# Maximum Permissible Exposure Evaluation

## *FCC ID: 2A4QD-AI-C20*

## 1. Client Information

| | | |
|---|---|---|
| **Applicant** | : | Shenzhen Skymee Technology Co., Ltd |
| **Address** | : | Room 1119, 11/F,Department Store East Building, Shennan East Road No.123, Dongmen Street, Luohu District, Shenzhen City China |
| **Manufacturer** | : | Chengdu Weizheng Digital Technology Co., Ltd. |
| **Address** | : | 69 Chuangye Road, Xindu Industrial East Area, Chengdu City, Sichuan Province China |

## 2. General Description of EUT

| | | | |
|---|---|---|---|
| **EUT Name** | : | Owl Robot | |
| **Models No.** | : | AI-C20, AI-C10, AI-C30, AI-C40, AI-C50, AI-C60, AI-C70, AI-C80, AI-C90, AI-C100, AI-C110, AI-C120, AI-C130, AI-C140, AI-C150, AI-C160, AI-C170, AI-C180, AI-C190, AI-C200, AI-C210, AI-C220, AI-C230, AI-C240, AI-C250, AI-C260, AI-C270, AI-C280, AI-C290, AI-C300 | |
| **Model Different** | : | All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name. | |
| **Brand Name** | : | Skymee | |
| **Product Description** | : | Operation Frequency: | 802.11b/g/n(HT20): 2412MHz~2462MHz |
| | | Number of Channel: | 802.11b/g/n(HT20):11 channels |
| | | RF Output Power: | 18.145dBm (Max) |
| | | Antenna Gain: | 2.0dBi PCB Antenna |
| **Power Rating** | : | Adapter(BI12T-050200-IU)<br>Input: 100-240V 50/60Hz 0.5A<br>Output: 5V2A 10.0W<br>DC 3.7V by 5000mAh(18.5Wh) Li-ion battery | |
| **Software Version** | : | 01.01.00.33_4001026 | |
| **Hardware Version** | : | ai-c20_main_v6 | |
| **Connecting I/O Port(S)** | : | Please refer to the User's Manual | |
| **Remark** | : | the MPE report used the EUT-2(C-202202-0042-2#). | |

# MPE Calculations for Bluetooth

1. **Antenna Gain:**
   PCB Antenna: 2.0dBi.

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:**

| 2.4G WiFi MPE Result | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Mode | $N_{TX}$ | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density ($mW/cm^2$) [S] |
| 802.11b | 1 | 2412 | 17.995 | 17±1 | 18 | 2 | 20 | 0.0198 |
| | | 2437 | 18.145 | 18±1 | 19 | 2 | 20 | 0.0250 |
| | | 2462 | 18.057 | 18±1 | 19 | 2 | 20 | 0.0250 |
| 802.11g | 1 | 2412 | 17.193 | 17±1 | 18 | 2 | 20 | 0.0198 |
| | | 2437 | 17.253 | 17±1 | 18 | 2 | 20 | 0.0198 |
| | | 2462 | 17.165 | 17±1 | 18 | 2 | 20 | 0.0198 |
| 802.11n20 | 1 | 2412 | 16.608 | 16±1 | 17 | 2 | 20 | 0.0158 |
| | | 2437 | 16.657 | 16±1 | 17 | 2 | 20 | 0.0158 |
| | | 2462 | 16.479 | 16±1 | 17 | 2 | 20 | 0.0158 |

**Note:**
**$N_{TX}$= Number of Transmit Antennas**
**RF Output power specifies that Maximum Conducted Peak Output Power.**

## 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 (MHz) | Power density ($mW/cm^2$) |
|---|---|
| 300-1,500 | F/1500 |
| 1,500-100,000 | 1.0 |

For 2.4 WIFI:2412~2462MHz

MPE limit S: 1mW/ $cm^2$

The MPE is calculated as ***0.0250mW / $cm^2$ < limit 1mW / $cm^2$***. 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.

## 6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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