Microwave Lab

Innovative Solution LLC

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Overview

The «Microwave» lab is used to get the students acquainted with the methods for receiving and propagation of electromagnetic microwaves. It can be used by research groups, as well as by students.

The lab has been developed as a tool for hands-on study of microwaves and enables the user to understand the propagation of electromagnetic microwaves in waveguides.

The software is developed in NI LabVIEW graphical programming environment and has a simple and intuitive user interface. Clear step-by-step instructions are provided for each lab in the user manual.

Features

- Work with advanced equipment
- Balanced level of automation and manual mode
- Menu-driven navigation through the labs
- Possibility to work with high frequency up to 12GHz
- Possibility to work with different type waveguides
- Easy to use, robust stand
- Ensuring security while working with the platform

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Required hardware and software

Hardware	Software
Virtual Bench (VB-8034)	Lab software
Full-Featured QuickSyn Synthesizer	User manual
Waveguides	

List of labs

1. Assembling the Gauging and Calibration Setup
2. Detection of microwave signals
3. Determination electromagnetic signals of the microwave length in waveguide
4. Determination of the parameters characterizing the propagation of waves in a waveguide
5. Measurement of the dielectric permittivity of a solid material using the waveguide method
6. Study of the horn antenna
7. Measurement of Standing Wave Ratio and reflection coefficient using a directional coupler.