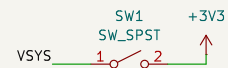
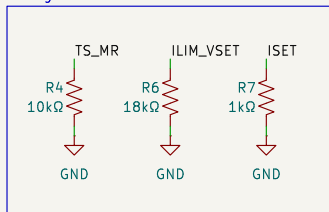


User-actuated switch gates power to the rest of the board  
BQ25185 is always enabled and connected to +VUSB

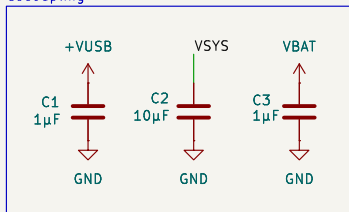


configuration resistors

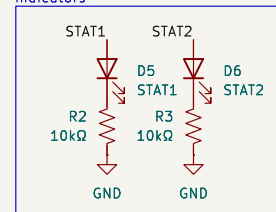


ILIM/VSET @ 18k -> 4.2V target, 500mA limit  
ISET @ 1k -> 300mA fast charge  
TS/MR @ 10k -> disable temp sense

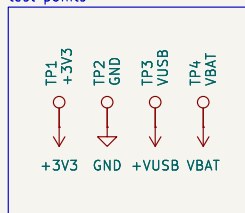
decoupling



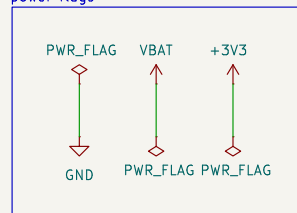
indicators



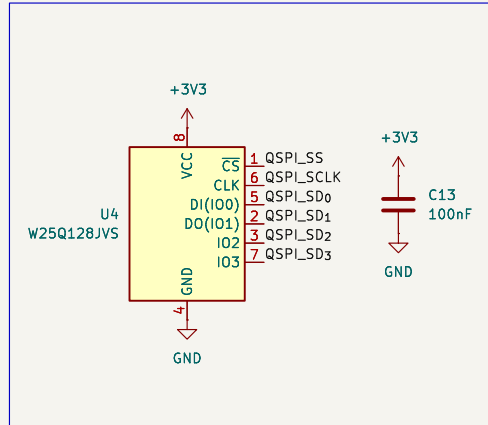
test points



power flags

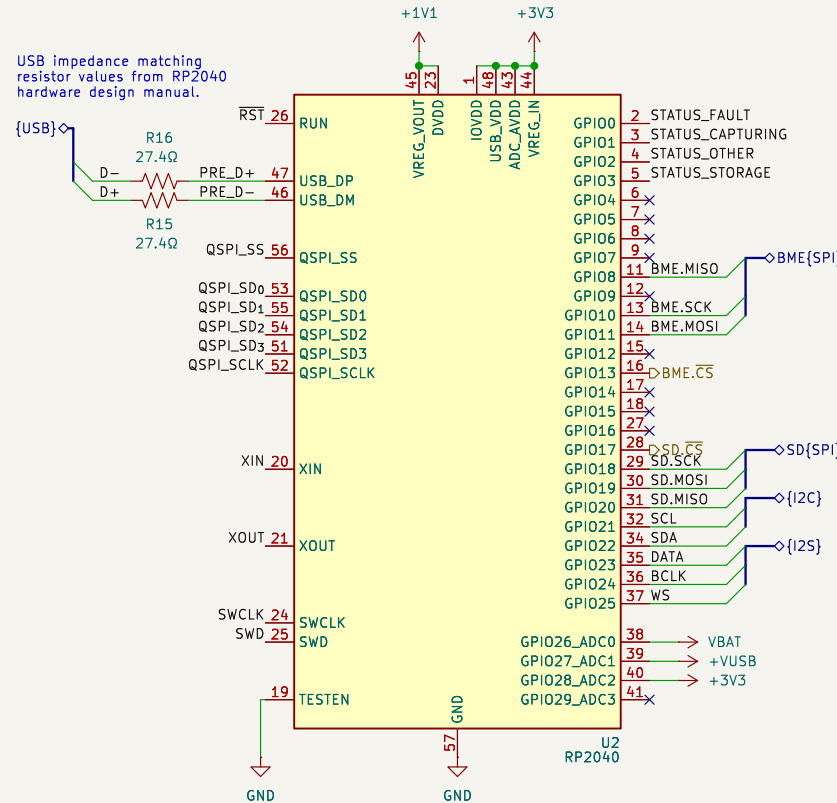


flash

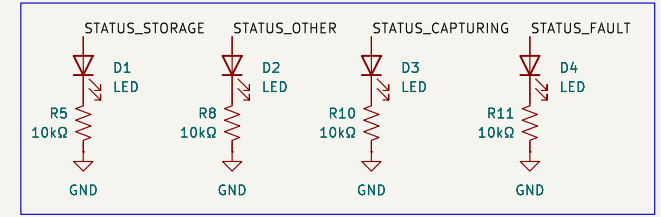


Core requires 1.1V.  
Using onboard voltage regulator: 3.3V -> VREG\_VIN,  
VREG\_VOUT -> 1.1V.

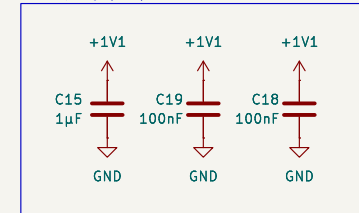
USB impedance matching resistor values from RP2040 hardware design manual.



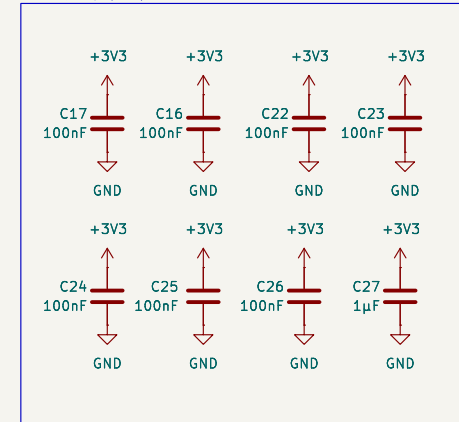
indicators



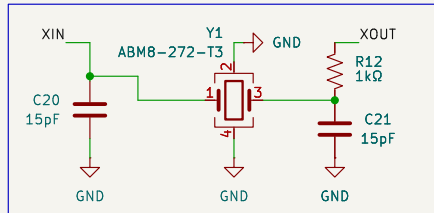
decoupling (1V1)



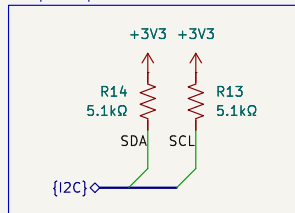
decoupling (3V3)



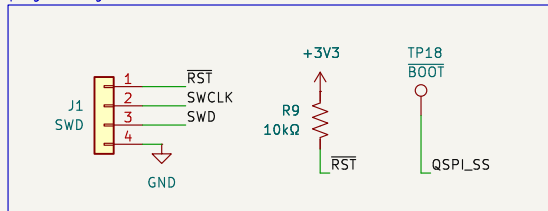
xtal



i2c pull-ups

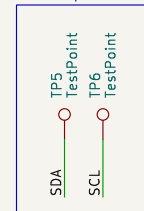


programming



The ROM bootloader can be triggered by shorting QSPL\_SS to GND (Pico's BOOT button). This board is intended to be programmed via SWD, so this functionality is only a backup. Short testpoint to GND if required.

i2c testpoints



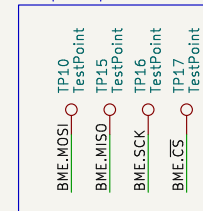
i2s testpoints

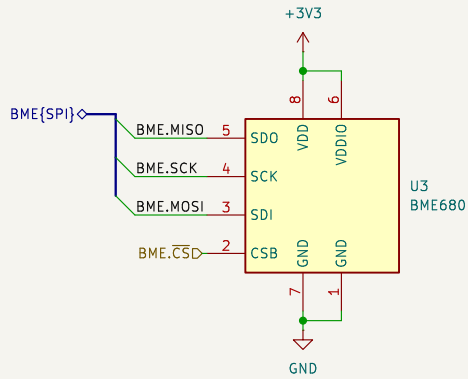


bme spi testpoints

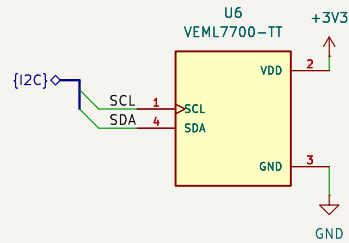
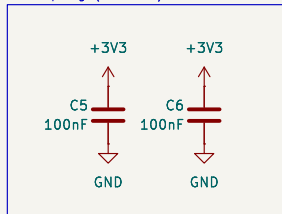


sd spi testpoints

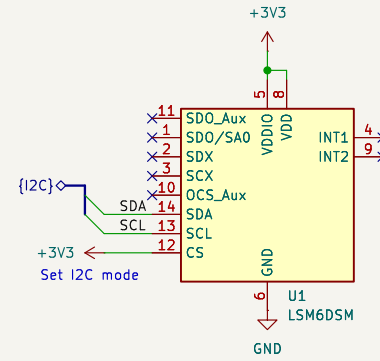
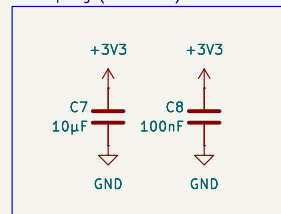




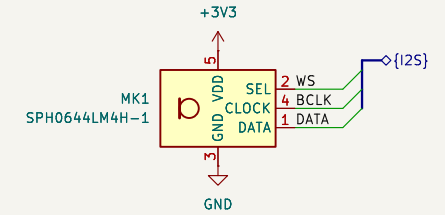
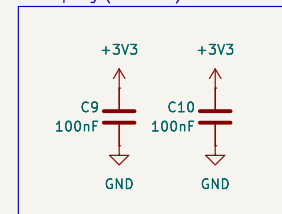
decoupling (bme680)



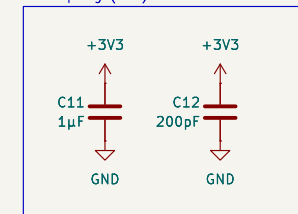
decoupling (veml7700)

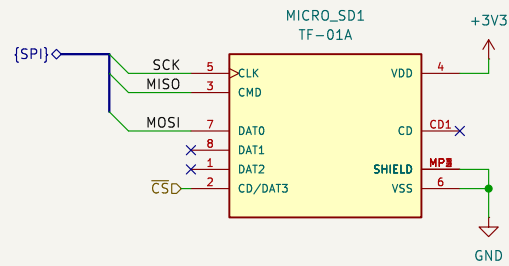


decoupling (lsm6dsm)

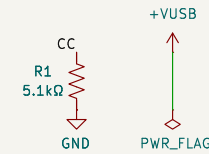
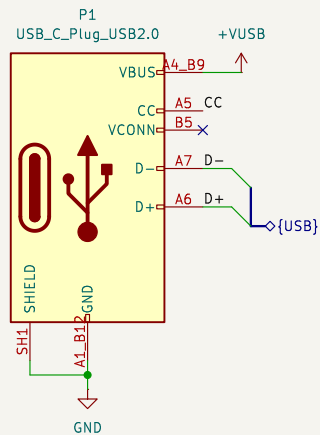
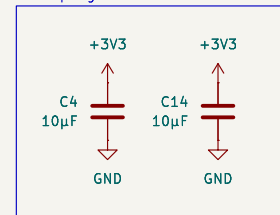


decoupling (mic)





decoupling



Nathan Perry

Responsive Environments

5/5

2024-08-13

**Ocularium: IO**

**0.1.0**