



Report No.: CTB150520003C

Date: May 27, 2015

Page: 1 of 9

**Customer:** GuangZhou Topsun Lighting Science and Technology Co., Ltd**Address:** 3th Floor, No.10 Taipingli South Street, Jiaoxin, Shijing Town,  
Baiyun District, Guangzhou, China**Report Number:** CTB150520003C**Total Page:** 9 Pages**Report on the submitted sample said to be:****Sample name:** led par light**Model:** LP-54A, LP-36A, LP-36B, LP-18A, LP-18B, LP-108A, LP-108G, LP-72A,  
LP-72B, LP-38K, LP-38H, LP-39H, LP-39K, LP-90A, LP-90B, LP-8A, LP-8B**Manufacture:** GuangZhou Topsun Lighting Science and Technology Co., Ltd**Address:** 3th Floor, No.10 Taipingli South Street, Jiaoxin, Shijing Town,  
Baiyun District, Guangzhou, China**Sample received date:** May 23, 2015**Testing period:** May 24, 2015–May 27, 2015**Test (Issue) laboratory:** Shenzhen CTB Testing Technology Co., Ltd.**Test location:** First floor, E building, Huayang Technology Industry Park, Gushu  
Village, Bao'an District, Shenzhen City, P.R.C**Basis council directive:** EU RoHS Directive 2011/65/EU**Test Conclusion:**

Test Requested	Conclusion
EU RoHS Directive 2011/65/EU and its amendment directives	PASS

\*\*\*\*\* FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) \*\*\*\*\*

Signed for and on behalf of CTB

Tested by: Mason LaiApproved by: 

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Date: May 27, 2015

Page: 2 of 9

Test item:

- (1) Cd, Pb, Hg
- (2) Cr(VI)
- (3) PBBs, PBDEs

Test standard:

- (1) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3050B:1996,EPA3052:1996 Analysis was performed by ICP
- (2) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3060A:1996, EPA 7196A:1992, ISO3613:2000(E), Analysis was performed by UV
- (3) With reference to IEC 62321, Ed.1 111/95/CDV, EPA3540C:1996, Analysis was performed by GC-MS

Conclusion: The delivery sample complied with ROHS directive

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SAMP LE NO.	COMPONEN TS	Item	Results of EDXRF (P/F/D)	Results of testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
1	The shell	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	/	/	< 1000	P
		PBDEs	/	/	< 1000	P
2	transformer	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	D	/	< 1000	P
		PBDEs	D	/	< 1000	P
3	PCB board	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P
4	Coating	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P
5	Screw	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	D	/	< 1000	P
		PBDEs	D	/	< 1000	P

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SAMPL E NO.	COMPON ENTS	Item	Results of EDXRF (P/F/D)	Results of testing (mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
6	Red cable	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P
7	Black cable	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P
8	Led	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	D	/	< 1000	P
		PBDEs	D	/	< 1000	P
9	IC	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P
10	Y capacitor	Cd	P	N.D.	< 100	P
		Cr	P	N.D.	< 1000	P
		Hg	P	N.D.	< 1000	P
		Pb	P	N.D.	< 1000	P
		PBBs	P	N.D.	< 1000	P
		PBDEs	P	N.D.	< 1000	P

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**Remark:**

(1) It is the result on total Br while test PBBs and PBDEs by EDXRF. It is the result on total Cr while test Hexavalent Chromium by EDXRF.

(2) Results are obtained by EDXRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (Cr(VI)) and GCMS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321:2008 (unit:mg/kg)

Element	Polymer	Metal	Composite material
Cd	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 50 - 3\sigma < D < 150 + 3\sigma \leq F$
Pb	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Hg	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Br	$P \leq 300 - 3\sigma < D$	-----	$P \leq 250 - 3\sigma < D$
Cr	$P \leq 700 - 3\sigma < D$	$P \leq 700 - 3\sigma < D$	$P \leq 500 - 3\sigma < D$

P = PASS; F = FAIL; D = DETECTED;

(3) mg/kg = ppm; N.D. = NOT DETECTED (<MDL) Pb, Cd, Hg: 10 mg/kg; Cr(VI): 2mg/kg; PBBs, PBDEs: 5mg/kg

(4) According to IEC 62321:2008, result on Cr(VI) for metal sample is shown as Positive/Negative. Positive = Presence of Cr(VI) coating, Negative = Absence of Cr(VI) coating

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Report No.: CTB150520003C

Date: May 27, 2015

Page: 6 of 9

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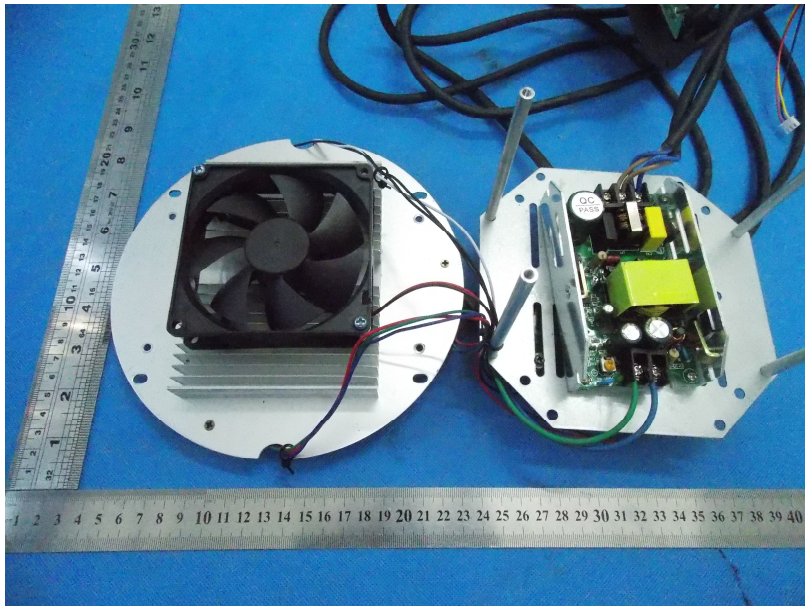
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Report No.: CTB150520003C

Date: May 27, 2015

Page: 7 of 9

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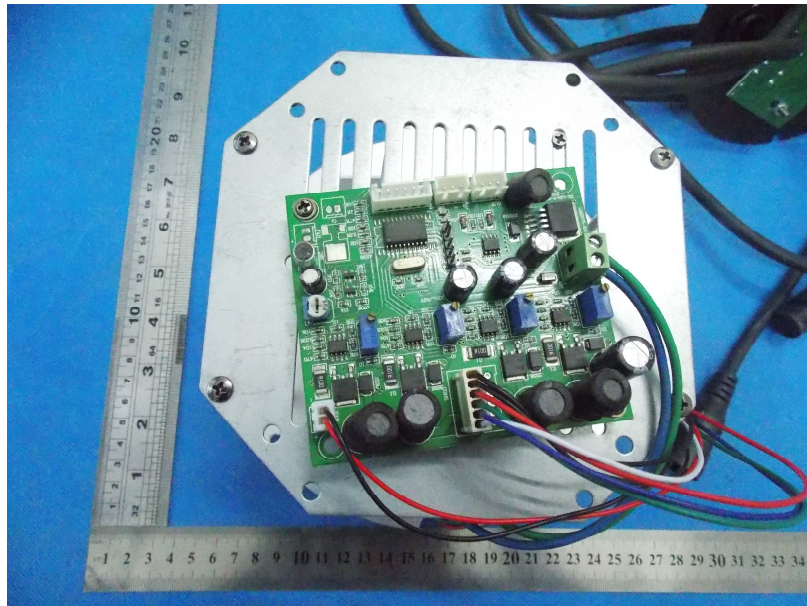
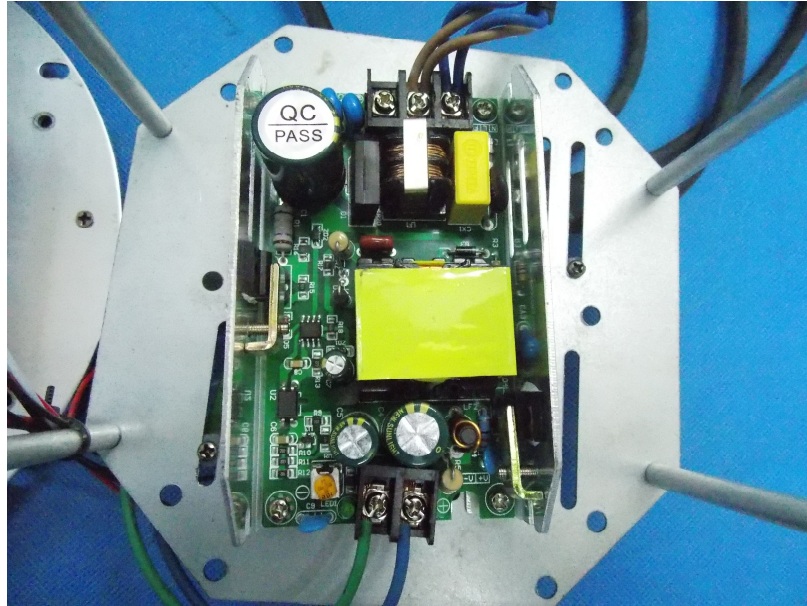


Report No.: CTB150520003C

Date: May 27, 2015

Page: 8 of 9

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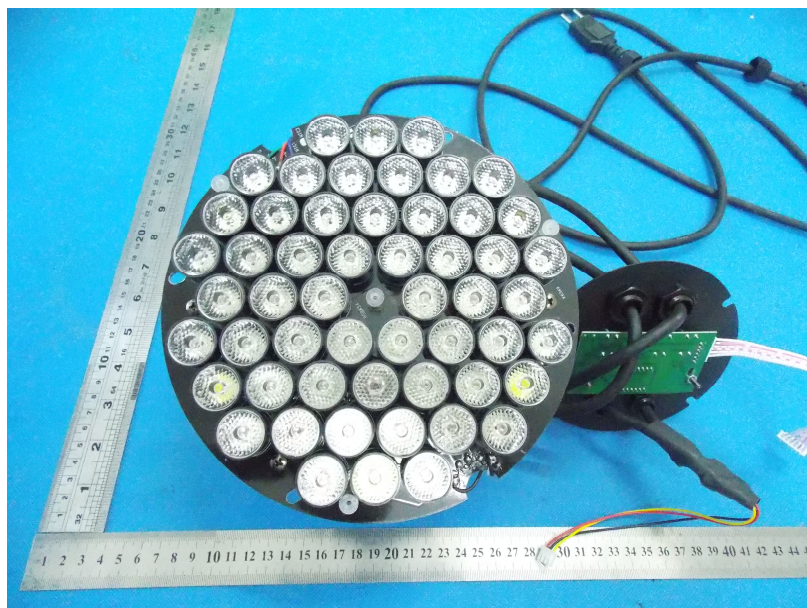
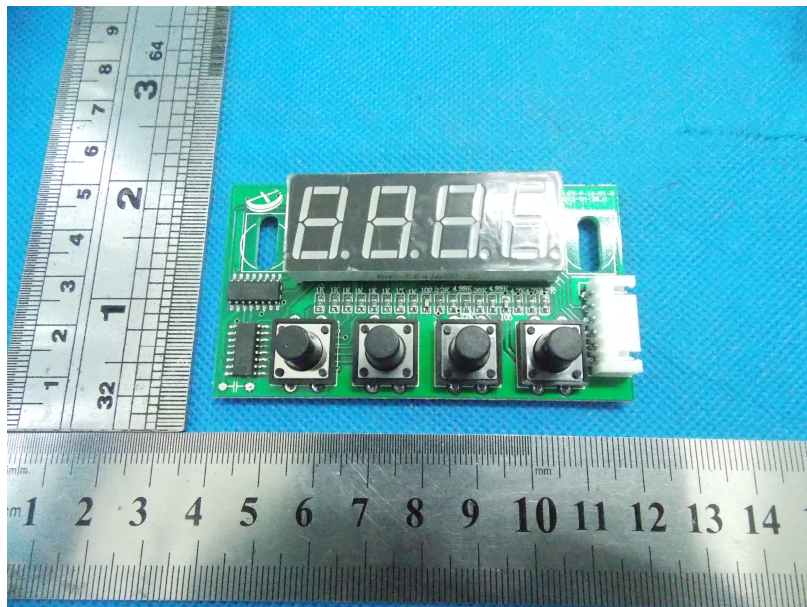


Report No.: CTB150520003C

Date: May 27, 2015

Page: 9 of 9

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\*\*\*\*\*End of Report\*\*\*\*\*

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