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Report Template Version: V05

Report Template Revision Date: 2021-11-03

RF Exposure Evaluation Report

Report No.: CQASZ20220200208E-02
Applicant: Hongshangen Technology Co., Ltd. (CHINA limited company (Ltd.))
Address of Applicant: F Zone, Unit 204, No. 476, Airport North Road, Xiamen Area, (fujian) Free Trade Zone, Fujian, CHINA 361009
Equipment Under Test (EUT):
EUT Name: Bone conduction headphones
Test Model No.: K7, K8, K9, K11, B1, B2, B20, H15PRO, PRO9, Q1, Q2, Q3, X18, X18PRO, X19, X19PRO, Y8, Y9, Y10, Y11, ME100, V16, T880, BT06C, BT06C+, JP2S, DYY-08
Model No.: K7
Brand Name: ESSONIO
FCC ID: 2A4KO-ESSONIO
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2022-02-18
Date of Test: 2022-02-18 to 2022-02-25
Date of Issue: 2022-02-28
Test Result: **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: _____

Lewis Zhou

(Lewis Zhou)

Reviewed By: _____

Rock Huang

(Rock Huang)

Approved By: _____

Jack Ai

(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220200208E-02	Rev.01	Initial report	2022-02-28

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3 General Information

3.1 Client Information

Applicant:	Hongshangen Technology Co., Ltd. (CHINA limited company (ltd.))
Address of Applicant:	F Zone, Unit 204, No. 476, Airport North Road, Xiamen Area, (fujian) Free Trade Zone, Fujian, CHINA 361009
Manufacturer:	Hongshangen Technology Co., Ltd. (CHINA limited company (ltd.))
Address of Manufacturer:	F Zone, Unit 204, No. 476, Airport North Road, Xiamen Area, (fujian) Free Trade Zone, Fujian, CHINA 361009
Factory:	Hongshangen Technology Co., Ltd. (CHINA limited company (ltd.))
Address of Factory:	F Zone, Unit 204, No. 476, Airport North Road, Xiamen Area, (fujian) Free Trade Zone, Fujian, CHINA 361009

3.2 General Description of EUT

Product Name:	Bone conduction headphones
Model No.:	K7, K8, K9, K11, B1, B2, B20, H15PRO, PRO9, Q1, Q2, Q3, X18, X18PRO, X19, X19PRO, Y8, Y9, Y10, Y11, ME100, V16, T880, BT06C, BT06C+, JP2S, DYY-08
Test Model No	K7
Trade Mark:	ESSONIO
EUT Supports Radios application:	Bluetooth mode 2402-2480MHz
Software Version:	V1.0
Hardware Version:	V1.0
Sample Type:	☐ Mobile ☒ Portable ☐ Fix Location
EUT Power Supply:	lithium battery:DC3.8V, Charge by DC5.0V

3.3 General Description of BT

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Test Software of EUT:	BT_Tool (manufacturer declare)
Antenna Type:	Chip antenna
Antenna Gain:	0.5 dBi

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. 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.

4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 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

4.1.3 EUT RF Exposure

Measurement Data

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.82	-3.5±1	-2.5	0.562	0.174	3.0
Middle (2440MHz)	-2.2	-2.0±1	-1.0	0.794	0.248	
Highest (2480MHz)	-0.79	-0.5±1	0.5	1.122	0.353	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20220200208E-01.

*** END OF REPORT ***