

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

for

INTENTIONAL RADIATOR

RC TOY CAR TRANSMITTER

MODEL NO: 96426

FCC ID NO: APB96426-99A2T

REPORT NO: 99U0599-1

ISSUE DATE: OCTOBER 04, 1999

Prepared for

MATTEL, INC.

333 CONTINENTAL BLVD.

EL SEGUNDO, CA 90245

USA

Prepared by

COMPLIANCE ENGINEERING SERVICES, INC.

d.b.a.

COMPLIANCE CERTIFICATION SERVICES

1366 BORDEAUX DRIVE

SUNNYVALE, CA 94089, USA

TEL: (408) 752-8166

FAX: (408) 752-8168

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1. VERIFICATION OF COMPLIANCE

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

CONTACT PERSON : VLADIMIR SOSNOVSKY / PROJECT ENGINEER

TELEPHONE NO. : (310) 252-5595

EUT DESCRIPTION : RC TOY CAR TRANSMITTER

MODEL NAME/NUMBER : 96426

BRAND NAME : RACIN RATZ

SERIAL NUMBER : 1

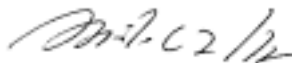
FCC ID : APB96426-99A2T

DATE TESTED : OCTOBER 04, 1999

REPORT NUMBER : 99U0599-1

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.



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	ZRC-TXB-1
Transmitting Time	CONTINUOUS
BOARD REVISION NO	1.0
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)	7/01/00
EATON	94455-1	Antenna (25 - 200MHz)	8/12/00
EMCO	3146	Antenna (200-1000 MHz)	8/12/00
H.P.	8447D	Preamplifier (0.1 - 1300 MHz)	09/3/00

7. POWERLINE RFI LIMIT

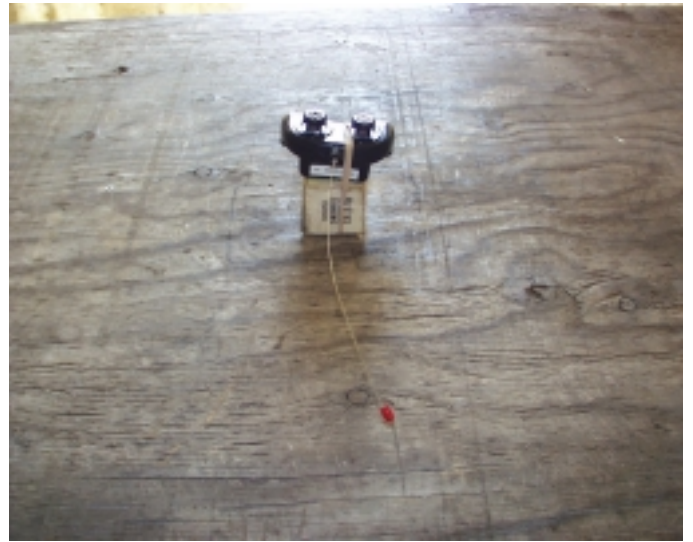
CONNECTED TO AC POWER LINE	SECTION 15.207
CARRIER CURRENT SYSTEM IN THE FREQUENCY RANGE OF 450 KHZ TO 30 MHz	SECTION 15.205 AND SECTION 15.209, 15.221, 15.223, 15.225 OR 15.227, AS APPROPRIATE.
BATTERY POWER	NO REQUIRED.

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.

EUT: RC TOY CAR TRANSMITTER

Data No: 991004F1								
Date: 10/04/99								
Test Engineer: MIKE ZHU								
Company: Mattel Toys, Inc.								
EUT: RCOY CAR TRANSMITTER								
Technical Limits : FCC FCC 15.227								
Mode Of Operation : NEUT 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
54.28	52.4	P	-19.6	32.8	40	-7.2	V	EUT-Z
81.76	45.6	P	-19.49	26.11	40	-13.89	V	EUT-Z
54.25	46	P	-19	27	40	-13	V	EUT-X
81.76	45.9	P	-19.49	26.41	40	-13.59	V	EUT-X
54.28	47.3	P	-19.67	27.63	40	-12.37	H	EUT-X
54.28	45.5	P	-19.24	25.83	40	-14.17	H	EUT-Y
Total Number of Data= 6								
Measuring Instrument:								
Spectrum Analyzer : H.P. 8568A (100 Hz - 1.5GHz)				Analyzer Setting :				
Antenna : Eaton 94455-1 (25 - 200 MHz)				Resolution Bandwidth: 100KHz				
Antenna : EMCO 3146 (200 - 1000 MHz)				Video Bandwidth : 100KHz				
Preamplifier: H.P. 8447D (0.1 - 1300 MHz)				Frequency Range Investigated : 30 - 272 MHz				