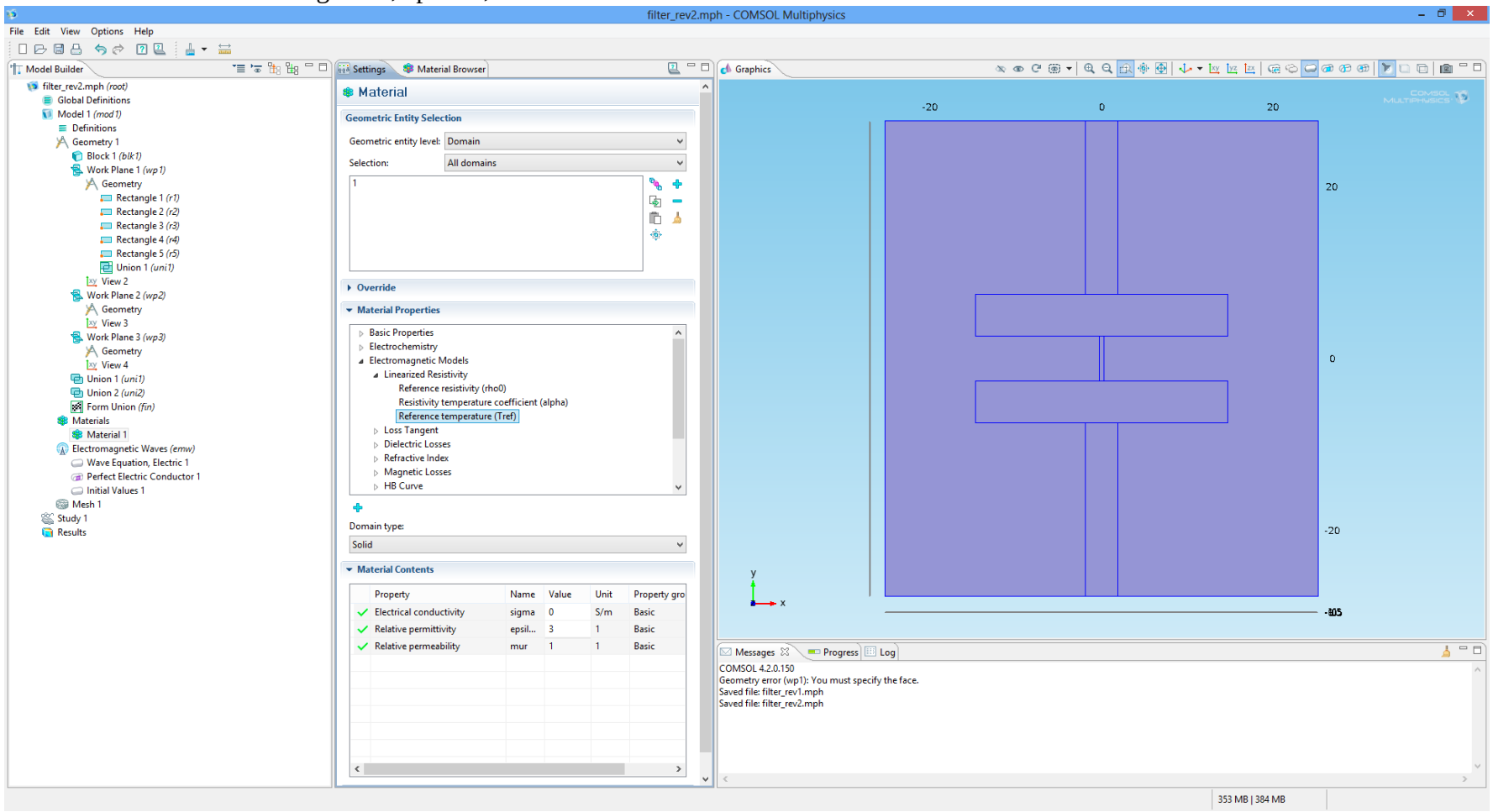
ECEN 3613 HW 24

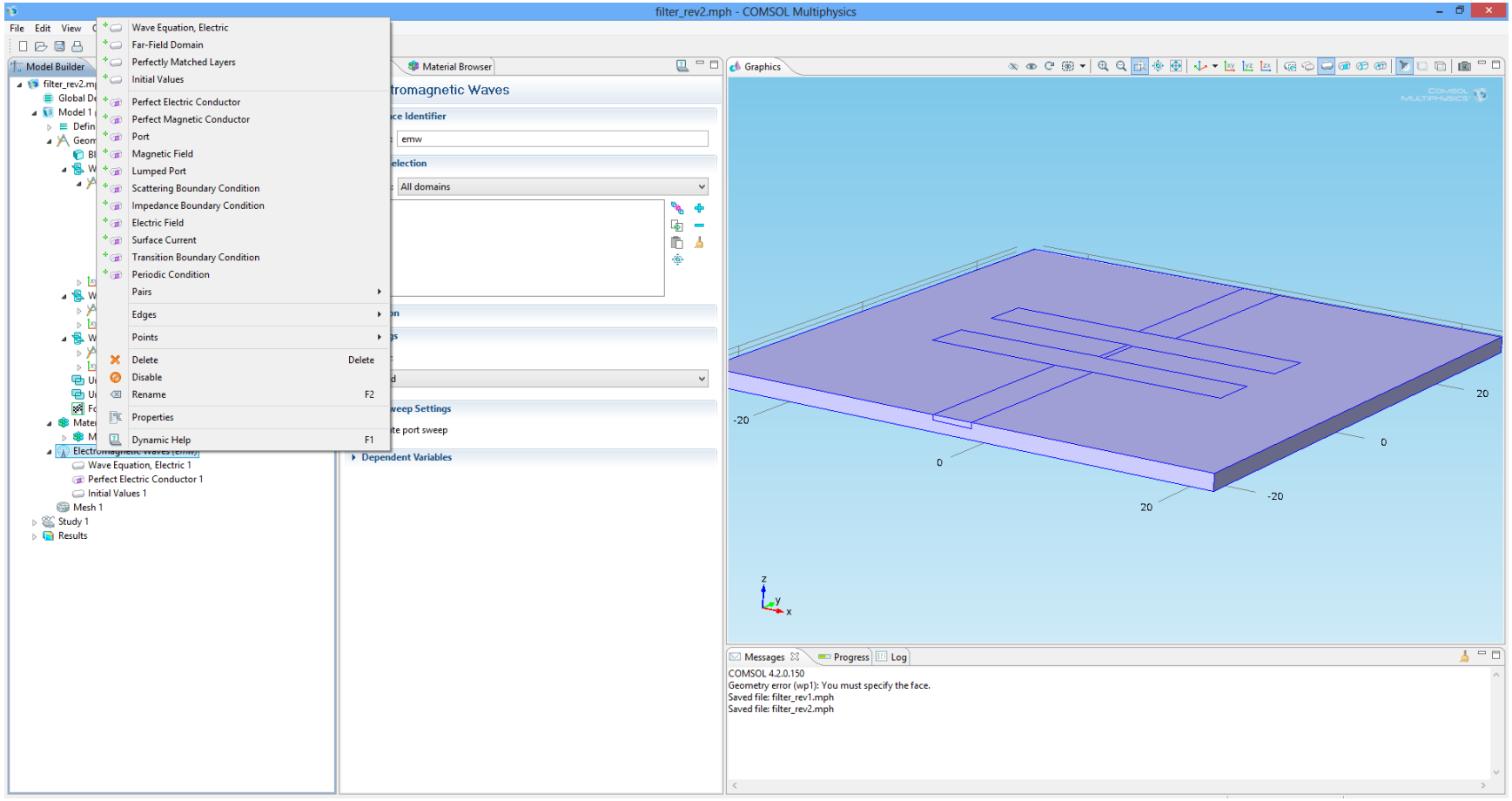
Define the material properties for the PCB board and the boundary conditions. Print screen and return your COMSOL work similar to the following three images.

Choose material and insert sigma=0, epsil=3, and mur=1



In the **Model Builder** window, right-click **Electromagnetic Waves (emw)** and choose **Lumped Port**. Select Boundary corresponding to the input port. Go to the **Settings** window for Lumped Port by right clicking on **Lumped Port 1**. Locate the **Port Properties** section. From the **Wave excitation at this port** list, choose **On**. This port excites the microstrip.

For the output port, In the **Model Builder** window, right-click **Electromagnetic Waves (emw)** and choose **Lumped Port**. Keep the wave excitation for this port off, so it simulates the measuring port.



In the **Model Builder** window, right-click **Electromagnetic Waves (emw)** and choose **Scattering Boundary Condition**. Select all the Boundaries except the ones that represent the microstrip and the ground (back) plane on the PCB. The emw for the microstrip and the ground must be **Perfect Electric Conductor.**