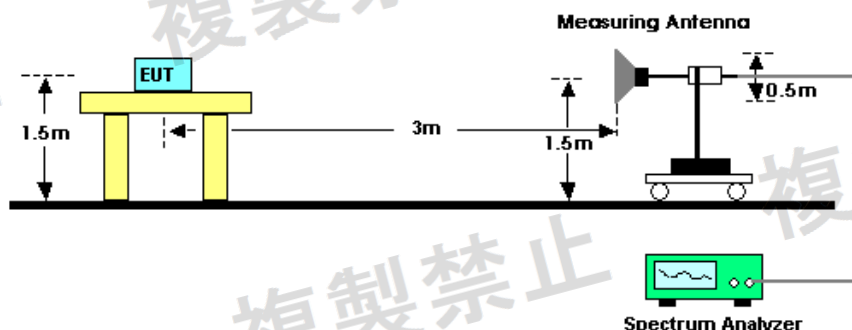
Item	Limits
3dB antenna beam width	$e \leq 360/A$ (The A is 10 in maximum) $A = \{EIRP \text{ Power [mW/MHz]} / \{2.14\text{dBi} + \text{output power}(10\text{mW /MHz}, 3\text{mW/MHz})\}\}$ Shall be 1 when A is lower than 1

9.2 TEST PROCEDURES

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RBW	1 MHz
VBW	1 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with condition in section 4.7.2 and tune reference level to observe receiving signal position.
3. Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
4. Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of measuring antenna. "E" is the half-power beam width (angle between two points at which radiated power becomes 1/2).
5. Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
6. Calculate 3dB antenna beam width by the formula below $360/A$ (The A is 10 in maximum).
 $e \leq 360/A$ (The A is 10 in maximum)
 $A = \{EIRP \text{ Power [mW/MHz]} / \{2.14\text{dBi} + \text{output power}(10\text{mW/MHz}, 3\text{mW/MHz})\}\}$
Shall be 1 when A is lower than 1

9.3 TEST SETUP



9.4 TEST DEVIATION

There is no deviation with the original standard.

9.6 TEST RESULT

As the EUT max EIRP is less than 12.14dBm, so the test is not applicable and skipped.

10. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

10.1 LIMIT

Item	Limits
Identification code	≥ 48 bits

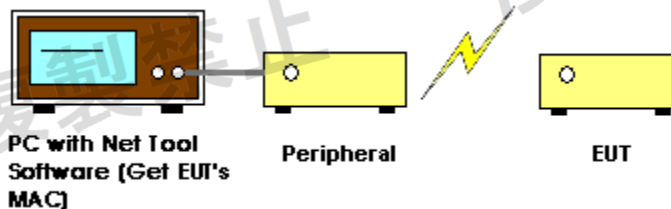
10.2 MEASURING ID CODE SOFTWARE

Item	Limits
MAC IP List	MAC Scan

10.3 TEST PROCEDURES

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 signals other 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.

10.4 TEST SETUP



10.5 TEST DEVIATION

There is no deviation with the original standard.



10.6 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILIT

The MAC address is 32:B3:60:DB:61:A7.

Home » Networking Device

Intranet host list

device blacklist

My computer and mobile phone(2devices online)

BGTVDQM1

Online time44Second

IP192.168.1.126

MAC32:B3:60:DB:61:A7

Uplink speed0KB/s

Downlink speed0KB/s

Speed limitBlacklist

RFLab

Online time7Minute

IP192.168.1.124

MAC6C:1F:F7:13:03:4A

Uplink speed7.6KB/s

Downlink speed217.5KB/s

Speed limitBlacklist

激活 Windows
转到“设置”以激活 Windows。

11. CARRIER SENSE CAPABILITY

11.1 INTERFERENCE PREVENTION FUNCTION

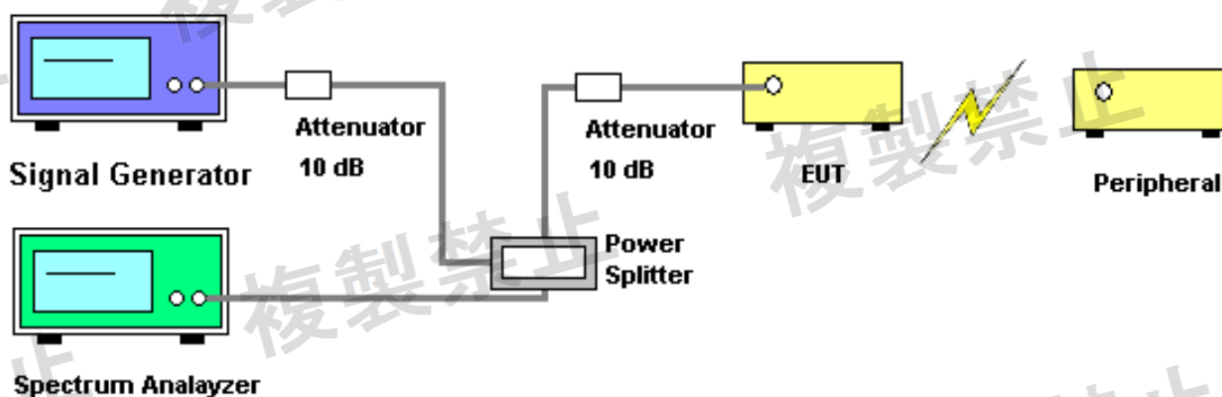
11.2 TEST REQUIREMENT

MIC Notice No.88 Appendix No.43

Article 2, Paragraph 1, Item 19 Rules Section 10

11.3 TEST PROCEDURE

1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is $(on\ 22.79 + G - 20 \cdot \log(f) \text{ dBm})$ (G is the antenna gain, f is the test frequency).
2. Turn off the RF signal of the SG.
3. EUT have transmitted the maximum modulation signal and fixed channelize.
4. Setting of SA :RBW/VBW=1MHz/1MHz, Span=0MHz, Sweep time=auto, Sweep mode=continuous, Detect mode=positive peak
5. SG RF signal on.
6. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous



11.4 TEST RESULT

For the measurement records, refer to the appendix I.



APPENDIX I - TEST RESULT

1. DUTY CYCLE

1.1 Test Result

1.1.1 Ant1

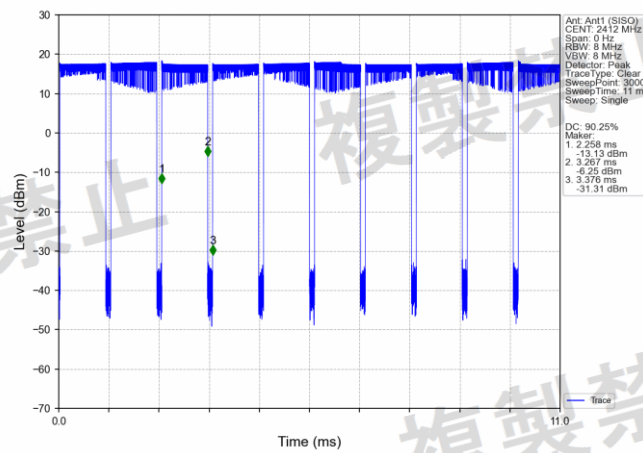
Ant1								
ENV	Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
NTNV	802.11b	SISO	2412	1.009	1.118	90.25	0.45	0.09
	802.11g	SISO	2412	0.618	0.682	90.62	0.43	0.12
	802.11n (HT20)	SISO	2412	0.614	0.679	90.43	0.44	0.16
	802.11n (HT40)	SISO	2422	0.614	0.678	90.56	0.43	0.16



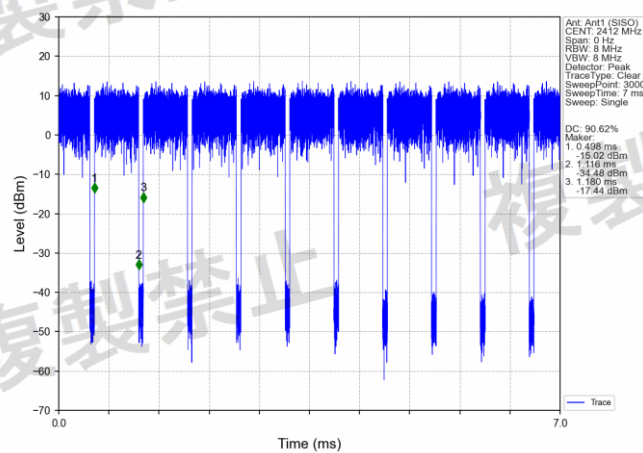
1.2 Test Graph

1.2.1 Ant1

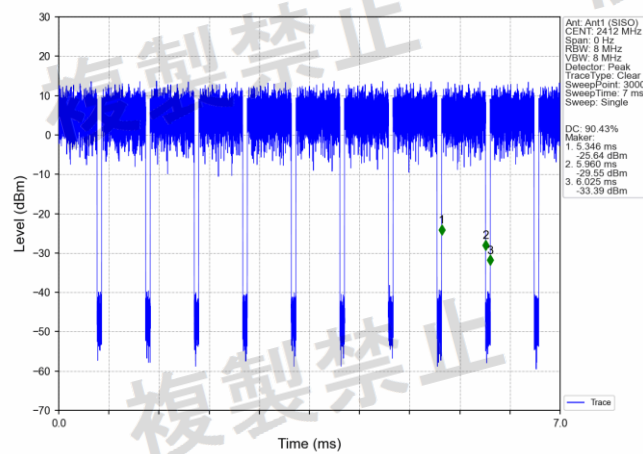
802.11b 2412MHz_Ant1 (SISO)_NTNV



802.11g 2412MHz_Ant1 (SISO)_NTNV

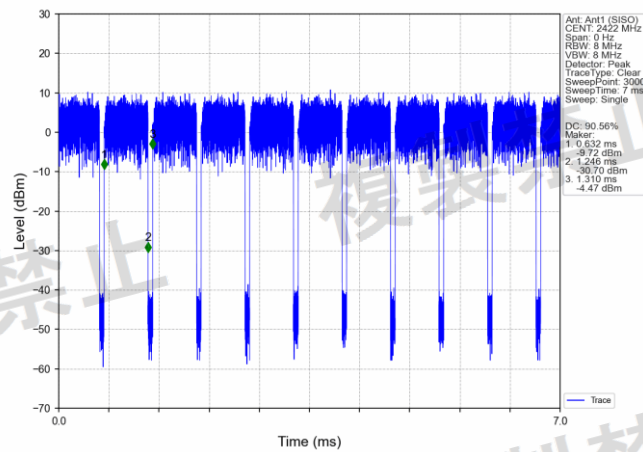


802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV





802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV





2. FREQUENCY ERROR

2.1 Test Result

2.1.1 Ant1

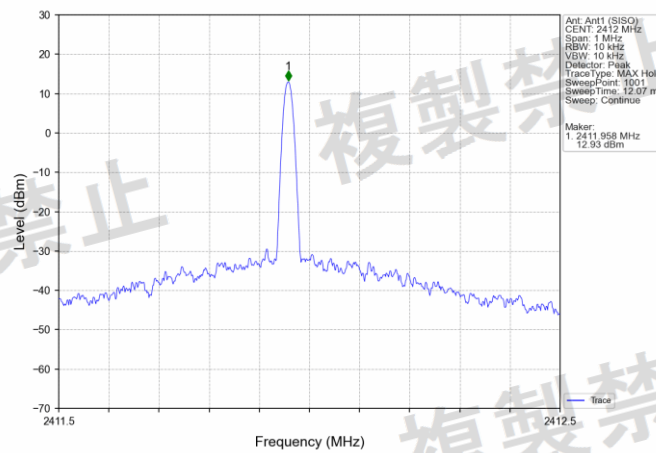
Ant1							
ENV	Mode	TX Type	Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)		Verdict
					Result	Limit	
NTNV	Carrier Wave	SISO	2412	2411.958	-17.41	-50 to 50	Pass
			2472	2471.957	-17.39	-50 to 50	Pass
			2422	2421.959	-16.93	-50 to 50	Pass
			2462	2461.959	-16.65	-50 to 50	Pass



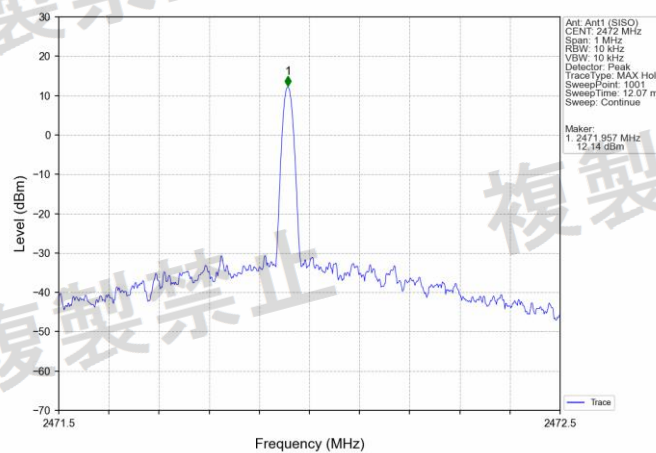
2.2 Test Graph

2.2.1 Ant1

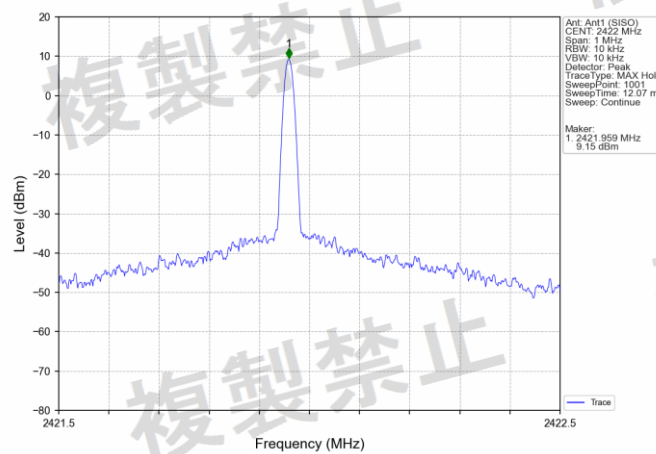
Frequency Error_NTNV_Carrier Wave_2412MHz_Ant1 (SISO)_NTNV



Frequency Error_NTNV_Carrier Wave_2472MHz_Ant1 (SISO)_NTNV

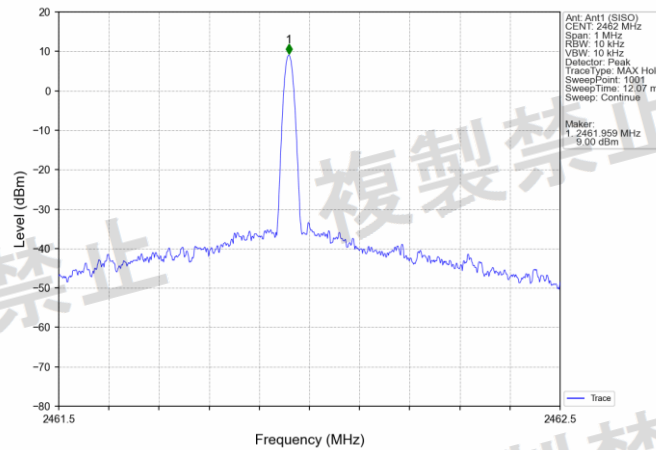


Frequency Error_NTNV_Carrier Wave_2422MHz_Ant1 (SISO)_NTNV





Frequency Error_NTNV_Carrier Wave_2462MHz_Ant1 (SISO)_NTNV





3. OCCUPIED BANDWIDTH

3.1 Test Result

3.1.1 OBW

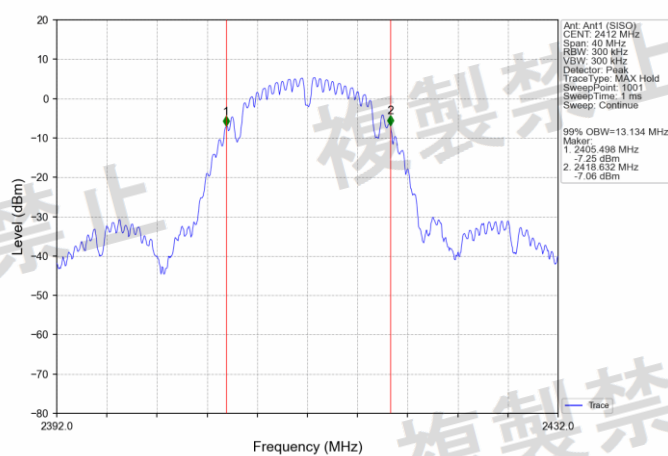
ENV	Mode	TX Type	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
				ANT1	Limit	
NTNV	802.11b	SISO	2412	13.134	≤ 26	Pass
			2472	13.101	≤ 26	Pass
	802.11g	SISO	2412	17.622	≤ 40	Pass
			2472	17.555	≤ 40	Pass
	802.11n (HT20)	SISO	2412	18.494	≤ 40	Pass
			2472	18.433	≤ 40	Pass
	802.11n (HT40)	SISO	2422	36.617	≤ 40	Pass
			2462	36.579	≤ 40	Pass



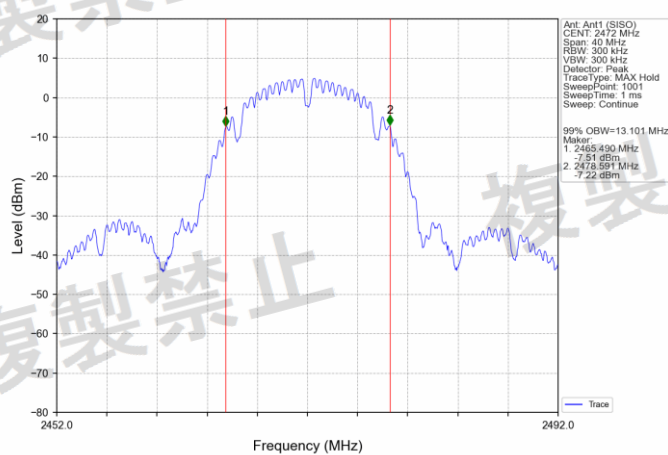
3.2 Test Graph

3.2.1 OBW

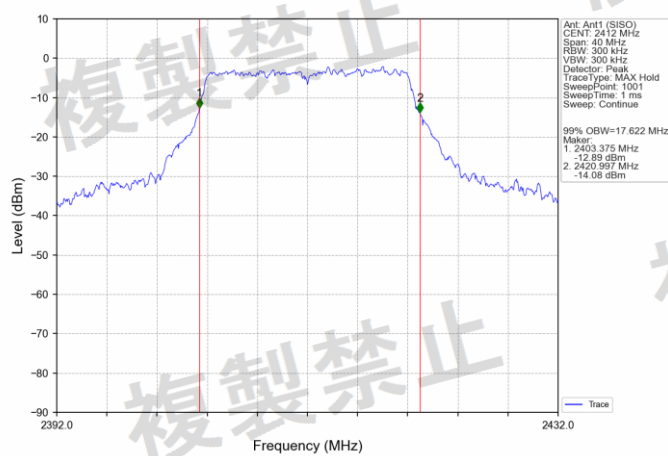
802.11b 2412MHz_Ant1 (SISO)_NTNV



802.11b 2472MHz_Ant1 (SISO)_NTNV

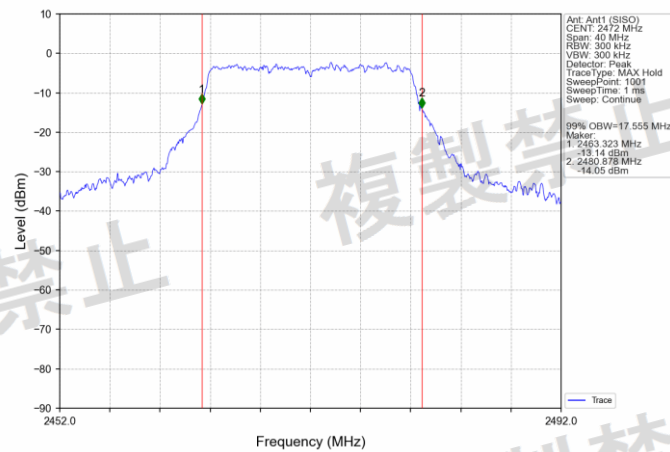


802.11g 2412MHz_Ant1 (SISO)_NTNV

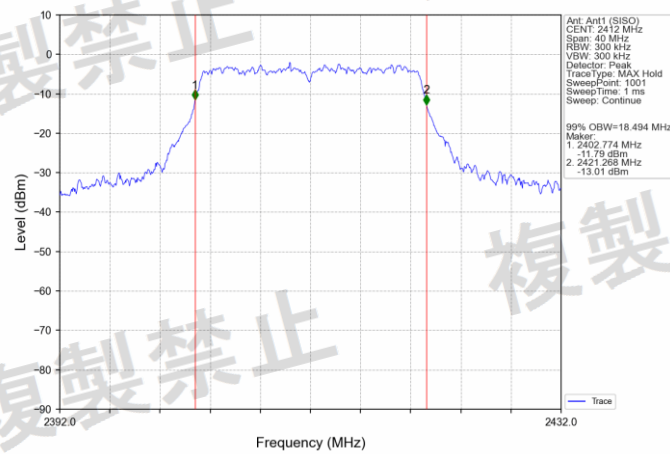




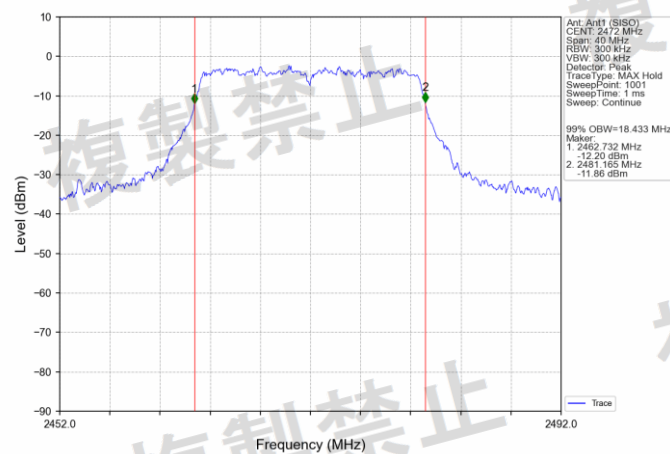
802.11g_2472MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV

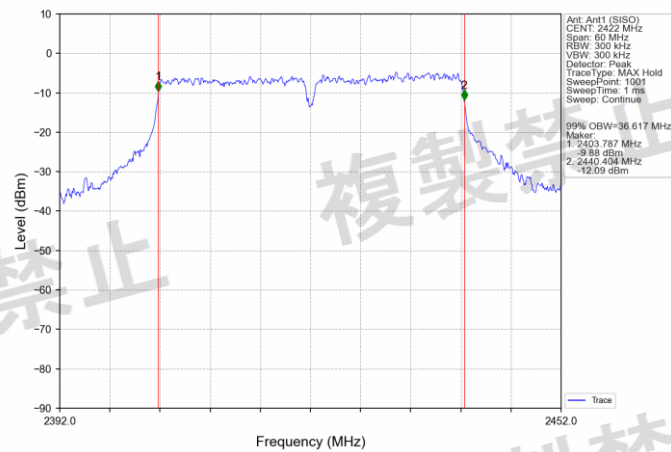


802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

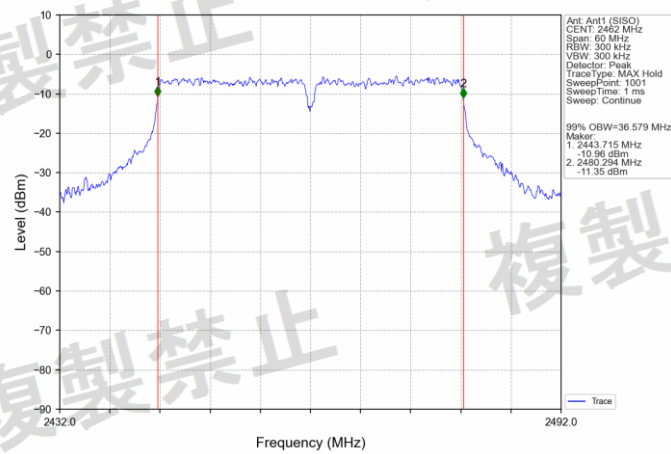




802.11n(HT40) 2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40) 2462MHz_Ant1 (SISO)_NTNV





4. ANTENNA POWER

4.1 Test Result

4.1.1 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	2.001	<=10.00	2	0.05	<=20	Pass
			2472	1	1.805	<=10.00	2	-9.75	<=20	Pass
	802.11g	SISO	2412	1	0.314	<=10.00	0.35	-10.29	<=20	Pass
			2472	1	0.324	<=10.00	0.35	-7.43	<=20	Pass
	802.11n (HT20)	SISO	2412	1	0.333	<=10.00	0.35	-4.86	<=20	Pass
			2472	1	0.335	<=10.00	0.35	-4.29	<=20	Pass
	802.11n (HT40)	SISO	2422	1	0.194	<=5.00	0.2	-3.00	<=20	Pass
			2462	1	0.157	<=5.00	0.2	-21.50	<=20	Pass

ENV	Mode	TXT type	Frequency (MHz)	ANT	Antenna Power (dBm/MHz)	Gain (dBi)	EIRP Power (dBm/MHz)	Limit (dBm/MHz)	Verdict
NTNV	802.11b	SISO	2412	1	3.01	1.84	4.85	<=12.14	Pass
			2472	1	2.56	1.84	4.40	<=12.14	Pass
	802.11g	SISO	2412	1	-5.03	1.84	-3.19	<=12.14	Pass
			2472	1	-4.89	1.84	-3.05	<=12.14	Pass
	802.11n (HT20)	SISO	2412	1	-4.78	1.84	-2.94	<=12.14	Pass
			2472	1	-4.75	1.84	-2.91	<=12.14	Pass
	802.11n (HT40)	SISO	2422	1	-7.12	1.84	-5.28	<=12.14	Pass
			2462	1	-8.04	1.84	-6.20	<=12.14	Pass



5. SPURIOUS EMISSION INTENSITY

5.1 Test Result

5.1.1 TxSe NTN

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	-37.06	0.197	/	/	2.5	Pass
				2387	2400	2396.945	-28.29	1.483	/	/	25	Pass
				2483.5	2496.5	2489.038	-43.27	0.047	/	/	25	Pass
				2496.5	12500	4824.5	-27.58	1.746	-35.88	0.258	2.5	Pass
		2472	1	30	2387	34	-39.89	0.103	/	/	2.5	Pass
				2387	2400	2391.888	-43.55	0.044	/	/	25	Pass
				2483.5	2496.5	2487.309	-29.69	1.074	/	/	25	Pass
				2496.5	12500	4944.5	-31.74	0.670	/	/	2.5	Pass
802.11g	SISO	2412	1	30	2387	2385.5	-32.41	0.574	/	/	2.5	Pass
				2387	2400	2399.974	-21.39	7.261	/	/	25	Pass
				2483.5	2496.5	2483.721	-45.34	0.029	/	/	25	Pass
				2496.5	12500	4822	-34.05	0.394	/	/	2.5	Pass
		2472	1	30	2387	1947	-36.31	0.234	/	/	2.5	Pass
				2387	2400	2398.336	-45.70	0.027	/	/	25	Pass
				2483.5	2496.5	2483.513	-16.68	21.478	-33.16	0.483	25	Pass
				2496.5	12500	2498	-30.12	0.973	/	/	2.5	Pass
802.11n (HT20)	SISO	2412	1	30	2387	2386	-30.19	0.957	/	/	2.5	Pass
				2387	2400	2399.987	-18.48	14.191	-34.04	0.394	25	Pass
				2483.5	2496.5	2489.714	-46.23	0.024	/	/	25	Pass
				2496.5	12500	2519.5	-30.99	0.796	/	/	2.5	Pass
		2472	1	30	2387	31	-43.46	0.045	/	/	2.5	Pass
				2387	2400	2399.116	-45.69	0.027	/	/	25	Pass
				2483.5	2496.5	2483.526	-16.76	21.086	-32.75	0.531	25	Pass
				2496.5	12500	2498	-35.55	0.279	/	/	2.5	Pass
802.11n (HT40)	SISO	2422	1	30	2387	30	-30.88	0.817	/	/	2.5	Pass
				2387	2400	2399.974	-17.94	16.069	-34.36	0.366	25	Pass
				2483.5	2496.5	2484.072	-35.67	0.271	/	/	25	Pass
				2496.5	12500	2613.5	-35.82	0.262	/	/	2.5	Pass
		2462	1	30	2387	31	-31.14	0.769	/	/	2.5	Pass
				2387	2400	2393.253	-39.00	0.126	/	/	25	Pass
				2483.5	2496.5	2483.604	-16.25	23.714	-33.61	0.436	25	Pass
				2496.5	12500	2483.604	-16.25	23.714	-33.61	0.436	25	Pass



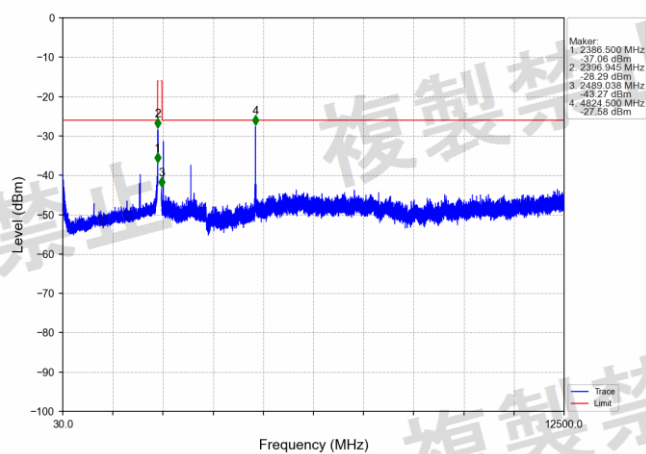
			2496.5	12500	2497.5	-30.98	0.798	/	/	2.5	Pass
--	--	--	--------	-------	--------	--------	-------	---	---	-----	------



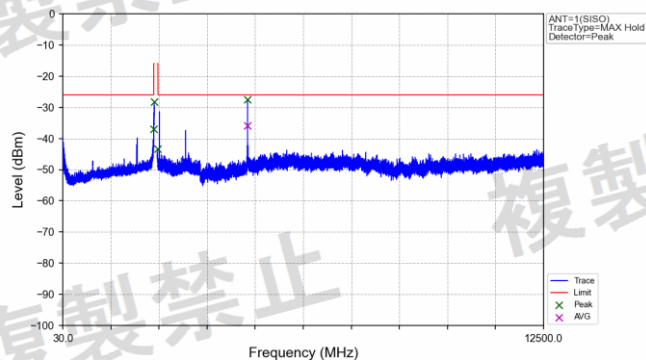
5.2 Test Graph

5.2.1 TxSe NTN

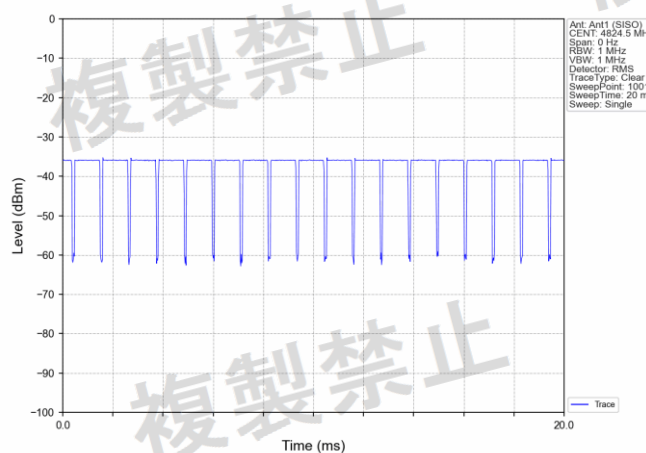
802.11b 2412MHz_Ant1 (SISO) NTN



802.11b 2412MHz_Ant1 (SISO) NTN

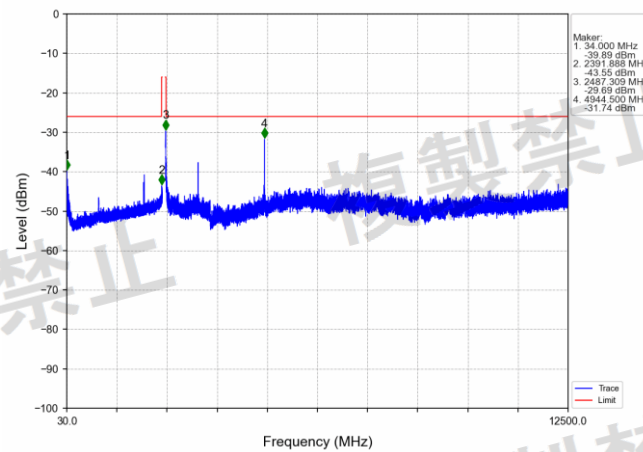


802.11b 2412MHz_Ant1 (SISO) NTN

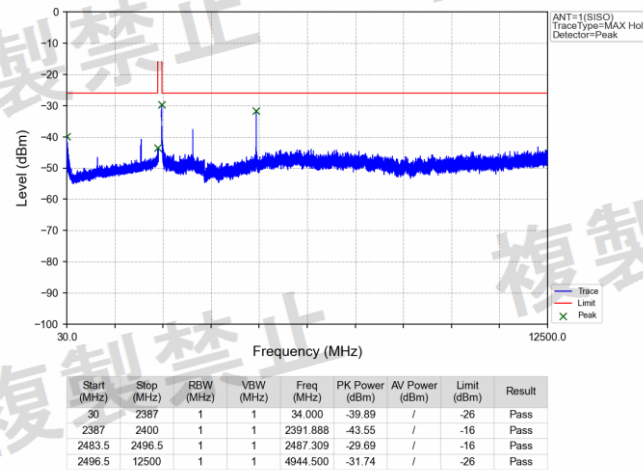




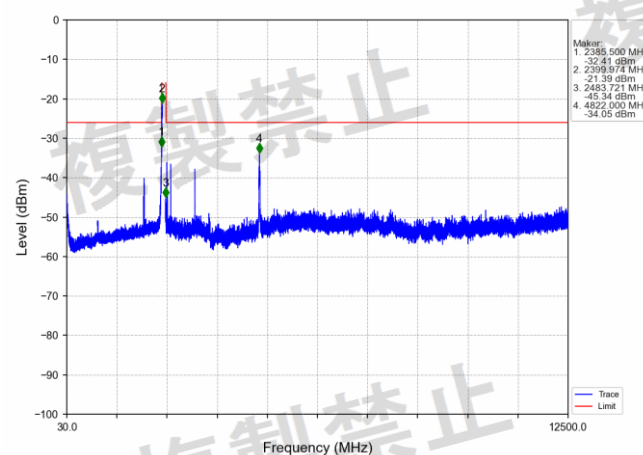
802.11b 2472MHz_Ant1 (SISO)_NTNV



802.11b 2472MHz_Ant1 (SISO)_NTNV

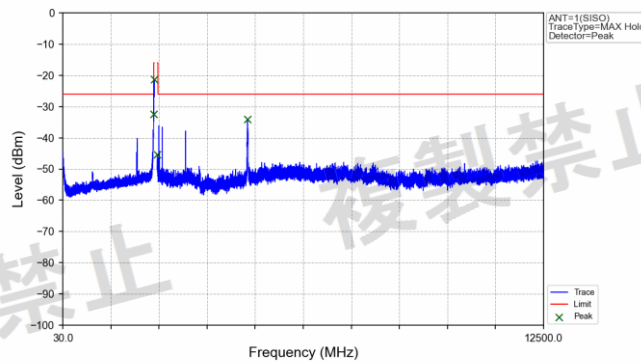


802.11g 2412MHz_Ant1 (SISO)_NTNV



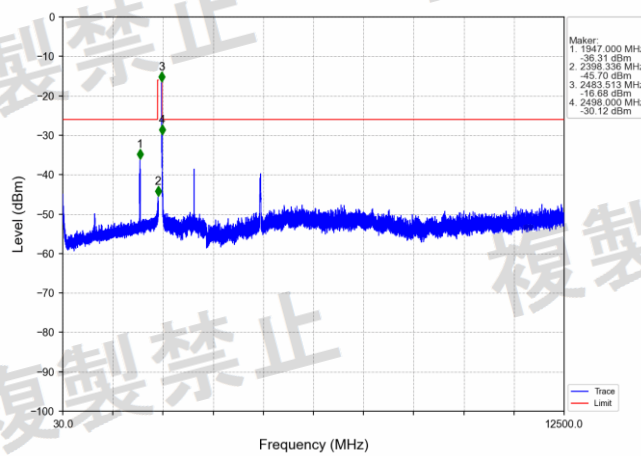


802.11g 2412MHz_Ant1 (SISO)_NTNV

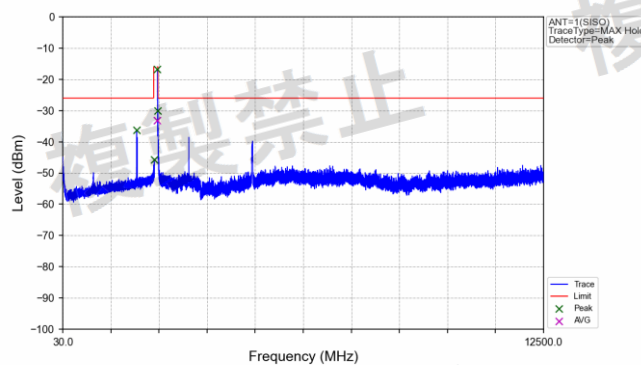


Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	2385.500	-32.41	/	-26	Pass
2387	2400	1	1	2399.974	-21.39	/	-16	Pass
2483.5	2496.5	1	1	2483.721	-45.34	/	-16	Pass
2496.5	12500	1	1	4822.000	-34.05	/	-26	Pass

802.11g 2472MHz_Ant1 (SISO)_NTNV



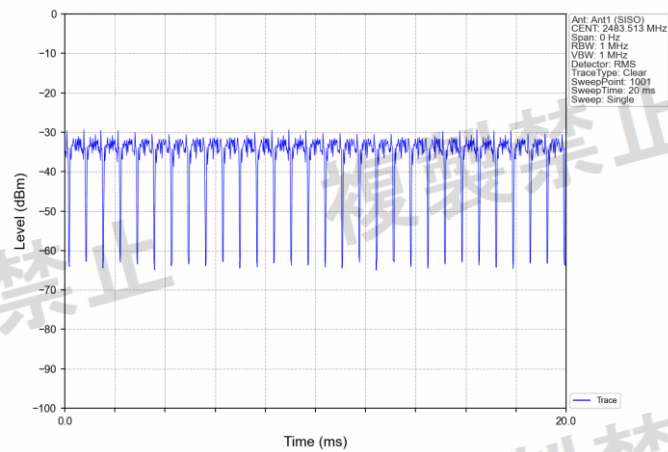
802.11g 2472MHz_Ant1 (SISO)_NTNV



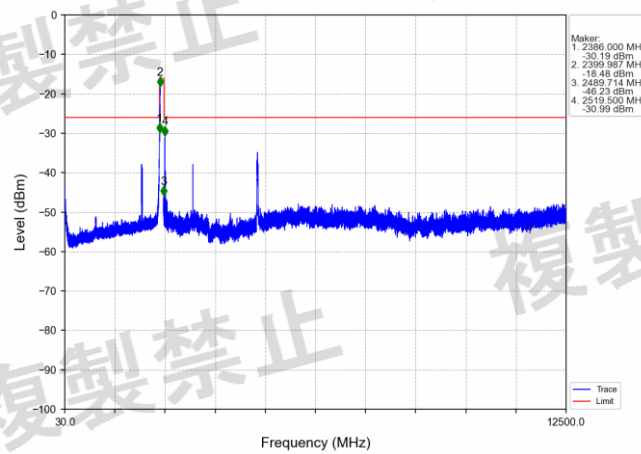
Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	1947.000	-36.31	/	-26	Pass
2387	2400	1	1	2398.336	-45.70	/	-16	Pass
2483.5	2496.5	1	1	2483.513	-16.68	-33.16	-16	Pass
2496.5	12500	1	1	2498.000	-30.12	/	-26	Pass



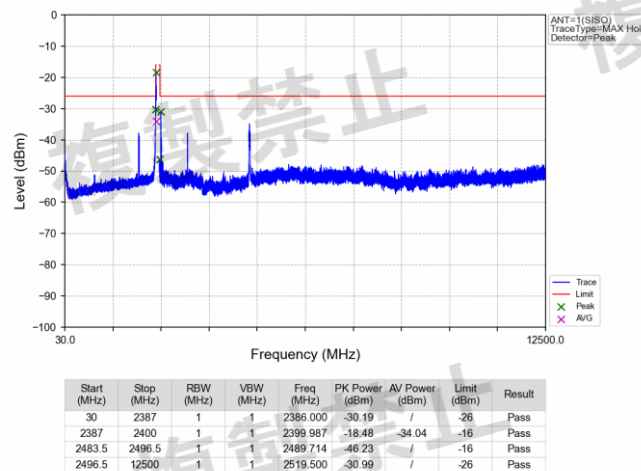
802.11g_2472MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV

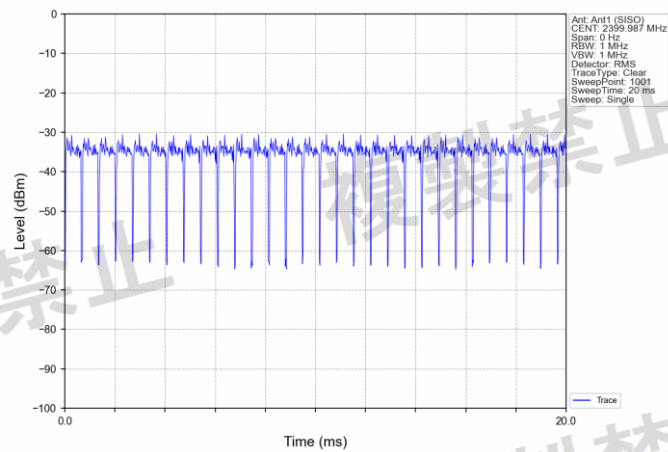


802.11n(HT20)_2412MHz_Ant1 (SISO)_NTNV

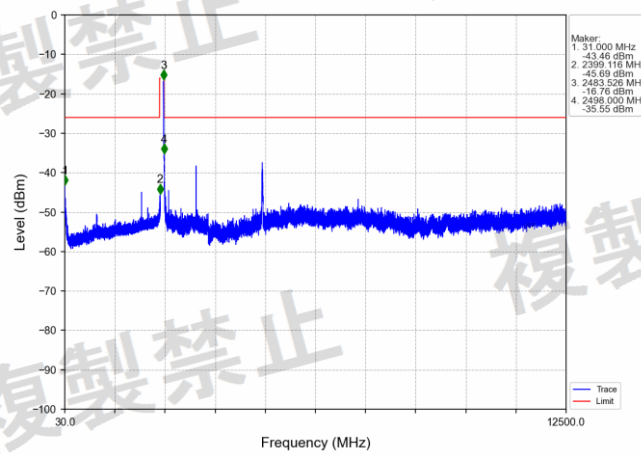




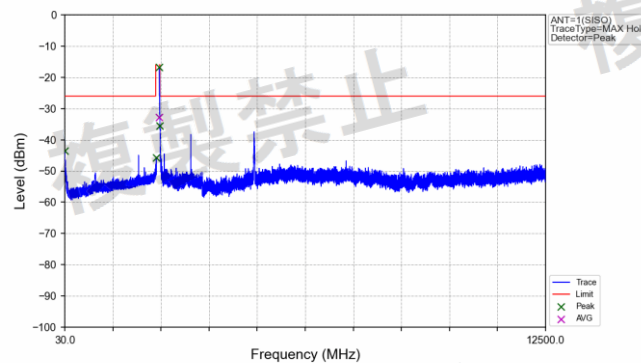
802.11n(HT20) 2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20) 2472MHz_Ant1 (SISO)_NTNV



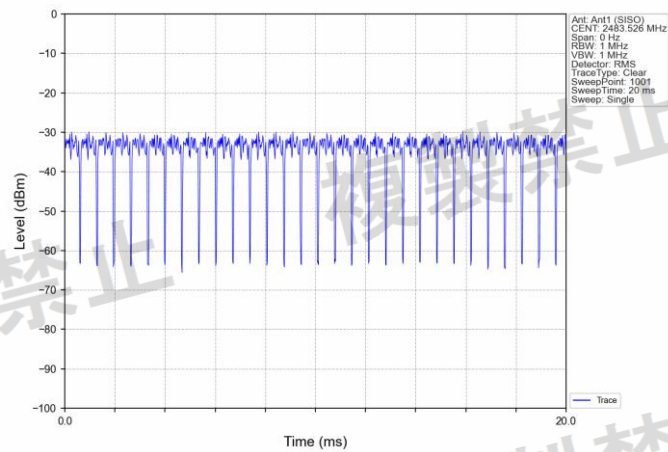
802.11n(HT20) 2472MHz_Ant1 (SISO)_NTNV



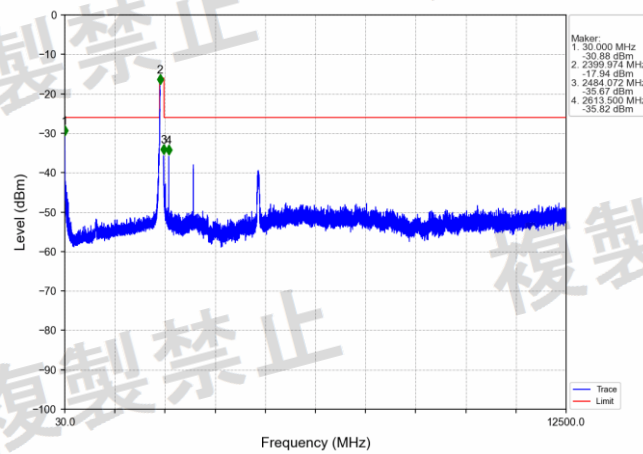
Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	31.000	-43.46	/	-26	Pass
2387	2400	1	1	2399.116	-45.69	/	-16	Pass
2483.5	2496.5	1	1	2483.526	-16.76	-32.75	-16	Pass
2496.5	12500	1	1	2498.000	-35.55	/	-26	Pass



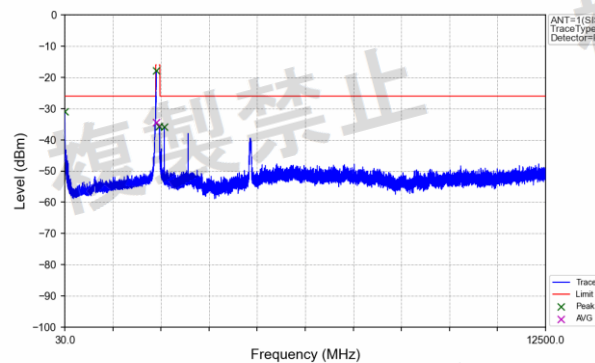
802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



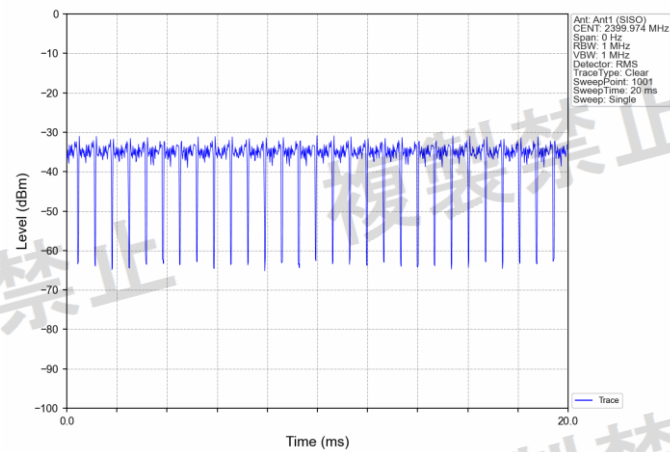
802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



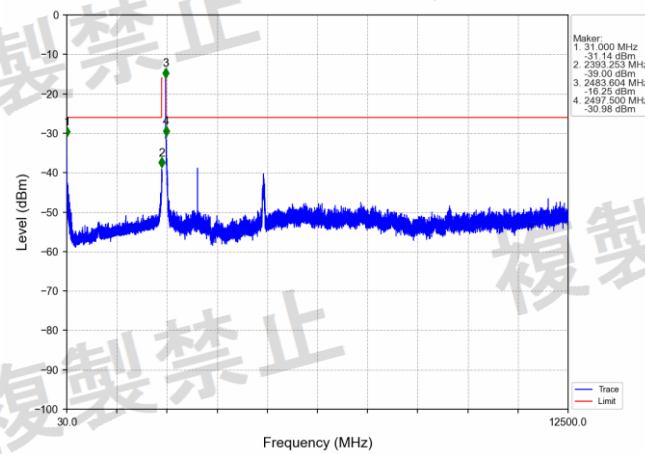
Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	2387	1	1	30.000	-30.88	/	-26	Pass
2387	2400	1	1	2399.974	-17.94	-34.36	-16	Pass
2483.5	2496.5	1	1	2484.072	-35.67	/	-16	Pass
2496.5	12500	1	1	2613.500	-35.82	/	-26	Pass



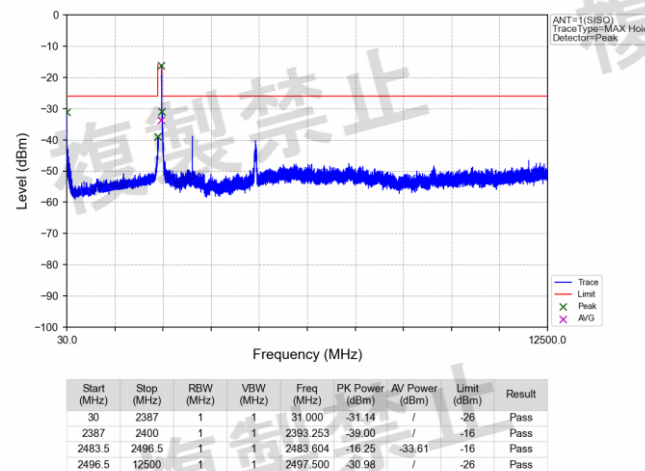
802.11n(HT40) 2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40) 2462MHz_Ant1 (SISO)_NTNV

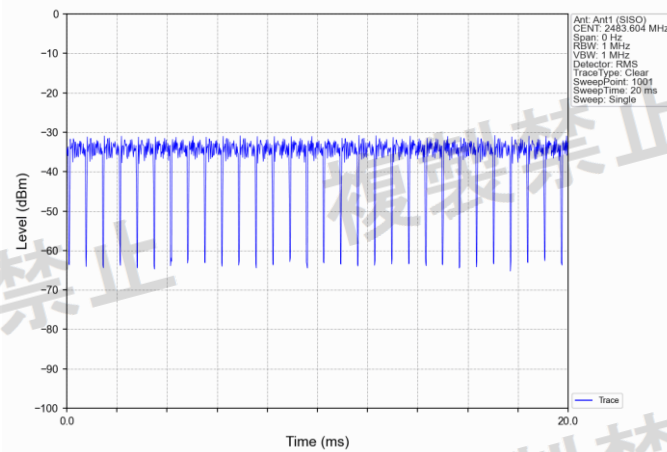


802.11n(HT40) 2462MHz_Ant1 (SISO)_NTNV





802.11n(HT40) 2462MHz_Ant1 (SISO)_NTNV





6. SECONDARY RADIATED EMISSION

6.1 Test Result

6.1.1 RxSe_NTNV

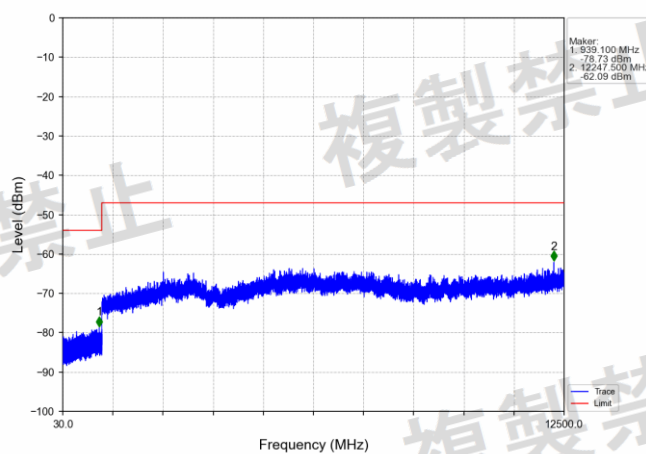
NTNV												
Mode	TX Type	Freq. (MHz)	ANT	Freq. Range		Marker					Limit (nW)	Verdict
				Start (MHz)	Stop (MHz)	Freq. (MHz)	PK Power (dBm)	PK Power (nW)	AV Power (dBm)	AV Power (nW)		
802.11b	SISO	2412	1	30	1000	939.1	-78.73	0.013	/	/	4	Pass
				1000	12500	12247.5	-62.09	0.618	/	/	20	Pass
		2472	1	30	1000	721.95	-78.51	0.014	/	/	4	Pass
				1000	12500	12342.5	-63.12	0.488	/	/	20	Pass
802.11g	SISO	2412	1	30	1000	777.8	-78.46	0.014	/	/	4	Pass
				1000	12500	7745	-63.30	0.468	/	/	20	Pass
		2472	1	30	1000	824.15	-78.46	0.014	/	/	4	Pass
				1000	12500	1941.5	-49.88	10.280	-72.99	0.050	20	Pass
802.11n (HT20)	SISO	2412	1	30	1000	902.25	-79.17	0.012	/	/	4	Pass
				1000	12500	6048.5	-62.85	0.519	/	/	20	Pass
		2472	1	30	1000	905.55	-78.11	0.015	/	/	4	Pass
				1000	12500	12326	-62.34	0.583	/	/	20	Pass
802.11n (HT40)	SISO	2422	1	30	1000	806.8	-78.36	0.015	/	/	4	Pass
				1000	12500	12227	-63.11	0.489	/	/	20	Pass
		2462	1	30	1000	741.35	-78.68	0.014	/	/	4	Pass
				1000	12500	12216.5	-62.74	0.532	/	/	20	Pass



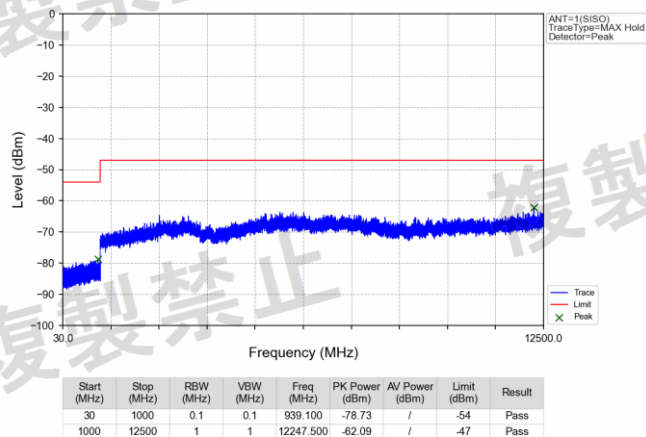
6.2 Test Graph

6.2.1 RxSe NTN

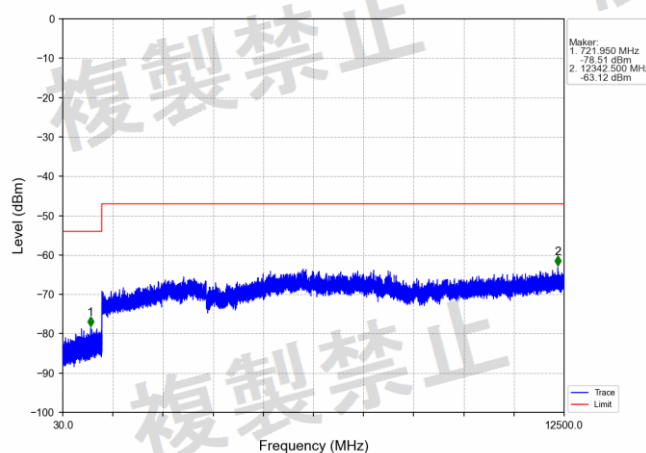
802.11b 2412MHz_Ant1 (SISO)_NTNV



802.11b 2412MHz_Ant1 (SISO)_NTNV

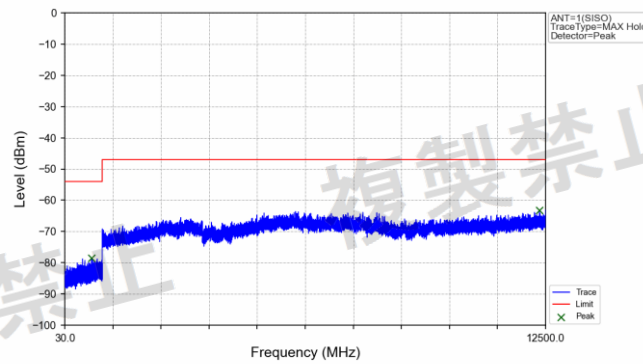


802.11b 2472MHz_Ant1 (SISO)_NTNV



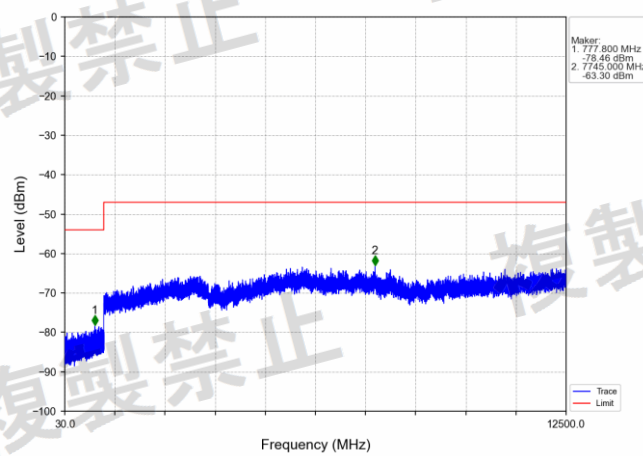


802.11b 2472MHz_Ant1 (SISO)_NTNV

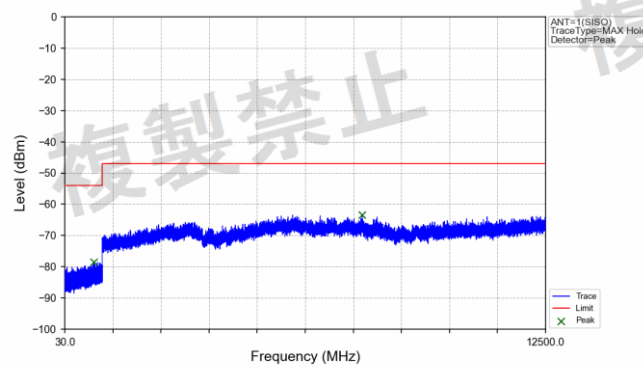


Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	721.950	-78.51	/	-54	Pass
1000	12500	1	1	12342.500	-63.12	/	-47	Pass

802.11g 2412MHz_Ant1 (SISO)_NTNV



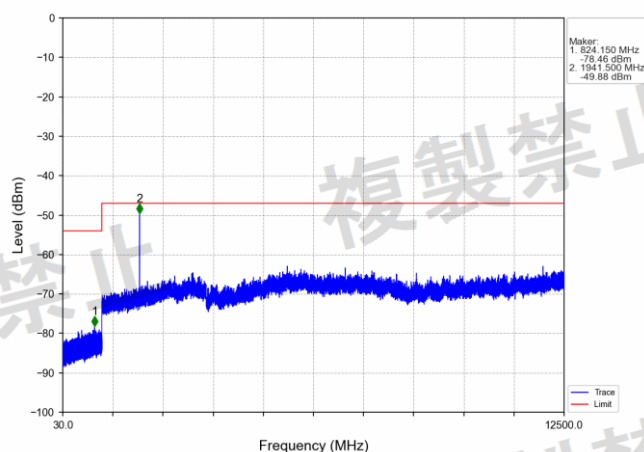
802.11g 2412MHz_Ant1 (SISO)_NTNV



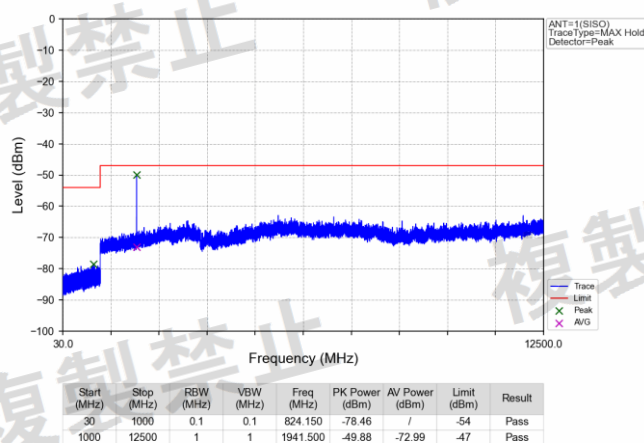
Start (MHz)	Stop (MHz)	RBW (MHz)	VSW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	777.800	-78.46	/	-54	Pass
1000	12500	1	1	7745.000	-63.30	/	-47	Pass



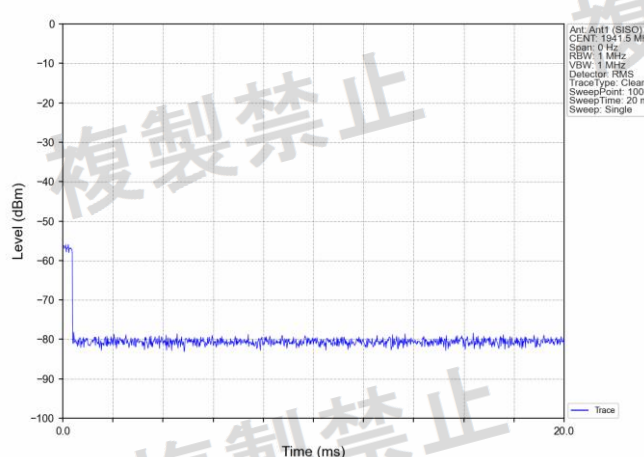
802.11g 2472MHz_Ant1 (SISO) _NTNV



802.11g 2472MHz_Ant1 (SISO) _NTNV

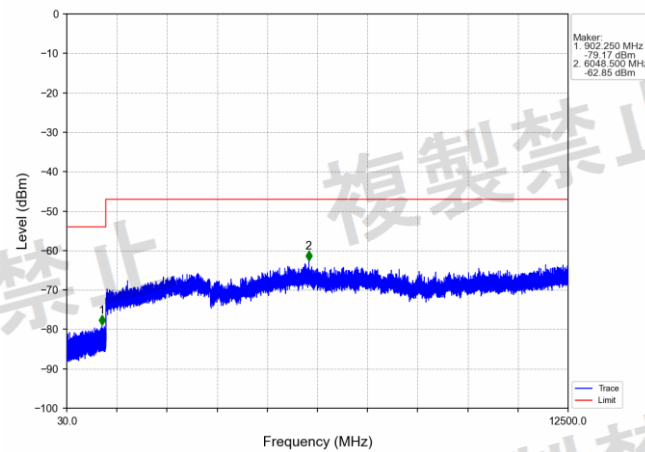


802.11g 2472MHz_Ant1 (SISO) _NTNV

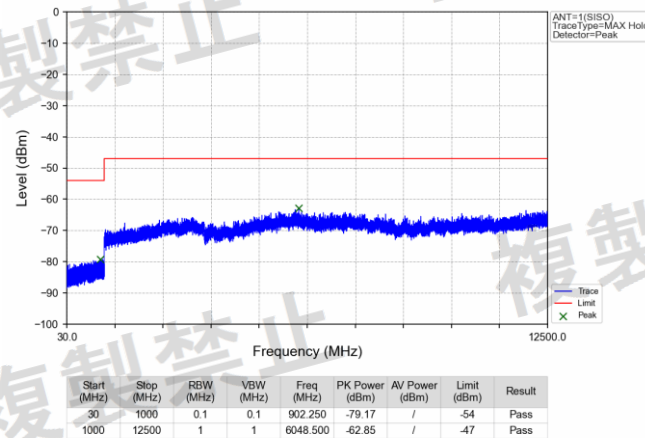




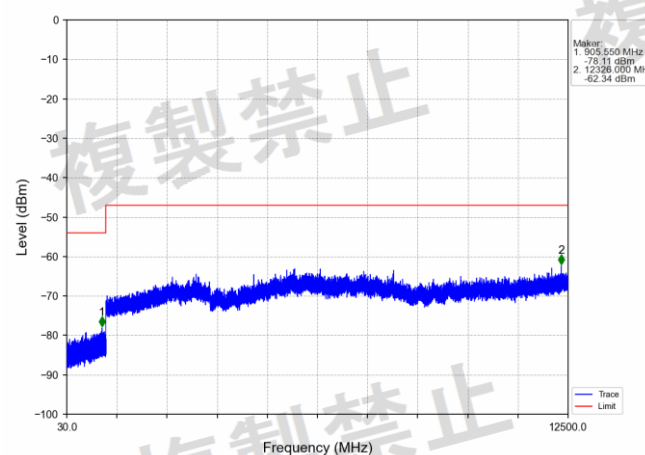
802.11n(HT20) 2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20) 2412MHz_Ant1 (SISO)_NTNV

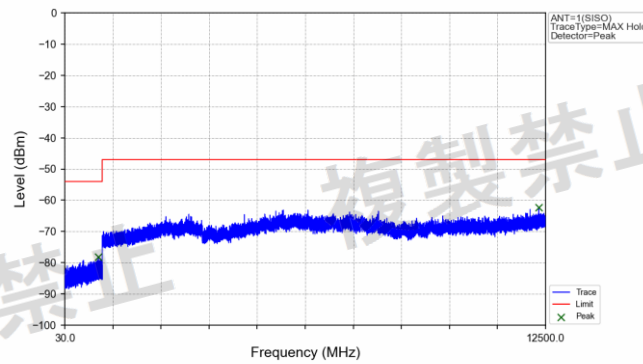


802.11n(HT20) 2472MHz_Ant1 (SISO)_NTNV



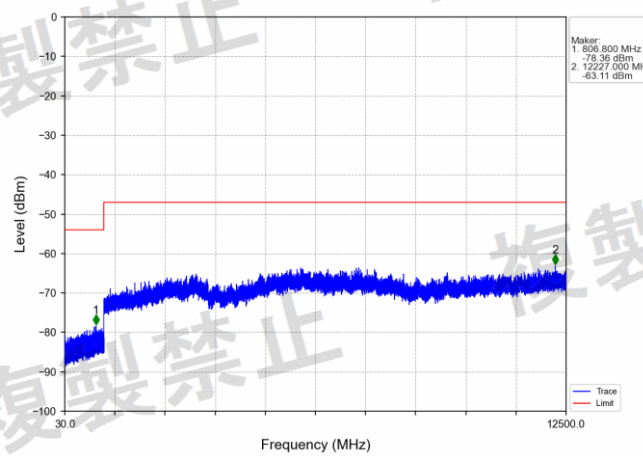


802.11n(HT20)_2472MHz_Ant1 (SISO)_NTNV

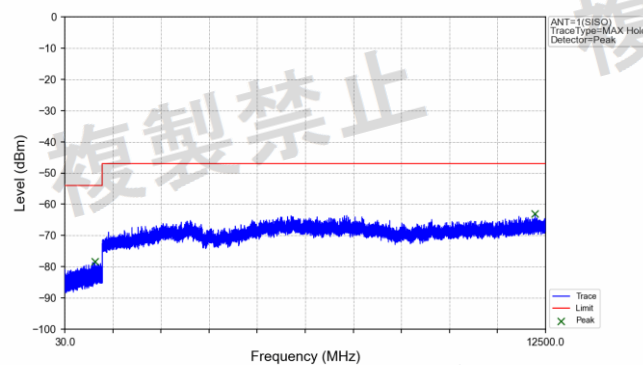


Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	905.550	-78.11	/	-54	Pass
1000	12500	1	1	12326.000	-62.34	/	-47	Pass

802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



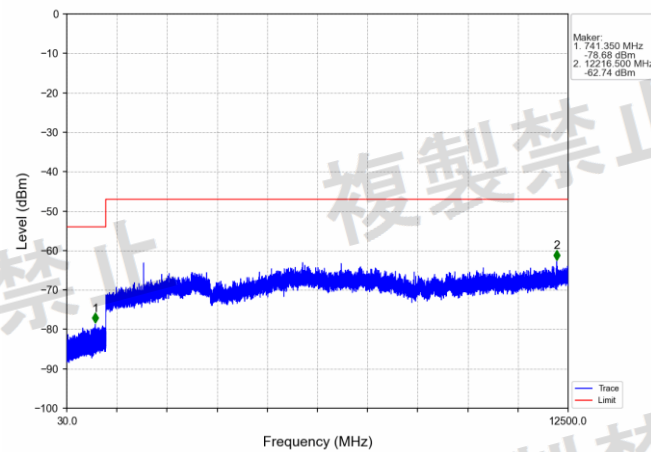
802.11n(HT40)_2422MHz_Ant1 (SISO)_NTNV



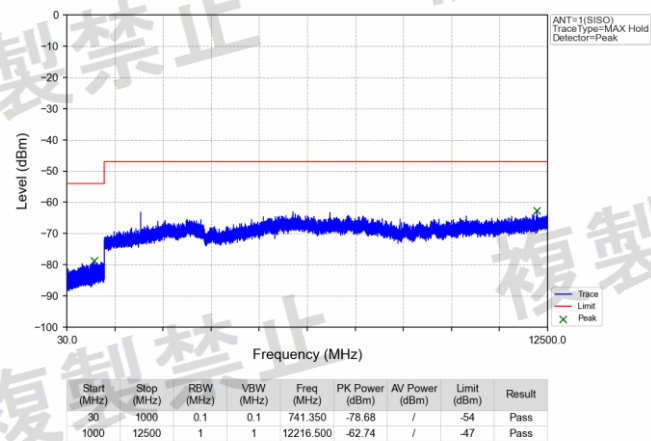
Start (MHz)	Stop (MHz)	RBW (MHz)	VBW (MHz)	Freq (MHz)	PK Power (dBm)	AV Power (dBm)	Limit (dBm)	Result
30	1000	0.1	0.1	806.800	-78.36	/	-54	Pass
1000	12500	1	1	12227.000	-63.11	/	-47	Pass



802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV



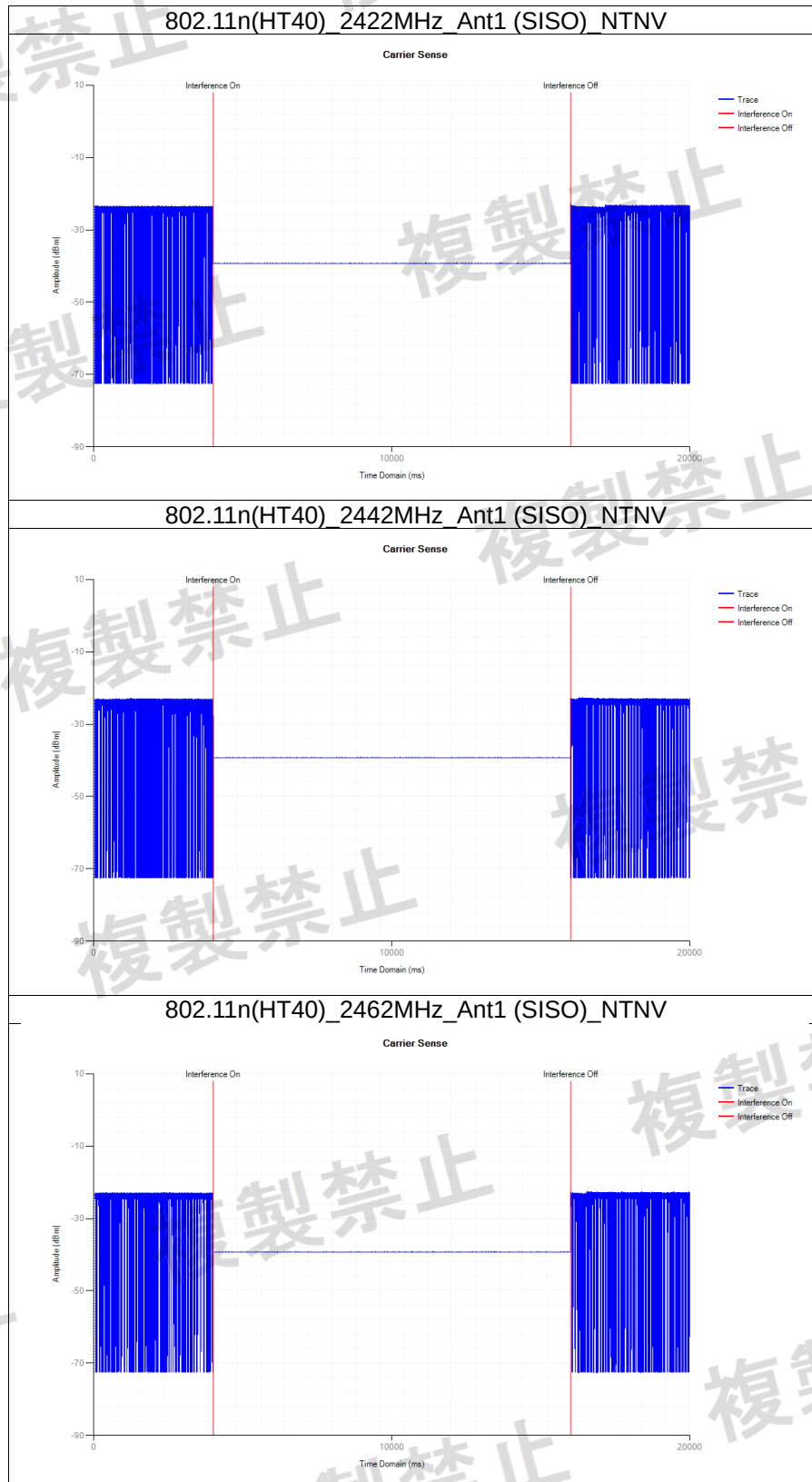
802.11n(HT40)_2462MHz_Ant1 (SISO)_NTNV





7.CARRIER SENSE

Condition	Mode	Frequency (MHz)	Verdict
NVNT	n40	2422	Pass
NVNT	n40	2442	Pass
NVNT	n40	2462	Pass





APPENDIX II - TEST SETUP PHOTOS





APPENDIX III - PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS

Note: Please see the attached SPOTTER S_EUT Photos.

※※※※※END OF THE REPORT※※※※※