849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com 888.472.2424 F 352.472.2030 email: tei@timcoengr.com



Test Report

Product Name: WIRELESS R/C TOY-TX

FCC ID: T8S910

### Applicant:

FAIRLANDTOY ELECTRONIC CO., LTD.

FLAT B, 11/F, KAPOK IND. BLDG., 373 TOKWAWAN RD.

KOWLOON, HONG KONG

HONG KONG

Date Receipt: 5/12/2006

Date Tested: 5/16/2006

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com

888.472.2424 F 352.472.2030 email: tei@timcoengr.com

#### TABLE OF CONTENTS LIST

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

### TEST REPORT CONTAINING:

PAGE 1......TEST EQUIPMENT LIST

PAGE 2....TEST PROCEDURE

PAGE 3.....RADIATION INTERFERENCE TEST DATA

PAGE 4-5....OCCUPIED BANDWIDTH

### EXHIBITS INCLUDING:

BLOCK DIAGRAM
SCHEMATIC
INSTRUCTION MANUAL
LABEL SAMPLE
LABEL LOCATION
EXTERNAL PHOTOGRAPHS
INERNAL PHOTOGRAPHS
OPERATIONAL DESCRIPTION
TEST SET UP PHOTOGRAPHS

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com

888.472.2424 F 352.472.2030 email: tei@timcoengr.com

# **EMC Equipment List**

Device	Manufacturer	Model	Serial Number	Cal/Char Date	<b>Due Date</b>	
<b>3/10-Meter</b>	TEI	N/A	N/A	Listed 3/27/04	3/26/07	
OATS						
3-Meter OATS	TEI	N/A	N/A	Listed 1/11/06	1/10/09	
Antenna:	Eaton	94455-1	1057	CAL 12/12/05	12/12/07	
Biconnical						
Antenna:	Eaton	94455-1	1096	CAL 8/17/04	8/17/06	
Biconnical						
Antenna:	<b>Electro-Metrics</b>	<b>BIA-25</b>	1171	CAL 4/29/05	4/29/07	
Biconnical						
Analyzer Tan	HP	85650A	3303a01690	CAL 12/8/05	12/8/07	
Tower Quasi-						
Peak Adapter						
Analyzer Tan	HP	85685A	3221A01400	CAL 12/7/05	12/7/07	
Tower RF						
Preselector						
Analyzer Tan	HP	8566B OPT 462	3188A07786	CAL 12/7/05	12/7/07	
Tower			3144A20661			
Spectrum						
Analyzer						
Analyzer Tan	HP	8449B-H02	3008A00372	CAL 12/8/05	12/8/07	
Tower						
Preamplifier						
LISN	Electro-Metrics	ANS-25/2	2604	CAL 8/27/04	8/27/06	
LISN	Electro-Metrics	EM-7820	2682	CAL 4/28/05	4/28/07	
Antenna: Log-	Eaton	96005	1243	CAL 12/14/05	12/14/07	
Periodic						
Antenna:	<b>EMC Test</b>	EMCO 6512	9706-1211	CAL 4/27/06	4/27/08	
Passive Loop	Systems					

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com 888.472.2424 F 352.472.2030 email: tei@timcoengr.com

#### TEST PROCEDURE

**GENERAL:** This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2003 using a HEWLETT PACKARD spectrum analyzer with a pre-selector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a micro-volt at the output of the antenna. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz. The ambient temperature of the UUT was 80°C with a humidity of 76%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

#### Example:

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES: The unit under test was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com

888.472.2424 F 352.472.2030 email: tei@timcoengr.com

**APPLICANT:** FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

NAME OF TEST: RADIATION INTERFERENCE

**RULES PART NO.:** 15.227

REQUIREMENTS: CARRIER FREQUENCY WILL NOT EXCEEDS 80 dBuV/m AT 3M.

OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

30 - 88 MHz 40.0 dBuV/M MEASURED AT 3 METERS

88 - 216 MHz 43.5 dBuV/M 216 - 960 MHz 46.0 dBuV/m ABOVE 960 MHz 54.0 dBuV/m

#### TEST DATA:

Tuned	Emission	Meter	Ant.	Coax	Correcti	Field	Margin
Frequenc	Frequenc	Reading	Polarity	Loss	on	Strength	đВ
y MHz	y MHz	dBuV		đВ	Factor	dBuV/m	
					đВ		
27.2	27.15	27.0	v	0.80	34.16	61.96	18.04
27.2	54.29	15.1	H	1.01	10.06	26.17	13.83
27.2	54.29	15.2	v	1.01	9.84	26.05	13.95
27.2	81.44	16.9	v	1.24	8.46	26.60	13.40
27.2	108.58	14.3	v	1.46	10.81	26.57	16.93
27.2	108.82	13.9	H	1.46	10.57	25.93	17.57
27.2	135.68	12.1	v	1.65	14.91	28.66	14.84
27.2	135.73	11.1	H	1.65	14.06	26.81	16.69
27.2	162.87	5.9	H	1.84	16.59	24.33	19.17
27.2	162.87	8.1	v	1.84	17.53	27.47	16.03
27.2	190.02	6.8	v	2.03	14.61	23.44	20.06
27.2	190.02	9.6	H	2.03	14.01	25.64	17.86
27.2	217.16	5.1	H	2.19	11.59	18.88	27.12
27.2	217.18	7.9	v	2.19	11.46	21.55	24.45
27.2	244.13	8.9	H	2.32	12.17	23.39	22.61
27.2	244.31	5.2	v	2.32	12.16	19.68	26.32
27.2	271.45	5.4	H	2.46	13.24	21.10	24.90
27.2	271.45	6.0	v	2.46	13.27	21.73	24.27

SAMPLE CALCULATION: FSdBuV/m = MR (dBuV) + ACFdB.

All measurements below 30 MHz were taken using an EMC Test Systems Passive Loop Antenna.

PERFORMED BY: MARIO R. de ARANZETA DATE: 5/12/06

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com

888.472.2424 F 352.472.2030 email: tei@timcoengr.com

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S191

NAME OF TEST: Occupied Bandwidth

RULES PART NO.: 15.227

**REQUIREMENTS:** The field strength of any emissions appearing between the

band edges and up to 10 kHz above and below the band edges

shall be attenuated to the general limits of 15.209.

TEST DATA:

THE GRAPH ON THE NEXT PAGE REPRESENTS THE EMISSIONS TAKEN FOR THE DEVICE.

**METHOD OF MEASUREMENT:** A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was taken. The vertical scale is set to 10 dB per division.

PERFORMED BY: NAM NGUYEN DATE: 5/16/2006

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

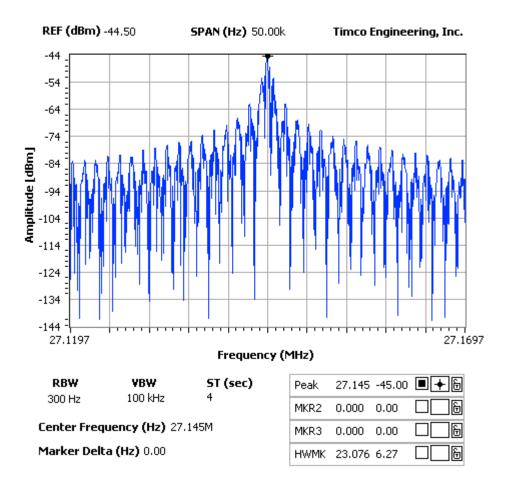
FCC ID: T8S910

849 NW State Road 45 Newberry, Florida 32669 http://www.timcoengr.com

888.472.2424 F 352.472.2030 email: tei@timcoengr.com

#### NOTES:

FAIRLANDTOY ELECTRONIC CO., LTD. - FCC ID: T8S910 OCCUPIED BANDWIDTH PLOT



APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.

FCC ID: T8S910