



# CE LVD TEST REPORT

For  
LED BULB

**Model No.:** VT-2022, VT-2011, VT-2016, VT-2109, VT-2129, VT-2119, VT-2122,  
VT-2149

**Applicant :** V-TAC EXPORTS LIMITED  
ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD  
CENTRAL, CENTRAL, HONGKONG

**Manufacturer :** V-TAC EXPORTS LIMITED  
ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD  
CENTRAL, CENTRAL, HONGKONG

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**Report Number :** J02.06.0184S

**Issued Date :** July 11, 2017

**Date of Report :** July 11, 2017

**Note:**

1. The test data and result is based on the tested sample only.
2. Please verify information in the report on GST web: [www.gstslab.com](http://www.gstslab.com) through report number.
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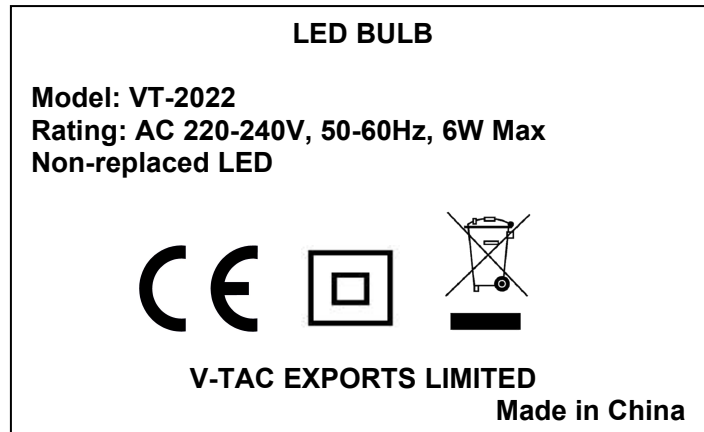
<b>TEST REPORT</b> <b>EN 62560: 2012+ A1:2015</b> <b>Self-ballasted LED-lamps for general lighting services by voltage &gt; 50 V</b> <b>– Safety specifications</b>	
Report reference No. ....:	J02.06.0184S
Testing laboratory .....	Global-Standard Testing Service Co., Ltd.
Location.....:	Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.
Applicant.....:	V-TAC EXPORTS LIMITED
Address:.....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Manufacturer.....:	V-TAC EXPORTS LIMITED
Address:.....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Standards.....:	EN 62560: 2012+ A1:2015 EN 60061-1:1993+A53:2015 EN 62031: 2008+A2:2015 EN 61347-1:2015 EN 61347-2-13:2014 EN 62471:2008 EN 62493:2015
Procedure deviation.....:	N/A
Non-standard test method.....:	N/A
Type of test equipment .....	LED BULB
Trade mark.....:	
Model/Type designation.....:	VT-2022, VT-2011, VT-2016, VT-2109, VT-2129, VT-2119, VT-2122, VT-2149
Rating.....:	AC220-240V, 50-60Hz, 6W Max
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Class of equipment	Class II equipment
Protection against ingress of water	IP20

<p><b>General remarks:</b></p>	
<p>“(see remark #)” refers to a remark appended to the report.</p> <p>“(see appended table)” refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>Until otherwise specified, all tests are done under normal ambient condition <math>25^{\circ}\text{C} \pm 10^{\circ}\text{C}</math>, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.</p>	<p>Attached with:</p> <p>Attachment - A. Photo Documentation</p>
<p>Brief description of the test sample:</p> <ol style="list-style-type: none"> <li>1 This report covers the LED BULB with models VT-2022, VT-2011, VT-2016, VT-2109, VT-2129, VT-2119, VT-2122, VT-2149 for indoor use;</li> <li>2.All models have the same construction except for wattage;</li> <li>3.The model VT-2022 was selected as representative sample to perform all testing;</li> <li>4.The standard of LED modules for general lighting was evaluated with reference to EN 62031;</li> <li>5.The standard of EN 62471 and EN 62493 have been considered in report.</li> </ol>	



**Label**

**Representative**





**Note:**

1. Due to similarity of the labels, only above label was listed;
2. All models have the same marking plate except the model name and input rating with wattage;
3. The height of WEEE directive mark is at least 7mm and others directive mark are at least 5mm height.

EN 62560			
Clause	Requirement	Result - Remark	Verd.

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		P
4.1	The lamp shall be so designed and constructed that in normal use cause no danger to the user.		P
4.2	Self-ballasted LED-Lamp are non-repairable.		P

<b>5.</b>	<b>MARKING</b>		P
5.1	Mandatory marking		P
	- mark of origin	Made in China	P
	- rated supply voltage (V).....	220-240VAC	P
	- rated wattage (W).....	See label	P
	- rated frequency (Hz).....	50-60Hz	P
5.2	Addition marking	See label	P
	- burning position		N
	- rated current (A).....	36mA	P
	- weight significantly higher	Warning:increased weight of lamp may reduce the mechanical stability of certain luminaires and lampholders and may impair contact making and lanp retention (inthe instruction manual)	P
	- special conditions or restrictions		N/A
	Not suitable for dimming;symbol used 		P
	- eye protection	The products are classified as exempt group according to IEC 62471:2008.	P
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible		P
Addition:	Position of the marking	On the body	P
	Language of instructions	English	P
	Suitability for use indoors		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict

	Wireways smooth and free from sharp edges		P
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<b>6</b>	<b>INTERCHANGEABILITY</b>		P
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		N/A
6.2	Bending moment,axial pull ande mass		P
	Bending moment imparted by the lamp at the lampholder		P
	Lamp construction withstands axial pull (N) .....	40N	P
	Mass not exceeding value tabel 2 (kg) .....	0.030kg	P

<b>7.</b>	<b>PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS</b>		P
	Internal, basic insulated or live metal parts not accessible		P
	Tested with a test finger with a force of 10 N		P
	Compliance checked with appropriate gauges		N/A
Addition:	Live parts not accessible		P
	Protection in any position		P
	Insulation lacquer not reliable		P
	Class II luminaire:		P
	- insulation-encased, reinforced insulation		P
	- glass protective shields not used as supplementary insulation		N/A
	Covers have adequate strength		N/A
	Covers reliably secured		N/A
	Portable plug connected luminaire with capacitor		N/A

<b>8.</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH AFTER HUMIDITY TREATMENT</b>		P
8.1	Insulation resistance and electric strength shall be adequate between live parts of the lamp and accessible parts of the lamp.		P
8.2	After storage 48 h at 91- 95% relative humidity and 20- 30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	≥ 4 MΩ for double or reinforced insulation :	100 MΩ.	P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
8.3	Immediately after clause 8.2 electric strength test for 1 min		N/A
	Double or reinforced insulation, 4U + 2000 V		N/A
	No flashover or breakdown		N/A

9.	<b>MECHANICAL STRENGTH</b>		P
	Torsion resistance of unused lamps		
9.1	Torque test		P
	B 15 d Cap.....1,15Nm		N/A
	B 22 d Cap.....3,0 Nm		N/A
	E 11 Cap.....0,8 Nm		N/A
	E 12 Cap.....0,8 Nm		N/A
	GU10 Cap.....1.15Nm		N/A
	E 14 Cap.....1,15 Nm		N/A
	E 27 Cap.....1,5 Nm	under consideration	P
	GX 53 Cap.....3,0 Nm		N/A
	GU13 Cap.....1.15 Nm		N/A
9.2	Torsion resistance of lamps after a defined time of usage		P
	Torsion resistance of used lamp		P
9.3	Repetition of clause 8		P
	Clause 8 shall comply after the mechanical strength test.		P
Addition:	Lampholders		P
	Mounting brackets for Edison screw or bayonet-capped lampholders are subjected to testing for 1min, to the following bending moments:		P
	Locked connections:		P
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:	3Nm	P
	- push-button switches; torque (Nm).....:		N/A
	No sharp point or edges		P
	Impact tests:		P
	- fragile parts; energy (Nm).....:	0.2Nm	P



EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	- other parts; energy (Nm).....:		N/A
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		N
	Straight test finger		N

<b>10</b>	<b>CAP TEMPERATURE RISE</b>		P
	The cap temperature rise $\Delta t_s$ of the lamp shall not exceed 120 K.		P
	- B22d..... 125K		N
	- B15d..... 120K		N
	- E27..... 120K	26.4K	N
	- E14..... 125K		N
	- GU10..... 100K		N
	- GU13..... 100K		P

<b>11</b>	<b>RESISTANCE TO HEAT</b>		N/A
	External parts of insulating material providing protection against electric shock, and parts of insulating material retaining live parts in position, ball pressure test:		N/A
	Part tested; temperature (°C); diameter of impression ( $\leq 2$ mm):		N/A
	Part tested; temperature (°C); diameter of impression ( $\leq 2$ mm):		N/A
	Part tested; temperature (°C); diameter of impression ( $\leq 2$ mm):		N/A

<b>12.</b>	<b>RESISTANCE TO FLAME AND IGNITION</b>		N/A
	Parts of insulating material retaining live parts in position and external parts of insulating material providing protection against electric shock, glow-wire test 650 °C		N/A
	- no flaming drops igniting tissue paper		N/A
	- flame extinguished within 30 s		N/A

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	Part tested; temperature (°C).....:		N/A
	No visible flame and no sustained glowing		N/A

<b>13</b>	<b>FAULT CONDITIONS</b>		N/A
13.2	Extreme electrical conditions (dimmable lamps)		N/A
	Lamp withstands overpower condition >15 min.		N/A
	Lamp fails safe after 15 min overpower condition		N/A
	Lamp with automatic protective device or power limiter, test performed 15 min. at limit.		N/A
13.3	Extreme electrical conditions (non-dimmable lamps)		N/A
	Tested according 13.2 (as far as possible)		N/A
13.4	Short-circuit across capacitors	(see appended table)	N/A
13.5	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table)	N/A
13.6	When operated under fault conditions the lamp		N/A
	- does not emit flames or molten material		N/A
	- does not produce flammable gases or smoke		N/A
	- live parts not accessible		N/A
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1.....		N/A

<b>14 (16)</b>	<b>CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	Creepage distances and clearances according to Table 3 and 4 of IEC 61347-1, as appropriate		P
	Printed boards see clause 14 of IEC 61347-1		P
	Insulating lining of metallic enclosures		N/A

<b>TABLE 错误! 未指定书签。 List of critical components and materials</b>				
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
LED PCB	Shikibo Electronics Co Ltd	E4	V-0, 130°C	Appliance of test and UL
Diffuser	Celanese International Corp	T140	Min.thickness 0.75mm, HWI 3, HAI 3, RTI 3, V-0, 130°C	Appliance of test and UL
Lamp base	Zhongshan guzhen China thousand lamp factory	E27	Medium (E26) base, made of aluminium alloy. Min.thickness 0.24mm.	Appliance of test
PCB of LED driver	Hunan Foundersoonest Electronic Technology Co., Ltd.	FZD02	Min.thickness 0.2mm, HWI 4, HAI 3, RTI 3V-0, 130°C	Appliance of test and UL
LED driver	V-TAC EXPORTS LIMITED	VT-20	220-240VAC, 50/60Hz, Max.8W	Appliance of test
Enclosure	Celanese International Corp	T140	Min.thickness 0.75mm, HWI 3, HAI 3, RTI 3, V-0, 130°C	Appliance of test and UL
Internal wire	Dongguan Wenchang Electronic Co., Ltd.	1007	VW-1, 300V, 105°C, 22AWG	Appliance of test and UL

### Test Data table

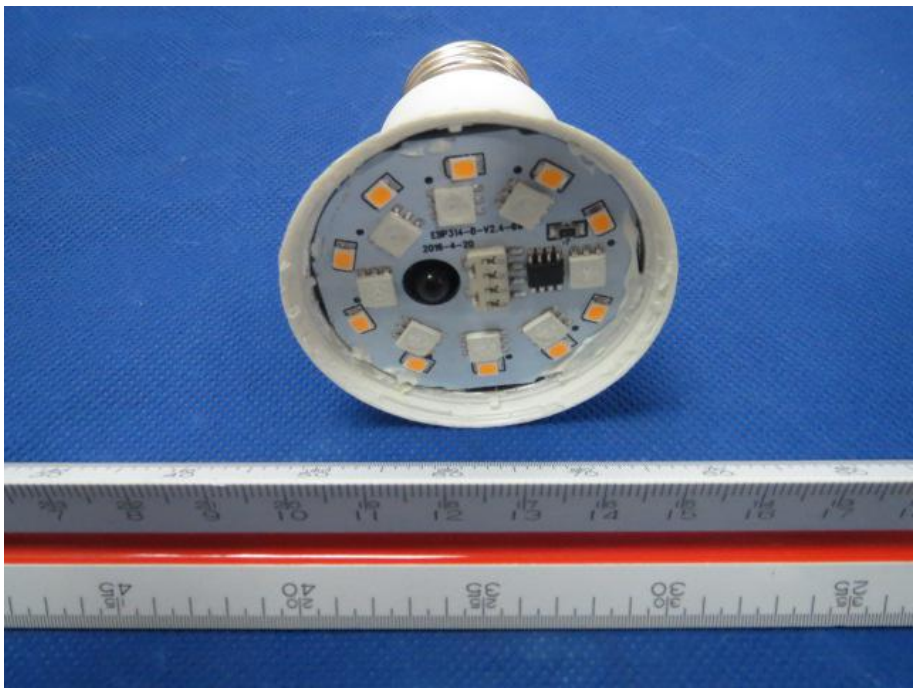
11		TABLE: ball pressure test of thermoplastics				N/A	
Part	Test temperature (°C)	Impression diameter (mm)		Required impression diameter (mm)			
PCB	125	0.79		≤2.0			
Diffuser	125	1.11		≤2.0			
13		TABLE: tests of fault conditions					
Part	Simulated fault		Result		Part		
C1	Short circuit		Fuse open		C1		
BD1	Short circuit		Fuse open		BD1		
Output + and _	Short circuit		Unit shut down, recoverable		Output + and _		
14(16)		TABLE: Clearance And Creep age Distance Measurements				P	
clearance cl and creep age distance decry at/of:	Up (V)	U rams. (V)	Required cl (mm)	cl (mm)	required decry (mm)	decry (mm)	
L and N on PCB	--	240	1.5	2.61	2.5	2.61	
Different polarity of fuse	--	240	1.5	3.32	2.5	3.32	
Live parts of driver PCB and accessible part	--	240	3.0	6.0	5.0	6.0	
Primary circuit and secondary circuit of LED driver PCB	--	240	3.0	6.4	5.0	6.4	
Primary winding of transformer and secondary circuit of LED driver	--	240	3.0	6.4	5.0	6.4	
Supplementary information:							
Temperature measurements,					P		

Type reference..... :	VT-1885			—		
Lamp used.....:	LED			—		
Ballast used.....:	—			—		
Mounting position of luminaire..... :	As in normal use			—		
Supply wattage (W)..... :	6.14W			—		
Supply current (A)..... :	0.022A			—		
Table: measured temperatures corrected for Ta = 25°C:				P		
- abnormal operating mode..... :	—			—		
- test 1: rated voltage.....:	—			—		
- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1.06×240V			—		
- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:	—			—		
- test 4: 1,1 times rated voltage or 1,05 times rated wattage..... :	—			—		
temperature (错误!未找到引用源。C) of part	clause 12.4 - normal				clause 12.5 - abnormal	
	test 1	test 2	test 3	limits	test 4	limit
E 27 lamp base	—	51.4	—	Ref	—	—
Diffuser	—	42.1	—	110	—	—
LED	—	65.3	—	Ref.	—	—
LED PCB	—	45.7	—	130	—	—
Internal wire	—	32.1	—	105	—	—
PCB of LED driver	—	45.8	—	130	—	—
C1	—	33.9	—	105	—	—
Winding of T1	—	74.1	—	110	—	—
Ambient	—	25	—	—	—	—
<b>Supplementary information:</b>						

Attachment –A

Photo Documentation

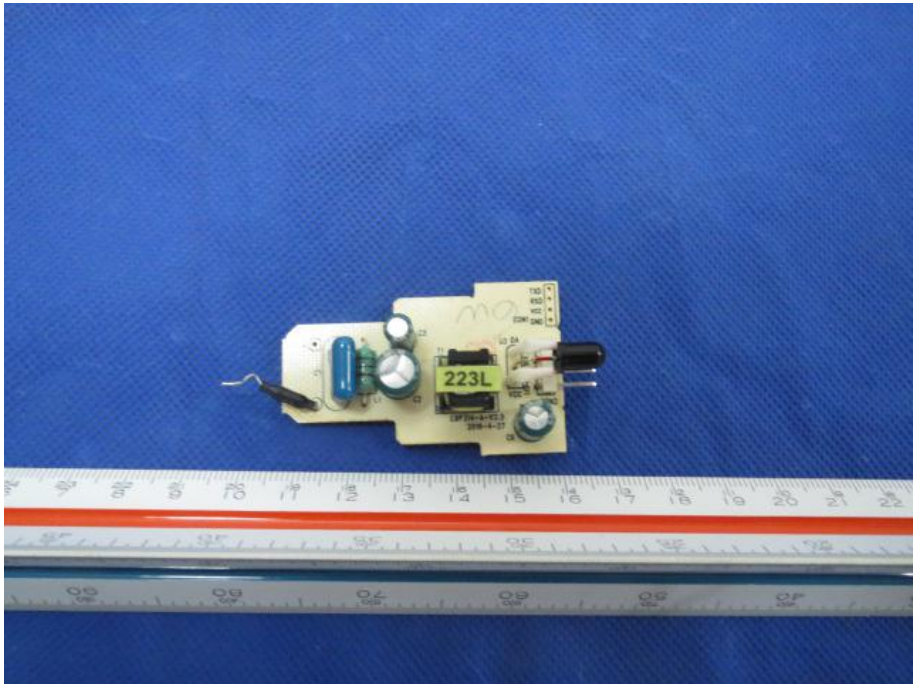
<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 2</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 3</p>	
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<p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 4</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 5</p> <p>View:</p>	
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Report Reference No.: J02.06.0184S

<ul style="list-style-type: none"><li><input type="checkbox"/> Front</li><li><input type="checkbox"/> Rear</li><li><input type="checkbox"/> Right side</li><li><input type="checkbox"/> Left side</li><li><input type="checkbox"/> Top</li><li><input type="checkbox"/> Bottom</li><li><input checked="" type="checkbox"/> Internal</li></ul>	
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