

Japan Radio Test Report

Project No. : 2606H011
Equipment : Floor Cleaning Robot
Brand Name : ECOVACS
Test Model : ZJ2576
Series Model : ZJ2633
Applicant : Ecovacs Home Service Robotics Co., Ltd.
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Date of Receipt : Jun. 09, 2026
Date of Test : Jun. 11, 2026~Jun. 22, 2026
Issued Date : Jul. 10, 2026
Test Sample : Engineering Sample No.: SH920260609155
Standard(s) : Ordinance Regulating Radio Equipment General Provisions,
Transmitting Equipment, Receiving Equipment, Article 49-20
Test Procedure : Test Method Specified Radio Equipment Article 2 Paragraph 1 of item19
(MIC Notice No.88 Appendix No.43)

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Shanghai)

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

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BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-JPAP-1-2606H011	R00	Original Report.	Jul. 10, 2026	Valid

1. SUMMARY OF TEST RESULTS

Part	Description of Test	Rule Section	Result
3.1	Frequency Tolerance	Article 5, Annex 1	Pass
3.2	Occupied Bandwidth (99%)	Article 6, Annex 2	Pass
3.3	Unwanted Emission Intensity	Article 7, Annex 3	Pass
3.4	Antenna Power Tolerance	Article 14	Pass
3.5	Limitation of Collateral Emission of Receiver	Article 24, Paragraph 2	Pass
3.6	Transmission Antenna Gain (EIRP Antenna Power)	Article 49-20	Pass
3.7	Transmission Radiation Angle Width (3dB Beamwidth)	Article 49-20	N/A
3.8	Radio Interference Prevention Capability	Article 9-4, Item 5 Article 6-2, Item 3 and 5 of the Regulation for Enforcement of the Radio Law	Pass
3.9	Carrier Sense Capability	Article 49-20	Pass
3.10	Construction Protection Confirmation	Article 49-20	Pass

Method of measurement:	MIC Notice No.88 Appendix No.43
Test condition:	Conductive, RF test program provided by the customer was used to control the operating channel as well as the output power level.

Abbreviations used in this test report are as follows:

NC:	Normal Condition
EC:	Extreme Condition
EUT:	Equipment Under Test
DS:	Direct spreading
FH:	Frequency hopping
OFDM:	Orthogonal frequency division multiplexing

1.1. TEST FACILITY

The test facilities used to collect the test data in this report:

TR02: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China.

1.2. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
Frequency Tolerance	± 0.1536 Hz
Antenna Power	± 0.3473 dB
Occupied Bandwidth	$\pm 0.07\%$
Unwanted Emission Strength	± 0.3792 dB
Adjacent Channel Emitted Power	± 0.6052 dB
Temperature	$\pm 0.3^{\circ}\text{C}$
Humidity	$\pm 1.3\%$
Voltage	± 0.7 v

1.3. TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Frequency Tolerance	25°C	45%	DC 14.4V	Agenti Liu
Occupied Bandwidth (99%)	25°C	45%	DC 14.4V	Agenti Liu
Unwanted Emission Intensity	25°C	45%	DC 14.4V	Agenti Liu
Antenna Power Tolerance	25°C	45%	DC 14.4V	Agenti Liu
Limitation of Collateral Emission of Receiver	25°C	45%	DC 14.4V	Agenti Liu
Carrier Sense Capability	25°C	45%	DC 14.4V	Agenti Liu

2. GENERAL INFORMATION

2.1. GENERAL DESCRIPTION OF EUT

Equipment	Floor Cleaning Robot
Brand Name	ECOVACS
Test Model	ZJ2576
Series Model	ZJ2633
Model Difference(s)	Different fan models are used.
Hardware Version	N/A
Software Version	N/A
Power Source	ZJ2576: DC voltage supplied from AC/DC adapter Brand/ Model: ECOVACS/CH2625 ZJ2576: DC voltage supplied from AC/DC adapter Brand/ Model: ECOVACS/CH2589 Battery supplied. Model: S10-LI-144-5200
Power Rating	CH2625: Rating Input (Charging): 220-240V~, 50-60Hz,0,2A; Power (Hot water washing Mop): 150W; Power(Emptying): 400W Rating Output: 20V , 1.5A. CH2589: Rating Input (Charging): 220-240V~, 50-60Hz,0,2A; Power(Emptying): 400W Power(Dry) : 1.2A Rating Output: 20V , 1.5A. Nominal Voltage: 14.4V Max Charge Voltage: 16.6V Typical Capacity: 5200mAh/74.88Wh Rated Capacity:4800mAh/69.12Wh
Operation Frequency	2412 MHz ~ 2472 MHz
Modulation Technology	IEEE 802.11b:DSSS IEEE 802.11g/n:OFDM IEEE 802.11ax:OFDMA

Numbers of subcarriers of OFDM	more than 1 subcarriers per MHz
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 150 Mbps IEEE 802.11ax: up to 143.4 Mbps
Occupied Bandwidth	35.88 MHz
Antenna Power (Rated Power)	IEEE 802.11b: 8.00 mW/MHz IEEE 802.11g: 4.50 mW/MHz IEEE 802.11n(HT20): 4.50 mW/MHz IEEE 802.11n(HT40): 2.50 mW/MHz IEEE 802.11ax(HE20): 4.00 mW/MHz
Antenna Power (Max. Conducted Power)	IEEE 802.11b: 7.9250 mW/MHz IEEE 802.11g: 4.2658 mW/MHz IEEE 802.11n(HT20): 4.3853 mW/MHz IEEE 802.11n(HT40): 2.1184 mW/MHz IEEE 802.11ax(HE20): 3.5975 mW/MHz

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

2. Channel List:

CH01 - CH13 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20), IEEE 802.11ax(HE20)					
CH03 - CH11 for IEEE 802.11n(HT40)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	06	2437	11	2462
02	2417	07	2442	12	2467
03	2422	08	2447	13	2472
04	2427	09	2452		
05	2432	10	2457		

3. Table for Filed Antenna:

Ant.	Brand	P/N	Antenna Type	Connector	Gain(dBi)
1	FN-LINK TECHNOLOGY Ltd.	4A8-1100-5200	PCB	N/A	1.1

- 1) The antenna gain is provided by the manufacturer.

2.2. DESCRIPTION OF TEST MODES

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

The EUT was tuned to a low, middle and high channel for all tests.

The EUT continuously transmitted a modulated packet with payload, while transmitting the EUT was setup to operate at the intended maximum power output available to the end user.

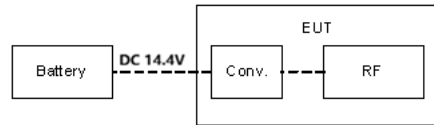
For all test case pre/scans were completed in all modes to determine worst case levels.

Test Mode	Description
Mode 1	IEEE 802.11b/CH01,CH07,CH13
Mode 2	IEEE 802.11g/CH01,CH07,CH13
Mode 3	IEEE 802.11n(HT20)/CH01,CH07,CH13
Mode 4	IEEE 802.11n(HT40)/CH03,CH07,CH11
Mode 5	IEEE 802.11ax(HE20)/CH01,CH07,CH13

Note:

- 1) IEEE 802.11ax mode only support full RU, so only the full RU is evaluated and measured inside report.

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	14.4V	15.84V	12.96V
Output: DC Power	3.29V	3.29V	3.29V
Voltage Variation (%)	-	0	0

Measurement point

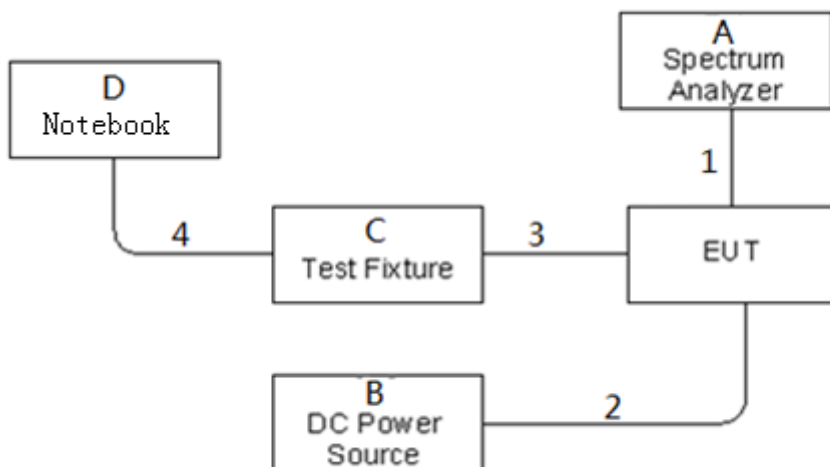


Note:

Voltage Variation (%)
= (Output High Voltage or Low Voltage - Output Normal Voltage)/Output Normal Voltage * 100

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

2.3. BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4. DESCRIPTION OF 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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
A	EXA Spectrum Analyzer	Keysight	N9020B	MY57120173
B	DC Power Supply	GW INSTEK	GPC-3030DN	EH897352
C	Test Fixture	N/A	N/A	N/A
D	PC	DELL	N/A	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	RF CABLE	YES	NO	0.1m
2	DC POWER CABLE	YES	NO	1.2m
3	CONTROL CABLE	NO	NO	0.1m
4	USB CABLE	NO	NO	1.1m

2.5. TABLE FOR PARAMETERS OF TEST SOFTWARE SETTING

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	IPOP V4.0		
Frequency (MHz)	2412	2442	2472
IEEE 802.11b	Default	Default	Default
IEEE 802.11g	Default	Default	Default
IEEE 802.11n(HT20)	Default	Default	Default
IEEE 802.11ax(HE20)	Default	Default	Default
Frequency (MHz)	2422	2442	2462
IEEE 802.11n(HT40)	Default	Default	Default

3. TEST RESULTS

3.1. FREQUENCY TOLERANCE MEASUREMENT

3.1.1. LIMIT

Item	Limits
	(See Article 5 and Annex 1 table 7-8 of the Ordinance Regulating Radio Equipment)
Frequency Tolerance	-50≤ppm≤50

3.1.2. SETTING

The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Span	200kHz
RBW / VBW	10kHz / 10kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

3.1.3. TEST PROCEDURES

Test method according to Clause 3 of Annex No.43 of MIC Notification No.88.

1. Frequency accuracy of SA shall be less than 10% of limits tolerance (5ppm).
2. Set spectrum analyzer with condition in section 3.1.2 and tune reference level to observe receiving signal position.
3. Center Frequency: The center frequency of testing for EUT.
4. EUT have transmitted absence of modulation signal and fixed channelize. f is using the mark cursor to mark the peak frequency value, f_c is declaring of channel frequency.

Then the frequency error formula is $(f_c - f) / f_c \times 10^6$ ppm and the limit is less than ± 50 ppm.

3.1.4. TEST SETUP LAYOUT



3.1.5. TEST DEVIATION

There is no deviation with the original standard.

3.1.6. EUT OPERATION DURING TEST

The EUT was programmed to be in un-modulation mode.

3.1.7. TEST RESULTS

Please refer to the Appendix A.

3.2. OCCUPIED BANDWIDTH MEASUREMENT

3.2.1. LIMIT

Item	Limits (See Article 6 and Annex 2 30 of the Ordinance Regulating Radio Equipment)
Occupied Bandwidth	DSSS and OFDM (20MHz systems)≤26MHz; OFDM (40MHz systems)≤40MHz

3.2.2. SETTING

The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Span	20MHz systems: 50MHz 40MHz systems: 100MHz
RBW / VBW	300kHz / 300kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

3.2.3. TEST PROCEDURES

Test method according to Clause 4 of Annex No.43 of MIC Notification No.88.

1. Set spectrum analyzer with condition in section 3.2.2 and tune reference level to observe receiving signal position.
2. EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26MHz (For DSSS or OFDM 20MHz systems) or 40MHz(For OFDM 40MHz systems).

3.2.4. TEST SETUP LAYOUT



3.2.5. TEST DEVIATION

There is no deviation with the original standard.

3.2.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

3.2.7. TEST RESULTS

Please refer to the Appendix B.

3.3. UNWANTED EMISSION INTENSITY MEASUREMENT

3.3.1. LIMIT

Item	Limits
	(See Article 7 and Annex 3 26 of the Ordinance Regulating Radio Equipment)
TX	$\leq 2.5 \mu\text{W}/\text{MHz}$ ($30\text{MHz} \leq f \leq 1000\text{MHz}$)
Spurious	$\leq 2.5 \mu\text{W}/\text{MHz}$ ($1000\text{MHz} \leq f < 2387\text{MHz}$; $2496.5\text{MHz} < f$)
Emission	$\leq 25 \mu\text{W}/\text{MHz}$ ($2387\text{MHz} \leq f < 2400\text{MHz}$) and ($2483.5\text{MHz} < f \leq 2496.5\text{MHz}$)
Measurement range: 30MHz~5th harmonics	

3.3.2. SETTING

The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
RBW / VBW	100kHz / 100kHz (30~1000MHz) 1 MHz / 1 MHz (Above 1000MHz)
Detector	Positive Peak
Trace	Max Hold
Sweep Time	Auto

3.3.3. TEST PROCEDURES

Test method according to Clause 5 of Annex No.43 of MIC Notification No.88.

- EUT have transmitted the maximum modulation signal and fixed channelize.
- Set spectrum analyzer with condition in section 3.3.2 and tune reference level to observe receiving signal position.
- SA adjusted to start frequency 30MHz and stop frequency 1000MHz. Then to mark peak reading value + cable loss shall be less than $2.5 \mu\text{W}/\text{MHz}$.
- SA adjusted to start frequency 1000MHz and stop frequency 2387MHz. Then to mark peak reading value + cable loss shall be less than $2.5 \mu\text{W}/\text{MHz}$.
- SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than $25 \mu\text{W}/\text{MHz}$.
- SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz. Then to mark peak reading value + cable loss shall be less than $25 \mu\text{W}/\text{MHz}$.
- SA adjusted to start frequency 2496.5MHz and stop frequency 12500MHz. Then to mark peak reading value + cable loss shall be less than $2.5 \mu\text{W}/\text{MHz}$.
- If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like time domain power measurement as Result_Value.

3.3.4. TEST SETUP LAYOUT



3.3.5. TEST DEVIATION

There is no deviation with the original standard.

3.3.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

Note:

- ※ 1: Frequency Band 1 ($30\text{MHz} \leq f \leq 1000\text{MHz}$)
- ※ 2: Frequency Band 2 ($1000\text{MHz} \leq f < 2387\text{MHz}$)
- ※ 3: Frequency Band 3 ($2387\text{MHz} \leq f < 2400\text{MHz}$)
- ※ 4: Frequency Band 4 ($2483.5\text{MHz} < f \leq 2496.5\text{MHz}$)
- ※ 5: Frequency Band 5 ($2496.5\text{MHz} < f$)

Cable Loss(dB)	11.5
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3.3.7. TEST RESULTS

Please refer to the Appendix C.

3.4. ANTENNA POWER TOLERANCE MEASUREMENT

3.4.1. LIMIT

Item	Limits	
	(See Article 14 table 8 and Article 49-20 of the Ordinance Regulating Radio Equipment)	
Modulation Technology	DSSS and OFDM (20MHz systems)	OFDM (40MHz systems)
Antenna Power	10 mW/MHz or less	5 mW/MHz or less
EIRP	12.14 - 22.14 dBm/MHz or less	9.13 - 19.13 dBm/MHz or less
Antenna Power Tolerance	+20% (Base on manufacturer declare antenna power)	

3.4.2. SETTING

The following table is the setting of the spectrum analyzer.

Step 1:

Spectrum Parameter	Setting
Span	50MHz
RBW / VBW	1MHz / 3MHz
Detector	Positive Peak
Trace	Max Hold
Sweep Time	Auto

Step 3:

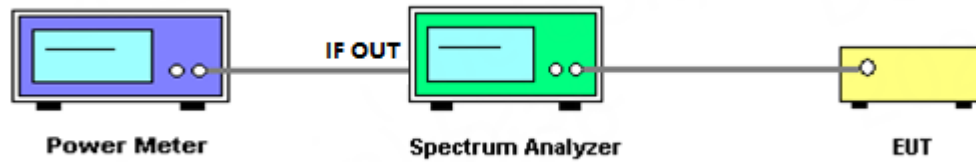
Spectrum Parameter	Setting
Span	0Hz
RBW / VBW	1MHz / 1MHz
Detector	Positive Peak
Trace	Max Hold
Sweep Time	60s

3.4.3. TEST PROCEDURES

Test method according to Clause 6 of Annex No.43 of MIC Notification No.88.

1. Set spectrum analyzer with condition in section 3.4.2 Step 1 and tune reference level to observe receiving signal position.
2. When the trace is complete, find the peak value of the power envelope and record the frequency.
3. Set spectrum analyzer with condition in section 3.4.2 Step 3 and tune reference level to observe receiving signal position.
4. Connect the high frequency power meter to the IF output terminal of the spectrum analyzer, measure the equivalent noise bandwidth at the resolution bandwidth of 1 MHz of the spectrum analyzer, correct the bandwidth to the 1 MHz equivalent bandwidth, and read the displayed value from the high frequency power meter.

3.4.4. TEST SETUP LAYOUT



3.4.5. TEST DEVIATION

There is no deviation with the original standard.

3.4.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

3.4.7. TEST RESULTS

Please refer to the Appendix D.

3.5. LIMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

3.5.1. LIMIT

Item	Limits (See Article 24, Paragraph 2 of the Ordinance Regulating Radio Equipment)
RX Spurious Emission	$\leq 4 \text{ nW } (-54 \text{ dBm}) (f < 1\text{GHz})$
	$\leq 20 \text{ nW } (-47 \text{ dBm}) (1\text{GHz} \leq f)$
Measurement range: 30MHz~5th harmonics	

3.5.2. SETTING

The following table is the setting of spectrum analyzer.

Spectrum Parameter	Setting
RBW / VBW	100kHz / 100kHz (30~1000MHz)
	1 MHz / 1 MHz (Above 1000MHz)
Detector	Positive Peak
Trace	Max Hold
Sweep Time	Auto

3.5.3. TEST PROCEDURES

Test method according to Clause 7 of Annex No.43 of MIC Notification No.88.

1. EUT have the continuous reception mode and fixed only one channelize.
2. Set spectrum analyzer with condition in section 3.5.2 and tune reference level to observe receiving signal position.
3. SA set RBW: 100kHz and VBW: 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 RBW: 1MHz and VBW: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW.

3.5.4. TEST SETUP LAYOUT



3.5.5. TEST DEVIATION

There is no deviation with the original standard.

3.5.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously receiving mode.

Note:

※ 6: Frequency Band 6 ($f < 1\text{GHz}$)

※ 7: Frequency Band 7 ($1\text{GHz} \leq f$)

Cable Loss(dB)	11.5
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3.5.7. TEST RESULTS

Please refer to the Appendix E.

3.6. TRANSMISSION ANTENNA GAIN (EIRP ANTENNA POWER) MEASUREMENT

3.6.1. LIMIT

Item	Limits (See Article 49-20 of the Ordinance Regulating Radio Equipment)
Transmission Antenna Gain	12.14 dBi or less (When an E.I.R.P. is less than the limit, the shortage can be compensated for by the gain of the transmitting antenna.)

3.6.2. SETTING

The following table is the setting of spectrum analyzer.

Spectrum Analyzer	Setting
Span	0Hz
RBW / VBW	1MHz / 1MHz
Detector	Positive Peak
Trace	Max Hold
Sweep Time	Auto

3.6.3. TEST PROCEDURES

Test method according to Clause 10 of Annex No.43 of MIC Notification No.88.

- Set EUT and measuring antenna at the same height (1.5 m) and roughly facing each other.
EUT have transmitted the maximum modulation signal and fixed channelize.
- Set spectrum analyzer with condition in section 3.6.2 and tune reference level to observe receiving signal position. Center Frequency: Provide maximum power frequency.
- Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
- 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. The output level at the spectrum analyzer is read as "E".
- Keeping the worst measuring antenna height and turntable angle unchanged, remove the EUT from the turntable and replace it with SG and a replacement standard antenna. Align the replacement antenna with the measuring antenna, and SG sends radio waves of the same frequency as the EUT. Adjust the replacement antenna to the maximum received power.
- Move the measuring antenna height up and down within $\pm 50\text{cm}$, maintain the worst height, and adjust the output power of SG to achieve the power value "E" in step 4 of the spectrum analyzer.
- Calculate EIRP by the formula below.

$$\text{EIRP} = G_S - L_F + P_S$$

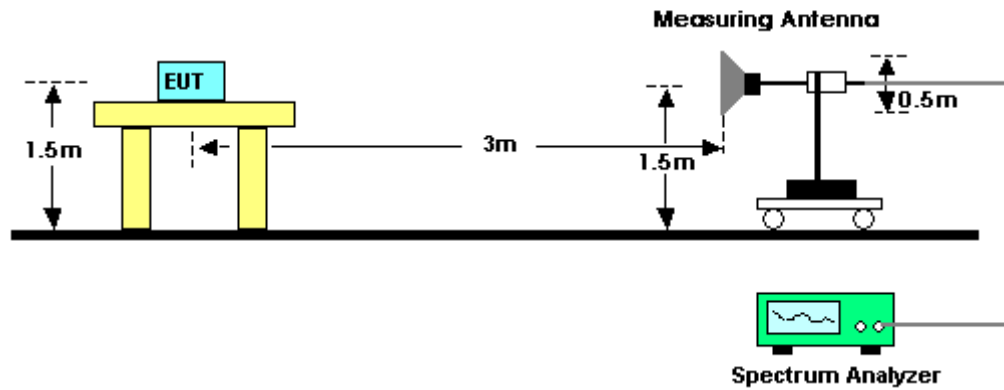
G_S : Gain of replacement antenna (dBi)

L_F : Cable loss between SG and replacement antenna (dB)

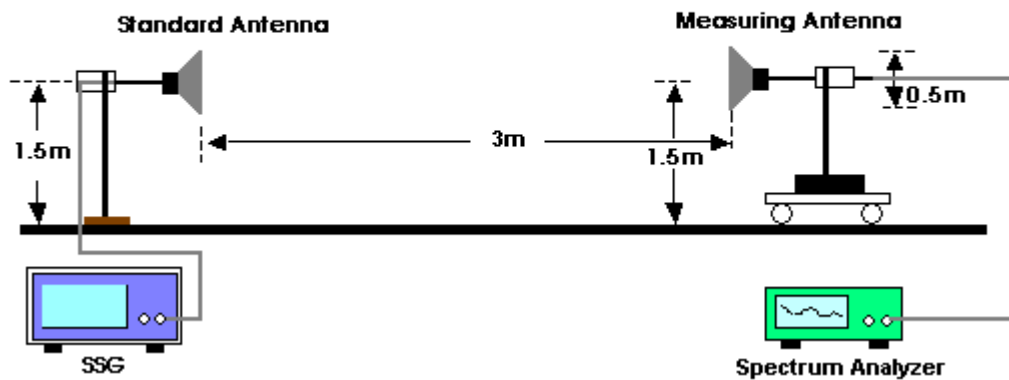
P_S : Output power of SG output port (dBm)

3.6.4. TEST SETUP LAYOUT

For EUT radiation measurement



For standard antenna measurement



3.6.5. TEST DEVIATION

There is no deviation with the original standard.

3.6.6. EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

3.6.7. RESULTS OF TRANSMISSION ANTENNA GAIN (EIRP ANTENNA POWER)

Method of measurement:	See MIC Notice No.88 Appendix No.43 Clause 10
Results:	N/A

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

3.7.1. LIMIT

Item	Limits
	(See Article 49-20 of the Ordinance Regulating Radio Equipment)
3dB antenna beam width	$360^{\circ}/A$ (if $A < 1$; then $A = 1$) $A = \text{EIRP Power [mW]} / 16.36 \text{ [mW]}$ for DSSS and OFDM (20MHz systems), or $A = \text{EIRP Power [mW]} / 8.18 \text{ [mW]}$ for OFDM (40MHz systems)

3.7.2. SETTING

The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Span	0Hz
RBW / VBW	1MHz / 1kHz
Y scale	5dB
Detector	Peak
Trace	Max Hold

3.7.3. TEST PROCEDURES

Test method according to Clause 11 of Annex No.43 of MIC Notification No.88.

- Set EUT and measuring antenna at the same height (1.5 m) and roughly facing each other.
EUT have transmitted absence of modulation signal and fixed channelize.
- Set spectrum analyzer with condition in section 3.7.2 and tune reference level to observe receiving signal position. Center Frequency: The center frequency of testing for EUT.
- Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
- 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. The output level at the spectrum analyzer is read as "E".
- Using the EIRP measured in section 3.6.3, calculate the allowable angles Θ_0 of the EUT's main radiation in the horizontal and vertical directions using the following formula.

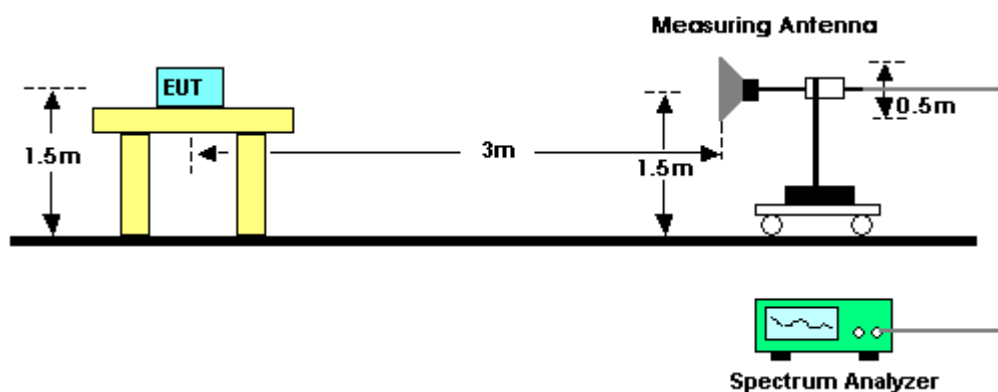
$$\Theta_0 = 360^{\circ} / A$$

$$\Theta_0$$
: The allowable angle of the main radiation of EUT transmission antenna ($^{\circ}$)

$$A$$
: EIRP Power [mW] / 16.36 or 8.18 [mW] (If $A < 1$; then $A = 1$)
- Rotate the EUT in the horizontal direction, reducing the angle of the rotating table by 3 dB from the maximum point of received power "E" (Θ_h : Measure the half angle of the horizontal plane).
- Place the EUT horizontally and rotate it as much as possible around the entire circumference from the main radiation direction Θ_0 to the radiation angle other than the one calculated in step 5, ensuring that the received power drops by more than 3dB from the maximum point "E" of the received power.

8. Vertical tilt EUT, measuring the angle from the horizontal plane when the received power drops by 3dB from the maximum point "E" (θ_v : The half value angle of the vertical plane).
9. After returning the test equipment to position 3, the angle of the main radiation calculated from the direction of the main radiation Θ_0 should be inclined along the vertical plane direction at the widest possible angle (set at 90 degrees or above) for other radiation angles, ensuring that the received power drops by more than 3dB from the maximum point "E" of the received power.

3.7.4. TEST SETUP LAYOUT



3.7.5. TEST DEVIATION

There is no deviation with the original standard.

3.7.6. EUT OPERATION DURING TEST

The EUT was programmed to be in un-modulation mode.

3.7.7. TEST RESULT OF TRANSMISSION RADIATION ANGLE WIDTH (3DB BEAMWIDTH)

Method of measurement:	See MIC Notice No.88 Appendix No.43 Clause 11
Results:	N/A

3.8. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

3.8.1. LIMIT

Item	Limits (See Article 9-4 Item 5 of the Ordinance Regulating Radio Equipment and Article 6-2 Item 3 of the Regulation for Enforcement of the Radio Law)
Identification code	The wireless equipment of the radio station mainly used in the same station automatically sends or receives the identification code.

3.8.2. MEASURING ID CODE SOFTWARE

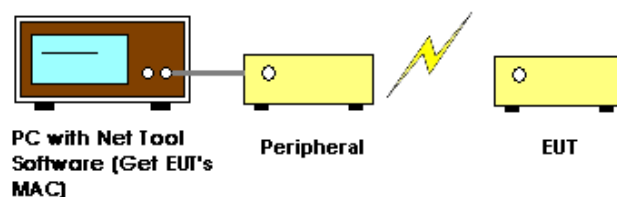
PC with Net Tool	Setting
MAC IP List	MAC Scan

3.8.3. TEST PROCEDURES

Test method according to Clause 23 of Annex No.43 of MIC Notification No.88.

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.

3.8.4. TEST SETUP LAYOUT



3.8.5. TEST DEVIATION

There is no deviation with the original standard.

3.8.6. EUT OPERATION DURING TEST

The EUT was programmed to be in normal mode.

3.8.7. TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILITY

Test Power:	Normal Voltage
Test Mode:	IEEE 802.11b
Test Result:	Pass (identification code: [EC:30:8E:AE:26:53])

EC:30:8E:AE:26:53

3.9. CARRIER SENSE CAPABILITY MEASUREMENT

3.9.1. LIMIT

Item	Limits
	(See Article 49-20 of the Ordinance Regulating Radio Equipment)
Carrier Sense	Pass - EUT stop RF transmission signal after carrier inject to EUT. (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz) or 100mV/m)

3.9.2. SETTING

The following table is the setting of the spectrum analyzer.

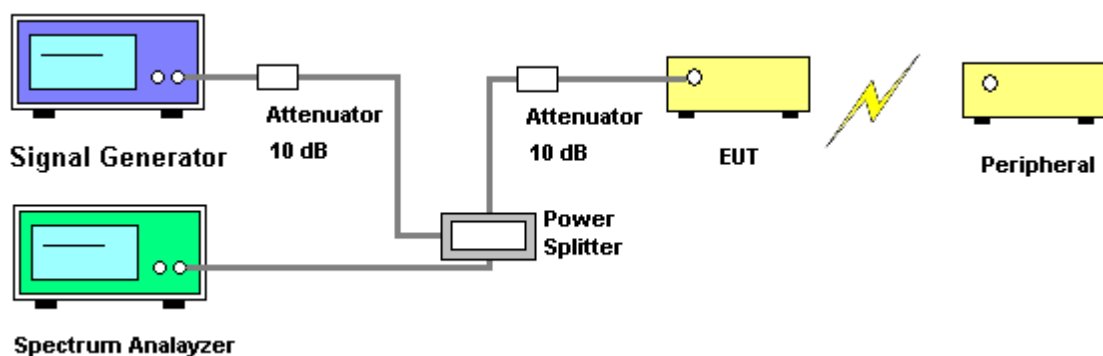
Spectrum Parameter	Setting
RBW / VBW	1MHz / 1MHz
Span	50MHz
Sweep	Continuous
Detector	Peak

3.9.3. TEST PROCEDURES

Test method according to Clause 8 of Annex No.43 of MIC Notification No.88.

1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the unmodulation from SG and power level is (On $22.79 + Gr - 20 \cdot \log(f)$ [dBm] (Gr: dBi; f: MHz) or 100mV/m). Then turn off the RF signal of SG.
2. EUT have transmitted the maximum modulation signal and fixed channelize.
3. Set spectrum analyzer with condition in section 3.9.2 and tune reference level to observe receiving signal position.
4. SG RF signal on.
5. EUT shall be stop the transmitted any signal.
6. SG RF Signal Off.
7. Then EUT will be continuous transmitted signal.

3.9.4. TEST SETUP LAYOUT



3.9.5. TEST DEVIATION

There is no deviation with the original standard.

3.9.6. EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

3.9.7. TEST RESULT OF CARRIER SENSE CAPABILITY

Test Power:	Normal Voltage
Test Mode:	IEEE 802.11n-HT40
Test Result:	Pass

3.10. CONSTRUCTION PROTECTION CONFIRMATION METHOD

3.10.1. LIMIT

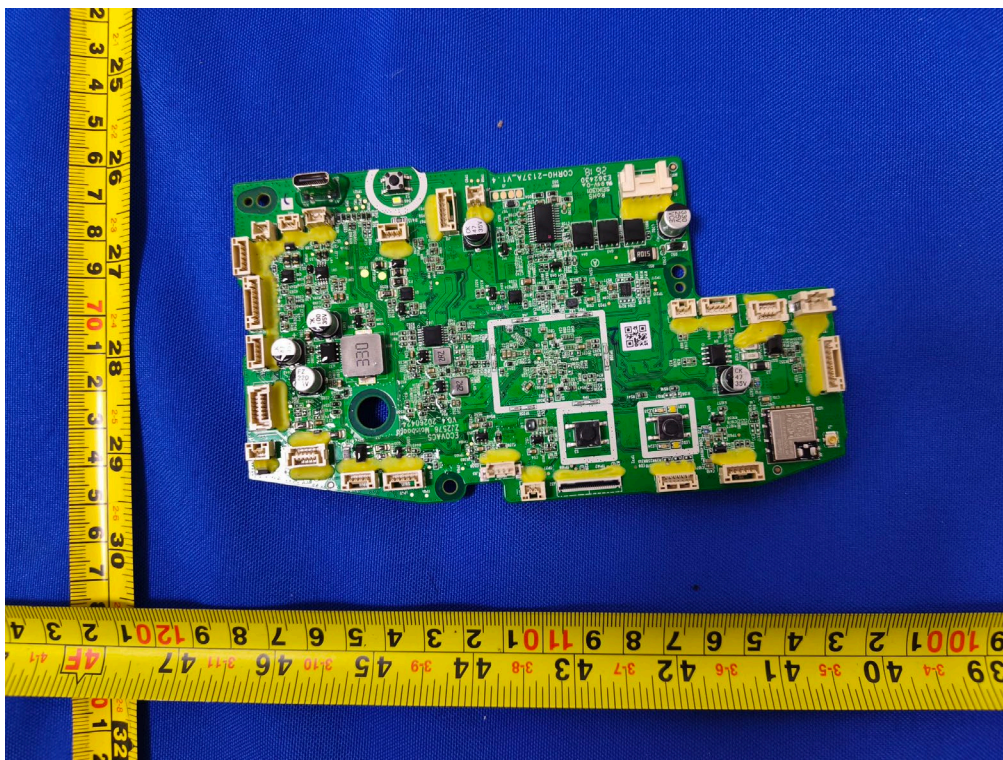
(See Article 49-20 of the Ordinance Regulating Radio Equipment)

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

3.10.2. CONFIRMATION METHOD

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

Tick the appropriate box	
	1. Sealed with special screws.
	2. Plastic chassis is being welded using ultrasonic waves.
	3. Chassis is glued using a special adhesive.
	4. Metal covers are spot-fused.
	5. Cover is specially interlocked.
✓	6. RF and Modulation components are covered with shielding case and this shielding case is soldered.
	7. Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
	8. Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
	9. Shield case is welded at RF and modulation parts, and ID-ROM is glued with a non-transparent laminating agent.
	10. RF and Modulation parts are mounted on PCB with surface mount technology, and there is no any adjustable part on PCB or adjustable parts are not exposed.



4. LIST OF MEASURING EQUIPMENTS

Kind of Equipment	Manufacturer	Model No.	Serial No.	Calibrated Date	Validity Date	Calibration Agency
Peak Power Analyzer	Keysight	8990B	MY51000507	Dec. 27, 2025	Dec. 26, 2026	China CEPREI Laboratory Calibration & Testing Centre
Wideband Power Sensor	Keysight	N1923A	MY58310003	Dec. 27, 2025	Dec. 26, 2026	China CEPREI Laboratory Calibration & Testing Centre
MXA Spectrum Analyzer	Keysight	N9020B	MY57120173	Dec. 27, 2025	Dec. 26, 2026	China CEPREI Laboratory Calibration & Testing Centre
BTL Conducted	BTL	20260106	N/A	N/A	N/A	N/A
EXA Spectrum Analyzer	Keysight	N9010A	MY56480545	Jul. 05, 2025	Jul. 04, 2026	China CEPREI Laboratory Calibration & Testing Centre
BTL	CTA	N/A	N/A	N/A	N/A	N/A
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY56200484	Jul. 05, 2025	Jul. 04, 2026	China CEPREI Laboratory Calibration & Testing Centre

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Calibration Agency: China CEPREI Laboratory Calibration & Testing Centre
CEPREI(Suzhou) address : No.601, Taishan Road, Hi-Tech District, Suzhou, Jiangsu, China
3. Calibration conducted in foreign countries, which is equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).

5. EUT TEST PHOTO

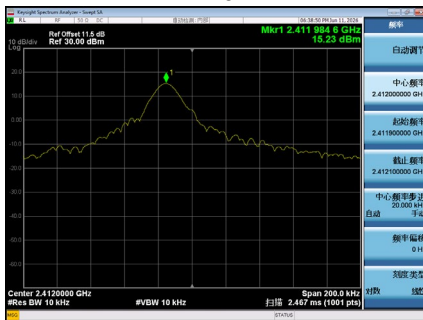


APPENDIX A - FREQUENCY TOLERANCE

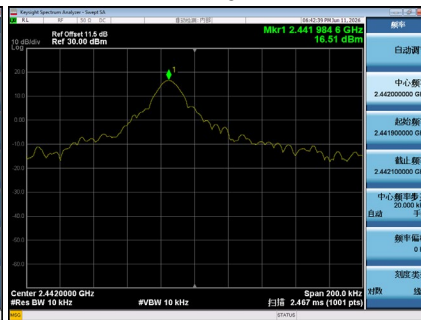
Test Mode: TX Mode_ IEEE 802.11b

Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Measured Frequency (MHz)	2411.9846	2441.9846	2471.9854	-
Frequency Tolerance (ppm)	-6.3847	-6.3063	-5.9061	Limit: -50≤ppm≤50

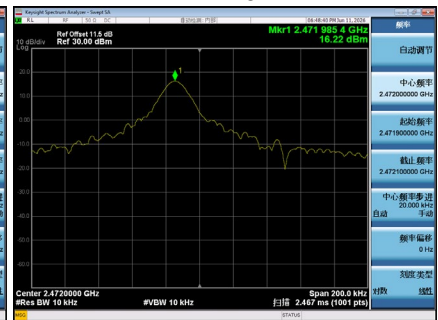
CH01



CH07



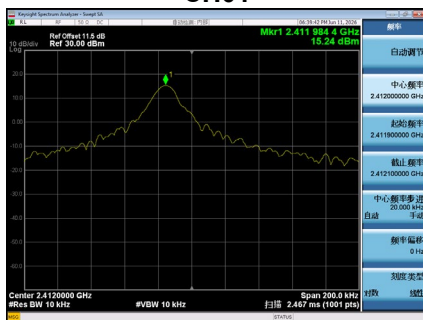
CH13



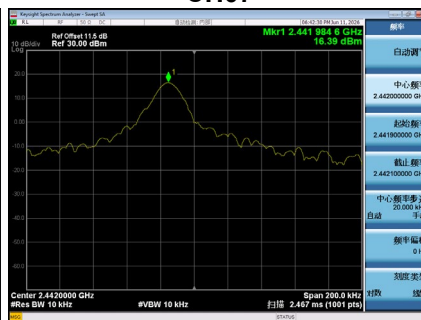
Test Mode:	TX Mode_ IEEE 802.11g
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Measured Frequency (MHz)	2411.9844	2441.9846	2471.9856	-
Frequency Tolerance (ppm)	-6.4677	-6.3063	-5.8252	Limit: -50≤ppm≤50

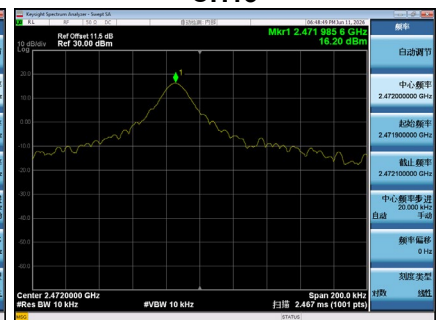
CH01



CH07



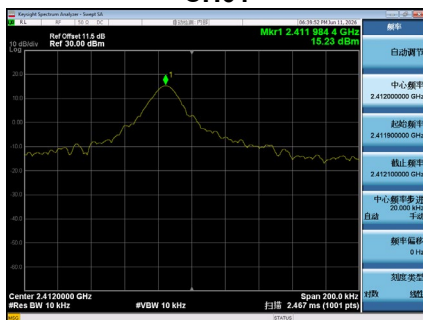
CH13



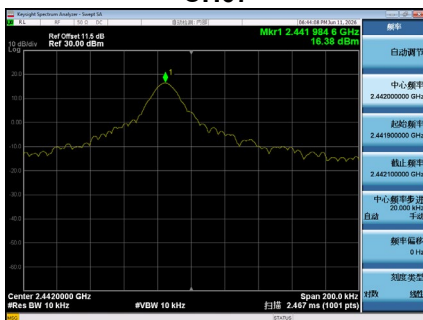
Test Mode:	TX Mode_ IEEE 802.11n(HT20)
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Measured Frequency (MHz)	2411.9844	2441.9846	2471.9852	-
Frequency Tolerance (ppm)	-6.4677	-6.3063	-5.9871	Limit: -50≤ppm≤50

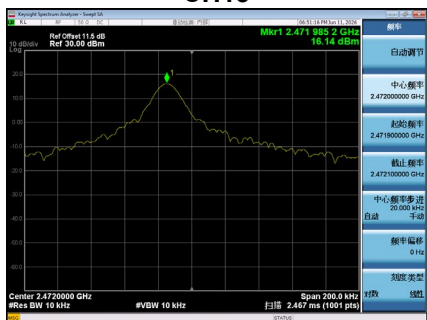
CH01



CH07



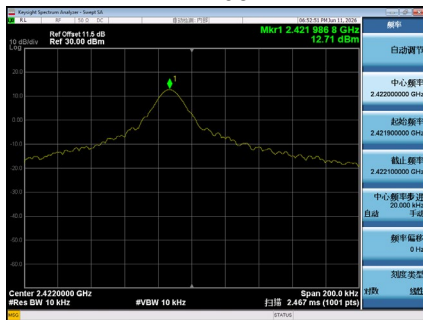
CH13



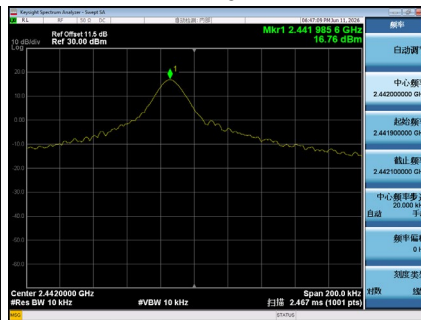
Test Mode: TX Mode_ IEEE 802.11n(HT40)

Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2422	2442	2462	Low/Mid/High of test frequency range
Measured Frequency (MHz)	2421.9868	2441.9856	2461.9874	-
Frequency Tolerance (ppm)	-5.4500	-5.8968	-5.1178	Limit: -50≤ppm≤50

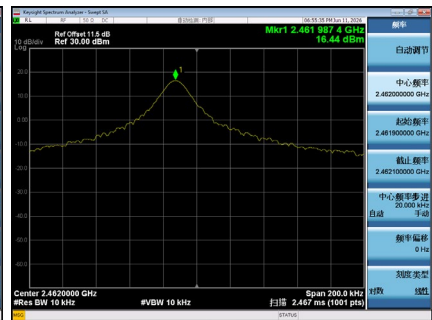
CH03



CH07



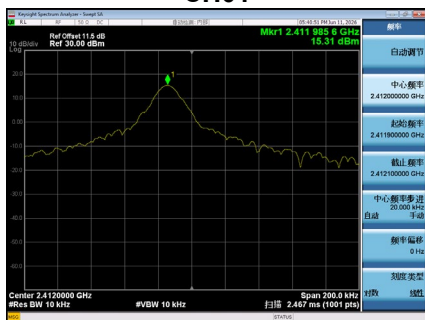
CH11



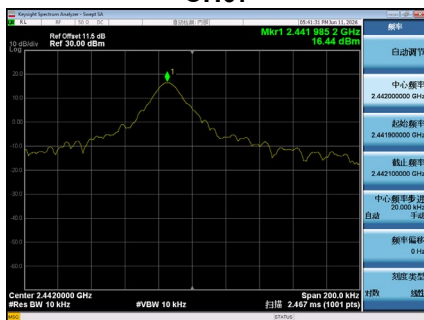
Test Mode:	TX Mode_ IEEE 802.11ax(HE20)
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Measured Frequency (MHz)	2411.9856	2441.9852	2471.9848	-
Frequency Tolerance (ppm)	-5.9701	-6.0606	-6.1489	Limit: -50≤ppm≤50

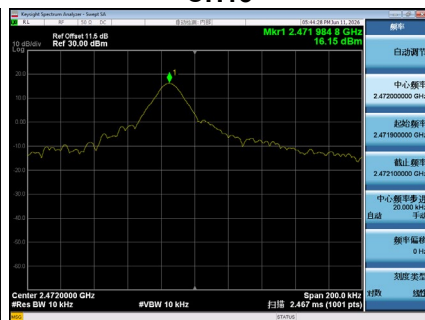
CH01



CH07



CH13

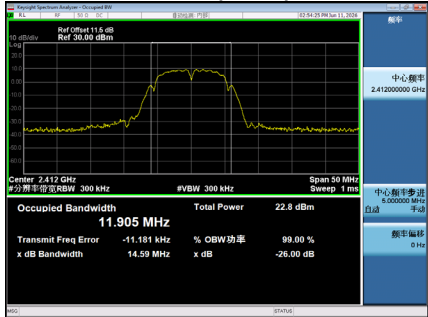


APPENDIX B - OCCUPIED BANDWIDTH

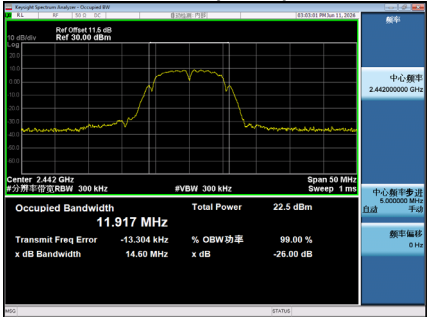
Test Mode:	TX Mode_ IEEE 802.11b
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	11.91	11.92	11.91	Limit ≤ 26 MHz

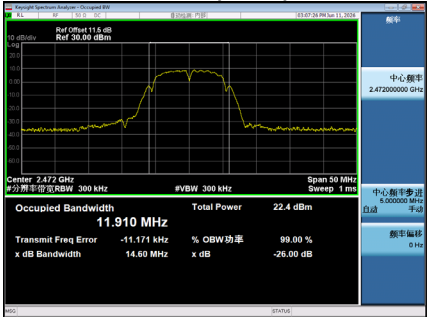
CH01 (99 %)



CH07 (99 %)



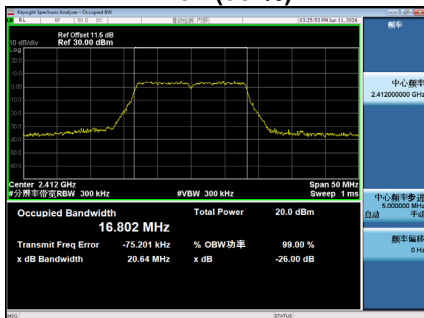
CH13 (99 %)



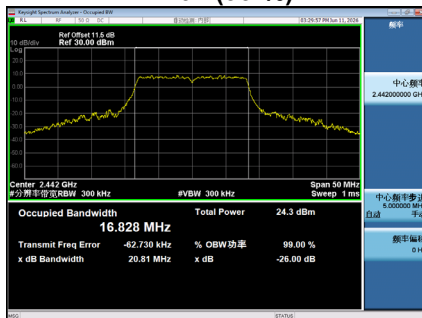
Test Mode:	TX Mode_ IEEE 802.11g
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	16.80	16.83	16.83	Limit $\leq$ 26 MHz

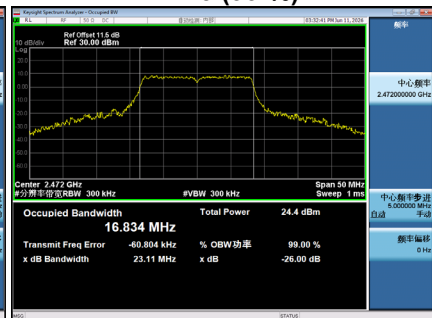
CH01 (99 %)



CH07 (99 %)



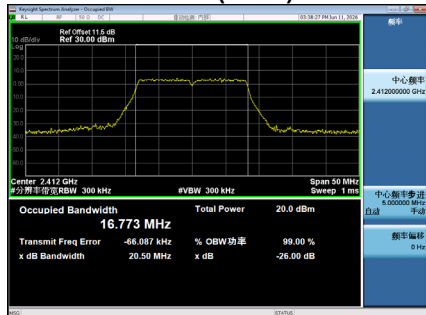
CH13 (99 %)



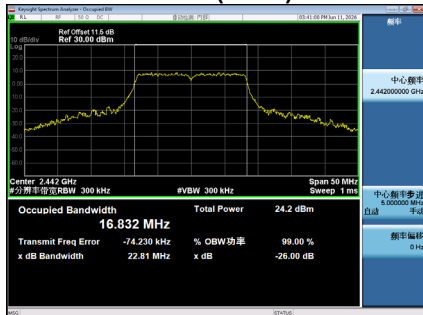
Test Mode:	TX Mode_ IEEE 802.11n(HT20)
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	16.77	16.83	16.85	Limit ≤ 26 MHz

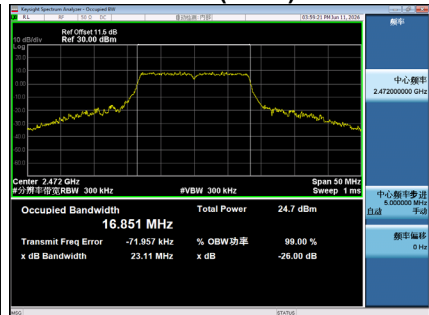
CH01 (99 %)



CH07 (99 %)



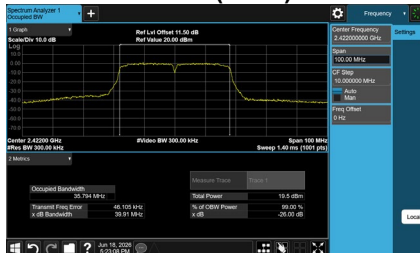
CH13 (99 %)



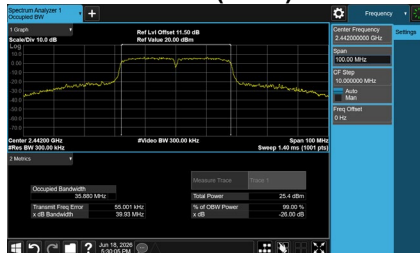
Test Mode:	TX Mode_ IEEE 802.11n(HT40)
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2422	2442	2462	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	35.79	35.88	35.87	Limit ≤ 40 MHz

CH03 (99 %)



CH07 (99 %)



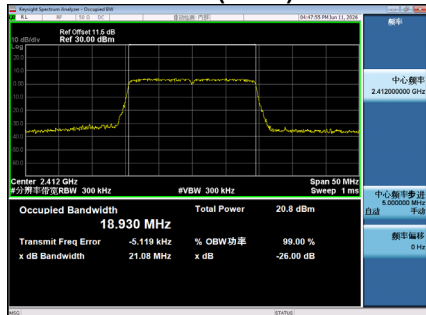
CH11 (99 %)



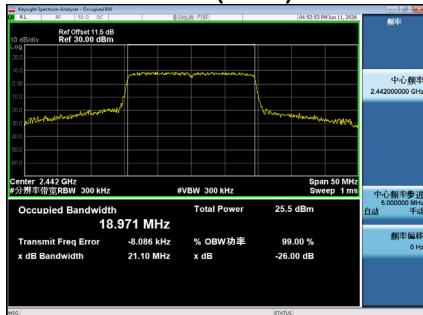
Test Mode:	TX Mode_ IEEE 802.11ax(HE20)
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Test Voltage	Normal Voltage			Remarks
Test Frequency (MHz)	2412	2442	2472	Low/Mid/High of test frequency range
Occupied Bandwidth (MHz)	18.93	18.97	18.97	Limit ≤ 26 MHz

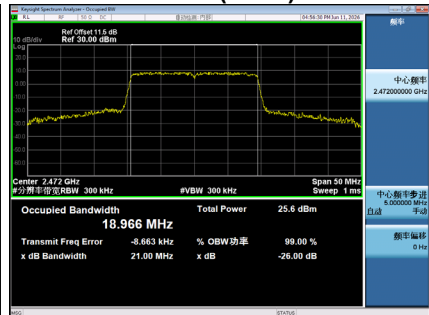
CH01 (99 %)



CH07 (99 %)



CH13 (99 %)

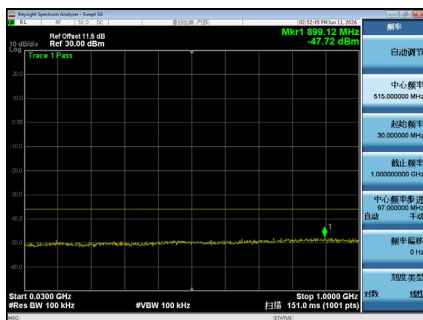


APPENDIX C - UNWANTED EMISSION INTENSITY

Test Mode:	TX Mode_IEEE 802.11b
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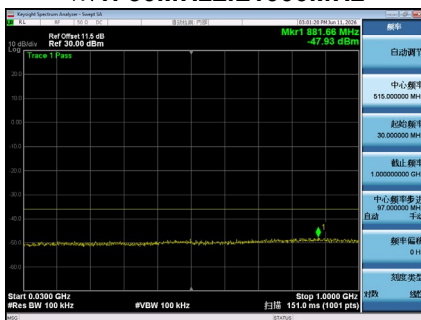
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Power emission within 1MHz bandwidth)	※1	MHz	899.12	881.66	783.69	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.0169	0.0161	0.0179	
	※2	MHz	2305.20	2303.80	2270.50	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.7568	0.7568	0.7464	
	※3	MHz	2399.73	2389.90	2388.72	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.6520	1.0765	1.0914	
	※4	MHz	2489.36	2489.18	2487.08	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.2162	1.1588	1.2474	
※5	MHz	3797.00	3807.00	3747.00	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)	
	μW/MHz	0.5358	0.4831	0.4581		

CH01

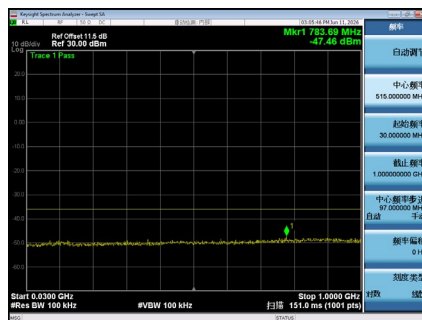


CH07

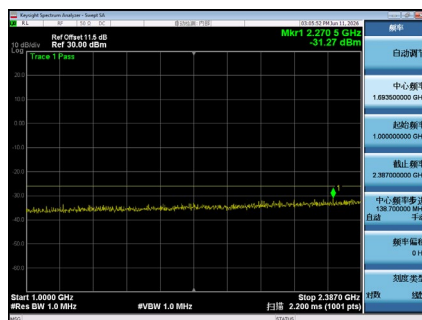
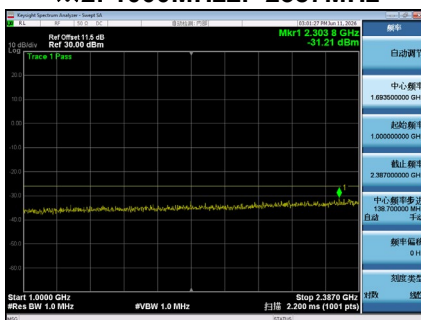
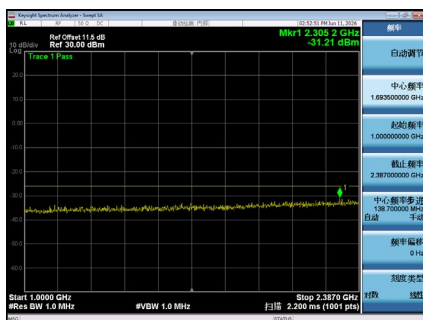
※1: 30MHz≤f≤1000MHz



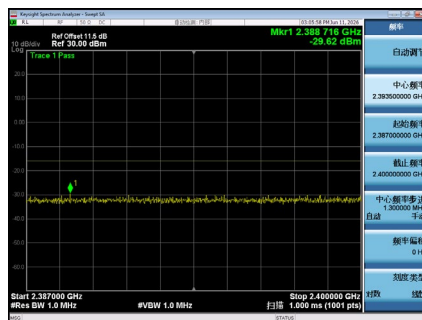
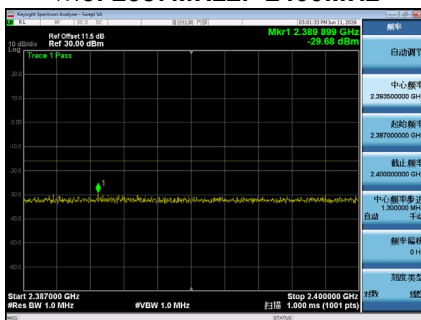
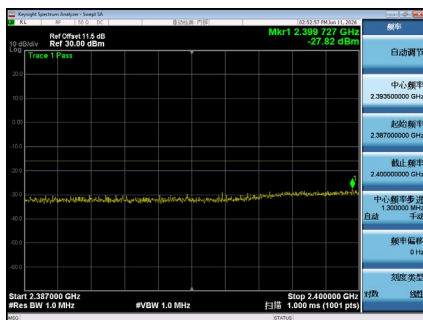
CH13



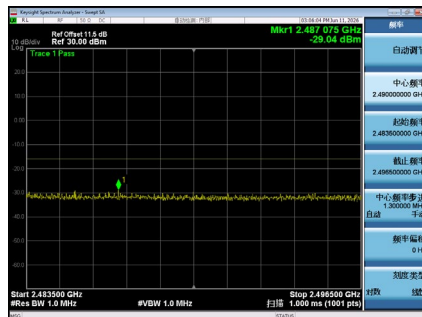
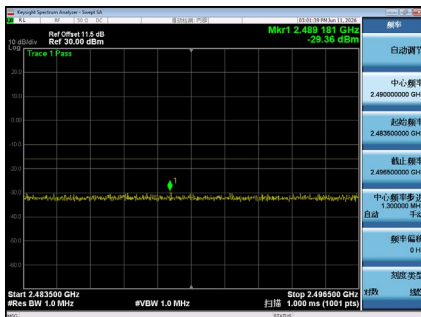
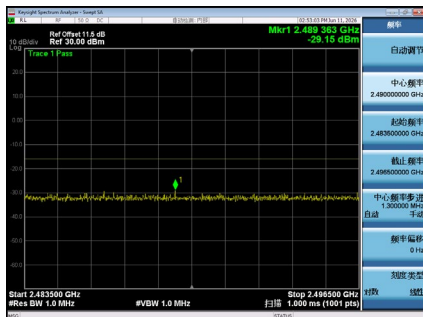
※2: 1000MHz≤f<2387MHz



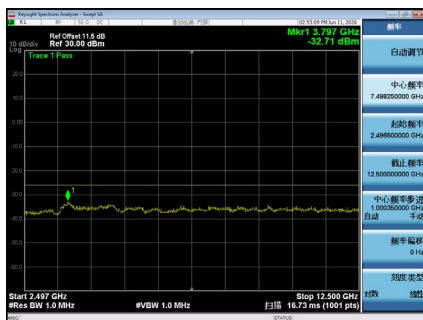
※3: 2387MHz≤f<2400MHz



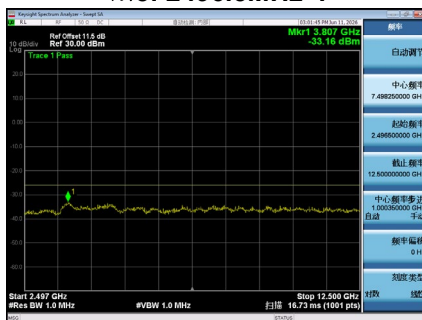
※4: 2483.5MHz<f≤2496.5MHz



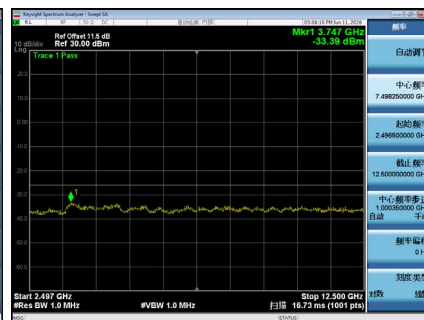
CH01



CH07
※5: 2496.5MHz<f



CH13



Test Mode:	TX Mode_ IEEE 802.11g
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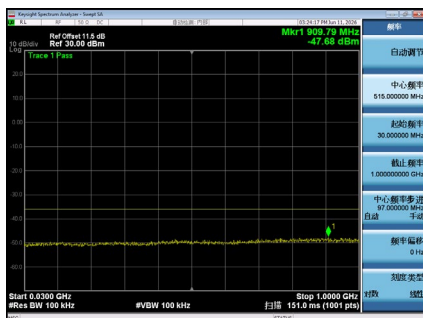
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Power emission within 1MHz bandwidth)	※1	MHz	909.79	934.04	902.03	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.0171	0.0178	0.0191	
	※2	MHz	2367.60	2349.60	2349.60	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.7295	0.7015	0.6776	
	※3	MHz	2399.52	2391.55	2396.82	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	4.7315	1.1066	1.1561	
	※4	MHz	2493.02	2488.83	2484.01	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.0864	1.0375	23.4423	
※5	MHz	5197.00	4547.00	4557.00	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)	
	μW/MHz	0.7656	0.6383	1.6181		

Note

Explanation of Marker and ZeroSP test:

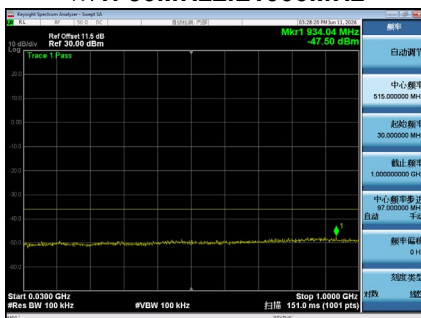
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

CH01

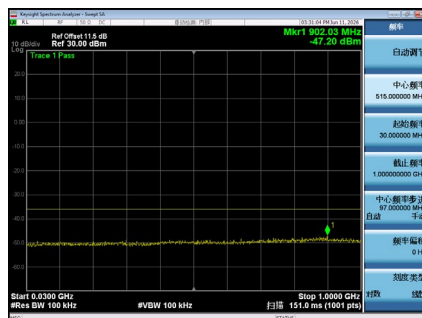


CH07

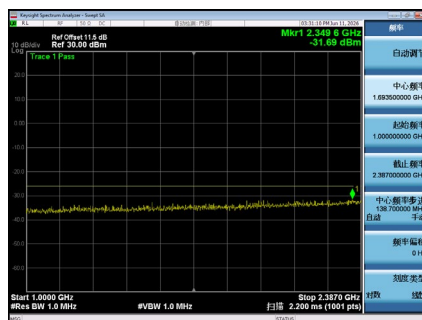
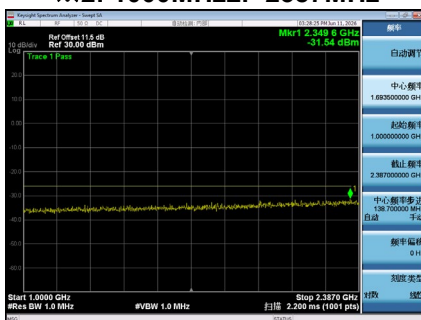
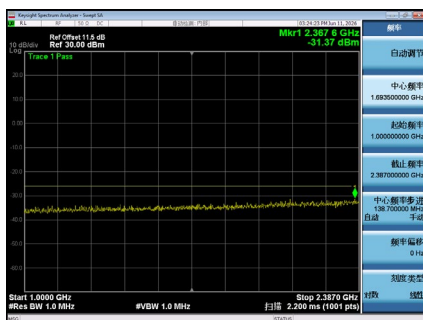
※1: 30MHz≤f≤1000MHz



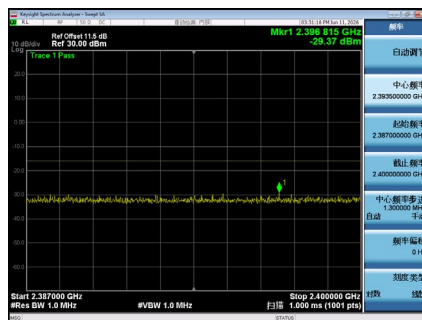
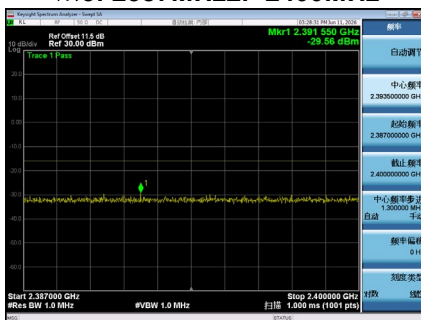
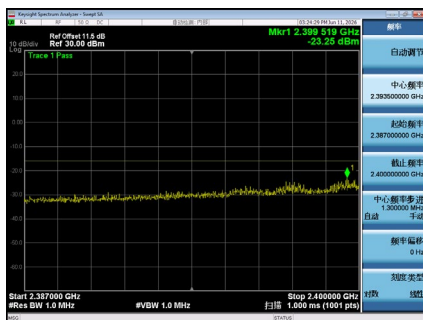
CH13



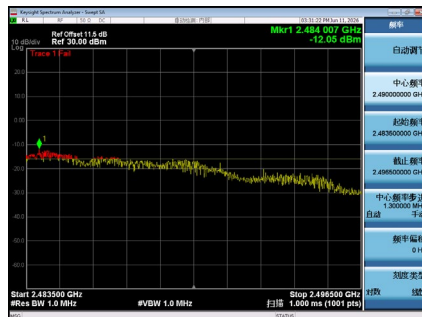
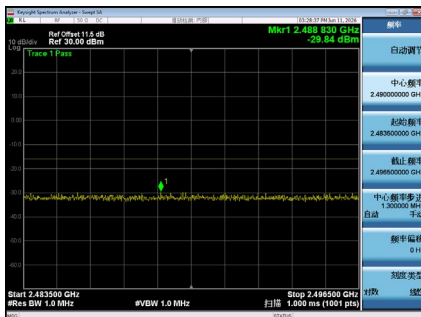
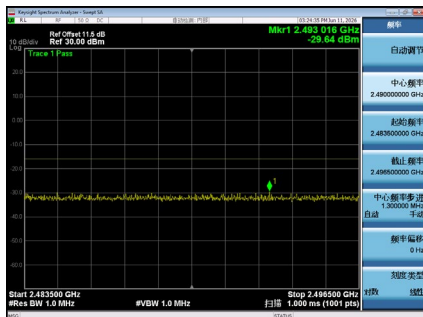
※2: 1000MHz≤f<2387MHz



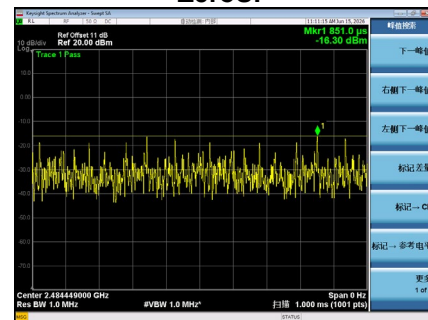
※3: 2387MHz≤f<2400MHz



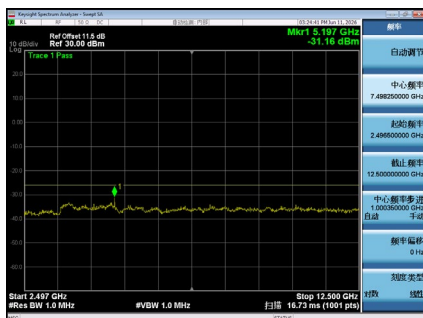
※4: 2483.5MHz<f≤2496.5MHz



ZeroSP

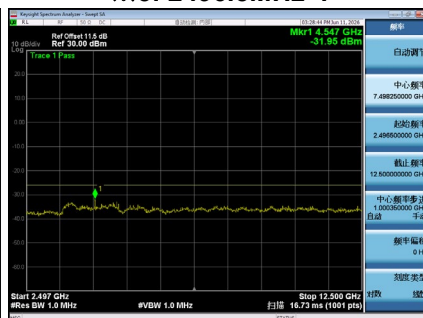


CH01

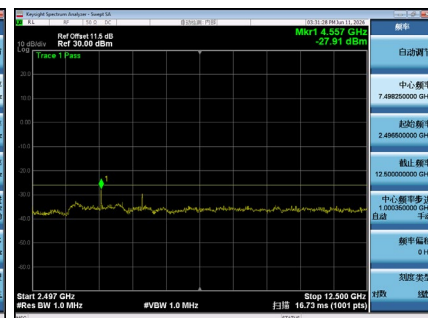


CH07

※5: 2496.5MHz<f



CH13



Test Mode:	TX Mode_IEEE 802.11n(HT20)
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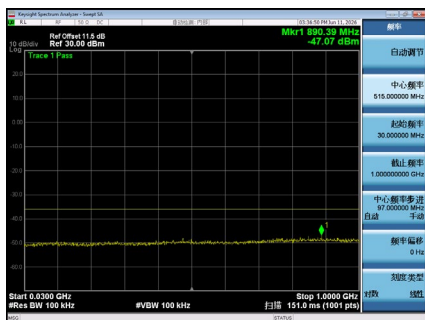
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Power emission within 1MHz bandwidth)	※1	MHz	890.39	896.21	895.24	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.0196	0.0197	0.0192	
	※2	MHz	2356.50	2231.70	2355.10	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.6902	0.6683	0.7278	
	※3	MHz	2399.26	2399.49	2387.92	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	4.0644	0.9977	0.9908	
	※4	MHz	2495.49	2495.93	2484.15	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.2531	1.2190	9.6605	
※5	MHz	5107.00	3827.00	5097.41	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)	
	μW/MHz	0.5636	0.5636	0.4667		

Note

Explanation of Marker and ZeroSP test:

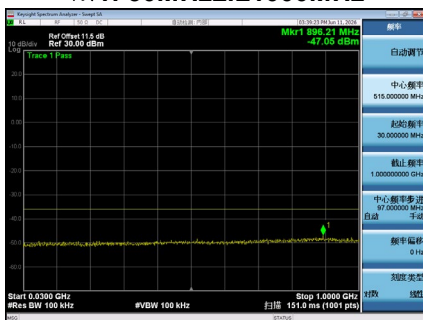
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

CH01

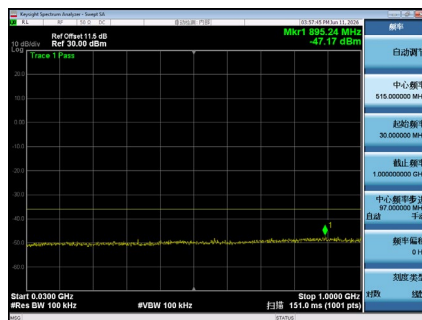


CH07

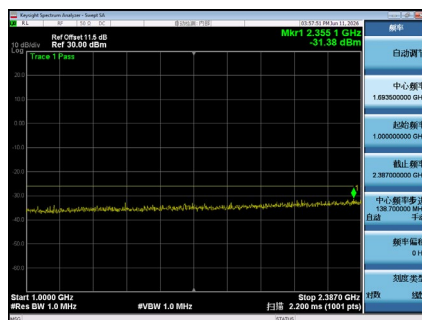
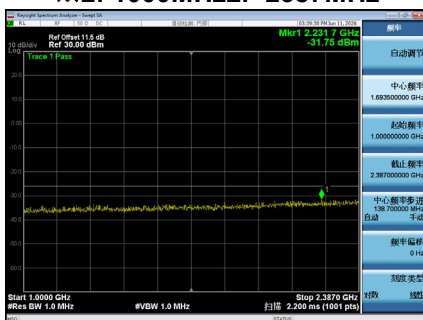
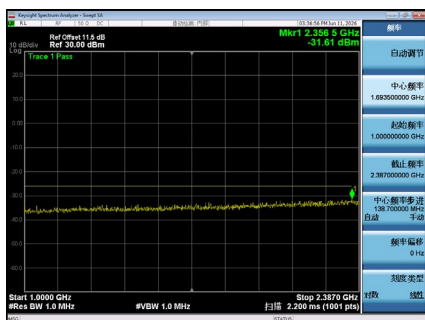
※1: 30MHz≤f≤1000MHz



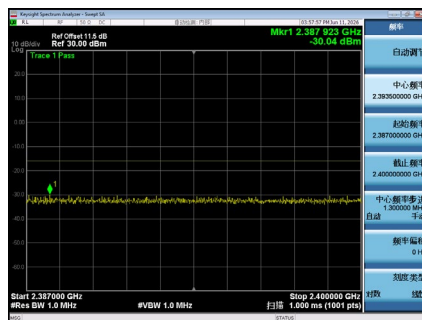
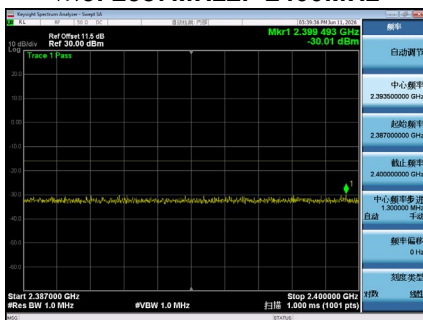
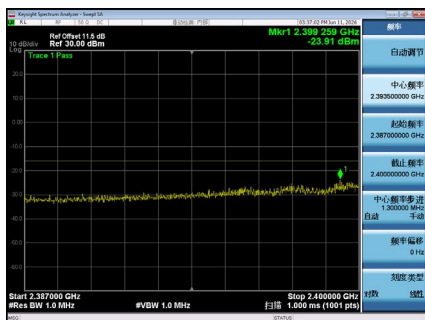
CH13



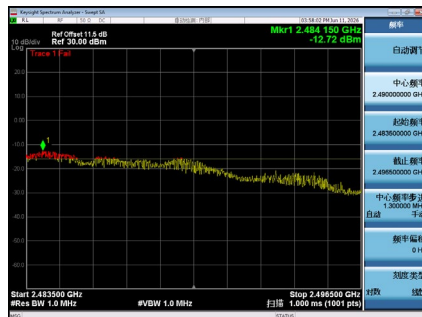
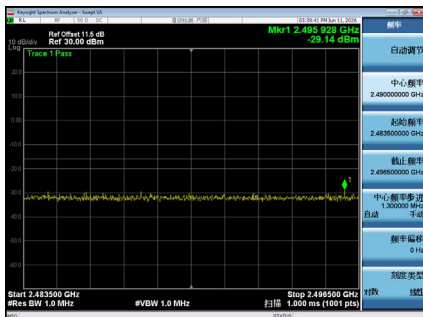
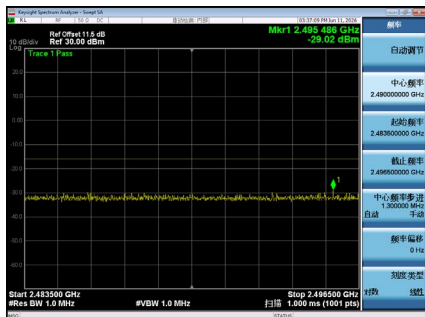
※2: 1000MHz≤f<2387MHz



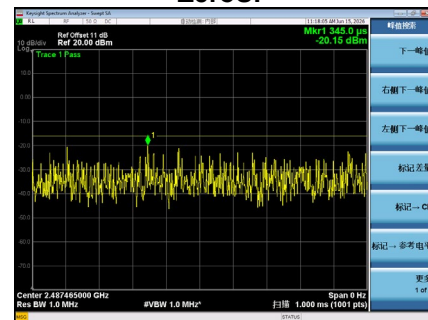
※3: 2387MHz≤f<2400MHz



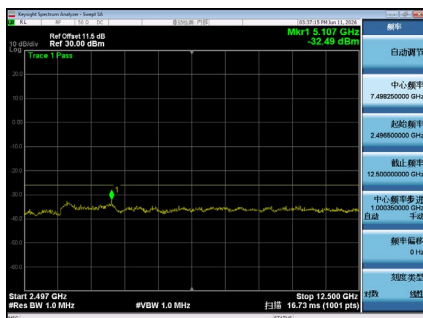
※4: 2483.5MHz<f≤2496.5MHz



ZeroSP

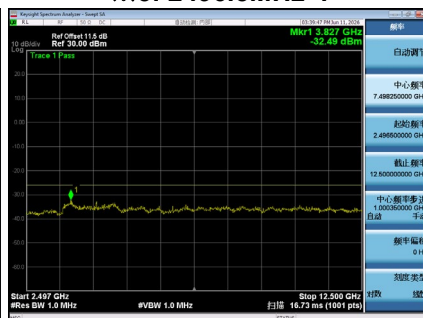


CH01

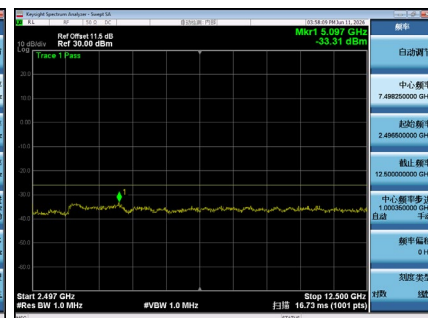


CH07

※5: 2496.5MHz<f



CH13



Test Mode:	TX Mode_ IEEE 802.11n(HT40)
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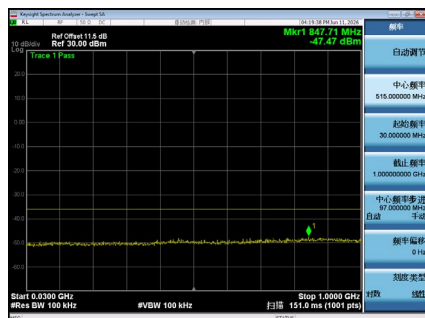
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2422	2442	2462	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Power emission within 1MHz bandwidth)	※1	MHz	847.71	915.61	877.78	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.0179	0.0191	0.0173	
	※2	MHz	2355.10	2387.00	2271.90	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.7889	0.9550	0.6607	
	※3	MHz	2399.36	2399.45	2392.53	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	2.4660	4.8195	1.0914	
	※4	MHz	2487.47	2483.51	2484.10	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.1995	6.7143	15.3815	
	※5	MHz	5107.00	3867.00	5117.00	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.4677	0.4786	1.7338	

Note:

Explanation of Marker and ZeroSP test:

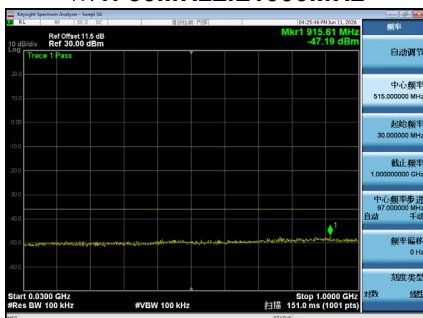
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

CH03

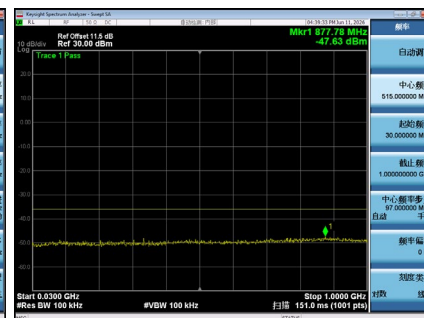


CH07

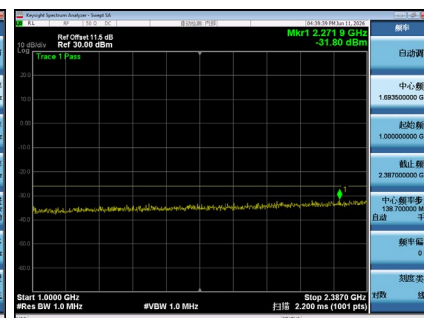
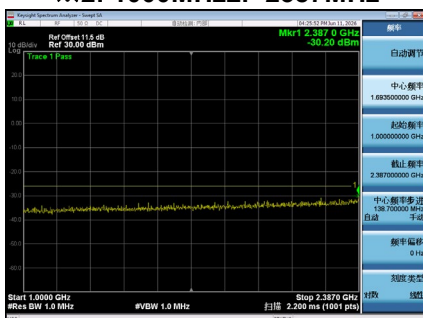
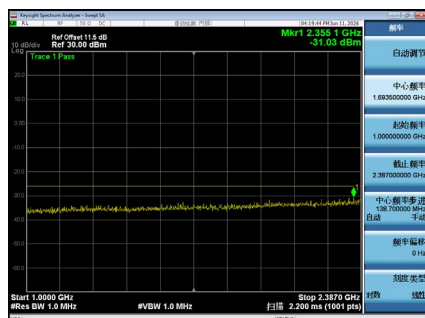
※1: 30MHz≤f≤1000MHz



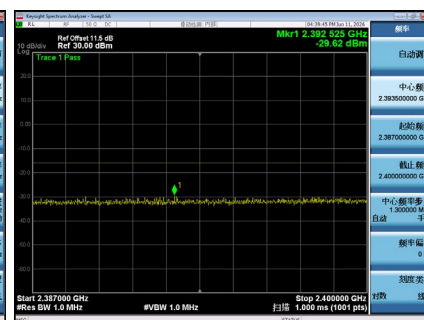
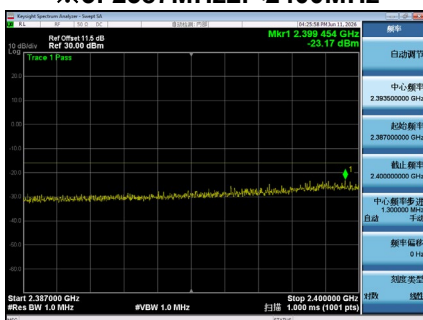
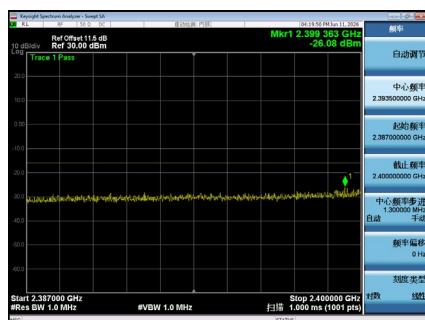
CH11



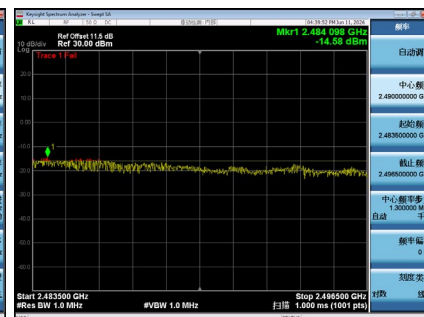
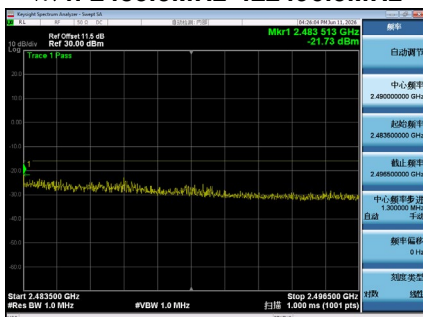
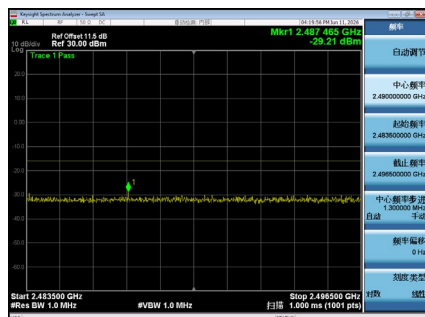
※2: 1000MHz≤f<2387MHz



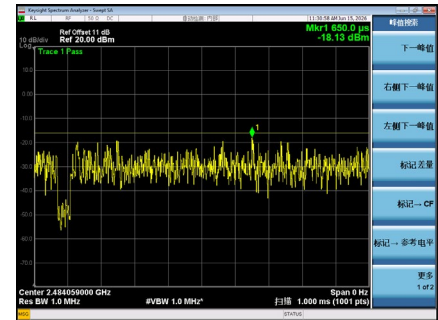
※3: 2387MHz≤f<2400MHz



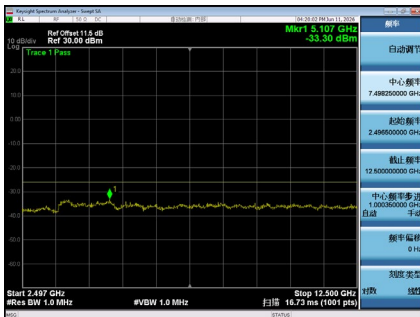
※4: 2483.5MHz<f≤2496.5MHz



ZeroSP

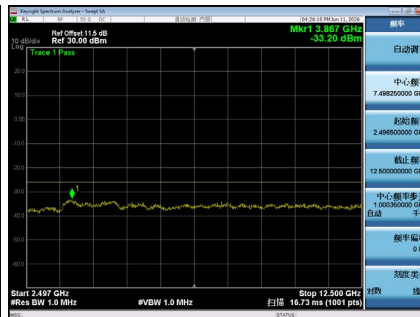


CH03

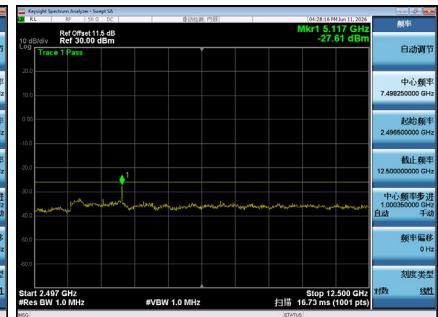


CH07

※5: 2496.5MHz<f



CH11



Test Mode:	TX Mode_IEEE 802.11ax(HE20)
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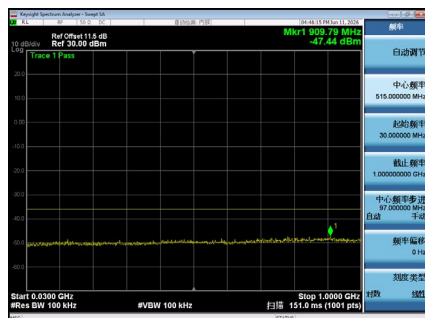
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Unwanted Emission Intensity (Power emission within 1MHz bandwidth)	※1	MHz	909.79	786.60	717.73	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.0180	0.0176	0.0182	
	※2	MHz	2341.20	2307.90	2371.70	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)
		μW/MHz	0.7603	0.7228	0.7063	
	※3	MHz	2399.69	2393.72	2388.21	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	3.9902	1.1298	1.0186	
	※4	MHz	2492.54	2489.79	2483.86	Limit ≤ 25 μW/MHz (-16 dBm/MHz)
		μW/MHz	1.2388	1.1940	22.1820	
※5	MHz	3807.00	3747.00	2496.50	Limit ≤ 2.5 μW/MHz (-26 dBm/MHz)	
	μW/MHz	0.5236	0.4819	0.5358		

Note:

Explanation of Marker and ZeroSP test:

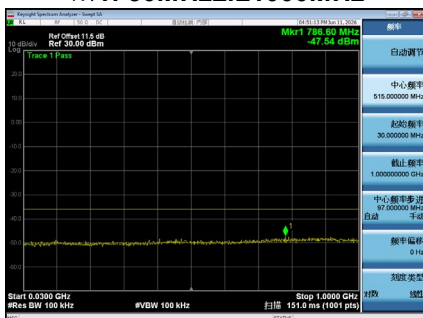
- 1) The frequency of Marker during testing is the frequency that exceeds the limit the most.
- 2) The testing of ZeroSP is the worst, covering the entire frequency band.

CH01

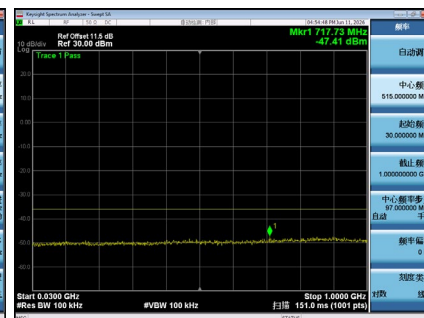


CH07

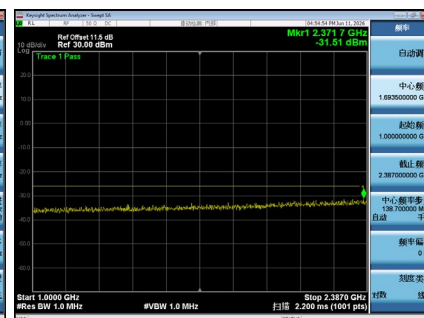
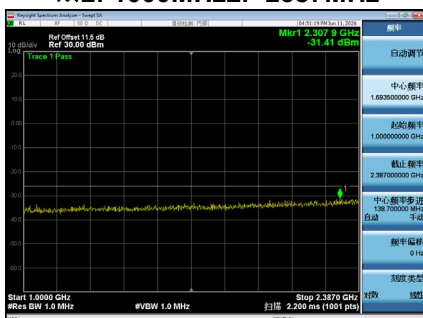
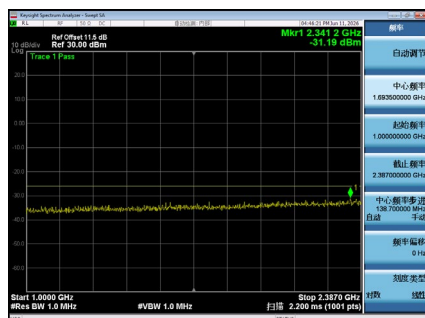
※1: 30MHz≤f≤1000MHz



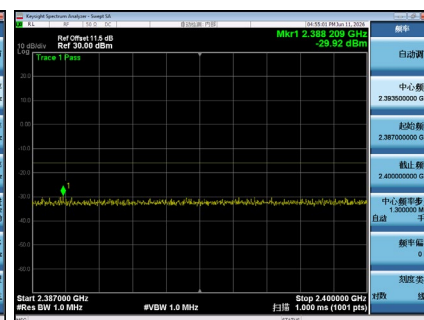
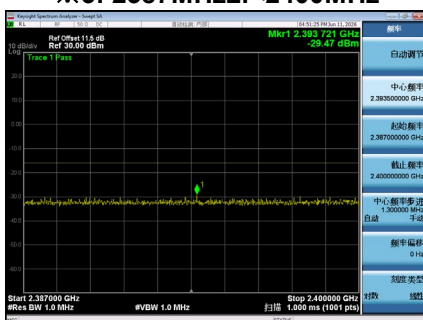
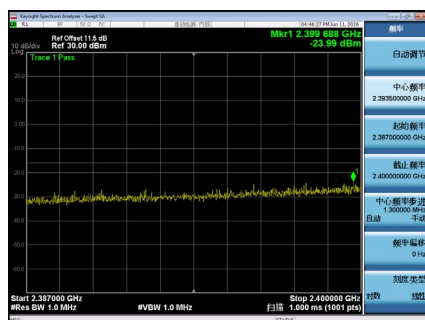
CH13



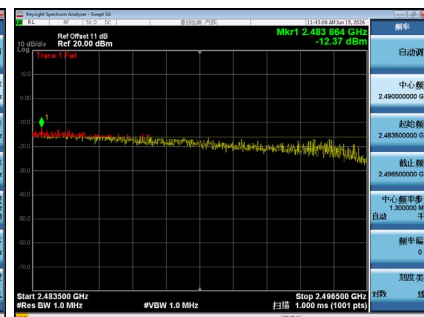
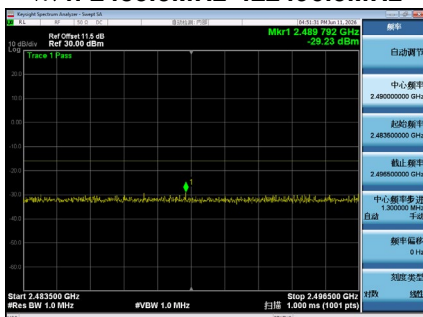
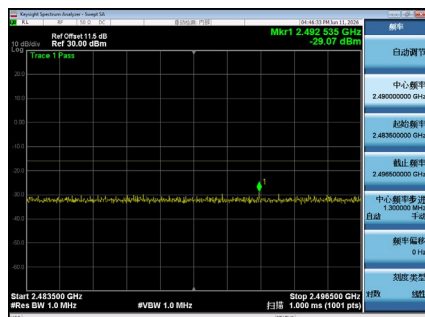
※2: 1000MHz≤f<2387MHz



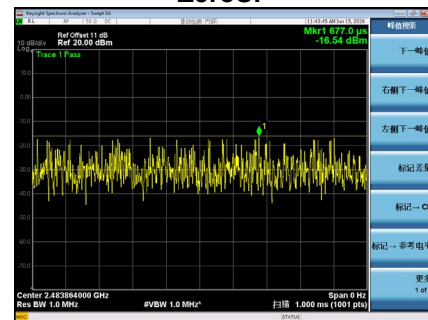
※3: 2387MHz≤f<2400MHz



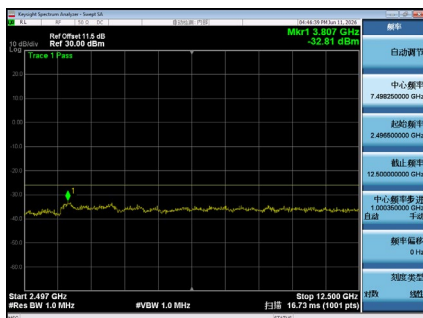
※4: 2483.5MHz<f≤2496.5MHz



ZeroSP

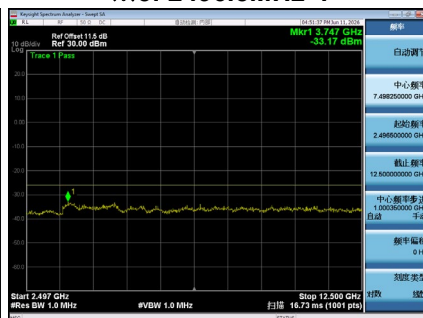


CH01

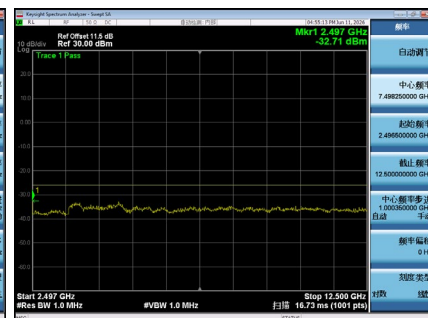


CH07

※5: 2496.5MHz<f



CH13



APPENDIX D - ANTENNA POWER TOLERANCE

Test Mode:	TX Mode_IEEE 802.11b
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Normal Voltage

Test Frequency	Conducted Antenna Power		Rated Antenna Power	Conducted Antenna Power Limit	Antenna Power Tolerance Limit	
(MHz)	(dBm/MHz)	(mW/MHz)	(mW/MHz)	(mW/MHz)	(+20%)	
2412	8.99	7.9250	8.00	10	-0.94	%
2442	8.73	7.4645	8.00	10	-6.69	%
2472	8.67	7.3621	8.00	10	-7.97	%

Test Frequency	EIRP	Limit
(MHz)	(dBm/MHz)	(dBm/MHz)
2412	10.09	12.14
2442	9.83	12.14
2472	9.77	12.14

Note:

1. Antenna power tolerance = (conducted antenna power - rated antenna power)/rated antenna power * 100%
2. EIRP (dBm/MHz) = conducted antenna power (dBm/MHz) + max. antenna gain (dBi)
3. Antenna Power value = SA measurement value (Include correction factor and cable loss)
Correction factor = 10 log (X)
X = the total number of antennas

Test Mode:	TX Mode_IEEE 802.11g
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Normal Voltage

Test Frequency	Conducted Antenna Power		Rated Antenna Power	Conducted Antenna Power Limit	Antenna Power Tolerance Limit	
(MHz)	(dBm/MHz)	(mW/MHz)	(mW/MHz)	(mW/MHz)	(+20%)	
2412	1.84	1.5276	4.50	10	-66.05	%
2442	6.13	4.1020	4.50	10	-8.84	%
2472	6.30	4.2658	4.50	10	-5.20	%

Test Frequency	EIRP	Limit
(MHz)	(dBm/MHz)	(dBm/MHz)
2412	2.94	12.14
2442	7.23	12.14
2472	7.40	12.14

Note:

1. Antenna power tolerance = (conducted antenna power - rated antenna power)/rated antenna power * 100%
2. EIRP (dBm/MHz) = conducted antenna power (dBm/MHz) + max. antenna gain (dBi)
3. Antenna Power value = SA measurement value (Include correction factor and cable loss)
Correction factor = $10 \log (X)$
X = the total number of antennas

Test Mode:	TX Mode_IEEE 802.11n(HT20)
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Normal Voltage

Test Frequency	Conducted Antenna Power		Rated Antenna Power	Conducted Antenna Power Limit	Antenna Power Tolerance Limit	
(MHz)	(dBm/MHz)	(mW/MHz)	(mW/MHz)	(mW/MHz)	(+20%)	
2412	1.80	1.5136	4.5	10	-66.37	%
2442	5.89	3.8815	4.5	10	-13.74	%
2472	6.42	4.3853	4.5	10	-2.55	%

Test Frequency	EIRP	Limit
(MHz)	(dBm/MHz)	(dBm/MHz)
2412	2.90	12.14
2442	6.99	12.14
2472	7.52	12.14

Note:

1. Antenna power tolerance = (conducted antenna power - rated antenna power)/rated antenna power * 100%
2. EIRP (dBm/MHz) = conducted antenna power (dBm/MHz) + max. antenna gain (dBi)
3. Antenna Power value = SA measurement value (Include correction factor and cable loss)
Correction factor = $10 \log (X)$
X = the total number of antennas

Test Mode:	TX Mode_IEEE 802.11n(HT40)
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Normal Voltage

Test Frequency	Conducted Antenna Power		Rated Antenna Power	Conducted Antenna Power Limit	Antenna Power Tolerance Limit	
(MHz)	(dBm/MHz)	(mW/MHz)	(mW/MHz)	(mW/MHz)	(+20%)	
2422	-2.50	0.5623	2.50	5	-77.51	%
2442	3.49	2.2336	2.50	5	-10.66	%
2462	3.26	2.1184	2.50	5	-15.27	%

Test Frequency	EIRP	Limit
(MHz)	(dBm/MHz)	(dBm/MHz)
2422	-1.40	9.14
2442	4.59	9.14
2462	4.36	9.14

Note:

1. Antenna power tolerance = (conducted antenna power - rated antenna power)/rated antenna power * 100%
2. EIRP (dBm/MHz) = conducted antenna power (dBm/MHz) + max. antenna gain (dBi)
3. Antenna Power value = SA measurement value (Include correction factor and cable loss)
Correction factor = $10 \log (X)$
X = the total number of antennas

Test Mode:	TX Mode_ IEEE 802.11ax(HE20)
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Normal Voltage

Test Frequency	Conducted Antenna Power		Rated Antenna Power	Conducted Antenna Power Limit	Antenna Power Tolerance Limit	
(MHz)	(dBm/MHz)	(mW/MHz)	(mW/MHz)	(mW/MHz)	(+20%)	
2412	0.68	1.1695	4.00	10	-70.76	%
2442	5.56	3.5975	4.00	10	-10.06	%
2472	5.47	3.5237	4.00	10	-11.91	%

Test Frequency	EIRP	Limit
(MHz)	(dBm/MHz)	(dBm/MHz)
2412	1.78	12.14
2442	6.66	12.14
2472	6.57	12.14

Note:

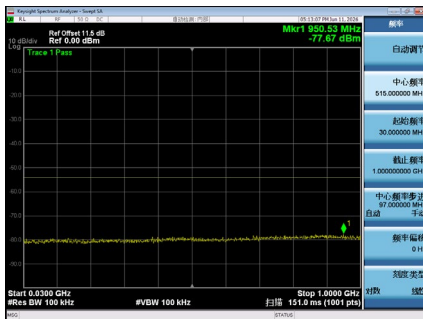
1. Antenna power tolerance = (conducted antenna power - rated antenna power)/rated antenna power * 100%
2. EIRP (dBm/MHz) = conducted antenna power (dBm/MHz) + max. antenna gain (dBi)
3. Antenna Power value = SA measurement value (Include correction factor and cable loss)
Correction factor = $10 \log (X)$
X = the total number of antennas

APPENDIX E - LIMITATION OF COLLATERAL EMISSION OF RECEIVER

Test Mode: RX Mode_ IEEE 802.11b

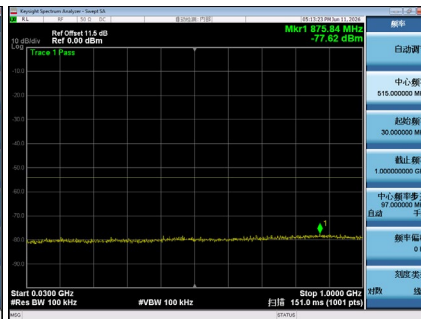
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	
Limitation of Collateral Emission of Receiver	※6	MHz	950.53	875.84	761.38	Limit ≤ 4 nW (-54 dBm)
		nW	0.0171	0.0173	0.0173	
	※7	MHz	3852.00	3852.00	3852.00	Limit ≤ 20 nW (-47 dBm)
		nW	0.4477	0.4677	0.5284	

CH01

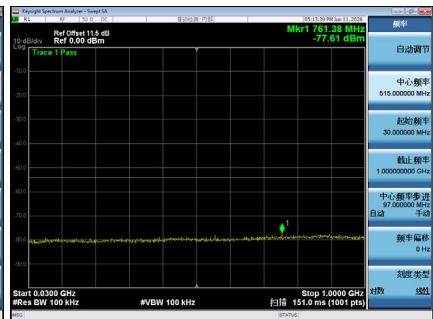


CH07

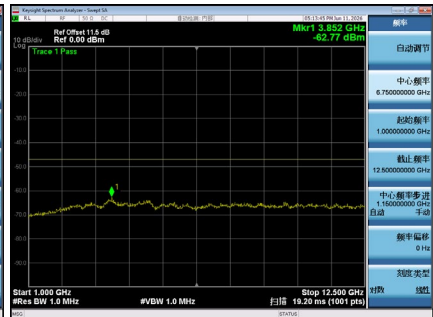
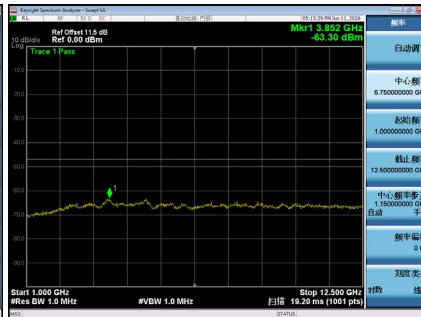
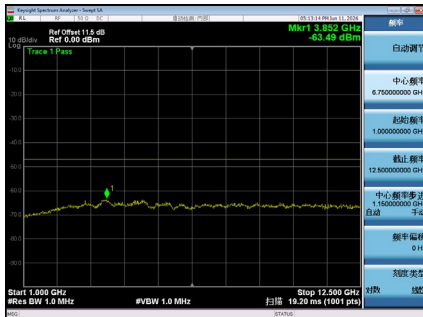
※6: f<1GHz



CH13



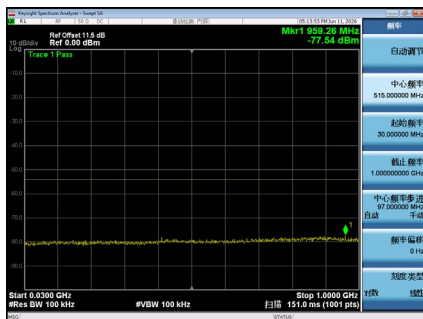
※7: 1GHz≤f



Test Mode:	RX Mode_ IEEE 802.11g
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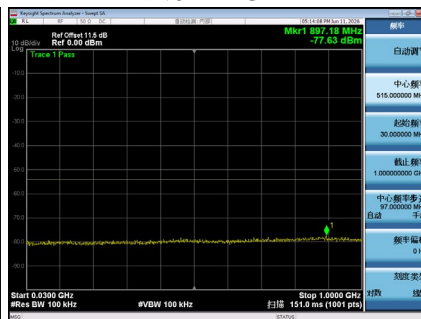
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	※6	MHz	959.26	897.18	924.34	Limit ≤ 4 nW (-54 dBm)
		nW	0.0176	0.0173	0.0185	
	※7	MHz	3749.00	5106.00	3737.00	Limit ≤ 20 nW (-47 dBm)
		nW	0.4446	0.4487	0.4416	

CH01

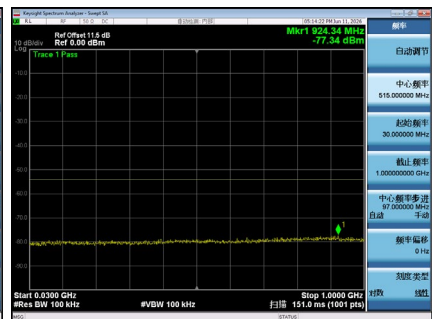


CH07

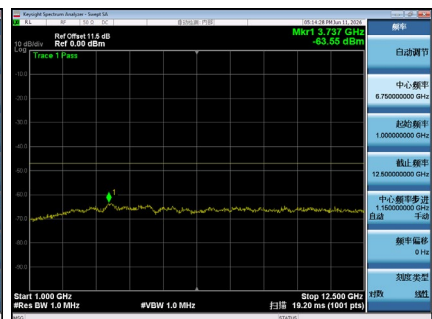
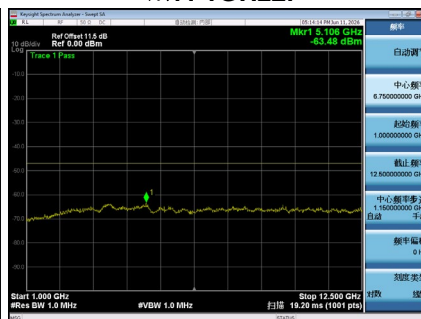
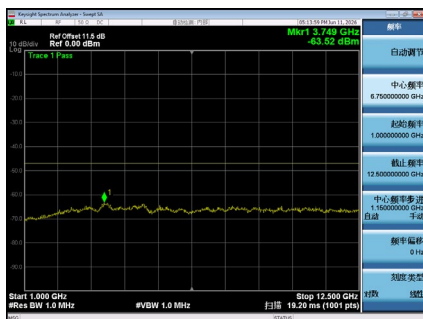
※6: f<1GHz



CH13



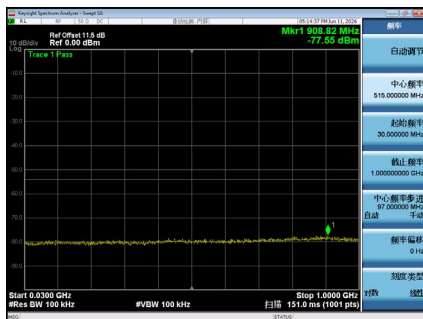
※7: 1GHz≤f



Test Mode:	RX Mode_ IEEE 802.11n(HT20)
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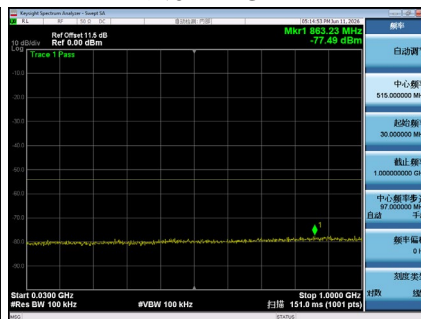
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	※6	MHz	908.82	863.23	881.66	Limit ≤ 4 nW (-54 dBm)
		nW	0.0176	0.0178	0.0164	
	※7	MHz	3887.00	5117.00	3921.00	Limit ≤ 20 nW (-47 dBm)
		nW	0.4920	0.4198	0.5346	

CH01

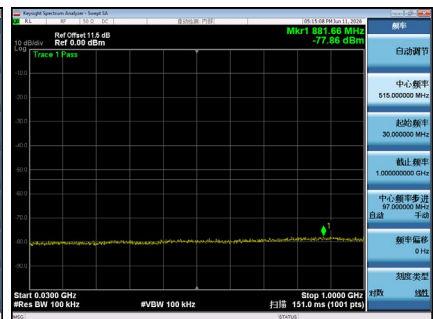


CH07

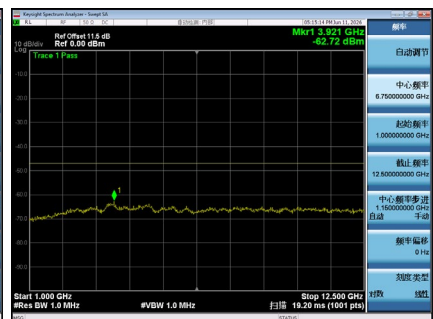
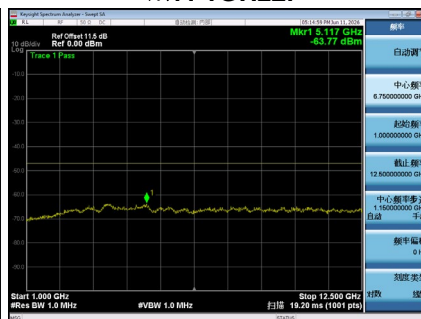
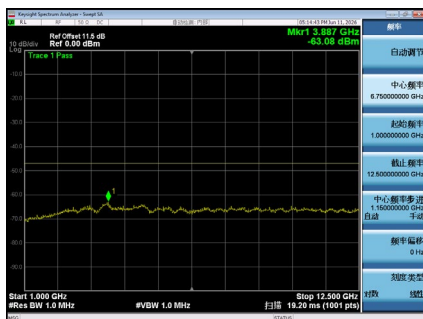
※6: f<1GHz



CH13



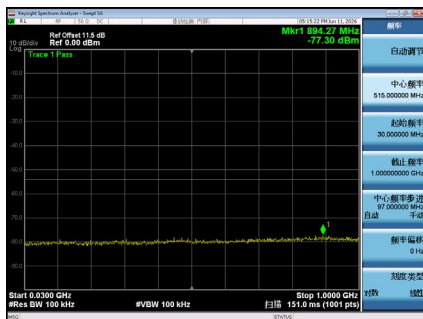
※7: 1GHz≤f



Test Mode:	RX Mode_ IEEE 802.11n(HT40)
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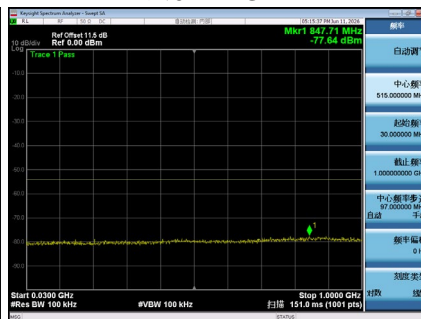
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2422	2442	2462	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	※6	MHz	894.27	847.71	827.34	Limit ≤ 4 nW (-54 dBm)
		nW	0.0186	0.0172	0.0189	
	※7	MHz	3726.00	1713.00	3783.00	Limit ≤ 20 nW (-47 dBm)
		nW	0.4529	0.5808	0.4853	

CH03

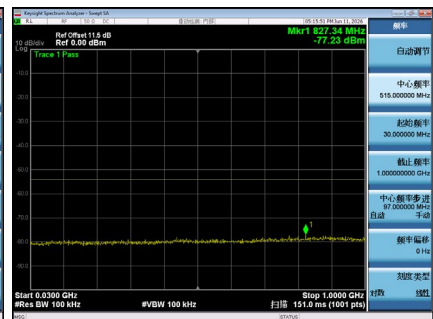


CH07

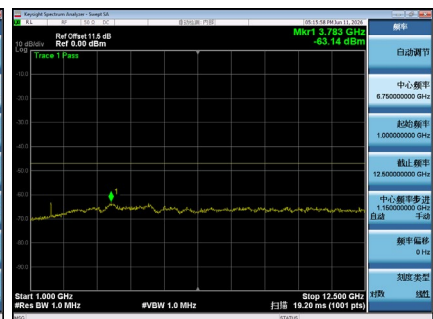
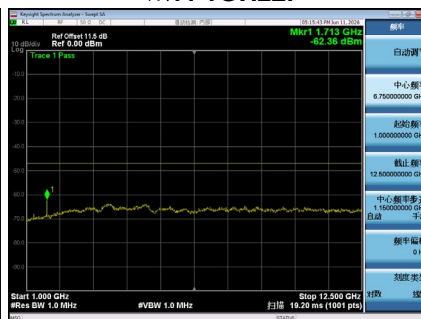
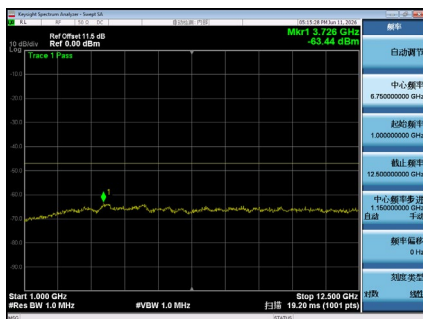
※6: f<1GHz



CH11



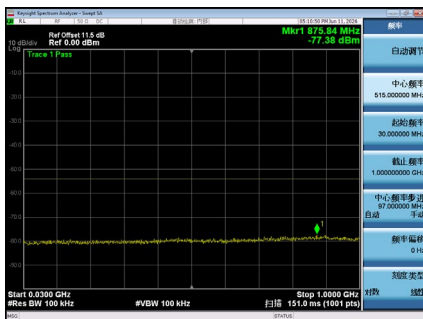
※7: 1GHz≤f



Test Mode:	RX Mode_ IEEE 802.11ax(HE20)
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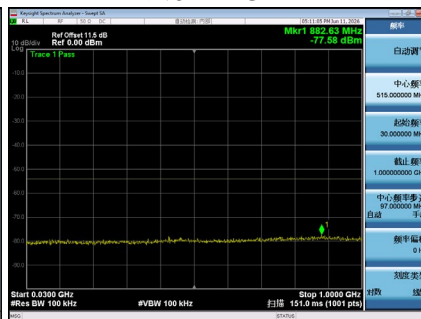
Test Voltage			Normal Voltage			Remarks
Test Frequency (MHz)			2412	2442	2472	Low/Mid/High of test frequency range
Limitation of Collateral Emission of Receiver	※6	MHz	875.84	882.63	919.49	Limit ≤ 4 nW (-54 dBm)
		nW	0.0183	0.0175	0.0182	
	※7	MHz	3783.00	3795.00	3749.00	Limit ≤ 20 nW (-47 dBm)
		nW	0.4335	0.4592	0.4656	

CH01

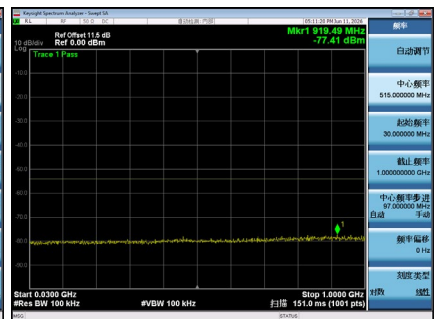


CH07

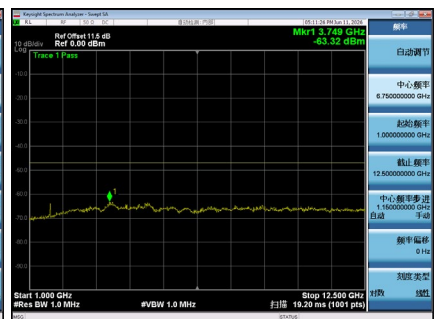
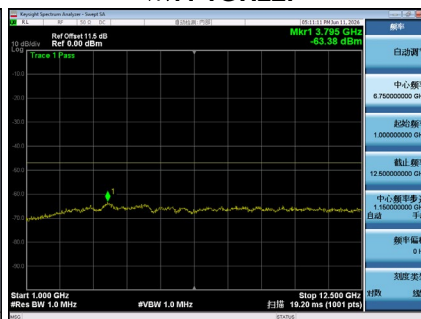
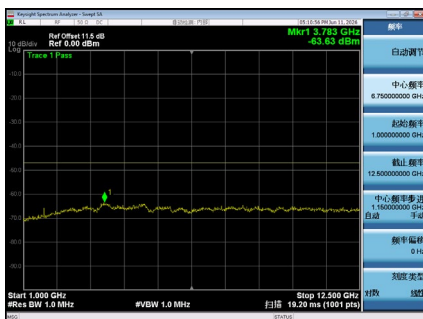
※6: f<1GHz



CH13



※7: 1GHz≤f



End of Test Report