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Test Report

Prepared for: Noxgear LLC

EUT Name: Wearable Bluetooth Speaker Model: NG-WBS-01

> FCC ID: 2A3FG-NOX01 To

> > FCC Part 2.1093

Date of Issue: 22 November 2021

On the behalf of the applicant:

Attention of:

Noxgear LLC 966 Proprietors Road Worthington, OH 43085

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Aaron S. Froehlich Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	22 November 2021	Aaron S. Froehlich	Original Document



ANAB

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The tests results contained within this test report all fall within our scope of accreditation, unless noted below.

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FCC Site Reg. #349717

IC Site Reg. #2044A-2

Non-accredited tests contained in this report: N/A



EUT Description

Product Marketing Name (PMN) Hardware Version Identification Number (HVIN) Firmware Version Identification Number (FVIN) Wearable Bluetooth Speaker NG-WBS-01 1.0.0

Model: A2620 Input: 100-240V, 0.5A, 50-60 Hz Output: 5V, 2.4A

2402-2480 MHz 79 GFSK, π/4-DQPSK, 8DPSK 1/2/3 Mbps Type: Chip Part Number: 2450AT18D0100E Pk Gain: 1.5 dBi Frequency Range: 2.4-2.5 GHz 0.86 mW 1.21 mW

AC Adapter

Frequency Range Number of Channels Modulation(s) Data Rate(s)

Antenna

Maximum Conducted Output Power Maximum Radiated Power (Calculated)

General Description of EUT and its intended use:

The EUT is a wearable speaker that receives its audio information via BlueTooth v4.0. The inaccessible internal battery is charged from a standard Micro USB port.



RF Exposure Test Exemption for Single Source

KDB 447498 D01 v07 DRAFT 20 April 2021

2.1.3 SAR-Based Exemption

A more comprehensive exemption, considering a variable power threshold that depends on both the *separation distance* and power, is provided in §1.1307(b)(3)(ii)(B). This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with *test separation distances* between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions. Accordingly, a RF source is considered an *RF exempt device* if its available maximum time-averaged (matched conducted) power or its effective radiated power (ERP), whichever is greater, are below a specified threshold. This exemption threshold was derived based on general population 1-g SAR requirements and is detailed in Appendix C.

47 CFR 1.1307(b)(3)(i)(B)

The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

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

Where

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

and

$$ERP_{20 \ cm} \ (\text{mW}) = \begin{cases} 2040f & 0.3 \ \text{GHz} \le f < 1.5 \ \text{GHz} \\ \\ 3060 & 1.5 \ \text{GHz} \le f \le 6 \ \text{GHz} \end{cases}$$



Calculations

 $ERP_{20\,cm}=3060\,mW$

High Channel

$$x = -\log_{10}\left(\frac{60}{3060 * \sqrt{2.48}}\right) = 1.904796$$

 $P_{th} = 3060 * \left(\frac{0.5}{20}\right)^{1.904796} = 2.717215 \ mW$

Low Channel
$$x = -log_{10} \left(\frac{60}{3060 * \sqrt{2.402}} \right) = 1.897857$$

$$P_{th} = 3060 * \left(\frac{0.5}{20}\right)^{1.897857} = 2.787665 \ mW$$

Conclusion

EUT is exempt from evaluation, the maximum radiated power (1.21 mW) is less than the power threshold for exemption (2.72 mW).

END OF TEST REPORT