

# Electronic System Design and Manufacturing (ESDM)

Trust us to Deliver Everything in Electronics

# **OUR EXPERTISE**

- \* MEDICAL | OPTHALMOLOGY & ENT
- \* INDUSTRIAL | ELECTRICAL SWITCHGEAR
- \* AUTOMOTIVE | ELECTRIC VEHICLES
- \* SEMICONDUCTOR | DATA LOGGER

- \* IT | KEYBOARD & MOUSE
- \* IoT | VENDING MACHINES & SFDC
- \* SECURITY | RFID SOUTIONS
- \* AUTOMATED TEST EQUIPMENTS
- \* CONSUMER | WASHING MACHINE, LED DRIVERS, STABILIZERS, INDUCTION STOVE



#### **DESIGN AND DEVELOPMENT**

SILICONZ experienced Team has capability to provide Integrated Design Solutions and Services to our clients from concept to product box build with white labelling. Our Cross functional team interacts closely with customers for the product design development and manufacturing to deliver quality product with quick time to market.

#### PRODUCT DESIGN & DEVELOPMENT PROCESS



#### **DESIGN CONCEPT**

We provide Optimal Solution to Customers over coming on Problems in existing System / New Product Design.



#### **DETAILED DESIGN**

Work / Present the selected concept and creating defined solution at the Earliest



#### DESIGN ANALYSIS

Work on the project considering Prtotype, Manufacturing, Testing, Regulatory Complaince upto box build



Optimizing the BOM cost by selecting the prefered components for In-House Protoype and Manufacturing



#### **TESTING**

Detailed test protocol to meet the customer expectation for a Product / Solution with Custom made ATE's



#### SUPPORT

Equiped with experienced team to Support on volume planning, Component Obselence, Design Change, Field Feedbacks.

#### **SERVICES & SOLUTIONS**













### EMBEDDED DESIGN DEVELOPMENT CYCLE

#### SYSTEM ENGINEERING

- Requirment(s) Capture
- Scope Definition & Tracibilty
- FMEA, RISK Management
- System Integration & Proto-Build
- Pre-Complaince Testing
- TestJigs & Fixtures
- Verification, Validation and Acceptance

#### HARDWARE DESIGN

- System Schematics
- PCB and Hareness Planning
- Schematics Design / Simulation
- BOM Preparation
- Guideline & EID for PCB Team
- Manufacturing Guideline
- Test Plan and Test Protocol

#### **PCB LAYOUT**

- High Speed Board Desig
- Power and Analog Board Design
- Power and Signal Integrity
- DFM, DFT
- RF Antenna PCB Design
- Rigid and Flexi Combo
- Board Design complaince to Standard

# FIRMWARE DEVELOPMENT

- Bootloader Porting to Baremetal
- Driver Customization
- Standalone Application Development
- GUI Development with API Interface
- Protocol and Algorithem Development
- Diagnostic Application Development
- Industry Specific Periperal Interface

# MECHANICAL DESIGN

- PCB Stacking and ID Design
- Sheet Metal Design
- Plastic Enclosure Design
- Vibration & Thermal Shock
- FEA & Ingress Protection
- Packaging
- EMI and ESD Shielding

# CERTIFICATION

- BIS, FCC, CE & UL Certification
- EMI, EMC & IEC Certification
- Industry Specific Certification
  - . Medical
  - . IT and Telecommunication
  - . High Voltage Switchgear
  - . PED-DSS



We provide printed circuit board (PCB) assembly- SMT and Through Hole with state-of-the-art assembly equipment(s) which provides optimal capacity utilization, passing savings in time and cost to our customers.

### PRODUCTION SERVICES INCLUDES

- Specilizing in Prototype Assembly
- New Product Introduction (NPI)
- Product Testing with ATE's

- Large Volume Manufacturing
- Design & Engineering Services
- Component potting

- Component Procurement
- Conformal Coating
- Box Build

### **PRODUCTION FACILITIES**





SMD Paste Mixer







JUKI RS-1R

**Fast Smart Modular Mounter** 

- Support 0201 ~ 74mm upto 47,000 cph
- Laser Height Measurement



**PCB Assembly** Inspection System



Digital Storage Oscilloscope



SMD Components Counter

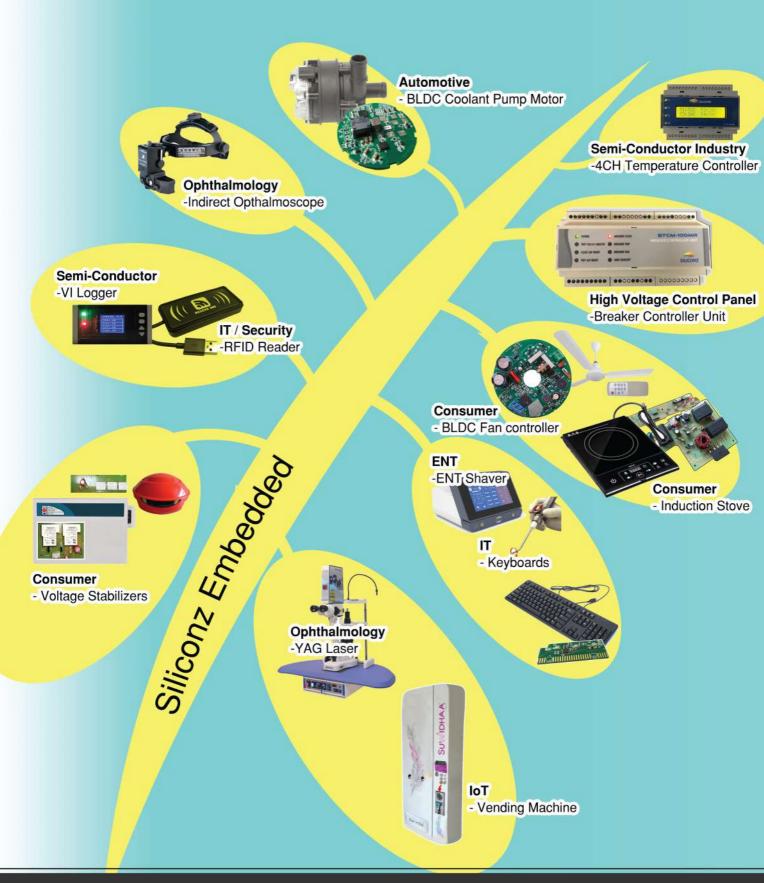


Through Hole Profiler



High Voltage & **Current Probes** 

# **Products & Controller Boards Designed by Siliconz**











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