

# TIMCO ENGINEERING INC.

849 NW State Road 45

Newberry, Florida 32669

<http://www.timcoengr.com>

888.472.2424 F 352.472.2030 email: [tei@timcoengr.com](mailto:tei@timcoengr.com)



## Test Report

Product Name: WIRELESS R/C TOY-TX

FCC ID: T8S191

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: T8S191

REPORT #: F\FAIRLANDTOY\_\1004HT6\1004HT6TestReport.doc

COVER SHEET

# TIMCO ENGINEERING INC.

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**FCC ID:** T8S191

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### EXHIBITS INCLUDING:

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LABEL SAMPLE  
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## EMC Equipment List

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

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.  
FCC ID: T8S191  
REPORT #: 1004HT6

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## 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:**

Freq (MHz) METER READING + ACF = FS  
33                      20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

**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.

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

**FCC ID:** T8S191

**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 Frequency MHz	Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correcti on Factor dB	Field Strength dBuV/m	Margin dB
27.2	27.15	29.1	H	0.80	34.16	64.06	15.94
27.2	27.15	33.8	V	0.80	34.16	68.76	11.24
27.2	54.29	13.6	H	1.01	10.06	24.67	15.33
27.2	54.29	17.6	V	1.01	9.84	28.45	11.55
27.2	81.44	18.1	V	1.24	8.46	27.80	12.20
27.2	81.44	19.5	H	1.24	8.60	29.34	10.66
27.2	108.52	13.1	H	1.46	10.59	25.15	18.35
27.2	108.58	11.8	V	1.46	10.81	24.07	19.43
27.2	135.73	7.2	V	1.65	14.92	23.77	19.73
27.2	135.73	10.0	H	1.65	14.06	25.71	17.79
27.2	162.87	8.2	H	1.84	16.59	26.63	16.87
27.2	162.87	8.3	V	1.84	17.53	27.67	15.83
27.2	190.02	7.3	V	2.03	14.61	23.94	19.56
27.2	190.02	8.3	H	2.03	14.01	24.34	19.16
27.2	217.16	4.6	H	2.19	11.59	18.38	27.62
27.2	217.16	5.8	V	2.19	11.46	19.45	26.55
27.2	244.31	4.9	V	2.32	12.16	19.38	26.62
27.2	244.31	5.2	H	2.32	12.17	19.69	26.31
27.2	271.45	3.3	H	2.46	13.24	19.00	27.00
27.2	271.45	5.0	V	2.46	13.27	20.73	25.27

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

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

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

APPLICANT: FAIRLANDTOY ELECTRONIC CO., LTD.  
FCC ID: T8S191  
REPORT #: 1004HT6

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

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**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

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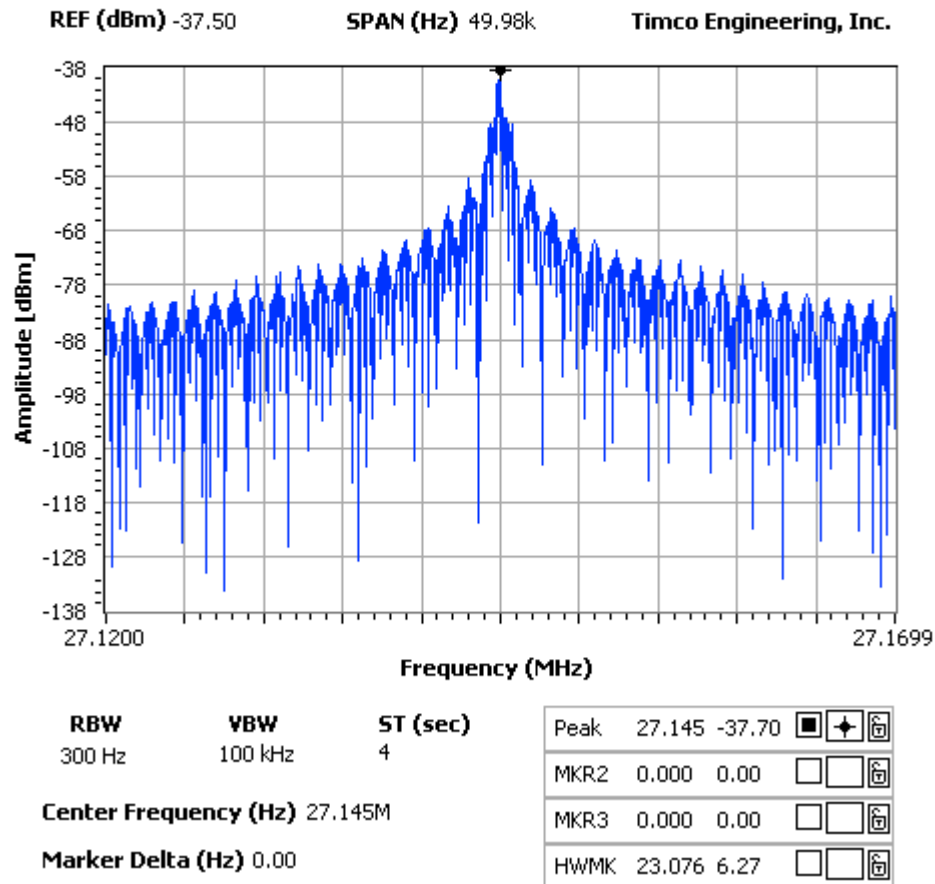
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## NOTES:

FAIRLANDTOY ELECTRONIC CO., LTD. - FCC ID: T8S191  
OCCUPIED BANDWIDTH PLOT



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