

# RF Exposure Evaluation

## FCC ID: 2ADXM5B103BT

### 1. Client Information

**Applicant** : SHENZHEN TEKSUN TECHNOLOGY CO.,LTD  
**Address** : 3F, bldg F7, F518 Idea Land, Baoyuan Road, Xixiang Avenue, Bao' an District, Shenzhen, China  
**Manufacturer** : SHENZHEN TEKSUN TECHNOLOGY CO.,LTD  
**Address** : 3F, bldg F7, F518 Idea Land, Baoyuan Road, Xixiang Avenue, Bao' an District, Shenzhen, China

### 2. General Description of EUT

|                               |   |                                                                                                                                  |                                                                |
|-------------------------------|---|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>EUT Name</b>               | : | Bluetooth speaker                                                                                                                |                                                                |
| <b>Models No.</b>             | : | 5B103BT, 14008BT                                                                                                                 |                                                                |
| <b>Model difference</b>       | : | All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial. |                                                                |
| <b>Product Description</b>    | : | Operation Frequency:<br>Bluetooth:2402~2480MHz                                                                                   |                                                                |
|                               |   | Number of Channel:                                                                                                               | Bluetooth:79 Channels                                          |
|                               |   | Max Peak Output Power:                                                                                                           | 8-DPSK: -0.435 dBm                                             |
|                               |   | Antenna Gain:                                                                                                                    | 1.2 dBi PCB Antenna                                            |
|                               |   | Modulation Type:                                                                                                                 | GFSK 1Mbps(1 Mbps)<br>$\pi$ /4-DQPSK(2 Mbps)<br>8-DPSK(3 Mbps) |
| <b>Power Supply</b>           | : | DC Voltage supplied from Host System by USB cable<br>DC power by Li-ion Battery                                                  |                                                                |
| <b>Power Rating</b>           | : | DC 5.0V by USB cable.<br>DC 3.7V Li-ion Battery.                                                                                 |                                                                |
| <b>Connecting I/O Port(S)</b> | : | Please refer to the User's Manual                                                                                                |                                                                |

#### Note:

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

## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.

- (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  $\leq 5$  mm are determined by:

- $$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

## 2.

## Calculation:

| Test separation: 5mm             |                       |                              |                                     |                   |                 |
|----------------------------------|-----------------------|------------------------------|-------------------------------------|-------------------|-----------------|
| Bluetooth Mode (GFSK)            |                       |                              |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | -2.275                | $\pm 0.5$                    | 0.665                               | 0.206             | 3.0             |
| 2.441                            | -3.565                | $\pm 0.5$                    | 0.494                               | 0.154             | 3.0             |
| 2.480                            | -5.491                | $\pm 0.5$                    | 0.317                               | 0.100             | 3.0             |
| Bluetooth Mode ( $\pi/4$ -DQPSK) |                       |                              |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | -0.950                | $\pm 0.5$                    | 0.902                               | 0.279             | 3.0             |
| 2.441                            | -2.352                | $\pm 0.5$                    | 0.653                               | 0.204             | 3.0             |
| 2.480                            | -4.015                | $\pm 0.5$                    | 0.445                               | 0.140             | 3.0             |
| Bluetooth Mode (8-DPSK)          |                       |                              |                                     |                   |                 |
| Frequency (GHz)                  | Conducted Power (dBm) | Turn-up Power Tolerance (dB) | Max power of tune up tolerance (mw) | Calculation Value | Threshold Value |
| 2.402                            | -0.435                | $\pm 0.5$                    | 1.015                               | 0.315             | 3.0             |
| 2.441                            | -2.048                | $\pm 0.5$                    | 0.700                               | 0.219             | 3.0             |
| 2.480                            | -3.554                | $\pm 0.5$                    | 0.495                               | 0.156             | 3.0             |

So standalone SAR measurements are not required.