PCB Layout in the Xpedition® Flow

PCB Layout in the Xpedition® Flow presents the workflow and methods of laying out a printed circuit board using the latest version of Mentor Graphics Xpedition xPCB Layout. From fundamental library concepts, to the PCB editor environment and the PCB layout process, you will gain hands-on experience in integrating a source schematic, placing and routing the board, and outputting the fabrication data.

Overview

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Hands-on lab exercises help reinforce lecture and discussion topics, and provide you with extensive tool usage experience under the guidance of our industry expert instructors.

Xpedition® Enterprise is the industry's most innovative PCB design flow, providing integration from system design definition to manufacturing execution. Its unique, patented technologies can reduce design cycles by ०• percent or more while significantly improving overall quality and resource efficiency.

DESIGN TASKS

Multi-Board Systems Design
Replace inefficient paper and manual processes with an automated, fully integrated, collaborative workflow

PCB Simulation
Maximize the benefits of PCB virtual prototyping resulting in higher quality products, faster

PCB Layout
Collaborative placement and routing of highly complex printed circuit boards

PCB Design Creation
Capture, verify and communicate design intent throughout the PCB design flow

ECAD Data Management
Single, integrated solution for WIP design and library management

PCB New Product Introduction (NPI)
Optimize your PCB new product introduction process with integrated design for manufacturing and manufacturing product modeling

The Xpedition Enterprise advantage

With Xpedition Enterprise, global engineering teams develop the world's most complex electronics systems in a multi-discipline enterprise environment that delivers competitive advantage to their organizations and advanced products to the marketplace.

Complexity Management

Manage increasing systems complexity while optimizing individual and organizational productivity

- Manage complex multi-board system design
- Optimize PCB design based on mechanical and manufacturability constraints
- 3D design and interference checking accelerates ECAD/MCAD co-design
- Simplify rigid-flex design with a full 3D environment for design and validation
- Combine the power of auto-routing with user control to yield high-quality results in a fraction of typical interactive routing time
- Route complex boards including advanced DDRx circuits in minutes

Collaboration

Enable collaboration across teams, disciplines, and the supply chain

- Secure library & design management streamlines multi-user/site collaboration
- Web-based collaboration environment communicates design state & enable review
- Optimize geographically distributed resources and accelerate design cycles with concurrent team design at every stage of the design process
- Fast and error free bidirectional data exchange with enterprise systems
- Easy to use multi-FPGA on board I/O optimization reduces layer count, cost and design time
- Streamline collaboration between PCB layout & MCAD within their native context

Reliability and Quality

Virtually prototype systems during the design stage to mitigate costs and liability

- Correct by construction methodology optimizes design quality
- Design for performance with complete suite of integrated 2D/3D analysis and rule checking tools
- Improve electrical, thermal and electromechanical quality and reliability
- Ensure intent, performance, and reliability of analog / mixed-signal (AMS) circuits
- Seamless and accurate representation of both electronic and electromechanical circuit elements
- Concurrent DFM validation during design catches issues early and is critical to a lean NPI process

Intellectual Property Management

Institutionalize best practices and design reuse

- Foundation for multi-discipline collaboration including mechanical, harness, and 3rd party enterprise systems
- Ensure data integrity across large multi-site teams
- Enable collaboration across the team and reduce defects with centralized WIP design data management
- Facilitate informed decision support
- Manage reuse of critical IP in the form of component libraries, reuse blocks, boards and cables
- Significantly reduce costs and time associated with part research and library creation

FEATURED RESOURCES

- **Best Practices For Electronics Design Executives**

  WHITE PAPER

- **An Integrated Multi-Domain Solution Empowers Best Practices For Electronics Design**DATASHEET (PDF, 1mb)
- **Electronics Executives Reduce Risk/Maximize Rewards Via an Integrated Multi-Domain Design Solution**DATASHEET (PDF, 1mb)
- **Tour Xpedition Enterprise in Seven Minutes**TECHNOLOGY OVERVIEW
- **Xpedition Enterprise**DATASHEET (PDF, 0mb)
- **What's New in Xpedition**TECHNOLOGY OVERVIEW
- **Xpedition Enterprise: ٣٠ Years of PCB**TECHNOLOGY OVERVIEW
- **How Successful OEMs Improve Product Quality while Saving Time and Money with PCB NPI**

WHITE PAPER

- **Why Printed Circuit Board Design Matters to the Executive: How PCBs Are a Strategic Asset for Cost Reduction and Faster Time-to-Market**

WHITE PAPER

- **Kontron Uses Xpedition to Meet Time and Quality Goals**TESTIMONIAL

  - **PCB Design**
  - Xpedition Enterprise
  - Xpedition IC Packaging Design
  - HyperLynx
  - PADS
  - PCB Resource Center
  - All PCB Design Products

XPEDITION ENTERPRISE SOFTWARE

Concurrent Engineering

Xpedition® supports multi-user, multi-site tool based and flow based concurrent design throughout the product development process. All team members can work with the entire database in real time without...