# RF Exposure Evaluation

## *FCC ID: 2AQTJ-54423*

## 1. Client Information

| | | |
|---|---|---|
| **Applicant** | : | Shenzhen Yichuang Technology Co.,Ltd. |
| **Address** | : | Room2711, Block B, Jiazhaoye Center, Nanyuan Road, Futian District, Shenzhen, China |
| **Manufacturer** | : | Shenzhen Yichuang Technology Co.,Ltd. |
| **Address** | : | Room2711, Block B, Jiazhaoye Center, Nanyuan Road, Futian District, Shenzhen, China |

## 2. General Description of EUT

| | | | |
|---|---|---|---|
| **EUT Name** | : | U8 | |
| **Models No.** | : | 54423, 54420, 54421, 54422, 54424, 54425, 54426, 54427, 54428, 54429, R18, R19 | |
| **Model Difference** | : | All these models are identical in the same PCB, layout and electrical circuit, the only difference is the appearance. | |
| **Product Description** | : | Operation Frequency: | Bluetooth 3.0: 2402~2480 MHz |
| | | Number of Channel: | Bluetooth: 79 Channels |
| | | Max Peak Output Power: | Bluetooth: 3.664dBm(GFSK) |
| | | Antenna Gain: | 2dBi PCB Antenna |
| | | Modulation Type: | GFSK (1 Mbps)<br>π/4-DQPSK (2 Mbps)<br>8-DPSK (3 Mbps) |
| **Power Rating** | : | DC 5.0 V from the USB Cable.<br>DC 3.7V 180mAh by Li-ion Battery. | |
| **Software Version** | : | U8_3.4_RuanAn_COB_SLW2036_LCD9106_JXD7735_J_A_V1.4.3 | |
| **Hardware Version** | : | U8-MB-V3.4 | |
| **Connecting I/O Port(S)** | : | Please refer to the User's Manual | |

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



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# 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 | 3.664 | 3±1 | 4 | 2.512 | 0.779 | **3.0** |
| 2.441 | 3.570 | 3±1 | 4 | 2.512 | 0.785 | **3.0** |
| 2.480 | 3.439 | 3±1 | 4 | 2.512 | 0.791 | **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 | 3.141 | 3±1 | 4 | 2.512 | 0.779 | **3.0** |
| 2.441 | 2.979 | 3±1 | 4 | 2.512 | 0.785 | **3.0** |
| 2.480 | 2.780 | 3±1 | 4 | 2.512 | 0.791 | **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 | 3.224 | 3±1 | 4 | 2.512 | 0.779 | **3.0** |
| 2.441 | 3.118 | 3±1 | 4 | 2.512 | 0.785 | **3.0** |
| 2.480 | 3.120 | 3±1 | 4 | 2.512 | 0.791 | **3.0** |

**So standalone SAR measurements are not required.**

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