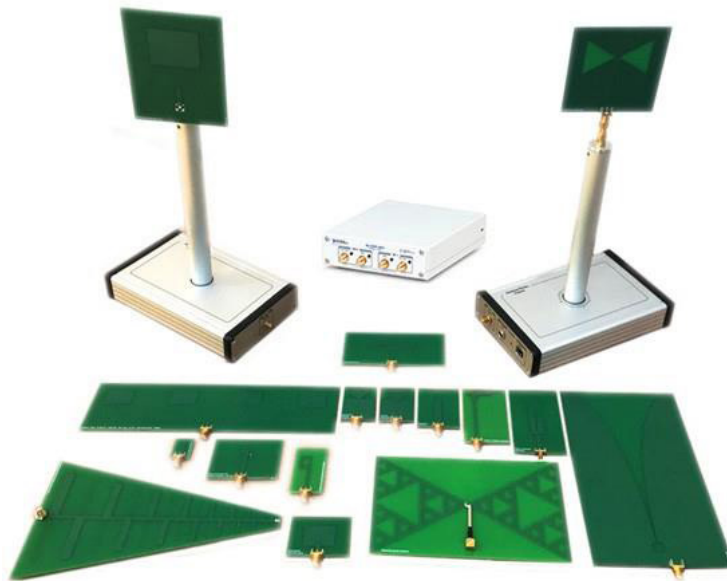


# PCB Antennas Lab

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## Overview

PCB antennas lab is a training program for the study of the basic principles of antennas, their species, features and signal transmission basics.

The system is used in the educational process to familiarize the user with the parameters of antennas and practical training for antenna measurements. Laboratory course is designed to gain knowledge in the following areas:

- Theory fundamentals
- Antenna parameters
- Measurement of antenna parameters

With the use of the software, the students have the opportunity to make measurements with subsequent visualization of the test results in the form of graphs.

## Features

- Select the laboratory work from the menu
- Easy-to-use graphical user interface
- Practical experiments with RF system
- Step-by-step instructions to perform experiments

## Hardware and software

- NI USRP-2901
  - Antennas set
  - Positioning mount for antennas mounting
  - Power supply for positioning mount
  - Specialized software
  - User manual
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# PCB Antennas Lab

## List of Labs

1. Study of varieties of antennas
  - Sleeve monopole antenna
  - Trapezoidal monopole antenna
  - G, L, T monopole antennas
  - Dual-band monopole antenna
  - Printed folded dipole antenna
  - Log-periodic antenna
  - Sierpinski bow-tie antenna
  - Micro strip - fed Vivaldi antenna
2. Study of main parameters of antennas
  - Directional response
  - Gain
  - Voltage Standing-Wave Ratio (VSWR)
  - Reflection index
  - Antenna input resistance
  - Half-Power Beam Width (HPBW)
  - First-Null Beam Width (FNBW)
3. Antennas main characteristics' comparison
4. Measurement results' comparison with theory

