ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

UNINTENTIONAL RADIATOR

49.860 MHz RADIO CONTROL RECEIVER

MODEL NO: 91797-6508-49R

BRAND NAME: TYCO RC-AIR REBOUND 6V VERSION

FCC ID NO: APB91797-02A4R

REPORT NO: 02U1172-2

DATE: MARCH 26, 2002

Prepared for
MATTEL MT. LAUREL
6000 MIDLANTIC AVENUE
MT. LAUREL, NJ 08054
USA

Prepared by
COMPLIANCE CERTIFICATION SERVICES
561 F MONTEREY ROAD
MORGAN HILL, CA 95037, USA
TEL: (408) 463-0885
FAX: (408) 463-0888

TABLE OF CONTENTS

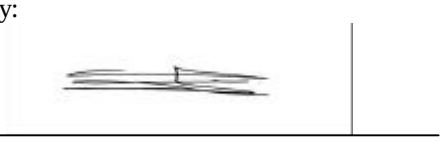
1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	MATTEL MT. LAUREL 6000 MIDLANTIC AVENUE MT. LAUREL, NJ 08504 USA
CONTACT PERSON	:	STEVE WEISS, MANAGER ELECTRONIC DESIGN & DEVELOPMENT
TELEPHONE NO.	:	856-840-1149
EUT DESCRIPTION	:	49.860MHz RADIO CONTROL RECEIVER
MODEL NAME/NUMBER	:	91797-6508-49R
BRAND NAME	:	TYCO RC-AIR REBOUND 6V VERSION
FCC ID	:	APB91797-02A4R
DATE TESTED	:	MARCH 11, 2002
REPORT NUMBER	:	02U1172-2

TYPE OF EQUIPMENT	REMOTE CONTROL TOY RECEIVER (UNINTENTIONAL RADIATOR)
EQUIPMENT TYPE	49 MHz SUPERREGENERATE RECEIVER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15 SUBPART B

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in CFR 47, PART 15 SUBPART B. 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.

Tested By:



FRANK IBRAHIM
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

Approved & Released For CCS By:

MIKE HECKROTTE
CHIEF EMC ENGINNER
COMPLIANCE CERTIFICATION SERVICES

2. PRODUCT DESCRIPTION

MATTEL MT. LAUREL., Model No# 91797-6508-49R TYCO RC-AIR REBOUND 6V VERSION is the receiving portion of a remote control toy. The associated Transmitter is manufactured by MATTEL MT. LAUREL., Model No# 91554-6508-49T,
FCC ID APB91554-02A4T.

The Air Rebound is a full function radio controlled toy vehicle. It is powered by a 6Volt NiCD battery and operates at a single fixed frequency of 49.860MHz. The receiver has two motors which operate independently and bi-directionally. The toy has an over current sene and lockout feature that prevents hazardous conditions to both the toy and user.

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.

4. MEASUREMENT EQUIPMENT USED

TEST EQUIPMENTS LIST				
Name of Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Due Date**
Spectrum Analyzer	**HP100Hz - 22GHz**	**8566B**	**2140A01296**	**5/4/02**
Spectrum Display	**HP**	**85662A**	**2152A03066**	**5/10/02**
Quasi-Peak Detector	**HP9K - 1GHz**	**85650A**	**2811A01335**	**5/4/02**
Pre-Amplifier, 25 dB	**HP 0.1 - 1300MHz**	**8447D (P_1M)**	**2944A06833**	**8/21/02**
Antenna, BiLog	**Chase EMC Ltd.30 - 2000MI**	**CBL6112**	**2049**	**8/2/02**
Signal Generator	**HP**	**8640B**	**2322A22402**	**4/10/02**

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 RADIATED EMISSION TESTS	CONDUCTED AT 3 METERS

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 TEST

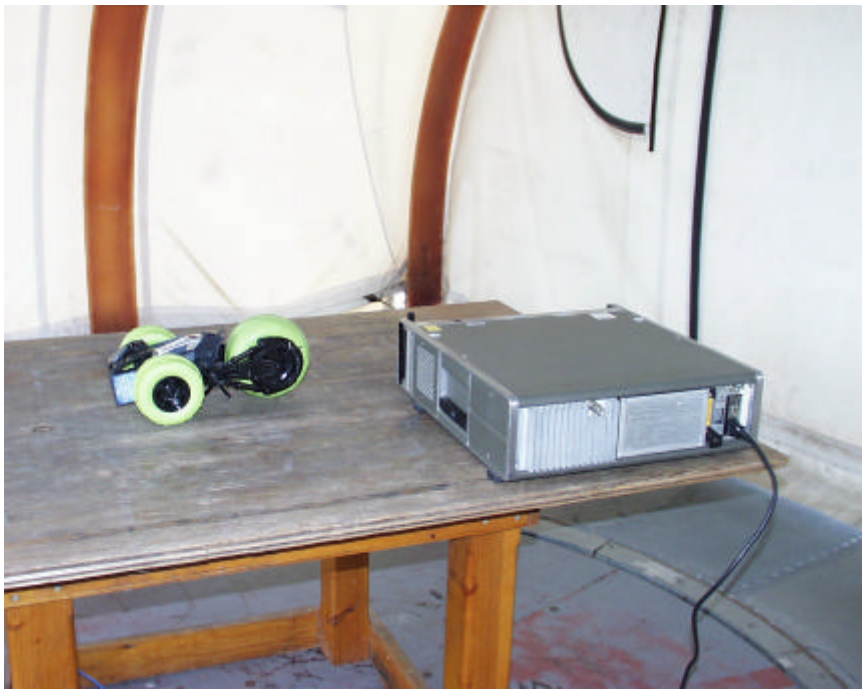
During Radiated Emission Tests, H.P. Signal Generator Model No: 8640B was used to radiate unmodulated CW signal to EUT at 49.882 MHz. Please refer to radiated emission data for six highest readings.

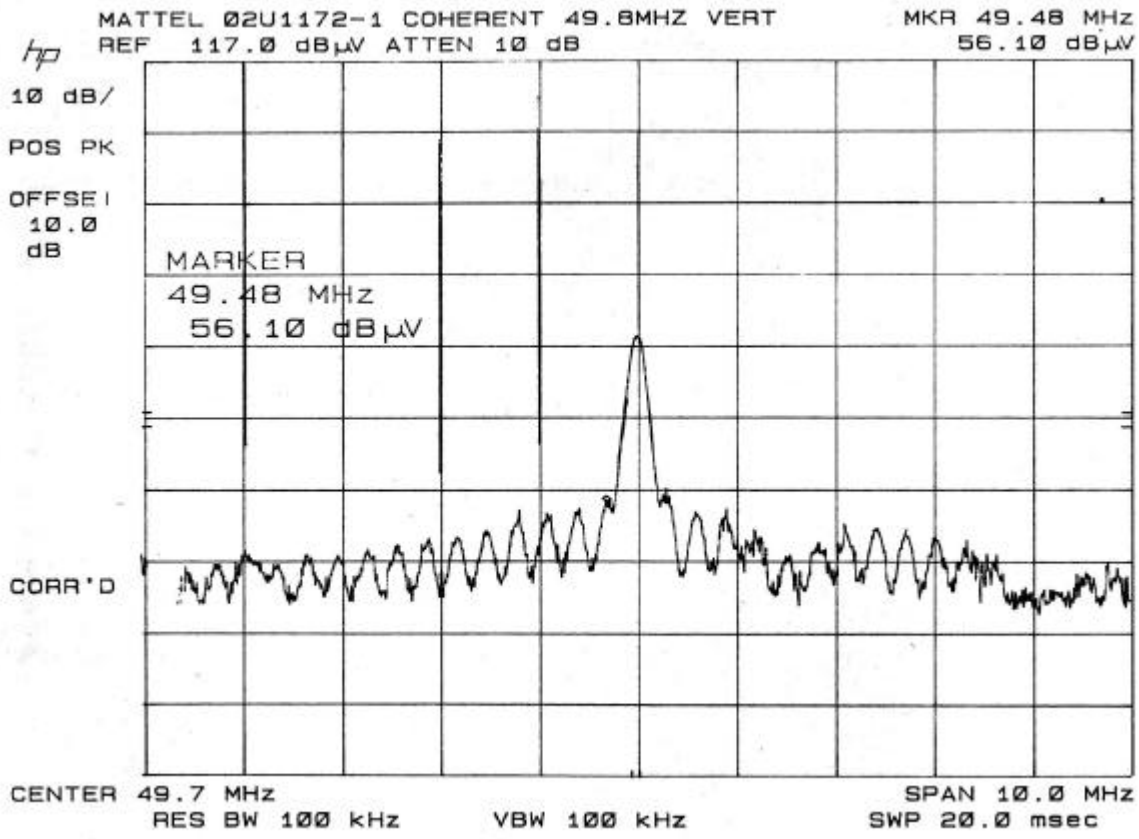
9. EQUIPMENT MODIFICATIONS

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

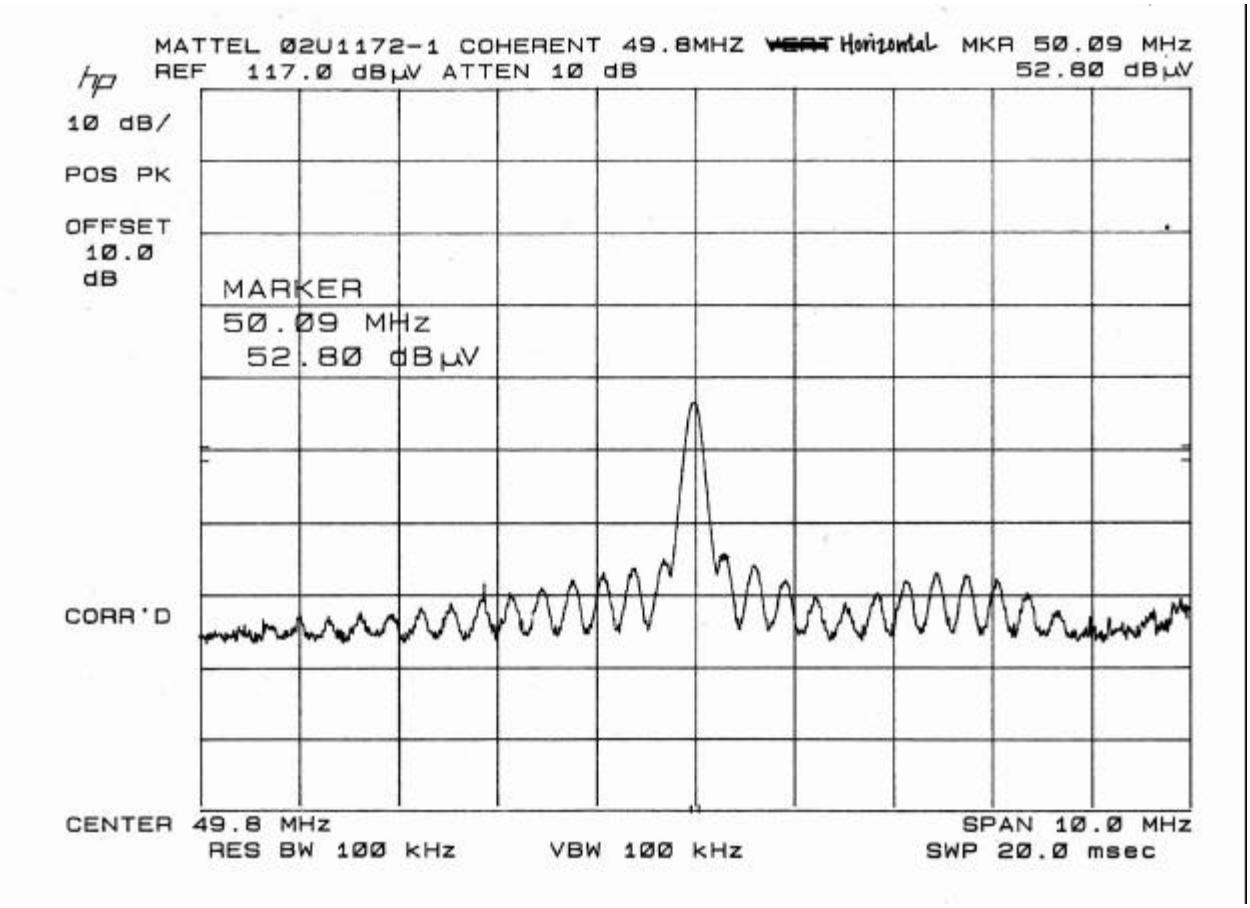
No changes were required in order to achieve compliance to FCC Section 15.109.

10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)





COHERENT EMISSION PLOT



COHERENT EMISSION PLOT

COMPLIANCE Certification Services

FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #:	02U1172-1
Report #:	020311A01
Date& Time:	03/11/02 10:43 AM
Test Engr:	Frank Ibrahim

Company:	Mattel Mount Laurel
EUT Description:	49MHz Receiver, 6VDC battery operation
Test Configuration :	EUT, SG tuned at 49.8 MHz
Type of Test:	FCC 15.209
Mode of Operation:	Receiving signal at 49.8 MHz, Coherent

<< Main Sheet

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
49.48	56.10	8.48	0.92	27.62	37.89	40.00	-2.11	3mV	0.00	1.00	P
50.08	55.70	8.41	0.93	27.62	37.42	40.00	-2.58	3mV	0.00	1.00	P
398.11	50.80	17.05	2.82	27.80	42.88	46.00	-3.12	3mH	0.00	2.00	P
49.20	54.40	8.51	0.92	27.62	36.21	40.00	-3.79	3mV	0.00	1.00	P
398.11	49.90	17.16	2.82	27.80	42.08	46.00	-3.92	3mV	0.00	1.00	P
50.39	53.60	8.36	0.93	27.62	35.27	40.00	-4.73	3mV	0.00	1.00	P
6 Worst Data											

RADIATION DATA

END OF REPORT