

# RF Exposure Evaluation Report

**Product** : Smart Sleep Light  
**Trade mark** : N/A  
**Model/Type reference** : TEW201  
**Serial Number** : N/A  
**Report Number** : EED32K00287204  
**FCC ID** : 2ADIOTEW201  
**Date of Issue** : Nov. 09, 2018  
**Test Standards** : 47 CFR Part 1.1307(2015)  
47 CFR Part 1.1310(2015)  
KDB 447498 D01v06  
**Test result** : PASS

Prepared for:

**Shenzhen Medica Technology Development Co., Ltd.**  
**2F Building A, Tongfang Information Harbor, No.11, East Langshan**  
**Road, Nanshan District, Shenzhen, P.R. China**

Prepared by:

**Centre Testing International Group Co., Ltd.**  
**Hongwei Industrial Zone, Bao'an 70 District,**  
**Shenzhen, Guangdong, China**  
**TEL: +86-755-3368 3668**  
**FAX: +86-755-3368 3385**

Tested by:

Tom - chen

Tom chen (Test Project)

Compiled by:

Max liang

Max liang (Project Engineer)

Reviewed by:

Kevin Yang

Kevin yang (Reviewer)

Approved by:

Sheek Luo

Sheek Luo (Lab supervisor)

Date:

Nov. 09, 2018

Check No.:3096353610



## 2 Version

| Version No. | Date          | Description |
|-------------|---------------|-------------|
| 00          | Nov. 09, 2018 | Original    |
|             |               |             |
|             |               |             |

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## 4 General Information

### 4.1 Client Information

|                          |                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| Applicant:               | Shenzhen Medica Technology Development Co., Ltd.                                                                  |
| Address of Applicant:    | 2F Building A, Tongfang Information Harbor, No.11, East Langshan Road, Nanshan District, Shenzhen, P.R. China     |
| Manufacturer:            | Shenzhen Medica Technology Development Co., Ltd.                                                                  |
| Address of Manufacturer: | 2F Building A, Tongfang Information Harbor, No.11, East Langshan Road, Nanshan District, Shenzhen, P.R. China     |
| Factory:                 | E-safe Technology Limited                                                                                         |
| Address of Factory:      | Room 210, Block B, Baoyuan huafeng Economic Building, Xixiang Avenue, Bao'an District, Shenzhen, Guangdong, China |

### 4.2 General Description of EUT

|                                  |                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------|
| Product Name:                    | Smart Sleep Light                                                                            |
| Model No.(EUT):                  | TEW201                                                                                       |
| Trade mark:                      | N/A                                                                                          |
| EUT Supports Radios application: | BT: 4.0 BT Dual mode, 2402MHz to 2480MHz<br>WiFi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz |

### 4.3 Product Specification subjective to this standard

|                                                                             |                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range:                                                            | BT: 4.0 BT Dual mode, 2402MHz to 2480MHz<br>WiFi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz                                                                                                     |
| Modulation Type:                                                            | BT: GFSK, $\pi/4$ DQPSK, 8DPSK<br>WiFi:<br>IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK)<br>IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK)<br>IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM,QPSK,BPSK) |
| Firmware version:                                                           | V0.51(manufacturer declare)                                                                                                                                                                      |
| Hardware version:                                                           | V1.0(manufacturer declare)                                                                                                                                                                       |
| Antenna Type:                                                               | BT: PCB Antenna, WiFi: PCB Antenna                                                                                                                                                               |
| Antenna Gain:                                                               | BT: 4dBi, WiFi: 2.5dBi                                                                                                                                                                           |
| Power Supply:                                                               | Model: NLB100120W1A5S95<br>Input: 100-240V~50/60Hz, 0.35A Max<br>Output: 12V --- 1A                                                                                                              |
| Max Conducted Peak Output Power:                                            | 17.62dBm<br>The Max Conducted Peak Output Power data refer to the report EED32K00287201, EED32K00287202, EED32K00287203                                                                          |
| Sample Received Date:                                                       | Oct. 25, 2018                                                                                                                                                                                    |
| Sample tested Date:                                                         | Oct. 25, 2018 to Nov. 09, 2018                                                                                                                                                                   |
| The tested sample(s) and the sample information are provided by the client. |                                                                                                                                                                                                  |

#### **4.4 Test Location**

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

CNAS-Lab Code: L1910

A2LA-Lab Cert. No. 3061.01

FCC Designation No.: CN1164

#### **4.5 Deviation from Standards**

None.

#### **4.6 Abnormalities from Standard Conditions**

None.

#### **4.7 Other Information Requested by the Customer**

None.

## 5 RF Exposure Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency range<br>(MHz)                                       | Electric field<br>strength<br>(V/m) | Magnetic field<br>strength<br>(A/m) | Power density<br>(mW/cm <sup>2</sup> ) | Averaging time<br>(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                          |
| 1500–100,000 .....                                             | .....                               | .....                               | 1.0                                    | 30                          |

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R= distance to the centre of radiation of the antenna

EIRP = P\*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

#### 5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

### 5.1.3 EUT RF Exposure Evaluation

**Antenna Gain: BT: 4dBi, WiFi: 2.5dBi**

Output Power Into Antenna & RF Exposure Evaluation Distance:

| Channel | Frequency<br>(MHz) | Max Conducted<br>Peak Output<br>Power(dBm) | Gain<br>(dBi) | EIRP*<br>(dBm) | EIRP<br>(mW) | R<br>(cm) | S<br>(mW/cm <sup>2</sup> ) | Limit<br>(mW/cm <sup>2</sup> ) | Result |
|---------|--------------------|--------------------------------------------|---------------|----------------|--------------|-----------|----------------------------|--------------------------------|--------|
| Highest | 2462               | 17.62                                      | 2.5           | 20.12          | 102.80       | 20        | 0.02                       | 1.0                            | Pass   |

**Note:** Refer to report No. EED32K00287201, EED32K00287202, EED32K00287203 for EUT test Max Conducted Peak Output Power value.

## **PHOTOGRAPHS OF EUT Constructional Details**

Refer to Report No. EED32K00287201 for EUT external and internal photos.

**\*\*\* End of Report \*\*\***

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