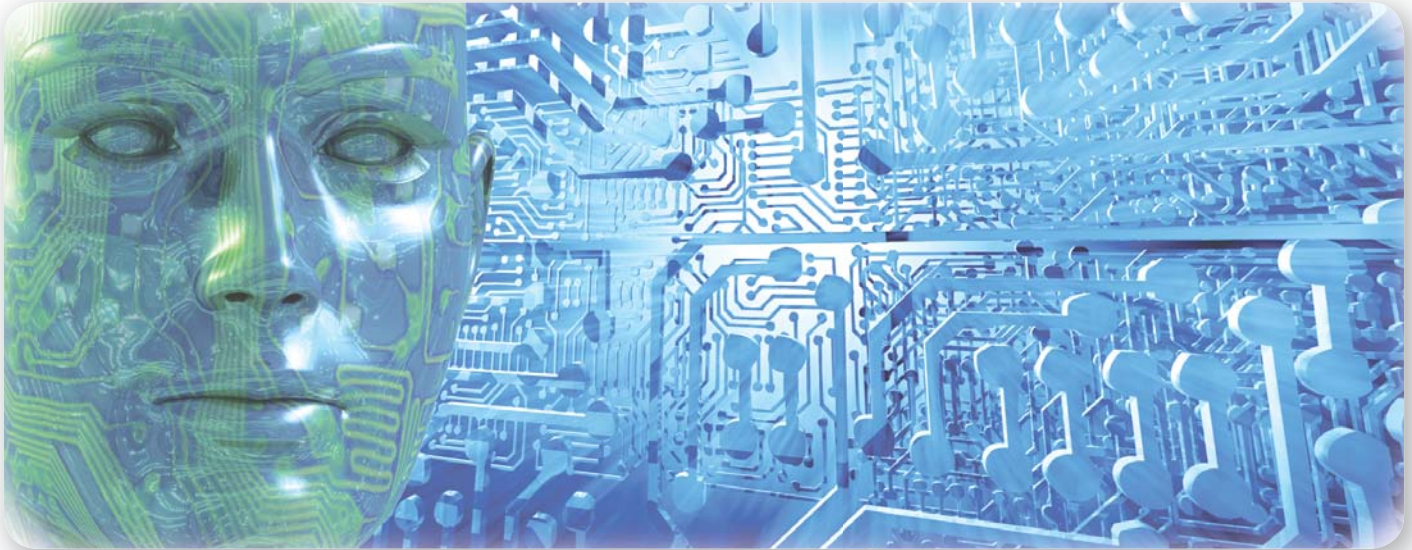


Keep Your Design – Change Your Perspective

Comprehensive Circuit Card Assembly Services for Mission-Critical Applications



Microsemi's circuit card manufacturing capability is specifically targeted for the development of high-mix boards in low-to-medium volumes for the defense and aerospace industries. Operator certification, equipment selection, and process development are targeted to achieve the versatility necessary to produce experimental prototypes, pre-production orders and full production. We offer a comprehensive array of services, including:

- IPC 610, Class 3 assembly
- Semiconductor package design
- Design, test and assembly
- Circuit board schematic and layout design
- Component selection
- On-shore development
- Turn-key product assembly

We are skilled at high-end fine pitch SMT assembly and inspection, as well as assembly technology of COB, CSP and BGA. We can also perform rework, if necessary. Our experienced in-house design and manufacturing engineering team can support build-to-print or design-to-specification projects through the use of well-defined and documented processes which alleviate production concerns and enhance reliability.

Our extensive knowledge of circuit board miniaturization allows us to design and construct with proven reliability and manufacturability by extending the capabilities of traditional manufacturing equipment to higher tolerance levels.



PMG - Microelectronics (also DBA as White Electronic Designs Co.) is a wholly owned subsidiary of Microsemi Corp.

3601 E. University Drive ■ Phoenix, AZ 85034 ■ Tel: 602.437.1520 ■ Fax: 602.437.9120

Circuit Card Capabilities At A Glance

Design and Layout Simulation Capabilities

- Sigrity – 2D/3D FEA
- SiSoft – Signal Integrity Software
- Hyperlynx – PCB baseline analysis
- CF Design – Flow and Thermal Analysis
- Mentor Graphics PADS
- SolidWorks
- AutoCAD
- Pro/Engineer 3D

Hardware Platforms

- Agilent 93000 and 83000
- Agilent 3070 in-circuit tester, bed of nails
- Megatest Genesis II
- Teradyne J997 and J994
- Micro Module Systems M1X (high I/O)
- Various auto-handler and batch load data retention systems

Industry Specifications

- IPC 2221 and 2222
- J-STD-001C
- ASME 14.224
- IPC 7711 and 7721

Manufacturing Certifications

- ISO 9001-2000/AS9100
- MIL-PRF-38534 (H & K)
- IPC 610 – Class 3
- J-STD-001
- MIL-PRF-38535 (B)
- DoD
- ISO 14001 (future)

Manufacturing Capabilities

- Multiple surface mount technology (SMT) lines with assembly including ball grid array (BGA) and FBGA to 0.5mm, chip scale packages (CSP), TSOP, PLCC and QFP
- Chip-on-board (COB), wire bond or flip chip attach ≤ 200 micron pitch
- Leaded and Lead-Free Assembly
- Double-sided and through-hole assembly
- Press fit connectors
- 01005 devices
- Stacking and underfill of components
- Thermal mounts
- Conductive epoxy attach for low temperature substrates
- Conformal coating
- ESS systems
- Environmental testing

Verification Tools

- F1 optical inspection system
- YTX-3000 X-ray system
- X-ray fluorescence spectroscopy (XRF)
- Scanning acoustic microscopy (SAM)
- Air-Vac DRS 24NC.2D BGA/SMD rework system

Test Software Languages

- UNIX®
- C++
- BASIC
- QTL®
- ASSEMBLY

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