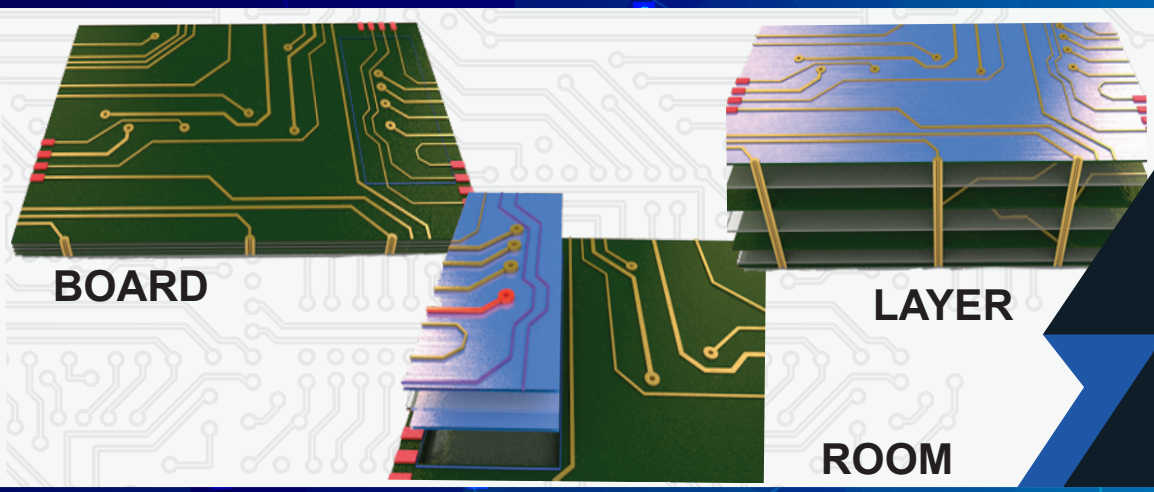
PROTEUS PCB DESIGN

Managing Design Rules

The Proteus Design Suite includes a comprehensive design rule system which allows users to quickly and easily define board constraints for their designs. Design rules can be applied to different areas of the PCB and electrical filters can be applied for additional flexibility. This provides a simple but scalable way to control clearances on the PCB.



SELECT THE SCOPE

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APPLY THE FILTERS

- To all objects in the scope
- Between objects in one net class and other net classes
- To traces and pads in a particular net class

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SIMPLE, FLEXIBLE DESIGN RULES

PROTEUS
DESIGN SUITE

BGA Escape



Design rules are a vital step in defining the requirements for a PCB. They specify the allowable clearances between objects on the layout and enable the PCB editor to check or enforce those constraints during design work.

The design rule manager in Proteus is simple, scalable, and flexible. Users begin with a default board-wide rule and can then define additional constraints using the design rule manager dialogue form.

Rules can be applied to specific areas of the board and/or to subsets of nets — for example, targeting a particular net class such as power or differential pairs.

Clearance requirements often vary by context. On a multi-layer board, inner layers typically allow tighter spacing than outer layers. This can be addressed by applying layer-specific rules. Similarly, routing fanout traces beneath a BGA is simplified by defining a room around the device and applying tighter rules only within that zone.

In addition to electrical rules, Proteus supports manufacturing-related design rules. These include:

- Minimum Solder Dam Width between pad and solder mask.
- Silkscreen to Pad Clearance to avoid print on pads.
- Silkscreen to Board Edge Clearance to prevent printing off-board.

These manufacturing rules help ensure the board is not just electrically correct but also manufacturable and reliable.

Whether you're managing layout constraints, signal integrity, or manufacturing tolerances, the design rule system in Proteus allows precise and configurable rule definition across the full design environment.

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