EEE 202 CIRCUIT THEORY
LAB 4

Design at least two passive linear circuits to transfer maximum power to a load of 200Ω from a voltage source of source impedance 50Ω at a chosen frequency in the range 10 to 20MHz*.
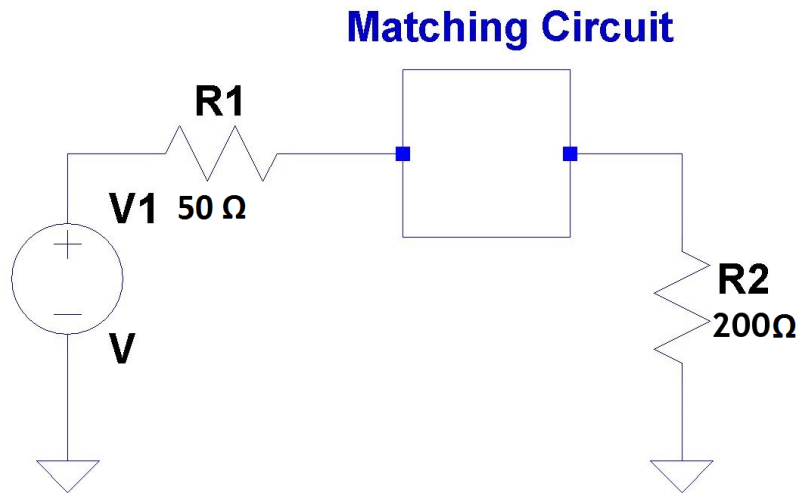

Figure 1: Matching Circuit

Preliminary Work

Verify your proposed method using SPICE.

Experimental Work

Implement your circuit. Measure the power you generated and compare it with the maximum power available from the source. Explain the difference between your SPICE and measurement results.

Available materials in the lab

Toroidal cores to design inductors or transformers: T25-10, T37-7, T38-8, T50-7 from Micrometals. There are standard values of capacitors and resistors available.

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*For practical purposes, measure and show your generator output after disconnecting your original circuit and connect a 50Ω resistor instead. Choose an appropriate voltage magnitude by taking power ratings of available resistors into account.