

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

for

UNINTENTIONAL RADIATOR

49.860MHz RC CAR RECEIVER

MODEL NO: 91497

BRAND NAME: TYCO RC-WHIPLASH

FCC ID NO: APB91497-02A4R

REPORT NO: 02U1437-2

DATE: AUGUST 7, 2002

Prepared for

**MATTEL MT. LAUREL
6000 MIDLANTIC AVENUE
MT. LAUREL, NJ 08054
USA**

Prepared by

**COMPLIANCE CERTIFICATION SERVICES
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| | <ul style="list-style-type: none">• TEST DATA<ul style="list-style-type: none">○ Coherent Emission Plot○ Radiated Emission Data• PROPOSED FCC ID LABEL FORMAT• AUTHORIZATION LETTER• SCHEMATIC DIAGRAM• USER MANUAL• EUT PHOTOGRAPHS | |

1. VERIFICATION OF COMPLIANCE

COMPANY NAME : MATTEL MT. LAUREL
6000 MIDLANTIC AVENUE
MT. LAUREL, NJ 08504
USA

CONTACT PERSON : FRANK WINKLER, SENIOR PROJECT

TELEPHONE NO. : 856-840-1259

EUT DESCRIPTION : 49.860MHz RC CAR RECEIVER

MODEL NAME/NUMBER : 91497

BRAND NAME : TYCO RC-WHIPLASH

FCC ID : APB91497-02A4R

DATE TESTED : JULY 29, 2002

REPORT NUMBER : 02U1437-2

| | |
|-----------------------|---|
| TYPE OF EQUIPMENT | REMOTE CONTROL CAR RECEIVER (UNINTENTIONAL RADIATOR) |
| EQUIPMENT TYPE | 49 MHz SUPERREGENERATE RECEIVER |
| MEASUREMENT PROCEDURE | ANSI 63.4 / 1992 |
| LIMIT TYPE | CERTIFICATION |
| FCC RULE | CFR 47, PART 15 SUBPART B |

The above equipment was tested by Compliance Engineering Services, Inc. for compliance with the requirements set forth in CFR 47, PART 15 SUBPART B. 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 By:



CHIN PANG
EMC TECHNICAIN
COMPLIANCE CERTIFICATION SERVICES

Approved & Released For CCS By:



THU CHAN
SENIOR EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. PRODUCT DESCRIPTION

MATTEL MT. LAUREL., Model No# 91497 TYCO RC-WHIPLASH is the receiving portion of a remote control toy. The associated Transmitter is manufactured by MATTEL MT. LAUREL., Model No#91497 , FCC ID APB91497-02A4T.

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 | HP 0.1K - 1.5GHz | 8568B | 2732A03661 | 5/16/03 |
| Spectrum Display | HP | 85662A | 2816A16696 | 5/16/03 |
| Quasi Peak Adapter | HP9K - 1GHz | 85650A | 2811A01155 | 5/16/03 |
| Pre-Amplifier, 25 dB | HP 0.1 - 1300MHz | 8447D (P_1M) | 2944A06833 | 8/21/02 |
| Antenna, Bilog | Schaffner-Chase30M-2GHz | CBL6112B | 2586 | 3/30/03 |
| Signal Generator | HP | 8640B | 2322A22402 | 4/24/03 |

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 TEST

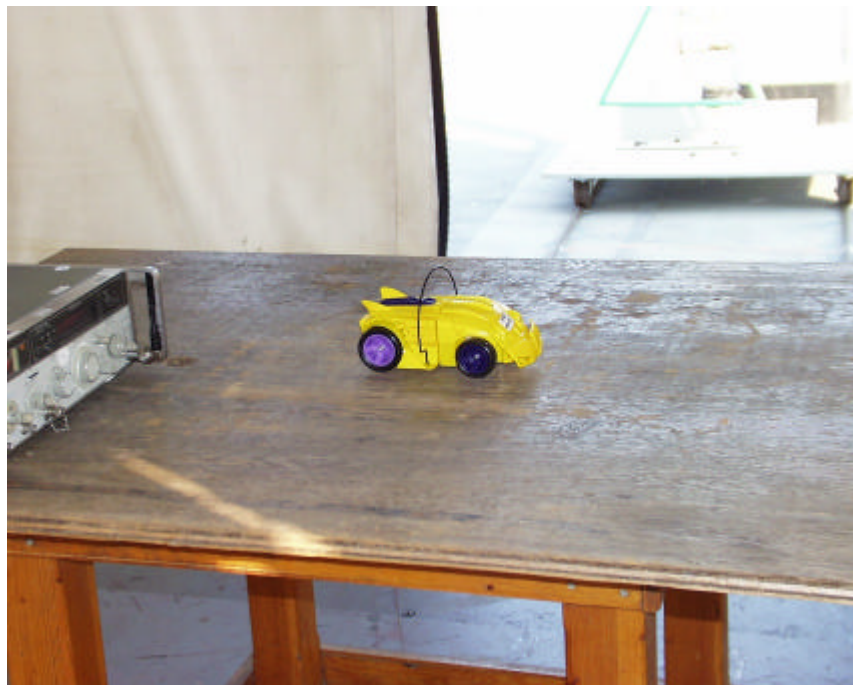
During Radiated Emission Tests, H.P. Signal Generator Model No: 8640B was used to radiate unmodulated CW signal to EUT at 49.08 MHz. Please refer to radiated emission data for six highest readings.

9. EQUIPMENT MODIFICATIONS

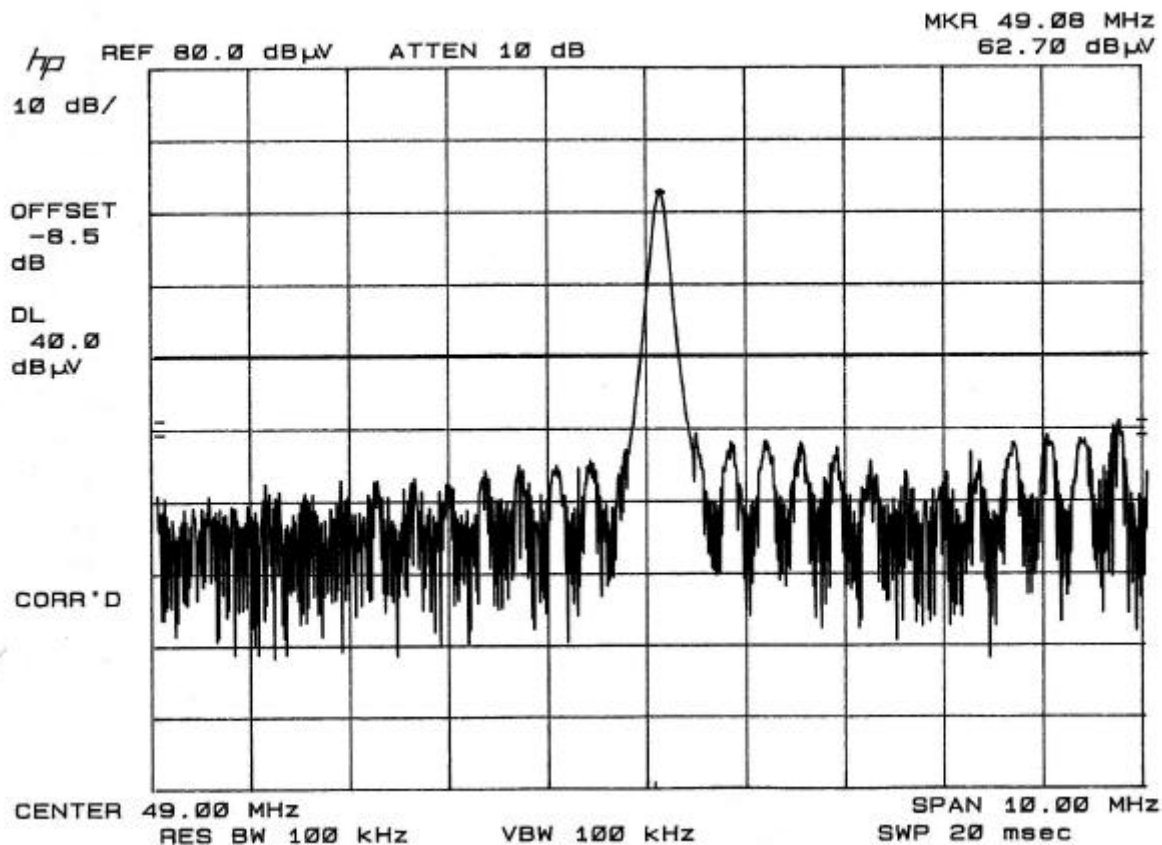
To achieve compliance to FCC Section 15.109, the following change(s) were made during compliance testing:

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

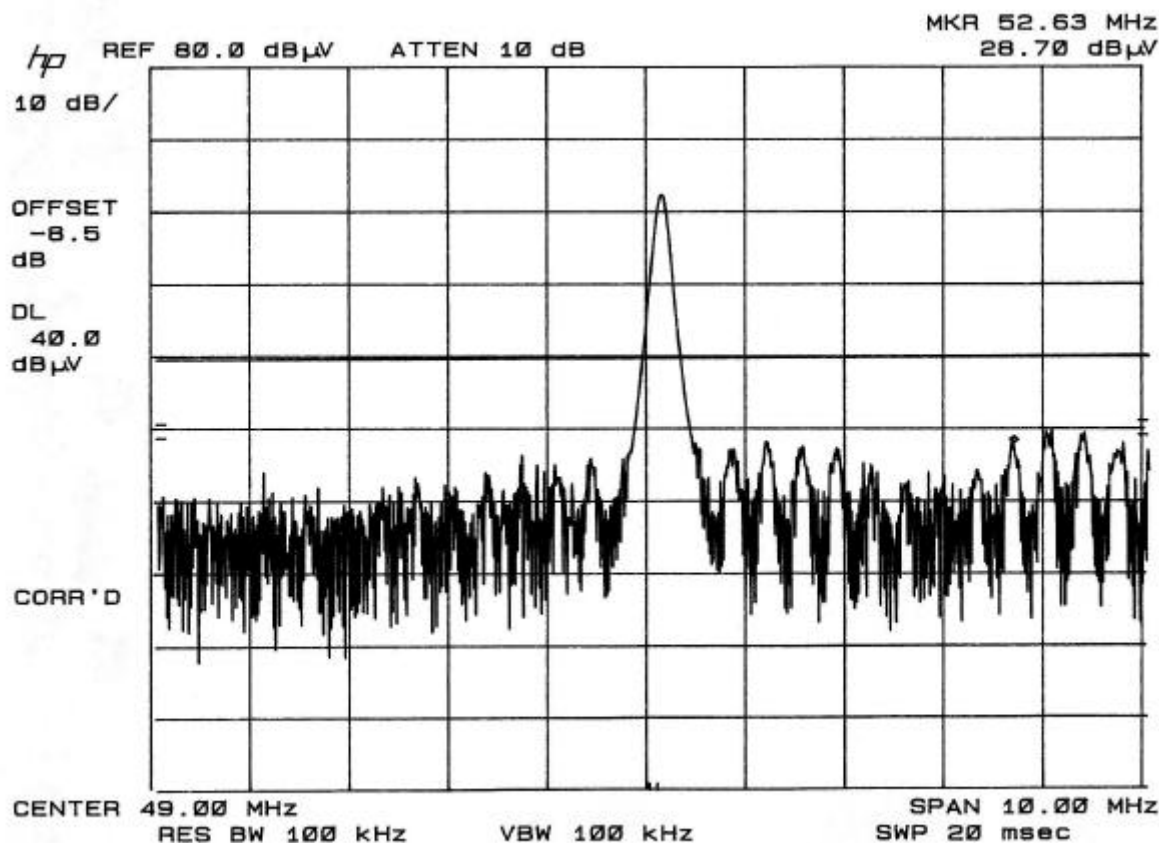
10. TEST CONFIGURATION PHOTOS (Radiated Emission Test)







COHERENT EMISSION PLOT



COHERENT EMISSION PLOT



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

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Project #: 02U1437-2
Report #: 020729A1
Date & Time: 07/29/02 4:49 PM
Test Engr: Chin pang

| | |
|-----------------------------|---------------------------|
| Company: | Mattel Mount Laurel FW |
| EUT Description: | 49Mhz Receiver For RC Toy |
| Test Configuration : | EUT / Signal Generator |
| Type of Test: | FCC Class B |
| Mode of Operation: | Receiving Mode |

[<< Main Sheet](#)[illegible]

RADIATION DATA

END OF REPORT