



**BUREAU
VERITAS**

TEST REPORT

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DATE : Oct 12, 2017
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The report is amendment of and supersedes the previous report (9317)256-0774 dated Oct 11, 2017

APPLICANT : **FLASHBAY ELECTRONICS**
BLDG B&C XI FENG CHENG IND ZONE, NO. 2 FUYUAN
ROAD HE PING, VILLAGE, FUYONG TOWN, SHENZHEN

CONTACT PERSON : LEVIN

DATE OF SUBMISSION : Sep 13, 2017

TEST PERIOD : Sep 29, 2017 to Oct 11, 2017

NO. OF WORKING DAYS : 5

SAMPLE DESCRIPTION : Power Bank

Color: /

Style no. / Model no.: Rex

P.O. No.: /

Country of Origin: /

Country of Destination: /

MANUFACTURER : /

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)	PASS	
Phthalates Test – Directive 2015/863/EU Amendment of European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) (Note: The amendment will be effective on 22 July 2019. For medical devices and control instruments, effective date will be 22 July 2021.)	PASS	

RW

**Bureau Veritas Consumer Products Services
(Guangzhou) Co., Ltd**
No. 183, Shinan Road, Meilin Plaza, Dongchong,
Nansha, Guangzhou, Guangdong Province, China
511453
Tel: (86) 20 2290 2088 Fax: (86) 20 3490 9303
Email: BVCPS_pyinfo@cn.bureauveritas.com
Website: cps.bureauveritas.com

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BUREAU VERITAS CONSUMER PRODUCTS SERVICES (GUANGZHOU) CO., LTD

NINA REN
SENIOR MANAGER



REMARK

If there are questions or concerns on this report, please contact the following persons:

- | | |
|---------------------|------------------------------------|
| a) GENERAL TEL: | (86)755 83437287 |
| FAX: | (86)755 83439100 |
| b) BUSINESS SZ TEL: | (86)755 21534695 |
| FAX: | (86)755 83439100 |
| BUSINESS GZ TEL: | (86) 20 87148525 |
| FAX: | (86) 20 87148528 |
| EMAIL: | eechemical.sc@cn.bureauveritas.com |
| WEBSITE | cps.bureauveritas.cn |

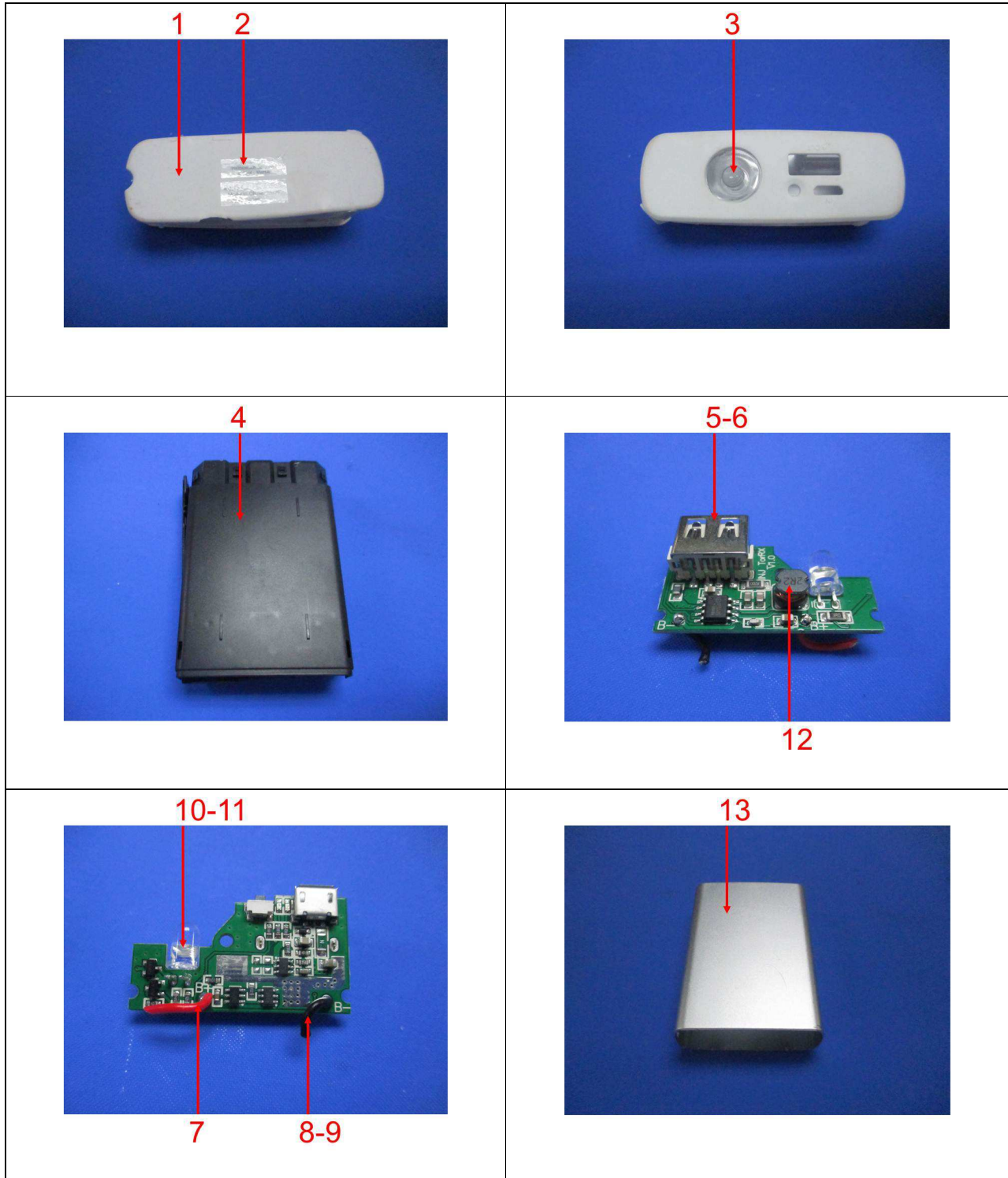


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Photo of the Submitted Sample



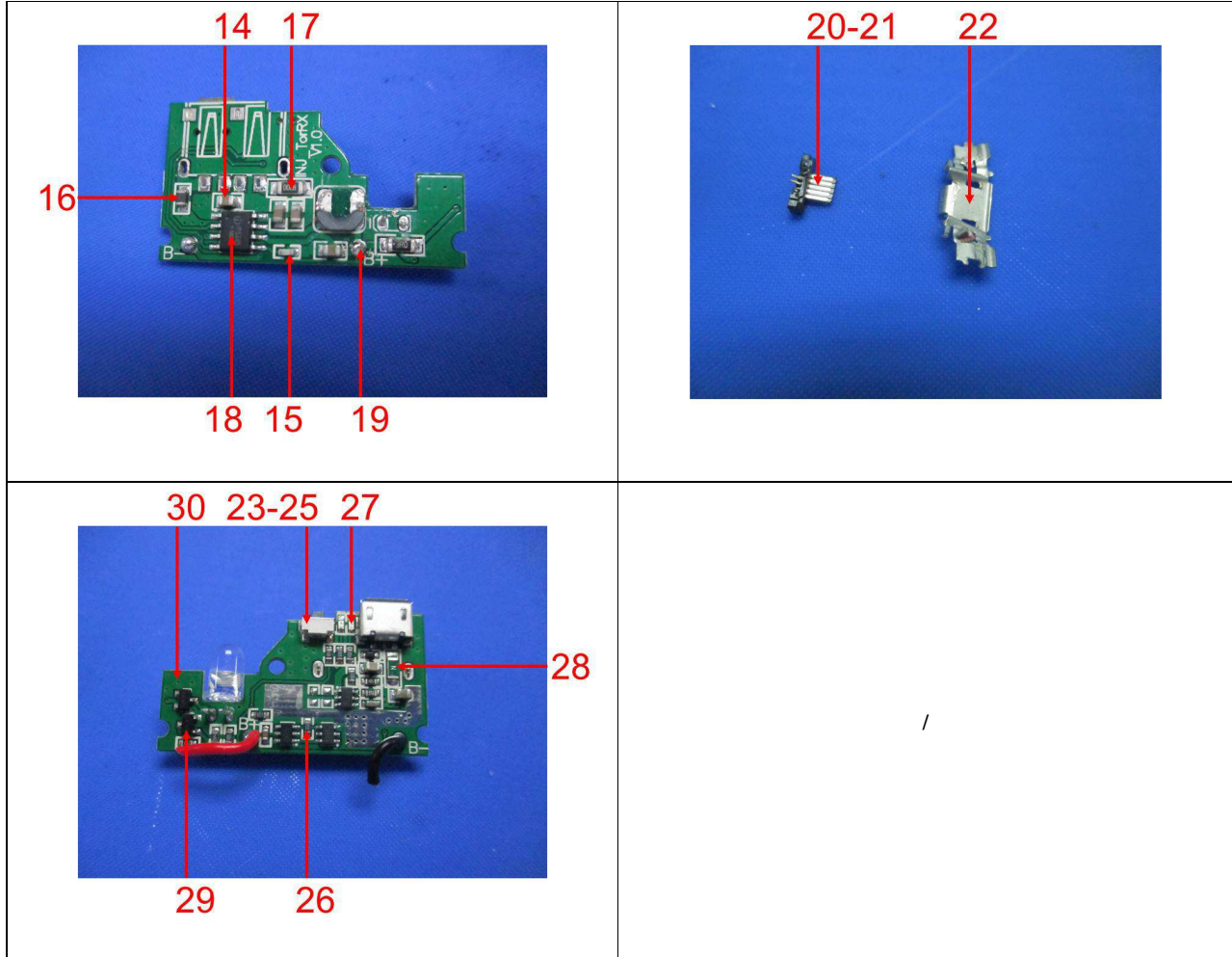
Photograph of test item(s)





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TEST RESULT

Compliance Test - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Method : See Appendix.

Test Item(s)	Item / Component Description(s) + Location(s)	Style(s)
1	White plastic (cover)	-
2	Grey printed transparent plastic with adhesive (label)	-
3	Transparent plastic (lampshade)	-
4	Black plastic (shell)	-
5	Light beige plastic (connector, PCB)	-
6	Silvery plated copper metal (connector, PCB)	-
7	Red soft plastic (wire jacket)	-
8	Black soft plastic (wire jacket)	-
9	Silvery plated copper metal (wire, PCB)	-
10	Transparent body (LED)	-
11	Silvery metal (pin, LED)	-
12	Black/ copper body (inductor "11", PCB)	-
13	Silvery metal (case)	-
14	Brown body (SMD capacitor, PCB)	-
15	White body (SMD capacitor, PCB)	-
16	Black body (SMD capacitor, PCB)	-
17	White/ black body (SMD resistor, PCB)	-
18	Grey printed black body (EC, PCB)	-
19	Silvery solder (PCB)	-
20	Black plastic (core, connector, PCB)	-
21	Copper plated silvery metal (connector inner, PCB)	-
22	Silvery plated golden metal (connector, PCB)	-
23	White plastic (switch, PCB)	-
24	Black plastic (switch, PCB)	-
25	Silvery plated copper metal (switch, PCB)	-
26	Black/ white body (SMD resistor)	-
27	White/ transparent body (LED, PCB)	-
28	Green/ white body (EC, PCB)	-
29	Black body (EC, PCB)	-
30	Green PCB	-

See Analytes and their corresponding Maximum Allowable Limit in Appendix

Parameter	Result						Conclusion
	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item(s)	-	-	-	-	-	-	-
1	ND	ND	ND	ND	ND	ND	PASS
2	ND	ND	ND	ND	ND	ND	PASS
3	ND	ND	ND	ND	ND	ND	PASS
4	ND	ND	ND	ND	ND	ND	PASS
5	ND	ND	ND	ND	ND	ND	PASS



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6	ND	ND	ND	ND	NA	NA	PASS
7	ND	ND	ND	ND	ND	ND	PASS
8	ND	ND	ND	ND	ND	ND	PASS
9	ND	ND	ND	ND	NA	NA	PASS
10	ND	ND	ND	ND	ND*	ND*	PASS
11	ND	ND	ND	ND	NA	NA	PASS
12	ND	ND	ND	ND	ND	ND	PASS
13	ND	ND	ND	Negative*	NA	NA	PASS
14	ND	ND	ND	ND	ND	ND	PASS
15	ND	ND	ND	ND	ND	ND	PASS
16	ND	ND	ND	ND	ND	ND	PASS
17	ND	ND	ND	ND	ND	ND	PASS
18	ND	ND	ND	ND	ND	ND	PASS
19	ND	ND	ND	ND	NA	NA	PASS
20	ND	ND	ND	ND	ND	ND	PASS
21	ND	ND	ND	ND	NA	NA	PASS
22	ND	ND	ND	ND	NA	NA	PASS
23	ND	ND	ND	ND	ND	ND	PASS
24	ND	ND	ND	ND	ND	ND	PASS
25	ND	ND	ND	ND	NA	NA	PASS
26	ND	ND	ND	ND	ND	ND	PASS
27	ND	ND	ND	ND	ND*	ND*	PASS
28	ND	ND	ND	ND	ND	ND	PASS
29	ND	ND	ND	ND	ND	ND	PASS
30	ND	ND	ND	ND	ND*	ND*	PASS

Note / Key :

ND = Not detected

NR = Not requested

% = percent

Detection Limit : See Appendix.

“>” = Greater than

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

10 000 mg/kg = 1 %

Remark :

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- Only selected example(s) is (are) indicated on the photograph(s) in Comment.
- According to European Parliament and Council Directive 2011/65/EU, Article 5 “Adaptation of the Annexes to scientific and technical progress”, exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- Tested part(s) was/were specified by client.



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i. TEST RESULT

Phthalates Test – Directive 2015/863/EU Amendment of European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Method : With reference to draft International Standard IEC 62321-8.

Test Item(s)	Item / Component Description(s) + Location(s)	Style(s)
1	White plastic (cover)	-
2	Grey printed transparent plastic with adhesive (label)	-
3	Transparent plastic (lampshade)	-
4	Black plastic (shell)	-
5	Light beige plastic (connector, PCB)	-
7	Red soft plastic (wire jacket)	-
8	Black soft plastic (wire jacket)	-
10	Transparent body (LED)	-
18	Grey printed black body (EC, PCB)	-
20	Black plastic (core, connector, PCB)	-
23	White plastic (switch, PCB)	-
24	Black plastic (switch, PCB)	-
29	Black body (EC, PCB)	-
30	Green PCB	-

Maximum Allowable Limit:	DEHP, BBP, DBP & DIBP: 0.1% (Each)
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Tested Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
1+2+3	ND	ND	%	PASS
4+5+10	ND	ND	%	PASS
7+8	ND	ND	%	PASS
20+23+24	ND	ND	%	PASS
18+29+30	ND	ND	%	PASS

Note / Key :

ND = Not detected
 NR = Not requested
 % = percent
 Detection Limit (%) : 0.005

“>” = Greater than
 mg/kg = milligram(s) per kilogram = ppm = part(s) per million
 10 000 mg/kg = 1 %

Remark : The list of phthalates is summarized in table of Appendix.

APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [Compliance Test for European Parliament and Council Directive 2011/65/EU] :						
No.	Name of Analytes	Detection Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) ^[a]			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10 ^[b]	1 000
2	Cadmium (Cd)	50	50	50	10 ^[b]	100
3	Mercury (Hg)	100	200	200	10 ^[c]	1 000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 ^[g, h] / 10 ^[d] / See ^[e, j]	1 000 / Negative ^[i]
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 ^[f]	Sum 1 000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 ^[f]	Sum 1 000
<p>NA = Not applicable</p> <p>^[a] Test method with reference to International Standard IEC 62321-3-1: 2013.</p> <p>^[b] Test method with reference to International Standard IEC 62321-5: 2013.</p> <p>^[c] Test method with reference to International Standard IEC 62321-4: 2017.</p> <p>^[d] Polymers and Electronics - Test method with reference to European Standard EN 62321-7-2: 2017.</p> <p>^[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015^[i].</p> <p>^[f] Test method with reference to International Standard IEC 62321-6: 2015.</p> <p>^[g] Leather - Test method International Standard ISO 17075: 2007.</p> <p>^[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2007.</p> <p>^[i] The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples. Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive</p> <p>^[j]</p>						



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2011/65/EU, Article 4(1).

Testing Approach [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

The testing approach was with reference to the following document(s).

- 1 International Standards IEC 62321-1: 2013 and IEC 62321-2: 2013
- 2 "RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
- 3 "RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
- 4 "Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)

List of Phthalates:

No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	3	Dibutyl phthalate (DBP)	84-74-2
2	Butyl benzyl phthalate (BBP)	85-68-7	4	Diisobutyl phthalate (DIBP)	84-69-5

END