



FCC RF EXPOSURE REPORT

| | | |
|--------------------------------|---|---|
| Applicant | : | Tianjin Zowda New Energy Technology Co., Limited |
| Address of Applicant | : | NO. 71 Xinhuan South Street, West Zone of Tianjin Economic Technology Development Zone |
| Manufacturer | : | Tianjin Zowda New Energy Technology Co., Limited |
| Address of Manufacturer | : | NO. 71 Xinhuan South Street, West Zone of Tianjin Economic Technology Development Zone |
| Equipment under Test | : | 10000mAh/22.5W Magnetic |
| Model No. | : | J2641, ZWPWWA-101C1A22W, W201, J2642, J2643, J2644 J2645, J2646, J2647, J2648, J2649, J2650, A2641, A2642, A2643, A2644, A2645, A2646, A2647, A2648, A2649, A2650, B2641, B2642, B2643, B2644, B2645, B2646, B2647, B2648, B2649, B2650 |
| FCC ID | : | 2BFS6-J2641 |
| Test Standard(s) | : | FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118 |
| Report No. | : | DDT-RE24021919-2E02 |
| Issue Date | : | 2024/05/16 |
| Issue By | : | Guangdong Dongdian Testing Service Co., Ltd. |
| Address of Laboratory | : | Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808 |

REPORT

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Test Report Declare

| | | |
|--------------------------------|---|---|
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| Manufacturer | : | Tianjin Zowda New Energy Technology Co., Limited |
| Address of Manufacturer | : | NO. 71 Xinhuan South Street, West Zone of Tianjin Economic Technology Development Zone |

Assess Standard Used: FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118

We Declare:

The equipment described above is assessed by Guangdong Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Guangdong Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

| | | | |
|-------------------------|---------------------|----------------------|-------------------------|
| Report No.: | DDT-RE24021919-2E02 | | |
| Date of Receipt: | 2024/03/28 | Date of Test: | 2024/03/28 ~ 2024/05/16 |

Prepared By:

Approved By:

Ziqin Chen

Ziqin Chen/Engineer

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

| Rev. | Revisions | Issue Date | Revised By |
|------|---------------|------------|------------|
| --- | Initial issue | 2024/05/16 | |
| | | | |

1. General Information

1.1. Description of equipment

| | |
|---------------------------------------|---|
| EUT* Name | : 10000mAh/22.5W Magnetic |
| Model Number | : J2641, ZWPWWWA-101C1A22W, W201, J2642, J2643, J2644, J2645, J2646, J2647, J2648, J2649, J2650, A2641, A2642, A2643, A2644, A2645, A2646, A2647, A2648, A2649, A2650, B2641, B2642, B2643, B2644, B2645, B2646, B2647, B2648, B2649, B2650 |
| Difference of model number | : All models are identical except the model number, therefore the test performed on the model ZWPWWWA-101C1A22W. |
| EUT function description | : Please reference user manual of this device |
| Power Supply | : Input: Powered by Type-C port 5V $\overline{\text{---}}$ 3A, 9V $\overline{\text{---}}$ 2.22A, 12V $\overline{\text{---}}$ 1.67A or DC 3.85V Polymer Li-ion built-in battery Output: Type-C port: 5V $\overline{\text{---}}$ 3A, 9V $\overline{\text{---}}$ 2.22A, 12V $\overline{\text{---}}$ 1.75A; PPS: 5V-11V $\overline{\text{---}}$ 2A USB-A port: 5V $\overline{\text{---}}$ 3A, 9V $\overline{\text{---}}$ 2.2A, 12V $\overline{\text{---}}$ 1.75A Wireless: 5V $\overline{\text{---}}$ 1A, 7.5V $\overline{\text{---}}$ 1A, 9V $\overline{\text{---}}$ 1.12A, 9V $\overline{\text{---}}$ 1.66A |
| Wireless charging Operation frequency | : 111 kHz - 205kHz |
| Antenna Type | : Inductive loop coil antenna |

Note: EUT is the abbreviation of equipment under test.

1.2. Assistant equipment used for test

| Description of Accessories | Manufacturer | Model number | Serial No. | Other |
|----------------------------|--------------|--------------|------------|-------|
| Dummy load | N/A | N/A | N/A | N/A |
| phone | Samsung | SM-G9730 | N/A | N/A |

1.3. Assess laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No.17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China 523808

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

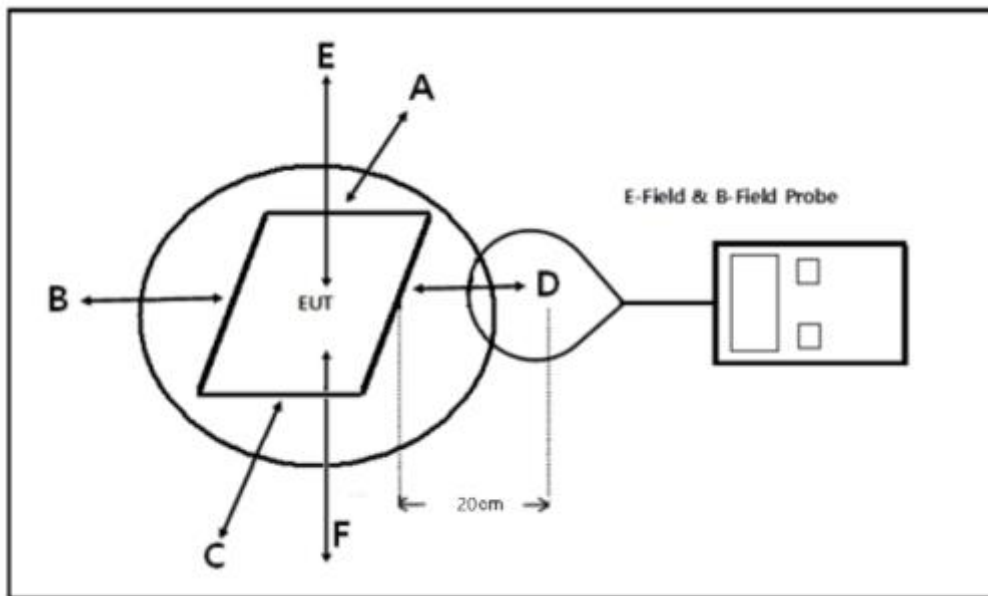
VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

2. Equipment used during test

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|--------------------------------------|--------------|-----------|-------------|------------|---------------|
| Electric and Magnetic Field Analyzer | narda | EHP-200A | DDT-ZC01401 | 2024/09/20 | 1 Year |

3. Method of Measurement

3.1. Block diagram of test setup



3.2. 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 §2.1091 RF exposure is calculated. According KDB 680106 D01 Wireless Power Transfer v04.

TABLE 1—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 Exposure | | | | |
| 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 |
| 300-1,500 | | | f/300 | 6 |
| 1,500-100,000 | | | 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 |
| 300-1,500 | | | f/1500 | 30 |
| 1,500-100,000 | | | 1.0 | 30 |

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

3.3. Test procedure

- a) The RF exposure test was performed in shielded chamber.
- b) The measurement probe was placed at test distance (0cm, 2cm, 4cm, 6cm, 8cm, 10cm, 15 cm or 20 cm) which is between the edge of the charger and the geometric centre of probe.
- c) The measurement probe used to search of highest strength.
- d) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- e) The EUT were measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.

3.4. Equipment approval considerations:

The EUT does comply with section 3 of KDB 680106 D01 Wireless Power Transfer v04.

(1) Power transfer frequency is between 100 kHz to 300 kHz

Yes, the device operates in the frequency range from 111 kHz - 205 kHz

(2) Accordingly, for § 2.1091-Mobile devices, the MPE limits between 100 kHz to 300 kHz are to be considered the same as those at 300 kHz in Table 1 of § 1.1310, that is, 614 V/m and 1.63 A/m, for the electric field and magnetic field, respectively. For § 2.1093-Portable devices below 4 MHz and down to 100 kHz, the MPE limits in § 1.1310 (with the 300 kHz limit applicable all the way down to 100 kHz) can be used for the purpose of equipment authorization in lieu of SAR evaluations.

(3) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.

Yes, the E-field and H-field strengths levels are less than 50% of MPE limit.

(4) The transfer system only includes one primary coils.

3.5. E and H Field Strength

Mobile phone has been charge at zero charge, intermediate charge, and full charge with iphone

Magnetic Field Emissions(WPC)

Note:

1. During the test the phone is attached the network in WWAN traffic mode and Wifi/BT is connected.

2. All test modes were pre-tested, but we only recorded the worst case in this report.

| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|--------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 0 | A | 0.6683 | 0.2635 | 0.5306 | 0.815 |
| | | B | 0.1995 | 0.1138 | 0.1746 | 0.815 |
| | | C | 0.1757 | 0.3097 | 0.2005 | 0.815 |
| | | D | 0.4839 | 0.0693 | 0.4885 | 0.815 |
| | | E | 0.5063 | 0.0743 | 0.5113 | 0.815 |
| | | F | 0.2847 | 0.774 | 0.3089 | 0.815 |

| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|---------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 2 | A | 0.7277 | 0.5000 | 0.0767 | 0.815 |
| | | B | 0.1934 | 0.1988 | 0.0610 | 0.815 |
| | | C | 0.3760 | 0.3734 | 0.1437 | 0.815 |
| | | D | 0.3795 | 0.3838 | 0.0801 | 0.815 |
| | | E | 0.5337 | 0.7704 | 0.5150 | 0.815 |
| | | F | 0.3123 | 0.3134 | 0.3178 | 0.815 |

| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|-------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 4 | A | 0.2984 | 0.1982 | 0.2104 | 0.815 |
| | | B | 0.1111 | 0.0921 | 0.0692 | 0.815 |
| | | C | 0.1336 | 0.0745 | 0.0629 | 0.815 |
| | | D | 0.2976 | 0.1932 | 0.1809 | 0.815 |
| | | E | 0.6313 | 0.3125 | 0.3383 | 0.815 |
| | | F | 0.2013 | 0.1544 | 0.1881 | 0.815 |

| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|-------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 6 | A | 0.1105 | 0.0983 | 0.1834 | 0.815 |
| | | B | 0.0809 | 0.0604 | 0.0762 | 0.815 |
| | | C | 0.0622 | 0.0670 | 0.0833 | 0.815 |
| | | D | 0.0557 | 0.0604 | 0.1957 | 0.815 |
| | | E | 0.1600 | 0.1871 | 0.1665 | 0.815 |
| | | F | 0.1075 | 0.1125 | 0.1185 | 0.815 |









| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|-------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 8 | A | 0.0627 | 0.0811 | 0.1367 | 0.815 |
| | | B | 0.0562 | 0.0553 | 0.0702 | 0.815 |
| | | C | 0.0577 | 0.0630 | 0.0753 | 0.815 |
| | | D | 0.0563 | 0.0549 | 0.1464 | 0.815 |
| | | E | 0.1312 | 0.1195 | 0.1237 | 0.815 |
| | | F | 0.0971 | 0.0868 | 0.0821 | 0.815 |
| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 10 | A | 0.0569 | 0.0554 | 0.0867 | 0.815 |
| | | B | 0.0569 | 0.0564 | 0.0580 | 0.815 |
| | | C | 0.0554 | 0.0549 | 0.0569 | 0.815 |
| | | D | 0.0563 | 0.0563 | 0.1126 | 0.815 |
| | | E | 0.1061 | 0.0843 | 0.0848 | 0.815 |
| | | F | 0.0811 | 0.0782 | 0.0629 | 0.815 |





| Operation frequency | Test Distance (cm) | Test Position | Probe Measure Result(A/m) | | | 50% Limit (A/m) |
|---------------------|--------------------|---------------|---------------------------|---------------|---------------------|-----------------|
| | | | Full Load | Zero charge | intermediate charge | |
| 132kHz | 15 | A | 0.0553 | 0.0553 | 0.0573 | 0.815 |
| | | B | 0.0575 | 0.0543 | 0.0553 | 0.815 |
| | | C | 0.0553 | 0.0564 | 0.0564 | 0.815 |
| | | D | 0.0564 | 0.0578 | 0.0612 | 0.815 |
| | | E | 0.0557 | 0.0726 | 0.0549 | 0.815 |
| | | F | 0.0561 | 0.0577 | 0.0658 | 0.815 |

According to the following table, when we backward derivation 0cm, it should be 0.9095(A/m), with a deviation from the actual test value of -14.9%.

| 0cm | 2cm | 4cm | 6cm |
|-------|--------|--------|--------|
| 0.774 | 0.7704 | 0.6313 | 0.1957 |

4. Test Setup Photo

| | |
|---|--|
|  |  |
| A Side (0cm) | B Side (0cm) |
|  |  |
| C Side (0cm) | D Side (0cm) |
|  |  |
| E Side (0cm) | F Side (0cm) |
|  |  |
| E Side (2cm) worse mode | E Side (4cm) worse mode |

| | |
|---|--|
|  |  |
| E Side (6cm) worse mode | E Side (8cm) worse mode |
|  |  |
| E Side (10cm) worse mode | E Side (15cm) worse mode |

END OF REPORT