



ROHS TEST REPORT

For

Shenzhen Rose Lighting Technology Co., Ltd.

Product Name:	LED decorative Lighting
Brand Name:	Rose Lighting
Model Number:	RL-STR--ws2811-5050RGB-XXX(X may be number from 0 to 9 or letters from A to Z or blank) Please refer to the next page for additional models
Prepared For:	Shenzhen Rose Lighting Technology Co., Ltd.
Address:	No.53 Yuexing Rd, Guanlan Street, Longhua District, Shenzhen, China
Prepared By:	Shenzhen Yacetong Testing Technology Services Co., Ltd.
Address:	Room 5009 Baode Industry Center, Baode Industry Center, Lixin South Road, Huaide Community, Fuyong, Baoan District, Shenzhen, China
Report No.:	ATT2020SZ0520171R



Additional Model		
1	RL-STR--5050-XXX	RL-STR-sk6812-5050RGB-XXX
2	RL-STR--2835-XXX	RL-STR-sk6812-5050RGBW-XXX
3	RL-STR--3528-XXX	RL-STR-sk6812-3535RGBW-XXX
4	RL-STR--2216-XXX	RL-STR- sk6812-5050-W-XXX
5	RL-STR--020-XXX	RL-STR- ws2811-5050RGB-XXX
6	RL-STR--4040-XXX	RL-STR-UCS1903-5050RGB-XXX
7	RL-STR--3535-XXX	RL-STR- RT1809 -5050RGB-XXX
8	RL-STR--COB-XXX	RL-STR- ws2815-5050RGB-XXX
9	RL-STR--4020-XXX	RL-STR- ws2813-5050RGB-XXX
10	RL-STR--5050-5050RGB-XXX	RL-STR- GS8208-5050RGB-XXX
11	RL-STR--5050-5050RGBW-XXX	RL-STR-TM1814-5050-RGBW-XXX
12	RL-STR-sk9822A-5050RGB-XXX	RL-STR- ws2801-5050RGB-XXX
13	RL-STR- sk9822-5050RGB-XXX	RL-STR- DMX512-5050RGB-XXX
14	RL-STR- apa102C-5050RGB-XXX	RL-STR-DMX512-5050RGBW-XXX
15	RL-STR- HD107s-5050RGB-XXX	RL-STR--5630-XXX
16	RL-STR- HD108-5050RGB-XXX	RL-Bar- DMX512-5050RGB-XXX
17	RL-Bar- ws2811-5050RGB-XXX	RL-Bar-DMX512-5050RGBW-XXX
18	RL-Bar- sk6812-5050RGB-XXX	RL-Bar- ws2815-5050RGB-XXX
19	RL-Bar- GS8208-5050RGB-XXX	RL-Bar- DMX512-3535RGB-XXX
20	RL-Bar- DMX512-3535-white-XXX	RL-Bar- UCS2904-5050RGBW-XXX
21	RL-R-sk6812-XXXX	RL-P-sk6812-XXXX
22	RL-neon-1023	RL-neon-1020
23	RL-neon-1616	RL-neon-1225
24	RL-neon-3020	RL-neon-0612

Note: X may be number from 0 to 9 or letters from A to Z or blank



TEST RESULT CERTIFICATION

Applicant : Shenzhen Rose Lighting Technology Co., Ltd.

Address : No.53 Yuexing Rd, Guanlan Street, Longhua District, Shenzhen, China

Manufacturer : Shenzhen Rose Lighting Technology Co., Ltd.

Address : No.53 Yuexing Rd, Guanlan Street, Longhua District, Shenzhen, China

EUT : LED decorative Lighting

Brand Name: : Rose Lighting

Model Number : RL-STR--WS2811-5050RGB-XXX
Please refer to the additional model on page 2

Date of Receipt: : May 19, 2020

Test Date : May 20-25, 2020

Date of Report : May 25, 2020

Test Standard : IEC 62321-5:2013, IEC 62321-4:2013+A1:2017,
IEC 62321-7-1:2015, IEC 62321-7-2:2017, IEC 62321-6:2015,
IEC 62321-8:2017

Comment : Based on the performed tests on submitted samples, the results of Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls (PBBs) and Polybrominated DiphenylEthers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP) comply with the limits as set by EU RoHS Directive 2011/65/EU and its amendments & Directive (EU) 2015/863.

Prepared by(Engineer):

Approved(Manager):





Test Report

1、Test Method:

Tested Item(s)	Test Method	Measured Equipment(s)	MDL Unit (mg/kg)
Lead(Pb)	IEC 62321-5:2013	ICP-OES	2
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES	2
Mercury(Hg)	IEC62321-4:2013+A1:2017	ICP-OES	2
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015 IEC 62321-7-2:2017	UV-Vis	2
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	5
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	5
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS	20

2、Test Sample Split

The sample is split according to IEC 62321-2:2013.

Material No.	Description
No.1	Lead wire
No.2	Copper foil
No.3	LED module
No.4	Resistance
No.5	Capacitor
No.6	Soldering

Note: 1. This table is used to identify each test part of the Sample. Different descriptions in the "Description" column are only used to distinguish each test part. "Material" column are only gives a simple Description of the material of each test part, which does not mean that this is the result of a material identification.

2. The sample test parts and / or material is specified by the customer.



3、Test Results:

3.1 XRF screening

The total amount of lead, cadmium, mercury, chromium and bromine was screened by X-ray fluorescence spectrometer (XRF).

XRF screening technical requirements: Lead, Mercury: Pass ≤ 700 mg/kg $-3\sigma < C < 1300$ mg/kg $+3\sigma \leq$ Fail ,

Cadmium :Pass ≤ 70 mg/kg $-3\sigma < C < 130$ mg/kg $+3\sigma \leq$ Fail , Chromium :Pass ≤ 700 mg/kg $-3\sigma < C$,

Bromine :Pass ≤ 250 mg/kg $-3\sigma < C$. “C” =Indicates that a chemical test is required. Chromium pass meets

Hexavalent Chromium standards compliant, Bromine pass means that PBBs and PBDEs are standards compliant.

DEHP、DBP、BBP、DIBP is used for GC-MS quantitative test. According to the requirements of the RoHS Directive,

The content of DEHP, DBP, BBP and DIBP $\leq 0.1\%$.

3.1.1 No.1

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass

3.1.1 No.2

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass

3.1.1 No.3

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass



Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass

3.1.1 No.4

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass

3.1.1 No.5

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass

3.1.1 No.6

Test item	CAS No.	Unit	MDL	limit	Result	Conclusion
Lead(Pb)	--	mg/kg	2	1000	ND	Pass
Cadmium(Cd)	--	mg/kg	2	100	ND	Pass
Mercury(Hg)	--	mg/kg	2	1000	ND	Pass
Hexavalent Chromium(Cr(VI))	--	mg/kg	2	1000	ND	Pass
Polybrominated Biphenyls (PBBs)	--	mg/kg	5	1000	ND	Pass
Polybrominated.Diphenyl Ethers (PBDEs)	--	mg/kg	5	1000	ND	Pass
Dibutyl phthalate (DBP)	84-74-2	mg/kg	20	1000	ND	Pass
Butyl benzyl phthalate (BBP)	85-68-7	mg/kg	20	1000	ND	Pass
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg	20	1000	ND	Pass
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg	20	1000	ND	Pass



Note:

1、1mg/kg = 0.0001%

2、ND= Not Detected(<MDL)

3、“--”=No Testing or blank or not applicable.

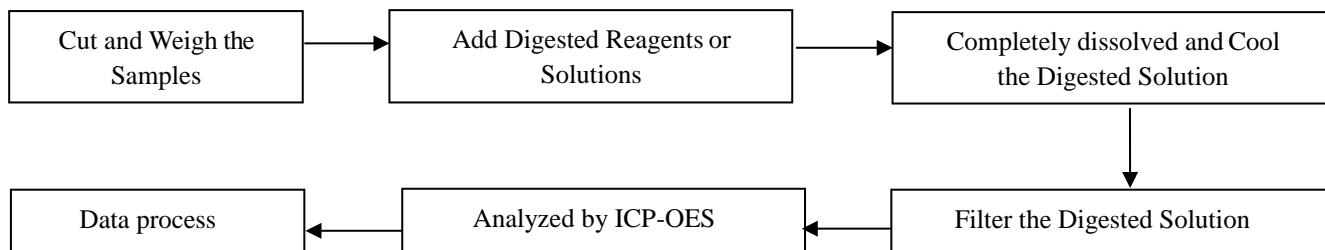
4、Polybrominated biphenyls (PBBs) include: Monobromobiphenyl, Dibromobiphenyl, Tribromobiphenyl, Tetrabromobiphenyl, Pentabromobiphenyl, Hexabromobiphenyl, Heptabromobiphenyl, Octabromobiphenyl, Nonabromobiphenyl, Decabromobiphenyl.

5、Polybrominated diphenyl ethers (PBDEs) Included: Monobromodiphenyl ether, Dibromodiphenyl ether, Tribromodiphenyl ether, Tetrabromodiphenyl ether, Pentabromodiphenyl ether, Hexabromodiphenyl ether, Heptabromodiphenyl ether, Octabromodiphenyl ether, Nonabromodiphenyl ether, Decabromodiphenyl ether.

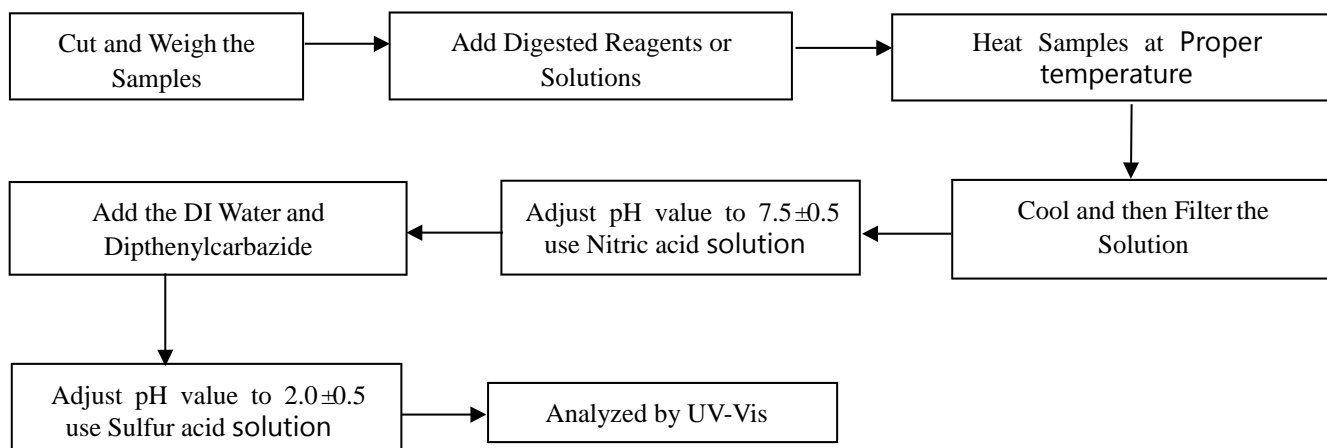


Test Process Flow

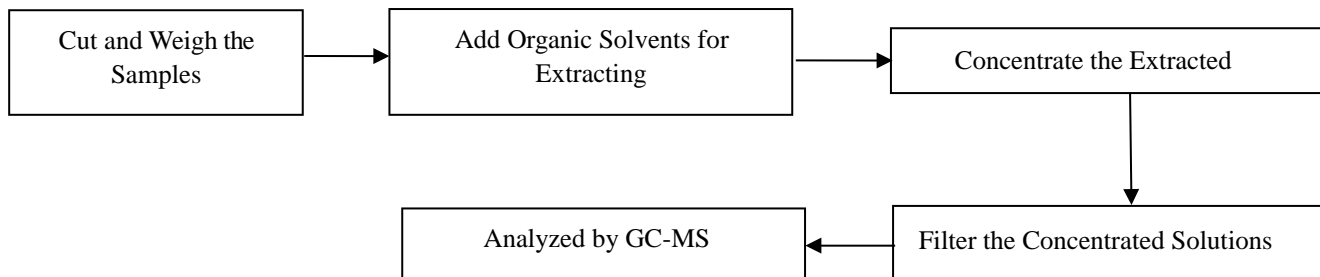
1. Lead, Cadmium, Mercury



2. Hexavalent Chromium (Non-metal)



3. PBBs & PBDEs, Phthalates





EUT PHOTOGRAPHS



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