

# Maximum Permissible Exposure Evaluation

## FCC ID: 2AKBP-T1

### 1. Client Information

|                     |   |   |
|---------------------|---|---|
| <b>Applicant</b>    | : | Shenzhen Hysiry Technology Co., Ltd.  |
| <b>Address</b>      | : | No.524, BLDG A, One square world NET Industry Park, Xia Wei Yuan Wan Li Hua Industrial Zone, XiXiang Street, BaoAn District, ShenZhen |
| <b>Manufacturer</b> | : | Shenzhen Hysiry Technology Co., Ltd.  |
| <b>Address</b>      | : | No.524, BLDG A, One square world NET Industry Park, Xia Wei Yuan Wan Li Hua Industrial Zone, XiXiang Street, BaoAn District, ShenZhen |

### 2. General Description of EUT

|                               |   |  |
|-------------------------------|---|--|
| <b>EUT Name</b>               | : | WiFi Smart Breaker   |
| <b>Models No.</b>             | : | T1   |
| <b>Model Different</b>        | : | N/A  |
| <b>Product Description</b>    | : | Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz                                      |
|                               | : | RF Output Power: 802.11b: 16.91dBm<br>802.11g: 15.83dBm<br>802.11n (HT20): 14.58dBm          |
|                               | : | Antenna Gain: 1dBi PCB Antenna   |
|                               | : | Modulation Type: 802.11b: DSSS(CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM) |
| <b>Power Supply</b>           | : | AC Voltage supplied  |
| <b>Power Rating</b>           | : | Input: AC 100~240V,50/ 60Hz<br>Output: AC 100~240V,50/ 60Hz                                  |
| <b>SoftwareVersion</b>        | : | N/A  |
| <b>Hardware Version</b>       | : | N/A  |
| <b>Connecting I/O Port(S)</b> | : | Please refer to the User's Manual  |

TB-RF-075-1.0

## MPE Calculations for WIFI

### 1. Antenna Gain:

PCB Antenna: 1dBi.

### 2. EUT Operation Condition:

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

### 3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

**S:** power density

**P:** power input to the antenna

**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

### 4. Test Result:

| Mode              | Conducted Power(max)<br>(dBm) | Turn-up Power<br>(dB) | Max tune up power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power Density<br>(mW/ cm <sup>2</sup> )<br>[S] |
|-------------------|-------------------------------|-----------------------|-----------------------------------|--------------------------|-------------------------|--|
| 802.11b           | 16.91                         | 16±1                  | 17                                | 1                        | 20                      | 0.01255  |
| 802.11g           | 15.83                         | 15±1                  | 16                                | 1                        | 20                      | 0.00997  |
| 802.11n<br>(HT20) | 14.58                         | 14±1                  | 15                                | 1                        | 20                      | 0.00792  |

**5. Conclusion:**

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

**Limits for General Population/ Uncontrolled Exposure**

| Frequency Range<br>(MHz) | Power density<br>(mW/ cm <sup>2</sup> ) |
|--------------------------|---|
| 300-1,500                | F/1500                                  |
| 1,500-100,000            | 1.0                                     |

For 802.11b/g/n:2412~2462 MHz

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as  $0.01255/ \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$ . So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

**Note**

For a more detailed features description, please refer to the RF Test Report.

-----END OF REPORT-----