

NEMI Transition to Pb-free Assembly Forum-

An OEM's view toward RoHS compliance



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*HP's Lead elimination position statement



- Hewlett-Packard Company (HP) is committed to compliance with all applicable laws and regulations, including the restriction of hazardous substances in electronic products. The RoHS Directive specifies that an electronic product may not contain lead, except as specifically provided in the directive.
- HP will be in compliance with the European requirements for lead, mercury, cadmium, and other restricted chemicals prior to the July 1, 2006 implementation date.

*See www.hp.com/hpinfo/globalcitizenship/environment/pdf/leadposition.pdf

RoHS compliance transition issues



- “Pb-free” is only one of the EU’s RoHS legislative requirements. All products must be “RoHS-compliant” to meet the July 1, 2006 RoHS Directive.
- Supply chain companies need to develop plans, logistics and controls to ensure their yield and reliability equals present industry standards well before the deadline.
- Component manufacturers should assign new part numbers for components that have been modified to become RoHS compliant. (This is considered a change in form, fit or function).
- Change to RoHS-compliant components must be preceded by a Part Change Notification.

RoHS compliance transition issues (con't.)



- RoHS compliant/Pb-free SMT components must be compatible with a 260 °C peak reflow temperature. (Lower temperature requirements may be considered for some large, thick lead frame components.)
- Tin plating poses a reliability risk from Sn whisker growth which may cause electrical shorts.
 - To mitigate tin whisker problems, HP recommends NiPdAu plating or a Ni layer ($\geq 1.3 \mu\text{m}$) below the Sn plating. Also, HP is considering whether annealing Sn on Cu offers a practical technical solution.
 - HP's test requirements are based on recommendations from NEMI's test acceleration group. However, HP has set requirements for test length and failure criteria based on HP's product requirements.

Note: Pb-free area array components (BGAs, CSPs, etc.) pose a reliability risk when used with today's SnPb solder process, and should not be accepted for this process.

Summary- needs for supply chain alignment



- Work with NEMI and standards committees to adapt existing standards to meet RoHS compliance.
- Communicate RoHS compliance requirements (not just “Pb-free”) to component suppliers and EMS providers.
- RoHS compliance compatibility means both metallurgical compatibility and manufacturing process compatibility.
- Communicate need for unique part numbers for RoHS compliance, tracking, repair, etc.

Note: RoHS compliance policy and compliance testing procedures have not yet been defined

Questions / discussion -





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