

# <u>Test Report</u>

Number: GZHH00291602

Jul 28, 2018

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Date:

Applicant:

GUANGDONG XIN YU TECHNOLOGY INDUSTRIAL CO.,LTD. LAI MEI INDUSTRIAL ZONE, CHENGHAI DISTRICT, SHAN TOU, GUANGDONG, CHINA

Attn: MS LIN

Sample Description:

One (1) set submitted same	ole said	to be :
Item Name	:	RC Toys
Item No.	:	3810
Labelled Age Group	:	"8+"
Applicant Specified Age	:	Over 8 years
Grading for Testing		
Packaging Provided by	:	Yes
Applicant		
Country of Origin	:	China
		G7HH0029160



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Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

Conclusion:

The tested sample was tested and found to comply with EN 60825-1:1994 + A1:2002 + A2:2001 Class 1 LED Product.

Authorized by: For Intertek Testing Services Shenzhen Ltd. Guangzhou Branch, Hardlines



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 Intertek Testing Services Shenzhen Limited, Guangzhou Branch
 E501/E601/E

 深圳天祥质量技术服务有限公司广州分公司
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E501/E601/E701/E801 No.7-2, Caipin Road, Guangzhou Science City, GETDD Guangzhou. 广州经济技术开发区科学城彩频路7号之二 E501、E601、E701、E801 (510663) Page 1 of 5 Tel +8620 8213 9688 Fax +8620 3205 3537 intertek.com.cn intertek.com



### Test Report

Tests Conducted

1 <u>Safety of Laser Products</u>

As per European Standard EN 60825-1:1994 + A1:2002 + A2:2001 on Safety of Laser Product Part 1: Equipment Classification, Requirements and User's Guide-Section Two: Manufacturing Requirements.

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Classification of the laser product			
Laser and/or LED product class for which the equipment is assigned :	Class 1 LED product		
Laser and/or LED product class of the equipment:			
Laser and/or LED product class of the embedded laser/LED :			
Test specification			
Test procedure :	Testing (Laser classification only)		
Test case verdicts			
Test case does not apply to the test object:	N/A		
Test item does meet the requirement :	Pass		
General product information:			
In normal operation ${}^{,}$ the vehicle is operated by 5 pieces "AA" batteries, the transmitter is operated by 2			

pieces "AA" batteries.

Clause	Requirement – Test	Result – Remark	Verdict
4	Engineering Specifications		N/A
5	Labelling		N/A
6	Other Informational Requirements           Additional Requirements for Specific Laser Products		N/A
7			N/A
8	Classification (Normal Condition)		Pass
8.4	Classification rules		Pass
	Applicable condition/s	Condition 2	Pass
8.4e	Time base used	100s for Class 1 limits;	Pass

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Clause	Requirement – Test	Result – Remark	Verdio
	Calculations and limits:		Pass
	1.Ø3mm water clear white LED in the vel	nicle:	
	Measured wavelength: 452.0 nm (400-8	300nm)	
	Measured thermal power: 309.84 $\mu W$		
	AEL(1) for retinal thermal hazard: 2.63 r	nW	
	Measured photochemical power: 12.40	μW	
	AEL(1) for retinal photochemical hazard	: 42.76 µW	
	2. Ø3mm diffuse red LED in the transmit	ter:	
	Measured wavelength: 629.0 nm		
	Measured thermal power: 13.88 µW		
	AEL(1) for retinal thermal hazard: 626.5	1 μW	
8.4f	Repetitively pulsed or modulated lasers	Continuous	N/A
	Calculations and limits		N/A
	AEL for continued operation used		N/A
	Total-on-time-pulse (TOTP) method used		N/A
9	Measurements for Classification (Norma	I Condition)	Pass
9.1	Tests		Pass
9.2	Measurement conditions		Pass
	Measured laser radiation	a,b,c,d,e,f,g	_
9.3	Measurement geometry		Pass
-	a) aperture diameter (mm)	7mm	Pass
	b) measurement distance (mm)	Thermal hazard:	Pass
		1.33.2 mm for Ø3mm water clear white LED in the vehicle;	
		2. 16.9mm for Ø3mm diffuse red LED in the transmitter.	
		Photochemical hazard:	
		1.96.3 mm for Ø3mm water clear white LED in the vehicle.	
	c) angle of acceptance $\gamma$		Pass
	i) photochemical limits	11mrad (at t = 100s)	Pass
	ii) all other limits	100mrad	Pass



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### Test Report

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Tests Conducted

Clause Requirement – Test Result – Remark Verdict	onauotoa		
	Clause	Result – Remark	Verdict

8	Classification (Fault Condition)		Pass
8.4	Classification rules		Pass
	Applicable condition/s	Condition 2	Pass
8.4e	Time base used	100s for Class 1 limits;	Pass
	Calculations and limits:		Pass
	1.Ø3mm water clear white LED in the veh	iicle:	
	Measured wavelength: 452.0 nm (400-8	00nm)	
	Measured thermal power: 385.16 $\mu$ W		
	AEL(1) for retinal thermal hazard: 2.63 m	۱W	
	Measured photochemical power: 17.32 µW		
	AEL(1) for retinal photochemical hazard:	42.76 μW	
	2. Ø3mm diffuse red LED in the transmitt	er:	
	Measured wavelength: 629.0 nm		
	Measured thermal power: 15.01 $\mu W$		
	AEL(1) for retinal thermal hazard: 626.51 µW		
8.4f	Repetitively pulsed or modulated lasers	Continuous	N/A
	Calculations and limits		N/A
	AEL for continued operation used		N/A
	Total-on-time-pulse (TOTP) method used		N/A
9	Measurements For Classification (Fault Condition)		Pass
9.1	Tests		Pass
9.2	Measurement conditions		Pass
	Measured laser radiation	a,b,c,d,e,f,g	—
9.3	Measurement geometry		Pass
	a) aperture diameter (mm)	7mm	Pass



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Clause	Requirement – Test	Result – Remark	Verdict
	b) measurement distance (mm)	Thermal hazard:	Pass
		1.33.2 mm for Ø3mm water clear white LED in the vehicle;	
		2. 16.9mm for Ø3mm diffuse red LED in the transmitter.	
		Photochemical hazard:	
		1.96.3 mm for Ø3mm water clear white LED in the vehicle.	
	c) angle of acceptance $\gamma$		Pass
	i) photochemical limits	11mrad (at t = 100s)	Pass
	ii) all other limits	100mrad	Pass

Date sample received: Jul 17, 2018

Testing period: Jul 17, 2018 to Jul 25, 2018

#### End of report

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