

RF Exposure Evaluation Report

Product : Active Noise Cancelling Wireless HD Headphones
Trade mark : TREBLAB
Model/Type reference : TREBLAB Z2, Z2, TREBLAB Z2-B, Z2-B
Serial Number : N/A
Report Number : EED32P81864403
FCC ID : 2A889-Z2
Date of Issue : Dec. 22, 2023
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
447498 D04 Interim General RF Exposure
Guidance v01
Test result : PASS

Prepared for:

Productech Corporation

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Prepared by:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Productech Corporation
Address of Applicant:	7901 4TH ST N, SUITE 4240, St. Petersburg, FL, 33702, USA
Manufacturer:	Productech Corporation
Address of Manufacturer:	7901 4TH ST N, SUITE 4240, St. Petersburg, FL, 33702, USA
Factory:	Shen Zhen Lighkeep Co., Limited
Address of Factory:	No 19, Baotong South Road, Xikeng Community, Longgang Zone, Shenzhen City, Guangdong Province, China

4.2 General Description of EUT

Product Name:	Active Noise Cancelling Wireless HD Headphones
Model No.(EUT):	TREBLAB Z2, Z2, TREBLAB Z2-B, Z2-B
Test Model No.:	TREBLAB Z2
Trade Mark:	TREBLAB

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	BLE: GFSK BT: GFSK, $\pi/4$ DQPSK, 8DPSK
Test Power Grade:	Default
Test Software of EUT:	BT FCC Tool
Antenna Type:	PCB Antenna
Antenna Gain:	0.8dBi
Power Supply:	Battery DC 3.7V
Sample Received Date:	Mar. 14, 2023
Sample tested Date:	Mar. 14, 2023 to Mar. 29, 2023
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. Model No.: TREBLAB Z2, Z2, TREBLAB Z2-B, Z2-B Only the model TREBLAB Z2 was tested. Their electrical circuit design, layout, components used and internal wiring are identical, only the color of the appearance, bluetooth pairing name, logo are different.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation**For Stand alone:****For BLE**

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	1.67	0.8	2.47	0.32	1.076	2.717	PASS

For BT Classic

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	3.12	0.8	3.92	1.77	1.503	2.717	PASS

Note:

- ① EIRP=conducted power+antenna gain;
- ② ERP=EIRP-2.15
- ③ Only the worst case data was recorded in the report.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***