

ECE 443 APPLIED ELECTRONICS - LAB 1

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Abstract—This lab experiment aims to teach students the factors that effect the performance of a wireless communication system.

1. METHODS

Investigating the effect of frequency:

1. Use a function generator sine wave at 100Hz, connect it to a wire

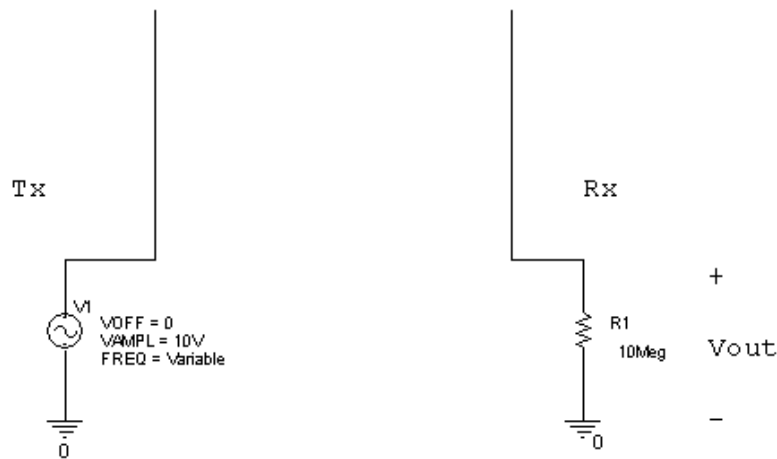


Figure 1. a)Circuit Diagram

antenna of 1m length.

2. Build a receiver with a wire antenna connected to a resistor of 10Mohm. Observe and draw the voltage across the resistor via a scope.
3. Use 20MHz sine wave and repeat previous steps.

4. Make comments.
 5. Draw the circuit on your notebook. Investigating the effect of signal power:
 1. Use the same setup (at 20MHz) with varying the power to the transmitter (by varying the voltage)
 2. Make comments.
- Investigating the effect of distance:
1. Use the same setup with varying the distance between the transmitter and the receiver antennas (ex: 1cm, 10cm, 50cm, 1m)
 2. Make comments.