SGS-CSTC Standards Technical Services Ltd.

1/F., Building No. 1 Building, Agriculture Machinery Materials Co.
Wushan Road, Shipai, Tianhe District,Guangzhou, China
Telephone: +86 (0) 20 3848 1001 Fax: +86 (0) 20 3848 1006
kent_hsu@sgs.com

FEDERAL COMMUNICATIONS COMMISSION
Registration number: 282399

FCC TEST REPORT

Application No. : 03.09.1707E

Applicant : Echo Toys Ltd

FCC ID : HAP91276R49

Equipment under Test (EUT):

Name : Mitsubishi-Eclipse Spyder

Model : 91276

Standards : FCC PART 15, SUBPART B : 2002

Date of Receipt : 19 September 2003

Date of Test : 21 to 22 September 2003

Date of Issue : 30 September 2003

Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Kent Hsu
Laboratory Manager
SGS-CSTC Co.,Ltd.

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3 General Information

3.1 Client Information

Applicant:	Echo Toys Ltd
Address of Applicant:	Room 1108, Peninsula Centre 67 Mody Road, Tsim Sha Tsui East,Kowloon, Hong Kong.

3.2 Details of E.U.T.

Product Name:	Mitsubishi-Eclipse Spyder (Receiver Part)
Model:	91276
Power Supply:	9.6V DC (8 x ' AA' Size Rechargeable Batteries)
Power Cord:	N/A-

3.3 Description of Support Units

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

3.4 Test Location

All tests were performed at:-

SGS-CSTC Standards Technical Services Ltd., Guangzhou Safety & EMC Laboratory, 1/F, Building No. 1, Agriculture Machinery Materials Company Warehouse Ltd., Wushan Road Shipai, Tianhe District, Guangzhou, China. P.C. 510630.

Tel: +86 20 3848 1001

Fax: +86 20 3848 1006

3.5 Other Information Requested by the Customer

None.

3.6 Test Facility

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

- **NVLAP – Lab Code: 200611-0**
  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 2000611-0. Effective through February 2, 2003.
- **ACA**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
  The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.
  Date of Registration: February 28, 2003. Valid until May 30, 2005
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FINKO**
  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**
  SGS-CSTC Standards Technical Services 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 282399, May 31, 2002. With the above and NVLAP, SGS-CSTC is an authorized test laboratory for the DoC process.

4 Test Results

4.1 Test Instruments

Test Equipment	Manufacturer	Model	Asset No.	Cal. Due Date
Temperature, Humidity & Barometer	Oregon Scientific	BA-888	EMC0003	30-06-2004
3m Semi- Anechoic Chamber	Frankonia	N/A	EMC0501	04-11-2003
EMI Test Receiver	ROHDE & SCHWARZ	ESCS30	EMC0506	17-11-2003
Bilog Type Antenna	Schaffner Chase	CBL6143	EMC0519	01-12-2003
Coaxial cable	SGS	N/A	EMC0514	30-06-2004

4.2 E.U.T. Operation

Input voltage: 9.6V DC (8 x ' AA' Size Rechargeable Batteries)

Operating Environment:

Temperature: 24.0 °C
Humidity: 56 % RH
Atmospheric Pressure: 1008 mbar

EUT Operation:

Test the EUT in on mode.

4.3 Test Procedure & Measurement Data

4.3.1 Radiated Emissions

Test Requirement:	FCC Part15 B
Test Method:	Based on FCC Part15 B Section 15.109
Test Date:	21 September 2003
Measurement Distance:	3m (Semi-Anechoic Chamber)
Requirements:	Emissions shall not exceed:
	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 above 960MHz
Detector:	Peak Scan (120kHz resolution bandwidth)

Test Procedure: The procedure uesd was ANSI Standard C63.4-2000. Ansi Standard C63.4-2000 12.1.1.1 Superregenerative Receiver: A signal Generator was set to the unit under test operating frequency. An unmodulated continuous wave (CW) signal was radiated at the superregenerative receiver operating frequency to cohere the characteristi broadband emissions from the receiver. The receive was scanned from 30MHz to 1000MHz.When an emission was found,the table was roated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the horizontal and vertical polarities and the worst case emissions were reported.

The following measurements were performed on the EUT on 21 September 2003:

Test Frequency (MHz)	Test Polarization	Test Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
32.120	Horizontal	25.3	40.0	14.7
125.550	Horizontal	18.7	43.5	24.8
207.937	Horizontal	21.5	43.5	22.0
787.875	Horizontal	26.8	46.0	19.2
32.150	Vertical	25.6	40.0	14.4
42.512	Vertical	23.2	40.0	16.8
212.620	Vertical	25.4	43.5	18.1
250.812	Vertical	27.2	46.0	18.8
568.250	Vertical	30.6	46.0	15.4

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