

PCB's laid out this week

Prevent 3.3V from going
over some
debugging headers

12V input

Single plane PCB

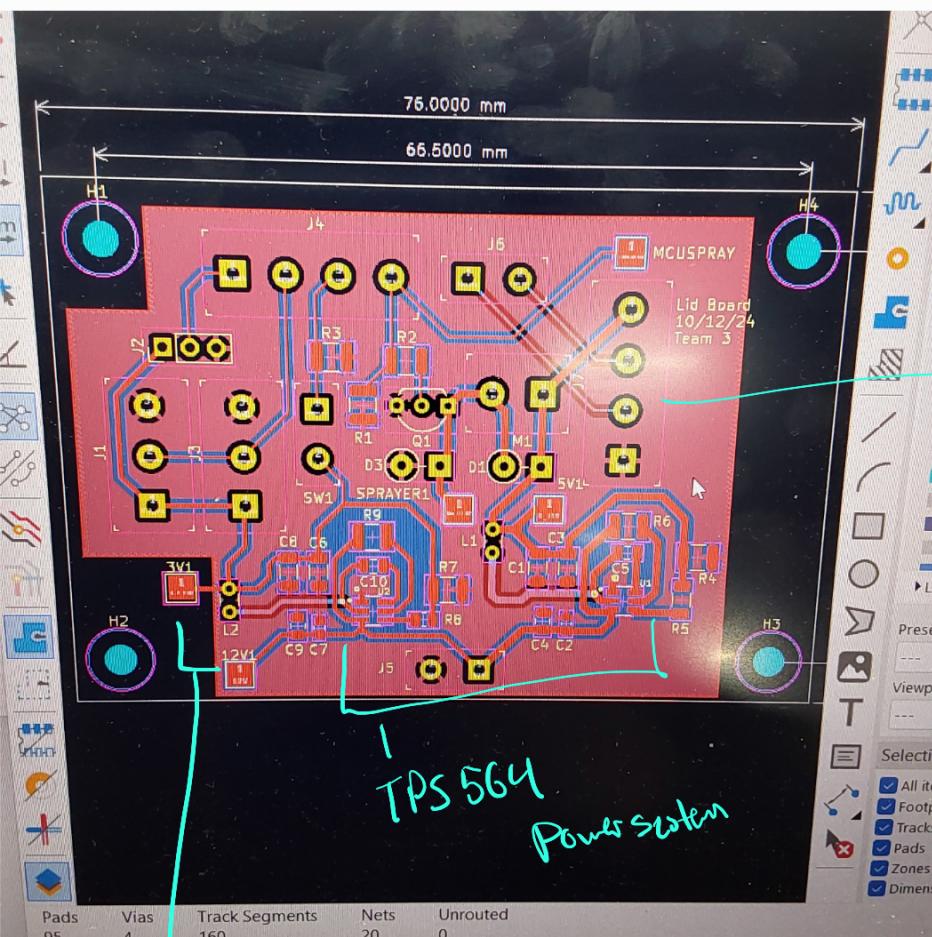
Uses LM2575 (Power draw should be < 1A)

headers for LCD

Morgan did half of this

10/11/24

pullup for DS18D20

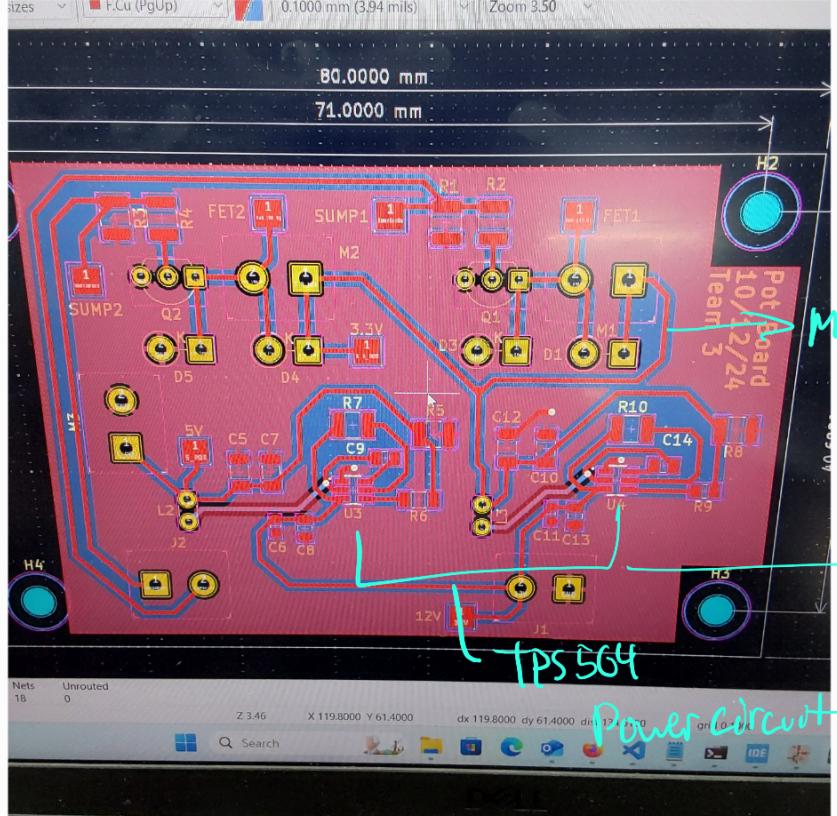


terminal blocks used
mainly to improve
modularity

10/11/24

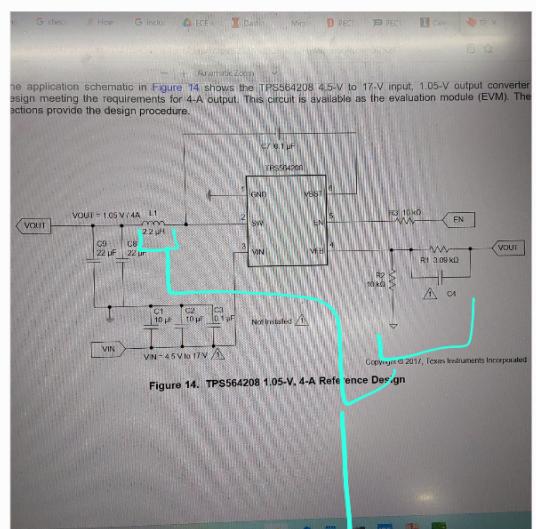
Used to test with

test points



Morgan will use done PCB.

refer to tps datasheet



10/7 week: I made most of the PCBs and laid them out for preparation of week 1 submissions. I simply used the diagrams generated during the design phase. Most components are decided on due to us scavenging around in the lab. Some default footprints are used as well and those components will be ordered. These PCBs were made today and yesterday on 10/12 and 10/13 for first round orders.

Two power systems will be used since I want to test the TPS564 one since it's cheaper and more efficient.

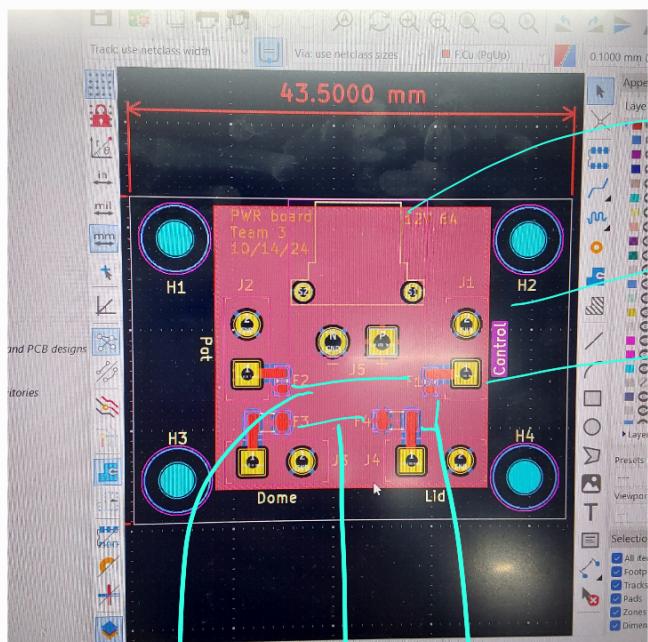
10/14 - extra power distribution system needed

$$i = k \cdot \Delta T^{0.44} \cdot (W \cdot A)^{0.725}$$

Trace width equation used in Eicad.

3mm trace width needed for 6A transmission

↓
use power plane to avoid issues



→ XT30 connector
for up to 30A transmission] — adapter needs to be added

→ Power planes and ground planes

→ terminal blocks for modular connections

1A fuses 3A fuses Our only form of circuit protection is fusing
Grounds need to be tied together for firetripping

This week is added on to 10/7 due to the fact that it was another week of routing. Morgan started her testing but I realized that the power system needed diverging. Thus I

made a power distribution board on 10/14 to allow connections outside of the 12v power adapter. Some notes are above on the implementation. Helped Morgan with testing as well which will be in her notebook.

I also drafted tests for the 12v power adapter to test its amperage draw (image taken 10/17)

