# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
# CERTIFICATION TO FCC PART 15 REQUIREMENTS

*for*

**UNINTENTIONAL RADIATOR**

**49 MHz RC BOAT RECEIVER**

**MODEL: 92959**

**FCC ID NO: APB92959-00A4R**

**REPORT NO: 00U0617-1**

**DATE: DECEMBER 27, 2000**

*Prepared for*
**MATTEL MT. LAUREL**
**6000 MIDATLANTIC DRIVE**
**MOUNT LAUREL, NJ 08054**
**USA**

*Prepared by*
**COMPLIANCE ENGINEERING SERVICES, INC.**
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# 1. VERIFICATION OF COMPLIANCE

| | | |
|---|---|---|
| COMPANY NAME | : | MATTEL MT. LAUREL<br>6000 MIDATLANTIC DRIVE<br>MOUNT LAUREL, NJ 08054<br>USA |
| CONTACT PERSON | : | VIK SINHA, SENIOR PROJECT ENGINEER |
| TELEPHONE NO. | : | (856) 840-1279 |
| EUT DESCRIPTION | : | 49MHz RC BOAT RECEIVER |
| MODEL NAME/NUMBER | : | 92959 |
| BRAND NAME | : | R/C HYDRO RACER |
| SERIAL NUMBER | : | N/A |
| FCC ID | : | APB92959-00A4R |
| DATE TESTED | : | DECEMBER 12, 2000 |
| REPORT NUMBER | : | 00U0617-1 |

| | |
|---|---|
| TYPE OF EQUIPMENT | SECURITY EQUIPMENT (UNINTENTIONAL RADIATOR) |
| EQUIPMENT TYPE | 49 MHz SUPERREGENERATE RECEIVER |
| MEASUREMENT PROCEDURE | ANSI 63.4 / 1992 |
| LIMIT TYPE | CERTIFICATION |
| FCC RULE | CFR 47, PART 15.109 |

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in CFR 47, PART 15. This said equipment in the configuration described in this report shows that maximum emission levels emanating from equipment are within the compliance requirements. **Warning**: This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification will constitute fraud and shall nullify the document.

KERWIN CORPUZ / ASSOCIATE ENGINEER
COMPLIANCE CERTIFICATION SERVICES, INC.

T. N. COKENIAS / ENGINEERING DIRECTOR
COMPLIANCE CERTIFICATION SERVICES, INC.


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## 2. PRODUCT DESCRIPTION

MATTEL MT. LAUREL, Model HYDRO RACER is the receiving portion of a remote control toy. The associated Transmitter is manufactured by MATTEL MT. LAUREL, Model No 92959: FCC ID APB92959-00A4T.

## 3. TEST FACILITY

The 3 meter open area test site and conducted measurement facility used to collect the radiated data is located at 561F Monterey Road, Morgan Hill, California, U.S.A. A detailed description of the test facilities was submitted to the Commission on May 27, 1994.

The measuring instrument, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.




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## 4. MEASUREMENT EQUIPMENT USED

| Manufacturer | Model Number | Description | Cal Due Date |
|---|---|---|---|
| H.P. | 8568B | Spectrum Analyzer (100Hz - 1.5GHz) | 01/14/01 |
| SCHAFFNER-CHASE | CBL6112B | Antenna (30-2000 MHz) | 12/11/01 |
| H.P. | 8447D | Pre-Amplifier (0.1-1300 MHz) | 09/19/01 |
| H.P. | 8640B | Signal Generator (0.5 - 1024 MHz) | 02/01/01 |

## 5. TEST CONFIGURATION

Set signal generator to transmit at 49 MHz. Adjusted generator level and frequency to get the maximum coherent and emission of the Eut. The receiver receives the signal. All the wires are placed on the turntable to their maximum length to simulate the worse emission condition.

## 6. TESTS CONDUCTED

| | |
|---|---|
| CFR 47, 15.109<br>RADIATED EMISSION TESTS | CONDUCTED AT 3 METERS |




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## 7. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80 cm above the ground screen. Antenna to EUT distance is 3 meters. During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

## 8. COHERENT TESTS

During Radiated Emission Tests, H.P. signal generator model no: 8640B (0.5 - 1024 MHz) was used to radiate unmodulated CW signal to EUT at 49 MHz. Please refer to radiated emission data for six highest readings.




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## 9. EQUIPMENT MODIFICATIONS

To achieve compliance to FCC section 15.109, the following change(s) were made during compliance testing:

NOT APPLICABLE




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## 10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)




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