ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

INTENTIONAL RADIATOR

27 MHz RADIO CONTROLTRANSMITTER

MODEL NO: 95338-27T

BRAND NAME: TYCO R/C-DRIVER'S SEAT
FRONT END LOADER

FCC ID NO: APB95338-00A2T

REPORT NO: 01U0762-4

ISSUE DATE: MAY 14, 2001

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

Prepared by
COMPLIANCE ENGINEERING SERVICES, INC.
d.b.a.
COMPLIANCE CERTIFICATION SERVICES
561 F MONTEREY ROAD
MORGAN HILL, CA 95037, USA
TEL: (408) 463-0885
FAX: (408) 463-0888

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME	:	MATTEL MOUNT LAUREL 6000 MIDATLANTIC DRIVE MOUNT LAUREL, NJ 08054 USA
CONTACT PERSON	:	FRANK WINKLER/ SENIOR PROJECT ENGINEER
TELEPHONE NO.	:	856-840-1259
EUT DESCRIPTION	:	27 MHz RADIO CONTROL TRANSMITTER
MODEL NAME/NUMBER	:	95338-27T
BRAND NAME	:	TYCO R/C-DRIVER'S SEAT FRONT END LOADER
SERIAL NUMBER	:	01443
FCC ID	:	APB95338-00A2T
DATE TESTED	:	APRIL 25, 2001
REPORT NUMBER	:	01U0762-4

TYPE OF EQUIPMENT	RADIO CONTROL
EQUIPMENT TYPE	27 MHz TRANSMITTER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
EQUIPMENT AUTHORIZATION 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.
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: Approved & Released For CCS By:

KERWIN CORPUZ
ASSOCIATE EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

STEVE CHENG
EMC ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

2. PRODUCT DESCRIPTION

CHASSIS TYPE	**PLASTIC**
Fundamental Frequency	**27.145 MHz**
Power Source	**ONE 9 VOLT BATTERY**
CHIPSET BRAND AND PART NO	**MATTEL 95338-27T/TX**
Transmitting Time	**CONTINUOUS**
Type of antenna	**PERMANENTLY ATTACHED**
NO. OF LAYER	**1**
Local Osc.	**27.145MHz**

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	Serial No.	Cal Due Date
H.P.	8593EM	Spectrum Analyzer	3710A00205	05/25/01
EMCO	6502	Active Loop Antenna	9202-2722	N/A
SCHAFFNER-CHASE	CBL6112B	Antenna, Bilog	2586	12/01/01
H.P.	8447D	Pre-Amplifier	2944A06589	09/19/01
BATTERY	ENERGIZER	9V Alkaline	N/A	N/A

COMPLIANCE ENGINEERING SERVICES, INC. CCS DOCUMENT NO:CCSUP4022B
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7. POWER LINE RFI LIMIT

CONNECTED TO AC POWER LINE	SECTION 15.207
CARRIER CURRENT SYSTEM IN THE FREQUENCY RANGE OF 450 KHz TO 30MHz	SECTION 15.205 AND SECTION 15.209, 15.221, 15.223, 15.225 OR 15.227, AS APPROPRIATE.
BATTERY POWER	NOT 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). The manufacturer activated the Eut to transmit continuous. It just need to insert the battery and turn the Eut on. 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:

No changes were required in order to achieve compliance to FCC Section 15.227.

11. SUMMARY

During the test of fundamental frequency, it was found that the receiving antenna (loop antenna) at horizontal polarity is the worst emission created by the Eut.

12. 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	X	SECTION 15.205	
BATTERY POWER	X	SECTION 15.227	

12.1 RADIATION EMISSION TEST PROCEDURE AND RESULT

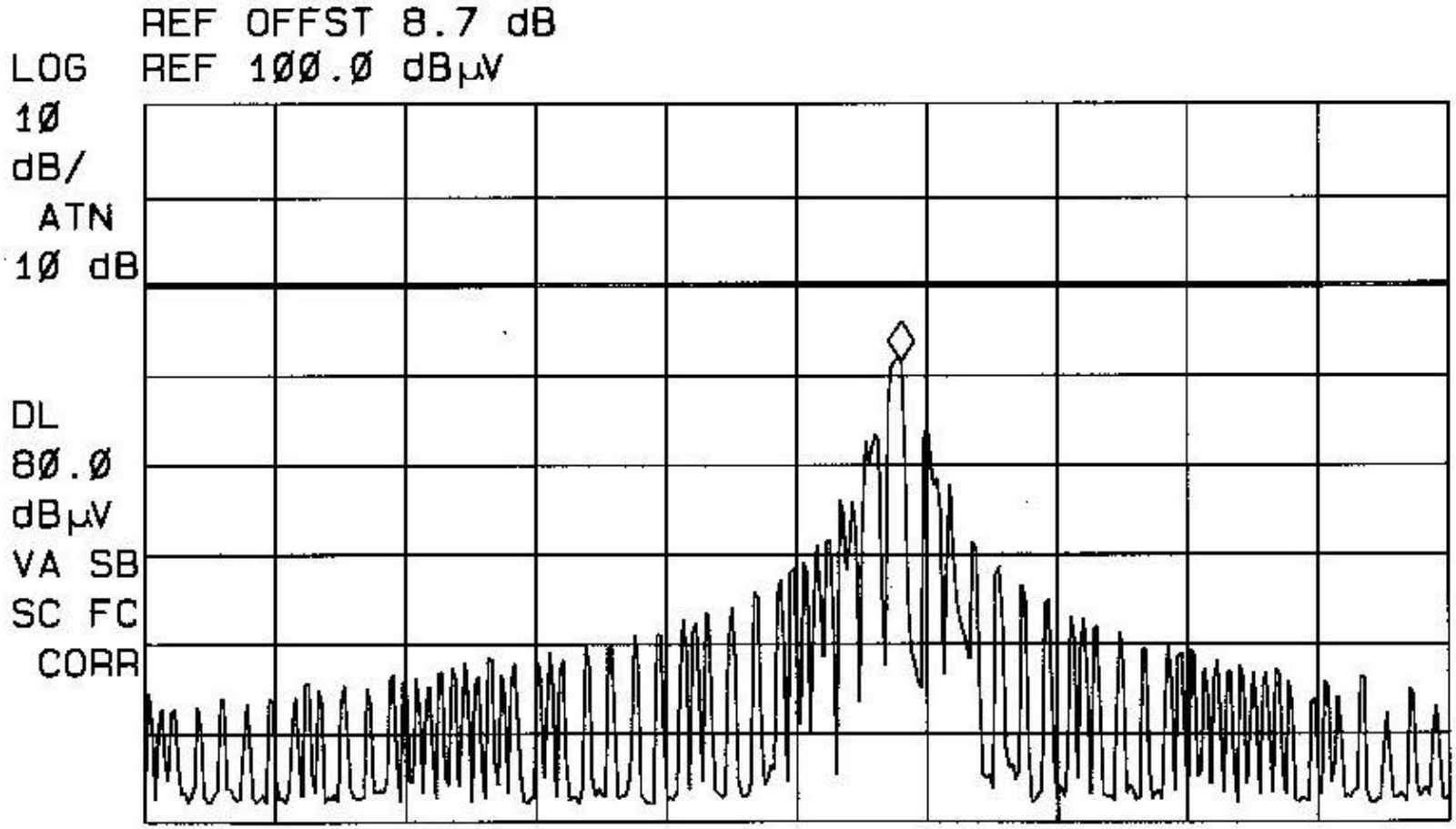
1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3 meter from the EUT. The EUT antenna was mounted vertically as per normal installation.

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.

15: Ø5: 14 APR 25, 2ØØ1
27MHz TX; FCC ID: APB95338-ØØA2T

FREQ	27.15 MHz
PEAK	73.2 dBµV
QP	73.Ø dBµV
AVG	67.2 dBµV



START 26.96ØØ MHz
STOP 27.28ØØ MHz
IF BW 9.Ø kHz
AVG BW 3Ø kHz
SWP 33.3 msec

COMPLIANCE
Certification Services

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

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Project #: 01U0762-4
Report #: 010425B1
Date& Time: 04/25/01 3:07 PM
Test Engr: KERWIN CORPUZ

Company: MATTEL
EUT Description: Tyco R/C 27MHz RADIO CONTROL TRANSMITTER
Test Configuration : EUT ONLY
Type of Test: FCC CLASS B
Mode of Operation: TX CONTINUOUSLY

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

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)
EUT MODEL: 95338-27T and SERIAL NO: 01443											
fo=27.1456 MHz											
54.29	42.50	8.67	1.66	29.48	23.34	40.00	-16.66	3mV	135.00	1.00	P
BELOW MEASUREMENTS ARE NOISE FLOOR											
81.43	38.30	7.14	2.02	29.42	18.04	40.00	-21.96	3mV	0.00	1.00	P
108.58	41.50	11.07	2.32	29.31	25.58	43.50	-17.92	3mV	0.00	1.00	P
135.72	38.40	12.10	2.62	29.21	23.91	43.50	-19.59	3mV	0.00	1.00	P
162.87	39.10	9.99	2.92	29.12	22.88	43.50	-20.62	3mV	0.00	1.00	P
190.02	40.20	9.55	3.19	28.97	23.97	43.50	-19.53	3mV	0.00	1.00	P
COMPLETED SCAN 30 - 1000 MHz, VERTICAL AND HORIZONTAL POLARIZATION											
Total data #: 6											
V.2b											