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**FEDERAL COMMUNICATIONS COMMISSION**  
Registration number: 556682

Report No.: SZEMO071103385TXF(I)  
Page : 1 of 8  
FCC ID : VWH13502725678

## **TEST REPORT**

**Application No.** : SZEMO071103385TX

**Applicant** : SHANTOU CHENGHAI YONGHANG TOYS CO., LTD

**FCC ID** : VWH13502725678

**Fundamental Frequency** : 49MHz

**Equipment under Test (EUT):**

**EUT Name** : R/C CAR

**Item No.** : YH2801, YH2802, YH2803, YH2804, YH2805, YH2806, YH2807, YH2808, YH2809, YH2810, YH2811, YH2812, YH2813, YH2814, YH2815, YH2816, YH2817, YH2818, YH2819, YH2820\*

\* tested : Please refer to section 2 of this report which indicates which item was actually and which were electrically identical.

**Standards** : FCC PART 15, SUBPART C : 2007  
Section 15.235

**Date of Receipt** : 26 November 2007

**Date of Test** : 27 November 2007 to 07 January 2008

**Date of Issue** : 09 January 2008

<b>Test Result :</b>	<b>PASS *</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo  
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

## 1 Test Summary

Test	Test Requirement	Standard Paragraph	Result
Radiated Emission (30MHz to 1000MHz)	FCC PART 15 :2007	Section 15.235	PASS *
Occupied Bandwidth	FCC PART 15 :2007	Section 15.235	PASS

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

Remark:

Item No.: YH2801, YH2802, YH2803, YH2804, YH2805, YH2806, YH2807, YH2808, YH2809, YH2810, YH2811, YH2812, YH2813, YH2814, YH2815, YH2816, YH2817, YH2818, YH2819, YH2820

Only the Item in the picture 5.3 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above items, with only difference being the outer decoration.

\* The EUT passed the RE test after modification as below:

For the TX, change the C5 to 68pF, change the C7 to 100pF, the detail information as follow photo:



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### 3 General Information

#### 3.1 Client Information

Applicant: SHANTOU CHENGHAI YONGHANG TOYS CO., LTD  
Address of Applicant: TONGYI ROAD, CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG

#### 3.2 Details of E.U.T.

Product Name: R/C CAR  
Item No.: YH2801, YH2802, YH2803, YH2804, YH2805, YH2806, YH2807, YH2808, YH2809, YH2810, YH2811, YH2812, YH2813, YH2814, YH2815, YH2816, YH2817, YH2818, YH2819, YH2820.\*  
\* Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.  
Power Supply: 9V DC (1 \* 9.0V '6F22' Size Battery) for Tx  
Power Cord: N/A-

#### 3.3 Description of Support Units

The EUT was tested as an independent unit: a 49MHz radio transmitter.

#### 3.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

Tel: +86 20 8215 5555      Fax: +86 20 8207 5059

#### 3.5 Other Information Requested by the Customer

None.

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## 4 Test Results

### 4.1 Test Instruments

R&TTE RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2007	15-06-2008
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2007	11-12-2008
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	01-06-2007	31-05-2008
5	Coaxial cable	SGS	N/A	SEL0027	20-10-2007	19-10-2008
6	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2007	11-08-2008
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	27-06-2007	26-06-2008
8	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	15-06-2007	14-06-2008

### 4.2 E.U.T. Operation

Input voltage: 9V DC (1 \* 9.0V '6F22' Size Battery) for the transmitter.

Operating Environment:

Temperature: 23.0 °C

Humidity: 52 % RH

Atmospheric Pressure: 1015 mbar

EUT Operation:

Test the EUT in transmitting mode.

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### 4.3 Test Procedure & Measurement Data

#### 4.3.1 Radiated Emissions

Test Requirement: FCC Part15 C Section 15.235  
Test Method: ANSI C63.4  
Test Date: 27 November 2007(Initial Test)  
07 January 2008(Test after Modification)  
Measurement Distance: 3m (Semi-Anechoic Chamber)  
Requirements: Carrier frequency will not exceed 80dB<sub>u</sub>V/m AT 3m.  
Out of band emissions shall not exceed:  
40.0 dB<sub>u</sub>V/m between 30MHz & 88MHz  
43.5 dB<sub>u</sub>V/m between 88MHz & 216MHz  
46.0 dB<sub>u</sub>V/m between 216MHz & 960MHz  
54.0 dB<sub>u</sub>V/m above 960MHz  
Detector: 30MHz to 1000MHz RBW=120KHz VBW=300KHz

**Test Procedure:** 1. The EUT is placed on a turntable, which is 0.8m above ground plane.  
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.  
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.  
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.  
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.  
6. Repeat above procedures until the measurements for all frequencies are complete.

The following measurements were performed on the modified modified EUT on 10 April 2007:  
Test the EUT in transmitting mode.

##### Intentional emission

Test Frequency (MHz)	Peak (dB <sub>u</sub> V/m)		Limits (dB <sub>u</sub> V/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
49.860	59.3	48.8	100.0	40.7	51.2

Test Frequency (MHz)	Average (dB <sub>u</sub> V/m)		Limits (dB <sub>u</sub> V/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
49.860	55.10	47.16	80.0	24.9	32.8

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## Other emissions

## Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Peak Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
97.900	1.18	9.02	27.89	58.19	40.50	43.50	-3.00
198.780	1.40	10.19	27.16	51.79	36.22	43.50	-7.28
229.820	1.57	11.64	27.00	47.16	33.37	46.00	-12.63
249.220	1.67	12.27	26.92	54.18	41.20	46.00	-4.80
311.300	1.94	14.33	26.81	44.75	34.21	46.00	-11.79

## Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Peak Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
97.90	1.18	9.02	27.89	53.11	35.42	43.50	-8.08
117.30	1.25	8.08	27.71	35.10	16.72	43.50	-26.78
148.34	1.31	8.86	27.47	47.28	29.98	43.50	-13.52
198.78	1.40	10.19	27.16	45.56	29.99	43.50	-13.51
249.22	1.67	12.27	26.92	42.91	29.93	46.00	-16.07

## Remark:

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

**Test Results: The unit does meet the FCC Part 15 C Section 15.235 requirements.**

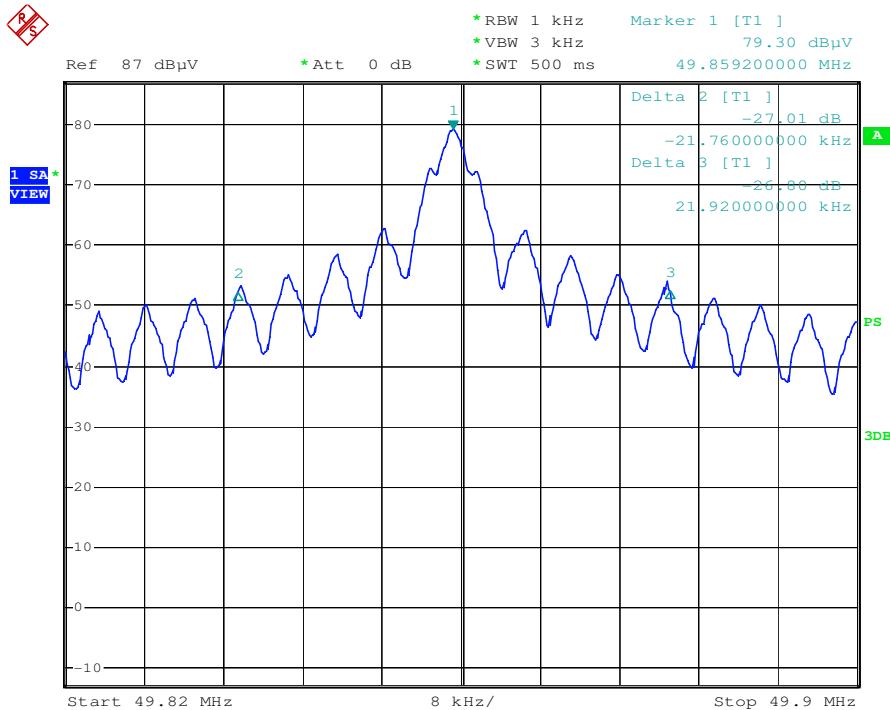
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### 4.3.2 Occupied Bandwidth

Test Requirement: FCC Part15 C Section 15.235  
Test Method: ANSI C63.4  
Detector: Peak  
Operation within the band 49.82 – 49.90 MHz  
Test Date: 27 November 2007  
Requirements: The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in Section 15.209, whichever permits the higher emission levels. The field strength of any emissions removed by more than 10 kHz from the band edges shall not exceed the general radiated emission limits in Section 15.209.  
Method of measurement: The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector. The vertical Scale is set to -10dB per division. The horizontal scale is set to 10KHz per division.

The graph as below, represents the emissions take for this device.



Date: 8.JAN.2008 10:41:35

**The results: The unit does meet the FCC Part 15 C Section 15.235 requirements.**

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