

Applicant: ANH MINH TECHNOLOGY COMPANY LIMITED
17/3 Binh Quoi A Quarter, Binh Chuan Ward, Thuan An City, Binh Duong Province.

The following samples were submitted and identified on behalf of the client as:

Sample description: Rack Power strip (20)C13 Outlets, (4)C19 Outlets, 32A, 220V, MCB, IP44 Plug
Item No. AMP524-MCB32-IP
Date sample received: November 3, 2021
Testing period: November 3, 2021 to November 5, 2021

Tests conducted: As requested by the applicant, please refer to attached pages for details.

Conclusion:

<u>Requirement</u>	<u>Result</u>
RoHS Directive (2011/65/EU) - Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment	Pass
RoHS Directive (2011/65/EU) and amendment Commission Delegated Directive (EU) 2015/863 - Phthalates content	Pass

For and on behalf of
Intertek Vietnam LTD



LIEM MAI
Hardlines Manager

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TEST CONDUCTED (AS REQUESTED BY THE APPLICANT)

1. RoHS test

(A) Results

Group	Screened Component	Component Description	XRF Results (mg/kg)					Chemical Confirmation Result
			Cd	Pb	Hg	Cr	Br	
I	1	Black metal_ lid of socket	ND	ND	ND	D	NA	
	2	Black metal_ frame of socket	ND	ND	ND	D	NA	
II	3	White plastic_ MCB	ND	ND	ND	ND	ND	

Remark:

ppm= part per million= mg/kg
ND = Not detected

D= Detected: Below the lower screening limit of table (B) and pass
#= Inconclusive

List of Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in chemical confirmation test:

PBBs	PBDEs
Monobromobiphenyl (monoBB)	Monobromodiphenyl ether (MonoBDE)
Dibromobiphenyl (DiBB)	Dibromodiphenyl ether (DiBDE)
Tribromobiphenyl (TriBB)	Tribromodiphenyl ether (TriBDE)
Tetrabromobiphenyl (TetraBB)	Tetrabromodiphenyl ether (TetraBDE)
Pentabromobiphenyl (PentaBB)	
Hexabromobiphenyl (HexaBB)	
Heptabromobiphenyl (HeptaBB)	
Octabromobiphenyl (OctaBB)	
Nonabromobiphenyl (NonaBB)	
Decabromobiphenyl (DecaBB)	

(B) XRF screening limits in mg/kg for regulated elements in various matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

Remark:

ppm= part per million= mg/kg
P= Pass

F= Fail
X = Inconclusive result

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(C) Estimated detection limits in mg/kg for regulated elements in various matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not Applicable	200

Disclaimers:

This XRF screening report is for reference purposes only. The applicant shall make its/His/Her own judgement as to whether the information provided in this XRF screening report is sufficient for its/His/Her purposes. The results shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. Plastic, Rubber, Metal, Glass, Ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

(D) Test Methods

Testing Item	Testing method	Reporting Limit
XRF screening	With reference to IEC 62321-3-1 edition 1.0 : 2013, by X-ray fluorescence spectrometry	Refer to (C)
Cadmium (Cd) content	With reference to IEC 62321-5 edition 1.0 : 2013, by acid digestion and determined by ICP-OES	10 mg/kg
Lead (Pb) content	With reference to IEC 62321-5 edition 1.0 : 2013, by acid digestion and determined by ICP-OES	10 mg/kg
Mercury (Hg) content	With reference to IEC 62321-4 edition 1.0 : 2013+AMD1:2017, by acid digestion and determined by ICP-OES	10 mg/kg
Chromium VI (Cr ⁶⁺) content (for non-metal)	With reference to IEC 62321-7-2 : 2017, by alkaline digestion and determined by UV-VIS spectrophotometer	5 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Leather)	With reference to EN ISO17075 : 2007, by phosphate butter extraction and determined by UV-VIS spectrophotometer	1 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Metal)	With reference to IEC 62321-7-1 : 2015, by boiling water extraction and determined by UV-VIS spectrophotometer	0.1 µg/cm ²
Polybrominated biphenyls (PBBs) & polybrominated diphenyl ethers (PBDEs)	With reference to IEC 62321-6 : 2015, by solvent extraction and determined by GC/MS.	20 mg/kg

The explanation of Chromium VI (Cr⁶⁺) analysis result (For Metal)

Colorimetric result	Qualitative Result	Explanation
< 0.10 µg/cm ²	Negative	The result of sample is negative for Cr (VI). The sample coating is considered a non- Cr(VI) based coating.
≥ 0.10 µg/cm ² And ≤ 0.13 µg/cm ²	Inconclusive	The result of sample is considered to be inconclusive. If addition samples are available, recommend to add trials and get the average result for the final determination.
> 0.13 µg/cm ²	Positive	The result of sample is positive for Cr(VI). The sample coating is considered to contain Cr(VI).A result expresses as positive, while not an actual value, which indicates a visual observation was used.

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(E) RoHS Requirement

Restricted Substances	Limits
Cadmium (Cd) content	0.01% (100ppm)
Lead (Pb) content	0.1% (1000ppm)
Mercury (Hg) content	0.1% (1000ppm)
Chromium VI (Cr6+) content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)
Di(2-ethylhexyl) Phthalate (DEHP)	0.1% (1000ppm)
Dibutyl Phthalate (DBP)	0.1% (1000ppm)
Benzyl Butyl Phthalate (BBP)	0.1% (1000ppm)
Diisobutyl Phthalate (DIBP)	0.1% (1000ppm)

2. Phthalates content:

Test method: IEC 62321-8:2017, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Group	Screened Component	Component Description	Result in % w/w			
			DEHP	DBP	BBP	DIBP
II	3	White plastic_ MCB	ND	ND	ND	ND

The above limit was quoted according to Commission Delegated Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Remark:

ppm= Parts per million based on weight of tested sample = mg/kg

ND= Not detected

Detection limit = 0.01% w/w

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Photos of tested sample



(1): Black metal_ lid of socket



(2): Black metal_ frame of socket



(3): White plastic_ MCB

Photo for reference



Rack Power strip (20)C13 Outlets, (4)C19 Outlets, 32A, 220V, MCB, IP44 Plug

END OF THE TEST REPORT

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