



683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080

Tel: +82-31-321-2664 Fax: +82-31-321-1664

<http://www.digitalemc.com>**CERTIFICATE OF COMPLIANCE**
FCC Part 15C CertificationDates of Tests: August 09 ~ 11, 2004
Test Report S/N:DR50110408B
Test Site : DIGITAL EMC CO., LTD.

FCC ID.

E2XOMR6000M

APPLICANT

SAMSUNG Electro-Mechanics Co., Ltd.

FCC Classification : **Low Power Communication Device Transmitter**
Device name : 27MHz Wireless Optical Wheel Mouse
Manufacturer : Dongguan Samsung Electro-Mechanics Co., Ltd.
Quan-Tang Village, Liao-Bu Town, Dong-Guan City, Guang-Dong
Province P.R CHINA P.C:523425
Brand : 
Model name : OMR6000M
Test Device Serial number : Identical prototype
FCC Rule Part(s) : FCC Part 15.227 Subpart C; ANSI C-63.4-2001
Frequency Range : 27.245 MHz
Data of issue : August 12, 2004

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



NVLAP LAB CODE 200559-0

TABLE OF CONTENTS

1. GENERAL INFORMATION’S ----- 3

2. INFORMATION’S ABOUT TEST ITEM ----- 4

3. TEST REPORT ----- 5

 3.1 SUMMARY OF TESTS ----- 5

 3.2 TRANSMITTER REQUIREMENTS ----- 6

 3.2.1 RADIATED EMISSION ----- 6

 3.2.2.1 THE FIELD STRENGTH OF ANY EMISSION WITHIN THE BAND 26.96–27.28 MHz. ---- 7

 3.2.2.2 OUT OF BAND EMISSION ----- 8

 3.2.2 ADDITIONAL PROVISIONS THO THE GENERAL RADIATED EMISSION LIMITATIONS - 9

ANNEX TEST EQUIPMENT USED FOR TESTS ----- 10

1. General information's

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

Address : 683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080

<http://www.digitalemc.com> E-mail : demc@unitel.co.kr

Tel: +82-31-321-2664 Fax: +82-31-321-1664

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".
This laboratory is accredited by NVLAP for NVLAP Lab. Code : 200559-0.

Test operator: engineer

August 12, 2004

Won -Jong LEE



Data

Name

Signature

Report Reviewed By: manager

August 12, 2004

Dong -Min JUNG



Data

Name

Signature

Ordering party:

Company name : SAMSUNG Electro-Mechanics Co., Ltd.
Address : 314, Maethan-3Dong, Paldal-Ku,
City/town : Suwon City, Kyunggi Do
Country : Korea
Zip code : 442-743
Date of order : July 27, 2004
Att. : Mr. Jun-Hwan, Lim

2. Information's about test item

E2XOMR6000M

2.1 Equipment information

Equipment model name	OMR6000M
Type of equipment	27MHz Wireless Multimedia Keyboard
Frequency band	27.245 MHz
Type of Modulation	FSK
Physical channel	1 CH
Power	DC 3 V (By AA size Battery * 2EA)

2.2 Tested environment

Temperature	: 15 ~ 35 (°C)
Relative humidity content	: 20 ~ 75 %
Air pressure	: 86 ~ 103 kPa
Details of power supply	: DC 3 V (By AA size Battery * 2EA)

2.3 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
Notebook	PP02X	8K493A01	DELL
Printer	2225C	3245S12493	HP
Receiver	OMR6000R	N/A	Samsung
Keyboard	OMR6000K	N/A	Samsung
Mouse (EUT)	OMR6000M	N/A	Samsung
Mic	N/A	N/A	N/A
Earphone	N/A	N/A	N/A

2.4 EMI Suppression Device(s)/Modifications

None

3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Status (note 1)
Transmitter requirements		
15.227(a)	Radiated Emission - The field strength of any emission within the band 26.96–27.28 MHz.	C
15.227(b) / 15.209	Radiated Emission - Out of Band Emissions	C
15.215	Additional provisions to the general radiated emission limitations.	C
15.207	Conducted Emissions Limits	NA
Note 1: C= Complies NC=Not Complies NT=Not Tested NA=Not Applicable		

The sample was tested according to the following specification:

FCC Parts 15.227, 15.215; ANSI C-63.4-2001

3.2 Transmitter requirements

3.2.1 Radiated Emission

Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in a OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Frequency Range = 27 MHz ~ 10th harmonic.

RBW = 120 kHz (30MHz ~ 1 GHz)

= 1 MHz (1 GHz ~ 10th harmonic)

Trace = max hold

Sweep = auto

VBW $\geq$ RBW

Detector function = peak / Quasi-peak / average

Measurement Data:

- Refer to the Next page

Minimum Standard: FCC Part 15.227 / 15.209

Frequency (MHz)	Limit (uV/m) @ 3m
26.96–27.28	< 10000
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

TEST EQUIPMENT USED: 02, 22, 30, 31, 33, 34, 39, 40, 41, 47, 49

3.2.1.1 The field strength of any emission within the band 26.96–27.28 MHz.

Measurement Result: **Complies**

1. Test mode : Tx mode

Frequency (MHz)	Pol. (H/V)	Read Level (dBuV)		Factor (dB)	Result Level (dBuV)		Limit (dBuV)		Margin (dB)	
		PK	AV		PK	AV	PK	AV	PK	AV
27.245	H	58.5	57.0	-8.73	49.77	48.27	100	80	50.23	31.73
27.245	V	62.0	60.0	-8.73	53.27	51.27	100	80	46.73	28.73

Remark :

1. Factor = Antenna Factor + Cable Loss - Preamp Factor

Minimum Standard: FCC Part 15.227

Frequency (MHz)	Limit (uV/m) @ 3m / average detector
26.96–27.28	< 10000

3.2.1.2 Out of Band Emissions

Measurement Data: **Complies**

Remark: the other emission is less than 10dB.



DIGITAL EMC Co., Ltd.
683-2, Yubang-Dong, Yongin-Si,
Kyunggi-Do, Korea. 463-080
Tel: +82-31- 321 - 2664 Fax: +82-31- 321 - 1664
demc@unitel.co.kr , www.digitalemccom

Tested by Mr.

Data#: 240

File#: C:\Program Files\le3\DEMC-LWJ.emi

Date: 08-11-2004

Site : DIGITAL EMC Co., Ltd.

Condition : FCC CLASS-B 3m DEMC NEW 3(2003)

EUT : OMR6000M

Serial No. : N/A

MODE : Tx mode

	Freq	Remark	Read Level	Probe Factor	Cable Loss	Preamp Factor	Factor	Level	Limit Line	Over Limit
	MHz		dBuV	dB	dB	dB	dB	dBuV/m	dBuV/m	dB
1	354.950	H	40.67	14.88	3.00	27.92	-10.04	30.63	46.00	-15.37
2	369.500	H	40.70	15.20	3.24	28.04	-9.60	31.10	46.00	-14.90
3	381.630	V	40.23	15.46	3.50	28.13	-9.17	31.06	46.00	-14.94
4	396.180	V	40.27	15.78	3.50	28.25	-8.97	31.30	46.00	-14.70

Minimum Standard: FCC Part 15.209

Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

3.2.2 Additional provisions to the general radiated emission limitations.

Procedure: Part 15.215

The transmitter is connected to the spectrum analyzer.

The spectrum analyzer is set to:

Frequency Range = 27.245MHz

RBW = 1 kHz

VBW $\geq$ RBW

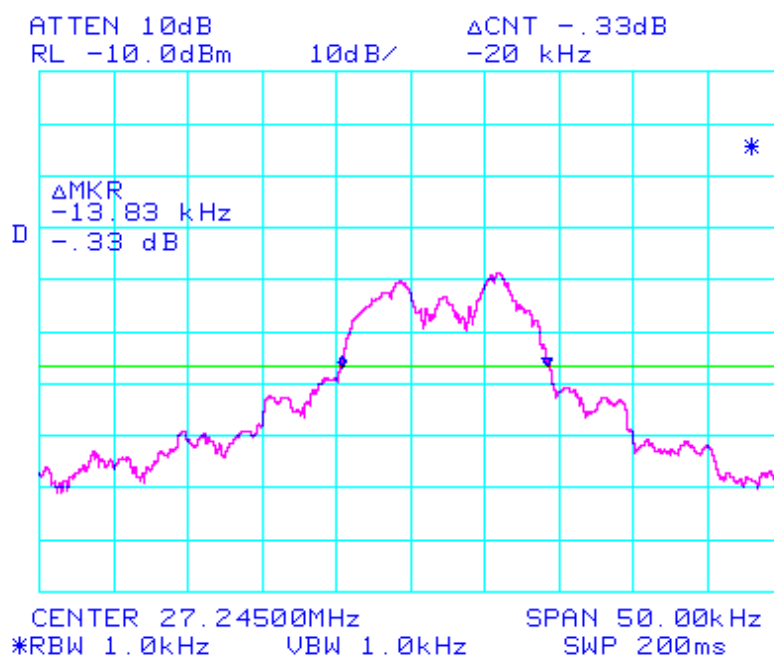
Trace = max hold

Detector function = peak

Sweep = auto

Measurement Result: **Complies**

The fundamental frequency be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.



APPENDIX

TEST EQUIPMENT USED FOR TESTS

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment.

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	S/N
01	Spectrum Analyzer	Agilent	E4404B	22/11/04	US41061134
02	Spectrum Analyzer	H.P	8563E	25/09/04	3551A04634
03	Power Meter	H.P	EPM-442A	15/07/05	GB37170413
04	Power Sensor	H.P	8481A	15/07/05	3318A96332
05	Frequency Counter	H.P	5342A	26/09/04	2119A04450
06	Multifunction Synthesizer	H.P	8904A	15/10/04	3633A08404
07	Signal Generator	H.P	8673D	26/09/04	2844A00753
08	Signal Generator	H.P	E4421A	29/04/05	US37230529
09	Signal Generator	H.P	8657A	05/06/05	3430U02049
10	Audio Analyzer	H.P	8903B	18/04/05	3011A0944B
11	Modulation Analyzer	H.P	8901B	21/04/05	3028A03029
12	Sensor Module	H.P	11722A	21/04/05	3111A04665
13	Oscilloscope	LeCroy	9314A	27/08/04	93144390
14	CDMA Mobile Station Test Set	H.P	8924C	09/09/04	US35360688
15	Power Splitter	WEINSCHEL	1593	23/04/05	332
16	BAND Reject Filter	Microwave circuits INC.	NO308372	22/12/04	3125-01DC0312
17	BAND Reject Filter	Wainwright	WRCG1750	19/08/04	SN2
18	AC Power supply	DAEKWANG	5KVA	03/04/05	N/A
19	DC Power Supply	H.P	6622A	24/03/05	465487
20	Attenuator (30dB)	H.P	8498A	23/05/05	50101
21	Attenuator (10dB)	WEINSCHEL	23-10-34	15/10/04	BP4387
22	HORN ANT	EMCO	3115	04/04/05	6419
23	HORN ANT	EMCO	3115	10/01/05	21097
24	HORN ANT	A.H.Systems	SAS-574	27/11/04	154
25	HORN ANT	A.H.Systems	SAS-574	14/11/04	155
26	Dipole Antenna	Schwarzbeck	VHA9103	04/10/04	2116

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	S/N
27	Dipole Antenna	Schwarzbeck	VHA9103	04/10/04	2117
28	Dipole Antenna	Schwarzbeck	UHA9105	04/10/04	2261
29	Dipole Antenna	Schwarzbeck	UHA9105	04/10/04	2262
30	RFI/FIELD Intensity Meter	Kyorits	KNM-504D	07/07/05	SN-161-4
31	Frequency Converter	Kyorits	KCV-604C	07/07/05	4-230-3
32	TEMP & HUMIDITY Chamber	JISCO	J-RHC2	14/09/04	021031
33	Log Periodic Antenna	Schwarzbeck	UHALP9108A1	23/10/04	1098
34	Biconical Antenna	Schwarzbeck	VHA9103	23/10/04	VHA91031946
35	Digital Multimeter	H.P	34401A	07/04/05	3146A13475
36	Attenuator (10dB)	WEINSCHEL	23-10-34	15/10/04	BP4386
37	High-Pass Filter	ANRITSU	MP526	12/05/05	M27756
38	Attenuator (3dB)	Agilent	8491B	15/10/04	58177
39	Amplifier (25dB)	Agilent	8447D	21/06/05	2944A10144
40	Position Controller	TOKIN	5901T	N/A	14173
41	Driver	TOKIN	5902T2	N/A	14174
42	Spectrum Analyzer	H.P	8591E	23/05/05	3649A05889
43	RFI/FIELD Intensity Meter	Kyorits	KNW-2402	07/07/05	4N-170-3
44	LISN	Kyorits	KNW-407	29/08/04	8-317-8
45	LISN	Kyorits	KNW-242	22/08/04	8-654-15
46	CVCF	NF Electronic	4400	N/A	344536 4420064
47	Software	ToYo EMI	EP5/RE	N/A	Ver 2.0.800
48	Software	ToYo EMI	EP5/CE	N/A	Ver 2.0.801
49	Software	AUDIX	e3	N/A	Ver 3.0
50	Software	Agilent	Benchlink	N/A	A.01.09 021211