

## **PCB Fabrication Laboratory**

A PCB (Printed Circuit Board) fabrication laboratory is a workspace to create and produce printed circuit boards for electronic devices and projects. PCB fabrication laboratories are equipped with the tools and equipment necessary to design, prototype, and manufacture PCBs.

RF and microwave PCBs operate on signals in the megahertz to gigahertz frequency ranges (very low frequency to extremely high frequency), which are commonly used for communication signals can be designed in this lab using LPKF Circuit Pro automatic machine. Software tools for PCB design include Eagle, KiCad, Altium Designer, and Autodesk Fusion 360. LPKF circuit board plotter includes a comprehensive software package for importing data from any PCB layout CAD package and controlling the plotter to produce any PCB. Students can develop a double-sided circuit board without through plating through the machine.

Design Workstations are computers with the PCB design software installed, used for creating schematics and PCB layouts. Prototyping Equipment includes soldering stations, hot air rework stations, and 3D printers for creating custom enclosures and parts.

Etching, Milling and Drilling Machines are used holes for through-hole components and vias. A well-organized area for storing components, equipment, and partially completed PCBs.

PCB fabrication laboratories are commonly found in educational institutions, research and development centers, and companies involved in electronics manufacturing. They play a crucial role in the development and production of electronic devices, from simple hobbyist projects to complex industrial applications.


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