



**BUREAU
VERITAS**

TEST REPORT

LAB NO. : (8818)134-0064
DATE : May 25, 2018
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APPLICANT : **FLASHBAY ELECTRONICS**
BLGD B & C XI FENG CHENG IND ZONE, NO.2 FUYUAN ROAD
HE PING, VILLAGE, FUYONG TOWN, SHENZHEN, CHINA

DATE OF SUBMISSION : MAY 14, 2018

TEST PERIOD : MAY 14, 2018 TO MAY 25, 2018

SAMPLE DESCRIPTION : EARPHONES

Style No. : VIBE/PEAK/GRAIN

Sample size : 2

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	-
The BBP/DBP/DEHP/DIBP content requirements of the European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its amendments	PASS	-

BUREAU VERITAS SHENZHEN CO.,LTD
DONGGUAN BRANCH

Harvey Xue
Manager, Analytical Lab

RT/ER/JW

REMARK

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

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Photo of the Submitted Sample



Test Item Description and Photo List

Test Item(s)	Sample Photo	Item / Component Description(s)	Location(s)	Style(s)
I001		White plastic	Speaker cover, earphones	-
I002		Silvery metal	Grille, speaker cover, earphones	-
I003		White plastic	Speaker holder, earphones	-
I004		Green/yellow/grey printed silvery metal	Sign, speaker holder, earphones	-
I005		White plastic with adhesive	Board, speaker holder, earphones	-
I006		Silvery metal	Case, speaker, earphones	-
I007		White paper	Diaphragm, case, speaker, earphones	-
I008		Silvery magnet	Magnet, speaker, earphones	-
I009		Silvery metal	Base, magnet, speaker, earphones	-
I010		Green glue	Glue, earphones	-
I011		Transparent plastic	Diaphragm, speaker, earphones	-
I012		Red plated coppery metal	Coil, speaker, earphones	-
I013		Golden metal	Ring, speaker, earphones	-
I014		Silvery solder	Solder, PCB, speaker, earphones	-
I015		Green coated brown plastic with coppery metal	PCB, speaker, earphones	-
I016		Silvery metal	Grille, speaker, earphones	-
I017		Black soft plastic	Gasket, grille, speaker, earphones	-
I018		White soft plastic	Wire insulation, cable, earphones	-
I019		White soft plastic	SR, cable, earphones	-

Test Item(s)	Sample Photo	Item / Component Description(s)	Location(s)	Style(s)
I020		White soft plastic	Fastener, cable, earphones	-
I021		White fabric	Wire, cable, earphones	-
I022		Green metal	Wire, cable, earphones	-
I023		Blue metal	Wire, cable, earphones	-
I024		Red/coppery metal	Wire, cable, earphones	-
I025		Coppery metal	Wire, cable, earphones	-
I026		Silvery metal	Fastener, cable, earphones	-
I027		Silvery metal	Pin, DC plug, cable, earphones	-
I028		White plastic	Pin holder, DC plug, cable, earphones	-
I029		Silvery solder	Solder, DC plug, cable, earphones	-
I030	White soft plastic	Cover, DC plug, cable, earphones	-	
I031		Black printed brown wood	Sign, speaker holder, earphones	-
I032		White soft plastic	Stopper, earphones	-
I033		Black/red printed white plastic	Sign, speaker holder, earphones	-



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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.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

-	Result						
Parameter	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	Conclusion
Unit	mg/kg						-
Test Item(s)	-	-	-	-	-	-	-
I001	ND	ND	ND	ND	ND	ND	PASS
I002	ND	ND	ND	Negative*	NA	NA	PASS
I003	ND	ND	ND	ND	ND	ND	PASS
I004	ND	ND	ND	Negative*	NA	NA	PASS
I005	ND	ND	ND	ND	ND	ND	PASS
I006	ND	ND	ND	Negative*	NA	NA	PASS
I007	ND	ND	ND	ND	ND	ND	PASS
I008	ND	ND	ND	ND	NA	NA	PASS
I009	ND	ND	ND	ND	NA	NA	PASS
I010	ND	ND	ND	ND	ND	ND	PASS
I011	ND	ND	ND	ND	ND	ND	PASS
I012	ND	ND	ND	ND	NA	NA	PASS
I013	ND	ND	ND	ND	NA	NA	PASS
I014	ND	ND	ND	ND	NA	NA	PASS
I015	ND	ND	ND	ND	ND	ND	PASS
I016	ND	ND	ND	Negative*	NA	NA	PASS
I017	ND	ND	ND	ND	ND	ND	PASS
I018	ND	ND	ND	ND	ND	ND	PASS
I019	ND	ND	ND	ND	ND	ND	PASS
I020	ND	ND	ND	ND	ND	ND	PASS
I021	ND	ND	ND	ND	ND	ND	PASS
I022	ND	ND	ND	ND	NA	NA	PASS
I023	ND	ND	ND	ND	NA	NA	PASS
I024	ND	ND	ND	ND	NA	NA	PASS
I025	ND	ND	ND	ND	NA	NA	PASS
I026	ND	ND	ND	ND	NA	NA	PASS
I027	20000*	ND	ND	ND	NA	NA	EXEMPTED#



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I028	ND	ND	ND	ND	ND	ND	PASS
I029	ND	ND	ND	ND	NA	NA	PASS
I030	ND	ND	ND	ND	ND	ND	PASS
I031	ND	ND	ND	ND	ND	ND	PASS
I032	ND	ND	ND	ND	ND	ND	PASS
I033	ND	ND	ND	ND	ND	ND	PASS

Note / Key:

ND = Not detected

NR = Not requested

NA = Not applicable

Detection Limit : See Appendix.

">" = Greater than

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

% = percent

"<" = Less than

10000 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.
 - According to European 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.
 - #According to Annex III of European Council Directive 2011/65/EU, exemptions were granted a few materials and Clause 6(c) is reiterated here "Copper alloy containing up to 4 % lead by weight.". Test Item(s) 027 was (were) claimed as is by client (received as is). Therefore, this (these) Test Item(s) containing the found lead level should be exempted.
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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]	1000
2	Cadmium (Cd)	50	50	50	10 ^[b]	100
3	Mercury (Hg)	100	200	200	10 ^[c]	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 ^[g, h] / 10 ^[d] / Sec ^[e, i]	1000 / 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 1000
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 1000



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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] :

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.
- [f] Test method with reference to International Standard IEC 62321-6: 2015.
- [g] Leather - Test method International Standard ISO 17075-1:2017.
- [h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075-1:2017.
- [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 2011/65/EU, Article 4(1).
- [j]

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)



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TEST RESULT

BBP/DBP/DEHP/DIBP Content – European Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments

Test Method : Sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer.

Test Parameter:	BBP	DBP	DEHP	DiBP	-
Limit (%):	0.1	0.1	0.1	0.1	-
Test Item(s)	Result (%)				Conclusion
I001+I003+I005	ND	ND	ND	ND	PASS
I010+I011+I015	ND	ND	ND	ND	PASS
I017+I028+I033	ND	ND	ND	ND	PASS
I018+I019+I020	ND	ND	ND	ND	PASS
I030+I032	ND	ND	ND	ND	PASS

Note / key:

BBP = Butyl benzyl phthalate (CAS No: 85-68-7)

DBP = Dibutyl phthalate (CAS No: 84-74-2)

DEHP = Di(2-ethylhexyl) phthalate (CAS No: 117-81-7)

DiBP = Diisobutyl phthalate (CAS No: 84-69-5)

ND = Not detected

% = percent

10000 mg/kg = 1 %

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005

Remark:

- The amendment will be effective on 22 July 2019. For medical devices and control instruments, effective date will be 22 July 2021.

*** End of Report ***