



Shenzhen Huaxia Testing Technology Co., Ltd

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640

Fax: +86-755-26648637

Website: www.cqa-cert.com

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RF Exposure Evaluation Report

Report No. : CQASZ20210400022EX-02

Applicant: ShenZhen ZhongKeRui Electronics CO ., LTD.

Address of Applicant: 501, Building A, Nankeng 2nd Industrial Park, Bantian, Longgang, Shenzhen 518129, China

Manufacturer: ShenZhen ZhongKeRui Electronics CO ., LTD.

Address of Manufacturer: 501, Building A, Nankeng 2nd Industrial Park, Bantian, Longgang, Shenzhen 518129, China

Equipment Under Test (EUT):

Product: Bike Head Light PR1600

All Model No.: PR1600, PR1400, PR1800, PR2000, PR2200

Test Model No.: PR1600

Brand Name: RAVEMEN

FCC ID: 2AYUF-PR1600

Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01 General RF Exposure Guidance v06

Date of Test: 2021-04-01 to 2021-04-09

Date of Issue: 2021-04-09

Test Result : PASS

Tested By:

Jun Li

(Jun Li)

Reviewed By:

Ares Liu

(Ares Liu)

Approved By:

Sheek Luo

(Sheek Luo)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210400022EX-02	Rev.01	Initial report	2021-04-09

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3 General Information

3.1 Client Information

Applicant:	ShenZhen ZhongKeRui Electronics CO ., LTD.
Address of Applicant:	501, Building A, Nankeng 2nd Industrial Park, Bantian, Longgang, Shenzhen 518129, China
Manufacturer:	ShenZhen ZhongKeRui Electronics CO ., LTD.
Address of Manufacturer:	501, Building A, Nankeng 2nd Industrial Park, Bantian, Longgang, Shenzhen 518129, China

3.2 General Description of EUT

Product Name:	Bike Head Light PR1600
Test Model No.:	PR1600
Trade Mark:	RAVEMEN
Hardware Version:	V1.0
Software Version:	V11
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Antenna Gain:	0dBi
Power Supply:	battery: DC 3.7V

3.3 General Description of BT

Operation Frequency:	2452MHz
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	1
Antenna Type:	PCB antenna
Antenna Gain:	0dBi

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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.

4.1.2 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

4.1.3 EUT RF Exposure Evaluation**1) For 2.4G**

Antenna Gain: 0dB

Measurement Data

Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tuneup Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2452MHz)	-7.287	-7±1	-6	0.251	0.078	3.0

Conclusion: the calculated value ≤ 3.0 , SAR is exempted.

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210400022EX-01