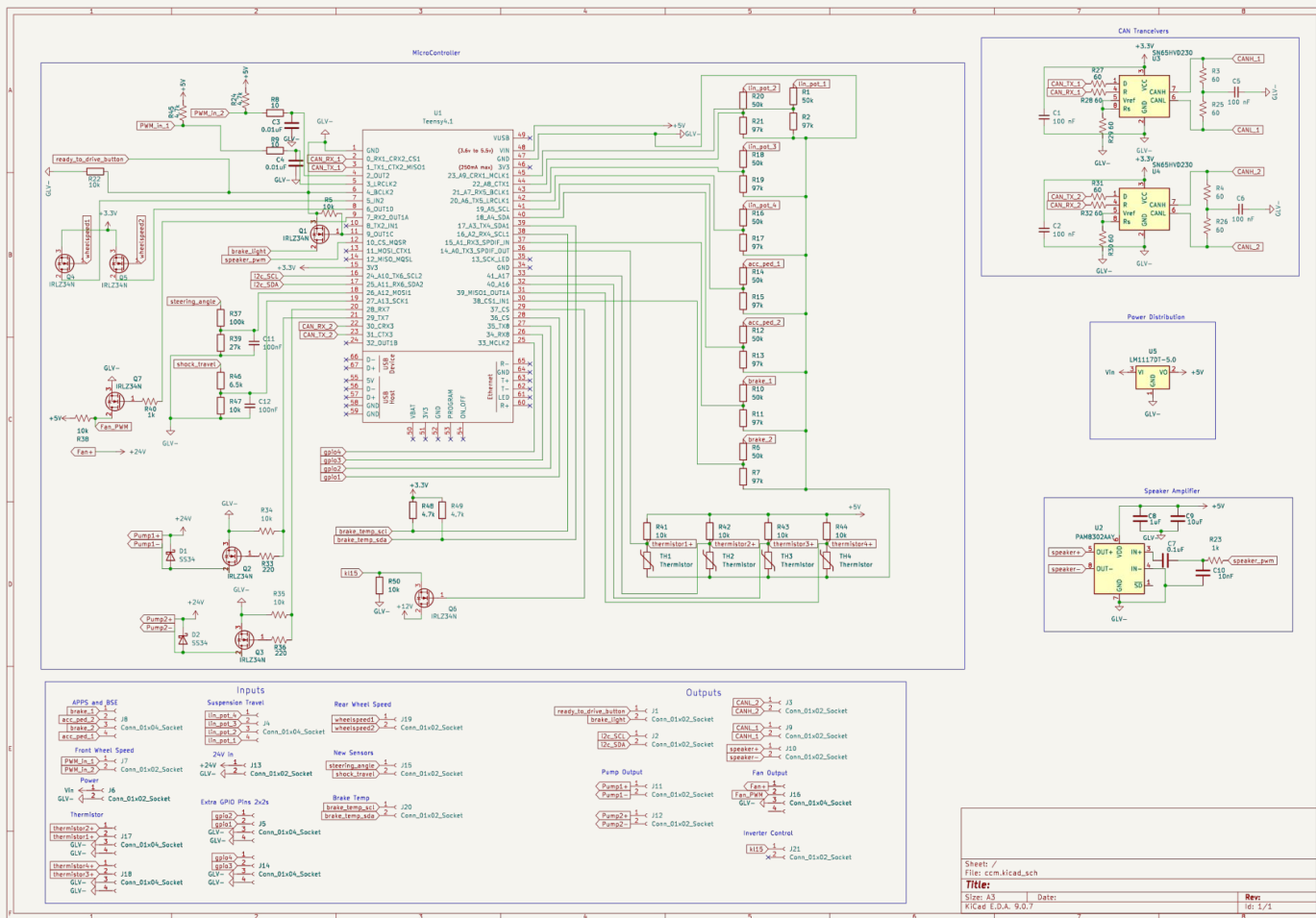


FSAE EV @ UCI

Anteater Electric Racing

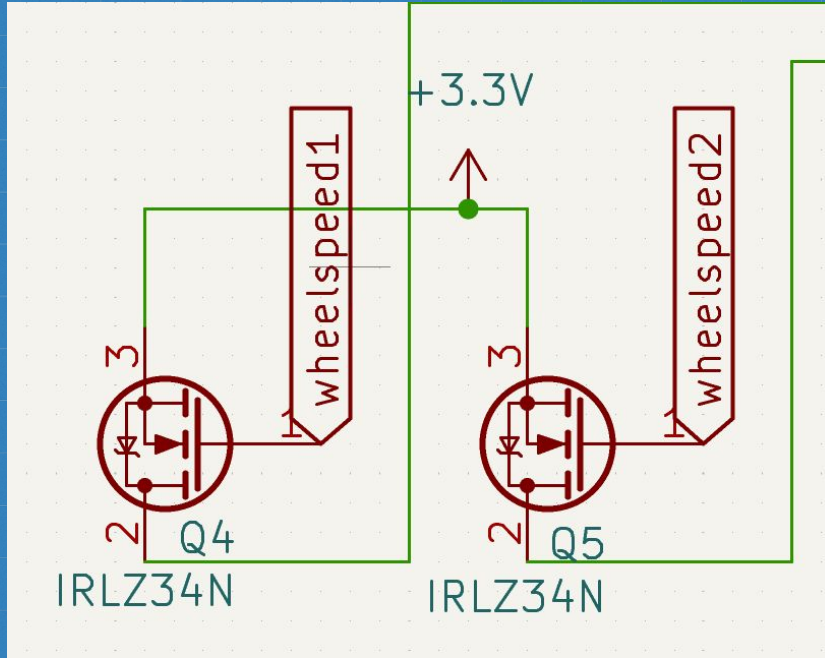
Central Compute Module PCB (CCM)

Andy Li
Luv Kumar



Sheet: /
 Filter: cm.kicad_sch
Title:
 Size: A3
 Kicad E.S.A. 9.6.7
 Date:
 Rev: 1/1

Addition 1: Rear Wheel Speed Sensors

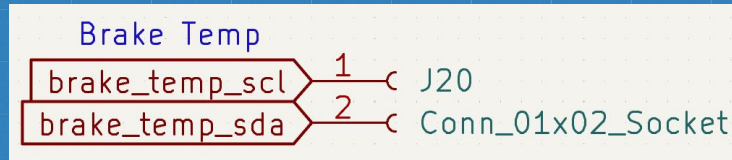
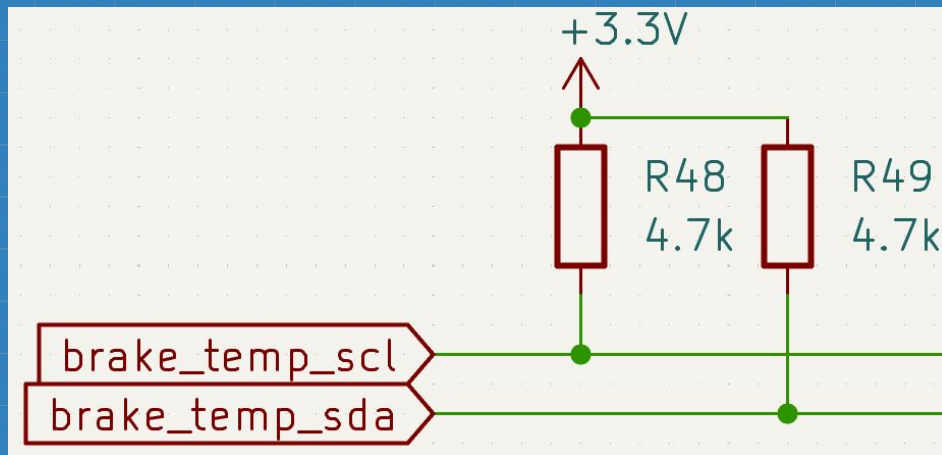


Rear Wheel Speed



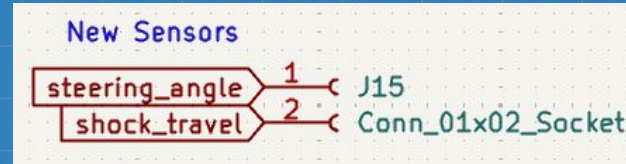
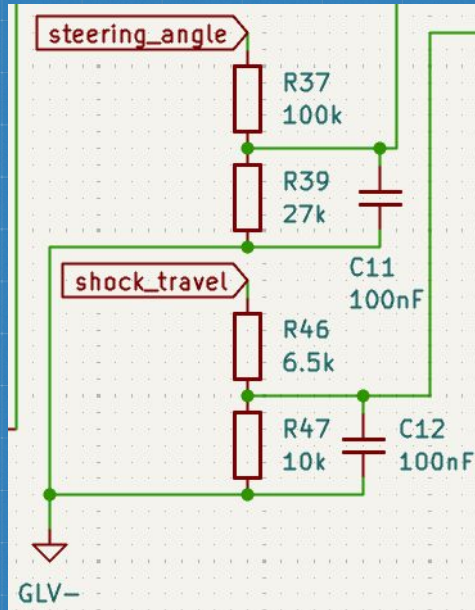
- New hall effect sensors to measure rear wheel speed
- Rear wheel speed 1 and 2 connected to pins 5 and 6 respectively on Teensy

Addition 2: Brake Temp I2C Connections



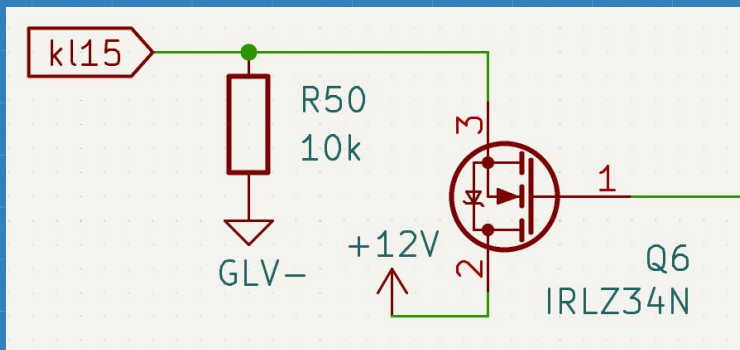
- I2C channel for new brake temperature sensor
- Connected to pins 16 and 17

Addition 3: Misc. New Sensors



- New sensors for measuring steering angle and shock travel
- Sensors return 0-15V and 0-5V respectively
- Steering angle sensor on pin 26, shock travel sensor on 27

Addition 4: KL15 Control Signal

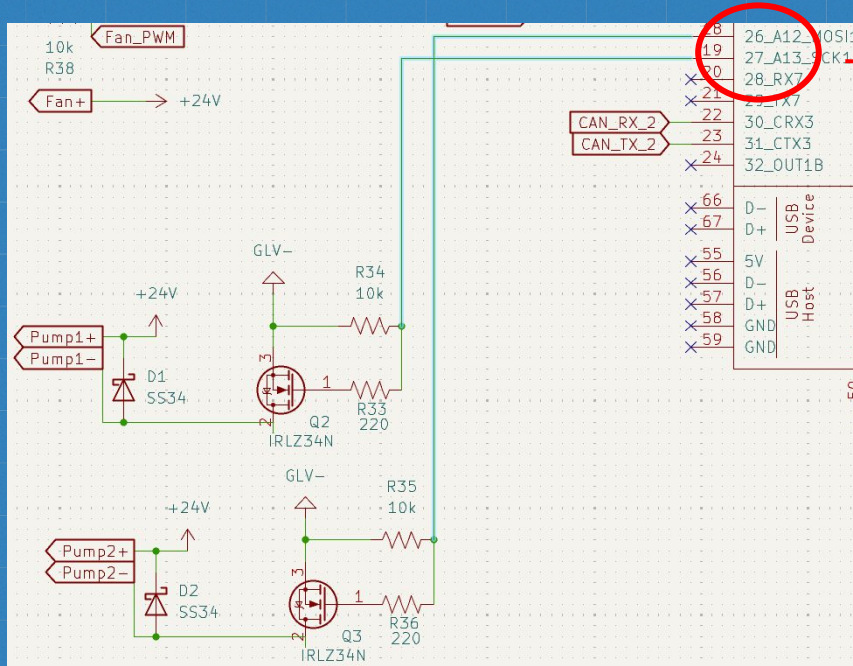


Inverter Control



- KL15 control signal for INVT inverter for backwards compatibility purposes
- Connected to pin 37

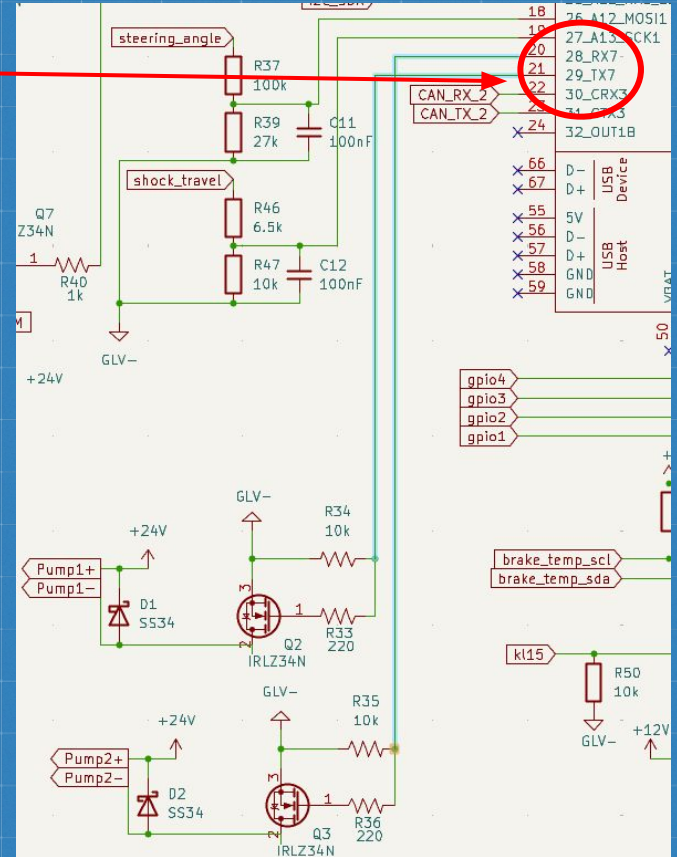
Modification 1: Connect Pump PWM to PWM Pins



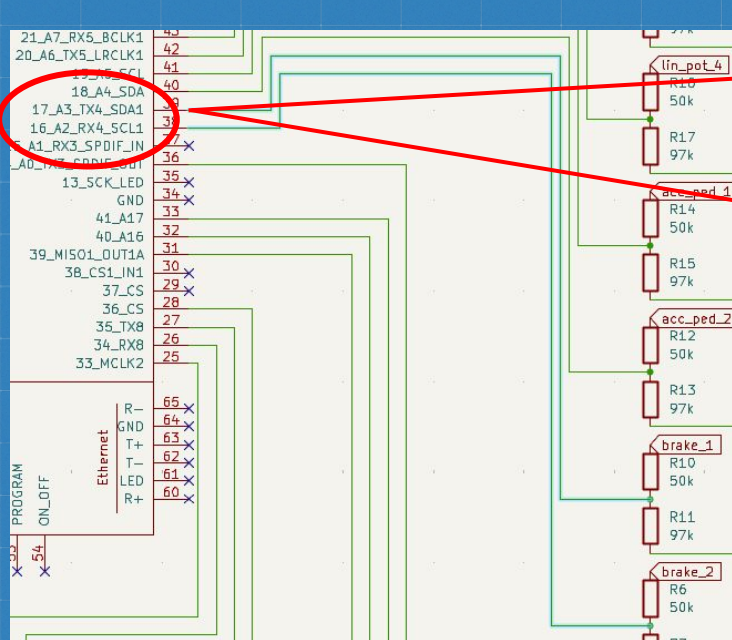
Before

- Pump signals previously output from pins 26 and 27, which can't do PWM
- Moved to pins 28 and 29, which can do PWM

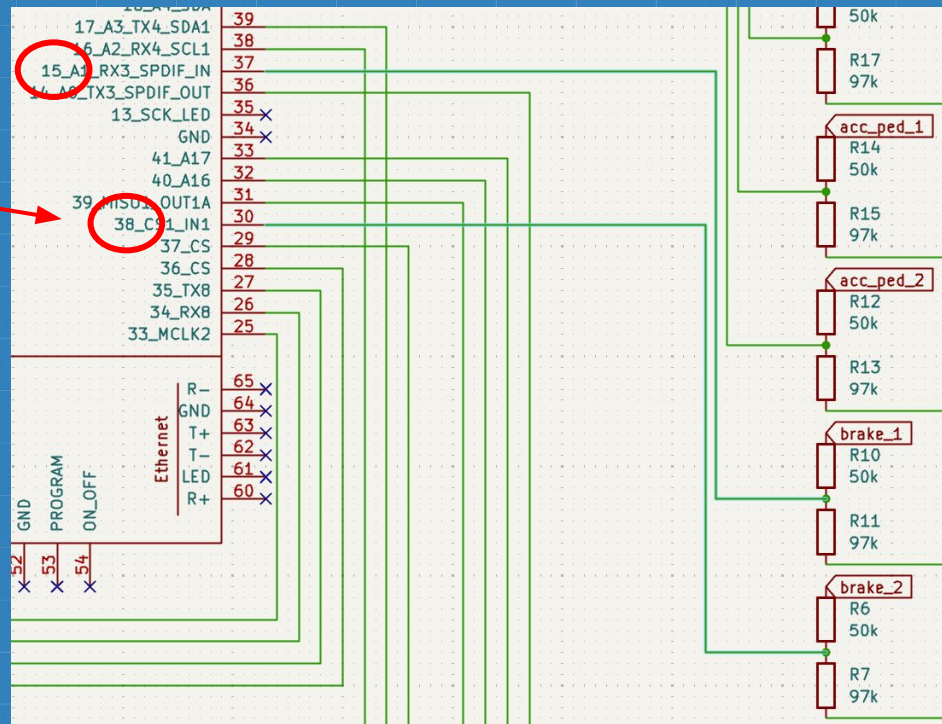
After



Modification 2: Relocate BSE Pins for Brake Temp Sensor



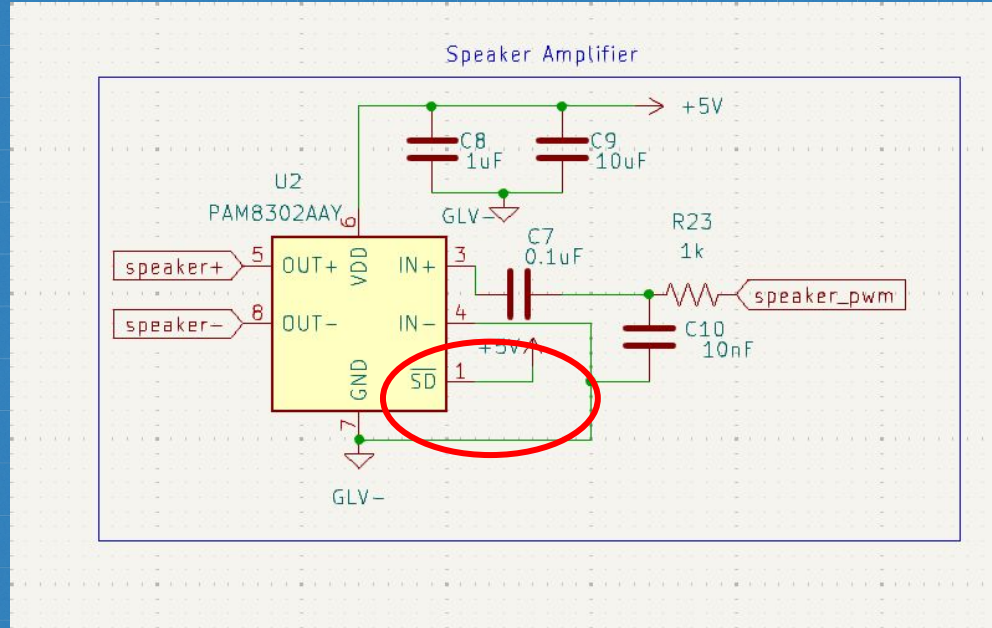
Before



After

- Other I2C channels are in use so needed to move either BSE or APPS connection
- Moved BSE 1 and 2 from pins 17 and 16 to pins 15 and 38 since they were the last analog pins available

Modification 3: Pulled SD pin to 5V



Before

After

- Originally was floating. May not have been working because datasheet says if not pulled up to VDD, the amplifier is basically off.
- SD pin pulled up to 5V. This will force the audio amplifier to always be “on.” Might need a more complex mechanism if the amplifier always being on causes issues.

Other Comments

- To-do list:
 - APPS capacitors (and also maybe capacitors for all the other analog sensors)