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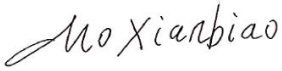
国际互认
检测
TESTING
CNAS L16091

No.:
FCCSZ2025-0047-H

TEST REPORT

FCC ID	:	**2ANM3U8822C2**
NAME OF SAMPLE	:	**WiFi + BT Module**
APPLICANT	:	**Shenzhen Chuangwei-RGB Electronics Co., Ltd.**
CLASSIFICATION OF TEST	:	**N/A**

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant	**Name: Shenzhen Chuangwei-RGB Electronics Co., Ltd.** **Address: 13F-16F, Unit A, Skyworth Building, Shennan Road South,Nanshan District,Shenzhen,Guangdong,China**		
Equipment Under Test	**Product Name: WiFi + BT Module** **Model Name: U8822C5** **Brand Name: N/A** **Serial NO.: N/A** **Sample NO.: 202506061143-2**		
Date of Receipt.	**Jun. 12, 2025**	Date of Testing	**Jun. 12, 2025 ～ Jul. 01, 2025**
Test Specification		**Test Result**	
FCC Part 2 (Section 2.1091) **KDB 447498 D04 v01**		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC **Issue Date: Jul. 01, 2025**		
Compiled by:  **Zhu Yulin** Name Signature	Reviewed by:  **Mo Xianbiao** Name Signature	Approved by:  **Dong Sanbi** Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0047-H	Original release	Jul. 01, 2025

1. GENERAL PRODUCT INFORMATION

PRODUCT NAME	WiFi + BT Module
BRAND NAME	N/A
MODEL NAME	U8822C5
ADDITIONAL MODEL NAME	N/A
POWER SUPPLY	DC 3.3V from host unit
OPERATING FREQUENCY	2402MHz ~ 2480MHz for BT 2412MHz ~ 2462MHz for 2.4G WiFi 5180MHz ~ 5240MHz, 5745MHz ~ 5825MHz for 5G WiFi
PEAK OUTPUT POWER (Remark 7)	See section 3
ANTENNA TYPE AND GAIN (Remark 4/5)	BT: FPC Antenna, with 3.56dBi gain
	WiFi 2.4G: ANT1: PIFA Antenna, with 2.58dBi gain ANT2: PIFA Antenna, with 3.68dBi gain ANT3: PIFA Antenna, with 3.35dBi gain ANT4: PIFA Antenna, with 3.62dBi gain
	WiFi 5G: ANT1: PIFA Antenna, with 3.43dBi gain ANT2: PIFA Antenna, with 3.72dBi gain ANT3: PIFA Antenna, with 5.78dBi gain ANT4: PIFA Antenna, with 3.44dBi gain
HARDWARE VERSION:	N012403-001013-001_VER00.01
SOFTWARE VERSION:	Win7_MP_Kit_RTL11ac_8822CU_USB_v13.00_20221115
I/O PORTS	Refer to User's Manual
CABLE SUPPLIED	N/A

Remark:

1. For more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. EUT photo refer to the report (Report NO.: FCCSZ2025-0047-EUT).
4. Please refer to the antenna report.
5. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
6. This module features two WiFi ports, each equipped with four antennas. For testing in this report, both WiFi ports utilize ANT2 (with a maximum gain of 3.68dBi for 2.4G) and ANT3 (with a maximum gain of 5.78dBi for 5G).
7. Since component changes do not affect RF parameters, the power data from the original test report shall be retained.

2. TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab of CVC Testing Technology (Shenzhen) Co., Ltd.

Address: No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

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FCC(Test firm designation number：CN1363)
IC(Test firm CAB identifier number：CN0137)
CNAS(Test firm designation number：L16091)

3. OPERATING FREQUENCY AND MAX CONDUTED POWER

Mode	Frequency (MHz)	Maximum Output Power (dBm)
BT	2402 ~ 2480	8.16
2.4G WiFi Port1 (ANT2)	2412 ~ 2462	14.55
2.4G WiFi Port2 (ANT2)	2412 ~ 2462	11.25
2.4G WiFi Total	2412 ~ 2462	15.84
5G WiFi Port1 (ANT3)	5180 ~ 5240	10.02
	5725 ~ 5825	12.61
5G WiFi Port2 (ANT3)	5180 ~ 5240	9.72
	5725 ~ 5825	13.65
5G WiFi Total	5180 ~ 5240	12.88
	5725 ~ 5825	16.17

4. RF EXPOSURE LIMIT

(Option B) According to FCC Part2.1091 and FCC Part1.1307b, the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P is given by:

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\,\text{cm}}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\,\text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where：

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,\text{cm}}\sqrt{f}}\right)$$

and f is in GHz;

and

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\,\text{cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to §1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source Frequency (MHz)	Threshold ERP (W)
0.3 - 1.34	$1920R^2$
1.34 - 30	$3450R^2/f^2$
30 - 300	$3.38R^2$
300 - 1500	$0.0128R^2/f^2$
1500 - 100000	$19.2R^2$

For multiple RF sources: Multiple RF sources are exempt if:

a) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those is paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).

b) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for Pth, including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

Pi = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

Pth,i = the exemption threshold power (Pth) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i.

ERPj = the ERP of fixed, mobile, or portable RF source j.

ERPth,j = exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

Evaluatedk = the maximum reported SAR or MPE of fixed, mobile, or portable RF source *k* either in the device or at the transmitter site from an existing evaluation at the location of exposure.

Exposure Limitk = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source *k,* as applicable from § 1.1310 of this chapter.

5. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

6. ANTENNA TYPE AND GAIN

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Peak Gain (dBi)	Antenna Type
BT	3.56	FPC Antenna
2.4G WiFi Port1 (ANT2)	3.68	PIFA Antenna
2.4G WiFi Port2 (ANT2)	3.68	PIFA Antenna
5G WiFi Port1 (ANT3)	5.78	PIFA Antenna
5G WiFi Port2 (ANT3)	5.78	PIFA Antenna
Remark: This is provided by the manufacturer. The laboratory is not responsible for technical data provided by the customer		

7. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

The measured Conducted Power

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BT	2402 ~ 2480	8	+-1	7	9
2.4G WiFi Port1 (ANT2)	2412 ~ 2462	14	+-1	13	15
2.4G WiFi Port2 (ANT2)	2412 ~ 2462	11	+-1	10	12
2.4G WiFi Total	2412 ~ 2462	16	+-1	15	17
5G WiFi Port1 (ANT3)	5180 ~ 5240	10	+-1	9	11
	5745 ~ 5825	13	+-1	12	14
5G WiFi Port2 (ANT3)	5180 ~ 5240	10	+-1	9	11
	5745 ~ 5825	14	+-1	13	15
5G WiFi Total	5180 ~ 5240	13	+-1	12	14
	5745 ~ 5825	16	+-1	15	17

8. MAXIMUM PERMISSIBLE EXPOSURE

Mode	Frequency (MHz)	Maximum tune up power (dBm)	Maximum Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Part1.1307b Threshold (mW)	Ratio
BT	2402 ~ 2480	9	3.56	12.56	10.41	10.99	3060	**0.004**
2.4G WiFi Port1 (ANT2)	2412 ~ 2462	15	3.68	18.68	16.53	44.98	3060	0.015
2.4G WiFi Port2 (ANT2)	2412 ~ 2462	12	3.68	15.68	13.53	22.54	3060	0.007
2.4G WiFi Total	2412 ~ 2462	17	6.69	23.69	21.54	142.56	3060	0.047
5G WiFi Port1 (ANT3)	5180 ~ 5240	11	5.78	16.78	14.63	29.04	3060	0.009
	5745 ~ 5825	14	5.78	19.78	17.63	57.94	3060	0.019
5G WiFi Port2 (ANT3)	5180 ~ 5240	11	5.78	16.78	14.63	29.04	3060	0.009
	5745 ~ 5825	15	5.78	20.78	18.63	72.95	3060	0.024
5G WiFi Total	5180 ~ 5240	14	8.79	22.79	20.64	115.88	3060	0.038
	5745 ~ 5825	17	8.79	25.79	23.64	231.21	3060	**0.076**

Note: This device can operate simultaneously in BT, 2.4G WiFi or 5G WiFi.

CONCLUSION:

Max：BT + 5G WiFi Total: 0.004 + 0.076= 0.08< 1, which is less than the “1” limit. So is compliant with the RF exposure requirements.

------ End of the Report ------

Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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