



MicroLOGIX

Electronic Design and Manufacturing Services





MicroLOGIX

MicroLOGIX is a **Full Services Electronics** Company offering

- OEM and ODM Contract **Manufacturing** Services to Industrial, Defence, Automotive and Medical Segments
- Complete Design Solutions with Hardware, Software and Mechanical Elements
- Manufacturing ranges from PCB Assemblies, Wire Harnesses and Wired Modules and Cabinets
- AOI, X-Ray Inspection and BGA Rework Capabilities
- Product Validation, Reliability Testing to MIL, Medical, Industrial Standards to UL/CE

Quick Facts

- **Established in the year 1997 - 25 Years Old**
- **IPC610 and 620 Certified Resources**
- **Located in Peenya – Industrial Hub of Bangalore**
- **State-of-the-art facility spread across 20,000 Sq. Ft. in 4 Floors**
- **Strong team of 80+ Employees**
- **Certifications : ISO9001-2015, IATF-16949:2018, AS9100:2016 and ISO14001:2015**
- **Company-wide ERP System for Efficient Material, Product Data and Finance Management**
- **Dedicated NPI, Engineering and Prototype Teams**

Services

IPC610 and 620 Certified, High Standards Manufacturing Services

Prototype Manufacturing

- Scope
 - PCB Fabrication - Component Procurement - Import - PCB Assembly SMT and TH
- Small Volumes 1 to 100 Nos
- 10-12 Days Turnaround Time WITH Dedicated Team
- BGA Assembly with X-Ray Inspection
- Automated Rework Machine Capabilities

Turnkey - Mass Manufacturing

- Scope
 - PCB Fabrication - Component Procurement - Import - PCB Assembly SMT and TH - Wire Harness - Testing - Box Build
- Volumes 100 to >10K Pcs
- 4-6 Weeks Turnaround Time
- BGA Assembly with X-Ray Inspection
- Automated Rework Machine Capabilities

Industry Vs Products

Defense

- Mil Grade Power Supplies
- Sonar Power Amplifiers
- Display Cabinets
- Indication Panels
- Power Distribution Panels

Automotive

- Headlamp Levellers
- Bus / Truck Air-conditioning Controls
- 2/4 Wheeler LED Tail & Stop Lamps
- Engine Cooling Fan Drives

Power

- SMPSs Up to 500 Watts
- High Efficiency DC-DC Converters
- LED Lighting Drivers
- BLDC/ Stepper Motor Drives
- Solar Charge Controllers

Medical / Dental

- Dental Chair Controls
- Medical Furniture Controls
- LED Phototherapy Controls
- Surgical Light SMPS & Intensity Controls
- Dental Micromotor & Trolley Controls

Manufacturing Services

Infrastructure

Manufacturing

- **Production Lines**
 - **2 RoHS SMT Lines**
 - **Through Hole Assembly and Box Build Lines**
- **RoHS and Non-RoHS Wave-soldering machines (TSG (RoHS), EPS)**
- **Automatic Component Forming Machines (OLAMEF)**
- **PCB Assembly to Box Build Capabilities**
- **Optimized Plant Layout for high level of productivity**
- **Good Manufacturing Practices (GMP) - 5S, Kaizen, SQC/SPC and 7 QC Tools**
- **Burn-in and Temperature and Humidity Cycling Using Chambers**
- **Barcode Labelling for Product Traceability**

Infrastructure

Manufacturing

	Equipment	Manufacturer	Qty
1	Pick & Place Machines	Yamaha - YSM10	1
2	Pick & Place Machines	IPulse - M4S	2
2	Reflow Oven - RoHS 9 Zone - MR933	Vitronics Soltec	1
3	Reflow Oven - RoHS 9 Zone - 1809EXL	Heller	1
4	X-Ray Inspection Machine	UNICOMP - AX7900	1
4	Automatic Optical Inspection Machine	VI Tech - 2K Spectro	1
5	Rework Station for BGA, QFN, TQFP	RW-SV650A	1
6	Automatic Solder Paste Printer	GKG G-Star	1
7	Wave Soldering Machine	EPS	2
8	Reflow Oven Profiler - 6 Zone	SolderStar	1
9	Wave Soldering Machine - RoHS	TSG, Japan	1

Infrastructure



Complete SMT Line - 1

Infrastructure



Through-Hole Line - 1

Infrastructure



Box-Build Line for Defense/Aerospace

Infrastructure

Pick and Place Machines

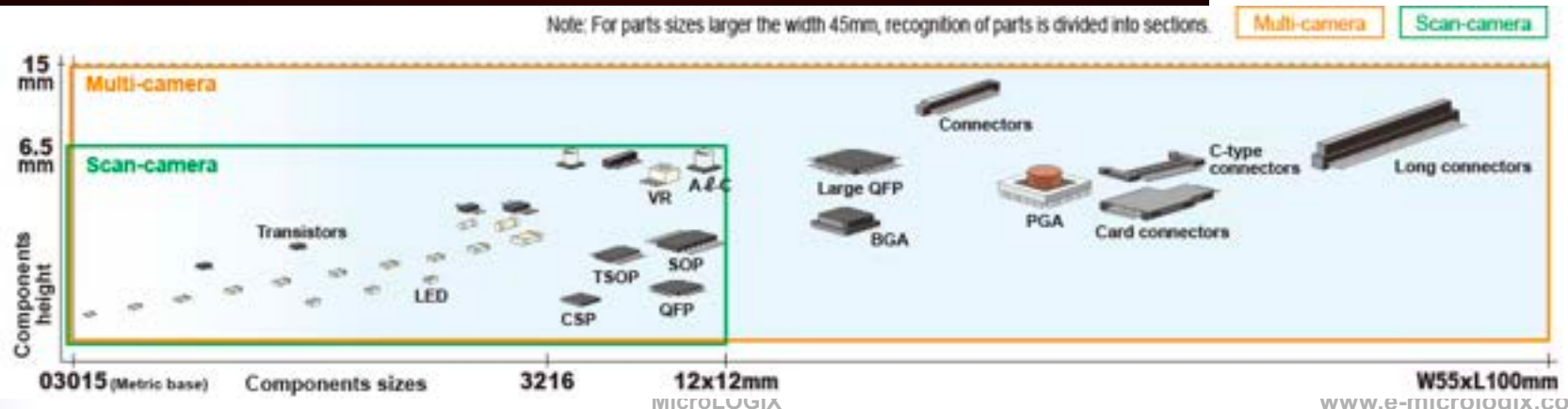
Compact High-Speed Modular

YSM10



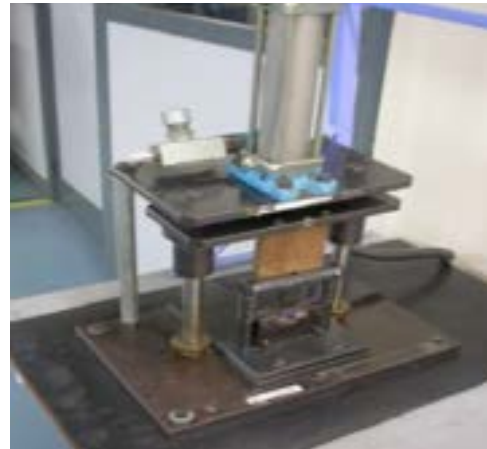
- Yamaha Make, Japanese Made machine - Model YSM10, 45000 CPH
- Superior Placement Accuracy
- Capable of mounting up to **01005 Size** Components and as below listed

Note: For parts sizes larger the width 45mm, recognition of parts is divided into sections.



Infrastructure

Automatic Forming Machines



Infrastructure Inspection Systems



- Unicom Make
- 90KV High Power X-Ray Tube with Adjustable Power
- 600X Magnification
- 460x400mm PCB Size

X-Ray Inspection Machine

Infrastructure Inspection Systems



**Video Microscope with 300X
Magnification**



**VI 2K Spectro
Aol with 8 Mega Pixel Camera**

Infrastructure

BGA Rework Station



- Unicom Make
- 3 Zone Heating System for Higher Safety
- Camera Inspection with X-Y Movement
- 550x500mm PCB Size
- 70x70mm BGA Size Max
- Color Monitor for Better Viewing
- Built-in Vacuum Pump for IC Removal
- Storage and Retrieval of Board/ Customer Specific Programs

Testing

Automated Testing



In-Circuit Tester



Semi-Automatic Tester

Infrastructure

Box-Build

- **Complete Product Build Capabilities**
- **Device Programming**
- **Functional Testing - Manual and Using Fixtures**
- **High Voltage Break-down Testing up to 5KV**
- **Insulation Testing**
- **Potting / Conformal Coating Facility**
- **Burn-in Ovens (Large Size)**

Infrastructure

Test & Measuring Equipments

	Equipment	Manufacturer	Qty
1	Thermal/Humidity Chamber	Thermotron	1
2	Dry Heat Chamber	Comet Environs	1
3	Digital Storage Oscilloscopes	Lecroy/ Tektronix/Iwatsu	5
4	LCR Meter	Leader & Aplab	2
7	Digital HV Break-down Testers	Kikusui	2
8	Digital Temperature Scanner	Yokogawa	1
9	6 1/2 Digit Multimeters	HP/Kenwood	3
10	Power Analyser	Fluke	1

Infrastructure

ESD Compliance

- **Conductive Epoxy Shop-floor for Superior ESD Compliance.**
- **All the working tables/benches are Covered by ESD Mats. Special isolated copper earth for better conductivity.**
- **Antistatic Wrist band and foot wear for every operator/technician**
- **Conductive Discharge Plate for every major facility**
- **Materials/components are handled in Anti-static trays. All the material storage racks are grounded to ESD earth points.**
- **Periodic Anti-static Audits**
- **Plastic/nylon material pouches are avoided in production.**
- **No Charge Generating Nylon or synthetic materials used**

Material Management

- **Components Sourcing from US/Europe/Asia and Japan**
- **Freight Forwarding/Clearing Capabilities**
- **Familiar with Import/Export formalities with IEC Code, Import/Export Accounts with DHL/FedEx for Quick Deliveries**
- **Kitting, Consolidation and Forwarding Capabilities**
- **Material Traceability through ERP, Barcode Reader and Printer**
- **Antistatic Storage and Handling**
- **Temperature Controlled Storage for Critical Items**
- **Material Pick up and Delivery Facilities for Contract Assembly**
- **Good Mechanical Vendor Base - Manual to CNC**

Process Capabilities

- **Automotive Specific Capabilities**
 - IATF-16949:2018 Certified Operations
 - APQP - Production Part Approval Process (PPAP) capability
 - PFMEA/DFMEA Analysis
 - 8D Analysis for Product/Process Related issues/
Customer Complaints
 - Control Chart

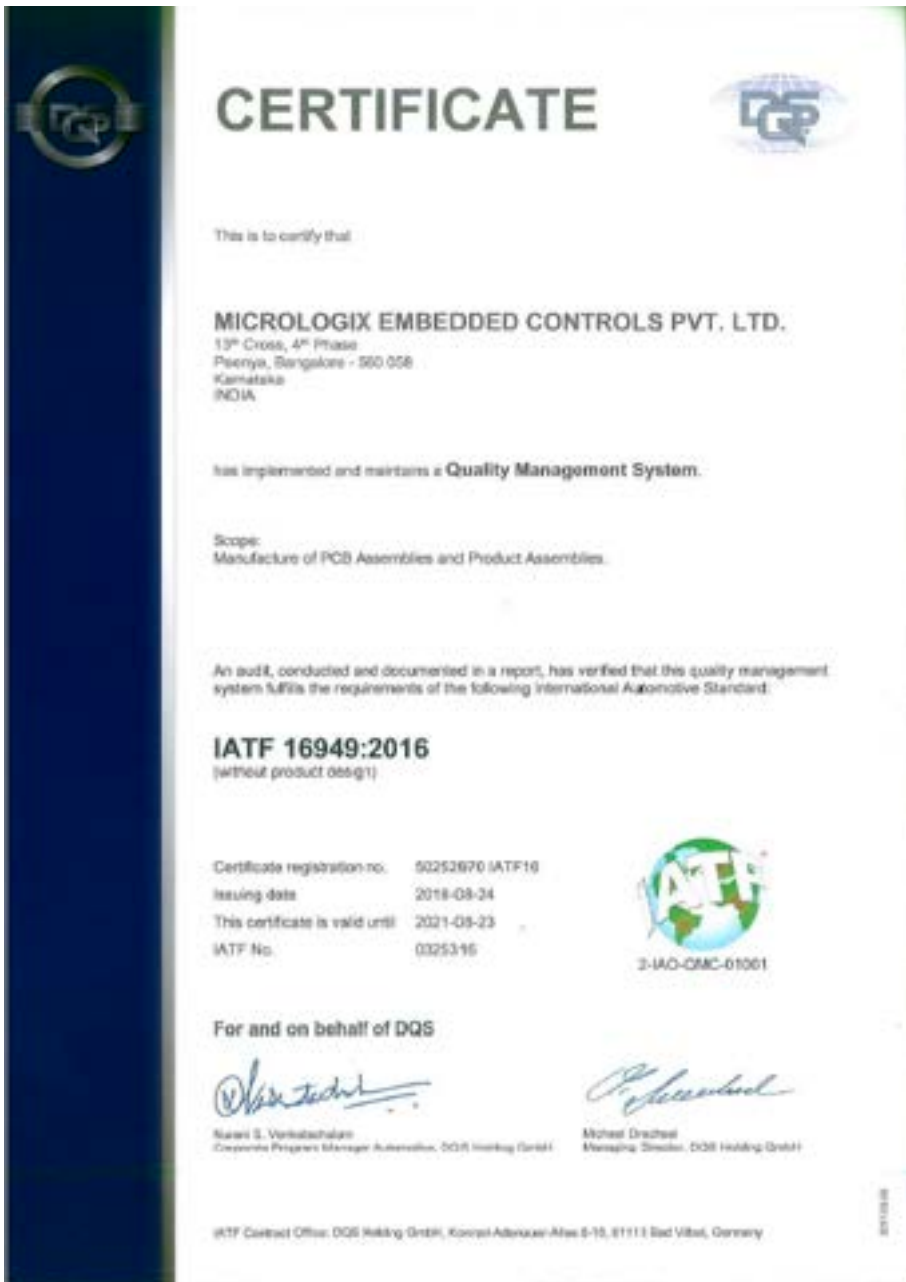
Quality Systems

Quality Management System

- **ISO9001-2015 for General Operations**
- **IATF-2018 for Automotive Products**
- **AS-9100 : 2016 for Defense and Aerospace Products**
- **ISO 14001:2015 for Environmental & Safety Compliance**
- **IPC610 and IPC620 Certified Team for PCB Assembly and Wiring**

Automotive - IATF 16949:2016

General - ISO9001:2015



Environmental - ISO14001:2015 and AS9100



CERTIFICATE OF APPROVAL

Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Environmental Management Systems of

Organisation: MicroLOGIX Embedded Controls Pvt. Ltd.

Address: #473/D, 13th Cross,
4th Phase, Peenya Industrial Area,
Bangalore - 560 058

has been assessed and found conforming to the following requirement

Standard: ISO 14001:2015

Scope: Manufacturing of PCB Assemblies and
Electromechanical Products for Automotive
and Other Applications

Certificate No.: IRQS/1730358

Original Certification Date : 17/04/2017

Current Date of Granting : 17/04/2017

Expiry Date : 16/04/2020



Shashi Nath Mishra
Head IRQS

This approval is subject to continual satisfactory maintenance of the Environmental Management Systems of the organization to the above standard, which will be monitored by IRQS. The use of the Accreditation Mark indicates accreditation with respect to activities covered by the certificate with accreditation no. EM 005. Condition Overleaf

Head Office: 52A, Adi Shankaracharya Marg, Opp. Powai Lake, Powai, Mumbai - 400 072, India.



CERTIFICATE



This is to certify that

MicroLOGIX Embedded Controls Pvt. Ltd.

473D, 13th Cross,
4th Phase, Peenya Industrial Area,
Bangalore- 560 058
Karnataka
INDIA

has implemented and maintains a **Quality Management System**
for its certification structure Single Site.

Scope:

Design and Development, Manufacture of PCBA, Mechanical Assembly and Wiring Harness for Aerospace & Defense Application.

Through an audit, performed in accordance with AS9104/1, rev. 2012-01, it was verified that the management system fulfills the requirements of the following standard:

AS9100:2016

Quality Management Systems - Requirements for Aviation, Space and Defense Organizations

Certificate registration no. 50252970 AS0016A

Date of certification 2019-04-05

Valid until 2022-04-04



DQS Inc.

Brad McGuire
Managing Director

Accredited Body: DQS Inc., 1500 McConnor Parkway, Suite 400, Schaumburg, IL 60173 USA
Administrative Office: Deutsch Quality Systems (India) Pvt. Ltd., 5th Floor, Anjaneya Techno Park,
147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India
DQS Inc. is accredited by ANAB under the ICOP scheme and recognized by the Americas Aerospace Quality Group (AAQG).

Product Reliability Testing

Reliability Testing

Testing Chambers



- Thermotron USA Made Cold / Humidity Chamber
- -30 DegC to +100 DegC Testing Capability with Data Logger
- Cyclic Testing of Products



- 0 DegC to +100 DegC Burn-in of Products / PCB Assemblies
- Time and Temperature Data Logger
- Spacious enough to test multiple products at a time

Reliability Testing Test Equipments

	Equipment	Manufacturer	Qty
1	Thermal/Humidity Chamber	Thermotron	1
2	Dry Heat Chamber	Comet Environs	1
3	Digital Storage Oscilloscopes	Lecroy/ Tektronix/Iwatsu	5
4	LCR Meter	Leader & Aplab	2
5	Spectrum Analyzer for EMI Scan	HP	1
6	RF Signal Generators (3GHz)	Rhode&Schwarz	2
7	Digital HV Break-down Testers	Kikusui	2
8	Digital Temperature Scanner	Yokogawa	1
9	6 1/2 Digit Multimeters	HP/Kenwood	3
10	Power Analyzer	Fluke	1

Reliability Testing

Environmental Stress Screening (ESS)

- **On/Off Cycle Test at higher voltage (300VAC) - At MicroLOGIX**
- **Temperature Cyclic Test - At MicroLOGIX**
- **Bump and Vibration Test - Carried out in reputed labs.
Coordinated by MicroLOGIX. Certificate will be provided**
- **EMI/EMC Test - Carried out in reputed labs. Coordinated by
MicroLOGIX. Certificate will be provided**
- **Any other reliability test to be communicated - MicroLOGIX will
come up with a plan**

Design Services

Design Services



Design Services Domains



Design Services Engineering



Electronics

- BOM Entry in ERP for Inventory Tracking/ Reporting
- In-House PCB Design up to 8 Layers
- Design for Manufacturing (DfM) Support for higher productivity, quality and reliability
- Design and development of Stencils, Automated Test Equipment, Interface Test Adaptors, Functional Test Jigs development

Mechanical

- 2D and 3D Design Capability
- Design of Enclosures, Mechanical parts, Sub Assemblies and Systems
- Library of Parts created to speed up designs

E-CAD Tools

- OrCAD and PADS for Schematics
- PSPICE for Simulation
- PADS for PCB Layout

M-CAD Tools

- Autocad
- Solidworks

Design Services

Embedded System Design



- **Software Development**
 - Requirement Engineering, Development, Testing and System Integration
 - C Language Coding
 - PC Application Development
 - Android App Development
- **Hardware Development**
 - Electronics Circuits, Schematics, PCB fabrication, Assembling, Testing, Legacy Products Re-engineering and Reverse Engineering

Microcontrollers

- ARM Controllers
- Microchip
- TI

Tools

- Simulation Tools
- C-Compilers

Application

- Dental / Medical
- Digital Power Controls
- Industrial Electronics
- BlueTooth
- Touch Screen
- IR/RF Remote Controls

Design Services

Power Electronics Design



- **Power Electronics Development**
 - System Design, Schematics Development, Magnetics Design, Spice Simulation, PCB fabrication, Assembling, Testing and Reliability Testing
 - Design Team of 2 Engineers with well-equipped lab
 - Tie-up with Local **Power Integration** Design Support Centre for Design and Validation of power supplies

Platforms

- Power Integration
- National Semiconductor Simple Switchers
- PWM Controller Chipsets

Applications

- SMPS
- Battery Chargers
- DC-DC converters
- LED Lighting
- BLDC, DC and Stepper Motor Drives





Automotive Customers

- 1. Agile Electric, Chennai**
- 2. Eberspaecher Sutrak (Germany), Bangalore**
- 3. India Japan Lighting (P) Ltd., Chennai**
- 4. GlobalEdge Software, Bangalore**



Automotive Customers



- **Eberspaecher (Carrier Transicold)**
 - **Truck and Bus Air-conditioning Cabin Control Unit**
 - **Air-conditioning Control Relay Panels (4 Models)**
 - **Blower Speed Controller (Single/Dual Spindle 24V/20Amps)**
 - **Battery-less Alternator Assembly**
 - **Electronic Engine Control Panel (Under Development)**



Automotive Customers

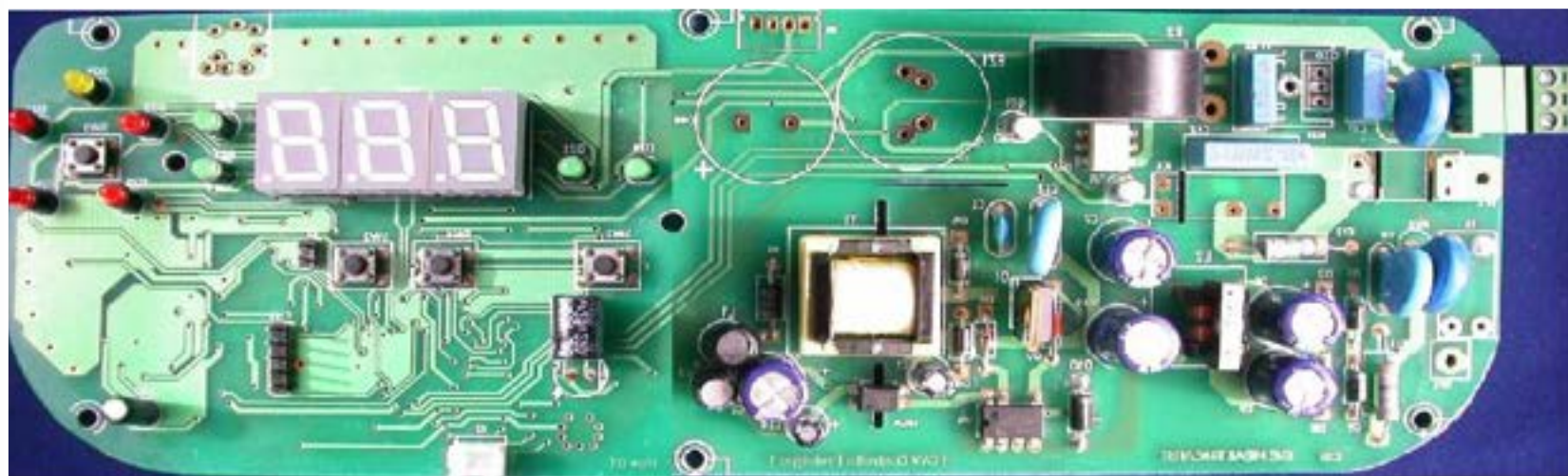
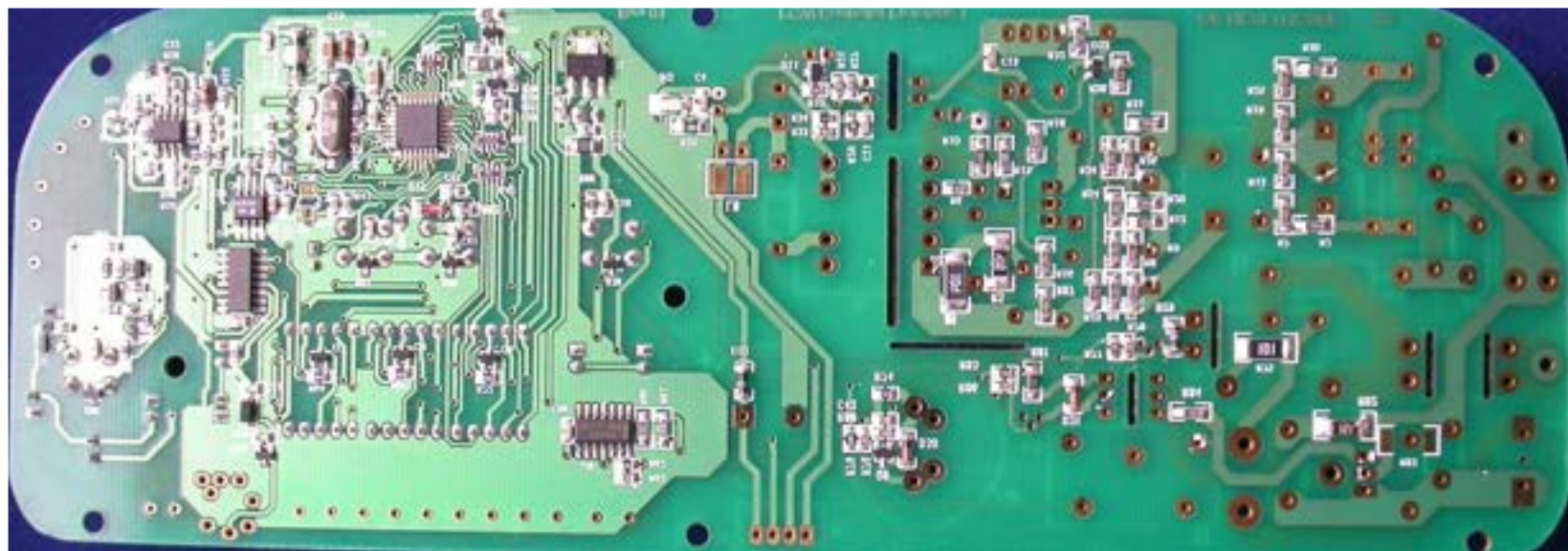


- Automotive AC Controls
- Mounted in Dash Board
- Temperature Control
- Blower Speed Control
- Heating and Cooling
- Host of Other Options



GE Healthcare, India

SI No	Project	Scope	Status
1	Infant Photo therapy Control Development	Design, Engineering, Reliability Testing and Manufacturing	In Production
2	Infant Warmer Control Development	Design, Engineering, Reliability Testing and Manufacturing	In Production





Eberspaecher, Germany

SI No	Project	Scope	Status
1	Bus Climate Control (3 Models)	Design, Engineering, Manufacturing	In Production
2	Control Panels for Bus Climate Control (3 Models)	Design, Engineering, Manufacturing	In Production



Bharat Electronics, India

SI No	Project	Scope	Status
1	Navy Ship Sonar Power Supplies	Design, Engineering, Simulation Mechanical Fabrication, Manufacturing, EMC and ESS/ET	In Production
2	Navy Ship Sonar Display Cabinets	Design, Engineering, Simulation, Mechanical Fabrication, Manufacturing, EMC and ESS/ET	In Production
3	Navy Ship Sonar Processor Cabinets (VME Cages)	Design, Engineering, Simulation Mechanical Fabrication, Manufacturing, EMC and ESS/ET	In Production
4	Submarine Power Distribution Panel	Design, Engineering, Simulation Mechanical Fabrication, Manufacturing, EMC and ESS/ET	In Production



Customers

Defence Customers



Mahindra
DEFENCE

∞ ALPHA DESIGN
TECHNOLOGIES PVT. LTD.

Industrial Customers



Honeywell



GE Healthcare, Bangalore



Schneider Electric, Bangalore

Contact Us

MicroLOGIX

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Thank You!