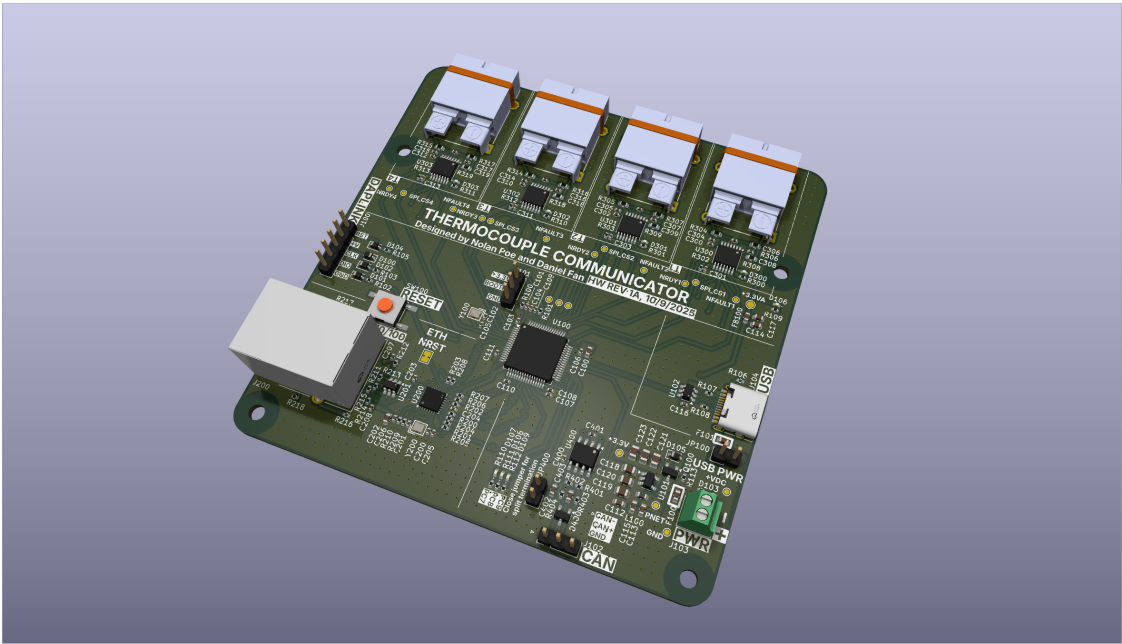


# APRL Thermocouple Board



## Microcontroller

Microcontroller



File: microcontroller.kicad\_sch

## Ethernet

Ethernet



File: ethernet.kicad\_sch

## Thermocouples

Thermocouples



File: thermocouples.kicad\_sch

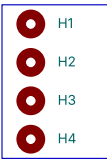
## CAN

CAN



File: can.kicad\_sch

### Mounting Holes



Checked by: Daniel Fan  
Drawn by: Nolan Poe  
**Aggie Propulsion and Rocketry Lab**  
Sheet: /  
File: ThermoBoard.kicad\_sch

### Title: Thermocouple Board

Size: USLetter      Date: 2025-10-09  
KiCad E.D.A. 9.0.4

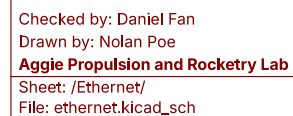
Rev: 1A  
Id: 1/5

## MCU (STM32H563)



## PHY

Based heavily off of the NUCLEO-144 H563ZI Board



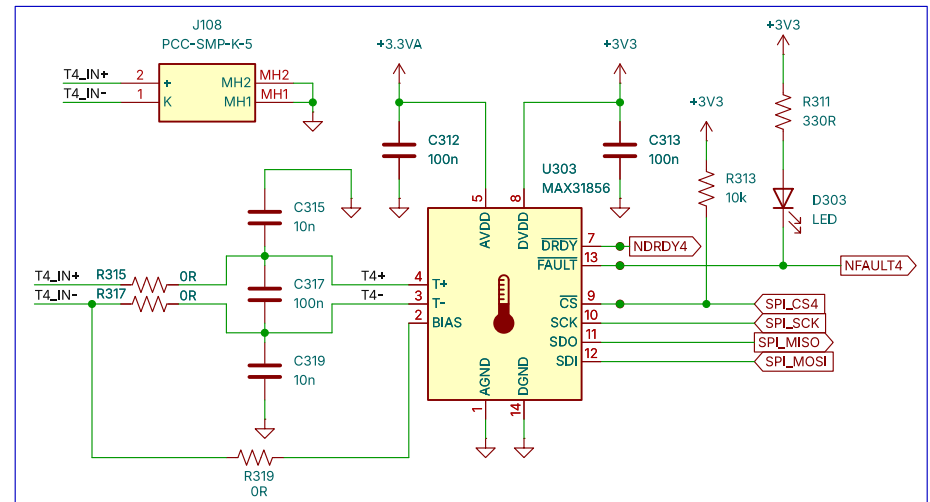
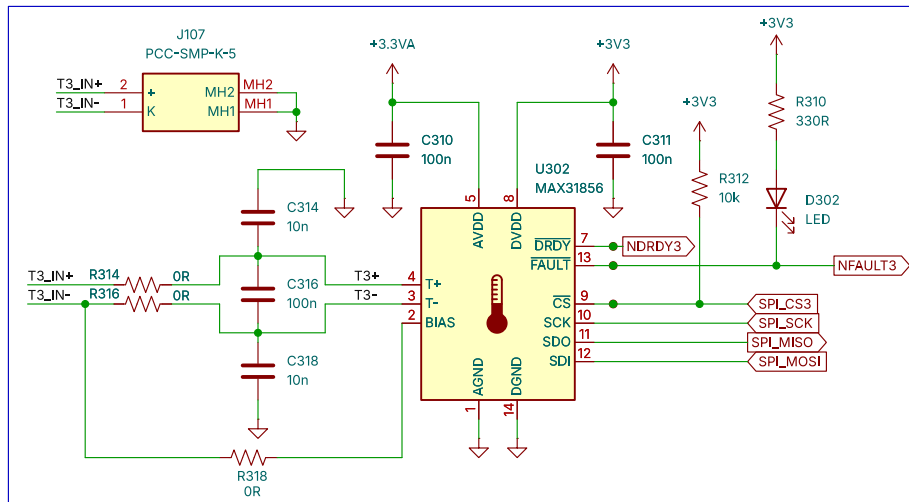
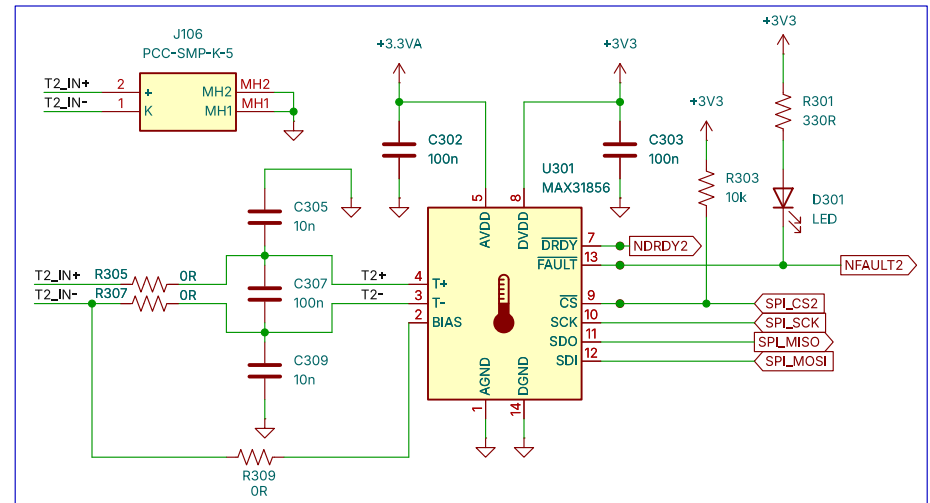
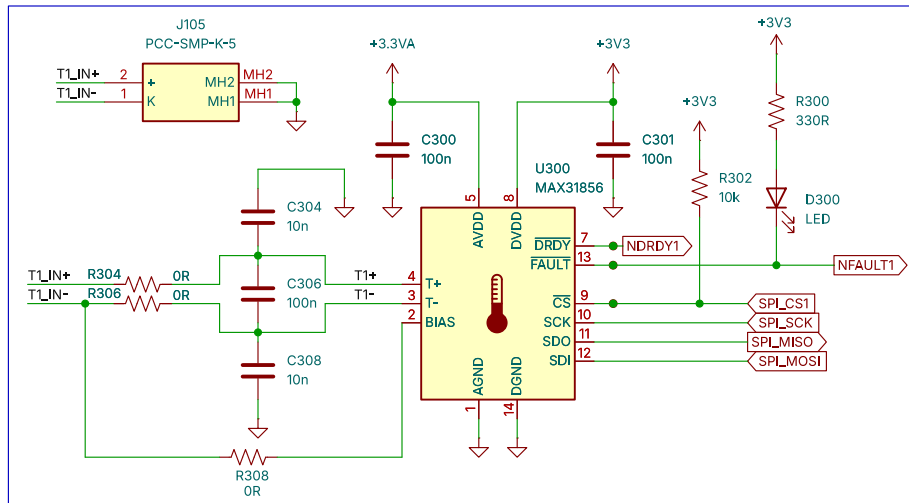
**Title: Thermocouple Board**

Size: USLetter Date: 2025-10-09

KiCad E.D.A. 9.0.4

# Thermocouples

Note:  
Target per-lead resistance maximum of 40k according to datasheet. Use 0R resistors instead if leads are matched properly.  
This it prevent over-voltage on V+, V- and the bias pins.  
To do this, we have to know the resistance of the leads to compensate.  
Thus, those 3 resistors for each MAX31856 should be easily solderable.



Checked by: Daniel Fan  
Drawn by: Nolan Poe  
Aggie Propulsion and Rocketry Lab  
Sheet: /Thermocouples/  
File: thermocouples.kicad\_sch

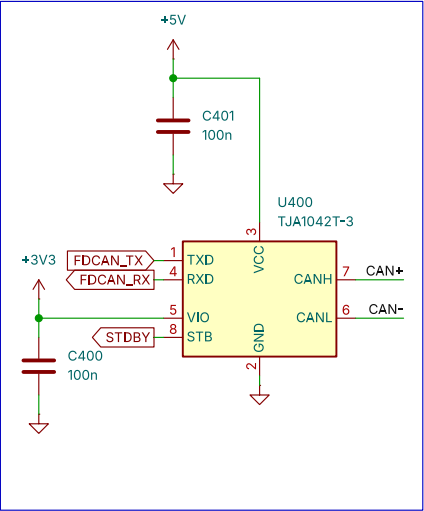
**Title: Thermocouple Board**

Size: USLetter Date: 2025-10-09  
KiCad E.D.A. 9.0.4

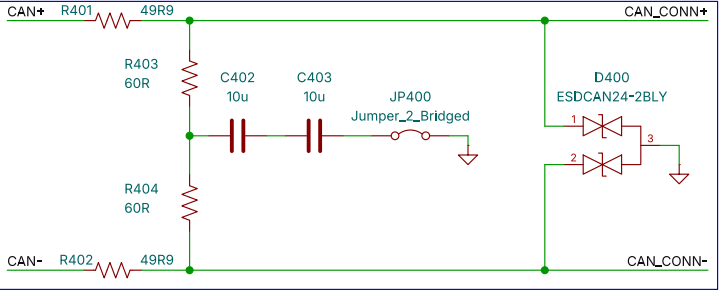
Rev: 1A  
Id: 4/5

# CAN

Transceiver

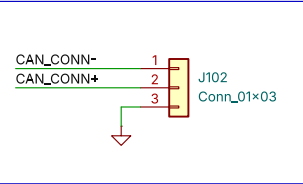


CAN Filtering Network



Split termination for noise suppression. Typically C=4.7uF, but is variable for this application.  
(TCAN 1461 9.2.1.1)

Connector



Checked by: Daniel Fan  
Drawn by: Nolan Poe  
**Aggie Propulsion and Rocketry Lab**

Sheet: /CAN/  
File: can.kicad\_sch

**Title: Thermocouple Board**

Size: USLetter Date: 2025-10-09  
KiCad E.D.A. 9.0.4

Rev: 1A  
Id: 5/5