HSB
Hochschule Bremen
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Master 2015

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Implementation of an Automated Optical Prober Arrangement for EOCB.

ABSTRACT - Masterthesis

The Main goal of the project is to create a Software development tool for an Automated Optical Prober Measurement station for Commercial available Ficontec AI-500 equipment in order to find the Insertion Loss of an Optical Waveguide in an Electro Optical Circuit Board using LABVIEW Software.

Manual Measurement for the whole EOCB is a tedious and stressful process hence there might be chances of measuring wrong values. So to avoid such a situation, a User Interface with proper Automation alignment process needs to be created. The User Interface should be reliable, easy and it should not be more time consuming. Many studies have been performed in order to find which Programming Language will be a reliable solution to control the given Hardware setup and came up with the decision of using LabVIEW or C++. It was then finalized to use LabVIEW, a Graphical Programming Language to create the User Interface since it is more reliable to control the Hardware Setup.

The Prober Measurement Station consists of Linear stages, Hexapods, Light line and Power meter to measure the Intensity of a Light wave when it travels from one end to the other end of the Optical Waveguide. The User Interface created consists of Manual and Automation routines with a Unified VI which is compatible to other similar hardwares without doing any major change.

The Master Thesis includes setup of the prober equipment, programming and evaluation of the developed routine. A final measurement of an in-house fabricated electro-optical circuit board (EOCB) on lab based equipment with the developed automated optical prober routine will finalize this thesis work.