



Report No.: SZEM190601584404

Page: 1 of 8

# **SAR Evaluation Report**

**Application No.**: SZEM1907015844CR **Applicant:** Onkyo Corporation

Address of Applicant: KOKUGIKAN FRONT BUILDING 1-10-5 Yokoami Sumida-ku, Tokyo, Japan.

Manufacturer: Onkyo Corporation

Address of Manufacturer: KOKUGIKAN FRONT BUILDING 1-10-5 Yokoami Sumida-ku, Tokyo, Japan.

Factory: Dongguan Tenji Industrial Co.,Ltd

Address of Factory: 7 Hai Yi Road, Chongtou Community, Chang an Town, Dongguan City,

Guangdong Province, P.R.China

**Equipment Under Test (EUT):** 

**EUT Name:** Wireless Stereo Headphones

Model No.: SE-E9TW ♣

Please refer to section 4.1 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: Pioneer

FCC ID: ATMSEE9TW

Standards: 47 CFR Part 1.1307

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

**Date of Receipt:** 2019-07-01

**Date of Test:** 2019-07-03 to 2019-07-08

**Date of Issue:** 2019-07-11

Test Result : PASS\*

Keny Xu EMC Laboratory Manager

Ceny. xu



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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# 2 Version

	Revision Record				
Version	Chapter	Date	Modifier	Remark	
01		2019-07-11		Original	

Authorized for issue by:		
	Biu chen	
	Bill Chen /Project Engineer	
	EvicFu	
	Eric Fu /Reviewer	



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# 4 General Information

# 4.1 General Description of EUT

Power supply:	Left earphone: Rechargeable battery DC 3.7V 55mAh 0.2Wh (Charge by charge Box)
	Right earphone: Rechargeable battery DC 3.7V 55mAh 0.2Wh (Charge by charge Box)
For BT	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0(This test report is for classic mode.)
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Sample Type:	Portable production
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	Monopole
Antenna Gain:	Left earphone -4.8dBi Right earphone -5.43dBi
For BLE	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.0(This test report is for BLE mode.)
Modulation Type:	GFSK
Sample Type:	Portable production
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	Monopole
Antenna Gain:	Left earphone -4.8dBi Right earphone -5.43dBi

### **Declaration of EUT Family Grouping:**

Model No.: SE-E9TW

Only the sample with yellow-green was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above model, with only difference on colour.



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### 4.2 Test 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, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

# 4.3 Test Facility

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

#### • CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### 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

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. 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: CN1178

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

Designation Number: CN1178. Test Firm Registration Number: 406779.

### • 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.

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### 4.4 Deviation from Standards

None.

### 4.5 Abnormalities from Standard Conditions

None

# 4.6 Other Information Requested by the Customer

None.



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## 5 SAR Evaluation

# 5.1 RF Exposure Compliance Requirement

#### 5.1.1 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.

#### 5.1.2 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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]  $\cdot [\sqrt{f(GHz)}] \le 3.0$  for 1-g SAR and  $\le 7.5$  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<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq$  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

#### 5.1.3 EUT RF Exposure

#### For BT

### Left earphone

The Max. power (including tune-up tolerance) is 3.04 dBm on the lowest channel 2.402 GHz (\*) 3.04 dBm logarithmic terms convert to numeric result is nearly 2.01 mW According to the formula. calculate the test exclusion thresholds:

General RF Exposure = 
$$\frac{(\text{Max.Power of channel, including tune-up tolerance, mW}) * \sqrt{f (\text{GHz})}}{(\text{min.test separation distance,mm})}$$
 General RF Exposure =  $(2.01 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.62$  (1) SAR requirement:

 $S = 3.0 \tag{2}$ 

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

(\*) Max. power refer to Report No.:SZEM190701584402



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### Left earphone

The Max. power (including tune-up tolerance) is 3.74 dBm on the lowest channel 2.402 GHz (\*) 3.74 dBm logarithmic terms convert to numeric result is nearly 2.37 mW According to the formula. calculate the test exclusion thresholds:

 $General\ RF\ Exposure = \frac{(\textit{Max.Power of channel, including tune-up tolerance, mW)}*\sqrt{f\ (\textit{GHz})}}{(\textit{min.test separation distance,mm})}$ 

General RF Exposure =  $(2.37 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.73$  (1)

SAR requirement:

 $S = 3.0 \tag{2}$ 

(1) < (2)

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190701584402

#### For BLE

#### Right earphone

The Max. power (including tune-up toleranc 2.84  $\,$  dBm on the lowest channe 2.402  $\,$  GHz (\*) 2.84 dBm logarithmic terms convert to numeric result is nearly 1.92 mW  $\,$ 

According to the formula. calculate the test exclusion thresholds:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, n [Vf(GHz)]

General RF Exposure = (1.92 mW / 5 mm)  $x \sqrt{2.402} \text{ GHz} = 0.60$  (1)

SAR requirement:

 $S = 3.0 \tag{2}$ 

(1) < (2)

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190701584403

#### Right earphone

The Max. power (including tune-up toleranc 2.89 dBm on the lowest channe 2.402 GHz (\*) 2.89 dBm logarithmic terms convert to numeric result is nearly 1.95 mW According to the formula. calculate the test exclusion thresholds:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, n [Vf(GHz)]

General RF Exposure = (1.95 mW / 5 mm) x  $\sqrt{2.402}$  GHz = 0.60 (1)

SAR requirement:

 $S = 3.0 \tag{2}$ 

(1) < (2)

So the SAR report is not required.

(\*) Max. power refer to Report No.:SZEM190701584403

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