



Shenzhen CTL Testing Technology Co., Ltd.
Tel: +86-755-89486194 Fax: +86-755-26636041

RF EXPOSURE REPORT

Report Reference No.: **CTL1809136032-MPE**

Compiled by

(position+printed name signature)...

Allen Wang
(File administrators)

Allen Wang

Supervised by

(position+printed name+signature)...

Nice Nong
(Test Engineer)

Nice Nong

Approved by

(position+printed name+signature)...

Ivan Xie
(Manager)

Ivan Xie

Testing Laboratory Name: **Shenzhen CTL Testing Technology Co., Ltd.**

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

Applicant's name: **Assembly Brands, Inc**

Address: 42 West Street, #403, Brooklyn NY 11222 USA

Test specification

Standard: **FCC CFR 47 part1, 1.1307(b), 1.1310**

TRF Originator: Shenzhen CTL Testing Technology Co., Ltd.

Master TRF: Dated 2011-01

Test item description: Courant Wireless Charger

FCC ID: 2ARIH-CATCH1

Trade Mark: N/A

Model/Type reference: CATCH: 1 (Black/Grey/Silver)

Transmit Frequency: 115~205KHz

Antenna type: Loop antenna

Date of Receipt: Sept. 14, 2018

Date of Test Date: Sept. 14, 2018–Sept. 28, 2018

Data of Issue: Sept. 28, 2018

Result: **Pass**

Shenzhen CTL Testing Technology Co., Ltd. All rights reserved.

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen CTL Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen CTL Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

TEST REPORT

| | | |
|--------------------------|--------------------------|----------------|
| Test Report No. : | CTL1809136032-MPE | Sept. 28, 2018 |
| | | Date of issue |

Equipment under Test : Courant Wireless Charger

Type / Model(s) : CATCH: 1 (Black/Grey/Silver)

Applicant : **Assembly Brands, Inc**

Address : 42 West Street, #403, Brooklyn NY 11222 USA

Manufacturer : **ATLAS BUSINESS CONSULTANTS (SHENZHEN) LIMITED**

Address : Room B14, 3/F, 205Zhen Xing Road, Futian, Shenzhen, China

| | |
|--------------------|-------------|
| Test Result | PASS |
|--------------------|-------------|

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

| | | |
|---------------|---|-----------------|
| 1. | <u>SUMMARY</u> | <u>4</u> |
| 1.1. | EUT configuration | 4 |
| 2. | <u>TEST ENVIRONMENT</u> | <u>4</u> |
| 2.1. | Address of the test laboratory | 4 |
| 2.2. | Test Facility | 4 |
| 2.3. | Environmental conditions | 4 |
| 2.4. | Statement of the measurement uncertainty | 4 |
| 3. | <u>METHOD OF MEASUREMENT</u> | <u>5</u> |
| 3.1. | Applicable Standard | 5 |
| 3.2. | Limit | 5 |
| 4. | <u>TEST RESULT</u> | <u>6</u> |
| 4.1. | Test Setup | 6 |
| 4.2. | Test Equipment | 6 |
| HI3637 | <u>.....</u> | <u>6</u> |
| 4.3. | Measurement Procedure | 6 |
| 4.4. | Equipment Approval Considerations | 6 |
| 4.5. | E and H field Strength | 7 |
| 5. | <u>TEST SETUP PHOTO</u> | <u>8</u> |

1. SUMMARY

1.1. EUT configuration

| | |
|-----------------|------------------------------|
| Kind of Product | Courant Wireless Charger |
| Model Name | CATCH: 1 (Black/Grey/Silver) |
| Frequency Range | 115-205KHz |
| Antenna Type | Inductive loop coil antenna |
| FCC ID | 2ARIH-CATCH1 |

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

Shenzhen CTL Testing Technology Co., Ltd.

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

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 (2013) and CISPR Publication 22.

2.2. Test Facility

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

IC Registration No.: 9618B

The 3m alternate test site of Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 9618B on November 13, 2013.

FCC-Registration No.: 399832

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 399832, December 08, 2017.

2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 950-1050mbar

2.4. Statement of the measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Parameter | Uncertainty |
|-------------------------------|-------------------------|
| Radio Frequency | $\pm 1 \times 10^{-5}$ |
| total RF power, conducted | $\pm 1,5$ dB |
| RF power density, conducted | ± 3 dB |
| spurious emissions, conducted | ± 3 dB |
| all emissions, radiated | ± 6 dB |
| temperature | $\pm 1^{\circ}\text{C}$ |
| humidity | ± 5 % |
| DC and low frequency voltages | ± 3 % |

3. Method of measurement

3.1. Applicable Standard

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

3.2. 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 ²) | 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

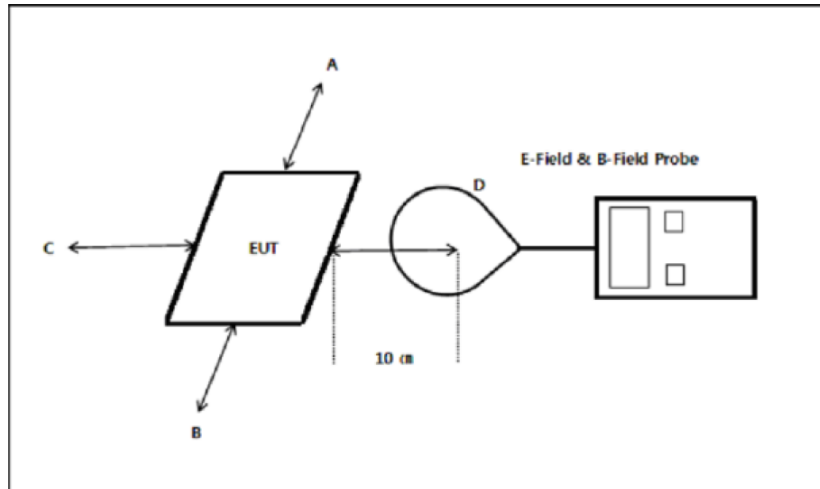
| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm ²) | Averaging Time (minute) |
|---|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled 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

4. Test Result

4.1. Test Setup



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

4.2. Test Equipment

| Equipment | Manufacturer | Model | Serial no. | Calibrated date | Calibrated until |
|---------------|--------------|--------|------------|-----------------|------------------|
| E-Field Probe | HOLADAY | HI3637 | 00052130 | 2018.5.20 | 2019.5.19 |
| H-Field Probe | HOLADAY | HI3637 | 00052130 | 2018.5.20 | 2019.5.19 |

4.3. Measurement Procedure

- The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- The measurement probe was placed at test distance (10cm) which is between the edge of the charger and the geometric centre of probe.
- The turn table was rotated 360d degree to search of highest strength.
- 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.

4.4. Equipment Approval Considerations

The EUT does comply with KDB 680106 D01 RF Exposure Wireless Charging App v03.

- Power transfer frequency is less than 1 MHz..
- Output power from each primary coil is less than or equal to 15 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 coils.
- Client device is placed directly in contact with the transmitter.
- Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- 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.

Remark: Meet all the above requirements.

4.5. E and H field Strength

Test mode for wireless charger: Normal Operation (Charging mode)

E-Filed Strength at 15 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.115 | 1.14 | 1.07 | 1.20 | 1.19 | 614.0 |

E-Filed Strength at 20 cm from the top of the EUT (V/m)

| Frequency Range (MHz) | Test Position E | Limits (V/m) |
|-----------------------|-----------------|--------------|
| 0.115 | 0.658 | 614.0 |

H-Filed Strength at 15 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.115 | 0.274 | 0.231 | 0.225 | 0.284 | 1.63 |

H-Filed Strength at 20 cm from the top of the EUT (V/m)

| Frequency Range (MHz) | Test Position E | Limits (A/m) |
|-----------------------|-----------------|--------------|
| 0.115 | 0.135 | 1.63 |

Test mode for wireless charger: Normal Operation (No load mode)

E-Filed Strength at 15 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.115 | 0.28 | 0.30 | 0.27 | 0.31 | 614.0 |

E-Filed Strength at 20 cm from the top of the EUT (V/m)

| Frequency Range (MHz) | Test Position E | Limits (V/m) |
|-----------------------|-----------------|--------------|
| 0.115 | 0.19 | 614.0 |

H-Filed Strength at 15 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Limits (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.115 | 0.047 | 0.041 | 0.051 | 0.043 | 1.63 |

H-Filed Strength at 20 cm from the top of the EUT (V/m)

| Frequency Range (MHz) | Test Position E | Limits (A/m) |
|-----------------------|-----------------|--------------|
| 0.115 | 0.038 | 1.63 |

5. Test Setup Photo



.....End of Report.....