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Report No.: GZEM150500203304

Page: 1 of 8

SAR Evaluation Report

The following sample(s) was/were submitted and identified on behalf of the client as:

Application No. : GZEM1505002033CR (Ref. SZEM1504002241CR)
Applicant: Corsair Memory, Inc.
Manufacturer: Shenzhen Horn Audio Co., Ltd
Factory: Shenzhen Horn Audio Co., Ltd
Product Name: Wireless headset
Model No.(EUT): RDA0003
Trade Mark: Corsair
FCC ID: 2AAFMRDA0003
Standards: 47 CFR Part 1.1307 (2014)
47 CFR Part 2.1093 (2014)
KDB447498D01 General RF Exposure Guidance v05r02
Date of Receipt: 2015-05-08
Date of Test: 2015-05-14 to 2015-05-22
Date of Issue: 2015-05-27

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.


Jerry Chan
Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00		2015-05-27		Original

Authorized for issue by:			
Tested By			
	(Little Xiang) /Project Engineer		2015-05-14 to 2015-05-22 Date
Prepared By			
	(June Chen) /Clerk		2015-05-27 Date
Checked By			
	(Jerry Chan) /Reviewer		2015-05-27 Date



3 Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 CONTENTS	3
4 GENERAL INFORMATION	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT	4
4.3 TEST LOCATION.....	4
4.4 TEST FACILITY	5
4.5 DEVIATION FROM STANDARDS	6
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	6
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER	6
5 SAR EVALUATION	7
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT	7
5.1.1 <i>Standard Requirement</i>	7
5.1.2 <i>Limits</i>	7
5.1.3 <i>EUT RF Exposure</i>	7



4 General Information

4.1 Client Information

Applicant:	Corsair Memory, Inc.
Address of Applicant:	47100 Bayside Pkwy, Fremont, CA 94538, USA
Manufacturer:	Shenzhen Horn Audio Co., Ltd
Address of Manufacturer:	No.6, 4 th Guihua Rd, Pingshan, Longgang, Shenzhen
Factory:	Shenzhen Horn Audio Co., Ltd
Address of Factory:	No.6, 4 th Guihua Rd, Pingshan, Longgang, Shenzhen

4.2 General Description of EUT

Product Name:	Wireless headset
Model No.:	RDA0003(RDA0003 is identical on circuitry design, PCB layout, electrical components used, internal wiring and functions ,which we chose to be tested by SGS and only different on color.)
Trade Mark:	Corsair
Carrier Frequency	2425.35MHz-2477.35MHz
Modulation Type:	$\pi/4$ DQPSK
EUT Function:	Wireless headset
Test Power Grade:	Default setting (manufacturer declare)
Test Software of EUT:	VMI Dev Software (manufacturer declare)
Sample Type:	Portable production
Antenna Type:	Integral
Antenna Gain:	-0.61dBi
Power Supply:	Rechargeable battery DC 3.7V 1000mAh Charge by USB
USB Cable:	160cm unshielded
Test Voltage:	AC 120V 60Hz

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



4.4 Test Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

- **FCC (Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **Industry Canada (Registration No.: 4620B-1)**

The 3m/10m Alternate Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Certification and Engineering of Industry Canada for radio equipment testing with Registration No. 4620B-1.

- **VCCI (Registration No.: R-2460, C-2584, G-449 and T-1179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2460, C-2584, G-449 and T-1179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01:2006-10 and Rules of procedure IECEE 02:2006-10, and the relevant IECEE CB-Scheme Operational documents.



4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.



5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v05r02

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:

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

$f(\text{GHz})$ 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

5.1.3 EUT RF Exposure

For Antenna1:

The Max Conducted Peak Output Power is 3.15dBm in lowest channel(2.42535GHz);

The best case gain of the antenna is -0.61dBi.

$\text{EIRP} = 3.15\text{dBm} - 0.61\text{dBi} = 2.54\text{dBm}$

2.54dBm logarithmic terms convert to numeric result is nearly 1.795mW

According to the formula. calculate the EIRP test result:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})}$$

General RF Exposure = $(1.795\text{mW} / 5 \text{ mm}) \times \sqrt{2.42535\text{GHz}} = 0.5591$ ①

SAR requirement:

$S = 3.0$

② ;

① < ②.

So the SAR report is not required.



For Antenna2:

The Max Conducted Peak Output Power is 1.79dBm in lowest channel(2.42535GHz);

The best case gain of the antenna is -0.61dBi.

EIRP= 1.79dBm - 0.61dBi = 1.18dBm

1.18dBm logarithmic terms convert to numeric result is nearly 1.312mW

According to the formula. calculate the EIRP test result:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(1.312\text{mW} / 5 \text{ mm}) \times \sqrt{2.42535\text{GHz}} = 0.4086$ ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.