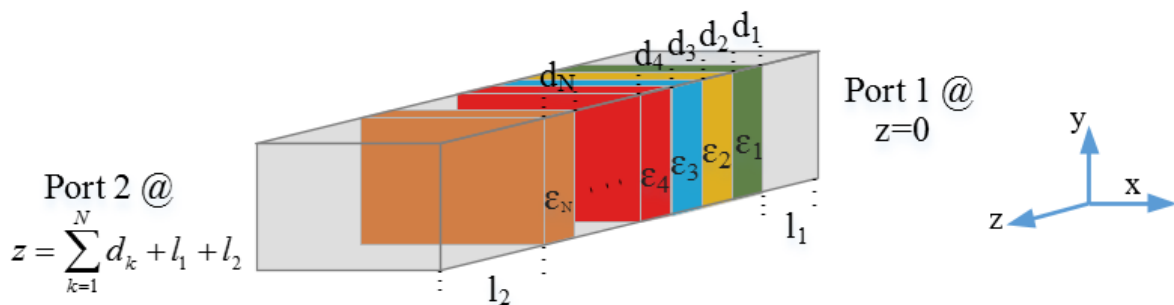**Electromagnetic Waves Term Project**

A rectangular waveguide has dimensions (2.286 cm, 1.016 cm) in (x,y) directions. Waveguide is filled with N dielectric layers. Each non-magnetic and dielectric layer has a thickness and fills the entire cross-section. Port 1 and Port 2 are positioned at l_1 and l_2 away from the multilayer structure. Waveguide is excited between 8-12 GHz at Port 1 and Port 2 is assumed to be matched with the impedance of the hollow waveguide. Choose the number of layers, l_1 and l_2 distances, permittivity and thickness of each layer on your own.

A Determine the reflection and transmission coefficients at Port 1 and Port 2, respectively? You are to write your own code.

B Compare your results with a software (both in magnitude and phase)

Your total grade will be proportional to AxB. A is grade on project report. B is your oral exam grade.