



# RF Exposure Evaluation Report

**Applicant:** Xiamen Tenia Lighting & Electrical Co., Ltd

**Address of Applicant:** NO.575, Second Ring South Road, Tong'an District, Xiamen, Fujian

## Equipment Under Test (EUT)

**Product Name:** Wi-Fi and Bluetooth Module

**Model No.:** CB2S

**FCC ID:** 2AV7W-CB2S

**Applicable standards:** FCC CFR Title 47 Part 2 Subpart J Section 2.1091

**Date of sample receipt:** 20 June 2023

**Date of Test:** 20 June 2023 to 13 July 2023

**Date of report issue:** 25 July 2023

**Test Result:** PASS\*

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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## 1 Modified Information

Version No.	Date	Description
00	25 July 2023	Original

Prepared by:

Leo Zhang/Engineer

Date: 25 July 2023

Reviewed by:

Louis Ye/Manager

Date: 25 July 2023

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### 3 General Information

#### 3.1 Client Information

Applicant:	Xiamen Tenia Lighting & Electrical Co., Ltd
Address:	NO.575, Second Ring South Road, Tong'an District, Xiamen, Fujian
Manufacturer/ Factory:	Xiamen Tenia Lighting & Electrical Co., Ltd
Address:	NO.575, Second Ring South Road, Tong'an District, Xiamen, Fujian

#### 3.2 General Description of E.U.T.

Product Name:	Wi-Fi and Bluetooth Module
Model No.:	CB2S
Hardware Version:	V1.0.0
Software Version:	V1.0.0
Operation Frequency:	2.4G Wi-Fi: 2412MHz~2472MHz BLE: 2402MHz~2480MHz
Modulation technology:	802.11b: DSSS, 802.11g/n: OFDM BLE: GFSK
Antenna Type:	PCB Antenna
Antenna gain:	0.04dBi
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

#### 3.3 Operating Modes

Operating mode	Detail description
BLE mode	Keep the EUT in continuously transmitting in BLE mode
2.4G WIFI mode	Keep the EUT in continuously transmitting in 2.4G WIFI mode

#### 3.4 Additions to, deviations, or exclusions from the method

No

#### 3.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1279**

Jianyan Testing Group Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 892155.

● **ISED – CAB identifier.: CN0102**

Jianyan Testing Group Co., Ltd. has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements with ISED#:26114.

● **CNAS - Registration No.: CNAS L0658**

Jianyan Testing Group Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L0658.

● **A2LA - Registration No.: 5568.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/5568-01.pdf>

#### 3.6 Laboratory Location

JianYan Testing Group Co., Ltd.

Address: No.760, Fengling Road, Tong'an District, Xiamen, Fujian, China

Tel: +86-592-2273071, Fax:+86-592-2273700

Email: info-JYTeel@lets.com, Website: <http://jyt.lets.com>

## 4 Technical Requirements Specification in FCC CFR Title 47 Part 2.1091

### 4.1 Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

### 4.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

#### 4.3 Result

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm <sup>2</sup> )	Limits for General Population/ Uncontrolled Exposure (mW/cm <sup>2</sup> )
<b>BLE (The output power was refer to the test report JYTO-R01-2300208)</b>							
2402	4.188	2.623	0.04	1.00925	20.00	0.00053	1.0
<b>2.4G Wi-Fi (The output power was refer to the test report JYTO-R01-2300209)</b>							
2412	18.478	70.437	0.04	1.00925	20.00	0.01414	1.0

Note: Just the worst case mode was shown in report.

#### 4.4 Conclusion

The device is exempt from the RF exposure evaluation.

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