ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

UNINTENTIONAL RADIATOR

49 MHz RC TOY CAR RECEIVER

MODEL: 89905

BRAND NAME: MONTE CARLO

FCC ID: APB89905-99A4R

REPORT NO: 99U0698-1

DATE: NOVEMBER 17, 1999

Prepared for

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

Prepared by

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	MATTEL TOYS, INC. 333 CONTINENTAL BLVD. EL SEGUNDO, CA 90245 U.S.A
CONTACT PERSON	:	VLADIMIR BUZGA DIRECTOR OF DEVELOPMENT, CES
TELEPHONE NO.	:	(310) 252-5595
EUT DESCRIPTION	:	49 MHz RC TOY CAR RECEIVER
MODEL NAME/NUMBER	:	89905
FCC ID	:	APB89905-99A4R
DATE TESTED	:	NOVEMBER 17, 1999
REPORT NUMBER	:	99U0698

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

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.

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

2. PRODUCT DESCRIPTION

MATTEL TOYS, INC., Model: 89905 is the receiving portion of a toy car transmitter controller. The associated Transmitter is manufactured by MATTEL TOYS, INC., FCC ID: APB34337-98A4T.

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

Manufacturer	Model Number	Description	Cal Due Date
H.P.	8640B	Signal Generator (0.5 - 1024 MHz)	08/2000
H.P.	8546A	EMI Receiver (9KHz - 6.5GHz)	04/2000
CHASE	CBL6112	Antenna (30-2000 MHz)	03/2000
H.P.	8447D(P_1M)	Preamplifier (0.1 - 1300 MHz)	10/2000
ARA	DRG-18/A	Antenna(1 - 18GHZ)	12/1999
H.P.	8449B	Preamplifier (1-26.5GHZ)	03/2000

5. TEST CONFIGURATION

Set signal generator to transmit at 49 MHz. The receiver receives the signal.

6. TESTS CONDUCTED

CFR 47, 15.107 CODUCTED TESTS	CONDUCTED WHEN DEVICE CONNECTED TO AC LINE
CFR 47, 15.109 RADIATED EMISSION TESTS	CONDUCTED AT 3 METERS

7. CONDUCTED EMISSION TEST PROCEDURE

The EUT is located so that the distance between the boundary of the EUT and the closest surface to the LISN is 0.8m.

Conducted disturbance shall be measured between the phase lead and the ground, and between the neutral lead and the ground. The frequency 0.450 - 30 MHz shall be investigated.

Set the EMI receiver to PEAK detector setting and sweep continuously over the frequency range to be investigated. Set resolution bandwidth to 9kHz minimum. Connect EMI receiver input cable to LINE 1 RF measurement connection on the LISN. Connect a 50ohm terminator to the unused RF connection on the LISN. For each mode of EUT operation, maximize emissions readings by manipulating cable and wire positions. Record the configuration for each EUT power cord which produces emissions closest to the limit. Repeat the same procedure for LINE 2 of each EUT power cord.

8. 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.

9. 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 no: 991117A1 for six highest readings.

10. EQUIPMENT MODIFICATIONS

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

NOT APPLICABLE

11. TEST CONFIGURATION PHOTOS (Radiated Emission Test)