



# FCC TEST REPORT

**Test report**

**On Behalf of**

**Shenzhen Xuanfeng Innovations Technology Co., Ltd.**

**For**

**Fast Wireless Car Charger**

**Model No.: FD01, FD01CA, FD01CD2, FD01C, FD01C2, FD01CD**

**FCC ID: 2A5DD-FD01**

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**Date of Test:** Feb. 14, 2022 ~ Feb. 28, 2022

**Date of Report:** Feb. 28, 2022

**Report Number:** HK2202230659-2E



Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

| Channel List |                 |         |                 |         |                 |         |                 |
|--------------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| Channel      | Frequency (KHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01           | 132.8           |         |                 |         |                 |         |                 |
|              |                 |         |                 |         |                 |         |                 |
|              |                 |         |                 |         |                 |         |                 |
|              |                 |         |                 |         |                 |         |                 |

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.

## 2. SUMMARY OF TEST RESULTS

### 2.1. Test procedures according to the technical standards:

FCC KDB680106 D01 RF Exposure Wireless Charging Apps v03r01

| FCC CFR 47                                                |                                   |          |        |
|-----------------------------------------------------------|-----------------------------------|----------|--------|
| Standard Section                                          | Test Item                         | Judgment | Remark |
| FCC CFR 47 part1,<br>1.1310 KDB680106<br>D01v03r01 (3)(3) | Electric Field Strength (E) (V/m) | PASS     |        |
|                                                           | Magnetic Field Strength (H) (A/m) | PASS     |        |

### 2.2. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

| No. | Item                                      | Uncertainty             |
|-----|-------------------------------------------|-------------------------|
| 1   | All emissions, radiated(<30M)(9KHz-30MHz) | $\pm 3.90\text{dB}$     |
| 2   | Temperature                               | $\pm 0.5^\circ\text{C}$ |
| 3   | Humidity                                  | $\pm 2\%$               |



### 2.3. Test Instruments

| Description                             | Brand | Model No.                    | Frequency Range | Calibrated Date | Calibrated Until |
|-----------------------------------------|-------|------------------------------|-----------------|-----------------|------------------|
| Exposure Level Tester                   | narda | ELT-400                      | N-0231          | Dec. 09, 2021   | Dec. 08, 2022    |
| Magnetic field probe 100cm <sup>2</sup> | narda | ELT probe 100cm <sup>2</sup> | M0675           | Dec. 09, 2021   | Dec. 08, 2022    |

NOTE: 1. The calibration interval of the above test instruments is 12 months.



### 3. MAXIMUM PERMISSIBLE EXPOSURE

#### Limit of Maximum Permissible Exposure

| 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                                                               |

Note 1: f = frequency in MHz ; \*Plane-wave equivalent power density.

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03.

Note 3: 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 1.63A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

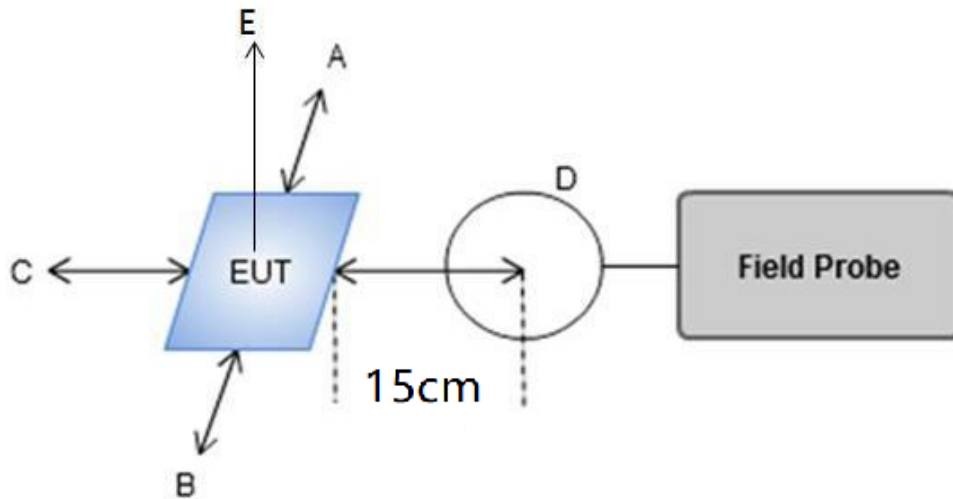


#### 4. TEST PROCEDURE

a. For devices designed for typical desktop applications, such as wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of (H-field & E-field strengths for all sides is 15cm, H-field strengths of top side is 20cm).

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.

##### 4.1 Test Setup



##### 4.2 Result Of Maximum Permissible Exposure



For Full load mode:

H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| Field strength | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limits (A/m) |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| uT             | 0.358           | 0.412           | 0.468           | 0.522           | 0.499           | /            |
| A/m            | 0.286           | 0.330           | 0.374           | 0.418           | 0.399           | 1.63         |

Note.

Calculation:  $A/m = uT/1.25$

For Half Load mode:

H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| Field strength | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limits (A/m) |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| uT             | 0.403           | 0.527           | 0.442           | 0.518           | 0.602           | /            |
| A/m            | 0.322           | 0.422           | 0.354           | 0.414           | 0.482           | 1.63         |

Note.

Calculation:  $A/m = uT/1.25$

For No load mode:

H-Field Strength at 15 cm (E top side: 20cm) from the edges surrounding the EUT (A/m)

| Field strength | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Limits (A/m) |
|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| uT             | 0.438           | 0.517           | 0.604           | 0.399           | 0.434           | /            |
| A/m            | 0.350           | 0.414           | 0.483           | 0.319           | 0.347           | 1.63         |

Note.

Calculation:  $A/m = uT/1.25$



Remark: According KDB 680106 D01 RF Exposure Wireless Charging App v03r01, section 5, b). 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. The E- field evaluation conducted assuming a user separation distance of 15 cm according to the KDB 680106 D01 RF Exposure Wireless Charging App v03 section 3, c).

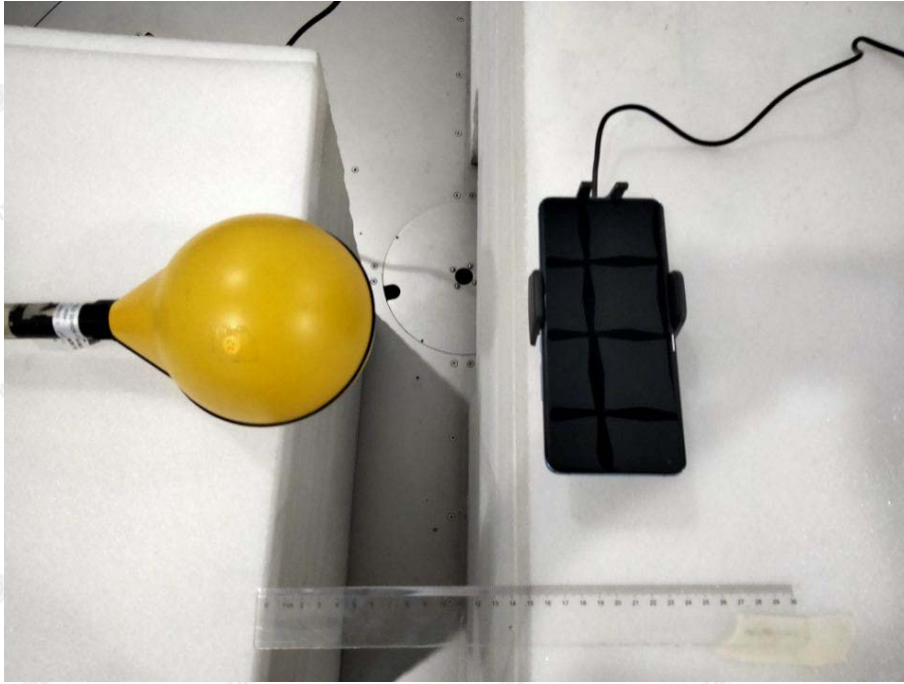
Result: The device comply with the RF exposure requirement according to 680106 D01 v03r01, section 5, b):

- (1) The operating frequency is 111.5KHz~205KHz, is less than 1MHz.
- (2) The max Output power for each primary coil is 10W,  $\leq$  15W.
- (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) 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.
- (6) This device is used for mobile exposure conduction only.

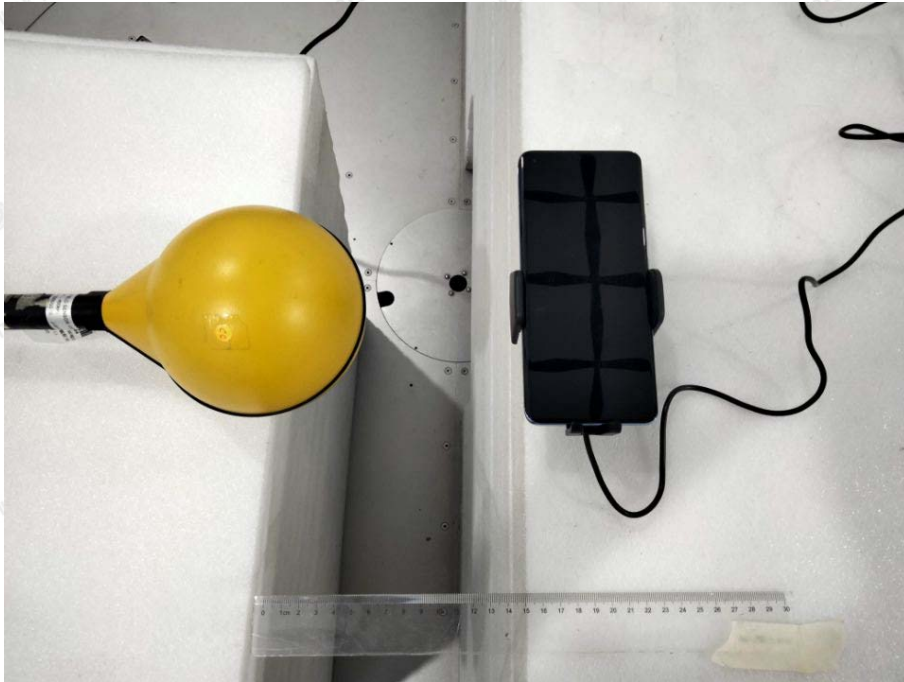


PHOTOGRAPH OF TEST

A



B



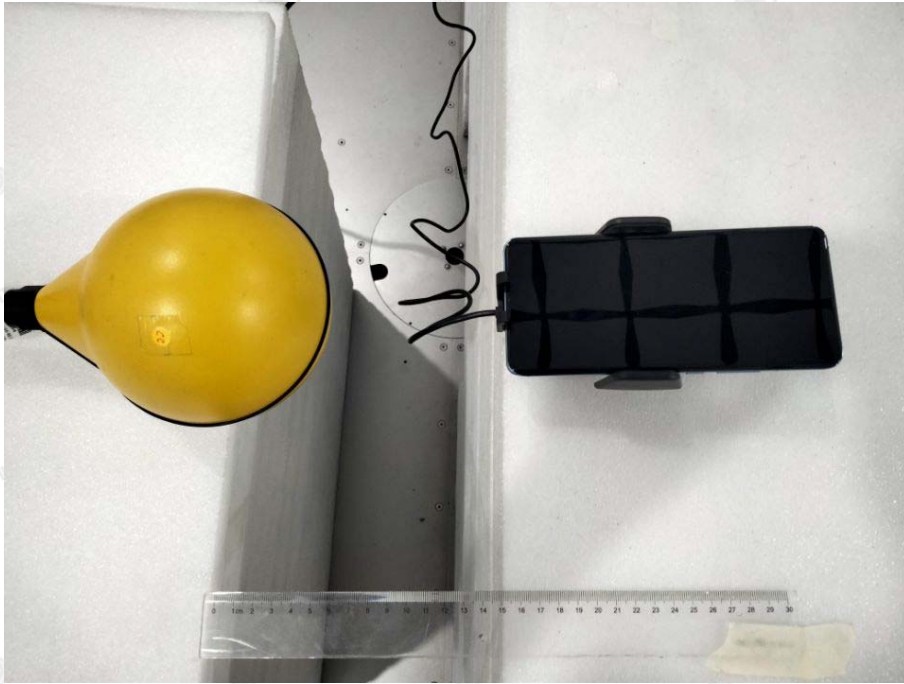
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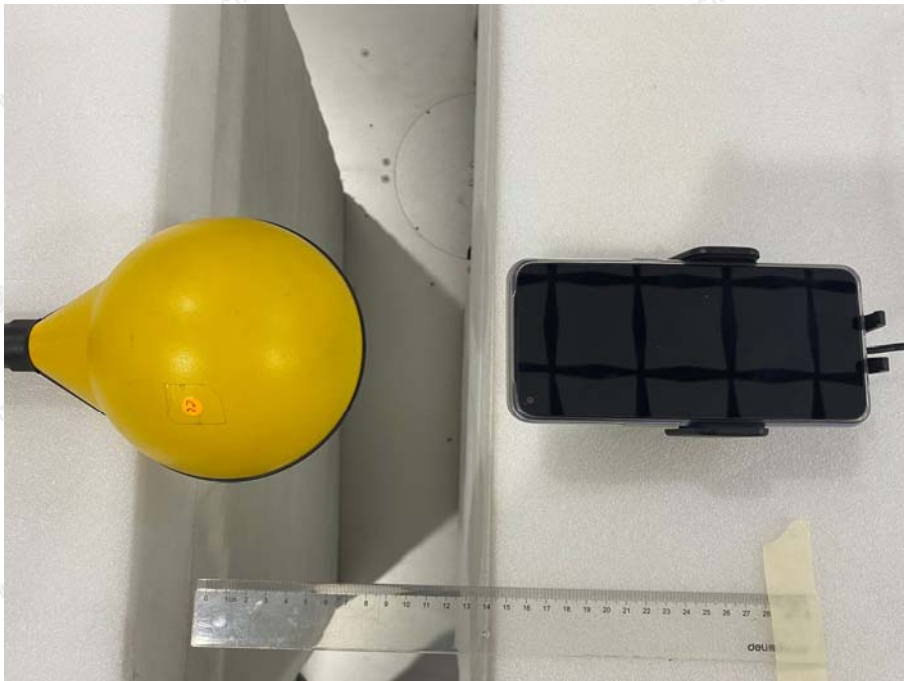
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C



D



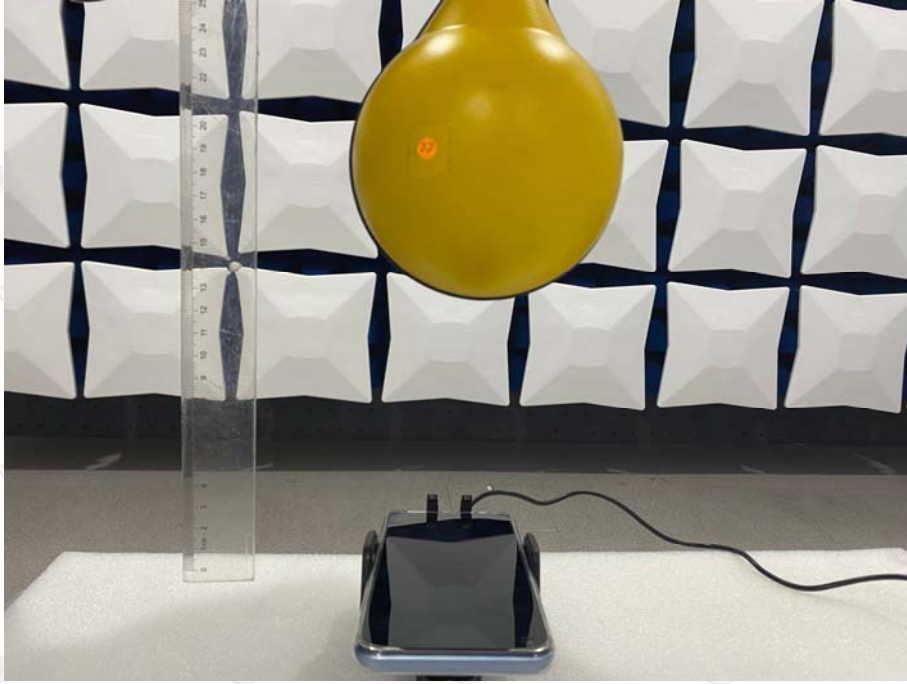
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E



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