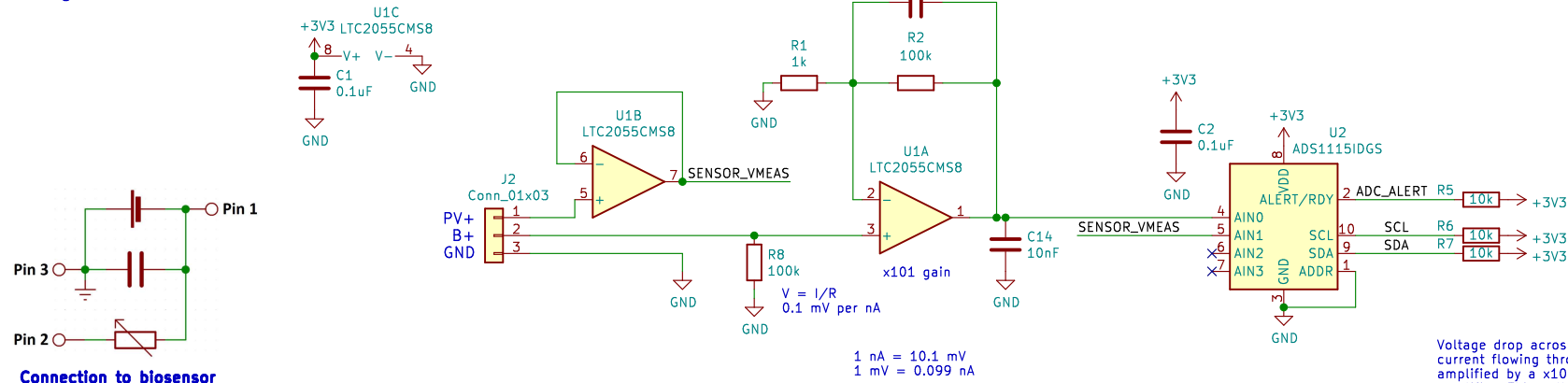


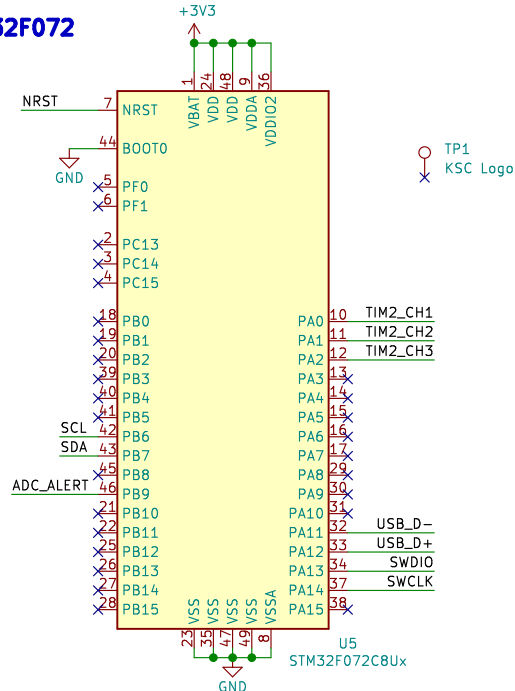
Analog frontend



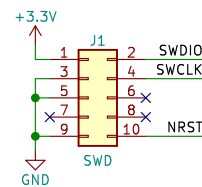
Voltage drop across a 100kOhm shunt resistor senses current flowing through the biosensor. This drop is amplified by a x101 gain non-inverting amplifier. This voltage is measured with a 16-bit ADC for a theoretical resolution of 12.4 pA

Voltage at biosensor +ve terminal is buffered through an amplifier and measured using an ADC for a resolution of 0.125 mV

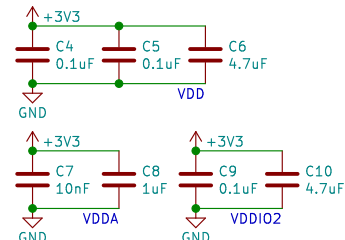
MCU STM32F072



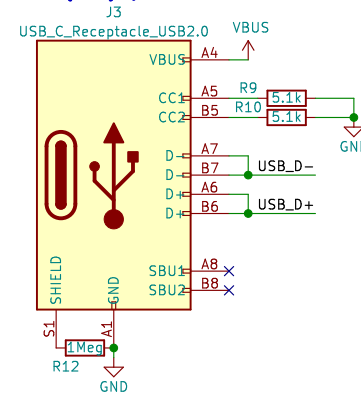
Serial Wire Debug



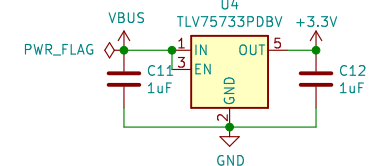
VDD decoupling



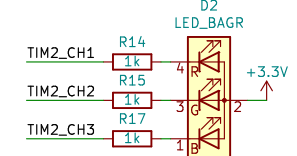
USB-C (2.0) power & data



USB-to-3.3V LDO



RGB status LED



Joel Troughton
KAUST - Omega Lab

Sheet: /
File: nanoAmmeter_v2.kicad_sch

Title: Biosensor nanoAmmeter

Size: A4 Date: 2021-01-25
KiCad E.D.A. kicad (5.99.0-8564-gb2cd1fdd9)



Rev: 2
Id: 1/1