

Glowtics Technology

WELCOME



Company Overview

Glowtics Technology Established in 2016.

Glowtics supports developing customized product solutions for different industry needs. Our portfolio ranges from complex system level solutions to module-based solutions for Automotive, Industrial, Internet of things and Consumer electronics. Glowtics delivers specifications to validated prototyping right up to the production.

Glowtics vision is to create an ecosystem which can accelerate innovations and provide time to market solutions.

***A system engineering company providing
Complete
Design solution under oneroof .***

Key Strengths

- ***3+ Years in the Industry***
- ***140+ Professionals***
- ***Competitive , competence and Openness***
- ***100+ Trusted clients around the globe***



Our Offerings

Tier 3: Complete
Product
Development &
Mfg



End to End Solution & Support

Tier 2: Product
Engineering
Services



Product Engineering – Technical
Architecture, Project mgt.

Manufacturing
Support

Tier 1: Point to
Point Services



Hardware &
PCB&SIP
Design

Firmware &
Software

Mechanical
system
Design

Analysis,
Testing &
Certification

EMS Facility

Product
Testing &
Packaging

Specification to Validated Board

Hardware

- *Feasibility study*
- *System Architecture development*
- *Schematic design and simulations*
- *PCB Layout design and SI/PI/Thermal simulations*
- *Product ID design*

Software and Firmware

- *Firmware development support*
- *Software development support*
- *Cloud and Security*
- *HW, SW and FW integration testing*

EMS Service

- *Procurement*
- *Manufacturing , Assembly and Packaging*

Hardware / Software Expertise

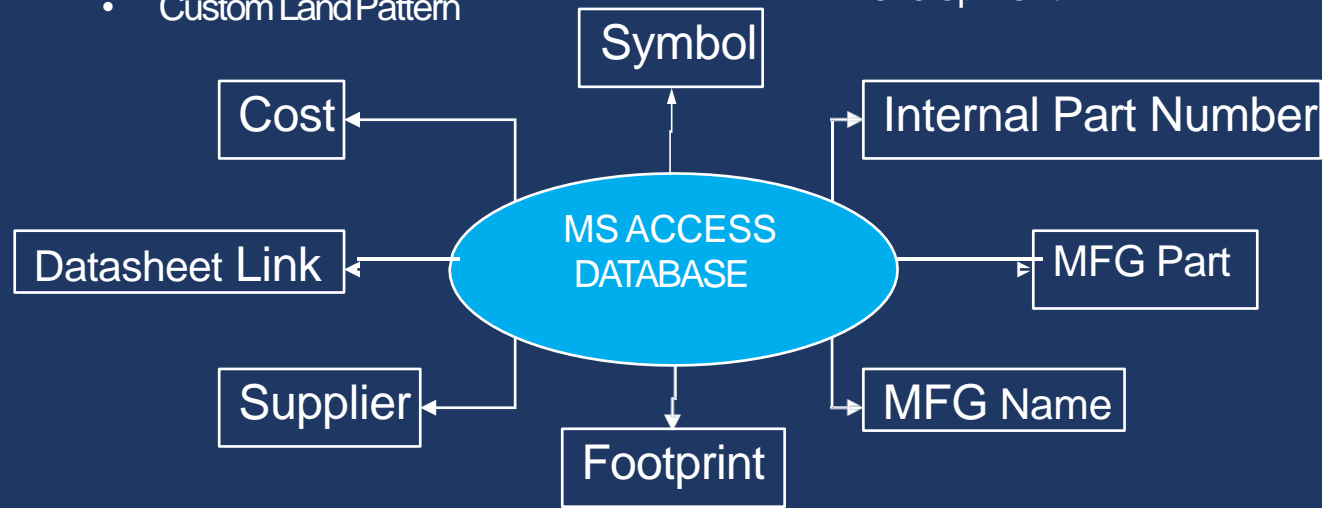
- ✓ Bootloaders & BSP – Drivers and API - design , development testing followed by sample application development.
- ✓ 8 /16/32-bit Microcontroller boot & initialization & configuration .
- ✓ Device driver development for varieties of peripheral devices on various microcontrollers & processors. Ex. Memories, GSM Modules, GPS modules, Wi-Fi & Bluetooth ICs and Modules, Temperature sensors(ICs, IR & Thermocouples) , I2C & SPI based sensors , stepper motor drivers, power meter devices, ethernet devices etc.
- ✓ Microcontrollers & Processors used - e.g. STM32, TI MSP430, AT-SAM, NXP i.MX, Microchip PIC 8/16/32, ARM, ESP32, TI DRA77X,iMX, Cold fire, TI MSP, NXP LPC, TI OMAP Tensilica and MIPS and various ARM controllers and SOCs.
- ✓ Camera Interfacing, Audio/video streaming and control
- ✓ CAN, LIN and in-vehicle networking
- ✓ Ethernet interface support, TCP/IP stack
- ✓ Diagnostic command line interface (CLI)
- ✓ OTA/OTW Firmware update and maintenance software design and development.
- ✓ Embedded OS, Linux, Android, Free RTOS, MQX RTOS
- ✓ Network protocols - Modbus TCP/RTU, UDP, TCP/IP, DHCP
- ✓ Wireless protocol - Wi-Fi, Bluetooth, BLE, ZigBee
- ✓ Communication - UART, SPI, I2C, CAN, MODBUS, PCIe, USB
- ✓ C, C++, Python RTOS, Linux
- ✓ TCP IP Protocol, MQTT, HTTP, FTP , Microsoft Azure cloud
- ✓ JavaScript, Frameworks like NodeJS and Django
- ✓ Industry standards like Thread, ZWave, Zigbee and OCF

Development IDE and Tools

- ✓ MPLAB , Code Composer Studio, Segger embedded studio,
- ✓ Microsoft Visual Studio, Keil uVision
- ✓ Eclipse, IAR Embedded Workbench
- ✓ Atmel Studio
- ✓ LabVIEW, MATLAB
- ✓ Simulink, ST LINK V2
- ✓ XILINX DLC10
- ✓ KEIL ULINKSoftware
- ✓ Device Driver Development on RTOS, Linux OS etc
- ✓ Application level programming and User interface for head units
- ✓ Audio/video streaming and control
- ✓ CAN, LIN and in-vehicle networking
- ✓ Application software Testing Services for embedded devices and Boards.

Database Library Development and Maintenance

- Symbol Creation
- Footprint Creation
 - IPC-7351
 - Custom Land Pattern
- Library Management
 - Database Library development (MS Access or Excel)
 - Custom library Development



Developing partner with



Million of parts available in our database

30+ Librarians IPC Compliant

Libraries with 3D models in 24 hours

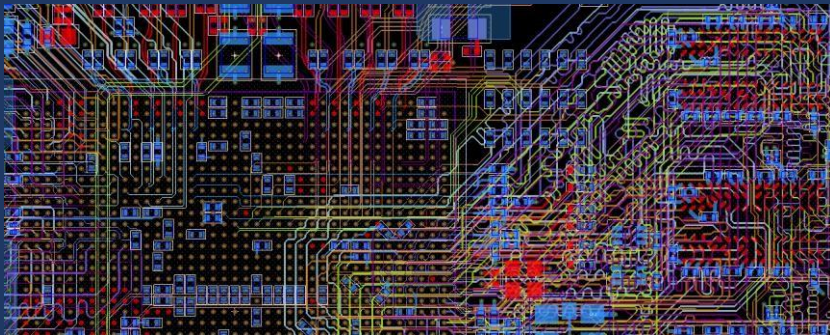
Advantages:

- ✓ Comprehensive data management features
- ✓ Better performance for part searching
- ✓ Form-based entry for entering part information
- ✓ Safeguard against duplicate part numbers

PartNumber	Description	ID	Category	Family	Package	Manufacturer	Manufacturer Part Num	Component
51-000A	CONN, HEADER, RIGHT ANGLE, 6POS, 0.100 TIN	Connector	Header	TH	TE Connectivity	640455-6		http://www.te.com/
52-000A	EJECTOR HEADER, SHROUDED IDC, 2MM, THRU	Connector	Header	TH	Samtec	EHT-110-01-F-D-RA		http://www.samtec.com/
53-000A	CONN, HEADER, 13X2 ROW, SHROUDED IDC, 2MM	Connector	Header	TH	Samtec	EHT-113-01-F-D-RA		http://www.samtec.com/
34-002N	RES, 0.002 OHM, 2W, 2%, 6432, WIDE	Resistor	Misc	SMD	Ohmite	PC4L64R0020ER		http://www.ohmite.com/
17-000A	INDUCTOR, POWER, 12uH, HIGH CURRENT, 10%	Inductor	Power	SMD	Coilcraft	SER1005-122ML		http://www.coilcraft.com/
18-000A	INDUCTOR, POWER, 22uH, HIGH TEMPERATURE, 10%	Inductor	Power	SMD	Coilcraft	M5812787-223ML		http://www.coilcraft.com/
39-103	POT, SELECTABLE DIGITAL, 256 POS, SPI2C, 10K	Others	Potentiometer	MSOP-10	Analog Devices	AD5161BRXZ10		http://www.analog.com/
19-000A	INDUCTOR, POWER, 15uH	Inductor	Power	SMD	Coilcraft	M58104RT-153ML		http://www.coilcraft.com/
54-000A	CONN, HEADER, 0.05 IN, 10POS DUAL T/H	Connector	Header	TH	Samtec	EHP-105-01-L-D		http://www.samtec.com/
73-010	FUSE, FAST ACTING SURFACE MOUNT, 1206, 1 A	Others	Fuse	1206	Littlefuse Inc	046001		http://www.littelfuse.com/
20-000A	INDUCTOR, POWER, SHIELDED, 4 T/H	Inductor	Power	SMD	Coilcraft	XAL1510-472ME		http://www.coilcraft.com/
40-000	CONN, MCB JACK, RECEPTACLE, SMT, PCB MOUNT	Connector	-	MCB-ST-00T	Sunridge Corp			http://www.sunridge.com/
51-005	RELAY, RF, SPDT, LATCH 2 COILS, 3GHz, 5V, 2A 5C Relay	SPDT	SMD	TE		2-1462051-4		http://www.te.com/
41-0001	TVS DIODE, BIDIRECTIONAL, 5VWM 15VC 0603	Diode	-	0603	Bourns Inc	CD0603-T05C		http://www.bourns.com/
45-001	CONN, SMB JACK, RECEPTACLE, EDGE PCB MOUNT	Connector	SMB	SMB	Amphenol	303-518J-51P		http://drawings.amphenol.com/
47-000A	POT, IC DIGITAL, 256 POS, SOT23-8	IC	Potentiometer	SOT23-8	Analog Devices	ad5245bqz10		http://www.analog.com/
46-020	CONN, PIN STRIP, DOUBLE ROW, 20 pin, RIGHT ANG	Connector	STRIP	TH	Samtec	TSW-110-22-F-D-RA		http://www.samtec.com/
96-020	CONN, FEMALE, DOUBLE ROW, 20 pin, RIGHT ANG	Connector	STRIP	TH	Samtec	SBW-110-22-F-D-RA		http://www.samtec.com/
84-255	RES, CHIP, 255 OHM, 1%, 0.06W, 0603	Resistor	Chip	0603	Vishay Dale	ICROW0603255SRPKEA		http://www.vishay.com/

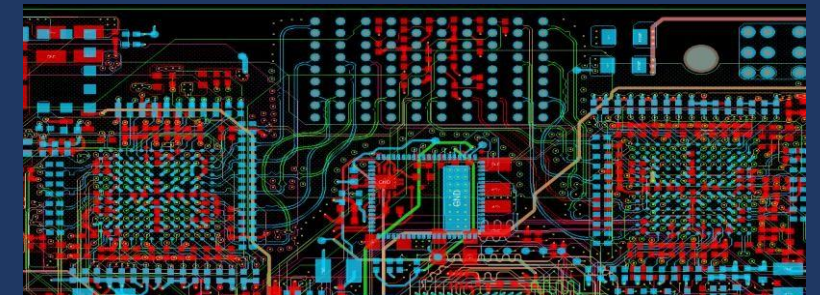
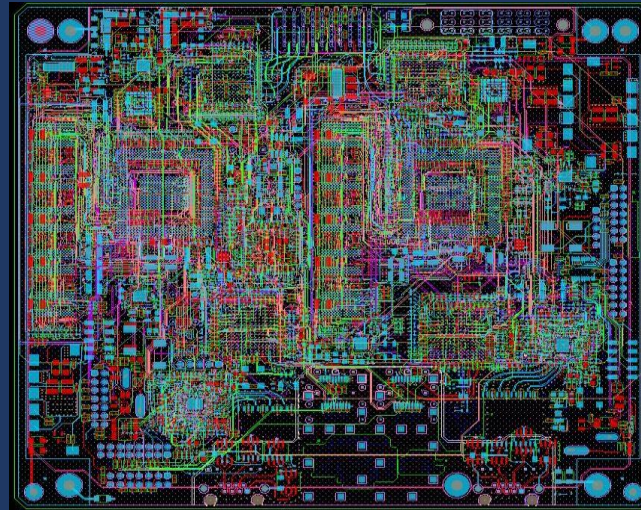
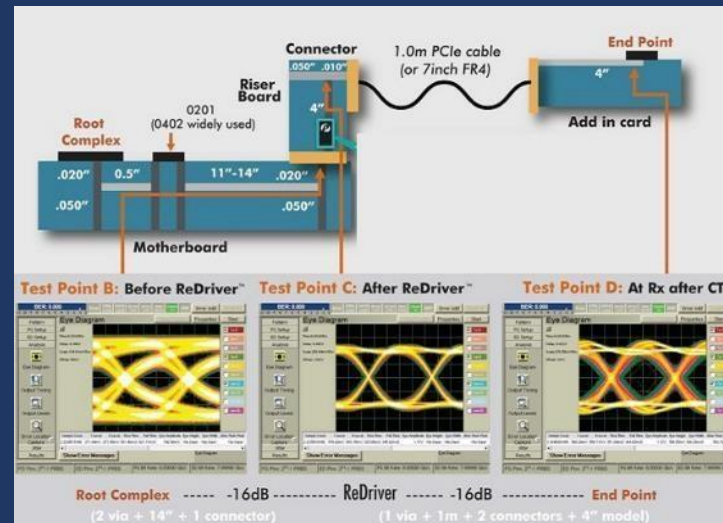
PCBLayout Expertise

- ✓ HDI, Microvias, Blind/Buried Vias
- ✓ Fiber Channel (SFP+, QSF), DDRx
- ✓ 1/10G Line Card, USB, Bluetooth
- ✓ SERDES, XAUI, SRIO, GPS, RF &
- ✓ Microwave, USB, SATA, HDMI, SAS3,
- ✓ NVMe, HDD/SSD, SAS expanders
- ✓ PCIe switch/controllers, PCIe add-on
- ✓ PXIe, LXI, VXI, VME
- ✓ Switch / Matrix cards, Digital IO Cards
- ✓ QPI/UPI, DMI, QSGMII, SGMII
- ✓ DDR2/3/4, RLDRAM, QDR, LPDDR
- ✓ High Vg / Ct, RTD, Break Out Box
- ✓ Flex & Flex-Rigid Boards
- ✓ DFX Analysis (DFM, DFA, DFT, etc.)
- ✓ PCB Reverse Engineering
- ✓ Complies with IPC 2221, 2222



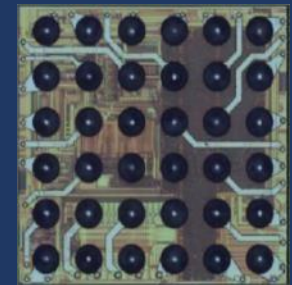
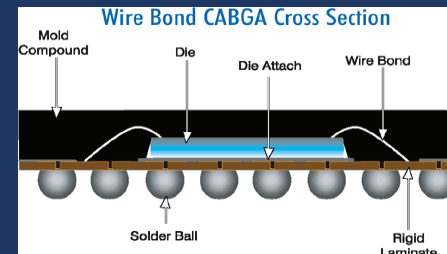
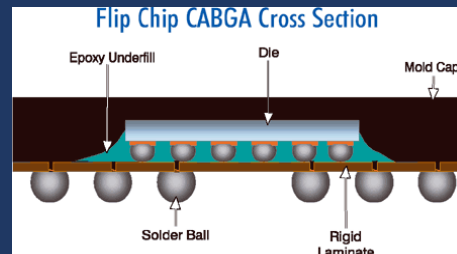
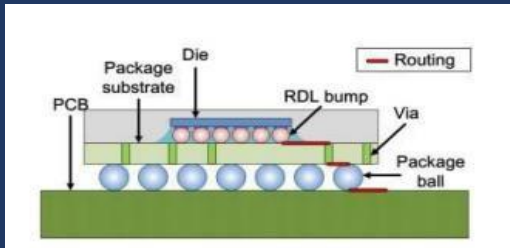
SI/PI/Thermal Analyses

- ✓ Pre and Post Route Simulations
- ✓ Frequency Domain & Time Domain Modeling
- ✓ 3D Via Field Modeling and Optimization
- ✓ Optimization of AC Coupling Cap Launches
- ✓ Optimization of Connector Launches
- ✓ Infiniband, PCIe (Gen 2,3)
- ✓ IEEE 802.3ap KR Compliance to 10 Gbps
- ✓ StatEye Time Domain Analysis
- ✓ DDR3 and DDR4 Optimization
- ✓ Crosstalk and Timing Analysis
- ✓ Detailed SI CAD Guidelines Generation
- ✓ Real Time SI Support Throughout the CAD Layout Process



Package Design Capabilities

- Proficient Engineering team to deal with Customer and supplier
- Worked on different suppliers across the globe
- Wafer level to Swan and un-swan process understanding
- Expertise in dealing with multiple wire bond ASIC's ,Die and Flip chips using in single package
- complex structures like Stacked die and staggered wire bond placement
- Helping customer to make Process drawings
- Quickly able to deliver feasibility study's to ease over all cycle time adopting supplier capability's
- process drawing creation
- electromechanical requirements
- Worked with most advanced leading manufactures so this makes us single point solution for your package design requirement
- Package to Board connections (PCB Approach)
- Through Hole Mount (THD)
- Surface Mount Technology (SMT)
- Ball grid array (BGA)/ Chip scale package (CSP)
- Chip on board (multi chip module MCM)
- Wire Bonding
- Tape Automated Bonding
- Flip Chip Solder Bump



Board Design / Analysis Platform

BOARD DESIGN

- ✓ Cadence Allegro
- ✓ Altium, PCAD
- ✓ Mentor PADS, Xpedition
- ✓ Zuken CR5000, CADSTAR
- ✓ Pulsonix
- ✓ Eagle & more..,



ANALYSIS PLATFORM

- ✓ SIMBEOR
- ✓ Hyperlynx
- ✓ Sigrity
- ✓ HFSS

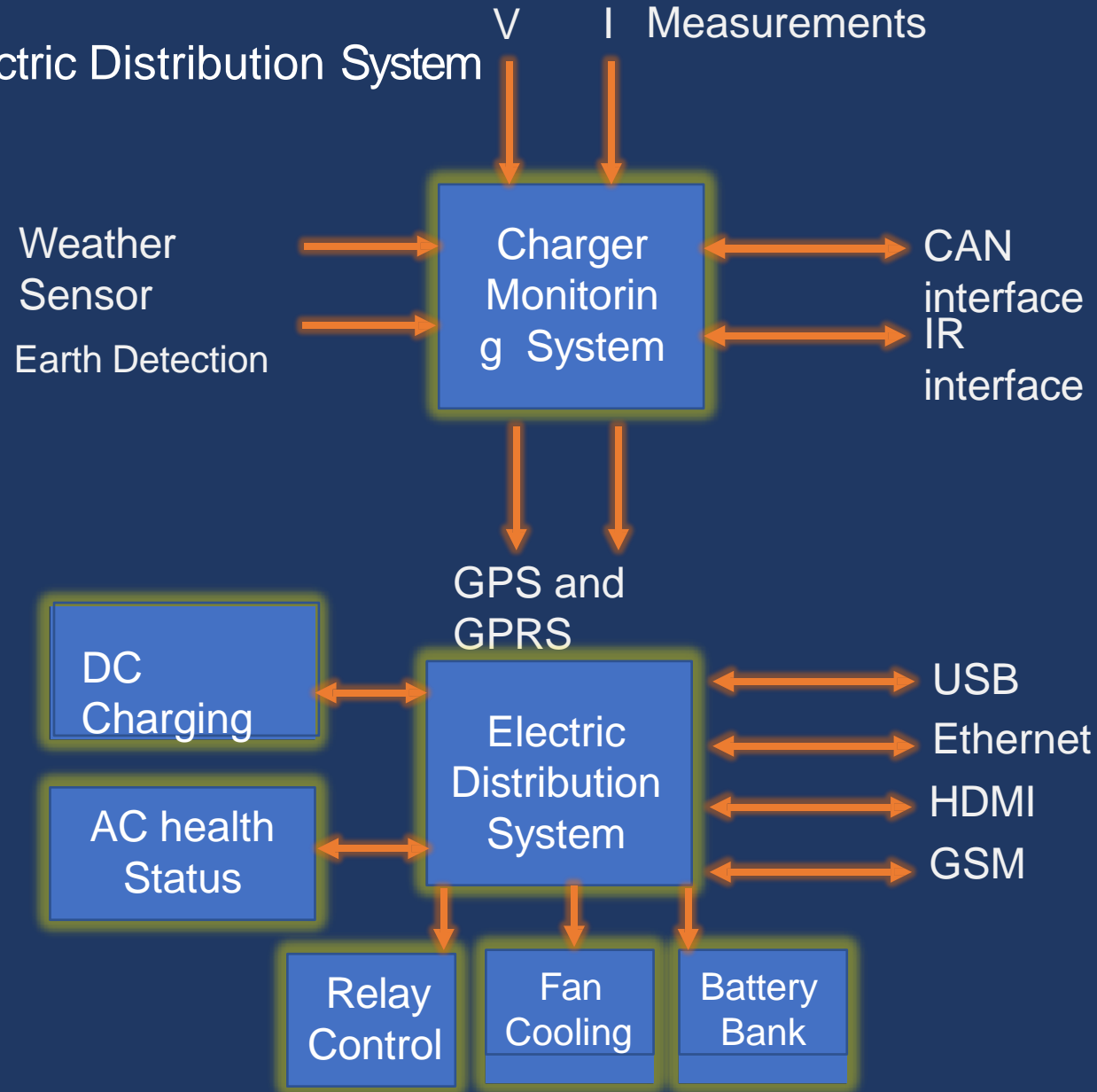


Case Study 1

Charge Monitoring & Electric Distribution System

Scope

- Feasibility study
- Concepts creation
- Technical Architecture
- Hardware design
- Mechanical design,
- Software
- Manufacturing
- Testing & compliance
- Pre-production



Certification

- EMI
- EMC,
- IP55
- ARAI compliance

Case Study 2

AVB Compliant Automotive Camera Industrial & Automotive Environment

Scope

- Feasibility study
- Concepts creation
- Technical Architecture
- Hardware design
- Mechanical design
- Simulation
- Software
- Enclosure Design
- Manufacturing
- Testing & compliance
- Pre-production
- Packaging

AVB
Compliant
Camera
package



100 baseT
BroadR reach Protocol

Features

- High image resolution
- High Dynamic Range
- Advanced Functionality
- Attractive cost

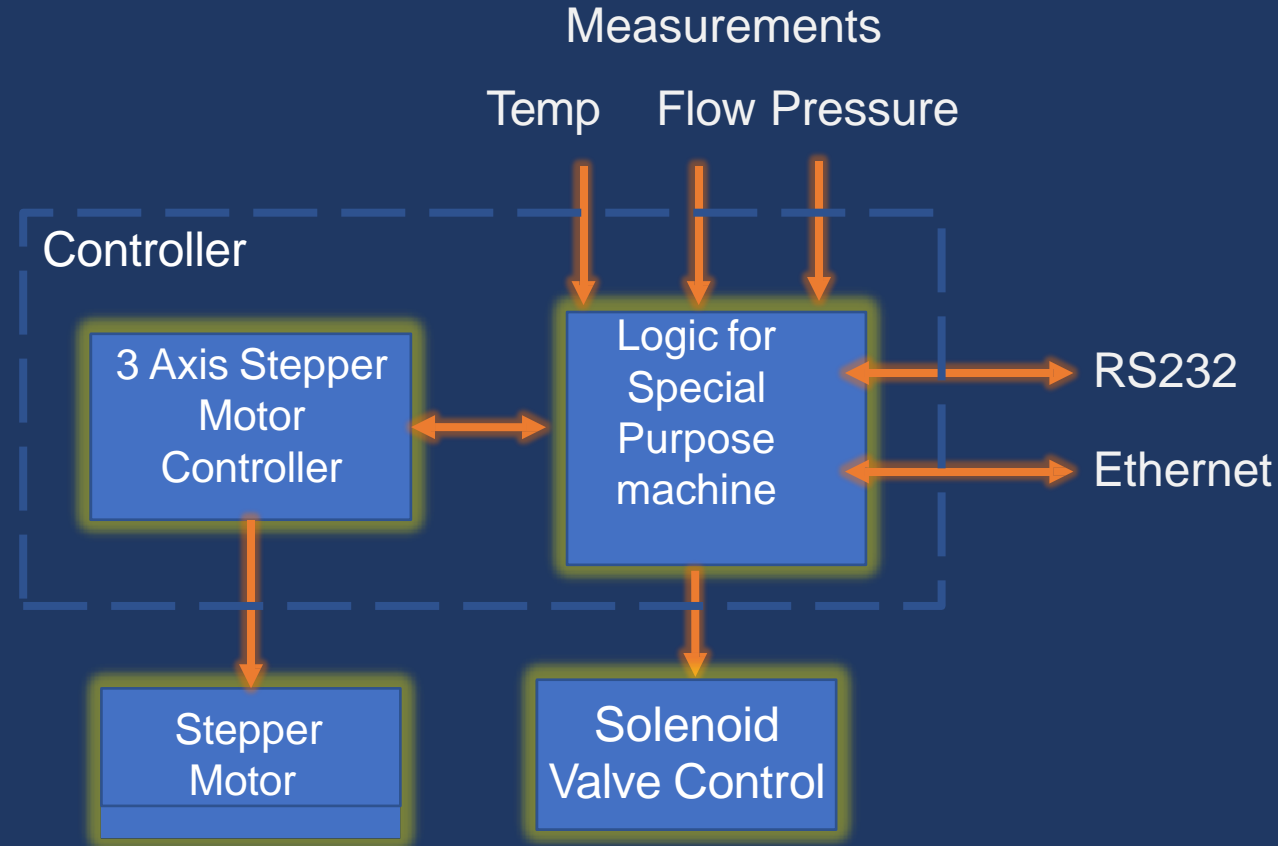


Case Study 3:

Stepper Motor and SPM Controller

Scope

- Feasibility study
- Concepts creation
- Technical Architecture
- Hardware design
- Design Validation
- Software
- Manufacturing
- Testing & compliance
- Pre-production



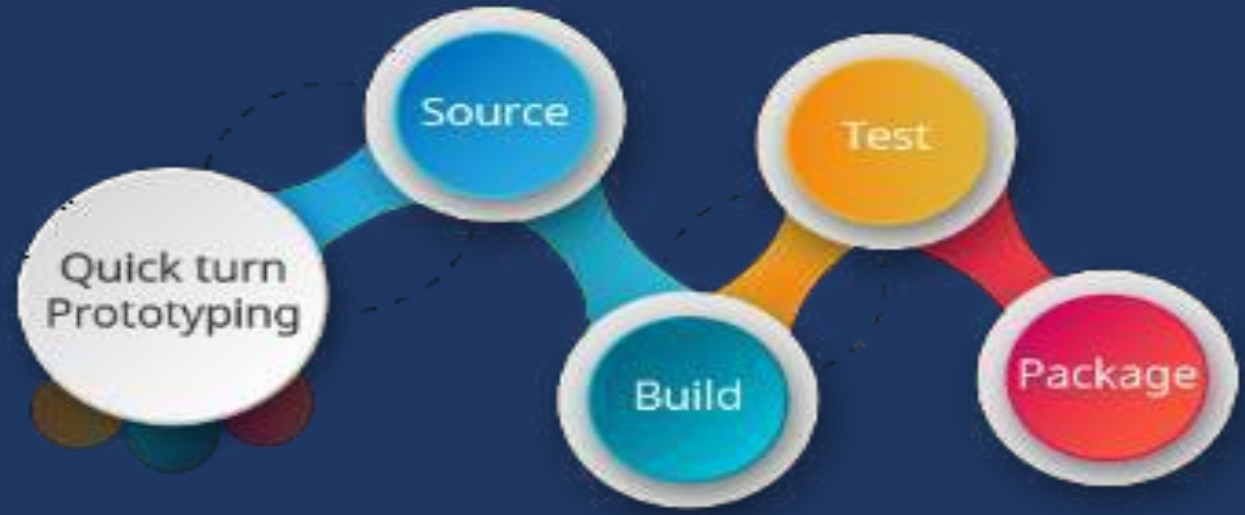
Certification

- EMI
- EMC,
- IP65

EMS Service

- *Rapid prototyping*
- *Small batch prototyping*
- *PCB Fabrication*
- *Component sourcing*
- *PCB assembly*
- *Functional testing*
- *Cable & harness assembly*
- *Mechanical manufacturing*
- *Product assembly*
- *Test and QA*
- *Packaging*

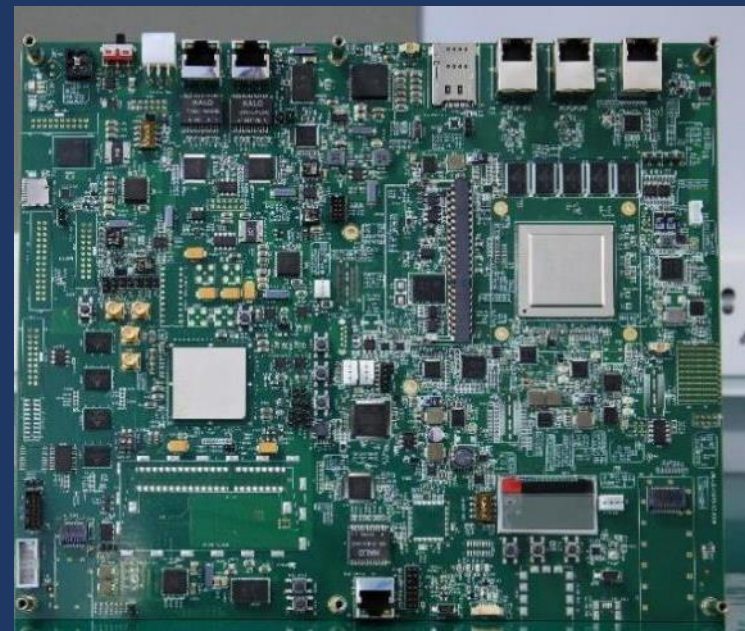
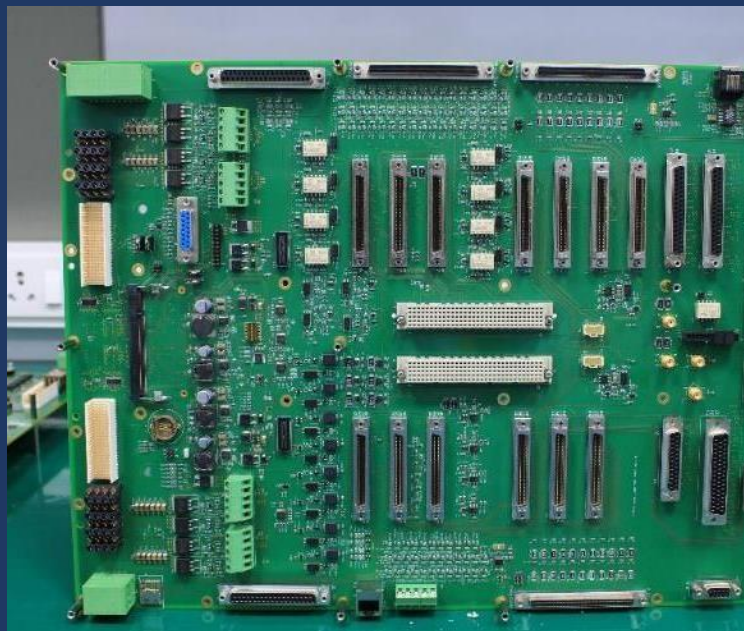
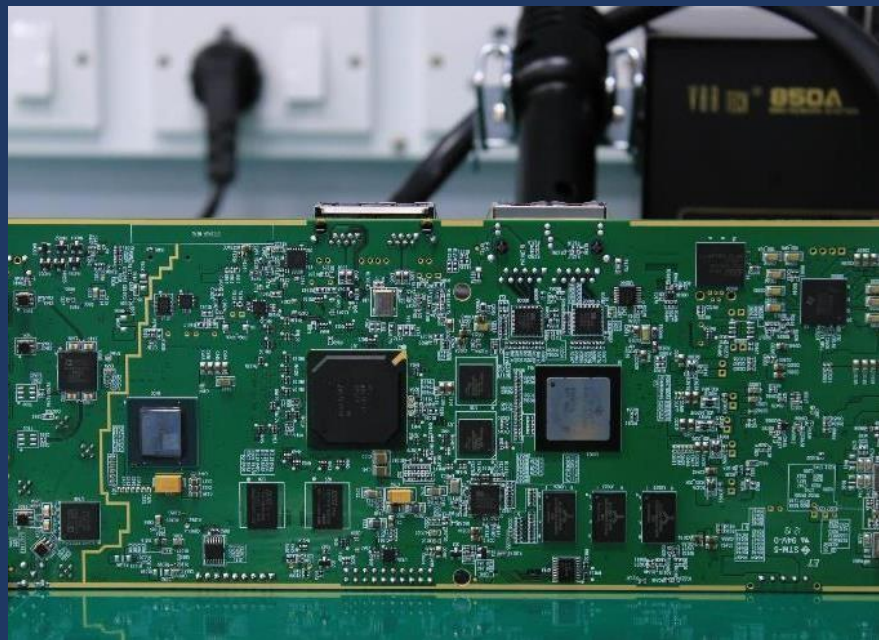
Design, Build and Test Under one roof



- **No MoQ**
- **Transparent BoM cost**
- **Procurement, FAB & Assy**

Out Sorce Equipment's and Capacity

- ✓ *Storage & Humidity station*
- ✓ *Baking oven*
- ✓ *Automatic BGA Rework station*
- ✓ *Automatic Screen Printer.*
- ✓ *3D Offline Solder paste
Inspection.*
- ✓ *Pick and Place with 16K CPH
from My data*
- ✓ *10 Zone Reflow with Nitrogen
Ready*
- ✓ *X-Ray-2.5D*
- ✓ *3D AOI*
- ✓ *Wave soldering machine*



Complexity Handled

IT Infrastructure

- Strict IT Policy
- Authenticated user access
- Hierarchy control
- Notification management
- Encryption of all transfers
- ODC Option
- Confidentiality, Integrity and availability
- No local backup
- Client specific security credentials
- Client specific resource management
- VPN Access
- Firewall protection

Advantages working with Glowtics

- *Single vendor for your design and manufacturing needs*
- *Any support on requirement basis (Library or Design or analysis or sourcing or manufacturing)*
- *Global library solution provider in quick turn*
- *Quick turn design to manufacturing support*
- *Split and no MoQ support for manufacturing*
- *Skilled resources on very high frequency board designs and simulations*
- *Manufacturing and basic board bring up support for a Error free delivery*
- *As an R&D company, can get more value addition compared to a standard PCBA prototyping company.*



Thanks for your time..

Glowtics Technology

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