

**FarmX Co Internship**  
**Electrical and Mechanical Engineering Intern**

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Date: August 2021 – February 2022

## **Job Description:** Mechanical/Electrical Engineering Intern

### **Introduction:**

This internship consisted of the design and assembly of FarmX's water pump sensor modules which were utilized in the field to optimize irrigation in crops. This is done so that water can be conserved, as California's droughts are often unpredictable. All of the pictures listed were personally assembled and displays the process of how each module was constructed.

### **Responsibilities:**

- Precise soldering techniques (using microscope/magnifying glass)
- Following documentation for PCB assembly/electrical schematics
- Utilizing testing software to ensure functionality
- Prototyping new module designs to conserve space
- Utilizing CAD to design new iterations
- Electrical testing in batteries



Figure 1.1: Water pump sensor module Assembly

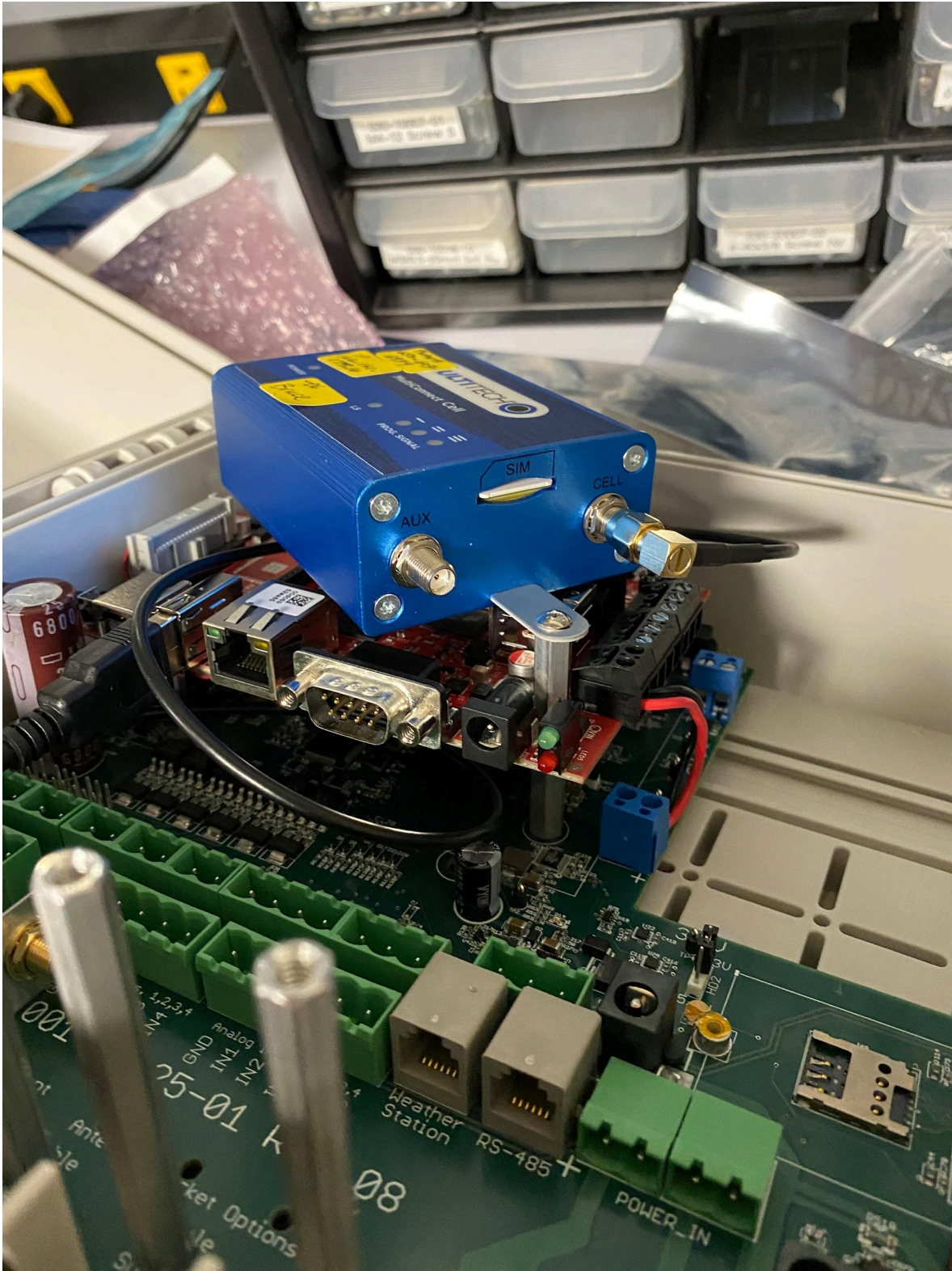


Figure 1.2: Side View of Assembly

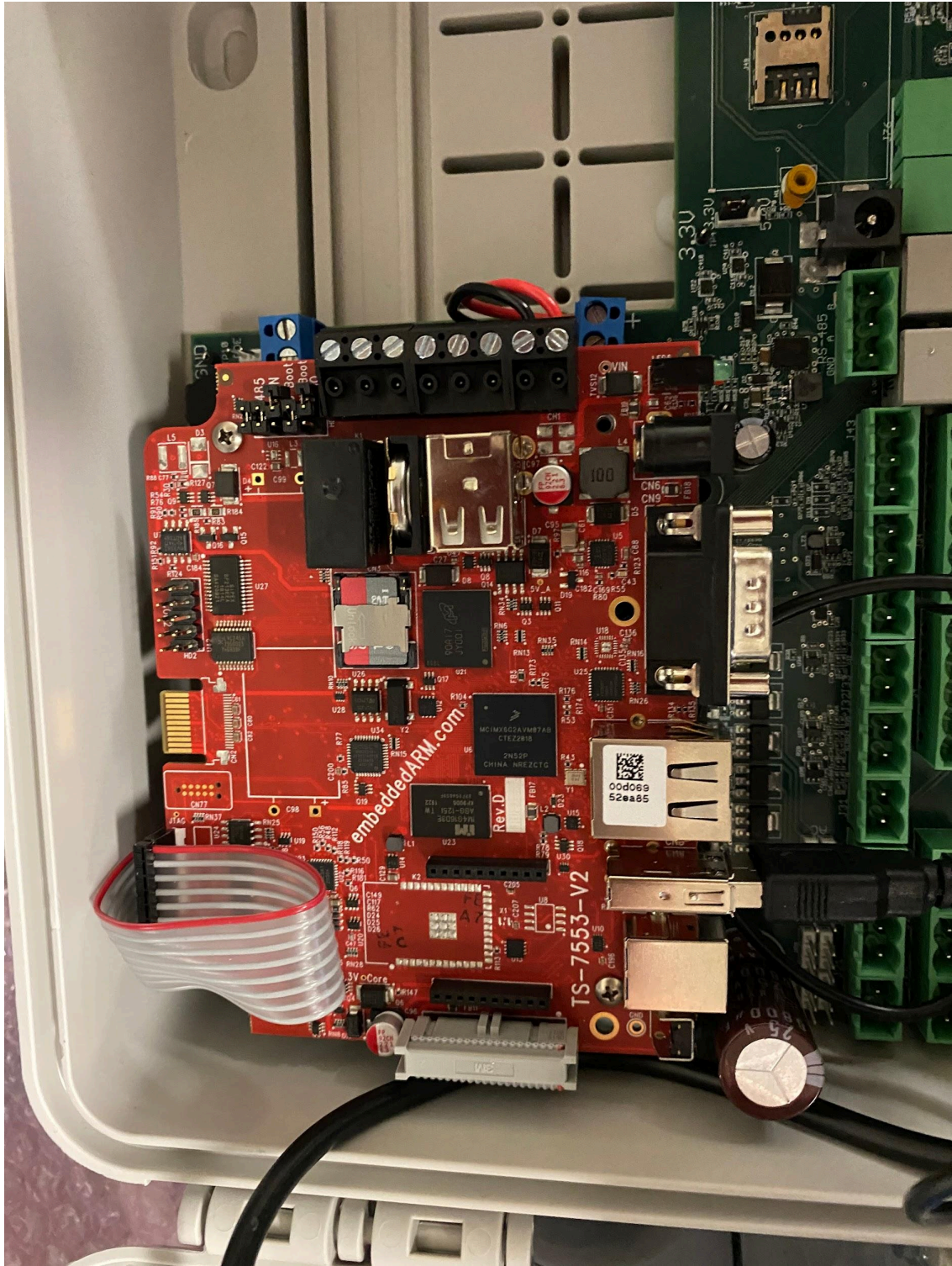
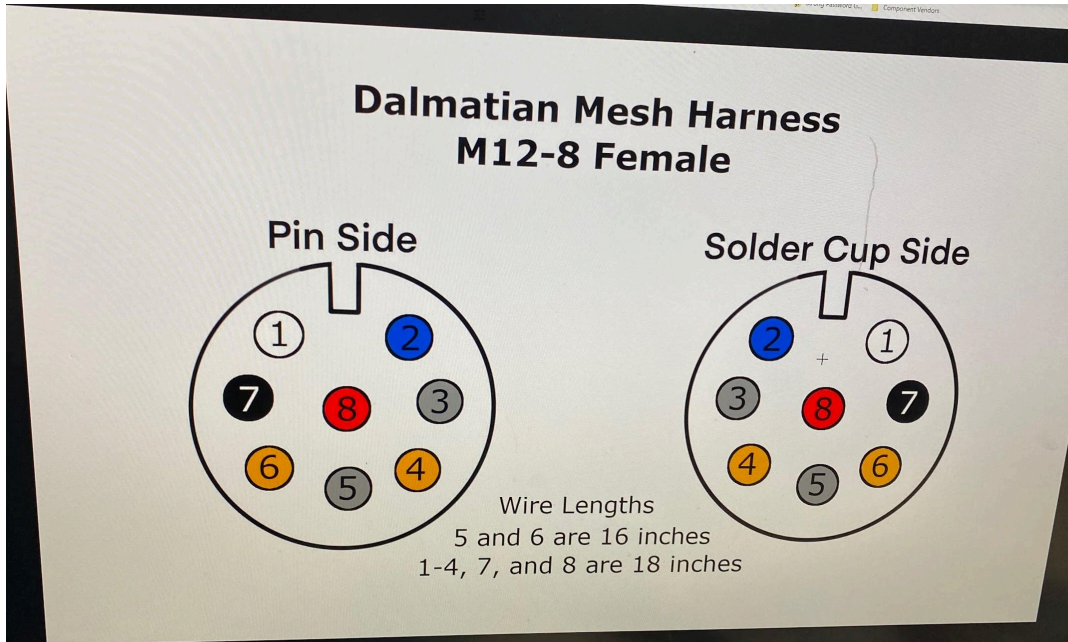
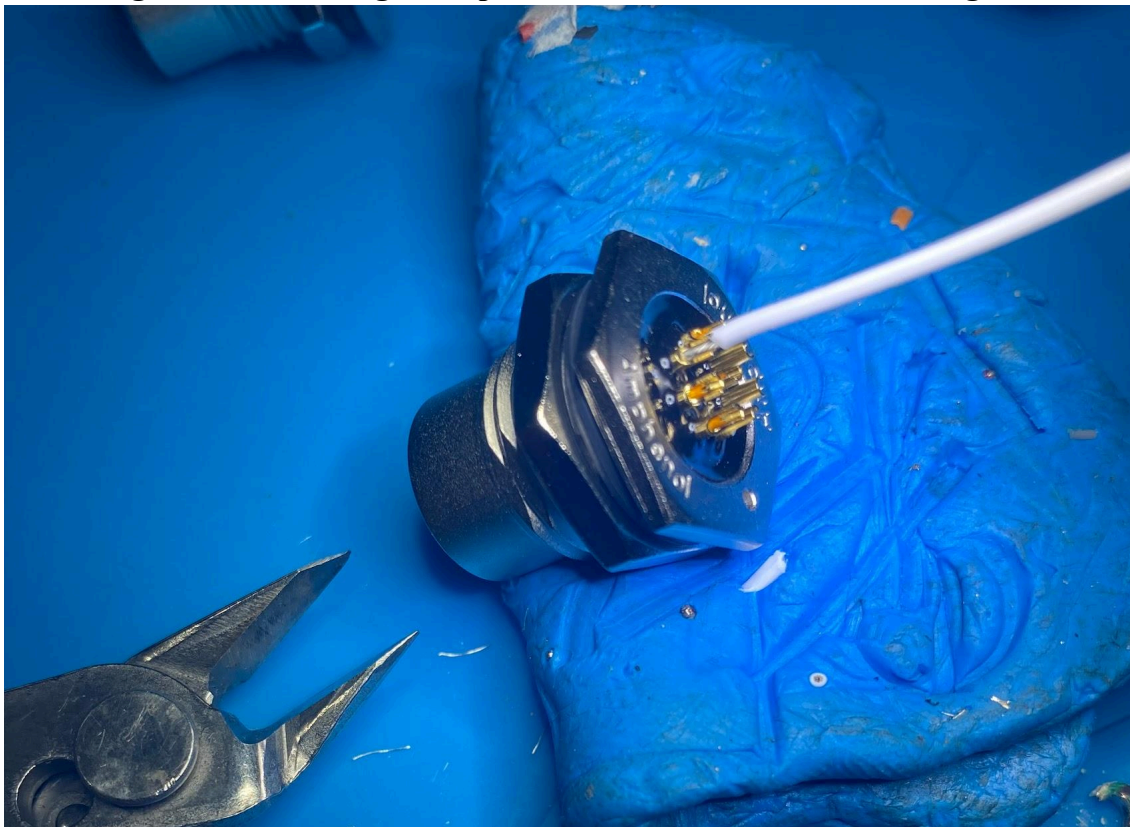


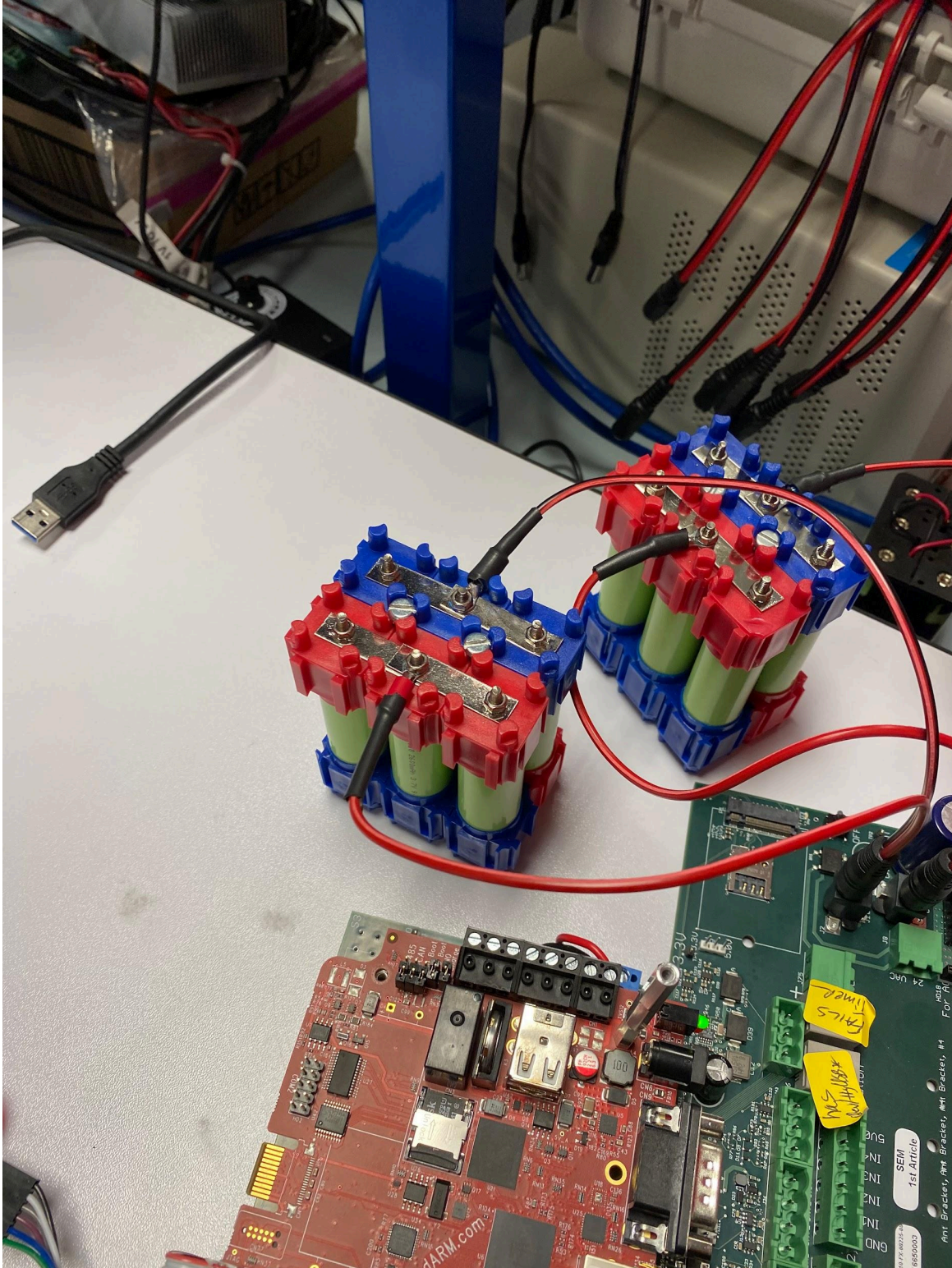
Figure 1.3: Custom PCB assembly



**Figure 2.1: Soldering Example, Custom Dalmation Harness diagram**



**Figure 2.2: Soldering of harness, under microscope**



**Figure 3: Battery Pack Assembly**

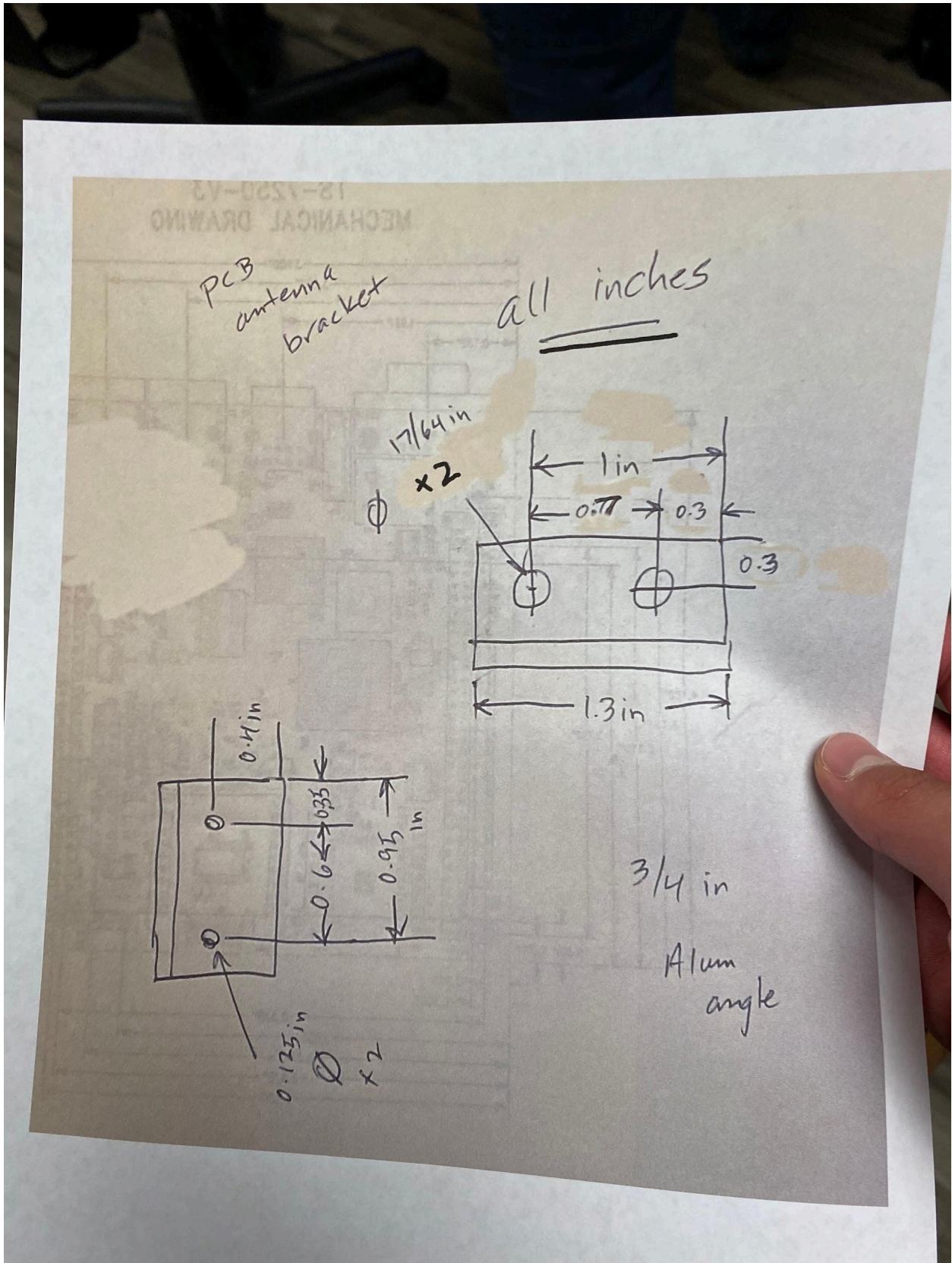


Figure 4: CAD specification drawings, later to be designed and assembled