



No.198 Kezhu Road, Science Town Economic& Technology
Development District Guangzhou, China 510663
Telephone: +86 (0) 20 8215 5555 Fax: +86 (0) 20 8207 5059
Email: sgs_internet_operations@sgs.com

FEDERAL COMMUNICATIONS COMMISSION
Registration number: 556682

Report No.: SZEMO071203744RFF
Page: 1 of 9
FCC ID: VXGLM820WC

TEST REPORT

Application No. : SZEMO071203744RF
Applicant: LANTIAN ELECTRONICS (SHENZHEN) CO., LIMITED
FCC ID: VXGLM820WC
Fundamental Frequency: 27.042MHz
Equipment Under Test (EUT):
EUT Name: Wireless Mouse
Model No.: LM-820WC
Standards: FCC PART 15, SUBPART C : 2007
Section 15.227
Date of Receipt: 20 December 2007
Date of Test: 21 to 26 December 2007
Date of Issue: 29 December 2007

| | |
|----------------------|---------------|
| Test Result : | PASS * |
|----------------------|---------------|

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

2 Test Summary

| Test | Test Requirement | Standard Paragraph | Result |
|---|-------------------|--------------------|--------|
| Radiated Emission (30MHz to 1000MHz) | FCC PART 15 :2007 | Section 15.227 | PASS |
| Occupied Bandwidth | FCC PART 15 :2007 | Section 15.215 | PASS |

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

3 Contents

| | Page |
|--|------|
| 1 COVER PAGE | 1 |
| 2 TEST SUMMARY | 2 |
| 3 CONTENTS | 3 |
| 4 GENERAL INFORMATION | 4 |
| 4.1 CLIENT INFORMATION | 4 |
| 4.2 DETAILS OF E.U.T. | 4 |
| 4.3 DESCRIPTION OF SUPPORT UNITS..... | 4 |
| 4.4 TEST LOCATION..... | 4 |
| 4.5 OTHER INFORMATION REQUESTED BY THE CUSTOMER..... | 4 |
| 5 TEST RESULTS | 5 |
| 5.1 TEST INSTRUMENTS | 5 |
| 5.2 E.U.T. OPERATION | 5 |
| 5.3 TEST PROCEDURE & MEASUREMENT DATA..... | 5 |
| 5.3.1 <i>Radiated Emissions</i> | 6 |
| 5.3.2 <i>Occupied Bandwidth</i> | 8-9 |

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

4 General Information

4.1 Client Information

Applicant Name: LANTIAN ELECTRONICS (SHENZHEN) CO., LIMITED
Applicant Address: Building A2, Area 4., Fuqiao Industrial Park, Qiaotou Village, Fuyong Town, Bao'an Zone, Shenzhen, China

4.2 Details of E.U.T.

EUT Name: Wireless Mouse
Item No.: LM-820WC
Power Supply: 2.4V DC (2x1.2V "AAA" Size Batteries) for Tx.
Power Cord: N/A-

4.3 Description of Support Units

The EUT was tested as an independent unit: 27MHz radio transmitter.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic & Technology Development District Guangzhou, China 510663

Tel: +86 20 8215 5555 Fax: +86 20 8207 5059

4.5 Other Information Requested by the Customer

None.

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

5 Test Results

5.1 Test Instruments

| R&TTE RE in Chamber | | | | | | |
|---------------------|--------------------------------|-----------------|-----------|---------------|---------------------|-------------------------|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (dd-mm-yy) | Cal.Due date (dd-mm-yy) |
| 1 | 3m Semi-Anechoic Chamber | ETS-LINDGREN | N/A | SEL0017 | 16-06-2007 | 15-06-2008 |
| 2 | EMI Test Receiver | Rohde & Schwarz | ESIB26 | SEL0023 | 12-12-2007 | 11-12-2008 |
| 3 | EMI Test software | AUDIX | E3 | SEL0050 | N/A | N/A |
| 4 | Coaxial cable | SGS | N/A | SEL0028 | 01-06-2007 | 31-05-2008 |
| 5 | Coaxial cable | SGS | N/A | SEL0027 | 20-10-2007 | 19-10-2008 |
| 6 | BiConiLog Antenna (26-3000MHz) | ETS-LINDGREN | 3142C | SEL0014 | 12-08-2007 | 11-08-2008 |
| 7 | EMI Test Receiver | Rohde & Schwarz | ESCI | SEL0022 | 27-06-2007 | 26-06-2008 |
| 8 | Active Loop Antenna | Beijing Daze | ZN30900A | SEL0097 | 15-06-2007 | 14-06-2008 |

5.2 E.U.T. Operation

Input voltage: 3.0V DC (2x1.5V "AAA" Size Batteries) for Tx.
Operating Environment:
Temperature: 26.0 °C
Humidity: 51% RH
Atmospheric Pressure: 1004mbar
EUT Operation: Test the EUT in transmitting mode.

5.3 Test Procedure & Measurement Data

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

5.3.1 Radiated Emissions

Test Requirement: FCC Part15 C Section 15.227
Test Method: ANSI C63.4
Test Date: 26 December 2007
Measurement Distance: 3m (Semi-Anechoic Chamber)
Requirements: Carrier frequency will not exceed 80dB_uV/m AT 3m.
Out of band emissions shall not exceed:
40.0 dB_uV/m between 30MHz & 88MHz
43.5 dB_uV/m between 88MHz & 216MHz
46.0 dB_uV/m between 216MHz & 960MHz
54.0 dB_uV/m above 960MHz
Detector: Peak Scan (9kHz resolution bandwidth for 9kHz to 30MHz;
120kHz resolution bandwidth for 30MHz to 1000MHz)

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

27.042MHz Mode.

Test Procedure: For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.4 section 8.2.1. The center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

Horizontal.

| Test Frequency (MHz) | Peak (dB μ V/m) | | | Limits (dB μ V/m) | Margin (dB) | | |
|-------------------------|---------------------|------|------|------------------------------|-------------|------|------|
| | X | Y | Z | | X | Y | Z |
| 27.042 | 48.9 | 43.4 | 48.2 | 100.0 | 51.1 | 56.6 | 51.8 |

| Test Frequency (MHz) | Average (dB μ V/m) | | | Limits (dB μ V/m) | Margin (dB) | | |
|-------------------------|------------------------|------|------|------------------------------|-------------|------|------|
| | X | Y | Z | | X | Y | Z |
| 27.042 | 44.7 | 39.1 | 44.1 | 80.0 | 35.3 | 40.9 | 35.9 |

Vertical.

| Test Frequency (MHz) | Peak (dB μ V/m) | | | Limits (dB μ V/m) | Margin (dB) | | |
|-------------------------|---------------------|------|------|------------------------------|-------------|------|------|
| | X | Y | Z | | X | Y | Z |
| 27.042 | 43.1 | 39.2 | 43.0 | 100.0 | 56.9 | 60.8 | 57.0 |

| Test Frequency (MHz) | Average (dB μ V/m) | | | Limits (dB μ V/m) | Margin (dB) | | |
|-------------------------|------------------------|------|------|------------------------------|-------------|------|------|
| | X | Y | Z | | X | Y | Z |
| 27.042 | 39.1 | 35.7 | 38.4 | 80.0 | 40.9 | 44.3 | 41.6 |

Y: EUT as per photograph in section 5.3.3 of this report.

X: As Y, but rotate EUT by 90° clockwise.

Z: As X, but rotate EUT by 90° vertically.

Other emissions

Test Procedure: The procedure used was ANSI Standard C63.4-2003. The receiver was scanned from 30MHz to 1000MHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. The worst case emissions were reported.

FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bilog antenna with 2 orthogonal polarities

Test the EUT in transmitting mode.

Horizontal.

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) |
|-----------------|-----------------|-----------------------|--------------------|-------------------|----------------|---------------------|-----------------|
| 55.225 | 0.80 | 7.78 | 28.08 | 43.00 | 23.50 | 40.00 | -16.50 |
| 81.550 | 1.10 | 7.89 | 27.99 | 39.12 | 20.12 | 40.00 | -19.88 |
| 133.225 | 1.29 | 7.84 | 27.58 | 52.28 | 33.83 | 43.50 | -9.67 |
| 143.950 | 1.31 | 8.48 | 27.49 | 45.32 | 27.62 | 43.50 | -15.88 |
| 160.525 | 1.34 | 9.59 | 27.38 | 42.12 | 25.67 | 43.50 | -17.83 |

Vertical.

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) |
|-----------------|-----------------|-----------------------|--------------------|-------------------|----------------|---------------------|-----------------|
| 55.225 | 0.80 | 7.56 | 28.08 | 54.79 | 35.07 | 40.00 | -4.93 |
| 81.550 | 1.10 | 7.89 | 27.99 | 45.41 | 26.41 | 40.00 | -13.59 |
| 114.700 | 1.24 | 8.27 | 27.74 | 47.40 | 29.17 | 43.50 | -14.33 |
| 143.950 | 1.31 | 8.48 | 27.49 | 40.65 | 22.95 | 43.50 | -20.55 |
| 260.950 | 1.73 | 12.53 | 26.87 | 43.25 | 30.64 | 46.00 | -15.36 |

Remark:

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

Test Results: The unit does meet the FCC Part 15 C Section 15.227 requirements.

5.3.2 Occupied Bandwidth

Test Requirement: FCC Part 15 C Section 15.215 (C) and Section 15.227.

Test Method: ANSI C63.4

Operation within the band 26.960 – 27.280 MHz .

Test Date: 21 December 2007

26.960–27.280MHz Mode.

Requirements: Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission

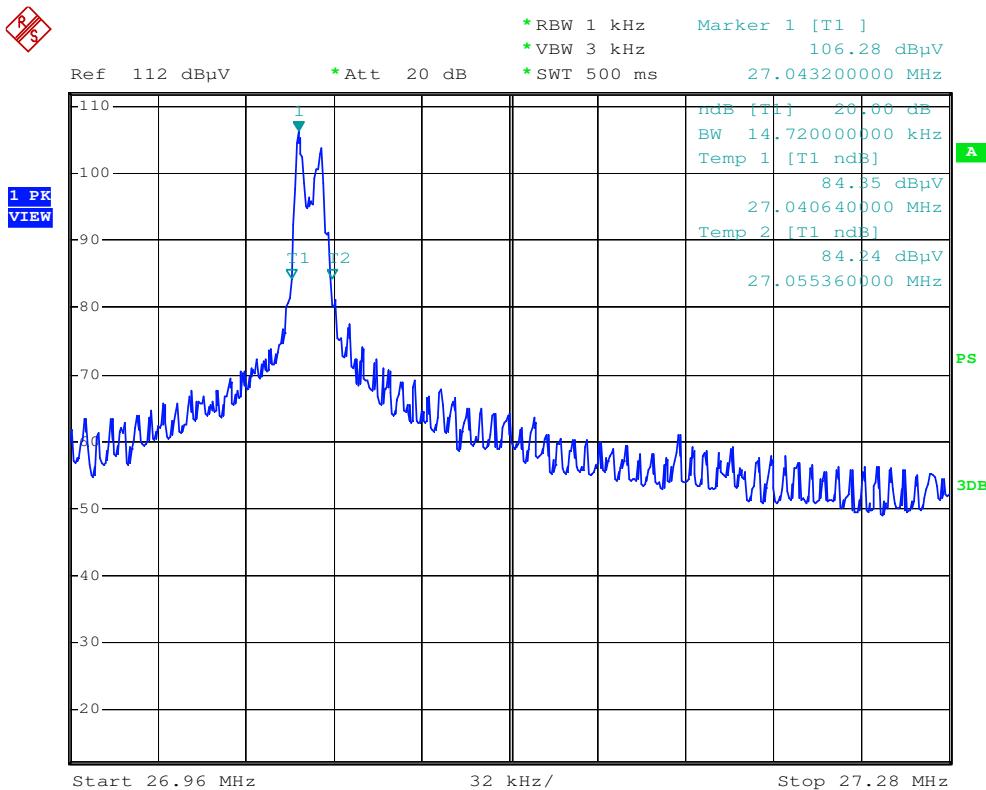
FCC ID:VXGLM820WC

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Method of measurement:

The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 32KHz per division.



Date: 21.DEC.2007 15:04:47

The results: The unit does meet the FCC Part 15 C Section 15.215 requirements**FCC ID:VXGLM820WC**

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.