

# TEST REPORT

<b>FCC ID.</b> .....	2A76D-WC-1002	
<b>Test Report No.</b> .....	TCT220616E015	
<b>Date of issue</b> .....	Jul. 04, 2022	
<b>Testing laboratory</b> .....	SHENZHEN TONGCE TESTING LAB	
<b>Testing location/ address:</b>	2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
<b>Applicant's name</b> .....	Keyun(Shanghai) information technology Co., Ltd.	
<b>Address</b> .....	Room 204, No. 6, Lane 699, Xiangying Road, Shanghai, China	
<b>Manufacturer's name</b> ...	Keyun(Shanghai) information technology Co., Ltd.	
<b>Address</b> .....	Room 204, No. 6, Lane 699, Xiangying Road, Shanghai, China	
<b>Standard(s)</b> .....	FCC CFR Title 47 Part 1.1310 KDB 680106 D01 RF Exposure Wireless Charging App v03r01	
<b>Product Name</b> .....	wireless charger	
<b>Trade Mark</b> .....	KEWISAUTO	
<b>Model/Type reference</b> .....	WC-1002, WC-11xx, WC-10xx (the value of x is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9)	
<b>Rating(s)</b> .....	Input: DC 12 V/ DC 9 V/ DC 5 V Output: 15 W/ 10 W/ 5 W	
<b>Date of receipt of test item</b> .....	Jun. 16, 2022	
<b>Date (s) of performance of test</b> .....	Jun. 16, 2022 ~ Jul. 04, 2022	
<b>Tested by (+signature)</b> ...	Rleo LIU	
<b>Check by (+signature)</b> ....	Beryl ZHAO	
<b>Approved by (+signature)</b> :	Tomsin	

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## 1. General Product Information

### 1.1. EUT description

Product Name.....	wireless charger
Model/Type reference.....	WC-1002
Sample Number.....	TCT220616E014-0101
Operation Frequency .....	122.1kHz – 176.3kHz
Modulation Type .....	Load modulation
Antenna Type.....	Inductive loop coil Antenna
Rating(s).....	Input: DC 12 V/ DC 9 V/ DC 5 V Output: 15 W/ 10 W/ 5 W

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

No.	Model No.	Tested with
1	WC-1002	<input checked="" type="checkbox"/>
Other models	WC-11xx, WC-10xx (the value of x is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9)	<input type="checkbox"/>

Note: WC-1002 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names and plastic appearance. So the test data of WC-1002 can represent the remaining models.

## 2. General Information

### 2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	DC 12 V
Humidity	56%
Atmospheric Pressure:	1008 mbar
<b>Test Mode:</b>	
Engineering mode:	Wireless charger (15W MAX)

### 3. Facilities and Accreditations

#### 3.1. Facilities

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

- FCC - Registration No.: 645098  
SHENZHEN TONGCE TESTING LAB  
Designation Number: CN1205

The testing lab 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  
SHENZHEN TONGCE TESTING LAB  
CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

#### 3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict,

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

TEL: +86-755-27673339

## 4. Test Results and Measurement Data

### 4.1. Requirements

According to the item 5.b of KDB 680106 D01v03r01:

Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC or a PAG for equipment approved using certification to address RF exposure compliance. However, the responsible party is required to keep a copy of the test report in accordance with KDB 865664 D02. A copy of the test report is to be submitted with the application if the device is approved using certification.

- (1) Power transfer frequency is less than 1 MHz.
- (2) Output power from each primary coil is less than or equal to 15 watts.
- (3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
- (4) Client device is placed directly in contact with the transmitter.
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- (6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Limits For Maximum Permissible Exposure (MPE)

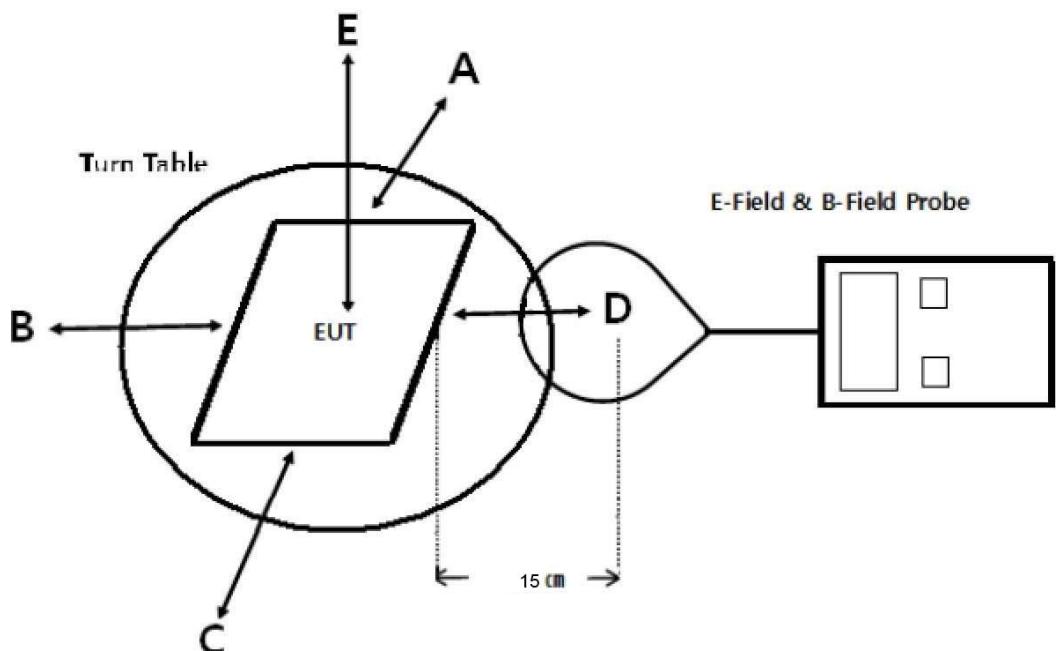
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500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

F=frequency in MHz

\*=Plane-wave equivalent power density

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

## 4.2. Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15cm measured from the center of the probe(s) to the edge of the device 20cm above the top surface.

## 4.3. Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at 15 cm surrounding the device and 20 cm above the top surface of the charger and the geometric center of probe.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 v03r01.
- 5) Remark; The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

## 4.4. Test Equipment List

Equipment	Manufacturer	Model No.	Calibration Due
Magnetic field meter	NARDA	ELT-400	Feb. 24, 2023
15W coil load	/	/	/
Adapter	SAMSUNG	EP-TA200	/

## 4.5. Test Result

### E-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (V/m)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limits Test (V/m)	Limits Test (V/m)
122.1 – 176.3	Full load	1.25	1.29	1.26	1.14	1.33	307	614
122.1 – 176.3	Half load	1.13	1.07	1.71	1.27	1.26	307	614
122.1 – 176.3	No load	1.15	1.24	1.15	1.38	1.02	307	614

### H-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (uT)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E
122.1 – 176.3	Full load	0.261	0.230	0.238	0.245	0.229
122.1 – 176.3	Half load	0.244	0.235	0.244	0.231	0.231
122.1 – 176.3	No load	0.239	0.215	0.234	0.226	0.215

### H-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (A/m)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limits Test (A/m)	Limits Test ((A/m)
122.1 – 176.3	Full load	0.209	0.184	0.190	0.196	0.183	0.815	1.63
122.1 – 176.3	Half load	0.195	0.188	0.195	0.185	0.185	0.815	1.63
122.1 – 176.3	No load	0.191	0.172	0.187	0.181	0.172	0.815	1.63

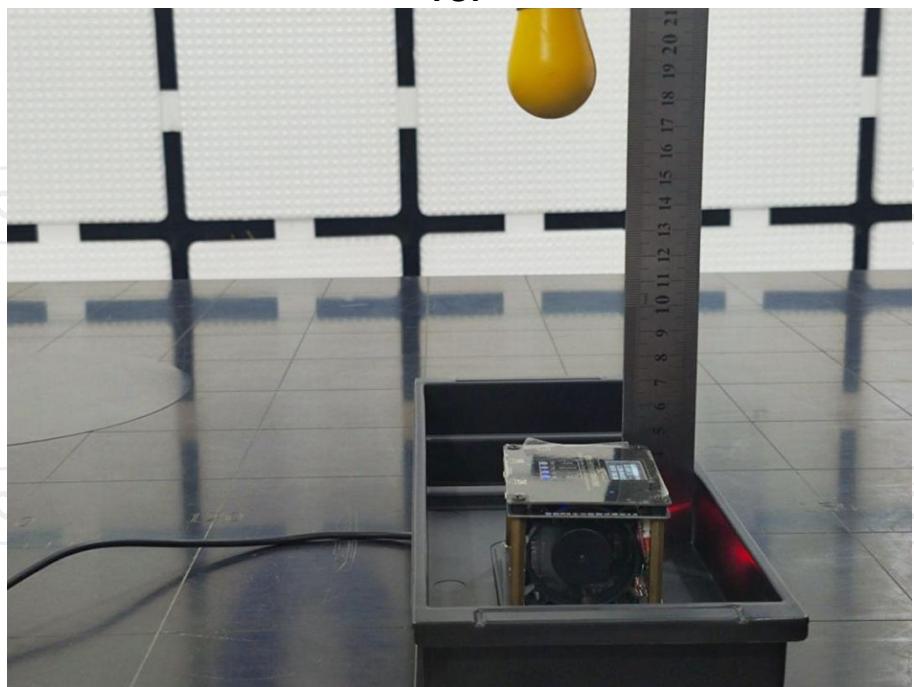
Note:  $uT = 1.25 * (A/m)$ ,  $1mT = 1000uT$

According to KDB 680106 D01 v03r01 section 5, b, satisfy the following conditions.

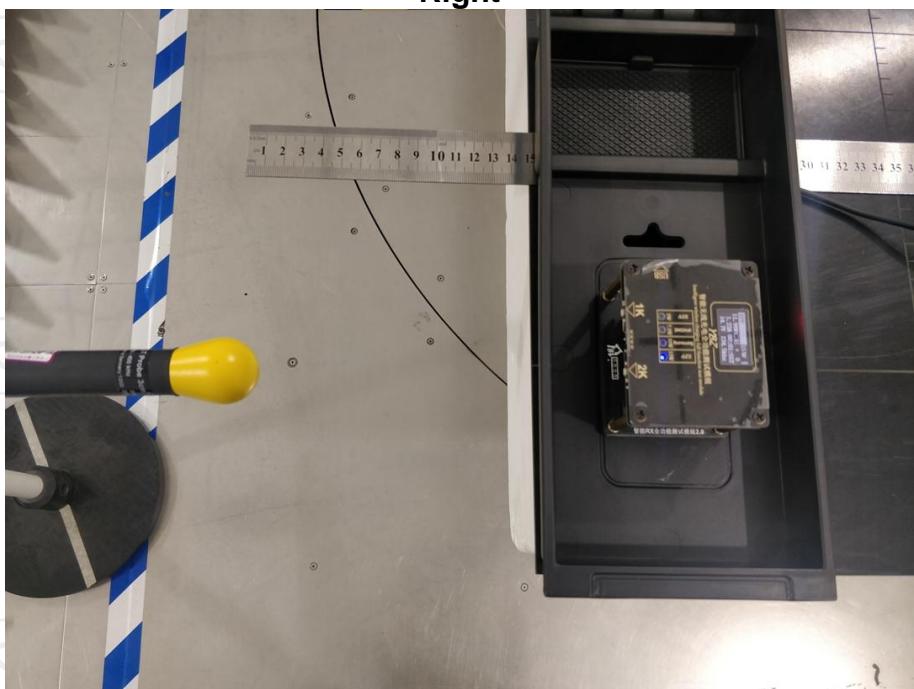
Requirement of KDB 680106 D01	Yes/No	Description
Power transfer frequency is less than 1MHz	Yes	The device operate in the frequency range 122.1kHz – 176.3kHz
Output power from each primary coil is less than or equal to 15 watts	Yes	The maximum output power of the primary coil is 15W.
The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time	Yes	The transfer system includes three coils that is able to detect receiver device.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only(portable exposure conditions are not covered by this exclusion).	Yes	Mobile exposure conditions
The aggregate H-field strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes	The EUT H-field strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

#### 4.6. Test Set-up Photo

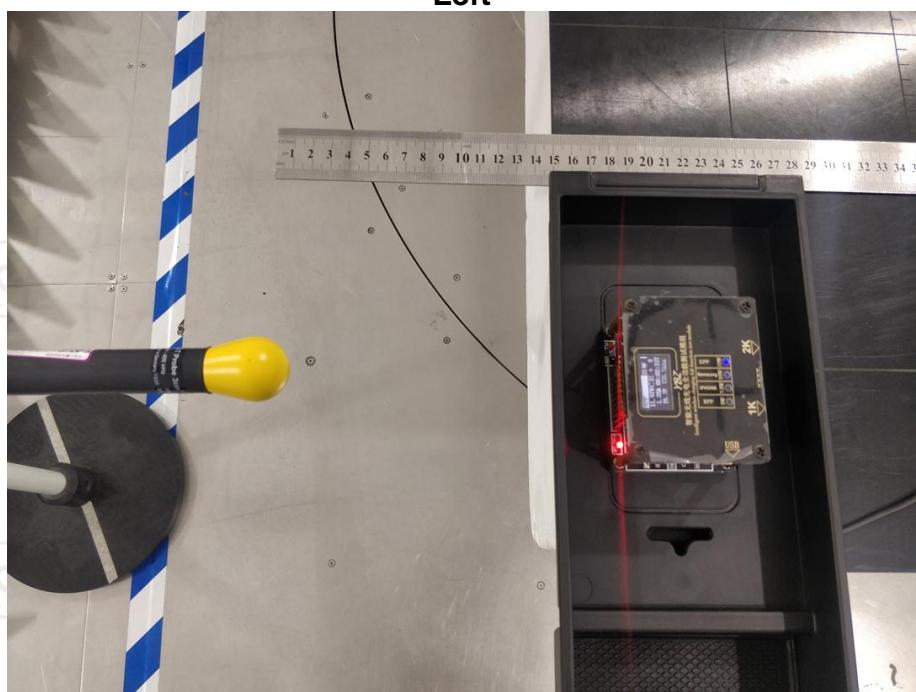
TOP



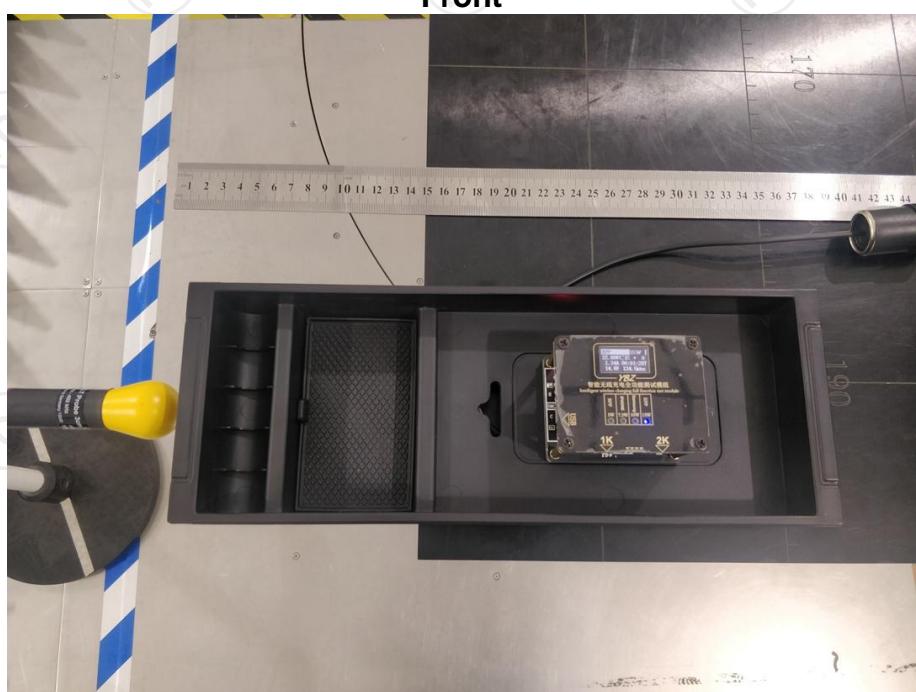
Right



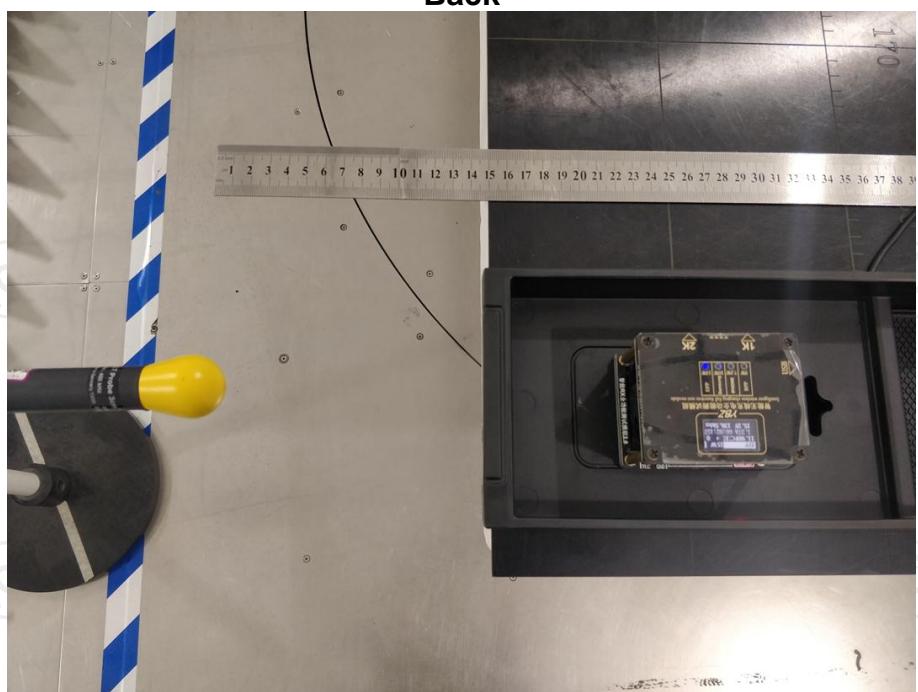
**Left**



**Front**



**Back**



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