CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AL025609-001	Date :	2009-07-15
Application No.	:	LL219749(0)		
Applicant	:	Jada Toys Co., Ltd. Unit 305-308, 3/F., Tower B, New Mandarin Plaza, No. 14 Science Museum Road, T.S.T. East, Kowloon, Hong Kong.		
Sample Description	:	One(1) submitted sample(s) stated to be 1:10 Big Time Muscle RC of Model No. 84031 Radio Frequency : 49.860MHz Receiver Rating : 1 x 6V rechargeable battery No. of submitted sample : Two (2) piece(s)		
Date Received	:	2009-07-02.		
Test Period	:	2009-07-06 to 2009-07-13.		
Test Requested	:	FCC Part 15 Certification.		
Test Method	:	47 CFR Part 15 (10-1-08 Edition) ANSI C63.4 – 2003		
Test Result	:	See attached sheet(s) from page 2 to 11.		
Conclusion	:	The submitted sample was found to comply with requirement of FCC Part 15 Subpart B.		

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____

Mr. Wong Lap-pong, Andrew
Assistant Manager
Electrical Division

FCC ID: PWYJT49RX97000

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1 General Information

1.1 General Description

The equipment under test (EUT) is a receiver for 1:10 Big Time Muscle RC. It operates at 49.860MHz and the oscillation of radio control is generated by a LRC circuit. The EUT is powered by 1 x 6V rechargeable battery. When it switched "ON" and received a radio control signal, it will be going to corresponding "Forward", "Backward", "Turnleft" and "Turnright" direction..

The brief circuit description is listed as follows:

- C5, R3, Q1, L2, C3 and associated circuit act as radio receiver.
- U1 and associated circuit act as decoder.
- Q5 ~ Q16 and associated circuit act as motor controller.
- Q4 and associated circuit act as power controller.

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1.2 Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. A shielded room is located at :

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
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New Territories,
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1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	R&S	ESCI	100152	2009 Dec 02
Broadband Antenna	Schaffner	CBL6112B	2718	2010 Aug 04

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2 Description of the radiated emission test

2.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

A signal generator was used to radiate an unmodulated continuous wave (CW) signal to the EUT (superregenerative receiver) at its operating frequency in order to “cohere” the characteristic broadband emissions from the receiver.

2.2 Test Result

The frequencies from 30MHz to 1000MHz were investigated, and emissions more 20dB below limited were not reported. Thus, those higher emissions were presented in next page (section 2.3)

The emissions meeting the requirement of section 15.109 are based on measurements employing the CISPR quasi-peak detector below 1000MHz and average detector for frequencies above 1000MHz.

It was found that the EUT meet the FCC requirement.

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2.3 Radiated Emission Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 subpart B

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBµV/m)	Antenna and Cable factor (dB)	Field Strength (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
47.740	V	20.0	10.9	30.9	40.0	-9.1
48.140	V	19.9	10.9	30.8	40.0	-9.2
48.580	V	20.1	10.9	31.0	40.0	-9.0
52.420	V	21.9	8.6	30.5	40.0	-9.5
93.940	V	14.8	9.8	24.6	43.5	-18.9
106.640	V	9.7	11.2	20.9	43.5	-22.6
163.860	V	11.0	11.0	22.0	43.5	-21.5
166.360	V	11.5	11.0	22.5	43.5	-21.0
257.160	H	20.6	14.1	34.7	46.0	-11.3
275.760	H	20.5	14.1	34.6	46.0	-11.4
275.860	H	20.4	14.1	34.5	46.0	-11.5

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3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

No measurement is required as the EUT is a battery-operated product.

3.3 Graph and Table of Conducted Emission Measurement Data

Not Applicable

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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho2.jpg.

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5 Supplementary document

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

Document	Filename
ID Label/Location	LabelSmp.pdf
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
PCB Layout	PCB.pdf
Part List	Partlist.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

5.1 Bandwidth

Not Applicable

5.2 Duty cycle

Not Applicable

5.3 Transmission time

Not Applicable

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6 Appendices

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A3.	Photos of Internal Configurations	1	page
A4.	ID Label/Location	1	page
A5.	Block Diagram	1	page
A6.	Schematics Diagram	1	page
A7.	PCB	3	pages
A8.	Part list	2	pages
A9.	User Manual	2	pages
A10.	Operation Description	1	page

***** End of Report *****

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