

RF Exposure Evaluation Report

Product : Openbuds
Trade mark : imoo
Model/Type reference : E2301AO
Serial Number : N/A
Report Number : EED32Q80251303
FCC ID : 2AYJFE5
Date of Issue : May 08, 2024
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	GUANGDONG GENIUS TECHNOLOGY CO., LTD
Address of Applicant:	No.168, Middle Road Of East Gate, Xiaobian Community, Chang'an Town, Dongguan City, Guangdong, China
Manufacturer:	GUANGDONG GENIUS TECHNOLOGY CO., LTD
Address of Manufacturer:	No.168, Middle Road Of East Gate, Xiaobian Community, Chang'an Town, Dongguan City, Guangdong, China
Factory:	GUANGDONG GENIUS TECHNOLOGY CO., LTD
Address of Factory:	No.168, Middle Road Of East Gate, Xiaobian Community, Chang'an Town, Dongguan City, Guangdong, China

4.2 General Description of EUT

Product Name:	Openbuds
Model No.(EUT):	E2301AO
Trade Mark:	imoo

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	Bluetooth LE: GFSK Bluetooth Classic: GFSK, $\pi/4$ DQPSK, 8DPSK
Test Power Grade:	Default
Test Software of EUT:	Non Signaling Test Tool
Antenna Type:	Chip Antenna
Antenna Gain:	1.01dBi
Power Supply:	Battery DC 3.7V
Sample Received Date:	Mar. 05, 2024
Sample tested Date:	Mar. 05, 2024 to Mar. 22, 2024
Remark: The left ear and right ear of the earphone Openbuds are the same. Only the worst case data of left ear was recorded in the report. 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.	

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 Bluetooth LE:

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	4.18	1.01	5.19	3.04	2.014	2.717	PASS

For Bluetooth Classic:

Frequency (MHz)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2480	1.03	1.01	2.04	-0.11	0.975	2.717	PASS

Note:

- ① EIRP=conducted power+antenna gain;
- ② ERP=EIRP-2.15;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 0.5cm;
- ⑥ The test data please refer to the report of EED32Q80251301, EED32Q80251302 and only the worst case data of left ear 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 ***