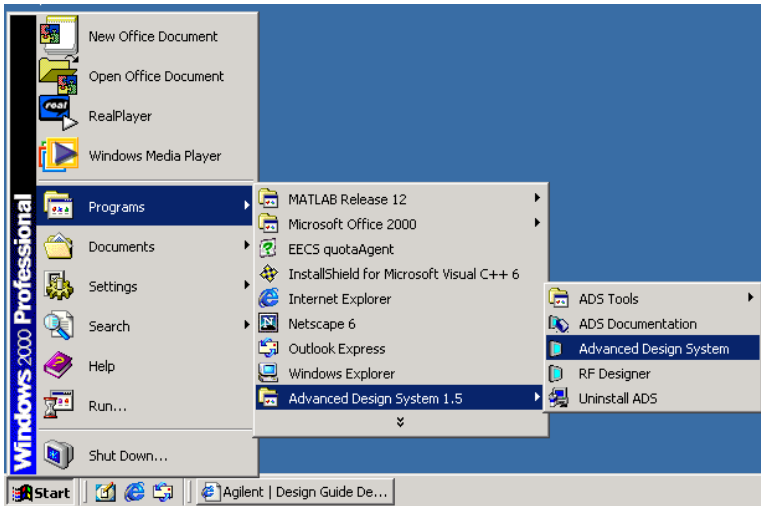
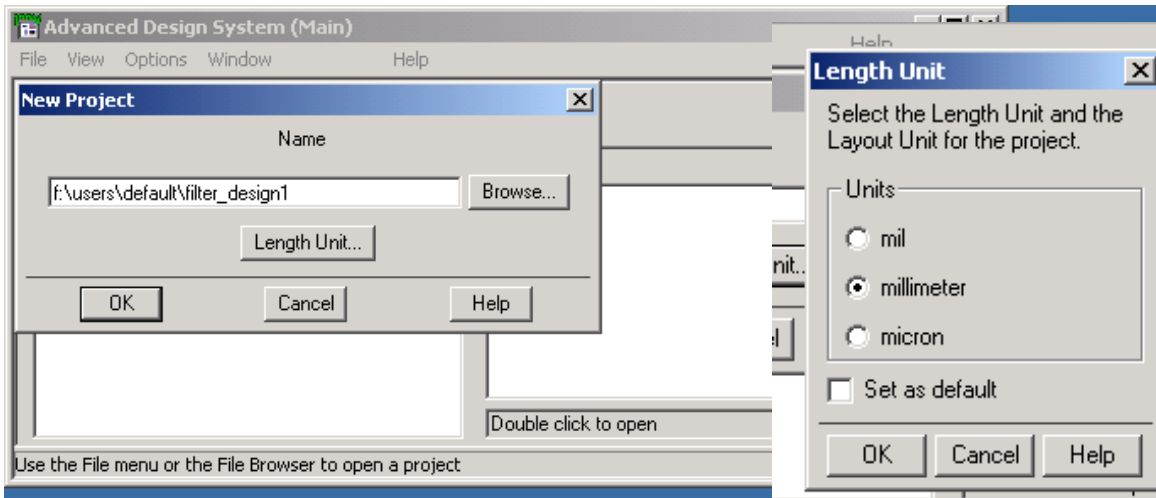


Project #1 (RLC-series filter)



Open ADS:

Start/ Program /Advanced Design System 1.5/ Advanced Design System.

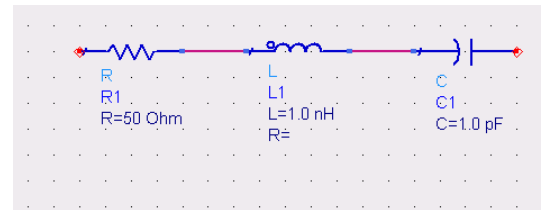
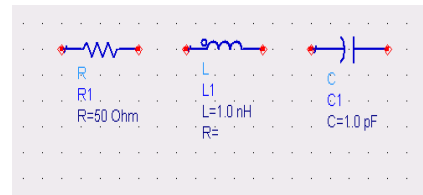
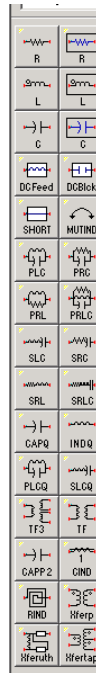
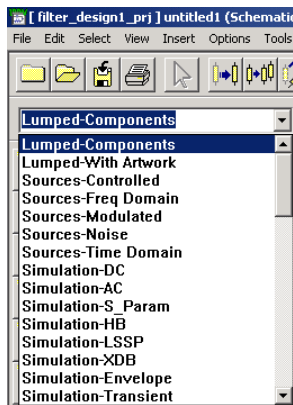



Creating Projects:

Choose File > New Project and type in your project name and location as shown above.

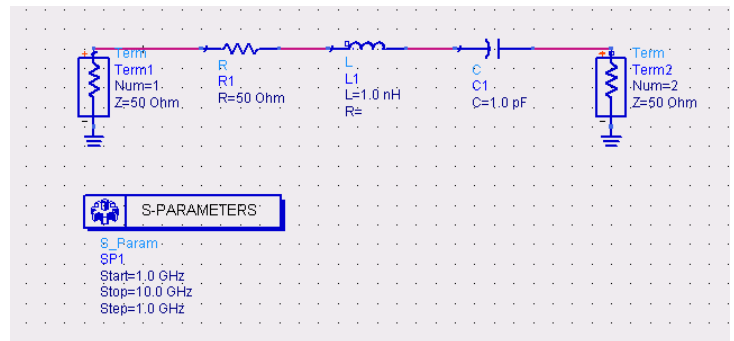
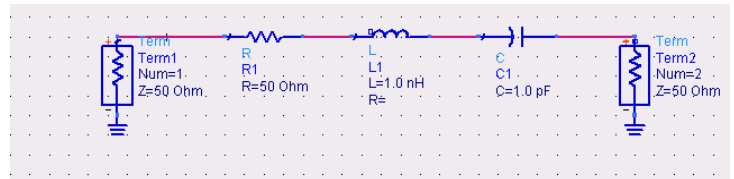
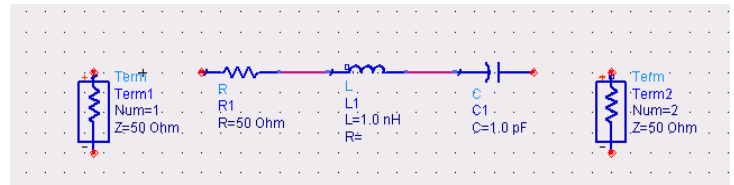
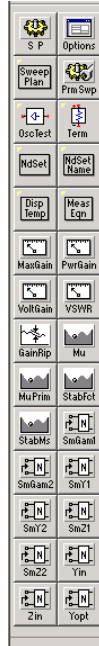
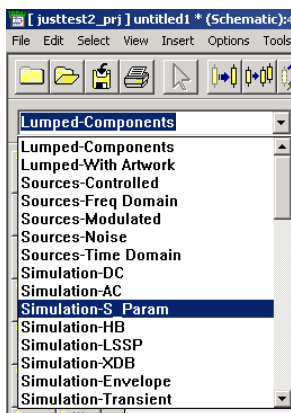
Click on the **Length Unit...** tab to set your most frequently use unit in your new project. For this exercise, we want to set are unit to be in **millimeter** or **mm**.

Creating Design:



1. Choose the **Lumped-Components** library as shown in figure above.
2. Click and hold the left-mouse button on the resistor icon and drag it into the schematic window.
3. Do the same task for the capacitor and inductor icons.
 - a. You can change the values of all these components or to get more information on the component by double-click on the component of interest.
4. Click on the  icon on the toolbar to enable us to connect various components together by mean of wire.

Setting up tools for simulation:



1. Choose the **Simulation S Param** library.



2. Drag two terminal icons from the library of components into the schematic window as shown in the figure above.

- a. The terminal is default to have 50 ohms impedance.



3. Use the wire icon to connect the circuit to the two terminals and use the ground icon to ground the terminal as shown in figure above.

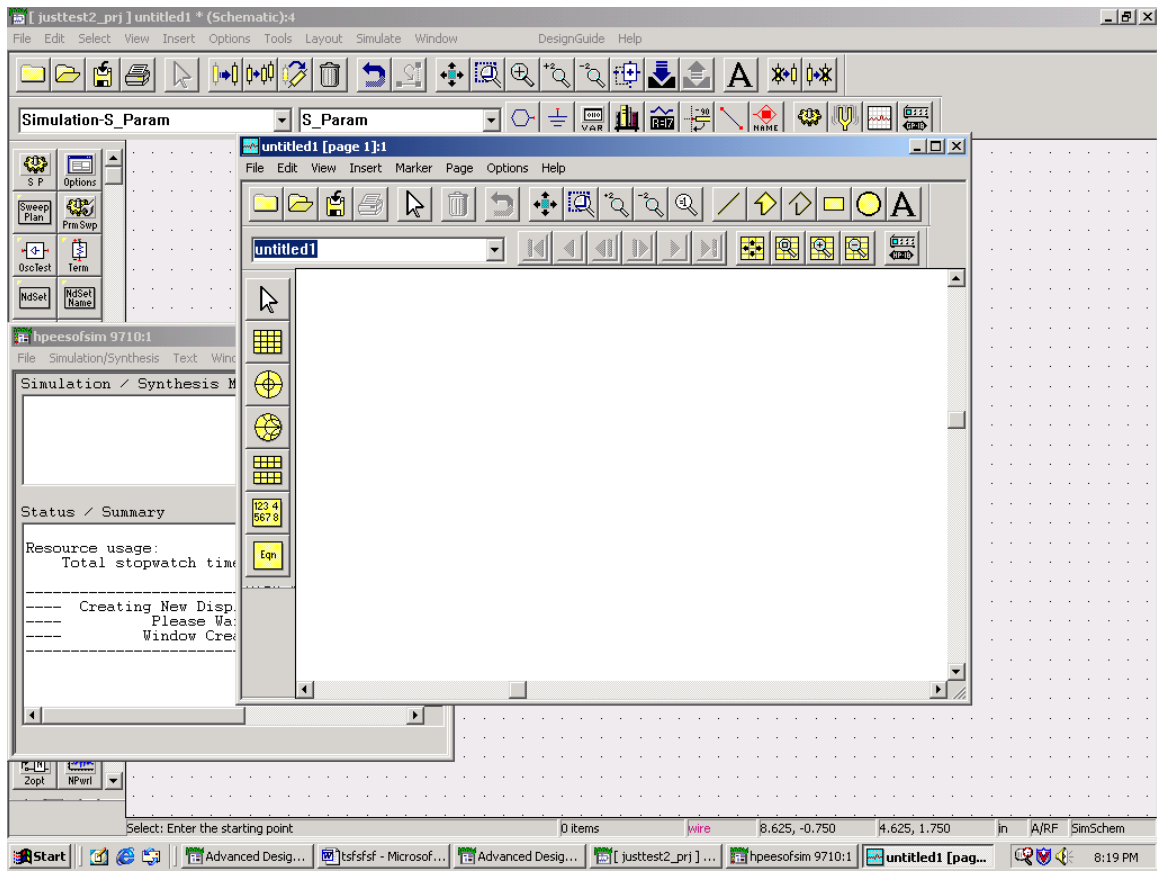



4. Drag in the **S Param** icon from the **Simulation S Param** library to enable us to simulate are circuit using the S-parameters method.

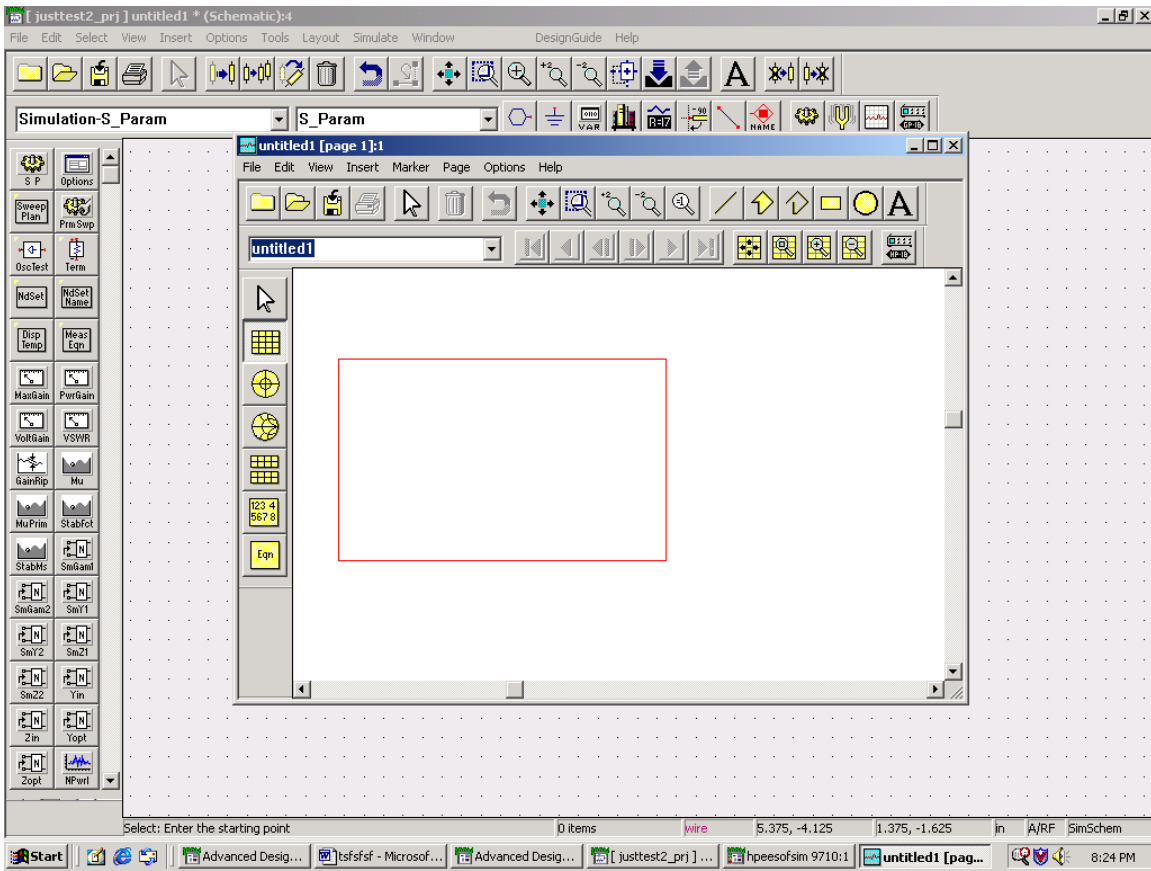
- a. As you can see the S-Parameters is default to sweep over the range of 1 to 10 GHz of frequency with increments of 1.0 GHz.

Simulation and display data:

1. Presses the F7 key on the keyboard to start simulate the circuit. (Usually take a couple of seconds)

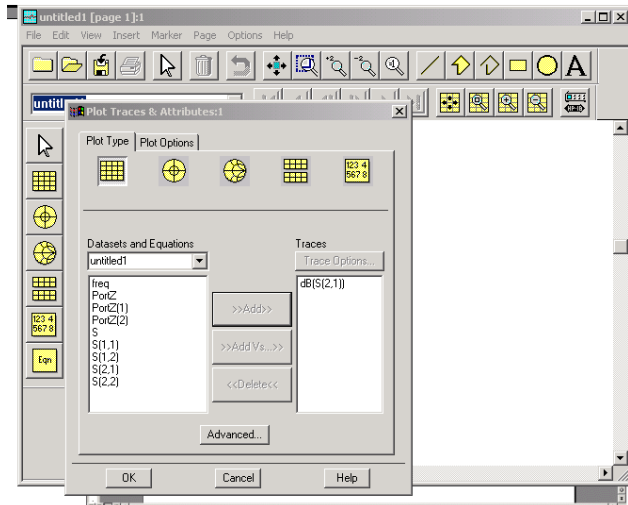
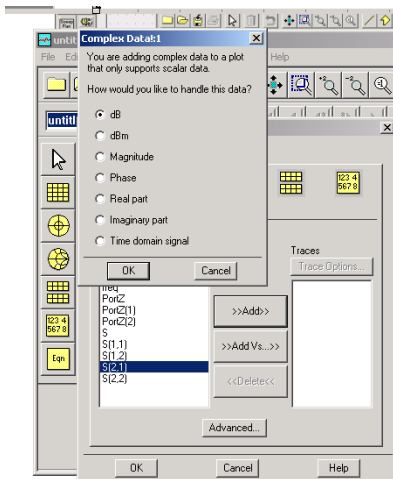


2. You should see something like the figure above on your screen. Click on the  icon with the data display window.



3. Now you should see the red rectangle on the data display window (DDW). Choose the proper place within the DDS and click the left-mouse button to place the plot.

4. Choose S21, dB and then click ADD as shown in the two figures below. Then click OK.



The DDW shown the data in the fashion as follow.

