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Report Template Version: V04
Report Template Revision Date: 2018-07-06

# RF Exposure Evaluation Report

| | |
|---|---|
| **Report No. :** | CQASZ20200200094E-02 |
| **Applicant:** | Shenzhen Tantio Technology Co.,LTD |
| **Address of Applicant:** | 806, A block, Taojindi Building, Tenlong Road, Longhua district, Shenzhen, China |
| **Equipment Under Test (EUT):** | |
| **EUT Name:** | TWS |
| **Model No.:** | T1, T15, T18 |
| **Test Model No.:** | T1 |
| **Brand Name:** | tantio |
| **FCC ID:** | 2AVTD-TWST1X |
| **Standards:** | 47 CFR Part 1.1307<br>47 CFR Part 1.1310<br>KDB447498D01 General RF Exposure Guidance v06 |
| **Date of Receipt:** | 2020-02-27 |
| **Date of Test:** | 2020-02-27 to 2020-03-09 |
| **Date of Issue:** | 2020-03-09 |
| **Test Result :** | **PASS*** |

***In the configuration tested, the EUT complied with the standards specified above**

***Tested By:*** Tom Chen. ***(Tom Chen)***

***Reviewed By:*** Aaron Ma ***(Aaron Ma)***

***Approved By:*** ***( Jack Ai)***

# 1 Version

**Revision History Of Report**

| Report No. | Version | Description | Issue Date |
|---|---|---|---|
| CQASZ20200200094E-02 | Rev.01 | Initial report | 2020-03-09 |

# 2 Contents

# 3 General Information

## 3.1 Client Information

| | |
|---|---|
| Applicant: | Shenzhen Tantio Technology Co.,LTD |
| Address of Applicant: | 806, A block, Taojindi Building, Tenlong Road, Longhua district, Shenzhen, China |
| Manufacturer: | Shenzhen Tantio Technology Co.,LTD |
| Address of Manufacturer: | 806, A block, Taojindi Building, Tenlong Road, Longhua district, Shenzhen, China |

## 3.2 General Description of EUT

| | |
|---|---|
| Product Name: | TWS |
| Model No.: | T1, T15, T18 |
| Test Model No.: | T1 |
| Trade Mark: | tantio |
| Hardware Version: | TT-L-V3.1, TT-R-V3.1 |
| Software Version: | V1.0 |
| Operation Frequency: | 2402MHz~2480MHz |
| Bluetooth Version: | V5.0 |
| Modulation Technique: | Frequency Hopping Spread Spectrum(FHSS) |
| Modulation Type: | GFSK, π/4DQPSK, 8DPSK |
| Transfer Rate: | 1Mbps/2Mbps/3Mbps |
| Number of Channel: | 79 |
| Hopping Channel Type: | Adaptive Frequency Hopping systems |
| Product Type: | ☐ Mobile ☒ Portable ☐ Fix Location |
| Test Software of EUT: | Bluetooth RF Test Tool (manufacturer declare) |
| Antenna Type: | Integral antenna |
| Antenna Gain: | 0dBi |
| Power Supply: | lithium battery:DC3.7V, Charge by DC5.0V |

Note:

1. Both the left and right ears were tested, find the left ear is the worst case, only the worst case is recorded in the report.

2. Model No.: T1, T15, T18

Only the model T1 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.

# 4 SAR Evaluation

## 4.1 RF Exposure Compliance Requirement

### 4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

### 4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation[17]
The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

### 4.1.3 EUT RF Exposure

**Measurement Data**

| GFSK mode | | | | |
|---|---|---|---|---|
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | 0.570 | 0±1 | 1.0 | 1.259 |
| Middle(2441MHz) | 1.970 | 1.0±1 | 2.0 | 1.585 |
| Highest(2480MHz) | 2.720 | 2.0±1 | 3.0 | 1.995 |
| π/4DQPSK mode | | | | |
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | -1.330 | -2.0±1 | -1.0 | 0.794 |
| Middle(2441MHz) | 1.200 | 0.5±1 | 1.5 | 1.413 |
| Highest(2480MHz) | 2.020 | 1.5±1 | 2.5 | 1.778 |
| 8DPSK mode | | | | |
| Test channel | Peak Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | |
| | | | (dBm) | (mW) |
| Lowest(2402MHz) | -1.000 | -1.5±1 | -0.5 | 0.891 |
| Middle(2441MHz) | 1.380 | 0.5±1 | 1.5 | 1.413 |
| Highest(2480MHz) | 2.150 | 1.5±1 | 2.5 | 1.778 |

| Worst case: 8DPSK | | | | | | |
|---|---|---|---|---|---|---|
| Channel | Maximum Peak Conducted Output Power (dBm) | Tune up tolerance (dBm) | Maximum tune-up Power | | Calculated value | Exclusion threshold |
| | | | (dBm) | (mW) | | |
| Lowest (2402MHz) | 0.570 | 0±1 | 1.0 | 1.259 | 0.390 | 3.0 |
| Middle (2441MHz) | 1.970 | 1.0±1 | 2.0 | 1.585 | 0.495 | |
| Highest (2480MHz) | 2.720 | 2.0±1 | 3.0 | 1.995 | 0.628 | |
| Conclusion: the calculated value ≤3.0, SAR is exempted. | | | | | | |

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20200200094E-01