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EMC TEST REPORT

Application No.: SHEMO10060069701

Applicant: Datalog Werbemittel Gmbh

Equipment Under Test (EUT):

NOTE: The following sample(s) submitted was/were identified on behalf of the client as

EUT Name: LED TORCH
Model No.: 91143.01
Serial No.: Not supplied by the client

Standards: EN 55015: 2006+A1:2007+A2:2009
EN 61000-3-2: 2006
EN 61000-3-3: 2008
EN 61547: 1995+A1:2000

Date of Receipt: Jun. 3, 2010

Date of Test: Jun. 4, 2010

Date of Issue: Jun. 5, 2010

Test Result :	**PASS**

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.

CE

Tino Pan
E&E Section Manager
SGS-CSTC(Shanghai) Co., Ltd.

Mingfu Wang
E&E Project Engineer
SGS-CSTC(Shanghai)Co.,Ltd

2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Conducted Emission (150K to 30MHz)	EN 55015: 2006+A1:2007+A2:2009	EN 55015: 2006+A1:2007+A2:2009	N/A	N/AΨ
Radiated Electromagnetic Disturbance 9KHz to 30MHz	EN 55015: 2006+A1:2007+A2:2009	EN 55015: 2006+A1:2007+A2:2009	2 M Loop	N/A
Harmonic Current Emission on AC, up to 2kHz	EN 61000-3-2: 2006	EN 61000-3-2: 2006	Clause 7 of EN61000-3-2	N/A
Voltage Fluctuation and Flicker on AC	EN 61000-3-3: 2008	EN 61000-3-3: 2008	Clause 5 of EN61000-3-3	N/A
ESD	EN 61547: 1995/A1: 2000	IEC 61000-4-2 :2001	Contact ±4 kV Air ±8 kV	PASS
Radio frequency electromagnetic fields, 80MHz to 1 GHz	EN 61547: 1995/A1: 2000	IEC 61000-4-3: 2008	3V/m 80%, 1kHz, AM	N/A
Electrical Fast Transients (EFT) on AC	EN 61547: 1995/A1: 2000	IEC 61000-4-4:2004	AC ± 1.0kV	N/A
Surges on AC	EN 61547: 1995/A1: 2000	IEC 61000-4-5 :2005	±1kV D.M.† ±2kV C.M.†	N/A
Injected Currents on AC, 150kHz to 80MHz	EN 61547: 1995/A1: 2000	IEC 61000-4-6 :2006	3Vrms (emf), 80%, 1kHz Amp. Mod.	N/A
Power-frequency magnetic field	EN 61547: 1995/A1: 2000	IEC 61000-4-8 :2001	50/60Hz,3A/m	N/A
Voltage Dips and Interruptions on AC	EN 61547: 1995/A1: 2000	IEC 61000-4-11 :2004	30 % U_T* for 10per 100 % U_T* for 0.5per	N/A

Remark:

* U_T is the nominal supply voltage.

† D.M. – Differential Mode.

† C.M. – Common Mode.

Ψ N/A –Not Applicable

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4 General Information

4.1 Client Information

Applicant:	Datalog Werbemittel Gmbh
Address of Applicant:	Knickrehm 12, Bad Schwartau, Schleswig-Holstein, Germany.D-23611
Manufacturer:	Datalog Werbemittel Gmbh
Address of Manufacturer:	Knickrehm 12, Bad Schwartau, Schleswig-Holstein, Germany.D-23611

4.2 General Description of E.U.T.

EUT Name:	LED TORCH
Model No.:	91143.01
Serial No.:	Not supplied by the client

4.3 Details of E.U.T.

Power Supply:	Voltage: DC 4.5 V
Power Cord:	N/A

4.4 Description of Support Units

Name / Function	Model No.	Remark
N/A	N/A	N/A

4.5 Standards Applicable for Testing

The customer requested EMC tests for LED TORCH.

The standards used were EN 55015: 2006+A1:2007+A2:2009, EN 61000-3-2: 2006, EN 61000-3-3: 2008 and EN 61547: 1995/A1: 2000.

Table 1 : Tests Carried Out Under EN 55015: 2006+A1:2007+A2:2009

Standard		Status
EN 55015: 2006+A1:2007+A2:2009	Radiated Electromagnetic Disturbance	×
EN 55015: 2006+A1:2007+A2:2009	Conducted Emissions on AC	×

× Indicates that the test is not applicable
√ Indicates that the test is applicable

Table 2: Tests Carried Out Under EN 61000-3-2: 2006 & EN 61000-3-3: 2008

Standard		Status
EN 61000-3-2: 2006	Harmonic Current Emission on AC	×
EN 61000-3-3: 1995/A1:2001/A2:2005	Voltage Fluctuation and Flicker on AC	×

× Indicates that the test is not applicable

√ Indicates that the test is applicable

Table 3: Tests carried out under EN 61547: 1995/A1: 2000

Standard		Status
IEC 61000-4-2 :2001	Electrostatic discharge test	√
IEC 61000-4-3: 2008	Radio frequency electromagnetic fields test	×
IEC 61000-4-4: 2004	Electrical fast transients/burst test	×
IEC 61000-4-5: 2005	Surges test	×
IEC 61000-4-6: 2006	Injected Currents test	×
IEC 61000-4-8: 2001	Power-frequency magnetic field test	×
IEC 61000-4-11: 2004	Voltage dips and interruptions test	×

× Indicates that the test is not applicable

√ Indicates that the test is applicable

Note The EUT does not contain any component which is susceptible from the magnetic field.

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 Monitoring of EUT for All Immunity Test

Visual:

4.9 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
No.588 West Jindu Road, Songjiang District, Shanghai, China. 201612.
Tel: +86 21 6191 5666 Fax: +86 21 6191 5655

4.10 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2011-07-29.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2012-03-17.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2011-09-29.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3172 and C-3514 respectively. Date of Registration: 2009-11-30. Date of Expiry: 2012-03-17.

4.11 Measurement Uncertainty

According to CISPR 16-4-2.

Test Item	Frequency Range	Measurement Uncertainty
Conducted Emission	9KHz – 150KHz	3.9dB
	150KHz – 30MHz	3.5dB
Radiated Emission	30MHz – 1000MHz	4.0dB

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5 Equipments Used during Test

Electrostatic Discharge Test

Item	Test Equipment	Manufacturer	Model No.	Series No.	Cal. Date	Cal. Due date
1	Electrostatic Discharge Simulator	KIKUSUI	KES4021	LL004261	2010-04-25	2011-04-24

General Equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal.Due date
1	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co;Ltd	BY－2003P	/	2009-10-15	2010-10-14
2	CLAMP METER	FLUKE	316	86080010	2010-04-27	2011-04-26
3	Thermo-Hygrometer	ZHICHEN	ZC1-2	01050033	2009-10-21	2010-10-20
4	Digital illuminance meter	TES electrical electronic Corp.	TES-1330A	050602219	2009-10-16	2010-10-15

6 Immunity Test Results

6.1 Performance Criteria Description in Clause 4 of EN 61547:1995/A1:2000

Criterion A: During the test no change of the luminous intensity shall be observed and the regulating control, if any, shall operate during the test as intended.

Criterion B: During the test the luminous intensity may change to any value. After the test the luminous intensity shall be restored to its intial value within 1 min. Regulating controls need not function during the test, but after the test the mode of the control shall be the same as before the test provided that during the test no mode changing commands were given.

Criterion C: During and after the test any change of the luminous intensity is allowed and the lamp(s) may be extinguished. After the test, within 30 min, all functions shall return to normal if necessary by temporary interruption of the mains supply and/or operating the regulating control. Additional requirement for lighting equipment incorporating a starting device: After the test the lighting equipment is switched off. After half an hour it is ewitched on again. The lighting equipment shall start and operate as intended.

6.2 ESD

Test Requirement:	EN 61547:1995/A1:2000	
Test Method:	IEC 61000-4-2 :2001	
Test Date:	Jun. 4, 2010	
Discharge Impedance:	330 Ω / 150 pF	
Discharge Voltage:	Air Discharge:	±8 kV
	Contact Discharge:	±4 kV
	HCP:	±4 kV
	VCP:	±4 kV
Polarity:	Positive & Negative	
Number of Discharge:	Minimum 10 times at each test point for Contact and VCP Discharge;	
	Minimum 10 times at each test point for Air Discharge	
Discharge Mode:	Single Discharge	
Discharge Period:	1 second minimum	

6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 56% RH Atmospheric Pressure: 1019 mbar

EUT Operation: Test the EUT in On Mode (Keep the EUT Lighting)

6.2.2 Direct Application Test Results

Observations: Test Point:

1. All insulated enclosure & seams around EUT.
2. All touchable metal material of EUT

Direct Application			Test Results	
Discharge Level (kV)	**Polarity (+/-)**	**Test Points**	**Contact Discharge**	**Air Discharge**
8	+/-	1	N/A	A
4	+/-	2	A	N/A

Indirect Application Test Results

Observations: Test Point: 1. All sides.

Indirect Application			Test Results	
Discharge Level (kV)	**Polarity (+/-)**	**Test Point**	**Horizontal Coupling**	**Vertical Coupling**
4	+/-	1	A	A

Results:

A: No degradation in the performance of the EUT was observed.

N/A: Not applicable (not required in the standard or floor moutned the EUT)

7 Photographs

7.1 ESD Test Setup

7.2 EUT Constructional Details

The end of report