



# DESIGN FOR MANUFACTURABILITY

ISO 9001  
CERTIFIED

## Electronics Manufacturing Learning Center

### Overview

The Design for Manufacturability (DFM) program helps companies respond to a simple fact...the opportunity to influence the cost of a new product is greatest early in the life cycle of a product. ACI, as the National Center of Excellence in Electronics Manufacturing, has developed a program that provides a combination of lecture and factory experience, all housed in the same facility. The objective is to enable companies to setup effective DFM programs in their own facilities.

The first of the two-day program provides students with classroom sessions and templates for use in their own facilities. Day Two provides hands-on factory experience assembling and processing a demonstration PWA (printed wire assembly) which is intended to show the benefits and consequence of compromises made at the design level.

### Who Should Attend

Program managers, design engineers, quality managers, engineering managers, and engineers responsible for taking a design concept through inception to market will benefit from this course.

### Course Content

- ◆ **DFM Overview:** the Who, What, Where, When of DFM. What is DFA, DFM, Productability, and risk assessment.
- ◆ **DFA:** introduction to Boothroyd-Dewhurst DFA Method. A discussion of Assembly, Circuit Card Assembly, Printed Wire Board Fabrication, Interconnects and Sheet Metal Fabrication
- ◆ **Industry Standards:** quick look at IPC-2220 series of documents and IPC-J-STD-001C
- ◆ **Assembly Process:** the automated assembly line sequence, equipment limitations and considerations.
- ◆ **PWA Considerations:** land design, board fabrication processes, component clearances, check list. Printed Wire Board Panel Usage: Strategies for harmonizing usage and assembly performance. Fiducial Mark: tooling and vision aids for automation.
- ◆ **Component Selection:** preferred components, non-preferred components, and assembly sensitivities
- ◆ **Solder Mask and Conformal Coatings**
- ◆ **Future Design Issues**

### Benefits

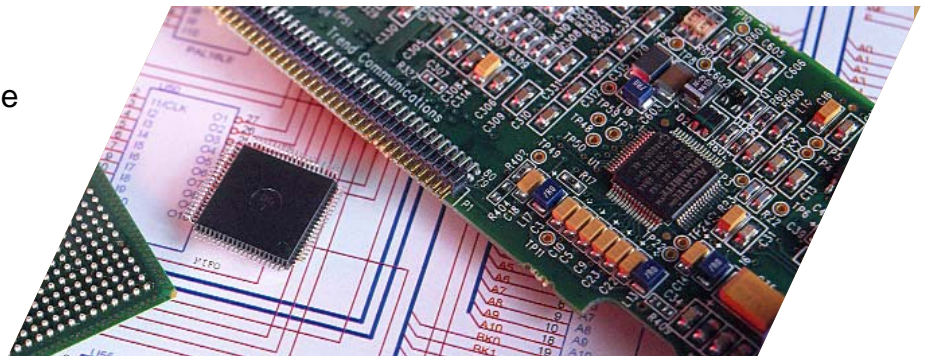
- ◆ Reduce design to market cycle time
- ◆ Improve product quality
- ◆ Reduce parts costs
- ◆ Reduce production cycle time

### Duration

2 days

### Registration

Contact the EMPF Learning Center at:  
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