



## Superior Technologies Yield Superior Solutions.

There's always a better solution. A faster way to achieve quality results. A more efficient route. A superior way to simplify complex processes. And we're determined to be that company that uncovers it and puts it to use for you. To that end, we invest millions each year in research and development and collaborate with leading industry partners so that you can achieve your goals of creating next-generation products faster, easier, and with superior results. Contact us for help with:

Signal Integrity • Power Distribution • Thermal Management  
RF & Microwave • High Density Interconnects • DFM Analysis • ATE / Burn in Boards

## Technical Capabilities

### Materials:

Laminate & Prepreg per IPC4101 and IPC-CF-150E  
Material types used: High Temp and Enhanced multifunctional FR-4, Halogen-free FR4, FR370-HR, Getek, Polyimide, BT, CE, Isola 408, Nelco 4000 series, Rogers, BC2000™, Ohmega Ply, Arlon, StablCor® ST-10  
Max. panel size: 24" x 27"  
Laser Direct Imaging:  
Orbotech  
Layers imaged direct from CAM data  
Resolution to <2 mil  
Automatic Optical Inspection:  
Orbotech 309 Blazers & Discovery™ 8  
Maxsys automated verification stations  
CAD reference to CAD data  
¼ mil resolutions and variance detection  
Verification of desired line width  
Layer Construction/  
Impedance Design:  
Min. core thickness: .002"  
Min. dielectric: .0015"  
Impedance stack-up design and verification service  
Buried & Blind Microvias  
Stacked Microvias SMV™  
Flat Wrap™ Technology  
Sequential lamination construction  
Buried Capacitance  
Buried Resistance  
Finished impedance tolerance of +/- 5 %

### Lamination:

Max. number of layers: 60  
Max. board thickness: .300"  
Min. MLB thickness: .010"  
Drilling:  
Yag & CO2 laser MicroVia capability  
Min. drilled hole size: .004"  
Max. drilled hole size: .257"  
Max. routed hole size: 24"  
Min. slot width size: .020"  
Min. plane clearance must be greater than nominal finished hole: .020"  
Control depth drill  
Plating:  
Max. hole aspect ratio: 16:1  
Selective solder strip / fuse for tight pitch TAB and BGA  
SMOBC  
SMOBC with OSP, Enthone, CU56, CU106a, MacDermid M-Plus, Kester  
Immersion, Electroless & Electrolytic Gold  
Immersion Silver, Nickel / Palladium / Gold  
Lead free HASL  
Multiple surface plating  
Soldermask:  
Per IPC-SM-840  
Wet types: SR1000, SR1001  
Photo-imageable types:  
Taiyo PSR-4000, Dynachem, Enthone, Dexter Hysol 8200, Lea Ronal, Coates Clear  
LDI Soldermask  
Dryfilm types: Dupont Vacrei 8000 series  
Conductive and non-conductive via fill

### Fabrication:

Tolerance on overall dimensions: +/- .005"  
Min. inside radius: .015"  
Scoring, In-board Beveling, Beveling  
Countersinking, Counterboring, Edge Milling  
Electrical Test:  
ECT, TTI, Mania, Microcraft Testers  
ATG High Speed Flying Probe Testers  
Computer Aided test engineering work stations  
Gerber extracted net-list testing  
Gerber extracted buried resistor testing  
CAD net-list testing (IPC-356A)  
Electrical test parameters compliant with IPC and Bellcore specifications  
Standard SMD pitch to: .016"  
Flying Probe pitch to .004"

### Quality System & Certifications:

- ISO 9001-2000 certified
- IPC-600, 6011/ 6012
- MIL-P-55110
- PRF-31032
- MIL-P-50884
- MIL-P-50884
- NASA
- WS-6536
- ELV
- AS-9100
- NADCAP

## Locations

1220 N. Simon Circle  
Anaheim, CA 92086  
714-688-7200

1992 Tarob Court  
Milpitas, CA 95035  
408-263-0940

3471B McNicoll Avenue  
Toronto, ON Canada  
416-283-4888

1200 Severn Way  
Sterling, VA 20166  
703-652-2202

12080 Debartolo Drive  
North Jackson, OH 44451  
330-538-3900