

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

*for*

**INTENTIONAL RADIATOR**

**MICRO REBOUND R/C**

**MODEL NO: 36098**

**FCC ID NO: APB36098-98A2T**

**REPORT NO: 98U0058-1**

**ISSUE DATE: NOVEMBER 20, 1998**

*Prepared for*

**MATTEL TOYS, INC.  
333 CONTINENTAL BLVD.  
EL SEGUNDO, CA 90245  
USA**

*Prepared by*

**COMPLIANCE ENGINEERING SERVICES, INC.**

*d.b.a.*

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**1. VERIFICATION OF COMPLIANCE**

COMPANY NAME : MATTEL TOYS, INC.  
333 CONTINENTAL BLVD.  
EL SEGUNDO, CA 90245  
USA

CONTACT PERSON : VLADIMIR SOSNOVSKY / SENIOR ELECTRONIC  
ENGINEER, CES

TELEPHONE NO. : (310) 252-2000

EUT DESCRIPTION : MICRO REBOUND R/C

MODEL NAME/NUMBER : 36098 SERIAL NUMBER : 3

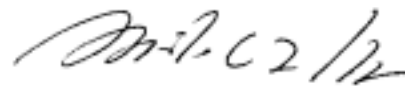
FCC ID : APB36098-98A2T

DATE TESTED : NOVEMBER 20, 1998

REPORT NUMBER : 98U0058-1

TYPE OF EQUIPMENT	REMOTE CONTROL
EQUIPMENT TYPE	27 MHZ TRANSMITTER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15.227

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.



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MIKE C.I. KUO / VICE PRESIDENT  
COMPLIANCE ENGINEERING SERVICES, INC.

## 2. Product Description

CHASSIS TYPE	PLASTIC
Fundamental Frequency	27.145 MHz
Power Source	9V Battery
CHIPSET BRAND AND PART NO	36098TXA
Transmitting Time	CONTINUOUS
NO. OF LAYER	1
Local Osc.	27.145 MHz

## 3. Test Facility

The 3/10/30 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 facility was submitted to the Commission on May 27,1994.

## 4. Measurement Standards

The site is constructed and calibrated in conformance with the requirements of ANSI C63.4/1992.

## 5. Test Methodology

For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 KHz, up to at least the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. (CFR 47 Section 15.33)

**6. Measurement Equipment Used**

Manufacturer	Model Number	Description	Cal Due Date
H.P.	8568A	Spectrum Analyzer (100Hz - 1.5GHz)	02/99
EATON	94455-1	Antenna (25 - 200MHz)	10/99
EMCO	3146	Antenna (200-1000 MHz)	10/99
H.P.	8447D	Preamplifier (0.1 - 1300 MHz)	09/99

**7. POWERLINE RFI LIMIT**

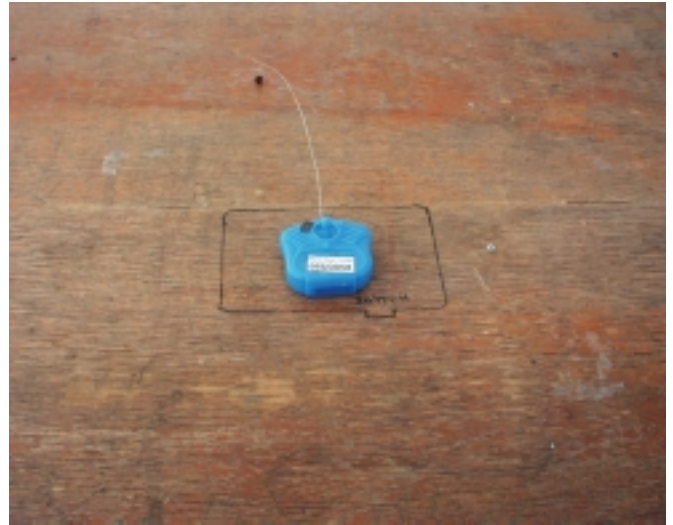
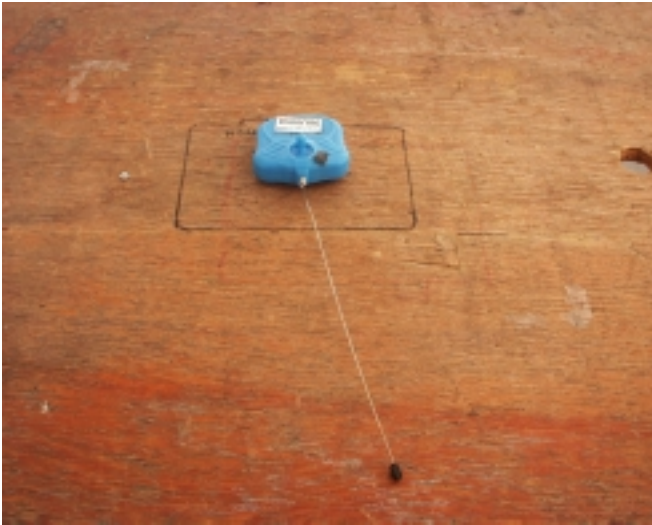
CONNECTED TO AC POWER LINE	SECTION 15.207
CARRIER CURRENT SYSTEM IN THE FREQUENCY RANGE OF 450 kHz TO 30 MHz	SECTION 15.205 AND SECTION 15.209, 15.221, 15.223, 15.225 OR 15.227, AS APPROPRIATE.
BATTERY POWER	NO REQUIRED.

**8. RADIATED EMISSION LIMITS**

GENERAL REQUIREMENTS	SECTION 15.209.
RESTRICTED BANDS OF OPERATION	SECTION 15.205
OPERATION WITHIN THE BAND 26.96 - 27.28 MHz	SECTION 15.227

## 9. SYSTEM TEST CONFIGURATION

The EUT was configured for testing in a typical fashion (as a customer would normally use it). Push-to-Transmit switch is held in transmit position using electrician's (PVC) tape for transmit mode. The tape is removed for receive mode. Please refer to the following photograph for actual setup.



Radiated Open Site Test Set-up

**10. Equipment Modifications**

To achieve compliance to FCC Section 15.227 technical limits, the following change(s) were made during compliance testing:

NOT APPLICABLE

**11. TEST PROCEDURE AND RESULT**

Powerline RFI Limits	Eut	Radiated Emission Limits	Eut
SECTION 15.207		SECTION 15.209	x
SECTION 15.205, 15.209, 15.221, 15.223, x 15.225 OR 15.227		SECTION 15.205	x
BATTERY POWER	X	SECTION 15.227	X

**11.1 Radiated Emission Test Procedure and Result**

1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3 meter from the EUT. The EUT antenna was mounted vertically as per normal installation.

2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205. The EUT was moved throughout the XY, XZ, and YZ planes to maximize emissions received by the search antenna.

3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The six maximum readings so obtained are recorded in the data listed below.

Data No: 98U0058								
Date: 11/20/98								
Test Engineer: Jesse Saldivar								
Company: Mattel Toys, Inc.								
EUT: Micro Rebound R/C								
Technical Limits : FCC	FCC 15.227							
Mode Of Operation : E	EUT Standing Position							
Freq (MHz)	Reading (dBuV/m)	Setting (P/Q/A)	C.F. (dB)	Adjusted Reading (dBuV/m)	Limits (dB)	Margin (dB)	Antenna (H/V)	Remark
54.32	49.9	P	-17.12	32.78	40	-7.22	H	EUT-X
81.43	48.7	P	-18.08	30.62	40	-9.38	H	EUT-Y
81.43	52.6	P	-18.08	34.52	40	-5.48	H	EUT-Z
54.3	50	P	-18.05	31.95	40	-8.05	V	EUT-Y
54.3	49.4	P	-18.65	31.35	40	-8.65	V	EUT-Z
108.77	49.8	P	-19.24	35.49	43.5	-8.01	V	EUT-Z
Total Number of Data= 6								
<b>Measuring Instrument:</b>				<b>Analyzer Setting :</b>				
Spectrum Analyzer : H.P. 8568A ( 100 Hz - 1.5GHz)				Resolution Bandwidth: 100KHz				
Antenna : Eaton 94455-1 (25 - 200 MHz)				Video Bandwidth : 100KHz				
Antenna : EMCO 3146 (200 - 1000 MHz)								
Preamplifier: H.P. 8447D ( 0.1 - 1300 MHz)				Frequency Range Investigated : 30 - 272 MHz				