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TEST REPORT

Application No.: SZEMO060200375TX
Applicant: JINLONG MACHINERY & ELECTRONICS CO., LTD
Equipment Under Test (EUT):
EUT Name: Vibration Motor
Item No.: 4-6mm
Serial No.: Not supplied by client
Standards: EN 61000-6-3 : 2001+ A11: 2004 & EN 61000-6-1 : 2001
Date of Receipt: 07 March 2006
Date of Test: 08 March 2006
Date of Issue: 09 March 2006

Test Result :	PASS*
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* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives.

Robinson Lo
Laboratory Manager



This report refers to the General Conditions for Inspection and Testing Services, printed overleaf.
This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the SGS PRODUCT CERTIFICATION MARK. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
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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	Test Method	Class / Severity	Result
Radiated Emission (30MHz to 1GHz)	EN 61000-6-3: 2001 + A11 : 2004	EN 55022 :1998 +A1:2000+A2:2003	Class B	PASS
ESD	EN 61000-6-1: 2001	N/A	±2, 4 kV Contact ±2, 4, 8 kV Air	N/A
Radiated Immunity (80MHz to 1GHz)	EN 61000-6-1: 2001	N/A	3V/m, 80%, 1kHz, Amp. Mod.	N/A



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4 General Information

4.1 Client Information

Applicant: JINLONG MACHINERY & ELECTRONICS CO., LTD
Address of Applicant: JinLong Science and Technology Park, Jin Gang Avenue, Baixiang, Yueqing, Zhejiang 325603, China

4.2 General Description of E.U.T.

EUT Name: Vibration Motor
Item No.: 4-6mm
Serial No.: Not supplied by client

4.3 Details of E.U.T.

Power Supply: 1.5V DC
Control Cable: None.

4.4 Description of Support Units

The EUT has been tested as an independent unit.

4.5 Standards Applicable for Testing

The customer requested EMC tests for Vibration Motor.

The standards used were EN 61000-6-3: 2004 (Emissions) & EN61000-6-1:2001(Immunity)

Table 1 : Tests Carried Out Under EN 61000-6-3: 2001+ A11: 2004

Standard	Status
EN 55022 : 1998 + A1:2000 + A2:2003 Radiated Emissions	√
EN 55022 : 1998 + A1:2000 + A2:2003 Conducted Emissions on AC	×
EN 61000-3-2 : 2000 Harmonic Emissions on AC	×
EN 61000-3-3 : 1995 + A1:2001 Flicker Emissions on AC	×
EN 55014-1 : 2000 + A1:2001 + A2:2002 Discontinuous Emissions on AC	×

× Indicates that the test is not applicable.

√ Indicates that the test is applicable.

Note: The EUT is powered by DC battery only.



Table 2 : Tests Carried Out Under EN 61000-6-1: 2001

TEST	Cat I	Cat II	Cat III	Cat IV
EN 61000-4-2: 1995+A1:1998+A2:2001 ESD		o	o	o
EN 61000-4-4: 1995+A1:2001+A2:2001 Fast transients		o		o
EN 61000-4-6: 1996+A1:2001 Injection currents up to 230 MHz		o		
EN 61000-4-5: 1995+A1: 2001 Surge		o		o
EN 61000-4-11: 1994+A1:2001 Voltage dips		o		o
EN 61000-4-6: 1996+A1:2001 Injection currents up to 80 MHz				o
EN 61000-4-3: 2002+A1:2002 Radio frequency EM fields			o	o
EN 61000-6-1: 2001 None	√			
o Indicates the testing requirements for each category of equipment				
x Indicates that the test is not applicable				
√ Indicates that the test is applicable				

4.6 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP – Lab Code: 200611-0**
SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2004.
- **ACA**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.
Date of Registration: June 01, 2005. Valid until February 22, 2008.
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**
Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**
SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.
- **Industry Canada (IC)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.

4.8 Deviation from Standards

4.9 Abnormalities from Standard Conditions

None.

4.10 Monitoring of EUT for All Immunity Test

N/A



5 Equipments Used during Test

RE in Chamber					
Item	Test Equipment	Manufacturer	Serial No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	SEL0017	28-04-2005	27-04-2006
2	EMI Test Receiver	Rohde & Schwarz	100249	22-09-2005	21-09-2006
3	EMI Test software	AUDIX	E3	N/A	N/A
4	Coaxial cable	SGS	SEL0028	30-05-2005	29-05-2006
5	Coaxial cable	SGS	SEL0027	30-05-2005	29-05-2006
6	BiConiLog Antenna	ETS-LINDGREN	00042673	10-01-2006	09-01-2007
7	BiConiLog Antenna	ETS-LINDGREN	00042670	10-01-2006	09-01-2007
8	Amplifier	Agilent Technologies	2944A10861	26-08-2005	25-08-2006

General used equipment					
Item	Test Equipment	Manufacturer	Serial No.	Cal.Date (dd-mm-yy)	Cal.Duedate (dd-mm-yy)
1	Temperature, Humidity & Barometer	OREGON/VAISALA/ TESTO/ANDTEK	EMC0001 to EMC0004	30-08-2005	29-08-2006
2	DMM	Fluke	70681569 or 70671122	01-09-2005	31-08-2006



6 Emission Test Results

6.1 Radiated Emissions, 30MHz to 1GHz

Test Requirement: EN 61000-6-3
 Test Method: EN 55022
 Test Date: 08 March 2006
 Frequency Range: 30MHz to 1GHz
 Measurement Distance: 3m (Semi-Anechoic Chamber)
 Limit: 40.0 dB μ V/m between 30MHz & 230MHz
 47.0 dB μ V/m between 230MHz & 1GHz
 Detector: Peak for pre-scan (120kHz resolution bandwidth)
 Quasi-Peak if maximised peak within 6dB of limit

6.1.1 E.U.T. Operation

Operating Environment:
 Temperature: 21.0°C Humidity: 53% RH Atmospheric Pressure: 1006 mbar
 EUT Operation: Test the EUT in On Mode and scan from 30MHz to 1GHz.

6.1.2 Measurement Data

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. The EUT was measured by Bilog antenna with 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

The following quasi-peak measurements were performed on the EUT on 08 March 2006:

Vertical:

Frequency (MHz)	Antenna Factor (dB/m)	Limit Line (dB μ V/m)	Over Limit (dB)	Read Level (dB μ V)	Level (dB μ V/m)	Cable Loss (dB)	Preamp Factor (dB)
55.22	7.56	40.00	-16.74	42.98	23.26	0.80	28.08
75.59	7.37	40.00	-24.57	35.09	15.43	0.97	28.00
96.93	8.98	40.00	-30.30	27.45	9.70	1.17	27.90
98.87	9.06	40.00	-19.95	37.69	20.05	1.19	27.89
102.75	8.97	40.00	-23.09	34.58	16.91	1.21	27.85
901.06	23.21	47.00	-20.70	25.92	26.30	3.60	26.43

Horizontal:

Frequency (MHz)	Antenna Factor (dB/m)	Limit Line (dB μ V/m)	Over Limit (dB)	Read Level (dB μ V)	Level (dB μ V/m)	Cable Loss (dB)	Preamp Factor (dB)
291.90	13.53	47.00	-21.28	37.07	25.72	1.87	26.75
359.80	15.65	47.00	-21.86	34.56	25.14	2.09	27.16
451.95	16.96	47.00	-20.68	34.51	26.32	2.42	27.57
538.28	18.72	47.00	-20.33	32.98	26.67	2.64	27.67
686.69	21.50	47.00	-20.09	29.85	26.91	2.88	27.32
830.25	22.40	47.00	-14.95	33.11	32.05	3.33	26.79



7 Immunity Test Results

Test Requirement: EN 61000-6-1

Test Method: N/A: See Remark Below

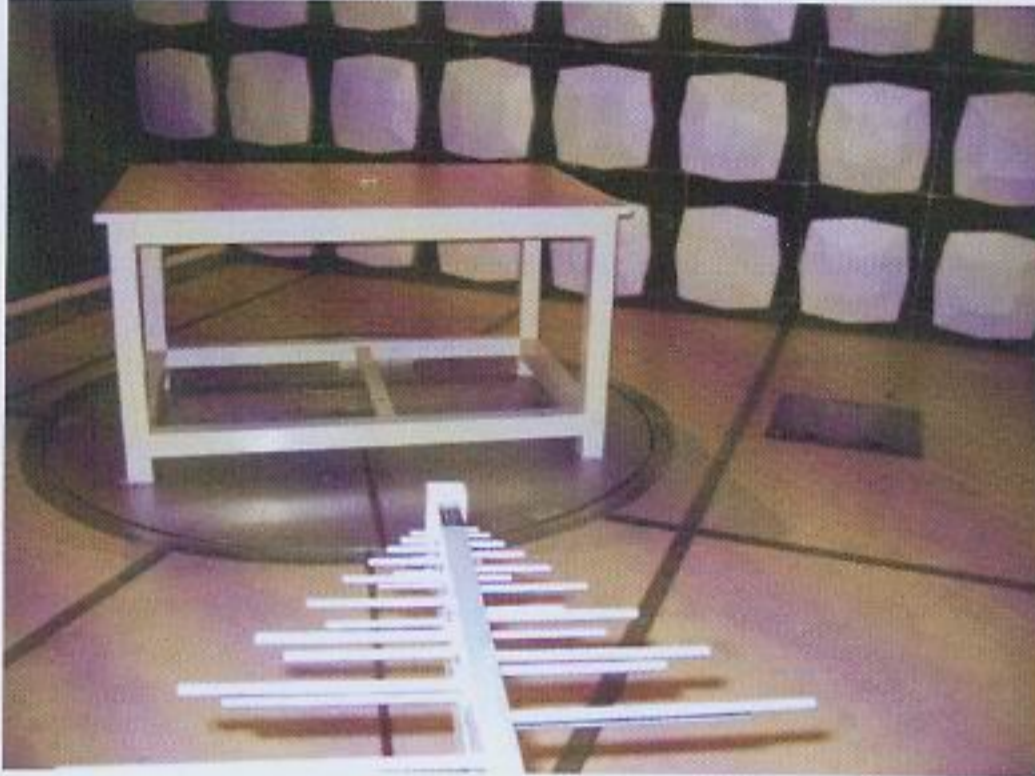
The application of tests for evaluation of immunity depends on the particular apparatus, its configuration, its ports, its technology and its operating conditions.

Test shall be applied to the relevant ports of the apparatus according to tables 1 to 5. Tests shall only be carried out where the relevant ports exist.

It may be determined from consideration of the electrical characteristics and usage of a particular apparatus that some of the tests are inappropriate and therefore unnecessary. In such a case it is required that the decision and justification not to test shall be recorded in the test report.

8 Photographs

8.1 Radiated Emission Test Setup in Chamber



8.2 EUT Constructional Details

