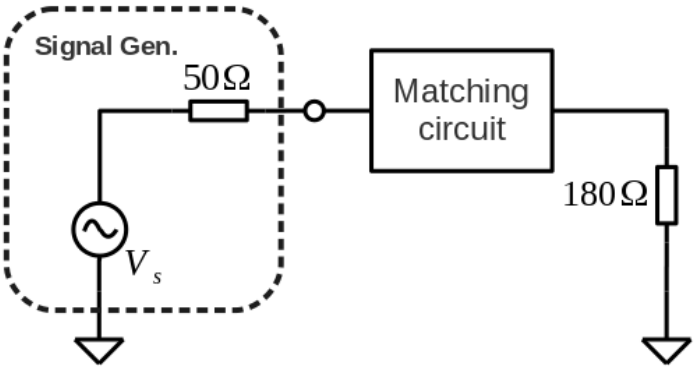
EEE 202 CIRCUIT THEORY
LAB 4

Design at least two passive linear circuits to transfer maximum power to 180Ω load from a voltage source with output impedance 50Ω at a frequency between 5 and 10Mhz.



Software lab

- Calculate the maximum power can be transferred by signal generator for the chosen sinusoidal signal.
- Compare it to the power delivered to the 180Ω resistor.
- Verify by simulation results that max power transferred.

Hardware lab

- Build your circuit by using linear, passive components.
- First, connect a 47Ω resistor to the signal generator and calculate the power transferred to it.
- Connect your circuit to the signal generator and calculate the power dissipated by the 180Ω resistor.

Checks

1. SW: Explain your both methods. Verify max. power transfer mathematically.
2. HW: Explain your both methods and show your measurements on oscilloscope screen. Verify max. power transfer mathematically.

Available materials in the lab

T25-10, T37-7, T38-8, T50-7 toroidal cores from Micrometals, capacitors and resistors.