ELECTROMAGNETIC EMISSION COMPLIANCE REPORT
FOR FCC CLASS B CERTIFICATION

Test report file number	**: E055R-018**
Applicant	**: OH SUNG ELECTRONICS CO., LTD.**
Address	**: #181 Gongdan-dong, Gumi, Gyeong Buk, Korea**
Manufacturer	**: OH SUNG ELECTRONICS CO., LTD.**
Address	**: #181 Gongdan-dong, Gumi, Gyeong Buk, Korea**
Type of Equipment	**: REMOTE CONTROLLER**
FCC ID	**: OZ5URCMX-3000**
Model / Type No.	**: MX-3000**
Serial number	**: N/A**
Total page of Report	**: 11 pages (including this page)**
Date of Incoming	**: March 21, 2005**
Date of issuing	**: May 07, 2005**

SUMMARY

The equipment complies with the requirements of **FCC CFR 47 PART 15 SUBPART B, SECTION 15.101.**
This test report contains only the result of a single test of the sample supplied for the examination. It is not a general valid assessment of the features of the respective products of the mass-production.

Prepared by: _____
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EMC Div.
ONETECH Corp.

Reviewed by: _____
Y. K. Kwon / Director
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EMC Testing Dept : 426-1 Daessangryung-Ri, Chowol-Myun, Kwangju-Kun, Kyunggi-Do 464-860 Korea. (TEL: 82-31-765-8289 FAX: 82-31-766-2904)

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1. VERIFICATION OF COMPLIANCE

APPLICANT	: OH SUNG ELECTRONICS CO., LTD.
ADDRESS	: #181 Gongdan-dong, Gumi, Gyeong Buk, Korea
CONTACT PERSON	: Kwang-Jae Ok / Team Leader of Q.C.
TELEPHONE NO	: +82-54-468-0831
FCC ID	: OZ5URCMX-3000
MODEL NO/NAME	: MX-3000
SERIAL NUMBER	: N/A
DATE	: May 07, 2005

EQUIPMENT CLASS	JBP – Part 15 Class B Computing Device Peripheral
E.U.T. DESCRIPTION	REMOTE CONTROLLER
THIS REPORT CONCERNS	ORIGINAL GRANT
MEASUREMENT PROCEDURES	ANSI C63.4/2001
TYPE OF EQUIPMENT TESTED	PRE-PRODUCTION
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	CERTIFICATION
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15, SECTION 15.101
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	Yes
FINAL TEST WAS CONDUCTED ON	3 METER OPEN AREA TEST SITE

-. This device has shown compliance with the conducted emissions limits in 15.107 adopted under FCC 02-107 (ET Docket 98-80). The device may be marketed after July 11, 2005 affected by the 15.37(j) transition provisions.

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. GENERAL INFORMATION

2.1 Product Description

The OH SUNG ELECTRONICS CO., LTD., Model MX-3000 (referred to as the EUT in this report) is a remote controller. The EUT consists of cradle for charging and receiver, Model MFR-250. The EUT sends radio signal to the receiver and them the receiver converts the signal to the infrared signals that control audio and/or video components. Also the EUT can be programmed via a windows PC equipped with a USB port using supplied software, MX-3000 Editor. The associated receiver is manufactured by OH SUNG ELECTRONICS CO., LTD., Model No: MRF-250, FCC ID: OZ5URCMRF250. The product specification described herein was obtained from product data sheet or user's manual.

CHASSIS TYPE	Plastic
TX FREQUENCY	418.00 MHz
MODULATION	ASK
USED MICROPROCESSOR	206MHz RISC
LIST OF EACH OSC. OR CRY. FREQ.(FREQ.>=1MHz)	12.0 and 418.0 MHz
ANTENNA TYPE	Built-in on the PCB in the EUT
TRANSMISSION TIME	Not longer than 1 sec
RATED SUPPLY VOLTAGE	DC 5V, 2A from AC/DC Adapter or Lithium Ion Battery
NUMBER OF LAYERS	6 LAYERS
USED AC/DC ADAPTER	Model: 061-052000-UF, MFR: Xiang Fa Electronics Co., Ltd.
EXTERNAL CONNECTOR	DC Input, Charger Signal, and USB Port

* Remark: This equipment automatically deactivates the transmitter within not more than 1 second of being released.

Model Differences:

-. No other model differences have been mentioned

2.2 Related Submittal(s) / Grant(s)

-. None

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2.3 Test System Details

The EUT was tested with the following all equipment used in the tested systems are:

Model	Manufacturer	FCC ID	Description	Connected to
MX-3000	OH SUNG ELECTRONICS CO., LTD.	OZ5URCMX-3000	RECEIVER	Notebook PC
PP01L	DELL Computer Corp.	DoC	Laptop PC	-
2225C	HP	DSI6XU2225	Printer	Notebook PC
020-0470	Cardinal	GDE0196	Modem	Notebook PC

2.4 Test Methodology

Radiated testing was performed according to the procedures in ANSI C63.4/2001. Radiated testing was performed at a distance of 3 meters from EUT to the antenna.

2.5 Test Facility

The open area test site and conducted measurement facilities are located on at 426-1 Daessangryung-Ri, Chowol-Myun, Gwangju-Si, Gyeunggi-Do 464-082 Korea. Description details of test facilities were submitted to the Commission on October 02, 2002. (Registration Number: 529838)

3. SYSTEM TEST CONFIGURATION

3.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	Oh Sung Electronics Co., Ltd	N/A	N/A
LCD Panel	NEC LCD Technology	NL2432HC22-22B	N/A
RF Module Board	N/A	N/A	N/A
Charger Board	N/A	PAAFG0580F	N/A

3.2 EUT exercise Software

After connecting the EUT to the USB port of personal computer, data were continuously read and written from the HDD of the PC to the EUT.

3.3 Equipment Modifications

None

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3.4 Configuration of Test System

Line Conducted Test: The battery in the EUT was charged and the power line of the charger was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2001 7.2.3 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.4/2001 8.3.1.1 and 13.1.4.1 to determine the worse operating conditions. Final radiated emission tests were conducted at 3meter open area test site.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

4. PRELIMINARY TEST

4.1 AC Power line Conducted Emissions Tests

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The Worse operating condition (Please check one only)
Data were continuously read and written via USB	X
Charging mode	

4.2 Radiated Emissions Tests

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)
Data were continuously read and written via USB	X
Charging mode	

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5. FINAL RESULT OF MEASURMENT

5.1 Conducted Emission Test

Humidity Level : 40 % Temperature: 21 °C

Limits apply to : FCC CFR 47, PART 15, Subpart B

Result : PASSED BY –17.57 dB at 0.155 MHz under peak detector mode.

EUT : REMOTE CONTROLLER Date: March 25, 2005

Operating Condition : Data were continuously read and written via USB.

Frequency (MHz)	Line	Quasi-Peak (dBuV)			Margin (dB)	Average (dBuV)		Margin (dB)
		Emission Level	Detector Mode	Limits		Emission level	Limits	
0.155	N	48.16	P	65.73	-17.57	-	-	-
0.175	H	46.22	P	64.72	-18.50			
1.375	N	33.11	P	56.00	-22.89	-	-	-
21.415	H	37.94	P	60.00	-22.06	-	-	-
24.00	N	40.24	P	60.00	-19.76	-	-	-
26.455	H	40.72	P	60.00	-19.28	-	-	-

Line Conducted Emission Tabulated Data

Remark : "H": Hot Line, "N": Neutral Line. "P": Peak Detector mode, "Q.P": Quasi-Peak Detector mode

See next page for an overview sweep performed with peak and average detector.

Tested by: Ki-Hong, Nam / Test Engineer

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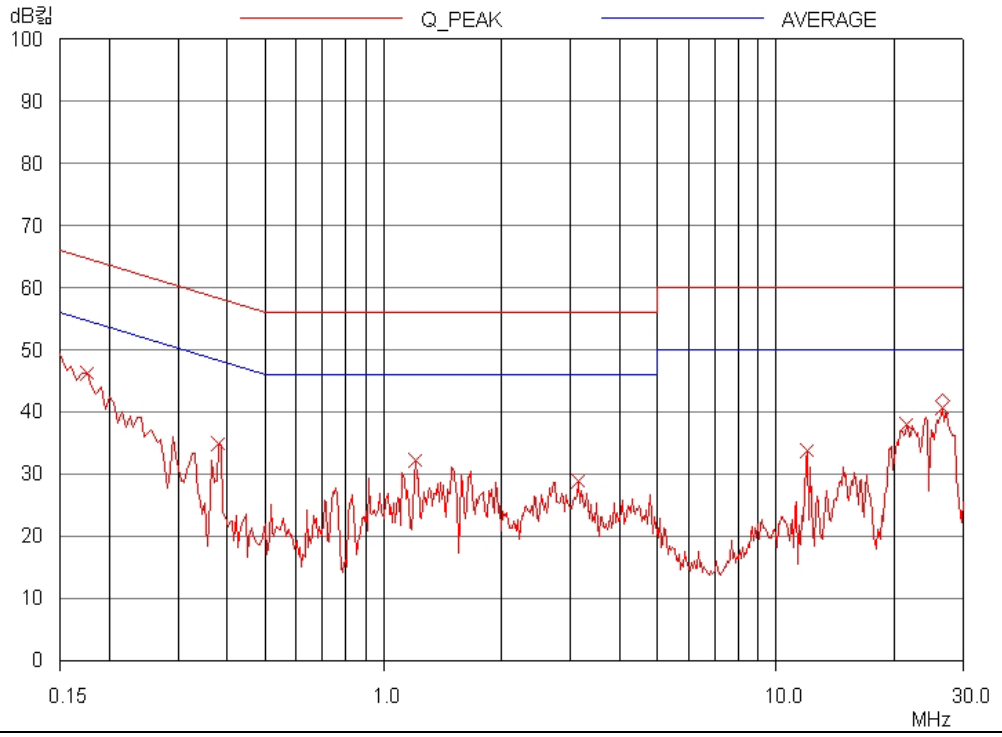
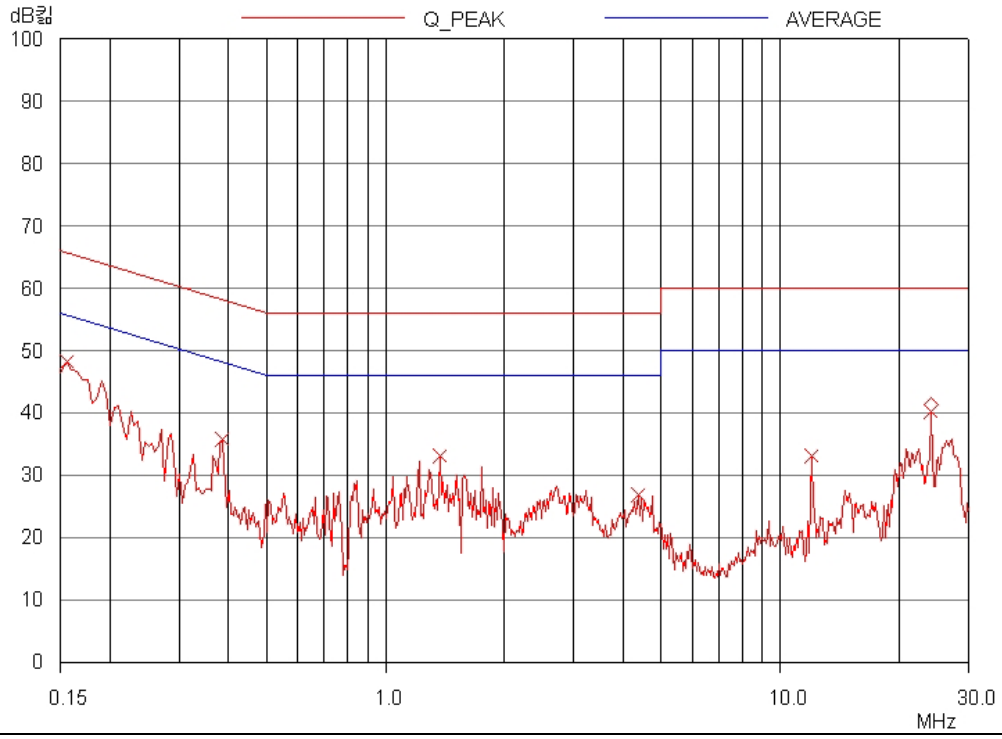


HOT LINE



NEUTRAL LINE

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5.2 Radiated Emission Test

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 45 % Temperature: 19°C

Limits apply to : FCC CFR 47, PART 15, SUBPART B

Type of Test : Intentional Radiator

Result : PASSED BY –4.41 dB at 123.20MHz

EUT : REMOTE CONTROLLER Date: April 18, 2005

Operating Condition : Data were continuously read and written via USB.

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)

Distance : 3 Meter

Radiated Emission		Ant.	Correction Factors		Total	FCC LIMIT	
Freq. (MHz)	Amplitude (dBuV)	Pol.	Antenna (dB/m)	Cable (dB)	Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
108.40	24.20	H	11.34	1.90	37.44	43.52	-6.08
123.20	23.80	V	13.25	2.06	39.11	43.52	-4.41
304.20	24.10	V	13.80	3.83	41.73	46.02	-4.29
642.00	15.40	H	19.17	5.64	40.21	46.02	-5.81
658.00	15.00	V	19.47	5.81	40.28	46.02	-5.74
682.00	15.20	H	20.08	6.15	41.43	46.02	-4.59
708.20	14.20	V	20.66	6.48	41.34	46.02	-4.68
720.00	13.40	V	20.83	6.60	40.83	46.02	-5.19

*Remark: “H”: Horizontal Polarization, “V”: Vertical Polarization

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Tested by: Gi-Hong, Nam / Test Engineer

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6. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses

+	Meter reading	(dBuV)
+	Cable Loss	(dB)
+	Antenna Factor (Loss)	(dB/meter)
=	Corrected Reading	(dBuV/meter)
-	Specification Limit	(dBuV/meter)
=	dB Relative to Spec	(+/- dB)

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7. LIST OF TEST EQUIPMENT

No.	EQUIPMENTS	MFR.	MODEL	SER. NO.	LAST CAL	DUE CAL	USE
1.	Test receiver	R/S	ESVS 10	827864/005	DEC/04	12MONTH	■
2.	Test receiver	R/S	ESHS10	834467/007	MAY/04	12MONTH	■
3.	Spectrum analyzer	HP	8568B	3019A05456	MAR/05	12MONTH	■
4.	RF preselector	HP	85685A	3107A01264	MAR/05	12MONTH	■
5.	Quasi-Peak Adapter	HP	85650A	3107A01542	MAR/05	12MONTH	■
6.	Biconical antenna	EMCO	3104C	9109-4441 9109-4443 9109-4444	JUL/04	12MONTH	■
7.	Log Periodic antenna	EMCO	3146	9109-3213 9109-3214 9109-3217	JUL/04	12MONTH	■
8.	Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D294	JUN/04	12MONTH	■
9.	LISN	EMCO	3825/2	9109-1867 9109-1869	JUL/04 NOV/04	12MONTH	
10.	RF Amplifier	HP	8347F	3307A01354	JUN/04	N/A	
11.	Spectrum Analyzer	HP	8564E	3650A00756	JUL/04	12MONTH	■
12.	Plotter	HP	7475A	30052 22986	N/A	N/A	■
13.	Position Controller	HD	HD100	100/788	N/A	N/A	■
14.	Turn Table	HD	DS420S	N/A	N/A	N/A	■
15.	Antenna Master	HD	HD240	N/A	N/A	N/A	■
16.	Isolation Transformer	Digitek Power	DPT	DPF-22027	N/A	N/A	■
17.	Isolation Transformer	Digitek Power	DPT	DPF-22028	N/A	N/A	■
18.	Frequency Converter	Digitek Power	VFS/DEFC	N/A	N/A	N/A	■

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