



RF Exposure Evaluation

FCC ID: 2A78G-SA-WC06-BL

1. Client Information

| | | |
|--------------|---|---|
| Applicant | : | yun nan hao guang zhao ming gong cheng you xian gong si |
| Address | : | guan du qu yu long lu 1156hao hong ju deng ju chuang lian pi fa cheng A8dong 1Ahaokun ming shi yun nan sheng, China 650299 |
| Manufacturer | : | yun nan hao guang zhao ming gong cheng you xian gong si |
| Address | : | guan du qu yu long lu 1156hao hong ju deng ju chuang lian pi fa cheng A8dong 1Ahaokun ming shi yun nan sheng, China 650299 |

2. General Description of EUT

| | | | |
|------------------------|----------------------|--|--|
| EUT Name | : | 3 in 1 wireless charging station | |
| Models No. | : | SA-WC06-BL, SA-WC06-WH, SA-WC06-RG, SA-WC06-GL, SA-WC06-SG, SA-WC06-BU, SA-WC06-PK, SA-WC06-GR, SA-WC06-SL | |
| Model Different | : | All these models are the same in the same PCB, layout and circuit, the only difference is appearance color. | |
| Product Description | Operation Frequency: | 113-205KHz for phone 300-350KHz for watch | |
| | Modulation Type: | ASK | |
| | Antenna: | Coil Antenna | |
| Power Rating | | Adapter:CA-25 Input: AC 100-240V 50/60Hz~0.5A Output: DC3.6V~6.5V,3A; DC6.5V~9V,2A; DC9V~12V,1.5A Wireless charging output: Phone: 10W(Max), Watch: 2.5W(Max) Earphone output: 2.5W(Max) | |
| Software Version | : | V.5.2 | |
| Hardware Version | : | V.5.3 | |
| Connecting I/O Port(S) | : | Please refer to the User's Manual | |

Note: More test information about the EUT please refer the RF Test Report.

TB-RF-074-1.0

RF Exposure Considerations

1. Measuring Standard

KDB 680106 D01 RF Exposure Wireless Charging App v03.

2. Requirements

According to the item 5.2 of KDB 680106 D01v03:

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

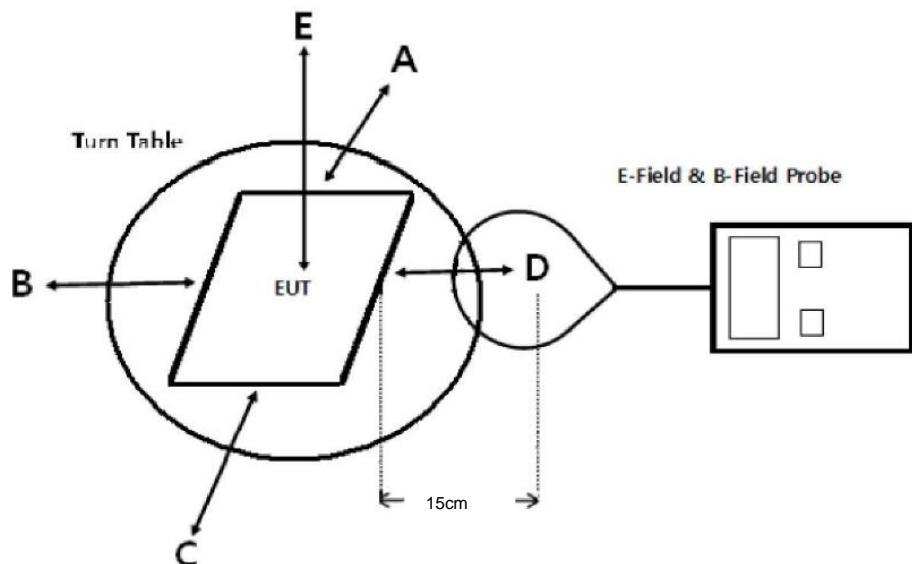
- (1) Power transfer frequency is less than 1 MHz.
- (2) Output power from each primary coil is less than or equal to 15 watts.
- (3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on 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.

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



Note: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.

4. Test Procedure

- 1) The RF exposure test was performed in anechoic chamber.
- 2) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface.
- 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 D01 v03.

Remark:

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

5. Test Equipment List

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Due Date |
|-----------------------|--------------|-------------------------------|------------|---------------|---------------|
| Magnetic field meter | NARDA | ELT-400 | O-0449 | Aug. 27, 2021 | Aug. 26, 2022 |
| Magnetic field probe | NARDA | ELT- probe 100cm ² | M-1850 | Aug. 27, 2021 | Aug. 26, 2022 |
| Field intensity probe | NARDA | EP-601 | 811ZX01000 | Mar. 02, 2022 | Mar. 01, 2023 |

6. Deviation From Test Standard

No deviation

7. Equipment Approval Considerations

The EUT does comply with item 5.2 of KDB 680106 D01v02 as follows table;

| Requirements of KDB 680106 D01 | Yes / No | Description |
|---|----------|---|
| Power transfer frequency is less than 1 MHz | Yes | The device operate in the frequency range 113KHz-205KHz and 300KHz -350KHz |
| Output power from each primary coil is less than 15 watts | Yes | The maximum output power of the primary coil is 10W. |
| 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. | Yes | The transfer system includes only single primary and secondary coils. Charging systems have two primary coils and clients that are able to detect and allow coupling only between individual pairs of coils and the coil pairs powered on at the same time. |
| Client device is placed directly in contact with the transmitter. | Yes | Client device is placed directly in contact with the transmitter. |
| Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion). | Yes | Mobile exposure conditions |
| 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. | Yes | The EUT 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. |

In all other cases, unless excluded above, an RF exposure evaluation report must be reviewed and accepted through a KDB or PBA inquiry to enable authorization of the equipment. When evaluation is required to show compliance; for example, using field strength, power density, SAR measurements or computational modeling etc., the specific authorization requirements will be determined based on the results of the RF exposure evaluation

8. Mode of operation during the test / Test peripherals used

| Test Modes: | | |
|-------------|--|--------|
| TM1 | AC/DC Adapter + EUT + Phone+ Watch (Battery Status: <1%) | record |
| TM2 | AC/DC Adapter + EUT + Phone+ Watch (Battery Status: <50%) | record |
| TM3 | AC/DC Adapter + EUT + Phone + Watch (Battery Status: <99%) | record |

9. Test Result

Watch:

H-Filed Strength at 15 cm from the edges surrounding the EUT and 15 cm above the top surface

| Charging Battery Level | unit | Frequency Range (MHz) | Measured H-Field Strength Values (A/m) | | | | | H-Field Strength 50% Limits (A/m) | H-Field Strength Limits (A/m) | | |
|------------------------------|------|-----------------------------|--|-------|-------|-------|-------|--|--|--|--|
| | | | Test Position | | | | | | | | |
| | | | A | B | C | D | E | | | | |
| 1% | uT | 0.322 | 0.224 | 0.232 | 0.330 | 0.262 | 0.233 | -- | -- | | |
| 1% | A/m | 0.322 | 0.179 | 0.186 | 0.264 | 0.210 | 0.186 | 0.815 | 1.63 | | |
| 50% | uT | 0.322 | 0.230 | 0.215 | 0.212 | 0.243 | 0.235 | -- | -- | | |
| 50% | A/m | 0.322 | 0.184 | 0.172 | 0.170 | 0.194 | 0.188 | 0.815 | 1.63 | | |
| 99% | uT | 0.322 | 0.230 | 0.223 | 0.225 | 0.260 | 0.214 | -- | -- | | |
| 99% | A/m | 0.322 | 0.184 | 0.178 | 0.180 | 0.208 | 0.171 | 0.815 | 1.63 | | |

H-Field Strength at 20cm from the top surface of the EUT

| Charging Battery Level | Unit | Frequency Range (MHz) | Measured H-Field Strength Values (A/m) | | FCC H-Field Strength 50% Limits (A/m) | FCC H-Field Strength Limits (A/m) |
|------------------------------|------|-----------------------------|---|--|---|---|
| | | | Test Position E | | | |
| 1% | uT | 0.322 | 0.230 | | -- | -- |
| 1% | A/m | 0.322 | 0.184 | | 0.815 | 1.63 |
| 50% | uT | 0.322 | 0.228 | | -- | -- |
| 50% | A/m | 0.322 | 0.182 | | 0.815 | 1.63 |
| 99% | uT | 0.322 | 0.259 | | -- | -- |
| 99% | A/m | 0.322 | 0.207 | | 0.815 | 1.63 |

Note: A/m=uT/1.25

phone:

H-Filed Strength at 15 cm from the edges surrounding the EUT and 15 cm above the top surface

| Charging Battery Level | unit | Frequency Range (MHz) | Measured H-Field Strength Values (A/m) | | | | | H-Field Strength 50% Limits (A/m) | H-Field Strength Limits (A/m) | | |
|------------------------------|------|-----------------------------|--|-------|-------|-------|-------|--|--|--|--|
| | | | Test Position | | | | | | | | |
| | | | A | B | C | D | E | | | | |
| 1% | uT | 0.149 | 0.210 | 0.261 | 0.211 | 0.269 | 0.227 | -- | -- | | |
| 1% | A/m | 0.149 | 0.168 | 0.209 | 0.169 | 0.215 | 0.182 | 0.815 | 1.63 | | |
| 50% | uT | 0.149 | 0.228 | 0.250 | 0.232 | 0.247 | 0.225 | -- | -- | | |
| 50% | A/m | 0.149 | 0.182 | 0.372 | 0.186 | 0.198 | 0.180 | 0.815 | 1.63 | | |
| 99% | uT | 0.149 | 0.229 | 0.223 | 0.228 | 0.247 | 0.251 | -- | -- | | |
| 99% | A/m | 0.149 | 0.183 | 0.178 | 0.182 | 0.198 | 0.201 | 0.815 | 1.63 | | |

H-Field Strength at 20cm from the top surface of the EUT

| Charging Battery Level | Unit | Frequency Range (MHz) | Measured H-Field Strength Values (A/m) | | FCC H-Field Strength 50% Limits (A/m) | FCC H-Field Strength Limits (A/m) |
|------------------------------|------|-----------------------------|---|--|---|---|
| | | | Test Position E | | | |
| 1% | uT | 0.149 | 0.235 | | -- | -- |
| 1% | A/m | 0.149 | 0.188 | | 0.815 | 1.63 |
| 50% | uT | 0.149 | 0.247 | | -- | -- |
| 50% | A/m | 0.149 | 0.198 | | 0.815 | 1.63 |
| 99% | uT | 0.149 | 0.245 | | -- | -- |
| 99% | A/m | 0.149 | 0.196 | | 0.815 | 1.63 |

Note: A/m=uT/1.25

H-Filed Strength at 15 cm from the edges surrounding the EUT and 15 cm above the top surface

| Note | Charging Battery Level | unit | Measured H-Field Strength Values (A/m) | | | | | H-Field Strength 50% Limits (A/m) | H-Field Strength Limits (A/m) | | |
|------|------------------------------|------|--|-------|-------|-------|-------|---|--|--|--|
| | | | Test Position | | | | | | | | |
| | | | A | B | C | D | E | | | | |
| SUM | 1% | A/m | 0.347 | 0.395 | 0.433 | 0.425 | 0.368 | 0.815 | 1.63 | | |
| SUM | 50% | A/m | 0.366 | 0.380 | 0.356 | 0.392 | 0.368 | 0.815 | 1.63 | | |
| SUM | 99% | A/m | 0.367 | 0.356 | 0.362 | 0.406 | 0.372 | 0.815 | 1.63 | | |

H-Field Strength at 20cm from the top surface of the EUT

| Note | Charging Battery Level | Unit | Measured H-Field Strength Values (A/m) | | | FCC H-Field Strength 50% Limits (A/m) | FCC H-Field Strength Limits (A/m) |
|------|------------------------------|------|---|--|--|---|---|
| | | | Test Position E | | | | |
| SUM | 1% | A/m | 0.372 | | | 0.815 | 1.63 |
| SUM | 50% | A/m | 0.380 | | | 0.815 | 1.63 |
| SUM | 99% | A/m | 0.403 | | | 0.815 | 1.63 |

H-Field Strength-20cm**Test Position - Exposure photo from top surface****H-Field Strength-15cm****Test Position - Exposure photo from side edge surface-Left**

H-Field Strength-15cm**Test Position - Exposure photo from side edge surface-Right****H-Field Strength- 15 cm****Test Position - Exposure photo from top surface**

H-Field Strength-20cm**Test Position - Exposure photo from top surface****H-Field Strength-15cm****Test Position - Exposure photo from side edge surface-Left**

H-Field Strength-15cm
Test Position - Exposure photo from side edge surface-Right



H-Field Strength- 15 cm
Test Position - Exposure photo from top surface



-----END OF REPORT-----