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: 27 MHZ REMOTE CONTROL TRANSMITTER

FCC ID: AEKA60827

Applicant:

TAIYO KOGYO CO., LTD. FUKOKUSEIMEI BLDG. 6F, NO. 1-2-11 KAMINARIMON, TAITO-KU TOKYO 111-0034 JAPAN

Date Receipt: 9/8/2006

Date Tested: 9/11/2006

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### **EMC Equipment List**

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter	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	1/10/00
					1/10/09
Antenna:	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Biconnical	_				
Antenna:	Eaton	94455-1	1096		Out for Cal
Biconnical					
Antenna:	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Biconnical					
Analyzer Blue	HP	85650A	2811A01279	CAL 4/13/05	4/13/07
Tower Quasi-					
Peak Adapter					
Analyzer Blue	HP	85685A	2926A00983	CAL 9/5/05	9/5/07
Tower RF					
Preselector					
Analyzer Blue	HP	8568B	2928A04729	CAL 4/13/05	4/13/07
Ťower			2848A18049		
Spectrum					
Analyzer					
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	Luton	20000			12/1 1/07
Antenna:	ETS-Lindgren	6502	00062529	CAL 3/30/06	3/30/08
Active Loop	LIG Lindgrei	0202	0000121)	0111 5/50/00	5/50/00
Antenna:	EMC Test	EMCO 6512	9706-1211	CAL 4/27/06	4/27/08
	Systems	ENICO 0312	7700-1211	CAL 7/2//00	
Passive Loop	Systems				

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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 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 C63.4-2003 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: TAIYO KOGYO CO., LTD.

FCC ID: AEKA60827

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:

Emission Frequency	Meter Reading	Ant. Polarity	Coax Loss	Correction Factor	Field Strength	Margin dB
MHz	dBuV	FOIAIICy	dB	dB	dBuV/m	Ш
27.20	29.1	н	0.40	34.15	63.65	16.35
27.20	41.1	v	0.40	34.15	75.65	4.35
54.40	15.8	н	0.51	11.20	27.51	12.49
54.41	18.9	v	0.51	11.72	31.13	8.87
81.59	3.1	н	0.60	6.79	10.49	29.51
81.60	9.3	v	0.60	7.05	16.95	23.05
108.78	7.9	н	0.66	12.36	20.92	22.58
108.79	16.0	v	0.66	12.56	29.22	14.28
136.02	4.2	v	0.69	12.96	17.85	25.65
163.18	3.5	н	0.75	14.32	18.57	24.93
190.37	5.8	v	0.86	17.40	24.06	19.44
217.57	8.6	v	0.94	11.32	20.86	25.14
244.78	8.7	v	0.99	12.19	21.88	24.12

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

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

**TEST PROCEDURE:** The procedure used was ANSI STANDARD C63.4-2003. 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.

PERFORMED BY: NAM NGUYEN DATE: 9/11/2006

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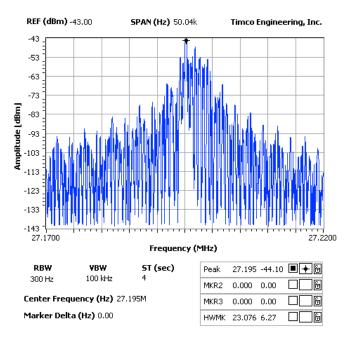
**NAME OF TEST:** Occupied Bandwidth

RULES PART NO.: 15.227

**REQUIREMENTS:** The field strength of any emissions appearing outside of 26.96 and 27.28MHz shall be attenuated to the general limits of 15.209.

#### TEST DATA:

NOTES: TAIYO KOGYO CO., LTD. - FCC ID: AEKA60827 OCCUPIED BANDWIDTH PLOT



**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:** 9/11/2006

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TEST SET UP PICTURE

