



# ***NDIA ATC Board-Level Test Project***

***Scott Brown***

***The Boeing Company***

**June 15, 2010**



# Agenda

- Accomplishments
- Findings
- Recommendations
- Actions



# Accomplishments

- One additional Standard evaluated - IEEE-STD-1149.7
  - Test and Debug Standard expands and improves JTAG functionality
- Final Report draft complete and ready for review



# Findings

- Many Specification/Standards exist that have some application to Board Level Test (BLT)
  - The many potential specifications/standards result in confusion regarding application and adequacy for BLT
  - Few adequately address BLT
  - No BLT Technology is adequately covered by Specifications/Standards
- Some BLT Technologies have almost no specifications/standards
  - Vibration, Thermal Imaging, X-Ray, Optical
- BLT utilizing Digital Test has the most specification/standards in place



# Recommendations

- Update Specifications and Standards for current Board Level Test Technology
- Development of a Handbook to clarify the application of Specifications and Standards to Board Level Test

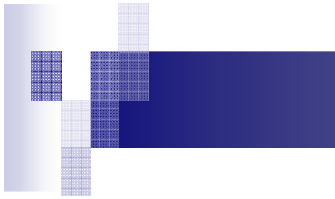


# Actions

- Near Term Actions
  - Team to review and finalize the Report



# Backup



## **AUTOMATIC TEST SYSTEMS EXECUTIVE DIRECTORATE**

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9 February 2009

**From:** DoD ATS Executive Directorate  
**To:** Chairman, National Defense Industrial Association Automatic Testing Committee

**Subj:** Request for Study and Recommendations Relative to Board-Level Test

1. Many different approaches to board-level test are currently in use in both government and industry. These include shorts test, analog nodal signature analysis, analog in-circuit test, digital in-circuit test, analog functional test, digital functional test, boundary scan, use of flying probers, optical test, x-ray test, vibration, and thermal imaging. Effective board test may require a combination of these approaches.
2. It is requested that the NDIA ATC conduct a study of the various approaches to board-level test and provide a recommendation to the DoD ATS Executive Directorate relative to the need for additional standards to better facilitate design-to-test, to ease transport of test programs across test systems, and to leverage data across different board test techniques. The study should review standards and specifications currently applicable to board-level test at all levels of maintenance from factory through intermediate level. If it is determined that additional standards are needed, request provide an overview of the applicability of each of the recommended standards, and a recommendation for the working group or organization which should undertake development and publication of the standard. Consider the impact on TPS development cost, TPS transportability, UUT testability and the availability of design data. Any recommended new standard should maximize the use of commercial specifications and technology, be enforceable, be easy to use and be generally acceptable to TPS developers.
3. Please direct questions to the undersigned at (301) 757-6907 (e-mail [william.ross@navy.mil](mailto:william.ross@navy.mil)).

**W. A. ROSS**  
Assistant Director