

matei repair lab

Sheet: /usb/

File: usb.kicad_sch

Title: USB & ESD

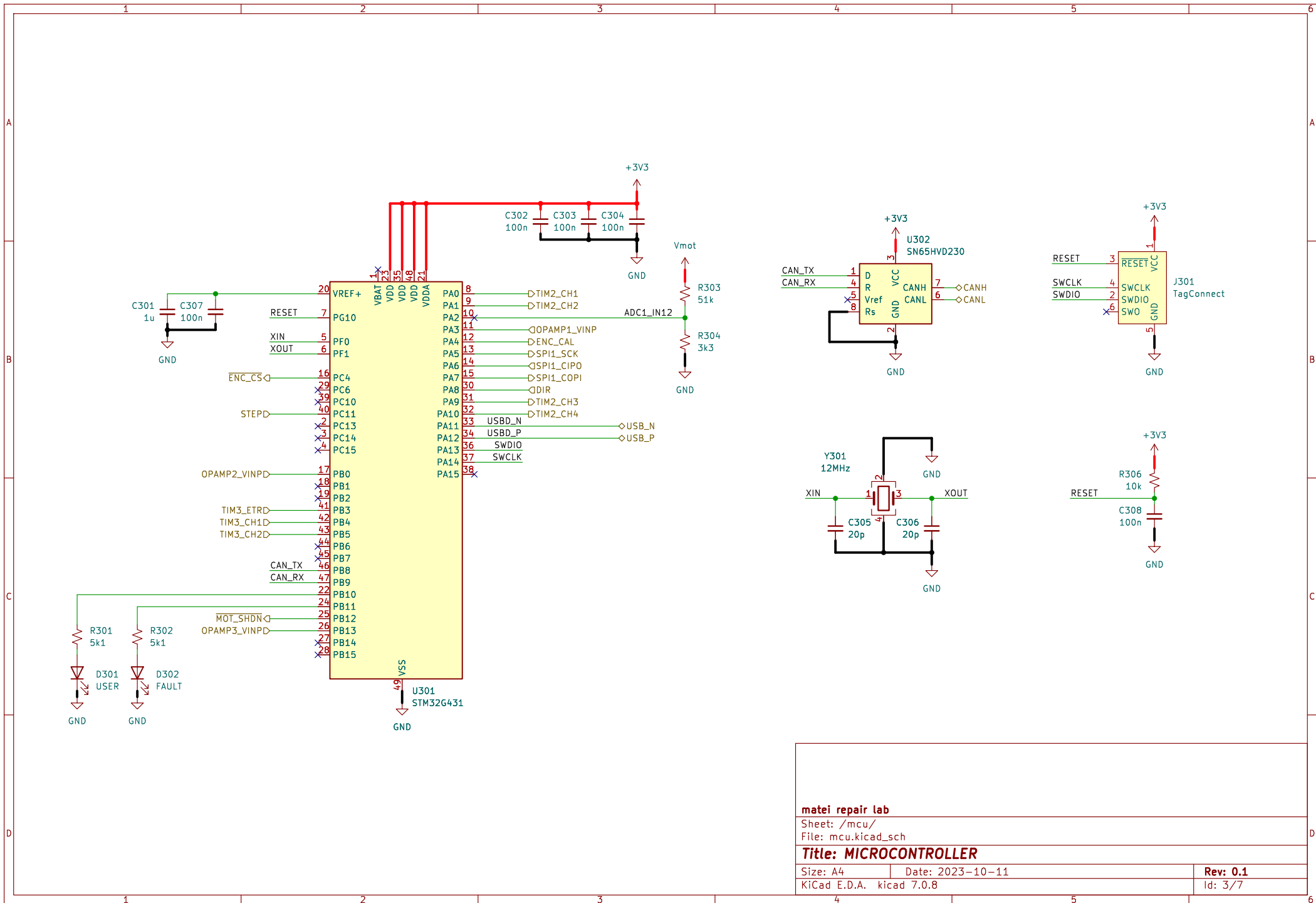
Size: A4

Date: 2023-10-11

Rev: 0.1

KiCad E.D.A. kicad 7.0.8

Id: 2/7



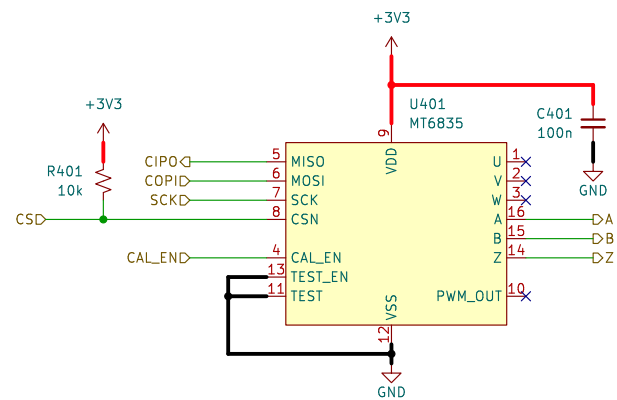
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Sheet: /mcu/
File: mcu.kicad_sch

Title: MICROCONTROLLER

Size: A4 Date: 2023-10-11
KiCad E.D.A. kicad 7.0.8

Rev: 0.1
Id: 3/7



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Sheet: /encoder/

File: encoder.kicad_sch

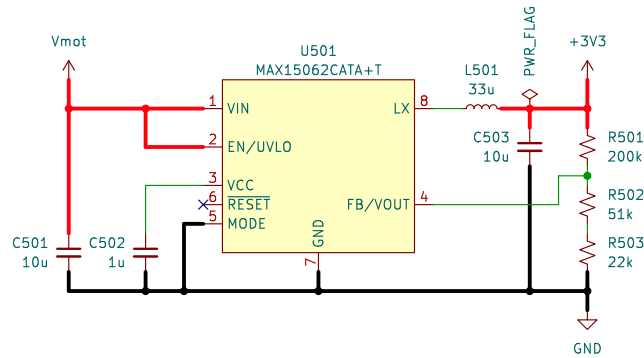
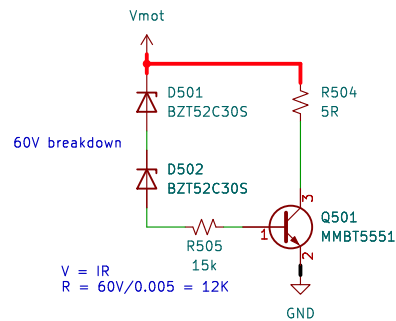
Title: MAGNETIC ENCODER 14 BIT

Size: A4 Date: 2023-10-11

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Rev: 0.1

Id: 4/7



For MAX15062AATA+T (C2846801):
 R501: 0R
 R502, R503: DNP

For MAX15062CATA+T (C1121853):
 R501: 200k
 R502, R503: 51k, 22k

$R_a = R_b(V_{out}/0.9 - 1)$
 3.36V (closest to 3v3 with basic parts)

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Sheet: /psu/
 File: psu.kicad_sch

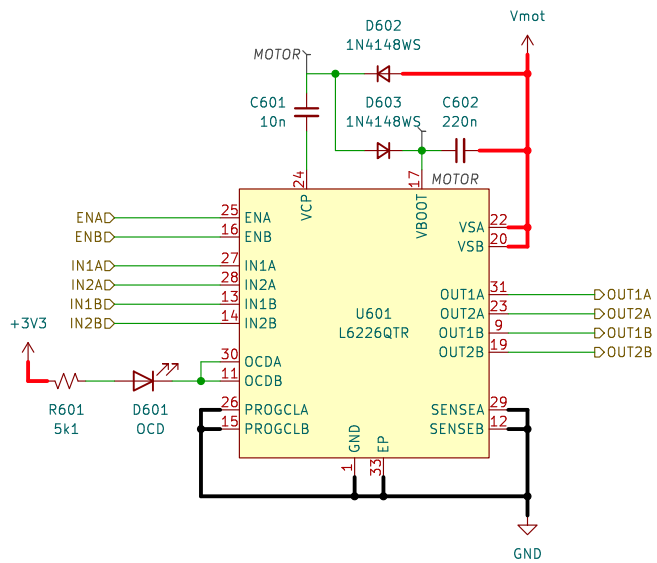
Title: POWER SUPPLY & FILTERING

Size: A4 Date: 2023-10-11

KiCad E.D.A. kicad 7.0.8

Rev: 0.1

Id: 6/7



Sheet: /half bridges/
File: halfbridges.kicad_sch

Title:

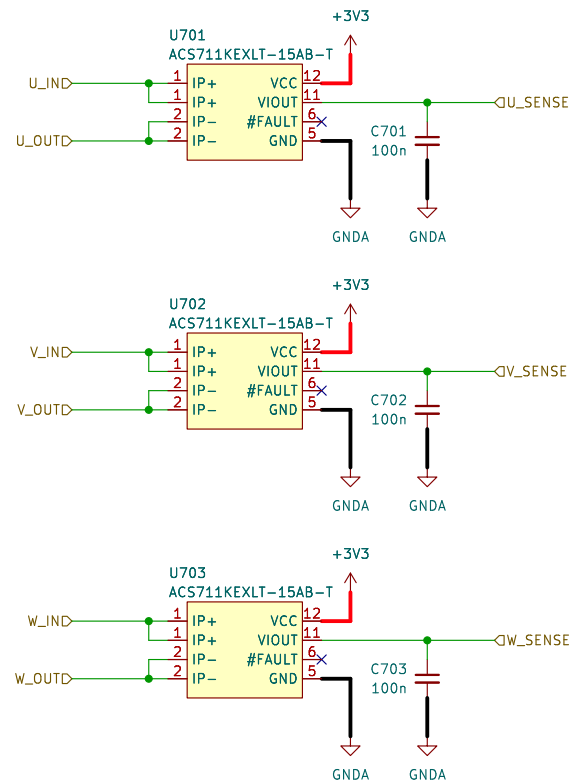
Size: A4

Date:

KiCad E.D.A. kicad 7.0.8

Rev:

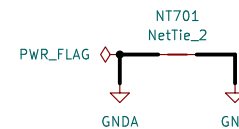
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5A model
410mV/A sensitivity
expected current $\pm 1A$ (2A peak)
820mV range \rightarrow 3.3V
need gain of ~ 4 at G431 OP-AMP input
for full resolution

due to "hybrid" phase connection, it may be possible
to have 8x gain on the independent phases, and
just this 4x gain on the center tap.

join at power connector



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Sheet: /current sense/
File: currentsense.kicad_sch

Title: HALL CURRENT SENSING

Size: A4 Date: 2023-10-11

KiCad E.D.A. kicad 7.0.8

Rev: 0.1

Id: 8/7