



# RF Exposure Report

Test report  
On Behalf of  
Orient Link Limited  
For  
Wireless Charger

**Model No.: 5502267(SW0042-BK), 5502269(SW0042-WE)**

**FCC ID: 2AIMJ-SW0042**

**IC: 21538-SW0042**

**Prepared for :** Orient Link Limited  
9/F, 1063 King's Road, Quarry Bay, Hong Kong, China

**Prepared By :** Shenzhen HUAKE Testing Technology Co., Ltd.  
1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping  
Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong,  
China

**Date of Test:** Jan. 08, 2019 to Jan. 15, 2019

**Date of Report:** Jan. 15, 2019

**Report Number:** HK1901140090E



## TEST RESULT CERTIFICATION

**Applicant's name** .....: Orient Link Limited

Address .....: 9/F, 1063 King's Road, Quarry Bay, Hong Kong, China

**Manufacture's Name** .....: Sweda (Shen Zhen) Electronics Company Limited

Address .....: Block C, Lian Tang Chun Wei Ind. Bldg., Lian Tang, ShenZhen,  
PRC. Postal Code=518004

**Factory's Name** .....: Sweda (Shen Zhen) Electronics Company Limited

Address .....: Block C, Lian Tang Chun Wei Ind. Bldg., Lian Tang, ShenZhen,  
PRC. Postal Code=518004

### Product description

Trade Mark: SWAROVSKI

Product name .....: Wireless Charger

Model and/or type reference ..: 5502267(SW0042-BK), 5502269(SW0042-WE)

Model Difference .....: All the same except for the model name and appearance color

**Standards** .....: KDB 680106 D01 RF Exposure Wireless Charging Base App v03  
RSS-102 issue 5 and SPR-002 issue 1

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen HUAK Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen HUAK Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

**Date of Test** .....:

Date (s) of performance of tests .....: Jan. 08, 2019 to Jan. 15, 2019

Date of Issue .....: Jan. 15, 2019

Test Result .....: **Pass**

Testing Engineer : Gary Qian

(Gary Qian)

Technical Manager : Eden Hu

(Eden Hu)

Authorized Signatory : Jason Zhou

(Jason Zhou)



| Table of Contents                     | Page |
|---------------------------------------|------|
| 1 . TEST SUMMARY                      | 4    |
| 2. GENERAL INFORMATION                | 5    |
| 2.1. PRODUCT DESCRIPTION              | 5    |
| 2.2 OPERATION OF EUT DURING TESTING   | 6    |
| 2.3 DESCRIPTION OF TEST SETUP         | 6    |
| 5. TEST EQUIPMENT LIST                | 7    |
| 6. RADIO FREQUENCY (RF) EXPOSURE TEST | 8    |
| 6.1. LIMITS                           | 8    |
| 6.2. TEST SETUP                       | 9    |
| APPENDIX A: PHOTOGRAPHS OF TEST SETUP | 14   |



## 1. TEST SUMMARY

### 1.1 TEST PROCEDURES AND RESULTS

| DESCRIPTION OF TEST                 | RESULT    |
|-------------------------------------|-----------|
| E and H field strength measurements | Compliant |

### 1.2 TEST FACILITY

Test Firm : Shenzhen HUAK Testing Technology Co., Ltd.

Address : 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

IC Registration No.: 21210

FCC Registration No.: CN1229

Test Firm Registration Number : 616276

### 1.3 MEASUREMENT UNCERTAINTY

#### Measurement Uncertainty

|   |               |
|---|---------------|
| Conducted Emission Expanded Uncertainty               | = 2.23dB, k=2 |
| Radiated emission expanded uncertainty(9kHz-30MHz)    | = 3.08dB, k=2 |
| Radiated emission expanded uncertainty(30MHz-1000MHz) | = 4.42dB, k=2 |
| Radiated emission expanded uncertainty(Above 1GHz)    | = 4.06dB, k=2 |



## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

|                               |   |
|-------------------------------|---|
| <b>Operation Frequency</b>    | 123.4kHz  |
| <b>Maximum field strength</b> | 53.54dBuV/m(Peak)@3m                                |
| <b>Number of channels</b>     | 1   |
| <b>Antenna Designation</b>    | Integrated Antenna (Met 15.203 Antenna requirement) |
| <b>Hardware Version</b>       | Sweda-v9  |
| <b>Software Version</b>       | V1.0  |
| <b>Power Supply</b>           | DC 5V or DC 9V                                      |



## 2.2 OPERATION OF EUT DURING TESTING

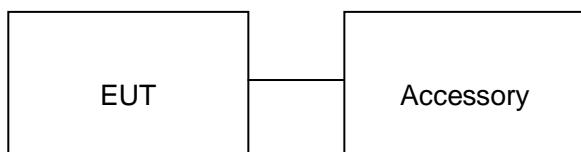
| NO. | TEST MODE DESCRIPTION             |
|-----|-----------------------------------|
| 1   | Wireless charging Mode(Full load) |
| 2   | Wireless charging Mode(half load) |
| 3   | Wireless charging Mode(Null load) |

Note:

1. The mode 1 was the worst case and only the data of the worst case record in this report.

## 2.3 DESCRIPTION OF TEST SETUP

Configure :



| Item | Equipment     | Model No. | ID or Specification | Remark    |
|------|---------------|-----------|---------------------|-----------|
| 1    | Adapter       | RP-PC007  | DC 5V3A or DC 9V/2A | Accessory |
| 2    | Wireless Load | N/A       | 10W                 | Support   |



### 3. TEST EQUIPMENT LIST

| Description           | Manufacturer                     | Model   | S/N    | Cal. Date     | Cal. Due      |
|-----------------------|----------------------------------|---------|--------|---------------|---------------|
| Broadband Field Meter | Narda Safety Test Solutions GmbH | NBM-550 | J-0004 | June 12, 2018 | June 11, 2019 |
| Probe FHP             | Narda Safety Test Solutions GmbH | EHP-50F | J-0015 | June 12, 2018 | June 11, 2019 |



## 4. RADIO FREQUENCY (RF) EXPOSURE TEST

### 4.1. LIMITS

FCC:

For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device and 20 cm measured from the center of the probe(s) to the top of the device. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

IC:

**Table 2 - Limb Exposure Limit Relaxation**

| Exposure Condition        | Relaxation Factor | Electric Field (V/m r.m.s.) | Magnetic Field (A/m r.m.s.) |
|---------------------------|-------------------|-----------------------------|-----------------------------|
| Whole Body / Torso / Head | 1.0               | 83                          | 90                          |
| Leg                       | 1.5               | 124.5                       | 135                         |
| Arm                       | 2.5               | 207.5                       | 225                         |
| Hand/Foot                 | 5.0               | 415                         | 450                         |

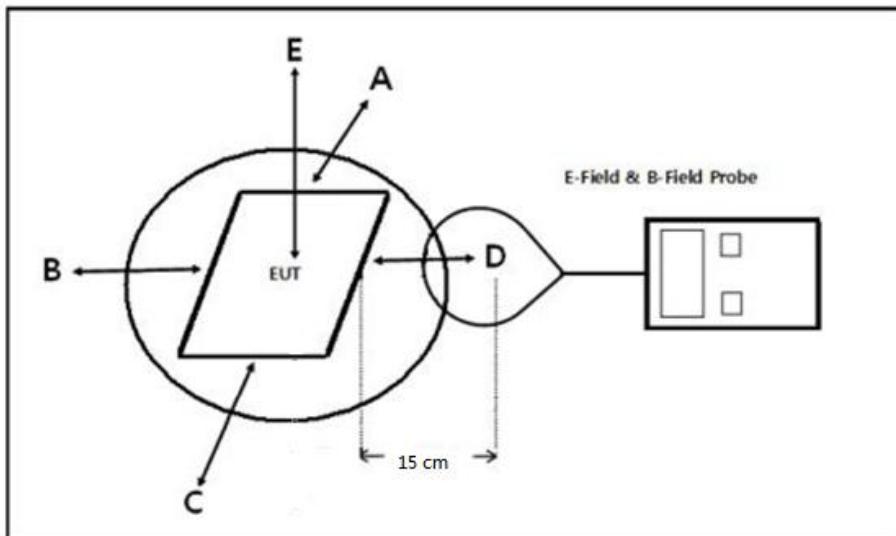
**Note:** The values of the electric field and the magnetic field in Table 2 are for indication purposes only and do not supersede the levels specified in RSS-102.

#### 4.2. TEST SETUP

For FCC:

Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT;

Position E: Top of EUT(20 cm measure distance);



For IC:

The compliance distance which is declared by manufacturer is 10 cm away from all sides and 10cm from the top of the EUT



#### 4.3. TEST PROCEDURE

FCC:

The EUT was placed on a non-conductive table top and the ancillary equipment (e.g. mobile phone) was placed on the EUT for charging.

Maximum E-field and H-field measurements were tested 15cm from each side of the EUT. For top side the measure distance is 20cm.

Along the side of the EUT to center of E-field probe and H-field probe were positioned at the location to search maximum field strength.

IC:

Passively used table-top devices are those which are placed on a table top; however, the user would not be seated at the table while the device is in use (e.g. cellphone chargers).

Table-top devices shall be installed at the edge of an 80 cm tall table which is constructed of non-metallic material.

Any support equipment used to operate the device shall be placed along the edge with a minimum of 10 cm between each component.

The measurement probe shall be placed at the compliance distance away from the edge of the table.

The compliance distance which is declared by manufacture is 10 cm away from all sides and 10cm from the top of the EUT



#### 4.4. TEST RESULT

FCC:

Test condition: Mode 1

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 123.4kHz        | 0.16                   | 0.16                   | 0.16                   | 0.16                   | 2.54                   | 614             | 83             |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 123.4kHz        | 0.18                   | 0.18                   | 0.18                   | 0.18                   | 0.41                   | 1.63            | 90             |

Test condition: Mode 2

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 128.7kHz        | 0.14                   | 0.14                   | 0.14                   | 0.14                   | 1.85                   | 614             | 83             |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 128.7kHz        | 0.12                   | 0.12                   | 0.12                   | 0.12                   | 0.35                   | 1.63            | 90             |



Test condition: Mode 3

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 133.6kHz        | 0.16                   | 0.16                   | 0.16                   | 0.16                   | 1.48                   | 614             | 83             |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 133.6kHz        | 0.13                   | 0.13                   | 0.13                   | 0.13                   | 0.27                   | 1.63            | 90             |

IC:

Test condition: Mode 1

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 123.4kHz        | 0.16                   | 0.16                   | 0.16                   | 0.16                   | 4.54                   | 614             | 83             |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 123.4kHz        | 0.18                   | 0.18                   | 0.18                   | 0.18                   | 0.81                   | 1.63            | 90             |



Test condition: Mode 2

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 128.7kHz        | 0.14                   | 0.14                   | 0.14                   | 0.14                   | 3.54                   | 614             | 83             |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 128.7kHz        | 0.12                   | 0.12                   | 0.12                   | 0.12                   | 0.66                   | 1.63            | 90             |

Test condition: Mode 3

E-field strength test result:

| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | FCC Limit (V/m) | IC Limit (V/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 133.6kHz        | 0.16                   | 0.16                   | 0.16                   | 0.16                   | 2.45                   | 614             | 83             |

H-field strength test result:

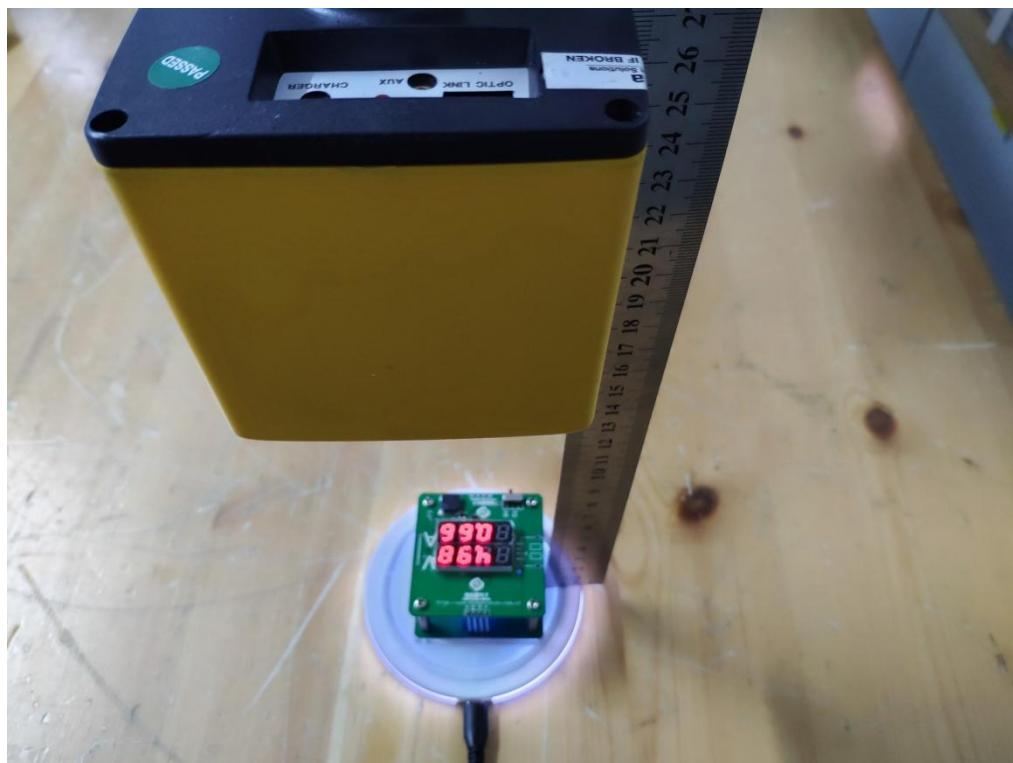
| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | FCC Limit (A/m) | IC Limit (A/m) |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------|----------------|
| 133.6kHz        | 0.13                   | 0.13                   | 0.13                   | 0.13                   | 0.52                   | 1.63            | 90             |



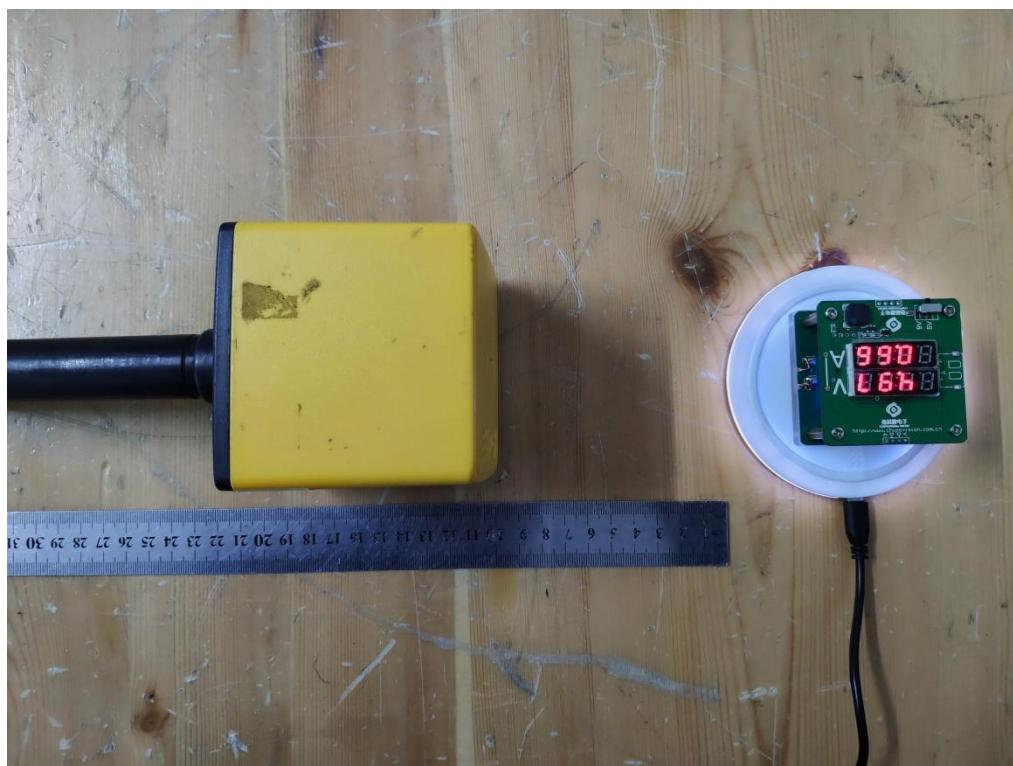
## APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC

Position E

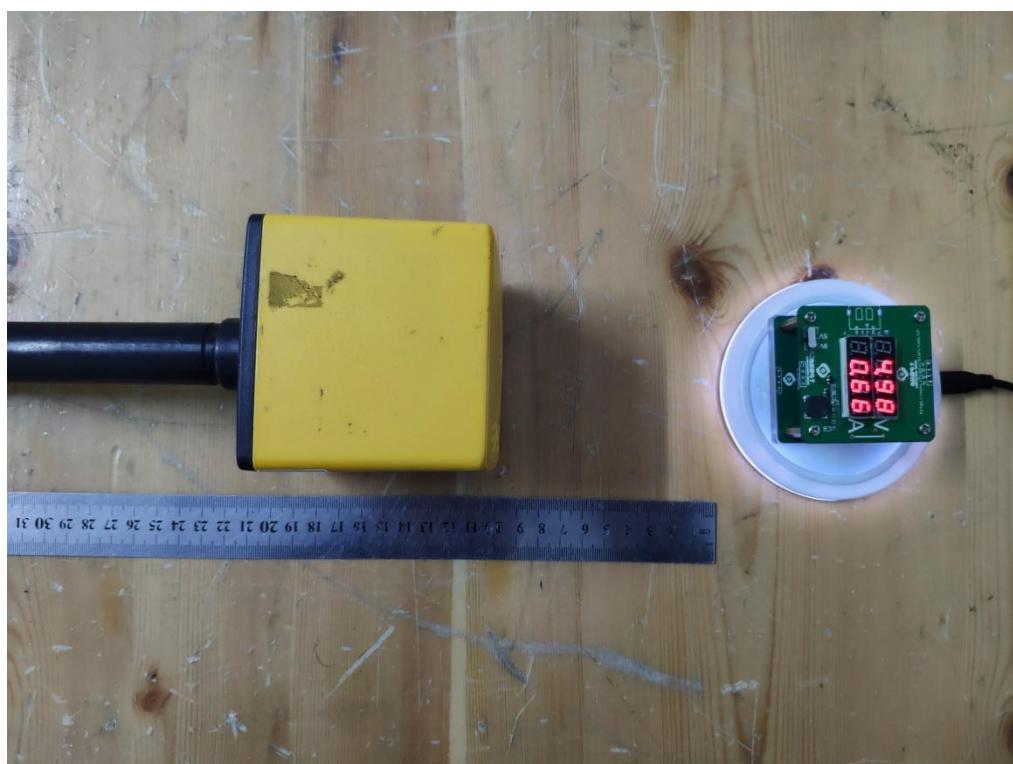


Position A





Position B

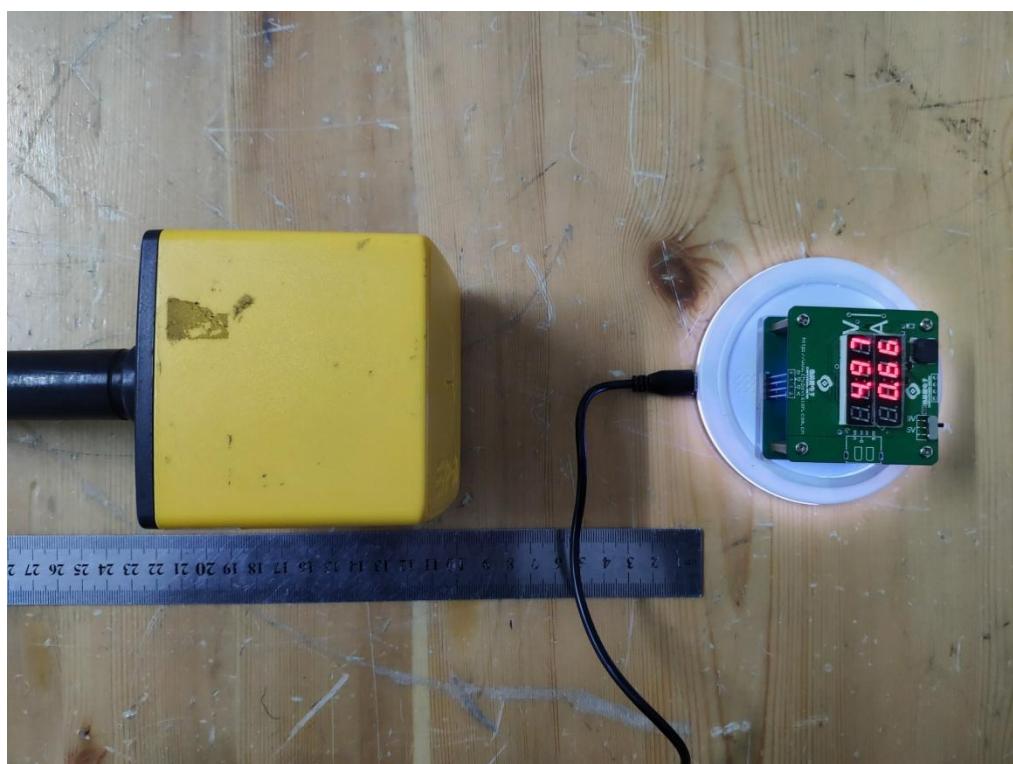


Position C



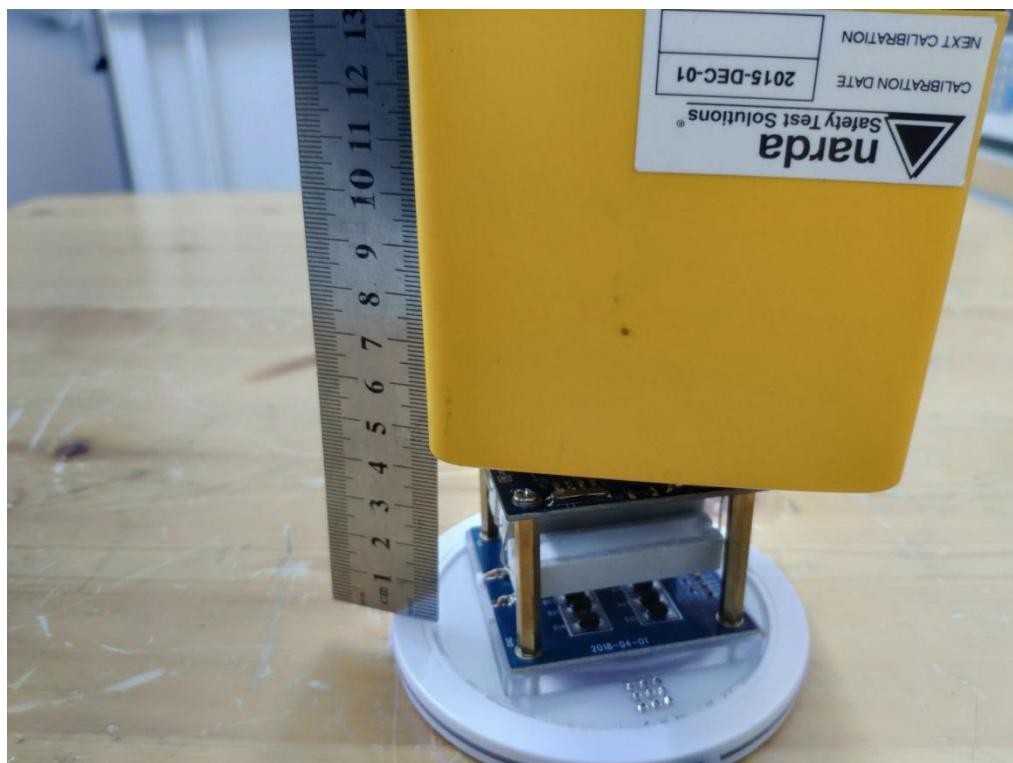


Position D

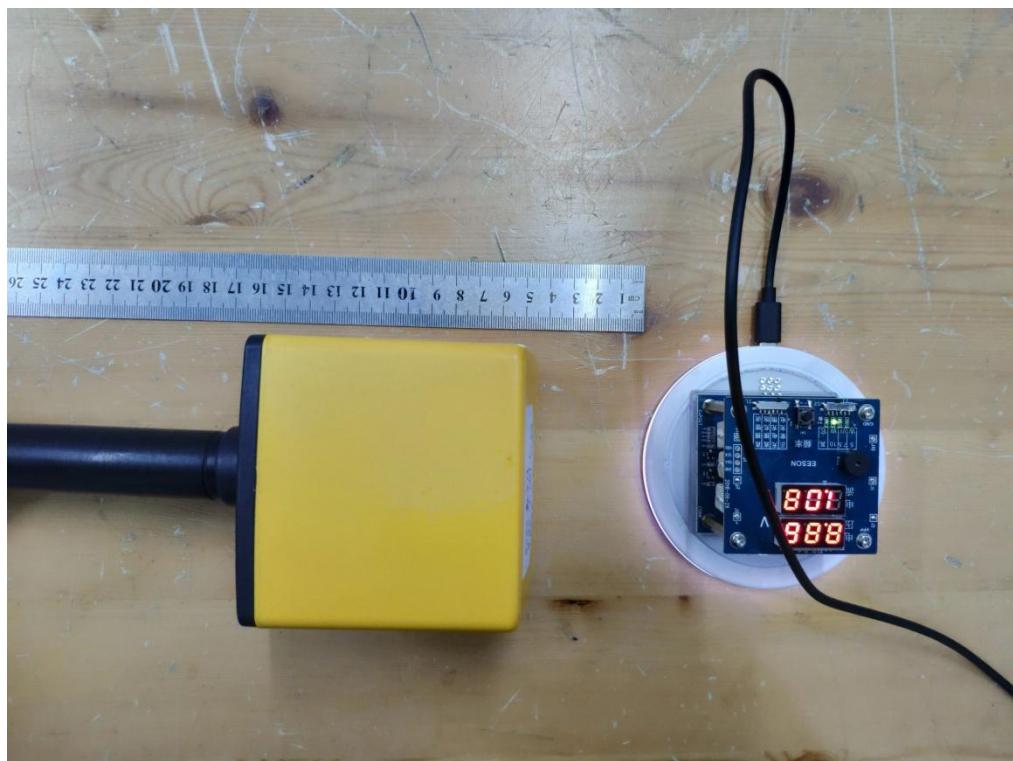




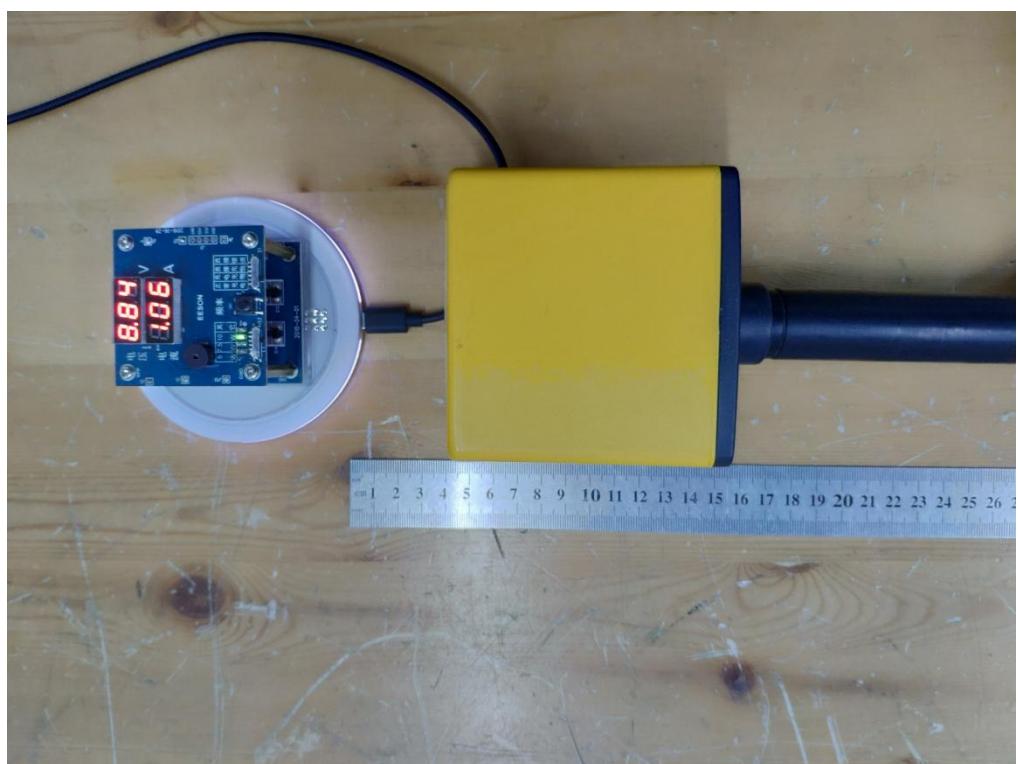
IC  
Position E



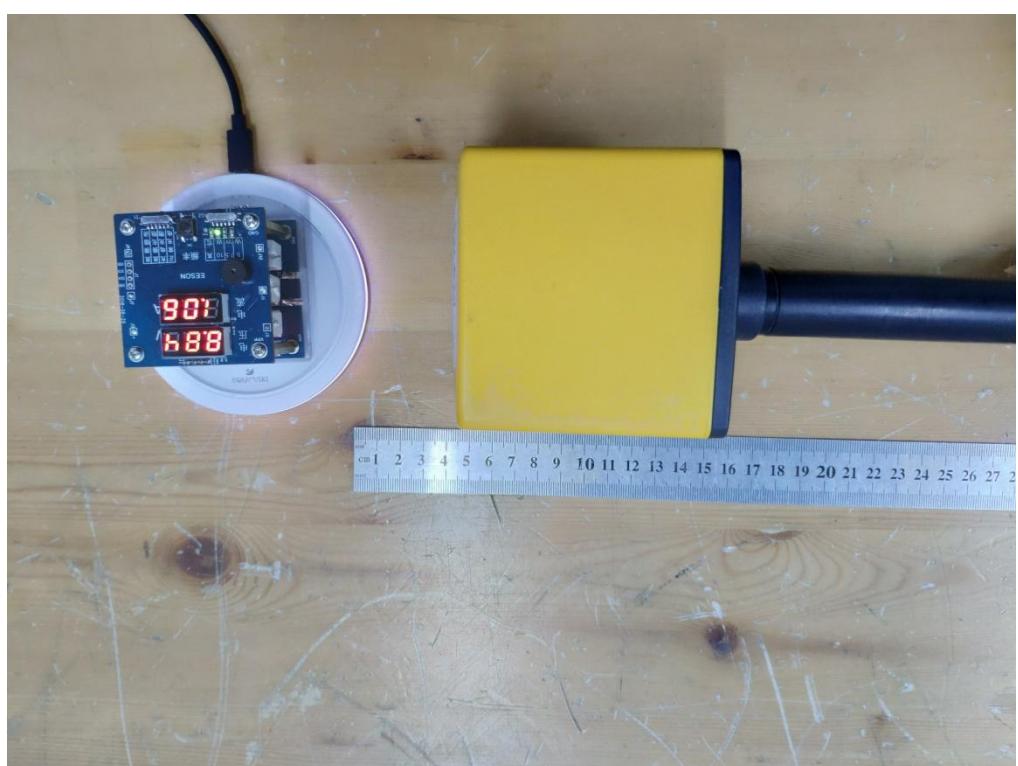
Position A



Position B

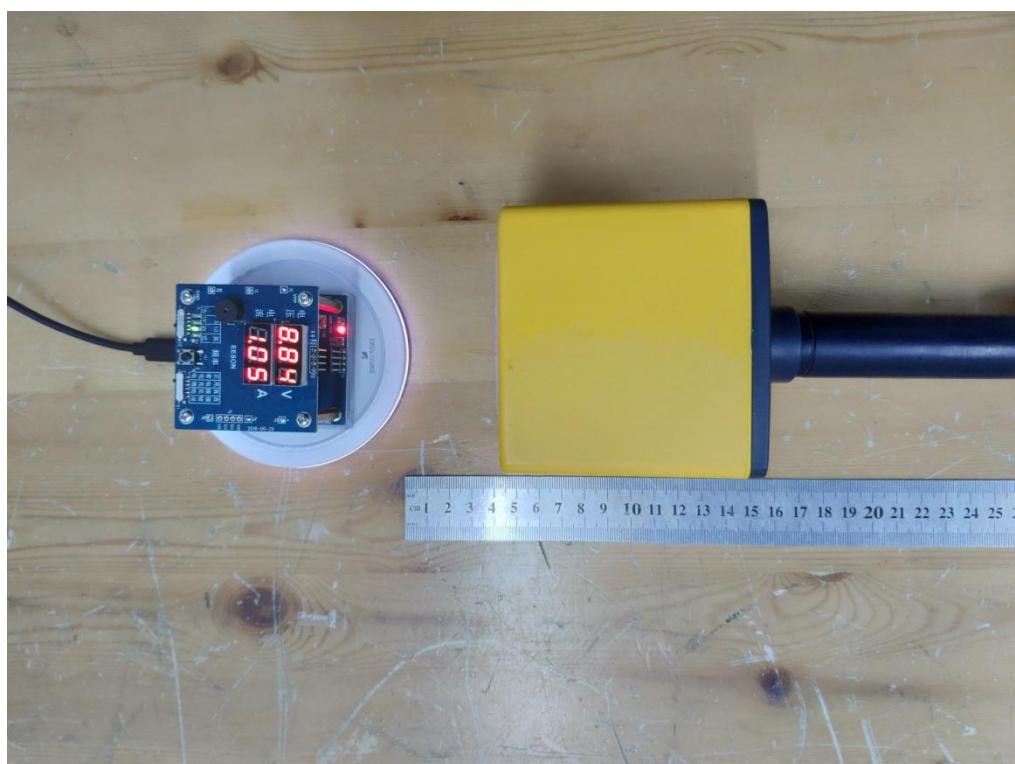


Position C





Position D



----END OF REPORT----