

Advanced Fabrication & Assembly

Lay out today's most complex designs, driven by advanced manufacturing technologies

When faced with a new manufacturing technology, the most common solution is time-consuming, error-prone workarounds to get the job done. Xpedition Enterprise supports these technologies within the core flow so that all functions understand the complex design elements. Technologies supported include:

	Rigid/flex
	High-density interconnect (HDI/microvias)
	Embedded passives/actives
	Chip-on-board

Key Features

Rigid/flex design

- Import and create complex board outlines from mechanical CAD automatically
- Employ rich routing capabilities that support bending (e.g. routing along the board outline, aligning traces, and joining traces at curves)
- Place parts at irregular angles easily
- Utilize drawing capabilities specific to flexible circuit boards
- Ensure all trace and pad junctions have teardrops, including T-junctions
- Easily convert imported DXF data into the board outline
- Use free-angle routing with arcs for complex polygons
- Push and shove with arcs
- Trace tapers (neck downs)
- Perform design rule checks for missing arcs & teardrops
- Regional layer stack-up

High-density interconnect

- BGA breakout router allows you to define layer-biased fanout patterns
- Support for any stacked/staggered/buried via structure
- Layer stack-up materials and properties yield accurate impedance constraints
- Distributed auto-routing technology speeds fanout completion
- Fanout templates can be included within footprints
- 3D via structure visualization

Embedded passives/actives

- Materials & process database to define manufacturing characteristics
- Feasibility analysis allows you to determine the right mix of materials and embedded vs. surface-mount components
- Automatic synthesis of physical footprints for capacitors and resistors given component requirements and available materials
- Components can easily be re-generated if a different manufacturer/process is targeted
- Output of all data necessary to manufacture and tune embedded passives

Chip-on-board

- Rules-driven system for electrical and manufacturing constraints
- Unique 3D models for each wire bond
- 3D wire bond and cavity rules checking in real time
- Die-to-die bonding
- Multi-layer cavities with wire bonds on any layer
- Die stacking
- Automatic bond pattern generation
- 3D design viewing