LABORATORY OF HIGH-FREQUENCY MEASUREMENTS

1. KEY INDICATORS

CFU/ECTS: 6
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2. OBJECTIVES OF THE COURSE

3. ACQUIRED ABILITIES

4. PROGRAM OF THE COURSE

Practical measurements on
- one ports (e.g. lumped element R,L,C), two ports (e.g. attenuators , cables, filters, amplifiers) ,three ports (e.g. power splitters, circulators), 4- ports (e.g. directional couplers);
- VNA calibration techniques;
- RF cavity mode meas, higher order modes of a pillbox, Q measurement, coupling;
- RF amplifiers: gain, noise figure, 1dB compression point, 2nd+3rd order intercept point. - waveguides and strips;
- modulated signals;
- time domain reflectrometry;
- antennas;
- environmental electromagnetic fields;
- permittivity and permeability of materials.

5. REFERENCES

Handouts distribuited in class.
D. Roddy, "Microwave Technology", A Reston Book Prentice-Hall, Englewood Cliffs, New Jersey, 1986.
· Robert A. Witte, Spectrum and Network Measurements, Noble Publishing Corporation (2001).
· G. H. Bryant, Principles of Microwave Measurements, Institution of Electrical Engineers; Rev Ed edition (1993).
· Christoph Rauscher, Fundamentals of Spectrum Analysis, Rohde&Schwarz (2002)
· Application notes

6. COURSE WEBSITE