



**BUREAU  
VERITAS**

# TEST REPORT

**LAB NO.** : (8818)100-0026  
**DATE** : Apr 18, 2018  
**PAGE** : 1 OF 8

**APPLICANT** : **DONGGUAN KAOGLE ELECTRONICS CO., LTD**  
NO.13 CHUANGSHENG ROAD, SHANGSHA 2ND  
INDUSTRIAL ZONE, CHANG'AN TOWN, DONGGUAN  
CITY

**DATE OF SUBMISSION** : APR 10, 2018

**TEST PERIOD** : APR 10, 2018 TO APR 18, 2018

**SAMPLE DESCRIPTION** : WIRE HANESS

Style No. :

Manufacturer : KAOGLE  
Vendor: KAOGLE  
Country of Destinaiton: SHENZHEN  
Country of Origin: DONGGUAN  
Buyer: REECO  
Sample Size: 25PCS

BUREAU VERITAS SHENZHEN CO.,LTD  
DONGGUAN BRANCH

Harvey Xue  
Manager, Analytical Lab

RT/JC/LL

## **REMARK**

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

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**LAB NO.** : (8818)100-0026  
**DATE** : Apr 18, 2018  
**PAGE** : 2 OF 8

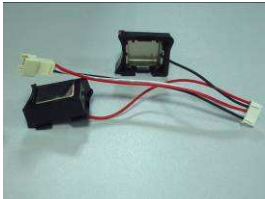
<b>SUMMARY OF TEST RESULTS</b>
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TEST REQUESTED	CONCLUSION	REMARK
European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)	PASS	-
The BBP/DBP/DEHP/DIBP 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	-

Photo of the Submitted Sample



**Test Item Description and Photo List**

<b>Test Item(s)</b>	<b>Sample Photo</b>	<b>Item / Component Description(s)</b>	<b>Location(s)</b>	<b>Style(s)</b>
I001		Black plastic	Housing, wire haness	-
I002		Silvery metal	Contact plate, wire haness	-
I003		Silvery solder	Solder, contact plate, wire haness	-
I004		Beige plastic	Socket, cable, wire haness	-
I005		Silvery metal	Pin, socket, cable, wire haness	-
I006		White plastic	Socket, cable, wire haness	-
I007		Silvery metal	Pin, socket, cable, wire haness	-
I008		Grey printed red soft plastic	Wire insulation, cable, wire haness	-
I009		Grey printed black soft plastic	Wire insulation, cable, wire haness	-
I010		Grey printed white soft plastic	Wire insulation, cable, wire haness	-
I011		Silvery plated coppery metal	Wire, cable, wire haness	-

### 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	ND	NA	NA	PASS
I003	ND	ND	ND	ND	NA	NA	PASS
I004	ND	ND	ND	ND	ND*	ND*	PASS
I005	ND	ND	ND	ND	NA	NA	PASS
I006	ND	ND	ND	ND	ND*	ND*	PASS
I007	ND	ND	ND	ND	NA	NA	PASS
I008	ND	ND	ND	ND	ND	ND	PASS
I009	ND	ND	ND	ND	ND	ND	PASS
I010	ND	ND	ND	ND	ND	ND	PASS
I011	ND	ND	ND	ND	NA	NA	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.

## 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) <sup>[a]</sup>			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10 <sup>[b]</sup>	1000
2	Cadmium (Cd)	50	50	50	10 <sup>[b]</sup>	100
3	Mercury (Hg)	100	200	200	10 <sup>[c]</sup>	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 <sup>[g, h]</sup> / 10 <sup>[d]</sup> / See <sup>[e, i]</sup>	1000 / Negative <sup>[j]</sup>
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 <sup>[f]</sup>	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 <sup>[f]</sup>	Sum 1000

**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)



LAB NO. : (8818)100-0026  
DATE : Apr 18, 2018  
PAGE : 8 OF 8

### 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+I004+I006	ND	ND	ND	ND	PASS
I008	ND	ND	ND	ND	PASS
I009	ND	0.022	ND	ND	PASS
I010	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 \*\*\*