Test Report

Client Name	:	**Shenzhen Intellirocks Tech. Co., Ltd.**
Address	:	**No. 2901-2904, 3002, Block C, Section 1, Chuangzhi Yuncheng Building, Liuxian Avenue,Xili Community, Xili Street, Nanshan**
Product Name	:	**Govee Smart LED Bulb**
Date	:	**Oct. 29, 2022**

Shenzhen Anbotek Compliance Laboratory Limited

TEST REPORT
IEC 62560
Self-Ballasted LED-Lamp
for general lighting services by voltage > 50V Safety specifications

Report	
Report reference No.	18220WC20217604S
Compiled by	Otto Guo
Approved by	Jeff Zhu
Date of issue	Oct.29, 2022
Contents	15 pages report
Testing laboratory	
Name	Shenzhen Anbotek Compliance Laboratory Limited
Address	1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102
Testing location	Same as above
Applicant	
Name	Shenzhen Intellirocks Tech. Co., Ltd.
Address	No. 2901-2904, 3002, Block C, Section 1, Chuangzhi Yuncheng Building, Liuxian Avenue,Xili Community, Xili Street, Nanshan District, Shenzhen
Manufacturer	
Name	Shenzhen Intellirocks Tech. Co., Ltd.
Address	No. 2901-2904, 3002, Block C, Section 1, Chuangzhi Yuncheng Building, Liuxian Avenue,Xili Community, Xili Street, Nanshan District, Shenzhen
Test specification	
Standard	EN 62560:2012 + A1:2015 + A11:2019
Test procedure	N.A.
Non-standard test method	N.A.
Test item Description	
Product name	Govee Smart LED Bulb
Trademark	Govee
Model and/or type reference	H6009
Rating(s)	230VAC, 50/60HZ, 0.14A

Summary of testing:

Tests performed (name of test and test clause): this report includes following parts: -EN 62560:2012+A1:2015+A11:2019 The submitted samples were LED-light-source technology, they were found to comply with the requirement of EN 62493:2015 without test. The submitted samples were found to comply with the above specification. All models have the similar mechanical and electrical construction, main differences among them are size, wattage. Unless otherwise specified, models H6009 were selected as representative models to perform all tests.	**Testing location:** **Shenzhen Anbotek Compliance Laboratory Limited** 1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China. 518102

Copy of marking plate:

Govee Smart LED Bulb
model：H6009
Rating: 230VAC, 50/60HZ, 0.14A

Shenzhen Intellirocks Tech. Co., Ltd.
No. 2901-2904, 3002, Block C, Section 1, Chuangzhi Yuncheng Building, Liuxian Avenue,Xili Community, Xili Street, Nanshan District, Shenzhen

Test item particulars	Infrared lamp
Classification of installation and use	self-ballasted LED-lamp
Supply Connection	Lamp cap
- test case does not apply to the test object	N (N.A.)
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	Sept. 13, 2022
Date(s) of performance of tests	Sept. 13, 2022 to Sept. 29, 2022

General remarks

This test report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

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Clause	Requirement + Test	Result - Remark	Verdict

4	**GENERAL REQUIREMENTS**		**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

5	**MARKING**		**P**
5.1	Mandatory marking		P
	- mark of origin		P
	- rated supply voltage (V).....:	230VAC	P
	- rated wattage (W) .....:		P
	- rated frequency (Hz).....:	50/60Hz	P
5.2	Addition marking		P
	- rated current (A) .....:		P
	- weight significantly higher		N
	- special conditions or restrictions		N
	Not suitable for dimming; symbol  used		N
	- not suitable for water contact		P
	Delete from Clause 5.2 the item a)		N/A
	Delete from the contents page the line on Annex B.		N/A
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible		P

6	**INTERCHANGEABILITY**		**P**
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		P
	Lamps caps E11, E12, E17, E26, E26d and E39 are excluded from EN 62560:2012 + A1:2015 as they do not comply with European safety requirements		N/A
6.2	Bending moment and mass imparted by the lamp at the lampholder		P
	Bending moment imparted by the lamp at the lampholder (Nm) .....:	2 Nm for E27 cap	P
	Mass not exceeding value table 2 or as specified in IEC 60061-1 (kg) .....:		P

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Clause	Requirement + Test	Result - Remark	Verdict

7	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		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		P
7.Z1	General		
	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		P
7.Z2	**Fixing of conductors**		P
7.Z2.1	**Requirements**		P
	The fixing of the conductors inside the lamp		N/A
	-two independent fixings will not become loose or detached at the same time; and		N/A
	-parts fixed by means of screws or nuts provided with self-locking washers or other means of locking are not liable to become loose or detached.		N/A
7.Z2.2	**Compliance criteria**		P
	Compliance is checked by inspection, by measurement or by applying a force of 10 N in the most unfavourable direction		N/A
	- close-fitting tubing (for example, a heat shrink or rubber sleeve), applied over the wire and its termination		N/A
	-conductors connected by soldering and held in place near to the termination, independently of the soldered connection		P
	-conductors connected by soldering and securely hooked in before soldering, provided that the hole through which the conductor is passed is not unduly large;		P
	-conductors connected to screw terminals, with an additional fixing near to the terminal that clamps, in the case of stranded conductors, the insulation and not only the conductors		N/A

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	-conductors connected to screw terminals and provided with terminators that are unlikely to become free (for example, ring lugs crimped onto the conductors), however, the pivoting of such terminators is considered;		N/A
	-short rigid conductors that remain in position when the terminal screw is loosened		N/A
8	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		
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 ..... :		P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P
	Double or reinforced insulation, 4U + 2000 V		P
	No flashover or breakdown		P
9	**MECHANICAL STRENGTH**		
	Torsion resistance of unused lamps		P
9.2.1	Torque test		P
	B15d or E14 Cap.....1,15 Nm		N
	B22d, E26, E26d or E27 Cap.....3,0 Nm	E27 for model H6009	P
	E11 or E12 Cap.....0,8 Nm		N
	E17 Cap .....1,5 Nm		N
	E39 or E40 Cap.....5,0 Nm		N
	GX53 Cap .....3,0 Nm		N
9.3	Compliance criteria		N
	Clause 8 shall comply after the mechanical strength test.		P
9.4	Axial strength of Edison caps		P
	After full insertion into the gauge an axial force of Table 4 is applied to the central contact (N) ..... :		P
	The insulation around the central contact shall remain intact		P

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10	**CAP TEMPERATURE RISE**		
	The cap temperature rise Δt_s of the lamp shall not exceed 120 K.		P

11	**RESISTANCE TO HEAT**		**N**
	Parts of insulating material providing protection against electric shock, retaining live parts in position, ball-pressure test:	(see appended table)	N

12	**RESISTANCE TO FLAME AND IGNITION**		**N**
	External parts of insulating material preventing electric shock glow-wire test 650 °C	(see appended table)	N

13	**FAULT CONDITIONS**		**P**
13.2	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table)	P
13.3	When operated under fault conditions the lamp		P
	- does not emit flames or molten material		P
	- does not produce flammable gases or smoke		P
	- live parts not accessible		N
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1 ..... :	>100 MΩ for model H6009	P

14 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Creepage distances and clearances according to IEC 61347-1	(see appended table)	P
	Conductive accessible parts according to IEC 60598-1	(see appended table)	P

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15	**ABNORMAL OPERATION**		**N**
	Non-dimmable self-ballasted lamps are tested on a dimmer or an electronic switch according the test circuit shown in Figure 8		N
	Operate the lamp for 8 h at most onerous dimming level		N
	When operated under abnormal operation the lamp		N
	- does not catch fire		N
	- does not produce flammable gases		N
	- live parts not accessible		N

16	**TEST CONDITIONS FOR DIMMABLE LAMPS**		**P**
	Test are carried out at maximum power setting for Clause 10 and Clause 17		P

17*	**PHOTOBIOLOGICAL SAFETY**		**N**
17.1	**UV radiation**		**N**
	The High Brightness LED Lamp doesn't exceed 2mW/klm		N
17.2	**Blue light hazard**		N
	Assessed according to IEC TR 62778		N
	High Brightness LED Lamps shall be RG0 or RG1		N

18*	**INGRESS PROTECTION**		**N**
18.1	Lamps shall be suitable for water contact unless marked with Figure 6		N
18.2	The lamp is subjected to an IPX4 test according to IEC 60598-1		N
	The lamp complies with the compliance provisions of 9.2 of IEC 60598-1		N
	Lamps constructed so that it is sealed to exclude water need not to be tested		N

IEC 62560			
Clause	Requirement + Test	Result - Remark	Verdict

11	TABLE: Ball Pressure Test of Thermoplastics			N
Allowed impression diameter (mm) .....:		2.0mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Supplementary information:-N.A				

12	TABLE: Resistance to heat and fire – Glow wire tests			N
Object/ Part No./ Material	Manufacturer/ trademark	Glow wire test (GWT); (°C)	Verdict	
		650		
		te	ti	
Supplementary information:--				

13	TABLE: tests of fault conditions for mode H6009		P
Part	Simulated fault	Result	Hazard
Output	S/C	Input: 0V, 0A Output: 0V, 0A; protected recoverable	NO
Capacitance	S/C	Input: 0V, 0A Output: 0V, 0A; Fuse open	NO

14	TABLE: Clearance And Creepage Distance Measurements						P
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)	
LED+ to LED-	—	230V	>1.5	1.5	>2.5	2.5	
Supplementary information:--							

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Clause	Requirement + Test	Result - Remark	Verdict

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1]
Plastic Enclosure	FUJIAN HUASU INNOVATIVE PLASTICS MATERIAL CO LTD	HS10(aa)F (f1)	PC, V-0, 125ºC, Min thickness 0.9mm	UL94	UL E477366
PCB	Interchangeable	Interchangeable	V-0 130°C	UL 796	UL E252481
Ripple Capacitor (C1,C2)	Interchangeable	Interchangeable	MAX.15uF, min. 400V, 105°C	--	--
Transformer (T1)	SHENZHEN FUERSHENG ELECTRONIC TECHNOLOGY CO LTD	EE1608-0511	CLASS B	IEC/EN62368	Test with appliance
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375HF	V-0, 150°C	UL 94	UL E59481
-Tape	Various	Various	130°C	UL510	UL
-Tube	Various	Various	300V 200°C, VW-1	UL224	UL
-Magnet Wire	HUIZHOU CITY DENGGAODA ELECTROTECH CO LTD	X UEW	130°C	UL1446	E253843
(Alternative)	Interchangeable	Interchangeable	Min.130°C	UL1446	UL
-Triple insulation wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C	UL1446	UL E206440
Varnish	ELANTAS ELECTRICAL INSULATION ELANTAS PDG INC	V1630FS	155°C	UL1446	UL E75225
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 62560			
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	Type reference ..... :	H6009	—
	1,06 times rated voltage or 1,05 times rated wattage ..... :	1.06×230V=243.8V	—
	Frequency	50Hz	—
	Current	0.068	—
	Power	10.79W	—
	Factor	0.547	

temperature (°C) of part	normal				abnormal	
	test 1	254V	test 3	limit	test 4	limit
screw terminal	--	47.1	--	Ref.	--	--
T1 winding		76.3		110		
T1 core		71.7		110		
LED cover	--	52.5	--	Ref.	--	--
Enclosure	--	49.7	--	125	--	--
Note:						

PHOTO:

Photo 1

For model H6009

Photo 2

For model H6009

Photo 3

For model H6009

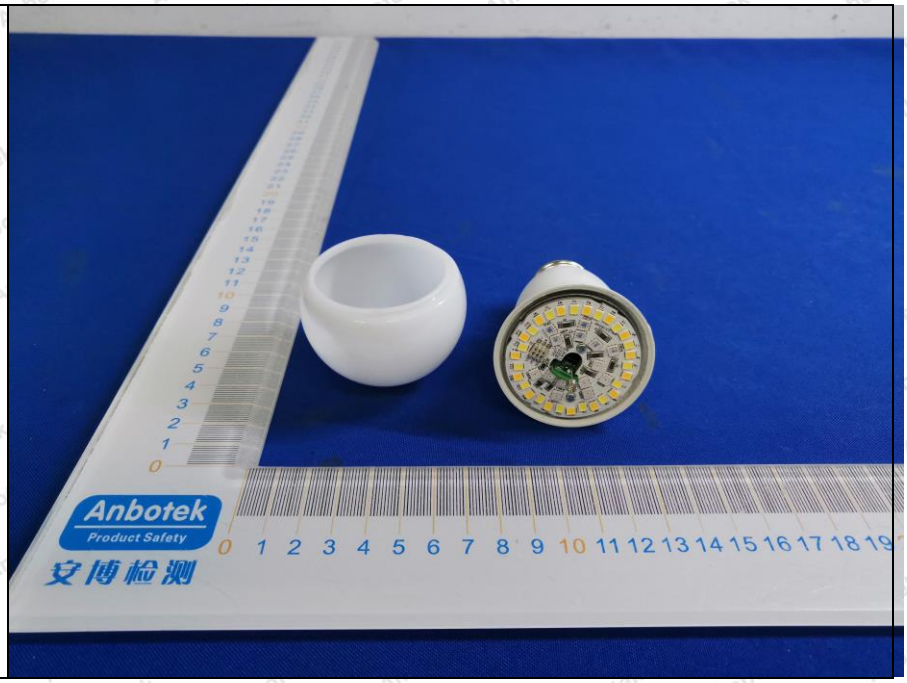


Photo 4

For model H6009

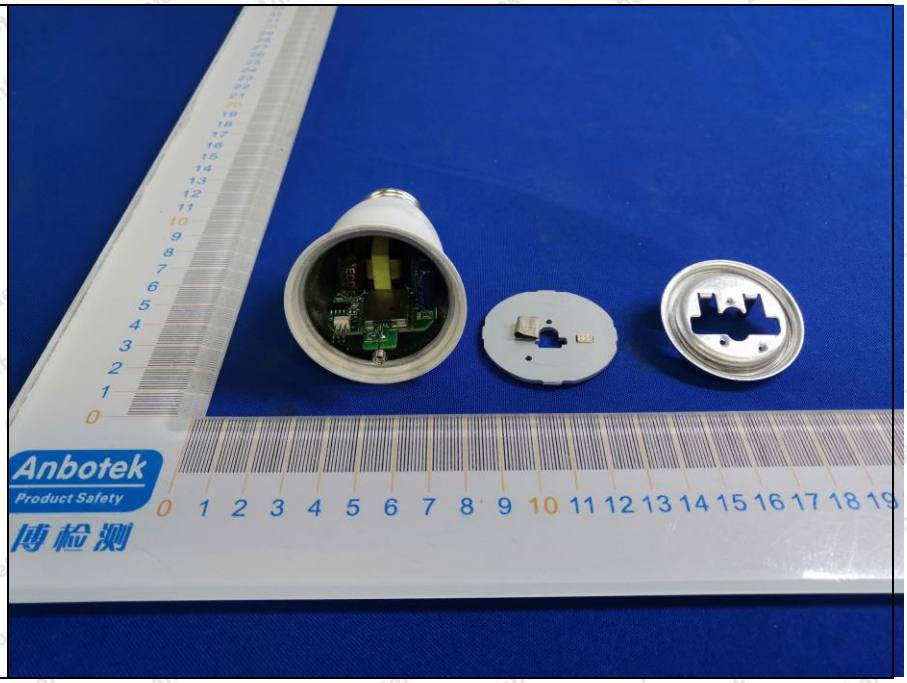


Photo 5

For model H6009

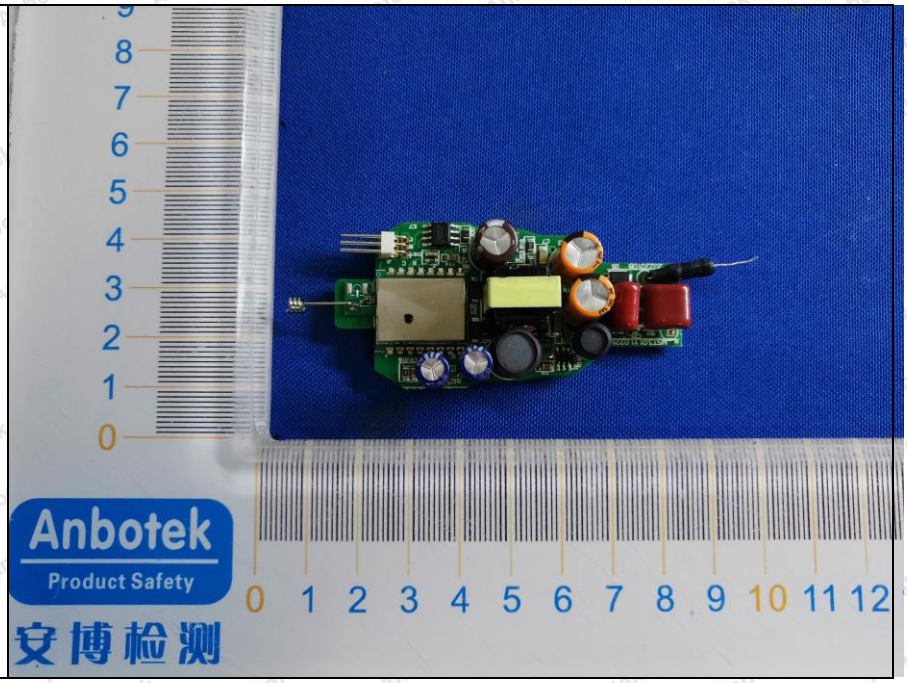
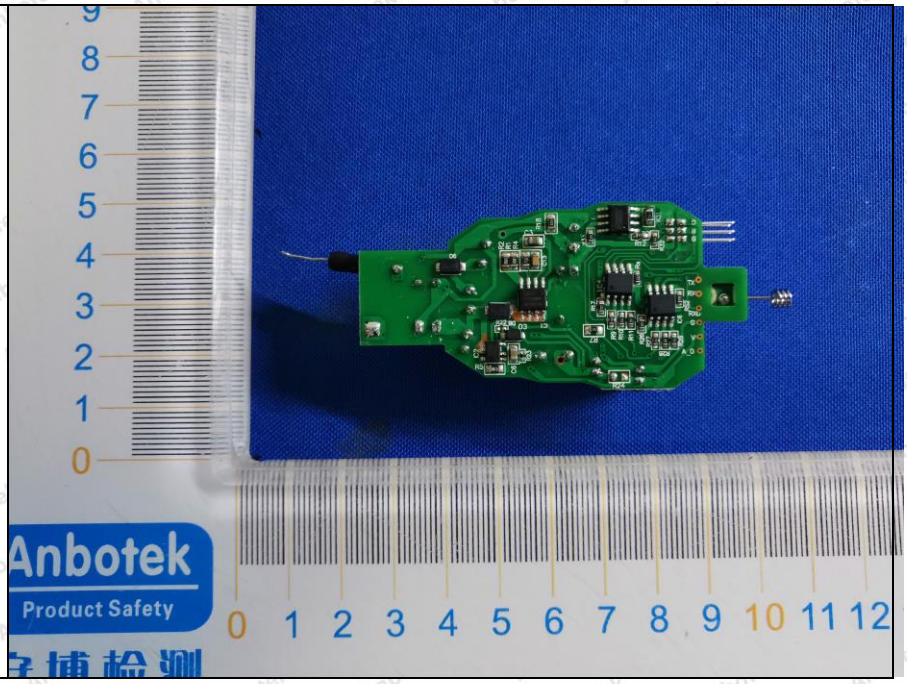


Photo 6

For model H6009



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