

# TEST REPORT

**Product Name : Led Stick**

**Model Number : FE001**

Prepared for : Shenzhen Greatfavoian Electronic CO., LTD  
Address : 5F, Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road,  
Baoan District, Shenzhen, China 518126

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Report Number : EDG2208010042L00201R  
Date(s) of Tests : August 01, 2022 to August 04, 2022  
Date of issue : August 04, 2022



**Applicant** : Shenzhen Greatfavian Electronic CO., LTD  
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**Manufacturer** : Shenzhen Greatfavian Electronic CO., LTD  
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**Factory** : Shenzhen Greatfavian Electronic CO., LTD  
**Address** : 5F,Tongfuyu Industrial Park, Lezhujiao, Zhoushi Road, Baoan District, Shenzhen, China 518126

**Sample Name** : Led Stick  
**Style/Item No.** : FE001

**Labeled Age Grading** : 3+  
**Requested Age Grading** : 3+  
**Age Group Applied in Testing** : 3+  
**Sample Received Date** : August 01, 2022  
**Testing Completed Date** : August 04, 2022

**Test Requested** : As requested by client, test for compliance with EN IEC 62115:2020+A11:2020 and BS EN IEC 62115:2020+A11:2020 on Safety of Electric Toys

**Test Results** : Please refer to next page(s).

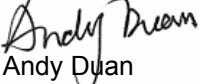
**Executive Summary:****STANDARD****CONCLUSION**

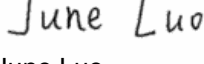
EN IEC 62115:2020+A11:2020 Safety of Electric Toy;  
BS EN IEC 62115:2020+A11:2020 Safety of Electric Toy

PASS  
(Subjected to remark)

Signed for and on behalf of  
EMTEK (Dongguan) Co., Ltd.



Prepared by:   
Andy Duan  
Report Engineer

Reviewed by:   
June Luo  
Supervisor

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Billy Wang  
Manager

## Test Results:

As per Standard EN IEC 62115:2020+A11:2020 and BS EN IEC 62115:2020+A11:2020 on Safety of Electric Toys.

Power input: 4.5VDC(3× AAA size batteries) for electric toy.

Electric operated function is powered by batteries.

Clause	Testing Items	Assessment
1.	Scope	--
2.	Normative references	--
3.	Terms and definitions	--
4.	General requirement	--
5.	General conditions for tests	--
6.	Criteria for reduced testing	NA
6.1	General	NA
6.2	Short-circuit resistance	NA
6.3	Low power electric toys	NA
6.4	Battery circuits	NA
7.	Marking and instructions	P
7.1	General	See Remark 1
7.2	Markings on electric toys	P
7.2.1	Identification	P
7.2.2	Electric toys with replaceable batteries	P
7.2.3	Transformer toys and power supply toys	NA
7.2.4	Electric toys with more than one power supply	NA
7.2.5	Electric toys with detachable lamps	NA
7.2.6	Symbols	P
7.2.7	Durability	P
7.3	Instructions and markings on packaging	P
7.3.1	General	P
7.3.2	Transformer toys and power supply toys	NA
7.3.3	Electric toys that are used with replaceable batteries	P
7.3.3.1	General	P
7.3.3.2	Coin batteries	NA
7.3.3.3	Button batteries	NA
7.4	Instructions for electric toys that can be connected to class I equipment	NA
7.5	Instructions for ride-on electric toys	NA
7.6	Temperature warnings	NA

Clause	Testing Items	Assessment
8.	Power input	NA
9.	Heating and abnormal operation	P
9.1	General	P
9.2	Testing condition	--
9.3	Normal operation	P (See table 1)
9.4	Normal operation with insulation short-circuited	NA
9.5	Abnormal operation with temperature controls made inoperable	NA
9.6	Electric toys with accessible moving parts locked	NA
9.7	Additional transformers and power supplies	NA
9.8	Abnormal supply to electric toys via a USB connection	NA
9.9	Fault condition in electronic circuits	NA
9.10	Compliance criteria	P
10.	Electric strength	P
10.1	Electric strength at operating temperature	P
10.2	Electric strength under humid conditions	P
11.	Electric toys used in water, electric toys used with liquid and electric toys cleaned with liquid	NA
12.	Mechanical strength	P (See table 2)
12.1	Enclosures	P
12.2	Attachment strength	P
13.	Construction	P
13.1	Nominal supply voltage	P
13.2	Transformers, power supplies and battery chargers	NA
13.3	Thermal cut-outs	NA
13.4	Batteries	P
13.4.1	Small batteries	P
13.4.2	Other batteries	NA
13.4.3	Electrolyte leakage	NA
13.4.4	Electric toys placed above a child	NA
13.4.5	Parallel connection of batteries	NA
13.4.6	Battery compartment fasteners	P
13.5	Plug and sockets	NA
13.6	Charging batteries	NA
13.7	Series motors	NA
13.8	Working voltage	NA
13.9	Electric toys connecting to other equipment	NA
13.10	Speed limitation of ride-on electric toys	NA
14.	Protection of cords and wires	P
14.1	Edges and moving parts	P
14.2	Fixed parts	P

Clause	Testing Items	Assessment
15.	Components	P
15.1.1	General	P
15.1.2	Switches and automatic controls	P
15.1.3	Other components	P
15.2	Prohibited components	NA
15.3	Transformers and power supplies	NA
15.4	Battery chargers	NA
15.5	Batteries	See Remark 2
16.	Screws and connections	P
16.1	Fixings	P (See table 3)
16.2	Connections	NA
17.	Clearances and creepage distances	P
18.	Resistance to heat and fire	P
18.1	Resistance to heat	NA
18.2	Resistance to fire	P (See table 4)
18.2.1	General	P
18.2.2	Non-metallic parts	P
18.2.3	Insulating material	NA
19.	Radiation and similar hazards	--
19.1	General	See Remark 3
19.2	Optical radiation Electric toys incorporating lasers and or light emitting diodes (LED) or UV emitting lamps shall comply with Annex E. Electric toys incorporating LEDs shall comply with 19.E.2. Electric toys incorporating lasers shall comply with 19.E.3. Electric toys incorporating UV-emitting lamps shall comply with 19.E.4.	P See Annex E
19.3	Other electromagnetic radiation Measurements methods for electric toys with an integrated field source that may produce harmful electromagnetic radiation are given in Annex I.	NA
Annex D	Electric toys with protective electronic circuits D.1 General During the tests of 9.9 an electronic circuit prevents the hazardous conditions listed in 9.10 D.2 Dangerous malfunction D.2.1 General The electric toy causes an unintended operation that may impair safety or present a dangerous malfunction due to influence from electromagnetic phenomena (EMP). D.2.2 Electrostatic discharge In accordance with IEC 61000-4-2:2008, test level 4 D.2.3 Radiated fields In accordance with IEC 61000-4-3:2006+A1:2007+A2:2010, test level 3, cover 80 MHz to 1000 MHz and 1,4 GHz to 2,0 GHz. D.2.4 Transient bursts In accordance with IEC 61000-4-4:2012. -Test level 3 with a repetition rate of 5 kHz is applicable for signal and control lines. -Test level 4 with a repetition rate of 5 kHz is applicable for the power supply lines.	NA

	<p>D.2.5 Voltage surges In accordance with IEC 61000-4-5:2014, -Test level 4 is applicable for the line-to-line coupling mode, a generator having a source impedance of 2 Ω being used. - Test level 4 is applicable for the line-to-earth coupling mode, a generator having a source impedance of 12 Ω being used.</p> <p>D.2.6 Injected current In accordance with IEC 61000-4-6:2013 test level 3 being applicable. During the test, all frequencies between 0,15 MHz to 80 MHz are covered.</p> <p>D.2.7 Voltage dips and interruptions Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11:2004.</p> <p>D.2.8 Mains signals In accordance with IEC 61000-4-13:2002/AMD2:2015, Table 11 with test level class 2 using the frequency steps according to Table 10.</p>	
Annex J	Safety of remote controls for electric ride-on toys	NA

Remark: P = Pass      NA= Not applicable      NC=Test object does not considered by applicant

Remark:

1. Only the English version of the marking and instructions were assessed. According to the standard, instruction sheets and other texts required by the standard shall be written in the official language of the country in which the product is to be sold.
2. Applicant needs to ensure that the primary batteries supplied with electric toy shall comply with the relevant parts of the IEC 60086 series.
3. This report only covers the essential safety requirements concerning electrical properties on the safety of toys and in order to comply with BS EN IEC 62115:2020+A11:2020 and EN IEC 62115:2020+A11:2020, electrical toys also have to comply with EN71-3 for the toxicological hazards.

Table1:

Heating and abnormal operation

Temperature rise (Normal operation):		
Ambient temperature : (Deg. C)		25.0°C
Location	Temperature Rise (K)	Limit (K)
Battery surface	2.1	45
Battery compartment	1.7	45
Accessible surface (Max.): Battery cover	1.3	50

Table 2:

Mechanical strength

Testing Location	Impact Energy (J)	Test times	Result
Enclosure	0.5	3	No defect

Table 3:

Threaded Part Torque Test

Threaded part identification	Diameter of thread (mm)	Column number ( I or II)	Applied torque (Nm)
Screw fixed for enclosure	2.07	II	0.4
Screw fixed for battery cover	1.75	II	0.4

Table 4:

Resistance to heat and fire

Glow-wire test (550 Deg. C)		
Location / Part	Test temperature (°C)	Result Observation
Battery compartment	550	No flame, no molten drop



**Annex E:**

<b>19</b>	<b>Radiation, toxicity and similar hazards</b>		P
19.2a	Electric toys incorporating LEDs shall comply with 19.E.2.		P
19.2b	Electric toys incorporating lasers shall comply with 19.E.3.		NA
19.2c	Electric toys incorporating UV-emitting lamps shall comply with 19.E.4.		NA
19.2d	All electric toys incorporating optical radiation sources shall comply with 19.E.5.		NA
<b>19.E.2</b>	<b>Light-emitting diodes (LEDs)</b>		P
	0,01 W/m <sup>2</sup> when assessed at 10 mm from the LED front for accessible emissions with wavelengths of < 315 nm		NA
	0,01 W/sr or 0,25 W/m <sup>2</sup> when assessed at 200 mm, for accessible emissions with wavelengths of 315nm ≤λ< 400 nm		NA
	0,04 W/sr or the AEL specified in Tables E.2 or E.3 assessed at 200 mm for accessible emissions with wavelengths of 400nm ≤λ<780 nm		P
	0,64 W/sr or 16 W/m <sup>2</sup> when assessed at 200 mm for accessible emissions with wavelengths of 780nm ≤λ< 1 000 nm;		NA
	0,32 W/sr or 8 W/m <sup>2</sup> when assessed at 200 mm for accessible emissions with wavelengths of 1000nm ≤λ< 3 000 nm.		NA
<b>19.E.2.1</b>	<b>Measurement of emission from electric toys</b>		P
	The measurement is taken after steady state conditions have been reached for a minimum of 60 s.		P
	the driving current for the LED is that measured under normal conditions or the fault conditions of 9.9.		--
	Should the accessible emissions of the LED not exceed the requirements of 19.E.2		P
<b>19.E.2.2</b>	<b>Use of LED data sheets</b>		NA
	the luminous intensity in candela or radiant intensity in Watts per steradian as a function of forward current		NA
	the angle		NA
	the peak wavelength		NA
	the spectral emission bandwidth		NA
	the date of issue and the revision number		NA
<b>19.E.2.2.1</b>	<b>UVB and UVC AEL</b>		NA
	Ultraviolet radiation emissions with wavelengths < 315 nm shall not exceed an AEL of 0,01 Wm <sup>-2</sup>		NA



<b>19.E.2.2.2</b>	<b>UVA AEL</b>		NA
	The output of ultraviolet radiation with a wavelength $315 \text{ nm} \leq \lambda < 400 \text{ nm}$ (UVA) from LEDs shall not exceed the AEL as calculated using $0,01 \times C/A \text{ [Wsr}^{-1}]$		NA
<b>19.E.2.3</b>	<b>Visible light AEL</b>	See test data 1	P
a)	The output of visible optical radiation with a wavelength $400 \text{ nm} \leq \lambda < 780 \text{ nm}$ from LEDs		P
b)	a spectral emission bandwidth with emission $< 400 \text{ nm}$ ,		NA
c)	For white LEDs comprising a blue emitter and a phosphor coating, a peak wavelength of $500 \text{ nm}$ shall be used as an approximation of the actual spectrum		NA
	Where the output is given in Watts per steradian, the most restrictive limit is used		NA
d)	For combination colour LEDs (such as a rose colour LED consisting of a blue emitter and a deep red emitter)		NA
	each peak wavelength used shall be assessed separately		NA
	Each colour shall be assigned a proportion of its AEL		NA
	The sum of the ratios shall not exceed 1,0.		NA
<b>19.E.2.4</b>	<b>Infrared AEL</b>		NA
	For a peak emission wavelength $780 \text{ nm} \leq \lambda < 1000 \text{ nm}$ , an AEL of $0,64 \text{ Wsr}^{-1}$		NA
	For a peak emission wavelength $1000 \text{ nm} \leq \lambda < 3000 \text{ nm}$ , an AEL of $0,32 \text{ Wsr}^{-1}$		NA
<b>19.E.2.5</b>	<b>Groups of LEDs</b>		P
	less than or equal to $280 \text{ mm}$ , when measured centre to centre, for LEDs having emission with wavelengths $< 400 \text{ nm}$		NA
	less than or equal to $40 \text{ mm}$ , when measured centre to centre, for LEDs having emission with wavelength $\geq 400 \text{ nm}$		P
<b>19.E.3</b>	<b>Lasers</b>		NA
	Lasers in electric toys shall not exceed the AEL for class 1 laser products when measured in accordance with Clause 4 and 5 of IEC 60825-1:2014 using measurement conditions in IEC TR 60825-13 where appropriate.		NA
<b>19.E.4</b>	<b>UV-emitting lamps</b>		NA
<b>19.E.5</b>	<b>Modulated accessible emission</b>		NA

	The packaging or instructions for electric toys with modulated output from visible optical radiation sources with a frequency of modulation between 4 Hz and 60 Hz		NA
	WARNING: This toy produces flashes that may trigger epilepsy in sensitized individuals		NA

**Remark:**

Age correction factor C=1.0

**Test data 1:**

Test Type	Peak wavelength (nm)	Spectral emission bandwidth(nm)	Driving current (mA)	Measured intensity (cd)	AEL(cd)	Verdict
Red light	625	19.6	/	0.9870	38.4	Pass
Green light	515	31.7	/	2.2889	38.4	Pass
Blue light	460	22.2	/	0.6653	2.2	Pass

Picture



Figure 1: Overall view

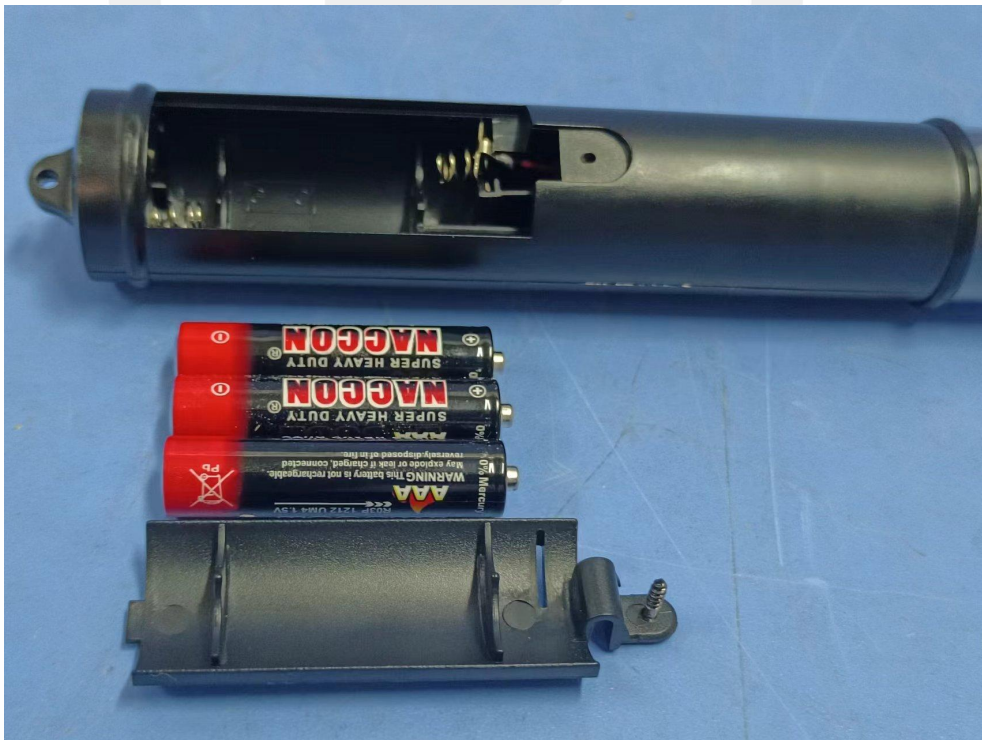


Figure 2: Internal view

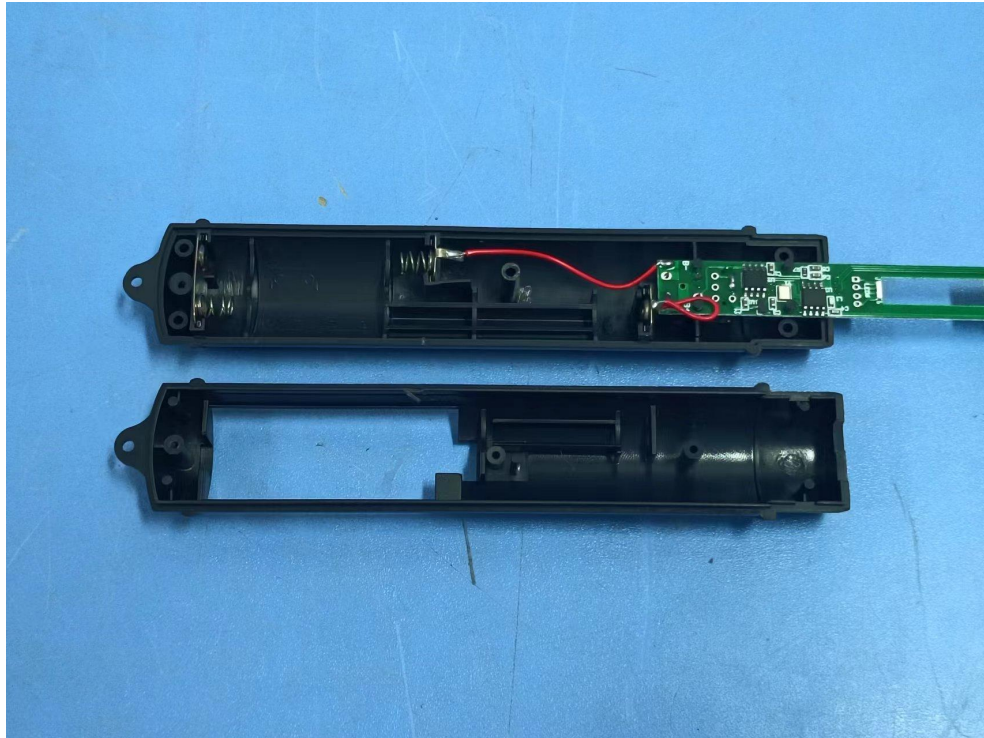


Figure 3: Internal view

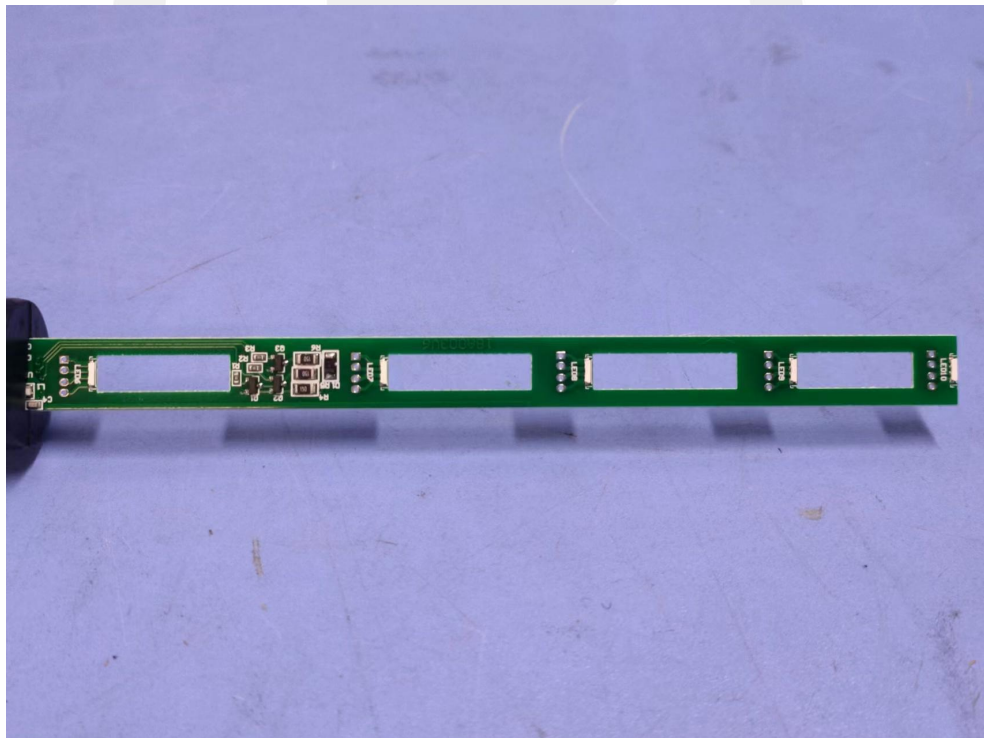


Figure 4: Internal view

\* \* \* \* \* The End \* \* \* \* \*



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