

# 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,**  
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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, Part 2.1093, KDB 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,  
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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:

$$\left[ \frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \cdot \sqrt{f(\text{GHz})} \right] \leq 3.0$$
 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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