ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

UNINTENTIONAL RADIATOR

49 MHz R/C POLICE CAR VEHICLE
WITH TALK FUNCTION (RECEIVER)

MODEL NO: 95189

BRAND NAME: MATCHBOX R/C- RESCUE NET
COMMAND CRUISER

FCC ID NO: APB95189-00A4R

REPORT NO: 01U0823-2

DATE: JULY 3, 2001

Prepared for
MATTEL MT. LAUREL
6000 MIDATLANTIC DRIVE
MOUNT LAUREL, NJ 08054
USA

Prepared by
COMPLIANCE ENGINEERING SERVICES, INC.
d.b.a.
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1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	MATTEL MT. LAUREL 6000 MIDATLANTIC DRIVE MOUNT LAUREL, NJ 08054 USA
CONTACT PERSON	:	BOB SPALINSKI, SENIOR MANAGER R/C DEVELOPMENT
TELEPHONE NO.	:	(856) 840-1388
EUT DESCRIPTION	:	49MHz R/C POLICE CAR VEHICLE WITH TALK FUNCTION (RECEIVER)
MODEL NAME/NUMBER	:	95189
BRAND NAME	:	MATCHBOX R/C- RESCUE NET COMMAND CRUISER
SERIAL NUMBER	:	N/A
FCC ID	:	APB95189-00A4R
DATE TESTED	:	JUNE 07, 2001
REPORT NUMBER	:	01U0823-2

TYPE OF EQUIPMENT	RADIO CONTROL 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. **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 and/or Reviewed By: Approved & Released For CCS By:

PETE KREBILL
ASSOCIATE EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

STEVE CHENG
EMC ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

2. PRODUCT DESCRIPTION

MATTEL MT. LAUREL, Model R/C POLICE CAR VEHICLE AND TRANSMITTER WITH TALK FUNCTION is the receiving portion of a remote control toy. The associated Transmitter is manufactured by MATTEL MT. LAUREL, Model No 95189: FCC ID APB95189-00A4T.

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 - 1.5GHz	8568B	2841A04227	1/18/02
Spectrum Display	HP	85662A	2810A15728	1/18/02
Quasi-Peak Detector	HP9K - 1GHz	85650A	2521A01038	1/18/02
Pre-Amplifier,25 dB	HP0.1 - 1300MHz	8447D (P5)	2944A06550	9/19/01
Antenna, Bicon	Eaton30 - 200MHz	94455-1	1214	8/10/01
Antenna, LP	EMCO200 - 2000MHz	3146	9107-3163	8/10/01
Spectrum Analyzer	HP 0.1K - 1.5GHz	8568B	2732A03661	5/10/02
Spectrum Display	HP	85662A	2816A16696	5/4/02
Quasi Peak Adapter	HP9K - 1GHz	85650A	2811A01155	5/4/02
Signal Generator (0.5-1024MHz)	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 TESTS

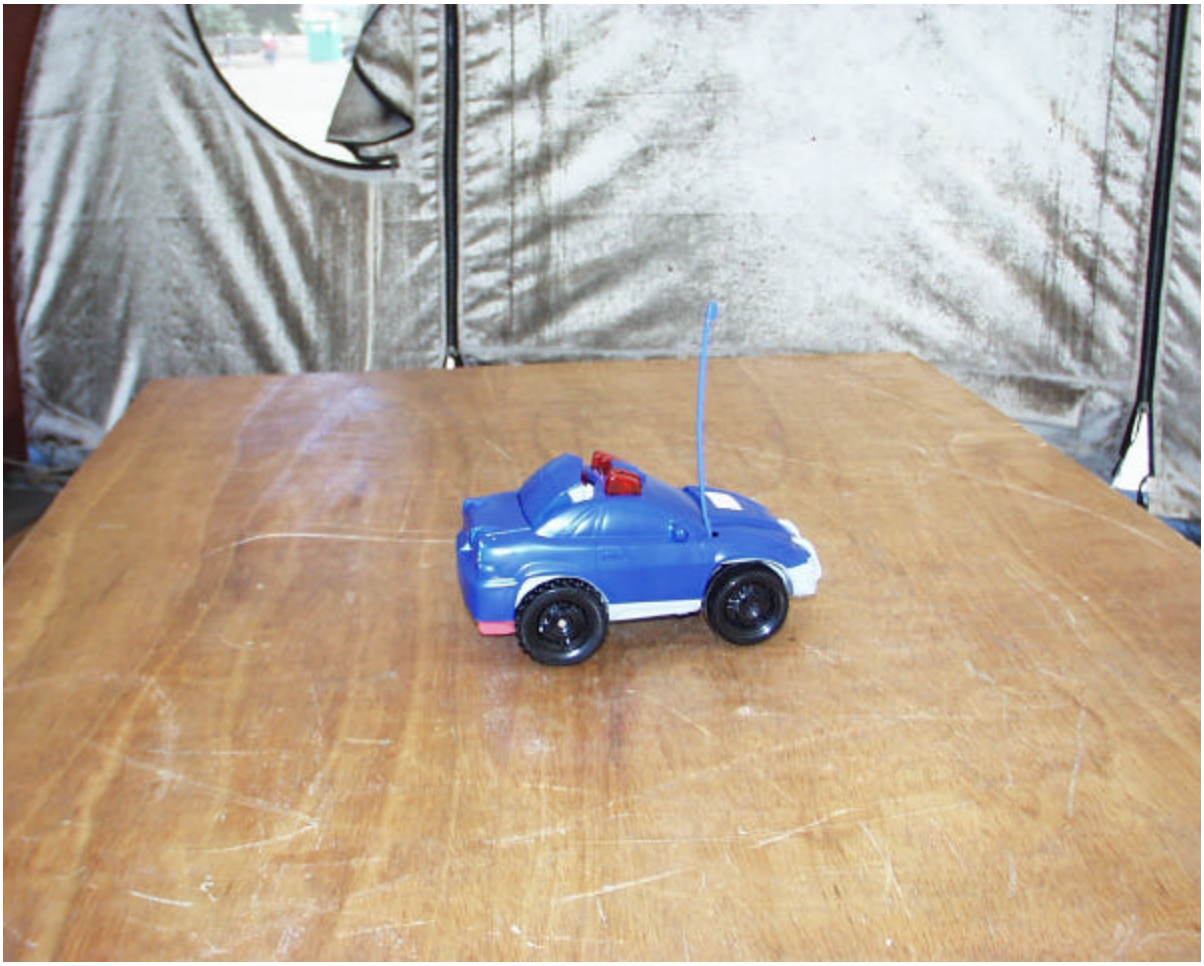
During Radiated Emission Tests, H.P. Signal Generator Model No: 8640B was used to radiate unmodulated CW signal to EUT at approximately 49 MHz. The Spectrum Analyzer was offset for cable loss, antenna factor and amplifier gain. A plot of the Cohered Emissions of the receiver was taken. Some emissions were over the limit when measured with a peak detector. These emissions were re-measured using a Quasi-Peak Detector. The emissions all passed using Quasi-Peak Detector. A plot of the highest emission at 52.28 MHz was taken using the Quasi-Peak. See Cohered Emission Plot and Quasi-Peak Emission Plot.

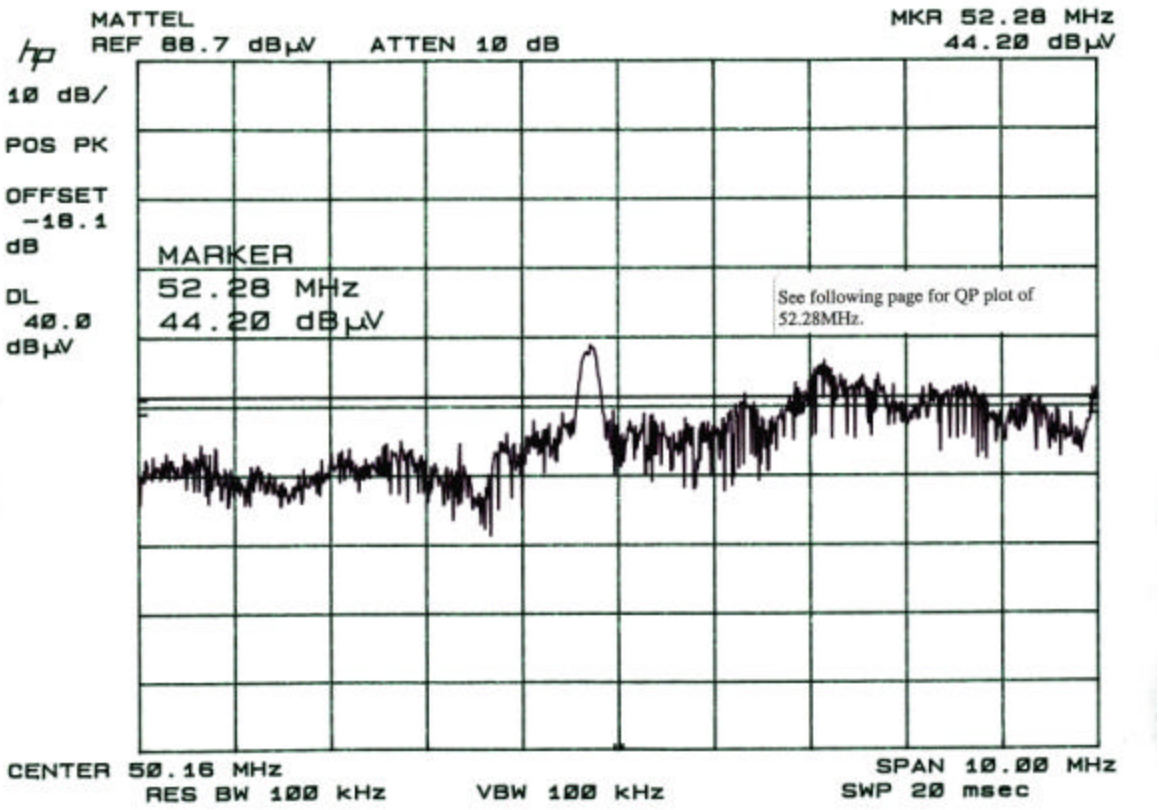
9. EQUIPMENT MODIFICATIONS

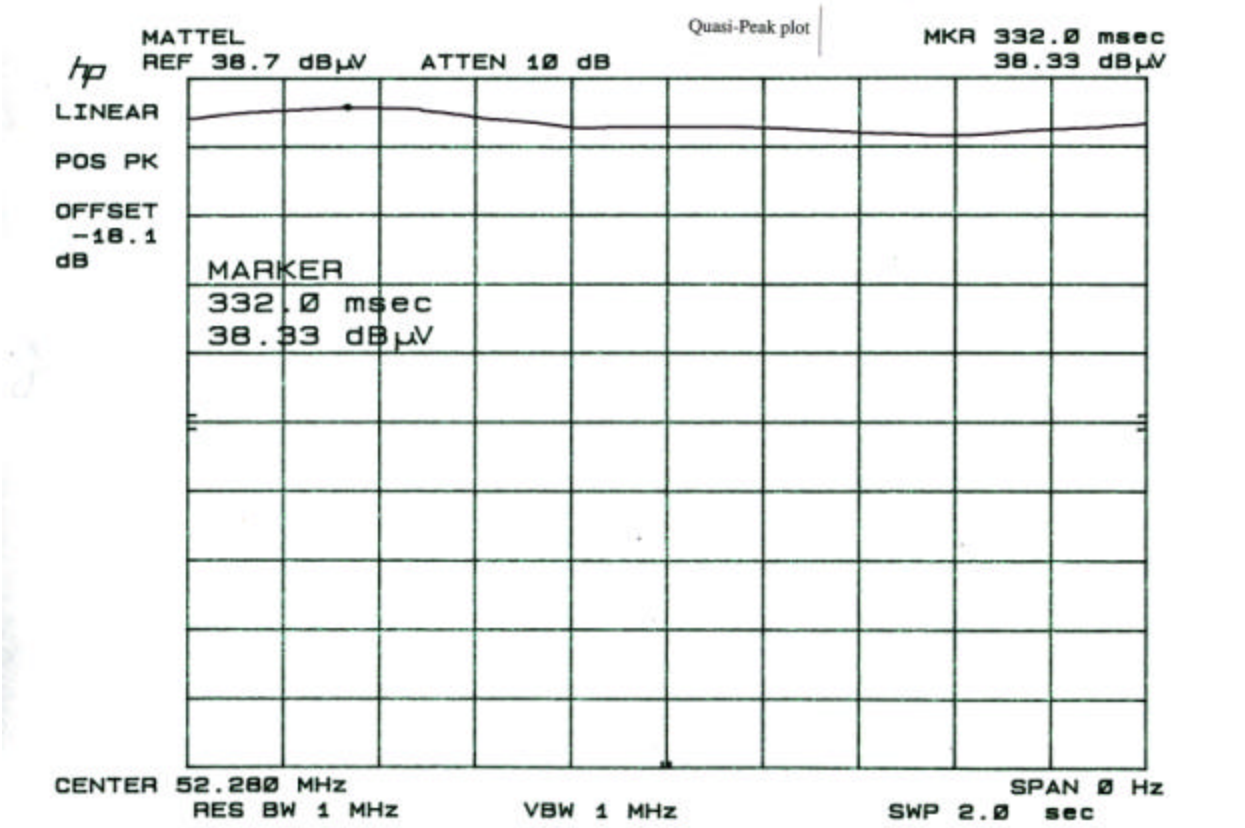
To achieve compliance to FCC Section 15.109, the following change(s) were made during compliance testing:

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

10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)







COMPLIANCE
Certification Services

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

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Project #: 01u0823-2
Report #: 010607c2
Date& Time: 06/07/01 2:15 PM
Test Engr: PETE KREBILL

Company: MATTEL MT LAUREL
EUT Description: 49MHz RX Command Cruiser
Test Configuration : EUT only
Type of Test: FCC 15.209
Mode of Operation: RX

○ A-Site ○ B-Site ◉ C-Site ○ F-Site 6 Worst Data

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)
149.50	43.90	11.24	2.72	26.97	30.88	43.50	-12.62	3mV	0.00	1.00	P
249.76	41.70	12.82	2.27	26.52	30.26	46.00	-15.74	3mV	0.00	1.00	P
299.16	41.20	15.50	2.49	26.41	32.78	46.00	-13.22	3mV	0.00	1.00	P
349.48	40.70	15.84	2.70	26.74	32.50	46.00	-13.50	3mV	0.00	1.00	P
398.88	41.30	16.13	2.92	27.07	33.28	46.00	-12.72	3mV	0.00	1.00	P
448.74	40.70	17.13	3.11	27.39	33.56	46.00	-12.44	3mV	0.00	1.00	P
498.60	40.40	18.15	3.31	27.71	34.15	46.00	-11.85	3mV	0.00	1.00	P

199.4MHz and 99.7MHz are at TV and FM broadcast frequencies.

Total data #: 7
V.2b