

Intertek Legal Entity: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Address: Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China Tel / Fax: 86-20-8213 9688/86-20-3205 7538

# **Test Verification of Conformity**

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product.

Once all product relevant  $C \in$  mark directives are verified in compliance, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to product identical to the test sample(s) if the product complies with all relevant CE mark Directives requirements.

#### Applicant Name & Address:

Product Description:	Electri
Ratings & Principle	Adapte
Characteristics:	Wine 0
Models:	KP3-37
Brand Name:	
Relevant Standards/	EN 550
Directive	EN 610
	EN 610

Electric Wine Opener Adapter: Input 100-240 V~, 50/60 Hz, 0.5A; Output 5.0V --- 1.0A Wine Opener: 3.7V battery KP3-371401, KP3-371402, KP3-371403, KP1-36PL, KP3-36ML --EN 55014-1: 2006+A1: 2009+A2: 2011 EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN 55014-2: 1997+A1: 2001+A2: 2008

Verification Issuing Office: Date of Tests: Test Report Number(s): EMC Directive 2004/108/EC Same as Legal Entity 17 September 2015-22 September 2015 150916001GZU-001: 23 September 2015

Note 1: This verification is part of the full test report(s) and should be read in conjunction with them.

alli Li

Signature

Name: Maggie Xie Position: Project Engineer Date: 23 September 2015

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GFT-OP-11b (24-Dec 2014)

Intertek

Report No.: 150916001GZU-001 Issued: 2015-09-23

#### **TEST REPORT**

Applicant Name & Address	
Manufacturing Site	
Sample Description Product Model No. Electrical Rating	<ul> <li>Electric Wine Opener</li> <li>KP3-371401, KP3-371402, KP3-371403, KP1-36PL, KP3-36ML</li> <li>Adapter: Input 100-240 V~, 50/60 Hz, 0.5A; Output 5.0V == 1.0A Wine Opener: 3.7V battery</li> </ul>
Date Received Date Test Conducted	<ul> <li>16 September 2015</li> <li>17 September 2015-22 September 2015</li> </ul>
Test standards	EN 55014-1: 2006+A1:2009+A2: 2011 EN 61000-3-2: 2014 EN 61000-3-3: 2013 EN 55014-2: 1997+A1: 2001+A2: 2008
Test Result	: Pass
Conclusion	: The submitted samples complied with the above EMC standards.
Remark	: TRF No.: EN55014+A2 2011 (With electronics)-a Effective date: 19 April 2015
*****	**********************End of Page************************************

Prepared and Checked By:

Doctang Tang

Engineer Intertek Guangzhou

Signature Maggie Xie **Project Engineer** Intertek Guangzhou 23 September 2015 Date

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Approved By:

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD Guangzhou, China Tel / Fax: 86-20-8213 9688/86-20-3205 7538

TRF No.: EN55014+A2 2011 (With electronics)-a



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Test Item	Standard	Result
Continuous conducted disturbance voltage	EN 55014-1: 2006+A1:2009+A2: 2011	Pass
Discontinuous conducted disturbance voltage	EN 55014-1: 2006+A1:2009+A2: 2011	N/A
Radiated disturbance	EN 55014-1: 2006+A1:2009+A2: 2011 Reference: CISPR 16-2-3: 2006	Pass
Harmonic of current	EN 61000-3-2: 2014	Pass
Flicker	EN 61000-3-3: 2013	Pass
ESD immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-2:1995+A1:1998 +A2:2001	Pass
Radiated EM field immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-3:2006+A1:2008	N/A
EFT immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-4:2004	Pass
Surge immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-5:2006	Pass
Inject current immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-6:2007	Pass
Voltage dips and interruption immunity	EN 55014-2: 1997+A1: 2001+A2: 2008 Reference: EN 61000-4-11:2004	Pass

# TEST RESULTS SUMMARY

Remark: 1. The symbol "N/A" in above table means <u>N</u>ot <u>Applicable</u>.

2. When determining the test results, measurement uncertainty of tests has been considered.



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# **EMC Results Conclusion**

(with Justification)

RE: EMC Testing Pursuant to EMC Directive 2004/108/EC Performed on the Electric Wine Opener, Models: KP3-371401, KP3-371402, KP3-371403, KP1-36PL, KP3-36ML.

We tested the Electric Wine Opener, KP1-36PL, to determine if it was in compliance with the relevant EN standards as marked on the Test Results Summary. We found that the unit met the requirements of EN 55014-1, EN 61000-3-2, EN 61000-3-3, EN 55014-2 (EN 61000-4-2), EN 55014-2 (EN 61000-4-4), EN 55014-2 (EN 61000-4-6), EN 55014-2 (EN 61000-4-5), & EN 55014-2 (EN 61000-4-11) standards when tested as received. The worst case's test data was presented in this test report.

Models KP3-371401, KP3-371402, KP3-371403, KP3-36ML are declared to be identical to KP1-36PL in terms of electrical and mechanical design except the appearance

The production units are required to conform to the initial sample as received when the units are placed on the market.



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# LABORATORY MEASUREMENTS

# **Configuration Information**

Equipment Under Test (EUT):	Electric Wine Opener	
Model:	KP1-36PL	
Serial No.	Not Labeled	
Support Equipment:	N/A	
Rated Voltage:	Adapter: Input 100-240 V~, 50/60 Hz Wine Opener: 3.7V battery	
Condition of Environment:	Temperature:22~28°CRelative Humidity:35~60%Atmosphere Pressure86~106kPa	

#### Notes:

1. The EMI measurements had been made in the operating mode produced the largest emission in the frequency band being investigated consistent with normal applications. An attempt had been made to maximize the emission by varying the configuration of the EUT.

2. The EMS measurements had been made in the frequency bands being investigated, with the EUT in the most susceptible operating mode consistent with normal applications. The configuration of the test sample had been varied to achieve maximum susceptibility.

3. Test Location:
Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
All tests were performed at:
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City,
GETDD Guangzhou, China
Except Radiated Disturbance was performed at:
Room 101, Block A, No.11 Jing Ye San Street, Yu Shu Industrial Park, Guangzhou Science City,
GETDD Guangzhou



# 4 EMI TEST

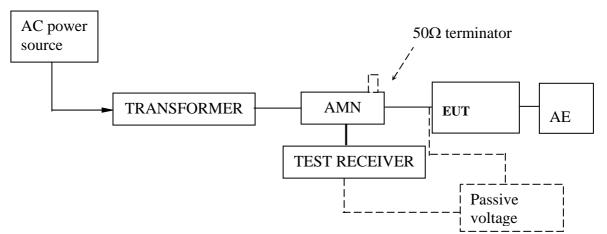
# 4.1 EN 55014-1 Continuous Conducted Disturbance Voltage Test

# **Test Result: Pass**

#### 4.1.1 Used Test Equipment

Equipment No.	Equipment	Model	Manufacturer
EM080-05	EMI receiver	ESCI	R&S
EM006-06	LISN	ENV216	R&S
EM004-04	EMC shield Room	8m×3m×3m	Zhongyu

#### 4.1.2 Block Diagram of Test Setup



#### 4.1.3 Test Setup and Procedure

The EUT was set to achieve the maximum emission level. The mains terminal disturbance voltage was measured with the EUT in a shielded room. The EUT was connected to AC power source through an Artificial Mains Network which provides a  $50\Omega$  linear impedance Artificial hand is used if appropriate (for handheld apparatus). The load/control terminal disturbance voltage was measured with passive voltage probe if appropriate.

The table-top EUT was placed on a 0.4m high non-metallic table above earthed ground plane(Ground Reference Plane). And for floor standing EUT, was placed on a 0.1m high non-metallic supported on GRP. The EUT keeps a distance of at least 0.8m from any other of the metallic surface. The Artificial Mains Network is situated at a distance of 0.8m from the EUT.

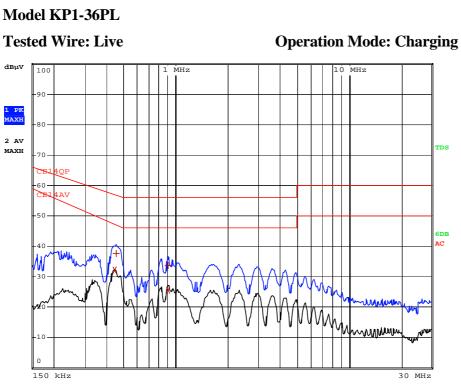
During the test, mains lead of EUT excess 0.8m was folded back and forth parallel to the lead so as to form a horizontal bundle with a length between 0.3m and 0.4m.

The bandwidth of test receiver was set at 9 kHz. The frequency range from 150 kHz to 30MHz was checked.

When measurements of disturbance are being made, the appliance shall be operated under the conditions defined in clause 7.



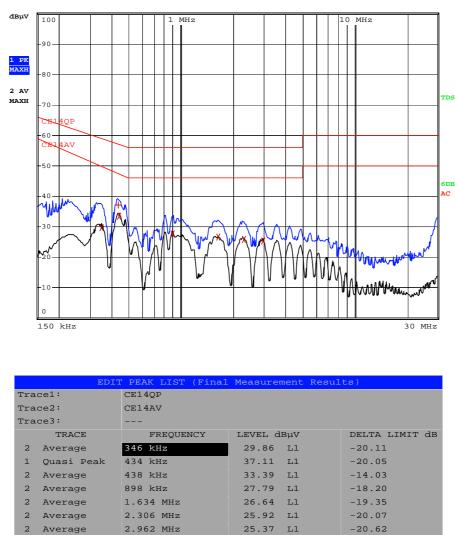
#### 4.1.4 Emission Curve and Test Data



EDIT PEAK LIST (Final Measurement Results)			
Trace1:	CE14QP		
Trace2:	CE14AV		
Trace3:			
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	442 kHz	32.10 L1	-15.22
1 Quasi Peak	450 kHz	37.75 L1	-19.11
1 Quasi Peak	906 kHz	33.72 L1	-22.27
2 Average	906 kHz	25.62 L1	-20.37

At main terminal: Pass





## **Tested Wire: Neutral**

#### **Operation Mode: Charging**

#### At load/control terminal: Not Applicable

#### 4.1.5 Measurement Uncertainty

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT.

Measurement uncertainty is calculated in accordance with CISPR 16-4-2: 2003.

Measurement uncertainty of mains terminal disturbance voltage in CISPR band B: 2.58 dB. The measurement uncertainty is given with a confidence of 95%, k=2.



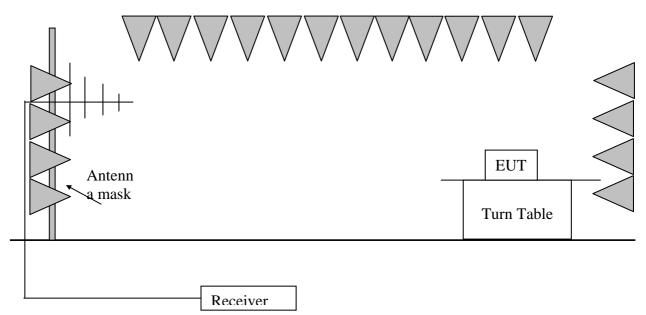
# 4.2 EN 55014-1 Discontinuous Conducted Disturbance Voltage Test Result: Not Applicable

# 4.3 EN 55014-1 Radiated Disturbance Test Result: Pass

# 4.3.1 Used Test Equipment

ebeu Test Equi			
Equip. No.	Equipment	Model	Manufacturer
EM030-01	3m Semi-Anechoic Chamber	9×6×6 m3	<b>ETS</b> •LINDGREN
EM030-02	EM030-02 Control room for 3m Semi- Anechoic Chamber		<b>ETS</b> •LINDGREN
EM031-02	EMI Test Receiver (9 kHz~7 GHz)	R&S ESR7	R&S
EM033-01	TRILOG Super Broadband test Antenna (30 MHz-3 GHz)	VULB 9163	SCHWARZBECK
EM031-02-01	Coaxial cable	/	R&S

# 4.3.2 Block Diagram of Test Setup





## 4.3.3 Test Setup and Procedure

The measurement was applied in a semi-anechoic chamber(SAC). Table-top equipment is placed on a non-conductive setup table with height  $0.8 \text{ m} \pm 0.01 \text{ m}$  above the ground plane. Floor-standing equipment is placed on a non-conductive support at a height of 5 cm to 15 cm above the ground plane. The turn table rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on an antenna mask. The antenna moved up and down between from 1 meter to 4 meters to find out the maximum emission level.

Broadband antenna was used as receiving antenna. Both horizontal and vertical polarization of the antenna was set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to CISPR 16-2-3 requirement during radiated test.

The bandwidth setting on R&S Test Receiver was 120 kHz.

The frequency range from 30 MHz to 1000 MHz was checked

Model KP1-36PL		Oper	Operation Mode: Charging		
Antenna	Frequency	Measured Net at 3m	Limit at 3m		
Polarization	[MHz]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$		
Horizontal	300.0	<37	47.0		
Horizontal	400.0	<37	47.0		
Horizontal	800.0	<37	47.0		
Vertical	35.00	32.9	40.0		
Vertical	124.08	36.1	40.0		
Vertical	138.16	36.0	40.0		

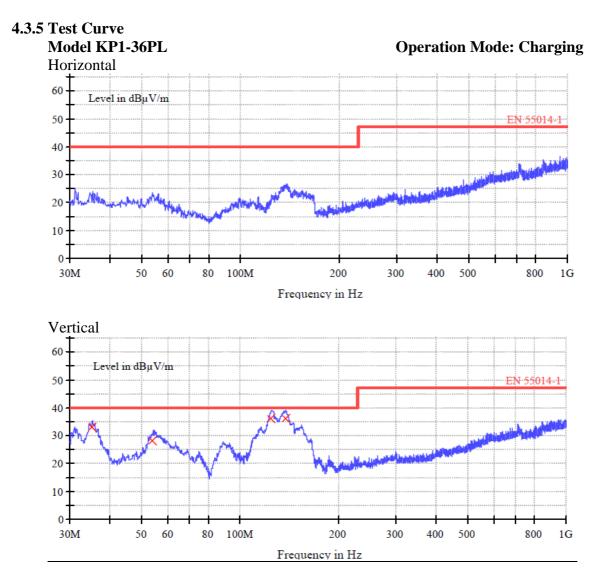
# 4.3.4 Test Data

#### Model KP1-36PL

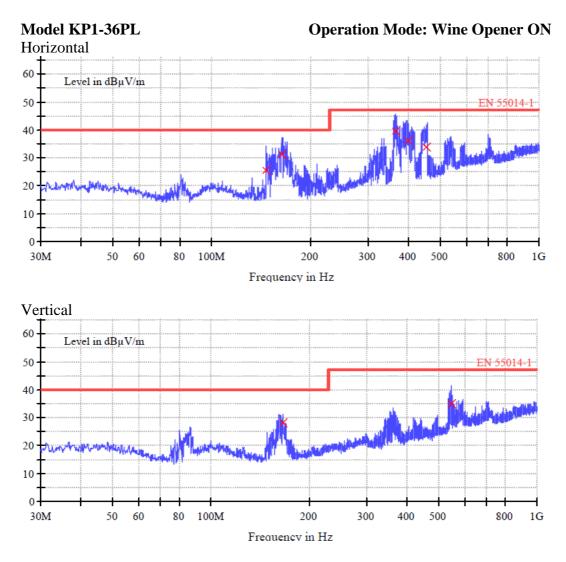
#### **Operation Mode: Wine Opener ON**

Antenna	Frequency	Measured Net at 3m	Limit at 3m
Polarization	[MHz]	$[dB(\mu V/m)]$	$[dB(\mu V/m)]$
Horizontal	163.16	31.1	40.0
Horizontal	365.40	39.4	47.0
Horizontal	398.16	36.0	47.0
Vertical	35.00	<30	40.0
Vertical	166.08	28.0	40.0
Vertical	547.20	35.0	47.0









#### 4.3.6 Measurement uncertainty

The measurement uncertainty describes the overall uncertainty of the given measured value during the operation of the EUT.

Measurement uncertainty is calculated in accordance with CISPR 16-4-2:2003.

Measurement uncertainty of radiated emission: 4.87 dB.

The measurement uncertainty is given with a confidence of 95%, k=2.



# 5 Harmonic of Current Test Result: Pass

# **Remark:**

This product is not defined as lighting equipment, and rated power is less than 75W, therefore, no limit applies according to EN 61000-3-2.

# 6 Flicker

**Test Result: Pass** 

# **Remark:**

This apparatus is unlikely to produce significant voltage fluctuations and flicker by examination of the circuit diagram and specification of it. Therefore, it is deemed to fulfill the relevant standard without testing according to clause 6.1 of EN 61000-3-3.



# 7 EMS TEST

## **Performance Criteria:**

- Criterion A: The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permission loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and from what the user may reasonably expect from the apparatus if used as intended.
- Criterion B: The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permission loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however, no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description, and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
- Criterion C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instruction for use.

#### Measurement Uncertainty

According to CISPR 16-4-2:2003, measurement uncertainty to immunity test is under consideration.

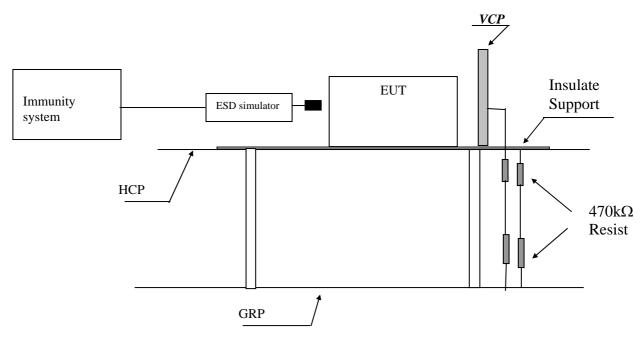


7.1 EN 61000-4-2(Pursuant to EN 55014-2) Electrostatic Discharge Immunity Performance criterion: B Test Result: Pass

# 7.1.1 Used Test Equipment

Equip. No.	Equipment	Model	Manufacturer
EM077-04	ESD Simulator	NSG437	TESEQ

## 7.1.2 Block Diagram of Test Setup



Note: HCP means <u>H</u>orizontal <u>C</u>oupling <u>P</u>lane, VCP means <u>V</u>ertical <u>C</u>oupling <u>P</u>lane GRP means Ground Reference Plane

# 7.1.3 Test Setup and Procedure

The EUT was put on a 0.8m high wooden tabel/0.1m high for floor standing equipment standing on the ground reference plane(GRP) 3m by 2m in size, made by iron 1.0 mm thick.

A horizontal coupling plane(HCP) 1.6m by 0.8m in size was placed on the table, and the EUT with its cables were isolated from the HCP by an insulating support thick than 0.5mm. The VCP 0.5m by 0.5m in size & HCP were constructed from the same material type & thinkmess as that of the GRP, and connected to the GRP via a  $470k\Omega$  resistor at each end.

The distance between EUT and any of the other metallic surface excepted the GRP,

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HCP & VCP was greater than 1m.

The EUT was arranged and connected according to its functional requirements.

Direct static electricity discharges was applied only to those points and surface which are accessible to personnel during normal usage.

On each preselected points 10 times of each polarity single discharge were applied The time interval between successive single discharges is at least 1s.

The ESD generator was held perpendicular to the surface to which the discharge is applied. The discharge return cable of the generator was kept at a distance of 0.2m whilst the discharge is being applied. During the contact discharges, the tip of the discharge electrode was touch the EUT before the discharge switch is operated. During the air discharges, the round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT.

Indirect discharge was conducted to objects placed near the EUT, simulated by applying the dischares of the ESD generator to a coupling plane, in the contact discharge mode.

After each discharge, the ESD generator was removed from the EUT, the generator is then retriggered for a new single discharge. For ungrounded product, a grounded carbon fibre brush with bleeder resistors  $(2 \times 470 \text{ k}\Omega)$  in the grounding cable was used after each discharge to remove remnant electrostatic voltage.

10 times of each polarity single discharge were applied to HCP and VCP. The detail selected points are listed in the following table.



# 7.1.4 Test Result

Direct Applicat	ion of ESD						
Direct Contact Di	Direct Contact Discharge						
Applied Voltage (kV)	No. of Discharge for each point	Result (Pursuant to EN 55014-2, criterion B)	Discharged Points				
4	20	Pass	Accessible metal parts of the EUT Conductive substrate with coating which is not declared to be insulating				

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# Direct Air Discharge

Applied Voltage (kV)	No. of Discharge for each point	Result (Pursuant to EN 55014-2, criterion B)	Discharged Points
8	20	Pass	All accessible points where contact discharge cannot be applied such as Displays, Indicators light, Keyboard, Button, Switch, Knob, Air gap, Slots, Hole and so on

# Indirect Application of ESD

Horizontal Coupling Plane under the EUT

Applied Voltage (kV)	No. of Discharge for each point	Result (pursuant to EN 55014-2 criterion B)	Discharged Point
4	20	Pass	At the front edge of each HCP opposite the centre point of each unit of the EUT

# Vertical Coupling Plane beside the EUT

Applied Voltage (kV)	No. of Discharge for each point	Result (pursuant to EN 55014-2 criterion B)	Discharged Point
4	20	Pass	The centre of the vertical edge of the coupling plane

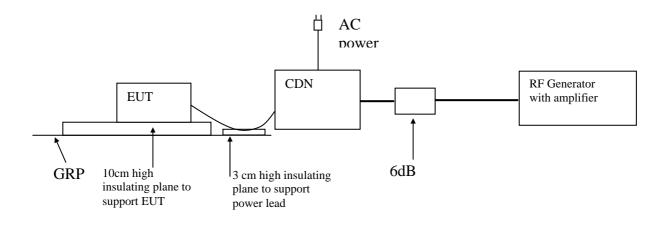


7.2 EN 61000-4-6(Pursuant to EN 55014-2) Injected Current (0.15 MHz to 230 MHz) Performance criterion: A Test Result: Pass

# 7.2.1 Used Test Equipment

Equip. No.	Equipment	Model	Manufacturer
EM003-01	Conducted	CDG_1020	Dr.Hubert GmbH
	Disturbance		
	Generator		
EM003-01-04	Coupling&Decouplin	CDN M2+M3	Dr.Hubert GmbH
	g Network		
EM003-01-05	Attenuator	6dB	Dr.Hubert GmbH

# 7.2.2 Block Diagram of Test Setup



# 7.2.3 Test Setup and Procedure

The EUT was placed on an insulating support of 0.1m height above a ground reference Plane, arranged and connected to satisfy its functional requirement.

All relevant cables were provided with the appropriate coupling and decoupling devices at a distance between 0.1m and 0.3m from the projected geometry of the EUT on an insulating support of 0.03m height above the ground reference plane.

Test voltage was verified before each testing though power meter combined in the RF generator with AMP.

Dwell time was set to 3s and step was set as 1% to keep sufficient response time for EUT. The frequency from 0.15MHz to 230MHz was checked.

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# 7.2.4 Test Result

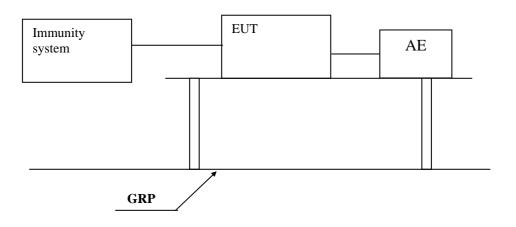
Port:	Frequency (MHz)	Level (Pursuant to EN55014-2)	Result
A.C. Power Lines	0.15 to 230	3V (r.m.s.)	Pass
D.C. Power Lines	0.15 to 230	1V (r.m.s.)	N/A
Signal Lines	0.15 to 230	1V (r.m.s.)	N/A
Control Lines	0.15 to 230	1V (r.m.s.)	N/A

# 7.3 EN 61000-4-4(Pursuant to EN 55014-2) Electrical Fast Transient/Burst Performance criterion: B Test Result: Pass

## 7.3.1 Used Test Equipment

Equip. No.	Equipment	Model	Manufacturer
EM005-07	EMS test system	Ecompact 4	HAEFELY

# 7.3.2 Block Diagram of Test Setup





## 7.3.3 Test Setup and Procedure

The EUT was placed on a 0.1m high wooden table, standing on the ground reference plane 3m by 2m in size, made by steel 1mm thick.

The distance between the EUT and any other of the metallic surface except the GRP is greater than 0.5m.

The mains lead excess than 0.5m is folded to avoid a flat coil and situated at a distance of 0.1m above the ground reference plane to insure the distance between the coupling device and the EUT were 0.5m.

The EUT was arranged and connected to satisfy its functional requirement and supplied by the coupling-decoupling network.

Level (Pursuant to EN55014-2)	Polarity	A.C. Power supply line and protective earth terminal	D.C. Power Lines, Signal Line & Control Line
0.5kV	+	N/A	N/A
0.5kV	-	N/A	N/A
1kV	+	Pass	N/A
1kV	_	Pass	N/A

## 7.3.4 Test Result

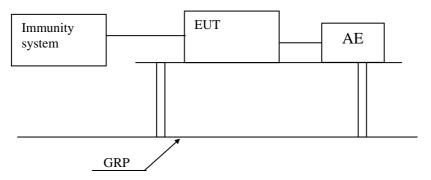


# 7.4 EN 61000-4-5(Pursuant to EN 55014-2) Surge Immunity Performance criterion: B Test Result: Pass

# 7.4.1 Used Test Equipment

Equip. No.	Equipment	Model	Manufacturer
EM005-09	Surge/DIP Generator	NSG3040	TESEQ

#### 7.4.2 Block Diagram of Test Setup



#### 7.4.3 Test Setup and Procedure

The surge is to be applied to the EUT power supply terminals via the capacitive coupling network.

Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines and to provide sufficient decoupling impedance to the surge wave so that the specified wave may be developed on the lines under test.

The EUT was arranged and connected according to its functional requirements The EUT was placed on a 0.1m high wooden support above the GRP, supplied by the couplingdecoupling network, and arranged and connected to satisfy its functional requirement and the power cord between the EUT and the coupling/decoupling network was less than 2 meters.

Surge is applied to the EUT power supply terminals.



## 7.4.4 Test Result

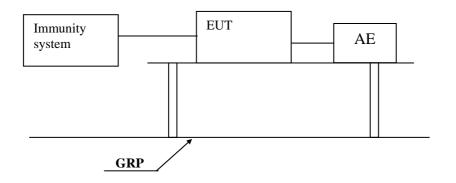
Level (Pursuant to EN 55014-	-2)	Result
Between Phase And Phase:	1kV	N/A
Between Phase And Neutral:	1kV	Pass
Between Phase And Earth:	2kV	N/A
Between Neutral And Earth:	2kV	N/A

# 7.5 EN 61000-4-11(Pursuant to EN 55014-2) Voltage Dips and Interruptions Performance criterion: C Test Result: Pass

#### 7.5.1 Used Test Equipment

Equip. No.	Equipment	Model	Manufacturer
EM005-07	EMS test system	Ecompact 4	HAEFELY

#### 7.5.2 Block Diagram of Test Setup



#### 7.5.3 Test Setup and Procedure

The EUT was placed on an insulating support of 0.8m height, standing on a ground reference plane, and arranged and connected to satisfy its functional requirement

The test was performed with the EUT connected to the test generator with the shortest power supply cable as specified by the EUT manufacturer.

The EUT was tested for each selected combination of test level and duration with a sequence of three dips/interruptions with intervals of 10 s minimum. Each representative mode of operation was tested.



## 7.5.4 Test Result

Test condition (Pursuant to EN 55014-2)				
Test Level	50	50 Hz		Hz
in %U <sub>T</sub>	Duration	Result	Duration	Result
0	0.5	Pass	0.5	Pass
40	10	Pass	12	Pass
70	25	Pass	30	Pass

Remark: U<sub>T</sub> is the rated voltage for the equipment.

# 7.6 EN 61000-4-3(Pursuant to EN 55014-2) Radiated Electromagnetic Field Immunity Performance criterion: A

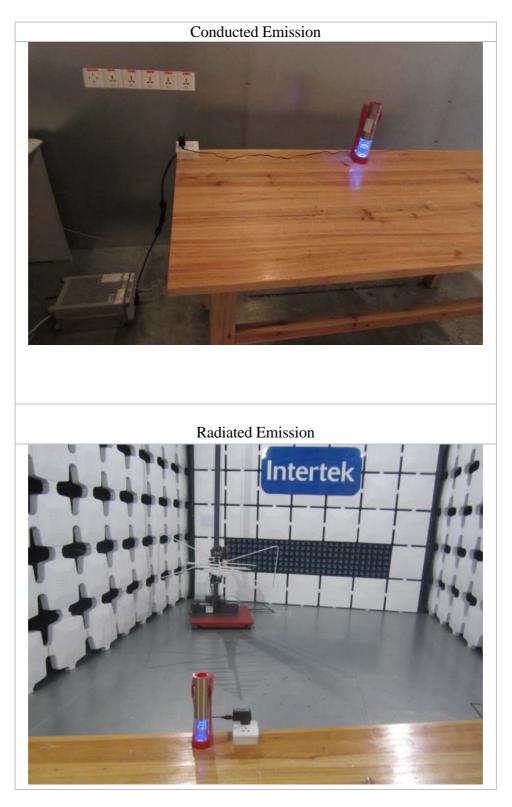
# **Test Result: Not Applicable**

# **Remark:**

Containing electronic control circuitry with no internal clock frequency or oscillator frequency higher than 15 MHz.



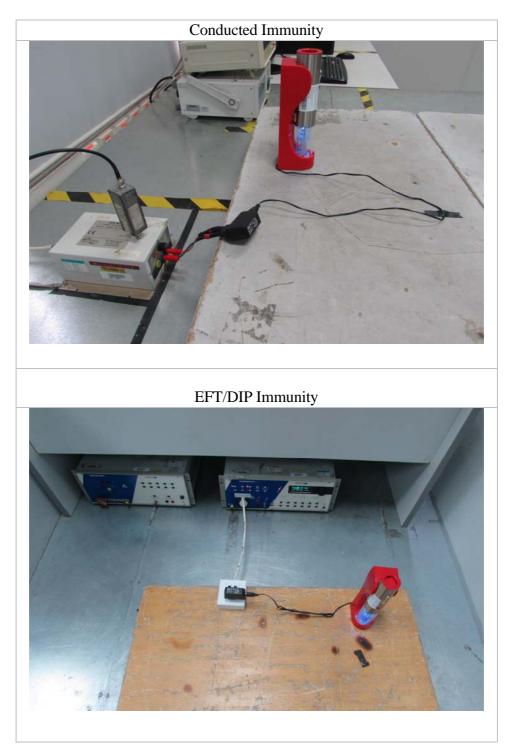
# 8 Appendix I - Photos of test setup



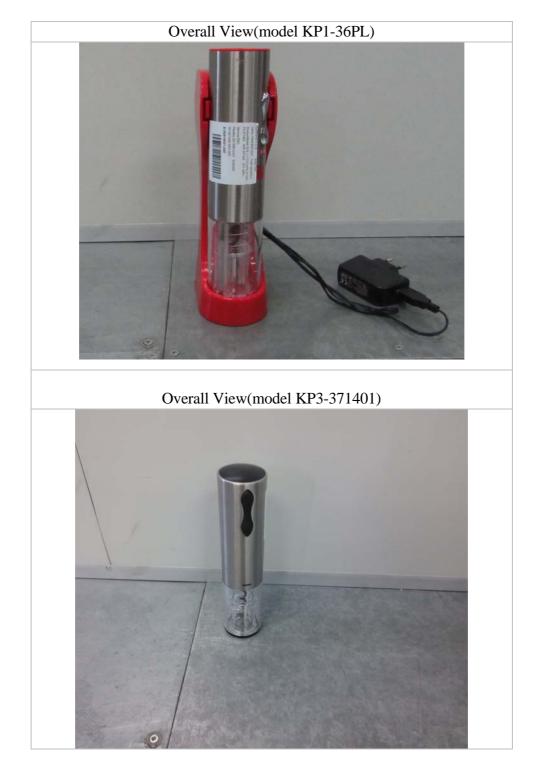












# 9 Appendix II - Photos of EUT

TRF No.: EN55014+A2 2011 (With electronics)-a















