



FCC RF EXPOSURE REPORT

For

**IEEE 802.11a/b/g/n 2T2R USB Wi-Fi Module
Integrated Bluetooth 2.1+EDR/4.2/5.0**

MODEL NUMBER: SKI.WB7638U.1_MT7638BUB

FCC ID: 2AR82-SKIWB7638U2

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Prepared for

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

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	01/21/2021	Initial Issue	



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1. ATTESTATION OF TEST RESULTS

Applicant Information

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

Manufacturer Information

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

EUT Information

EUT Name: IEEE 802.11a/b/g/n 2T2R USB Wi-Fi Module
Integrated Bluetooth 2.1+EDR/4.2/5.0
Model: SKI.WB7638U.1_MT7638BUB
Brand: /
Serial Model: /
Sample Received Date: January 7, 2021
Sample Status: Normal
Sample ID: 3576248
Date of Tested: January 11, 2021 ~ January 21, 2021

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS
KDB-447498 D01 V06	PASS

Prepared By:

Denny Huang
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 and KDB 447498 D01 General RF Exposure Guidance v06.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1187) 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>ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) 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 1: 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

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



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

Radio Frequency Radiation Exposure Evaluation

BT (Worst case)				
Operating Mode	Max. Tune up Power	Max. Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
8DPSK	11	1.50	0.003538	1

BLE (Worst case)				
Operating Mode	Max. Tune up Power	Max. Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
GFSK	6	1.50	0.001119	1

2.4 GHz WiFi (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
802.11b	19	4.51	0.044649	1

5 GHz WiFi (Worst case)				
Operating Mode	Max. Tune up Power	Max. Directional Antenna Gain	Power density	Limit
	(dBm)	(dBi)	(mW/ cm ²)	
802.11a	17.5	4.51	0.03166	1

Note:

1. The calculated distance is 20 cm.
 2. 2.4 GHz WiFi & 5 GHz WiFi can't transmit simultaneously, 2.4 GHz WiFi and BT support Simultaneous transmission, 5 GHz WiFi and BT support Simultaneous transmission.
 3. The antenna gain of each antenna is 1.5 dBi, the directional antenna gain for WiFi is 4.51 dBi.
 3. BT + 2.4 GHz WiFi = 0.003538 + 0.044649 = 0.048187 (mW/cm²)
BT + 5 GHz WiFi = 0.003538 + 0.035466 = 0.048187 (mW/cm²)
- Therefore the maximum calculations of above situations are less than the "1" limit.

END OF REPORT