

RF Exposure Evaluation Report

Product : Active Noise Cancelling Wireless Headphones
Trade mark : Lighkeep
Model/Type reference : NR08, BSNCH555
Serial Number : N/A
Report Number : EED32P80136502
FCC ID : 2A988-LKC001NR08
Date of Issue : Feb. 23, 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:

Shen Zhen Lighkeep Co., Limited
No 19, Baotong South Road, Xikeng Community,
Longgang Zone, Shenzhen City, Guangdong Province, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by:

Martin Lee

Martin Lee

Reviewed by:

Tom Chen

Tom Chen

Approved by:

Aaron Ma

Aaron Ma

Date:

Feb. 23, 2023



Check No.: 4832090223

1 Version

Version No.	Date	Description
00	Feb. 23, 2023	Original

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION	4
3.2 GENERAL DESCRIPTION OF EUT	4
3.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	4
3.4 TEST LOCATION	5
3.5 DEVIATION FROM STANDARDS	5
3.6 ABNORMALITIES FROM STANDARD CONDITIONS	5
3.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER	5
4 SAR EVALUATION	6
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	6
4.1.1 Limits	6
4.1.2 Test Procedure	6
4.1.3 EUT RF Exposure Evaluation	7

3 General Information

3.1 Client Information

Applicant:	Shen Zhen Lighkeep Co., Limited
Address of Applicant:	No 19, Baotong South Road, Xikeng Community, Longgang Zone, Shenzhen City, Guangdong Province, China
Manufacturer:	Shen Zhen Lighkeep Co., Limited
Address of Manufacturer:	No 19, Baotong South Road, Xikeng Community, Longgang Zone, Shenzhen City, Guangdong Province, China
Factory:	Shen Zhen Lighkeep Co., Limited
Address of Factory:	No 19, Baotong South Road, Xikeng Community, Longgang Zone, Shenzhen City, Guangdong Province, China

3.2 General Description of EUT

Product Name:	Active Noise Cancelling Wireless Headphones
Model No.:	NR08, BSNCH555
Test Model No.:	NR08
Trade Mark:	Lighkeep

3.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz	
Modulation Type:	GFSK, π/4DQPSK	
Test Software of EUT:	FCC_assist_1.0.2.2	
Antenna Type:	PCB Antenna	
Antenna Gain:	0dBi	
Power Supply:	USB port:	DC5V
	Battery:	DC3.7V
Sample Received Date:	Feb. 14, 2023	
Sample tested Date:	Feb. 14, 2023 to Feb. 20, 2023	
Remark: 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.		

3.4 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

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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 Pth (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). Pth 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 ERP20cm 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.

4.1.2 Test Procedure

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

4.1.3 EUT RF Exposure Evaluation

For BLE

Frequency (MHz)	Separation distance(cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
2441	0.5	-0.58	0	-2.73	0.533	3	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 ***