



# **FCC TEST REPORT**

## **FCC ID: 2AP2N-WA12-WA11**

On Behalf of

**Shenzhen Esorun Technology Co., LTD**

**Ultra-thin smart car-mounted wireless charging bracket**

**Model No.: WA12, WA11**

Prepared for : Shenzhen Esorun Technology Co., LTD  
Address : 101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen, China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.  
Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

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Version Number : V0

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## TEST REPORT DECLARATION

Applicant : Shenzhen Esorun Technology Co., LTD  
Address : 101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen, China  
Manufacturer : Shenzhen Esorun Technology Co., LTD  
Address : 101, Dormitory Building, No. 1215, Guihua Community Guanguang Road, Guanlan Street, Longhua District, Shenzhen, China  
EUT Description : Ultra-thin smart car-mounted wireless charging bracket  
(A) Model No. : WA12, WA11  
(B) Trademark : ESORUN

Measurement Standard Used:

**FCC CFR Title 47 Part 15 Subpart C**

**FCC KDB 680106 D01 RF Exposure Wireless Charging Apps v03**

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness test. Also, this report shows that the EUT is technically compliant with the KDB 680106 D01 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:

Lucas Pang  
Project Engineer



Approved by (name + signature).....:

Simple Guan  
Project Manager



Date of issue.....

November 24, 2020

**Revision History**

| Revision | Issue Date        | Revisions              | Revised By |
|----------|-------------------|------------------------|------------|
| V0       | November 24, 2020 | Initial released Issue | Lucas Pang |

## 1. Test Result Summary

| Requirement | CFR 47 Section            | Result |
|-------------|---------------------------|--------|
| RF EXPOSURE | §1.1307(b)(1) & KDB680106 | PASS   |

**Note:**

1. *PASS: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*

## 2. EUT Description

### 2.1. Description of Device (EUT)

|                      |   |                                                                                                                                 |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------|
| EUT Name             | : | Ultra-thin smart car-mounted wireless charging bracket                                                                          |
| Model No.            | : | WA12, WA11                                                                                                                      |
| DIFF.                | : | There is no difference between the models except the appearance color. So all the test were performed on the model WA12.        |
| Trademark            | : | ESORUN                                                                                                                          |
| Power supply         | : | Type-C Input : DC 5V/2A, DC 9V/2A, DC 12V/2A<br>Wireless Output : DC 5V/1A(5W), 9V/0.83A(7.5W),<br>9V/1.12A(10W), 9V/1.67A(15W) |
| Operation frequency  | : | 125~205KHz                                                                                                                      |
| Modulation           | : | MSK                                                                                                                             |
| Antenna Type         | : | Coil Antenna, Maximum Gain is 0dBi(This value is supplied by applicant).                                                        |
| Connector cable loss | : | 0.5dB (This value is supplied by applicant).                                                                                    |
| Software version     | : | V1.0                                                                                                                            |
| Hardware version     | : | V1.0                                                                                                                            |

| Conditions requirement                                                                                                                                                                                                                   | Answers                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Power transfer frequency is less than 1 MHz.                                                                                                                                                                                             | After measuring the product the transfer frequency is 125-205KHz                                             |
| Output power from each primary coil is less than or equal to 15 watts.                                                                                                                                                                   | After measuring the product the each primary coil power is 15 watts                                          |
| The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils. | The transfer system includes only single primary.                                                            |
| Client device is placed directly in contact with the transmitter.                                                                                                                                                                        | Client device is placed directly in contact with the transmitter.                                            |
| Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).                                                                                                                                        | Mobile exposure conditions only.                                                                             |
| 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.                                          | After measuring the product the Max H-field Strength is <b>0.4240A/m</b> Far less than 50% of the MPE limit. |

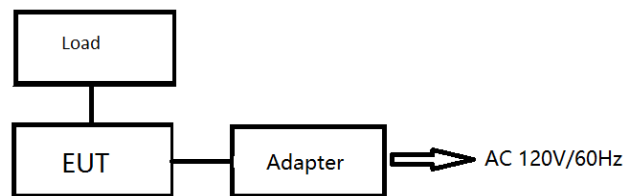
## 2.2. Accessories of Device (EUT)

|              |   |   |
|--------------|---|---|
| Accessories1 | : | / |
| Manufacturer | : | / |
| Model        | : | / |
| Ratings      | : | / |

## 2.3. Tested Supporting System Details

| No. | Description | Manufacturer | Model | Serial Number | Certification or SDOC |
|-----|-------------|--------------|-------|---------------|-----------------------|
| 1   | Adapter     | --           | --    | --            | --                    |
| 2   | Load        | --           | --    | --            | --                    |

## 2.4. Block Diagram of connection between EUT and simulators



## 2.5. Description of Test Modes

| Channel | Frequency (KHz) |
|---------|-----------------|
| 1       | 147             |

## 2.6. Test Conditions

| Items              | Required  | Actual |
|--------------------|-----------|--------|
| Temperature range: | 15-35°C   | 24°C   |
| Humidity range:    | 25-75%    | 56%    |
| Pressure range:    | 86-106kPa | 98kPa  |



## 2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission

Registration Number: 293961

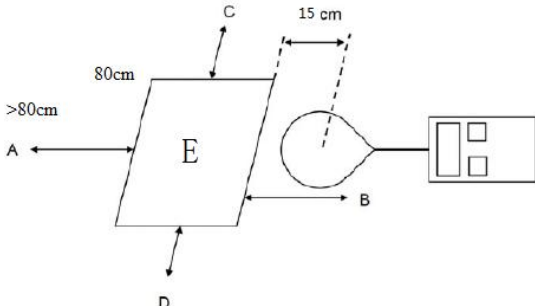
July 15, 2019 Certificated by IC

Registration Number: CN0085

## 2.8. Measurement Uncertainty

(95% confidence levels,  $k=2$ )

| Item                                          | Uncertainty |
|-----------------------------------------------|-------------|
| Uncertainty for H-Field                       | 2.39dB      |
| Uncertainty for E-Field                       | 2.45dB      |
| Uncertainty for conducted RF Power            | 0.65dB      |
| Uncertainty for temperature                   | 0.2°C       |
| Uncertainty for humidity                      | 1%          |
| Uncertainty for DC and low frequency voltages | 0.06%       |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Test Requirement:</b> | <b>FCC Rules and Regulations KDB680106</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Test Method:</b>      | §1.1307(b)(1) & KDB680106                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Limits:</b>           | 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 KDB680106 D01v03: RF Exposure Wireless Charging.                                                                                                                                                                                                                                                    |
| <b>Test Setup:</b>       |  <p>E to position is 20cm.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Test Mode:</b>        | Transmitting Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Test Procedure:</b>   | <ol style="list-style-type: none"> <li>1. The RF exposure test was carried out on a non-metallic table top 80cm high in the shielding darkroom.</li> <li>2. The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.</li> <li>3. The test time is maintained for more than one minute.</li> <li>4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.</li> <li>5. The EUT were measured according to the dictates of KDB 680106D01v03.</li> </ol> |
| <b>Test Result:</b>      | PASS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### 3.1.2. Test Instruments

| Item | Equipment                      | Manufacturer | Model No.        | Serial No. | Last Cal.  | Cal. Interval |
|------|--------------------------------|--------------|------------------|------------|------------|---------------|
| 1    | Exposure Level Tester          | narda        | ELT-400          | N-0231     | 2020.09.02 | 1 Year        |
| 2    | Magnetic field probe 100cm2    | narda        | ELT probe 100cm2 | M0675      | 2020.09.02 | 1 Year        |
| 3    | Isotropic Electric Field Probe | narda        | EP-601           | 511WX60706 | 2020.09.02 | 1 Year        |

### 3.1.3. Test data

For Full load mode:

E-Field Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (V/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (V/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | 8.332           | 7.233           | 7.542           | 8.512           | 7.124           | 307               | 614               |

H-Filed Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (A/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (A/m) | Limits Test (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | <b>0.4240</b>   | 0.4176          | 0.3888          | 0.3920          | 0.4224          | 0.815             | 1.63              |

For Half load mode:

E-Field Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (V/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (V/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | 4.650           | 4.420           | 4.710           | 4.850           | 1.855           | 307               | 614               |

H-Filed Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (A/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (A/m) | Limits Test (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | 0.3568          | 0.3442          | 0.3404          | 0.342           | 0.3235          | 0.815             | 1.63              |

For Null load mode:

E-Field Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (V/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (V/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | 2.251           | 2.214           | 2.120           | 2.201           | 2.1511          | 307               | 614               |

H-Filed Strength at 15 cm for position A, B, C, D 20cm for position E from the edges surrounding the EUT (A/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limit (50%) (A/m) | Limits Test (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|-------------------|
| 0.125-0.200           | 0.2288          | 0.2224          | 0.2128          | 0.2240          | 0.2200          | 0.815             | 1.63              |

Note:  $\mu\text{T}$  to A/m:  $\text{A/m} = \mu\text{T}/1.25$

## 4. Photos of test setup

For Full load mode



For No load mode



## **5. Photographs of EUT**

Refer to test report A2010091-C01-R01.

-----End-----