

ATX Networks Environmental Policy on RoHS and WEEE Compliance

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Purpose

This Policy documents ATX's position on environmental requirements in order to assist ATX to comply with the European Union's RoHS and WEEE directives.

This document may be amended to reflect any changes in the directives.

Scope

This policy applies to all goods purchased or produced for ATX. Products, which must be RoHS compliant, will be identified with a suffix of "R" as the final character in its part number. (e.g. xxxxxxxR) Products that must be RoHS compliant and lead (Pb)-free will be identified by the suffix "LF". (e.g. xxxxxxxLF)

Definitions:

ATX: For the purpose of this document, ATX represents ATX Networks.

RoHS: The Restriction of the use of Hazardous Substances in Electrical and Electronic Equipment (Directive 2002/95/EC).

WEEE: The Waste Electrical and Electronic Equipment (Directive 2002/96/EC)

Introduction

The European Union RoHS Directive, 2002/95/EC (Restriction of Hazardous Substances) requires that new electrical and electronic equipment (EEE) put on the market does not contain the following above the maximum concentration levels, effective July 1, 2006.

Lead (Pb)

Mercury (Hg)

Cadmium (Cd)

Hexavalent chromium (Cr⁺⁶)

Polybrominated biphenyls (PBB)

Polybrominated diphenyl ethers (PBDE)

The current maximum concentration levels are 1000 PPM (parts per million) for all except cadmium at 100 PPM.

ATX is committed to comply with environmental regulations as defined in the EU Directives. ATX is working toward compliance to the RoHS directive with possible exceptions based on the exemptions listed in the Annex of the directive.

ATX use of exemptions

To maintain product reliability, ATX may produce products with the use of exemption clauses of the RoHS directive.

Lead (Pb)

ATX is working toward the use of lead (Pb)-free solder but until the test results prove reliability in its products, ATX will continue to use lead in solder as allowed by the European Union Commission for the exemption listed below:

- In solder used in network infrastructure equipment for telecommunication purposes meeting one of the two following criteria:
 - 1) Any system used for routing, switching, signaling, transmission, or network management or network security: or
 - 2) Any system which can simultaneously enable more than one end user terminating equipment to connect to the network.

It is also inclusive of any such system in a network, except for end user terminating equipment such as voice terminals and facsimile machines.

This would include all servers, power supplies, display devices and similar electronic units that are incorporated into network infrastructure equipment. It would also include all cables and cable assemblies, and all connectors and connector assemblies used to provide interconnections for network infrastructure equipment *but is not intended to include desktop or notebook computers, telephones, fax machines or consumer – type modems or switches etc.*

NOTE: Solder used to form a solder joint is exempt for servers and infrastructure products. This would apply to any area of the joint including plated solderable surfaces (component lead-frame surface finishes and PWB surface finishes - HASL). It does NOT apply to the rest of the cable/connector so Pb sheathing falls outside the scope of the exemption.

- In electronic ceramic parts (e.g. piezoelectronic devices)

Component Termination Surface Finish

Finish	acceptable/not acceptable	Review Plan
SnPb over Cu	Acceptable	Tin/lead process only
NiPdAu over Cu	Acceptable	meets industry standard
NiAu over Cu	Acceptable	meets industry standard
Matte Sn with Ni underlayer		
Over Cu	Acceptable	meets industry standard
SnAgCu over Cu	Acceptable	meets industry standard
Matte Sn over Cu	Acceptable*	*must be Annealed/heat treated (150° C for 1 hour after plating)

Component Termination Surface Finish cont.

Finish	acceptable/not acceptable	Review Plan
SnAg over Cu	Acceptable	meets industry standard
Matte Sn over Ag	Acceptable	meets industry standard
Bright Sn over Cu	Not Acceptable	Tin Whisker Risk
SnBi over Cu	Acceptable*	* must have 2-5% Bi by weight for use in Pb-free reflow process

Cadmium (Cd)

- The European Union Commission views the use of cadmium, as being permitted in plating of electrical contacts on account of the reliability required of the apparatus on which they are installed.

ATX expects its suppliers to produce products that do not contain cadmium (Cd) above the maximum concentration levels as defined in the RoHS directive 2002/95/EC.

Painted and Printed Finishes

ATX has several products that have painted finish coatings. ATX expects its suppliers to use paint and ink surface finishes which do not contain any restricted substances above the maximum concentration levels as defined in the RoHS directive 2002/95/EC.

Hexavalent Chromium (Cr⁺⁶)

ATX has used Hexavalent chromium as a corrosion protection finish on several of its products. ATX has changed to Trivalent Chromate finishes for any product that previously used CR⁺⁶ as its finish type.

Metal Finishing

Acceptable fastener passivation finish formulations

- As defined in the RoHS directive 2002/95/EC passivation methods must not utilize restricted materials above the maximum concentration levels.
 - Stainless steel
 - Clear/blue finish – trivalent chromium
 - Green finish – trivalent chromium
 - Yellow finish – trivalent chromium
 - Black finish – trivalent chromium
 - Black finish – silver/nickel
 - Thick film – trivalent chromium
 - Thin film – trivalent chromium
- Finishes should be able to withstand 96 hours salt spray test (per ASTM B177).

Unacceptable fastener passivation finish formulations

- Finishes containing Hexavalent Chromium.

Acceptable Sheet Steel passivation formulations

- As defined in the RoHS directive 2002/95/EC passivation methods must not utilize restricted materials above the maximum concentration levels.
 - Stainless steel
 - Clear/blue finish – trivalent chromium
 - Thick film – trivalent chromium
- Finishes should be able to withstand 96 hours salt spray test (per ASTM B177).

Unacceptable Sheet Steel passivation formulations

- Any finishes containing Hexavalent Chromium.

Acceptable Aluminum passivation formulations (subject to approval)

- As defined in the RoHS directive 2002/95/EC passivation methods must not utilize restricted materials above the maximum concentration levels
 - Alodine 5200
 - Alodine 5700
 - Alodine 4595 – trivalent chromium
 - Chemetall AL-0500 – trivalent chromium
 - APS TCP-HF – trivalent chromium
- Finishes should be able to withstand 168 hours salt spray test (per ASTM B117)

Unacceptable Aluminum passivation formulations

- Any finishes containing Hexavalent Chromium.
 - Alodine 1000 – hexavalent chromium
 - Alodine 1200 – hexavalent chromium

Polybrominated biphenyl (PBB) and polybrominated diphenyl ethers (PBDE)

ATX expects its suppliers to make available for production, resins that do not utilize PBB or PBDE based flame-retardants and modifiers above the maximum concentration levels as defined in the RoHS directive 2002/95/EC

Mercury (Hg)

ATX expects its suppliers to make available for production, products that do not contain mercury (Hg) above the maximum concentration levels as defined in the RoHS directive 2002/95/EC

- In the view of the European Union Commission this does not apply to batteries whether disposable or fixed in a unit.

WEEE

Article 9 of the Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE) permits business-to-business (B2B) producers to conclude agreements with customers stipulating other financing methods for the compliance to the WEEE directive. As a B2B producer, ATX intends to make appropriate contractual agreements with customers, distributors and importers to ensure that the customer, distributor or importer meets all legal obligations in compliance to the responsibilities of the WEEE Directive.