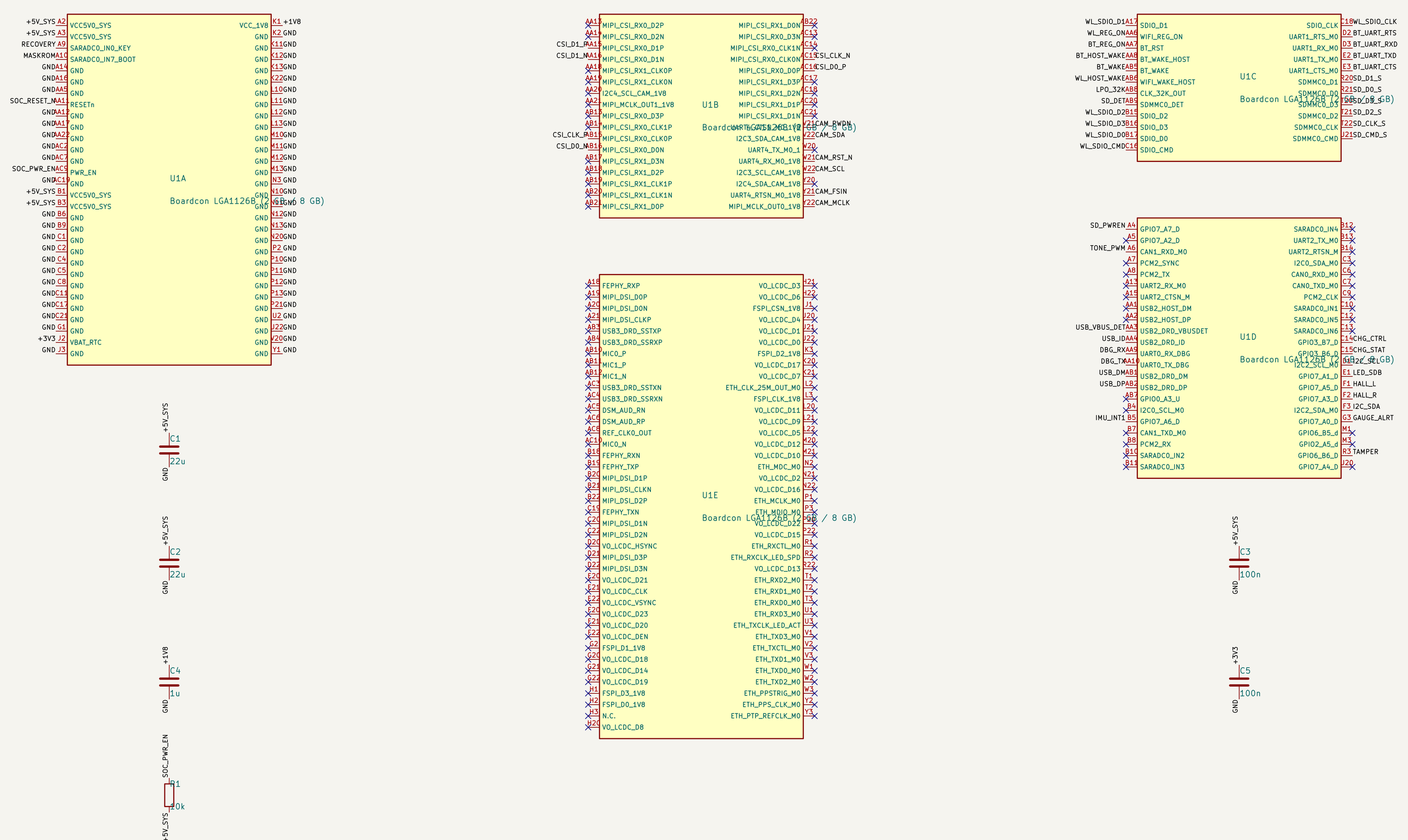
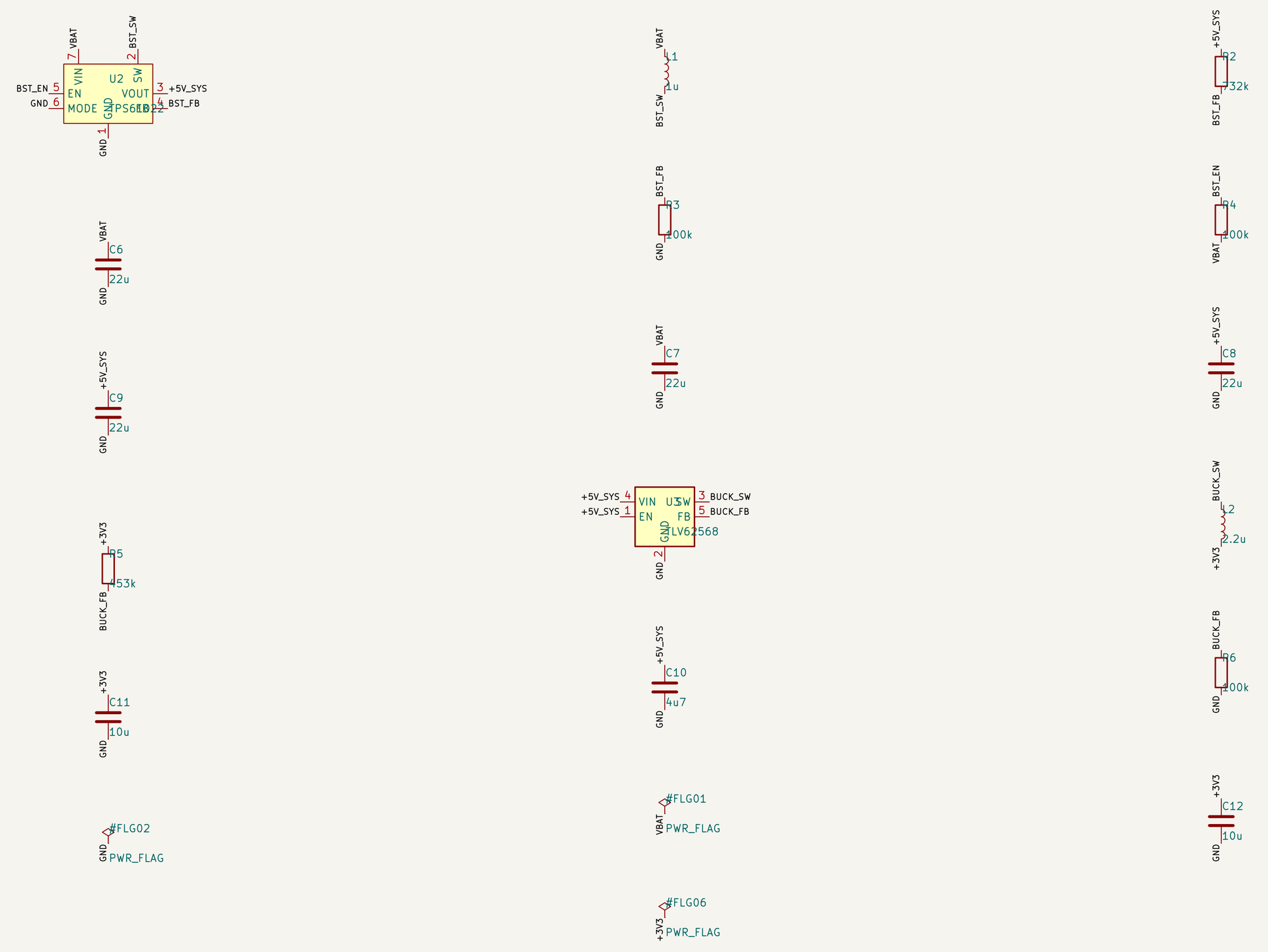
## MAIN 1: module LGA1126B

Soldered flat (LGA, 1.25 mm pitch, X-ray after reflow). Boardcon calls it LGA238; our reading of its pin table lists 240 pads, checked against its footprint drawing in the layout step. Pins not used are marked not connected.



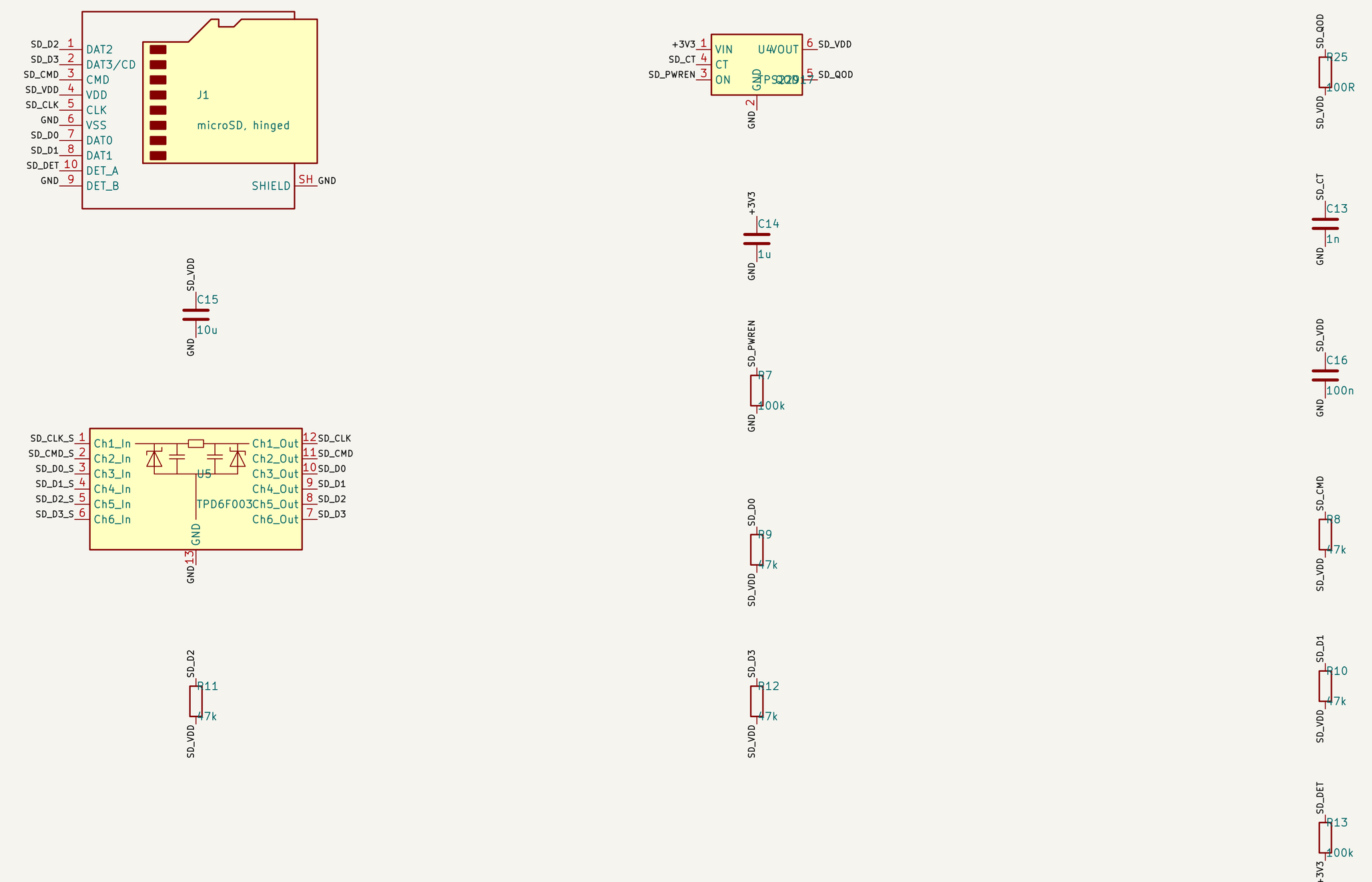

## MAIN 2: power, cells to 5 V and 3.3 V

VBAT comes up the soldered lead from the base board (after the protection). Boost to 5 V for the module; buck 5 V to 3.3 V for everything else.



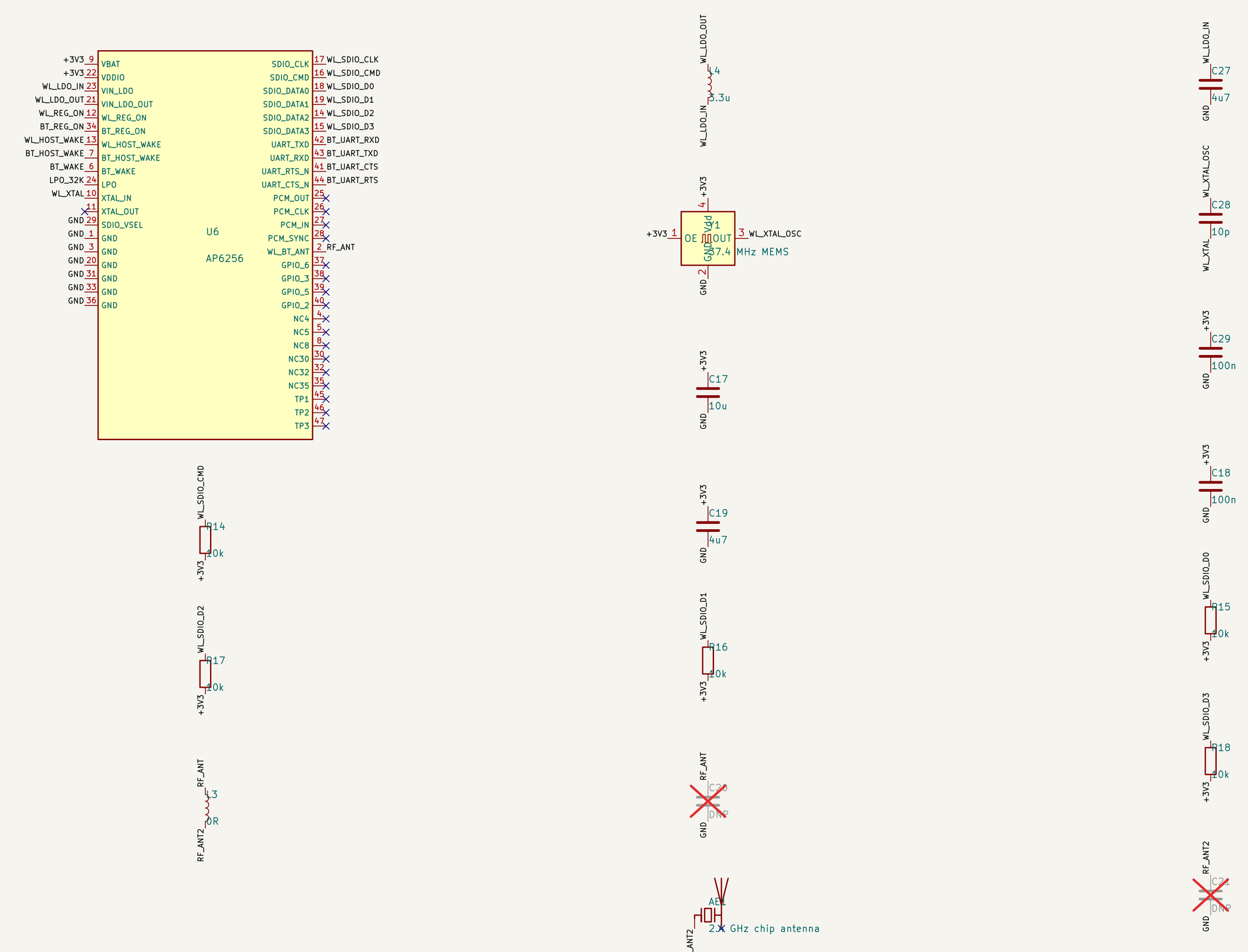

## MAIN 3: microSD card (our software)

Hinged, latched socket. The card has its own power switch (U4) and ESD/filter array (U5). Card lines on SDMMC0 at 3.3 V.



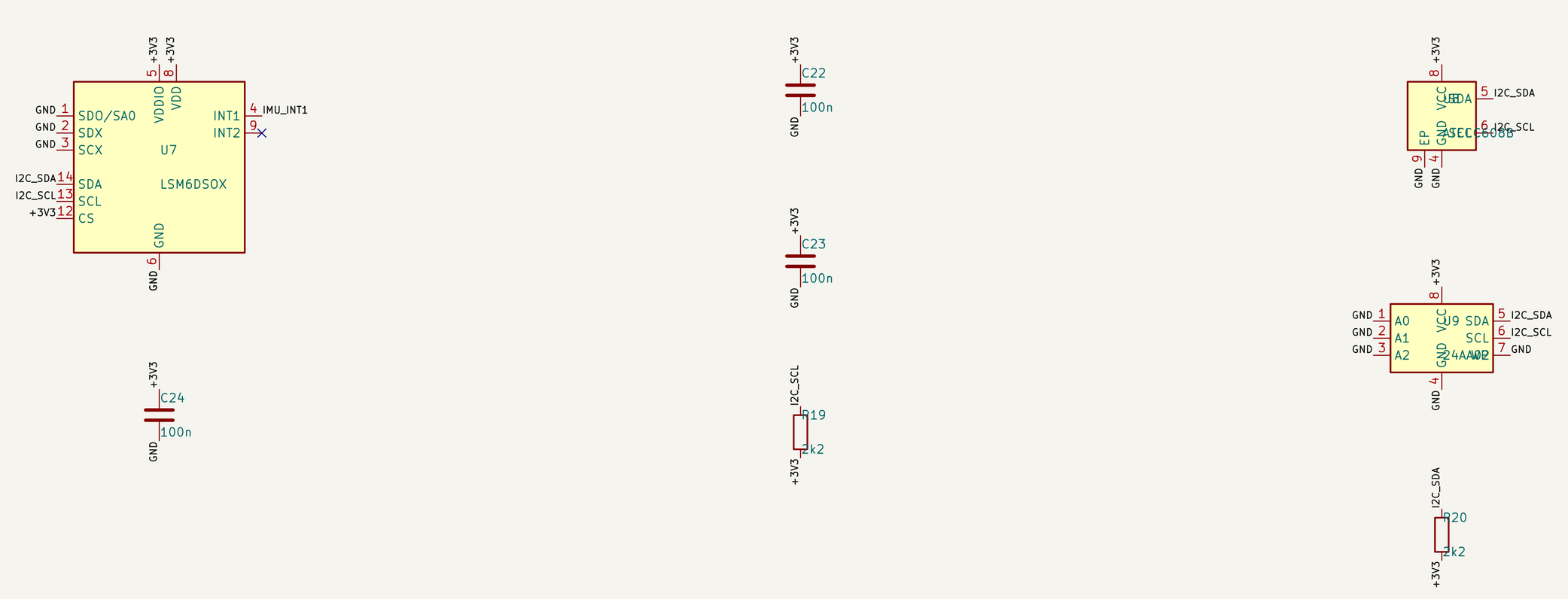

## MAIN 4: Wi-Fi and Bluetooth

SDIO 3.3 V, BT on UART1, 32.768 kHz from the module. Chip antenna in the 27 × 12 mm keep-out, 50 Ω line with a π match.



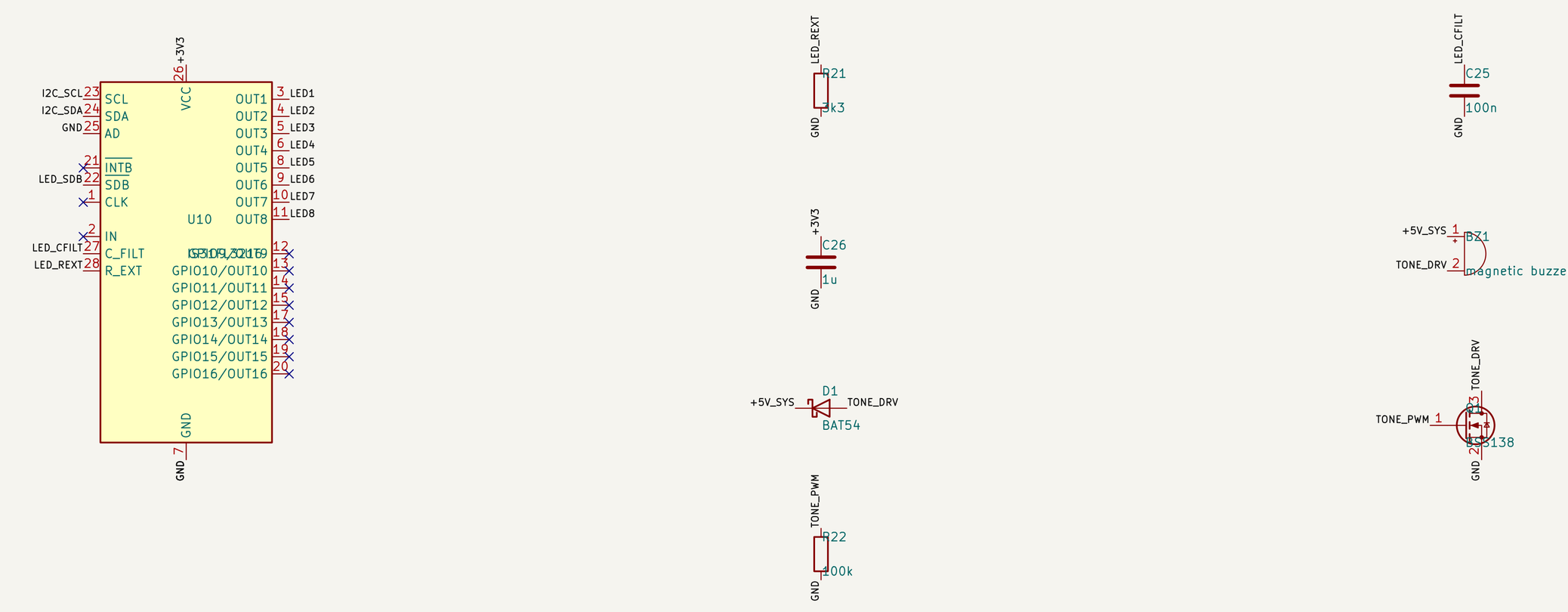

## MAIN 5: motion, security, ID

One I2C bus (I2C2): motion 0x6A, security 0x60, ID 0x50, lights driver 0x74, gauge 0x36 (on the base board, up the lead).



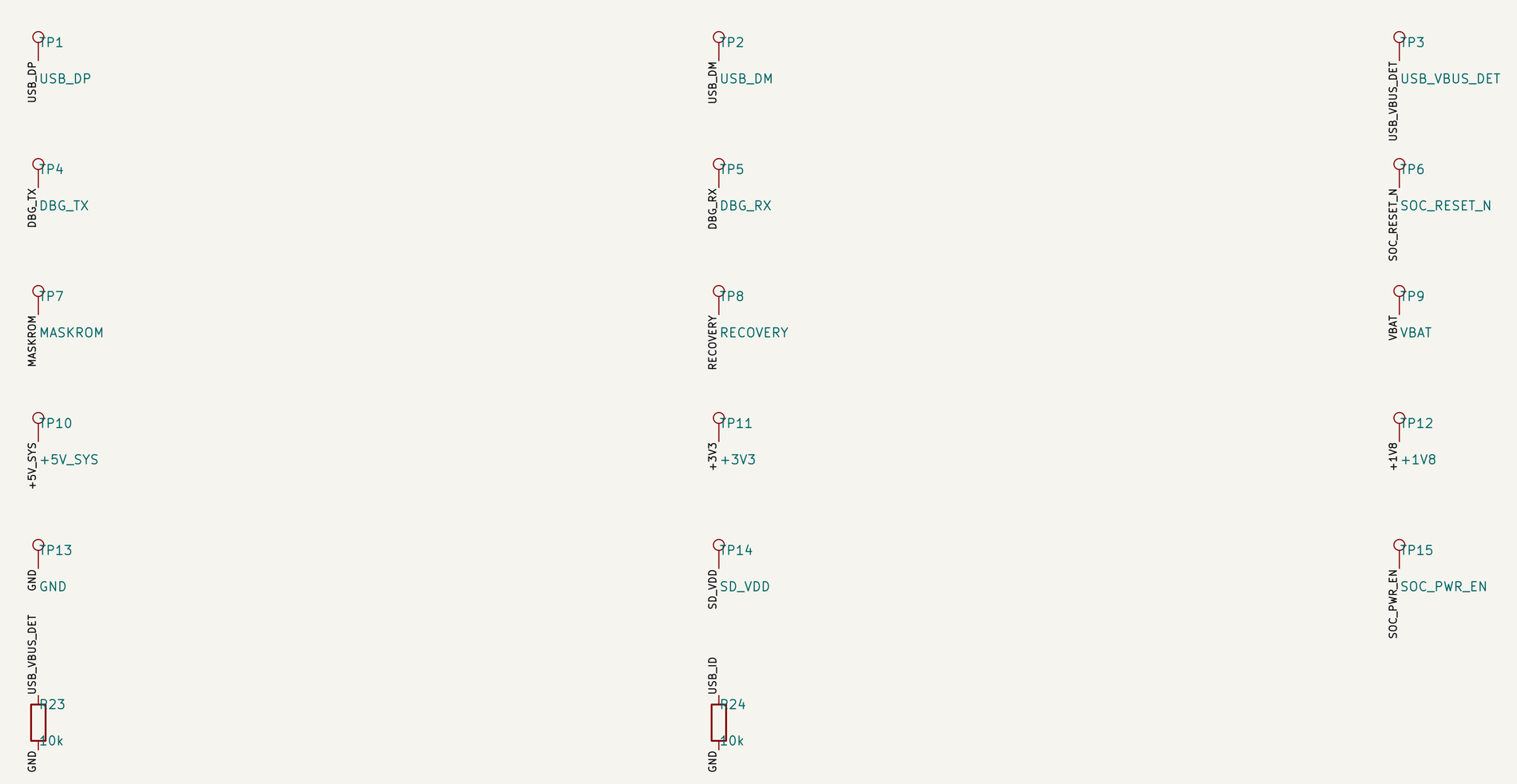

## MAIN 6: call lights and tone

8 side-emitting LEDs on the camera head wings, common anode at 3.3 V, driven up the head lead. Tone: magnetic buzzer from 5 V.



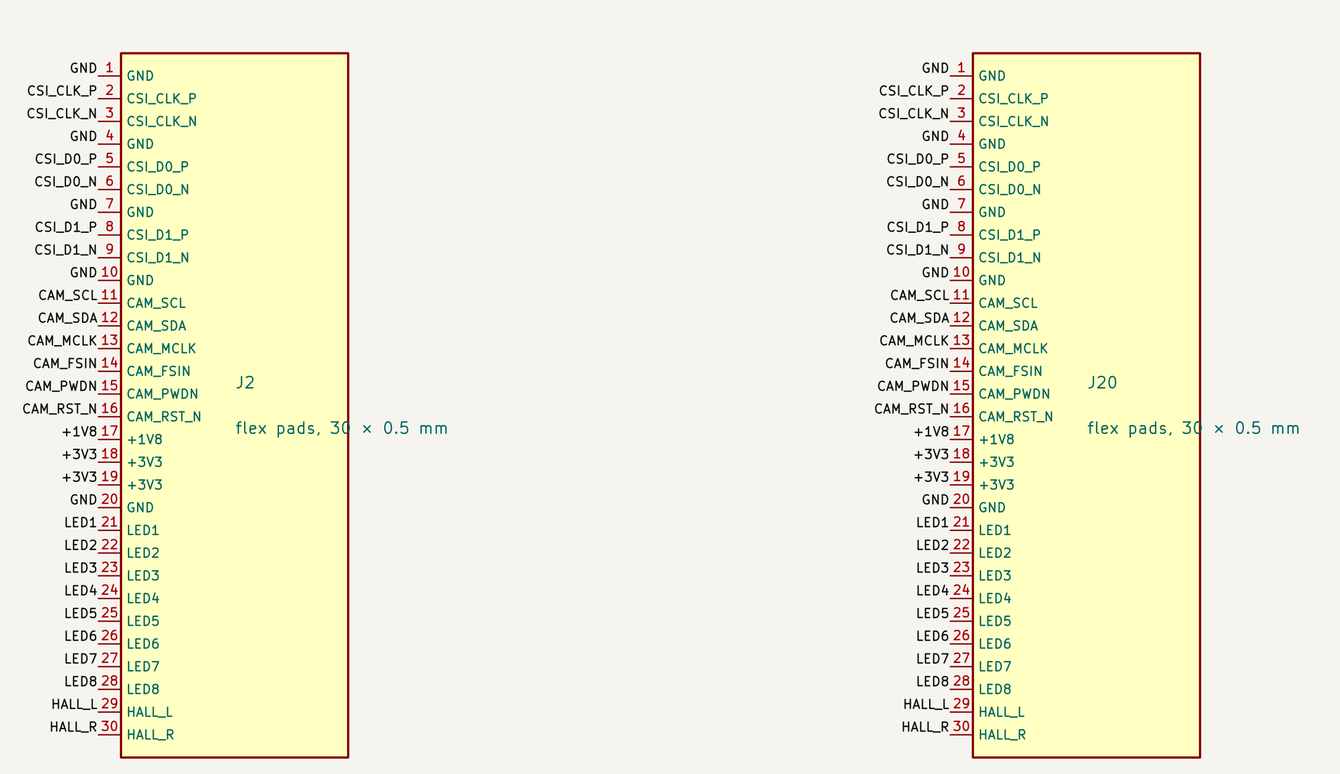

## MAIN 7: factory pads

USB for writing software in Maskrom mode, the debug console, reset, Maskrom and recovery, every rail. Not needed in normal use: the card starts the board.



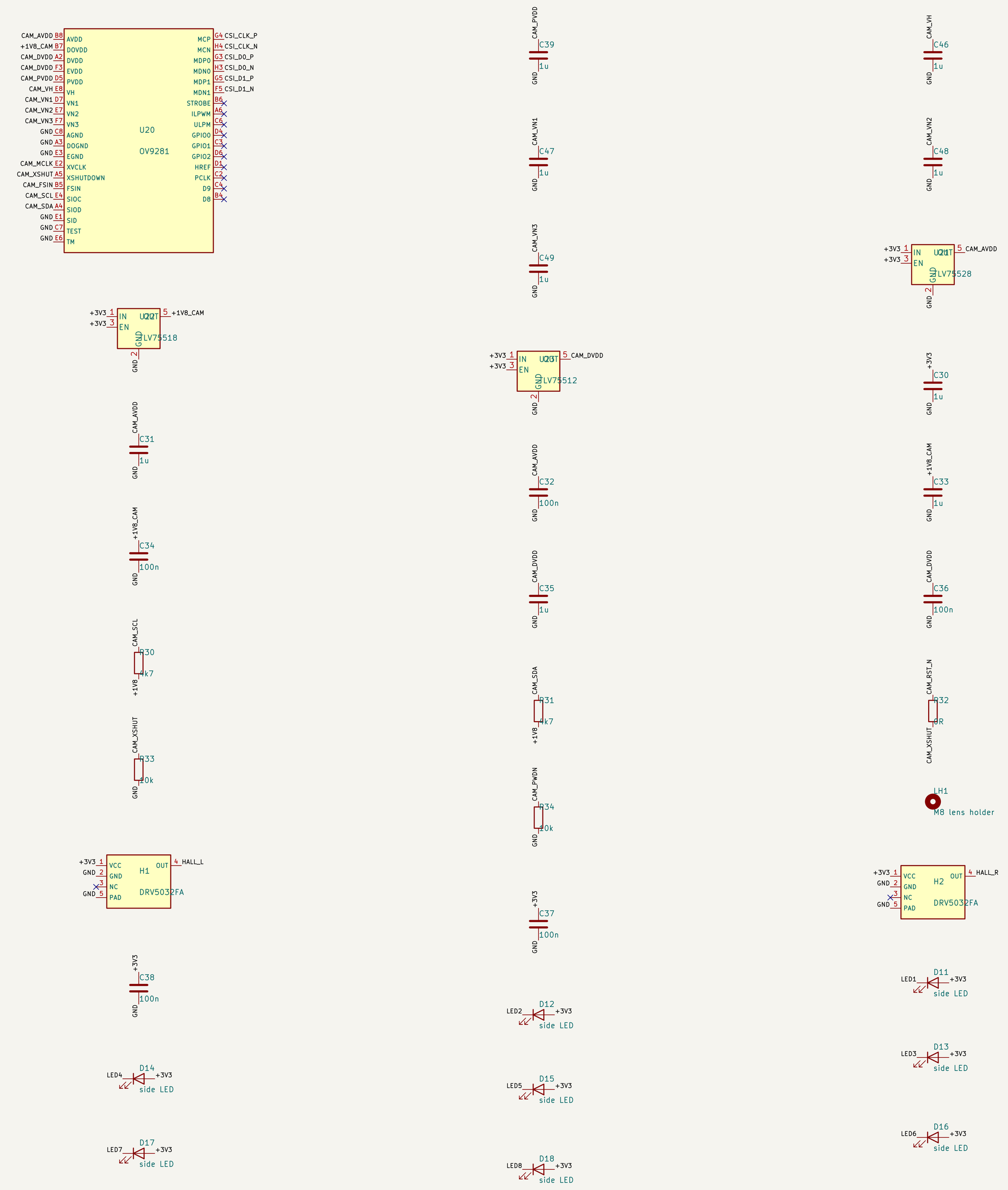

## HEAD LINK: soldered flex

MIPI pairs 100 Ω differential with a ground between pairs. Hot-bar soldered, so a ball hit cannot unplug it.



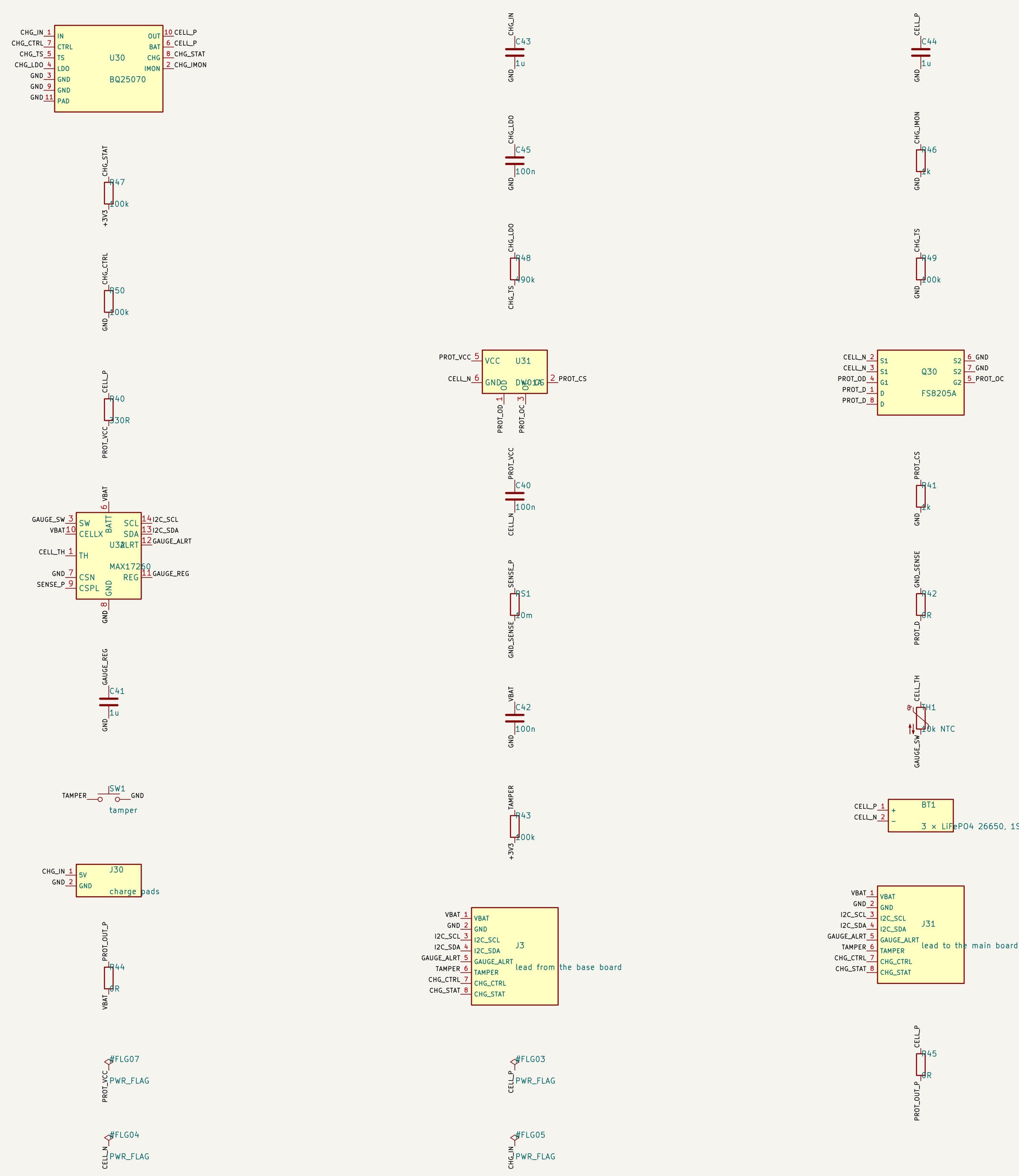

## CAMERA HEAD: OV9281, lights, bails

Supplies from 3.3 V: AVDD 2.8 V, DOVDD 1.8 V (matches the module camera pins), DVDD 1.2 V. M8 lens holder over the chip.




## BASE: charge, protect, gauge

Three 3.4 Ah LiFePO4 cells in parallel (1S3P) on stiffened pads. Charge pads take 5 V from the charger. Lead to the main board: VBAT, GND, I2C, gauge alert, tamper, charger control and status.




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Put the microSD card in, switch on, it starts our software (the module eMMC ships empty)
Route 1: Boardcon LGA1126B module soldered on our own plain 4-layer boards
**IEMI Labs, Austin, Texas**
Sheet: /
File: test-board.kicad_sch

***Title: CricketOne test board (rev A-1): main board, camera head, base board***

Size: A0 | Date: 2026-11-04 | **Rev: A-1**
KiCad E.D.A. 10.0.8 | Id: 1/1