# RF Exposure Evaluation

## *FCC ID: 2AYJJ-I11*

## 1. Client Information

| | | |
|---|---|---|
| **Applicant** | : | Yiwu Shangpai Electronic Technology Co., Ltd. |
| **Address** | : | 2nd Floor, Building 3, No. 4, Xinguang North Road, Jiangdong Street, Yiwu City, Zhejiang Province |
| **Manufacturer** | : | Yiwu Shangpai Electronic Technology Co., Ltd. |
| **Address** | | 2nd Floor, Building 3, No. 4, Xinguang North Road, Jiangdong Street, Yiwu City, Zhejiang Province |

## 2. General Description of EUT

| | | | |
|---|---|---|---|
| **EUT Name** | : | TWS | |
| **Model(s) No.** | : | i11, i12, i13, i14, i15, i16, i18 | |
| **Model Different** | : | All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance. | |
| **Product Description** | : | Operation Frequency: | Bluetooth V5.0(BT): 2402~2480 MHz |
| | | Number of Channel: | Bluetooth: 79 Channels |
| | | Max Peak Output Power: | Bluetooth: -3.443dBm(8-DPSK) |
| | | Antenna Gain: | 0dBi PCB Antenna |
| | | Modulation Type: | GFSK: -4.795dBm<br>π/4-DQPSK: -4.117dBm<br>8-DPSK: -3.443dBm |
| **Power Supply** | : | All these models are identical in the same PCB, layout and electrical circuit, The only difference is the appearance color. | |
| **Software Version** | : | V1.0 | |
| **Hardware Version** | : | V1.0 | |
| **Remark:** The antenna gain and adapter provided by the applicant, the adapter and verified for the RF conduction test provided by TOBY test lab. | | | |

**Note:** More test information about the EUT please refer the RF Test Report.



1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
*Tel: +86 75526509301 Fax: +86 75526509195*

# SAR Test Exclusion Calculations

1. **FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.**
   **(1) Clause 4.3: General SAR test reduction and exclusion guidance**
   **Sub clause 4.31: Standalone SAR test exclusion considerations**
   **1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance≤5 mm are determined by:**
   **[(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[ $\sqrt{f_{(GHz)}}$ ] ≤3.0 for 1-g SAR**
   **[(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[ $\sqrt{f_{(GHz)}}$ ] ≤7.5.0 for 10-g SAR**

## 2. Calculation:

| Test separation: 5mm | | | | | | |
|---|---|---|---|---|---|---|
| **Bluetooth Mode (GFSK)** | | | | | | |
| **Frequency (GHz)** | **Conducted Power (dBm)** | **Turn-up Power Tolerance (dB)** | **Max power of tune up tolerance (dBm)** | **Max power of tune up tolerance (mw)** | **Calculation Value** | **Threshold Value** |
| 2.402 | -4.795 | -4±1 | -3.0 | 0.501 | 0.155 | **3.0** |
| 2.441 | -5.664 | -5±1 | -4.0 | 0.398 | 0.124 | **3.0** |
| 2.480 | -6.602 | -6±1 | -5.0 | 0.316 | 0.100 | **3.0** |
| **Bluetooth Mode ( π/4-DQPSK)** | | | | | | |
| **Frequency (GHz)** | **Conducted Power (dBm)** | **Turn-up Power Tolerance (dB)** | **Max power of tune up tolerance (dBm)** | **Max power of tune up tolerance (mw)** | **Calculation Value** | **Threshold Value** |
| 2.402 | -4.177 | -4±1 | -3.0 | 0.501 | 0.155 | **3.0** |
| 2.441 | -4.997 | -4±1 | -3.0 | 0.501 | 0.157 | **3.0** |
| 2.480 | -5.98 | -5±1 | -4.0 | 0.398 | 0.125 | **3.0** |
| **Bluetooth Mode (8-DPSK)** | | | | | | |
| **Frequency (GHz)** | **Conducted Power (dBm)** | **Turn-up Power Tolerance (dB)** | **Max power of tune up tolerance (dBm)** | **Max power of tune up tolerance (mw)** | **Calculation Value** | **Threshold Value** |
| 2.402 | -3.443 | -3±1 | -2.0 | 0.631 | 0.196 | **3.0** |
| 2.441 | -4.366 | -4±1 | -3.0 | 0.501 | 0.157 | **3.0** |
| 2.480 | -5.335 | -5±1 | -4.0 | 0.398 | 0.125 | **3.0** |

**Conclusion:**

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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