



## **FCC RF EXPOSURE REPORT**

### **CERTIFICATION TEST REPORT**

*For*

**WIFI Module**

**FCC MODEL NUMBER: SI04B, SI04\* (\*: A ~ Z, or Blank)**

**ISED MODEL NUMBER: SI04B**

**FCC ID: 2AFG6-SI04B**

**REPORT NUMBER: 4790929065-1-RF-4**

**ISSUE DATE: August 10, 2023**

*Prepared for*

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*Prepared by*

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	August 10, 2023	Initial Issue	

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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Guangzhou Shirui Electronics Co., Ltd.  
Address: 192 Kezhu Road, Sciencetech Park, Guangzhou Economic  
Technology Development District, Guangzhou, China

### Manufacturer Information

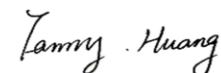
Company Name: Guangzhou Shirui Electronics Co., Ltd.  
Address: 192 Kezhu Road, Sciencetech Park, Guangzhou Economic  
Technology Development District, Guangzhou, China

### EUT Information

EUT Name: WIFI Module  
FCC&ISED Model: SI04B  
FCC Series Model: SI04\* (\*: A ~ Z, or Blank)  
Model difference: Refer to section 4  
Sample Received Date: July 13, 2023  
Sample Status: Normal  
Sample ID: 5161650  
Date of Tested: July 24, 2023 to August 10, 2023

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 and KDB 447498 D01 General RF Exposure Guidance v06.

## 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>ISED (Company No.: 21320)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B, the VCCI registration No. is C-20012 and T-20011</p>
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Note: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China.

#### 4. DESCRIPTION OF EUT

EUT Name		WIFI Module
FCC&ISED Model		SI04B
FCC Series Model		SI04* (*: A ~ Z, or Blank)
Model difference		SI04* (*: A ~ Z, or Blank) has the same technical construction including circuit diagram, PCB Layout, components, and component layout, all electrical construction, and mechanical construction with SI04B. The difference lies only in the model number and market. All these changes do not degrade the unwanted emissions of the certified product.
Product Description (2.4G WLAN for module SKI.WB8821CU.1)	Frequency Range:	2412 MHz ~ 2462 MHz
	Type of Modulation:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g/n: OFDM(64-QAM, 16-QAM, QPSK, BPSK)
	Radio Technology:	IEEE 802.11b/g/n-HT20/n-HT40
Product Description (5G RLAN for module SKI.WB8821CU.1)	Frequency Range:	5180 MHz to 5240 MHz (U-NII-1) 5260 MHz to 5320 MHz (U-NII-2A) 5500 MHz to 5720 MHz (U-NII-2C) 5745 MHz to 5825 MHz (U-NII-3)
	Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80
Product Description (5G RLAN for module SKI.W7613E.1)	Frequency Range:	5180 MHz to 5240 MHz (U-NII-1) 5745 MHz to 5825 MHz (U-NII-3)
	Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80
Normal Test Voltage:		DC 12 V

## 5. REQUIREMENT

### LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

### RF EXPOSURE LIMIT

Frequency Range (MHz)	E-field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (Minutes)
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

### CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to antenna

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

R=distance to the center of radiation of the antenna

## **CALCULATED RESULTS**

Module SKI.W7613E.1

Mode	Output Power	Directional Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	--
WIFI 5G	17	6.62	0.04579	1.0	Complies

Module SKI.WB8821CU.1

Mode	Output Power	Max Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	--
WIFI 2.4G	16	2.93	0.01555	1.0	Complies

Mode	Output Power	Max Antenna Gain	Power Density	Power Density Limit	Test Result
	dBm	dBi	mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	--
WIFI 5G	13	4.95	0.01241	1.0	Complies

Note: 1. The calculated distance is 20cm.

2. Module SKI.W7613E.1 WIFI 5GHz + Module SKI.WB8821CU.1 WIFI 2.4GHz + Module SKI.WB8821CU.1 5GHz=0.04579 + 0.01555 + 0.01241=0.08249 (mW/ cm<sup>2</sup>)

Therefor the maximum calculations of above situations are less than the “1” limit.

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## **END OF REPORT**