



## Hi, I'm Isabella Delionado and this is my NMIP Story

**Company:** MACOM

**University:** Brown University

**Project Title:** RF Filters

**Focus Area:** PCB Design

My internship centered on conducting a detailed characterization of MACOM's BAW devices to assess their performance and provide insight to develop the next generation of these devices. I used the wafer prober and Vector Network Analyzer to test several BAW resonators and other passive structures on three wafers of different resonant frequencies. I conducted small signal S-parameter measurements as well as power and temperature S-parameter measurements to observe the device performance under different conditions. I de-embedded the data I collected using Python to have an accurate measure of the narrowband and broadband response. I also began to translate MACOM's BAW characterization MATLAB app into Python.

**What I enjoyed Most:** I valued the hands-on experience the most especially being able to actually handle the devices I had been studying and modelling. I also enjoyed being able to use some of my programming experience for my project.