

# EXPOSURE REPORT

FCC ID: 2ATWUWI073

Date of issue: Dec. 25, 2019

|                     |                                                                                                                               |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Report Number:      | MTi19111919-5E2                                                                                                               |
| Sample Description: | 3 in 1 wireless charger                                                                                                       |
| Model(s):           | MSH-WI-073                                                                                                                    |
| Applicant:          | Mei Shun He Electronic Limited                                                                                                |
| Address:            | 301, 8th Building, No.69 Xikeng Road, Xikeng Community,<br>Fucheng Street, Longhua District, 518110, Shenzhen City,<br>China. |
| Date of Test:       | Dec. 09, 2019 – Dec. 17, 2019                                                                                                 |

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

## Test Result Certification

|                         |                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Applicant's name:       | Mei Shun He Electronic Limited                                                                                          |
| Address:                | 301, 8th Building, No.69 Xikeng Road, Xikeng Community, Fucheng Street, Longhua District, 518110, Shenzhen City, China. |
| Manufacture's name:     | Mei Shun He Electronic Limited                                                                                          |
| Address:                | 301, 8th Building, No.69 Xikeng Road, Xikeng Community, Fucheng Street, Longhua District, 518110, Shenzhen City, China. |
| Product name:           | 3 in 1 wireless charger                                                                                                 |
| Trademark:              | N/A                                                                                                                     |
| Model name:             | MSH-WI-073                                                                                                              |
| Standard:               | FCC CFR 47 PART 1 , 1.1310                                                                                              |
| RF Exposure Procedures: | KDB 680106 D01 RF Exposure Wireless Charging App v03                                                                    |

*This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.*

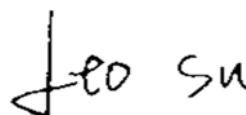
Tested by:



Danny Xu

Dec. 17, 2019

Reviewed by:



Leo Su

Dec. 25, 2019

Approved by:



Tom Xue

Dec. 25, 2019

## 1 General Information

### 1.1 Description of EUT

|                            |                                 |
|----------------------------|---------------------------------|
| Product name:              | 3 in 1 wireless charger         |
| Brand name:                | N/A                             |
| Model name:                | MSH-WI-073                      |
| Series model:              | N/A                             |
| Deference in serial model: | N/A                             |
| Operation frequency:       | 115–205 kHz                     |
| Operational mode:          | Wireless charging               |
| Modulation type:           | Load modulation                 |
| Antenna type:              | Coil Antenna                    |
| Power source:              | DC 9V from adapter AC 120V/60Hz |
| Battery:                   | N/A                             |
| Adapter information:       | N/A                             |

### 1.2 Ancillary equipment list

| Equipment   | Model    | S/N | Manufacturer                                  |
|-------------|----------|-----|-----------------------------------------------|
| Adapter     | EQ-24BCN | /   | Huizhou Dongyang Yienbi Electronics Co., Ltd. |
| Load1       | /        | /   | /                                             |
| Load2       | /        | /   | /                                             |
| Apple Watch | /        | /   | APPLE                                         |

### 1.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2 \times U_c(y)$

|                                 |                |
|---------------------------------|----------------|
| Radiated emission(150kHz~30MHz) | $\pm 2.5$ dB   |
| Radiated emission(30MHz~1GHz)   | $\pm 4.2$ dB   |
| Radiated emission (above 1GHz)  | $\pm 4.3$ dB   |
| Temperature                     | $\pm 1$ degree |
| Humidity                        | $\pm 5$ %      |

## 2 Testing site

|                       |                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| Test Site             | Shenzhen Microtest Co., Ltd                                                                                             |
| Test Site Location    | No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China |
| FCC Registration No.: | 448573                                                                                                                  |

### 3 List of test equipment

| Equipment No. | Equipment Name        | Manufacturer                     | Model   | Serial No. | Calibration date | Due date   |
|---------------|-----------------------|----------------------------------|---------|------------|------------------|------------|
| MTI-E068      | Broadband Field Meter | Narda Safety Test Solutions GmbH | NBM-520 | D-1699     | 2019/07/13       | 2020/07/12 |
| MTI-E069      | Probe E-Field         | Narda Safety Test Solutions      | EF0691  | H-0571     | 2019/07/13       | 2020/07/12 |

## 4 Test Results

### 4.4 Maximum permissible exposure

#### 4.4.1 Limit

| Frequency range(MHz)                                    | Electric field strength(V/m) | Magnetic field strength(A/m) | Power density(mW/cm <sup>2</sup> ) | Averaging time(minutes) |
|---------------------------------------------------------|------------------------------|------------------------------|------------------------------------|-------------------------|
| (A) Limits for Occupational/Controlled Exposure         |                              |                              |                                    |                         |
| 0.3-3.0                                                 | 614                          | 1.63                         | *100                               | 6                       |
| 3.0-30                                                  | 1842/f                       | 4.89/f                       | *900/f <sup>2</sup>                | 6                       |
| 30-300                                                  | 61.4                         | 0.163                        | 1.0 6                              | 6                       |
| 300-1500                                                |                              |                              | f/300                              | 6                       |
| 1500-100000                                             |                              |                              | 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 <sup>2</sup>                | 30                      |
| 30-300                                                  | 27.5                         | 0.073                        | 0.2                                | 30                      |
| 300-1500                                                |                              |                              | f/1500                             | 30                      |
| 1500-100000                                             |                              |                              | 1                                  | 30                      |

f = frequency in MHz \* = Plane-wave equivalent power density

#### 4.4.2 Test Procedures

E and H-field measurements should be made with the center of the probe at a distance of 15 cm surrounding the device and 20 cm above the top surface of the primary/client pair.

These measurements should be repeated for three different client battery levels, 1%, 50%, and 99%.

Record the test results.

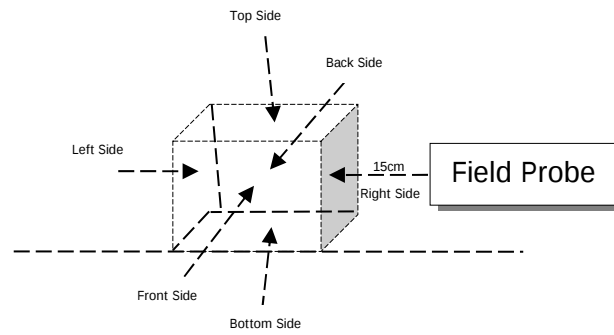
KDB 680106 D01 RF Exposure Wireless Charging App v03:

- (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 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.
- (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 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.



Note: The device is in compliance with KDB 680106 D01 RF Exposure Wireless Charging App v03 6 conditions.

#### 4.4.3 Test Setup



#### 4.4.4 Test Result

| Maximum permissible Exposure |            |                   |               |              |
|------------------------------|------------|-------------------|---------------|--------------|
| Battery levels               | Test sides | Test distance(cm) | E –field(V/m) | H–field(A/m) |
| <1%                          | Top        | 20                | 0.424         | 0.112        |
| <1%                          | Bottom     | 15                | 0.421         | 0.116        |
| <1%                          | Left       | 15                | 0.420         | 0.113        |
| <1%                          | Right      | 15                | 0.421         | 0.108        |
| <1%                          | Front      | 15                | 0.418         | 0.104        |
| <1%                          | Back       | 15                | 0.411         | 0.116        |
| Limit                        |            |                   | 614           | 1.63         |
| Margin Limit (%)             |            |                   | 0.069%        | 7.12%        |

| Maximum permissible Exposure |            |                   |               |              |
|------------------------------|------------|-------------------|---------------|--------------|
| Battery levels               | Test sides | Test distance(cm) | E –field(V/m) | H–field(A/m) |
| <50%                         | Top        | 20                | 0.422         | 0.119        |
| <50%                         | Bottom     | 15                | 0.406         | 0.114        |
| <50%                         | Left       | 15                | 0.412         | 0.116        |
| <50%                         | Right      | 15                | 0.417         | 0.108        |
| <50%                         | Front      | 15                | 0.419         | 0.111        |
| <50%                         | Back       | 15                | 0.421         | 0.106        |
| Limit                        |            |                   | 614           | 1.63         |
| Margin Limit (%)             |            |                   | 0.069%        | 7.30%        |

| Maximum permissible Exposure |            |                   |               |              |
|------------------------------|------------|-------------------|---------------|--------------|
| Battery levels               | Test sides | Test distance(cm) | E –field(V/m) | H–field(A/m) |
| <99%                         | Top        | 20                | 0.431         | 0.120        |
| <99%                         | Bottom     | 15                | 0.426         | 0.107        |
| <99%                         | Left       | 15                | 0.421         | 0.106        |
| <99%                         | Right      | 15                | 0.416         | 0.104        |
| <99%                         | Front      | 15                | 0.420         | 0.111        |
| <99%                         | Back       | 15                | 0.415         | 0.106        |
| Limit                        |            |                   | 614           | 1.63         |
| Margin Limit (%)             |            |                   | 0.070%        | 7.36%        |

#### 4.4.5 MPE Setup photo



----END OF REPORT----