



**BUREAU
VERITAS**

TEST REPORT

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DATE : Aug 27, 2018
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The report is amendment of and supersedes the previous report (9318)227-0594 dated Aug 24, 2018

APPLICANT : **FLASHBAY ELECTRONICS**
BLDG. NO.1 101-501, BLDG. NO.2, BLDG.NO.3 1-4F,
XIFENGCHENG INDUSTRIAL PARK, NO.2 FUYUAN RD,
HEPING, FUHAI, BAO'AN DISTRICT, SHENZHEN CITY,
ANGDONG PROVINCE, P.R. CHINA

CONTACT PERSON : LEVIN

DATE OF SUBMISSION : Aug 15, 2018

TEST PERIOD : Aug 15, 2018 to Aug 24 2018

NO. OF WORKING DAYS : 8

SAMPLE DESCRIPTION : BATTERY BOX

Color: /

Style no. / Model no.: Rescue (RU)

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	

LA

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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:

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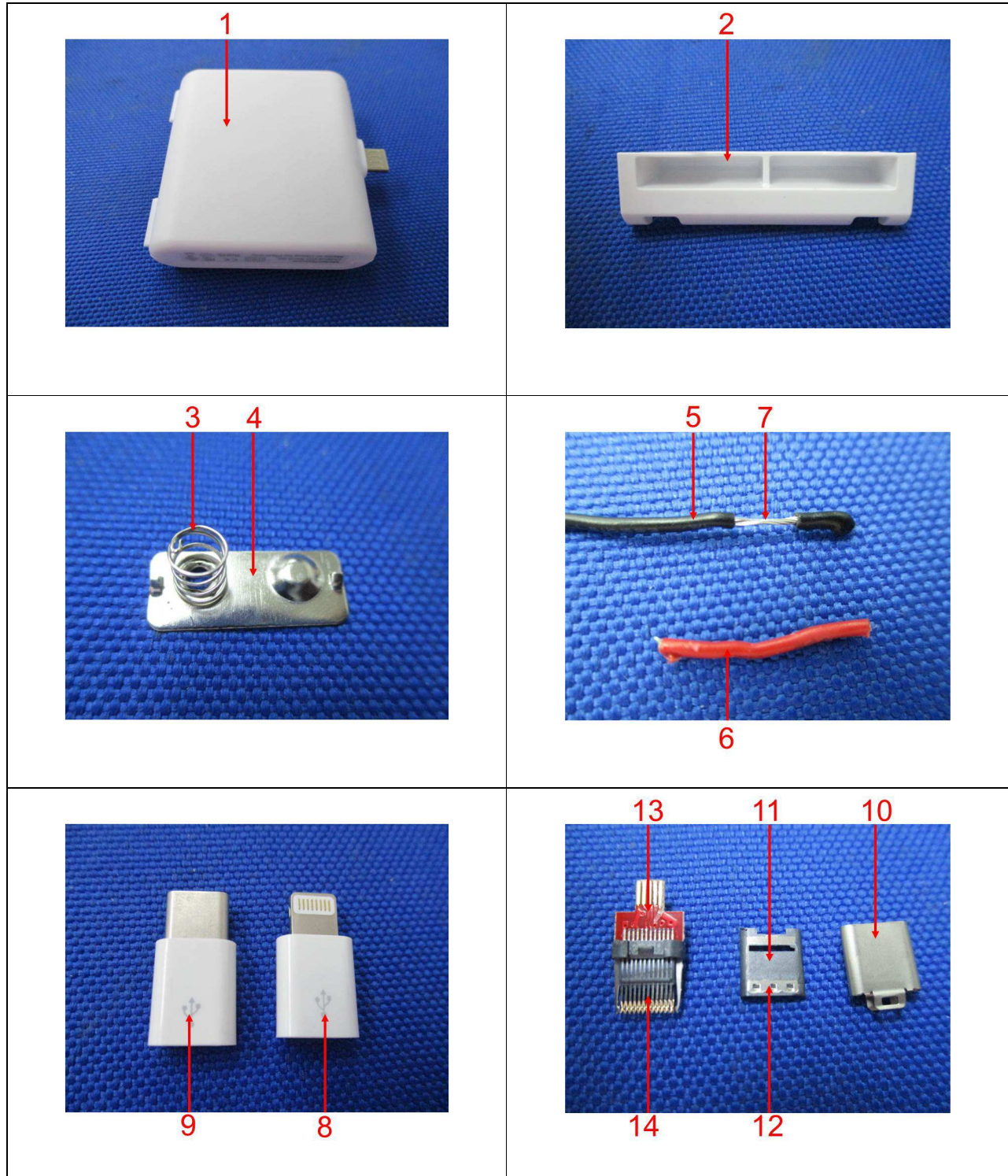


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Photo of the Submitted Sample



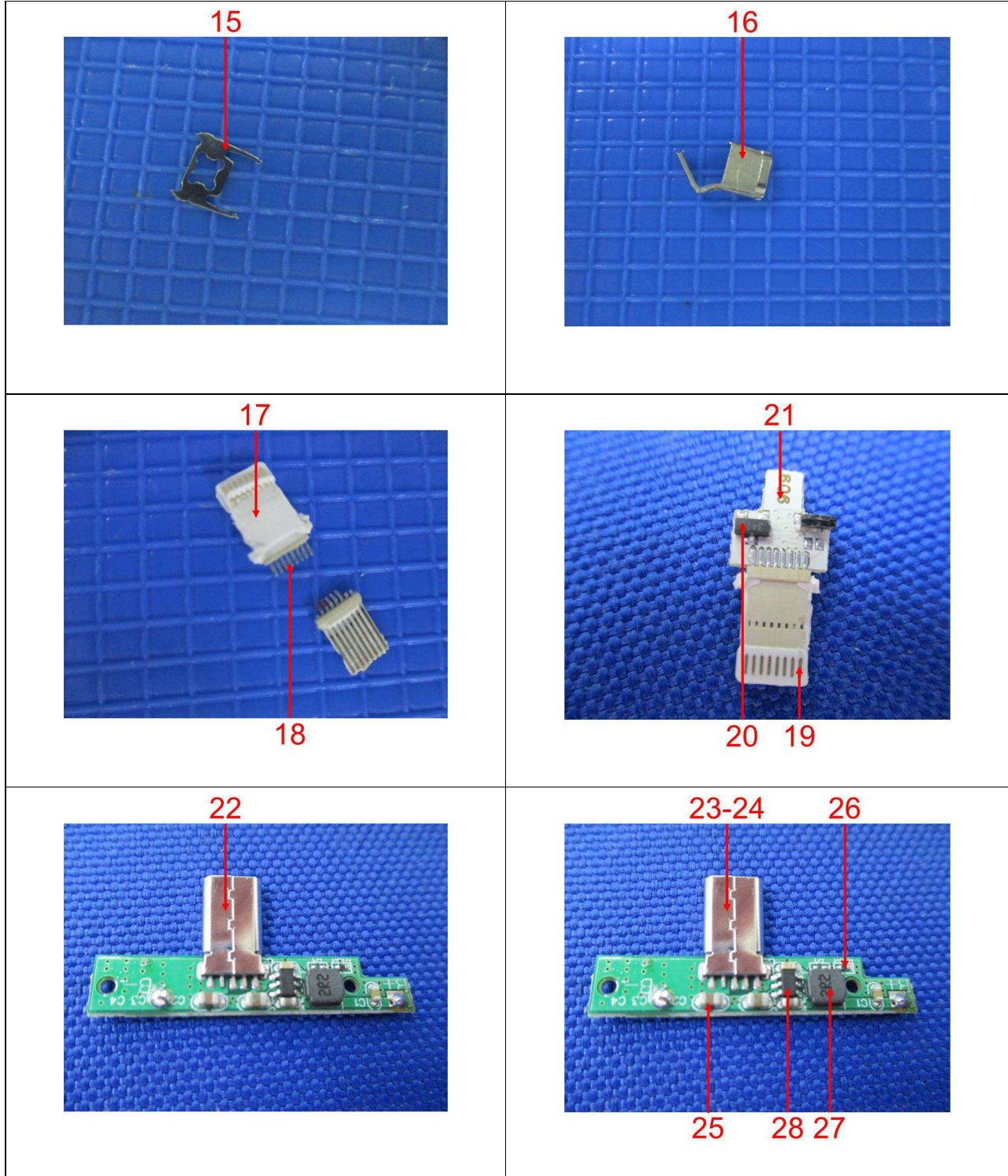
Photograph of test item(s)





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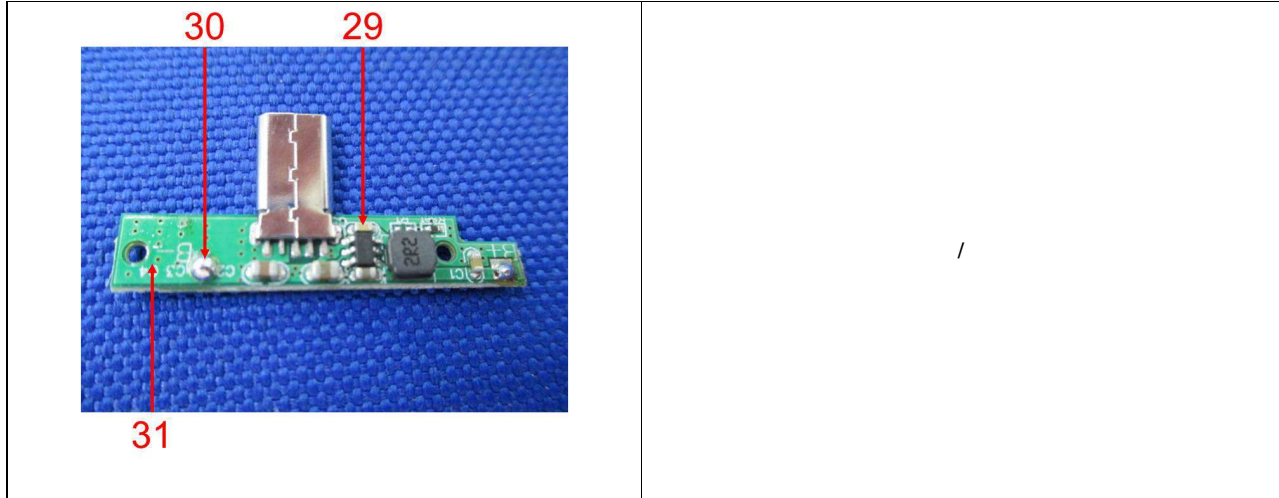
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TEST RESULT

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 (case)	-
2	White plastic (battery box)	-
3	Silvery metal (spring)	-
4	Silvery metal (battery plate)	-
5	Black plastic (wire jacket)	-
6	Red plastic (wire jacket)	-
7	Silvery metal (wire)	-
8	White plastic (usb, plug case)	-
9	White plastic (usb, plug case)	-
10	Silvery metal (usb, plug case)	-
11	Black plastic (insulation, plug)	-
12	Silvery metal (connector, plug)	-
13	Red pcb (pcb, plug)	-
14	Golden plated silvery metal (plug, pin)	-
15	Silvery metal (connector)	-
16	Silvery metal (usb, plug case)	-
17	White plastic (insulator)	-
18	Silvery metal (pin, plug)	-
19	Golden metal (plug)	-
20	Black body (transistor)	-
21	White pcb (pcb, plug)	-
22	Silvery metal (usb case, pcb)	-
23	Black plastic (insulator, plug, pcb)	-
24	Silvery metal (pin, plug, pcb)	-
25	Dull brown body (SMD capacitor, pcb)	-
26	Black body (SMD resistor, pcb)	-
27	Black body (SMD smdinductor, pcb)	-
28	Black body (SMD ic, pcb)	-
29	Brown body (SMD capacitor, pcb)	-
30	Silvery solder (pcb)	-
31	Green pab (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	NA	NA	PASS
4	ND	ND	ND	Negative*	NA	NA	PASS
5	ND	ND	ND	ND	ND	ND	PASS



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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)	-	-	-	-	-	-	-
6	ND	ND	ND	ND	ND	ND	PASS
7	ND	ND	ND	ND	NA	NA	PASS
8	ND	ND	ND	ND	ND	ND	PASS
9	ND	ND	ND	ND	ND	ND	PASS
10	ND	ND	ND	Negative*	NA	NA	PASS
11	ND	ND	ND	ND	ND	ND	PASS
12	ND	ND	ND	Negative*	NA	NA	PASS
13	ND	ND	ND	ND	ND*	ND*	PASS
14	ND	ND	ND	ND	NA	NA	PASS
15	ND	ND	ND	Negative*	NA	NA	PASS
16	ND	ND	ND	ND	ND	ND	PASS
17	ND	ND	ND	ND	ND	ND	PASS
18	ND	ND	ND	ND	NA	NA	PASS
19	ND	ND	ND	ND	NA	NA	PASS
20	ND	ND	ND	ND	ND*	ND*	PASS
21	ND	ND	ND	ND	ND*	ND*	PASS
22	ND	ND	ND	Negative*	NA	NA	PASS
23	ND	ND	ND	ND	ND*	ND*	PASS
24	ND	ND	ND	ND	NA	NA	PASS
25	ND	ND	ND	ND	ND	ND	PASS
26	ND	ND	ND	ND	ND	ND	PASS
27	ND	ND	ND	ND	NA	NA	PASS
28	ND	ND	ND	ND	ND	ND	PASS
29	ND	ND	ND	ND	ND	ND	PASS
30	ND	ND	ND	ND	NA	NA	PASS
31	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.



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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 International Standard IEC 62321-8.

Test Item(s)	Item / Component Description(s) + Location(s)	Style(s)
1	White plastic (case)	-
2	White plastic (battery box)	-
5	Black plastic (wire jacket)	-
6	Red plastic (wire jacket)	-
8	White plastic (usb, plug case)	-
9	White plastic (usb, plug case)	-
11	Black plastic (insulation, plug)	-
13	Red pcb (pcb, plug)	-
17	White plastic (insulator)	-
20	Black body (transistor)	-
21	White pcb (pcb, plug)	-
23	Black plastic (insulator, plug, pcb)	-
31	Green pab (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	ND	ND	%	PASS
8+17+23	ND	ND	%	PASS
9+20+21	ND	ND	%	PASS
11+13+31	ND	ND	%	PASS
5+6	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 ^[j]
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

NA = Not applicable

^[a] Test method with reference to International Standard IEC 62321-3-1: 2013.

^[b] Test method with reference to International Standard IEC 62321-5: 2013.

^[c] Test method with reference to International Standard IEC 62321-4: 2017.

^[d] Polymers and Electronics - Test method with reference to European Standard EN 62321-7-2: 2017.

^[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015 ^[i].

^[f] Test method with reference to International Standard IEC 62321-6: 2015.

^[g] Leather - Test method International Standard ISO 17075: 2007.

^[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2007.

^[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

^[j]



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areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 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