ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
CERTIFICATION TO FCC PART 15 REQUIREMENTS

for

INTENTIONAL RADIATOR

RF REMOTE CONTROLLER FOR TOYS

MODEL NO: 55647, 55648, 55649, 56508

BRAND NAME: VESPA SCOOTER SHANNEN AND ZIP 'N ZOOM SHANNEN

FCC ID NO: APB55647-02A4T

REPORT NO: 02U1222-1

ISSUE DATE: APRIL 9, 2002

Prepared for
MATTEL INC.
2031 MARIPOSA AVENUE
EL SEGUNDO, CA 90245
USA

Prepared by
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TABLE OF CONTENTS PAGE

1.VERIFICATION OF COMPLIANCE....3

2.PRODUCT DESCRIPTION....4

3.TEST FACILITY....4

4.MEASUREMENT STANDARDS....4

5.TEST METHODOLOGY....4

6.MEASUREMENT EQUIPMENT USED....5

7.TEST PROCEDURES AND TEST RESULTS....6

RADIATED EMISSION TEST: (15.235 (A))....6
RADIATED EMISSION TEST: (15.235 (B))....6

8.RADIATED EMISSION TEST SETUP PHOTOS....12

9.APPENDIX....14

EUT PHOTOGRAPHS....14
SCHEMATICS....17
BLOCK DIAGRAM....17
USER'S MANUAL....17

1.VERIFICATION OF COMPLIANCE

COMPANY NAME	:	MATTEL INC. 2031 MARIPOSA AVENUE EL SEGUNDO, CA 90245 USA
CONTACT PERSON	:	VLADIMIR SOSNOVSKY, PROJECT ENGINEER
TELEPHONE NO.	:	310-252-5595
EUT DESCRIPTION	:	RF REMOTE CONTROLLER FOR TOYS
MODEL NAME/NUMBER	:	55647, 55648, 55649, 56508
BRAND NAME	:	VESPA SCOOTER SHANNEN AND ZIP 'N ZOOM SHANNEN
SERIAL NUMBER	:	1
FCC ID	:	APB55647-02A4T
DATE TESTED	:	MARCH 25, 2002
REPORT NUMBER	:	02U1222-1

TYPE OF EQUIPMENT	RADIO CONTROL
EQUIPMENT TYPE	49.86 MHz TRANSMITTER
MEASUREMENT PROCEDURE	ANSI 63.4 / 1992
LIMIT TYPE	CERTIFICATION
FCC RULE	CFR 47, PART 15 SUBPART C

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

JERRY HOVEY
ASSOCIATE EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

Reviewed & Released For CCS By:

MIKE HECKROTTE
CHIEF ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2.PRODUCT DESCRIPTION

CHASSIS TYPE	**PLASTIC**
Fundamental Frequency	**49.86 MHz**
Power Requirement	**9VOLT BATTERY**
Type pf Transmission	**CONTINUOUS**
Antenna Requirement	**PERMANENTLY ATTACHED**
No. of Channel	**1**
Antenna Type	**STRAIGHT WIRE**
Usage	**REMOTE CONTROLLED TOYS**
Associated Receiver	**APB55647-02A4R**

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

TEST EQUIPMENTS LIST				
Name of Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Due Date**
EMC Receiver (9K-26.5GHz)	**HP**	**8593EM**	**3710A00205**	**6/20/02**
Antenna Bilog	**Chase EMC Ltd.**	**CBL6112**	**2049**	**3/29/03**
Pre-Amplifier,25 dB	**HP0.1-1300MHz**	**8447D (P_1M)**	**2944A06833**	**8/21/02**

7.TEST PROCEDURES AND TEST RESULTS

RADIATED EMISSION TEST: (15.235 (a))

Test Procedure

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 was placed in X, Y, and Z position to simulate the actual usage.

2. The turntable was slowly rotated to locate the direction of maximum emission at each EUT position. Once the maximum direction and EUT position was determined, the search antenna was raised and lowered in both vertical and horizontal polarization. The maximum readings so obtained are recorded in the data list below.

Test Result: Peak emission was under average limit. Refer to attached plot and spreadsheet.

RADIATED EMISSION TEST: (15.235 (b))

Test Requirement: The field strength between the band edges and up to 10kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in 15.209, which permits the higher emission levels. All emissions more than 10KHz from the band edges shall be below the levels specified in 15.209.

Test Procedure:

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 was placed in X, Y, and Z position to simulate the actual usage.

2. The turntable was slowly rotated to locate the direction of the maximum emission. Once the maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. Maximum emissions were then recorded. For band edge measurements plots were taken. All plots were offset for cable loss, amplifier gain, antenna factor, etc.

3. In the position and orientation of maximum emission a plot was taken using 100KHz RES B/W and 100KHz VID B/W, Start frequency 49.81MHz, Stop frequency 49.91MHz. The marker function shows the peak emission level.

4. The RES BW and VID Bw were set to 3KHz. The peak carrier level was re-examined and did not change.

5. The center frequency was set to 49.82 MHz to measure the lower bandedge, and a plot was taken.

6. The center frequency was set to 49.90 MHz to measure the upper bandedge, and a plot was taken.

Test results: For both bandedge plots, the marker shows the highest level, relative to the carrier, of emissions between the bandedge and up to 10 KHz away from the bandedge. Emissions more than 10 KHz away from the bandedge are compared to the level specified in 15.209.

COMPLIANCE Certification Services

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

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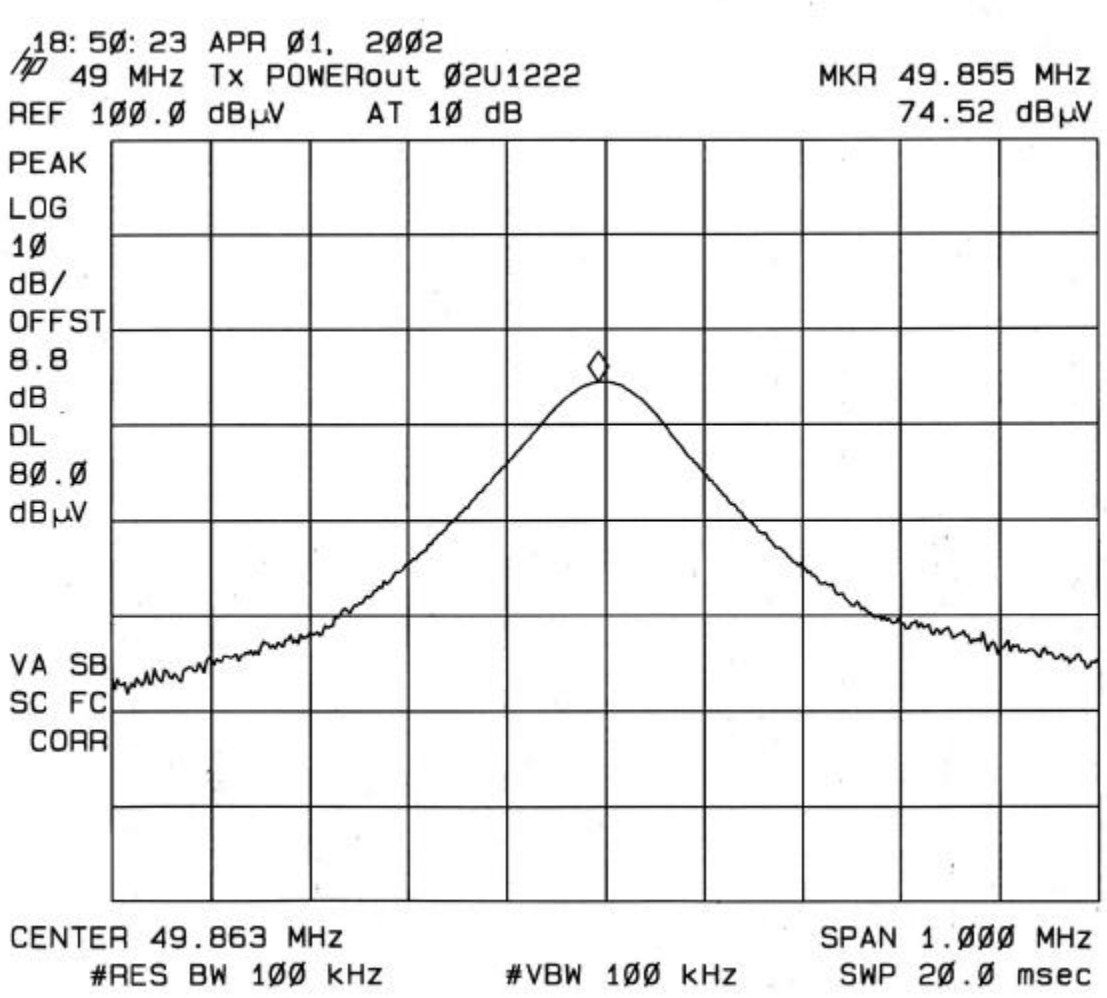
Project #:	02U1222-1
Report #:	020409B
Date& Time:	04/09/02 10:59 AM
Test Engr:	JCH

Company:	Mattel El Segundo
EUT Description:	49 MHz Transmitter (Vespa)
Test Configuration :	EUT only
Type of Test:	FCC 15.235
Mode of Operation:	Transmitt

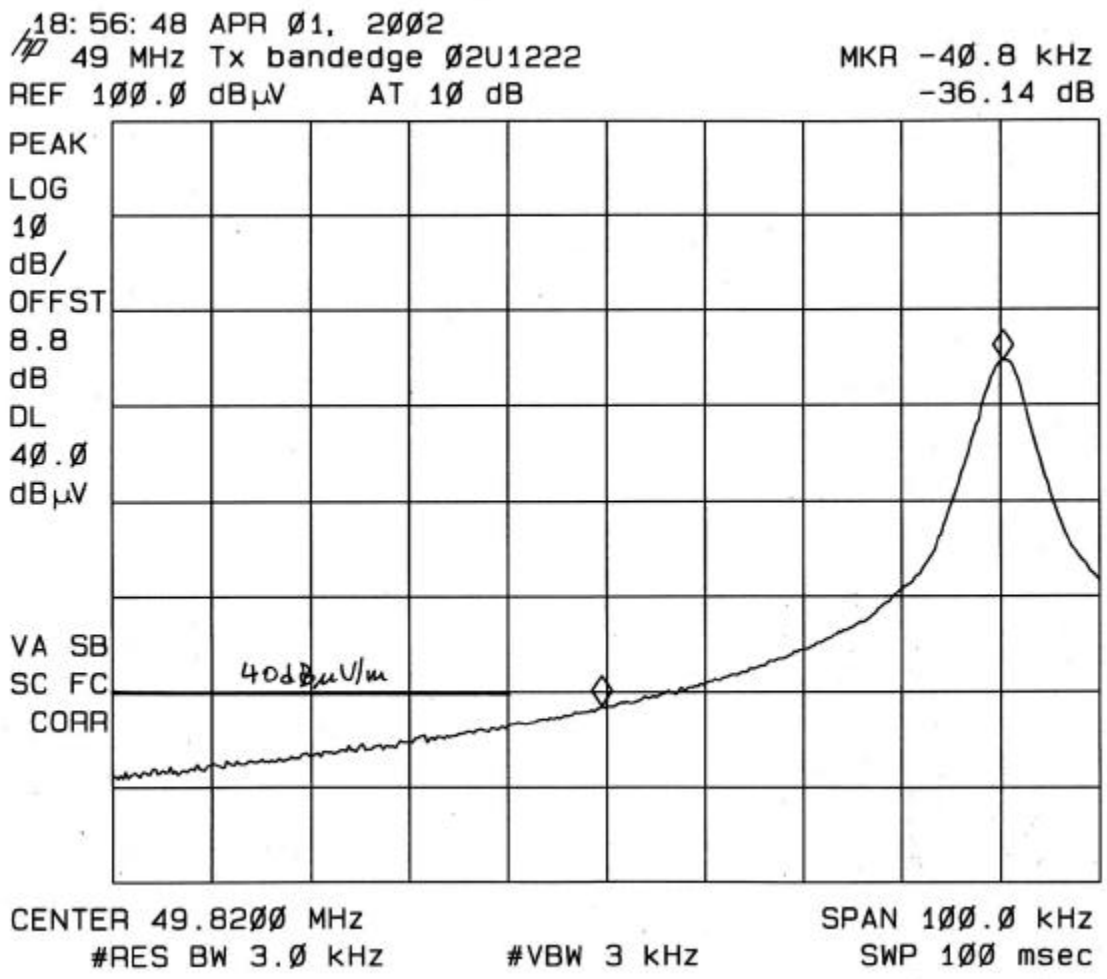
○ A-Site ◉ B-Site ○ C-Site ○ F-Site 6 Worst Data Descending

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)
149.66	41.20	10.45	2.60	29.41	24.84	43.50	-18.66	3mV	180.00	1.00	P
249.30	35.42	12.10	3.37	28.92	21.97	46.00	-24.03	3mV	180.00	1.00	P
349.02	42.10	14.38	4.16	29.07	31.56	46.00	-14.44	3mV	180.00	1.00	P
398.80	43.50	15.82	4.55	29.33	34.53	46.00	-11.47	3mV	180.00	1.00	P
448.74	42.50	16.57	4.89	29.54	34.41	46.00	-11.59	3mV	180.00	1.00	P
498.60	39.80	17.30	5.23	29.75	32.58	46.00	-13.42	3mV	180.00	1.00	P
47.76	33.17	8.71	1.72	29.68	13.92	40.00	-26.08	3mV	180.00	1.00	P
48.71	37.60	8.18	1.74	29.68	17.83	40.00	-22.17	3mV	180.00	1.00	P
51.36	36.50	7.20	1.78	29.67	15.80	40.00	-24.20	3mV	180.00	1.00	P
52.21	35.10	7.04	1.79	29.67	14.25	40.00	-25.75	3mV	180.00	1.00	P
55.40	43.00	6.44	1.82	29.66	21.61	40.00	-18.39	3mV	180.00	1.00	P
56.76	43.00	6.19	1.84	29.65	21.37	40.00	-18.63	3mV	180.00	1.00	P
Scan to 1 GHz no spurious											
Total data #: 12											
V.2b											

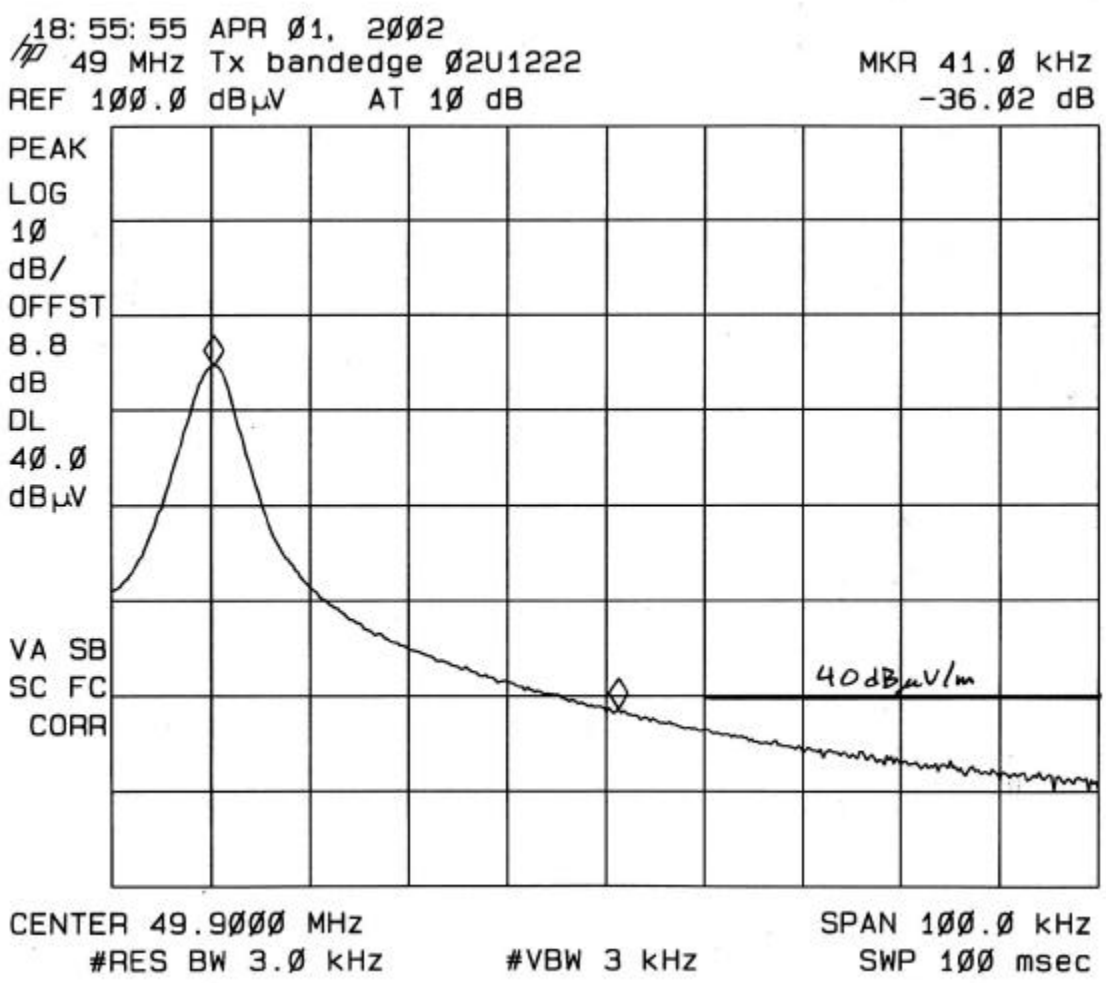
Upper Bandedge Plot



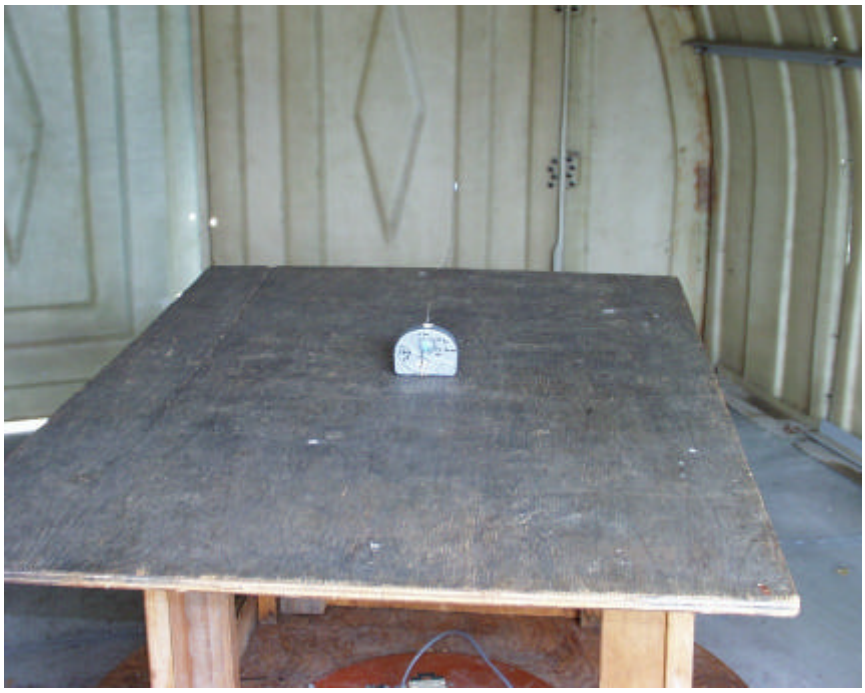
Lower Bandege Plot



Output Power

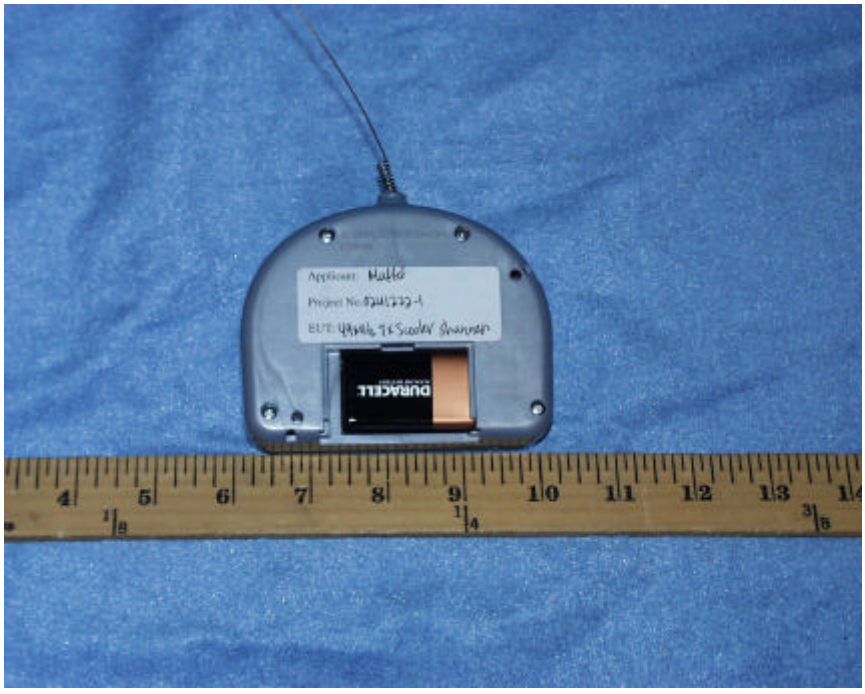


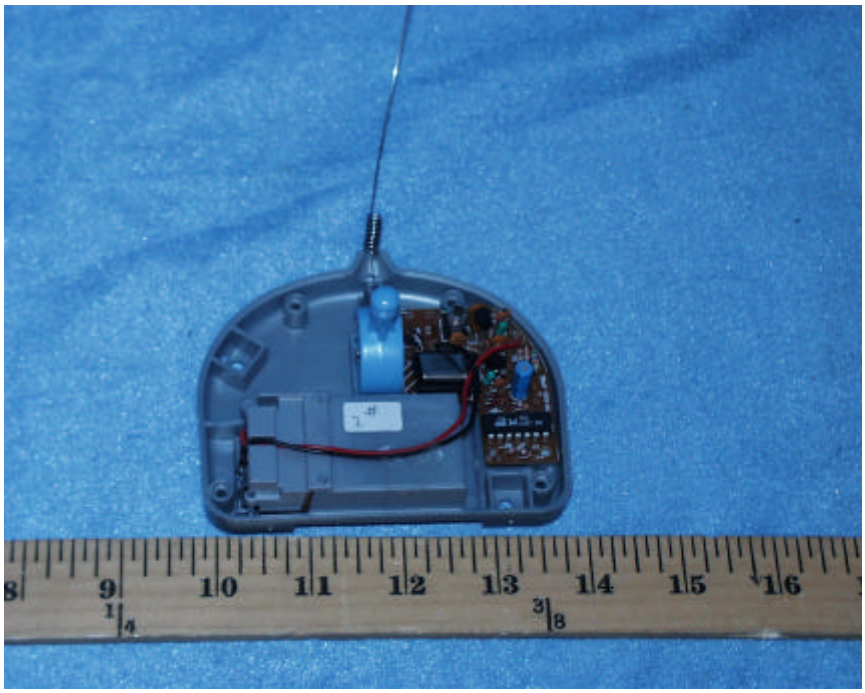
8.RADIATED EMISSION TEST SETUP PHOTOS

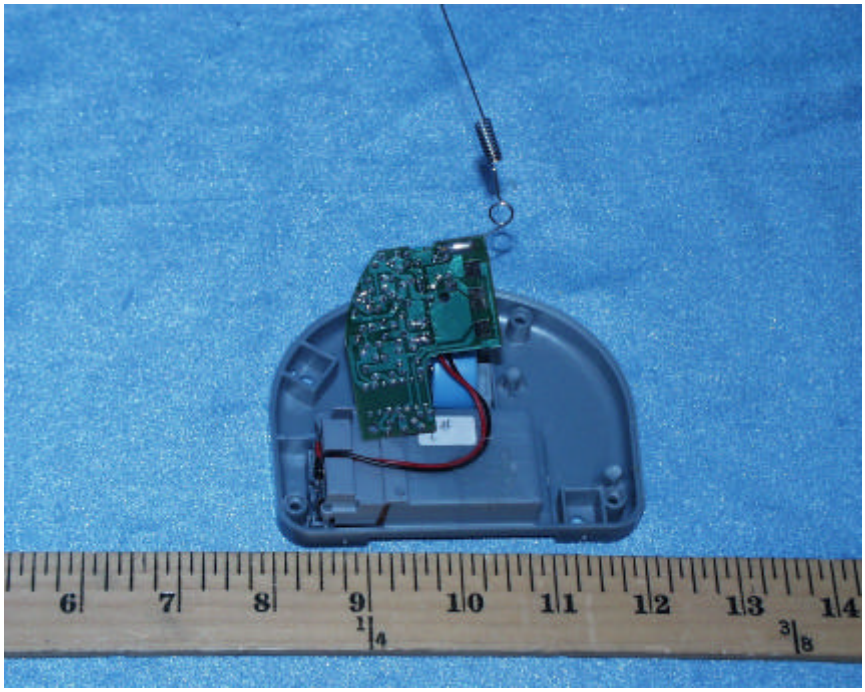


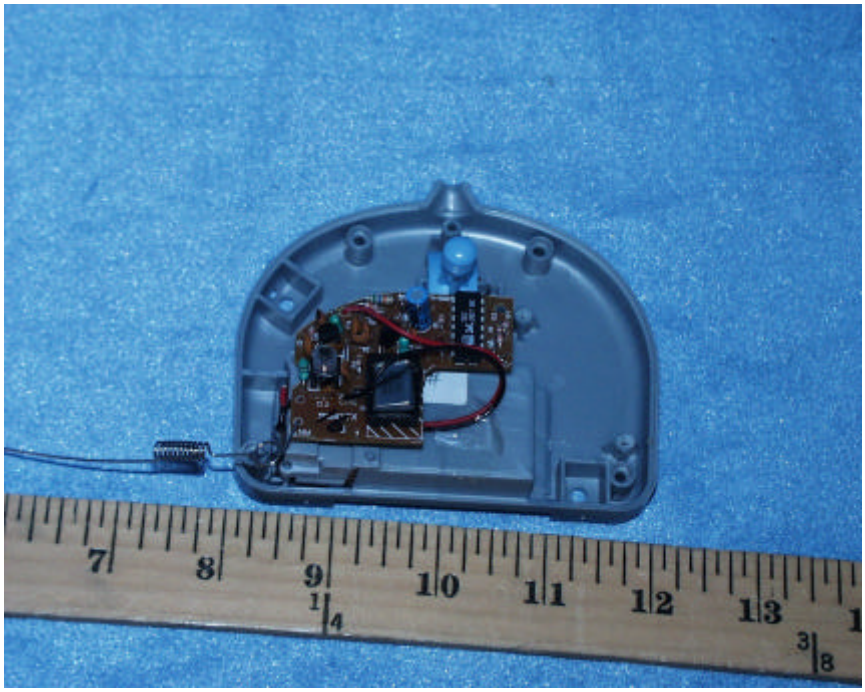
9.APPENDIX

EUT PHOTOGRAPHS









SCHEMATICS

Please refer to attached sheets.

BLOCK DIAGRAM

Please refer to attached sheets.

USER'S MANUAL

Please refer to attached sheets.

END OF REPORT