| | |
|---|---|
| Product Name: | Cheetah Mag |
| Product Model No.: | M001 |
| Test Auxiliary: | Phone,Adapter |
| Model No.: | DL01,DL02, |
| Transmitting mode | Keep the EUT in continuously wireless charging mode |
| Power supply: | Input: DC 5V 3A, DC 9V 3A, DC 12V 2.92A, DC 15V 2.33A, DC 20V 1.75A<br>Wireless Output Phone: 15W Max |
| Test Description: | Phone Battery>98%, =50%and <1% are tested, and the worst is <1%. |

| Test Modes: | | |
|---|---|---|
| Mode 1 | AC/DC Adapter (5V/3A) + EUT + Mobile Phone (15W) | |
| Mode 2 | AC/DC Adapter (5V/3A) + EUT + Mobile Phone (10W) | |
| Mode 3 | AC/DC Adapter (5V/3A) + EUT + Mobile Phone (7.5W) | |
| Mode 4 | AC/DC Adapter (5V/3A) + EUT + Mobile Phone (5W) | |
| Mode 5 | AC/DC Adapter (9V/3A) + EUT + Mobile Phone (15W) | |
| Mode 6 | AC/DC Adapter (9V/3A) + EUT + Mobile Phone (10W) | |
| Mode 7 | AC/DC Adapter (9V/3A) + EUT + Mobile Phone (7.5W) | |
| Mode 8 | AC/DC Adapter (9V/3A) + EUT + Mobile Phone (5W) | |
| Mode 9 | AC/DC Adapter (12V/2.92A) + EUT + Mobile Phone (15W) | |
| Mode 10 | AC/DC Adapter (12V/2.92A) + EUT + Mobile Phone (10W) | |
| Mode 11 | AC/DC Adapter (12V/2.92A) + EUT + Mobile Phone (7.5W) | |
| Mode 12 | AC/DC Adapter (12V/2.92A) + EUT + Mobile Phone (5W) | |
| Mode 13 | AC/DC Adapter (15V/2.33A) + EUT + Mobile Phone (15W) | |
| Mode 14 | AC/DC Adapter (15V/2.33A) + EUT + Mobile Phone (10W) | |
| Mode 15 | AC/DC Adapter (15V/2.33A) + EUT + Mobile Phone (7.5W) | |
| Mode 16 | AC/DC Adapter (15V/2.33A) + EUT + Mobile Phone (5W) | |
| Mode 17 | AC/DC Adapter (20V/1.75A) + EUT + Mobile Phone (15W) | Record |
| Mode 18 | AC/DC Adapter (20V/1.75A) + EUT + Mobile Phone (10W) | |
| Mode 19 | AC/DC Adapter (20V/1.75A) + EUT + Mobile Phone (7.5W) | |
| Mode 20 | AC/DC Adapter (20V/1.75A) + EUT + Mobile Phone (5W) | |
| Note: All test modes were pre-tested, but we only recorded the worst case in this report. | | |

# RF Exposure Evaluation

## 1 Measuring Standard

KDB 680106 RF Exposure Wireless Charging Apps v03r01

## 2 Requirements

According to the item 5 of KDB 680106 v03r01:

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

(1) Power transfer frequency is less than 1MHz.

(2) Output power from each primary coil is less than or equal to 15 watts.

(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) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Remark: Meet all the above requirements.

### Limits

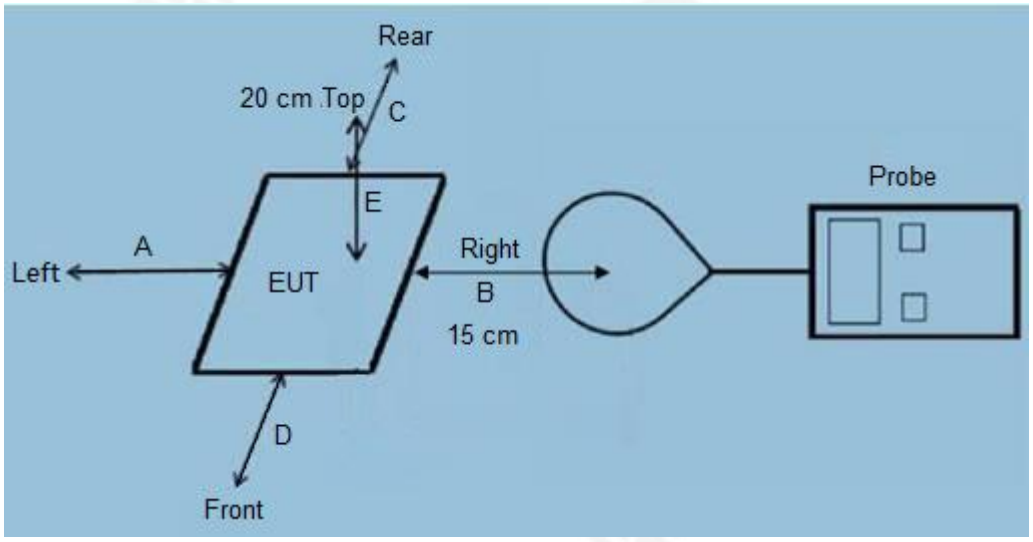
The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm$^2$) | Averaging time (minutes) |
|---|---|---|---|---|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0-30 | 1842/f | 4.89/f | *(900/f$^2$) | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | / | / | f/300 | 6 |
| 1500-100,000 | / | / | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f$^2$) | 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
*=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).

## 3 Test Setup




## 4 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) were completed.

4) The EUT was measured according to the dictates of KDB 680106 v03r01.

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

## 5 Test Instruments list

| Test Equipment | Manufacturer | Model No. | SN. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
|---|---|---|---|---|---|
| Exposure Level Tester | Narda | ELT-400 | N-0231 | June. 26 2022 | June. 25 2023 |
| Magnetic field probe 100cm$^2$ | Narda | ELT probe 100cm$^2$ | M0675 | June. 26 2022 | June. 25 2023 |
| Isotropic Electric field probe | Narda | EP-601 | 611WX70332 | June. 26 2022 | June. 25 2023 |

## 6 Test Result

**E-Filed Strength at 15 cm from the edges surrounding the EUT (V/m)**

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (V/m) |
|---|---|---|---|---|---|
| 0.115-0.205 | 0.76 | 0.74 | 0.75 | 0.74 | 614 |

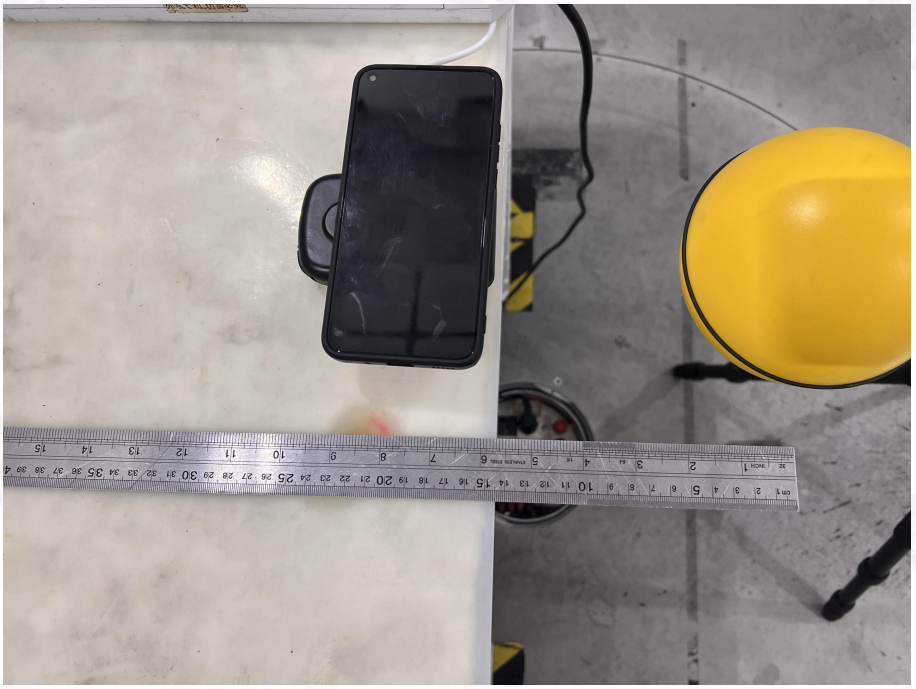
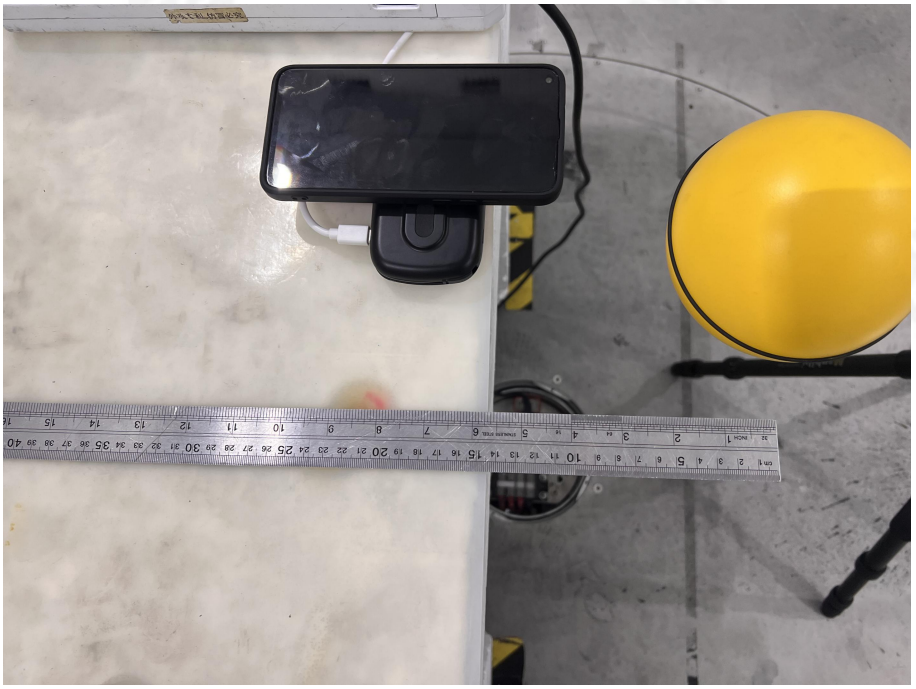
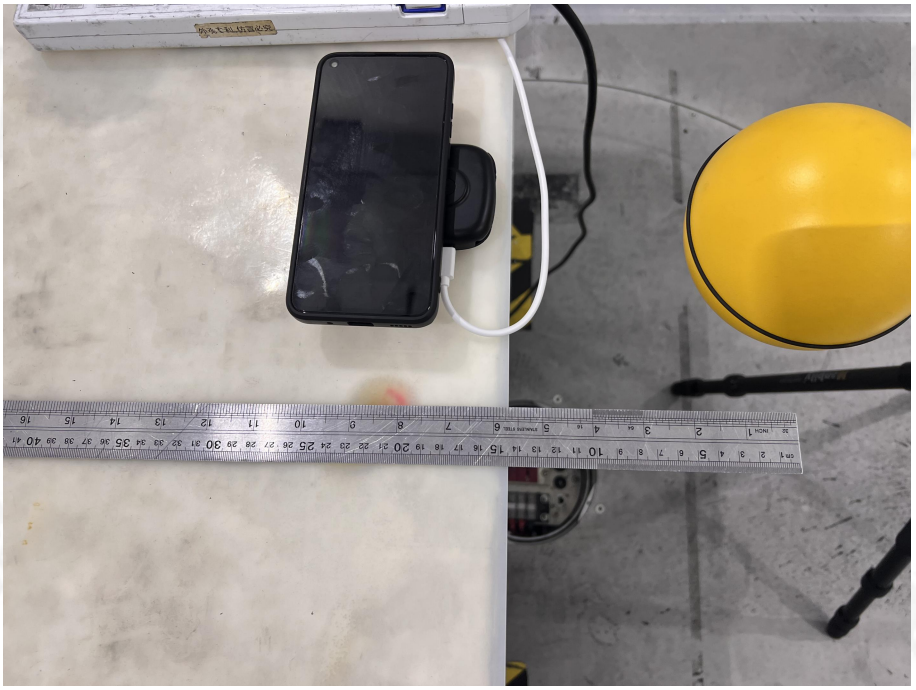
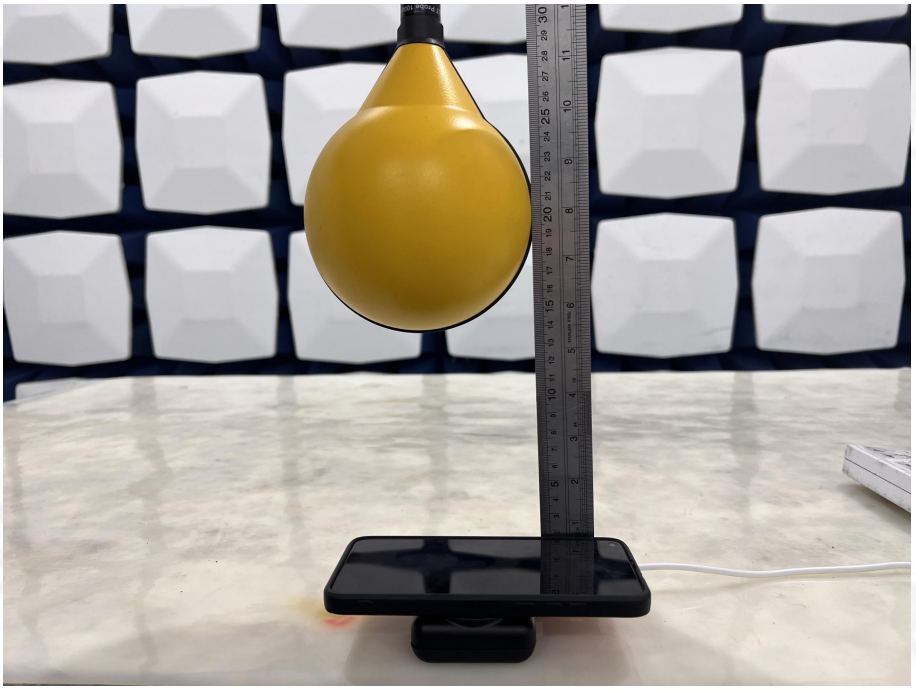
**E-Filed Strength at 20 cm from the top of the EUT (V/m)**

| Frequency Range (MHz) | Test Position E | Limits (V/m) |
|---|---|---|
| 0.115-0.205 | 0.75 | 614 |

**H-Filed Strength at 15 cm from the edges surrounding the EUT (A/m)**

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (A/m) |
|---|---|---|---|---|---|
| 0.115-0.205 | 0.16 | 0.14 | 0.14 | 0.15 | 1.63 |

**H-Filed Strength at 20 cm from the top of the EUT (A/m)**

| Frequency Range (MHz) | Test Position E | Limits (A/m) |
|---|---|---|
| 0.115-0.205 | 0.15 | 1.63 |

## 7 Test Set-up Photo