

Marking and Part Numbering Team
NEMI RoHS Pb-free Summit
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Vivek Gupta, Intel
Alan Ater, Sanmina-SCI



Acknowledgments

IPC

For board marking standard

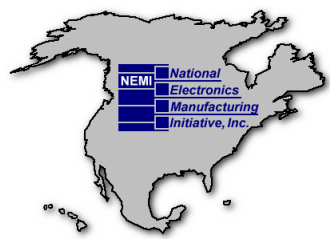
JEDEC

For marking standard JESD97



Agenda

- Team Scope
- Status
- Next Steps
- Questions



Component and Board Marking Project

Team Scope

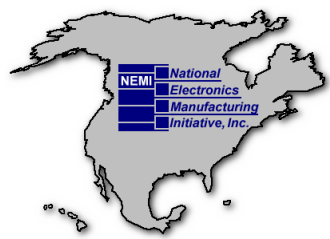
Develop a proposal for an industry accepted identification scheme for Pb-free parts

- Pb-free component and board-marking standard (Primary Goal). **Done**
- RoHS compliant component and board-marking standard by mid-2004 (Secondary Goal). **IPC Committee**
- Part numbering guideline to manage Pb-free change management. **Done**
- Pb-free vocabulary guideline. **Done**



Approach

- **Focus on manufacturability aspects only**
- **What information do we need to manufacture Pb-free products?**
- **Can we utilize existing manufacturing, supply chain and planning systems?**
- **Is this system flexible for future needs?**
- **Compliance issues not addressed**

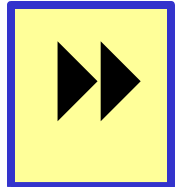


Component and Board Marking Project

Status

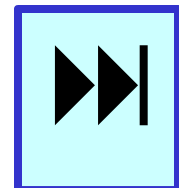
Pb-free component and board-marking standard by February 2004 (Primary Goal).

- Marking Standard JESD97 released



Pb-free vocabulary guideline.

- Vocabulary guideline published in Rosettanet, dictionary of terms



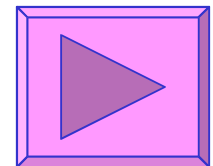


Component and Board Marking Project

Status

RoHS compliant component and board-marking standard by mid-2004 (Secondary Goal).

- IPC Committee looking at Pb-free portion of this spec.
- No action at this time for RoHS compliance aspects
 - Team decided to drop this part – no industry standard to be developed for RoHS compliance
 - Too many unknowns at this time!





Component and Board Marking Project

Status

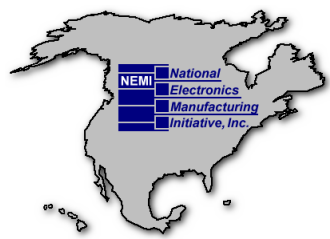
Part numbering guideline to manage Pb-free change management.

- General agreement obtained**
 - Unique part numbers are needed for Pb-free SKUs
 - Need to use current change control practices
- Team recommendations published in a NEMI press release**



Next Steps

- **Publicize adoption of JESD97 Marking Standard**
- **Support supplemental marking proposal for Boards**
 - **IPC Team**



Backup

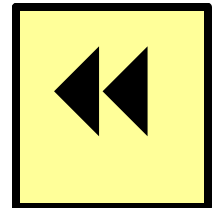
Connect with and Strengthen your Supply Chain

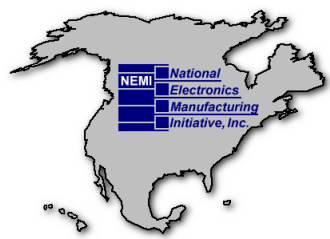


JEDEC JESD97 Marking Symbols

- e1 – SnAgCu (not included in ‘e2’)
- e2 – Sn alloys with no Bi or Zn (excluding SnAgCu)
- e3 – Sn
- e4 – Preplated (ie. Ag, Au, NiPd, NiPdAu)
- e5 – SnZn, SnZnx (no Bi)
- e6 - contains Bi
- e7 - Low temperature alloy ($\leq 150^{\circ}\text{C}$ containing In), but no Bi

e8, e9 unassigned at this time





Pb-Free Component and Board Terminology

THREE DIFFERENT LEVELS OF LEAD-FREE READINESS

- Sn=Tin; Pb=Lead

•Pb-free* SLI (second level interconnect)

Components

- J-Std-020 pre-conditioning , and
- Lead/ terminal finish or BGA balls are Pb-free*

Boards

- Assembled using Pb-free* solder paste, and
- Board Surface Finish/ Materials are Pb-free*

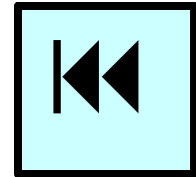
- **Pb-Free***

- Pb is not used in components or Boards.

- **RoHS Compliant**

Components & Boards

- Pb and other materials banned in RoHS Directive are not present in components and subsystems or if present, they are covered under a Legislative Exemption (or Clarification)



Connect with and Strengthen your Supply Chain
*Note: Pb-free products may contain Pb as an impurity which meets the threshold levels specified by the appropriate legislative authorities e.g. European Union Technical Adaptation Committee.



Issues with RoHS Compliance

- **Does RoHS = Pb/Hg/Cd etc. free?**
- **How do we define RoHS Compliance?**
- **Is there consistency in definition across multiple RoHS-like legislations (EU, China, California etc.)**
- **How would exemptions play into this –if one is taken away or added?**
- **How will it be interpreted consistently?**
- **Who will certify RoHS Compliance – self declaration/ std bodies?**
- **Would multiple RoHS bodies accept such certification?**

