TEST REPORT

Applicant:	Beijing ZenVue Technology Co., Ltd.
Address:	Room 605-5D, Building 6, Yard 10, Kegu 1st Street, BDA, Beijing
Equipment Type:	Halliday G2
Model Name:	Halliday G2
Brand Name:	Halliday
Test Standard:	MIC Notice No.88 Appendix No.43 Ordinance of MPT No.37, 1981: Article 2 paragraph 1 item (19)
Sample Arrival Date:	May 07, 2026
Test Date:	May 14, 2026 – Jun. 30, 2026
Date of Issue:	Jul. 27, 2026

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Yang Wenxuan **Checked by:** Li Ganming **Approved by:** Liao Jianming (Technical Director)

Revision History

Version	Issue Date	Revisions
Rev. 01	Jul. 27, 2026	Initial Issue

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1. GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	601, Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☑ Building 2, Intelligent Connected Vehicle Industrial Park, No.55, Xiangshan Road, Luotian Community, Yanluo Sub-district, Bao'an District, Shenzhen, Guangdong
	☐ 1/F., Building B, Ganghongji High-Tech Intelligent Industrial Park, No.1008, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong

2. PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Beijing ZenVue Technology Co., Ltd.
Address	Room 605-5D, Building 6, Yard 10, Kegu 1st Street, BDA, Beijing

2.2 Manufacturer Information

Manufacturer	Beijing ZenVue Technology Co., Ltd.
Address	Room 605-5D, Building 6, Yard 10, Kegu 1st Street, BDA, Beijing

2.3 General Description for Equipment under Test (EUT)

EUT Name	Halliday G2
Under Test Model Name	Halliday G2
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20), 802.11ac(VHT20), 802.11ax(HE20)

The requirement for the following technical information of the EUT was tested in this report:

Frequency Range	802.11b/g/n/ac/ax(20 MHz): 2.412 GHz - 2.472 GHz f_c = 2412 MHz + (N-1)*5 MHz, where - f_c = “Operating Frequency” in MHz, - N = “Channel Number” with the range from 1 to 13.
Equipment Type (LBT / non- LBT)	Adaptive equipment LBT based Detect and Avoid
Antenna Type	Ceramic antenna
Antenna Gain	1.05 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)
Declare Max rated power density	2.80 mW/MHz

Modulation technology	Modulation Type	Transfer Rate (Mbps)(Single RF path)
DSSS (802.11b)	DBPSK	1
	DQPSK	2
	CCK	5.5/11
OFDM (802.11g)	BPSK	6/9
	QPSK	12/18
	16QAM	24/36
	64QAM	48/54
OFDM (802.11n-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2
OFDMA (802.11ac-20 MHz)	BPSK	6.5/7.2
	QPSK	13/19.5/14.4/21.7
	16QAM	26/39/28.9/43.3
	64QAM	52/58.5/65/57.8/65/72.2
OFDMA (802.11ax-20 MHz)	BPSK	8.1/8.6
	QPSK	16.3/24.4/17.2/25.8
	16QAM	32.5/48.8/34.4/51.6
	64QAM	65/73.1/81.3/68.8/77.4/86

3. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Part	Description	Channel		Test Mode	Data Rate	Verdict
5.1	Frequency Error	13/7/1	3/7/11	Un-modulation	/	Pass
5.2	Occupied Bandwidth	13/7/1	3/7/11	11b/11g/11n20/11ac20/11ax20	1/6/6.5/6.5/4/Mbps	Pass
5.3	Unwanted Emission Intensity	13/7/1	3/7/11	11b/11g/11n20/11ac20/11ax20	1/6/6.5/6.5/4/Mbps	Pass
5.4	Antenna Power Error	13/7/1	3/7/11	11b/11g/11n20/11ac20/11ax20	1/6/6.5/6.5/4/Mbps	Pass
5.5	Limitation of Collateral Emission of Receiver	13/7/1	3/7/11	11b/11g/11n20/11ac20/11ax20	1/6/6.5/6.5/4/Mbps	Pass
5.6	Carrier sensing function (1)	--	N/A	N/A	N/A	N/A
5.7	Carrier sensing function (2)	N/A	N/A	N/A	N/A	N/A
5.8	Transmission Antenna Gain (EIRP Antenna Power)	N/A	N/A	N/A	N/A	N/A[Note2]
5.9	Transmission Radiation Angle Width (3dB Beamwidth)	N/A	N/A	N/A	N/A	N/A[Note2]
5.10	Radio Interference Prevention Capability	--	--	--	--	Pass
--	Number of Camiers within 1MHz Bandwidth in OFDM	13/7/1	3/7/11	11b/11g/11n20/11ac20/11ax20	1/6/6.5/6.5/4/Mbps	Pass[Note4]
--	Construction Protection Confirmation	--	--	--	--	Pass

Note 1: The tests were performed according to the method of measurements prescribed in MIC Ordinance Regulating Radio Equipment Section 4.17 of Article 49.20.
Note 2: When the EIRP is less than 12.14 dBm/MHz, it is not necessary.
Note 3: For each 1 MHz bandwidth in OFDM, there should be at least 1 carrier.

The test channel corresponding to the frequency list

Mode	Channel	Channel Number	Frequency (MHz)
802.11b	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11g	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11n20	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11ac20	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412
802.11ax20	HIGH/MIDDLE/LOW(H/M/L)	13/7/1	2472/2442/2412

3.1 MEASUREMENT UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameters	Uncertainty
Frequency Error / 99% Bandwidth	(3.2 × f × 10^{-6}) Hz
Antenna Power	1.82 dB
TX-RX Spurious Emissions	1.84 dB
Transmission Antenna Gain	5.36 dB
Temperature	0.8℃
Humidity	4%
DC / AC Power Source	0.04%
Note: "f" is the nominal signal frequency in Hz.	

4. GENERAL TEST CONFIGURATIONS

4.1 Test Environment Conditions

During the measurement, the normal environment conditions were within the listed ranges:

Relative Humidity (%)	46% to 69%	
Atmospheric Pressure (kPa)	86 kPa to 106 kPa	
Temperature	+20.2℃ to +25.4℃	
Working Voltage of the EUT	NV (Normal Voltage)	3.920V
	LV (Low Voltage)	3.528V
	HV (High Voltage)	4.312V

Note: When the input voltage deviation from the external power supply is+/- 10%, and the voltage deviation provided to the radio part of the EUT (excluding the power circuit) is kept within+/- 1%, only the normal voltage is used for testing.

Voltage fluctuation results:

The measuring point is a component with schematic number

External power supply	Rated operating voltage of EUT	Actual measured voltage of EUT	± 1% voltage operating range
3.9200 V	3.300 V	3.302 V	3.267 V~3.333 V
3.5280 V	3.300 V	3.314 V	3.267 V~3.333 V
4.3120 V	3.300 V	3.309 V	3.267 V~3.333 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Calibration Company	Calibration Address	Calibration By	Cal. Date	Cal. Due	Calibration Method
Power Sensor	KEYSIGHT	U2063XA	MY58000247	GUANGZHOU NEM METROLOGY&TEST TECHNOLGY CO.,LTD.	2/F.,Buiding .No.176Hedong Road,Liwan District,Guangzhou,Guangdong,China	Liwengeng	2025.06.16 2026.06.01	2026.06.15 2027.05.31	c)
multimeter	Fluke	289	44860089	Ti Testing & Certification Group Co., Ltd. Shenzhen Branch	103, Building B, Ganghongji High tech Intelligent Industrial Park, No. 1008 Songbai Road, Nanshan District, Shenzhen	Huangguoliang	2025.07.09	2026.07.08	c)
Spectrum Analyzer	KEYSIGHT	N9020A	MY56060183	GUANGZHOU NEM METROLOGY&TEST TECHNOLGY CO.,LTD.	2/F.,Buiding .No.176Hedong Road,Liwan District,Guangzhou,Guangdong,China	Liwengeng	2025.06.16 2026.06.01	2026.06.15 2027.05.31	c)
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	GUANGZHOU NEM METROLOGY&TEST TECHNOLGY CO.,LTD.	2/F.,Buiding .No.176Hedong Road,Liwan District,Guangzhou,Guangdong,China	Huangguoliang	2026.03.24	2027.03.23	c)

Note:

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

b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)

c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)

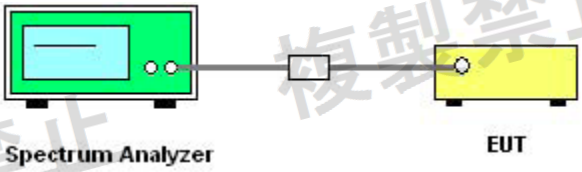
d) Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to c)

4.3 Test Software List

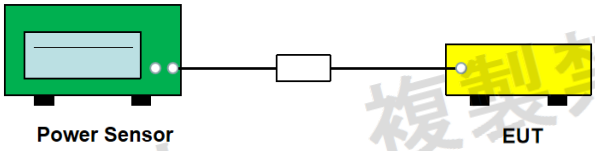
Description	Manufacturer	Software Version	Serial No.	Applicable test Setup
BL410R	BALUN	V2.1.1.488	N/A	The section 4.4.1

4.4 Description of Test Setup

4.4.1 For Antenna Port Test

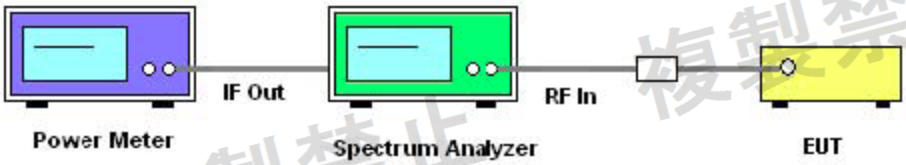


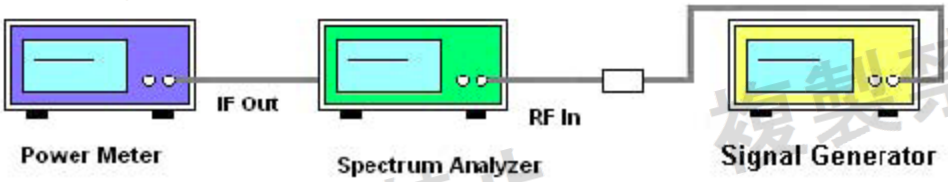
(Diagram 1)



(Diagram 2)

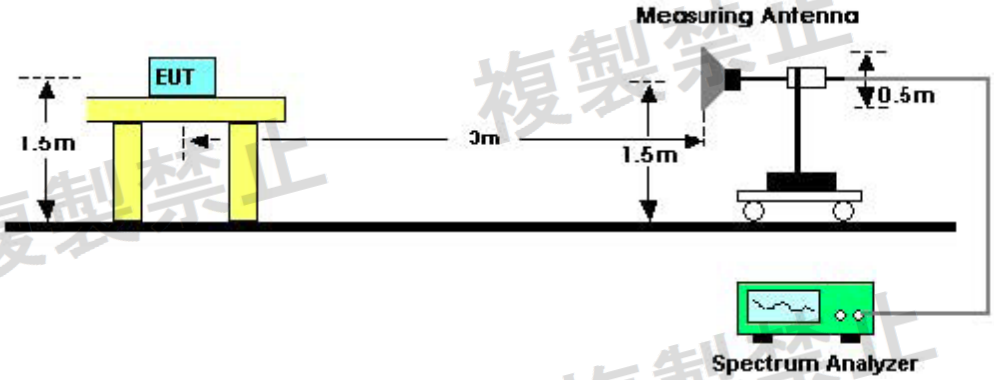
4.4.2 For Antenna Power Error Test



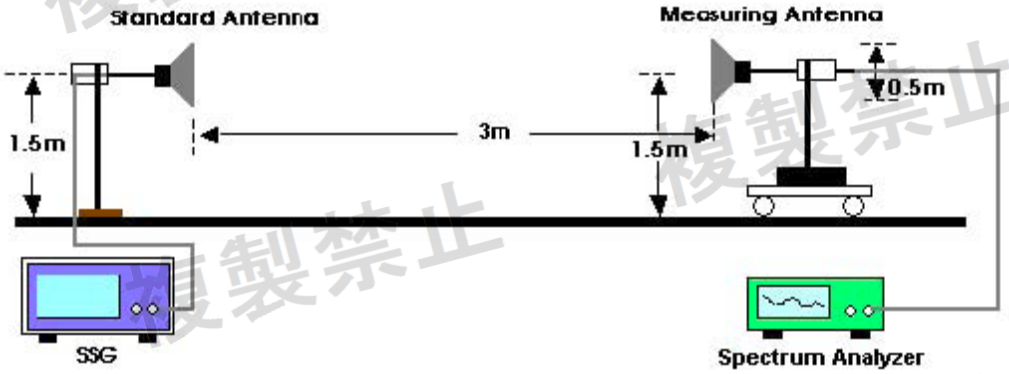


(Diagram 3)

4.4.3 For EIRP Antenna Power Test

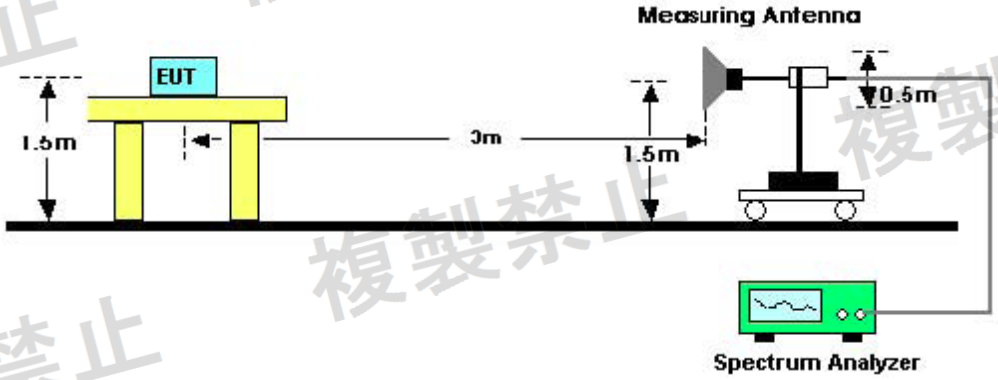


(Diagram 4)



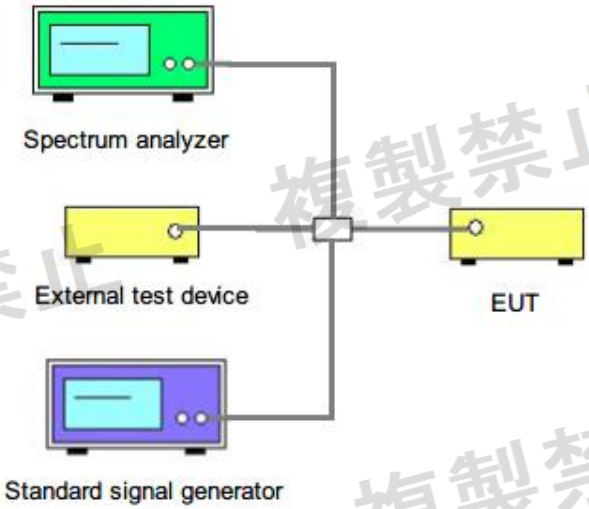
(Diagram 5)

4.4.4 For 3dB Beamwidth Test

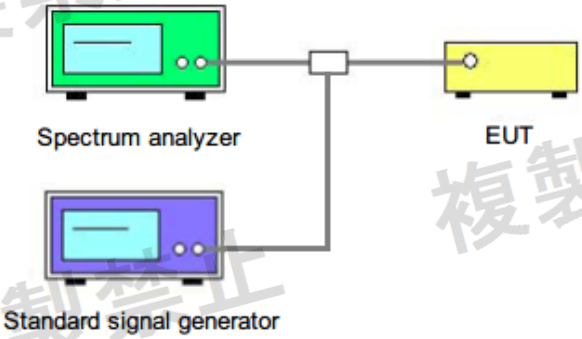


(Diagram 6)

4.4.5 For Carrier sensing function Test



(Diagram 7)



(Diagram 8)

5. TEST ITEMS

5.1 Frequency Error Measurement

5.1.1 Limit

Item	Limits
Frequency Tolerance	≤±50 ppm

5.1.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

1 Frequency accuracy of SA shall be less than 10% of limits tolerance (5 ppm)

2 Setting of SA is following as: RB:1 kHz / VB:3 kHz / SPAN: 50 kHz

3 Center Frequency: The center frequency of testing for EUT

4 Sweep time: Auto

5 Sweep mode: Continuous sweep

6 Detect mode: Positive peak

7 Mark function: Frequency Counter (Resolution 100 Hz)

8 EUT have transmitted absence of modulation signal and fixed channelize. f is using the mark cursor to mark the peak frequency value，fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc\times10^{6}$ppm and the limit is less than ±50 ppm

5.1.4 Test Deviation

There is no deviation with the original standard.

5.1.5 EUT Operation during Test

The EUT was placed on the test table and programmed in un-modulation function.

5.1.6 Test Result

Please refer to ANNEX A.1.

5.2 Occupied Bandwidth

5.2.1 Limit

Item	Limits
Occupied Band Width	FHSS≦83.5MHz; OFDM(20M)≦26MHz; 26MH≦OFDM(40M)≦40MHz; DSSS≦26MHz; Others≦26MHz

5.2.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

1 Set the spectrum analyzer as follows:

Center frequency: Test frequency
Span: Approximately 2 to 3.5 times nominal bandwidth
Resolution bandwidth: Approximately 3% or less nominal bandwidth
Video bandwidth: equivalent to resolution bandwidth
Sweep time: auto
Sweep mode: Continuous sweep
Detection: Positive peak
Trace mode: Maximum hold

2 After repeating sweeps until the display shows steady data, store the values at all data points into the computer array variables.

3 Convert the dB values at all data points to antilogarithm on the power dimension.

4 Obtain sum total of the power at all data points, and store it as “total power”.

5 Accumulate the power at each data point sequentially upward from the lowest frequency and obtain the limit data point where the accumulated power becomes 0.5% (5% for spreading bandwidth) of the “total power”. Then convert the limit data point into frequency and store it as “lower limit frequency”

6 Accumulate the power at each data point sequentially downward form the highest frequency and obtain the limit data point where the accumulated power becomes 0.5% (5% for spreading bandwidth) of the “total power”. Then convert the limit data point into frequency and store it as “upper limit frequency”.

5.2.4 Test Deviation

There is no deviation with the original standard.

5.2.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.2.6 Test Result

Please refer to ANNEX A.2.

5.3 Unwanted Emission Intensity Measurement

5.3.1 Limit

Item	Limits
TX Spurious Emission	≤2.5 μW/MHz (30≤f≤1000 MHz) , ≤2.5 μW/MHz (1000 MHz≤f<2387 MHz ; 2496.5 MHz<f)
	≤25 μW/MHz (2387 MHz≤f<2400 MHz) and (2483.5 MHz<f≤2496.5 MHz)

5.3.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

1 EUT have transmitted the maximum modulation signal and fixed channelize.

2 Setting of SA is following as: RBW/VBW = 1MHz; / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold.

3 Setting of SA is following as 30 MHz and stop frequency 1000 MHz Then to mark peak reading value + cable loss shall be less than 2.5 μW/MHz.

4 Setting of SA is following as 1000 MHz and stop frequency 2387 MHz Then to mark peak reading value + cable loss shall be less than 2.5 μW/MHz.

5 SA adjusted to start frequency 2387 MHz and stop frequency 2400 MHz. Then to mark peak reading value + cable loss shall be less than 25 μW/MHz.

6 SA adjusted to start frequency 2483.5 MHz and stop frequency 2496.5 MHz Then to mark peak reading value + cable loss shall be less than 25 μW/MHz.

7 SA adjusted to start frequency 2496.5 MHz and stop frequency 12500 MHz Then to mark peak reading value + cable loss shall be less than 2.5 μW/MHz.

8 Measure side band spurious as follows: For 2.4 GHz band: 2374 MHz~2400 MHz and 2483.5 MHz~2509.5 MHz RBW = VBW = 30 kHz, Result_Value = Meaured_Value + 15.2 [dBm].

9 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.

5.3.4 Test Deviation

There is no deviation with the original standard.

5.3.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.3.6 Test Result

Please refer to ANNEX A.3.

5.4 Antenna Power Error Measurement

5.4.1 Limit

Item	Limits
Antenna Power Density	a) FH,FH+DS, or FH+OFDM form 2427 - 2470.75 MHz: ≦3 mW/MHz b) DS but other than a) from 2400~2483.5 MHz: ≦10 mW/MHz c) OFDM, but other than a): For OCB of 26MHz or less: ≦10 mW/MHz For OCB of over 26 MHz to 40 MHz: ≦5 mw/MHz d) Other than a), b) and c): ≦10 mW
Antenna Power Error	+20% (Base on manufacturer declare antenna power density)

5.4.2 Test Setup

See section 4.3.2 for test setup description for the antenna power error measurement. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The following table is the setting of the spectrum.

Spectrum Parameter	Setting
Span Frequency	0MHz
RB/VB	1MHz
Detector	Positive Peak
Trace	Max hold
Sweep Time	Auto

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s

1 Measure equivalent noise bandwidth at 1 MHz resolution bandwidth of the spectrum analyzer and obtain a correction value used for correcting the resolution bandwidth into 1 MHz equivalent bandwidth. However, in case that the spreading bandwidth is 1 MHz or less, correction using the measured equivalent noise bandwidth is not required.

2 The attenuator shall be adjusted to supply an optimum input level to the spectrum analyzer.

3 Set the spectrum analyzer as follows to search for frequency giving the maximum antenna power:

Centre Frequency: Test frequency

Frequency sweep width: Approximately twice the occupied bandwidth

Resolution bandwidth: 1MHz

Video bandwidth: Approximately 3 times the resolution bandwidth (e.g. 3 MHz)

Y-axis scale: 10 dB / div

Sweep time: Minimum time to ensure the measuring accuracy (In case of burst wave, one burst shall be included in one sample at least.)

Trigger condition: Free-run

Number of data points: 1001 points or more

Sweep mode: Continuous sweep

Detection mode: Positive peak

Indication mode: Maximum hold

4 Set the spectrum analyzer as follows to measure antenna power. Prior to the measurement, calibrate indication of the power meter for the indication at EUT output in the condition that the power meter is connected to IF output of the spectrum analyzer.

Center frequency: A frequency giving the maximum power (searched frequency);

Frequency sweep width: 0 Hz;

Resolution bandwidth: 1 MHz;

Sweep mode: Continuous sweep.

5 When using the calculation function of the spectrum analyzer to measure antenna power , the settings of the spectrum analyzer are as follows :

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

Frequency sweep width:10MHz

Operation bandwidth:1MHz

Resolution bandwidth: 30kHz to 300kHz

Video bandwidth: Approximately 3 times the resolution bandwidth

Y-axis scale: 10 dB / div

Sweep time: Integer multiple of burst period per sample

Trigger condition: Free-run

Number of data points: 1001 points or more

Sweep mode: Continuous sweep

Detection mode: RMS

Indication mode: RMS power,about 10 on average.

Measuring procedures (Antenna power)

a. For orthogonal frequency division multiplexing system or spread spectrum system using direct sequence spreading:

(1) Set the spectrum analyzer according to 3.

(2) After repeating sweeps until spectrum fluctuation is not observed, measure the frequency giving the maximum power per 1 MHz.

(3) Set the spectrum analyzer according to 5.

(4) Antenna power shall be obtained as follows.

(a) For continuous wave; Values obtained from the operation of the spectrum analyzer.

(b) For burst wave; Mean power in burst that is calculated from the transmission time ratio and the values obtained from the operation in the same way as that for continuous wave:

Mean power in burst = values obtained from the operation of the spectrum analyzer / transmission time

ratio
where
Transmission time ratio = burst transmission time / burst repetition period
(5) When the EUT has plural modulation methods for sub-carriers in orthogonal frequency division multiplexing system, measure antenna power for each modulation method and use the maximum value as the measured value.
(6) When EUT has plural antenna terminals, conduct above measurement at each terminal.
b. For other systems
(1) Connect the power meter to the attenuator output and measure the total power (mW).
(2) Antenna power shall be obtained as follows.
(a) For continuous wave; Value obtained in (1)
(b) For burst wave; Mean power in burst that is calculated from the transmission time ratio and the value obtained in (1)
Mean power in burst = indicated value of power meter / transmission time ratio
(3) Measure antenna power per 1 MHz bandwidth (m W / MHz) in the same way as that in Measuring procedures a above.
(4) When EUT has plural antenna terminals, conduct above measurement at each terminal.

5.4.4 Test Deviation

There is no deviation with the original standard.

5.4.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.4.6 Test Result

Please refer to ANNEX A.4.

5.5 Limitation of Collateral Emission of Receiver Measurement

5.5.1 Limit

Item	Limits
RX Spurious Emission	≦4nW (f<1GHz)
	≦20nW (1GHz≦f)

5.5.2 Test Setup

See section 4.4.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

1 EUT has 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) / AT:10 dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold

3 SA set RB: 100 kHz and VB: 100 kHz. Then adjust to start frequency 30 MHz and stop frequency 1000 MHz. Search to mark peak reading value + cable loss shall be less than 4 nW

4 SA set RB: 1 MHz and VB: 1 MHz. Then adjust to start frequency 1000 MHz and stop frequency 12500 MHz. Search to mark peak reading value + cable loss shall be less than 20 nW

5 If power level of lower emissions are more than 1/10 of limit (0.4nW for f < 1 GHz, 2 nW for f≥ 1GHz), 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

5.5.4 Test Deviation

There is no deviation with the original standard.

5.5.5 EUT Operation during Test

The EUT was programmed to be in continuously receiving mode.

5.5.6 Test Result

Please refer to ANNEX A.5.

5.6 Carrier sensing function (1)

5.6.1 Limit

Radio equipment using OFDM method shall provide a carrier sensing function when the occupied bandwidth of its transmitting device is over 26 MHz and 40 MHz or less.

5.6.2 Test Setup

See section 4.4.1 Diagram 6 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

1 Set the spectrum analyzer as follows:
Center frequency: Center of frequency of test channel
Frequency sweep width: 50MHz
RBW: Approximately 1MHz
VBW: Approximately same as RBW
Y-axis scale: 10dB / div
Detection mode: Positive peak

2 Turn off the output of the standard signal generator. Set the standard signal generator as follows:
Carrier frequency: Center of reception frequency band of EUT
Modulation: No modulation
Output level: Specified level at antenna input of EUT

3 Make a line connection between the EUT and the external test device and confirm using the spectrum analyzer that the EUT is transmitting a test frequency signal of OFDM method which occupied bandwidth is over 26 MHz.

4 EUT is set to a test frequency and a test spreading code and put to reception state first. when using an external test device, a communication link between the EUT and the external test device is established.

5 Turn on the output of the standard signal generator, set the EUT to transmission state and confirm using the spectrum analyzer that the EUT does not transmit radio wave of OFDM method which occupied bandwidth is over 26 MHz.

5.6.4 Test Deviation

There is no deviation with the original standard.

5.6.5 EUT Operation during Test

EUT is set to a test frequency and a test spreading code and put to reception state first.

5.6.6 Test Result

Please refer to ANNEX A.6.

5.7 Carrier sensing function (2)

5.7.1 Limit

Transmission device used for radio control of outdoor-use model-airplane (except frequency hopping system) shall provide a carrier sensing function that works at the start of the transmission.

5.7.2 Test Setup

See section 4.4.1 Diagram 7 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

1 Set the output level of standard signal generator to the specified level at antenna input of EUT, Set the standard signal generator as follows:
Carrier frequency: Center of reception frequency band of EUT
Modulation: No modulation
Output level: Specified level at antenna input of EUT
2 Set the EUT to reception state
3 Turn on the output of the standard signal generator.
4 Set the EUT to transmission state and confirm using the spectrum analyzer that the EUT does not transmit radio wave. Set the spectrum analyzer as follows:
Center frequency: Center of frequency of test channel
Frequency sweep width: 50MHz
RBW: Approximately 1MHz
VBW: Approximately same as RBW
Y-axis scale: 10dB / div
Detection mode: Positive peak
5 Set the EUT to reception state
6 Turn off the output of the standard signal generator.
7 Set the EUT to transmission state and confirm using the spectrum analyzer that the EUT is transmitting radio wave.

5.7.4 Test Deviation

There is no deviation with the original standard.

5.7.5 EUT Operation during Test

EUT is set to a test frequency.

5.7.6 Test Result

Please refer to ANNEX A.7.

5.8 Transmission Antenna Gain (EIRP Antenna Power) Measurement

5.8.1 Limit

Item	Non-directional antennal limits	Directional antennal limits
EIRP Power Density	a) FH,FH+DS, or FH+OFDM form 2427 - 2470.75 MHz: ≦6.91 dBm/MHz b) DS but other than a) from 2400~2483.5 MHz: ≦12.14 dBm/MHz c) OFDM, but other than a): For OCB of 26MHz or less: ≦ 12.14 dBm/MHz For OCB of over 26 MHz to 40 MHz: ≦9.14 dBm/MHz d) Other than a), b) and c): ≦ 12.14 dBm	a) FH,FH+DS, or FH+OFDM form 2427 - 2470.75 MHz: ≦16.91 dBm/MHz b) DS but other than a) from 2400~2483.5 MHz: ≦22.14 dBm/MHz z c) OFDM, but other than a): For OCB of 26MHz or less: ≦ 22.14 dBm/MHz For OCB of over 26 MHz to 40 MHz: ≦19.14 dBm/MHz d) Other than a), b) and c): ≦ 22.14 dBm
Note: This test item is not applied to EUT with EIRP Antenna power lower than 12.14 dBm/MHz.		

5.8.2 Test Setup

See section 4.4.4 for test setup description for the antenna port.

5.8.3 Test Procedure

1 Set EUT ad measuring antenna at the same height and roughly facing each other.

2 Set spectrum analyzer with RBW=1MHz, VBW=1MHz, Detector=Peak, Trace mode=Max Hold, and tune reference level to observe receiving signal position.

3 Move the measuring antenna height up and down within ± 50cm of EUT height and swing it to find the maximum output of the measuring antenna. The output level at the spectrum analyzer is read sa “E“.

4 Remove the EUT from the turn table and put the replacing antenna facing to measuring antenna at same height. Set the standard signal generator (SSG) at same frequency and transmit on then receive the signal

5 Swing the replacing antenna give a maximum receiving level.

6 Move the measuring antenna height up and down within ± 50cm of replacing antenna height and swing it to find the maximum receiving level.

7 Set SSG output power at Pt to give the equivalent output level of “E” or caluate Pt with SSG output which gives the nearest of “E” and difference (± 1dB). Record the Pt.

8 Calculate EIRP by the formula below EIRP = Gt – L + Pt.

Gt: gain of replacing antenna (dBi)

L: feeder loss between SSG and replacing antenna

Pt: Output power of the SSG

9 If the antenna for the EUT has circular polarization, sum of V-field and H-field will be result if measuring antenna is linear polarization.

5.8.4 Test Deviation

There is no deviation with the original standard.

5.8.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.8.6 Test Result

Please refer to ANNEX A.8.

5.9 Transmission Radiation Angle Width (3dB Beamwidth) Measurement

5.9.1 Limit

Item	Limits
3dB antenna beam width	360/A (If A<1; then A=1) A = {EIRP Power [mW] / 16.36 for DS, OFDM} or A = {EIRP Power [mW] / 4.9 for FH}
This test item is not applied to EUT with EIRP Antenna power lower than 12.14 dBm/MHz.	

5.9.2 Test Setup

See section 4.4.4 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

1 Set EUT and measuring antenna at the same height and roughly facing each other.

2 Set spectrum analyzer with RBW=1 MHz, VBW=1 KHz, Y scale=5 dB, Detector=Peak, Trace mode=Max Hold, and tune reference level to observe receving signal position.

3 Rotate directions of the EUT horizontally and ertically to find the maximum receiving power.

4 Move the measuring antenna height up and down within ± 50cm of EUT height and swing it to find the maximum output of measuing antenna. The output level at the spectrum analyzer is read as “E”

5 Caluate 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 (If A<1; then A=1). A = {EIRP Power [mW] / 16.36 for DS, OFDM} or A = {EIRP Power [mW] / 4.9 for FH}

5.9.4 Test Deviation

There is no deviation with the original standard.

5.9.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.9.6 Test Result

Please refer to ANNEX A.9.

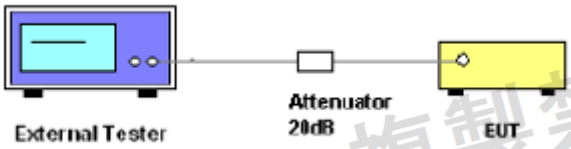
5.10 Radio Interference Prevention Capability Measurement

5.10.1 Limit

Item	Limits
Identification	≥ 48 bits

5.10.2 Test Setup

The photo of test setup please refer to ANNEX B.



5.10.3 Test Procedure

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

5.10.4 Test Deviation

There is no deviation with the original standard.

5.10.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.10.6 Test Result

Please refer to ANNEX A.10.

ANNEX A TEST RESULT

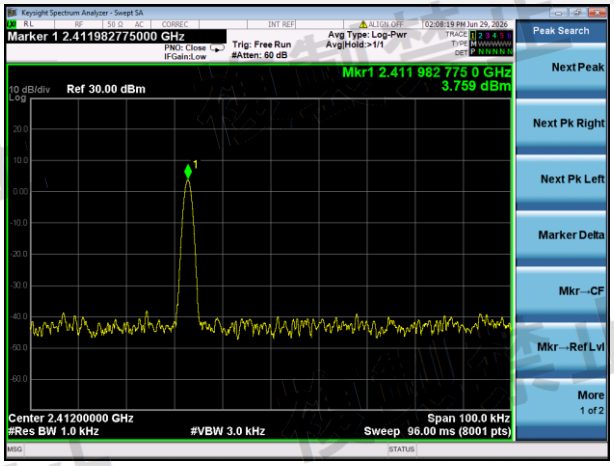
A.1 Frequency Error

Test Data

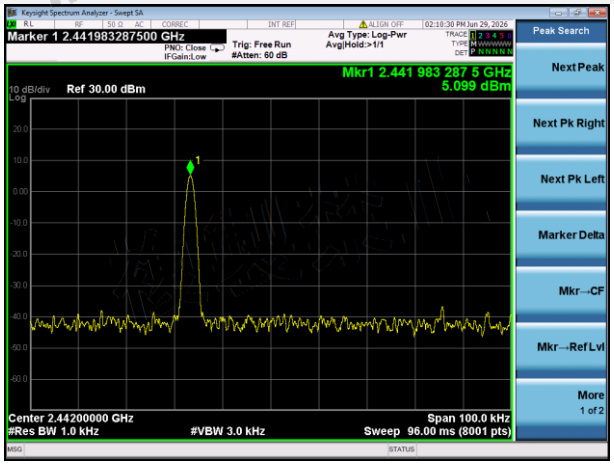
Mode	Test Voltage	Channel	Frequency fc (MHz)	Test Frequency (MHz)	Frequency Error ppm	Limit (ppm)	Refer to Plot	Verdict
20 MHz	NV	Low	2412	2411.982775	-7.14	±50	A.1.1	Pass
		Middle	2442	2441.983288	-6.84	±50	A.1.2	Pass
		High	2472	2471.981813	-7.36	±50	A.1.3	Pass

Test Plots

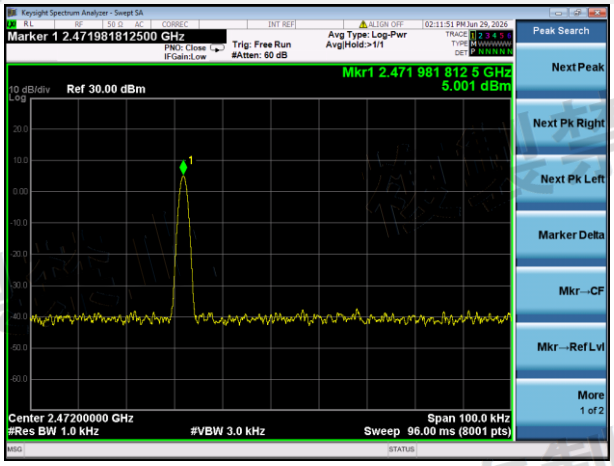
A.1.1 20 MHz NV Low Channel



A.1.2 20 MHz NV Middle Channel



A.1.3 20 MHz NV High Channel



A.2 Occupied Bandwidth

Test Data

802.11b

Results of Occupied Bandwidth	Channel	Test Voltage	Measured 99% Occupied Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Refer to Plot	Verdict
	Low	NV	12.12	≤ 26	A.2.1	Pass
	Middle		12.10	≤ 26	A.2.2	Pass
	High		12.12	≤ 26	A.2.3	Pass

802.11g

Results of Occupied Bandwidth	Channel	Test Voltage	Measured 99% Occupied Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Refer to Plot	Verdict
	Low	NV	16.33	≤ 26	A.2.4	Pass
	Middle		16.35	≤ 26	A.2.5	Pass
	High		16.33	≤ 26	A.2.6	Pass

802.11n-20 MHz

Results of Occupied Bandwidth	Channel	Test Voltage	Measured 99% Occupied Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Refer to Plot	Verdict
	Low	NV	17.52	≤ 26	A.2.7	Pass
	Middle		17.53	≤ 26	A.2.8	Pass
	High		17.53	≤ 26	A.2.9	Pass

802.11ac-20 MHz

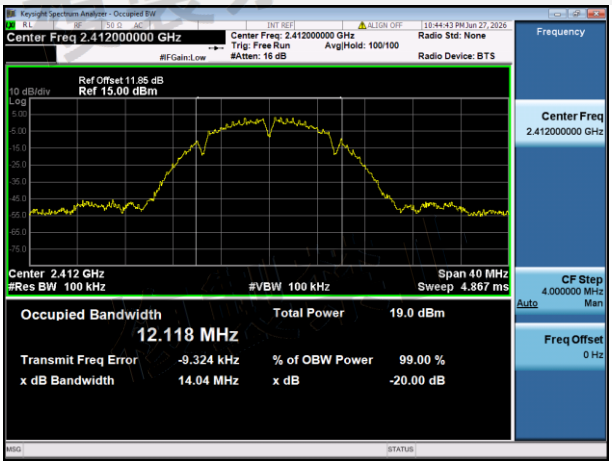
Results of Occupied Bandwidth	Channel	Test Voltage	Measured 99% Occupied Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Refer to Plot	Verdict
	Low	NV	17.53	≤ 26	A.2.10	Pass
	Middle		17.52	≤ 26	A.2.11	Pass
	High		17.53	≤ 26	A.2.12	Pass

802.11ax-20 MHz(SU)

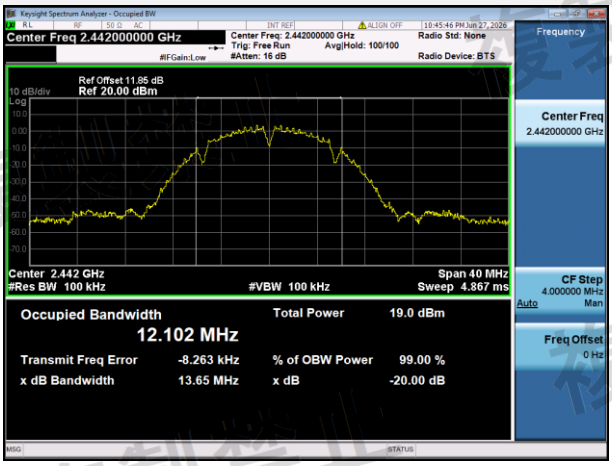
Results of Occupied Bandwidth	Channel	Test Voltage	Measured 99% Occupied Bandwidth (MHz)	Occupied Bandwidth Limit (MHz)	Refer to Plot	Verdict
	Low	NV	18.77	≤ 26	A.2.13	Pass
	Middle		18.81	≤ 26	A.2.14	Pass
	High		18.83	≤ 26	A.2.15	Pass

Test Plots

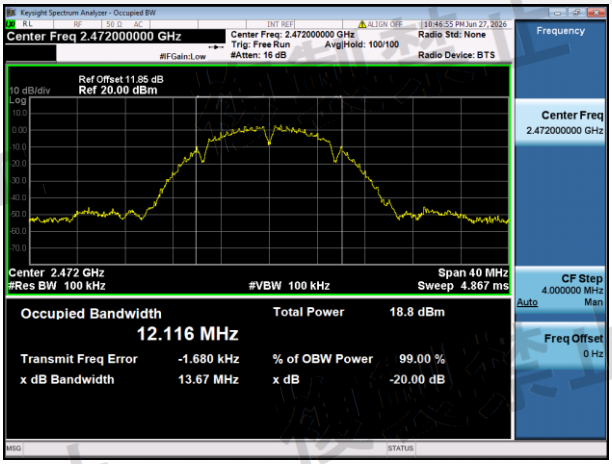
A.2.1 802.11b Low Channel NV



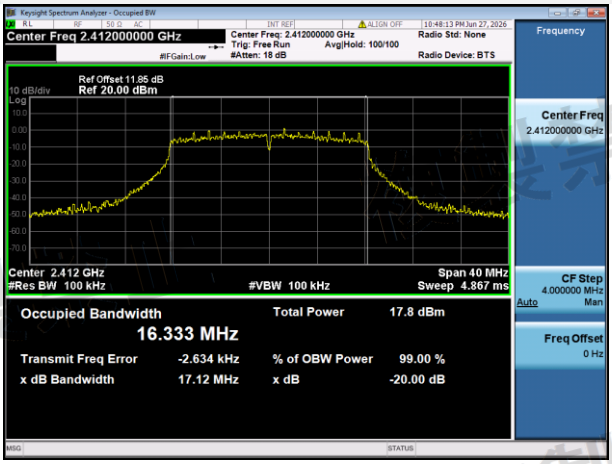
A.2.2 802.11b Middle Channel NV



A.2.3 802.11b High Channel NV

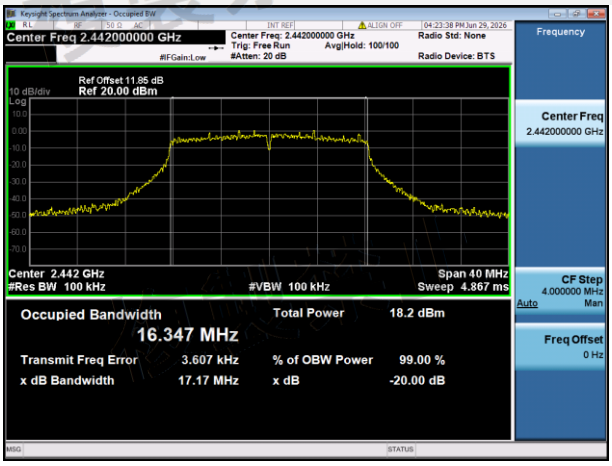


A.2.4 802.11g Low Channel NV

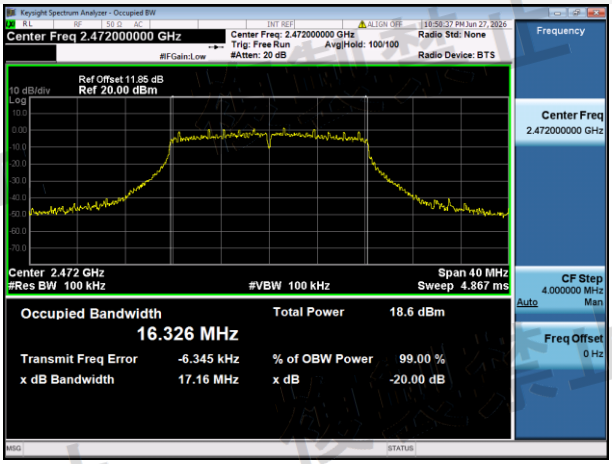


A.2.5 802.11g Middle Channel NV

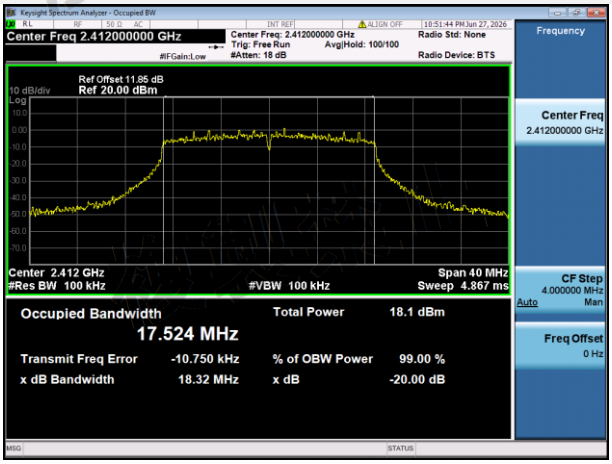
A.2.6 802.11g High Channel NV



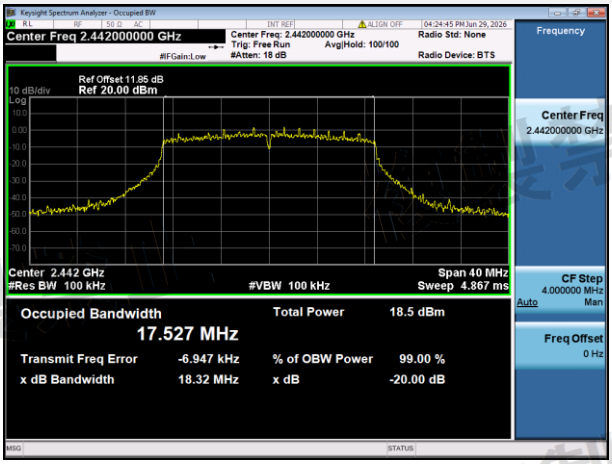
A.2.7 802.11n-20 MHz Low Channel NV



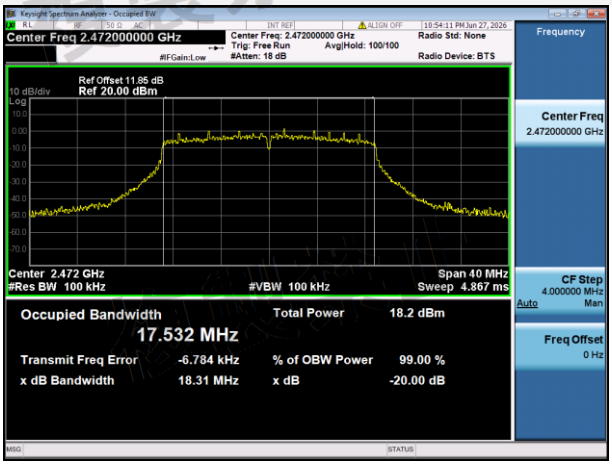
A.2.8 802.11n-20 MHz Middle Channel NV



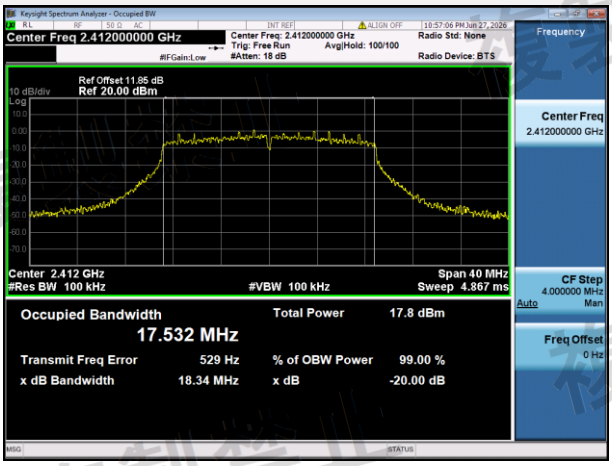
A.2.9 802.11n-20 MHz High Channel NV



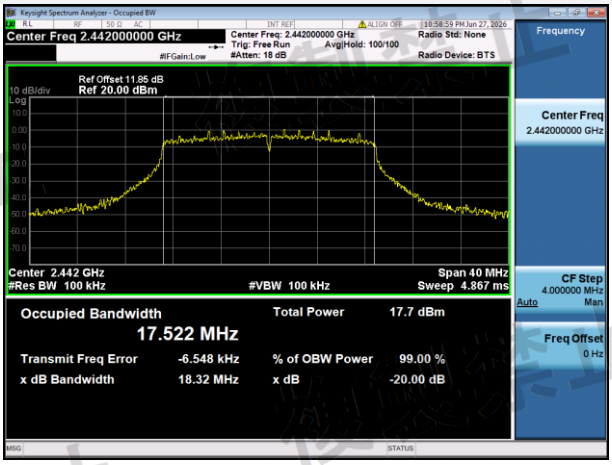
A.2.10 802.11ac-20 MHz Low Channel NV



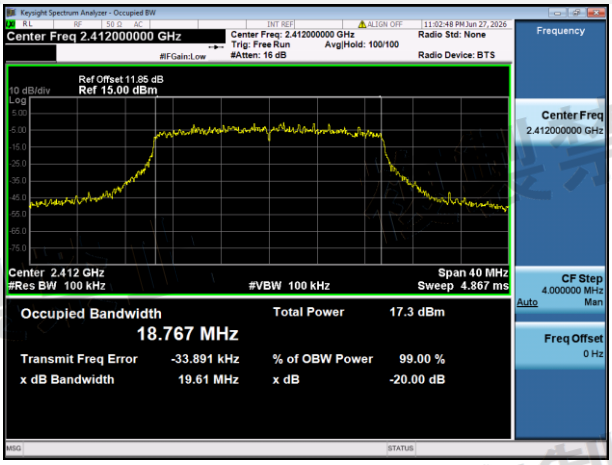
A.2.11 802.11ac-20 MHz Middle Channel NV



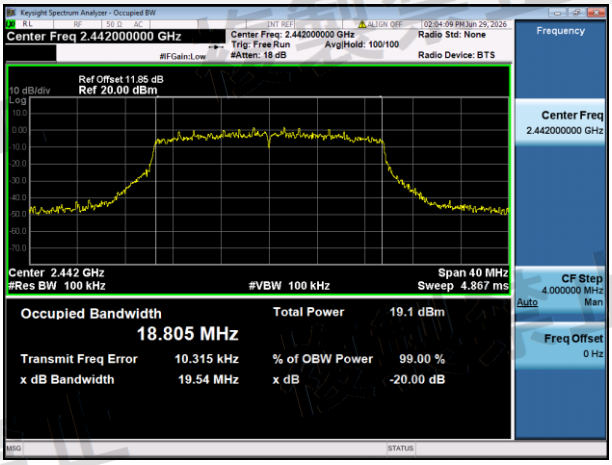
A.2.12 802.11ac-20 MHz High Channel NV



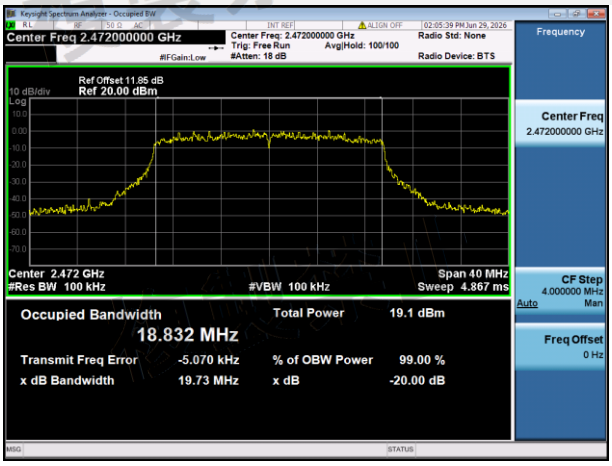
A.2.13 802.11ax-20 MHz(SU) Low Channel NV



A.2.14 802.11ax-20 MHz(SU) Middle Channel NV



A.2.15 802.11ax-20 MHz(SU) High Channel NV



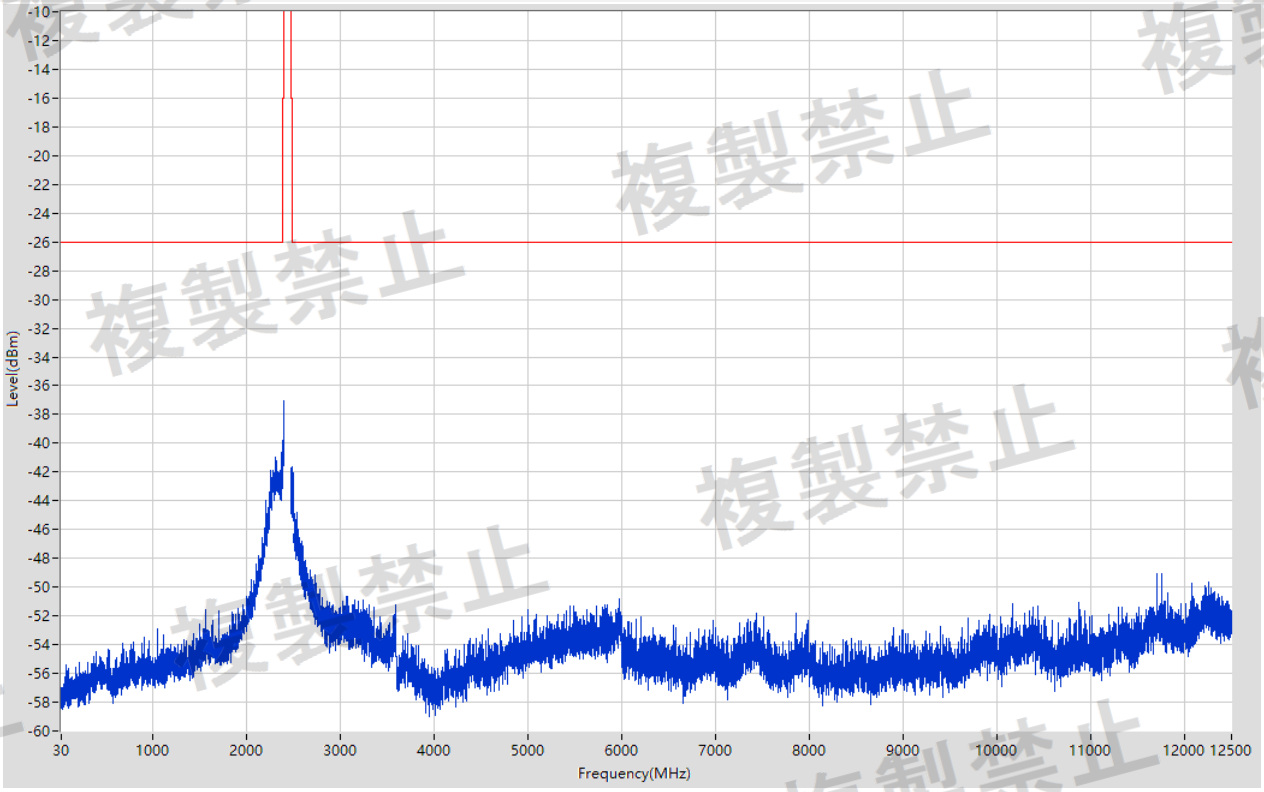
A.3 Unwanted Emission Intensity Measurement

Test Data

Mode	Test Voltage	Channel	Refer to Plot	Verdict
802.11b	NV	Low	A.3.1	Pass
		Middle	A.3.2	Pass
		High	A.3.3	Pass
802.11g	NV	Low	A.3.4	Pass
		Middle	A.3.5	Pass
		High	A.3.6	Pass
802.11n-20 MHz	NV	Low	A.3.7	Pass
		Middle	A.3.8	Pass
		High	A.3.9	Pass
802.11ac-20 MHz	NV	Low	A.3.10	Pass
		Middle	A.3.11	Pass
		High	A.3.12	Pass
802.11ax-20 MHz(SU)	NV	Low	A.3.13	Pass
		Middle	A.3.14	Pass
		High	A.3.15	Pass

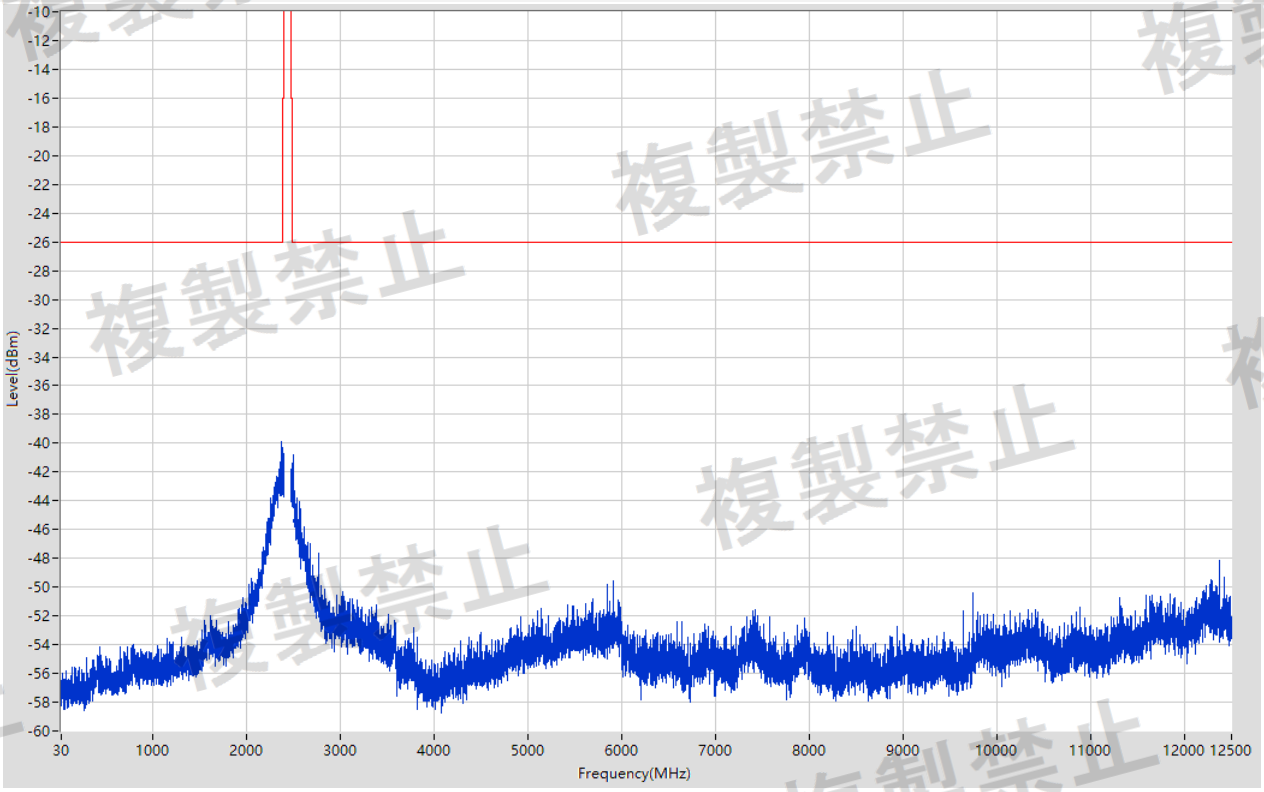
Test Plots

A.3.1 802.11b NV Low Channel



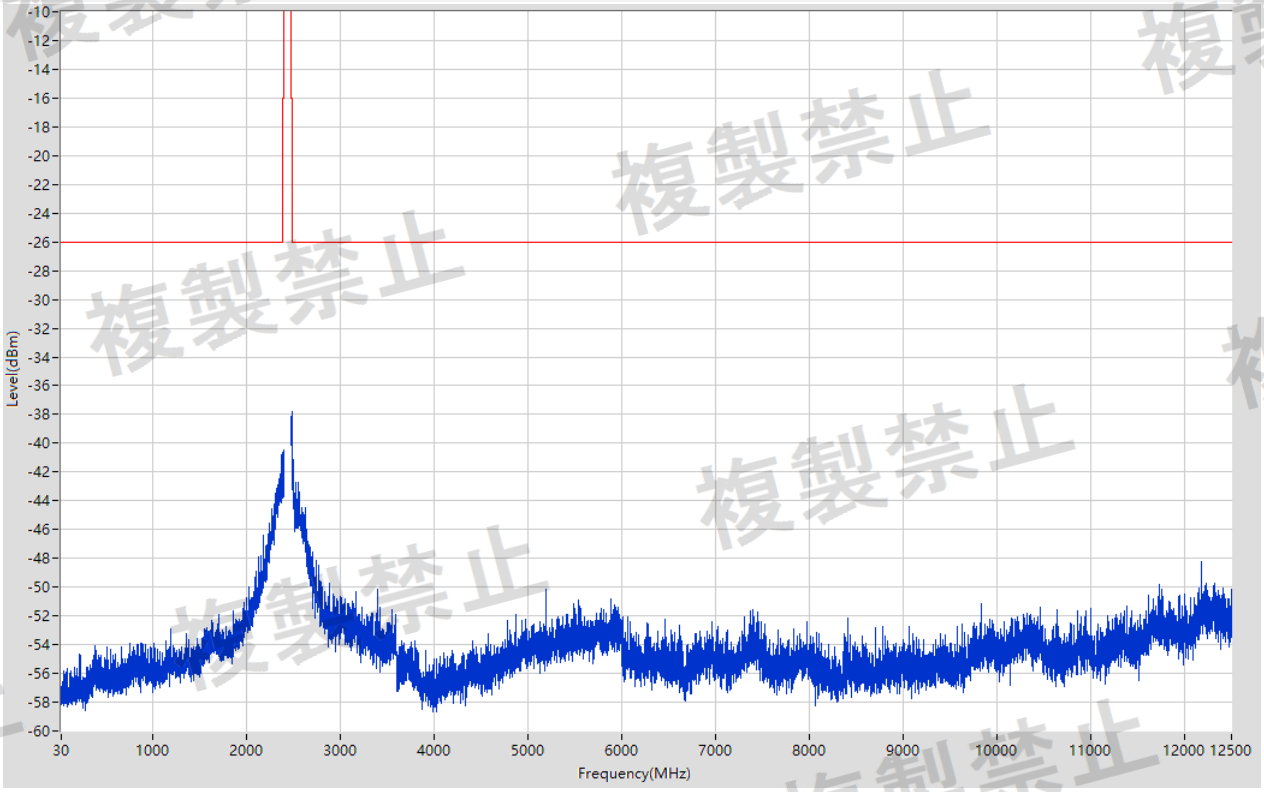
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	911	-53.5	0.004	2.5	Pass
1000	2374	1	Peak	2314	-40.95	0.080	2.5	Pass
2374	2387	1	Peak	2377.153	-40.61	0.087	2.5	Pass
2387	2400	1	Peak	2396.523	-37.06	0.197	25	Pass
2483.5	2496.5	1	Peak	2493.38	-41.63	0.069	25	Pass
2496.5	2509.5	1	Peak	2505.763	-42.08	0.062	2.5	Pass
2509.5	6000	1	Peak	2546.505	-44.83	0.033	2.5	Pass
6000	12500	1	Peak	11752	-49.06	0.012	2.5	Pass

A.3.2 802.11b NV Middle Channel



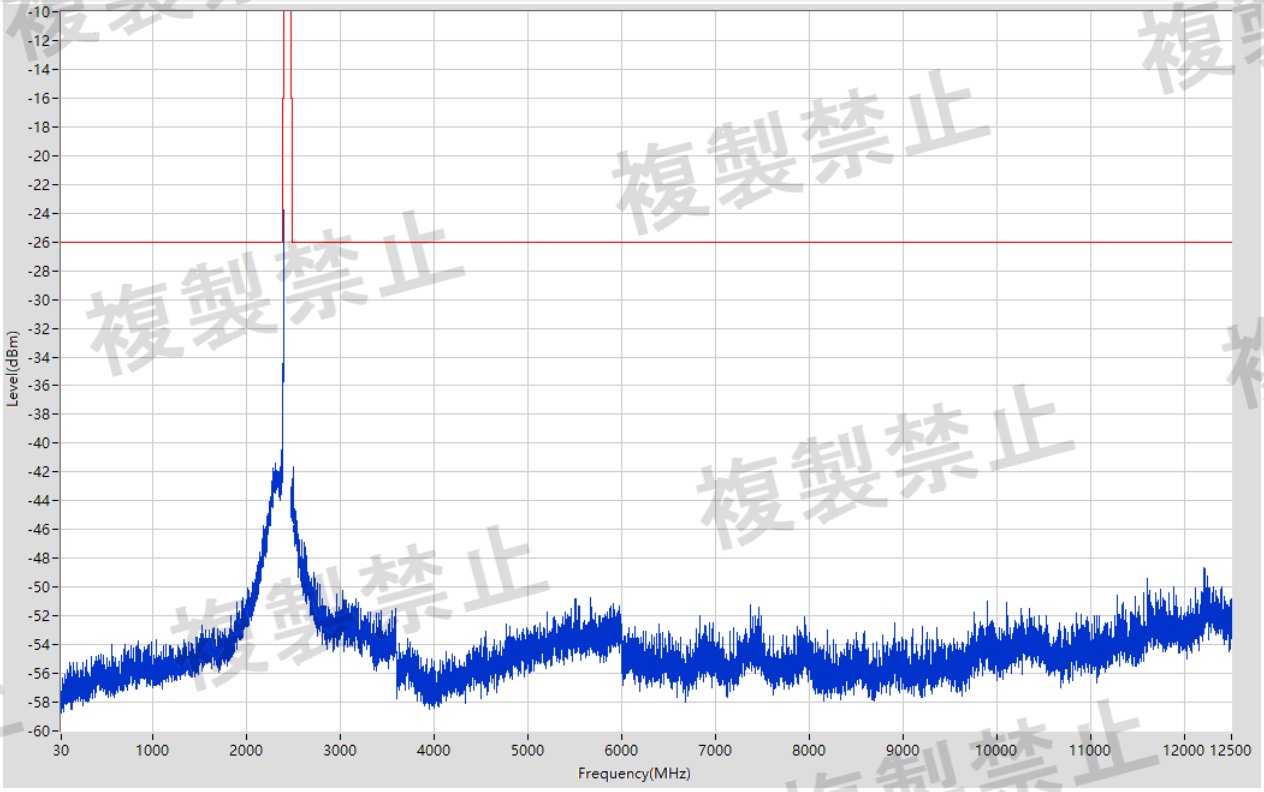
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	805	-53.97	0.004	2.5	Pass
1000	2374	1	Peak	2365	-41.28	0.074	2.5	Pass
2374	2387	1	Peak	2375.17	-39.89	0.102	2.5	Pass
2387	2400	1	Peak	2392.98	-40.48	0.090	25	Pass
2483.5	2496.5	1	Peak	2484.638	-41.4	0.072	25	Pass
2496.5	2509.5	1	Peak	2507.355	-40.83	0.083	2.5	Pass
2509.5	6000	1	Peak	2516.501	-43.29	0.047	2.5	Pass
6000	12500	1	Peak	12369	-48.15	0.015	2.5	Pass

A.3.3 802.11b NV High Channel



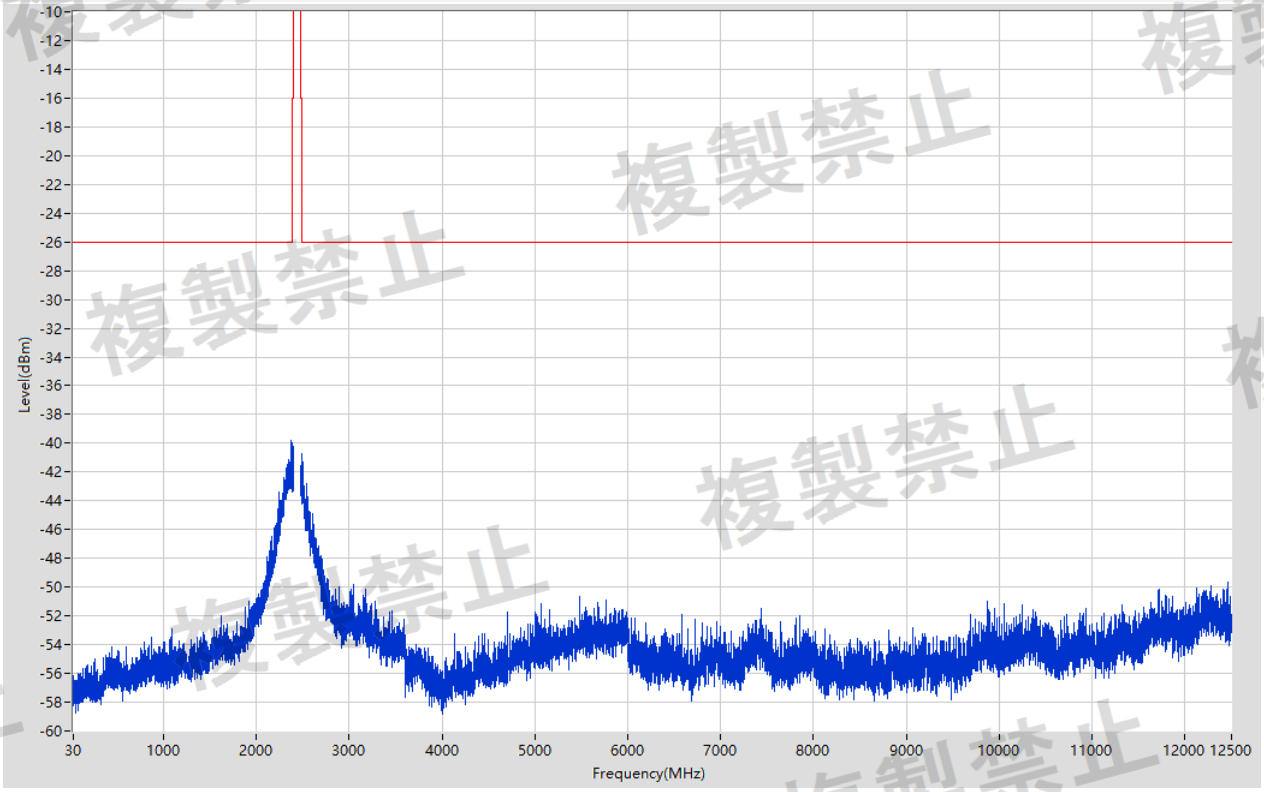
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	873	-53.89	0.004	2.5	Pass
1000	2374	1	Peak	2363	-42.14	0.061	2.5	Pass
2374	2387	1	Peak	2383.295	-40.66	0.086	2.5	Pass
2387	2400	1	Peak	2395.06	-40.43	0.091	25	Pass
2483.5	2496.5	1	Peak	2485.385	-37.84	0.165	25	Pass
2496.5	2509.5	1	Peak	2502.415	-41.12	0.077	2.5	Pass
2509.5	6000	1	Peak	2555.507	-42.69	0.054	2.5	Pass
6000	12500	1	Peak	12185	-48.24	0.015	2.5	Pass

A.3.4 802.11g NV Low Channel



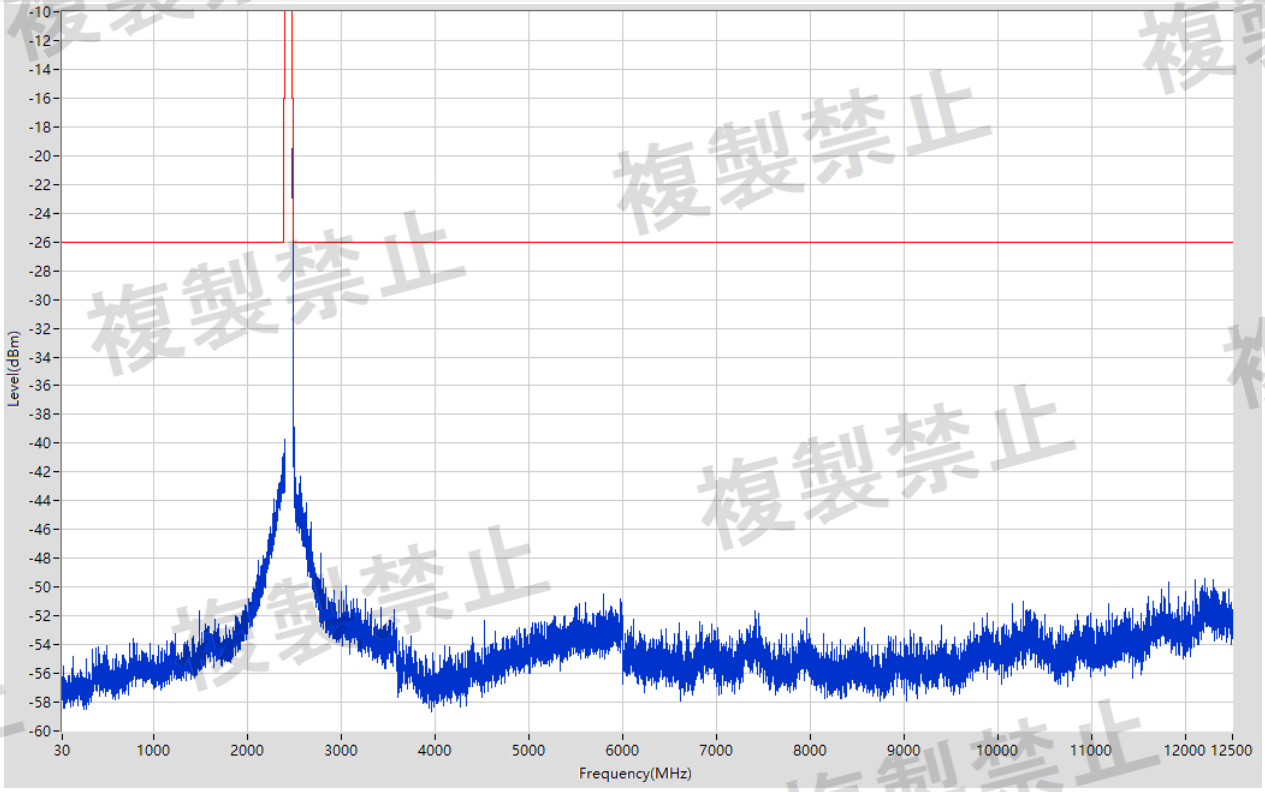
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	851	-53.72	0.004	2.5	Pass
1000	2374	1	Peak	2305	-41.38	0.073	2.5	Pass
2374	2387	1	Peak	2384.693	-38.91	0.129	2.5	Pass
2387	2400	1	Peak	2400	-23.76	4.210	25	Pass
2483.5	2496.5	1	Peak	2487.92	-42.46	0.057	25	Pass
2496.5	2509.5	1	Peak	2505.535	-41.68	0.068	2.5	Pass
2509.5	6000	1	Peak	2514.501	-44.54	0.035	2.5	Pass
6000	12500	1	Peak	12210	-48.61	0.014	2.5	Pass

A.3.5 802.11g NV Middle Channel



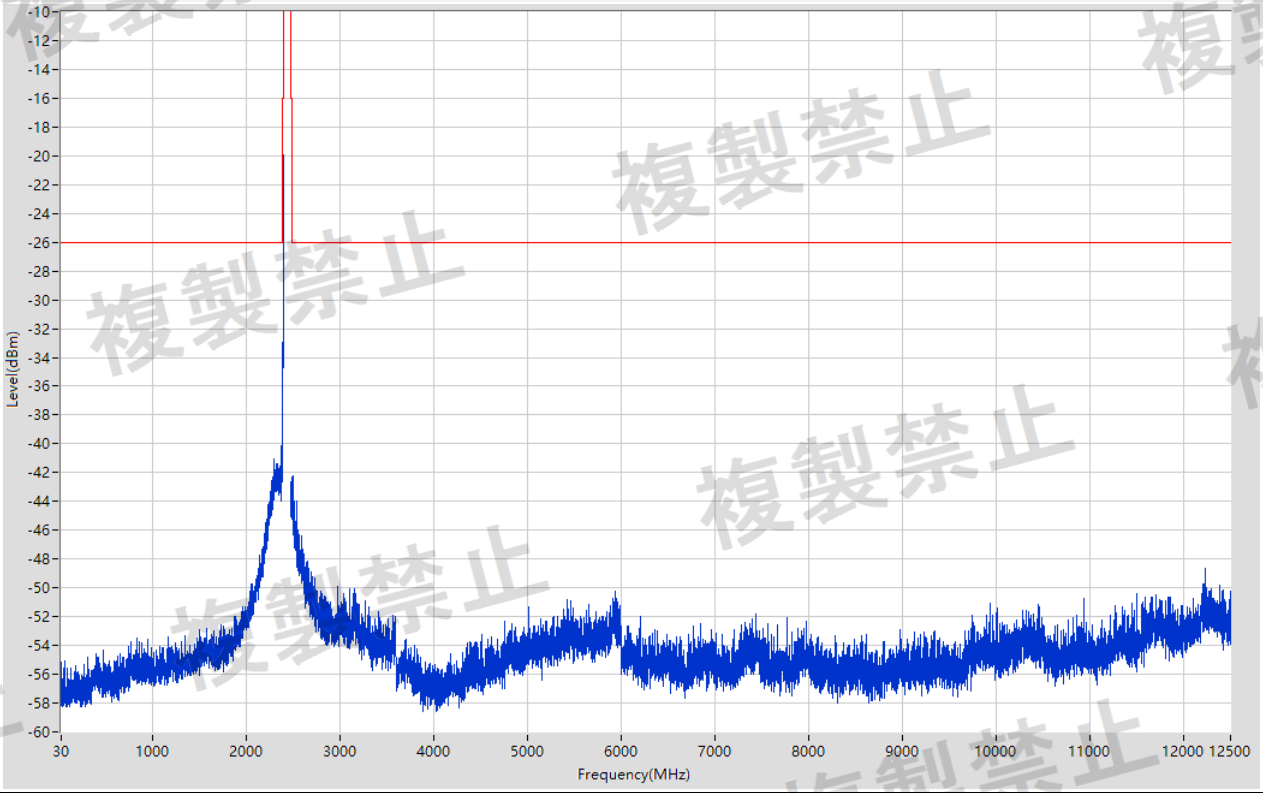
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	871	-53.46	0.005	2.5	Pass
1000	2374	1	Peak	2343	-41.17	0.076	2.5	Pass
2374	2387	1	Peak	2376.763	-39.77	0.105	2.5	Pass
2387	2400	1	Peak	2389.113	-40	0.100	25	Pass
2483.5	2496.5	1	Peak	2484.118	-40.74	0.084	25	Pass
2496.5	2509.5	1	Peak	2498.45	-41.27	0.075	2.5	Pass
2509.5	6000	1	Peak	2548.506	-42.79	0.053	2.5	Pass
6000	12500	1	Peak	12455	-49.62	0.011	2.5	Pass

A.3.6 802.11g NV High Channel



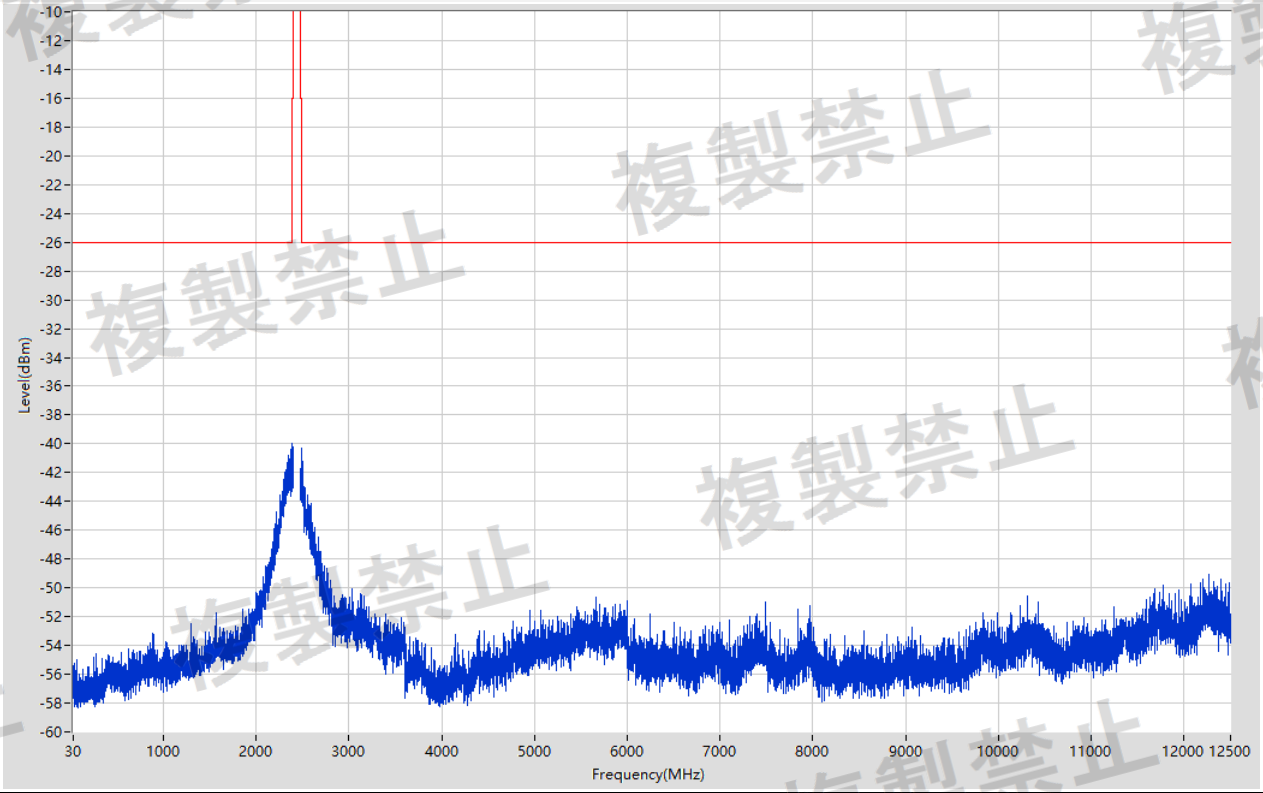
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	787	-53.55	0.004	2.5	Pass
1000	2374	1	Peak	2368	-42.2	0.060	2.5	Pass
2374	2387	1	Peak	2383.978	-40.79	0.083	2.5	Pass
2387	2400	1	Peak	2396.783	-39.7	0.107	25	Pass
2483.5	2496.5	1	Peak	2483.5	-19.48	11.284	25	Pass
2496.5	2509.5	1	Peak	2497.93	-38.85	0.130	2.5	Pass
2509.5	6000	1	Peak	2564.508	-42.34	0.058	2.5	Pass
6000	12500	1	Peak	12207	-49.43	0.011	2.5	Pass

A.3.7 802.11n-20MHz NV Low Channel



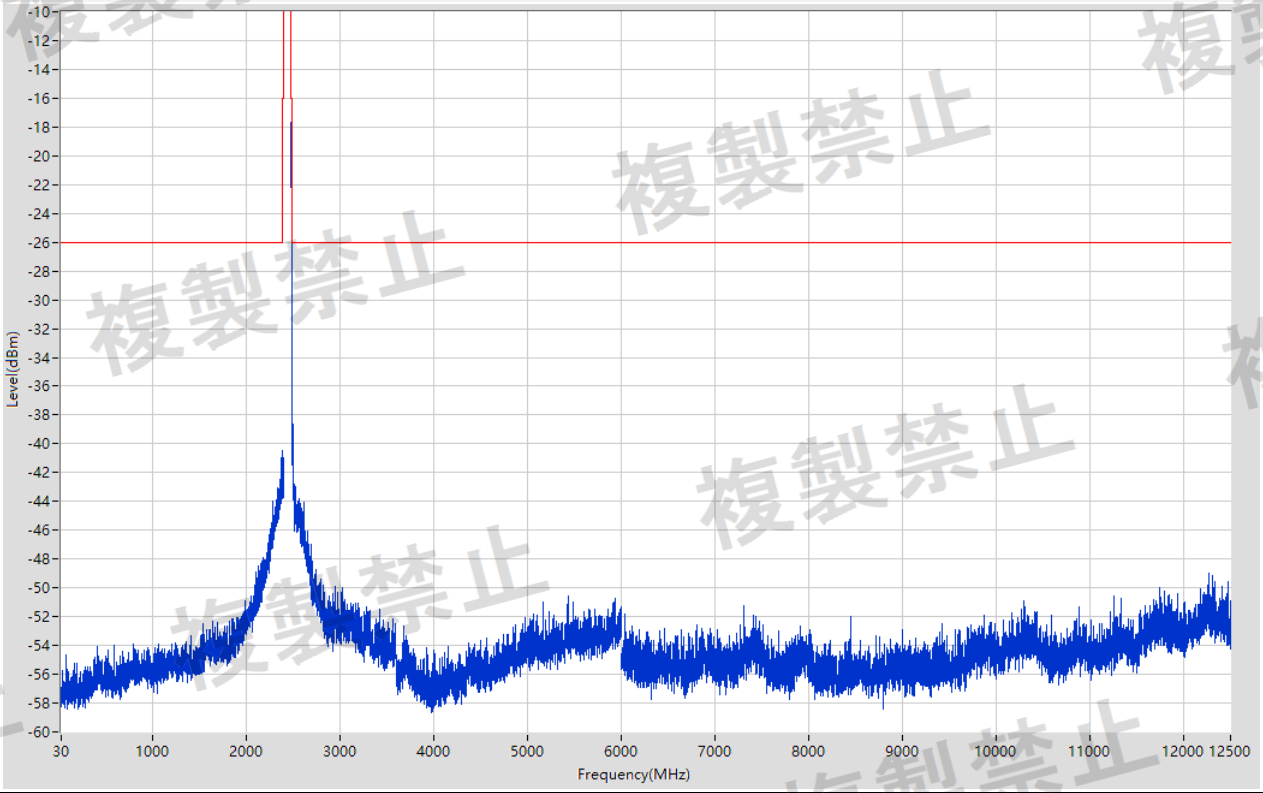
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	833	-53.5	0.004	2.5	Pass
1000	2374	1	Peak	2304	-41.09	0.078	2.5	Pass
2374	2387	1	Peak	2386.09	-39.57	0.111	2.5	Pass
2387	2400	1	Peak	2400	-19.95	10.125	25	Pass
2483.5	2496.5	1	Peak	2484.54	-42.29	0.059	25	Pass
2496.5	2509.5	1	Peak	2497.995	-42.26	0.059	2.5	Pass
2509.5	6000	1	Peak	2510.5	-43.94	0.040	2.5	Pass
6000	12500	1	Peak	12235	-48.62	0.014	2.5	Pass

A.3.8 802.11n-20MHz NV Middle Channel



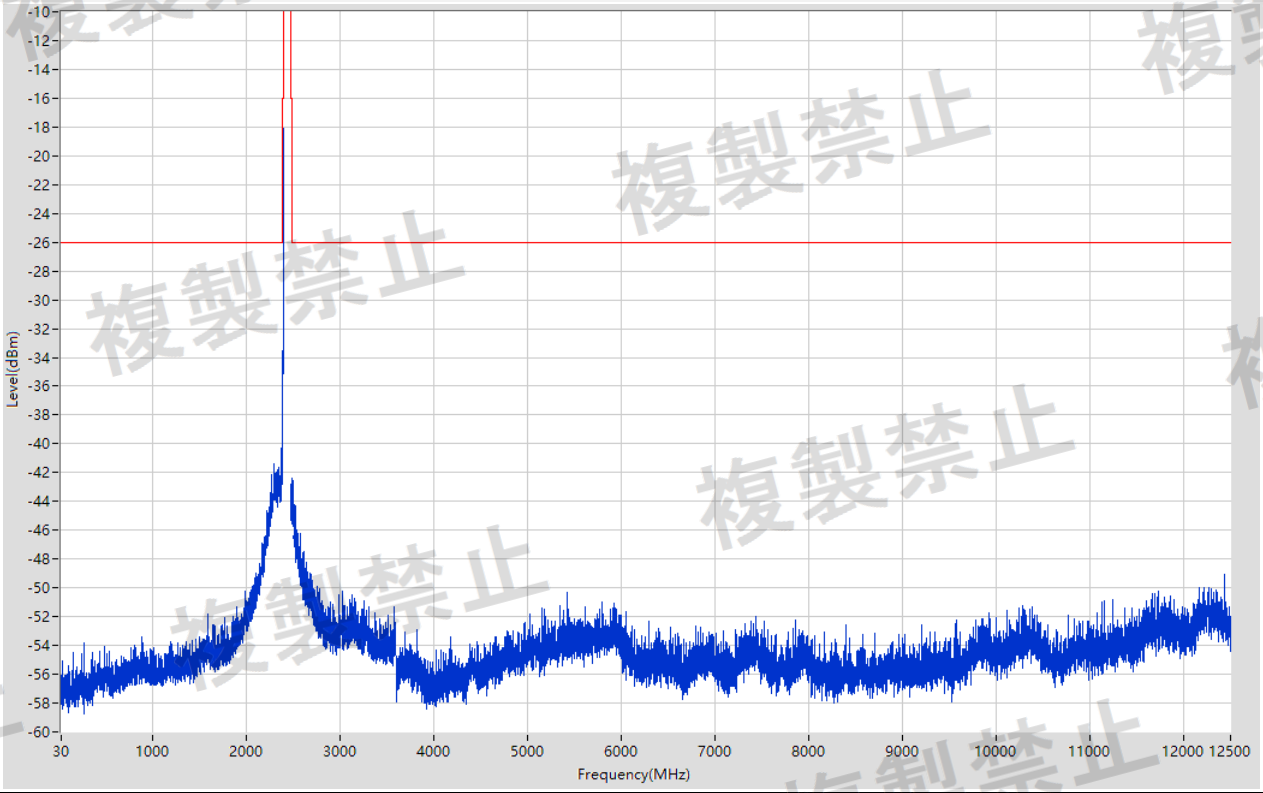
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	887	-53.2	0.005	2.5	Pass
1000	2374	1	Peak	2342	-40.78	0.084	2.5	Pass
2374	2387	1	Peak	2382.775	-39.97	0.101	2.5	Pass
2387	2400	1	Peak	2398.408	-40.23	0.095	25	Pass
2483.5	2496.5	1	Peak	2491.235	-40.32	0.093	25	Pass
2496.5	2509.5	1	Peak	2508.883	-41.2	0.076	2.5	Pass
2509.5	6000	1	Peak	2511.5	-42.98	0.050	2.5	Pass
6000	12500	1	Peak	12267	-49.05	0.012	2.5	Pass

A.3.9 802.11n-20MHz NV High Channel



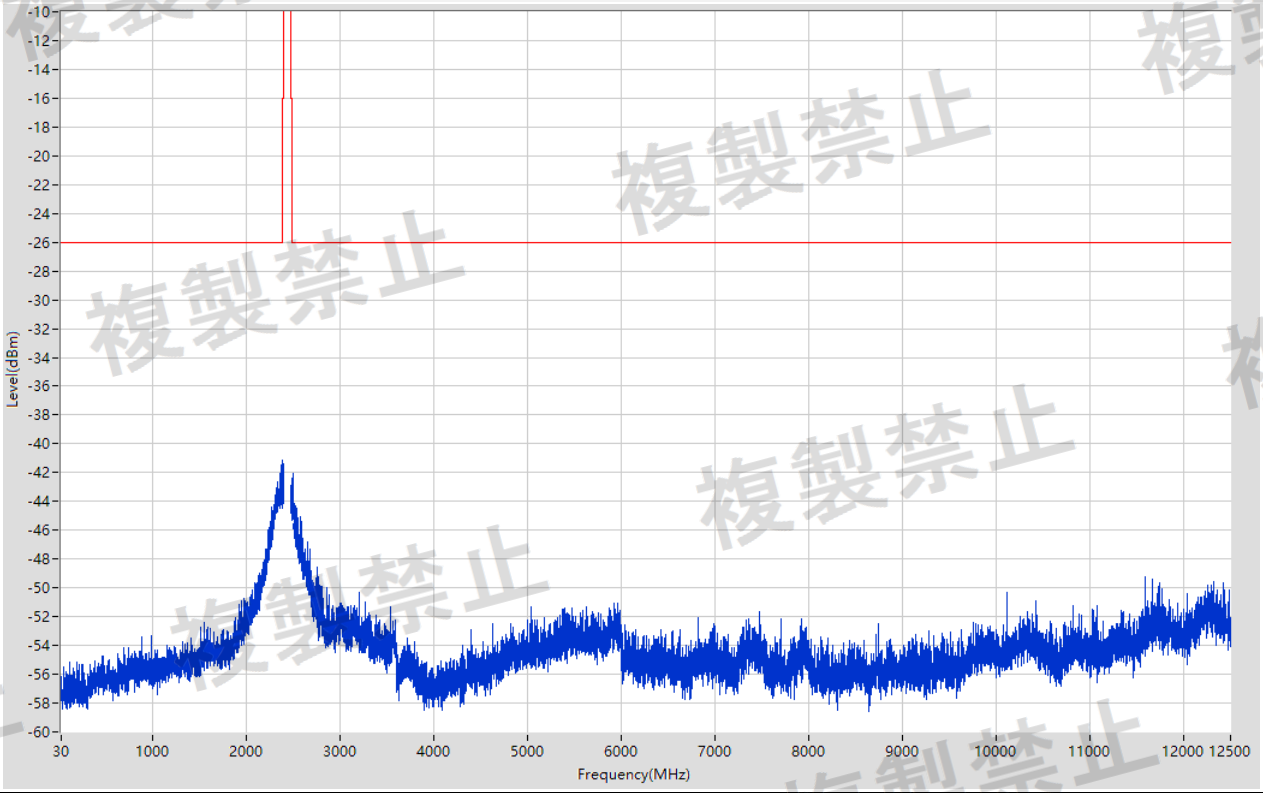
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	804	-53.93	0.004	2.5	Pass
1000	2374	1	Peak	2374	-41.84	0.065	2.5	Pass
2374	2387	1	Peak	2383.913	-40.65	0.086	2.5	Pass
2387	2400	1	Peak	2390.218	-40.48	0.089	25	Pass
2483.5	2496.5	1	Peak	2483.5	-17.64	17.220	25	N/A
			Sample		-40.69	0.085		Pass
2496.5	2509.5	1	Peak	2497.313	-38.64	0.137	2.5	Pass
2509.5	6000	1	Peak	2510.5	-42.8	0.052	2.5	Pass
6000	12500	1	Peak	12266	-49.01	0.013	2.5	Pass

A.3.10 802.11ac-20MHz NV Low Channel



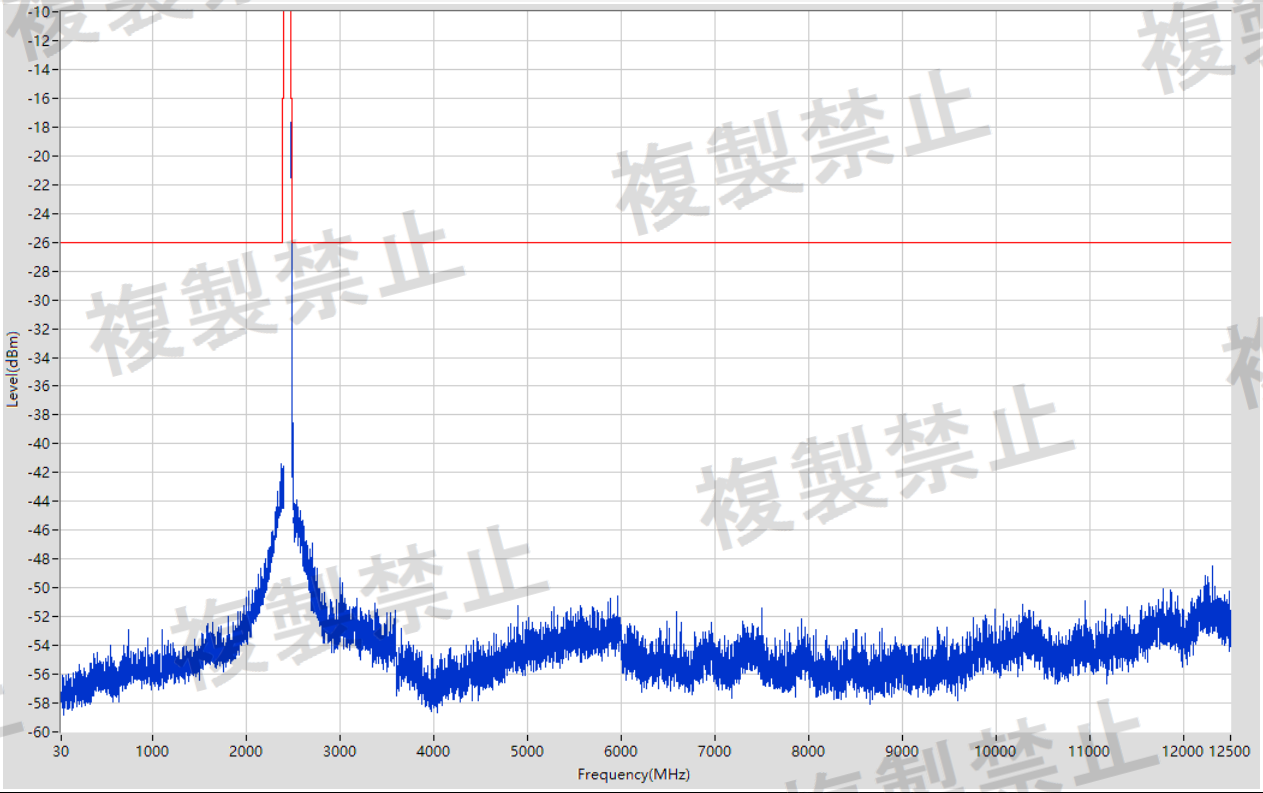
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	895	-53.39	0.005	2.5	Pass
1000	2374	1	Peak	2301	-41.36	0.073	2.5	Pass
2374	2387	1	Peak	2385.44	-39.74	0.106	2.5	Pass
2387	2400	1	Peak	2400	-18.13	15.379	25	N/A
			Sample		-41.572	0.07		Pass
2483.5	2496.5	1	Peak	2490.163	-42.36	0.058	25	Pass
2496.5	2509.5	1	Peak	2500.075	-42.57	0.055	2.5	Pass
2509.5	6000	1	Peak	2517.501	-44.22	0.038	2.5	Pass
6000	12500	1	Peak	12437	-49.04	0.012	2.5	Pass

A.3.11 802.11ac-20MHz NV Middle Channel



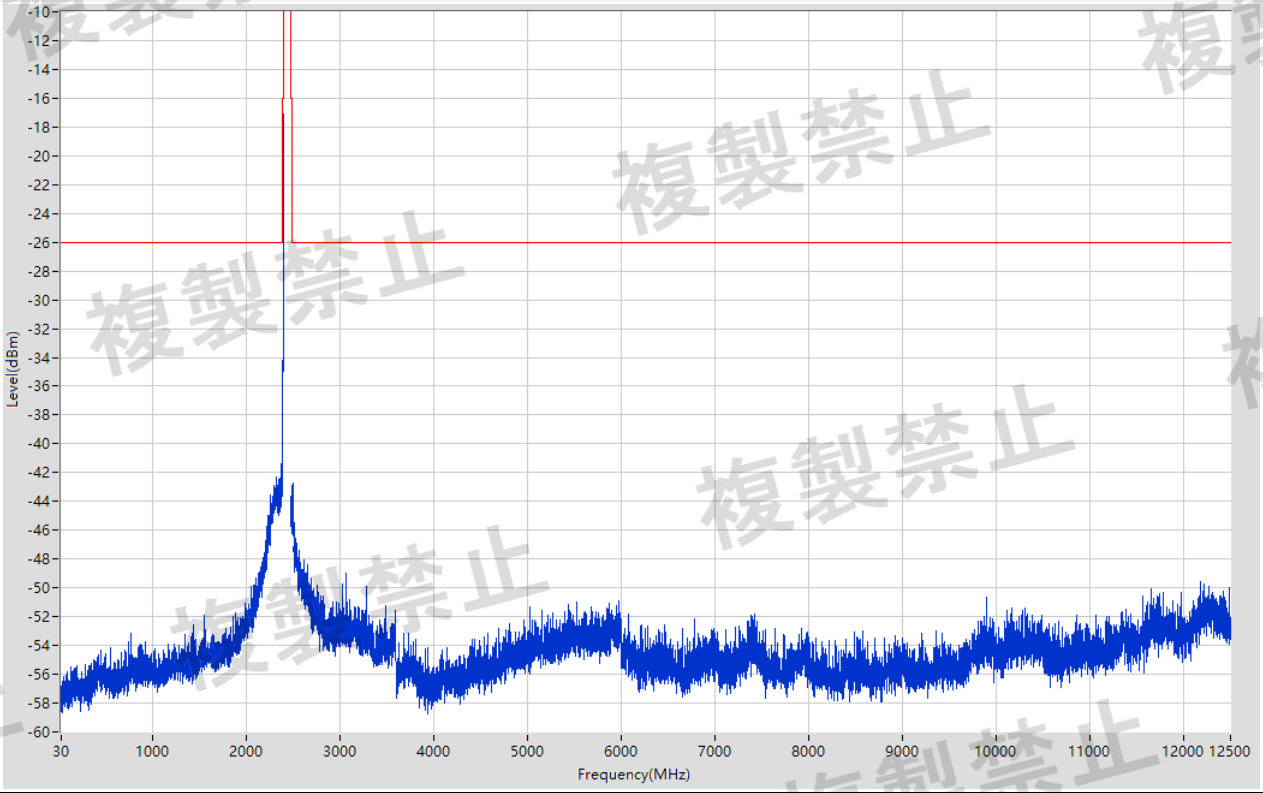
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	986	-53.3	0.005	2.5	Pass
1000	2374	1	Peak	2359	-42.09	0.062	2.5	Pass
2374	2387	1	Peak	2384.075	-41.15	0.077	2.5	Pass
2387	2400	1	Peak	2399.123	-41.41	0.072	25	Pass
2483.5	2496.5	1	Peak	2488.148	-42.38	0.058	25	Pass
2496.5	2509.5	1	Peak	2497.995	-42.08	0.062	2.5	Pass
2509.5	6000	1	Peak	2521.502	-44.16	0.038	2.5	Pass
6000	12500	1	Peak	11596	-49.22	0.012	2.5	Pass

A.3.12 802.11nac-20MHz NV High Channel



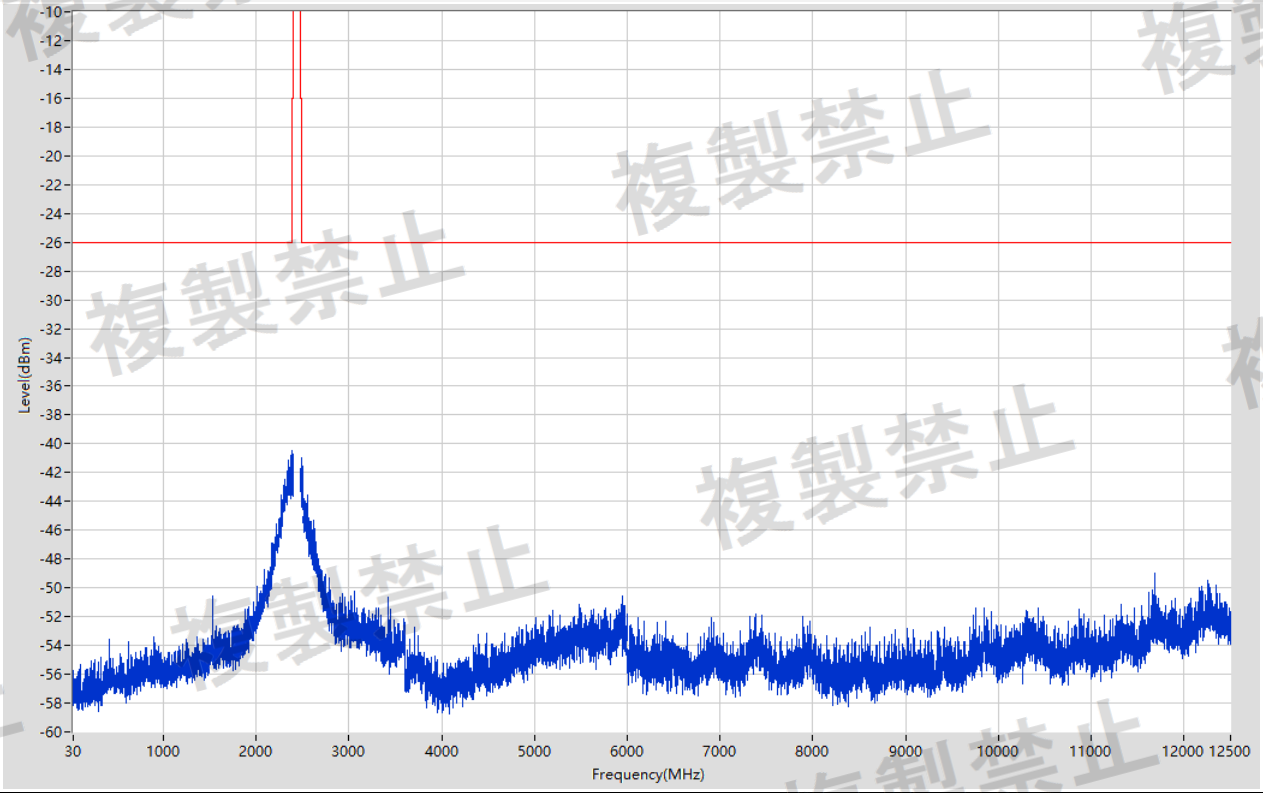
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	745	-52.92	0.005	2.5	Pass
1000	2374	1	Peak	2360	-42.62	0.055	2.5	Pass
2374	2387	1	Peak	2375.56	-41.42	0.072	2.5	Pass
2387	2400	1	Peak	2395.97	-41.56	0.070	25	Pass
2483.5	2496.5	1	Peak	2483.5	-17.69	17.020	25	N/A
			Sample		-41.112	0.077		Pass
2496.5	2509.5	1	Peak	2497.248	-38.53	0.140	2.5	Pass
2509.5	6000	1	Peak	2547.505	-43.9	0.041	2.5	Pass
6000	12500	1	Peak	12312	-48.49	0.014	2.5	Pass

A.3.13 802.11ax-20 MHz(SU) NV Low Channel



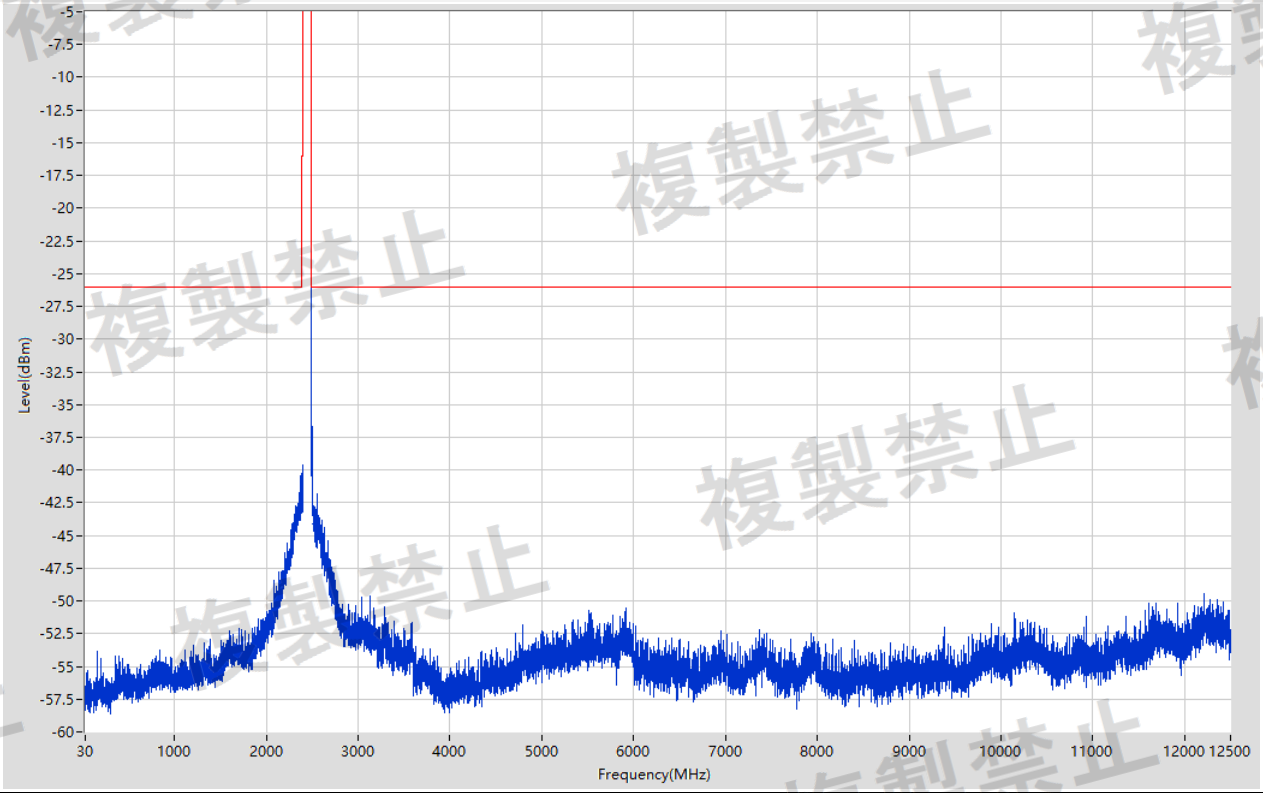
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	768	-53.14	0.005	2.5	Pass
1000	2374	1	Peak	2369	-42.24	0.060	2.5	Pass
2374	2387	1	Peak	2386.805	-39.66	0.108	2.5	Pass
2387	2400	1	Peak	2400	-17.08	19.575	25	N/A
			Sample		-43.484	0.045		Pass
2483.5	2496.5	1	Peak	2486.945	-42.87	0.052	25	Pass
2496.5	2509.5	1	Peak	2502.155	-42.74	0.053	2.5	Pass
2509.5	6000	1	Peak	2511.5	-45.49	0.028	2.5	Pass
6000	12500	1	Peak	12183	-49.55	0.011	2.5	Pass

A.3.14 802.11ax-20 MHz(SU) NV Middle Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	892	-53.4	0.005	2.5	Pass
1000	2374	1	Peak	2354	-41.1	0.078	2.5	Pass
2374	2387	1	Peak	2375.755	-40.78	0.084	2.5	Pass
2387	2400	1	Peak	2388.04	-40.43	0.091	25	Pass
2483.5	2496.5	1	Peak	2484.898	-40.96	0.080	25	Pass
2496.5	2509.5	1	Peak	2503	-41.52	0.070	2.5	Pass
2509.5	6000	1	Peak	2554.506	-43.58	0.044	2.5	Pass
6000	12500	1	Peak	11685	-48.95	0.013	2.5	Pass

A.3.15 802.11ax-20 MHz(SU) NV High Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm/MHz)	Power (μW/MHz)	Limit (μW/MHz)	Verdict
30	1000	1	Peak	843	-53.8	0.004	2.5	Pass
1000	2374	1	Peak	2365	-41.72	0.067	2.5	Pass
2374	2387	1	Peak	2386.09	-40.24	0.095	2.5	Pass
2387	2400	1	Peak	2397.563	-39.63	0.109	25	Pass
2483.5	2496.5	1	Peak	2483.5	-12.8	52.491	25	N/A
			Sample		-42.395	0.058		Pass
2496.5	2509.5	1	Peak	2496.663	-36.7	0.214	2.5	Pass
2509.5	6000	1	Peak	2559.507	-41.8	0.066	2.5	Pass
6000	12500	1	Peak	12208	-49.47	0.011	2.5	Pass

A.4 Antenna Power Error Measurement

802.11b Test Result

Duty cycle = 0.912

Antenna Power Density PD = power value dBm (contains cable loss dB) +10 log10(1/ Duty cycle) dB

Manufacturer declares the rated power density = 2.80 mW/MHz

Test Channel	Test Voltage	Antenna Power Density PD (dBm/ MHz)	Antenna Power Density PD (mW / MHz)	Antenna Power Error	Upper Limit (%)	Verdict
Low	NV	3.54	2.26	-19.31%	20	Pass
Middle		2.95	1.97	-29.56%	20	Pass
High		3.18	2.08	-25.73%	20	Pass

EIRP Antenna Power

Test Channel	Test Voltage	Measured EIRP (dBm/ MHz)	Limit (dBm/MHz)	Verdict
Low	NV	4.59	12.14	Pass
Middle		4.00		Pass
High		4.23		Pass

802.11g Test Result

Duty cycle = 0.914

Antenna Power Density PD = power value dBm (contains cable loss dB) +10 log10(1/ Duty cycle) dB

Manufacturer declares the rated power density = 1.50 mW/MHz

Test Channel	Test Voltage	Antenna Power Density PD (dBm/ MHz)	Antenna Power Density PD (mW / MHz)	Antenna Power Error	Upper Limit (%)	Verdict
Low	NV	0.23	1.05	-29.71%	20	Pass
Middle		0.60	1.15	-23.46%	20	Pass
High		0.68	1.17	-22.03%	20	Pass

EIRP Antenna Power

Test Channel	Test Voltage	Measured EIRP (dBm/ MHz)	Limit (dBm/MHz)	Verdict
Low	NV	1.28	12.14	Pass
Middle		1.65		Pass
High		1.73		Pass

802.11n-20 MHz Test Result

Duty cycle = 0.907

Antenna Power Density PD = power value dBm (contains cable loss dB) +10 log10(1/ Duty cycle) dB

Manufacturer declares the rated power density = 1.50 mW/MHz

Test Channel	Test Voltage	Antenna Power Density PD (dBm/ MHz)	Antenna Power Density PD (mW / MHz)	Antenna Power Error	Upper Limit (%)	Verdict
Low	NV	0.25	1.06	-29.38%	20	Pass
Middle		0.50	1.12	-25.20%	20	Pass
High		0.10	1.02	-31.78%	20	Pass

EIRP Antenna Power

Test Channel	Test Voltage	Measured EIRP (dBm/ MHz)	Limit (dBm/MHz)	Verdict
Low	NV	1.30	12.14	Pass
Middle		1.55		Pass
High		1.15		Pass

802.11ac-20 MHz Test Result

Duty cycle = 0.914

Antenna Power Density PD = power value dBm (contains cable loss dB) +10 log10(1/ Duty cycle) dB

Manufacturer declares the rated power density = 1.40 mW/MHz

Test Channel	Test Voltage	Antenna Power Density PD (dBm/ MHz)	Antenna Power Density PD (mW / MHz)	Antenna Power Error	Upper Limit (%)	Verdict
Low	NV	-0.07	0.98	-29.71%	20	Pass
Middle		-0.05	0.99	-29.39%	20	Pass
High		0.09	1.02	-27.08%	20	Pass

EIRP Antenna Power

Test Channel	Test Voltage	Measured EIRP (dBm/ MHz)	Limit (dBm/MHz)	Verdict
Low	NV	0.98	9.13	Pass
Middle		1.00		Pass
High		1.14		Pass

802.11ax-20 MHz(SU) Test Result

Duty cycle = 0.921

Antenna Power Density PD = power value dBm (contains cable loss dB) +10 log10(1/ Duty cycle) dB

Manufacturer declares the rated power density = 1.40 mW/MHz

Test Channel	Test Voltage	Antenna Power Density PD (dBm/ MHz)	Antenna Power Density PD (mW / MHz)	Antenna Power Error	Upper Limit (%)	Verdict
Low	NV	-0.13	0.97	-30.68%	20	Pass
Middle		-0.04	0.99	-29.23%	20	Pass
High		0.04	1.01	-27.91%	20	Pass

EIRP Antenna Power

Test Channel	Test Voltage	Measured EIRP (dBm/ MHz)	Limit (dBm/MHz)	Verdict
Low	NV	0.92	12.14	Pass
Middle		1.01		Pass
High		1.09		Pass

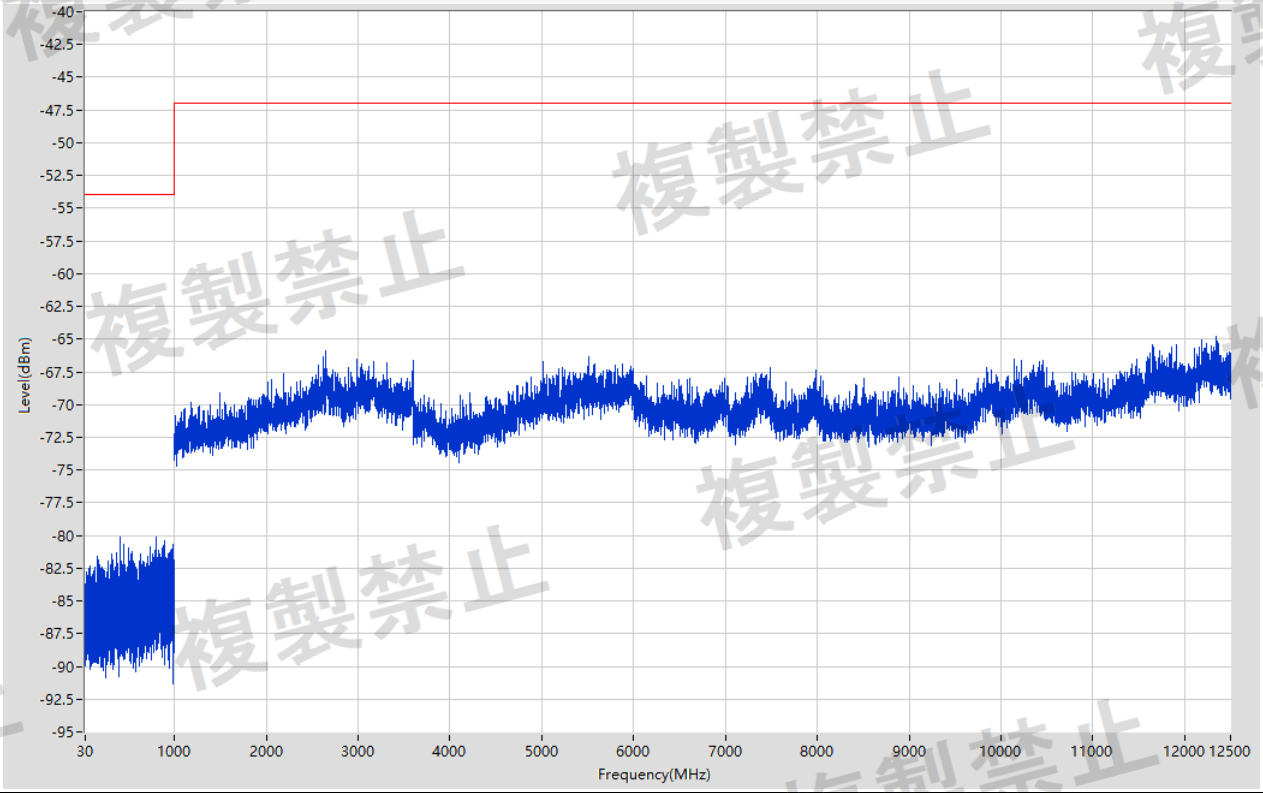
A.5 Limitation of Collateral Emission of Receiver Measurement

Test Data

Mode	Test Voltage	Channel	Refer to Plot	Verdict
802.11b	NV	Low	A.5.1	Pass
		Middle	A.5.2	Pass
		High	A.5.3	Pass
802.11g	NV	Low	A.5.4	Pass
		Middle	A.5.5	Pass
		High	A.5.6	Pass
802.11n-20 MHz	NV	Low	A.5.7	Pass
		Middle	A.5.8	Pass
		High	A.5.9	Pass
802.11ac-20 MHz	NV	Low	A.5.10	Pass
		Middle	A.5.11	Pass
		High	A.5.12	Pass
802.11ax-20 MHz(SU)	NV	Low	A.5.13	Pass
		Middle	A.5.14	Pass
		High	A.5.15	Pass

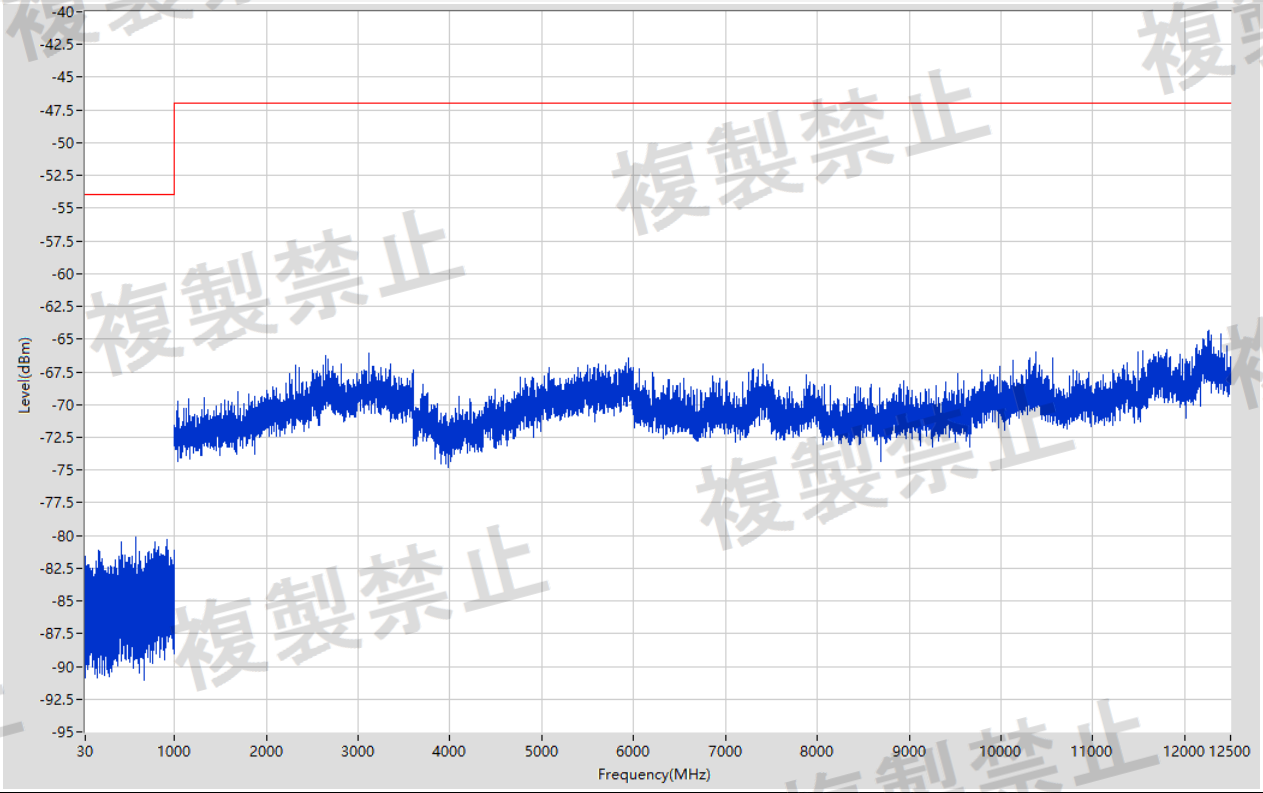
Test Plots

A.5.1 802.11b NV Low Channel



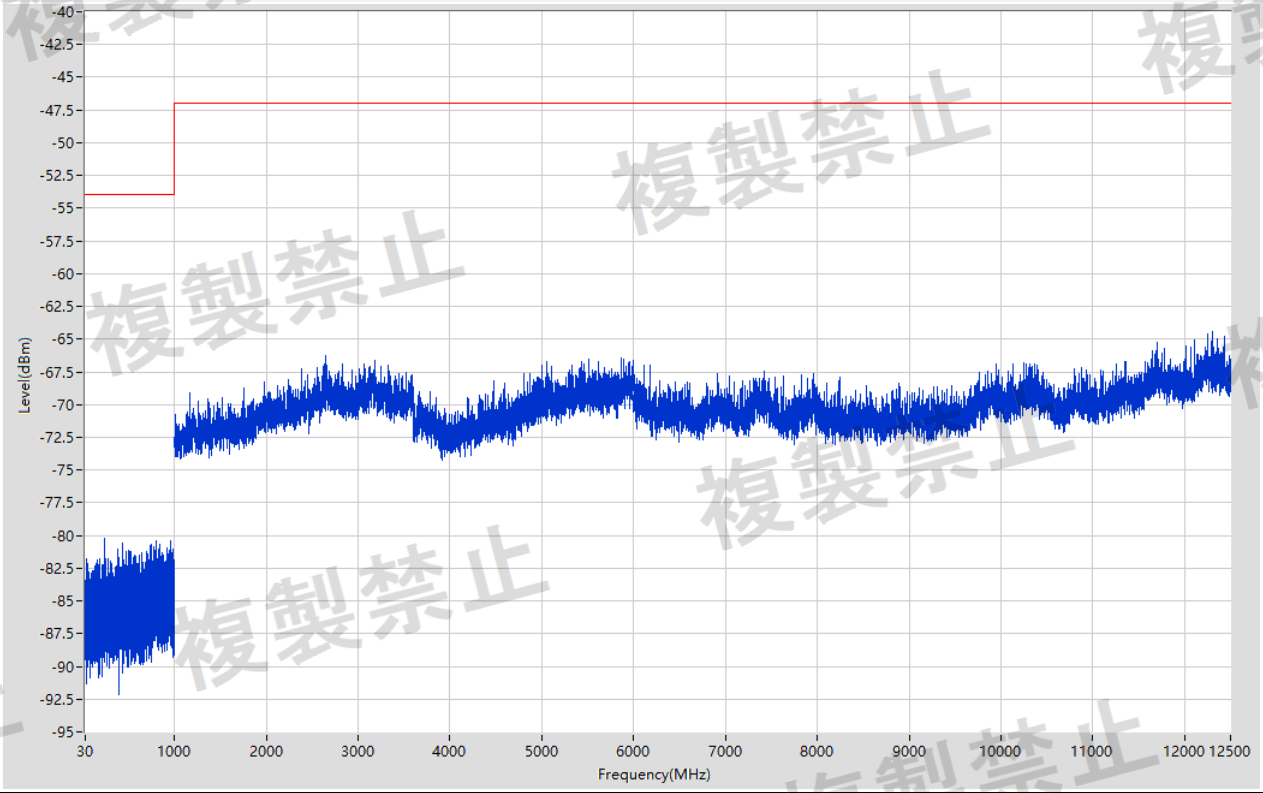
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	414.1	-80.09	0.01	-54	4.0	26.09	Pass
1000	6000	1	Peak	2645	-65.91	0.26	-47	20.0	18.91	Pass
6000	12500	1	Peak	12344	-64.8	0.33	-47	20.0	17.8	Pass

A.5.2 802.11b NV Middle Channel



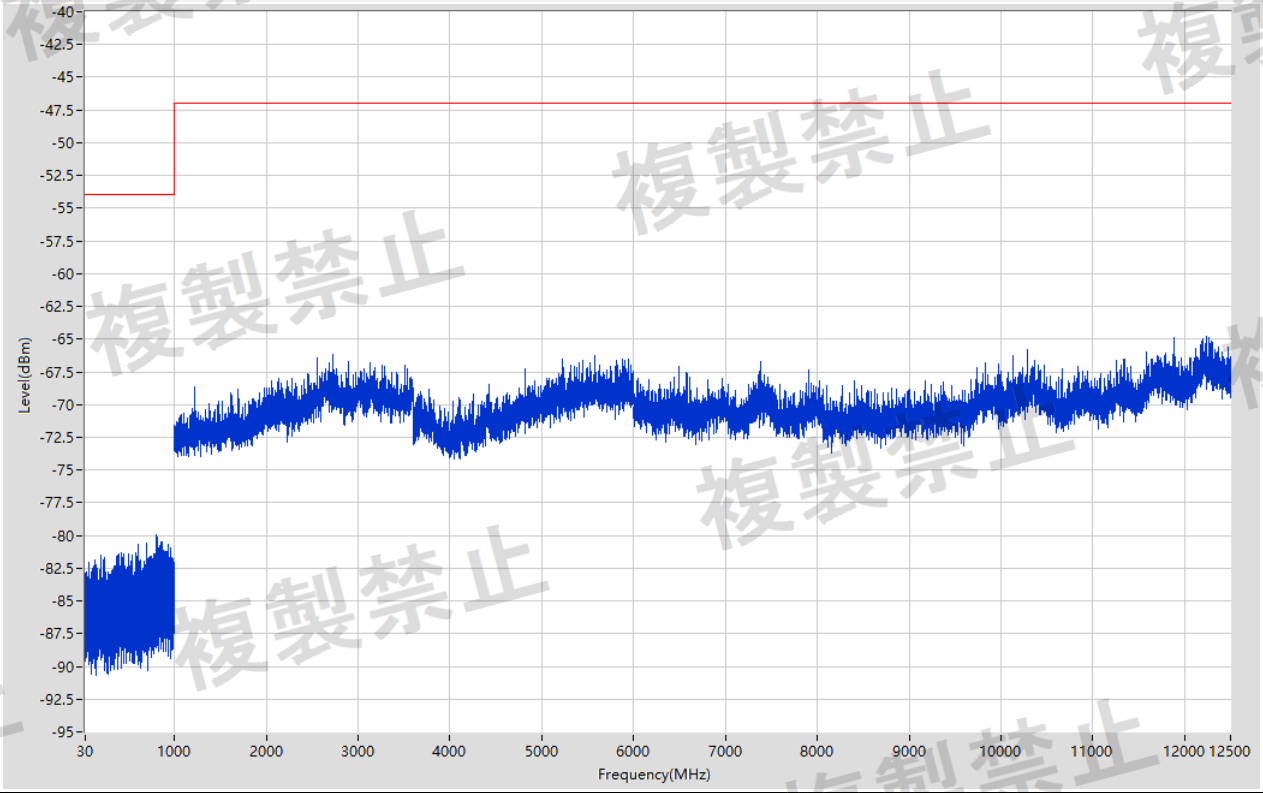
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	585.9	-80.12	0.01	-54	4.0	26.12	Pass
1000	6000	1	Peak	3121	-66.1	0.25	-47	20.0	19.1	Pass
6000	12500	1	Peak	12270	-64.34	0.37	-47	20.0	17.34	Pass

A.5.3 802.11b NV High Channel



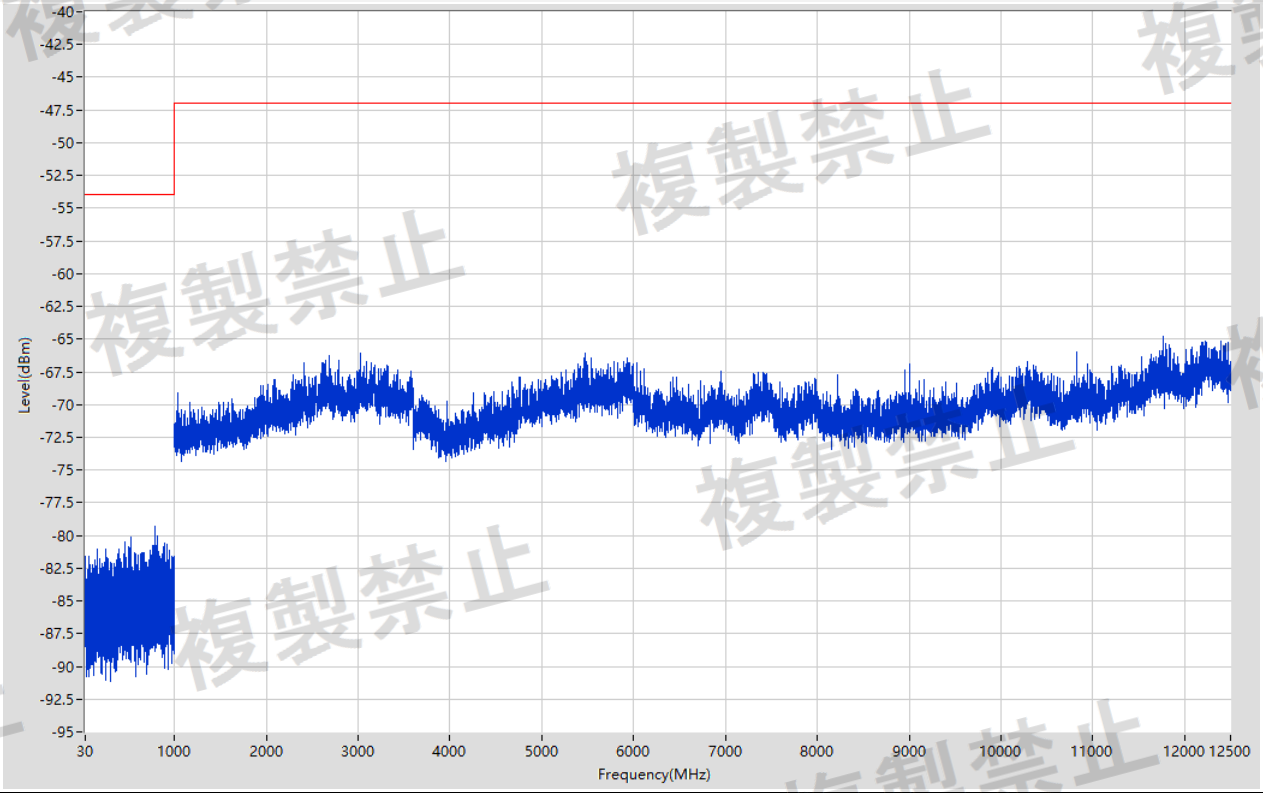
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	233.5	-80.26	0.01	-54	4.0	26.26	Pass
1000	6000	1	Peak	2649	-66.3	0.23	-47	20.0	19.3	Pass
6000	12500	1	Peak	12310	-64.43	0.36	-47	20.0	17.43	Pass

A.5.4 802.11g NV Low Channel



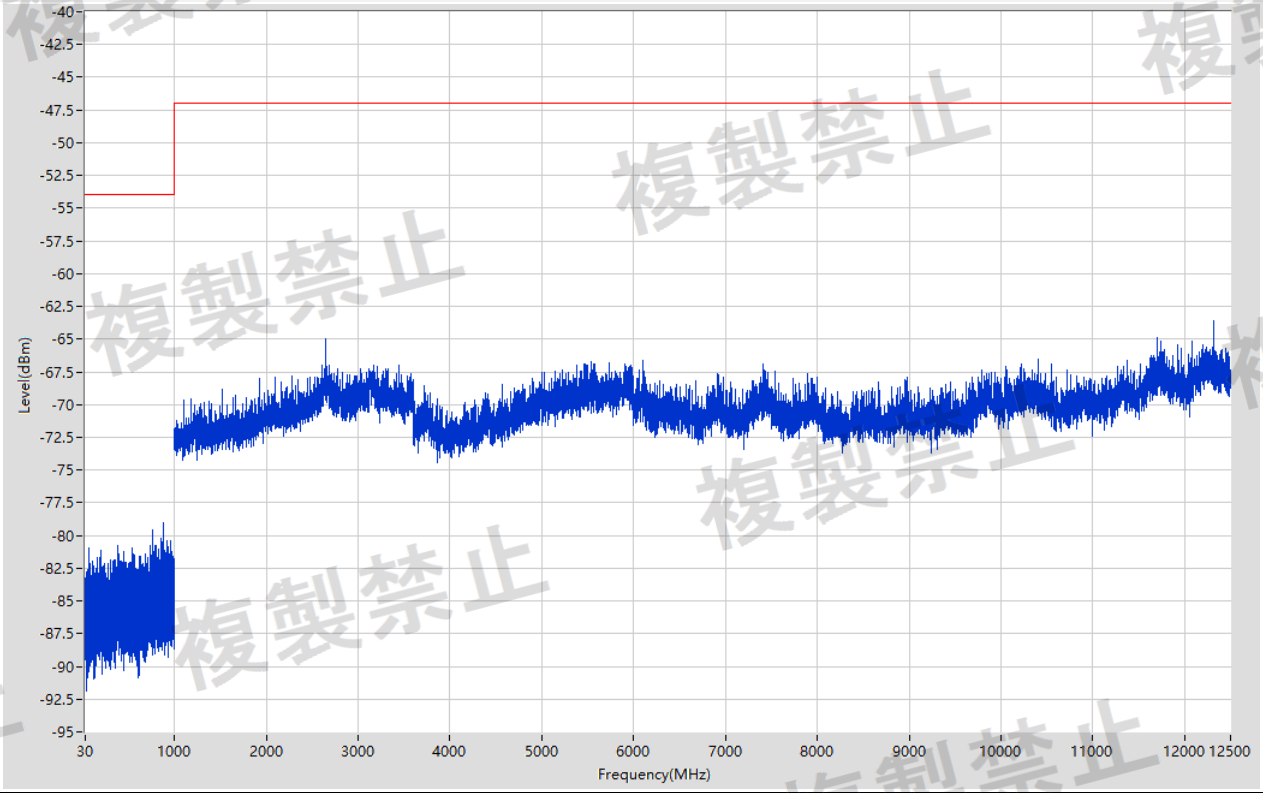
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	798.3	-79.91	0.01	-54	4.0	25.91	Pass
1000	6000	1	Peak	2727	-66.19	0.24	-47	20.0	19.19	Pass
6000	12500	1	Peak	12234	-64.83	0.33	-47	20.0	17.83	Pass

A.5.5 802.11g NV Middle Channel



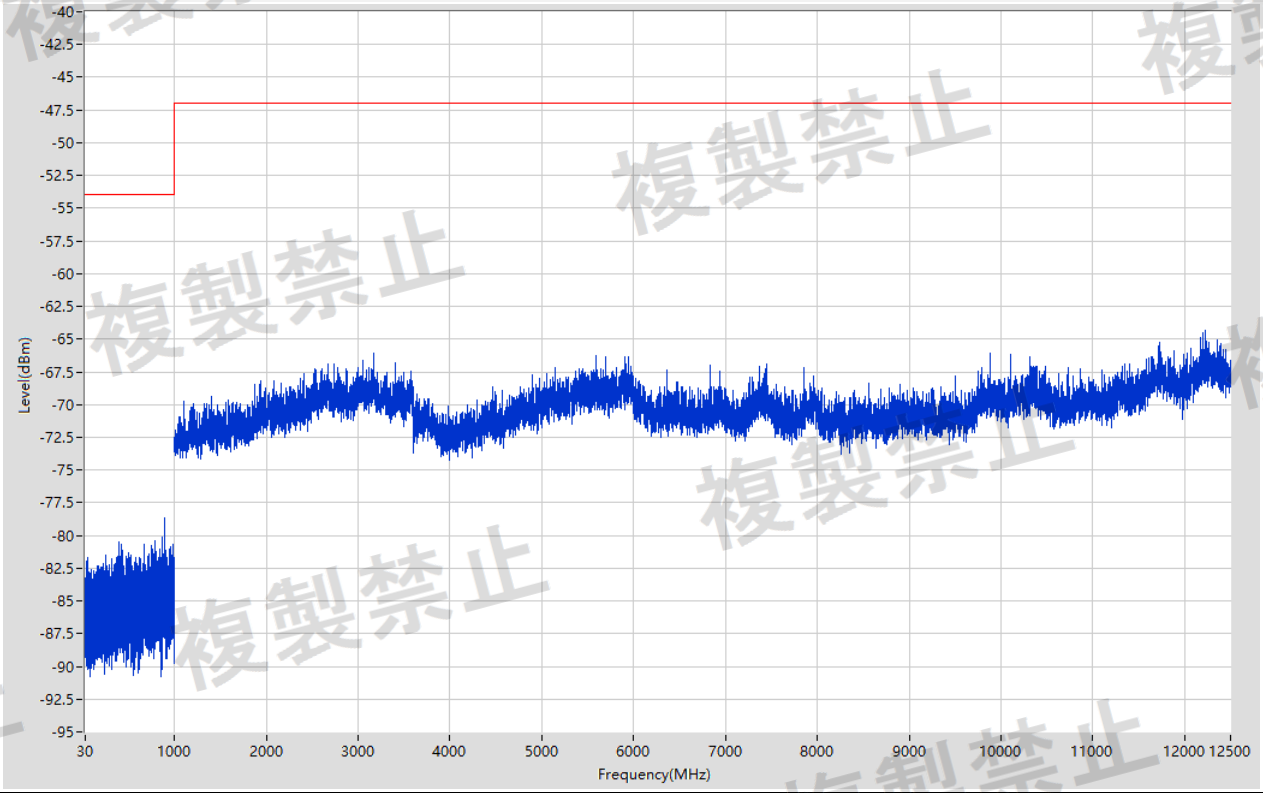
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	784.2	-79.34	0.01	-54	4.0	25.34	Pass
1000	6000	1	Peak	5468	-66.07	0.25	-47	20.0	19.07	Pass
6000	12500	1	Peak	11763	-64.79	0.33	-47	20.0	17.79	Pass

A.5.6 802.11g NV High Channel



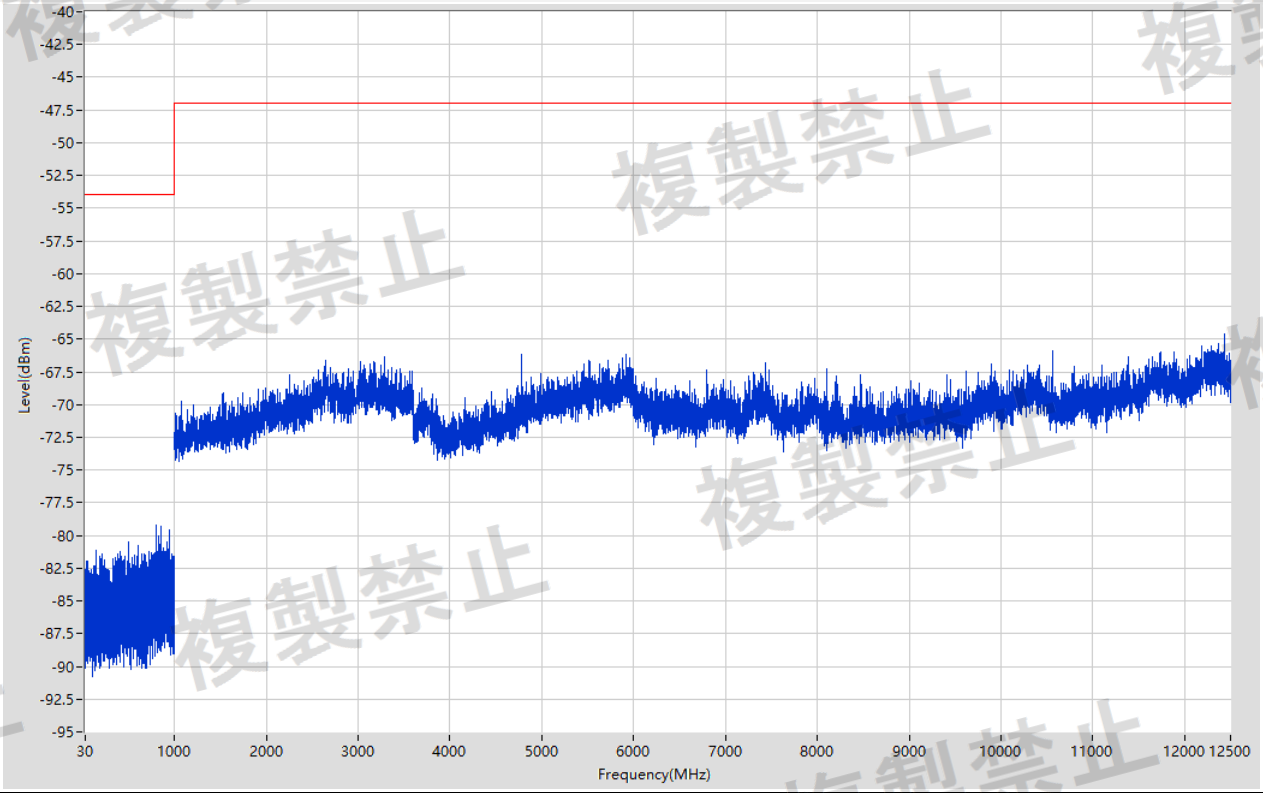
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	874	-79.06	0.01	-54	4.0	25.06	Pass
1000	6000	1	Peak	2647	-65	0.32	-47	20.0	18	Pass
6000	12500	1	Peak	12319	-63.6	0.44	-47	20.0	16.6	Pass

A.5.7 802.11n-20MHz NV Low Channel



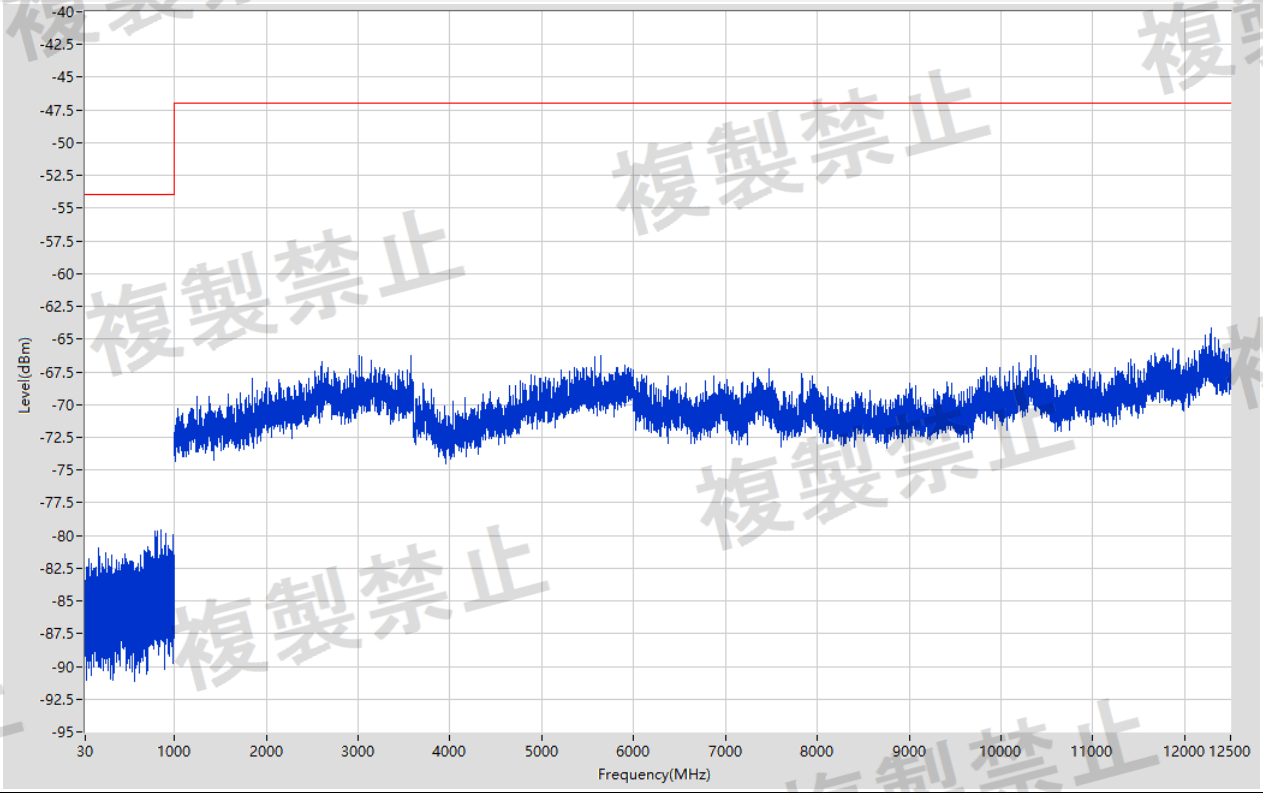
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	888.6	-78.67	0.01	-54	4.0	24.67	Pass
1000	6000	1	Peak	3166	-66.12	0.25	-47	20.0	19.12	Pass
6000	12500	1	Peak	12228	-64.37	0.37	-47	20.0	17.37	Pass

A.5.8 802.11n-20MHz NV Middle Channel



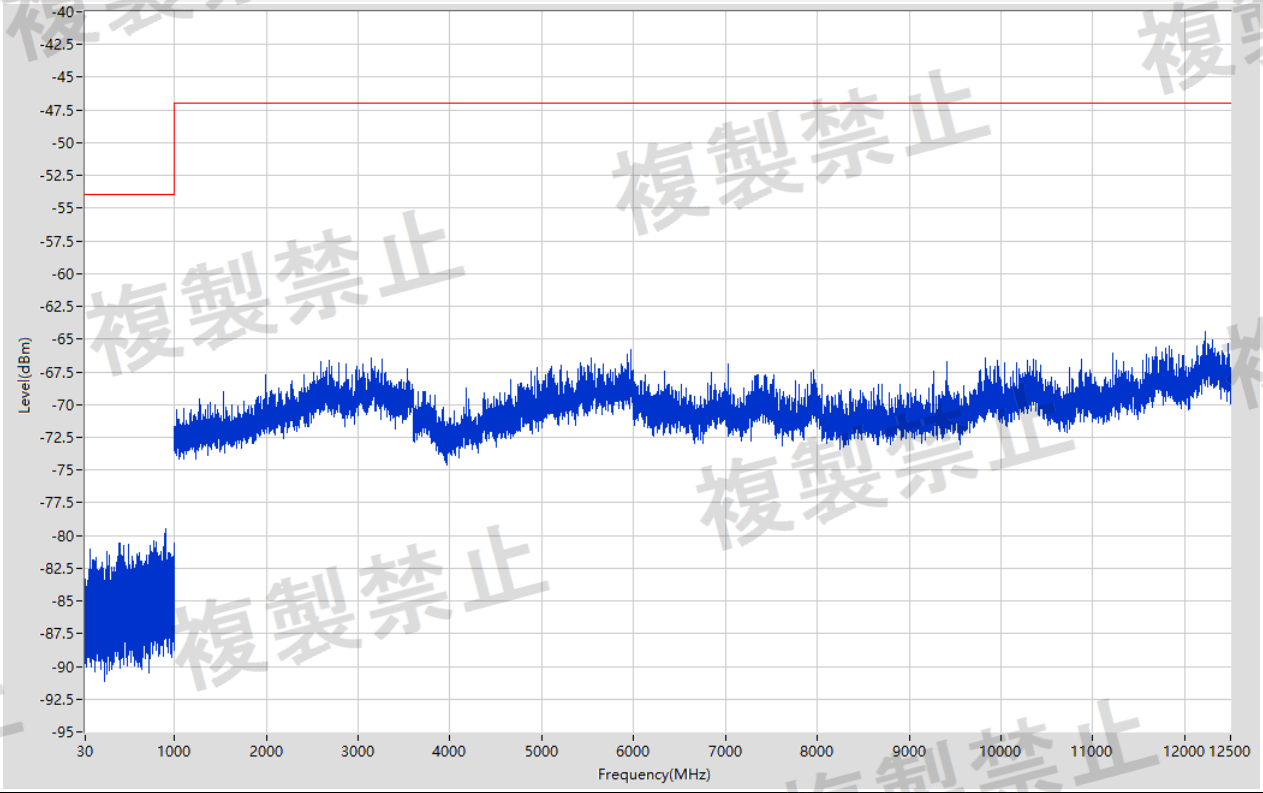
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	800.9	-79.17	0.01	-54	4.0	25.17	Pass
1000	6000	1	Peak	5922	-66.15	0.24	-47	20.0	19.15	Pass
6000	12500	1	Peak	12438	-64.58	0.35	-47	20.0	17.58	Pass

A.5.9 802.11n-20MHz NV High Channel



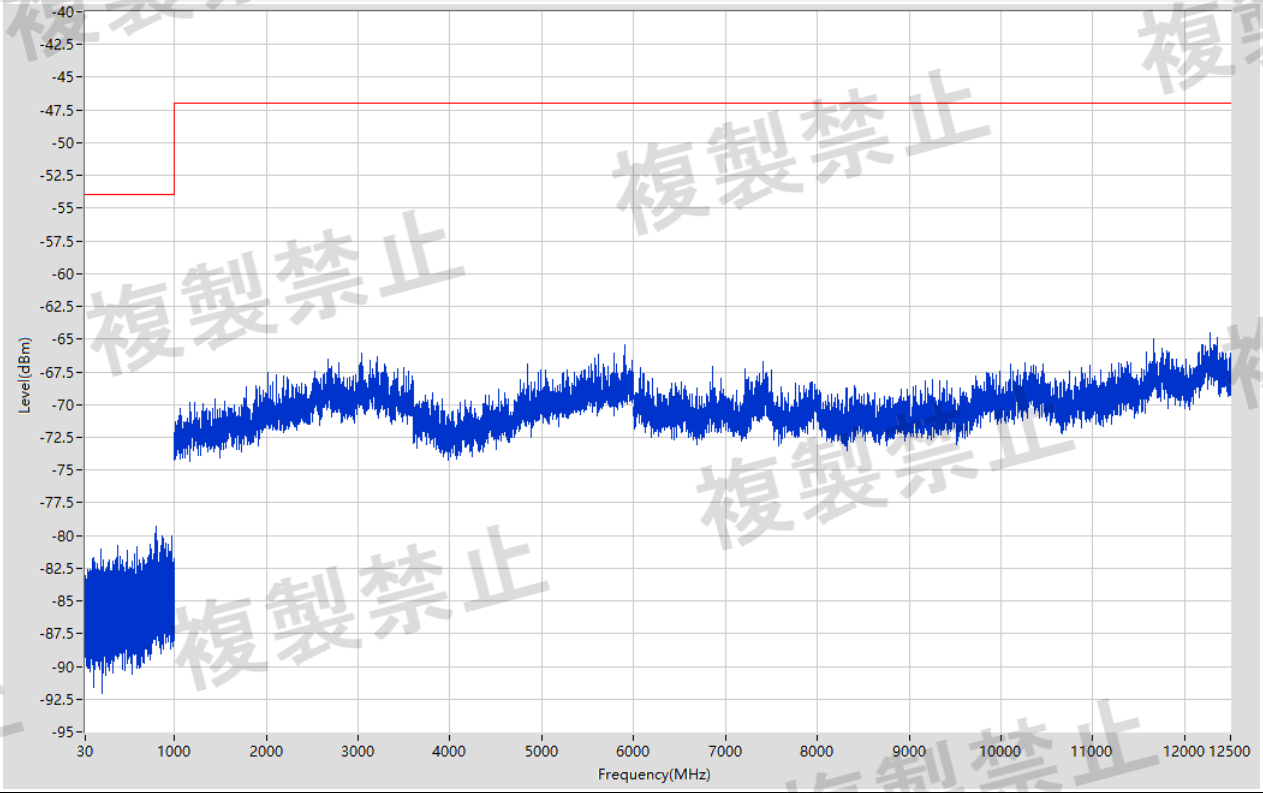
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	856.5	-79.53	0.01	-54	4.0	25.53	Pass
1000	6000	1	Peak	3015	-66.26	0.24	-47	20.0	19.26	Pass
6000	12500	1	Peak	12296	-64.15	0.38	-47	20.0	17.15	Pass

A.5.10 802.11ac-20MHz NV Low Channel



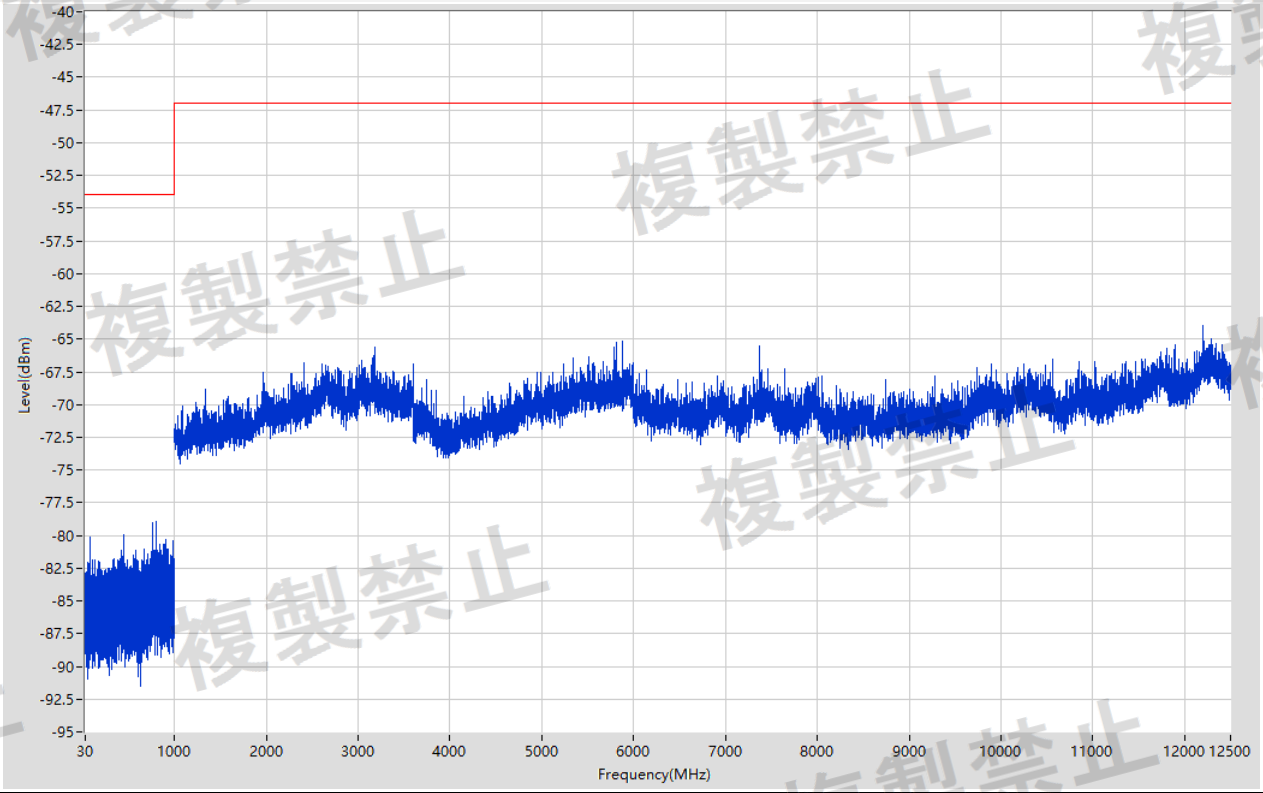
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	902.5	-79.46	0.01	-54	4.0	25.46	Pass
1000	6000	1	Peak	5973	-65.77	0.27	-47	20.0	18.77	Pass
6000	12500	1	Peak	12224	-64.44	0.36	-47	20.0	17.44	Pass

A.5.11 802.11ac-20MHz NV Middle Channel



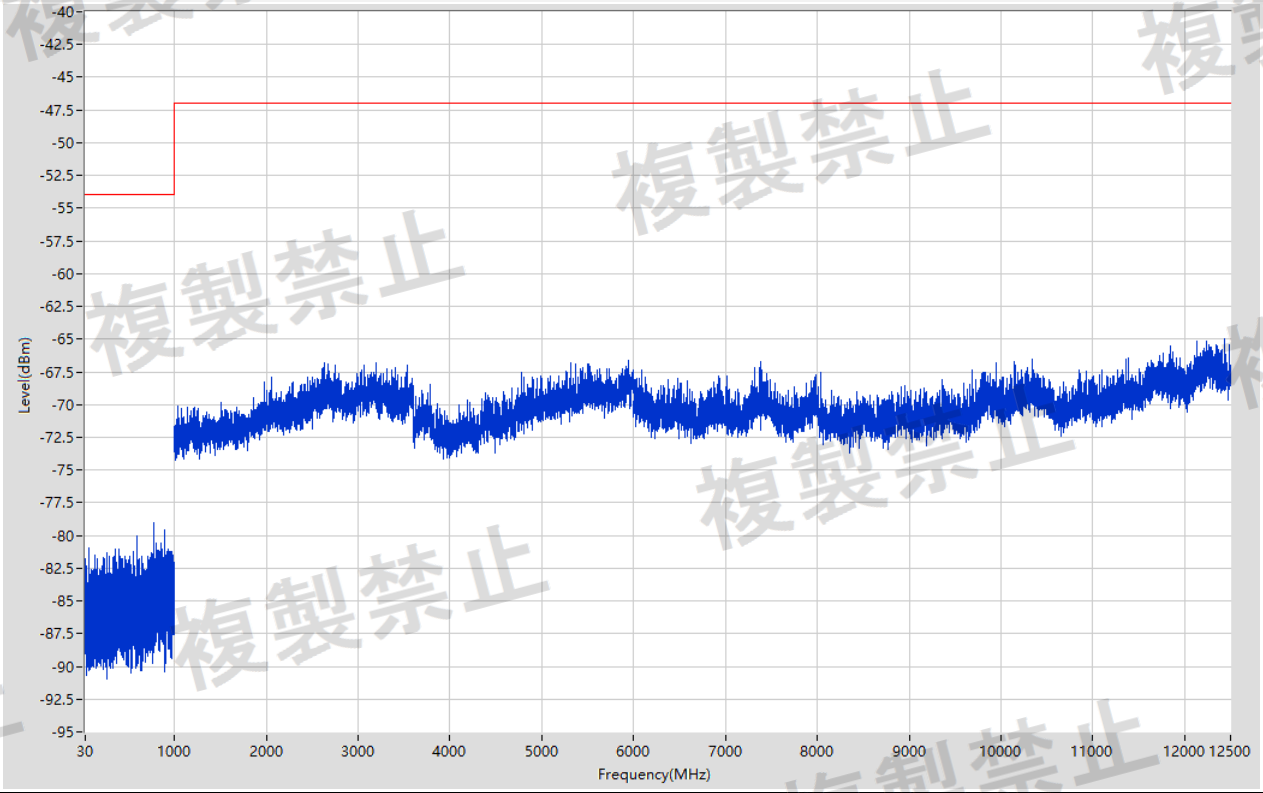
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	800	-79.26	0.01	-54	4.0	25.26	Pass
1000	6000	1	Peak	5909	-65.45	0.29	-47	20.0	18.45	Pass
6000	12500	1	Peak	12282	-64.48	0.36	-47	20.0	17.48	Pass

A.5.12 802.11ac-20MHz NV High Channel



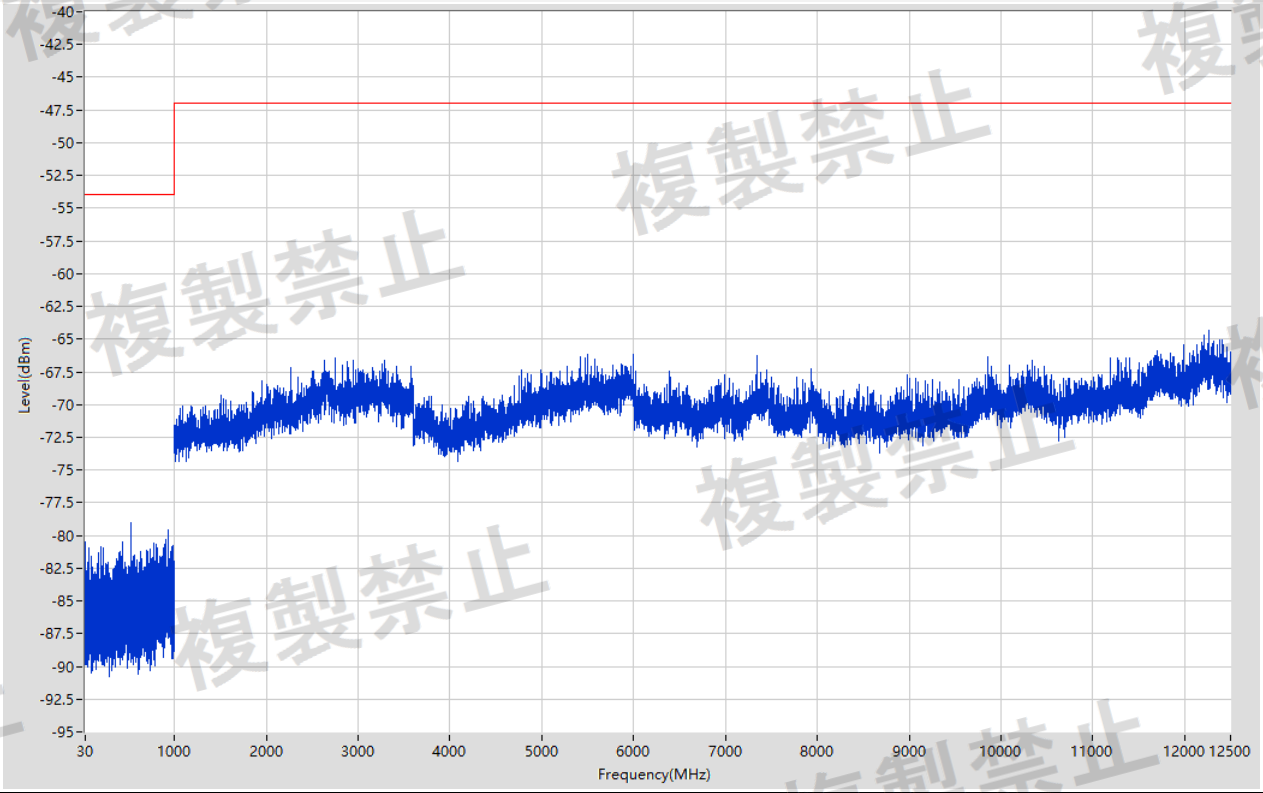
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	800	-78.9	0.01	-54	4.0	24.9	Pass
1000	6000	1	Peak	5881	-65.19	0.3	-47	20.0	18.19	Pass
6000	12500	1	Peak	12203	-63.93	0.4	-47	20.0	16.93	Pass

A.5.13 802.11ax-20 MHz(SU) NV Low Channel



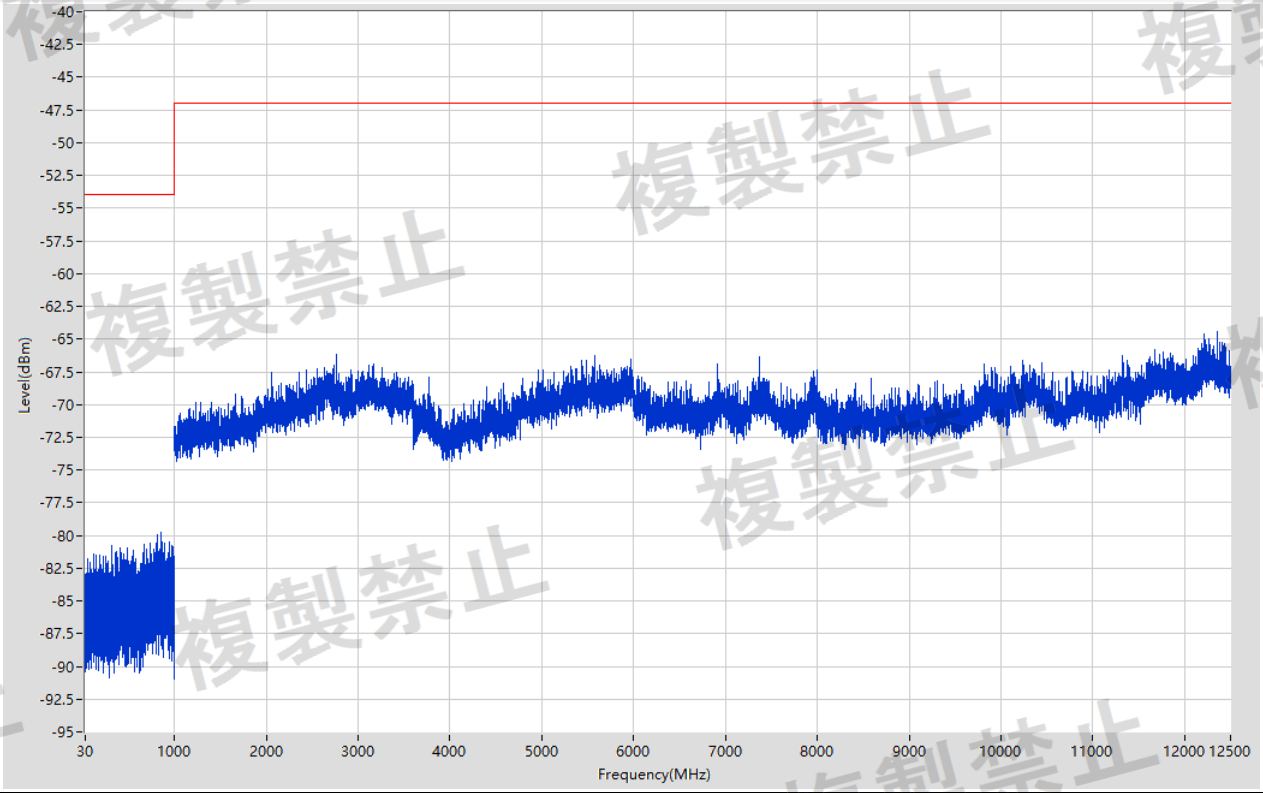
Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	779.2	-79.04	0.01	-54	4.0	25.04	Pass
1000	6000	1	Peak	5942	-66.67	0.22	-47	20.0	19.67	Pass
6000	12500	1	Peak	12432	-65.02	0.32	-47	20.0	18.02	Pass

A.5.14 802.11ax-20 MHz(SU) NV Middle Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	526.7	-79.03	0.01	-54	4.0	25.03	Pass
1000	6000	1	Peak	5992	-66.19	0.24	-47	20.0	19.19	Pass
6000	12500	1	Peak	12269	-64.32	0.37	-47	20.0	17.32	Pass

A.5.15 802.11ax-20 MHz(SU) NV High Channel



Start Frequency (MHz)	Stop Frequency (MHz)	RBW (MHz)	Detector	Frequency (MHz)	Power (dBm)	Power (nW)	Limit (dBm)	Limit (nW)	Margin (dB)	Verdict
30	1000	0.1	Peak	848.6	-79.75	0.01	-54	4.0	25.75	Pass
1000	6000	1	Peak	2765	-66.18	0.24	-47	20.0	19.18	Pass
6000	12500	1	Peak	12358	-64.38	0.37	-47	20.0	17.38	Pass

A.6 Carrier sensing function (1)

Note: Only for orthogonal frequency division multiplexing (OFDM) system which occupied bandwidth is over 26MHz.

A.7 Carrier sensing function (2)

Note: Because of the EUT is not a radio control of outdoor-use model-airplane, so this test item will not be applied.

A.8 Transmission Antenna Gain (EIRP Antenna Power) Measurement

Note: Not applicable.

A.9 Transmission Radiation Angle Width (3dB Bandwidth) Measurement

Note: Not applicable.

A.10 Radio Interference Prevention Capability Measurement

ID Code: 25 7D 4C 46 52 38

Test Voltage	Test Result (ID Code)	Verdict
NV	GOOD	Pass

A.11 Construction Protection Confirmation Method

The RF and modulation portions are protected against illegal modification as following method:

Protected Method	Description
Structure protection	Plastic case is glued using a special adhesive, can't be easily opened.
Reference Photo	

ANNEX B TEST SETUP PHOTOS

Please refer the document “Ti-CC26050016-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “Ti-CC26050016-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “Ti-CC26050016-AI.PDF”.

複製禁止

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--END OF REPORT--