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RF EXPOSURE REPORT

Report Reference No......: **CTL1803133031-MPE**

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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: **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

Address.....: 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community,
Fuyong Town, Baoan District, Shenzhen, Guangdong, China
518103

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: WIRELESS CHARGER

FCC ID.....: 2APIQ-LH05

Trade Mark: VIDA

Model/Type reference.....: LH05

Transmit Frequency.....: 171.7KHz

Antenna type: Loop antenna

Date of Receipt.....: Mar. 14, 2018

Date of Test Date: Mar. 14, 2018–Mar. 30, 2018

Date of Issue: Mar. 30, 2018

Result.....: **Pass**

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TEST REPORT

| | |
|--|---------------|
| Test Report No. : CTL1803133031-MPE | Mar. 30, 2018 |
| | Date of issue |

Equipment under Test : WIRELESS CHARGER

Type / Model(s) : LH05

Applicant : **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

Address : 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community, Fuyong Town, Baoan District, Shenzhen, Guangdong, China 518103

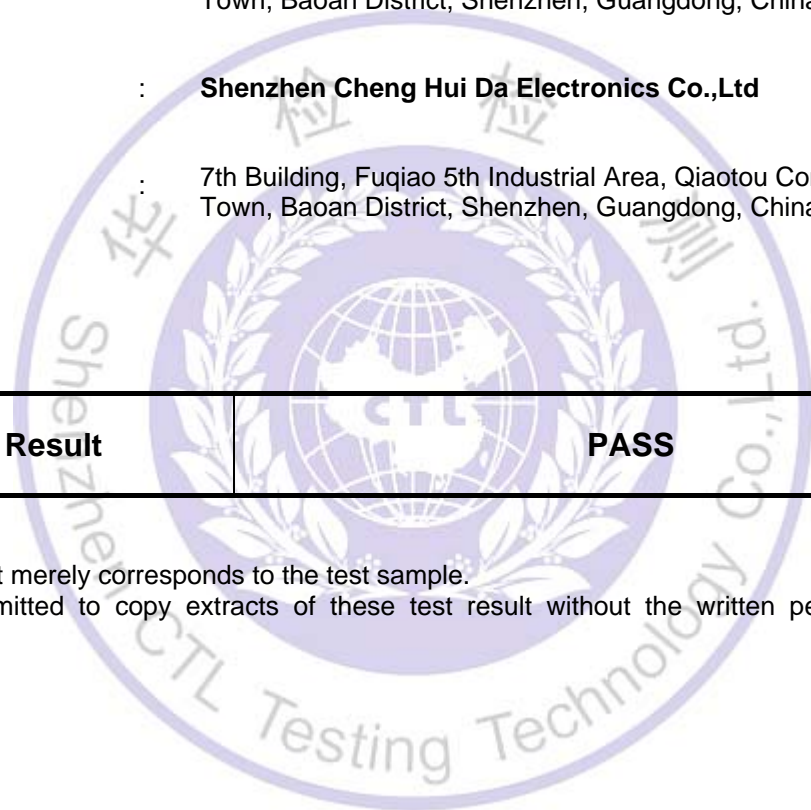
Manufacturer : **Shenzhen Cheng Hui Da Electronics Co.,Ltd**

Address : 7th Building, Fuqiao 5th Industrial Area, Qiaotou Community, Fuyong Town, Baoan District, Shenzhen, Guangdong, China 518103

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

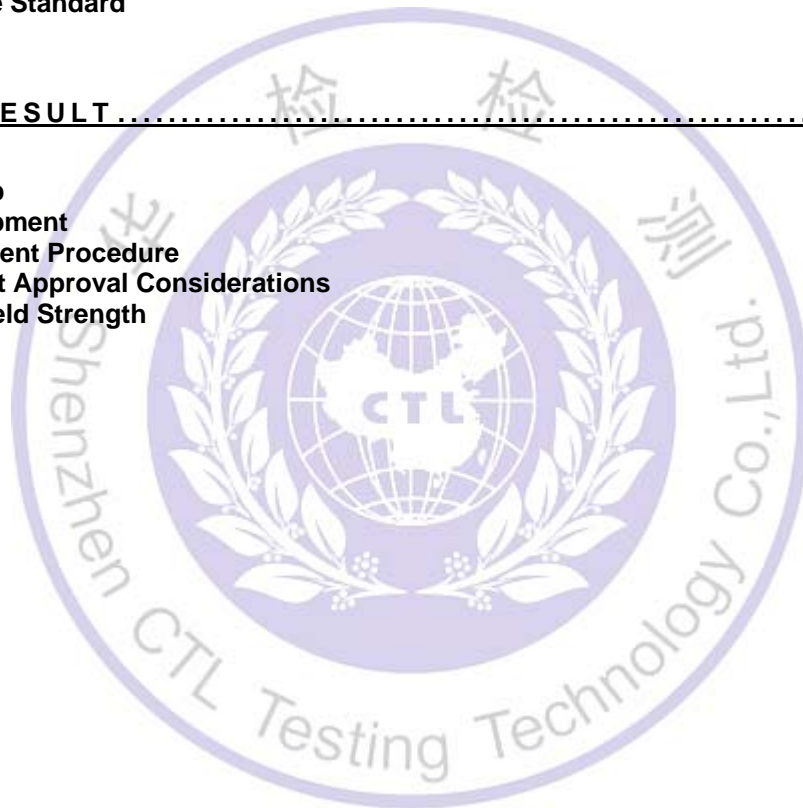
The test report merely corresponds to the test sample.

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



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1. SUMMARY

1.1. EUT configuration

| | |
|-----------------|------------------|
| Kind of Product | WIRELESS CHARGER |
| Model Name | LH05 |
| Frequency Range | 171.7KHz |
| Antenna Type | loop antenna |
| FCC ID | 2APIQ-LH05 |

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 KDB680106 D01v02: RF Exposure Wireless Charging Apps v02

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

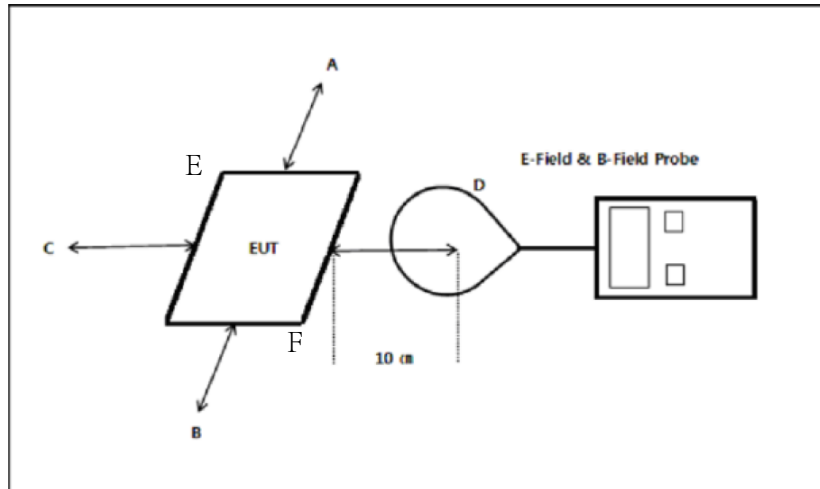
| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm ²) | Averaging Time (minute) |
|---|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled 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 | CHROMA | MFM 2000 | CR18G46Y | 2017.6.1 | 2018.5.31 |
| H-Field Probe | CHROMA | MFM 2000 | CR18G46Y | 2017.6.1 | 2018.5.31 |

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 680106D01v02.

4.4. Equipment Approval Considerations

The EUT does comply with item 5.2 of KDB 680106 D01v02

- Power transfer frequency is less than 1MHz.
Yes; the device operate in the frequency range from 110 KHz to 205 KHz
- Output power from each primary coil is less than 5 watts
Yes; the maximum field strength of fundamental: 72.01 dBuV/m at 3 meter. The EIRP calculation is reference to KDB789033.
 $EIRP [dBm] = E [dBuV/m] + 20 \log (d [metres]) - 104.77 [dB]$, $d = 3m$
 $72.01 \text{ dBuV/m} - 95.2 = -23.19 \text{ dBm EIRP}$
The output power from primary coil is 0.00480mW
- The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that able to detect and allow coupling only between individual pair of coils.
Yes; the transfer system includes only single primary and secondary coils.
- Client device is inserted in or placed directly in contact with the transmitter.
Yes; Client device is placed directly in contact with the transmitter.
- The maximum coupling surface area of the transmit (charging) device:
Yes; The EUT coupling surface area was $60 \text{ cm}^2 < 82.5 \text{ cm}^2 < 400 \text{ cm}^2$
- Aggregate leakage fields at 10cm surrounding the device from all simultaneous transmitting coils are demonstrated to be less than 30% of the MPE limit.
The EUT E and H field strength levels $\ll 30\% \times \text{MPE limit}$. Please refer to below E and H field Strength test results.

4.5. E and H field Strength

Test mode for WIRELESS CHARGER: Normal Operation (Charging mode)

E-Filed Strength at 10 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Test Position F | Limits (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.1717 | 1.37 | 1.12 | 0.896 | 0.911 | 1.07 | 1.14 | 614.0 |

H-Filed Strength at 10 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Test Position F | Limits (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.1717 | 0.142 | 0.106 | 0.122 | 0.135 | 0.139 | 0.140 | 1.63 |

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

E-Filed Strength at 10 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Test Position F | Limits (V/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.1717 | 0.407 | 0.324 | 0.188 | 0.156 | 0.241 | 0.158 | 614.0 |

H-Filed Strength at 10 cm from the edges surrounding the EUT

| Frequency Range (MHz) | Test Position A | Test Position B | Test Position C | Test Position D | Test Position E | Test Position F | Limits (A/m) |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| 0.1717 | 0.032 | 0.041 | 0.057 | 0.040 | 0.035 | 0.032 | 1.63 |

Test Setup Photo





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

