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

FCC PART 15 SUBPART 15.245

TEST REPORT

APPLICANT	WIRE AUTOMATIC DEVICE CO., LTD.
	1-9-27, JOKOJI, AMAGASAKI-SHI, HYOGO-KEN
	660-0811
	JAPAN
TEL	
FCC ID:	UXEMWS-SR-2
PRODUCT DESCRIPTION	MICROWAVE SWITCH
DATE SAMPLE RECEIVED	January 25, 2006
DATE TESTED	February 1, 2007
TESTED BY	Richard Block
APPROVED BY	Mario de Aranzeta
TIMCO REPORT NO.	W\WADECO_UXE\200UT7\200UT7TestReport.doc
TEST RESULTS	☒ PASS ☐ FAIL

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FCC ID: UXEMWS-SR-2

TEST REPORT CONTAINING:

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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 Anechoic Chamber	TEI	N/A	N/A	Listed 5/11/04	5/11/07
Antenna: Biconnical	Eaton	94455-1	1057	CAL 12/12/05	12/12/07
Antenna: Biconnical	Eaton	94455-1	1096	CAL 10/11/06	10/11/08
Antenna: Biconnical	Electro-Metrics	BIA-25	1171	CAL 4/29/05	4/29/07
Analyzer Gray Tower Quasi-Peak Adapter	Agilent	85650A	2811A01279	CAL 4/13/05	4/13/07
Analyzer Gray Tower RF Preselector	Agilent	85685A	2926A00983	CAL 9/5/05	9/5/07
Analyzer Gray Tower Spectrum Analyzer	Agilent	8566B	2928A04729 2848A18049	CAL 4/13/05	4/13/07
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/5/06	10/5/08
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
Mixer	Agilent	11970A,K,Q	various	12/12/06	12/12/08
DR Horn	ETS	3117	ETS-1	12/30/06	12/30/08
Mixer	Oleson Microwave	M12HWA M08HWA	E30425-1	12/12/06	12/12/08
Antennas Std Gain	Oleson Microwave	40-60 GHz 60-90 GHz 90-110 GHz	various	N/A	N/A
Spectrum Receiver	R& S	ESIB-40	100274	11/25/05	11/25/07

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TEST PROCEDURE

RADIATION INTERFERENCE: The test procedure used was ANSI C63.4-2003 using a Agilent spectrum analyzer with a preselector. 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 up to 1.0 GHz and 1.0 MHz with a video BW of 1.0 MHz above 1.0 GHz. The ambient temperature of the DUT was 78° F with a humidity of 40%.

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/m. The gain of the preselector 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 C63.4-2003 10.1.7 MEASUREMENT PROCEDURES: The DUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The DUT was placed in the center of the table (1.5m side). 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 1 m to 4 m. The antenna was placed in both the horizontal and vertical planes.

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APPLICANT: WIRE AUTOMATIC DEVICE CO., LTD.

FCC ID: UXEMWS-SR-2

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.245, 15.209

REQUIREMENTS:

Field Strength of Fundamental	**Field Strength of Harmonics**
24075- 24175 MHz 127.96 dBuV/m @3 meters	87.96 dBuV/m @3 meters

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

TEST DATA:

Tuned Frequency GHz	Emission Frequency GHz	Meter Reading dBuV	Ant. Polarity V/H	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
24.153	24.153	111.85	H	8.35	120.2	17.76
24.153	48.306	49.4	H	40.39	89.79	8.17
24.153	72.459	42.9	H	47.8	90.7	7.26

Tuned Frequency GHz	Emission Frequency GHz	Meter Reading dBuV	Ant. Polarity V/H	Correction Factor dB/m	Field Strength dBuV/m	Margin dB
24.111	24.111	117.17	H	8.35	125.52	12.44
24.111	48.222	37.5	H	40.39	77.89	20.07
24.111	72.333	47.3	H	47.8	95.1	2.86

The fundamental was measured at a 3 meters distance and the harmonics measured at 1 meter distance.

The table above shows a 3 meter to 1 meter correction factor of 10 dB for the harmonics.

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APPLICANT: WIRE AUTOMATIC DEVICE CO., LTD.

FCC ID: UXEMWS-SR-2

NAME OF TEST: RADIATION INTERFERENCE

TEST PROCEDURE: The ANSI C63.4-2003 procedure was followed using a Agilent Model 8572A spectrum receiver, and an appropriate antenna. The resolution bandwidth of spectrum receiver was 1 MHz with an equal video bandwidth and an appropriate sweep speed. 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 spectrum was searched to at least the fifth (5) harmonic of the fundamental or 100 GHz whichever is the lower.

PERFORMED BY: RICHARD BLOCK DATE: 2/2/2007

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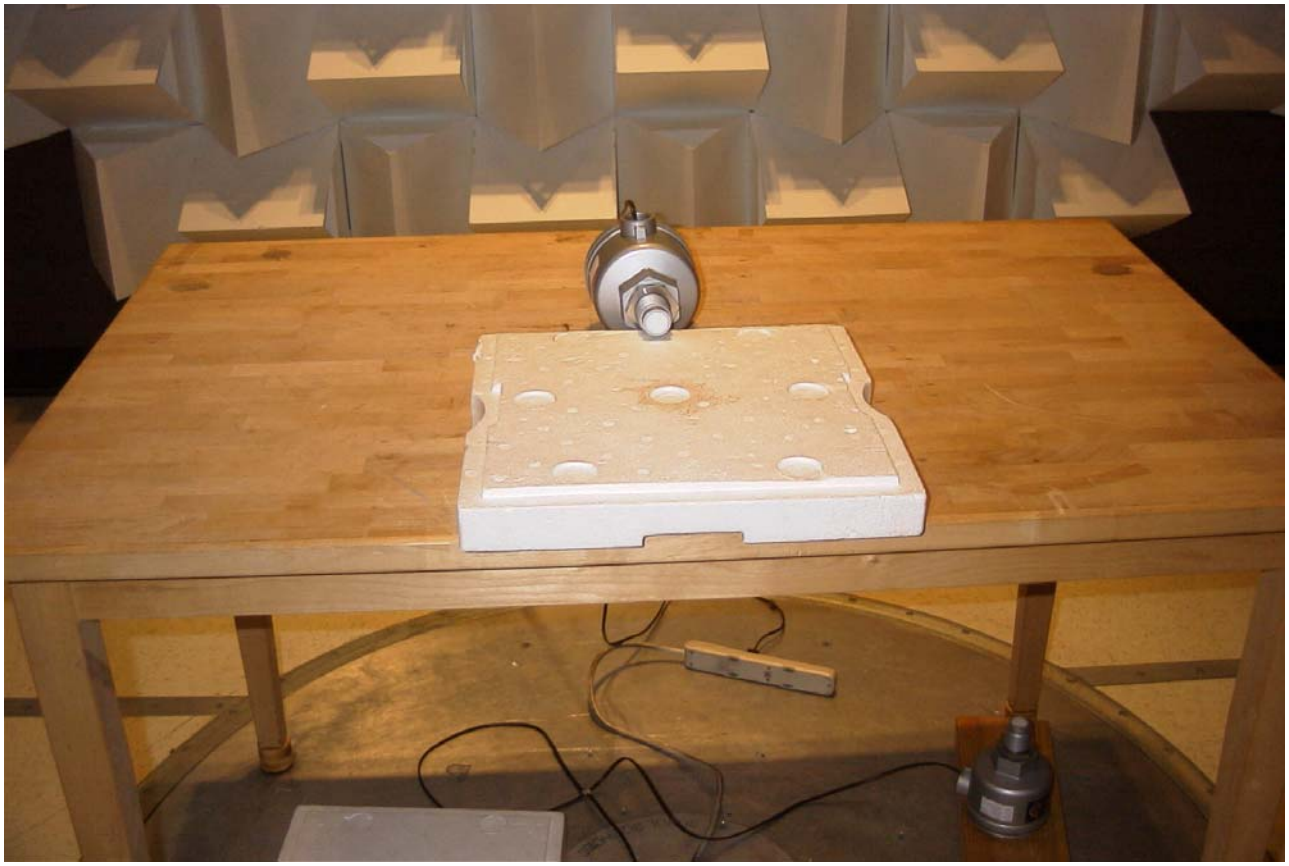

TEST SETUP PHOTO

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APPLICANT: WIRE AUTOMATIC DEVICE CO., LTD.

FCC ID: UXEMWS-SR-2

NAME OF TEST: Occupied Bandwidth

RULES PART NO.: 15.245

REQUIREMENTS: The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.245.

THE PLOTS ON THE NEXT PAGE REPRESENTS THE EMISSIONS TAKEN FOR THIS DEVICE.

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

PERFORMED BY: Richard Block DATE: February 1, 2007

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