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<http://www.digitalemc.com>**CERTIFICATE OF COMPLIANCE  
FCC Part 15C Certification**

Dates of Tests: December 4 ~ 8, 2006

Test Report S/N:DR50110612G

Test Site : DIGITAL EMC CO., LTD.

FCC ID.

**TL7GP-M6000**

APPLICANT

**GREAT PLEASURE ELECTRONICS CO., LTD.**

|                                  |          |                                                    |
|----------------------------------|----------|----------------------------------------------------|
| <b>FCC Classification</b>        | <b>:</b> | <b>Low Power Communication Device Transmitter</b>  |
| <b>Device name</b>               | <b>:</b> | <b>27MHz Wireless Optical Mouse</b>                |
| <b>Manufacturer</b>              | <b>:</b> | <b>GREAT PLEASURE ELECTRONICS CO., LTD</b>         |
| <b>Model name</b>                | <b>:</b> | <b>GP-M6000</b>                                    |
| <b>Test Device Serial number</b> | <b>:</b> | <b>Identical prototype</b>                         |
| <b>FCC Rule Part(s)</b>          | <b>:</b> | <b>FCC Part 15.227 Subpart C; ANSI C-63.4-2003</b> |
| <b>Frequency band</b>            | <b>:</b> | <b>27.245 MHz</b>                                  |
| <b>Data of issue</b>             | <b>:</b> | <b>December 27, 2006</b>                           |

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

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## 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**

December 26, 2006

Won -Jong LEE



Data

Name

Signature

**Report Reviewed By: manager**

December 26, 2006

Harvey Sung



Data

Name

Signature

Ordering party:

Company name : GREAT PLEASURE ELECTRONICS CO., LTD  
Address : 604, Taeon Top Plaza, B2-11BL, Jinan-Li, Taeon-Eup, Huasung-Si  
Zip code : 445-972  
City/town : Kyunggi-Do  
Country : Korea  
Date of order : October 30, 2006

## 2. Information's about test item

### TL7GP-M6000

#### 2.1 Equipment information

|                      |                                   |
|----------------------|-----------------------------------|
| Equipment model name | GP-M6000                          |
| Type of equipment    | 27MHz Wireless Optical Mouse      |
| 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 |
|-----------|-----------|------------|--------------|
| -         | -         | -          | -            |
| -         | -         | -          | -            |
| -         | -         | -          | -            |

#### 2.4 EMI Suppression Device(s)/Modifications

None

### 3. Test Report

#### 3.1 Summary of tests

| FCC Part<br>Section(s)                                                       | Parameter                                                                                  | Status<br>(note 1) |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------|
| <b>Transmitter requirements</b>                                              |                                                                                            |                    |
| 15.227(a)                                                                    | Radiated Emission<br>- The field strength of any emission within the band 26.96–27.28 MHz. | C                  |
| 15.227(b) / 15.209                                                           | Radiated Emission<br>- 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-63.4-2003

## 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 ~ 10<sup>th</sup> harmonic.

RBW = 120 kHz ( 30MHz ~ 1 GHz)

= 1 MHz (1 GHz ~ 10<sup>th</sup> harmonic )

Trace = max hold

Sweep = auto

VBW ≥ 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.

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

Measurement Data: **Complies**

#### 1. Test mode : Tx mode

| Frequency<br>(MHz) | Read Level (dBuV) |       | Factor<br>(dB) | Result Level (dBuV) |       | Limit<br>(dBuV) |    | Margin<br>(dB) |       |
|--------------------|-------------------|-------|----------------|---------------------|-------|-----------------|----|----------------|-------|
|                    | PK                | AV    |                | PK                  | AV    | PK              | AV | PK             | AV    |
| 27.245             | 68.18             | 66.88 | -19.26         | 48.92               | 47.62 | 100             | 80 | 51.08          | 32.38 |

Remark :

1. Factor = Antenna Factor + Cable Loss - Preamp Factor
2. Result Level = Read Level + Factor
3. Margin = Limit – Result Level

#### 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**

| Frequency (MHz) | Pol | Read Level (dBuV) | Factor (dB) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|-----------------|-----|-------------------|-------------|----------------|----------------|-------------|
| 517.07          | H   | 37.71             | -5.58       | 32.13          | 46.00          | -13.87      |
| -               | -   | -                 | -           | -              | -              | -           |
| -               | -   | -                 | -           | -              | -              | -           |

- Remark :

1. Factor = Antenna Factor + Cable Loss - Preamp Factor
2. Result Level = Read Level + Factor
3. Margin = Limit – Result Level

#### 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 = 10 kHz

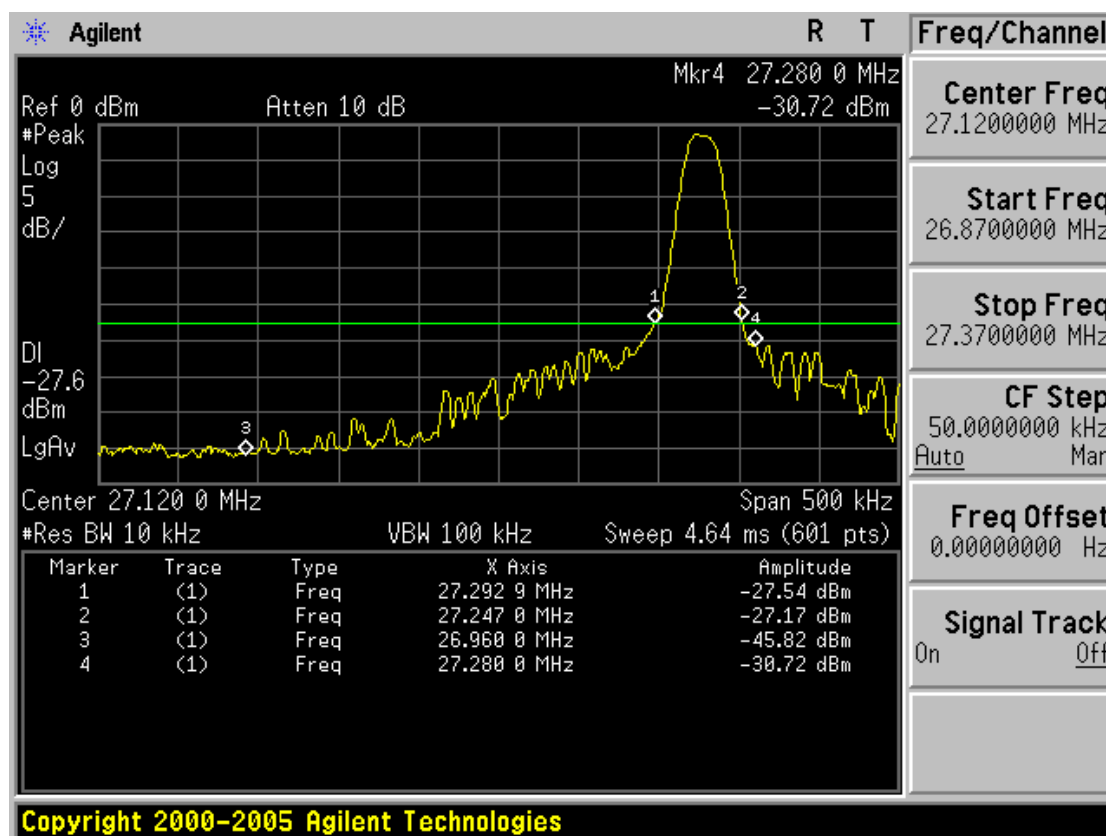
VBW  $\geq$  RBW

Trace = max hold

Detector function = peak

Sweep = auto

Measurement Result: **Complies**



**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<br>(dd/mm/yy) | S/N           |
|----|----------------------------------------|----------------------|----------|----------------------------|---------------|
| 01 | Spectrum Analyzer                      | Agilent              | E4404B   | 21/03/07                   | US41061134    |
| 02 | Spectrum Analyzer                      | Agilent              | E4440A   | 14/11/07                   | MY45304199    |
| 03 | Spectrum Analyzer                      | H.P                  | 8563E    | 06/10/07                   | 3551A04634    |
| 04 | Power Meter                            | H.P                  | EPM-442A | 06/07/07                   | GB37170413    |
| 05 | Power Sensor                           | H.P                  | 8481A    | 23/03/07                   | 3318A96332    |
| 06 | Frequency Counter                      | H.P                  | 5342A    | 15/09/07                   | 2119A04450    |
| 07 | Multifunction Synthesizer              | H.P                  | 8904A    | 12/10/07                   | 3633A08404    |
| 08 | Signal Generator                       | Rohde Schwarz        | SMR20    | 22/03/07                   | 101251        |
| 09 | Signal Generator                       | H.P                  | E4421A   | 06/07/07                   | US37230529    |
| 10 | Audio Analyzer                         | H.P                  | 8903B    | 06/07/07                   | 3011A0944B    |
| 11 | Modulation Analyzer                    | H.P                  | 8901B    | 10/07/07                   | 3028A03029    |
| 12 | Oscilloscope                           | Tektronix            | TDS3052  | 01/10/07                   | B016821       |
| 13 | 8960 Series 10 Wireless Comms Test Set | Agilent              | Z5515C   | 13/06/08                   | GB43461134    |
| 14 | Universal Radio Communication Test     | Rohde Schwarz        | CMU200   | 21/03/07                   | 107631        |
| 15 | CDMA Mobile Station Test Set           | H.P                  | 8924C    | 15/09/07                   | US35360688    |
| 16 | PCS Interface                          | HP                   | 83236B   | 15/09/07                   | 3711J03014    |
| 17 | Multi system UE Tester                 | Japan Radid Co., Ltd | NJZ-2000 | 20/11/07                   | ET00095       |
| 18 | Power Splitter                         | WEINSCHTEL           | 1593     | 14/10/07                   | 332           |
| 19 | BAND Reject Filter                     | Microwave Circuits   | N0308372 | 19/10/07                   | 3125-01DC0312 |
| 20 | BAND Reject Filter                     | Wainwright           | WRCG1750 | 19/10/07                   | SN2           |
| 21 | AC Power supply                        | DAEKWANG             | 5KVA     | 21/03/07                   | N/A           |
| 22 | DC Power Supply                        | H.P                  | 6622A    | 20/03/07                   | 465487        |
| 23 | HORN ANT                               | EMCO                 | 3115     | 04/04/07                   | 6419          |
| 24 | HORN ANT                               | EMCO                 | 3115     | 04/25/07                   | 21097         |
| 25 | HORN ANT                               | A.H.Systems          | SAS-574  | 16/08/07                   | 154           |
| 26 | HORN ANT                               | A.H.Systems          | SAS-574  | 16/08/07                   | 155           |
| 27 | Dipole Antenna                         | Schwarzbeck          | VHA9103  | 18/11/07                   | 2116          |
| 28 | Dipole Antenna                         | Schwarzbeck          | VHA9103  | 18/11/07                   | 2117          |
| 29 | Dipole Antenna                         | Schwarzbeck          | UHA9105  | 18/11/07                   | 2261          |
| 30 | Dipole Antenna                         | Schwarzbeck          | UHA9105  | 18/11/07                   | 2262          |
| 31 | Loop Antenna                           | ETS                  | 6502     | 23/11/07                   | 3471          |

|    | Type                      | Manufacturer  | Model       | Cal.Due.Date<br>(dd/mm/yy) | S/N            |
|----|---------------------------|---------------|-------------|----------------------------|----------------|
| 32 | TEMP & HUMIDITY Chamber   | JISCO         | J-RHC2      | 13/09/07                   | 021031         |
| 33 | RFI/FIELD Intensity Meter | Kyorits       | KNM-504D    | 21/07/07                   | 4N-161-4       |
| 34 | Frequency Converter       | Kyorits       | KCV-604C    | 21/07/07                   | 4-230-3        |
| 35 | Log Periodic Antenna      | Schwarzbeck   | UHALP9108A1 | 26/09/07                   | 1098           |
| 36 | Biconical Antenna         | Schwarzbeck   | VHA9103     | 12/09/07                   | 2233           |
| 37 | Digital Multimeter        | H.P           | 34401A      | 18/04/07                   | 3146A13475     |
| 38 | Attenuator (10dB)         | WEINSCHEL     | 23-10-34    | 26/01/07                   | BP4386         |
| 39 | High-Pass Filter          | ANRITSU       | MP526       | 13/10/07                   | M27756         |
| 40 | Attenuator (3dB)          | Agilent       | 8491B       | 10/07/07                   | 58177          |
| 41 | Attenuator (10dB)         | WEINSCHEL     | 23-10-34    | 26/01/07                   | BP4387         |
| 42 | Attenuator (30dB)         | H.P           | 8498A       | 17/10/07                   | 50101          |
| 43 | Amplifier (25dB)          | Agilent       | 8447D       | 12/04/07                   | 2944A10144     |
| 44 | Amplifier (30dB)          | Agilent       | 8449B       | 13/10/07                   | 3008A01590     |
| 45 | Position Controller       | TOKIN         | 5901T       | N/A                        | 14173          |
| 46 | Driver                    | TOKIN         | 5902T2      | N/A                        | 14174          |
| 47 | Spectrum Analyzer         | H.P           | 8591E       | 21/03/07                   | 3649A05889     |
| 48 | RFI/FIELD Intensity Meter | Kyorits       | KNW-2402    | 11/07/07                   | 4N-170-3       |
| 49 | LISN                      | Kyorits       | KNW-407     | 19/08/07                   | 8-317-8        |
| 50 | LISN                      | Kyorits       | KNW-242     | 09/10/07                   | 8-654-15       |
| 51 | CVCF                      | NF Electronic | 4400        | N/A                        | 344536 4420064 |
| 52 | Software                  | ToYo EMI      | EP5/RE      | N/A                        | Ver 2.0.800    |
| 53 | Software                  | ToYo EMI      | EP5/CE      | N/A                        | Ver 2.0.801    |
| 54 | Software                  | AUDIX         | e3          | N/A                        | Ver 3.0        |
| 55 | Software                  | Agilent       | Benchlink   | N/A                        | A.01.09 021211 |