# ACTION GmbH

# TEST REPORT

**SCOPE OF WORK**
EMC TESTING–8000.006.090, 8000.010.090

**REPORT NUMBER**
180208042GZU-002

| **ISSUE DATE** | **[REVISED DATE]** |
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# TEST REPORT

| | | |
|---|---|---|
| Applicant Name & Address | : | ACTION GmbH<br>Lm Langel 6, 59872, Meschede, Germany |
| Manufacturing Site | : | Same as applicant |
| Intertek Report No: | | 180208042GZU-002 |
| FCC ID: | | 2APAN-287695 |

## Test standards

**47 CFR PART 1, Subpart I, Section 1.1310**
**680106 D01 RF Exposure Wireless Charging Apps v02**

## Sample Description

| | | |
|---|---|---|
| Product | : | LED portable luminaires |
| Models No. | : | 8000.006.090, 8000.010.090 |
| Electrical Rating | : | Adaptor (model: XY-1201500-U):<br>Input:100-240Vac, 50/60Hz, 0.6A Max<br>Output: 12Vdc, 1.5A<br>Rated power:9W<br>Wireless charging pad:<br>Input: 5Vdc<br>Output: 5W max |
| **Serial No.** | | Not Labeled |
| Date Received | : | 08 February 2018 |
| Date Test Conducted | : | 08 February 2018-08 April 2018 |

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## 1.0 TEST RESULT SUMMARY

Classification of EUT: Class B

| Test Item | Standard | Result |
|---|---|---|
| EMF | 47 CFR PART 1, Subpart I, Section 1.1310 | PASS |

Remark:
When determining the test results, measurement uncertainty of tests has been considered.

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## 2.0 General Description

### 2.1 Product Description

| | |
|---|---|
| Operating Frequency | 110-148KHz |
| Type of Modulation: | MSK |
| Antenna Type | Inductive loop coil antenna |
| Antenna gain: | 0 dBi |
| Power Supply: | Adaptor (model: XY-1201500-U):<br>Input:100-240Vac, 50/60Hz, 0.6A Max<br>Output: 12Vdc, 1.5A<br>Rated power:9W<br>Wireless charging pad:<br>Input: 5Vdc<br>Output: 5W max |
| Power cord: | 1.2m x 2 wires unscreened cable |

### 2.2 Test Facility

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China

A2LA Certificate Number 0078.10
Intertek Testing Services Shenzhen Ltd. Guangzhou Branch is accredited by A2LA and Listed in FCC website. FCC accredited test labs may perform both Certification testing under Parts 15 and 18 and Declaration of Conformity testing.

### 2.3 EUT Exercising Software

N/A

### 2.4 Special Accessories

N/A

### 2.5 Equipment Modification

Any modifications installed previous to testing by ACTION GmbH will be incorporated in each production model sold / leased in the United States.
No modifications were installed by Intertek Testing Services Shenzhen Ltd. Guangzhou Branch.

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## 2.6 Support Equipment List and Description

This product was tested with corresponding support equipment as below:

Support Equipment:

| Equipment | Model No. | Rating | Supplier |
|---|---|---|---|
| Adaptor | S018BYU1200150 | Input:100-240Vac, 600mA | Client |
| Mobile phone | SamSung-S7 | -- | Client |

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above evaluated respectively

| Pretest mode | Description | |
|---|---|---|
| Mode 1 | Standby mode (kept transmitting continuously) | |
| Mode 2 | CH: Low | Mobile phone is charging at 1% battery power, 50% and 99% battery power respectively, keep transmitting continuously |
| Mode 3 | CH: Middle | |
| Mode 4 | CH: High | |

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# 3.0 EMF TEST

## 3.1 Standard Requirement

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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.1m normally can be maintained between the user and the device.

**(a) Limits for Occupational / Controlled Exposure**

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S)(mW/cm$^2$) | Averaging Times $\|E\|^2$,$\|H\|^2$or S (minutes) |
|---|---|---|---|---|
| 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 |
| 1500-100000 | -- | -- | 5 | 6 |

**(b) Limits for General Population / Uncontrolled Exposure**

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S)(mW/cm$^2$) | Averaging Times $\|E\|^2$,$\|H\|^2$or S (minutes) |
|---|---|---|---|---|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | -- | -- | F/1500 | 30 |
| 1500-100000 | -- | -- | 1.0 | 30 |

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

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### 3.2 Test Data

Input Voltage: 120V/60Hz
Ambient Condition: 24℃, 50%RH

Test distance: 10cm surrounding the device from all simultaneous transmitting coils

E-Filed Strength at 10 cm from the edges surrounding the EUT (V/m)

| **Test Position** | **Probe Measure Result (V/m)** | | | **30% Limit (V/m)** | **Limit (V/m)** |
|---|---|---|---|---|---|
| | Mobile in 1% battery power | Mobile in 50% battery power | Mobile in 99% battery power | | |
| Side 1 | 57.057 | 51.051 | 45.045 | 184.2 | 614 |
| Side 2 | 42.042 | 39.039 | 39.039 | 184.2 | 614 |
| Side 3 | 45.045 | 42.042 | 36.036 | 184.2 | 614 |
| Side 4 | 51.051 | 36.036 | 33.033 | 184.2 | 614 |
| Bottom | 54.054 | 48.048 | 39.039 | 184.2 | 614 |
| Top | 57.057 | 51.051 | 45.045 | 184.2 | 614 |

H-Filed Strength at 10 cm from the edges surrounding the EUT (A/m)

| **Test Position** | **Probe Measure Result (A/m)** | | | **30% Limit (A/m)** | **Limit (A/m)** |
|---|---|---|---|---|---|
| | Mobile in 1% battery power | Mobile in 50% battery power | Mobile in 99% battery power | | |
| Side 1 | 0.19 | 0.17 | 0.15 | 0.489 | 1.63 |
| Side 2 | 0.14 | 0.13 | 0.13 | 0.489 | 1.63 |
| Side 3 | 0.15 | 0.14 | 0.12 | 0.489 | 1.63 |
| Side 4 | 0.17 | 0.12 | 0.11 | 0.489 | 1.63 |
| Bottom | 0.18 | 0.16 | 0.13 | 0.489 | 1.63 |
| Top | 0.19 | 0.17 | 0.15 | 0.489 | 1.63 |

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## 4.0 Test Equipment List

| Equip. No. | Equipment | Model | Manufacturer | Cal. date | Due date |
|---|---|---|---|---|---|
| EM007-03 | Exposure Level Tester | ELT-400 | NARDA | 2017/12/11 | 2018/12/11 |

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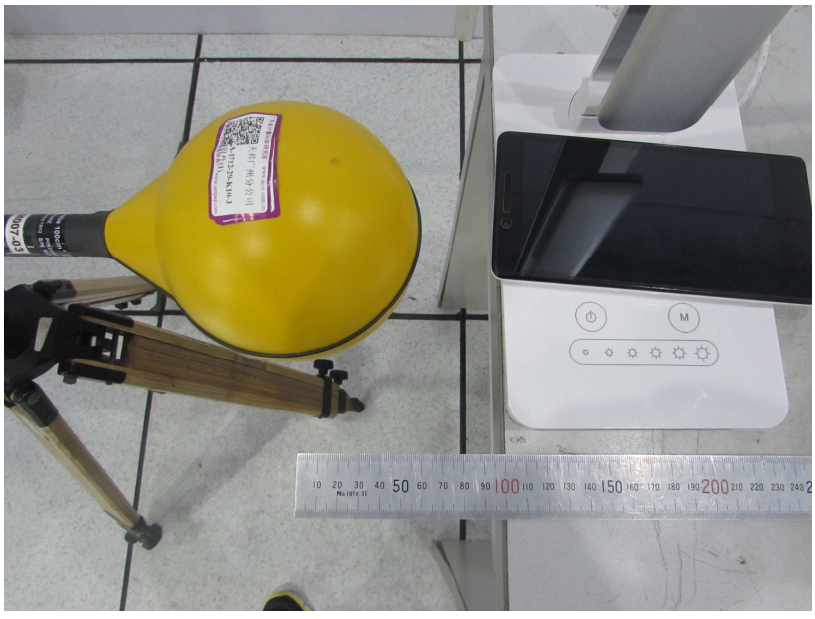
## 5.0 Appendix I - Photos of test setup

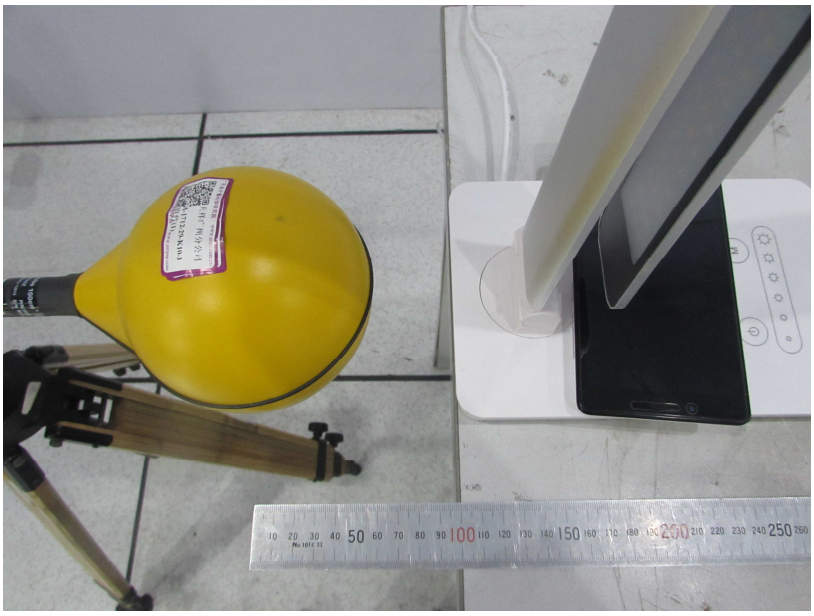
Side 1:

Side 2:

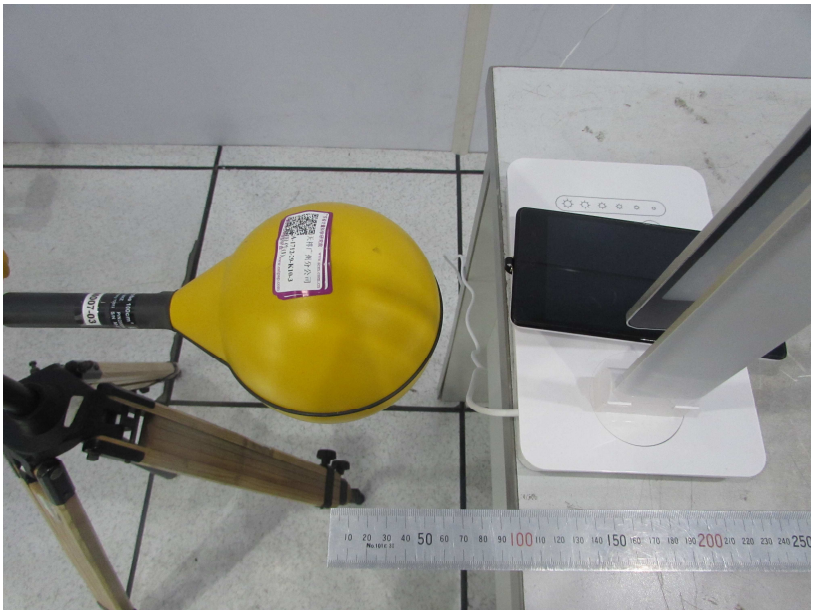


**TEST REPORT**

Side 3:

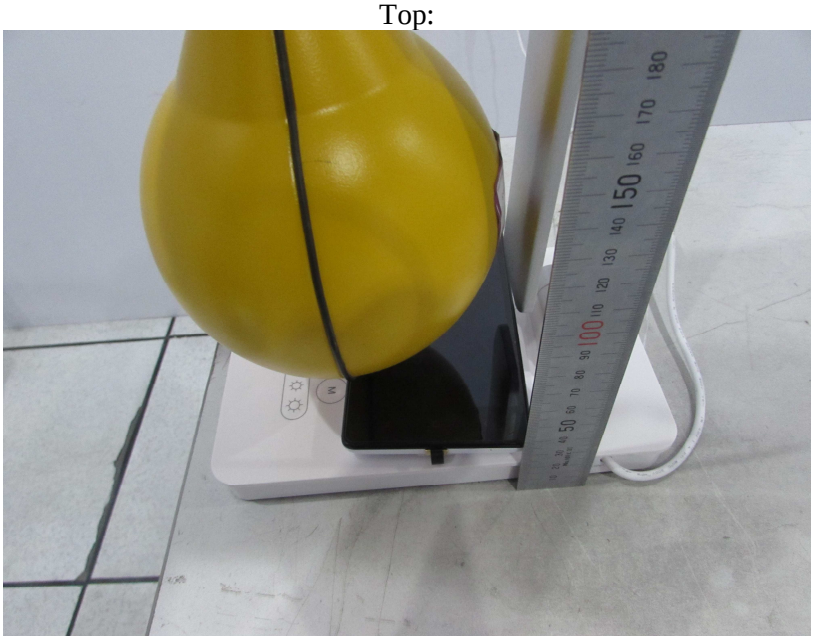


Side 4:



**TEST REPORT**

Top:



**********End of the test report**********