

TEST REPORT

Product : Portable PC
Trade mark : CHUWI
Model/Type reference : GemiBook XPro
Serial Number : N/A
Report Number : EED32P80338903
Date of Issue : May 16, 2023
Product Class : Item 19 of Article 2 Paragraph 1
Test result : PASS

Prepared for:

CHUWI Innovation And Technology (ShenZhen)co.,Ltd.
F2, Building 3 , Li jincheng Industrial Park , Industrial east Road,
Longhua Street, Longhua District,ShenZhen City, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by:

mark.chen

Reviewed by:

Tom Chen

Mark Chen

Tom Chen

Approved by:

Aaron Ma

Date:

May 16, 2023

Aaron Ma

Check No.: 6445140323



1 Version

Version No.	Date	Description
00	May 16, 2023	Original

2 Test Summary

Test	Test Requirement	Limit/Severity	Result
Antenna Requirement	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43,B-1 (1)&(2)	PASS
Test frequency	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43, A-3	PASS
Frequency Error	Item 19 of Article 2 Paragraph 1	±50 PPM or less	PASS
Occupied Bandwidth	Item 19 of Article 2 Paragraph 1	FH/FH+DS/FH+OFDM 83.5MHz or less OFDM : 40MHz or less Others : 26MHz or less	PASS
Spread-spectrum Bandwidth	Item 19 of Article 2 Paragraph 1	500 kHz or more	PASS
Antenna Power	Item 19 of Article 2 Paragraph 1	Designated value: For the 2400-2483.5MHz (1) FH, FH+DS , FH+OFDM: 3mW/MHz(used in the range of 2427-2470.75 MHz) (2) OFDM , DSSS: 10mW/MHz or less OFDM OBW 26-38MHz: 5mW/MHz or less Tolerance: +20%,-80% (3) Other than (1) & (2): 10mW For 2484MHz: 10mW/MHz or less Tolerance: +20%,-80%	PASS
Spurious Emission of Tx	Item 19 of Article 2 Paragraph 1	for 2400-2483.5MHz (1) Below 2387 MHz : 2.5μW/MHz (2) 2387 to 2400 MHz : 25μW/MHz (3) 2483.5 through 2496.5 MHz : 25μW/MHz (4) Over 2496.5 MHz : 2.5μW/MHz	PASS
Interference prevention capability	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43, 44, 45	PASS
Carrier sense capability	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43, 44, 45	PASS
RF accessibility	Item 19 of Article 2 Paragraph 1	Notice 88 Appendix 43, 44, 45	PASS
Spurious Emission of Rx	Item 19 of Article 2 Paragraph 1	(1) Below 1 GHz: -54dBm (2) 1GHz or higher: -47dBm	PASS

Remark:

Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means the product in transmitting status.

Rx: In this whole report Rx (or rx) means the product in receiving status.

RF: In this whole report RF means Radiated Frequency.

DS: Direct spreading FH: Frequency hopping

OFDM: Orthogonal frequency division multiplexing

3 Contents

1 VERSION	2
2 TEST SUMMARY	3
3 CONTENTS	4
4 GENERAL INFORMATION	5
4.1 Client Information	5
4.2 General Description of EUT	5
4.3 EUT Test Environment Recorded	7
4.4 Description of Support Units	7
4.5 Test Location	7
4.6 Measurement Uncertainty (95% confidence levels, k=2)	7
5 EQUIPMENT LIST	8
6 RADIO TECHNICAL REQUIREMENTS SPECIFICATION	9
6.1 Transmitter Requirements	10
6.1.1 EUT test voltage and Frequency	10
6.1.2 Antenna Requirement	13
6.1.3 Frequency Error	14
6.1.4 Occupied Bandwidth (99%)	15
6.1.5 Spread spectrum Bandwidth (90%)	16
6.1.6 Antenna Power	17
6.1.7 Spurious Emissions of Tx	18
6.1.8 Carrier sense capability	19
6.1.9 Interference prevention function	21
6.1.10 RF accessibility	22
6.2 Receiver Requirements	23
6.2.1 Spurious Emissions of Rx	23
7 PHOTOGRAPHS	24
7.1 EUT Test Setup	24
7.2 EUT Constructional Details	25

4 General Information

4.1 Client Information

Applicant:	CHUWI Innovation And Technology (ShenZhen)co.,Ltd.
Address of Applicant:	F2, Building 3 , Li jincheng Industrial Park , Industrial east Road, Longhua Street, Longhua District,ShenZhen City, China
Manufacturer:	CHUWI Innovation And Technology (ShenZhen)co.,Ltd.
Address of Manufacturer:	F2, Building 3 , Li jincheng Industrial Park , Industrial east Road, Longhua Street, Longhua District,ShenZhen City, China
Factory:	SHENZHEN LUCKYSTAR TECHNOLOGY CO., LTD
Address of Factory:	BLDG1,YUJINGTAI INDUSTRIAL PARK,HUARONG ROAD,SHUIWEI VILLA GE,DALANG STREET, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE P.R. CHINA

4.2 General Description of EUT

Product Name:	Portable PC
Model No.:	GemiBook XPro
Trade mark:	CHUWI
Operating Frequency:	IEEE 802.11b/g/n(HT20)/ax(HE20): 2412MHz to 2472MHz IEEE 802.11n(HT40)/ax(HE40): 2422MHz to 2462MHz
Rate power:	802.11b: 5.9mW/MHz 802.11g: 4.7mW/MHz 802.11n (HT20): 4.4mW/MHz 802.11n (HT40): 2.5mW/MHz 802.11ax(HE20): 3.9mW/MHz 802.11ax(HE40): 1.6mW/MHz
Number of Channels:	802.11b: 13 Channels 802.11g: 13 Channels 802.11n (HT20)ax(HE20): 13 Channels 802.11n (HT40)/ax(HE40): 9 Channels
Type of Modulation:	IEEE for 802.11b:DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g:OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40): OFDM (64QAM, 16QAM,QPSK,BPSK) IEEE for 802.11ax(HE20 and HE40): OFDMA (64QAM, 16QAM,QPSK,BPSK)
Transmit Data Rate:	802.11b: 1M/2M/5.5M/11M bps 802.11g: 6M/9M/12M/18M/24M/36M/48M/54M bps 802.11n(HT20)/ax(HE20): 6.5M/13M/19.5M/26M/39M/52M/58.5M/64M bps 802.11n(HT40)/ax(HE40): 13.5M/27M/40.5M/54M/81M/108M/121.5M/135M bps
Channel Separation:	5 MHz
Antenna Type:	FPC Antenna
Antenna Gain:	WIFI 1:2.27 dBi WIFI 2:2.89 dBi
Function:	<input checked="" type="checkbox"/> SISO <input type="checkbox"/> 2x2 MIMO <input type="checkbox"/> TPC
Test Power Grade:	Default
Test Software of EUT:	DRTU

Power Supply:	Model:1-CHUSB202-128 Input:100-240V~50/60Hz 0.6A
	Output:12.0V $\overline{\text{---}}$ 2.0A
	Battery DC 7.6V
Test Voltage:	DC 7.6V
Sample Received Date:	Mar. 14, 2023
Sample tested Date:	Mar. 14, 2023 to May 11, 2023

4.3 EUT Test Environment Recorded

Temperature:	23°C
Humidity:	54% RH
Atmospheric Pressure:	1010mbar

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Certification	Supplied by
Netbook	DELL	Latitude 3490	FCC&CE	CTI

4.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

4.6 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Frequency Error	10 Hz
2	Occupied Bandwidth	10 kHz
3	Antenna Power	0.55dB
4	Spurious Emissions	0.46dB(30MHz-1GHz)
		0.55dB(1GHz-18GHz)
5	Carrier sense capability	1.0dB
6	Temperature test	0.64°C
7	Humidity test	3.8%
8	DC and low frequency voltages test	0.026%

5 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Keysight	N9010A	MY54510339	12-23-2022	12-22-2023
Signal Generator	Keysight	N5182B	MY53051549	12-19-2022	12-18-2023
Signal Generator	Agilent	N5181A	MY46240094	12-19-2022	12-18-2023
DC Power	Keysight	E3642A	MY56376072	12-19-2022	12-18-2023
Wi-Fi 7GHz Band Extender	JS Tonscend	TS-WF7U2	2206200002	06-11-2022	06-10-2023
RF control unit	JS Tonscend	JS0806-2	158060006	12-23-2022	12-22-2023
Communication test set	R&S	CMW500	120765	12-23-2022	12-22-2023
high-low temperature test chamber	Dong Guang Qin Zhuo	LK-80GA	QZ20150611879	12-19-2022	12-18-2023
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	07-01-2022	06-15-2023
BT&WI-FI Automatic test software	JS Tonscend	JS1120-3	2.6.77.0518	---	---

Remark:

- 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.
- Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).
- 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).
- Calibration, etc. conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c).

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

Notice: Calibration duration for above equipment is 1 year.

6 Radio Technical Requirements Specification

Table 1: Radio Technical Requirements Specification for 2.4 GHz band wide-band low-power data communication system (Item 19 of Article 2 Paragraph 1)

Items	Technical standard
Assigned frequency or designated frequency	2400-2483.5MHz
Communication method	One-way communication, simplex, semi-duplex, or duplex operation of digital signal transmission including spread spectrum
Tolerance of frequency ($\times 10^{-6}$)	± 50 PPM
Tolerance of occupied bandwidth	FH: 83.5MHz or less FH + OFDM: 83.5MHz or less Others: 26MHz or less FH + DS: 83.5MHz or less OFDM: 38MHz or less
Antenna power	Designated value (1) FH, FH+DS, FH+OFDM: 3mW/MHz (used in the range of 2427 - 2470.75 MHz) (2) OFDM, DS other than (1): 10mW/MHz (3) Other than (1) & (2): 10mW Tolerance: +20%, -80%
Antenna gain	1) 12.14 dBi or less in principle 2) In case of directional antenna (1) FH, FH+DS or FH+OFDM using 2427-2470.75 MHz EIRP \leq 16.91 dBm/MHz (2) OFDM or DS other than (1) EIRP \leq 22.14 dBm/MHz (3) Other than (1) and (2): 22.14 dBm or less (4) OFDM OBW 26 - 38MHz: 19.14dBm/MHz (5) Half-power angle of directional antenna (e) in case of the item 2): $e \leq 360/A$ (The A is 10 in maximum.)
Tolerance of spurious emission intensity	for 2400-2483.5Mz (1) Below 2387 MHz : 2.5 μ W (2) 2387 to 2400 MHz : 25 μ W (3) 2483.5 through 2496.5 MHz : 25 μ W (4) Over 2496.5 MHz : 2.5 μ W
Spreading bandwidth	500kHz or more
Spreading rate of spectrum	For DS system; (Spreading bandwidth) / (Frequency corresponding to transmission rate) ≥ 5
Limit of secondary radiated emissions	(1) Below 1 GHz: 4nW (2) 1 GHz or higher: 20nW
Interference prevention function	Shall have the function of automatic transmission and reception of identification sign.
Structure	Shall be of the structure that the RF and modulator sections excluding antenna cannot easily be opened.
Note	DS: Direct spread FH: Frequency hopping OFDM: Orthogonal frequency division multiplexing

Note: The Technical Standards described here do not cover all of the regulated items.

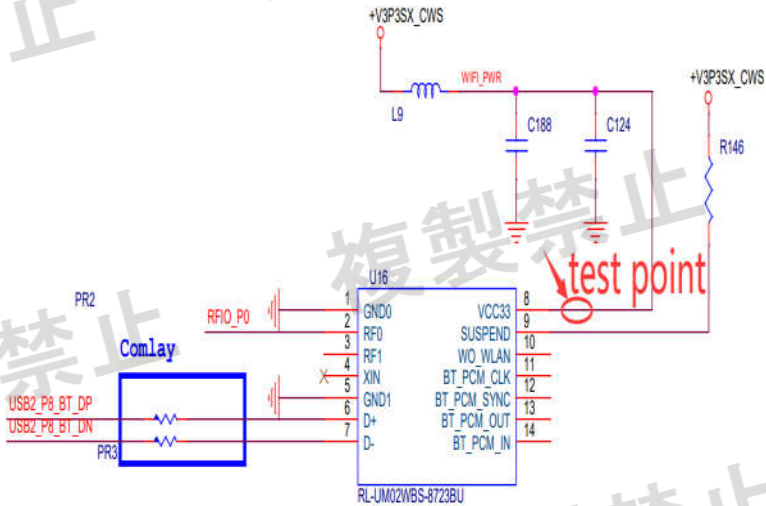
6.1 Transmitter Requirements

6.1.1 EUT test voltage and Frequency

6.1.1.1 EUT test voltage

Power Supply:	Battery DC 7.6V
Test voltage require:	Supply the rated voltage and the rated voltage $\pm 10\%$ to power supply. However, If the fluctuation of input voltage to the circuit of RF unit (except power supply) of test equipment is under $\pm 1\%$, when input voltage from external power supply to the test equipment is fluctuated by $\pm 10\%$: Conduct the test with the rated voltage only.

RF circuit test points:



Power Supply result:	The measurement result of the voltage fluctuation at RF circuit when DC 7.6V +/- 10%.	
	DC Input	RF circuit
	8.36V	DC 3.30V
	7.60V	DC 3.30V
	6.84V	DC 3.30V
NT: Normal Temperature NV: Normal Voltage LV: Low Voltage HV: High Voltage		

6.1.1.2 Test frequency

Test frequencies:	If the EUT can be set to 3 or more different (carrier) frequencies in 1 allocated band, testing shall be performed using the Lowest, Middle and the Highest frequency (L,M and H). If there are 2 or fewer frequencies, testing shall be performed with the available frequencies.	
Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

EUT channels and frequencies list:

802.11b

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

Test frequencies are the lowest channel: 1 channel(2412MHz), middle channel: 7 channel(2442 MHz) and the highest channel: 13 channel(2472 MHz)

802.11g&n (HT20)/ax(HE20)

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

Test frequencies are the lowest channel: 1 channel(2412MHz), middle channel: 7 channel(2442 MHz) and the highest channel: 13 channel(2472 MHz)

802.11n (HT40)/ax(HE40)

Channel	Frequency (MHz)
1	2422
2	2427
3	2432
4	2437
5	2442
6	2447
7	2452
8	2457
9	2462

Test frequencies are the lowest channel: 1 channel(2422MHz), middle channel: 5 channel(2442 MHz) and the highest channel: 9 channel(2462 MHz).

6.1.2 Antenna Requirement

Standard requirement	
Applicable for equipment with an antenna terminal, including testing terminals) If an antenna connector is available, all relevant tests will be carried out conducted. If not, tests will be carried out in an anechoic room or with a suitable test-fixture.	
EUT Antenna	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna are Ant1 2.27dBi and Ant2 2.89dBi.	
Result: An antenna connector is available, all relevant tests will be carried out conducted.	

6.1.3 Frequency Error

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Enter the unmodulation mode for the product. Test in Channel lowest, middle and highest, keep in continuously transmitting status.
Test Configuration:	<div><div>EUT</div><div>→</div><div>Spectrum Analyzer</div></div>
Test Conditions:	Frequency Counter or Spectrum Analyzer is used for measurement.
EUT conditions:	Modulation/Spread/Hopping off, CW Tx If EUT does not accept "Modulation OFF" mode in the measurement, you may use "Modulation ON" mode. In that case you can use the Max power Frequency as the measuring results.
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 1MHz RBW 10KHz (Modulation OFF), VBW 10KHz (Modulation OFF), Sweep Time Auto Detector mode Positive peak Indication mode Max hold
Technical standard:	Tolerance of frequency: $\pm 50 \times 10^{-6}$
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

6.1.4 Occupied Bandwidth (99%)

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	<div><div>EUT</div><div>Spectrum Analyzer</div></div>
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 40MHz/80MHz (DSSS,OFDM) RBW 300 kHz VBW 300 kHz Sweep Time Auto detector mode Positive peak Indication mode Max hold OBW 99%
Technical standard:	OFDM : 38MHz or less Others : 26MHz or less
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

6.1.5 Spread spectrum Bandwidth (90%)

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	<div><div>EUT</div><div>Spectrum Analyzer Spectrum Analyzer</div></div>
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
Spectrum Analyzer conditions:	Frequency: Test Frequency Span 40MHz/80MHz (DSSS,OFDM) RBW 300kHz VBW 300kHz Sweep Time Auto detector mode Positive peak Indication mode Max hold OBW 90%
Technical standard:	500kHz or more
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

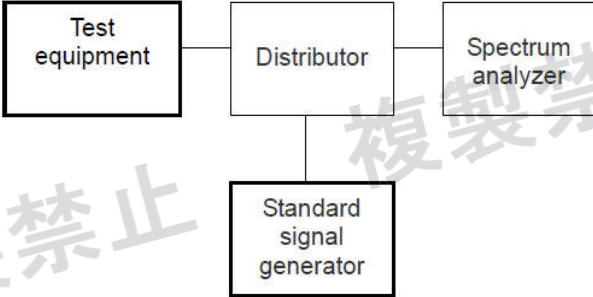
6.1.6 Antenna Power

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	<div><div>EUT</div><div>Spectrum Analyzer</div></div>
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
Spectrum Analyzer conditions(FHSS):	Frequency: Test Frequency Span 40 MHz/80 MHz (DSSS,OFDM) RBW 1 MHz VBW 1 MHz Sweep Time Auto detector mode Positive peak Indication mode Max hold
Technical standard:	Antenna Power (1) FH, FH+DS , FH+OFDM 3mW/MHz or less (used in the range of 2427 - 2470.75 MHz) (2) OFDM , DS other than (1) 10mW/MHz or less (3) Other than (1) & (2) 10mW or less Tolerance: +20% -80%
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

6.1.7 Spurious Emissions of Tx

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	<div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">EUT</div> → <div style="border: 1px solid black; padding: 5px; display: inline-block;">Spectrum Analyzer</div> </div>
EUT conditions:	Modulation/Spread/Hopping on, PN9 Modulation Tx For equipment using diffusion code, set to the test diffusion code and modulate with standard coding test signal.
Measurement Procedure:	Step1 All spurious are measured from 30MHz to 13GHz by peak mode. Step2 If the value measured by Step1 is 2dB or less, measure in average mode.
Spectrum Analyzer conditions(Step 1):	Frequency: 30MHz –13GHz RBW 100kHz (30 – 1GHz), 1000KHz (over 1GHz) VBW 100kHz (30 – 1GHz), 1000KHz (over 1GHz) Sweep Time Auto detector mode Positive peak Indication mode Max hold
Spectrum Analyzer conditions(Step 2):	Frequency: Spurious Frequency Span 0Hz RBW 1MHz VBW 1MHz Sweep Time Auto Detector mode Sample Indication mode Max hold
Technical standard:	for 2400-2483.5MHz (1) Below 2387 MHz : 2.5μW/MHz (2) 2387 to 2400 MHz : 25μW/MHz (3) 2483.5 through 2496.5 MHz : 25μW/MHz (5) Over 2496.5 MHz : 2.5μW/MHz
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

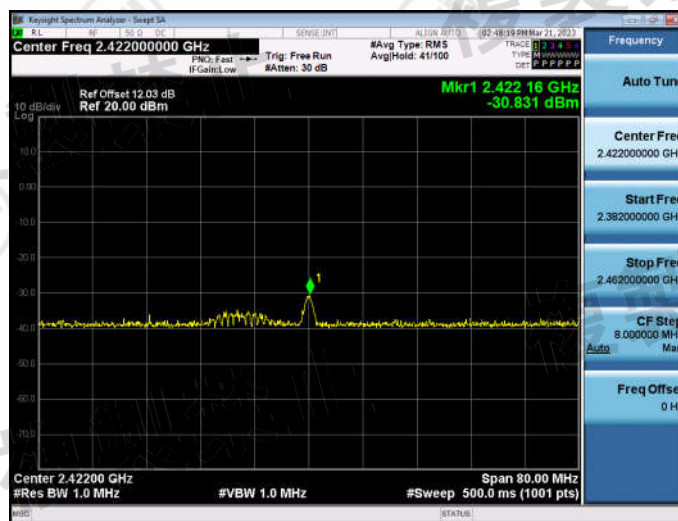
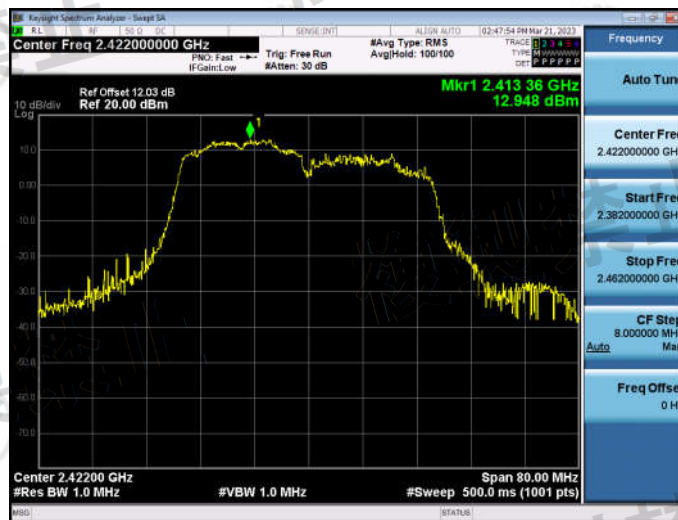
6.1.8 Carrier sense capability

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	The EUT state shall be "normal mode link with wireless router"
Test Configuration:	 <pre> graph LR TE[Test equipment] --- D[Distributor] D --- SA[Spectrum analyzer] D --- SSG[Standard signal generator] </pre>
Measurement Procedure:	<ol style="list-style-type: none"> 1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is $(on\ 22.79+G-20*\log(f)dBm)$ (G is the antenna gain, f is the test frequency). 2. Turn off the RF signal of the SG. 3. EUT have transmitted the maximum modulation signal and fixed channelize. 4. Setting of SA: RBW/VBW=1MHz/1MHz, Span= 50MHz, Sweep time= auto, Sweep mode= continuous, Detect mode=positive peak 5. SG RF signal on, 6. Record the result, 7. SG RF signal off, 8. Record the result.
Technical standard:	EUT shall be stop the transmitted any signal and SG RF signal off. Note: It is not applicable to occupied bandwidth within 26MHz.
Test result:	The unit does meet the requirements (Good).

Result plot as follows:

OFDM mode with 13.5Mbps data rate
802.11n (HT40)

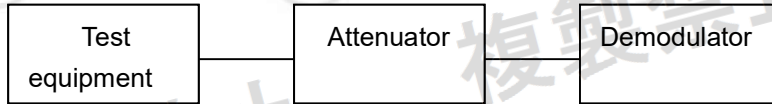
Channel 3: 2.422 GHz:



6.1.9 Interference prevention function

1) Measurement system diagram

(1) When transmitting identification code



2) Condition of measuring instrument

(1) Demodulator must be able to demodulate the transmitting signal emitted by test equipment and to indicate the identification code.

3) Condition of test equipment The mode of normal use.

4) Measuring operation procedure

(1) When test equipment has the function to transmit identification code automatically:

A) Transmit the predetermined identification code from test equipment.

B) Confirm the transmitted identification code by demodulator.

64:49:7d:f5:9e:93

5) Test result: The unit does meet the requirements (Good).

Test result: PASS

6.1.10 RF accessibility

Standard requirement

Article 49-20, paragraph 1 (a)

The EUT shall be constructed in such a way that sensitive RF parts, (like modulation and oscillator parts) cannot be reached easily by the user. These parts shall be covered by soldered metal caps or glue or by other mechanical covers. If the covers are fixed with screws, these shall be not the common type(s) like a Phillips, but special versions like Torx, so that the user cannot open the device with common tools.

<input type="checkbox"/>	Sealed with special screws.
<input type="checkbox"/>	Plastic chassis is being welded using ultrasonic waves.
<input type="checkbox"/>	Chassis is glued using a special adhesive.
<input type="checkbox"/>	Metal covers are spot-fused.
<input type="checkbox"/>	Cover is specially interlocked.
<input checked="" type="checkbox"/>	RF and Modulation components are covered with shielding case and this shielding case is soldered.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is welded using the BGA Method.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is glued at its lead with a special adhesive.
<input type="checkbox"/>	Shield case is welded at RF and modulation parts, and ID-ROM is glued with anon-transparent laminating agent.
<input type="checkbox"/>	RF and Modulation parts are mounted on PCB with surface mount technology, the antenna is printed on PCB, chip is welded on PCB, and there is no any adjustable parts on PCB or adjustable parts are not exposed.
The interval of terminals: 0.5 mm	
Number of terminals: 33	

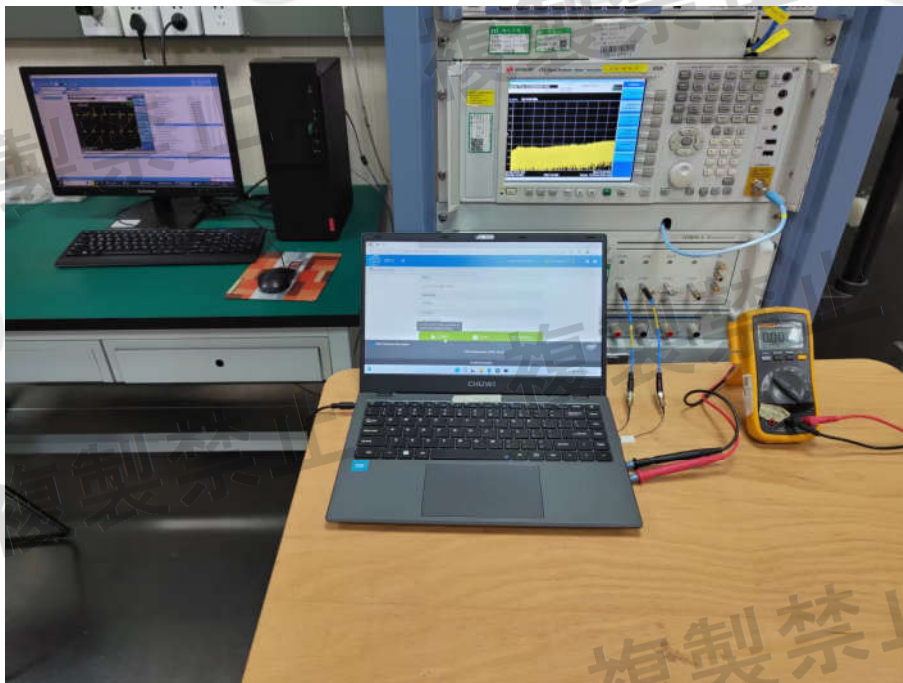
6.2 Receiver Requirements

6.2.1 Spurious Emissions of Rx

Test Requirement:	Item 19 of Article 2 Paragraph 1
Test Method:	MIC Notice No.88 Appendix No.43
EUT Test Status:	Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). Following channel(s) was (were) selected for the final test as listed below.
Test Configuration:	<div style="text-align: center;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;">EUT</div> → <div style="border: 1px solid black; padding: 5px; display: inline-block;">Spectrum Analyzer</div> </div>
EUT conditions:	Rx
Measurement Procedure:	Step 1 All spurious are measured from 30 MHz to 13 GHz by peak mode. Step 2 IF the value measured by Step1 is 2 dB or less, measure in average mode.
Spectrum Analyzer conditions(Step 1):	RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) Sweep Time Auto detector mode Positive peak Indication mode Max hold
Spectrum Analyzer Conditions(Step 2):	Frequency: Spurious Frequency Span 0 Hz RBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) VBW 100 kHz (30 – 1GHz) , 1 MHz (over 1GHz) Sweep Time Auto detector mode Sample Indication mode Max hold
Technical standard:	(1) Below 1 GHz : 4 nW or less (2) 1 GHz and over : 20 nW or less
Test result:	Refer to Appendix: 2.4G WIFI of Report No. EED32P80338903

7 Photographs

7.1 EUT Test Setup



EUT Test Setup-1

7.2 EUT Constructional Details

Refer to Report No. EED32P80338901 for EUT external and internal photos

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***