



## **FCC RF EXPOSURE REPORT**

*For*

**ZigBee Smart Plug**

**MODEL NUMBER: HPPA11SZ**

**FCC ID: 2AB2QHPPA11SZ**

**REPORT NUMBER: 4789546348-3**

**ISSUE DATE: July 17, 2020**

*Prepared for*

**LEEDARSON LIGHTING CO.,Ltd.  
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*Prepared by*

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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: LEEDARSON LIGHTING CO.,Ltd.  
Address: XINGDA RD, XINGTAI INDUSTRIAL ZONE, CHANGTAI  
COUNTY, ZHANGZHOU, FUJIAN, 363900, CHINA

### Manufacturer Information

Company Name: LEEDARSON LIGHTING CO.,Ltd.  
Address: XINGDA RD, XINGTAI INDUSTRIAL ZONE, CHANGTAI  
COUNTY, ZHANGZHOU, FUJIAN, 363900, CHINA

### EUT Information

EUT Name: ZigBee Smart Plug  
Model: HPPA11SZ  
Brand Name: LEEDARSON  
Sample Received Date: July 6, 2020  
Date of Tested: July 6~14, 2020

| APPLICABLE STANDARDS |              |
|----------------------|--------------|
| STANDARD             | TEST RESULTS |
| FCC 47CFR§2.1091     | PASS         |
| KDB-447498 D01 V06   |              |

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 447498 D01 General RF Exposure Guidance v06.

## 3. FACILITIES AND ACCREDITATION

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accreditation Certificate | <p><b>A2LA (Certificate No.: 4102.01)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>ISED(Company No.: 21320)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with Industry Canada. The Company Number is 21320.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.<br/>Facility Name:<br/>Chamber D, the VCCI registration No. is G-20019 and R-20004<br/>Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p> |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



## 4. REQUIREMENT

### LIMIT

Limits for General Population/Uncontrolled Exposure

| 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 <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
| 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/150                                   | 30                                                                |
| 1500-100,000                                                                                                                                                                                                                                                                                     | --                                | --                                | 1.0                                     | 30                                                                |
| Note 1: f = frequency in MHz, * means Plane-wave equivalent power density                                                                                                                                                                                                                        |                                   |                                   |                                         |                                                                   |
| Note 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. |                                   |                                   |                                         |                                                                   |
| Note 3: The limit value 1.0mW/cm <sup>2</sup> is available for this EUT.                                                                                                                                                                                                                         |                                   |                                   |                                         |                                                                   |

### MPE CALCULATION METHOD

$$S = PG / (4\pi R^2)$$

where: S = power density (in appropriate units, e.g. mW/ cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)



## **CALCULATED RESULTS**

### Radio Frequency Radiation Exposure Evaluation

| WIFI 2.4G (Worst case) |            |                   |       |                        |       |
|------------------------|------------|-------------------|-------|------------------------|-------|
| Operating Mode         | Max. Power | Max. Antenna Gain |       | Power density          | Limit |
|                        | (dBm)      | (dBi)             | (num) | (mW/ cm <sup>2</sup> ) |       |
| Zigbee                 | 11.5       | -4.1              | 0.389 | 0.00109                | 1     |

Note:

1. The calculated distance is 20cm.

**END OF REPORT**