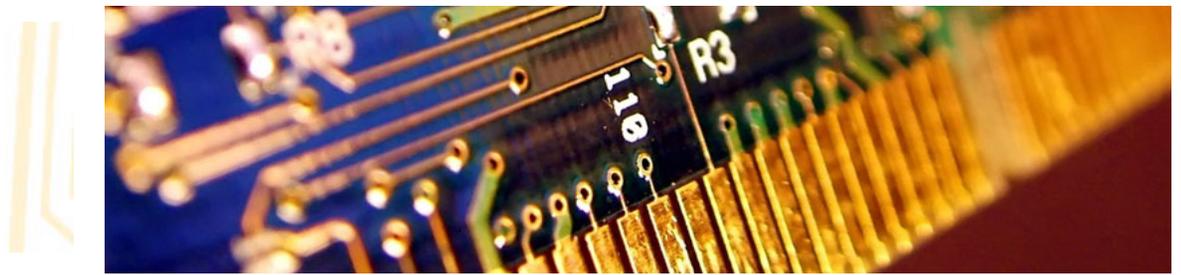
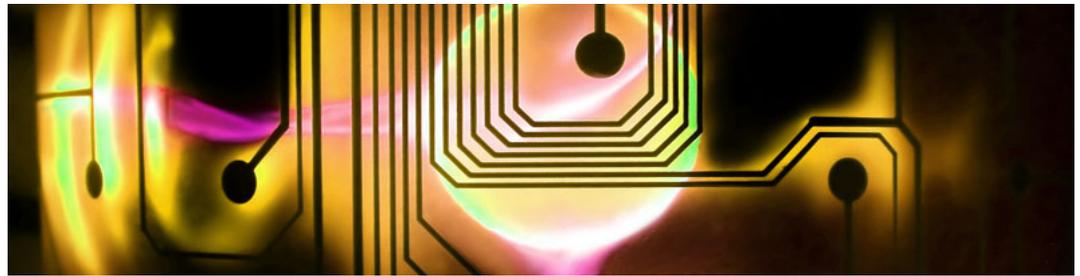


***Your End-to-End PCB products design
and Manufacturing in the 21st Century***



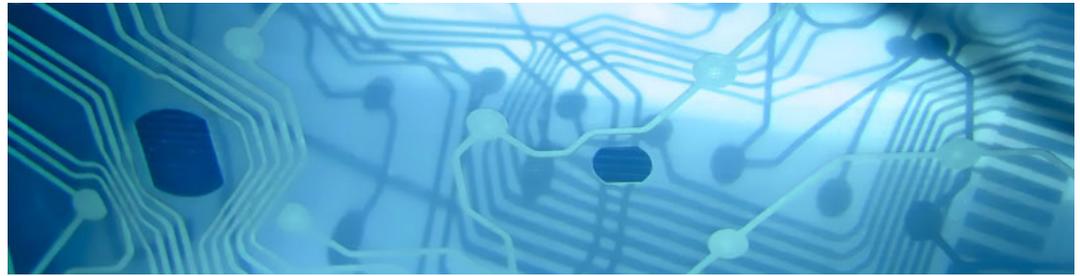
Who Are We?

An engineering and manufacturing company dedicated to the advancement of technology that provides solutions related to electronics design and manufacturing



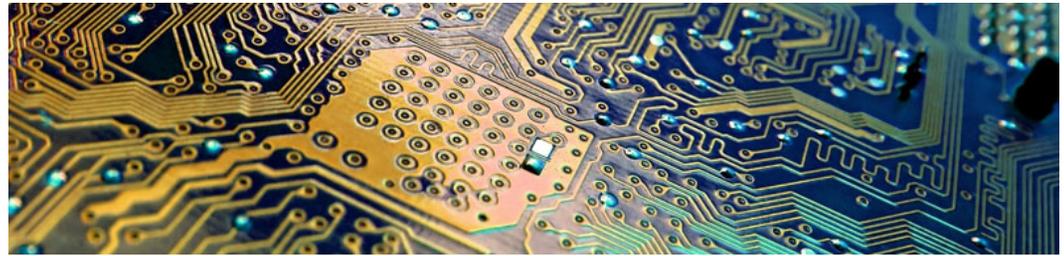
Mission and Objectives

Our mission is to propel the productivity of electronics based companies to a higher level of performance.



Company Overview

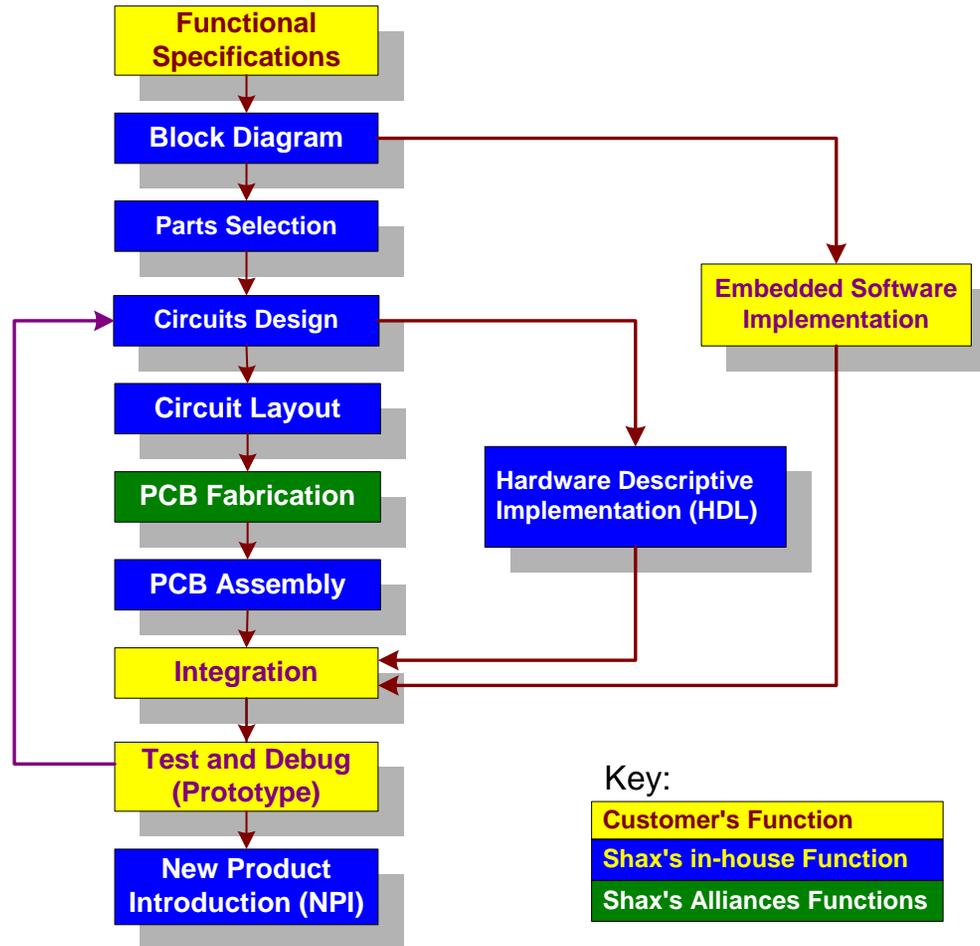
- **Established 1998 with the objective to assist electronic product development**
 - **To provide integrated and complemented Electronic and Manufacturing services**
 - **Aid in transforming product from lab to manufacturing**
 - **Unique blend of industry knowledge and expertise**
-



Why Outsource is Beneficial

- Free up resources and redirect focus into core business
 - Cut operating cost and improve cash flow
 - Eliminate technical resources shortage
 - Shorten time to enter the market
 - Reduce R&D and manufacturing risk
 - Provide center point of accountability
 - Increase overall company performance
-

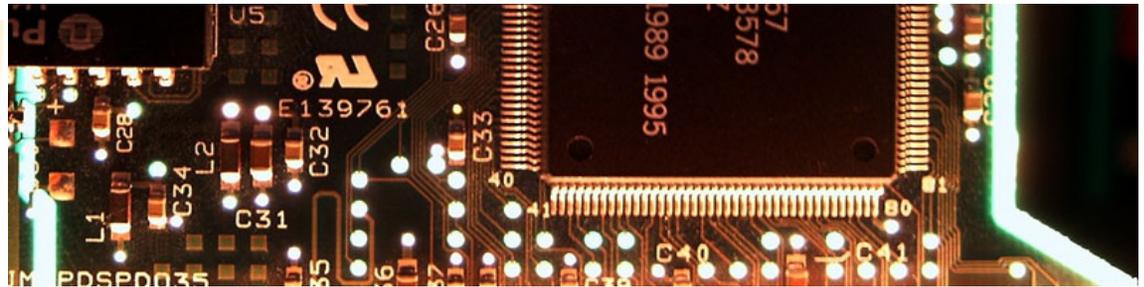
PCB Development Process





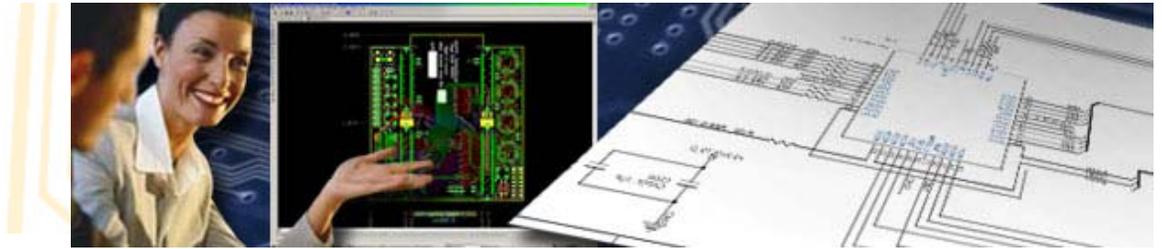
The Services





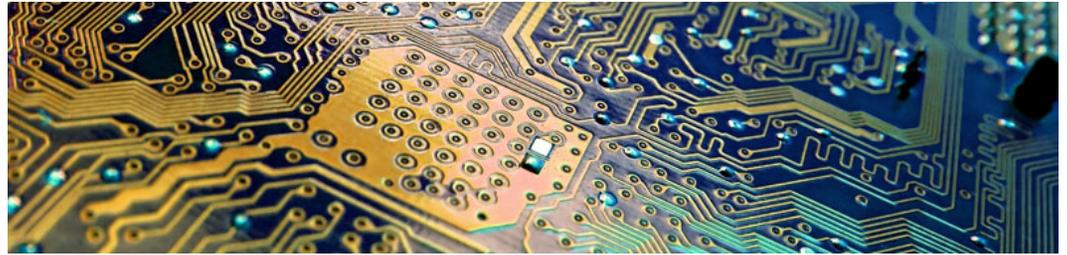
Circuit Design

- Digital and Analog circuit design expertise
 - Specify parts required to fulfill design specs
 - Produce circuit schematics and NETLIST
 - Implement Hardware descriptive languages (VHDL or Verilog)
 - Perform hardware integration
 - Provide test and debug
 - Analyze and optimize cost
-



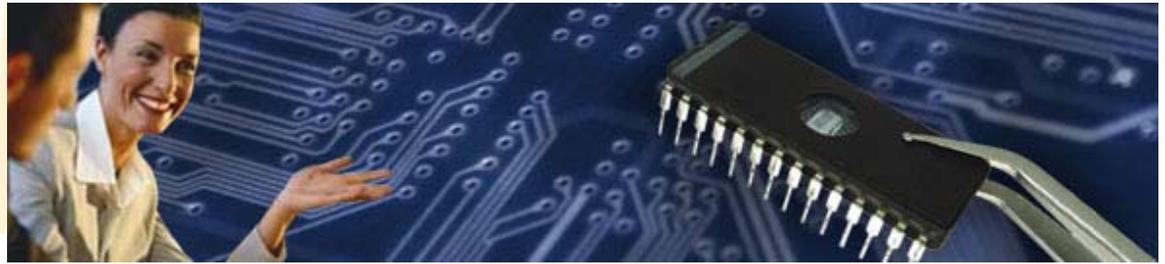
PCB Layout

- **World-class PCB layout service with high degree of reliability**
 - **PCB layout for high-speed, high density digital, analog and RF designs**
 - **Manage complex designs and signal integrity issues**
 - **Conservative PCB layout for Industrial Strength boards**
 - **Fixed schedule and on-time delivery**
 - **Layout designs conforming to IPC standards and Industry recommendations**
-



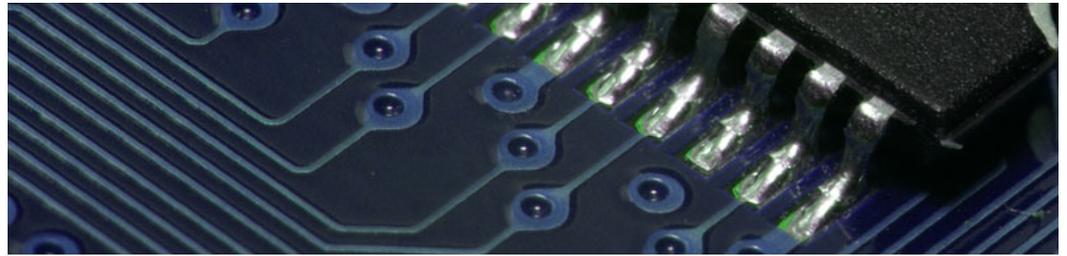
PCB Fabrication

- Local and International PCB manufacturing partners
 - Prototype and production quantities
 - Design rule and NETLIST check
 - 2 - 40 Layer capabilities
 - Impedance modeling and layer stack generation
 - Blind and buried VIAS, MICROVIAS and stacked VIAS
 - Base and high temperature material and low loss Epoxy
 - BGA, MicroBGA, SMT and Edge plating
 - Selective plating finishes including Gold, Immersion Gold, HASL and Immersion Silver
-



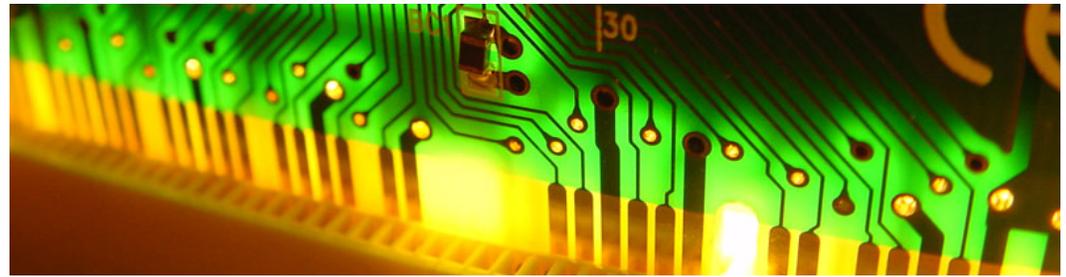
PCB Assembly

- Turnkey, consigned and combined assignments
 - Quick turn, High-mix, mid to low run and preproduction
 - IPC-610 Class II & Class III Workmanship
 - Active packages include: Through Hole, SMT, QFN, BGA and Micro BGA
 - Passive parts sizes down to 0201 with 01005 capabilities
 - Lead Free and RoHs Compliance assembly
 - Material acquisition and management capability
-



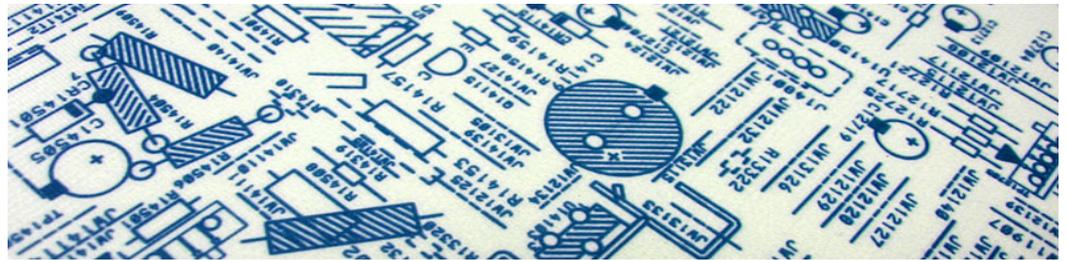
PCB Rework & Test

- **Rework including SMT, BGA removal, re-Balling, Reflow and trace repair**
 - **Components level, wire level and lead repair**
 - **Parts and Hardware programming**
 - **Functional, in-circuit and boundary scan test**
 - **BGA visual and X-ray inspection**
-



What Makes Us different

- **Over combined 80 years of technical expertise and knowledge**
 - **Project and product management skills**
 - **95% client reorder rate**
 - **We are creative, innovative and problem solvers**
 - **The ability to communicate, analyze and resolve technical issues effectively**
 - **Our Ability to get along with your team**
 - **We Accept full responsibility for the work we perform**
 - **A true partnership relationship will be established**
-



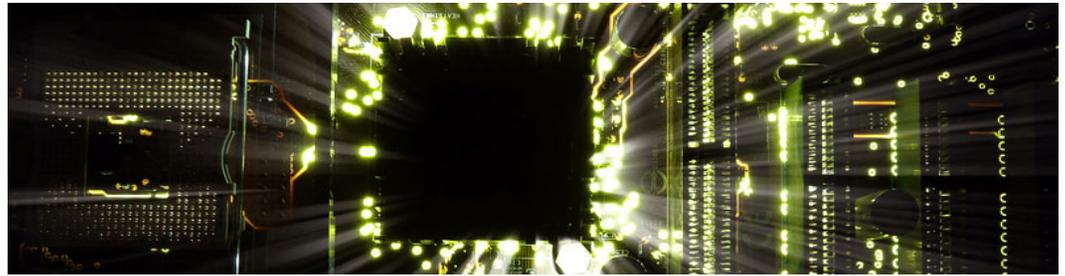
Benefits we Bring

- **Complemented design services from concept to production**
 - **State-of-the-Art automated assembly process**
 - **Pool of expertise, design and development tools**
 - **Improve product cost performance**
 - **Allow clients to focus on core technology**
 - **Increase response to industry cycle**
 - **Mitigate technology and manufacturing risk**
 - **Buffer the stress of cyclical engineering workloads**
 - **Peace of mind**
-



True Partnerships

- We truthfully furnish our capabilities to our clients
 - We safeguard our client's trade secrets and confidentiality
 - We avoid conflicts of interest
 - We make clients aware of any potential conflict of interest
 - We provide clients with honest and fair objective recommendations
 - We do not use client's resources for benefit of Shax or its employees
 - We maintain good working relations with the client's staff
 - We adhere to the client's rules and regulations
-



Technology Areas

- **Communications and Network Products**
 - **Medical Device Products**
 - **Consumer Electronics Products**
 - **Semiconductor Manufacturing Equipment**
 - **Control and Industrial Equipment**
 - **Automotive and Avionic Instruments**
-