

# TEST REPORT

FCC ID:2AR82-SKIWB921AU1

Product:Module

Model No.:SKI.WB921AU.1

Additional Model No.:N/A

Trade Mark:N/A

Report No.:TCT210521E012

Issued Date: May 20, 2021

Issued for:

**Applicant: Guangzhou Shikun Electronics Co., Ltd**

**Address: NO.6 LiankunRoad,HuangpuDistrict,Guangzhou,China**

Issued By:

**Shenzhen Tongce Testing Lab.**

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## 1. Test Certification

<b>Product:</b>	Module
<b>Model No.:</b>	SKI.WB921AU.1
<b>Additional Model No.:</b>	N/A
<b>Trade Mark:</b>	N/A
<b>Applicant:</b>	Guangzhou Shikun Electronics Co., Ltd
<b>Address:</b>	NO.6 LiankunRoad,HuangpuDistrict,Guangzhou,China
<b>Manufacturer:</b>	Guangzhou Shikun Electronics Co., Ltd
<b>Address:</b>	NO.6 LiankunRoad,HuangpuDistrict,Guangzhou,China
<b>Date of Test:</b>	May 01, 2021–May 20, 2021
<b>Applicable Standards:</b>	FCC CFR47 Part 2.1091(2021) FCC CFR47 Part 1.1310(2021) FCC KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Tested By:**

*Aaron Mo*

**Aaron Mo**

**Date:**

**May 20, 2021**

**Reviewed By:**

*Yanyan Zhao*



**Tomsin**

**Date:**

**May 20, 2021**

**Approved By:**

**Date:**

**May 20, 2021**

## 2.EUT Description

<b>Product:</b>	Module
<b>Model No.:</b>	SKI.WB921AU.1
<b>Additional Model No.:</b>	N/A
<b>Trade Mark:</b>	N/A
<b>Operation Frequency:</b>	WIFI 2.4GHz/BT/BLE: 2400~2483.5MHz WIFI 5GHz: 5150~5250MHz, 5250~5350MHz, 5470~5725MHz, 5725~5850MHz
<b>Modulation Technology:</b>	BT: GFSK, Pi/4 QDPSK, 8DPSK BLE: GFSK WIFI 2.4GHz: DSSS, OFDM WIFI 5GHz: OFDM
<b>Antenna Type:</b>	External antenna
<b>Antenna Gain:</b>	WIFI Antenna 1: 1.5 dBi(provided by client) WIFI Antenna 2: 1.5 dBi (provided by client) Bluetooth(Low Energy) Antenna 1: 1.5 dBi(provided by client) Bluetooth(Low Energy) Antenna 2: 1.5 dBi(provided by client)
<b>Power Supply:</b>	Rechargeable Li-ion Battery DC3.3V
<b>Remark:</b>	/

### 3.General Information

#### 3.1.Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

#### 3.2.Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

## 4. Facilities and Accreditations

### 4.1. Facilities

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

- FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

### 4.2. Location

Shenzhen Tongce Testing Lab

Address: TCT Testing Industrial Park, Fuqiao 5th Industrial Zone, Fuhai Street,

Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

## 5. Test Results and Measurement Data

According to KDB 447498 D01, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{3770}$

Where  $E$  = Field Strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power Density in milliwatts / square centimeter

Maximum Permissible Exposure

Substituting the MPE safe distance using  $d=20\text{cm}$  into above equation.

Yields:

$$S = 0.000199 \times P \times G$$

Where  $P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in  $\text{mW}/\text{cm}^2$

Remark: 1) For mobile or fixed location transmitters, no SAR consideration applied.

The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

## Test Results:

Band	Data Rate (Mbps)	Frequency (MHz)	Limit (mw)/cm <sup>2</sup>	Distance [R](cm)	Max Output Power (dBm)	ANT Gain [dBi]	Maxl Output Power (mW)	Numeric Gain[G]	Power Density[S] (mw/cm <sup>2</sup> )
Bluetooth (Classic)	3M	2402	1	20	16.39	1.5	43.5512	1.41	0.0122
		2440	1	20	16.56	1.5	45.2898	1.41	0.0127
		2480	1	20	16.03	1.5	40.0867	1.41	0.0112
Bluetooth (Low Energy)	2M	2402	1	20	16.36	1.5	43.2514	1.41	0.0121
		2440	1	20	16.23	1.5	41.9759	1.41	0.0118
		2480	1	20	15.87	1.5	38.6367	1.41	0.0108
IEEE 802.11ax 2.4GHz 20MIMO	MCS8	2412	1	20	20.00	1.5	100.0000	1.41	0.0281
		2437	1	20	20.10	1.5	102.3293	1.41	0.0287
		2462	1	20	20.10	1.5	102.3293	1.41	0.0287
IEEE 802.11ax 5GHz 20MIMO	MCS8	5180	1	20	19.90	1.5	97.7237	1.41	0.0274
		5200	1	20	20.20	1.5	104.7129	1.41	0.0294
		5240	1	20	19.50	1.5	89.1251	1.41	0.0250
		5260	1	20	19.00	1.5	79.4328	1.41	0.0223
		5280	1	20	18.50	1.5	70.7946	1.41	0.0199
		5320	1	20	18.50	1.5	70.7946	1.41	0.0199
		5500	1	20	19.10	1.5	81.2831	1.41	0.0228
		5580	1	20	20.00	1.5	100.0000	1.41	0.0281
		5700	1	20	19.20	1.5	83.1764	1.41	0.0233
		5745	1	20	18.90	1.5	77.6247	1.41	0.0218
		5785	1	20	19.30	1.5	85.1138	1.41	0.0239
		5825	1	20	19.80	1.5	95.4993	1.41	0.0268

### Note:

1. Mobile or fixed location transmitters, minimum separation distance is 20 cm, even if calculations indicate MPE distance is less.
2. The Numeric Gain calculated by  $10^{(\text{ant.Gain}(\text{dBi})/10)}$ .
3. Each band max power which perform MPE of any configurations.

(For mobile or fixed location transmitters, the maximum power density is 1.0 mW/cm<sup>2</sup> even if the calculation indicates that the power density would be larger.)



When WIFI2.4G and WIFI5G are simultaneously transmitting

Band	Limit (mw)/cm <sup>2</sup>	MAX Power Density[S] (mw/cm <sup>2</sup> )	MPE/ Limit
WIFI 2.4G	1	0.0287	0.0287
WIFI 5G	1	0.0294	0.0294
WIFI2.4G+WIFI5G	1	/	0.0581

Note:

1. MPE Ratios are Calculated as [ ( MPE1 / Limit ) + ( MPE2 / Limit ) + ... ≤ 1.0

**\*\*\*\*\*END OF REPORT\*\*\*\*\***