RF EXPOSURE EVALUATION REPORT

Application No.:	SZCR2306001783AT
Applicant:	Huizhou Enya Musical Instruments Ltd.
Address of Applicant:	Shun Ju Village, Chayuan Admin district, Qiuchang, Huiyang, Huizhou, Guangdong, 516221 China
Manufacturer:	Huizhou Enya Musical Instruments Ltd.
Address of Manufacturer:	Shun Ju Village, Chayuan Admin district, Qiuchang, Huiyang, Huizhou, Guangdong, 516221 China
Factory:	Huizhou Enya Musical Instruments Ltd.
Address of Factory:	Shun Ju Village, Chayuan Admin district, Qiuchang, Huiyang, Huizhou, Guangdong, 516221 China
Equipment Under Test (EUT):	
EUT Name:	Enya Intelligent Sound Guitar
Model No.:	NEXG 2, NEXG II, NEXG 2 Classic, NEXG II Classic, NEXG 2 Basic, NEXG II Basic ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
FCC ID:	2A6K2NEXG697456620
Standard(s) :	47 CFR PART 1, Subpart I, Section 1.1310 47 CFR PART 2, Subpart J, Section 2.1093 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2023-06-08
Date of Evaluation:	2023-06-09 to 2023-09-14
Date of Issue:	2023-12-13
Evaluation Result:	**Pass***

* In the configuration evaluated, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2023-12-13		Original

Authorized for issue by:				
		Bill Chen **Bill Chen/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

2 Evaluation Summary

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

Declaration of EUT Family Grouping:

Model No.: NEXG 2, NEXG II,

NEXG 2 Classic, NEXG II Classic,

NEXG 2 Basic, NEXG II Basic

Only the model NEXG 2 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on colour and model No..

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3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	Headset microphone: DC 3.7V 450mAh by rechargeable battery and charged by an adapter. Guitars: DC 14.4V 2600mAh 37.44Wh by rechargeable battery and charged by an adapter. Handheld microphone: DC 3.6V 2600mAh 9.36Wh by rechargeable battery and charged by an adapter. Adapter Model: RY-U33 Input: AC 100-240V, 50/60Hz 0.8A Output USB-A+ Type-C: 5V 4.5A USB-A: 5V 4.5A/5V 3A/9V 3A/12V 2.5A/15V 2A/20V 1.5A Type-C: 5V 3A/9V 3A/10V 2.25A/12V 2.5A/15V 2A/20V 1.5A
For BT:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0 Dual mode
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	PCB Antenna
Antenna Gain:	2.8dBi
For BLE:	
BP1048 module	
Bluetooth Version:	V5.0 Dual mode
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	2.8dBi
CH573 module	
Bluetooth Version:	V5.0 LE
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	2.8dBi

4.2 Evaluating Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.3 Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI (Member No. 1937)**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None

5 Technical Requirements Specification

5.1 RF Exposure Evaluation

5.1.1 Limit & Test Method

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- 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

5.1.2 Conclusion

For BT:

The Max. power (including tune-up tolerance) is 0.15 dBm on the highest chann 2.402 GHz (*)
0.15 dBm logarithmic terms convert to numeric result is nearly 1.04 mW
According to the formula. calculate the test exclusion thresholds:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] [√f(GHz)]

$$General\ RF\ Exposure = (1.04\ mW / 5\ mm) \times \sqrt{2.402\ GHz} = 0.32 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)
So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR230600178302 and the User Manual.

For BLE:

bp1048

The Max. power (including tune-up tolerance) is 6.35 dBm on the highest chann 2.402 GHz (*)
6.35 dBm logarithmic terms convert to numeric result is nearly 4.32 mW
According to the formula. calculate the test exclusion thresholds:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]
[vf(GHz)]

$$General\ RF\ Exposure = (4.32\ mW / 5\ mm)\ x\ \sqrt{2.402\ GHz} = 1.34 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)
So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR230600178303 and the User Manual.

ch573

The Max. power (including tune-up tolerance) is 1.09 dBm on the highest chann 2.48 GHz (*)
1.09 dBm logarithmic terms convert to numeric result is nearly 1.29 mW
According to the formula. calculate the test exclusion thresholds:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]
[vf(GHz)]

$$General\ RF\ Exposure = (1.29\ mW / 5\ mm)\ x\ \sqrt{2.48\ GHz} = 0.41 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)
So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR230600178303 and the User Manual.

6 EUT Constructional Details (EUT Photos)

Refer to appendix - external and internal photos for SZCR2306001783AT

- End of the Report -