

Lab #5

We will be measuring a qubit chip today. The input and output lines will be hooked up to the VNA and a signal generator will be used to drive the qubit. You will be measuring S21.

1. Using the VNA, look for the resonators over a broad frequency (Hint: there are 4 resonators, and they have a linewidth of 1-10 MHz.)
 - a. What are the frequencies of the resonators? The linewidths?
2. Focus on one resonator and change the input power either using the VNA or using an attenuator. Describe what you see.
3. Now sweep the frequency on the qubit drive line. You should see the resonator shift in frequency.
 - a. How much is this shift at high power?
 - b. What happens as you decrease the drive power?