

# RF EXPOSURE REPORT

The device described below is tested by Dongguan Nore Testing Center Co., Ltd. to determine the maximum emission levels emanating from the device, the severe levels which the device can endure and E.U.T.'s performance criterion. The test results, data evaluation, test procedures, and equipment of configurations shown in this report were made in accordance with the procedures in ANSI C63.10(2013).

Applicant : Shenzhen Lontems Technology Co. Ltd.  
Address : Room 208, 4th Building, 1970 Technology Town, Minzhi, Longhua District,  
Shenzhen City, Guangdong Province, China  
Manufacturer/Factory : Shenzhen Lontems Technology Co. Ltd.  
Address : Room 208, 4th Building, 1970 Technology Town, Minzhi, Longhua District,  
Shenzhen City, Guangdong Province, China  
E.U.T. : Wireless charger  
Brand Name : LONTEMS  
Model No. : TS30, TS31, TS32 (For model difference refer to section 1)  
FCC ID : 2AQ2X-TS30  
Measurement Standard : FCC PART 15 Subpart C  
Date of Receiver : August 17, 2018  
Date of Test : August 17, 2018 to September 04, 2018  
Date of Report : September 04, 2018

In the configuration tested, the EUT complied with the standards specified above.

This test report is for the customer shown above and their specific product only. This report applies to above tested sample only and shall not be reproduced in part without written approval of Dongguan Nore Testing Center Co., Ltd.

## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment under Test

|                  |                                                                                                                                                               |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name     | : Wireless Charger                                                                                                                                            |
| Main model       | : TS30                                                                                                                                                        |
| Additional model | : TS31, TS32                                                                                                                                                  |
| Model difference | : These models have the same circuitry, electrical mechanical, PCB Layout and physical construction. Their difference in model number due to trading purpose. |
| Power Supply     | : Input: DC 5V 2A From adapter;<br>DC 9V 1.67A From adapter<br>Output: 10W Max                                                                                |
| Test voltage     | : AC 120V 60Hz adapter input                                                                                                                                  |
| Adapter          | : N/A                                                                                                                                                         |
| Cable            | : N/A                                                                                                                                                         |
| Software version | : V1.0                                                                                                                                                        |
| Hardware version | : V1.0                                                                                                                                                        |
| Note             | : N/A                                                                                                                                                         |
| Remark           | : N/A                                                                                                                                                         |
| Frequency Range  | : 110.5-205KHz                                                                                                                                                |

## 1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **2AQ2X-TS30** filing to comply with FCC Part 15 (2017), Subpart C Rule.

## 1.3 Test Facility and Location

### Site Description

EMC Lab : Listed by CNAS, August 13, 2018  
The certificate is valid until August 13, 2024  
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01  
The Certificate Registration Number is L5795.

Listed by A2LA, November 01, 2017  
The certificate is valid until December 31, 2019  
The Laboratory has been assessed and proved to be in compliance with ISO17025  
The Certificate Registration Number is 4429.01

Listed by FCC, November 06, 2017  
The Designation Number is CN1214  
Test Firm Registration Number: 907417

Listed by Industry Canada, June 08, 2017  
The Certificate Registration Number. Is 46405-9743  
Name of Firm : Dongguan Nore Testing Center Co., Ltd.  
(Dongguan NTC Co., Ltd.)

Site Location : Building D, Gaosheng Science & Technology Park,  
Zhouxi Longxi Road, Nancheng District, Dongguan  
City, Guangdong Province, China

## 2. Method of measurement

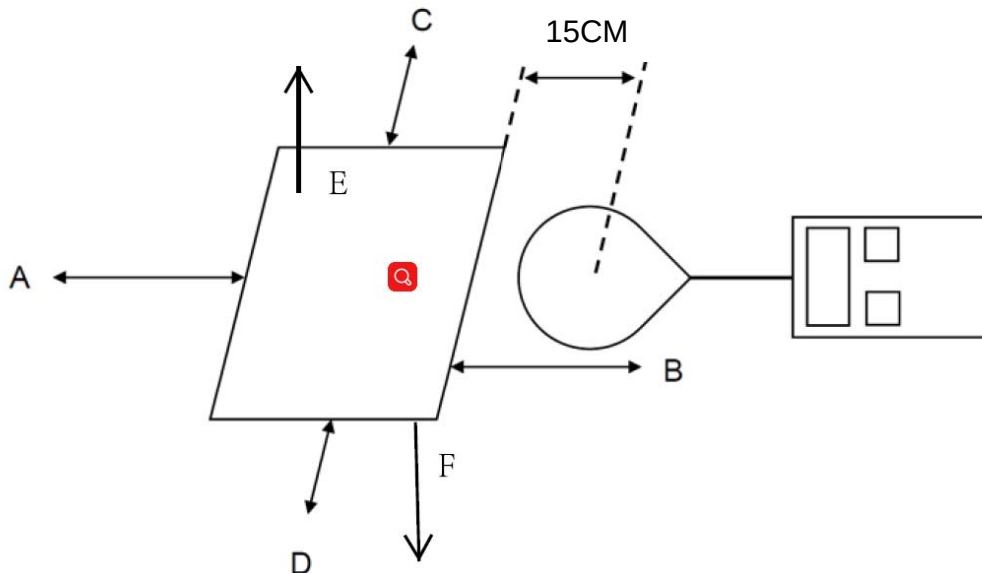
### 2.1 Applicable standard

According to 1.1307(b)(1), system operating under the provisions of this section shall be operated in amanner 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 to KDB680106 D01V03: RF exposure wireless charging apps v03.

### 2.2 Test Setup



### 2.3 Test procedure

1. The RF exposure test was performed on 360 degree turn table in anechoic chamber;
2. The measurement probe was placed at test distance 15cm which is between the edge of the charger and 20cm between top 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 680106D01V03

## 2.4 Equipment approval considerations

1. The EUT dose comply with item 5.2 of KDB 680106D01V03
  - a, Power transfer frequency is less than 1MHz.  
YES; the device operated in the frequency range from 110.5-205KHz.
  - b, Output power from each primary coil is less than or equal to 15 watts  
YES; the maximum output power of the primary coil is 5W<15W.
  - c, 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.
  - d, Client device is placed directly in contact with the transmitter.  
YES; Client device is placed directly in contact with the transmitter.
  - e, Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).  
YES;
  - f, The aggregate H-field strengths at 15cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.  
YES; The EUT field strength levels are less than 50% x MPE limits.

## 2.5 E and H field strength Limit

| Frequency range (MHz)                                                                                                                                                                                                                                                                           | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposures</b>                                                                                                                                                                                                                                         |                               |                               |                                     |                          |
| 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                        |
| 300-1500                                                                                                                                                                                                                                                                                        | /                             | /                             | f/300                               | 6                        |
| 1500-100,000                                                                                                                                                                                                                                                                                    | /                             | /                             | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b>                                                                                                                                                                                                                                  |                               |                               |                                     |                          |
| 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                       |
| 1500-100,00                                                                                                                                                                                                                                                                                     | /                             | /                             | 1.0                                 | 30                       |
| F=frequency in MHz<br>*=Plane-wave equivalent power density<br>RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m). |                               |                               |                                     |                          |

## Test Result

Mobile phone has been charge at zero charge, intermediate charge, and full charge.

### Electric Field Emissions

| Operation frequency | Test Position | Test Distance (cm) | Probe Measure Result(V/m) |                     |             | Limit (V/m) | 50% Limit (V/m) |
|---------------------|---------------|--------------------|---------------------------|---------------------|-------------|-------------|-----------------|
|                     |               |                    | zero charge               | intermediate charge | full charge |             |                 |
| 127.6KHz            | Side A        | 15                 | 3.42                      | 3.45                | 3.53        | 614         | 307             |
|                     | Side B        | 15                 | 3.58                      | 3.57                | 3.62        | 614         | 307             |
|                     | Side C        | 15                 | 3.50                      | 3.53                | 3.52        | 614         | 307             |
|                     | Side D        | 15                 | 3.71                      | 3.68                | 3.57        | 614         | 307             |
|                     | Side E        | 20                 | 2.54                      | 2.61                | 2.64        | 614         | 307             |

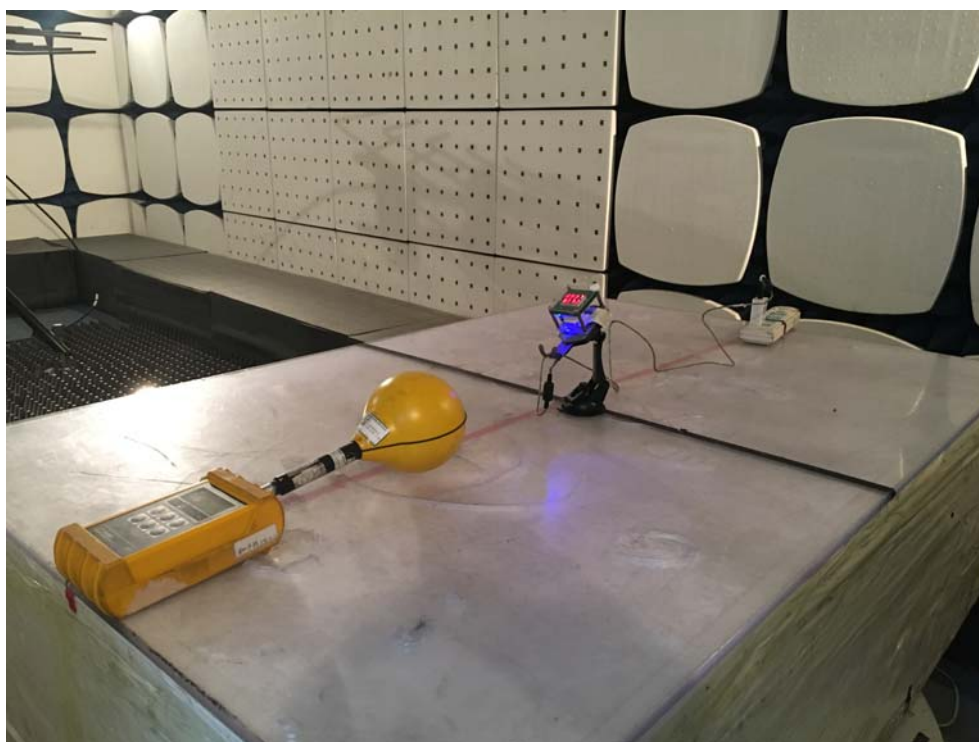
### Magnetic Field Emissions s

| Operation frequency | Test Position | Test Distance (cm) | Probe Measure Result(A/m) |                     |             | Limit (A/m) | 50% Limit (A/m) |
|---------------------|---------------|--------------------|---------------------------|---------------------|-------------|-------------|-----------------|
|                     |               |                    | zero charge               | intermediate charge | full charge |             |                 |
| 127.6KHz            | Side A        | 15                 | 0.0762                    | 0.0751              | 0.0745      | 1.63        | 0.815           |
|                     | Side B        | 15                 | 0.0757                    | 0.0724              | 0.0742      | 1.63        | 0.815           |
|                     | Side C        | 15                 | 0.0764                    | 0.0736              | 0.0735      | 1.63        | 0.815           |
|                     | Side D        | 15                 | 0.0716                    | 0.0745              | 0.0751      | 1.63        | 0.815           |
|                     | Side E        | 20                 | 0.0458                    | 0.0461              | 0.0512      | 1.63        | 0.815           |

## 2.7 Test equipment list

| Description                                | Manufacturer     | Model Number                    | Serial Number | Calibration Date | Calibration Due Date |
|--------------------------------------------|------------------|---------------------------------|---------------|------------------|----------------------|
| 3m semi-anechoic chamber                   | Zhongyu electron | 9.2*6.2*63.4                    | N/A           | July 03,2015     | July 02, 2020        |
| Exposure lever tester                      | Narda            | ELT-400                         | N-0231        | June 29,2018     | June 28, 2019        |
| Magnetic field probe<br>100cm <sup>2</sup> | Narda            | ELT Probe<br>100cm <sup>2</sup> | M0675         | June 29,2018     | June 28, 2019        |

## 2.6 Test Photo



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