Specification

I. Antenna Training Kit

The training kit enables the construction and conduct of 12 experiments:

- Standard Gain Horn Antenna Design Experiment
- Normal Mode Helix Antenna Design Experiment
- Axial Mode Helix Antenna Design Experiment
- Probe Fed Patch Antenna Design Experiment
- 1X4 and 2X2 Probe Patch Antenna Array Design Experiment
- Monopole Antenna Design Experiment
- Dipole Antenna Design Experiment
- Discone Antenna Design Experiment
- Dielectric Resonator Antenna (DRA) Design Experiment
- Sleeve Monopole Antenna Design Experiment
- Planar Inverted-F Antenna (PIFA) Design Experiment
- Dielectric Resonator Monopole Antenna Design Experiment

Kit description:

- The kit is equipped with Wilkinson Power Splitter 4 way (600-6000 MHz, 20W, SMA-Female)
- The kit includes experiment sheets with short theoretical information about antennas and the antenna design procedures with the use of the kit.
- The kit consists of metallic and dielectric brick-type cells with dimensions about 4 mm X 4 mm X 3 mm with cylinder of height about 2 mm which enables the joining of the cells (the dimensions of the bricks should not be larger than 1/10 of the wavelength at the frequency of the maximum operation of the antennas from the set)
- The kit includes ground planes on which the experiments can be assembled, with mounted connectors.
- The kit includes cables, adaptors and removing tools.
- Each experiment should be stored in a separate box and all the experiment boxes should be stored in a dedicated case.

The designed antennas should operate in the 600 MHz - 6 GHz frequency band.

II. Microwave Training Kit

The training kit enables the construction and conduct of 11 experiments:

- Rectangular Waveguide and Attenuator Design Experiment
- Impedance Matching Circuit Design with Lumped Elements
- Impedance Matching Circuit Design with Microstrip Stubs & λ/4 Transformer
- Microstrip Power Dividers Design Experiment (3 Types of Dividers)

- Microstrip Quadrature 90° Coupler Design Experiment
- Filter Designs with Lumped Elements (All four types of filters)
- Microstrip Bandpass and Bandstop Filter Design Experiment (via Stubs)
- Microstrip Stepped Impedance Low Pass Filter Design Experiment
- Microstrip 180 degree Hybrid Coupler Design Experiment
- Waveguide Iris Filter Design Experiment
- Waveguide Post Filter Design Experiment

Kit description:

- The kit includes experiment sheets with short theoretical information about antennas and the antenna design procedures with the use of the kit.
- Each component has an example CAD file that can be imported to a simulation tool if the lecturer prefers to use a simulation tool.
- The kit consists of metallic and dielectric brick-type cells with dimensions about 4 mm X 4 mm X 3 mm with cylinder of height about 2 mm which enables the joining of the cells (the dimensions of the bricks should not be larger than 1/10 of the wavelength at the frequency of the maximum operation of the antennas from the set)
- The kit includes ground planes on which the experiments can be assembled, with mounted connectors.
- The kit includes cables, adaptors and removing tools.
- Each experiment should be stored in a separate box and all the experiment boxes should be stored in a dedicated case.

The designed systems should operate in the frequency band up to 3 GHz in the case of microstrip systems and in the band from 3 GHz to 6 GHz in the case of waveguide systems.