

## RF Exposure Evaluation Report

**Report Reference No.**..... : **MTEB25010074-H**

**FCC ID**..... : **2BNHC-SPHERE**

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**Representative Laboratory Name.:** **Shenzhen Most Technology Service Co., Ltd.**

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**Applicant's name**..... : **Studio Evolution Ukraine, LLC**

Address..... : Office 2, Polskiy Descent 11, Odesa 65026, Ukraine

**Test specification/ Standard**..... : **47 CFR Part 1.1307;47 CFR Part 1.1310**  
**KDB447498D01 General RF Exposure Guidance v06**

TRF Originator..... : Shenzhen Most Technology Service Co., Ltd.

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**Test item description**..... : **ACOUSTIC AUDIO SYSTEM EVOSOUND SPHERE**

Trade Mark..... : **STUDIO EVOLUTION**

Model/Type reference..... : **SE08SWA2-SE05SP**

Listed Models ..... : **SE08SWA-SE05SP, SE08SWA3-SE05SP, SE08SWA4-SE05SP,**  
**SE08SWA5-SE05SP**

Modulation Type..... : **GFSK,  $\pi/4$ DQPSK**

Operation Frequency..... : **2402MHz to 2480MHz**

Hardware Version..... : **V5.0**

Software Version..... : **V5.0**

Rating..... : **100V-120V 50/60Hz**

Result..... : **PASS**

## TEST REPORT

Equipment under Test : ACOUSTIC AUDIO SYSTEM EVOSOUND SPHERE

Model /Type : SE08SWA2-SE05SP

Listed Models : SE08SWA-SE05SP, SE08SWA3-SE05SP, SE08SWA4-SE05SP, SE08SWA5-SE05SP

Remark : Only the model “SE08SWA-SE05SP” was tested, Their electrical circuit design, layout, components used and internal wiring are identical, Only the model name and Appearance is different.

Applicant : Studio Evolution Ukraine, LLC

Address : Office 2, Polskiy Descent 11,Odesa 65026, Ukraine

Manufacturer : Xiamen Partyhouse Electronics Co.,Ltd

Address : Room 307 Floor3, building4, No.510, Haiming Road, Haixiang Avenue, Xiang'an District, Xiamen, China

<b>Test Result:</b>	<b>PASS</b>
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The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2025.01.09	Initial Issue	Alisa Luo

## 2. SAR Evaluation

### 2.1 RF Exposure Compliance Requirement

#### 2.1.1 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.

#### 2.1.2 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34 .....	614	1.63	*(100)	30
1.34–30 .....	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30–300 .....	27.5	0.073	0.2	30
300–1500 .....	.....	.....	f/1500	30
1500–100,000 .....	.....	.....	1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$  Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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.

**2.1.3 EUT RF Exposure****BLE**

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402 MHz)	1.001	$1.001 \pm 1$	2.001
Middle(2440MHz)	1.061	$1.061 \pm 1$	2.061
Highest(2480MHz)	1.788	$1.788 \pm 1$	2.788

**BLE**

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Highest(2480MHz)	2.788	1.90	-0.12	0.00037	1.0	Pass

Note: 1) Refer to report MTEB25010074-R1 for EUT test Max Conducted average Output Power value.

Note: 2)  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (1.90 \cdot 0.97) / (4 \cdot 3.1416 \cdot 20^2) = 0.00037$

## BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	0.681	$0.681 \pm 1$	1.681
Middle(2441MHz)	0.956	$0.956 \pm 1$	1.956
Highest(2480MHz)	0.691	$0.691 \pm 1$	1.691

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.607	$1.607 \pm 1$	2.607
Middle(2441MHz)	1.880	$1.880 \pm 1$	2.88
Highest(2480MHz)	1.617	$1.617 \pm 1$	2.617

Worst case: $\pi/4$ DQPSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Middle(2441MHz)	2.88	1.94	-0.12	0.00037	1.0	Pass

Note: 1) Refer to report MTEB25010074-R for EUT test Max Conducted average Output Power value.

Note: 2)  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2) = (1.94 \cdot 0.97) / (4 \cdot 3.1416 \cdot 20^2) = 0.00037$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

.....**THE END OF REPORT**.....