FCC TEST REPORT

FCC ID NO. : HAP91355R49

Applicant : **Echo Toys Ltd**
Room1108,Peninsula Centre,67 Mody Road,Tsim Sha Tsui East, Kowloon HongKong

Equipment Under Test (EUT) :

Product Name : R/C HONDA S2000

Model No. : 91355

Standards : FCC Part 15 SUBPART B

Date of Test : September 12, 2005

Test Engineer : Tiger Su

Reviewed By : Philo zhong

PERPARED BY:
Shenzhen Huatongwei International Inspection Co., Ltd
Keji S,12th,Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China

FCC Registration Number: 662850

2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15, SUBPART B: 2003	ANSI C63.4: 2003	Class B	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15, SUBPART B: 2003	ANSI C63.4: 2003	Class B	N/A

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4 General Information

4.1 Client Information

Applicant:	**Echo Toys Ltd**
Address of Applicant:	Room1108,Peninsula Centre,67 Mody Road,Tsim Sha Tsui East, Kowloon HongKong

4.2 General Description of E.U.T.

Product Name:	R/C HONDA S2000
Model No.:	91355

4.3 Details of E.U.T.

Power Supply:	6.0 VDC Battery

4.4 Description of Support Units

Compliance test was performed test in ON mode .

The customer requested FCC tests for a R/C HONDA S2000 .

The standard used was FCC Part 15.107 & Part15.109, SUBPART B, CLASS B (2003)

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC – Registration No.: 662850**

  Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 662850, November 17, 2003.

4.6 Test Location

All Emissions testswere performed at:-Shenzhen Huatongwei International Inspection Co., Ltd. at Keji S,12th,Road, Hi-tech Industrial Park, Shenzhen, Guangdong, China.

5 Equipment Used during Test

	Conducted Emission Test					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Series No.**	**Cal. Date**	**Due date**
1	EMI Test Receiver	Rohde&schwarz	ESCS30	100038	05-11-2004	04-11-2005
2	Artificial Mains	Rohde&schwarz	ESH2-Z5	100028	05-11-2004	04-11-2005
3	Pulse Limiter	Rohde&schwarz	ESHSZ2	100044	05-11-2004	04-11-2005
4	EMI Test Software	Rohde&schwarz	ESK1	N/A	N/A	N/A
	Radiated Emission Test					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Due date**
1	3m Semi- Anechoic Chamber	Frankonia	N/A	N/A	05-11-2004	04-11-2005
2	EMI Test Receiver	ROHDE & SCHWARZ	ESCS30	100085	05-11-2004	04-11-2005
3	EMI Test Software	ROHDE & SCHWARZ	ES-K1	N/A	N/A	N/A
4	Bilog Type Antenna	Schaffner -Chase	CBL6143	5070	05-11-2004	04-11-2005
	Common Used Equipment					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Series No.**	**Cal. Date**	**Due date**
1	Temperature, Humidity & Barometer	OREGON SCIENTIFIC	BA-888	EMC0001 to EMC0004	25-07-2005	25-07-2006
2	DMM	FLUKE	73	70681569 or 70671122	23-07-2005	23-07-2006

5.1 Conduction Emissions, 0.15MHz to 30MHz

Test Requirement:	FCC Part 15.107
Test Method:	ANSI C63.4: 2003
Test Date:	……
Frequency Range:	150kHz to 30MHz
Class/Severity:	Class B
Limit:	66-56 dBμV/m between 0.15MHz & 0.5MHz 56 dBμV/m between 0.5MHz & 5MHz 60 dBμV/m between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

5.1.1 E.U.T. Operation

Operating Environment:

Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1012 mbar

EUT Operation :

Compliance test was performed test in ON mode.

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.1.2 Measurement Data

Owing to the DC operation of EUT, this test is not performed.

5.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	FCC Part 15.109
Test Method:	ANSI C63.4: 2003
Test Date:	September 12, 2005
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Class:	Class B
Limit:	40.0 dBµV/m between 30MHz & 88MHz
	43.5 dBµV/m between 88MHz & 216MHz
	46.0 dBµV/m between 216MHz & 960MHz
	54.0 dBµV/m zbove 960MHz
Detector:	Peak for pre-scan (120kHz resolution bandwidth)
	Quasi-Peak if maximised peak within 6dB of limit

5.2.1 E.U.T. Operation

Operating Environment:

Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1012 mbar

EUT Operation :

Compliance test was performed test in ON mode.

5.2.2 EUT Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4: 2003, The specification used in this report was the FCC Part 15.109 Class B limits.

5.2.3 Spectrum Analyzer Setup

According to FCC Part 15.109 Class B Rules, the system was tested to 1000 MHz.

Start Frequency.....30 MHz
Stop Frequency .....1000 MHz
Sweep Speed Auto
IF Bandwidth .....1 MHz
Video Bandwidth.....1 MHz
Quasi-Peak Adapter Bandwidth .....120 kHz
Quasi-Peak Adapter Mode.....Normal
Resolution Bandwidth 1MHz

5.2.4 Test procedure

For the radiated emissions test, since the EUT does have not a power source, there was no connection to AC outlets.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.

All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dBμV of specification limits), and are distinguished with a "**Qp**" in the data table.

The EUT was under normal mode during the final qualification test and the configuration was used to represent the worst case results.

ANSI STANDARD C63.4-2003 12.1.1.1 SUPERREGENERATIVE RECEIVER: A signal Generator was set to the unit under test operating frequency. An un- Modulated continuous wave (CW) signal was radiated at the super-regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

5.2.5 Summary of Test Results

According to the data in section 5.2.6, the EUT complied with the FCC Part 15.109 Class B standards.

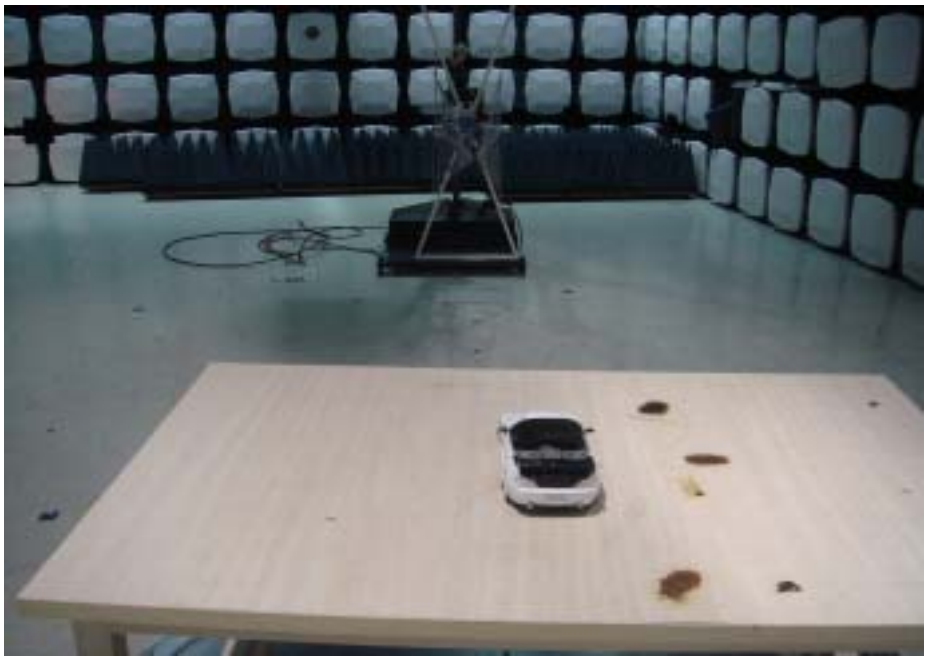
The test results: PASS.

5.2.6 Radiatied Emissions Test Data

Frequency (MHz)	Antenna Polarization	Emission Level (dBuV/m)	FCC 15 Subpart B Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Turntable Angle (°)
393.507014	Vertical	37.60	46.0	8.40	1.2	60
422.665331	Vertical	36.21	46.0	9.79	1.2	90
433.589676	Vertical	34.26	46.0	11.74	1.2	127
366.292585	Horizontal	35.32	46.0	10.68	1.2	38
393.507014	Horizontal	38.13	46.0	7.87	1.2	113
416.833667	Horizontal	34.42	46.0	11.58	1.2	279
422.665331	Horizontal	35.72	46.0	10.28	1.2	80
436.272545	Horizontal	36.33	46.0	9.67	1.2	67

5.3 Photographs - Test Setup

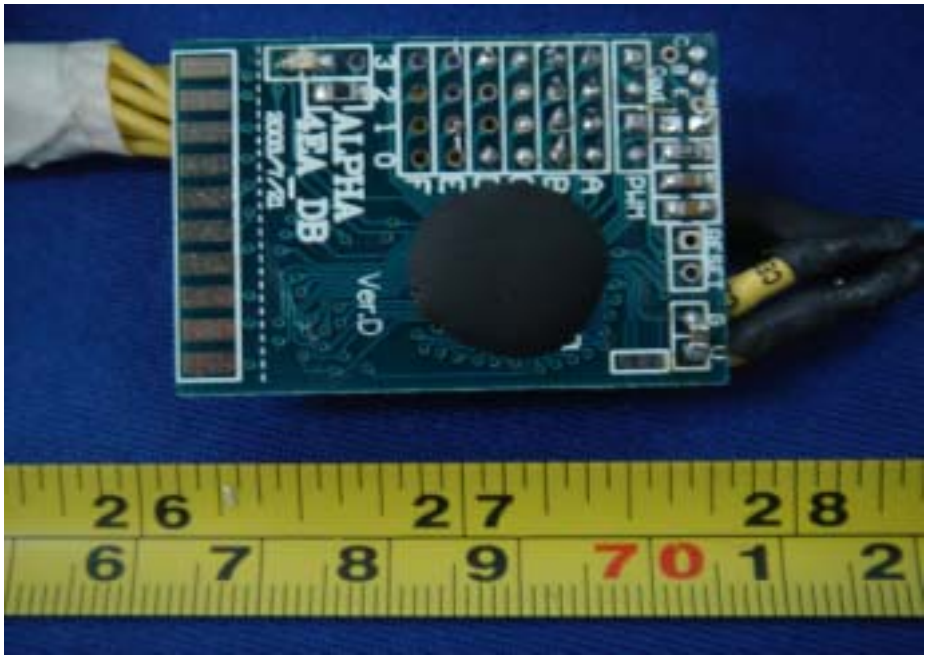
5.3.1 Radiated Emissions, 30M-1000MHz



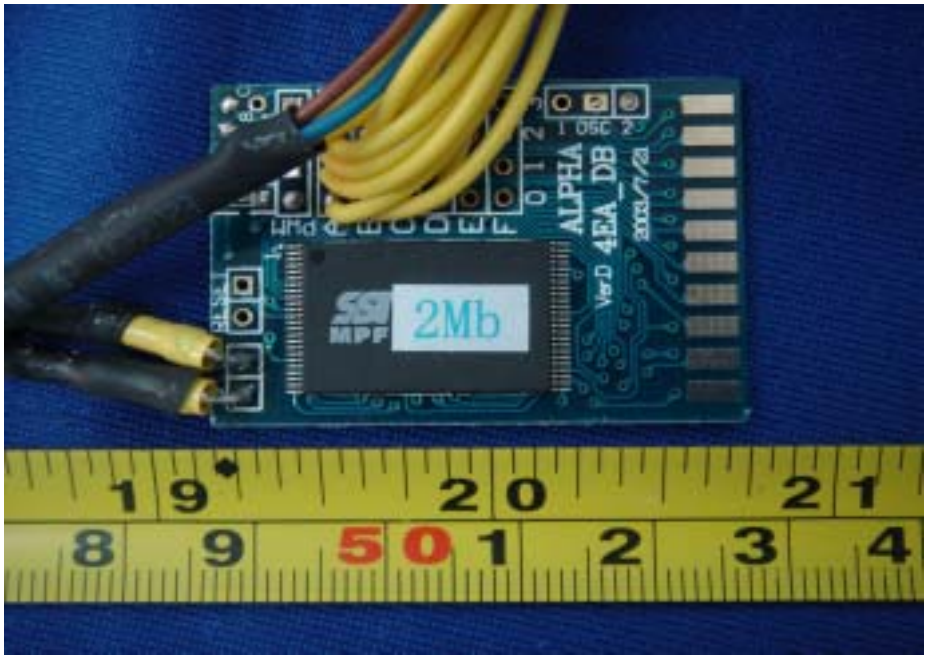
5.3.2 EUT - Front View

5.3.3 EUT - Back View

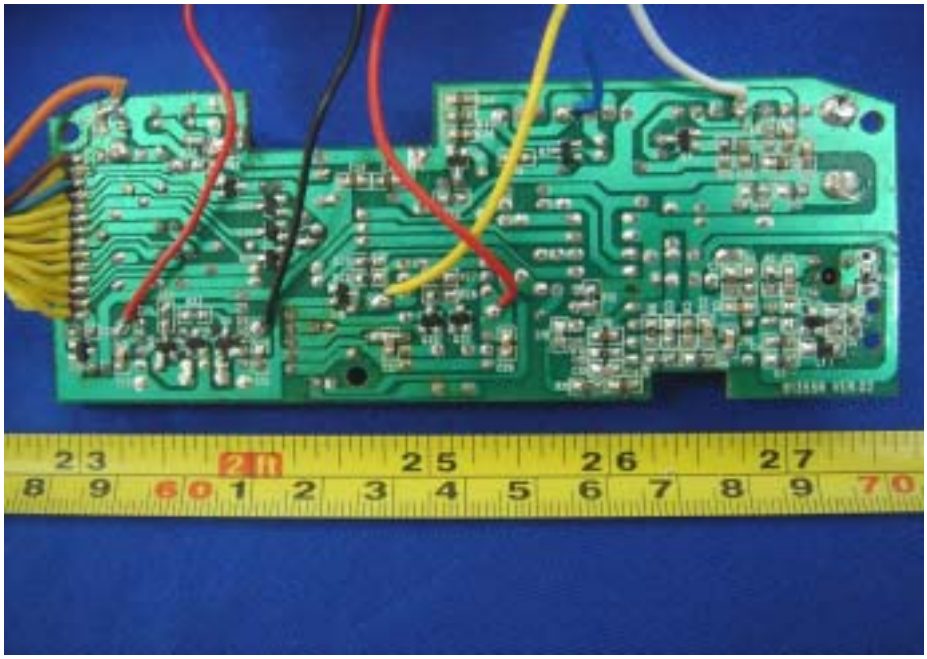
5.3.4 PCB1 - Solder View



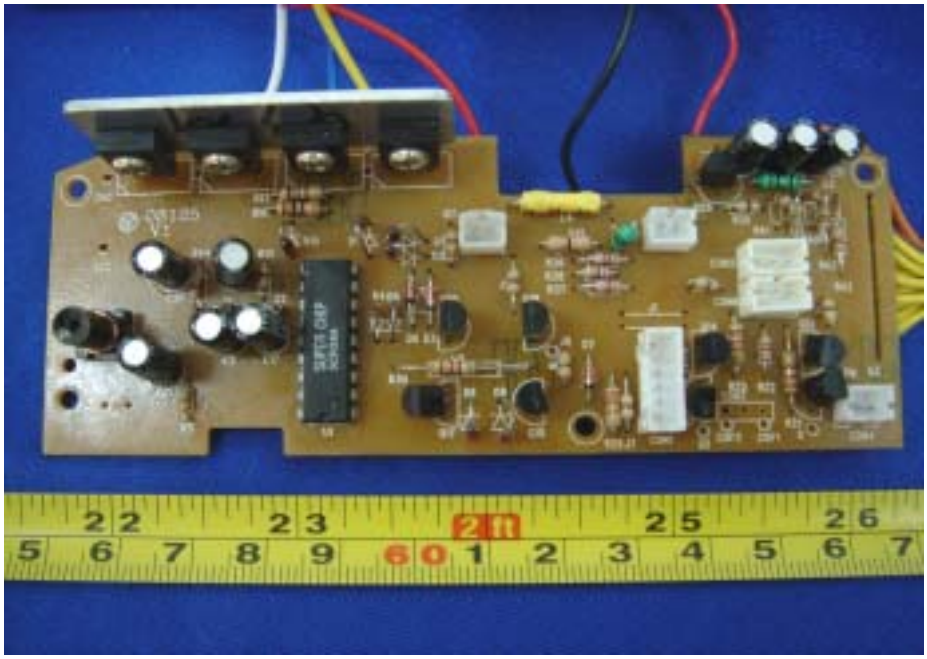
5.3.5 PCB 1- Component View



5.3.6 PCB2 - Solder View



5.3.7 PCB 2- Component View



6 FCC ID Label

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)this device may not cause harmful interference,and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

EUT Top View/ proposed FCC Mark Location