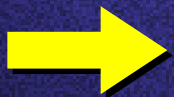




Agenda

1. Lead Free Transition and Impacts
2. **Lead Free Failure Modes**
3. A Comprehensive Lead Free Strategy
4. **GEIA Lead Free Standards and Handbooks**
 - GEIA-STD-0005-1 Performance Standard
 - GEIA-STD-0005-2 "Tin Whisker Document"
 - GEIA-HB-0005-1 Program Management Guidelines
 - GEIA-HB-0005-2 Technical Guidelines
 - GEIA-STD-0005-3 Performance Testing
 - **GEIA-HB-0005-3 Rework and Repair**
 - GEIA-HB-0005-4 Reliability Assessment
5. **Summary**
 - Acknowledgements
 - Lead Free Links
 - Points of Contact





Repair / Rework Document

GEIA-HB-0005-3

Rework, Repair and Maintainability for
Aerospace and High Performance
Electronics Containing Lead-free Solder



Handbook Contents

Scope

- This document provides technical background, procurement guidance, engineering considerations and guidelines to assist organizations repairing and/or reworking aerospace and high performance electronic systems, whether they were assembled or previously repaired/reworked using traditional alloys such as Tin-Lead or Lead-free (Pb-free) alloys, or a combination of both solders and surface finishes. This document contains a review of known impacts and issues, processes for rework and repair, focused to provide the technical structure to allow the repair technician to execute the task.



Handbook Contents

- Major Sections of the Handbook
 - Pb-Free Concerns
 - General Rework Requirements
 - Solder Joint Reliability Considerations
 - Conductive Rework
 - Convective Rework
 - Lead Detection Methods
 - Printed Circuit Board Labeling Systems
 - BGAs – (currently in work)



Handbook Status

- **Currently in DRAFT form**
- **Applicable to Commercial and Military Repair and Rework**
- **Applicability**
 - **Program Managers**
 - **Process Engineers**
 - **Technicians**
 - **Quality Assurance Inspectors**



How Can You Join the HB-0005-3 Team?

- It's Simple!
- Email Tim Kalt and he will cheerfully waive the application fee and add you to the Team!

Tim Kalt

Lead Free Electronics POC

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