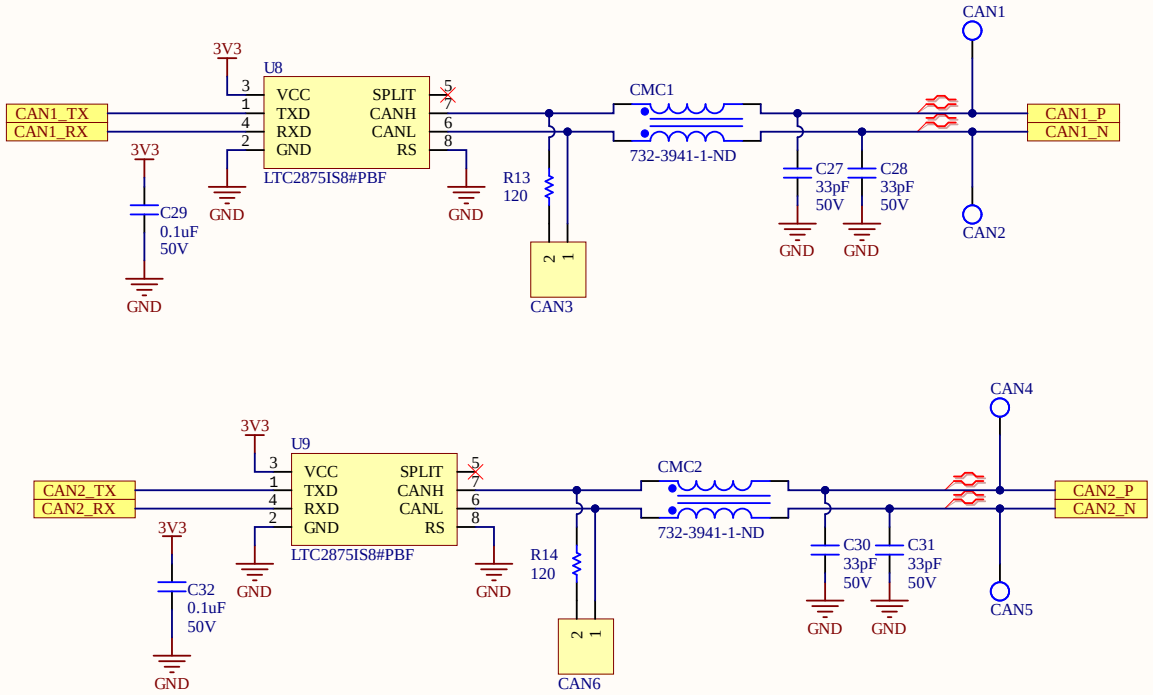

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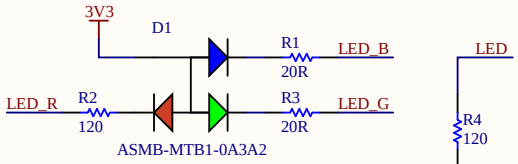
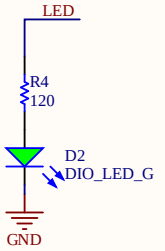
Test LEDs



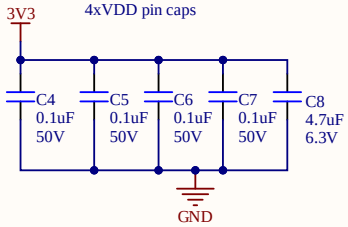


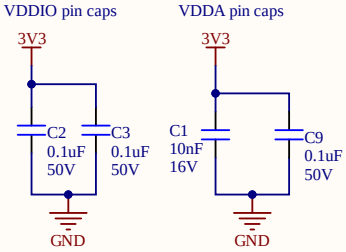
Current Calculations

Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA

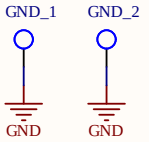
RGB LED voltage drops:
- Red: 2.1V: I = (3.3-2.1V)/120 = 10mA
- Blue: 3.1V: I = (3.3-3.1V)/20 = 10mA
- Green: 3.1V: I = (3.3-3.1V)/20 = 10mA

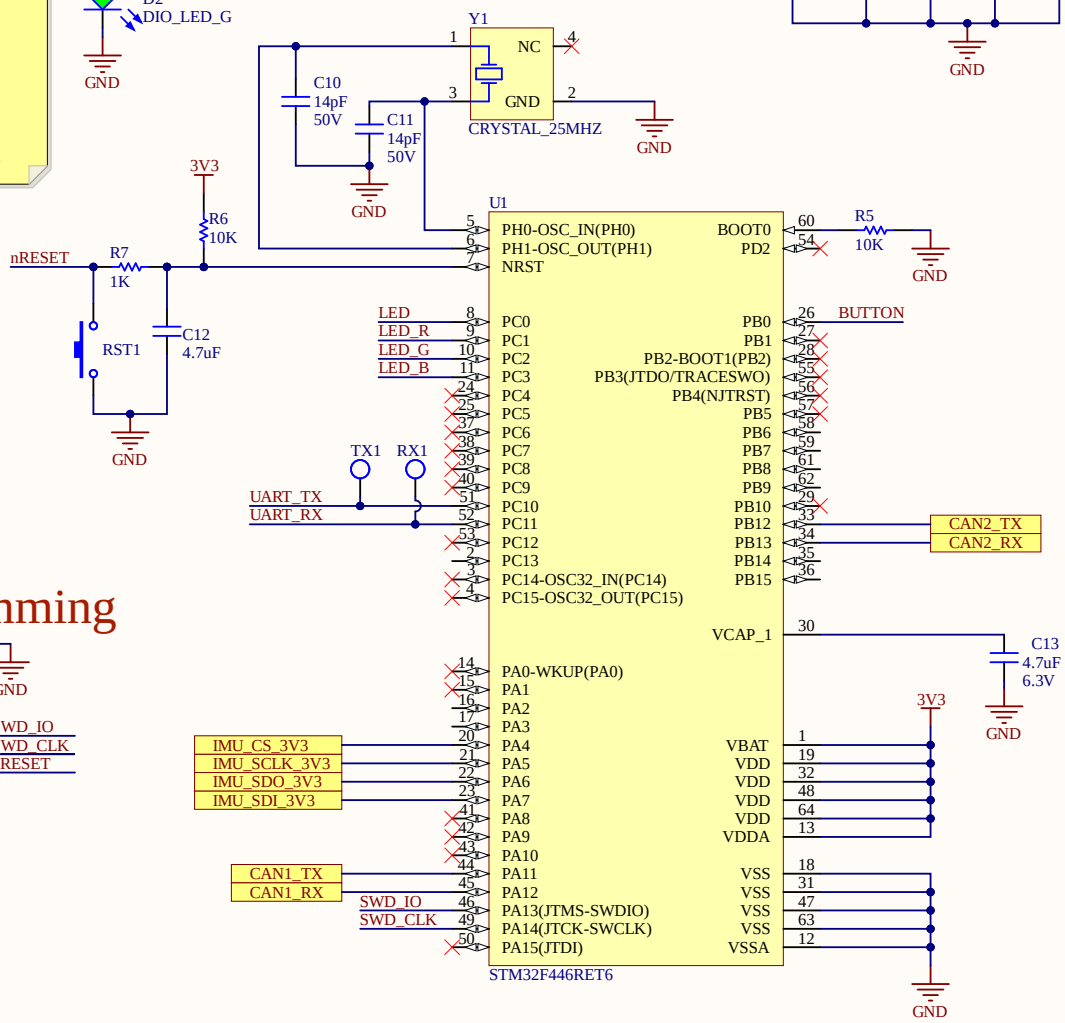
Decoupling Caps



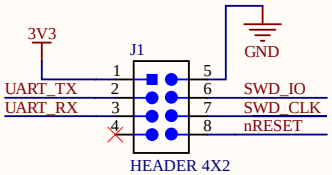


GND Test Points

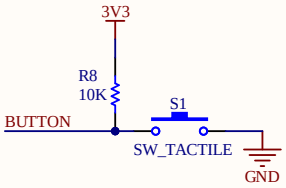




Debug/Programming



Test Button



IMU_INT_3V3
IMU_FSYNC_3V3

GPS_TX
GPS_RX

USB_RESET

MOUNTING_HOLES

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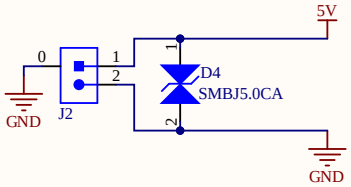
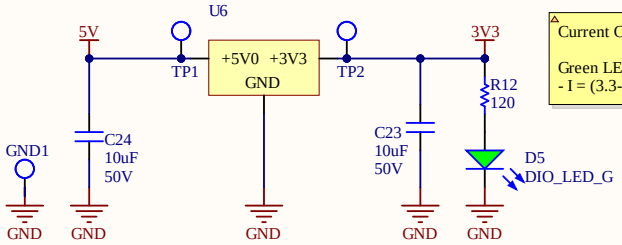
Power In



Missing fuse

Missing diode circuit for dual 5V input

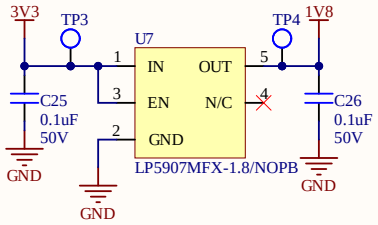
5V to 3.3V LDO



Current Calculations

Green LED voltage drop: 2.2V
- I = (3.3-2.2V)/120 = 10.83mA

3.3V to 1.8V LDO



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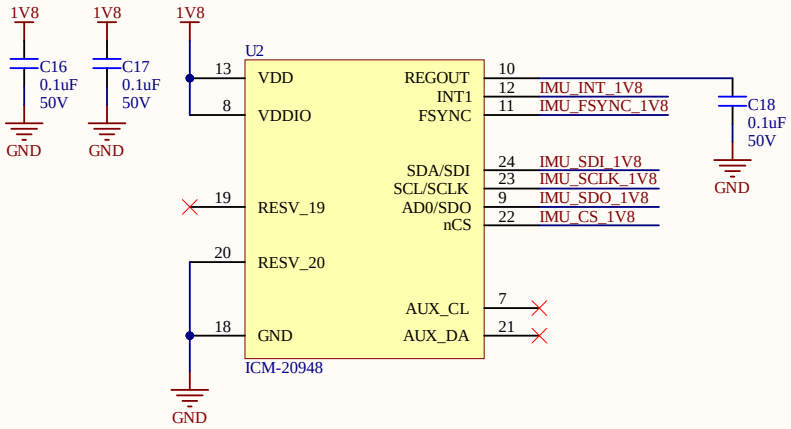
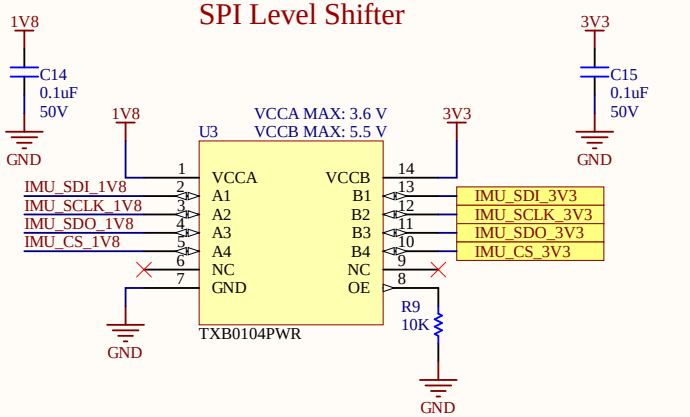
IMU Module

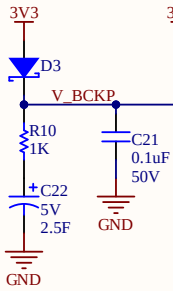


SPI Level Shifter

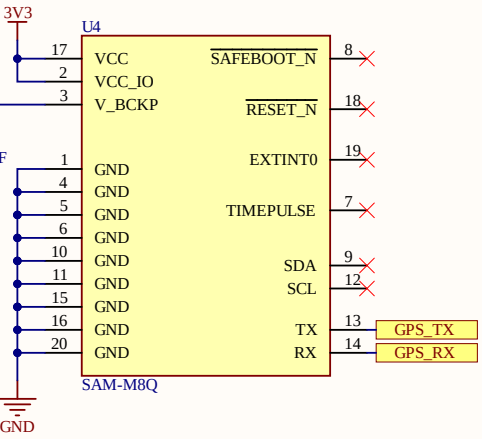


Missing 2-channel level shifter for IMU INT1 and FSYNC

RTC Backup Power



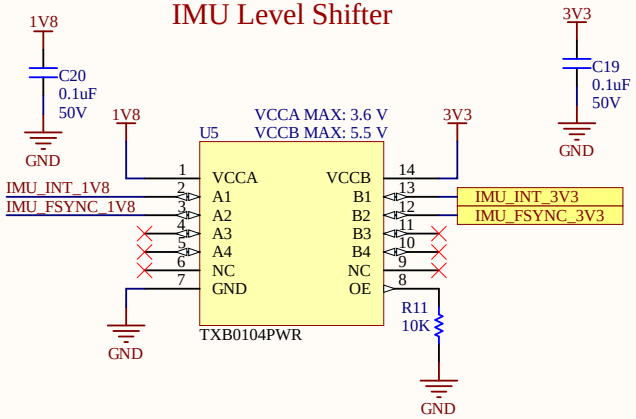
GPS Module



Supercapacitor Calculations

Vcc = 3.3V, Vf = 0.22V, Vmin = 1.4V, I_bkp = 15uA, C = 2.5F
t_bkp = (2.5F) * (3.3V - 0.22V - 1.4V) / (15uA) = 280,000s = 3.241 days
Capacitor tolerance: -0%, +100%, so 3.241 days is minimum

IMU Level Shifter



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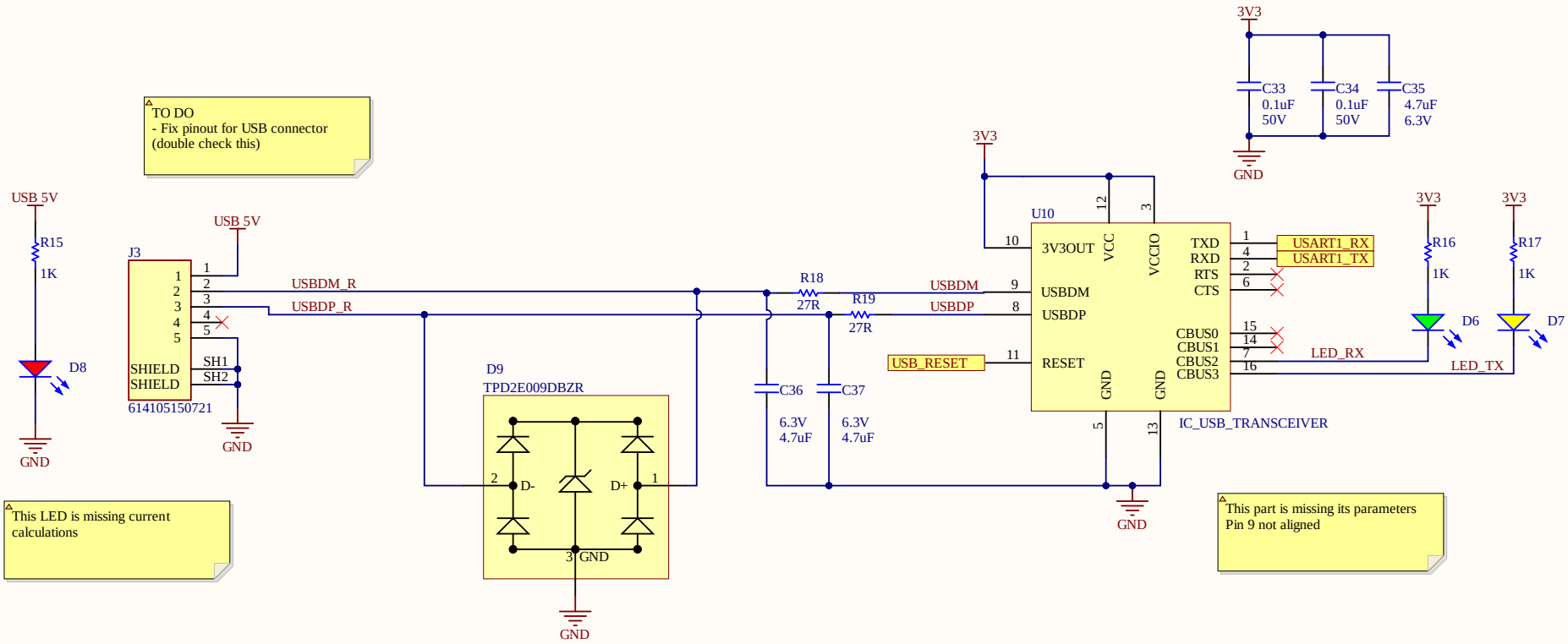

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