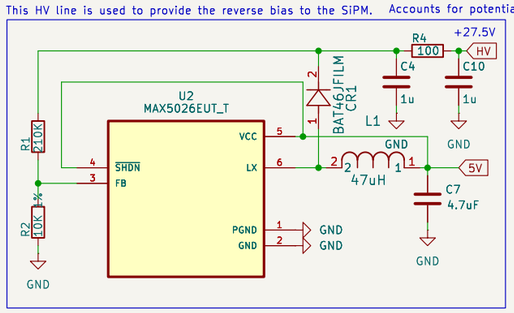
DC–DC Booster

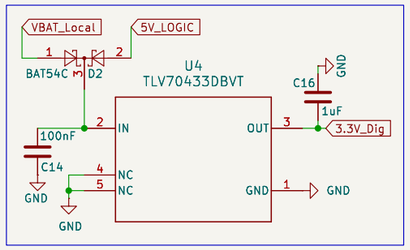
Takes the VCC line, and increases the voltage to +32.5V.

This HV line is used to provide the reverse bias to the SiPM. Accounts for potential −1.29v vibas drift from 20C to −40



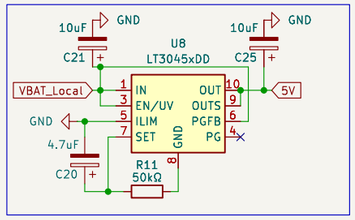
+3v3

Takes the battery line and regulates the voltage
to 3.3v for the logic electronics



+5V

This creates the 5V supply that we use for the reference for the TIA

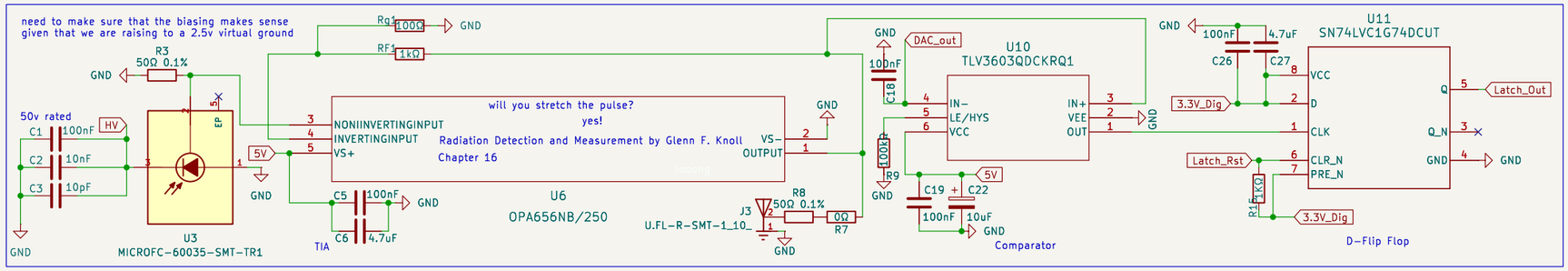


this is going up 9km, is the bias voltage ok?

yes.

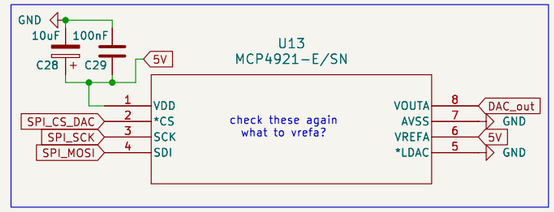
Readout

Amplifies, detects and registers the current pulse from the SiPM



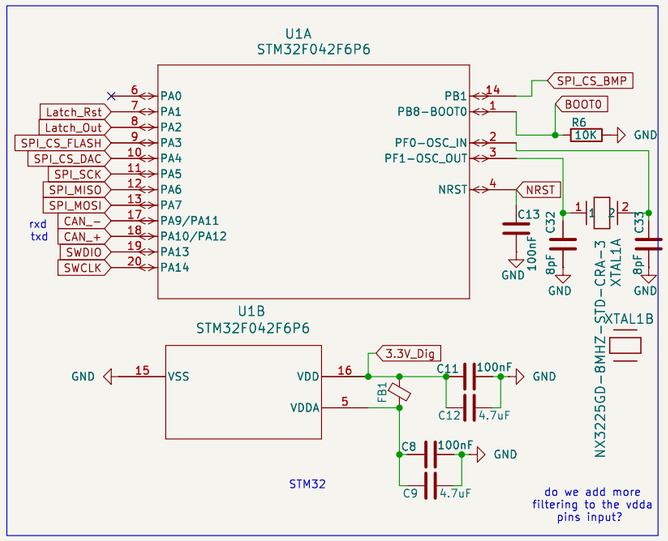
DAC

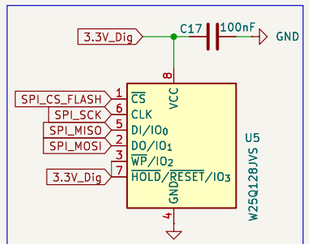
Sets a stable voltage reference for the comparator

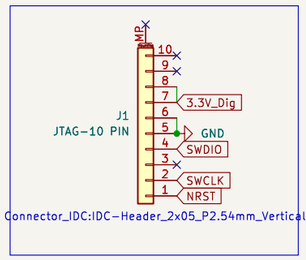


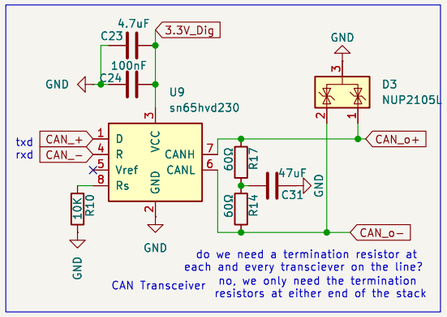
Logging

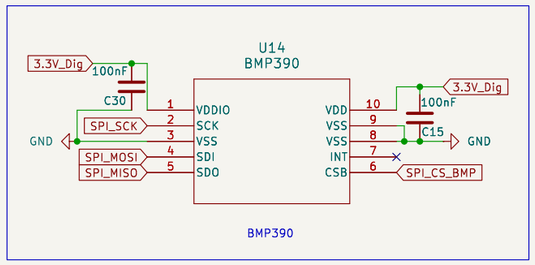
STM32 mcu, nand flash, can transciever, together operate the sensor, catch the pulses and log the data





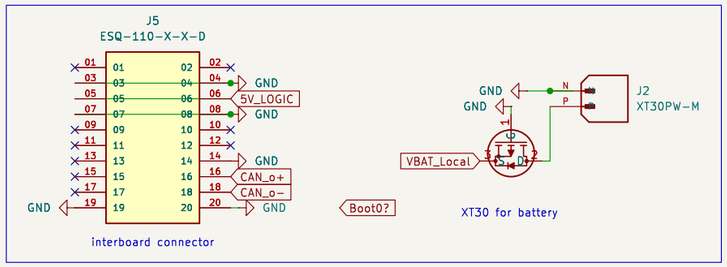


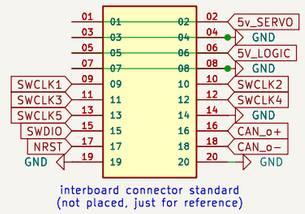




Connectors

read it again





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