RF Exposure Evaluation Declaration

FCC ID:	2APLN-SSB
Applicant:	Seura Inc
Application Type:	Certification
Product:	Soundbar
Model No.:	SSB-1, SSB-2
Brand Name:	Seura
FCC Classification:	Digital Transmission System (DTS)
Test Procedure(s):	KDB 447498 D01v06

Reviewed By: Kevin Guo

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2109RSU056-U4	Rev. 01	Initial Report	01-14-2022	Valid

CONTENTS

1. General Information

1.1. Applicant

Seura, Inc

1230 Ontario Road, Green Bay, Wisconsin 54311, USA

1.2. Manufacturer

Hansong (Nanjing) Technology Ltd.

8th Kangping Road, Jiangning Economy and Technology Development Zone, Nanjing, 211106, China.

1.3. Testing Facility

☒	**Test Site – MRT Suzhou Laboratory**				
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China **Laboratory Location (Suzhou - SIP)** 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China				
	Laboratory Accreditations				
	A2LA: 3628.01		CNAS: L10551		
	FCC: CN1166		ISED: CN0001		
	VCCI:	☐R-20025	☐G-20034	☐C-20020	☐T-20020
		☐R-20141	☐G-20134	☐C-20103	☐T-20104
☐	**Test Site – MRT Shenzhen Laboratory**				
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China				
	Laboratory Accreditations				
	A2LA: 3628.02		CNAS: L10551		
	FCC: CN1284		ISED: CN0105		
☐	**Test Site – MRT Taiwan Laboratory**				
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)				
	Laboratory Accreditations				
	TAF: L3261-190725				
	FCC: 291082, TW3261		ISED: TW3261		

1.4. Product Information

Product Name	Soundbar
Model No.	SSB-1, SSB-2
Brand Name	Seura
Bluetooth Specification	V5.0 Dual mode
Antenna Information	Refer to section 1.5
Power Supply	AC 120V/60Hz

Remark:

1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.
2. Differences between models is only the size, the size of SSB-1 is 960mm, SSB-2 is 1450mm, all the PCBA are the same, so only SSB-2 was selected for all tests.

1.5. Radio Specification

Operating Frequency	2402~2480MHz
Channel Number	Bluetooth BR/EDR: 79 Bluetooth LE: 40
Type of modulation	GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	1Mbps, 2Mbps, 3Mbps
Antenna Type	PCB Antenna
Antenna Gain	1.14dBi

2. RF Exposure Evaluation

2.1. Test Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result

Product	Soundbar
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to clause 1.5.

Test Mode	Frequency Band (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	Compliance Distance (cm)	Power Density (mW/cm^2)	Limit of Power Density (mW/cm^2)
Bluetooth	2402 ~ 2480	-2.46	1.14	-1.32	20.00	0.0001	1

CONCLUSION:

The max Power Density at R (20 cm) = 0.0001mW/cm^2 < 1mW/cm^2.

So the compliance distance is 20cm for device installed without any other radio equipment.

Appendix A - EUT Photograph

Refer to “2109RSU056-UE” file.

The End