Date: 2000-11-10

TEST REPORT

No.: HM103010

APPLICANT: (Code: YUE002)
YUANXUN ELECTRONICS CO., LTD.
4/F., 25 Cuizhu Industrial, Qiangshan, Zhuhai, GuangDong, China

DATE OF SAMPLES RECEIVED: 2000-07-24

SUBMITTED SAMPLE(S): 2 samples per model

DATE OF TESTING: 2000-09-12 to 2000-11-03

DESCRIPTION OF SAMPLE(S):
A sample of product said to be:

Product:	CORDLESS WHEEL MOUSE WITH 433.92MHz
Manufacturer:	YUANXUN ELECTRONICS CO., LTD.
Model Number:	MRF-2000
Brand Name:	N/A
Rating:	3V d.c. ("AAA" size battery x 2)
Origin:	CHINA

INVESTIGATIONS REQUESTED:

Measurement to the relevant clauses of F.C.C. Rules and Regulations Part 15 Subpart C - Intentional Radiator.

REMARK : This product was tested as a system using the Ancillary Equipment listed in Appendix B.

RESULTS: Please see attached sheet(s).

CONCLUSION:

From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirement for the relevant clauses of Federal Communications Commission Rules.

TEST EQUIPMENT AUDIT: Please see Appendix A.

Law Man Kit	Steven Tsang	Patrick Wong
Testing Engineer	Verify by	Patrick Wong for Managing Director

TEST REPORT

T E S T S U M M A R Y

(A) Measurement of Radiated Emission
Result -- Satisfactory
Data -- See the attached data

(B Measurement of Line-Conducted Voltage Test
Result -- Satisfactory
Data -- See the attached data

(A) Measurement of Radiated Interference

TEST REFERENCE : FCC Rules Part 15 Subpart C Section 15.209
TEST CONDITION : Normal
TEST DATE : 2000-11-03

Emission Frequency	Meter Reading (including antenna factor)	Polarization	Field Strength (at 3m)	FCC Limited
MHz	dB(mV)	H-V	mV/m	mV/m
433.53	36.7	V	68.39	200
433.56	40.7	H	108.39	200

- End -

========== SUMMARY ==========

All data is within limits

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Broad-band Antennas were used and both polarizations of emissions were measured.
polarizations at highest reading indicated as:
H -- Horizontal V -- Vertical

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Quasi-peak measurements were performed if the maximised measurements
were less than 6dB below the quasi-peak limit line.
Quasi-peak measurements are denoted by * in the table above

NOTES FOR THE RADIATION MEASUREMENT

(1) Test site facility:
Open field test site located at Taipo (Hong Kong) with a metal ground plane on filed with the FCC pursuant to section 2.948 of the FCC Rules.

(2) Distance between the EUT and measuring antenna:
3 meters.

(3) Measuring instrumentation's:
CISPR Quasi-peak type field strength meter (25 MHz - 4500 MHz.). 6 dB bandwidth set at 120 KHz. Also, peak level of the fundamental emissions was measured in order to determine compliance with the 20dB peak to average limit specified in Section 15.35(b) of the FCC new Rules.

(4) Measuring antenna:
Broad band antenna for the frequency range 25-4500 MHz, connected with 10 meters coaxial cable. Cable loss of the coaxial cable included in the Antenna Factor for measurement data. The antenna are capable of measuring both horizontal and vertical polarizations.

(5) Frequency range scanned:
The frequency range from 25 MHz to 4500 MHz had been searched. Readings of the highest emissions relating to the limit were reported as above.

(6) Arrangement of EUT:
During the test, the sample was operated at rated supply voltage and arranged for maximum emissions.

(7) Measuring Procedure:
In accordance with the relevant clauses of the FCC Rules Part 15 section 15.209 and ANSI C63.4:1992 section 12.1.1.1-2. For superregenerative receivers, an independent signal generator had been used to radiated an unmodulated were (cw) signal to the receiver at its operating frequency in order to "cohere" or resolve the individual components of the characteristic broadband emission from such a receiver. The level of such signal may need to be adjusted in order to accomplish this.

(8) Measuring Uncertainty:
The calculated uncertainty for measurement performed at 3M test distance are:- 30MHz to 300MHz = ± 3.7dB, 300MHz to 4500MHz = + 3.0dB/-2.7dB.

Remark: Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC's Equipment Authorization Program. This test itself is not an Approval Test.

(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart C Section 15.207
TEST CONDITION : Normal
TEST DATE : 2000-09-12

(1) Between "Live" and "Ground"

Frequency Range of Emission MHz			Maximum Measured Radio Noise dB(mV)		mV	FCC Limit (Class B) mV
0.45	-	0.80		31.78	38.82	250.00
0.80	-	1.60		32.86	43.95	250.00
1.60	-	3.00	<	32.15	40.50	250.00
3.00	-	5.00	<	27.75	24.41	250.00
5.00	-	7.00		23.25	14.54	250.00
7.00	-	9.00	<	23.87	15.61	250.00
9.00	-	11.00	<	29.03	28.28	250.00
11.00	-	13.00		33.26	46.03	250.00
13.00	-	15.00		0.00	1.00	250.00
15.00	-	17.00	<	29.61	30.23	250.00
17.00	-	19.00	<	39.68	96.38	250.00
19.00	-	21.00		0.00	1.00	250.00
21.00	-	23.00	<	43.71	153.29	250.00
23.00	-	25.00		0.00	1.00	250.00
25.00	-	27.00	<	40.18	102.09	250.00
27.00	-	30.00		0.00	1.00	250.00

- End -

========== SUMMARY ==========

All data is within limits

(B) Measurement of Line-Conducted Voltage onto AC Power Line

TEST REFERENCE : FCC Rules Part 15 Subpart C Section 15.207
TEST CONDITION : Normal
TEST DATE : 2000-09-12

(1) Between "Neutral" and "Ground"

Frequency Range of Emission MHz			Maximum Measured Radio Noise dB(mV)		mV	FCC Limit (Class B) mV
0.45	-	0.80	<	31.78	38.82	250.00
0.80	-	1.60	<	32.86	43.95	250.00
1.60	-	3.00		32.15	40.50	250.00
3.00	-	5.00		27.75	24.41	250.00
5.00	-	7.00	<	23.25	14.54	250.00
7.00	-	9.00		23.87	15.61	250.00
9.00	-	11.00		29.03	28.28	250.00
11.00	-	13.00	<	33.26	46.03	250.00
13.00	-	15.00		0.00	1.00	250.00
15.00	-	17.00		29.61	30.23	250.00
17.00	-	19.00		39.68	96.38	250.00
19.00	-	21.00		0.00	1.00	250.00
21.00	-	23.00		43.71	153.29	250.00
23.00	-	25.00		0.00	1.00	250.00
25.00	-	27.00		40.18	102.09	250.00
27.00	-	30.00		0.00	1.00	250.00

- End -

========== SUMMARY ==========

All data is within limits

NOTES FOR THE CONDUCTED POWER-LINE MEASUREMENT

(1) LISN (Line Impedance Stabilization Network) used :
50 μH LISN in accordance with Section of ANSI C63.4:1992.

(2) Measurement Instrumentations:
CISPR quasi-peak type radio noise meter (9 KHz - 30 MHz), 6 dB bandwidth set at 9 KHz for measurement between 150 KHz & 30MHz.

(3) Frequency range scanned :
The frequency range form 450 KHz to 30 MHz had been searched. Reading of the highest emissions relating to the limit were reported as above.

(4) Configuration of EUT:
Connection of equipment and operation conditions were same as those in the Radiation measurement.

(5) Measurement procedure :
In accordance with the relevant sections of ANSI C63.4:1992 "FCC Methods of measurement of Radio Noise Emissions from Computing Devices".

(6) Measuring Uncertainty:
The calculated uncertainty for conducted power-line measurement is = ±2.3dB.

(7) Address of test site facility:
The Hong Kong Standards & Testing Centre Ltd.
10 Dai Wang Street, Taipo Industrial Estate, Taipo, N.T., Hong Kong

Remark: Purpose of this test is to provide the Applicant with the necessary test data of their device for the submission to FCC with application for Equipment Authorization under FCC's Equipment Authorization Program. This test itself is not an Approval Test.

*** End of document ***

APPENDIX A

TEST EQUIPMENT AUDIT

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL.
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192	18/07/00
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514	18/07/00
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702	18/07/00
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410	18/07/00
EM011	ATTENNUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595	18/07/00
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262	18/07/00
EM013	CONTROLLER (COMPUTER), COLOR MONITOR, KEYBOARD & MOUSE FLOPPY DRIVE	HEWLETT PACKARD HEWLETT PACKARD HEWLETT PACKARD	HP9000 HP A1097C HP9133L	6226A60314 3151J39517 2623A02468	CM
EM131	PORTABLE SPECTRUM ANALYSER	HEWLETT PACKARD	8595EM	3710A00155	25/11/99
EM017	ANTENNA	ARA INC.	LPB-2513/A	1069	17/02/00
EM020	HORN ANTENNA	EMCO	3115	4032	09/08/00
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892	30/03/98
EM083	HKSTC OPEN AREA TEST SITE	HKSTC	N/A	N/A	15/01/00
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	31/05/00

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A	CM
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A	09/09/99
EM002	LISN	EMCO	3825-2	9005-1657	27/07/99
EM119	LISN	R & S	ESH3-Z5	0831.5518.52	TBD
EM145	EMI TEST RECEIVER	R & S	ESCS 30	830245/021	31/05/00
EM120	EMI TEST RECEIVER	R&S	ESHS10	1004.0401.10	TBD
EM127	ISOLATION TRANSFORMER 220 TO 300	WING SUN	N/A	N/A	N/A
EM142	PLUSE LIMITER	R & S	ESH3Z2	357.8810.52	29/01/00

Remarks:-

CM Corrective Maintenance

N/A Not Applicable or Not Available

TBD To Be Determined

APPENDIX B

ANCILLARY EQUIPMENT

ITEM NO.	DESCRIPTION	MODEL NO.	FCC ID	REMARK
1	DELL COMPUTER	MMS	E2KTERMIND	N/A
2	AST AVGA MONITOR	CM6P	GDRCM6P	RESOLUTION:720*400(DURING TESTING) 1.0M UNSHIEDED POWER CORD CONNECTED TO THE COMPUTER 2.8M SHIELDED CABLE CONNECTED TO THE COMPUTER
3	AST KEYBOARD	KB-2923	LIAKWD-200	1.8M SHIELDED COILED CABLE CONNECTED TO THE COMPUTER
4	MOUSE	PS12	FSUGMZC8	2.4M UNSHIELDED CABLE CONNECTED TO THE COMPUTER
5	PARALLEL PRINTER	DMP3000	DE2850CDMP3000	1.8M UNSHIELDED POWER CORD 2.8M SHIELDED CABLE (BYNDLED TO 1M) CONNECTED TO THE COMPUTER