

TEST REPORT

FCC ID: 2ADDWTB-WDC02

Product: WIRELESS CHARGER&Portable Power

Model No.: TB-WDC02

Additional Model No.: N/A

Trade Mark: TOPBAND

Report No.: TCT180111E035

Issued Date: Jan. 03, 2018

Issued for:

Shenzhen Topband Co.,Ltd

**Topband Industrial Park,Liyuan Industrial Zone,Shiyan Town,Bao' An
District, Shenzhen 518108, China**

Issued By:

Shenzhen Tongce Testing Lab.

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1. Test Certification

| | |
|------------------------------|---|
| Product: | WIRELESS CHARGER&Portable Power |
| Model No.: | TB-WDC02 |
| Additional Model No.: | N/A |
| Trade Mark: | TOPBAND |
| Applicant: | Shenzhen Topband Co.,Ltd |
| Address: | Topband Industrial Park,Liyuan Industrial Zone,Shiyan Town,Bao' An District, Shenzhen 518108, China |
| Manufacturer: | Shenzhen Topband Co.,Ltd |
| Address: | Topband Industrial Park,Liyuan Industrial Zone,Shiyan Town,Bao' An District, Shenzhen 518108, China |
| Date of Test: | Dec. 21 – Jan. 03, 2018 |
| Applicable Standards: | FCC Rules and Regulations KDB680106 |

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Date:

Jan. 03, 2018

Beryl Zhao

Reviewed By:



Date:

Jan. 03, 2018

Approved By:



Date:

Jan. 03, 2018

Tomsin

2. Test Result Summary

| Requirement | CFR 47 Section | Result |
|-------------|---------------------------|--------|
| RF EXPOSURE | §1.1307(b)(1) & KDB680106 | PASS |

Note:

1. *PASS: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*

3. EUT Description

| | |
|-------------------------------|---------------------------------|
| Product: | WIRELESS CHARGER&Portable Power |
| Model No.: | TB-WDC02 |
| Additional Model No.: | N/A |
| Trade Mark: | TOPBAND |
| Number of Channel | 19 channels |
| Operation Frequency: | 110-200KHz |
| Modulation Technology: | PFM |
| Antenna Type: | Coil Antenna |
| Antenna Gain: | 10dBi |

| Conditions requirement | Answers |
|--|---|
| Power transfer frequency is less than 1 MHz | After measuring the product the transfer frequency is 110-200KHz |
| Output power from each primary coil is less than 5 watts | After measuring the product the each primary coil power is 4.5 watts |
| 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 oils | The wireless charger has two primary coils, the primary coils was in the charger, the seconder coils in the mobile phone. |
| Client device is inserted in or placed directly in contact with the transmitter | Client device is placed directly in contact with the transmitter |
| The maximum coupling surface area of the transmit (charging) device is between 60 cm ² and 400 cm ² . | After measuring the product the maximum coupling surface area of the transmit (charging) device is 100cm ² |
| Aggregate leakage fields at 10 cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 30% of the MPE limit. | After measuring the product the Max E-Filed Strength is 1.23V/m Far less than 30% of the MPE limit. |

Operation Frequency each of channel

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|---------|-----------------|
| 1 | 0.110 | 6 | 0.135 | 11 | 0.160 | 16 | 0.185 |
| 2 | 0.115 | 7 | 0.140 | 12 | 0.165 | 17 | 0.190 |
| 3 | 0.120 | 8 | 0.145 | 13 | 0.170 | 18 | 0.195 |
| 4 | 0.125 | 9 | 0.150 | 14 | 0.175 | 19 | 0.200 |
| 5 | 0.130 | 10 | 0.155 | 15 | 0.180 | 20 | |

4. Genera Information

4.1. Test environment and mode

| Operating Environment: | |
|--|--|
| Temperature: | 25.0 °C |
| Humidity: | 56 % RH |
| Atmospheric Pressure: | 1010 mbar |
| Test Mode: | |
| Engineering mode: | Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 98.46%) with Fully-charged battery. |
| <p>The sample was placed (0.1m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p> | |

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Equipment | Model No. | Serial No. | FCC ID | Trade Name |
|-------------|--------------|------------------|--------|------------|
| Adapter | HW-059200CHQ | K68247F5H01734 | / | HUAWEI |
| Mobilephone | honor 9 | 5JPDU17610004560 | / | honor |

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

5. Facilities and Accreditations

5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

5.3. Measurement Uncertainty

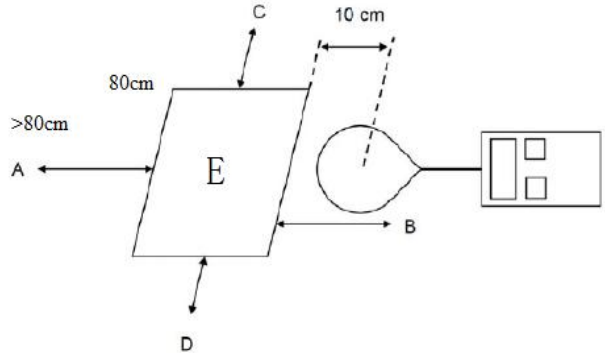
The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

| No. | Item | MU |
|-----|-------------------------------|-------------------------|
| 1 | Conducted Emission | $\pm 2.56\text{dB}$ |
| 2 | RF power, conducted | $\pm 0.12\text{dB}$ |
| 3 | Spurious emissions, conducted | $\pm 0.11\text{dB}$ |
| 4 | All emissions, radiated(<1G) | $\pm 3.92\text{dB}$ |
| 5 | All emissions, radiated(>1G) | $\pm 4.28\text{dB}$ |
| 6 | Temperature | $\pm 0.1^\circ\text{C}$ |
| 7 | Humidity | $\pm 1.0\%$ |

6. Test Results and Measurement Data

6.1. RF EXPOSURE TEST

6.1.1. Test Specification

| | |
|--------------------------|---|
| Test Requirement: | FCC Rules and Regulations KDB680106 |
| Test Method: | §1.1307(b)(1) & KDB680106 |
| Limits: | 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 §2.1093 RF exposure is calculated. According KDB680106 D01v02: RF Exposure Wireless Charging Apps v02. |
| Test Setup: |  |
| Test Mode: | Charging + Transmitting Mode |
| Test Procedure: | <ol style="list-style-type: none"> 1. The RF exposure test was performed on 360 degree turn table in anechoic chamber. 2. The measurement probe was placed at test distance (10cm) which is between the edge of the charger and the geometric centre of probe. 3. The turn table was rotated 360d degree to search of highest strength. 4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed. 5. The EUT were measured according to the dictates of KDB 680106D01v02. |
| Test Result: | PASS |

6.1.2. Test Instruments

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|-----------------------------|--------------|------------------|------------|------------|---------------|
| 1. | Exposure Level Tester | narda | ELT-400 | N-0231 | 2017.09.29 | 1 Year |
| 2. | Magnetic field probe 100cm2 | narda | ELT probe 100cm2 | M0675 | 2017.09.29 | 1 Year |

6.1.3. Test data

For Full load mode:

E-Filed Strength at 10 cm from the edges surrounding the EUT (V/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Reference Limit (V/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-------------------|
| 0.110-200 | 1.23 | 1.12 | 1.20 | 1.31 | 1.23 | 184.2 | 614 |

H-Filed Strength at 10 cm from the edges surrounding the EUT (A/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Reference Limit (A/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-------------------|
| 0.110-200 | 0.25 | 0.20 | 0.15 | 0.14 | 0.16 | 0.489 | 1.63 |

For No load mode:

E-Filed Strength at 10 cm from the edges surrounding the EUT (V/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Reference Limit (V/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-------------------|
| 0.110-200 | 1.14 | 1.17 | 1.15 | 1.11 | 1.13 | 184.2 | 614 |

H-Filed Strength at 10 cm from the edges surrounding the EUT (A/m)

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Reference Limit (A/m) | Limits Test (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|-------------------|
| 0.110-200 | 0.18 | 0.21 | 0.16 | 0.14 | 0.14 | 0.489 | 1.63 |

Appendix A: Photographs of Test Setup

Product: WIRELESS CHARGER&Portable Power

Model: TB-WDC02

For Full load mode



For No load mode



Appendix B: Photographs of EUT

Refer to test report TCT180111E034

*******END OF REPORT*******