

Printed Circuit Board Layout Services & Capabilities

ACDi is an industry leader in printed circuit board (PCB) layout and design. Founded in 1984, ACDi has completed over 10,000 designs. Our team of designers and component librarians has over a century of combined experience in the field. A high mix of clients in various market sectors contributes to ACDi's expertise across a wide-range of board technologies.

Core Competencies

- 2-36 Layer Boards
- Organic and Ceramic Substrates
- High-speed Digital, High-Frequency RF/Microwave
- IPC Class 2 and Class 3 Designs
- Up to 7 Lamination Cycles
- Up to 36 Layer Rigid-Flex Designs
- Backdrills, Blind/Buried Vias, Microvias
- Design for Cost/Assembly/Manufacturability

Qualifications

- 400+ Designs Per Year
- 10,000th PCB Design Milestone 2018
- Team Has Over a Century of Design Expertise

What We Need to Kick Off Your Project

Required

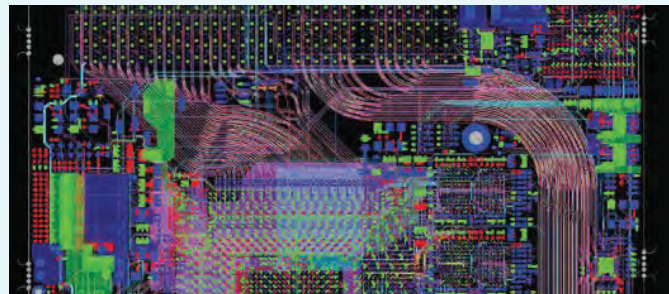
- Schematic (.pdf)
- Bill of Material (.xls)
- Netlist (.asc, .schdoc, [pstchip, pstnet, pstprt])
- Layout Software Preference

Optional

- Mechanical (.pdf or .dxf)
- SOW (critical nets, current draws, PCB/CCA part numbers, board markings, etc.)

Deliverables at Completion of Design

- Gerber Files (copper, silkscreen, soldermask, solder paste)
- Drill Files
- IPC-356 Netlist
- ODB++ or .asc
- PWB Drawing
- CCA Drawing
- Additional Files/Drawings Available by Request



Certifications & Compliance

- AS9100D Certified
- ISO 9001:2015
- ITAR Registered
- NIST 800-171 Compliant
- SAM Registered
- ANSI/ESD S20.20-2021 Certified
- Small Business
- RoHS Compliant

Our Facilities

Frederick, MD

7435 New Technology Way, Ste A
Frederick, MD 21703
301-620-0900
intouch@acdi.com

Nashville, NC

100 Industry Ct
Nashville, NC 27856
252-462-4700

Branford, CT

33 Business Park Drive #4
Branford, CT 06405
203-488-5795

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PCB Layout Process Flow Chart

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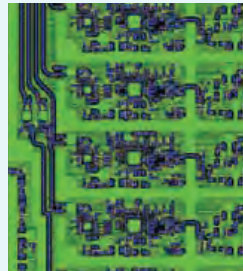
Data Preparation

- Footprint Creation
- Bill of BOM/Schematic Check(.xls)
- Board Outline Built In
- Netlist Integrity Check
- Fixed Components Placed


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Kick-off Call

- Designer Assigned
- Introduction Call to Discuss Board Strategy


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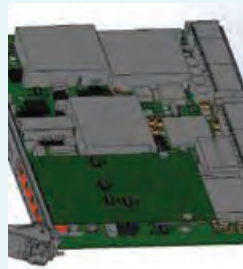
Placement

- Components Placed on Board
- Mechanical Models Available for Review
- Design Sent for Placement Review


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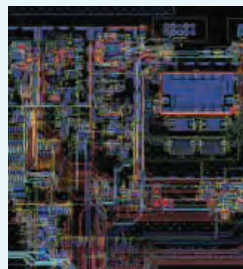
Stack-up Development

- Layer Count
- Copper Weights
- Controlled Impedances
- Dielectric Selection
- ROHS?
- Via Topology


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Critical Routing

- RF
- Matched Length Busses
- DDR
- Differential Pairs
- CLKs
- Sent for Routing Review


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Power/GND Planes

- Splits Put in for Planes
- Sent for Routing Review
- 1 Amp Per Via
- Copper Calculations Made

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Routing

- Hand-routed or Auto-routed
- Send for Routing Review

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Approval

- Customer signs off on design, indicating there will be no more changes

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Internal Reviews

- 3 ACDi Designers Conduct Peer Review
- Netlist Analyzer
- Valor for DFM
- DRC Check

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Documentation

- Printed Wiring Board (PWB) Drawing
- Panel Drawing
- Circuit Card Assembly (CCA) Drawing

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Post Processing

- Generation of All Deliverables