

Solid Edge PCB Design

PCB development from concept to manufacturing

Benefits

- Complete solution for schematic design capture and PCB layout
- Productivity gains through unique sketch routing
- Quality, reliability and performance optimization within tight form-factor constraints
- Exceptional control over designs
- Easily integrates PCB layout and mechanical design
- Single-vendor PCB design solution

Features

- Bi-directional communication between electrical and mechanical environments
- Native 3D view for quick and easy component planning and placement
- Constraint-driven routing and tuning of high-speed nets
- Starter library with schematic symbols, PCB footprints and 3D models
- Forward and backward annotation to schematic capture and layout

Summary

The Siemens Solid Edge® module for PCB design provides fully integrated 2D/3D PCB design capabilities, including schematic capture and PCB layout, sketch routing and electromechanical collaboration. It supports a correct-by-design approach, which moves the validation of manufacturing and electrical data earlier into the design cycle.

Solid Edge PCB Design uses a complete set of constraints, including dynamic collision detection and batch verification, to ensure error-free electromechanical design. By considering mechanical requirements during layout and ensuring efficient communication between the electrical and mechanical flows, the design is correctly aligned for manufacturing, avoiding last-minute changes that cost time and money. This approach can develop a flawless design without the need for additional iteration (in other words, be correct by design).

Designs can be exported in standard industry formats, and 3D PDF and documentation tools can be used to complete the design package. Easy to deploy, learn and use by infrequent to expert PCB designers, Solid Edge PCB Design produces high-quality results

while reducing costly iterative clean-up of constraint violations.

Schematic capture

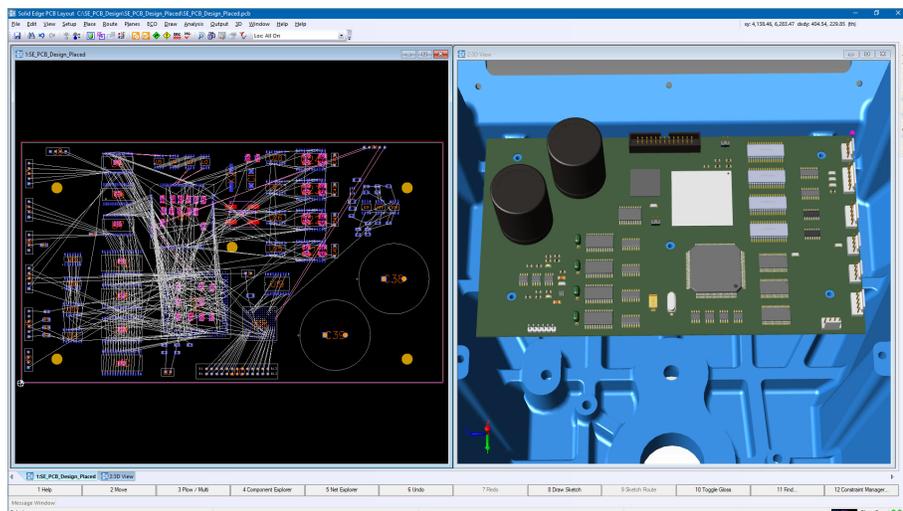
Solid Edge PCB Design comes with a modern, easy-to-use and easy-to-understand interface, which gets users up and running quickly. Users can easily place parts, define the electronics' logical connectivity, connect them and edit the schematic to define net names. Forward and backward annotation to schematic capture and layout functionality provides efficiency and productivity gains.

The software imports properties of library parts, such as manufacturer part numbers and reference designators for identification within PCB layout and ensures the accurate generation of a bill of materials (BOM). With intuitive project and design navigation, and advanced tools that manage design rules and attributes, Solid Edge PCB Design provides a complete schematic design solution, making the capture and definition of a schematic simple and fast.

PCB layout

At the heart of Solid Edge PCB Design is the industry's most powerful PCB layout technology, which combines ease-of-use with highly automated functionality to give engineers exceptional control over designs. Ground-breaking sketch router technology combines routing power with user control during interactive editing operations, producing high-quality results with exceptional performance.

Solid Edge PCB Design



Fully integrated 2D and 3D environments.

Sketch routing

Sketch routing allows the designer to sketch the path of signals, then route traces in an efficient manner. Taking design intent and routing strategies in the form of a super-efficient sketch, the system automatically fans out, untangles and routes the associated nets with the quality of an experienced PCB designer. This unique sketch routing capability reduces complex routing times by orders of magnitude.

Constraint management

Solid Edge PCB Design includes an advanced constraint management system, which validates the layout against the design intent. Design rules are monitored throughout the design process using online design rule checking, ensuring adherence to constraint and preventing errors. Multilevel design rules enable the user to meet electrical and manufacturing requirements, while batch design rule checks ensure all constraints are met as changes are made during the design process.

Library search management

Components are the building blocks for any electronic system design. Solid

Edge PCB Design includes a starter library with schematic symbols, PCB footprints and 3D models that enable the user to start placing and routing components immediately. The ability to import models from the CAD file format STEP is also available.

PCB manufacturing

Manufacturing documentation and outputs can be created directly within the layout environment, allowing last-minute changes to be synchronized. Automated and customizable creation and distribution of manufacturing data results in increased quality, accuracy and design throughput. 3D PDF and documentation tools can be used to complete the design package.

Single-vendor solution

A single-vendor solution enables intimate integration not possible with third-party products. Solid Edge PCB Design is based on the industry's most powerful PCB layout technology available, Xpedition® from Mentor Graphics. Mentor, now a Siemens business, is the market leader for PCB electronic design automation (EDA) software.

Extending value

Solid Edge is a portfolio of affordable, easy to deploy, maintain and use software tools that advance all aspects of the product development process – mechanical and electrical design, simulation, manufacturing, technical documentation, data management and cloud-based collaboration.

Minimum system requirements

- Windows 10 Enterprise or Professional (64-bit only) version 1709 or later
- 8 GB RAM
- 65K colors
- Screen resolution: 1920 x 1080
- 6.5 GB of disk space required for installation

Siemens Digital Industries Software
[siemens.com/plm](https://www.siemens.com/plm)

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