

RF Exposure Evaluation Report

Product : Wireless Headset
Trade mark : CORSAIR
Model/Type reference : RDA0031
Serial Number : N/A
Report Number : EED32M00130003
FCC ID : 2AAFMRDA0031
Date of Issue : Jul. 29, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

Corsair Memory, Inc
47100 Bayside Pkwy, Fremont, CA 94538

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Compiled by:

Smile Zhong

Reviewed by:

Jok Yang

Approved by:

Sam Chuang

Date:

Jok Yang
Jul. 29, 2020



Sam Chuang

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2 Version

Version No.	Date	Description
00	Jul. 29, 2020	Original

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4 General Information

4.1 Client Information

Applicant:	Corsair Memory, Inc
Address of Applicant:	47100 Bayside Pkwy, Fremont, CA 94538
Manufacturer:	Corsair Memory, Inc
Address of Manufacturer:	47100 Bayside Pkwy, Fremont, CA 94538
Factory:	Minami Acoustics Limited
Address of Factory:	Shangou Industrial Park Gongjiang Town, Yudu County Ganzhou City Jiangxi 342300 China

4.2 General Description of EUT

Product Name:	Wireless Headset
Model No.(EUT):	RDA0031
Trade Mark:	CORSAIR
EUT Supports Radios application:	2.4GHz Wi-Fi: 802.11b/g/n(HT20): 2412MHz ~2462 MHz; 5GHz Wi-Fi: U-NII-1: 5.15-5.25GHz; U-NII-3: 5.725-5.850GHz

4.3 Product Specification subjective to this standard

Frequency Range:	2.4GHz Wi-Fi:802.11b/g/n(HT20): 2412MHz ~2462 MHz; 5GHz Wi-Fi: U-NII-1: 5.15-5.25GHz; U-NII-3: 5.725-5.850GHz	
Modulation Type:	DSSS,OFDM	
Test Power Grade:	Reference report EED32M00130001, EED32M00130002	
Test Software of EUT:	Atheros Radio Test 2 (ART2-GUD)	
Antenna Type:	PCB antenna	
Antenna Gain:	2.4G WIFI: 4.06 dBi 5G WIFI: 5.52dBi	
Power Supply:	Battery	603450 3.7V 1050mAh 3.885Wh
Max Conducted Peak Output Power:	2.4G WIFI: 4.51dBm; 5G WIFI: 1.04dBm The Max Conducted Peak Output Power data refer to the report EED32M00130001, EED32M00130002	
Sample Received Date:	May 18, 2020	
Sample tested Date:	May 18, 2020 to Jul. 22, 2020	
The tested sample(s) and the sample information are provided by the client.		

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

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 v06

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:

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

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 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

The tune-up power is

2.4G WIFI: $4.5\text{dBm} \pm 0.5\text{dBm}$

5G WIFI: $0.5\text{dBm} \pm 1.0\text{dBm}$

, therefore the highest tune-up power is

2.4G WIFI:

5.0 dBm	(3.16 mW)	@ 2437 MHz
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5G WIFI:

1.5 dBm	(1.41 mW)	@ 5745 MHz
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When the minimum test separation distance is $< 5\text{ mm}$, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

2.4G WIFI:

$(3.16\text{mW} / 5\text{mm}) * (2.437\text{GHz}^{0.5}) = 1.0$
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5G WIFI:

$(1.41\text{mW} / 5\text{mm}) * (5.745\text{GHz}^{0.5}) = 0.7$
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$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = 1.0 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00130001 for EUT external and internal photos.

*** End of Report ***

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