

Test Report

Report No.: 180814123GZU-011

Date: Sep 18, 2018

Applicant: AILUN ELECTRONIC TECHNOLOGY (H.K) LIMITED
1001R.10F TAIYOU BUILDING.181 FOHNSTON ROAD,
WANCHAI HK

Sample Description:

The following submitted sample(s) said to be:

Item Name : **Metal Oxide Film Resistor**
Model No. : NA
Additional Info. : IKEA's Supplier Code: 2452
Date of Sample Received : Aug 30, 2018
Testing Period : Aug 30, 2018 to Sep 13, 2018

Tests conducted:

As requested by the applicant, refer to following page(s) for details.

Comment:

The results of tested component(s) do not exceeded the limit of Lead (Pb) of IKEA Specification IOS-PRG-0027 Version No. AA-224712-5, whereas did not exceed the limits of Cadmium (Cd), Mercury (Hg), Chromium (VI) (Cr6+), Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs) of IKEA Specification IOS-PRG-0027 Version No. AA-224712-5.

Tested Sample	Standard	Result
Tested components of submitted sample	Phthalates content based on RoHS Directive 2011/65/EU and (EU) 2015/863	Pass

Authorized by:

For Intertek Testing Services Shenzhen Ltd. Guangzhou Branch:




Martin He
Senior Project Engineer



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RoHS Chemical Test

Tested Components:

- (1) Resistor
 - (1a) Ceramic with coatings
 - (1b) Silver color metal (pin)

Part A:

(A) Test Result Summary (For IKEA Specification IOS-PRG-0027 Version No. AA-224712-5):

Testing Item	Result
	(1a)
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) Content (mg/kg) (For Non-metal)	ND
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobromobiphenyl (MonoBB)	ND
Dibromobiphenyl (DiBB)	ND
Tribromobiphenyl (TriBB)	ND
Tetrabromobiphenyl (TetraBB)	ND
Pentabromobiphenyl (PentaBB)	ND
Hexabromobiphenyl (HexaBB)	ND
Heptabromobiphenyl (HeptaBB)	ND
Octabromobiphenyl (OctaBB)	ND
Nonabromobiphenyl (NonaBB)	ND
Decabromobiphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobromodiphenyl Ether (MonoBDE)	ND
Dibromodiphenyl Ether (DiBDE)	ND
Tribromodiphenyl Ether (TriBDE)	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND
Pentabromodiphenyl Ether (PentaBDE)	ND
Hexabromodiphenyl Ether (HexaBDE)	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND
Octabromodiphenyl Ether (OctaBDE)	ND
Nonabromodiphenyl Ether (NonaBDE)	ND
Decabromodiphenyl Ether (DecaBDE)	ND

Testing Item	Result
	(1b)
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) Result (By Boiling Water Extraction on Metal)(µg/cm ²)	< 0.10 (Negative)

mg/kg = milligram per kilogram based on dry weight of sample = ppm

ND = Not detected



(B) IKEA Requirement:

Substance	Metal	Plastics and Other Polymeric	Ceramics and Glass	Other Materials(Including Surface Coating)
Cadmium (Cd)	0.01% (100 mg/kg)	0.01% (100 mg/kg)	0.01% (100 mg/kg)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)	0.03% (300 mg/kg)	0.1% (1000 mg/kg)	0.1% (1000 mg/kg)
Mercury (Hg)	0.01% (100 mg/kg)	0.005% (50 mg/kg)	0.005% (50 mg/kg)	0.005% (50 mg/kg)
Chromium (VI) (Cr ⁶⁺)	Negative	0.1% (1000 mg/kg)	0.1% (1000 mg/kg)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	-	0.1% (1000 mg/kg)	-	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	-	0.1% (1000 mg/kg)	-	0.1% (1000 mg/kg)

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI)(Cr ⁶⁺) Content	With reference to IEC 62321 Edition 1.0:2008, by alkaline digestion and determined by UV-VIS Spectrophotometer	1 mg/kg
Chromium (VI)(Cr ⁶⁺) Content	With reference to IEC 62321-7-1 edition 1.0:2015, by boiling water extraction and determined by UV-VIS spectrophotometer	0.10 µg/cm ²
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg



Part B:

RoHS Chemical Test

(A) Test Result Summary:

Testing Item	Result
	(1a)
Phthalates(mg/kg)	
Bis(2-ethylhexyl)phthalate(DEHP)	ND
Butyl benzyl phthalate(BBP)	ND
Dibutyl phthalate(DBP)	ND
Diisobutyl phthalate(DIBP)	ND

ND = Not detected
mg/kg= milligram per kilogram

(B) RoHS Requirement:

Restricted Substances	Limits
Phthalates(DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg)

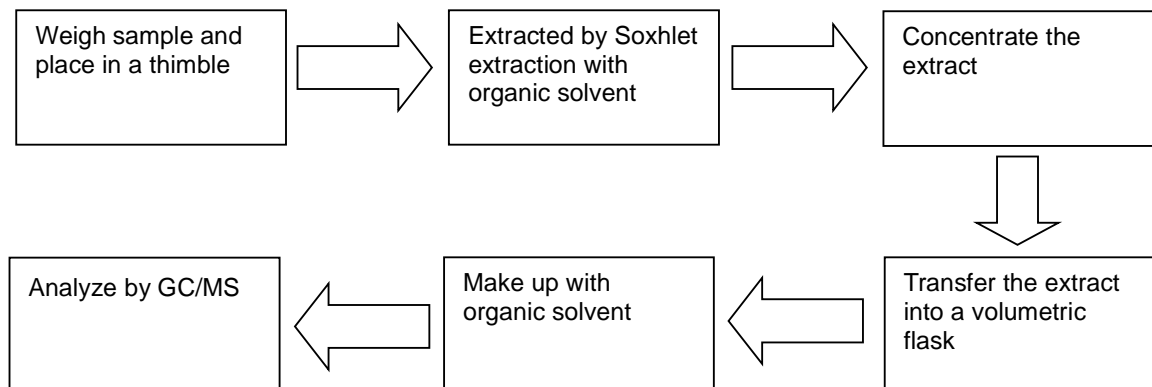
The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.

(C) Test Method:

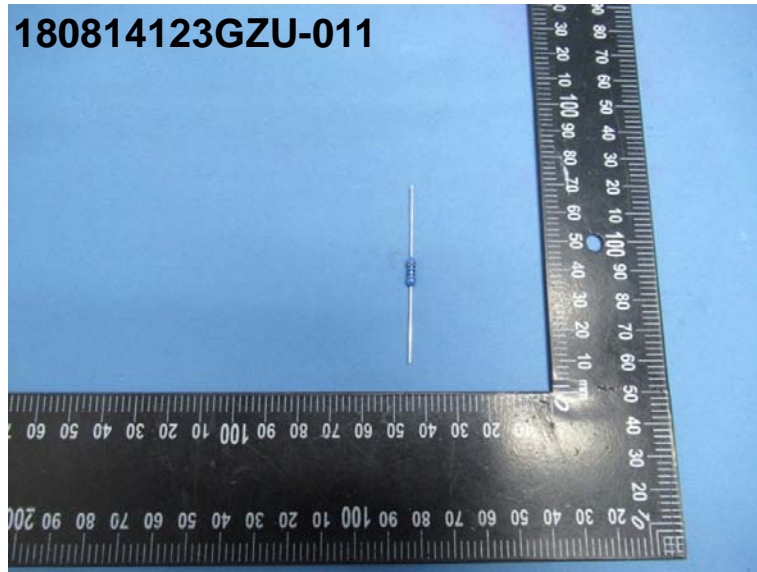
Testing Item	Testing Method	Reporting Limit
Phthalates(DEHP, BBP, DBP, DIBP) Content	With reference to IEC 62321-8 Edition 1.0:2017, by solvent extraction and determined by GC/MS	100mg/kg

(D) Measurement Flowchart:

Test for Phthalate Contents



Sample photo



End of report

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