

# RF Exposure Evaluation Report

## 1. Product Information

|                            |   |
|----------------------------|---|
| FCC ID                     | 2AAUI-MONDODUO  |
| Product Name               | Mondo Duo Smart Internet Radio  |
| Model Number               | GDI-WHAMD201  |
| Series Models              | GDI-WHAMD205  |
| Power supply:              | DC 18V from adapter   |
| Adapter information:       | Model No: GM42-180220-1A<br>Input: AC 100-240V 50/60Hz 1.5A<br>Output: 18V---2.0A |
| Maximum Rated Power of WPT | 10W   |
| Modulation Type            | ASK   |
| Operation Frequency        | From 110KHz~205KHz  |
| Antenna Type               | Coil Antenna  |
| Hardware version           | V1.0  |
| Software version           | V1.0  |
| Exposure category          | General population/uncontrolled environment                                       |
| Test Sample ID:            | CTL220705306-4-S002   |
| EUT Type                   | Production Unit   |
| Device Type                | Mobile Device   |

## 2. Evaluation Limit

### 2.1 Refer Evaluation Method

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 §2.1091 RF exposure is calculated.

According KDB 680106 D01 RF Exposure Wireless Charging App v03

### 2.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

| Frequency Range(MHz)                        | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled Exposure |                              |                              |                                     |                         |
| 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 Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

| Frequency Range(MHz)                        | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled Exposure |                              |                              |                                     |                         |
| 0.3 – 3.0                                   | 614                          | 1.63                         | (100) *                             | 30                      |
| 3.0 – 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 | /    | /     | 1.0    | 30 |

F=frequency in MHz

\*=Plane-wave equivalent power density

### 3. Test Facility and Accreditation

Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No. 3011, Shahexi Road, Nanshan, Shenzhen 518055 China

FCC-Registration No.: 399832 Designation No.: CN1216.

A2LA-Lab Cert. No. 4343.01

### 4. Equipments Used during the Test

| Test Equipment | Manufacturer | Model No.                     | Serial No. | Calibration Date | Calibration Due Date |
|----------------|--------------|-------------------------------|------------|------------------|----------------------|
| B-Field Probe  | Narda        | ELT-400 Probe<br>(1Hz~400kHz) | M-1154     | 2021/12/26       | 2022/12/25           |
| E-Field Probe  | HOLADAY      | HI3637                        | 00052130   | 2022/05/07       | 2023/05/06           |

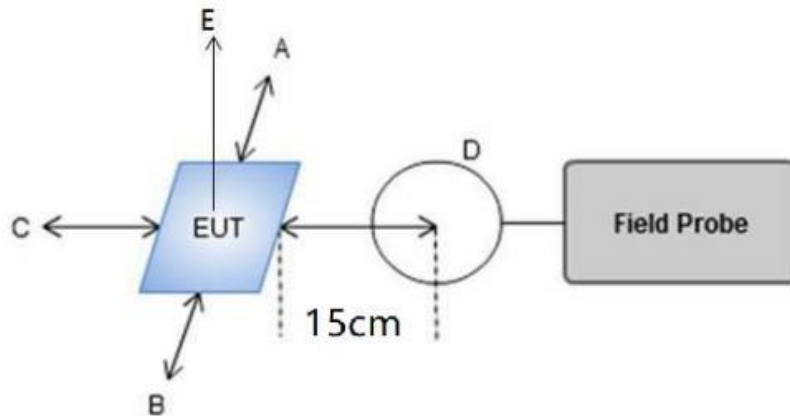
| Wireless Load information | Equipment     | Model No. | ID or Specification | Remark |
|---------------------------|---------------|-----------|---------------------|--------|
|                           | Wireless Load | N/A       | 10W                 | AE     |

### 5. Equipment Approval Considerations

| Requirements of KDB 680106 D01   | Yes / No | Description   |
|--|----------|---|
| Power transfer frequency is less than 1 MHz  | Yes      | The device operate in the frequency range 110KHz~205KHz   |
| Output power from each primary coil is less than 15 watts  | Yes      | The maximum output power for each primary coil is 10W.  |
| 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. | Yes      | The transfer system includes only one primary coils.  |
| 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 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.  | 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. |

## 6. TEST CONDITIONS AND RESULTS

### 6.1 Test Setup



Note: A, B, C, D, E, F for six surfaces of the product.

### 6.2 Measurement Procedure

- The RF exposure test was performed on table in anechoic chamber.
- The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging App v03.

### 6.3 Description of the test mode

Equipment under test was operated during the measurement under the following conditions:

☒ Charging and communication mode

| Test Modes | Description   |          |
|------------|---|----------|
| 1          | AC/DC Adapter + EUT + Wireless Charger tester (Load 10W)  | Recorded |
| 2          | AC/DC Adapter + EUT + Wireless Charger tester (Load 7.5W) | Recorded |
| 3          | AC/DC Adapter+ EUT + Wireless Charger tester (Load 5W)    | Recorded |
| 4          | AC/DC Adapter+ EUT  | Recorded |

Note: Full load, half load and empty load were tested. Only the worst case empty load was record in this report.

### 6.4 Test Result of E and H field Strength

E-Field Strength at 15 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT

| Test Modes | Unit | Frequency Range (KHz) | Measured E-Field Strength Values (V/m) |                 |                 |                 |                 | FCC E-Field Strength 50% Limits (V/m) | FCC E-Field Strength Limits (V/m) |
|------------|------|-----------------------|--|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------------|
|            |      |                       | Test Position A                        | Test Position B | Test Position C | Test Position D | Test Position E |                                       |                                   |
| 1          | v/m  | 110-205               | 4.27                                   | 5.87            | 4.13            | 4.50            | 3.37            | 307.0                                 | 614.0                             |
| 2          | v/m  | 110-205               | 3.40                                   | 4.63            | 3.01            | 3.49            | 2.45            | 307.0                                 | 614.0                             |
| 3          | v/m  | 110-205               | 2.42                                   | 3.77            | 2.18            | 2.98            | 2.09            | 307.0                                 | 614.0                             |
| 4          | v/m  | 110-205               | 1.15                                   | 1.65            | 0.99            | 1.33            | 0.66            | 307.0                                 | 614.0                             |

H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT

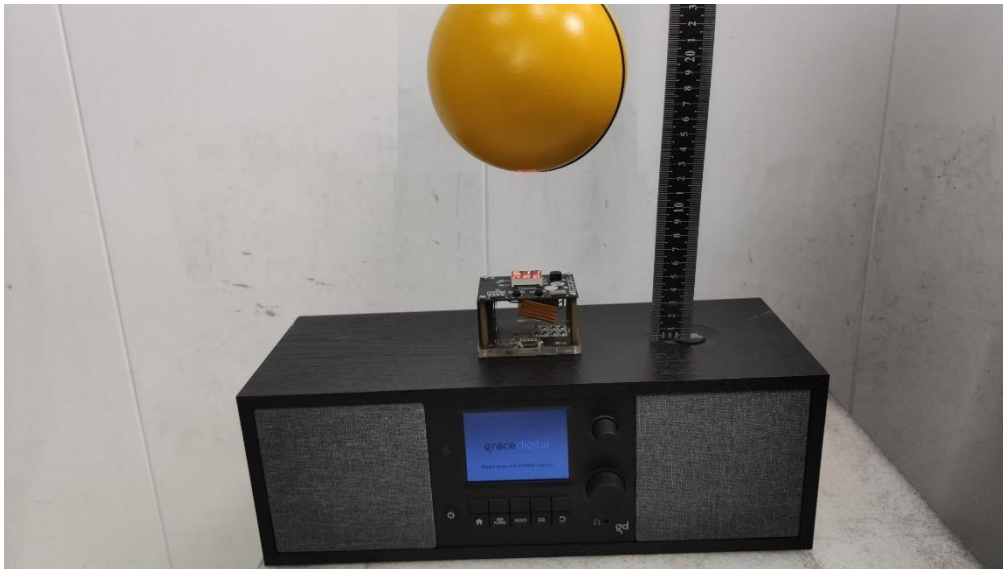
| Test Modes | Unit | Frequency Range (KHz) | Measured H-Field Strength Values (A/m) |                 |                 |                 |                 | FCC H-Field Strength 50% Limits (A/m) | FCC H-Field Strength Limits (A/m) |
|------------|------|-----------------------|--|-----------------|-----------------|-----------------|-----------------|---------------------------------------|-----------------------------------|
|            |      |                       | Test Position A                        | Test Position B | Test Position C | Test Position D | Test Position E |                                       |                                   |
| 1          | uT   | 110-205               | 0.379                                  | 0.392           | 0.377           | 0.350           | 0.449           | --                                    | --                                |
| 1          | A/m  | 110-205               | 0.303                                  | 0.314           | 0.302           | 0.280           | 0.359           | 0.815                                 | 1.63                              |
| 2          | uT   | 110-205               | 0.286                                  | 0.321           | 0.346           | 0.288           | 0.378           | --                                    | --                                |
| 2          | A/m  | 110-205               | 0.229                                  | 0.257           | 0.277           | 0.230           | 0.302           | 0.815                                 | 1.63                              |
| 3          | uT   | 110-205               | 0.244                                  | 0.263           | 0.242           | 0.239           | 0.316           | --                                    | --                                |
| 3          | A/m  | 110-205               | 0.195                                  | 0.210           | 0.194           | 0.191           | 0.253           | 0.815                                 | 1.63                              |
| 4          | uT   | 110-205               | 0.096                                  | 0.142           | 0.101           | 0.090           | 0.105           | --                                    | --                                |
| 4          | A/m  | 110-205               | 0.077                                  | 0.114           | 0.081           | 0.072           | 0.084           | 0.815                                 | 1.63                              |

Note: A/m = uT/1.25

## 7. Conclusion

A minimum safety distance of at 15 cm surrounding the device and 20 cm above the top surface of the device is required when the device is charging a wireless charger tester. The detected emissions with a distance of 15 cm surrounding the device and 20 cm above the top surface of the device are below the limitations according to FCC KDB 680106 D01 Section 3. RF Exposure Requirement Clause 3.

## 8. Test Setup Photos of the EUT



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