

# TEST REPORT

Report No.: BCTC2309647432-2E

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Applicant: LONGCONN ELECTRONICS (SHENZHEN) CO. LTD.

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Product Name: Dragon 3-in-1 Wireless Charger

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Model/Type Ref.: 221

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Tested Date: 2023-09-18 to 2023-10-18

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Issued Date: 2023-11-28

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**Shenzhen BCTC Testing Co., Ltd.**



# FCC ID: 2AXAX-221

Product Name: Dragon 3-in-1 Wireless Charger

Trademark: ZECHIN

Model/Type Ref.: 221

Prepared For: LONGCONN ELECTRONICS (SHENZHEN) CO LTD

Address: Floor 3,B1 Block ,Xu Jing Chang Industrial Park, NO.39 HaoyeRoad,FuhaiStreet, Bao'an, Shenzhen China

Manufacturer: LONGCONN ELECTRONICS (SHENZHEN) CO LTD

Address: Floor 3,B1 Block ,Xu Jing Chang Industrial Park, NO.39 HaoyeRoad,FuhaiStreet, Bao'an, Shenzhen China

Prepared By: Shenzhen BCTC Testing Co., Ltd.

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Sample Received Date: 2023-09-18

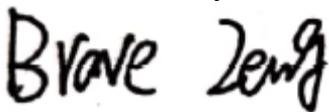
Sample tested Date: 2023-09-18 to 2023-10-18

Report No.: BCTC2309647432-2E

Test Standards: FCC CFR 47 part1, 1.1307(b), 1.1310  
KDB 680106 D01 RF Exposure Wireless Charging App v04r01

Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:

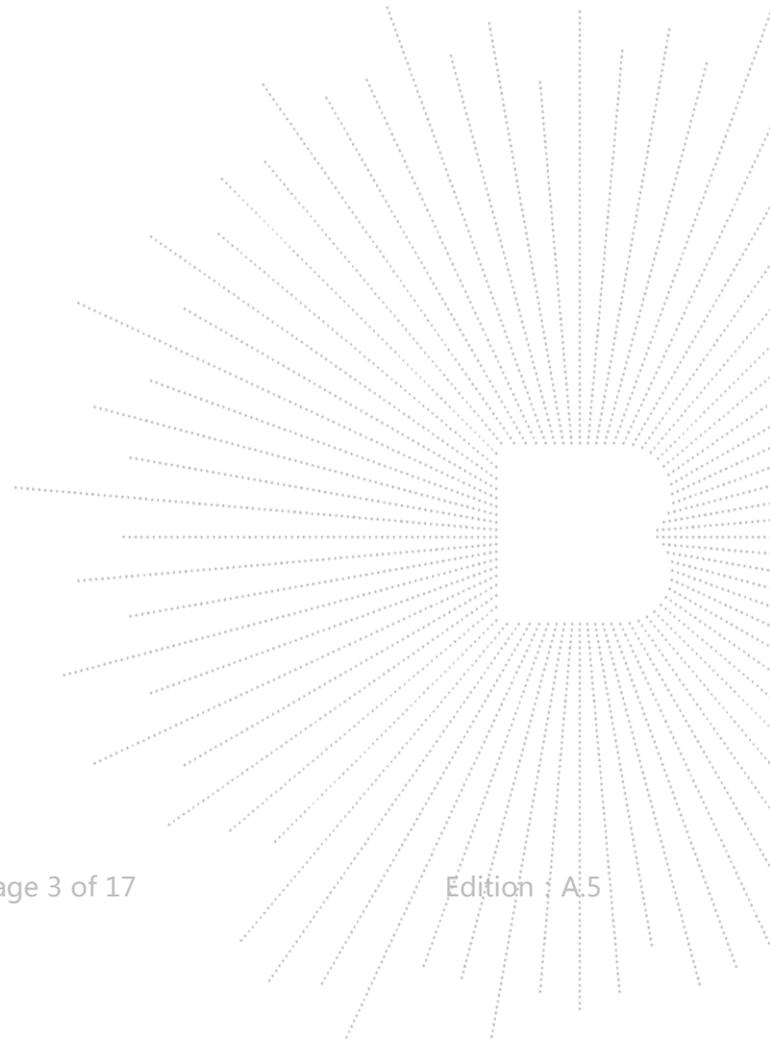


Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

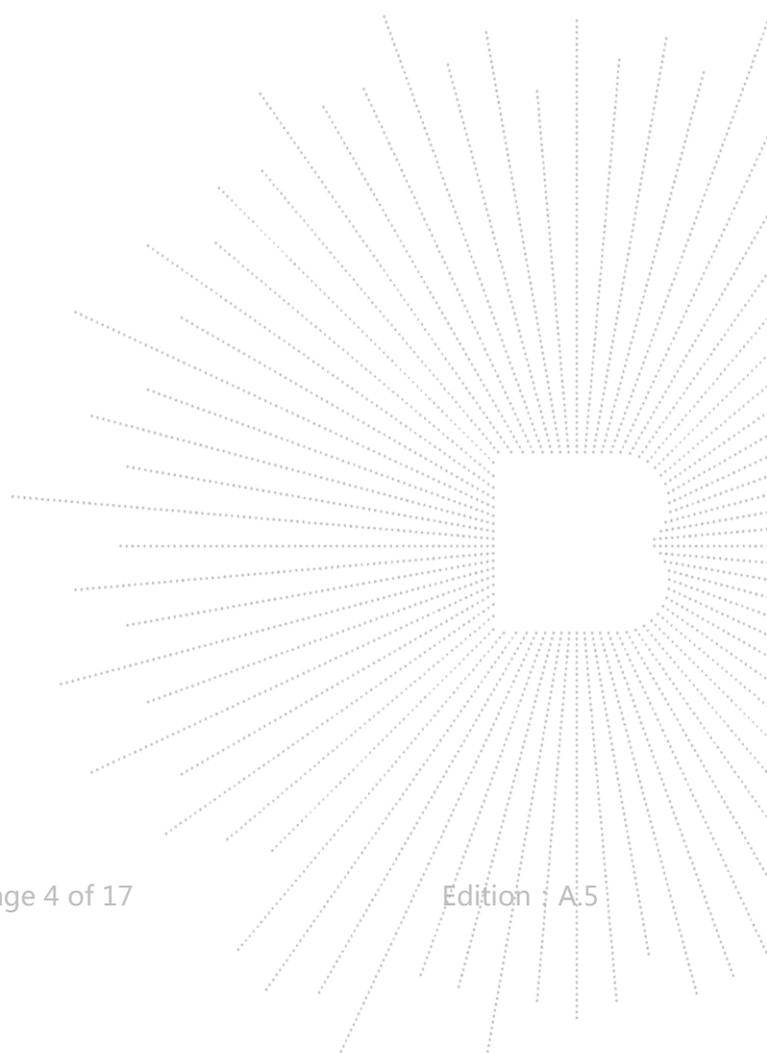
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**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2309647432-2E	2023-11-28	Original	Valid



## 2. Product Information

### 2.1 Product Information

Model/Type reference:	221
Model differences:	N/A
Hardware Version:	N/A
Software Version:	N/A
Type of Modulation:	ASK
Operation Frequency:	112-205KHz for Charging Pad 320-327kHz for Watch
Antenna installation:	Loop coil antenna
Ratings:	Input: 5V/3A/9V3A,12V2.5A Wireless1:15W Wireless2:15W Wireless3:5W

### 2.2 Support Equipment

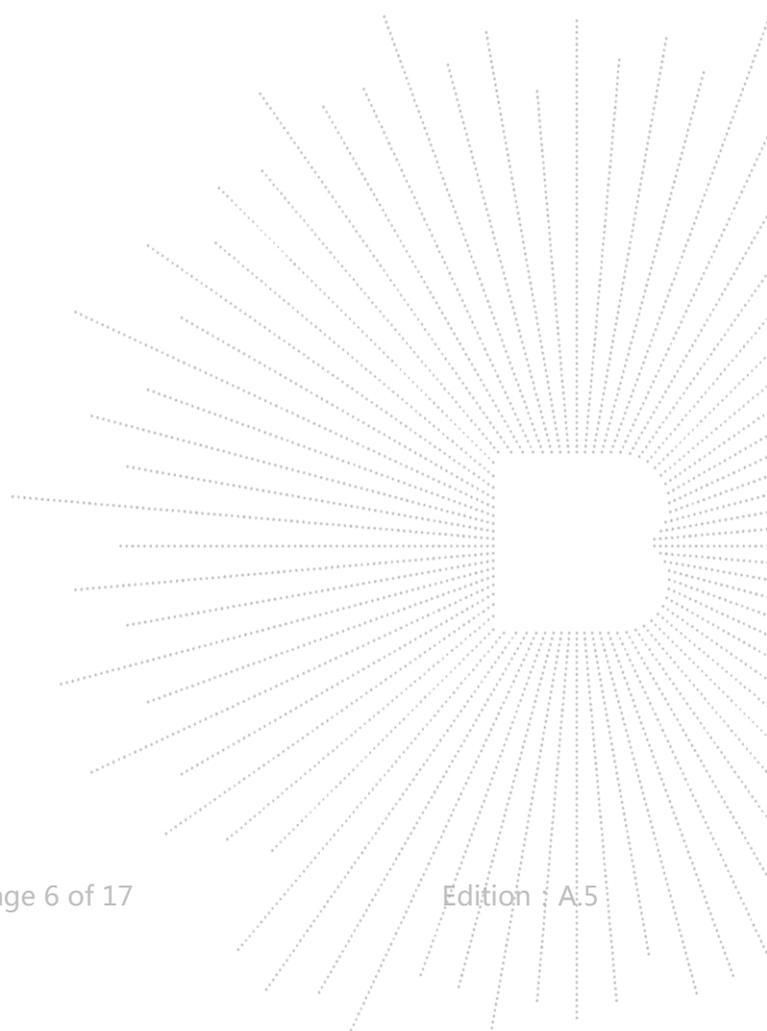
No.	Device Type	Brand	Model	Series No.	Note
E-1	Dragon 3-in-1 Wireless Charger	N/A	221	N/A	EUT
E-2	Dummy load	N/A	DL01	N/A	Dummy load
E-3	Dummy load	N/A	DL02	N/A	Dummy load
E-4	Dummy load	N/A	DL03	N/A	Dummy load
E-5	Adapter	N/A	KA3601A-1252880 US	N/A	Auxiliary

**Notes:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

### 2.3 Test Mode

Test Modes 1	Wireless 1:15W(Magnetic Charging Pad)
Test Modes 2	Wireless 2:15W(Magnetic Charging Pad)
Test Modes 3	Wireless 3:5W(Apple Watch)
Test Modes 4	Wireless1:15W(Magnetic Charging Pad) + Wireless 3: 5W(Apple Watch)
Test Modes 5	Wireless2: 15W(Magnetic Charging Pad)+ Wireless 3: 5W(Apple Watch)
Test Modes 6	Wireless1:15W(Magnetic Charging Pad)+ Wireless 2:15W(Magnetic Charging Pad)
Test Modes 7	Wireless1:15W(Magnetic Charging Pad)+ Wireless2:15W(Magnetic Charging Pad)+ 5W(Apple Watch)



### 3. Test Facility and Test Instrument Used

#### 3.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

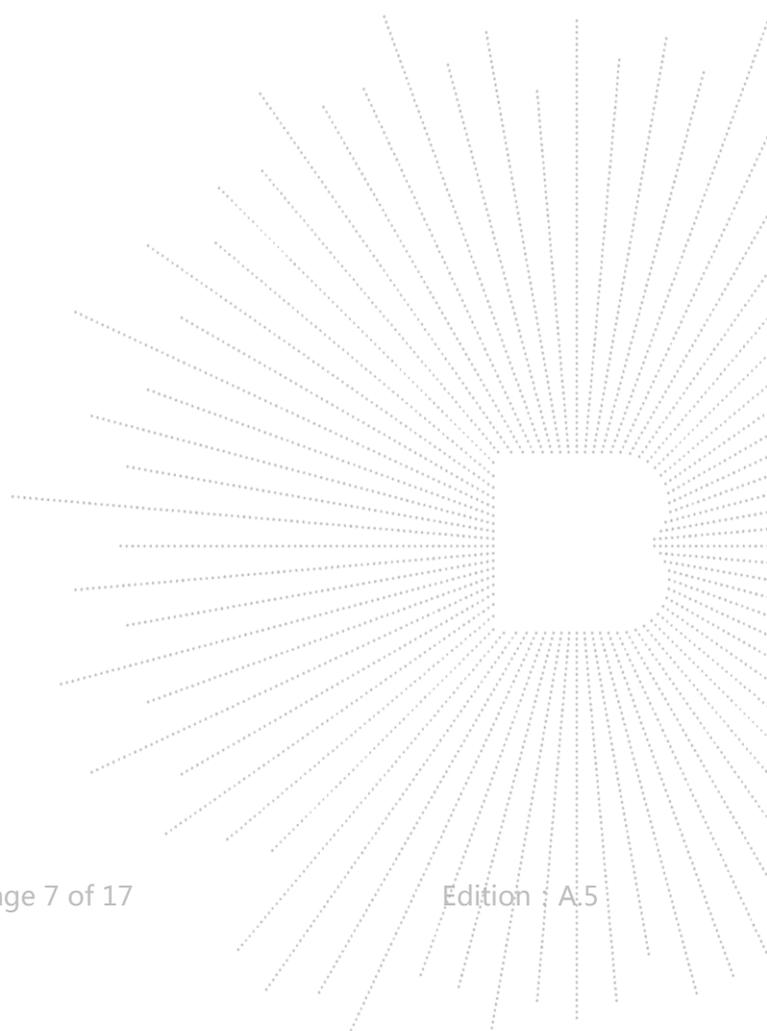
A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

#### 3.2 Test Instrument Used

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Electromagnetic radiation tester	Wavecontrol	SMP160	19SN0980	May 15, 2023	May 14, 2024
Electromagnetic field probe	Wavecontrol	WP400-3	20WP120082	Sept. 26, 2023	Sept. 25, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	/	/

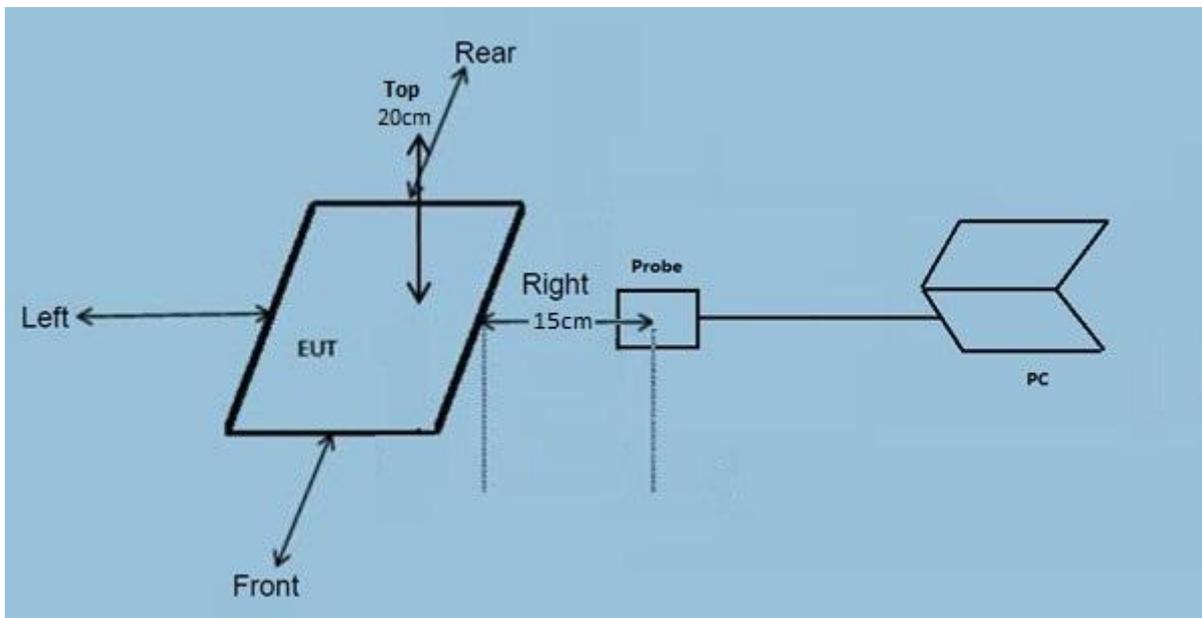


## 4. Method Of Measurement

### 4.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this 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. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB 680106 D01 RF Exposure Wireless Charging.

### 4.2 Block Diagram Of Test Setup



### 4.3 Limit

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric 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)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric 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)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

### 4.4 Test Procedure

- 1) RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed 15cm around the device for testing; The measurement probe was placed at 20 cm for surface testing.
- 3) The highest emission level was recorded and compared with limit as soon as measurement of eachd  
The highest emission level was recorded and compared with limit as soon as measurement of each points (left, right, front, rear and top) were completed.
- 4) The EUT was measured according to the dictates of KDB680106 D01
- 5) Remark:  
The EUT's test position left, right, front, rear and top is valid for the E and H field measurements

#### 4.5 The EUT does comply with item 5(b) of KDB 680106 D01v04

- 1) The power transfer frequency is below 1 MHz.

Yes, the device operate in the frequency range from 112- 205khz and 320-327khz

- 2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts..

Yes, the maximum output power of the three coils is 15W.

- 3) A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact).

Yes, the surfaces of the transmitter and client device enclosures are in physical contact

- 4) Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).

Yes, the EUT is a Mobile Wireless Charger

- 5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1.

Yes, the EUT field strength levels are less 50% x MPE limit.

- 6) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions.

Yes, EUT has only three coils, and all test modes meet the conditions specified in (5).

#### 4.6 E And H Field Strength

##### Worst Case Operating Mode: Mode 7

E-Field test results the electric field strength at 20cm around the EUT.

Operation condition	Test Position Front (uT)	Test Position Rear (uT)	Test Position Left (uT)	Test Position Right (uT)	Test Position Top (uT)	Limits (uT)
Full load	0.079	0.064	0.073	0.064	0.077	2.038
Half load	0.067	0.063	0.077	0.077	0.074	2.038
No load	0.084	0.072	0.071	0.065	0.072	2.038

Note: A/m = uT ÷ 1.25

Operation condition	Test Position Front (A/m)	Test Position Rear (A/m)	Test Position Left (A/m)	Test Position Right (A/m)	Test Position Top (A/m)	Limits (A/m)
Full load	0.0632	0.0512	0.0584	0.0512	0.0616	1.63
Half load	0.0536	0.0504	0.0616	0.0616	0.0592	1.63
No load	0.0672	0.0576	0.0568	0.052	0.0576	1.63

Operation condition	Test Position Front (V/m)	Test Position Rear (V/m)	Test Position Left (V/m)	Test Position Right (V/m)	Test Position Top (V/m)	Limits (V/m)
Full load	0.063	0.067	0.061	0.063	0.064	614
Half load	0.069	0.067	0.074	0.073	0.061	614
No load	0.072	0.074	0.067	0.071	0.084	614

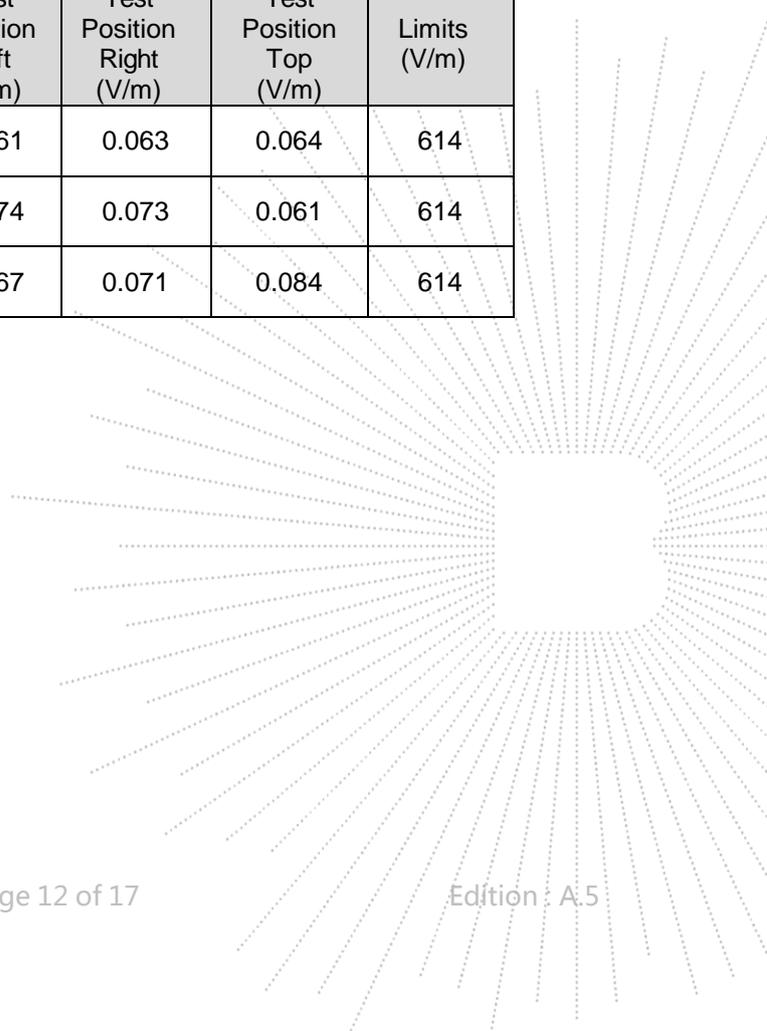
E-Field test results the electric field strength at 22cm around the EUT.

Operation condition	Test Position Front (uT)	Test Position Rear (uT)	Test Position Left (uT)	Test Position Right (uT)	Test Position Top (uT)	Limits (uT)
Full load	0.076	0.067	0.071	0.063	0.076	2.038
Half load	0.069	0.061	0.073	0.072	0.075	2.038
No load	0.088	0.071	0.073	0.064	0.071	2.038

Note: A/m = uT ÷ 1.25

Operation condition	Test Position Front (A/m)	Test Position Rear (A/m)	Test Position Left (A/m)	Test Position Right (A/m)	Test Position Top (A/m)	Limits (A/m)
Full load	0.0608	0.0536	0.0568	0.0504	0.0608	1.63
Half load	0.0552	0.0488	0.0584	0.0576	0.06	1.63
No load	0.0704	0.0568	0.0584	0.0512	0.0568	1.63

Operation condition	Test Position Front (V/m)	Test Position Rear (V/m)	Test Position Left (V/m)	Test Position Right (V/m)	Test Position Top (V/m)	Limits (V/m)
Full load	0.063	0.067	0.061	0.063	0.064	614
Half load	0.069	0.067	0.074	0.073	0.061	614
No load	0.072	0.074	0.067	0.071	0.084	614



E-Field test results the electric field strength at 24cm around the EUT.

Operation condition	Test Position Front (uT)	Test Position Rear (uT)	Test Position Left (uT)	Test Position Right (uT)	Test Position Top (uT)	Limits (uT)
Full load	0.080	0.067	0.074	0.067	0.074	2.038
Half load	0.074	0.062	0.076	0.077	0.073	2.038
No load	0.086	0.071	0.073	0.064	0.073	2.038

Note:  $A/m = uT \div 1.25$

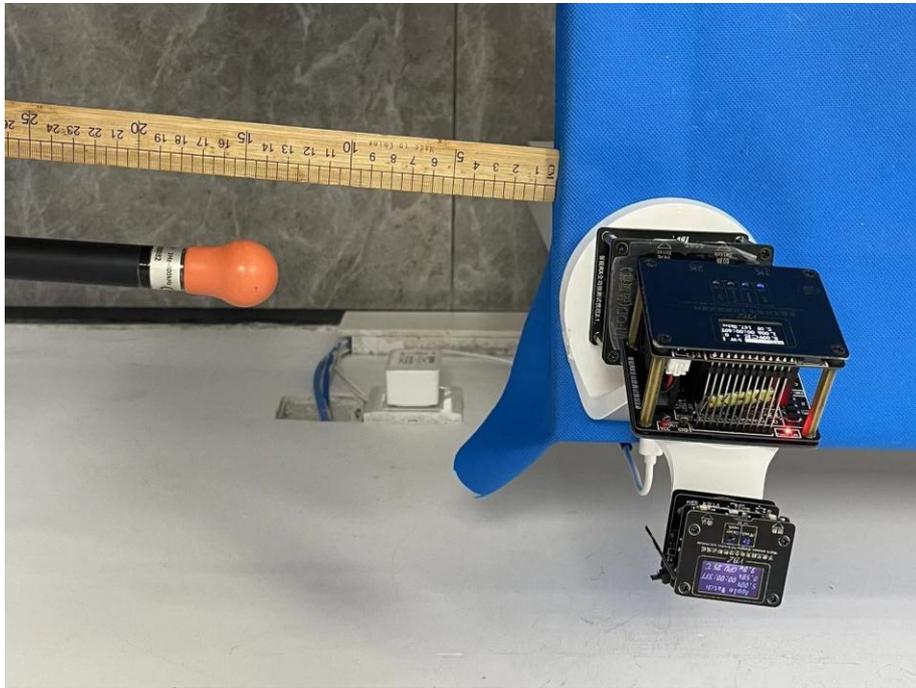
Operation condition	Test Position Front (A/m)	Test Position Rear (A/m)	Test Position Left (A/m)	Test Position Right (A/m)	Test Position Top (A/m)	Limits (A/m)
Full load	0.064	0.0536	0.0592	0.0536	0.0592	1.63
Half load	0.0592	0.0496	0.0608	0.0616	0.0584	1.63
No load	0.0688	0.0568	0.0584	0.0512	0.0584	1.63

Operation condition	Test Position Front (V/m)	Test Position Rear (V/m)	Test Position Left (V/m)	Test Position Right (V/m)	Test Position Top (V/m)	Limits (V/m)
Full load	0.063	0.061	0.060	0.062	0.066	614
Half load	0.065	0.061	0.072	0.071	0.062	614
No load	0.070	0.071	0.063	0.075	0.083	614

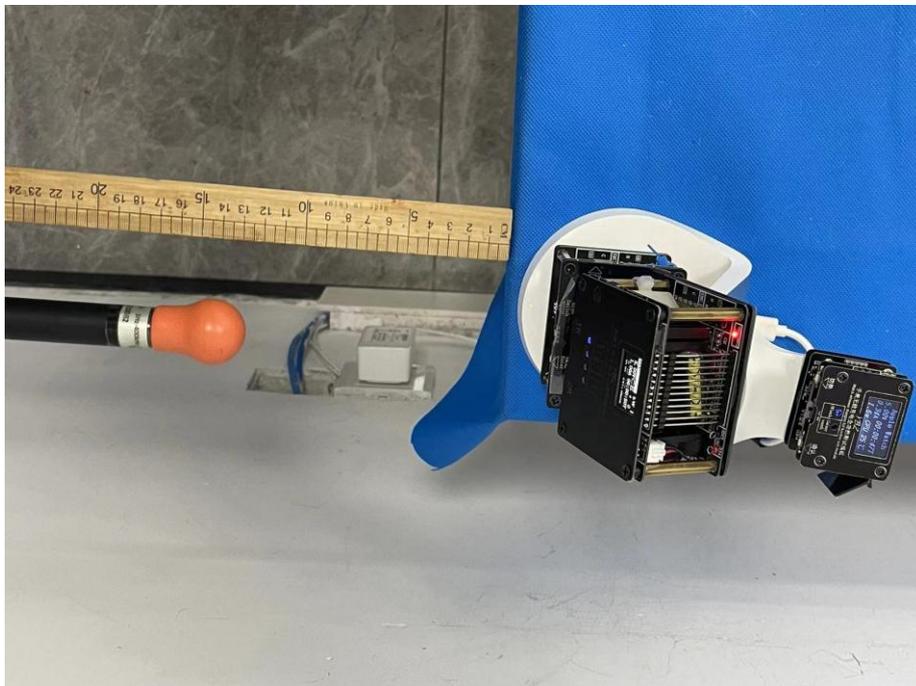
Note: In the frequency range of 1k-10M, except the fundamental frequency, other transmissions of the power transmission system are less than 20dB lower than the maximum fundamental transmission, so it is not necessary to evaluate.

### 5. Photographs of Test Set-Up

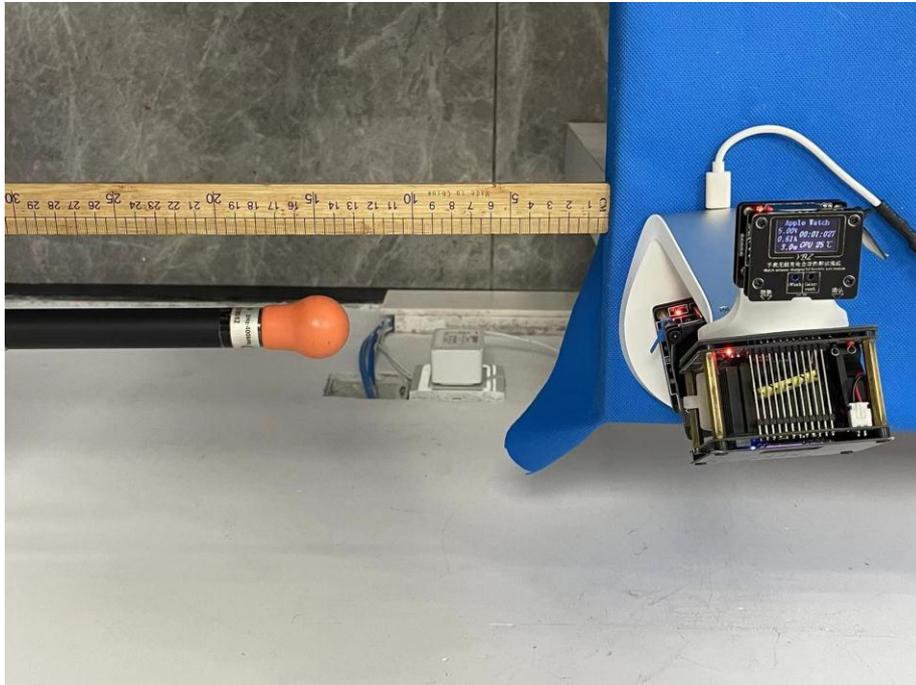
**Front**



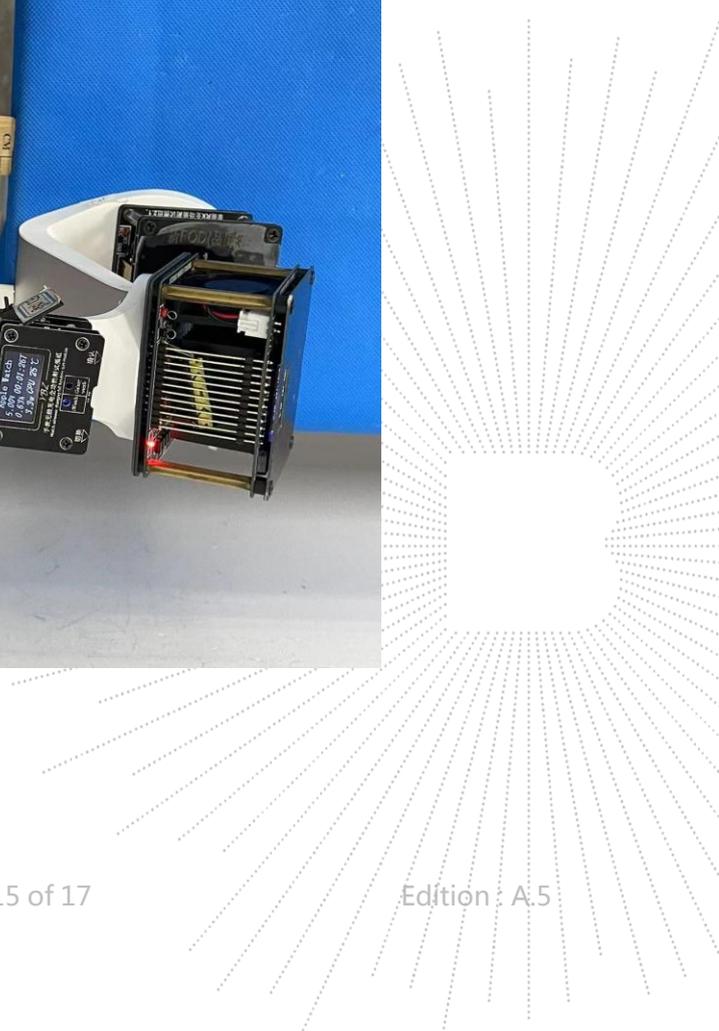
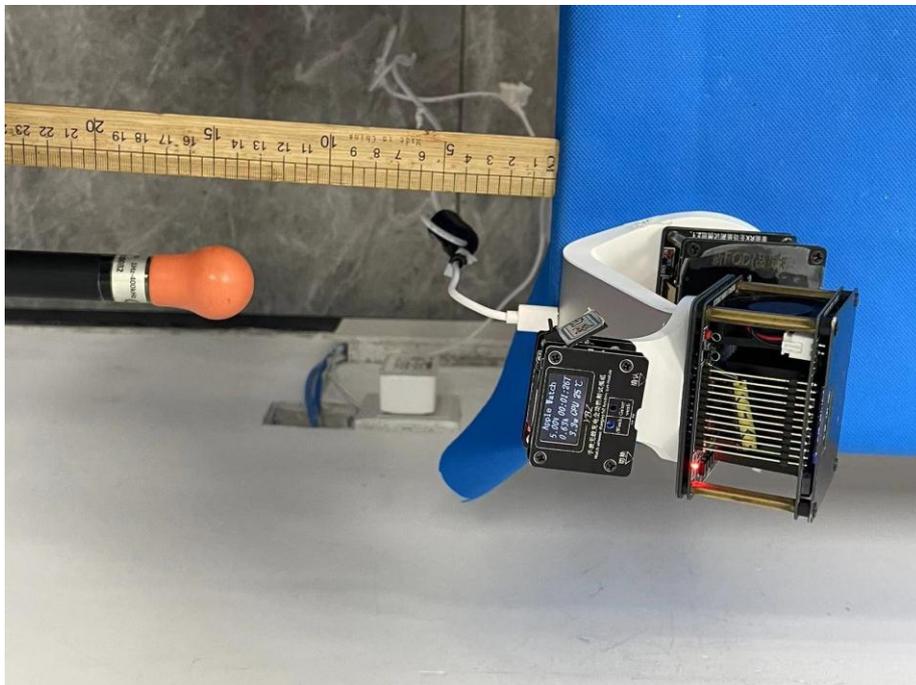
**Rear**



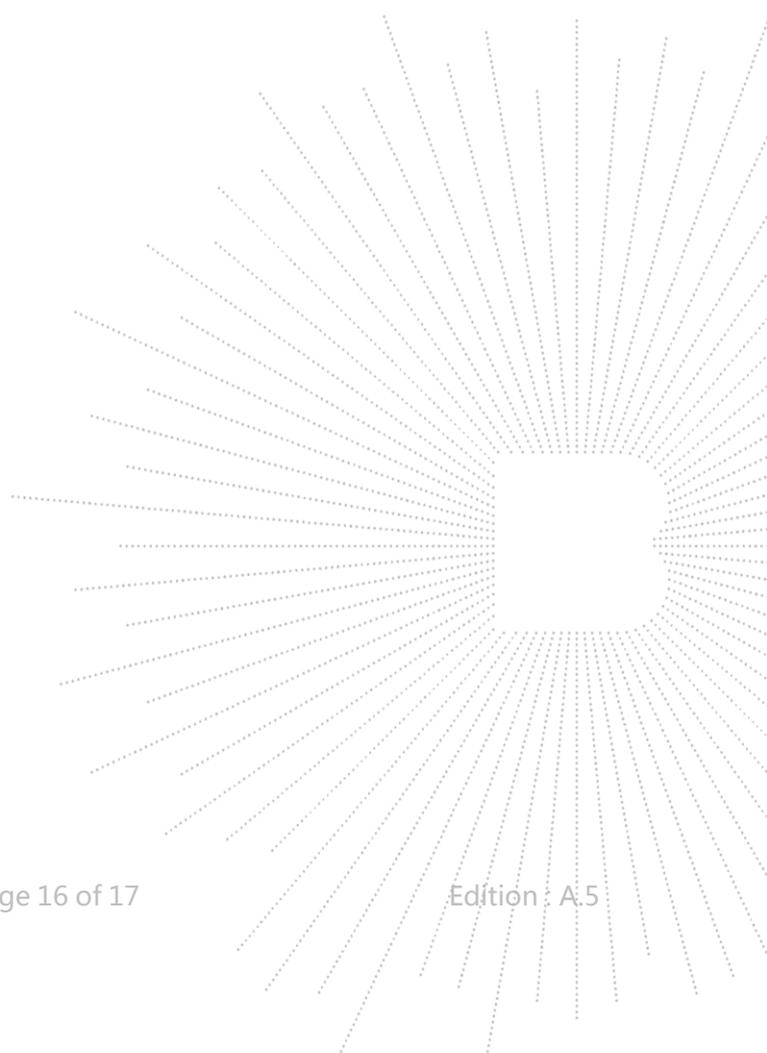
**Left**



**Right**



Top



## STATEMENT

- 1.The equipment lists are traceable to the national reference standards.
- 2.The test report can not be partially copied unless prior written approval is issued from our lab.
- 3.The test report is invalid without stamp of laboratory.
- 4.The test report is invalid without signature of person(s) testing and authorizing.
- 5.The test process and test result is only related to the Unit Under Test.
- 6.The quality system of our laboratory is in accordance with ISO/IEC17025.
- 7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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\*\*\*\*\* END \*\*\*\*\*

