

# TEST REPORT

**Product Name** : RIC Behind-the-ear Hearing Aid  
**Brand Mark** : TUI TUI  
**Model No.** : Dion TWS  
Dion TWS 1; Dion TWS 2; Dion TWS 3;  
Dion TWS 4; Dion TWS 5; Dion TWS 6;  
**Extension model** : Dion TWS 7; Dion TWS 8; Dion TWS 9;  
Dion TWS X; Dion TWS 1 Pro; Dion TWS  
3 Pro; Dion TWS 5 Pro; Dion TWS X Pro  
**FCC ID** : 2A5WV-DION-TWS  
**Report Number** : BLA-EMC-202203-A12104  
**Date of Sample Receipt** : 2022/4/14  
**Date of Test** : 2022/4/14 to 2022/5/23  
**Date of Issue** : 2022/5/23  
**Test Standard** : 47 CFR Part 1.1307, Part 2.1093, KDB  
447498  
**Test Result** : Pass

Prepared for:

**Shenzhen Eartech Company Ltd.**  
**4-516, Tusincere Science Park, Qingchun Road, Longcheng Street,**  
**Longgang, Shenzhen, Guangdong, P.R. China**

Prepared by:

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Date:

2022/5/23



## REPORT REVISE RECORD

| Version No. | Date      | Description |
|-------------|-----------|-------------|
| 00          | 2022/5/23 | Original    |

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## 1 TEST SUMMARY

| Test item   | Test Requirement                                  | Test Method        | Class/Severity     | Result |
|-------------|---------------------------------------------------|--------------------|--------------------|--------|
| RF Exposure | 47 CFR Part 1.1307,<br>Part 2.1093, KDB<br>447498 | CFR 47 Part 2.1093 | CFR 47 Part 2.1093 | Pass   |

## 2 GENERAL INFORMATION

|                        |                                                                                                                                                                                        |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>       | Shenzhen Eartech Company Ltd.                                                                                                                                                          |
| <b>Address</b>         | 4-516, Tusincere Science Park, Qingchun Road, Longcheng Street, Longgang, Shenzhen, Guangdong, P.R. China                                                                              |
| <b>Manufacturer</b>    | Shenzhen Eartech Company Ltd.                                                                                                                                                          |
| <b>Address</b>         | 4-516, Tusincere Science Park, Qingchun Road, Longcheng Street, Longgang, Shenzhen, Guangdong, P.R. China                                                                              |
| <b>Factory</b>         | Shenzhen Eartech Company Ltd.                                                                                                                                                          |
| <b>Address</b>         | 4-516, Tusincere Science Park, Qingchun Road, Longcheng Street, Longgang, Shenzhen, Guangdong, P.R. China                                                                              |
| <b>Product Name</b>    | RIC Behind-the-ear Hearing Aid                                                                                                                                                         |
| <b>Test Model No.</b>  | Dion TWS                                                                                                                                                                               |
| <b>Extension model</b> | Dion TWS 1; Dion TWS 2; Dion TWS 3; Dion TWS 4; Dion TWS 5; Dion TWS 6; Dion TWS 7; Dion TWS 8; Dion TWS 9; Dion TWS X; Dion TWS 1 Pro; Dion TWS 3 Pro; Dion TWS 5 Pro; Dion TWS X Pro |
| <b>Note</b>            | All above models are identical in the same PCB layout, interior structure and electrical circuits. The differences are model name for commercial purpose.                              |

## 3 GENERAL DESCRIPTION OF E.U.T.

|                             |                                   |
|-----------------------------|-----------------------------------|
| <b>Hardware Version</b>     | R1P1                              |
| <b>Software Version</b>     | N/A                               |
| <b>Operation Frequency:</b> | 2402MHz-2480MHz                   |
| <b>Modulation Type:</b>     | GFSK                              |
| <b>Channel Spacing:</b>     | 2MHz                              |
| <b>Number of Channels:</b>  | 40                                |
| <b>Antenna Type:</b>        | Internal Antenna                  |
| <b>Antenna Gain:</b>        | 1.3dBi(Provided by the applicant) |
| <b>Operation Frequency:</b> | 2402MHz-2480MHz                   |
| <b>Modulation Type:</b>     | GFSK, pi/4DQPSK, 8DPSK            |
| <b>Channel Spacing:</b>     | 1MHz                              |
| <b>Number of Channels:</b>  | 79                                |
| <b>Antenna Type:</b>        | Internal Antenna                  |
| <b>Antenna Gain:</b>        | 1.3dBi(Provided by the applicant) |

#### 4 LABORATORY LOCATION

All tests were performed at:  
BlueAsia of Technical Services(Shenzhen) Co., Ltd.  
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province,  
China  
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673  
No tests were sub-contracted.

## 5 RF EXPOSURE COMPLIANCE REQUIREMENT

### 5.1 STANDARD REQUIREMENT

According to KDB447498D01 General RF Exposure Guidance v06

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.

### 5.2 LIMITS

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

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$\sqrt{f(\text{GHz})} \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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

### 5.3 EUT RF EXPOSURE

| Operational Mode: EDR (8-DPSK worst case)               |                                           |                        |                       |      |                  |                     |
|---------------------------------------------------------|-------------------------------------------|------------------------|-----------------------|------|------------------|---------------------|
| Channel                                                 | Maximum Peak Conducted Output Power (dBm) | Tune up tolerance (dB) | Maximum tune-up Power |      | Calculated value | Exclusion threshold |
|                                                         |                                           |                        | (dBm)                 | (mW) |                  |                     |
| 2402MHz                                                 | 0.66                                      | ±1                     | 1.66                  | 1.47 | 0.45             | 3.0                 |
| 2441MHz                                                 | 0.35                                      | ±1                     | 1.35                  | 1.36 | 0.43             |                     |
| 2480MHz                                                 | 0.234                                     | ±1                     | 1.234                 | 1.33 | 0.42             |                     |
|                                                         |                                           |                        |                       |      |                  |                     |
| Operational Mode: BLE                                   |                                           |                        |                       |      |                  |                     |
| 2402                                                    | -1.261                                    | ±1                     | -0.261                | 0.94 | 0.29             | 3.0                 |
| 2442                                                    | -1.532                                    | ±1                     | -0.532                | 0.88 | 0.28             |                     |
| 2480                                                    | -1.706                                    | ±1                     | -0.706                | 0.85 | 0.27             |                     |
| Conclusion: the calculated value ≤3.0, SAR is exempted. |                                           |                        |                       |      |                  |                     |

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

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