# FCC RF EXPOSURE REPORT

## CERTIFICATION TEST REPORT

*For*

**IEEE 802.11a/b/g/n/ac 1T1R USB Wi-Fi Module Integrated Bluetooth 2.1+BR/EDR/4.2**

**MODEL NUMBER: SKI.WB821CU.2**

**FCC ID: 2AR82-SKIWB821CU2**

**IC: 24728-SKIWB821CU2**

**REPORT NUMBER: 4790268964-5**

**ISSUE DATE: March 04, 2022**

**Prepared for**

**Guangzhou Shikun Electronics Co., Ltd**
**NO.6 Liankun Road, Huangpu District, Guangzhou 510700, China**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch**

**Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China**

**Tel: +86 769 22038881**
**Fax: +86 769 33244054**
**Website: www.ul.com**

Revision History

| Rev. | Issue Date | Revisions | Revised By |
|---|---|---|---|
| V0 | 03/04/2022 | Initial Issue | |

# TABLE OF CONTENTS

**1. ATTESTATION OF TEST RESULTS ..... 4**

**2. TEST METHODOLOGY ..... 5**

**3. FACILITIES AND ACCREDITATION ..... 5**

**4. REQUIREMENT ..... 6**

# 1. ATTESTATION OF TEST RESULTS

**Applicant Information**

| | |
|---|---|
| Company Name: | Guangzhou Shikun Electronics Co., Ltd |
| Address: | NO.6 Liankun Road, Huangpu District, Guangzhou 510700, China |

**Manufacturer Information**

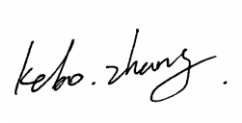
| | |
|---|---|
| Company Name: | Guangzhou Shikun Electronics Co., Ltd |
| Address: | NO.6 Liankun Road, Huangpu District, Guangzhou 510700, China |

**EUT Information**

| | |
|---|---|
| EUT Name: | IEEE 802.11a/b/g/n/ac 1T1R USB Wi-Fi Module Integrated Bluetooth 2.1+BR/EDR/4.2 |
| Model: | SKI.WB821CU.2 |
| Sample Received Date: | January 20, 2022 |
| Sample Status: | Normal |
| Sample ID: | 4601378 |
| Date of Tested: | January 20 ~ March 1, 2022 |

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULTS** |
| FCC 47CFR§2.1091 | PASS |

Prepared By:



Kebo Zhang
Project Engineer

Checked By:

Shawn Wen
Laboratory Leader

Approved By:

Stephen Guo
Laboratory Manager

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091.

## 3. FACILITIES AND ACCREDITATION

| | |
|---|---|
| Accreditation Certificate | **A2LA (Certificate No.: 4102.01)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.<br>**FCC (FCC Designation No.: CN1187)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules<br>**ISED (Company No.: 21320)**<br>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED.<br>The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.<br>**VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)**<br>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.<br>Facility Name:<br>Chamber D, the VCCI registration No. is G-20019 and R-20004<br>Shielding Room B , the VCCI registration No. is C-20012 and T-20011 |

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. 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) ($mW/cm^2$) | Averaging Time $\|E\|^2$, $\|H\|^2$ or S (Minutes) |
|---|---|---|---|---|
| 0.3 -- 1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34 -- 30 | 824/f | 2.19/f | $(180/f^2)$* | 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

| Worst Case | | | | | |
|---|---|---|---|---|---|
| Mode | Output Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
| | dBm | dBi | mW/cm2 | mW/cm2 | -- |
| BLE | 6.5 | 3.15 | 0.00184 | 1.0 | Complies |

| Worst Case | | | | | |
|---|---|---|---|---|---|
| Mode | Output Power | Antenna Gain | Power Density | Power Density Limit | Test Result |
| | dBm | dBi | mW/cm2 | mW/cm2 | -- |
| BT | 7.5 | 3.15 | 0.00231 | 1.0 | Complies |

| Worst Case | | | | | |
|---|---|---|---|---|---|
| Mode | Output Power | Directional Antenna Gain | Power Density | Power Density Limit | Test Result |
| | dBm | dBi | mW/cm2 | mW/cm2 | -- |
| WIFI 2.4G | 16 | 3.15 | 0.01636 | 1.0 | Complies |

| Worst Case | | | | | |
|---|---|---|---|---|---|
| Mode | Output Power | Directional Antenna Gain | Power Density | Power Density Limit | Test Result |
| | dBm | dBi | mW/cm2 | mW/cm2 | -- |
| WIFI 5G | 11 | 3.48 | 0.00558 | 1.0 | Complies |

Note:

1. The Power comes from report operation description.
2. 2.4 GHz WiFi & 5 GHz WiFi can't transmit simultaneously.
3. BT + 2.4 GHz WiFi = 0.00231+ 0.01636 = 0.01867 ($mW/cm^2$)
   BT + 5 GHz WiFi = 0.00231+ 0.00558 =0.00789 ($mW/cm^2$)
3. The minimum separation distance of the device is greater than 20 cm.
3. Calculate by WORST-CASE mode.

**END OF REPORT**