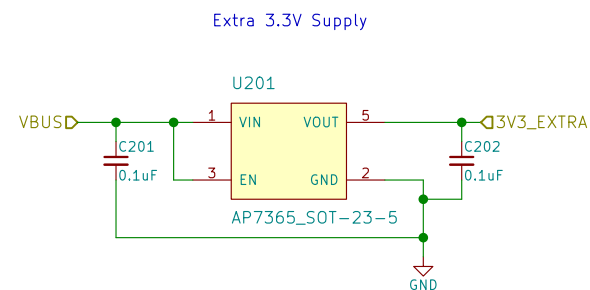
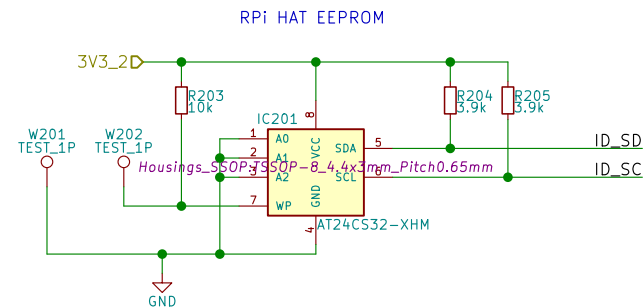
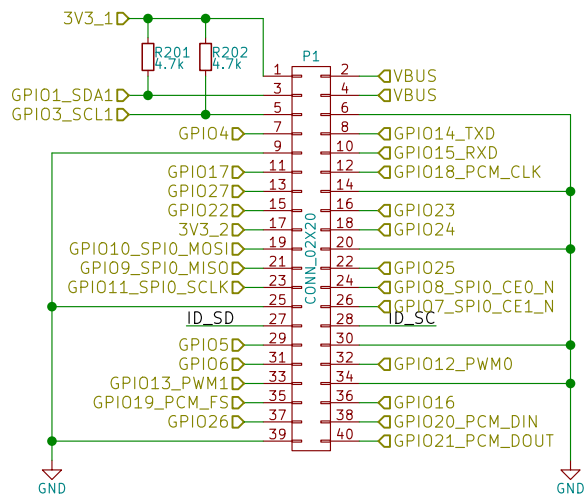


| Pi Model B+ | | | |
|-------------|----|----|--------|
| 3V3 | 1 | 2 | 4V |
| GPIO2 | 3 | 4 | 4V |
| GPIO3 | 5 | 6 | Ground |
| GPIO4 | 7 | 8 | GPIO14 |
| Ground | 9 | 10 | GPIO15 |
| GPIO17 | 11 | 12 | GPIO18 |
| GPIO27 | 13 | 14 | Ground |
| GPIO23 | 15 | 16 | GPIO23 |
| 3V3 | 17 | 18 | GPIO24 |
| GPIO10 | 19 | 20 | Ground |
| GPIO5 | 21 | 22 | GPIO25 |
| GPIO11 | 23 | 24 | GPIO8 |
| Ground | 25 | 26 | GPIO7 |
| ID_SD | 27 | 28 | ID_SC |
| GPIO5 | 29 | 30 | Ground |
| GPIO6 | 31 | 32 | GPIO12 |
| GPIO13 | 33 | 34 | Ground |
| GPIO19 | 35 | 36 | GPIO16 |
| GPIO26 | 37 | 38 | GPIO20 |
| Ground | 39 | 40 | GPIO21 |

www.raspberrypi.org/docs/hw/faq



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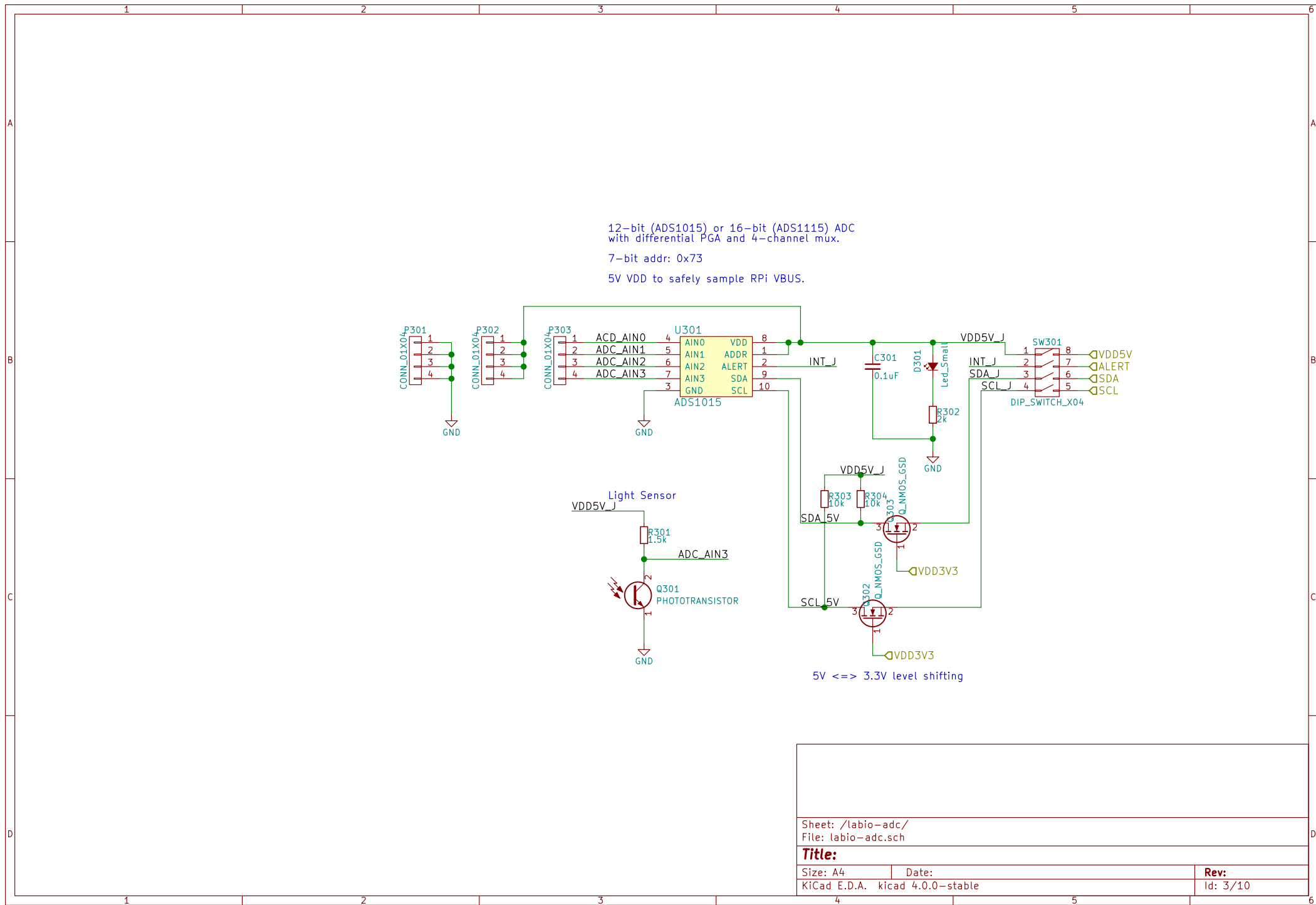
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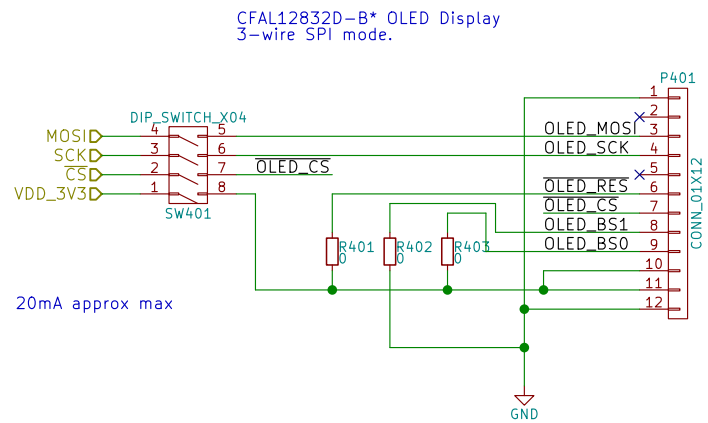
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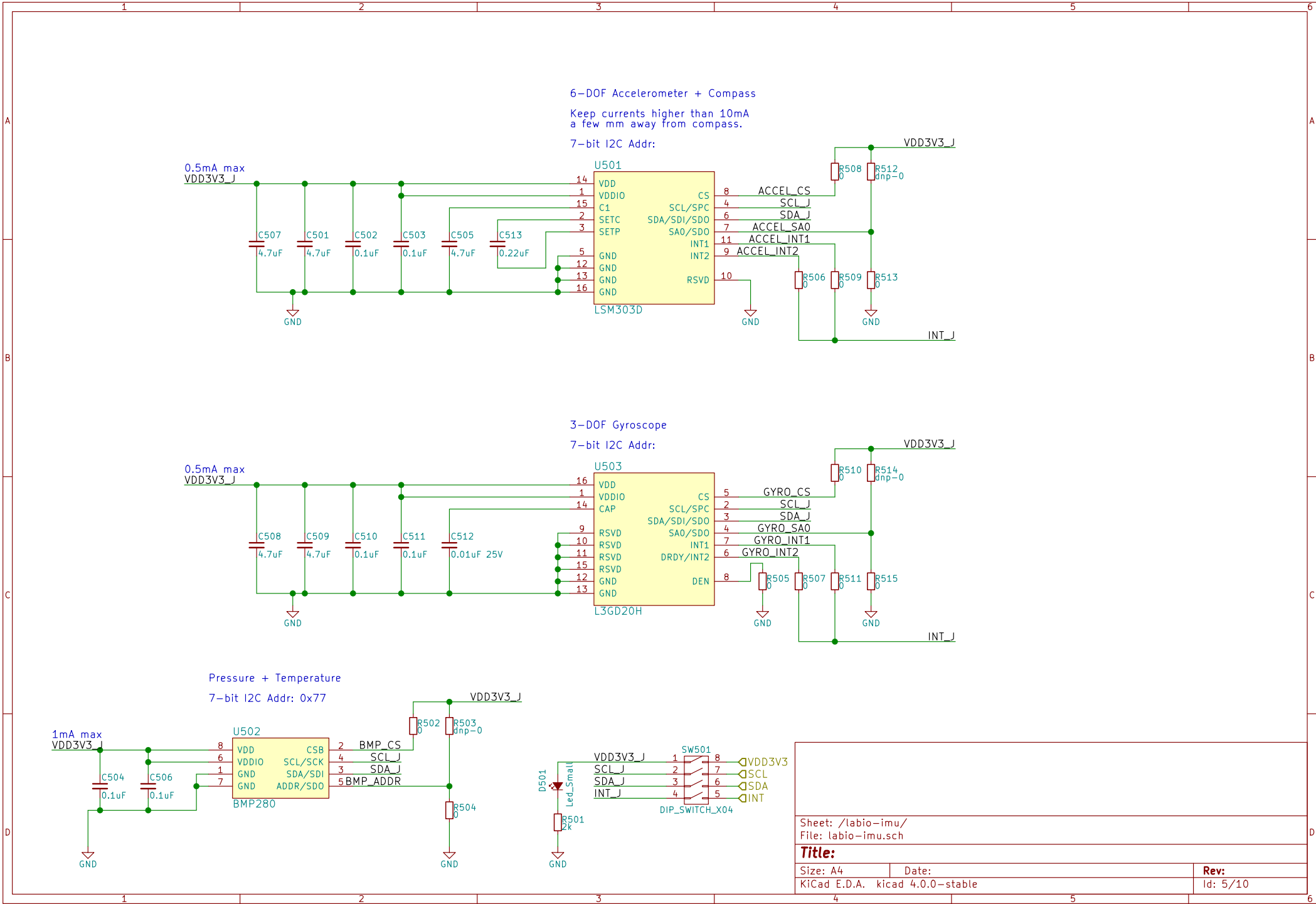
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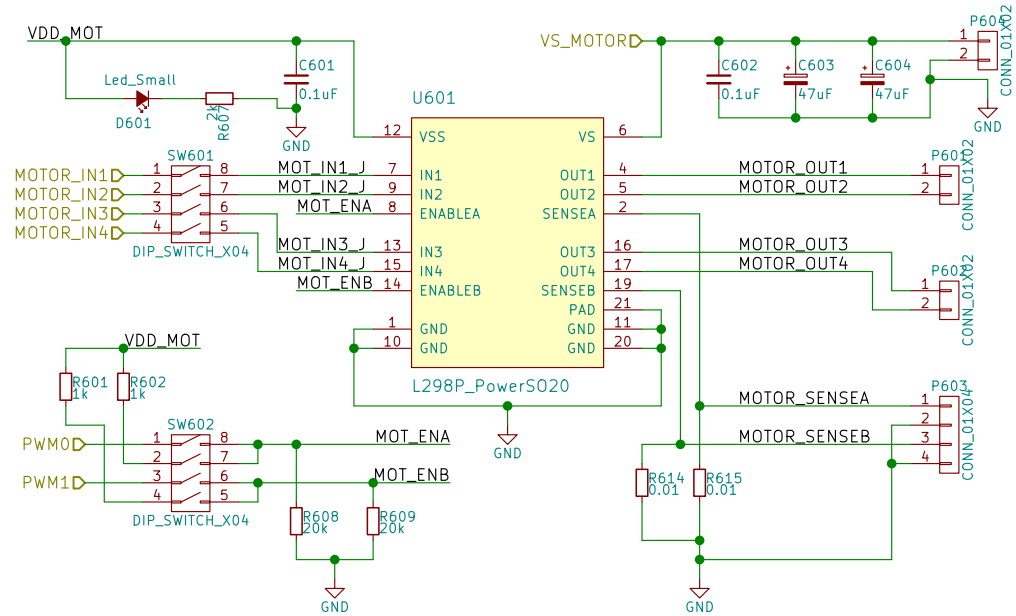
| Interface | | | | |
|-----------|------|------------|------------|-------|
| Pin No | Sym | 3 Wire SPI | 4 Wire SPI | I2C |
| 1 | GND | GND | GND | GND |
| 2 | D2 | NC | NC | SDA* |
| 3 | D1 | SDA | SDA | SDA* |
| 4 | D0 | CLK | SCLK | SCL |
| 5 | D/C# | NC | D/C | Vcc |
| 6 | RES# | RESET | RESET | RESET |
| 7 | CS# | GND | GND | GND |
| 8 | BS1 | GND | GND | Vcc |
| 9 | BS0 | Vcc | GND | GND |
| 10 | Vdd | Vcc** | Vcc** | Vcc** |
| 11 | Vbat | Vcc** | Vcc** | Vcc** |
| 12 | GND | GND | GND | GND |

| Microcontroller | Control lines defined by layout / code |
|-----------------|--|
| +3.3v | Supply voltage |
| Ground | Supply ground |
| Notes: | |
| * | Tie D2 and D1 together |
| ** | Okay to Tie Vdd and Vbat together |



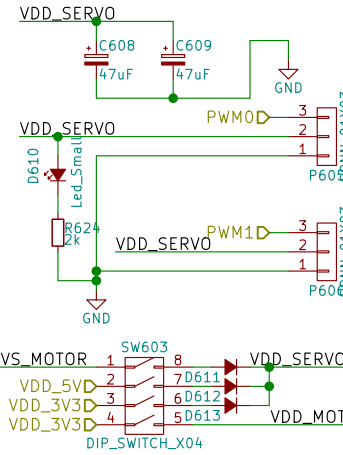
Motor Driver

2x DC Motors or 1x Bipolar Stepper Motor



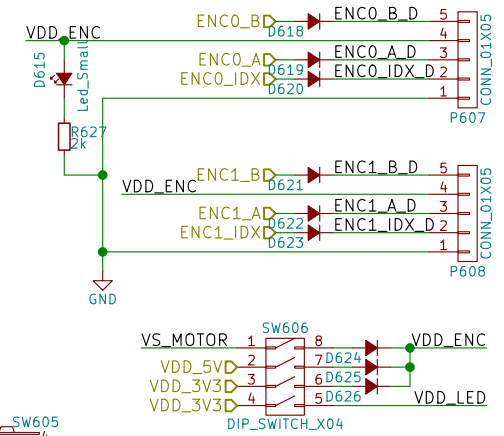
Servo Pins

Ground, voltage, signal headers.
Jumper for power source.



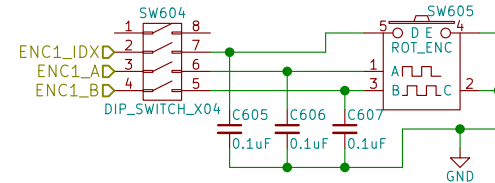
Quadrature Encoder Pins

US Digital S1 Pinout.
Jumper for power source.
Diodes for 5V levels and multiplexing.
Use RPi pull-ups.

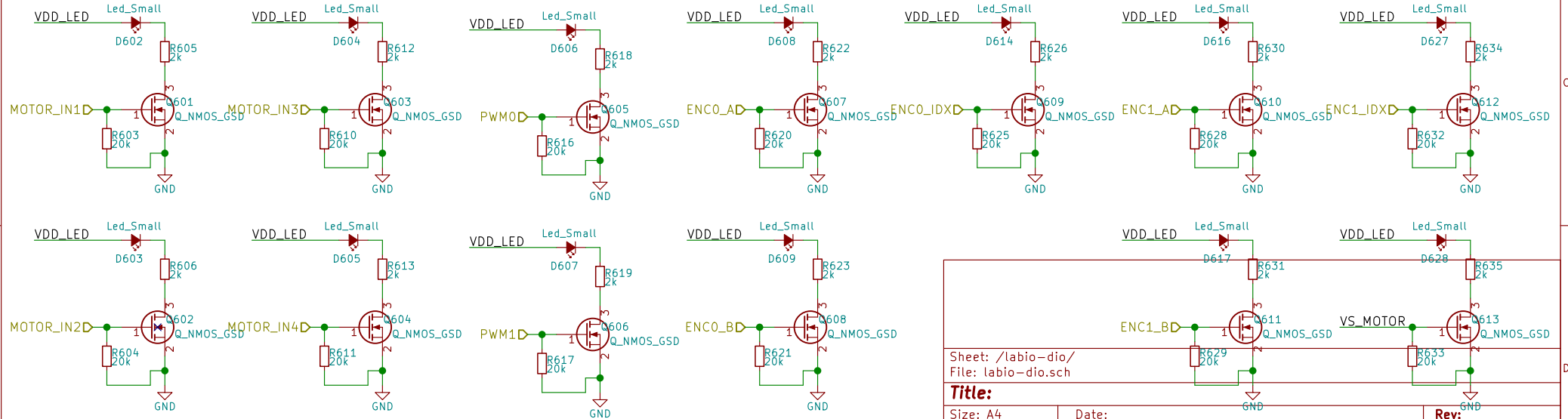


Quadrature Encoder (onboard)

Use RPi pull-ups.



LED Indicators



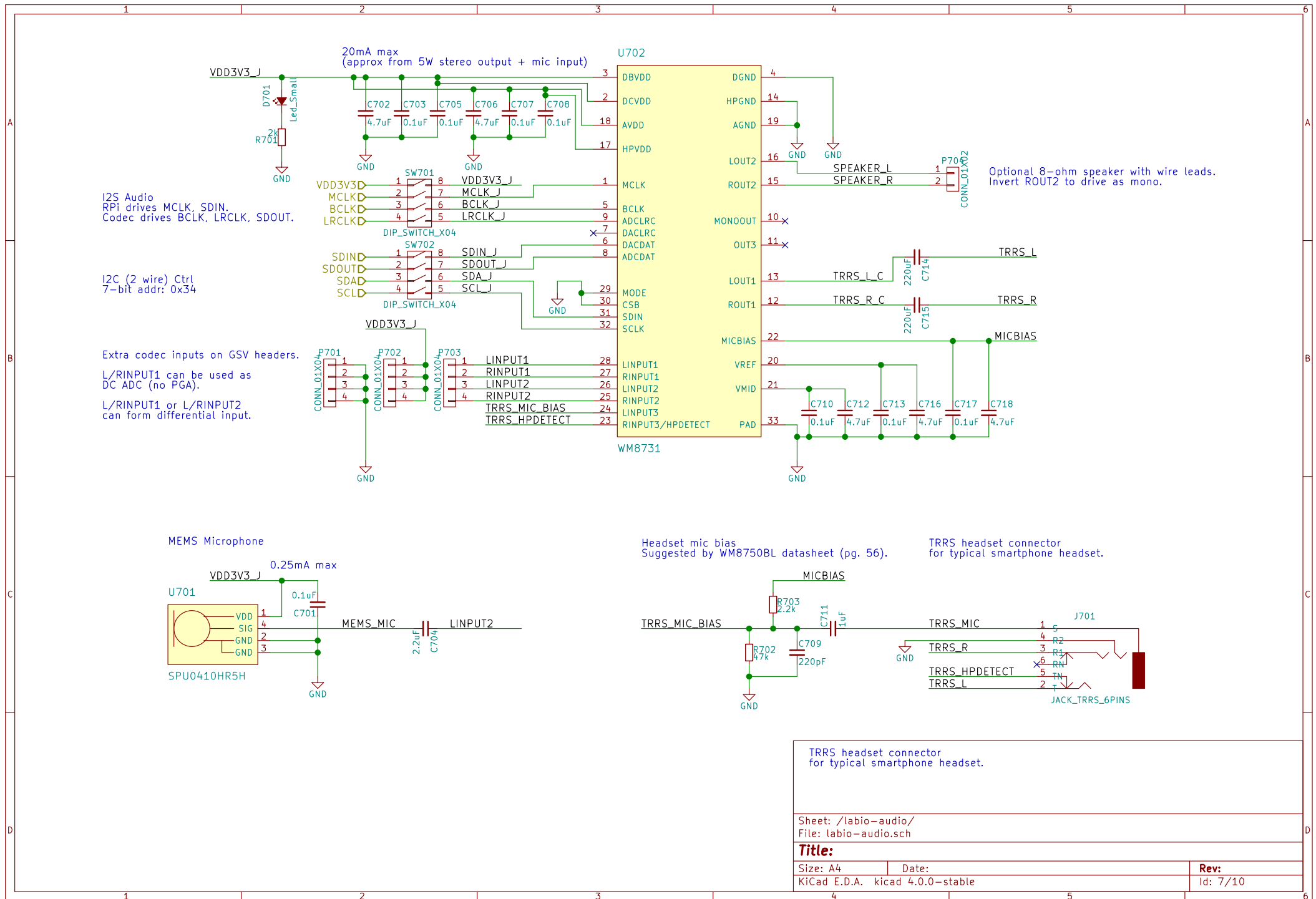
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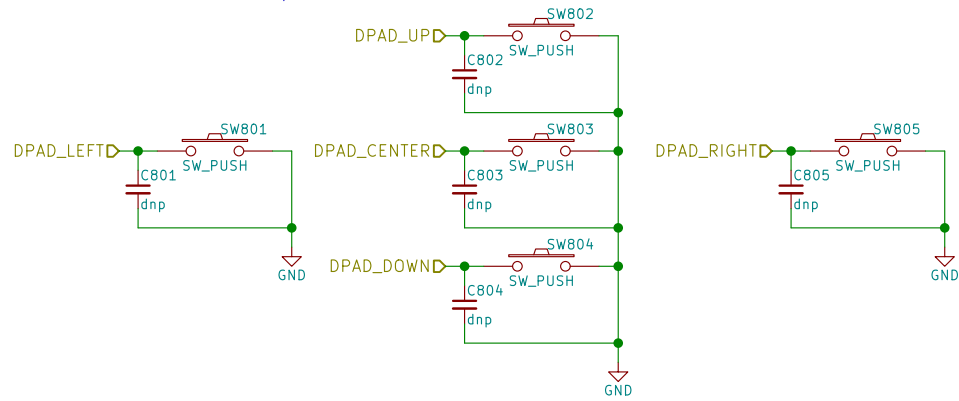
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D-Pad

Use RPi pull-ups.
Optional C for decoupling.
Individual IO lines for interrupts.



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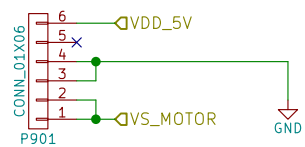
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External Power (Future)

Provides logic and motor power from power supply or battery pack with possible charging from USB (rpi) power.
2x motor power for current rating.



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