

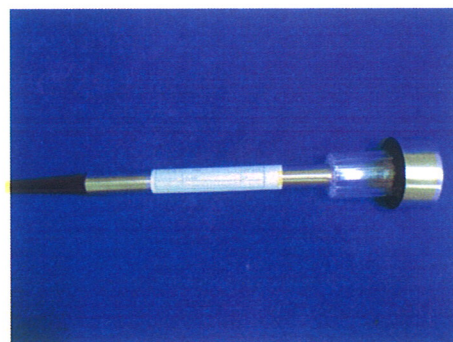


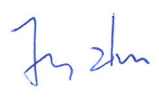
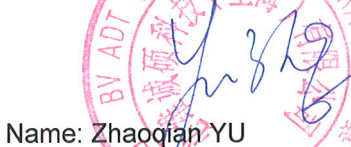
TEST REPORT N°: CYV-14MA0097VNTY

EMC TEST REPORT

To :	JIAXING HONGYUE ELECTRON CO.,LTD.	Fax :	--
Attn :	--	Email :	--
Address :	XINGZHUANG VILLAGE, XINCHENG TOWN, JIAXING CITY, ZHEJIANG PROVINCE, CHINA		
Cc :	--	Fax/Email :	--
Attn :	--		
This document includes : 12 pages		Test date :	Mar. 20 to Apr. 03, 2014

FACTORY NAME :	JIAXING HONGYUE ELECTRON CO.,LTD.
ADDRESS :	XINGZHUANG VILLAGE, XINCHENG TOWN, JIAXING CITY, ZHEJIANG PROVINCE, CHINA
PRODUCT :	SOLAR LIGHT
TYPE REFERENCE :	see model list
RATED VOLTAGE :	Powered by battery
RATED INPUT POWER :	--
PROTECTION CLASS :	III
TESTS REALISED :	On 1 sample
STANDARDS USED(DATE) :	EN 55015:2006+A1:2007+A2:2009 EN 61547:2009
CLAUSES EXAMINED :	All Clauses Relevant



CONCLUSION :		The sample does satisfy the clauses examined .	
Test done by,	Reviewed by,	Approved by:	
			
Name: Jammy GE Title: Project Engineer Date : Apr. 03, 2014	Name: Joy ZHU Title: Testing Manager Date : Apr. 03, 2014	Name: Zhaoqian YU Title: Lab Manager Date : Apr. 03, 2014	

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

"All the modifications applied in this document are identified by a vertical line on the left at the place where information has been modified regarding to the previous edition of the document".

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1 TESTING PROGRAM

The tests have been carried out according to the requirements of the following standards :

Emission standard EN 55015:2006+A1:2007+A2:2009

- Measurement of the continuous conducted emission levels.
- Measurement of the radiated emission levels.

Immunity standard EN 61547:2009

- Immunity to electrostatic discharges - publication IEC 61000-4-2.
- Immunity to fast transients/bursts - publication IEC 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication IEC 61000-4-6.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication IEC 61000-4-3.
- Immunity to surges - publication IEC 61000-4-5.
- Immunity to voltage dips -publication IEC 61000-4-11.
- Immunity to voltage interruptions - publication IEC 61000-4-11.

Special Comment : All the models have the similar electric constructions except for the different model names and appearances. We choose the model HY-S502 as the representative model to apply on the full tests.

2 HISTORY OF FAILURE

None.

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3 Model list

HY-S502, HY-A001/HY-A002/HY-A003/HY-A004/HY-A005/HY-A006/HY-A007/HY-A008/
HY-A009/HY-A010/HY-A011/HY-A012/HY-A013/HY-A014/HY-A015/HY-A016/HY-S105/HY-
S105(B)/HY-S106/HY-S107/HY-S107(B)/HY-S315/HY-S316/HY-S317/HY-S318/HY-S401/HY-
S402/HY-S403/HY-S404/HY-S404(B)/HY-S405/HY-S406/HY-S407/HY-S408/HY-S409/HY-S410/HY-
S411/HY-S412/HY-S413/HY-S501/HY-S502/HY-S503/HY-S504/HY-S505/HY-S505(B)/HY-S506/HY-
S506(B)/HY-S507/HY-S507(B)/HY-S509/HY-S510/HY-S511/HY-S511(B)/HY-S512/HY-S513/HY-
S514/HY-S515/HY-S516/HY-S517/HY-S518/HY-S519/HY-205/HY-206/HY-206(B)/HY-207/HY-
208/HY-209/HY-209/HY-210/HY-P503/HY-P405/HY-P406/HY-P407/HY-P408/HY-P409/HY-P410/HY-
P411/HY-P412/HY-P413/HY-P414/HY-P415/HY-P416/HY-P417/HY-501/HY-502/HY-503/HY-504/HY-
505/HY-505(B)/HY-506/HY-P001/HY-P001(B)/HY-P002/HY-P003/HY-P004/HY-P005/HY-P006/HY-
P007/HY-P008/HY-P009/HY-P011-1/HY-P011-2/HY-P011-3/HY-P012/HY-P401/HY-P402/HY-
P403/HY-P404/HY-P404(B)/HY-601/HY-602/HY-603/HY-F002/HY-F002(B)/HY-F003/HY-F004/HY-
F004(B)/HY-SS001/HY-SS002/HY-SS003/HY-SS004/HY-SS005/HY-SS005(B)/HY-SS006/HY-
SS007/HY-SS008/HY-SS009/HY-SS010/HY-SS011/HY-SS012/HY-SS013/HY-SS013(B)/HY-
SS014/HY-SS015/HY-SS016/HY-SS017/HY-SS018/HY-SS019/HY-SZ001/HY-SZ002/HY-SZ003/HY-
SZ004/HY-SZ004(B)/HY-SZ005/HY-SZ005(B)/HY-SZ006/HY-SZ007/HY-SZ008/HY-SZ009/HY-
SZ010/HY-SZ011/HY-SZ012/HY-SZ012(B)/HY-SZ013/HY-SZ014/HY-SZ015/HY-SZ016/HY-
SZ017/HY-SZ017(B)/HY-SZ017(C)/HY-SZ018/HY-SZ019/HY-SZ020/HY-SZ021/HY-SZ022/HY-
SZ023/HY-SZ024/HY-SZ025/HY-SZ026/HY-SZ027/HY-SZ028/HY-SZ029/HY-SZ030/HY-SZ031/HY-
SZ032/HY-SZ033/HY-SZ034/HY-SZ035/HY-SZ036/HY-SZ037/HY-SZ038./HY-SZ039/HY-SZ040

HY-SS008 	HY-505 
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HY-S317



HY-206



HY-SS001



HY-P008



HY-603



HY-SS018



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HY-F002(B)



HY-S502





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4 OPERATING CONDITIONS

The apparatus was placed in a shielded room, full anechoic chamber, and was powered with battery.
The apparatus was worked continuously.

Ambient conditions :	Temperature	:	20-21 °C
	Relative humidity	:	40-50 %
	Atmospheric pressure	:	101 kPa

5 PERFORMANCE CRITERIA

- Criterion A : During the test no change of the luminous intensity shall be observed, 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 initial value within 1 min.
- Criterion C : During and after the test any change of the luminous intensity is allowed and the lamp may be extinguished. After the test, within 30 min, all functions shall return to normal if necessary by temporary interruption of the mains supply.

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6 TEST INSTRUMENTS LIST

6.1 Test Equipment for Electrostatic Discharge(ESD) Immunity Test

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
Electrostatic discharge simulator and GUN	ESS-2002EX TC-815R	E1ES016	Sep. 09, 2014

6.2 Test Equipment for Radiated, Radio-frequency, Electromagnetic Field (RS) Immunity Test

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
Signal Generator IFR	MG3692B	E1S9006	Apr. 27, 2014
Power Amplifier	AP32 MT255	E1P4003	N/A
Field Probe Holaday	HI-6105	E1F3002	Sep.09, 2014
BiconiLog Antenna SCHWARZBECK	VULP 9118 E	E1A1005	May.25, 2014
Power Meter BOONTON	4232A/51011	E1P5002	Apr.16, 2014



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7 TEST RESULTS

7.1 EMISSION STANDARD EN 55015:2006+A1:2007+A2:2009

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
4.3	<u>Disturbance Voltage</u>	Operating conditions : according to the article 6				
4.3.1	Mains terminals Frequency range: 0,009 to 30 MHz	Port(s) : • AC mains port • Diagram(s) No. < > to < >	☐ ☐	☐ ☐	☒ ☐	☐ ☐
4.3.2	Load and control terminals Frequency range : 0,009 to 30 MHz	• Load and control terminals • Diagram(s) No. < >	☐ ☐	☐ ☐	☒ ☐	☐ ☐
4.4	<u>Radiated Electromagnetic Disturbance</u>	Operating conditions : according to the article 6				
4.4.1	Frequency range : 0,009 to 30 MHz	• 2 m Loop antenna • Diagram (s) No. < >	☐ ☐	☐ ☐	☒ ☐	☐ ☐
4.4.2	<u>Radiated disturbance limit</u> Frequency range: 30 to 300 MHz	Operating conditions : according to the article 6 Port(s) : Enclosure Measurement distance: 3 m Antenna Position • Vertical • Horizontal Diagram(s) No. < >	☐ ☐	☐ ☐	☒ ☒	☐ ☐

P : pass - F : Fail - NA : not applicable - Rem : remark

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7.2 IMMUNITY STANDARD EN 61547:2009

- ☒ For lighting equipment containing active electronic components which e.g. convert or regulate the operating voltage and/or the frequency of the light source.

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.2	<u>Electrostatic discharges</u> <u>Table 1</u> Enclosure Performance criteria B	Contact discharges Level : ± 4 kV Application points : • horizontal coupling plane • vertical coupling plane • screw • metal				
			[X]	[]	[]	[4]
			[X]	[]	[]	[4]
			[X]	[]	[]	[4]
	Performance criteria B	Air discharges Level : ± 8 kV Application points : • gap	[X]	[]	[]	[4]
5.3	<u>Radio-frequency electromagnetic fields 80 to 1000 MHz</u> <u>Table 2</u> Enclosure Performance criteria A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 3 s Logperiodic antenna : - horizontal position - vertical position				
			[X]	[]	[]	[4]
5.4	<u>Fast transients/bursts</u> <u>Table 6</u> Alternative current power input and output ports Performance criteria B	Level : ± 1 kV Rise time/hold time : 5/50 ns Repetition rate : 5 kHz Testing time : 2 min Port(s) : • AC mains				
			[]	[]	[X]	[1]

P : pass - F : Fail - NA : not applicable - Rem : remark



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Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
5.5	<u>Injected current 0,15 to 80 MHz</u> <u>Table 9</u> Alternative current power input and output ports Performance criterion A	Voltage level : 3 V (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time: 2 s Application with CND-M2 Port(s) : • AC mains •	[]	[]	[X]	[1]
5.6	<u>Surges</u> <u>Table 10</u> Alternative current power input and output ports Performance criterion C	Tr/Th(μs) : 1.2/50 (8/20) Number of surges : 5 positive and 5 negative Phase angles : 90° and 270° Level : ± 1 kV Port(s) : • power input, between lines and neutral	[]	[]	[X]	[1]
	Performance criterion C	Level : ± 2 kV Port(s) : • power input, between lines and earth • power input, between neutral and earth	[] []	[] []	[X] [X]	[1] [1]
5.7	<u>Voltage dips and voltage interruptions</u> <u>Table 12</u> Alternative current power input and output port(s) Performance criterion B	<u>Voltage interruptions</u> Test level : 0 % Ut-> 0 V Duration : 10 ms Phase angles : 0° and 180° Port(s) : • AC mains	[]	[]	[X]	[1]
	<u>Table 11</u> Alternative current power input and output port (s) Performance criterion C	<u>Voltage dips</u> Test level : 70 % Ut-> 161 V Duration : 200 ms Phase angles : 0° Port(s) : • AC mains	[]	[]	[X]	[1]

P : pass - F : Fail - NA : not applicable - Rem : remark

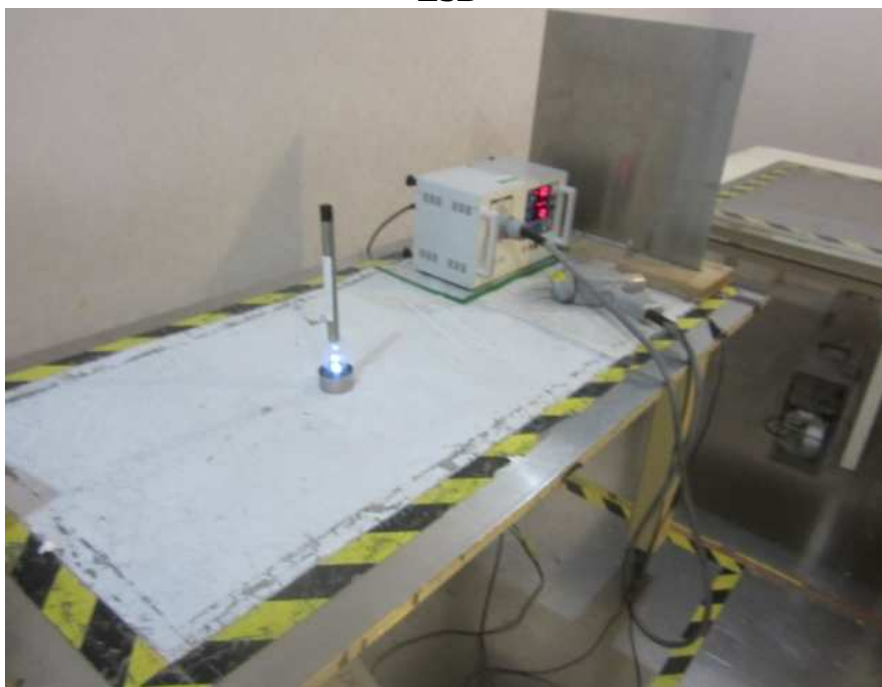
Remark(s) :

- 1 : EUT is power supplied by battery.
- 2 : There is no load and control terminals.
- 3 : The operation frequency of the lamp current is not in excess of 100 Hz, so this test item is not applicable.
- 4 : During test, no change of operation state.

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8 PHOTOGRAPHS OF THE TEST CONFIGURATION

ESD



RS





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9 CONCLUSION

The apparatus SOLAR LIGHT Light and model see model list are in compliance with the requirements of the standards EN 55015:2006+A1:2007+A2:2009, EN 61547:2009.



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