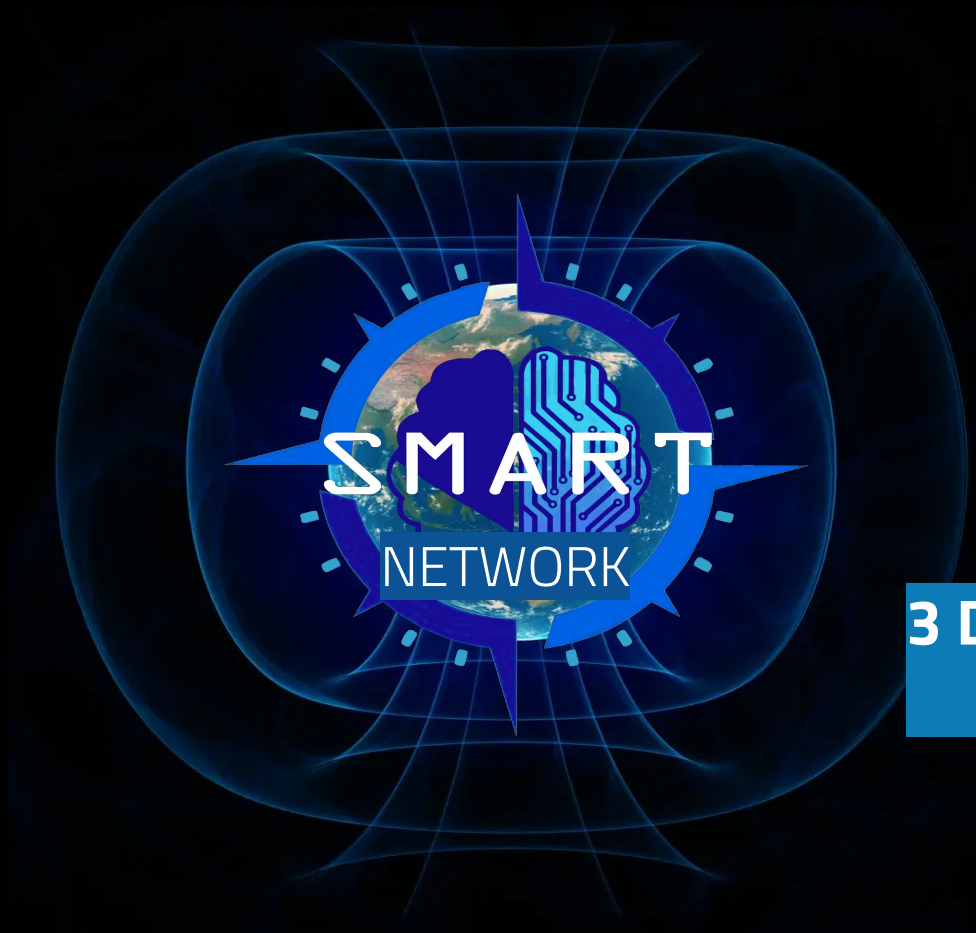


3 Day Mag

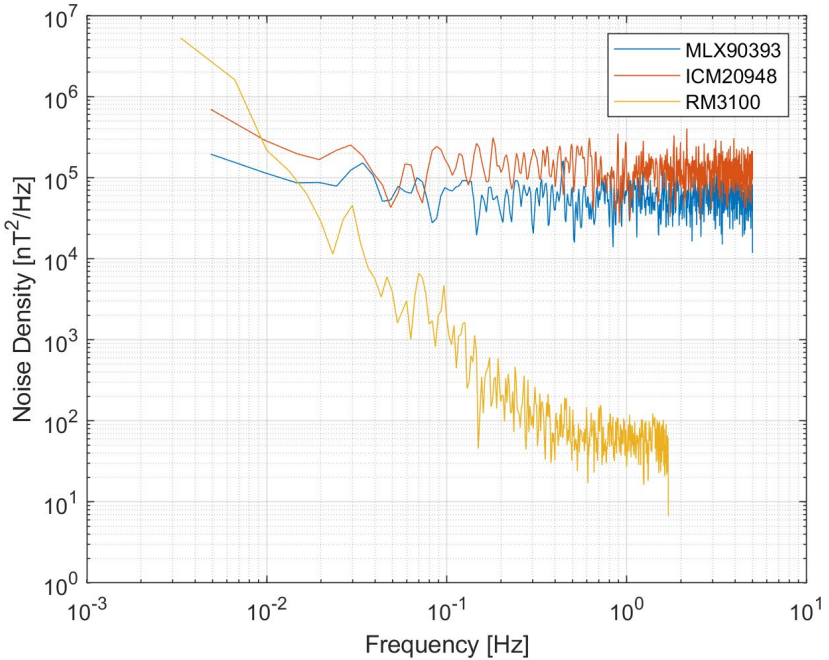
Motivation

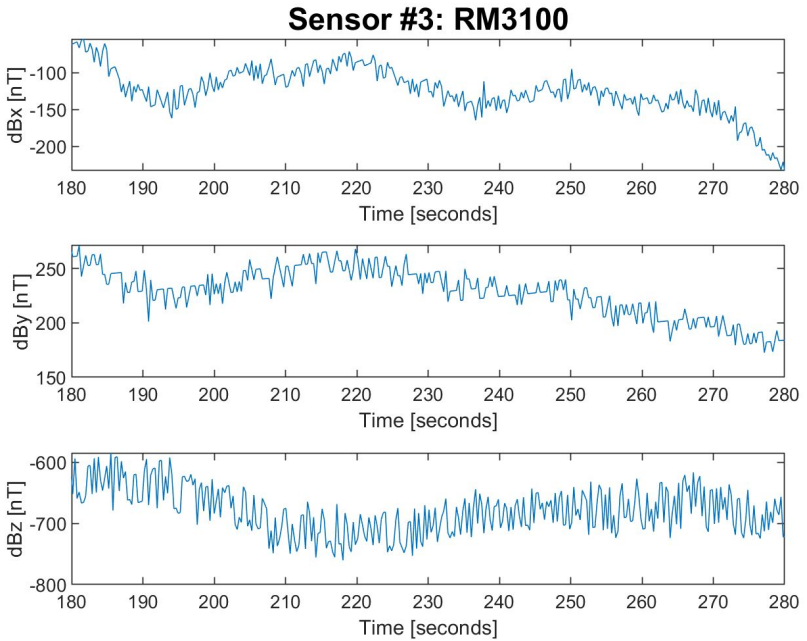
- UCLA's Surface Magnetic Assessment in Real Time (SMART) project aims to increase geomagnetic field observations during the solar eclipses
- EPO magnetometer system to be a low-cost, "disposable" magnetometer system designed, manufactured, and implemented by hardware team
- Cheap, but accurate systems will be dispersed to high schools and citizen scientists throughout the US
- SMART team hopes to understand the earth's geosystems response to solar eclipses.

Timeline

- 2022-2023:
  - Research, design, manufacture, testing Evaluation Board of 3 Day Mag
- 2023 Spring/Fall:
  - Design of official 3 Day Mag
  - Order PCB & parts
  - Start Manufacturing
- 2024 End of January:
  - Finish Manufacturing 3 Day Mags
- February:
  - Test & Validate Hardware & Software
- March:
  - Complete system test
- April 2024: Solar Eclipse

Component Selection

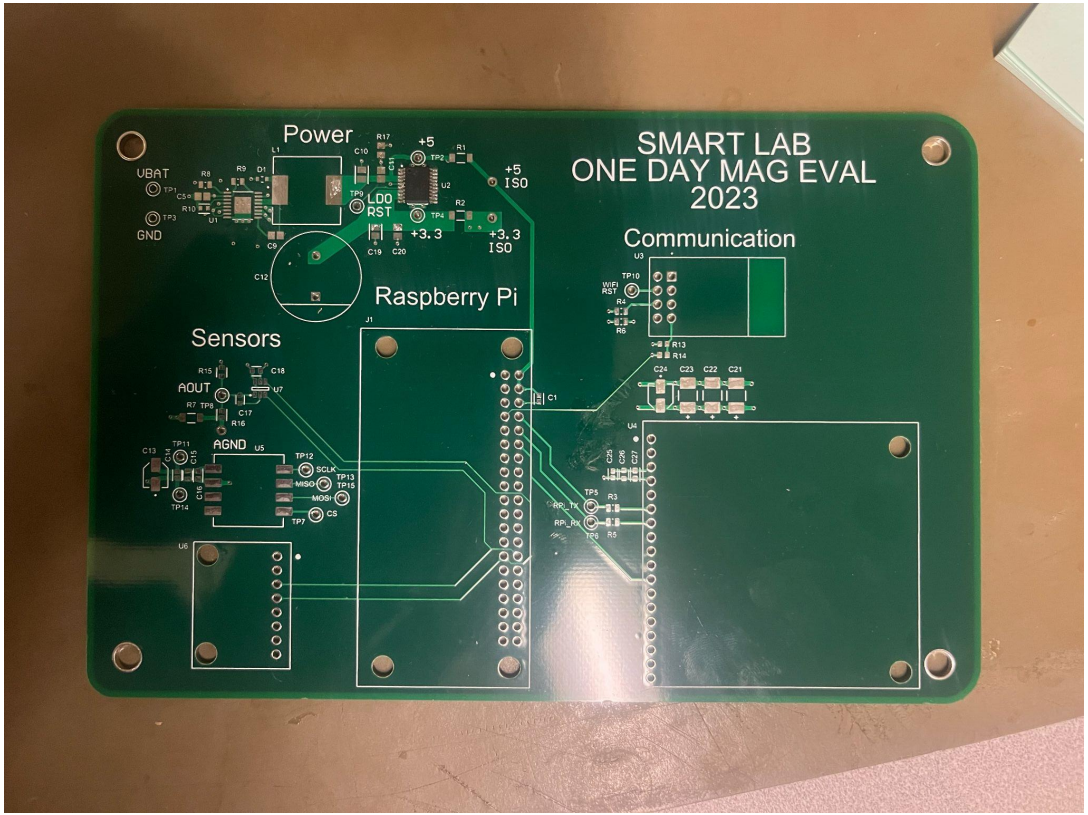




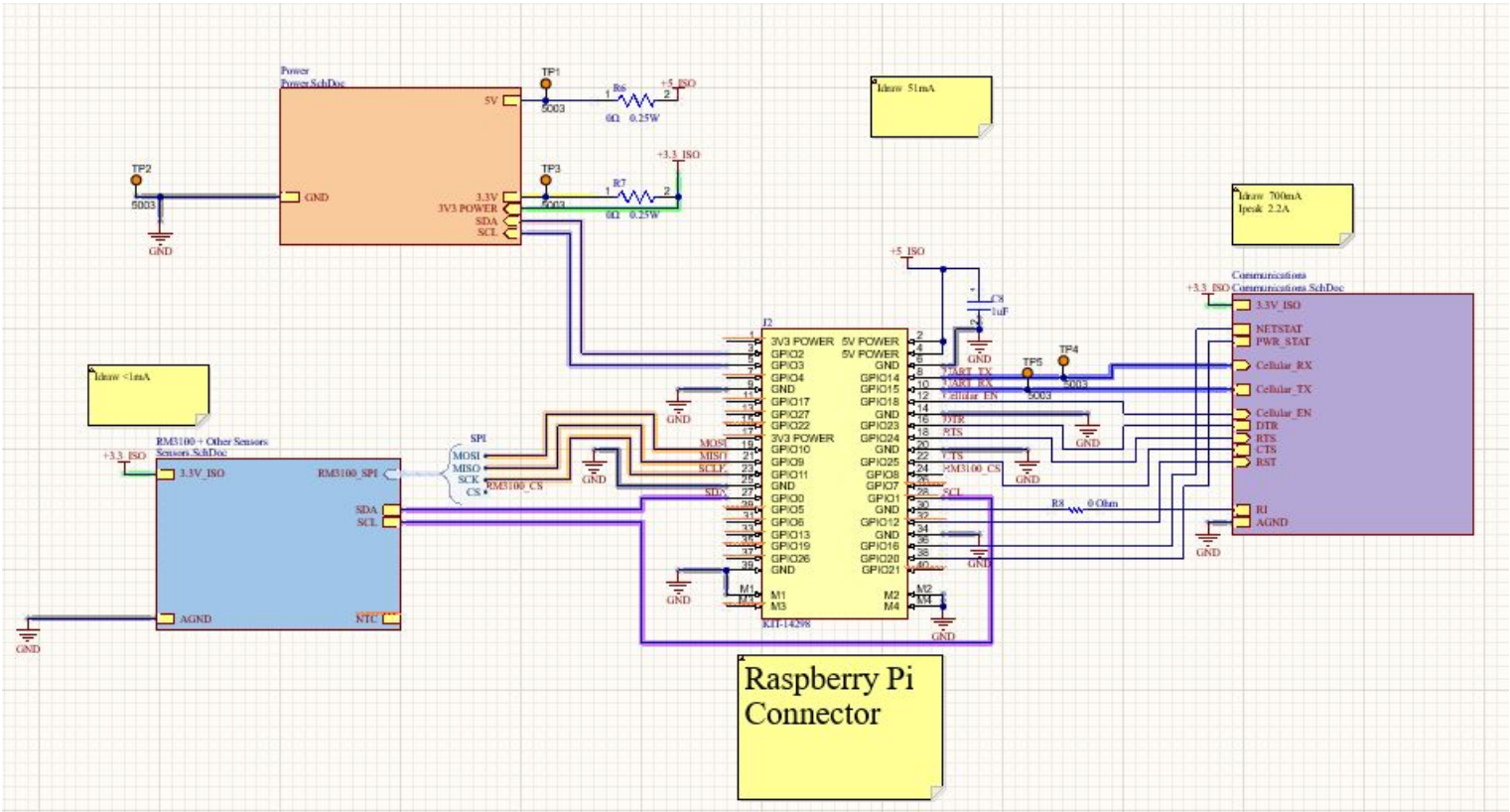
System Power Budget

Item	Power Demand
Communications Uplink	1-5W
Sensors	~0.2W
Heating	0.5W
Raspberry Pi	1W
Total	3-8W

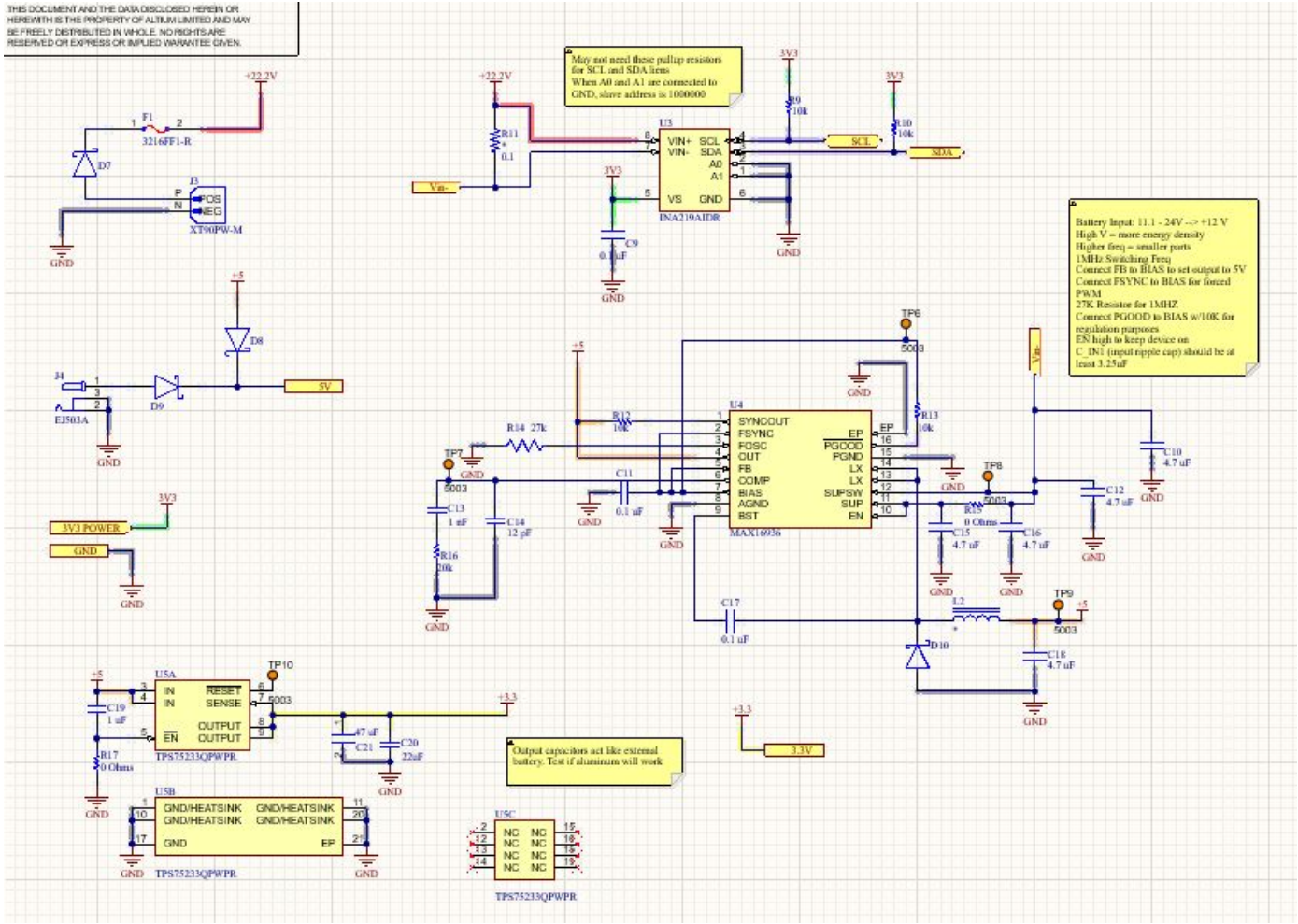
One Day Mag Evaluation Board



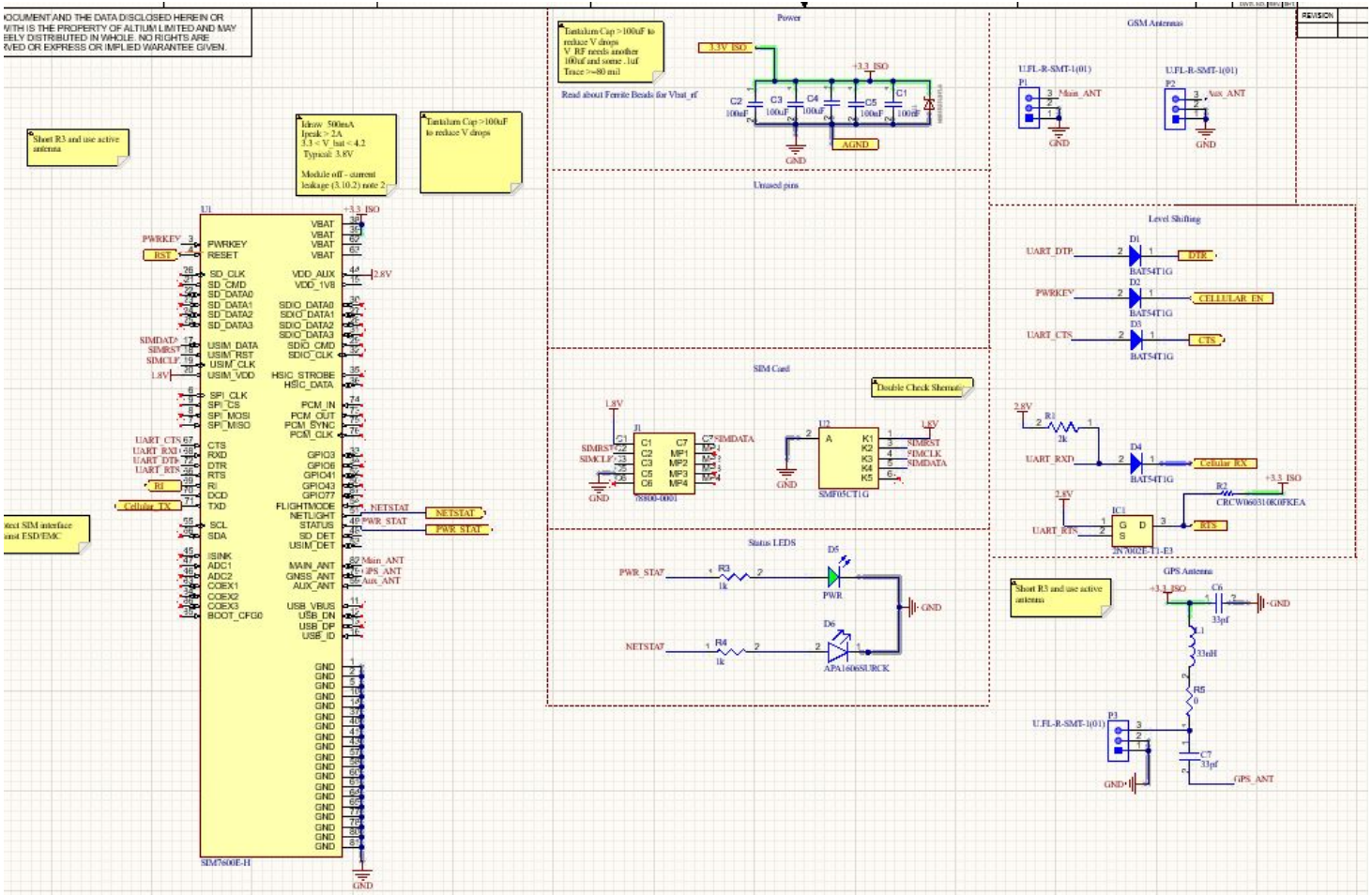
3 Day Mag Overview



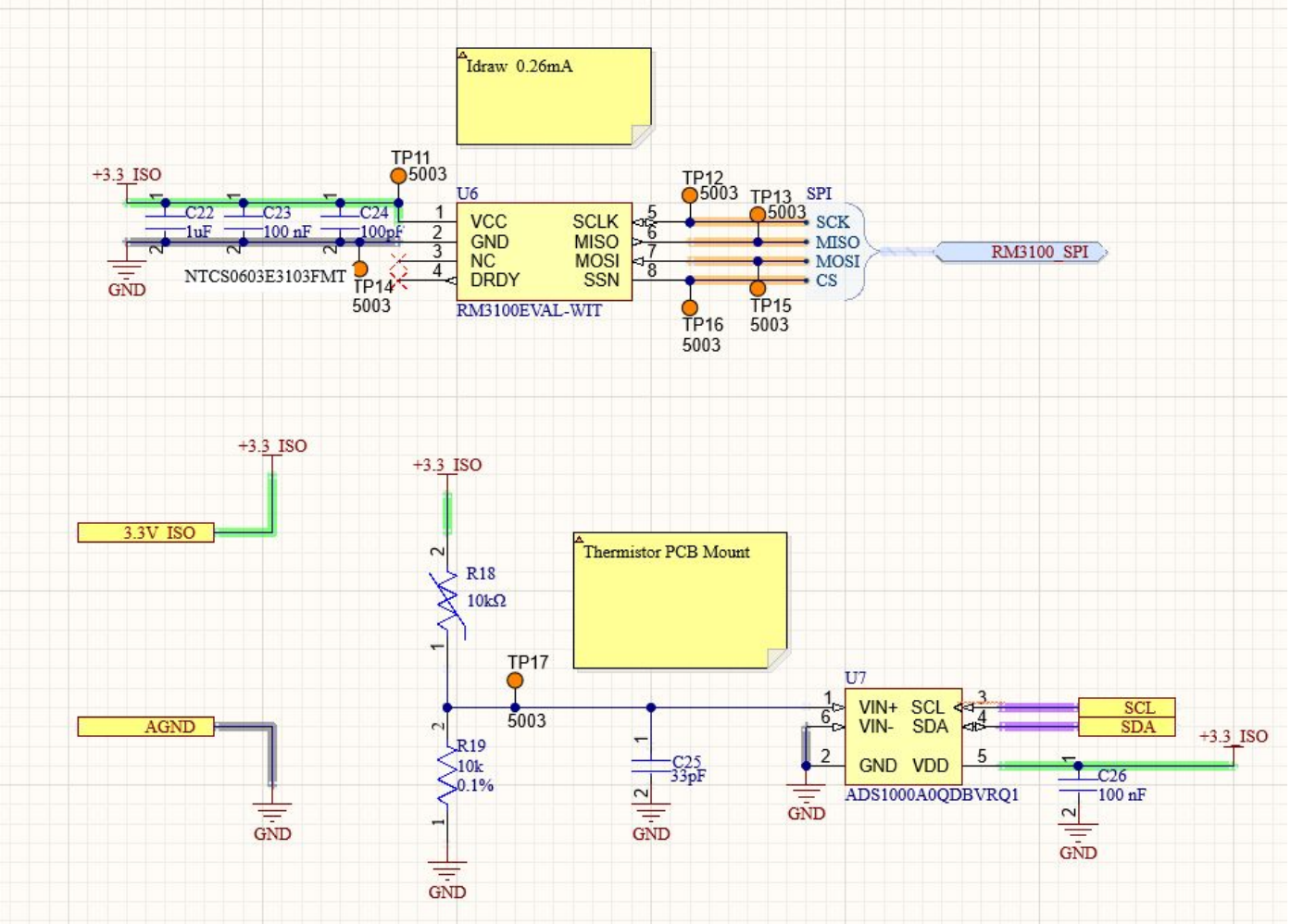
3 Day Mag Power



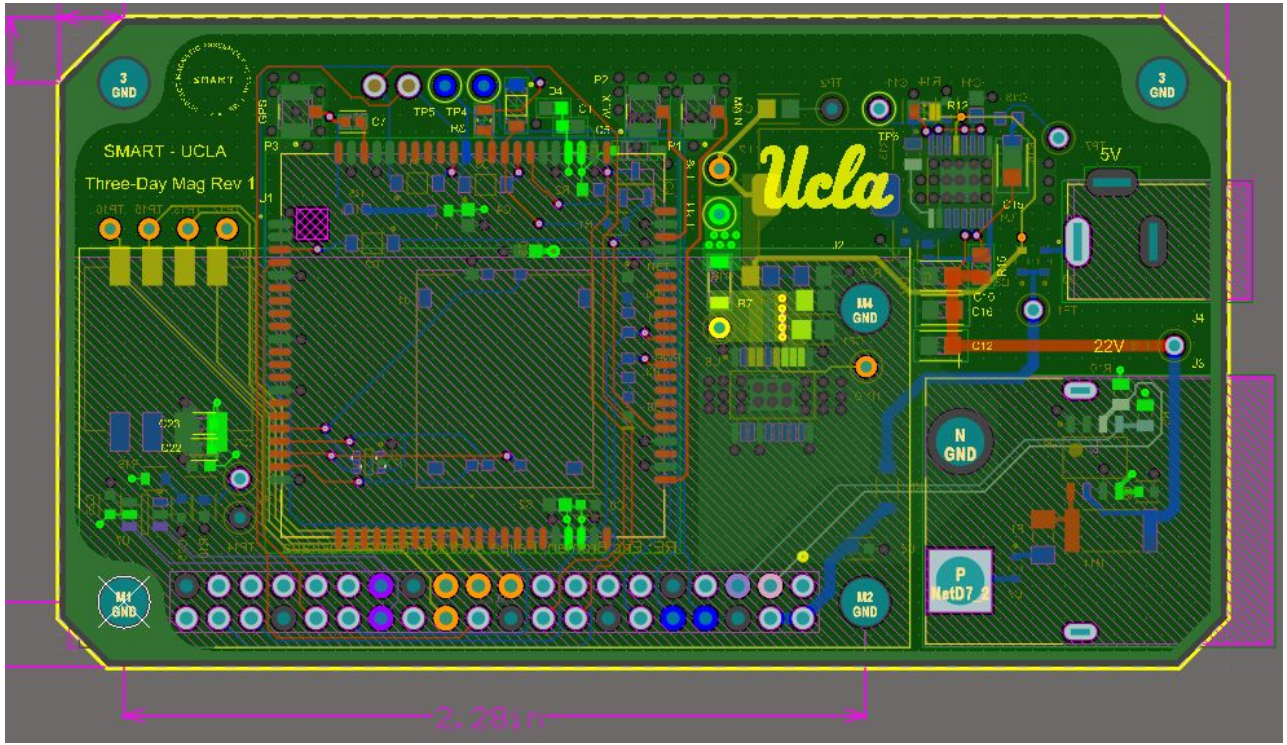
3 Day Mag
4G Coms



3 Day Mag Sensors

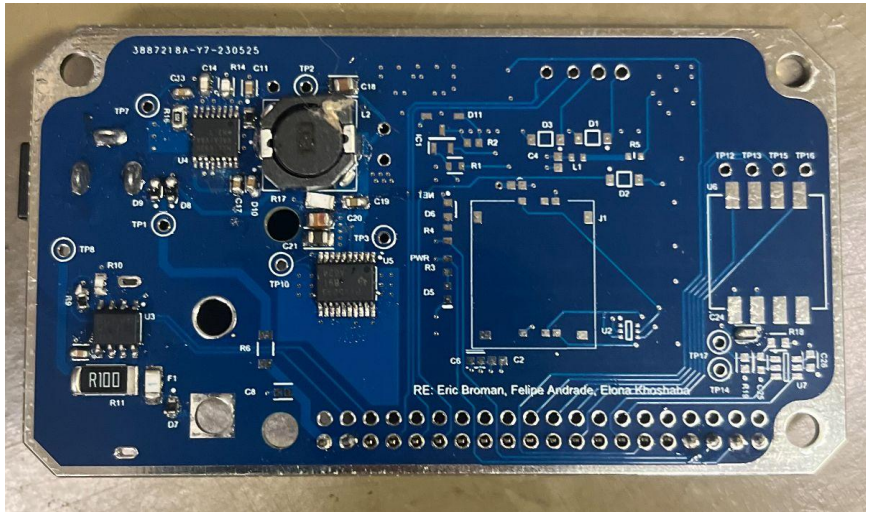


3 Day Mag


SMART - UCLA
Three-Day Mag Rev 1
Ucla
5V
22V
3 GND
3 GND
M4 GND
N GND
M1 GND
M2 GND
P NetD7
2.28in

3 Day Mag

Power



Sensors