

ECE 196 Light Shield

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The light shield is the first hands-on project of ECE 196. I found the project to be minimally challenging. Yet, I still got to try new soldering techniques and learn about the process of hand-soldering SMD components.

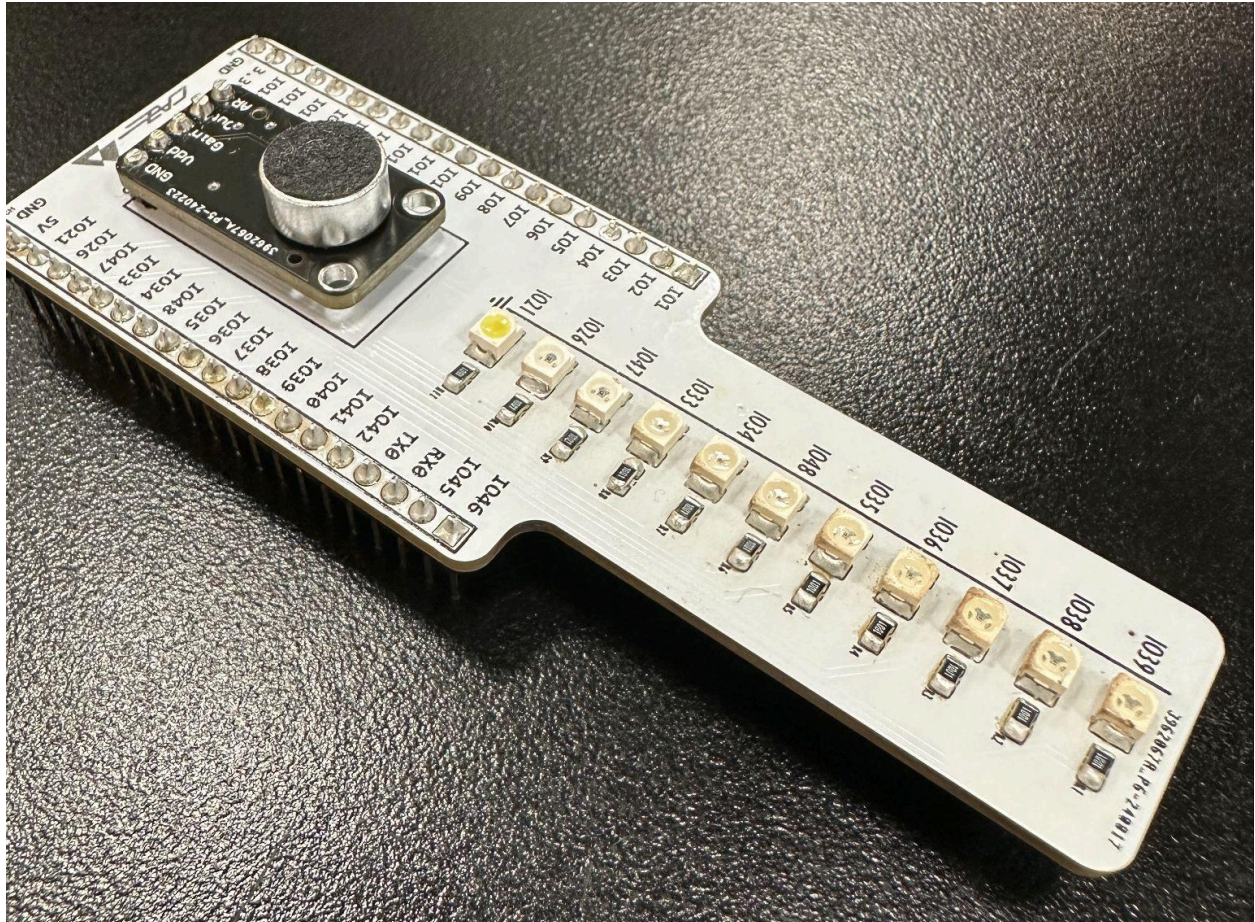


Figure 1: Completed Light Shield

The light shield took about 40 minutes to assemble. I tested the LEDs with a multimeter set to the diode function. Then, I spent an additional 20 minutes using the reflow air gun and flux to make my SMD components settle more cleanly on the board. At first, I tried blowing hot air on the front side of the board where the SMD components are. This toasted the LED housing and led me to heat the backside of the board instead.

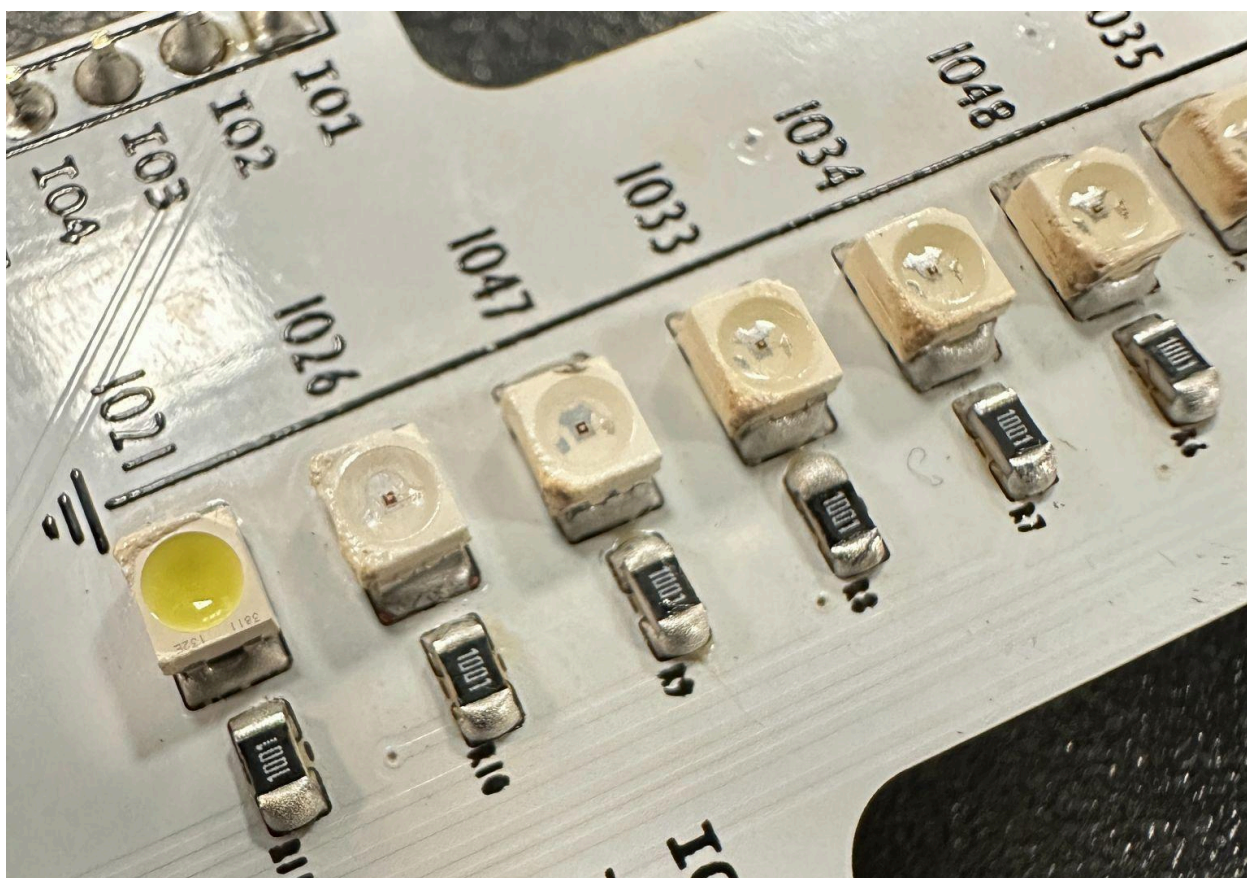


Figure 2: Toasted LEDs and Reflowed SMD Components.

This worked well. However, it browned the back of the board. After letting the board cool I again tested the LEDs to ensure they functioned.

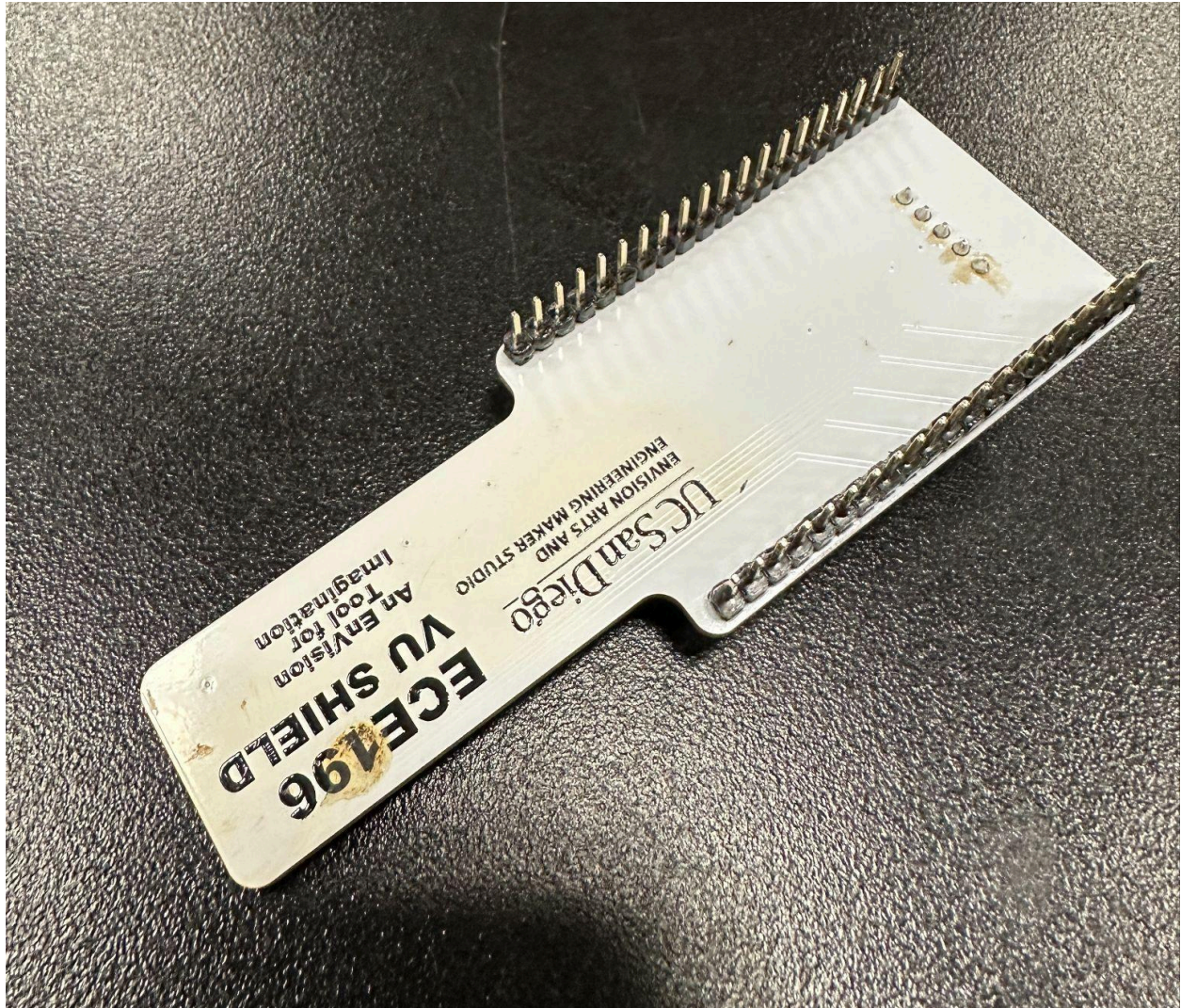


Figure 3: Underside of Board (browned) and Header Pins