

TIMCO ENGINEERING INC.

849 NW State Road 45

Newberry, Florida 32669

<http://www.timcoengr.com>

888.472.2424 F 352.472.2030 email: sid@timcoengr.com



Test Report

Product Name: 49 MHz WIRELESS REMOTE CONTROL TRANSMITTER

FCC ID: OKP0302A

Applicant:

**WOW WEE LIMITED
ENERGY PLAZA, SUITE 301A-C
92 GRANVILLE ROAD
TST EAST
HONG KONG**

Date Receipt: OCTOBER 14, 2003

Date Tested: OCTOBER 23, 2003

APPLICANT: WOW WEE LIMITED

FCC ID: OKP0302A

REPORT #: W\WOW_OKP\1430HT3\1430HT3TestReport.doc

COVER SHEET

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TABLE OF CONTENTS LIST

APPLICANT: WOW WEE LIMITED

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TEST REPORT CONTAINING:

PAGE 1.....TEST EQUIPMENT LIST
PAGE 2.....TEST PROCEDURE
PAGE 3.....RADIATION INTERFERENCE TEST DATA
PAGE 4.....OCCUPIED BANDWIDTH
PAGE 5.....OCCUPIED BANDWIDTH PLOT

EXHIBITS CONTAINING:

EXHIBIT 1.....BLOCK DIAGRAM
EXHIBIT 2.....SCHEMATIC
EXHIBIT 3.....INSTRUCTION MANUAL
EXHIBIT 4.....LABEL SAMPLE
EXHIBIT 5.....LABEL LOCATION
EXHIBIT 6.....EXTERNAL PHOTOGRAPHS
EXHIBIT 7.....INTERNAL PHOTOGRAPHS
EXHIBIT 8.....CIRCUIT DESCRIPTION
EXHIBIT 9.....TEST SET UP PHOTOGRAPH

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TABLE OF CONTENTS

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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 3/26/01	3/26/04
3-Meter OATS	TEI	N/A	N/A	Listed 1/13/03	1/13/06
Biconnical Antenna	Eaton	94455-1	1057	CAL 3/18/03	3/18/05
Biconnical Antenna	Eaton	94455-1	1096	CAL 10/1/01	10/1/03
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/26/01	4/26/03
Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/15/03	4/15/05
Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 4/15/03	4/15/05
Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 4/15/03	4/15/05
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/9/01	10/9/03
LISN	Electro-Metrics	EM-7820	2682	CAL 3/12/03	3/12/05
Log-Periodic Antenna	Eaton	96005	1243	CAL 5/8/03	5/8/05

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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 C63.4-1992 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 microvolt 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 C63.4-1992 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: WOW WEE LIMITED
FCC ID: OKP0302A
NAME OF TEST: RADIATION INTERFERENCE
RULES PART NO.: 15.235
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:

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
49.86	57.3	H	0.80	11.83	69.93	10.07
49.86	60.5	V	0.80	11.32	72.62	7.38
99.70	15.9	V	1.20	11.89	28.99	14.51
99.70	17.8	H	1.20	11.48	30.48	13.02
149.54	5.5	V	1.40	17.43	24.33	19.17
149.54	10.2	H	1.40	16.45	28.05	15.45
199.44	8.2	V	1.80	17.93	27.93	15.57
199.44	14.3	H	1.80	17.21	33.31	10.19
249.30	25.2	V	2.00	12.46	39.66	6.34
249.30	26.5	H	2.00	12.77	41.27	4.73
299.14	6.7	H	2.20	14.23	23.13	22.87
299.14	12.6	V	2.20	13.62	28.42	17.58
349.02	11.4	V	2.49	14.69	28.58	17.42
349.02	15.0	H	2.49	15.69	33.18	12.82
398.90	17.0	H	2.79	16.17	35.96	10.04
398.90	18.8	V	2.79	15.90	37.49	8.51
448.70	8.1	V	2.95	18.25	29.30	16.70
448.70	10.3	H	2.95	18.95	32.20	13.80
498.60	8.9	V	3.10	17.90	29.90	16.10
498.60	13.3	H	3.10	18.43	34.83	11.17

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

TEST PROCEDURE: The procedure used was ANSI STANDARD C63.4-1992. The spectrum was scanned from 30 MHz to 1000 MHz. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The UUT was tested in 3 orthogonal planes.

TEST RESULTS: THE UNIT DOES MEET THE FCC REQUIREMENTS.

PERFORMED BY: NAM NGUYEN

DATE: OCTOBER 23, 2003

APPLICANT: WOW WEE LIMITED

FCC ID: OKP0302A

REPORT #: W\WOW_OKP\1430HT3\1430HT3TestReport.doc

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APPLICANT: WOW WEE LIMITED
FCC ID: OKP0302A
NAME OF TEST: Occupied Bandwidth
RULES PART NO.: 15.235

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 at least 26 dB below the level of the unmodulated carrier or to the general limits of 15.209, whichever permits the higher emission levels.

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. The horizontal scale is set to 10 kHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

PERFORMED BY: NAM NGUYEN

DATE: OCTOBER 23, 2003

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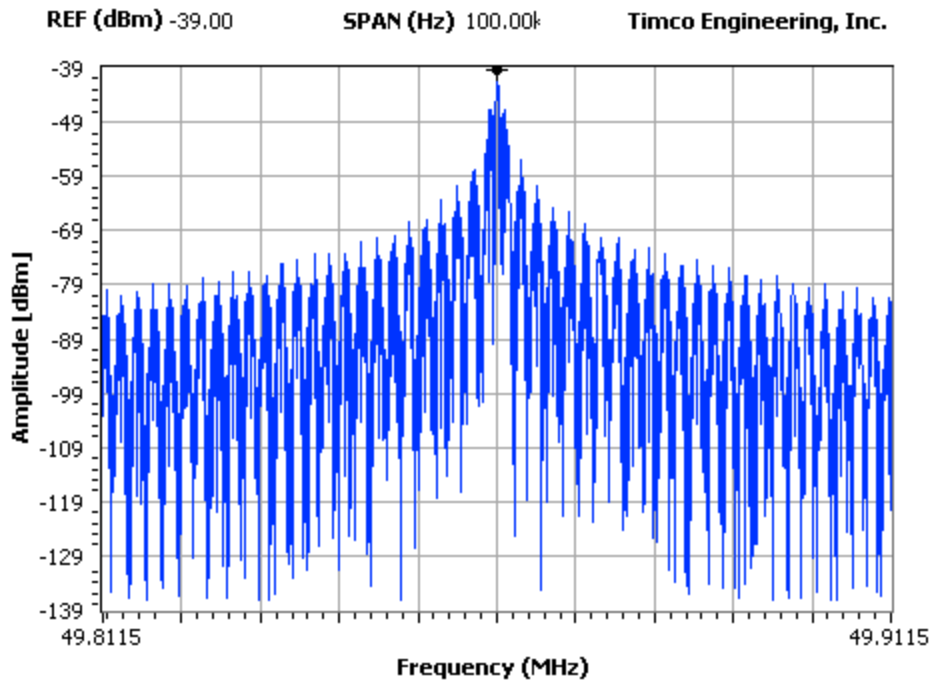
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OCCUPIED BANDWIDTH

NOTES:

WOW WEE LIMITED - 49 MHz WIRELESS R/C TOY -TX - FCC ID: OKP0302A
 OCCUPIED BANDWIDTH PLOT

FCC 15.235 Mask



RBW	VBW	ST (sec)	Peak	49.861	-39.50	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
300 Hz	100 kHz	8	MKR2	49.852	-92.30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Center Frequency (Hz)	49.862M		MKR3	49.811	-84.60	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marker Delta (Hz)	0.00		HWMK	23.076	6.27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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