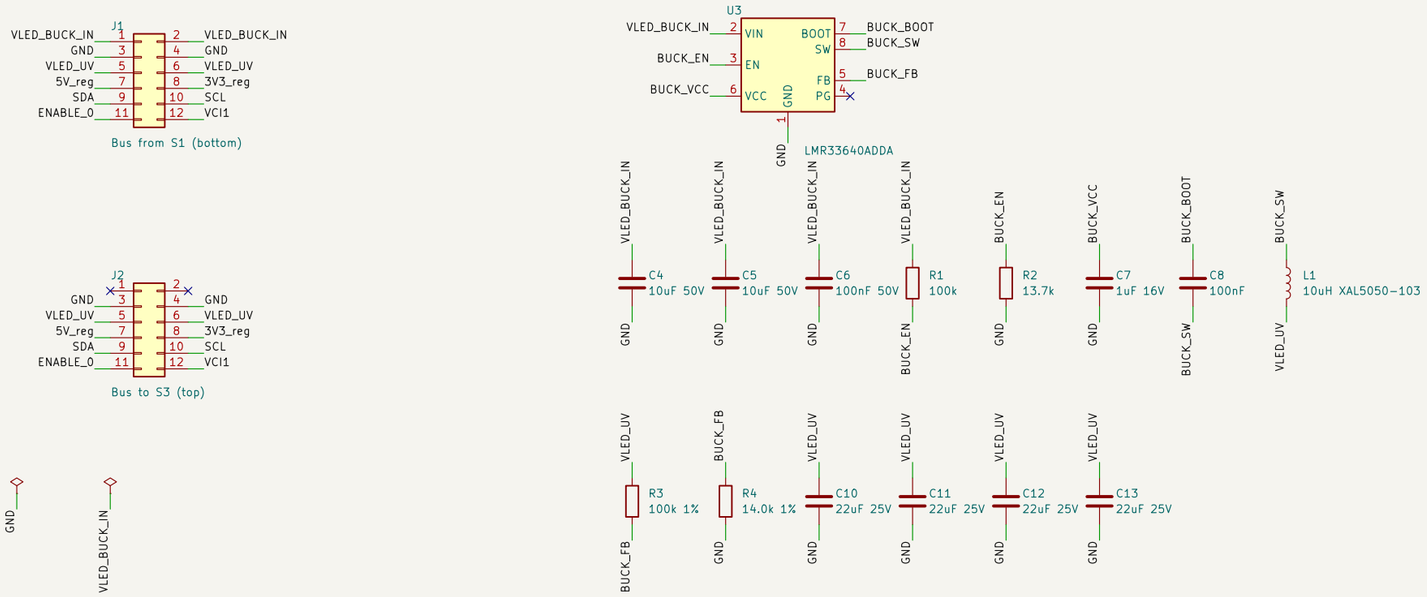


S2 BUCK (middle of stack)
U3 LMR33640: VLED_BUCK_IN (bus pins 1–2 from S1) -> VLED_UV = 1.0 V x (1 + R3/R4)
  = 8.14 V with R4 14.0k. Match R4 to the LED Vf bin (bin max + ~1.2 V):
  V3 17.4k V4 16.0k V5 14.7k V6 14.0k V7 13.0k V8 12.1k
EN UVLO ~10 V via R1/R2. VIN must be 11–36 V.
L1 XAL5050-103: 10 uH, Isat 4.9 A, Irms 3.6 A (20 C rise). Peak ~2.8 A at 36 V in.
Bus VIN pins are not passed up to S3.

BUS (2x6 1.27 mm, same XY on every board; header on top, socket on bottom):
  1,2 VIN | 3,4 GND | 5,6 VLED_UV | 7 5V_reg | 8 3V3_reg
  9 SDA | 10 SCL | 11 ENABLE_0 | 12 VCI1 (DAC out, 0–5 V)
  VIN pins: raw VIN on the S1 controller link; INA260 output (VLED_BUCK_IN)
  from S1 top to S2; not connected above S2.
UV-C (275 nm) is hazardous to eyes and skin.

LED: Luminus XFM-5050-UV-D130, 275 nm UV-C, 2 A typ / 3.2 A max
19 mm round board, part of a 3-board stack (S1 bottom, S3 top)
MBARI

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Title: XFM-5050-UV stack 2/3: LED rail buck

Size: A3	Date: 2026-11-12	**Rev: B**
KiCad E.D.A. 10.0.6		Id: 1/1