

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

*for*

**INTENTIONAL RADIATOR**

**RC TOY CAR TRANSMITTER**

**MODEL NO: 96423**

**BRAND NAME: RACIN' RATZ**

**FCC ID NO: APB96423-99A4T**

**REPORT NO: 99U0607-1**

**ISSUE DATE: OCTOBER 04, 1999**

*Prepared for*

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

*Prepared by*

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	TABLE OF CONTENTS	PAGE
1.	VERIFICATION OF COMPLIANCE.....	2
2.	PRODUCT DESCRIPTION.....	3
3.	TEST FACILITIES .....	3
4.	MEASUREMENT STANDARDS .....	3
5.	TEST METHODOLOGY .....	3
6.	MEASUREMENT EQUIPMENT USED .....	4
7.	TEST PROCEDURES AND TEST RESULTS..... Radiated Emission Test Result( 15.235 (a)) Radiated Emission Test Result( 15.235 (b))	4
8.	RADIATED EMISSION TEST SETUP PHOTO.....	6

EXHIBITS

1. Proposed FCC ID Label Format
2. Authorization Letter
3. EUT Photographs
4. Schematic Diagram
5. User Manual

**1. VERIFICATION OF COMPLIANCE**

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

CONTACT PERSON : VLADIMIR BUZGA  
DIRECTOR OF DEVELOPMENT, CES

TELEPHONE NO. : 310-252-2000

EUT DESCRIPTION : RC TOY CAR TRANSMITTER

MODEL NAME/NUMBER : 96423

FCC ID : APB96423-99A4T

DATE TESTED : OCTOBER 04, 1999

REPORT NUMBER : 99U0607-1

EQUIPMENT TYPE	49.86 MHz TRANSMITTER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15.235

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	49.86 MHz
Power Source	9 VOLT Battery (4 X AA)
Transmitting Time	Continuous
Type of Antenna	Permanently attached
No. of Channel	One
NO. OF LAYER	1
Board Revision No	REV. 1.0
Associated Receiver	Mattel Toys, Inc. Model no: 96423 FCC ID: APB96423-99A4R

## 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**

<b>Manufacturer</b>	<b>Model Number</b>	<b>Description</b>	<b>Cal Due Date</b>
H.P.	8546A	EMI Receiver (9kHz - 6.5GHz)	03/2000
H.P.	85460A	RF Filter Section (9kHz - 6.5GHz)	03/2000
EMCO	3146	Antenna (200-1000 MHz)	10/2000
EMCO	3110	Antenna (30-200 MHz)	10/2000
H.P.	8447D	Preamplifier (0.1 - 1300 MHz)	09/2000

**7. Test Procedures and Test Results****Radiated Emission Test: ( 15.235 (a))****Test Procedure**

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 was placed in X,Y, and Z position to simulate the actual usage.
2. The turntable was slowly rotated to locate the direction of maximum emission at each EUT position. Once the maximum direction and EUT position was determined, the search antenna was raised and lowered in both vertical and horizontal polarization. The maximum reading so obtained are recorded in the data list below.

Test Result: Refer to attached tabular data sheet. (Data report number: 991004A1

### **Radiated Emission Test: ( 15.235 (b))**

Test Requirement : The field strength between the band edges and up to 10kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in 15.209, which permits the higher emission levels.

#### **Test Procedure:**

1. Verification of antenna output power was made before the tests. Since the EUT's antenna is permanently attached and can not produce unmodulated signal, EUT was tested with radiated emission setup at 3 meter with 15.208 general requirement. Please refer to Plot #1. Output power=60.82dBuV

2. Modulated emission of +/-10kHz of the band edge were measured with instrument setting: Plot #1 (Start Frequency=49.81MHz, Stop frequency=49.91MHz, RBW=3kHz, VBW=100kHz) shows the emissions level at band edge are below 15.209 general requirement ( 40dBuV).

## 8. Radiated Emission Test Setup Photo

