

# RF Exposure Evaluation

## Client Information:

Applicant: Shenzhen Xiangdangwen Technology Co.,Ltd.  
Applicant add.: 106, 1/F, No.313-4 Building, Huachang Road, Langkou Community, Dalang Street, Longhua District, Shenzhen, China  
Manufacturer: Huizhou Yimai Electronics Technology Co., Ltd.  
Manufacturer add.: 3rd Floor, Building B, Huakai High-tech Industrial Park, Electronic City Road, Longxi Street, Boluo Country

## Product Information:

Product Name: WIRELESS CHARGER  
Model No.: 2E7124  
Brand Name: LISEN , AINOPE , VEICO  
Test samples.: AIT24050601001

FCC ID: 2AW73-2E7124

Applicable standards: FCC CFR 47 PART 1, § 1.1310  
KDB 680106 D01 Wireless Power Transfer v04

## Prepared By:

**Dongguan Yaxu (AiT) Technology Limited**

No.22,Jinqianling 3rd Street,Jitigang,Huangjiang,Dongguan,  
Guangdong,China

Tel.: +86-769-8202 0499 Fax.: +86-769-8202 0495

Date of Receipt: May 08, 2024

Date of Test: May 08, 2024~ May 22, 2024

Date of Issue: May 22, 2024

Test Result: Pass

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Reviewed by:

*Emiya Lin*

Emiya Lin

Approved by:

*Simba Huang*

Simaba Huang



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**Revision History**

| Revision | Issue Date    | Revisions     | Revised By   |
|----------|---------------|---------------|--------------|
| 00       | May. 22, 2024 | Initial Issue | Simaba Huang |
|          |               |               |              |
|          |               |               |              |

## 2 TEST FACILITY

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

**.CNAS- Registration No: L6177**

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

**FCC-Registration No.: 703111 Designation Number: CN1313**

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

**IC —Registration No.: 6819A CAB identifier: CN0122**

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

**A2LA-Lab Cert. No.: 6317.01**

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

### 2.1 Deviation from standard

None

### 2.2 Abnormalities from standard conditions

None

### 2.3 Test Location

**Dongguan Yaxu (AiT) Technology Limited**

Address: No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan, Guangdong, China

Tel.: +86-769-8202 0499

Fax.: +86-769-8202 0495

### 3 GENERAL INFORMATION

|                        |                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------|
| EUT Name:              | WIRELESS CHARGER                                                                                                  |
| Model No:              | 2E7124                                                                                                            |
| Serial Model:          | N/A                                                                                                               |
| Brand Name:            | LISEN , AINOPE , VEICO                                                                                            |
| Test sample(s) ID:     | AIT24050601001                                                                                                    |
| Sample(s) Status:      | Engineer sample                                                                                                   |
| Operation frequency:   | 113kHz-205kHz                                                                                                     |
| Modulation Technology: | MSK                                                                                                               |
| Antenna Type:          | Loop coil Antenna                                                                                                 |
| Antenna gain:          | 0dBi                                                                                                              |
| Hardware version.:     | N/A                                                                                                               |
| Software version.:     | N/A                                                                                                               |
| Power supply:          | Input: 5V = 3A, 9V = 3A, 12V = 3A<br>Wireless Output: 5W/7.5W/10W/15W                                             |
| Model different:       | N/A                                                                                                               |
| Note:                  | For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. |

## 4 TEST METHODOLOGY

### 4.1 Measuring 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 §2.1091 RF exposure is calculated. According KDB680106 D01: KDB 680106 D01 Wireless Power Transfer v04.

### 4.2 Requirements

According to the item 3 of KDB 680106 D01v04:

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

- (1) Mobile Device and Portable Device Configurations
- (2) Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz
- (3) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the top surface.

### 4.3 Limits

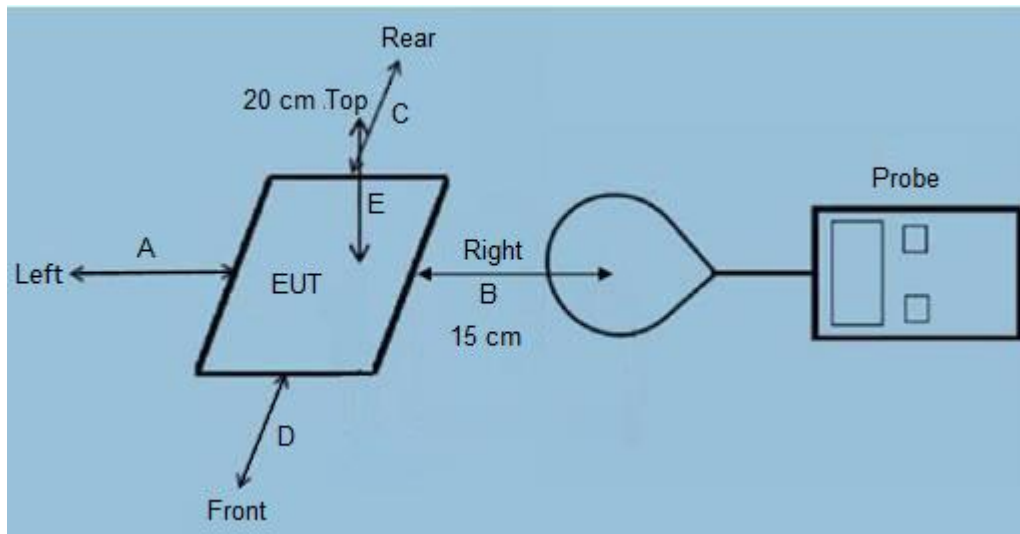
The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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  
 E=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).

#### 4.4 Test Setup



#### 4.5 Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The measurement probe was placed at test distance (15 cm from all sides and 20 cm from the top) which is between the edge 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, F) were completed.
- 4) The EUT was measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.

Remark: The EUT's test position A, B, C, D, E and F is valid for the E and H field measurements.

## 5 Equipment Approval Considerations

The EUT does comply with KDB 680106 D01 as follow table.

| Requirements of section 5 of KDB 680106 D01                                                                                                                                          | Yes / No | Description                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------|
| Mobile Device and Portable Device Configurations                                                                                                                                     | Yes      | Mobile Device                                                                              |
| Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz                                                                                                  | Yes      | The device operate in the frequency range 113-205KHz(for mobile phone)                     |
| RF Exposure compliance may be ensured only for a minimum separation distance that is greater than 20 cm, while use conditions at smaller distances can still be considered unlikely. | Yes      | The EUT H-field strengths at 15 cm surrounding the device and 20 cm above the top surface. |

## 5.1 Description of the test mode

Equipment under test was operated during the measurement under the following conditions:

| Test Mode                                                                                    | Description                |            |
|----------------------------------------------------------------------------------------------|----------------------------|------------|
| Mode 1                                                                                       | AC Adapter + EUT + Phone   | Record     |
| Mode 2                                                                                       | Test the EUT in idle mode. | Pre-tested |
| Note: 1. All test modes were pre-tested, but we only recorded the worst case in this report. |                            |            |

## 5.2 Peripheral List

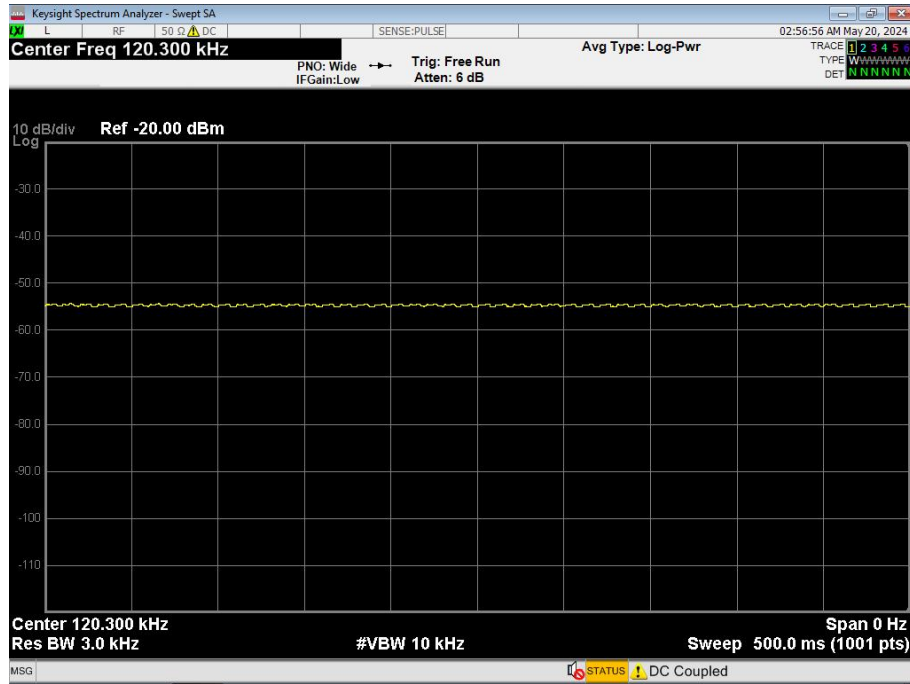
| No. | Equipment | Manufacturer | Model No. | Serial No. | Power cord | signal cable |
|-----|-----------|--------------|-----------|------------|------------|--------------|
| 1   | Phone     | Apple        | S6        | N/A        | N/A        | N/A          |

## 5.3 Test Instruments list

| Test Equipment                                     | Manufacturer | Model No.                               | SN.            | Cal.Date<br>(mm-dd-yy) | Cal.Due date<br>(mm-dd-yy) |
|----------------------------------------------------|--------------|-----------------------------------------|----------------|------------------------|----------------------------|
| Magnetic Amplitude<br>and Gradient Probe<br>System | SPEAG        | MAGPy-8H3D+E3<br>D V2<br>& MAGPy-DAS V2 | 3107 &<br>3097 | 03.15.2024             | 03.14.2025                 |

## 5.4 Duty Cycle

| Mode                     | ON Time(ms) | Period(ms) | Duty Cycle(%) |
|--------------------------|-------------|------------|---------------|
| Operating(113kHz-205kHz) | /           | /          | 100           |



## 5.5 Test Result

### Test Mode 1\_MPE\_Coil 1\_Phone

| MPE              |                |                     |               |               |
|------------------|----------------|---------------------|---------------|---------------|
| Test distance    | Battery levels | Probe from EUT Side | E-field (V/m) | H-field (A/m) |
| 20cm             | < 1%           | Top                 | 13.28         | 0.40          |
| 15cm             | < 1%           | Top                 | 13.40         | 0.45          |
| 15cm             | < 1%           | Left                | 13.57         | 0.46          |
| 15cm             | < 1%           | Right               | 13.52         | 0.38          |
| 15cm             | < 1%           | Front               | 13.25         | 0.29          |
| 15cm             | < 1%           | Rear                | 13.27         | 0.35          |
| Limit            |                |                     | 614           | 1.63          |
| Margin Limit (%) |                |                     | 2.21%         | 28.22%        |

| MPE              |                |                     |               |               |
|------------------|----------------|---------------------|---------------|---------------|
| Test distance    | Battery levels | Probe from EUT Side | E-field (V/m) | H-field (A/m) |
| 20cm             | < 50%          | Top                 | 12.92         | 0.29          |
| 15cm             | < 50%          | Top                 | 12.14         | 0.35          |
| 15cm             | < 50%          | Left                | 12.49         | 0.29          |
| 15cm             | < 50%          | Right               | 12.63         | 0.35          |
| 15cm             | < 50%          | Front               | 12.13         | 0.41          |
| 15cm             | < 50%          | Rear                | 12.39         | 0.33          |
| Limit            |                |                     | 614           | 1.63          |
| Margin Limit (%) |                |                     | 2.10%         | 25.15%        |

| MPE              |                |                     |               |               |
|------------------|----------------|---------------------|---------------|---------------|
| Test distance    | Battery levels | Probe from EUT Side | E-field (V/m) | H-field (A/m) |
| 20cm             | < 99%          | Top                 | 12.30         | 0.28          |
| 15cm             | < 99%          | Top                 | 11.16         | 0.20          |
| 15cm             | < 99%          | Left                | 11.86         | 0.33          |
| 15cm             | < 99%          | Right               | 11.82         | 0.24          |
| 15cm             | < 99%          | Front               | 12.09         | 0.29          |
| 15cm             | < 99%          | Rear                | 11.95         | 0.27          |
| Limit            |                |                     | 614           | 1.63          |
| Margin Limit (%) |                |                     | 2.00%         | 20.25%        |

Note: All test modes were pre-tested, but we only recorded the worst case in this report.

## 1.1 Test Setup photo

Front



Left



Rear



Right



Top-15cm



Top-20cm



\*\*\*End of report\*\*\*