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Design and Setup of an Automated Test System for the Characterization of the Functionality of PCBs for a Vital Signs Monitor.

ABSTRACT - Masterthesis

The objective of this work is to design, implement and realize an automated and re-configurable circuit board test system. The circuit board test system consisting of a needle bed adapter, power supply sources, signal sources and measuring devices should be configurable via a graphical user interface (GUI). This GUI is used to program the software / firmware and control the entire test process. This project starts with the development of a concept for the test strategy i.e. power supply sources, signal sources and measuring devices should be configurable as required. After that, the test points and programming interfaces has to be defined. The development of a GUI for programming the firmware and for controlling the test process has to be implemented simultaneously. Finally, the test programs for testing the supply voltages, the USB , HDMI and Ethernet interface are created.