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EMC Directive 2004/108/EC

CE

EMC TEST REPORT

PER EN 61000-6-3 AND IEC 61000-6-1

For The Rechargeable Flashlight System

Model: **Mag Charger**

PREPARED FOR:

MAG INSTRUMENTS
1950 SOUTH STERLING AVENUE
ONTARIO, CA 91761

PREPARED ON August 29, 2007

REPORT NUMBER: 2007 087211

PROJECT NUMBER: 7211-1

NEX NUMBER: 91877

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DOCUMENT HISTORY

REVISION	DATE	COMMENTS
-	August 29, 2007	Prepared By: Ferdinand Custodio
-	August 29, 2007	Initial Release: Mike Krumweide

NOTE: Nemko USA, Inc. hereby makes the following statements so as to conform to the Subclause 5.10 Requirements of ISO/IEC 17025 "General Criteria For the Competence Of Testing and Calibration Laboratories":

- The unit described in this report was received at Nemko USA, Inc.'s facilities on **August 17, 2007**
- Testing was performed on the unit described in this report on **August 23, 2007 to** August 29, 2007
- The Test Results reported herein apply only to the Unit actually tested, and to substantially identical Units.
- This report does not imply the endorsement of the Federal Communications Commission (FCC), NVLAP or any other government agency.

CERTIFICATION

The compatibility testing and this report have been prepared by Nemko USA, Inc., an independent electromagnetic compatibility consulting and test laboratory.

Testing and data collection were accomplished in accordance with the test methods listed in this report.

I certify the data evaluation and equipment configuration herein to be a true and accurate representation of the sample's test characteristics, as of the test date(s), and for the design of the test sample utilized to compile this report.

Michael T. Krumweide
EMC Supervisor

1. ADMINISTRATIVE DATA AND TEST SUMMARY

1.1. Administrative Data

CLIENT:	Mag Instruments 1950 South Sterling Avenue Ontario, CA 91761 (909) 947-1006 x2580
CONTACT:	Stacey West
E-Mail:	swest@magmail.com
DATE (S) OF TEST:	August 23, 2007 to August 29, 2007
EQUIPMENT UNDER TEST (EUT):	Rechargeable Flashlight System
MODEL:	Mag Charger
HIGHEST FREQUENCY GENERATED OR USED:	<100 MHz
CONDITION UPON RECEIPT:	Suitable for Test
TEST SPECIFICATION:	Radio Frequency Emissions in accordance with requirements of EN 61000-6-3: 2001/A11: 2004 and FCC Part 15B. Electromagnetic Immunity tests in accordance with requirements of IEC 61000-6-1:2005

1.2. Test Summary

1.2.1. Emissions Test Summary

Test Methods	*Frequency Range*	*Compliance Status*
FCC 15B, Sec. 107, Class "B" Conducted Emissions	0.15 MHz – 30 MHz	**PASS**
FCC 15B, Sec. 109, Class "B" Radiated Emissions	30 MHz – 1000MHz	**PASS**
CISPR 22: 2005/A1 2005/A2: 2006, Class "B" Conducted Emissions	0.15 MHz – 30 MHz	**PASS**
CISPR 22: 2005/A1 2005/A2: 2006, Class "B" Radiated Emissions	30 MHz – 1000 MHz	**PASS**
CISPR 14-1: Discontinuous Disturbance	0.15 MHz – 30 MHz	**N.A.**[1]
EN 61000-3-2: 2000/A2: 2005 Power Line Harmonics	up to the 40th Harmonic	**PASS**
EN 61000-3-3: 1995/A1: 2001 Power Line Flicker	less than or equal to 4% Maximum Relative Voltage Change; Value of D(T) less than or equal to 3% for more than 200 Ms	**PASS**

[1] Applicable only to switching operations in thermostatically controlled appliances, automatic programme controlled machines and other electrically controlled or operated appliances that generate discontinuous disturbance.

Test Supervisor: Mike P. Krumweide

Mike Krumweide, Nemko USA, Inc.

1.2.2. Immunity Test Summary

Test Methods	*Minimum Criterion Level Required as per IEC 61000-6-1*	*Criterion Level Tested*	*Compliance Status*
IEC 61000-4-2: 1995/A1: 1998/A2: 2000 - ESD Immunity	**Criterion B** ±8 kV air discharge, ±4 kV contact discharge	**Criterion B** ±8 kV Air Discharge, ±4 kV Contact Discharge	**PASS**
IEC 61000-4-3: 2006 - Radio Frequency Immunity	**Criterion A** 3 V/m from 80-1000 MHz 3 V/m from 1.4 -2 GHz 1 V/m from 2.0 -2.7 GHz (80% AM at 1kHz)	**Criterion A** 3 V/m from 80-6000 MHz (80% AM at 1kHz)	**PASS**
IEC 61000-4-4: 2004 +Corrigendum 1: 2006 -Electrical Fast Transient Immunity	**Criterion B** Power line pulses of ± 1 kV; I/O line pulses of ± 0.5 kV	**Criterion B** Power Line Pulses of ± 1 kV	**PASS**
IEC 61000-4-5: 2005 -Surge Immunity	**Criterion B** ±2kV common mode surges, ±1kV differential mode surges	**Criterion B** ±1kV Differential Mode Surges	**PASS**
IEC 61000-4-6: 2003/A1: 2004/A2: 2006 -RF Common Mode Immunity	**Criterion A** 150 kHz - 80 MHz at 3 Vrms 1 kHz 80% amplitude modulated	**Criterion A** 150 kHz - 80 MHz at 3 Vrms 1kHz 80% amplitude modulated	**PASS**
IEC 61000-4-8: 1993/A1: 2000 Power Frequency Magnetic Field	**Criterion A** Magnetic coil at 50 Hz and 60Hz, to 3.0 amps (rms) per meter		**N.A**[1]
IEC 61000-4-11: 2004 - Voltage Dips and Short Interruptions	**Criterion B and C** Voltage Dips of 100%/0.5 cycle, 100%/1 cycle and 30%/25 cycles; Interruptions of 100%/250 cycles.	**Criterion B and C** Voltage Dips of 100%/0.5 cycle, 100%/1 cycle and 30%/25 cycles; Interruptions of 100%/250 cycles.	**PASS**

[1] Applicable only to apparatus containing devices susceptible to magnetic fields.

Test Supervisor: Mike Krumweide, Nemko USA, Inc.

Refer to the test results section for further details.