# IKEA of Sweden AB

# TEST REPORT

**SCOPE OF WORK**
EMC TESTING–E2009 NORDMÄRKE

**REPORT NUMBER**
200818086GZU-002

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# TEST REPORT

| | | |
|---|---|---|
| Applicant Name & Address | : | IKEA of Sweden AB<br>Box 702, SE-343 81 Älmhult, Sweden |
| Manufacturing Site1 | : | BeiHai Innotech Technology Co., Ltd<br>Building No. A02, CECT Industrial Park, BeiHai Industrial Zone, BeiHai, Guangxi. 536000 CHINA |
| Manufacturing Site2 | : | NanChang Innotech Homesmart Co., Ltd<br>1st to 5th floor, 2-1#, Nanchang Small and Medium-sized Enterprises Entrepreneurship Incubation Base (Phase II), Guowei Industrial Park, No. 669 Huangtang E Rd, Linkong Economic Zone, Nanchang, Jiangxi, China |
| Intertek Report No: | | 200818086GZU-002 |
| FCC ID: | | FHO-E2009 |

## Test standards

**47 CFR PART 1, Subpart I, Section 1.1310**
**KDB 680106 D01 RF Exposure Wireless Charging App v03r01**

## Sample Description

| | | |
|---|---|---|
| Product | : | Wireless Charger |
| Model No. | : | E2009 NORDMÄRKE |
| Electrical Rating | : | INPUT: 5V ⎓ 2A<br>OUTPUT: 5W Max |
| **Serial No.** | | Not Labeled |
| Date Received | : | 18 August 2020 |
| Date Test Conducted | : | 18 August 2020 to 01 January 2021 |

Prepared and Checked By

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Engineer

Approved By:

Helen Ma

Team Leader

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## CONTENT

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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 | 115-148KHz |
| Type of Modulation: | Load modulation |
| Antenna Type | Inductive loop coil antenna |
| Antenna gain: | 0 dBi |
| Power Supply: | Input: 5Vdc, 2A, Powered by adaptor AP041 provided by Intertek<br>Output: 5W Max |
| Power cord: | 1.2m x 2 wires unscreened dc cable |

### 2.2 Test Facility

Room102/104, No 203, KeZhu Road, 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 IKEA of Sweden AB 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 |
|---|---|---|---|
| Mobile phone | IPhone 8 | -- | Intertek |

**Remark:** the iphone 8 was one of typical client devices, it's selected such that the EUT was fully exercised at maximum power from its transmitter. It will not be sold together.

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 | |
|---|---|---|
| Standby Mode | kept transmitting continuously | |
| Charging Mode | CH: Low | Mobile phone is charging at 1% battery power, 50% and 99% battery power respectively, keep transmitting continuously |
| | CH: Middle | |
| | 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: 15 cm surrounding the device, and 20 cm away from the surface from the coil.

Top coil:
H-Filed Strength:

| **Test Position** | **Probe Measure Result (A/m)** | | | **50% Limit (A/m)** | **Limit (A/m)** |
|---|---|---|---|---|---|
| | Mobile in 1% battery power | Mobile in 50% battery power | Mobile in 99% battery power | | |
| Side 1 | 0.041 | 0.036 | 0.035 | 0.815 | 1.63 |
| Side 2 | 0.033 | 0.032 | 0.030 | 0.815 | 1.63 |
| Side 3 | 0.032 | 0.034 | 0.032 | 0.815 | 1.63 |
| Side 4 | 0.036 | 0.038 | 0.036 | 0.815 | 1.63 |
| Top | 0.045 | 0.043 | 0.041 | 0.815 | 1.63 |

Below coil:
H-Filed Strength:

| **Test Position** | **Probe Measure Result (A/m)** | | | **50% Limit (A/m)** | **Limit (A/m)** |
|---|---|---|---|---|---|
| | Mobile in 1% battery power | Mobile in 50% battery power | Mobile in 99% battery power | | |
| Side 1 | 0.039 | 0.034 | 0.035 | 0.815 | 1.63 |
| Side 2 | 0.034 | 0.030 | 0.032 | 0.815 | 1.63 |
| Side 3 | 0.033 | 0.035 | 0.031 | 0.815 | 1.63 |
| Side 4 | 0.035 | 0.036 | 0.036 | 0.815 | 1.63 |
| Top | 0.042 | 0.039 | 0.043 | 0.815 | 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 | 24/02/2020 | 23/02/2021 |

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