



# TEST REPORT

**ROHS\_certificate\_HD-1688**

LAB NO. : (6619)115-1608  
DATE : March 8, 2019  
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Applicant:

Date of Submission: 2019-04-25  
Test Period: 2019-04-25 to 2019-05-08  
BV EE Ref. No.: HBZ-19AP24-101CTSHP-A0

Sample Description:	Sample(s) received is(are) stated to be: Radio controlled movement		
Manufacturer:	/	Buyer:	/
Style No(s):	HD-1688	PO No.:	/
Country of Origin:	/	Country of Destination:	Oversea Country

Test Item(s): Radio controlled movement

## SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION
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) with its Amendments	PASS
Phthalate Test – Reference to (EU) 2015/863 amending Annex II to Directive 2011/65/EU & As Applicant's requirement	PASS

### REMARK

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

General enquiry and invoicing

Mr. Speed Yu/ Ms. Cabell Chen  
(021) 24166888\*6832/6850

Speed.yu @cn.bureauveritas.com/ Cabell.chen@cn.bureauveritas.com

Technical enquiry

Mr. Gorden Yu/ Ken He  
(021) 24166888\*6852/6859

Gorden.yu @cn.bureauveritas.com/ Kenny. he@cn.bureauveritas.com

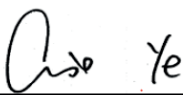
### BUREAU VERITAS CONSUMER PRODUCTS SERVICES DIVISION (SHANGHAI)

Laboratory Test Location:

No.368,Guangzhong Road, Zhuanqiao Town, Minhang, Shanghai

No.168,Guanghua Road, Zhuanqiao Town, Minhang, Shanghai

PREPARED BY : Liza/Youni

  
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Connie Ye  
Analytical Technical Specialist



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**Photo of the Submitted Sample**





**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) with its Amendments**

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	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item	Description	Location	-	-	-	-	-	-
1	Black plastic	Housing	ND	ND	ND	ND	ND	PASS
2	Black plastic		ND	ND	ND	ND	ND	PASS
3	Golden metal		ND	ND	ND	ND	NA	PASS
4	Silvery metal screw		ND	ND	ND	ND	NA	PASS
5	Black magnet		ND	ND	ND	ND	NA	PASS
6	Coppery metal wire		ND	ND	ND	ND	NA	PASS
7	Black plastic	Inside	ND	ND	ND	ND	ND	PASS
8	Black plastic		ND	ND	ND	ND	ND	PASS
9	Black plastic		ND	ND	ND	ND	ND	PASS
10	Red plastic		ND	ND	ND	ND	ND	PASS
11	Black fabric		ND	ND	ND	ND	ND	PASS
12	Silvery metal		ND	ND	ND	Negative*	NA	PASS
13	Black plastic		ND	ND	ND	ND	ND	PASS
14	White plastic gear		ND	ND	ND	ND	ND	PASS
15	White plastic		ND	ND	ND	ND	ND	PASS
16	Black magnet		ND	ND	ND	ND	NA	PASS
17	Pink plastic gear		ND	ND	ND	ND	ND	PASS
18	Transparent plastic gear		ND	ND	ND	ND	ND	PASS
19	Silvery metal solder	PCB	ND	ND	ND	ND	NA	PASS
20	Black plastic wire jacket		ND	ND	ND	ND	ND	PASS
21	Red plastic wire jacket		ND	ND	ND	ND	ND	PASS
22	Black plastic		ND	ND	ND	ND	ND	PASS
23	Black capacitor		ND	ND	ND	ND	ND	PASS
24	Golden metal with silvery plating		ND	ND	ND	ND	NA	PASS
25	Transparent LED		ND	ND	ND	ND	ND	PASS
26	Brown chip capacitor		ND	ND	ND	ND	ND	PASS
27	Black chip resistor		ND	ND	ND	<500	NA	PASS
28	Silvery metal solder		<500	ND	ND	ND	NA	PASS
29	Green PCB		ND	ND	ND	ND	ND*	PASS



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Note / Key :

ND = Not detected

NR = Not requested

Detection Limit: See Appendix.

“>” = Greater than

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

NA = Not applicable

“<” = Less than

EX= Exempted

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**

**Phthalate Test – Reference to (EU) 2015/863 amending Annex II to Directive 2011/65/EU & As Applicant's requirement**

**Test Method** : Reference to IEC 62321-8: 2017.

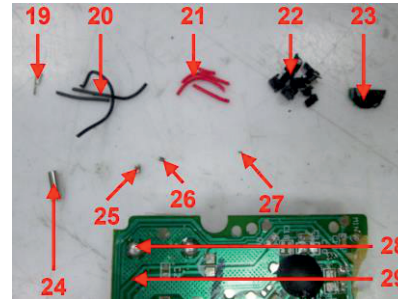
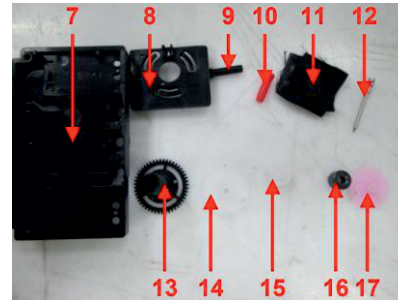
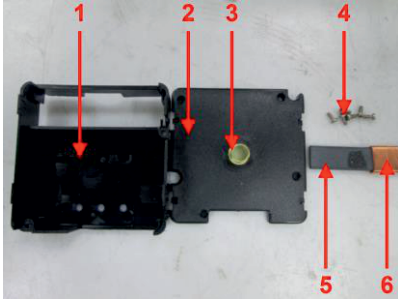
**Maximum Allowable Limit : 0.1% (Each)**

Parameter	CAS No.	Unit	MDL	Result			
				1+2+7+8 +9+10	11+13+ 14+15+ 17+22	18+20+ 21	23+25+ 26+29
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	ND	ND	ND	ND
<b>Conclusion</b>	-	-	-	PASS	PASS	PASS	PASS

Note: mg/kg= milligram per kilogram    % = percentage    1 mg/kg = 0.0001%  
MDL = Method Detection Limit    ND = Not Detected (< MDL)    “-“ = Not Regulated

Comment :

Photograph depicting Test Item(s)



END



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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 Analyte(s)	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>	1 000
2	Cadmium (Cd)	50	50	50	10 <sup>[b]</sup>	100
3	Mercury (Hg)	100	200	200	10 <sup>[c]</sup>	1 000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 <sup>[e, h]</sup> / 10 <sup>[d]</sup> / See <sup>[c, i]</sup>	1 000 / 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 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 <sup>[f]</sup>	Sum 1 000

NA = Not applicable IEC = International Electrotechnical Commission

[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: 2013+AMD1: 2017 CSV.

[d] Polymers and Electronics - Test method with reference to International Standard IEC 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: 2017.

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

[i] 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).

**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)