ECE 342 Final Project

Enclosure Artifacts

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Contents

1 Interfaces

Interface table	
Interface	Properties
Inputs	
USB	USB type A for arduino power and serial comunication. Dimensions: 470mils x 415mils or 11.94mm x 10.54mm
12V Power	Used to supply power to motors. Diameter: 380mil or 9.65mm
Sensor Inputs	Five pin right angle conector for sesor comounication. Dimensions: 580mil x 223mil or 14.73mm x 8.20mm
Outputs	
Motors	Three 4 pin right angle conectors that conect the motors to the PCB. Dimensions: 483mil x 223mil or12.27mm x 8.20mm
Fans	40 mm (1574.8mil) fans for air flow. Dimensions (screw holes): 32mm x 32mm or 1259.84mil x 1259.84mil
LCD	LCD used for debugging. Dinensions (screen): 2800mil x 950mil or 71.12mm x 24.13mm

Figure 1: Interface table for each of the components that will need a hole in the enclosure.

2 Mechanical Drawings

2.1 PCB

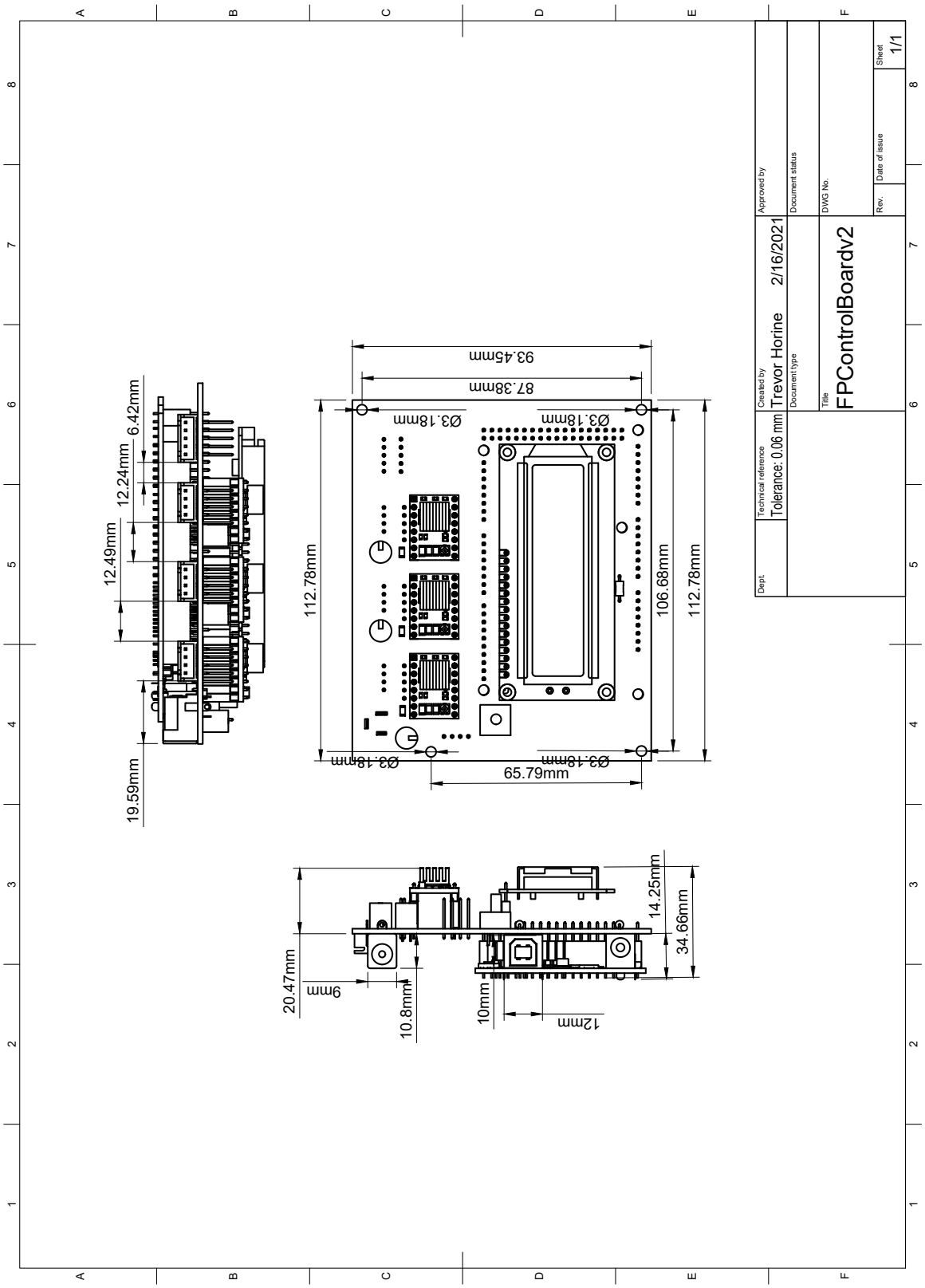

Figure 2: Mechanical drawing of PCB, with dimensions and locations of mounting holes

2.2 Enclosure Bottom Mechanical Drawing

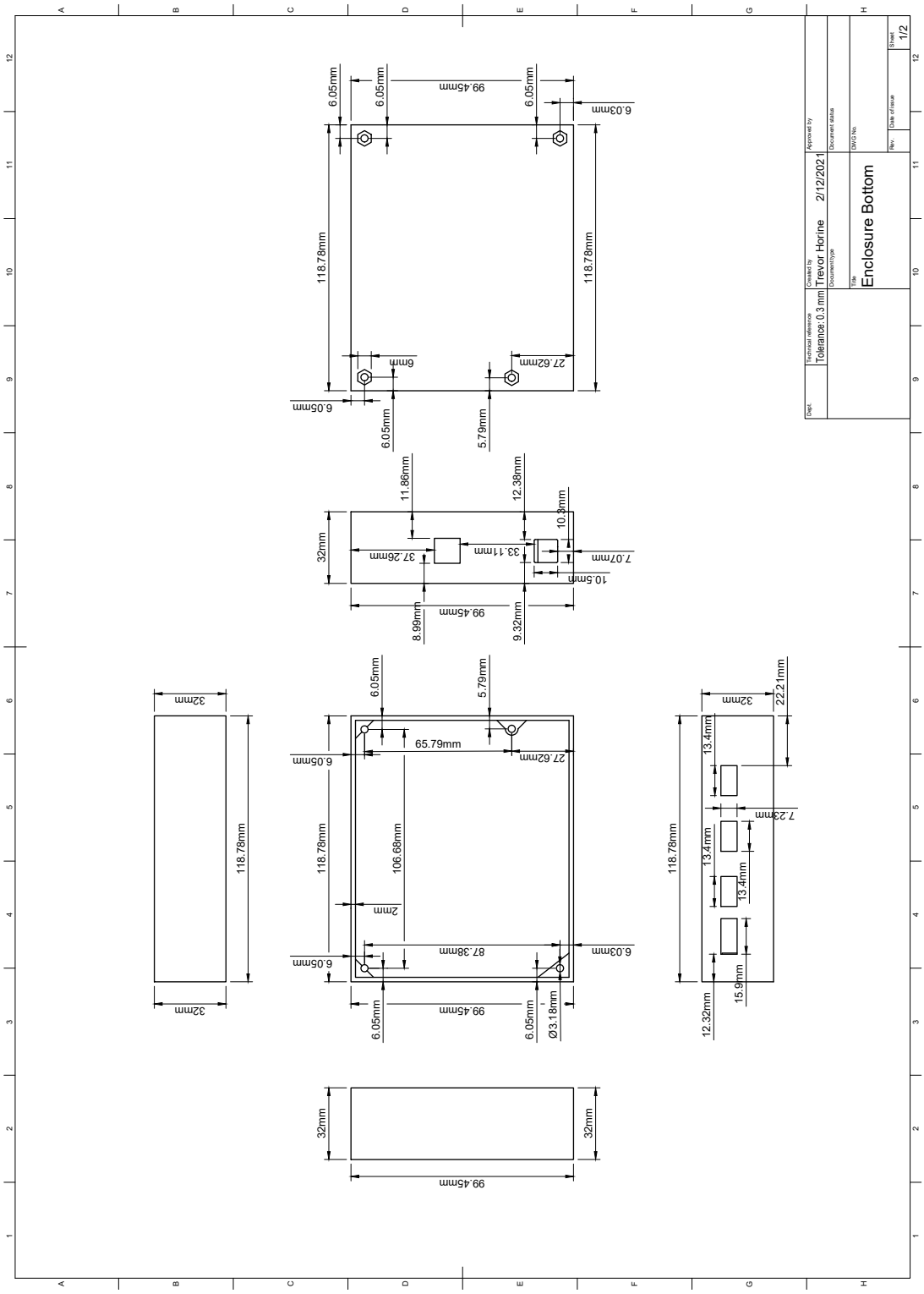

Figure 3: Mechanical drawing of the bottom half of the enclosure designed to hold the PCB.

2.3 Enclosure Bottom Model

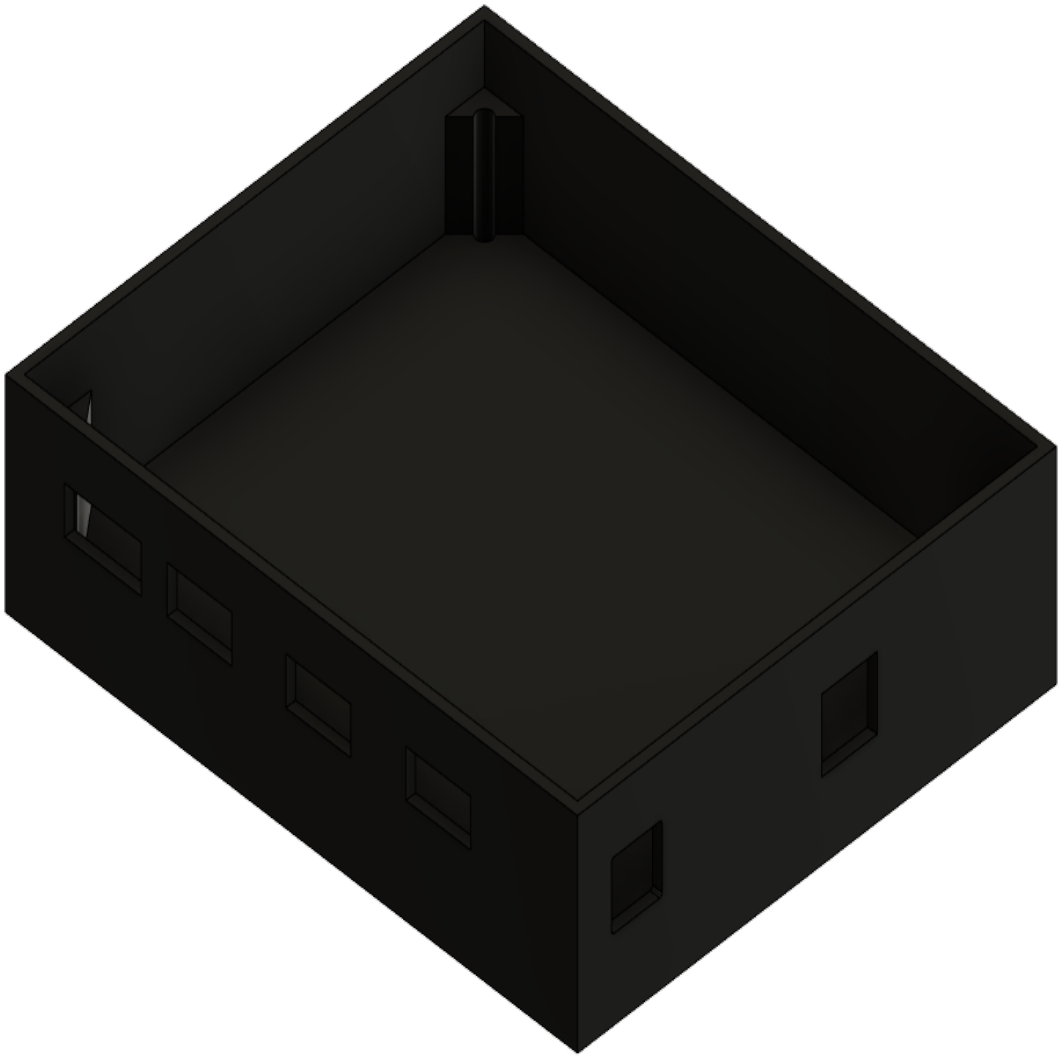

Figure 4: This is a rendering of the 3D model of the bottom half of the enclosure.

2.4 Enclosure Top Mechanical Drawing

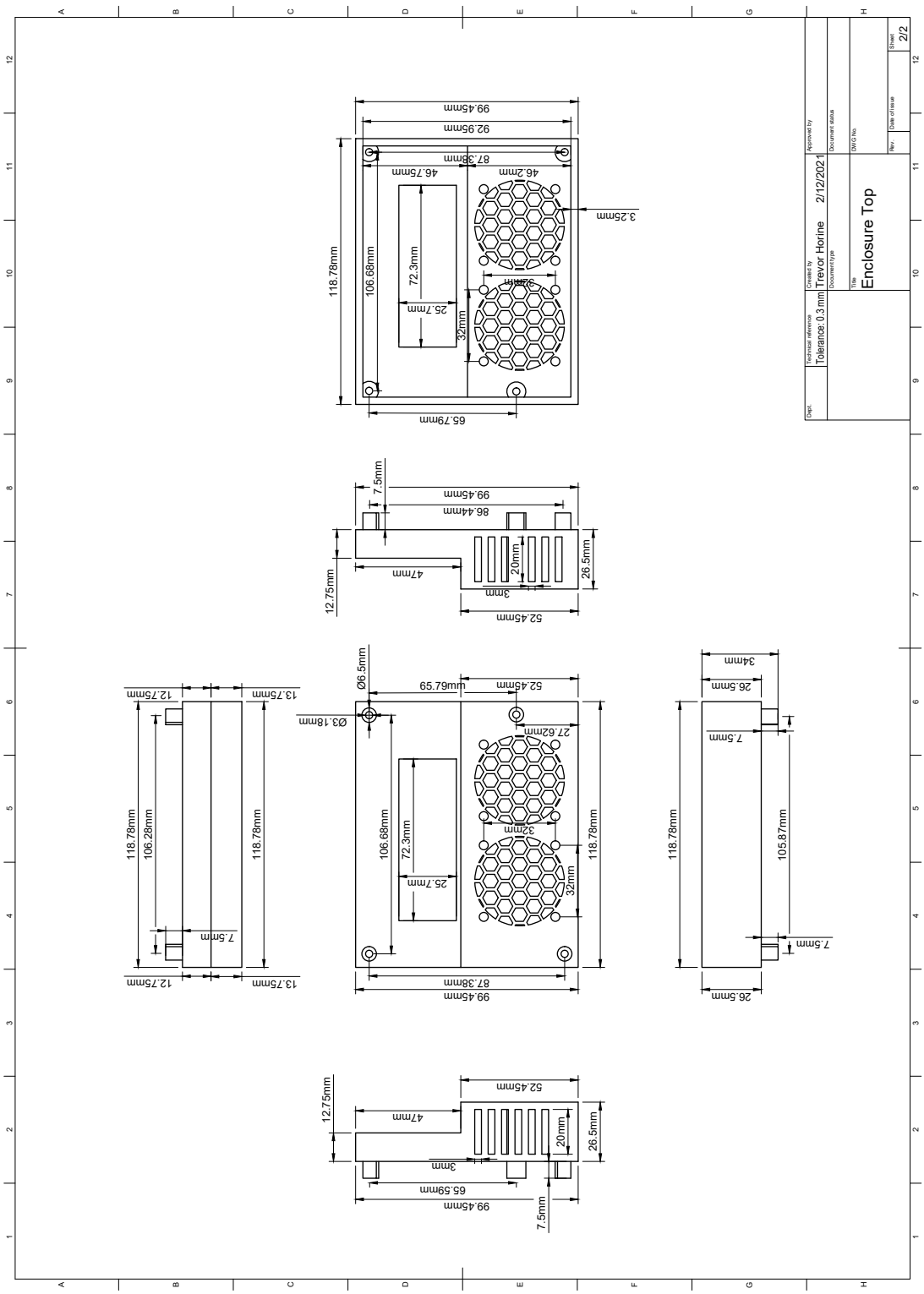

Figure 5: Mechanical drawing of the top half of the enclosure designed to hold the PCB.

2.5 Enclosure Top Model

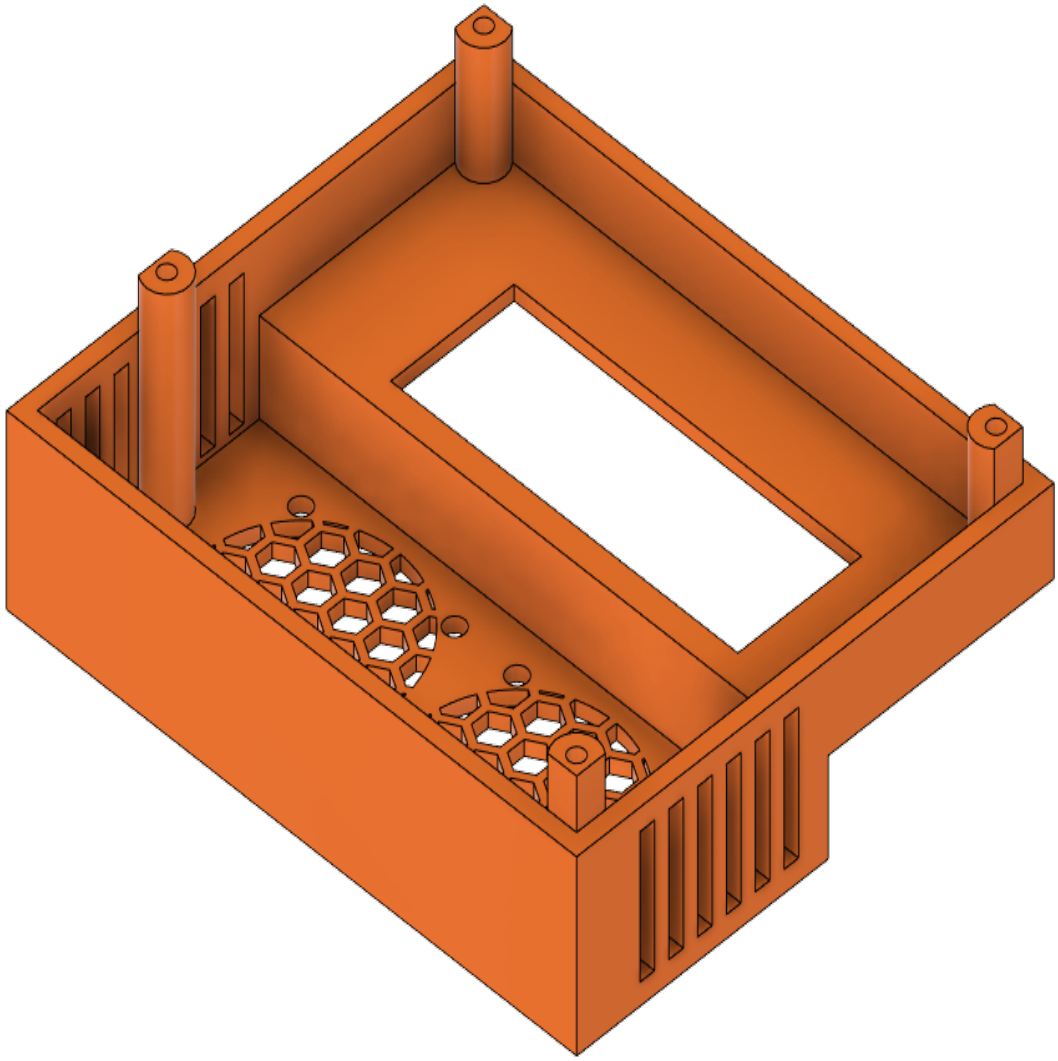

Figure 6: This is a rendering of the 3D model of the top half of the enclosure.

3 Final Product

3.1 3D Model

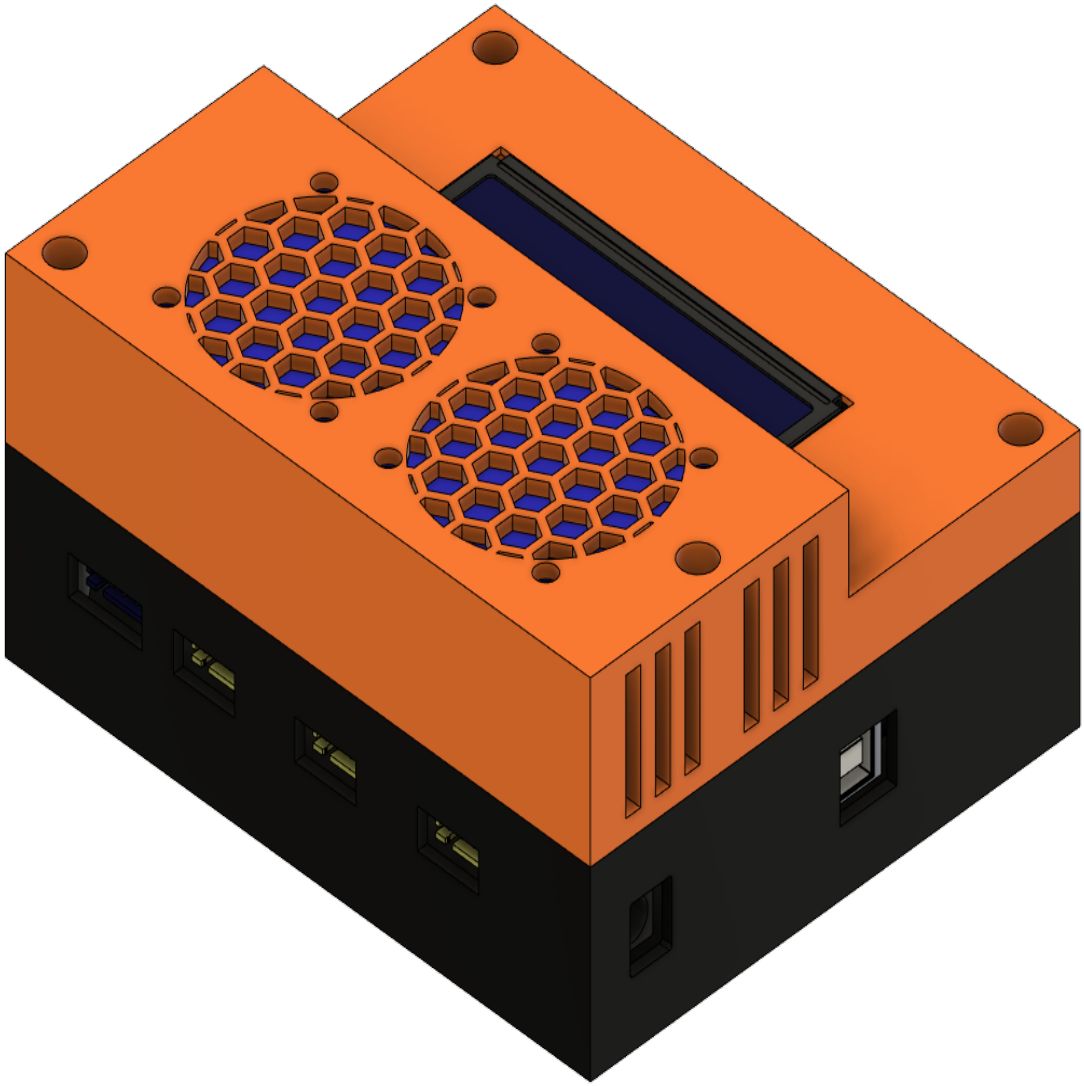

Figure 7: This is a rendering of the 3D model of what both pieces would look like together. This model has the model for the PCB inside, and has blue boxes for fans.

3.2 3D Printed Enclosure

Figure 8: This is a image of what the enclosure looks like with the board and fans inside.