

Japan Radio Test Report

(5GHz WiFi)

Report No.: JYTSZ-R01-2500339

Applicant: Beijing BOE Sales Co., Ltd.

Address of Applicant: No.12 Xihuanzhong RD,BDA,Beijing,100176,P.R.China

Equipment Under Test (EUT)

Product Name: Bar Display

Model No.: BM231G-A07

Applicable standards: Article 2 paragraph 1 item (19-3)
Appendix No.45 Notification No.88 of MIC, 2004

Date of sample receipt: 15 Jul., 2025

Date of Test: 16 Jul., to 17 Sep., 2025

Date of report issued: 17 Sep., 2025

Test Result: PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Project by: Rebin Gu

Date: 17 Sep., 2025

Reviewed by: Seta Zhang

Date: 17 Sep., 2025

Approved by: James Wei

Date: 17 Sep., 2025

Manager

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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2 Version

Version No.	Date	Description
00	21 Aug., 2025	Original
01	17 Sep., 2025	Update page 5
02	17 Sep., 2025	Update page 4/8/21

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4 Test Summary

Report Section	Test Item	Result
6.2	Frequency Error	Pass
6.3	Occupied Bandwidth	Pass
6.4	Antenna power, E.I.R.P and Deviation	Pass
6.5	Tolerance of Adjacent Channel Leakage Power	Pass
6.6	Tolerance of Unwanted Emission Intensity (e.i.r.p value)	Pass
6.7	Transmitting Rate	Pass
6.8	Transmitting Burst Length	Pass
6.9	Limit of Secondary Radiated Emissions	Pass
6.10	Carrier Sense Function	Pass
6.11	Other Requirements	Pass
<i>Remark:</i> <i>Pass: The EUT complies with the essential requirements in the standard.</i> <i>N/A: Not applicable</i> <i>The cable insertion loss used by "Antenna Power" and other conduction measurement items is 0.5dB (provided by the customer).</i>		

5 General Information

5.1 Client Information

Applicant:	Beijing BOE Sales Co., Ltd.
Address:	No.12 Xihuanzhong RD,BDA,Beijing,100176,P.R.China
Manufacturer:	Shenzhen Gaomeifu Shangxian Technology Co., Ltd.
Address:	Yantian Community, Yanluo Street, Bao'an District, Shenzhen City, Room 3, Building 1, Chaoyang Road, Jiada Green Industrial Park
Factory:	Shenzhen Gaomeifu Shangxian Technology Co., Ltd.
Address of Factory:	Yantian Community, Yanluo Street, Bao'an District, Shenzhen City, Room 3, Building 1, Chaoyang Road, Jiada Green Industrial Park

5.2 General Description of E.U.T.

Product Name:	Bar Display
Model No.:	BM231G-A07
Hardware version:	CTF315_V1.1
Software version:	rk3566_r-userdebug 11 RD2A.211001.002 eng.ctf.20250826
Operation Frequency:	Band 1: 5180MHz~ 5240MHz
Number of channel:	Band 1: 4 for 802.11a/n-HT20/ac-HT20, 2 for 802.11n-HT40/ac-HT40, 1 for 802.11ac-HT80
Channel separation:	20MHz for 802.11a/n-HT20/ac-HT20, 40MHz for 802.11n-HT40/ac-HT40, 80MHz for 802.11ac-HT80
Modulation technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11a):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE802.11n):	Up to 190Mbps
Data speed (IEEE802.11ac):	Up to 390Mbps
Equipment Type:	Adaptive equipment
Antenna Type:	Internal Antenna
Antenna gain:	3.82 dBi (declare by Applicant)
AC adapter:	Model: AS2406A-1202000JP Input:100-240Vac,50/60Hz 0.8A MAX Output: 12V DC,2000mA

5.3 Test mode

Carrier mode:	Keep the EUT in continuous transmitting mode without modulation.
Modulation mode:	Keep the EUT in continuously transmitting mode with modulation.
Remark	Fully mode tested, found of both the "worst case" and "worst setup" 1 Mbps for 802.11b, 6 Mbps for 802.11g, 6.5 Mbps for 802.11n (HT20), 13.5 Mbps for 802.11n (HT40).

5.4 Description of Support Units

N/A

5.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations: ● FCC - Designation No.: CN1211 JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● CNAS - Registration No.: CNAS L15527 JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf
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5.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd. Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info-JYTee@lets.com, Website: http://jyt.lets.com

5.7 Environment of test site

Temperature:	Normal: 25~35°C
Humidity:	Normal: 45~75% RH
Atmospheric Pressure:	1010 mbar
Test Voltage:	Nominal: 12.0Vdc Extreme: 10.8Vdc for low voltage, 13.2Vdc for high voltage
Test Engineer:	Hopper Li (Conducted measurement)

Note: For extreme voltage test, we have tested the relationship between the external power supply and RF IC power supply. Base on the test results, only the normal voltage was selected to perform all items. The details information as below:

External power supply	IC power supply	Deviation from normal	Deviation
12.0V	3.3V	---	---
10.8V	3.3V	0.00V	0.00%
13.2V	3.3V	0.00V	0.00%

Adjust the load capacitor according to the crystal spec.

See page22 for VCCIO WL power connect selection.

5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)	Cal. By	Remark
Spectrum Analyzer	Keysight	N9010B	WXJ004-3	09-10-2024	09-09-2025	CCIC	3
				08-08-2025	08-07-2026		
Power Detector Box	MWRFTTEST	MW100-PSB	WXJ007-4	09-10-2024	09-09-2025	CCIC	3
				08-08-2025	08-07-2026		
Multimeter	Fluke	15B	WXJ034-1	05-08-2025	05-07-2026	CCIC	3
RF Control Unit	MWRFTTEST	MW100-RFCB	WXG006	N/A			
Test Software	MWRFTTEST	MTS 8310	Version: 2.0.0.0				
<i>Remark:</i> 1. Calibration conducted by the National Institute of Information and Communications Technology (NICT) in japan (hereinafter referred to as *NICT*) or a designated calibration agency under Article 102-18 paragraph (1) in JRL. 2. Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No.51 of 1992) 3. Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1). 4. Calibration, etc. conducted by using measuning instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (2) to (4). From JRL Article 24-2, paragraph 4, Item 2							

6 Test results and Measurement Data

6.1 Test Configuration of EUT

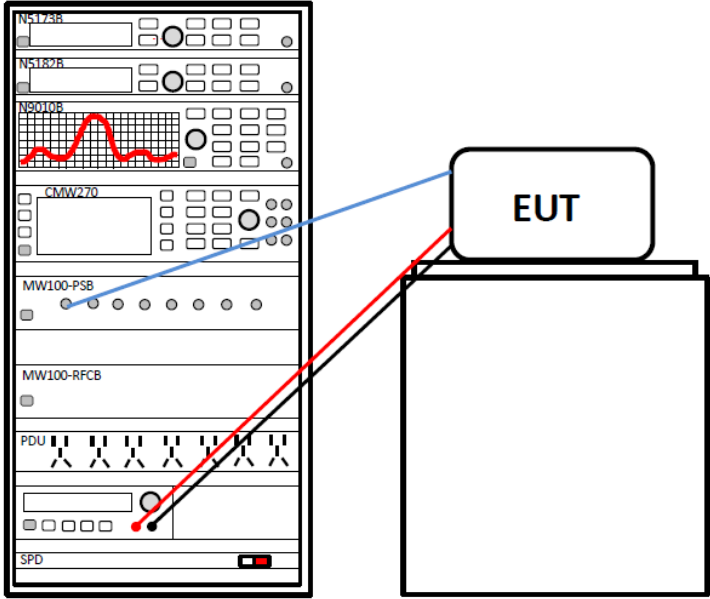
Channel list and Channels selected to perform the tests

Band 1					
802.11a/n-HT20/ac-HT20		802.11n-HT40/ac-HT40		802.11ac-HT80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	42	5210MHz
40	5200MHz	46	5230MHz		
44	5220MHz				
48	5240MHz				
Note: Channel 36, 40 & 48 were selected for 802.11a & n-HT20 & ac-HT20, 39 & 45 were selected for 802.11 n-HT40 & ac-HT40, 42 were selected for 802.11 ac-HT80.					

Test configuration for each items

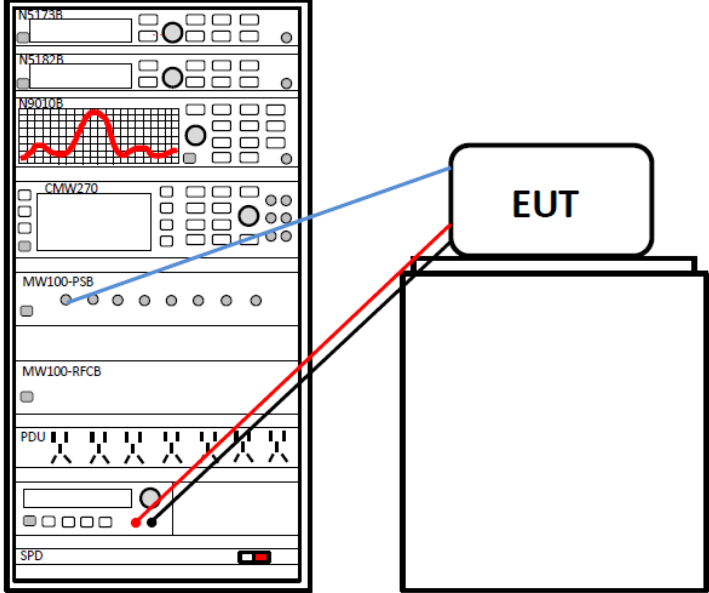
Report Section	Test Channel	Test Conditions	Test mode
6.2	L, M, H	Normal	Modulation
6.3	L, M, H	Normal	Modulation
6.4	L, M, H	Normal	Modulation
6.5	L, M, H	Normal	Modulation
6.6	L, M, H	Normal	Modulation
6.7	M	Normal	Modulation
6.8	M	Normal	Modulation
6.9	L, M, H	Normal	Modulation
6.10	M	Normal	Modulation
6.11	/	Normal	Modulation

6.2 Frequency Error

Test Requirement:	Article 2 paragraph 1 item (19-3) and Article 2 paragraph 1 item (19-3-2)
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 3
Test Frequency Range:	BAND 1: 5150MHz~5250MHz
Limit:	± 20 ppm
Test setup:	
Test procedure:	1. Frequency accuracy of SA shall be less than 10% of limits tolerance (5ppm) 2. Setting of SA is following as: RBW:10 kHz / VBW:10 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. EUT have transmitted with modulation signal and fixed channelize. Mark the lower frequency and upper frequency points of the -10dBc bandwidth, f_c is declaring of channel frequency. Then the frequency error formula is $[(f_L + f_H)/2 - f_c] / f_c \times 10^6$ ppm and the limit is less than ± 20 ppm.
Test Instruments:	Refer to section 5.8 for details
Test Uncertainty:	± 1 x 10 ⁻⁸
Test results:	Pass

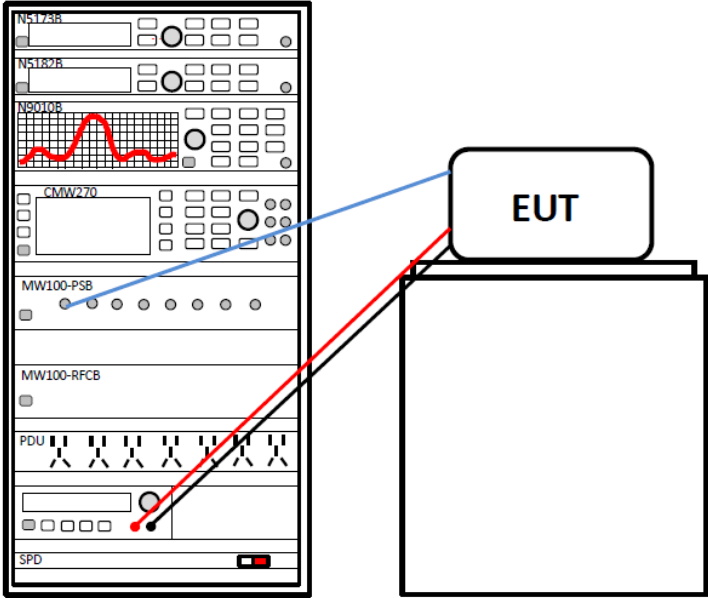
Measurement Data: See to Appendix A – 5.2G Wi-Fi.

6.3 Occupied bandwidth

Test Requirement:	Article 2 paragraph 1 item (19-3)	
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 4	
Limit:	Band 1:	
	20 MHz System	a: OFDMA ≤ 20 MHz b: Other Mod ≤ 18 MHz
	40 MHz System	(Only OFDM) ≤ 40 MHz
	80 MHz System	(Only OFDM) ≤ 80 MHz
	160 MHz System	(Only OFDM) ≤ 160 MHz
Test setup:		
Test procedure:	- Setting of SA is following as: RBW:100 kHz / VBW: 300 kHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold - EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth. - When the trace was stable, captures the plots and saved. Compare with the limits above. - Repeat above steps for all bandwidths.	
Test Instruments:	Refer to section 5.8 for details	
Test Uncertainty:	$\pm 1 \times 10^{-8}$	
Test results:	Pass	

Measurement Data: See to Appendix A – 5.2G Wi-Fi.

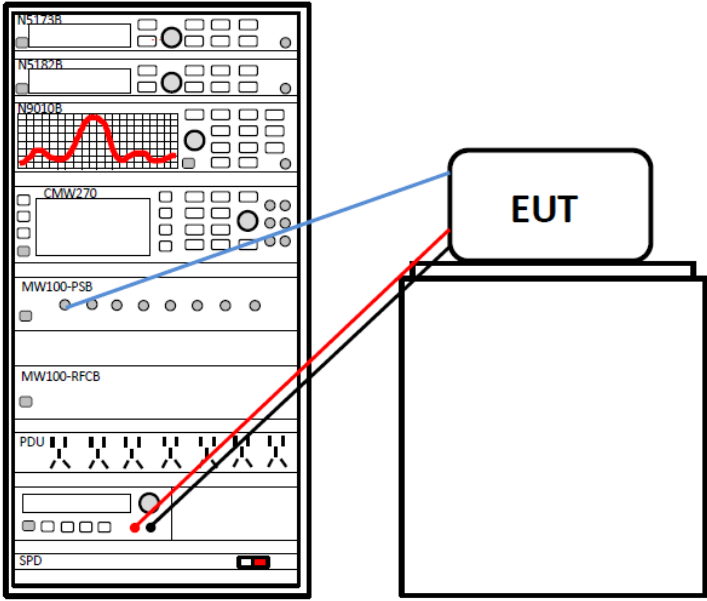
6.4 Antenna power, e.i.r.p and deviation

Test Requirement:	Article 2 paragraph 1 item (19-3)		
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 6		
Equipment setup:	RBW=1MHz, VBW=1MHz, detector=RMS		
Limit:	Band 1/2/3(Antenna Power):		
	a. OBW: ≤20MHz	OFDM ≤ 10mW/MHz	Band 1/2 Deviation: +20% ~ -80%
	b. 480MHz≤ OBW ≤80M	OFDM ≤ 5mW/MHz	
	c. 480MHz≤ OBW ≤80M	OFDM ≤ 2.5mW/MHz	Band 3 Deviation: +50% ~ -50%
	d. 80MHz≤ OBW ≤160M	OFDM ≤ 1.25mW/MHz	
	Band 1(E.I.R.P):		
	BW	With TPC	Without TPC
	a. OBW: ≤20MHz	OFDM ≤ 10mW/MHz	OFDM ≤ 10mW/MHz
	b. 480MHz≤ OBW ≤80M	OFDM ≤ 5mW/MHz	OFDM ≤ 5mW/MHz
	c. 480MHz≤ OBW ≤80M	OFDM ≤ 2.5mW/MHz	OFDM ≤ 2.5mW/MHz
	d. 80MHz≤ OBW ≤160M	OFDM ≤ 1.25mW/MHz	OFDM ≤ 1.25mW/MHz
	Band 2(E.I.R.P):		
	BW	With TPC	Without TPC
	a. OBW: ≤20MHz	OFDM ≤ 10mW/MHz	OFDM ≤ 5mW/MHz
	b. 480MHz≤ OBW ≤80M	OFDM ≤ 5mW/MHz	OFDM ≤ 2.5mW/MHz
	c. 480MHz≤ OBW ≤80M	OFDM ≤ 2.5mW/MHz	OFDM ≤ 1.25mW/MHz
	d. 80MHz≤ OBW ≤160M	OFDM ≤ 1.25mW/MHz	OFDM ≤ 0.625mW/MHz
	Band 3(E.I.R.P):		
	BW	With TPC	Without TPC
	a. OBW: ≤20MHz	OFDM ≤ 50mW/MHz	OFDM ≤ 25mW/MHz
	b. 480MHz≤ OBW ≤80M	OFDM ≤ 25mW/MHz	OFDM ≤ 12.5mW/MHz
	c. 480MHz≤ OBW ≤80M	OFDM ≤ 12.5mW/MHz	OFDM ≤ 6.25mW/MHz
	d. 80MHz≤ OBW ≤160M	OFDM ≤6.25mW/MHz	OFDM ≤3.125mW/MHz
Test setup:			
Test Procedure:	1. Connect the UUT to the spectrum analyzer and use the following settings: Centre Frequency: The centre frequency of the channel under test.		

	RBW: 1MHz/VBW: 1MHz/ Span: Wide enough to cover the complete power envelope of the signal of the EUT. / Detector: RMS. / Trace Mode: Max Hold. 2. When the trace is complete, find the peak value of the power envelope and record the frequency. 3. Calculated the Maximum deviation and recorded the results. $\text{Deviation} = (\text{Antenna Power} - \text{Rated Output Power}) / \text{Rated Output Power} * 100\%$
Test Instruments:	Refer to section 5.8 for details
Test Uncertainty:	± 0.96 dB
Test results:	Pass

Measurement Data: See to Appendix A – 5.2G Wi-Fi.

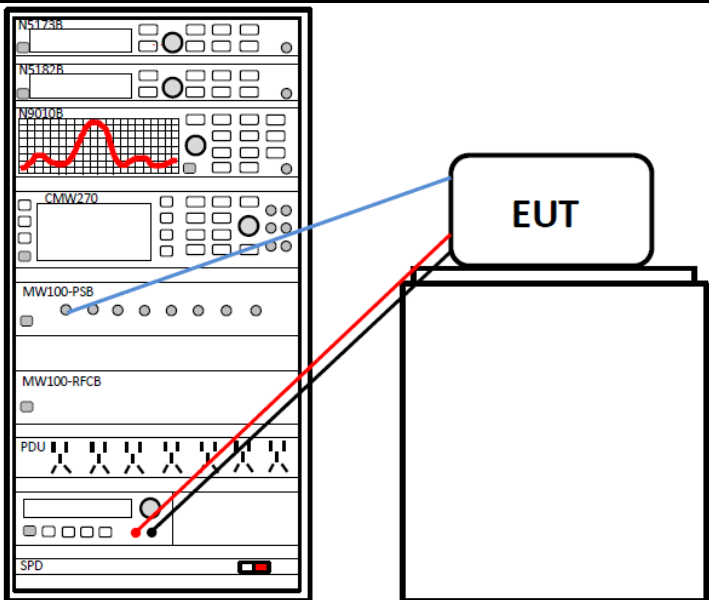
6.5 Tolerance of Adjacent Channel Leakage Power

Test Requirement:	Article 2 paragraph 1 item (19-3)	
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 7	
Equipment setup:	RBW=100 kHz, VBW=100 kHz, detector=RMS, trace mode=average	
Limit:	Band 1:	
	OBW: $\leq 18\text{MHz}$	a. 20MHz detuning $\leq -25\text{dBc}/18\text{MHz}$ b. 40MHz detuning $\leq -40\text{dBc}/18\text{MHz}$
	OBW: 18~20MHz	a. 20MHz detuning $\leq -25\text{dBc}/20\text{MHz}$ b. 40MHz detuning $\leq -40\text{dBc}/20\text{MHz}$
	OBW: 20~40MHz	a. 40MHz detuning $\leq -25\text{dBc}/40\text{MHz}$ b. 80MHz detuning $\leq -40\text{dBc}/40\text{MHz}$
	OBW: 40~80MHz	a. 80MHz detuning $\leq -25\text{dBc}/80\text{MHz}$
	OBW: 80~160MHz	N/A
Test setup:		
Test Procedure	1. EUT have transmitted the maximum modulation signal and fixed channelize; 2. Setting of SA is following as: RBW:100kHz / VBW:300kHz/ Sweep time: Auto / Sweep Mode: Single / Sweep Count: 100/Detect mode: RMS / Trace mode: Average; 3. Using the channel power function of SA, setting the Txchannel bandwidth, Adjacent channel bandwidth and Alternate channel bandwidth as limit table; 4. Setting the limit line as the limit table, and turn on the limit function; 5. When the trace completed, compared with limits, and saved the plot; 6. Repeat above steps for applicable test frequencies, channel bandwidths.	
Test Instruments:	Refer to section 5.8 for details	
Test Uncertainty:	$\pm 0.96 \text{ dB}$	
Test results:	Pass	

Measurement Data: See to Appendix A – 5.2G Wi-Fi.

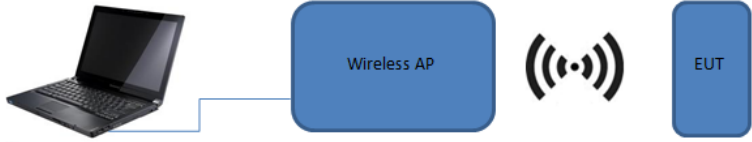
6.6 Tolerance of Unwanted Emission Intensity (e.i.r.p value)

Test Requirement:	Article 2 paragraph 1 item (19-3)																																																																																												
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 7																																																																																												
Equipment setup:	RBW=1MHz, VBW=3MHz, Detector = Peak , Trace mode = Max hold																																																																																												
Limit:	<table><tr><th>Frequency Segments⁴⁾</th><th>Limit⁴⁾</th><th>Units⁴⁾</th></tr><tr><td colspan="3">Band 1 OBW: ≤18MHz⁴⁾</td></tr><tr><td>≤ 5142MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5142 ~ 5150MHz⁴⁾</td><td>≤ 15⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5250 ~ 5251MHz⁴⁾</td><td>≤ 10^{1-(Df-9)} (Df: 10-11MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5251 ~ 5260MHz⁴⁾</td><td>≤ 10^{1-(8/90)(Df-11)} (Df: 11-20MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5260 ~ 5266.7MHz⁴⁾</td><td>≤ 10^{1-1.8-(6/50)(Df-20)} (Df: 20-26.7MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>≥ 5266.7MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td colspan="3">Band 1 OBW: ≤18~20MHz⁴⁾</td></tr><tr><td>≤ 5142MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5142 ~ 5150MHz⁴⁾</td><td>≤ 15⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5250 ~ 5250.2MHz⁴⁾</td><td>≤ 10^{1-(8/3)(Df-9.75)} (Df: 10-10.2MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5250.2 ~ 5251MHz⁴⁾</td><td>≤ 10^{1-(Df-9)} (Df: 10-11MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5251 ~ 5260MHz⁴⁾</td><td>≤ 10^{1-(8/90)(Df-11)} (Df: 11-20MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5260 ~ 5266.7MHz⁴⁾</td><td>≤ 10^{1-1.8-(6/50)(Df-20)} (Df: 20-26.7MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>≥ 5266.7MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td colspan="3">Band 1 OBW: ≤20~40MHz⁴⁾</td></tr><tr><td>≤ 5141.6MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5141.6 ~ 5150MHz⁴⁾</td><td>≤ 15⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5250 ~ 5251MHz⁴⁾</td><td>≤ 10^{-(Df-20)+log(1/2)} (Df: 20-21MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5251 ~ 5270MHz⁴⁾</td><td>≤ 10^{-(8/190)(f-21)-1+log(1/2)} (Df: 21-40MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5270 ~ 5278.4MHz⁴⁾</td><td>≤ 10^{-(3/50)(Df-40)-1.8+log(1/2)} (Df: 40-48.4MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>≥ 5278.4MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td colspan="3">Band 1 OBW: ≤40~80MHz⁴⁾</td></tr><tr><td>≤ 5123.2MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5123.2 ~ 5150MHz⁴⁾</td><td>≤ 15⁴⁾</td><td>μW/MHz⁴⁾</td></tr><tr><td>5250 ~ 5251MHz⁴⁾</td><td>≤ 10^{-(Df-40)+log(1/4)} (Df: 40-41MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5251 ~ 5290MHz⁴⁾</td><td>≤ 10^{-(8/390)(Df-41)-1+log(1/4)} (Df: 41-80MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>5290 ~ 5296.7MHz⁴⁾</td><td>≤ 10^{-(3/100)(Df-80)-1.8+log(1/4)} (Df: 80-86.7MHz)⁴⁾</td><td>mW/MHz⁴⁾</td></tr><tr><td>≥ 5296.7MHz⁴⁾</td><td>≤ 2.5⁴⁾</td><td>μW/MHz⁴⁾</td></tr></table>			Frequency Segments ⁴⁾	Limit ⁴⁾	Units ⁴⁾	Band 1 OBW: ≤18MHz ⁴⁾			≤ 5142MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	5142 ~ 5150MHz ⁴⁾	≤ 15 ⁴⁾	μW/MHz ⁴⁾	5250 ~ 5251MHz ⁴⁾	≤ 10 ^{1-(Df-9)} (Df: 10-11MHz) ⁴⁾	mW/MHz ⁴⁾	5251 ~ 5260MHz ⁴⁾	≤ 10 ^{1-(8/90)(Df-11)} (Df: 11-20MHz) ⁴⁾	mW/MHz ⁴⁾	5260 ~ 5266.7MHz ⁴⁾	≤ 10 ^{1-1.8-(6/50)(Df-20)} (Df: 20-26.7MHz) ⁴⁾	mW/MHz ⁴⁾	≥ 5266.7MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	Band 1 OBW: ≤18~20MHz ⁴⁾			≤ 5142MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	5142 ~ 5150MHz ⁴⁾	≤ 15 ⁴⁾	μW/MHz ⁴⁾	5250 ~ 5250.2MHz ⁴⁾	≤ 10 ^{1-(8/3)(Df-9.75)} (Df: 10-10.2MHz) ⁴⁾	mW/MHz ⁴⁾	5250.2 ~ 5251MHz ⁴⁾	≤ 10 ^{1-(Df-9)} (Df: 10-11MHz) ⁴⁾	mW/MHz ⁴⁾	5251 ~ 5260MHz ⁴⁾	≤ 10 ^{1-(8/90)(Df-11)} (Df: 11-20MHz) ⁴⁾	mW/MHz ⁴⁾	5260 ~ 5266.7MHz ⁴⁾	≤ 10 ^{1-1.8-(6/50)(Df-20)} (Df: 20-26.7MHz) ⁴⁾	mW/MHz ⁴⁾	≥ 5266.7MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	Band 1 OBW: ≤20~40MHz ⁴⁾			≤ 5141.6MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	5141.6 ~ 5150MHz ⁴⁾	≤ 15 ⁴⁾	μW/MHz ⁴⁾	5250 ~ 5251MHz ⁴⁾	≤ 10 ^{-(Df-20)+log(1/2)} (Df: 20-21MHz) ⁴⁾	mW/MHz ⁴⁾	5251 ~ 5270MHz ⁴⁾	≤ 10 ^{-(8/190)(f-21)-1+log(1/2)} (Df: 21-40MHz) ⁴⁾	mW/MHz ⁴⁾	5270 ~ 5278.4MHz ⁴⁾	≤ 10 ^{-(3/50)(Df-40)-1.8+log(1/2)} (Df: 40-48.4MHz) ⁴⁾	mW/MHz ⁴⁾	≥ 5278.4MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	Band 1 OBW: ≤40~80MHz ⁴⁾			≤ 5123.2MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾	5123.2 ~ 5150MHz ⁴⁾	≤ 15 ⁴⁾	μW/MHz ⁴⁾	5250 ~ 5251MHz ⁴⁾	≤ 10 ^{-(Df-40)+log(1/4)} (Df: 40-41MHz) ⁴⁾	mW/MHz ⁴⁾	5251 ~ 5290MHz ⁴⁾	≤ 10 ^{-(8/390)(Df-41)-1+log(1/4)} (Df: 41-80MHz) ⁴⁾	mW/MHz ⁴⁾	5290 ~ 5296.7MHz ⁴⁾	≤ 10 ^{-(3/100)(Df-80)-1.8+log(1/4)} (Df: 80-86.7MHz) ⁴⁾	mW/MHz ⁴⁾	≥ 5296.7MHz ⁴⁾	≤ 2.5 ⁴⁾	μW/MHz ⁴⁾
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Test setup:	
Test procedure	1. EUT have transmitted the maximum modulation signal and fixed channelize; 2. Setting of SA is following as: RBW:1MHz / VBW:3MHz/ Sweep time: Auto / Sweep Mode: Single / Sweep Count: 100/Detect mode: RMS / Trace mode: Max hold; 3. Using the Spurious Emissions function of SA, setting the limit line as the limit table; 4. When the trace completed, compared with limits, and saved the plot; 5. Repeat above steps for applicable test frequencies, channel bandwidths.
Test Instruments:	Refer to section 5.8 for details
Test Uncertainty:	± 0.96 dB
Test results:	Pass

Measurement Data: See to Appendix A – 5.2G Wi-Fi.

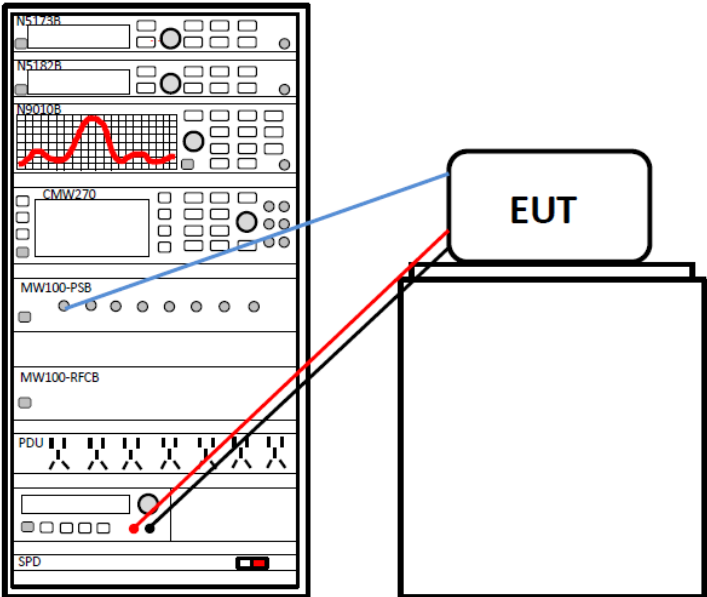
6.7 Transmitting rate

Test Requirement:	Article 2 paragraph 1 item (19-3)	
Test Method:	Ordinance Regulating Radio Equipment No. 18, Article 49-20	
Requirement:	OBW: $\leq 20\text{MHz}$	$\geq 20\text{Mbps}$
	OBW: $\leq 20\text{MHz} \sim 40\text{MHz}$	$\geq 40\text{Mbps}$
	OBW: $\leq 40\text{MHz} \sim 80\text{MHz}$	$\geq 80\text{Mbps}$
	OBW: $\leq 80\text{MHz} \sim 160\text{MHz}$	$\geq 160\text{Mbps}$
Test setup:		
Test Procedure:	1. Connect the EUT to Wireless AP by Wi-Fi function; 2. Connect the Wireless AP to Laptop by wired cable; 3. Run the throughput test software "iPerf"; 4. Record the transmitting rate; 5. Repeat above steps for all modes.	
Test Instruments:	Refer to section 5.8 for details	
Test results:	Pass.	

Measurement Data:

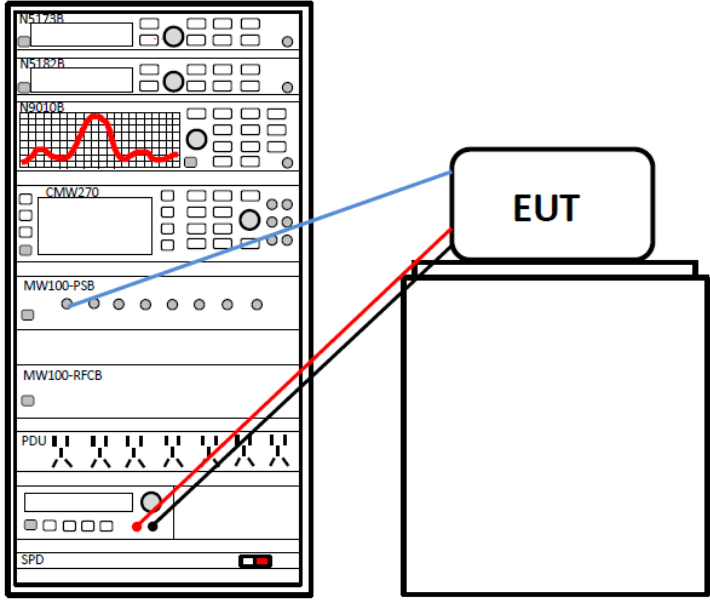
Modes	Transmitting Rate	Result
802.11a	$\geq 20\text{Mbps}$	Pass
802.11n-HT20	$\geq 20\text{Mbps}$	Pass
802.11n-HT40	$\geq 40\text{Mbps}$	Pass
802.11ac-HT20	$\geq 20\text{Mbps}$	Pass
802.11ac-HT40	$\geq 40\text{Mbps}$	Pass
802.11ac-HT80	$\geq 80\text{Mbps}$	Pass

6.8 Transmitting Burst Length

Test Requirement:	Article 2 paragraph 1 item (19-3)
Test Method:	Ordinance Regulating Radio Equipment No. 18, Article 49-20
Requirement:	≤ 8ms
Test setup:	
Test Procedure:	1. EUT have transmitted the maximum modulation signal and fixed channelize. 2. Setting of SA is following as: RBW: 1MHz / VBW: 3MHz /Span = 0 / Sweep time: 5ms / Sweep Mode: Single sweep / Detect mode: RMS / Trace mode: Max hold. 3. Press the Sweep Button, and captured at least on burst by SA; 4. Use the delta function to marker the burst length 5. When the trace completed, saved the plots; 6. Repeat above steps for applicable test frequencies and channel bandwidths.
Test Instruments:	Refer to section 5.8 for details
Test results:	Pass.

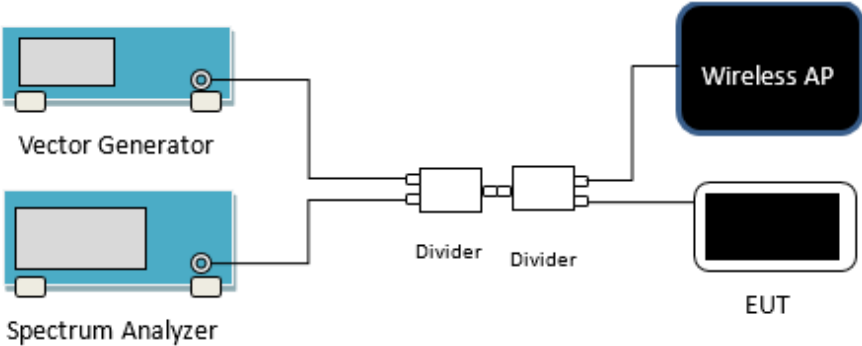
Measurement Data: See to Appendix A – 5.2G Wi-Fi.

6.9 Limit of Secondary Radiated Emissions

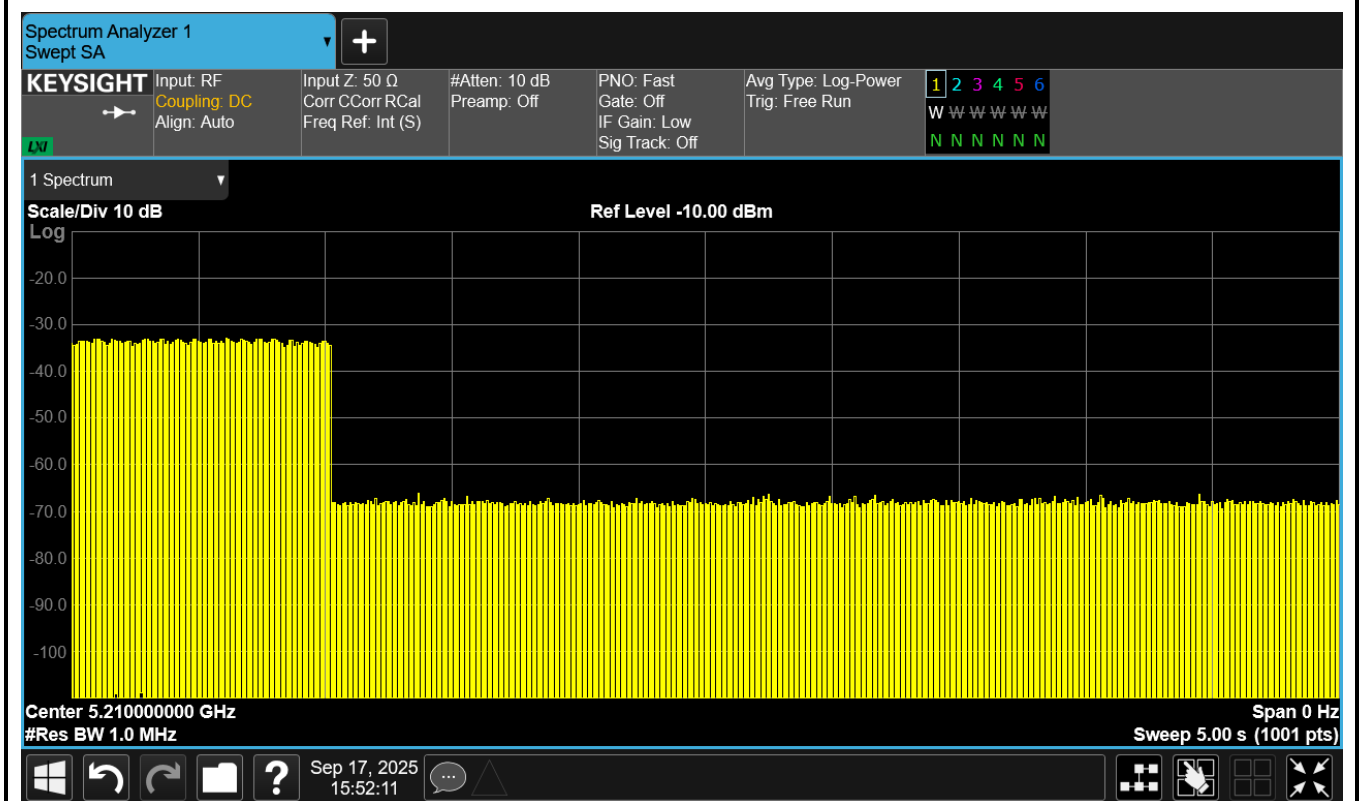
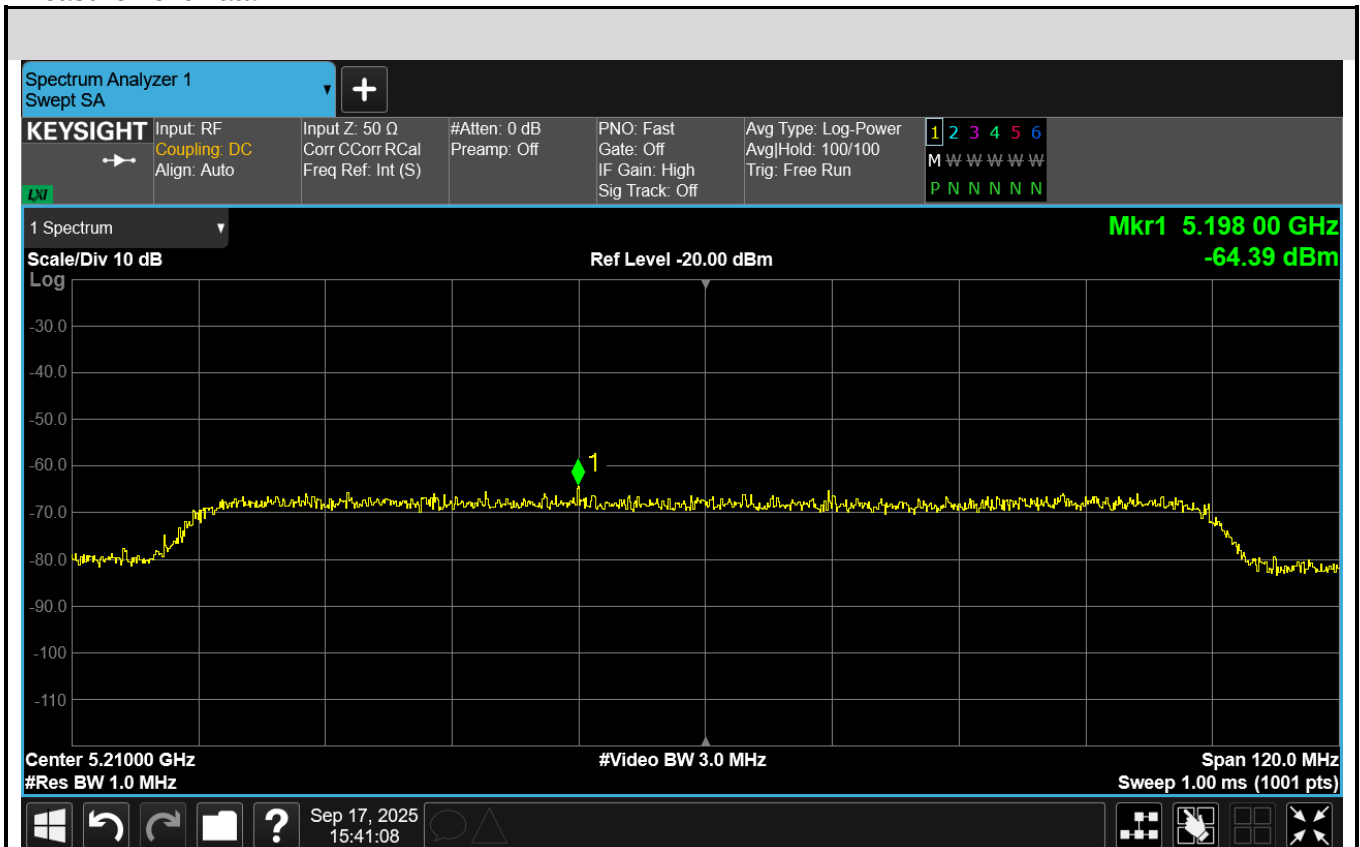
Test Requirement:	Article 2 paragraph 1 item (19-3)	
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 8	
Equipment Setup:	RBW = 100 kHz,VBW= 100 kHz for below 1 GHz RBW = 1 MHz, VBW = 3 MHz for above 1 GHz	
Limit:	≤1GHz	≤4 nW
	1GHz~10GHz	≤20 nW
	≥10GHz	≤20 nW
Test setup:		
Test procedure:	1. EUT have the continuous reception mode and fixed only one channelize. 2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / AT: 10dB / 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 30MHz and stop frequency 1000 MHz. Search to mark peak reading value + cable loss shall be less than 4nW 4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 26000 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 < 1GHz, 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.	
Test Instruments:	Refer to section 5.8 for details	
Test Uncertainty:	± 0.96 dB	
Test results:	Pass	

Measurement Data: See to Appendix A – 5.2G Wi-Fi.

6.10 Carrier sense function

Test Requirement:	Article 2 paragraph 1 item (19)
Test Method:	Appendix No.45 Notification No.88 of MIC, 2004 section 12
Limit:	The radio equipment connected to telecommunication circuit equipment shall be equipped with a device which detects emissions radiated from another radio station and prevents interference, or a device which prevents interference by operation on a receive signal and a signal for diffusion for signal level detection.
Test setup:	 The diagram illustrates the test setup. A Vector Generator and a Spectrum Analyzer are connected to a Wireless AP and an EUT (Equipment Under Test) via two Dividers. The Vector Generator is connected to the top divider, and the Spectrum Analyzer is connected to the bottom divider. The Wireless AP is connected to the top divider, and the EUT is connected to the bottom divider. The two Dividers are connected to each other, forming a bridge between the Vector Generator/Spectrum Analyzer and the Wireless AP/EUT.
Test procedure:	1. Set the EUT link with a peripheral, Wireless AP. 2. Set a signal generator (simulate a radio device which co-exists with EUT) at same frequency channel with a proper signal level (exceeding 100mV/m) output to act as interference signal. 3. Monitor the signal transmission between the EUT and peripheral, while the interference signal presents. The EUT would stop transmitting once it detects interference signal, then record it pass, otherwise, the result is fail.
Test Instruments:	Refer to section 5.8 for details
Test results:	Pass

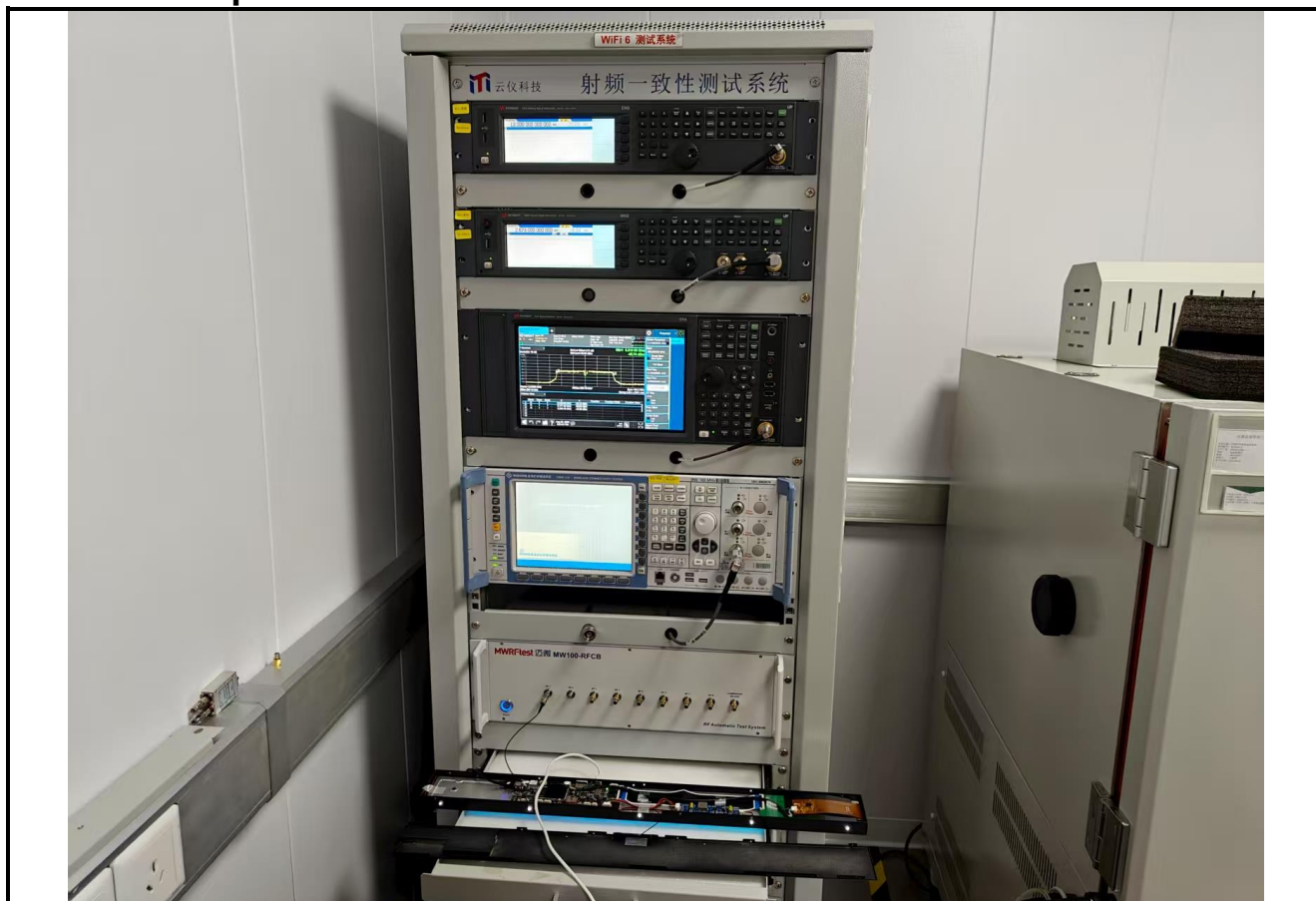
Measurement Data:



6.11 Other requirements

Test Requirement:	Article 2 paragraph 1 item (19-3)
Test Method:	Ordinance Regulating Radio Equipment No. 18, Article 49-20
Requirement:	1. Interference prevention function 2. Shall be of the structure that RF and modulator sections including the antenna cannot be easily be opened. 3. Shall be admitted to be use indoors, the warning information "Indoor Use Only" must be put on the equipment. 4. More than 1 carrier in 1 MHz bandwidth. (Only for OFDM)
Results:	1. The only MAC address was used by EUT 2. The RF and modulator section was protected by shielded cover, which cannot be easily open by the user. 3. "Indoor Use Only" will be put on label 4. For OFDM modulation, the default subcarrier spacing is 312.5 kHz, so, there are about 3 subcarriers in 1 MHz bandwidth, meet the requirement.

7 Test Setup Photo



8 EUT Constructional Details

Reference to the test report No.: JYTSZ-R01-2500338.

-----End of report-----