

CORE SOURCE

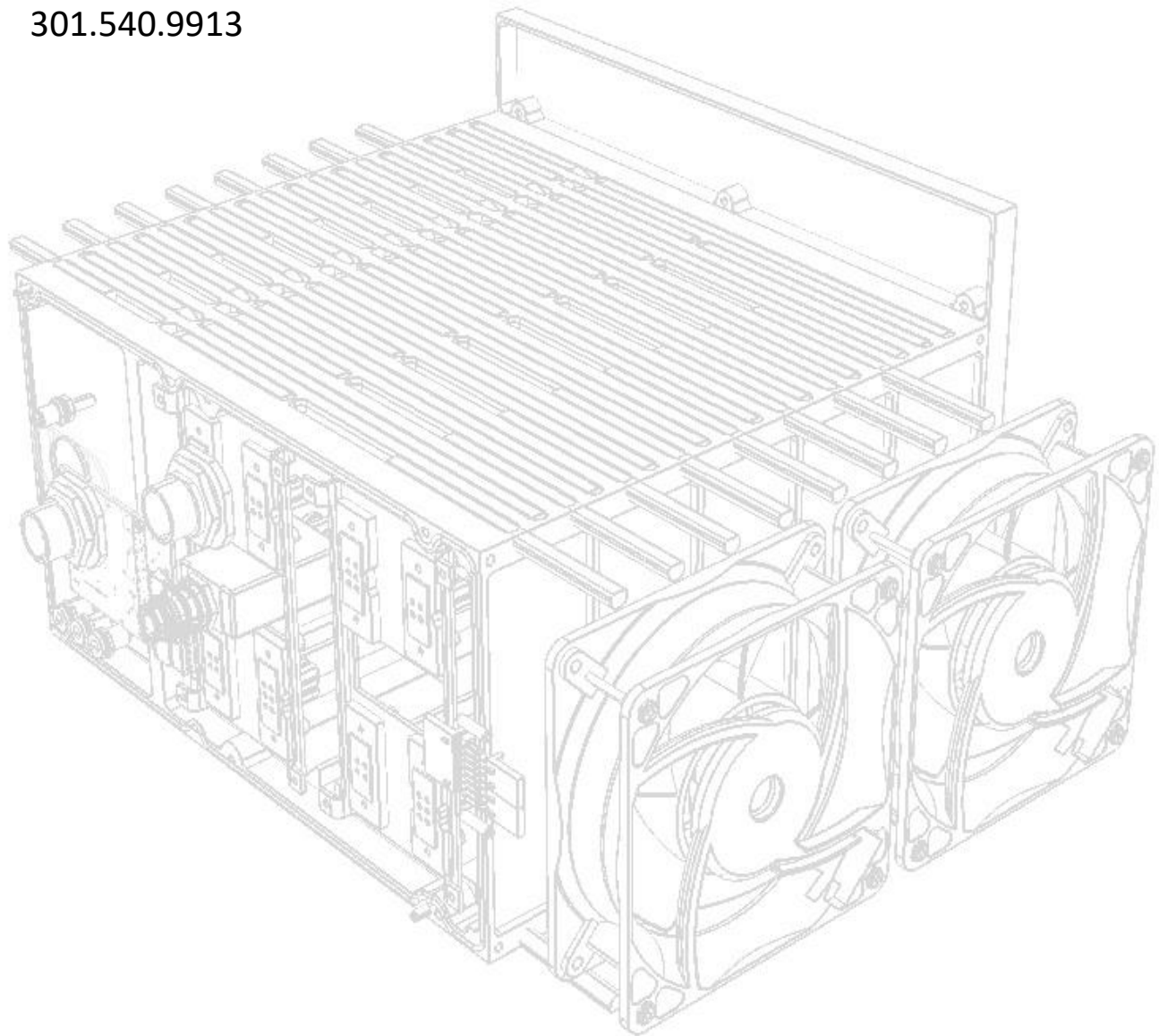
TECHNOLOGIES, LLC

Products Engineered for Success

On Time – Within Budget – Without Surprises

www.coresourcetek.com

301.540.9913



Mechanical Engineering • Hardware Engineering • PCB Design •

Supply Chain • Rapid Prototypes • Regulatory Compliance • Technical Publications • Low Volume Production

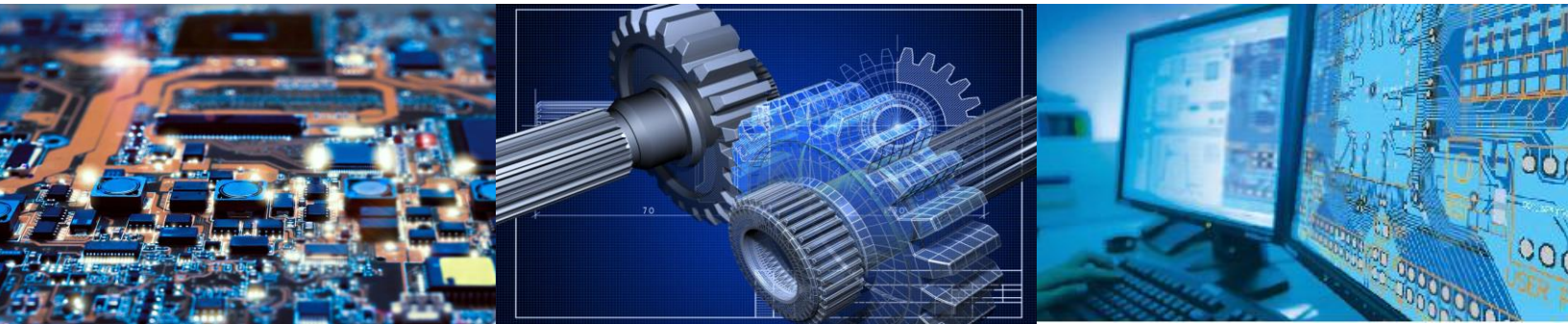


Our Offerings

Accelerating Innovative Solutions

Who We Are

Core Source is a core engineering services firm specializing in providing cost effective partial or full turn-key outsourcing solutions for today's flexible and demanding product development environments. Our team can be quickly integrated into any phase of the product development lifecycle adding new life to a slow project or to meet special resource and technology needs. Our core business focus is on accelerating product development timelines through innovation, experience and cost-effective solutions.



Our Value Proposition

Core Source Technologies has a documented history of success since 2003 of working closely with customers to help them meet their engineering development needs. Our guaranteed pricing and scheduling is supported by our experienced "get it right the first time" team that can assist you with the following:

- Mechanical Engineering
- Embedded Software Engineering
- Hardware Engineering
- Circuit Board Design
- Technical Publications
- Regulatory Compliance Services
- Low-Volume Manufacturing Services
- Supply Chain Management
- Testing Development

Core Source will provide you with the tools and expertise to meet your goals.



Engineering Services

Accelerating Innovative Solutions

Mechanical Engineering

Mechanical Engineering & Design Services

- High Performance Engineering in Emerging Technologies
- Electronic Packaging in Sheet Metal, Injected Plastic, and Castings
- 2D/3D Mechanical Design / Drafting
- Thermal, Structural, and Modal Analysis
- EMI Shielding
- Flex Circuit and Cable Design
- Complete Documentation
- Designs Reviews

Development Tools

- SolidWorks
- PTC Creo and Legacy Wildfire
- AutoCAD
- Autodesk
- Autodesk CFD; Thermal Analysis
- PTC Creo Simulation; Structural Analysis

Low Volume Production

Expertise in innovative solutions

Highly experienced in Low Volume Production (LVP) that meets challenging defense, consumer, and commercial requirements:

- Design for Manufacturability & Assembly (DFMA)
- Supply Chain Management
- Full or Partial Kitting Solutions
- Verified Build & Test Documentation
- Test Fixture Development
- Test Procedures
- Assembly, Integration & Test
- J-Std-001/IPC-610, 620 certified

Regulatory Compliance

Regulatory Compliance and Product Certification Support Services

- Safety Certification Support
- CE Mark Certification Support
- Environmental Simulation Testing Support
- NEBS Testing Support
- Project Management through Certification Process
- Complete Test Documentation Deliverables
- Risk Mitigation
- Prototyping Support, Assembly and Rework

Hardware Engineering

Electrical Design

- Digital Design
- Analog Design
- RF Design
- Control Circuits
- Power Supply Design – DC to DC
- Board Level Design Implementation, Schematic Capture, Component Selection, PCB Layout Guidance, Placement and Routing
- Design for Manufacturability – High Volume
- System Architecture Design
- Design Reviews

Engineering Analysis

- Power Analysis
- MTBF / Reliability

Development Tools

- Cadence Allegro/OrCAD
- Altium Designer
- IDE's
- Spice

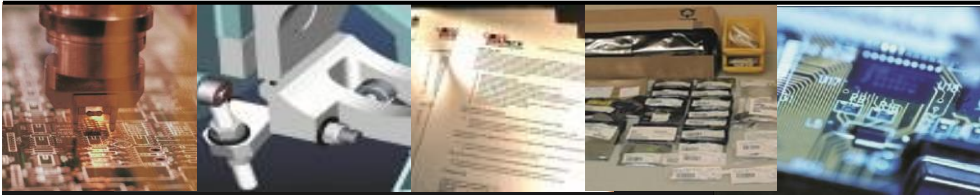


Exceeding Your Expectations

Our Low Volume Production (LVP) team can meet your most challenging deliverable demands incorporating the highest quality. Your LVP is supported by full time CST certified technicians. All IP (intellectual property) is a deliverable. It's up to you, how far you'd like to go.

Compliance Partners

Eurofins MET Laboratories, Inc.
914 W. Patapsco Ave.
Baltimore, MD 21230



Engineering Services

Supply Chain Services

Manufacturing Consulting

- Skill Set Development
- Problem Recognition
- DFMA Analysis: Product – Process – Supplier Interfaces

Supply Chain Development

- On Site Audits/Process Capability Analysis/Core Competence Review
- Services Level Agreement/Post-Sales Support
- Corrective Action Analysis
- Negotiations and Contract Development

Procurement and Supply Chain Strategy and Support

(Prototype through Production)

Procurement and Forecasting (Based on client's schedule and need)

- Supply Chain Risk Management
- Relationship Management – Ensure timely deliveries and phase transitions among manufacturers
- Logistics and Distribution
- Inventory Management
- Lean Manufacturing Techniques
- Just in Time (JIT) Practices

Rapid Prototypes Services

Electrical Support

- PCB Assembly and Inspection
- PCB Rework and Change Management
- Electrical Debug and Testing
- Test Fixture Development and Fabrication
- Reverse Engineering – Electrical
- Component Research and Selection

Mechanical Support

- Prototype Fabrication, Assembly, test and Rework
- QA Inspection and Reports
- DFX (Manufacturing, Fabrication, Test and Cost)
- 3D Printing
- SLA (Stereolithography)
- SLS (Selective Laser Sintering)
- FDM (Fused Deposition Modeling)
- Cast Urethane Plastics

Component Selection

- Part Analysis (Research, Validate, obsolescence check, component alternatives)
- Component Availability Check
- Risk Mitigation
- Supplier Identification (Identify those who can meet schedule)

Price Negotiation

- Market Introductions with aggressive Unit Costs
- Component Alternatives and Price Negotiation
- Optimized Bids and Purchases via Trends and Seasonal Cycles

Kitting

- Supplier Identification and Negotiation
- Collaborative Relationship Management (Coordinate Kitting with client, contract manufacturers, or both)
- Scheduling (Coordinate manufacturer schedules to ensure on time delivery)

Cost tracking

- Plan, Forecast, and Track Costs
- Project Actual to Plan Cast Analysis

DFX Services

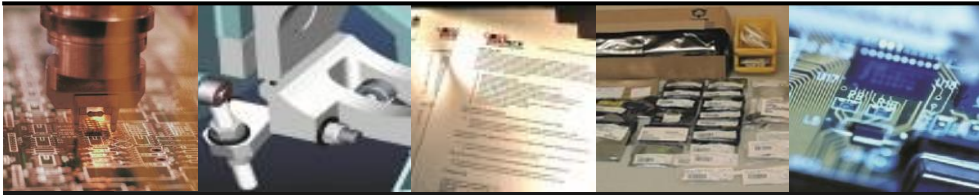
- BOM Analysis
- Top Level and Sub-assembly, Build Evaluation
- Fabrication and Assembly Drawing Review
- Illustrated Technical DFX Report Generation
- Serviceability Analysis

General Service

- BOM Generation and Management
- Purchasing, Receiving, and Kitting
- Prototype Mainframe Assembly
- Regulatory Compliance Support
- Assembly Aid Design and Fabrication
- Design Reviews

Certifications

- IPC-A-610, IPC/WHMA-A-620, IPC J0STD-001



Engineering Services

Technical Publications

Technical Writing & Publications Services

- User Guides
- Operator Guides
- Installation Instructions
- Maintenance and Services Manuals
- Instructions, Bulletins and Notices
- Product and Service Brochures
- Software Life Cycle Documentation
- Training Materials
- Online Help

Internal Business Publication Services

- Standard Operating Procedures (SOPs)
- Policies
- IT Process and Workflow Guides
- Disaster recovery and Contingency Plans

Support Services

- Editing
- Templates
- Style Guides
- Quality Control
- Document Conversions

Development Tools

- Word, InDesign, FrameMaker
- Dreamweaver, HTML
- Acrobat
- Visio
- Adobe Illustrator
- Paint Shop Pro, SnagIt

PCB Design

PCB Design Services

- PCB Layout
 - Rules Driven Designs (Design Constraints)
 - Digital, Analog, RF, low noise, high voltage
 - Controlled Impedance/Length Matching
 - .35mm uBGA to 2200+ pin BGAs
 - Laser, Stacked, Buried vias, via-in-pad, back-drill
 - High speed (XAUI, PCIe, SerDes, LVDS, Fiber Channel, Gig-E, etc.)
 - DDR2, DDR3, DDR4 memory
 - Flex and Rigid-Flex Circuits
 - Power Supplies, Heavy Copper
 - FPGA/CPLD pin swaps, via minimization
 - Stack-up development and verification
 - Preferred Outputs for Fab Houses and CMs
 - Designed for prototype to high volume
 - Sub-panel array optimization
 - Schematic Capture
 - Comprehensive Checking – design improvement feedback to get it right on the first REV
- PCB Library Development
 - Optimized IPC PCB Footprints
 - Schematic Symbols
- DFX Analysis (DFM, DFA, DFT, etc.)
- Design Reviews

Development Tools

- PCB Layout Tools
 - Cadence Allegro/OrCAD PCB Designer
 - Altium Designer
 - Mentor Xpedition
- Netlist inputs from most front-end tools
- Output Formats
 - IPC – 2581
 - ODB++
 - Fabmaster
 - IDF 3-D Mechanical Interface
 - DXF
 - Gerber RS274X
- Schematic Capture Tools
 - OrCAD Capture
 - Altium Designer
 - Cadence ConceptHDL
- GoToMeeting screen-sharing ensures rapid responses to questions and real time assistance with Design Review milestones
- Schematic and PCB Translations
 - Altium Designer to OrCAD/Allegro
 - OrCAD/Allegro to Altium Designer