



PCB DESIGN & SIMULATION

Precision Engineering for High-Performance Electronics

Designing reliable, manufacturable, and high-speed PCB solutions for next-generation electronic products.



WHY CHOOSE ALWYN?

At Alwyn, we deliver advanced PCB Design & Simulation services focused on performance, reliability, and faster product development cycles. Our engineering expertise helps businesses transform concepts into production-ready electronic systems.



PRECISION

Accurate designs with attention to every detail



RELIABILITY

Robust solutions for long-term performance



SPEED

Faster design cycles and quick time-to-market



INNOVATION

Technology-driven solutions for next-gen products

OUR CORE SERVICES



1. PCB DESIGN & LAYOUT

- Multi-layer PCB Design
- High-Speed Digital PCB Layout
- HDI & Complex Routing
- RF & Mixed Signal PCB Design
- Design for Manufacturability (DFM)



2. SIGNAL INTEGRITY SIMULATION

- High-Speed Signal Analysis
- Impedance Matching
- Differential Pair Optimization
- Crosstalk Analysis
- Reflection & Timing Verification



3. POWER INTEGRITY ANALYSIS

- Power Distribution Network Optimization
- Voltage Drop Analysis
- Decoupling Capacitor Optimization
- Noise Reduction Validation



4. THERMAL SIMULATION

- Heat Dissipation Analysis
- Component Thermal Mapping
- Temperature Reliability Validation
- Thermal Performance Optimization



5. EMI / EMC SIMULATION

- Electromagnetic Compatibility Testing
- EMI Noise Prediction
- Compliance Verification
- Radiation & Susceptibility Analysis

INDUSTRIES WE SERVE



Automotive Electronics



Aerospace & Defense



Electric Vehicles (EV)



Industrial Automation



Telecom & Networking



Consumer Electronics



Medical Devices

ENGINEERING EXCELLENCE

Advanced EDA Tool Expertise

cadence **Altium** **Mentor** **HYPERLYNX** **Ansys**

Built with a focus on performance, reliability, manufacturability, and faster time-to-market.

WHY CUSTOMERS PARTNER WITH US

- ✓ Expert Hardware Engineering Team
- ✓ High Reliability PCB Architecture
- ✓ Advanced Simulation & Validation
- ✓ Faster Design Cycles
- ✓ Optimized Manufacturing Readiness
- ✓ End-to-End Engineering Support

TRANSFORM IDEAS INTO RELIABLE ELECTRONICS

Design Smarter. Simulate Better. Build Faster.



www.alwynglobal.com