

# TEST REPORT



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1. Report No : DRTFCC1706-0103

2. Customer

• Name : SEOYON ELECTRONICS CO., LTD.

• Address : 100, Saneop-ro 156beon-gil, Gwonseon-gu, Suwon-si, Gyeonggi-do, South Korea

3. Use of Report : FCC Original Grant

4. Product Name / Model Name : Wireless Charging System / SYECLWPC1707

FCC ID : NYOSYECLWPC1707

5. Test Method Used : KDB Procedure

Test Specification : FCC Part 1.1310

6. Date of Test : 2017.05.12

7. Testing Environment : See appended test report.

8. Test Result : Refer to the attached test result.

|             |                                |                                |
|-------------|--------------------------------|--------------------------------|
| Affirmation | Tested by                      | Technical Manager              |
|             | Name : SunGeun Lee (Signature) | Name : WonJung Lee (Signature) |

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If this report is required to confirmation of authenticity, please contact to [report@dtnc.net](mailto:report@dtnc.net)

## Test Report Version

| Test Report No. | Date          | Description   |
|-----------------|---------------|---------------|
| DRTFCC1706-0103 | Jun. 14, 2017 | Initial issue |
|                 |               |               |
|                 |               |               |
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|                 |               |               |

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## 1. Equipment information

### 1.1 Equipment description

|                          |                                                    |
|--------------------------|----------------------------------------------------|
| FCC Equipment Class      | Part 15 Low Power Transmitter Below 1705 kHz (DCD) |
| Equipment type           | Wireless Charging System                           |
| Equipment model name     | SYECLWPC1707                                       |
| Equipment add model name | NA                                                 |
| Equipment serial no.     | Identical prototype                                |
| Frequency                | 110.9 kHz                                          |
| Output power             | Max : 5 W                                          |
| Power                    | DC 12V                                             |
| Antenna type             | Coil Antenna x 3ea <sup>Note</sup>                 |

Note: This device has 3coil antennas but only one antenna is used for transmitting at a time after selection of the best coil antenna.

### 1.2 Support equipment

| Equipment    | Model No. | Serial No. | Manufacturer | Note |
|--------------|-----------|------------|--------------|------|
| Passive Coil | EA02W122T | 45-15F5-62 | TDK          | -    |
| -            | -         | -          | -            | -    |
| -            | -         | -          | -            | -    |

Note: The above equipment was supported by manufacturer.

## 2. Information about test items

### 2.1 Test Configuration and Mode

#### •Test configuration

The field strength of both E-field and H-field were measured at 10 cm using RF exposure survey meter with E-field and H-field probes for determining compliance with the MPE requirements of FCC Part 1.1310

During measurements, the wireless charging pad (EUT) was loaded with the client device using the resistor as described below summary table for test modes and conditions.

These testing were performed at test configuration as test setup diagram on clause 3 of this test report.

EUT was placed on a non-conductive turntable, and the client device with resistive load for drawing max charging current. This device uses a wireless charging circuit for power transfer operating at the frequency of 110.9 KHz. Thus, the 300 KHz RF exposure limits were used as below table.

#### •Test mode

This device has been tested with the below test modes and charging current conditions:

| Test Mode | Charging Current | Load condition | Support Equipment           |
|-----------|------------------|----------------|-----------------------------|
| TM1       | Max              | 6.8 $\Omega$   | Client device(Passive Coil) |
| -         |                  | -              | -                           |

#### • Limit

|                 | Frequency       | E-Field limit | H-Field limit |
|-----------------|-----------------|---------------|---------------|
| FCC Part 1.1310 | 300 kHz ~ 3 MHz | 614 V/m       | 1.63 A/m      |

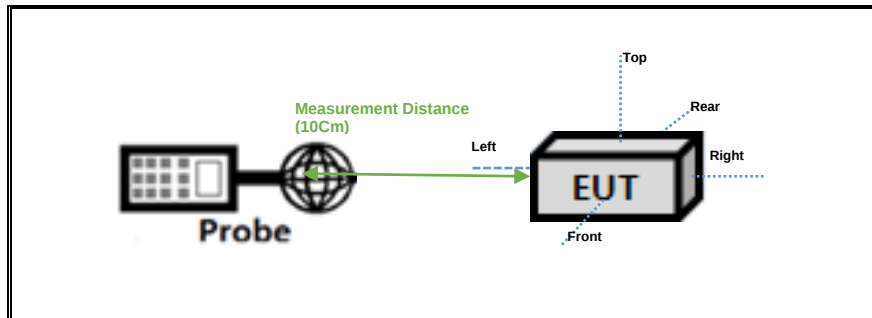
### 2.2 Tested environment

|                           |   |           |
|---------------------------|---|-----------|
| Temperature               | : | 23 °C     |
| Relative humidity content | : | 40 % R.H. |
| Details of power supply   | : | DC 12 V   |

### 3. E and H field strength

For RF exposure purposes, the E and H field strengths are measured separately with E and H probes and meters at different locations surrounding the test setup.

#### ▪ Test setup diagram



#### ▪ Measurement procedure: KDB 680106

These testing were performed at test configuration as above diagram.

EUT was placed on a turntable, and the measurement distance of 10 Cm from the center of the probe to the edge of the device. And test was performed all sides of the EUT(except bottom side).

#### ▪Measurement data:

| Test Mode | E-field(V/m) |       |              |       |       | Limit(V/m) |
|-----------|--------------|-------|--------------|-------|-------|------------|
|           | Front        | Rear  | Left         | Right | Top   | FCC        |
| TM 1      | 2.520        | 2.120 | <b>8.130</b> | 1.110 | 4.520 | 614        |
| -         | -            | -     | -            | -     | -     |            |
| -         | -            | -     | -            | -     | -     |            |

| Test Mode | H-field(A/m) |       |       |       |              | Limit(A/m) |
|-----------|--------------|-------|-------|-------|--------------|------------|
|           | Front        | Rear  | Left  | Right | Top          | FCC        |
| TM 1      | 0.512        | 0.381 | 0.472 | 0.321 | <b>0.933</b> | 1.63       |
| -         | -            | -     | -     | -     | -            |            |
| -         | -            | -     | -     | -     | -            |            |

## •Test equipment list

| Type                  | Manufacturer | Model         | Cal.Date<br>(yy/mm/dd) | Next. Cal.Date<br>(yy/mm/dd) | S/N    |
|-----------------------|--------------|---------------|------------------------|------------------------------|--------|
| EMF Meter             | NARDA        | ELT-400       | 16/07/13               | 18/07/13                     | N-0342 |
| EMF probe             | NARDA        | B-Field Probe | 16/07/13               | 18/07/13                     | M-0779 |
| Broadband field meter | NARDA        | NBM-550       | 16/08/02               | 18/08/02                     | E-1275 |
| Broadband field probe | NARDA        | EF-0391       | 16/08/02               | 18/08/02                     | D-0894 |