TEST REPORT

REPORT No.: R2DG19122620414E Date: January 15, 2020

BAREBONES SYSTEMS, LLC.
1215 East Wilmington Avenue-Ste. 140 Salt Lake City, UT 84106

Report on the submitted samples said to be:

Sample Name	:	Edison String Light LIV-265,LIV-267,LIV-269
Country of Origin	:	China
Sample Receiving Date	:	December 26, 2019
Testing Period	:	From December 26, 2019 to January 15, 2020
Results	:	Please refer to next page(s).

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Summary of Test Results:

TEST REQUEST	CONCLUSION
A RoHS Directive 2011/65/EU and its amendment directives	
XRF screening test and Wet Chemical Testing (Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content)	**Pass**
Phthalates(DBP、BBP、DEHP、DIBP)content	**Pass**

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Signed for and on behalf of BACL

Checked by: _____ Approved by: _____

Farhan Yang Bensen Huang

TEST REPORT

Results:

A、RoHS Directive 2011/65/EU and its amendment directives

XRF screening test

Test method: With reference to IEC62321-3-1:2013 screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
1	Transparent plastic(lampshade,edison string light)	BL	BL	BL	BL	BL
2	Silvery metal(screw,edison string light)	BL	BL	BL	BL	---
3	Silvery metal with black coating(screw,edison string light)	BL	BL	BL	BL	---
4	White plastic(base, edison string light)	BL	BL	BL	BL	BL
5	Silvery metal with black coating(frame,edison string light)	BL	BL	BL	BL	---
6	Orange body(LED, PCB, edison string light)	BL	BL	BL	BL	BL
7	Grey body(resistor,PCB, edison string light)	BL	BL	BL	BL	BL
8*	Green PCB(PCB,edison string light)	BL	BL	BL	BL	IN
9	Silvery solder(PCB,edison string light)	BL	BL	BL	BL	---
10*	Black plastic with white printing(button,switch,edison string light)	BL	BL	BL	BL	IN
11*	Black plastic(base,switch,edison string light)	BL	BL	BL	BL	IN
12	Silvery metal(pin,switch,edison string light)	BL	BL	BL	BL	---
13	Silvery metal(spring,switch,edison string light)	BL	BL	BL	BL	---
14	Silvery metal(conductor,spring,switch,edison string light)	BL	BL	BL	BL	---
15	Silvery metal(plate,spring,switch,edison string light)	BL	BL	BL	BL	---
16*	Black plastic(shell,switch,edison string light)	BL	BL	BL	BL	IN
17	Grey body(resistor,PCB, switch,edison string light)	BL	BL	BL	BL	BL
18*	Green PCB(PCB,switch,edison string light)	BL	BL	BL	BL	IN
19	Silvery solder(PCB,switch,edison string light)	BL	BL	BL	BL	---
20	Black plastic(SR,switch,edison string light)	BL	BL	BL	BL	BL
21	Black soft plastic(heat shrink tubing,switch,edison string light)	BL	BL	BL	BL	BL
22	Silvery solder(connector,switch,edison string light)	BL	BL	BL	BL	---
23	Silvery metal(handle,edison string light)	BL	BL	BL	BL	---

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Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
24	Silvery metal(buckle,handle,edison string light)	BL	BL	BL	BL	---
25	Silvery metal with black coating(buckle,handle,edison string light)	BL	BL	BL	BL	---
26	Black plastic(shell, USB plug,power cable,edison string light)	BL	BL	BL	BL	BL
27	Silvery metal(shell, USB plug,power cable,edison string light)	BL	BL	BL	BL	---
28*	White plastic(pin holder, USB plug,power cable,edison string light)	BL	BL	BL	BL	IN
29	Golden metal(pin,USB plug,power cable,edison string light)	BL	BL	BL	BL	---
30	Silvery solder(pin,USB plug,power cable,edison string light)	BL	BL	BL	BL	---
31	Black plastic(shell, USB socket,power cable,edison string light)	BL	BL	BL	BL	BL
32	Silvery metal(shell, USB socket,power cable,edison string light)	BL	BL	BL	BL	---
33*	White plastic(pin holder, USB socket,power cable,edison string light)	BL	BL	BL	BL	IN
34	Golden metal(pin,USB socket,power cable,edison string light)	BL	BL	BL	BL	---
35	Translucent plastic(inner, USB socket,power cable,edison string light)	BL	BL	BL	BL	BL
36	Silvery solder(pin,USB socket,power cable,edison string light)	BL	BL	BL	BL	---
37	Black plastic(shell,deconcentrator,power cable,edison string light)	BL	BL	BL	BL	BL
38	Translucent plastic(inner, deconcentrator,power cable,edison string light)	BL	BL	BL	BL	BL
39*	Green PCB(PCB,deconcentrator,power cable,edison string light)	BL	BL	BL	BL	IN
40	Silvery solder(PCB,deconcentrator,power cable,edison string light)	BL	BL	BL	BL	---
41	Black soft plastic(cable jacket,power cable,edison string light)	BL	BL	BL	BL	BL
42	Black soft plastic(wire jacket,power cable,edison string light)	BL	BL	BL	BL	BL
43	Red soft plastic(wire jacket,power cable,edison string light)	BL	BL	BL	BL	BL
44	Coppery metal(wire,power cable,edison string light)	BL	BL	BL	BL	---
45*	Black plastic(SR,power cable,edison string light)	BL	BL	BL	BL	IN
46	Black plastic(spacer,SR,power cable,edison string light)	BL	BL	BL	BL	BL
47*	Black plastic(fixer,power cable,edison string light)	BL	BL	BL	BL	IN
48	Black plastic(cover,power cable,edison string light)	BL	BL	BL	BL	BL
49	Coppery metal(rivet,label,shell,edison string light)	BL	BL	BL	BL	---
50	Silvery metal with black coating(label,shell,edison string light)	BL	BL	BL	BL	---

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Seq. No.	Tested Part(s)	Results				
		Pb	Cd	Hg	Cr	Br
51	Coppery metal(lampshade,beacon copper)	BL	BL	BL	BL	---
52	Coppery metal with black coating(lampshade,edison string light)	BL	BL	BL	BL	---
53	Coppery metal with red coating(lampshade,beacon red)	BL	BL	BL	BL	---

- The test result of sample (46) is shown retest result, and the retest sample was provided by client on January 13, 2020.

Remark:
(1)

--- = Not Conducted

* = Results were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(Ⅵ)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013.

Element	Unit	Polymers	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ< X <130+3σ≤OL	BL≤70-3σ< X <130+3σ≤OL	LOD < X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤ OL	BL≤500-3σ< X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤OL	BL≤500-3σ< X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ< X	BL≤700-3σ< X	BL≤500-3σ< X
Br	mg/kg	BL≤300-3σ< X	---	BL≤250-3σ< X

BL = Below Limit
OL = Over Limit
IN = Inconclusive
LOD = Limit of Detection

(2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

(3) The maximum permissible limit is quoted from RoHS directive 2011/65/EU:

RoHS Restricted Substances	**Maximum Concentration Value (mg/kg) (by weight in homogenous materials)**
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(Ⅵ))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominate ddiphenylethers (PBDEs)	1000

(4) As requested by applicant, only components shown in this report were screened by XRF spectroscopy for 2011/65/EU and its amendment directives, other components were not screened included in this report.

(5) Photo appendix is included.

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

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Wet Chemical Testing：

Test method:

PBBs & PBDEs Content:
With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

1) The test results of PBBs & PBDEs

Item	Unit	MDL	Results					Limit
			8	10	11	16	18	
Polybrominated Biphenyls								
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers								
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	90	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	90	N.D.	1000
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**/**

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Item	Unit	MDL	Results					Limit
			28	33	39	45	47	
Polybrominated Biphenyls								
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers								
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	89	92	N.D.	178	95	
Total content	mg/kg	/	89	92	N.D.	178	95	1000
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**/**

Note:

- N.D. = Not Detected or less than MDL
- MDL = Method Detection Limit
- The results less than MDL are not taken into account while calculating the sum contents.
- mg/kg = ppm
- Photo is included.

Phthalates(DBP、BBP、DEHP、DIBP)content

Test method: With reference to IEC 62321-8:2017, by gas chromatographic-mass spectrometer (GC-MS)

Item	Unit	MDL	Results			Limit
			1+4	6+7+17	8	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			10+11+16	18+20+21	26+31+37	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			28+33+39	35+38	41+42+43	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

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Item	Unit	MDL	Results			Limit
			44+45	46	47+48	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

Note:

- The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- N.D. = Not Detected or less than MDL
- MDL = Method Detection Limit
- mg/kg = ppm
- The test result of sample (46) is shown retest result, and the retest sample was provided by client on January 13, 2020.
- "+"= Mixed, The admixture of specimen is tested as a whole(part) which according to the applicant's request, the result of report as average value because of the whole specimen is regarded as constituting from the homogeneous material. If the testing of specimen may have the obvious difference, and the result may exceed the number in this report. The applicant will undertake all differences and risk.
- Photo is included.

Photograph of Sample

BACL authenticate the photo on original report only

TEST REPORT

Directions:

1. This report cannot be reproduced except in full, without prior written approval of the Company.
2. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The information which provided by the applicant, such as sample description, sample name ,material component, style/item No. , P.O. No. , manufacture, age phase, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
6. The test samples were in good condition before testing.
7. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

*** End of Report ***