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May 31, 2002

Registration number: 282399

Report No.: **02.11.1254E-1**

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FCC ID: HAP91251T49

FCC TEST REPORT

Application No. : 02.11.1254E-1**Applicant** : Echo Toys Ltd**FCC ID** : HAP91251T49**Fundamental Frequency** : 49.860MHz**Equipment under Test (EUT):**

Name : JET SKI / WAVE POWDER♣

♣ Please refer to section 3.1 of this report which indicates which model was actually tested and which models are electrically identical

Model : 91251

Standards : FCC PART 15, SUBPART C : 2002**Date of Receipt** : 29 October 2002**Date of Test** : 30 October 2002**Date of Issue** : 05 November 2002

Test Result :	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

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

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the SGS PRODUCT CERTIFICATION MARK.. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. 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.

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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, Tism Sha Tusi East, Kowloon, Hong Kong.

3.2 Details of E.U.T.

Product Name: JET SKI / WAVE POWDER ♣ (Transmitter Part)

♣ Only one item was tested since the above 2 Items were electrically identical. They are the same samples with different product names only. Please refer to the e-mail from Haison Xu of Echo Toys Ltd., dated 05 Nov. 2002 for further details

Model: 91251

Power Supply: 9V DC (1 x '6F22' Battery)

Power Cord: N/A-

3.3 Description of Support Units

The EUT was tested as an independent unit: a 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.

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SGS UK Certificate No.: L32

Federal Communications Commission laboratory division

Registration number: 282399

3.5 Other Information Requested by the Customer

None.

4 Test Results

4.1 Test Instruments

Description	Manufacturer	Model No.	Asset No.	Date of Cal.
Temperature, Humidity & Barometer	Oregon Scientific	BA-888	EMC023	26-07-2001
Bioconic Antenna	R & S	HK116	EMC047	14-12-2001
3M Semi-Anechoic Chamber	Frankonia	11.5 x 7.5 x 6 m ³	EMC1001	21-01-2002
0.8m Test Table	SGS-CSTC	N/A	EMC1003	N/A
EMI Receiver	R & S	ESCS30	EMC2001	13-11-2001
Spectrum Analyser	Advantest	R3261C+99	EMC071	26-07-2001
Log-Periodic Dipole Antenna	R & S	HL233	EMC2005	17-12-2001
Monitor System	HD-GmbH	N/A	EMC2008	N/A
Antenna Mask	HD-GmbH	AS620M	EMC2010	N/A
Turn-Table	HD-GmbH	DT430	EMC2014	N/A
Turn_Table & Mask Controller	ADVANTEST	HD-GmbH HD100	EMC2015	N/A
Coaxial Cable (12m)	R & S	HFU2-Z4	EMC3001	08-03-2002
EMI Test Software	R & S	ES-K1	EMC5001	N/A

4.2 E.U.T. Operation

Input voltage: 9V DC (1 x '6F22' Battery)

Operating Environment:

Temperature: 24.0 °C

Humidity: 56 % RH

Atmospheric Pressure: 1004 mbar

EUT Operation:

Test the EUT in transmitting mode.

4.3 Test Procedure & Measurement Data

4.3.1 Radiated Emissions

Test Requirement: FCC Part15 C
 Test Method: Based on FCC Part15 C Section 15.235
 Test Date: 30 October 2002
 Measurement Distance: 3m (Semi-Anechoic Chamber)
 Requirements: Carrier frequency will not exceed 100dBuV/m AT 3m for peak.
 Out of band emissions shall not exceed:
 40.0 dB μ V/m between 30MHz & 88MHz
 43.5 dB μ V/m between 88MHz & 216MHz
 46.0 dB μ V/m between 216MHz & 960MHz
 54.0 dB μ V/m above 960MHz
 Detector: Peak Scan (120kHz resolution bandwidth)

Test Procedure: The procedure used was ANSI Standard C63.4-2000. The receiver was scanned from 30MHz to 1000MHz. When an emission was found, the table was rotated 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 performed a pre-test three orthogonal planes. The worst case emissions were reported. The following Peak & QP measurements were performed on 30 Oct 2002:
 Test the EUT in transmitting mode.

Intentional emissions: (RBW=120KHz, VBW=120KHz)

Test Frequency (MHz)	Peak (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
49.860	57.0	52.5	100.0	43.0	47

Other emissions

Test Frequency (MHz)	Quasi-Peak (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
99.720	21.4	18.5	43.5	22.1	25.0
149.580	19.6	22.7	43.5	23.9	20.8
199.440	22.0	24.0	43.5	21.5	19.5
249.300	23.6	18.8	46.0	22.4	27.2
299.160	21.6	19.3	46.0	24.4	26.7
349.020	36.2	29.3	46.0	9.8	16.7
398.880	27.1	19.3	46.0	18.9	26.7
448.740	26.2	19.7	46.0	19.8	26.3
498.600	25.9	22.1	46.0	20.1	23.9

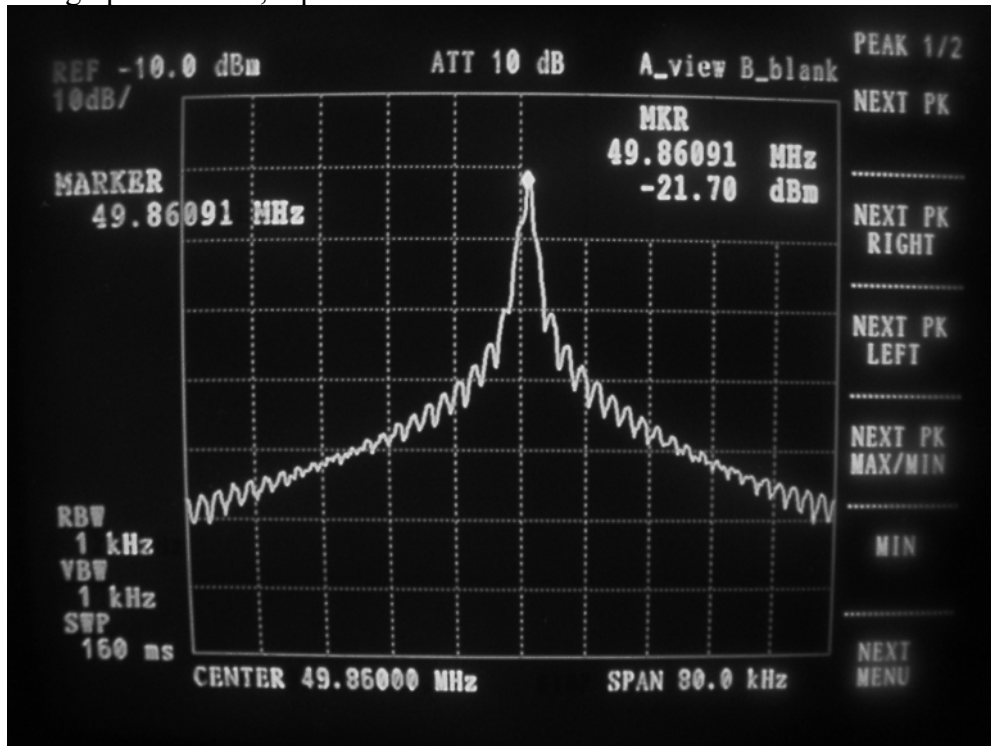
Test Results: The unit does meet the FCC Part 15 C requirements.

4.3.2 Occupied Bandwidth

Test Requirement: FCC Part15 C
 Test Method: Based on FCC Part15 C Section 15.235:
 Operation within the band 49.82 - 49.90 MHz
 Test Date: 30 October 2002
 Requirements: The field strength of any emissions which appear outside of this band 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 5KHz per division.

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



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