

PCB DESIGN ENGINEER

About Me

PCB Designer /Analyst/ ECAD Librarian/ PCB Testing/ Vendor Management with 6.7+ years of experience. Proven-Design Optimization skills for Automotive, Transportation, Telecommunication, RF, Customization based projects. Special interest in achieving the Quality of Product.

N KIRAN KUMAR

Professional Experience

EMTensor | Senior PCB Design Engineer JULY 2024 - Present

Key responsibilities:

- Provide inputs for mechanical cart based on electronic unit
- RF, Antenna, Power based PCB design Layout activities & Gerber generation, Panel Creation
- Achieving Mechanical, Thermal, High Power & Current, EMI/EMC quality
 - Lab and component management
- PCB Testing, RF Cable Testing using VNA
- PCB Soldering activity
- Vendor management for BOM, Fabrication, Assembly. PCB Tools and specific PCB materials.
- Visit to local Manufacturing Units for PCB reworks

MARELLI AUTOMOTIVE LIGHTING | Senior PCB Design Engineer

FEB 2023 - JULY 2024

Key responsibilities:

- Understanding mechanical input to facilitate PCB into end product
- Layout activities to Gerber generation
- Achieving Thermal, EMI/EMC quality
- Panel Creation/ proposal
- ICT Test Fixture Creation
- LED Lighting Boards for HeadLamp, Rear Lamps, Fender Lamps
- LED Drivers and ECU PCB Boards for Jeep Alfa Romeo Tonale -Stellantis - Volvo - Nissan - Audi Cars
- Visited Thermal chambers, Vibration Test, ESD Test, EMI/EMC Test Labs
- Visited Manufacturing Unit and Assembly of HeadLamp and RearLamps

TE CONNECTIVITY | R&D Product Development Engineer 1

March 2022 - JAN 2023

Key responsibilities:

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- Schematic Symbol, Footprint and Component creation
 - Authorized to Approve components
- Handling Industrial/ Organizational Standards
- Handling Global Team meeting to develop Consistent Quality of
- components
- Schematic creation to Gerber Release for Automotive, Transportation,
- High Voltage/ Current, Sensors Based Application Projects
- FMEA Failure Modes and Effect Analyses Boards

Caliber Interconnect Solutions | High Speed PCB Designer |Design AnalystJune 2018 - March 2022

Key responsibilities:

- Schematic creation to Gerber Release
- Coordinate with MCAD/ ECAD/ Hardware/ SI-PI Engineers,
- Fabricator and Assembly House
- Stackup proposal
- Evaluation of PCB Designs using Standard techniques and Tools
- Explored various application oriented PCB design opportunities
- Wide range of Customer Handling Experience

My Contact

- designkiran24@gmail.com
- 9445733532
- Banglore, India

Hard Skill

- Symbol Creation ORCAD, Mentor Graphics PADS, Altium Nexus, KICAD
- Footprint Creation Cadence Allegro, Altium Nexus, KICAD
- Schematic Creation ORCAD, Mentor Graphics PADS, Altium Nexus, KICAD
- Layout Cadence Allegro, Mentor Graphics PADS, Altium Nexus, Zuken-CR5000, KICAD
- Impedance calculation Polar SI
- Gerber Generation and CAM Validation
 CAM350, GerberLogix
- Soldering activity, Test Equipements -Multimeter, VNA, Picoscope, IP configuration for Electronic modules using PUTTy
- Vendor Handling BOM, Fabrication, Assembly, WireHarness.

Soft Skill

- Self Learning
- Observation
- Decision making
- Communication
- Multi-tasking

Education Background

- KAMARAJ COLLEGE OF ENGINEERING & TECHNOLOGY - ANNA UNIVERSITY ELECTRICAL AND ELECTRONICS ENGINEERING 7.4 / 10 Completed in 2018
- C.E.O.A MAT. HIGHER SECONDARY SCHOOL Higher Secondary School Certificate 8.4 / 10 Completed in 2014
- KENDRIYA VIDYALAYA
- Secondary School Leaving Certificate 9.2 / 10 Completed in 2012

Design Tool Experience

- Cadence Allegro 16.5, 16.6, 17.2, 17.4 Versions (June 2018 - March 2022 & FEB 2023 - July 2024) Completed 150+ Designs
- Mentor Graphics Pads Vx1.2 (June 2019 - 2021) Layout support for 15+ Designs
- CR5000 (June 2019 - 2020) Layout support for 5+ Designs
- CAM350 (June 2018 - Present) Completed 100+ Designs validation
- Altium Nexus (March 2022 - Jan 2023) Completed 8+ Designs
- KICAD (July 2024 - Present) Completed 6+ Designs

Component Details

- Passive components 0201, 0402, 0603..
- Active components SSOP, TSSOP, PTH... Mechanical components (Connectors, Shielding Frames)
- Power elements
- Antennas
- Customization Components
- Component creation with detailed
 parametric entries
- Component selection based on project requirement

Achievements

- **2022 August** Spotted Error in Existing Footprint in Database, created impact in Server
- **2021 April** Notified incorrect schematic connection in Version 4 of a design and Issues in Layout. Saved Huge cost to the company and customer. Established Loyalty.
- 2019 June Spotted error in input -Some signals were 100 ohm, but in input its provided as 500hm. Escalated to customer and customer agreed to route as 1000hm.

Project Details

1. JEDI BOARD (EDA tool: Allegro 17.2) To test memory DDR with help of other sub circuits

- 100 High speed SMAs
- Power circuits, other functional circuits
- Arc routing, via stitching, blind/burried vias

2. RF BASED DUT BOARD (EDA tool: Allegro 16.6) To test high speed device used for telecom purpose

- High speed edge connectors
- single ended RF signals with stub and EMI/EMC
- via stitching, cupon board and pannelaized 50 Boards

3. FM RF DUT BOARD (EDA tool: Mentor Graphics PADs) To test Frequency modulation Device using Socket

- Round board fenced with high speed RF SMAs
- RF traces EMC/ EMI, stubs are implemented.
- Provided Open, short testing signals

4. FPGA MOTHER AND DAUGHTER BOARD (EDA tool: Allegro 16.5)

To Test 0.5mm pitch FPGA including operation of DDR

- Prototype board USB, SOICs, sub circuits
- 10 BGAs with its sub circuits, functional, JTAG and power circuit
- Connector Matting Mother and daughter boards
- via stitching, complete arc routing with reduced stubs

5. COMMERCIAL AND EMBEDDED BASED PROJECTS

- Using High speed cables like RJ45 and interfaces PCIE, HDMI,
- MIPI/LVDS, CAN, ETHERNET, USB with various impedance 75ohm, 90ohm, 100ohm, 120ohm
- Characterization boards, coupon board, calibration boards
- Minimum drill size used 0.1016mm, 0.127mm, 0.2032mm, 0.3048mm, 0.5mm
- Worked on BGA pitch 0.4mm, 0.5mm, 0.8mm, 1mm
- Annular ring minimum worked <= 2.5mils with FAB vendor confirmation
- Solder mask Under-mask, Pad size mask and Over size mask
- Materials used FR5, FR408, FR5 and MEGTRON6 (Mixed layer stack-up), VT47, RT6002 (Dk = 10.01)
- Heat sinks related designs for thermal stability.
- Worked on Reverse Engineering project

6. AUTOMOTIVE/ TRANSPORTATION/ SENSORS BASED PROJECTS (EDA tool: Altium Nexus)

- Eddy Current/ Motor winding Boards
- High Voltage Board Power Bank Boards
- Fuse Board
- Rotor Position sensing Board
- Charging inlet Board
- Sensor specific Testing Boards
- Automotive Car Handle sensing Board Conversion PCB Boards

Personal Details

- Date of Birth : 24/12/1996
- Gender : Male
- Nationality : Indian
- Marital Status : Unmarried
- Languages : Hindi, English, Tamil, French (Basic)