

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: Amtec RoYal-DC Datacenter Cabinet 42U 600x1200
Item No. AMDC42-6120
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)	Pass
- Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment	

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_ profile bar	ND	ND	ND	D	NA	
	2	Black metal_ front door	ND	ND	ND	D	NA	
	3	Black metal_ rear door	ND	ND	ND	D	NA	
	4	Black metal_ side door	ND	ND	ND	D	NA	
	5	Black metal_ the top roof of cabinet	ND	ND	ND	D	NA	
	6	Black metal_ frame of cabinet	ND	ND	ND	D	NA	
	7	Black metal_ support bar	ND	ND	ND	D	NA	

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)

Photos of tested sample



(1): Black metal_ profile bar



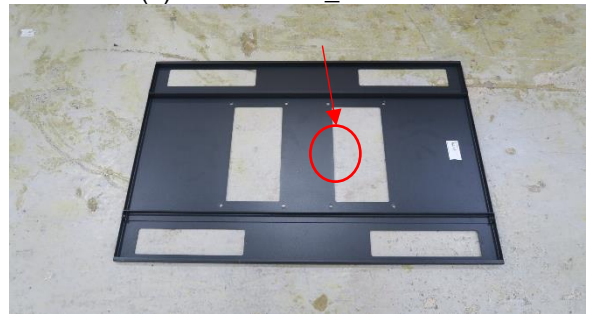
(2): Black metal_ front door



(3): Black metal_ rear door



(4): Black metal_ side door



(5): Black metal_ the top roof of cabinet



(6): Black metal_ frame of cabinet



(7): Black metal_ support bar

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Photo for reference



Amtec RoYal-DC Datacenter Cabinet 42U 600x1200

END OF THE TEST REPORT

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