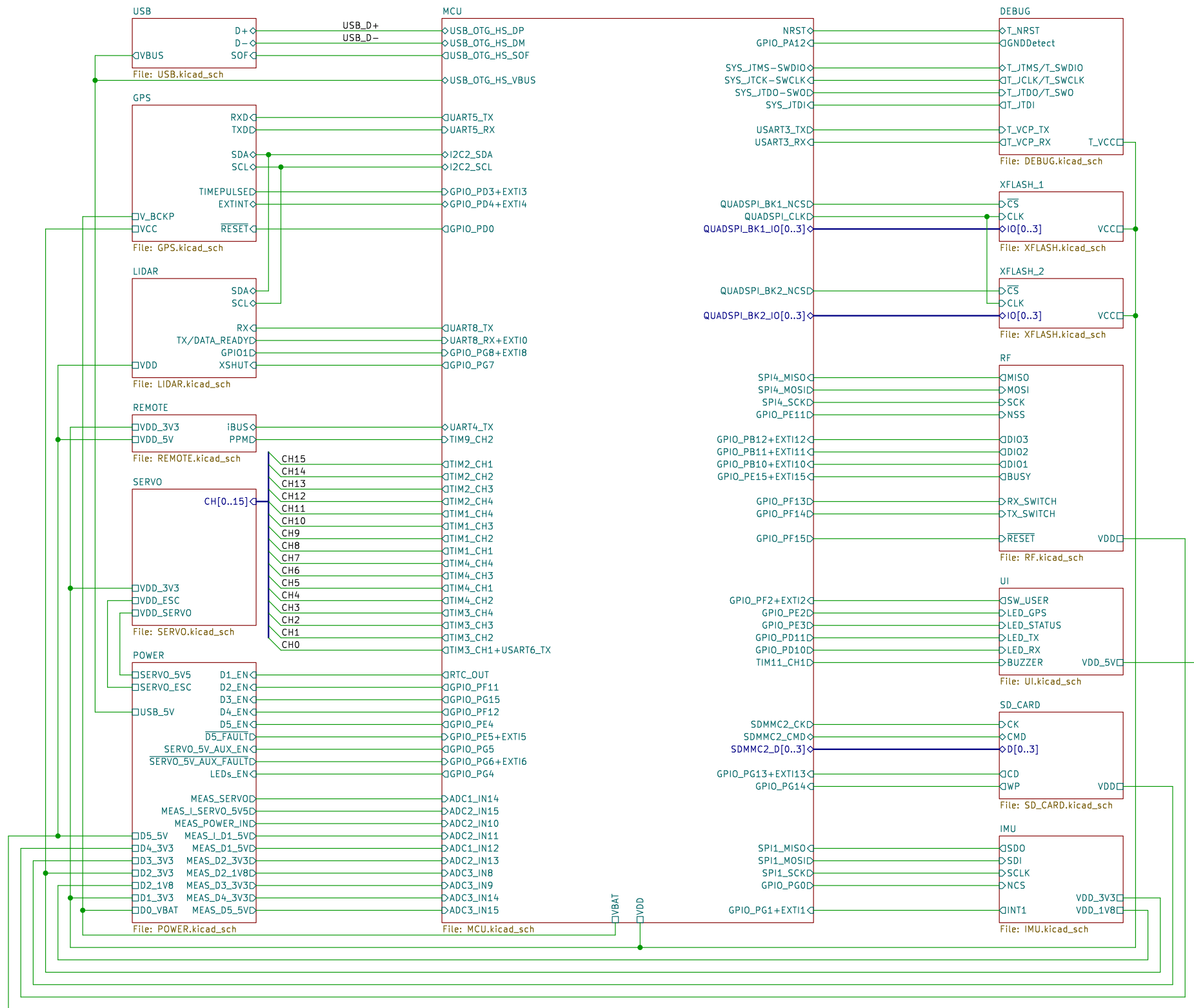
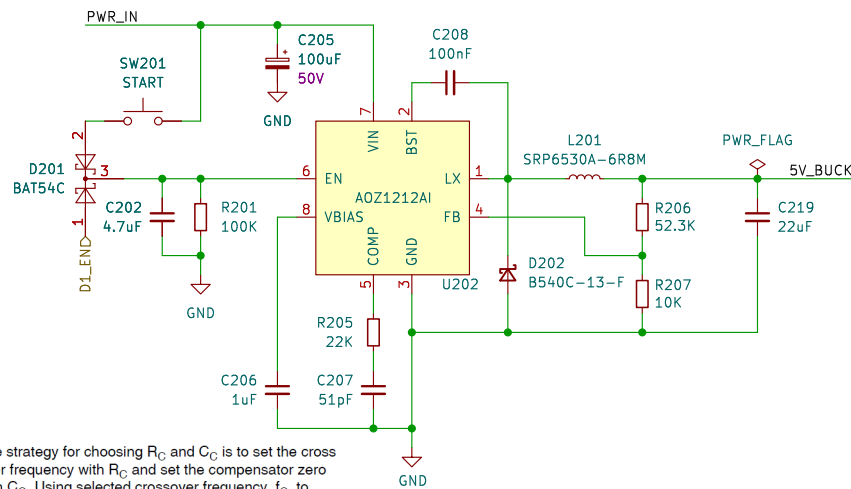




- H101 MountingHole
- H102 MountingHole
- H103 MountingHole



D1: MCU, DEBUG, XFLASH



The strategy for choosing R_C and C_C is to set the cross over frequency with R_C and set the compensator zero with C_C . Using selected crossover frequency, f_C , to calculate R_C :

$$R_C = f_C \times \frac{V_O}{V_{FB}} \times \frac{2\pi \times C_O}{G_{EA} \times G_{CS}}$$

where;

f_C is desired crossover frequency, $f_C = 30\text{kHz}$

V_{FB} is 0.8V,

G_{EA} is the error amplifier transconductance, which is $200 \times 10^{-6}\text{A/V}$, and

G_{CS} is the current sense circuit transconductance, which is 5.64A/V

The compensation capacitor C_C and resistor R_C together make a zero. This zero is put somewhere close to the dominate pole f_{p1} but lower than $1/5$ of the selected crossover frequency. C_C can be selected by:

$$C_C = \frac{1.5}{2\pi \times R_C \times f_{p1}}$$

The equation above can also be simplified to:

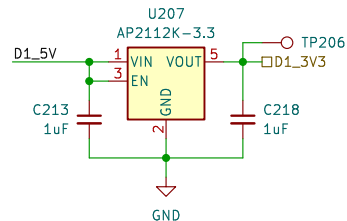
$$C_C = \frac{C_O \times R_L}{R_C}$$

$$V_O = 0.8 \times \left(1 + \frac{R_1}{R_2}\right)$$

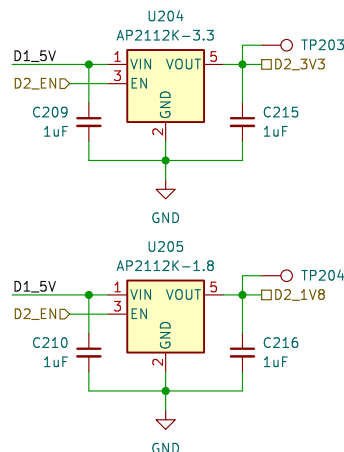
Some standard values for R_1 and R_2 for the most commonly used output voltages are listed in Table 1.

Table 1.

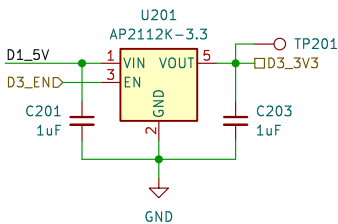
V_O (V)	R_1 (k Ω)	R_2 (k Ω)
0.8	1.0	Open
1.2	4.99	10
1.5	10	11.5
1.8	12.7	10.2
2.5	21.5	10
3.3	31.6	10
5.0	52.3	10



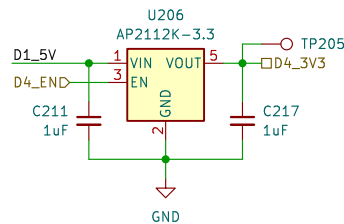
D2: IMU, GPS



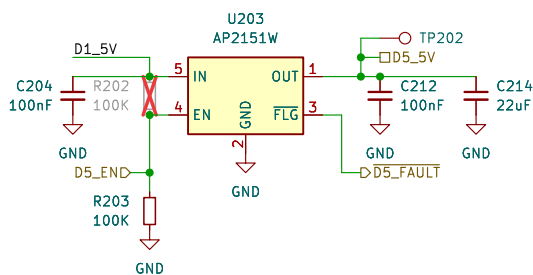
D3: SD Card



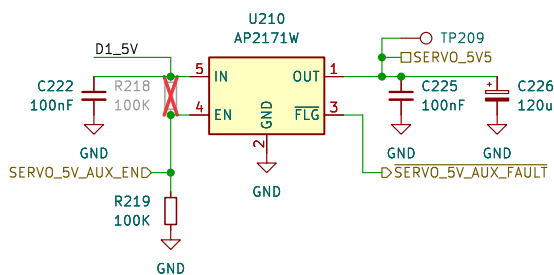
D4: RF



D5: Remote, LIDAR, UI



SERVO 5V AUX



D0: Backup 3V3

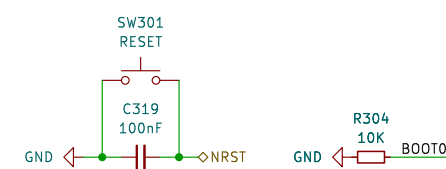
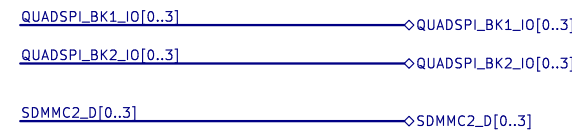


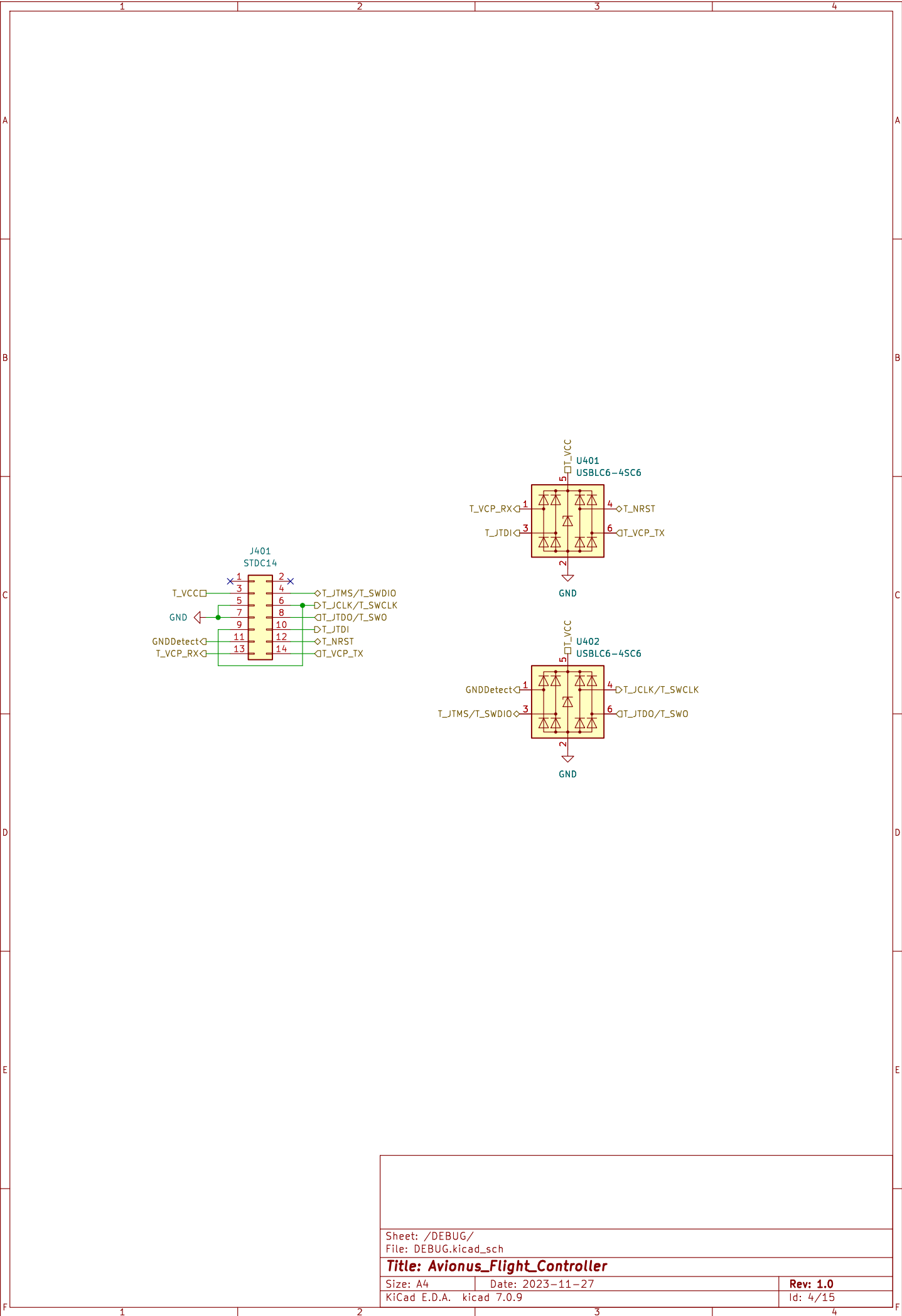
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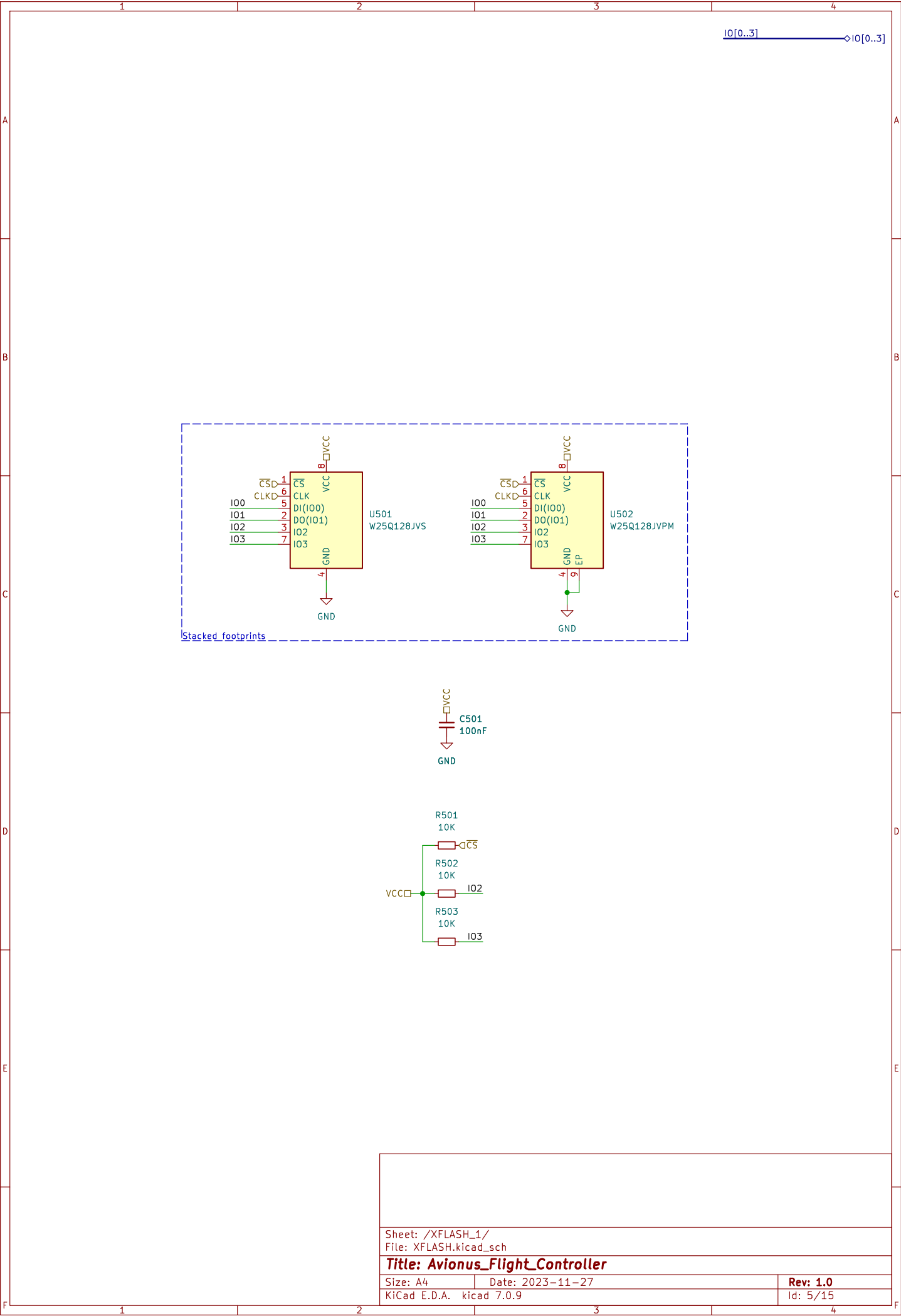
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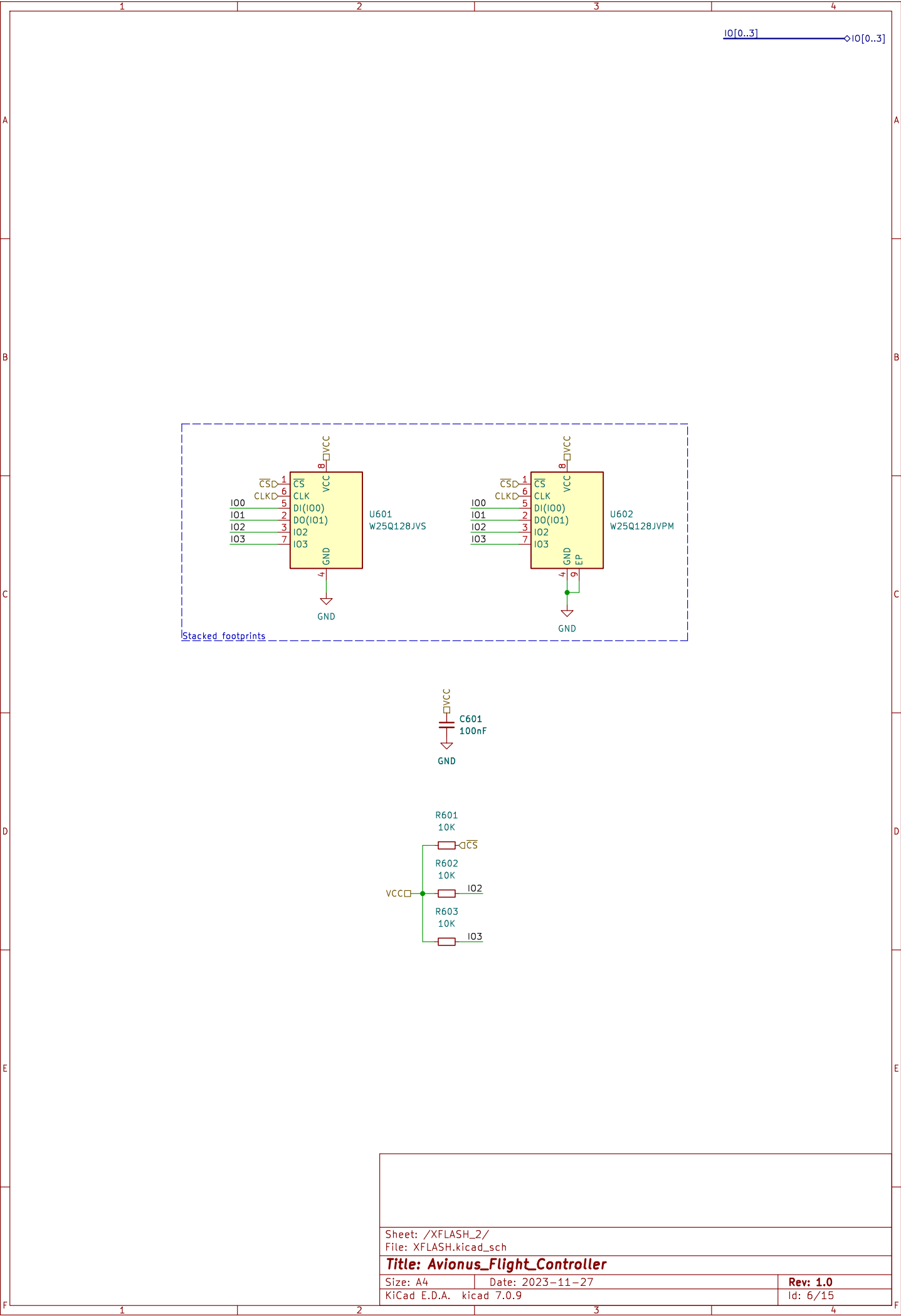
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KiCad E.D.A. kicad 7.0.9

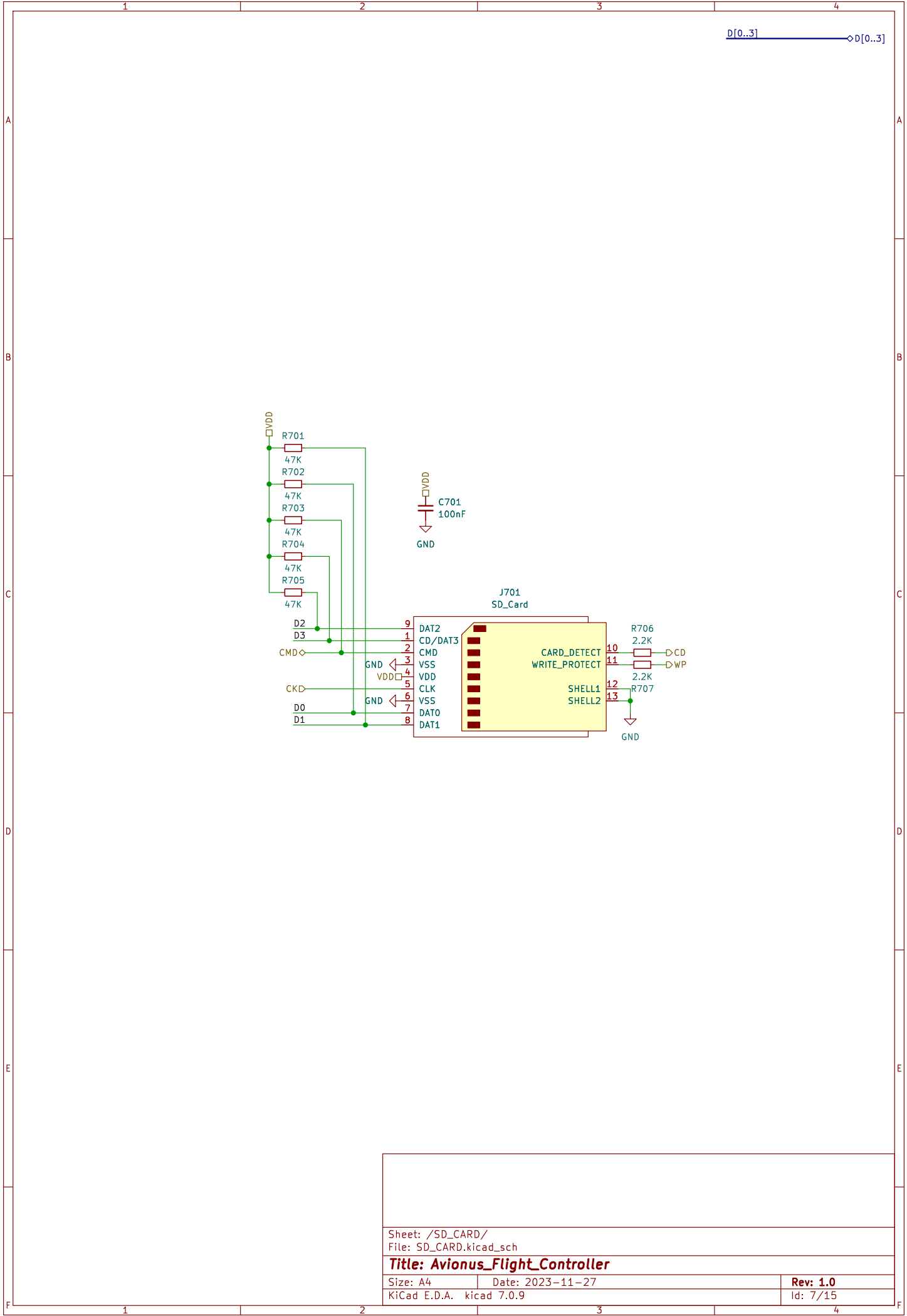
Rev: 1.0
Id: 2/15

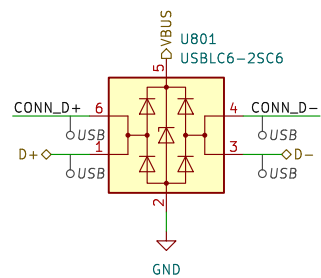
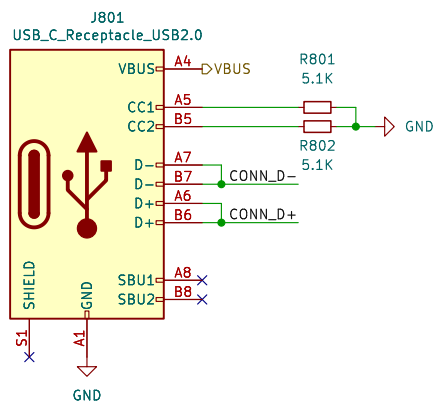












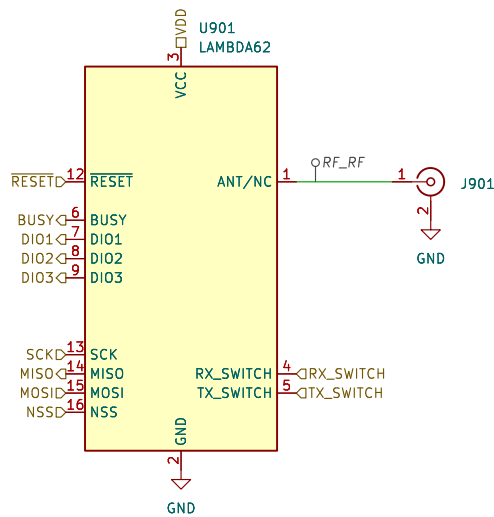
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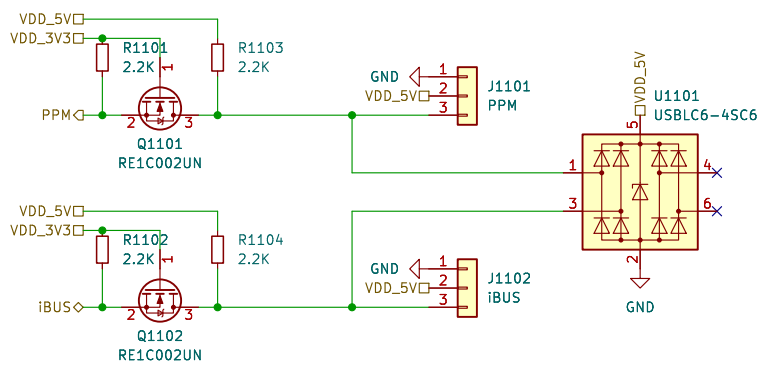
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Rev: 1.0
Id: 8/15



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KiCad E.D.A. kicad 7.0.9		Id: 9/15

Rev: 1.0
Id: 10/15

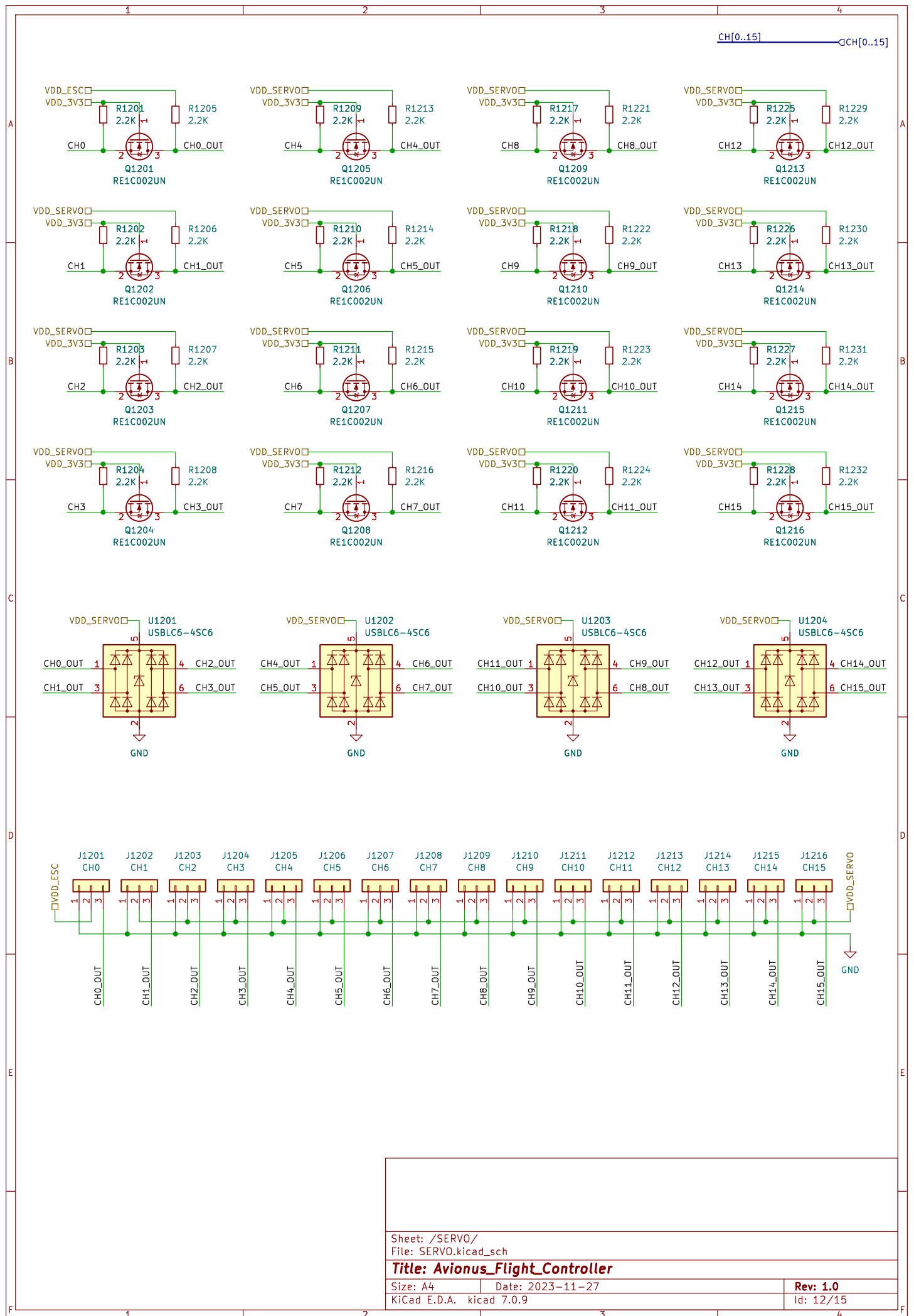


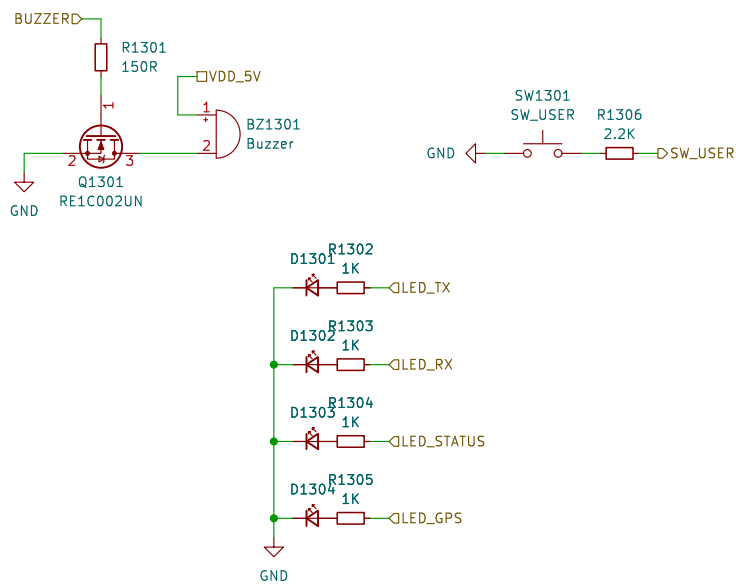
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KiCad E.D.A. kicad 7.0.9

Rev: 1.0
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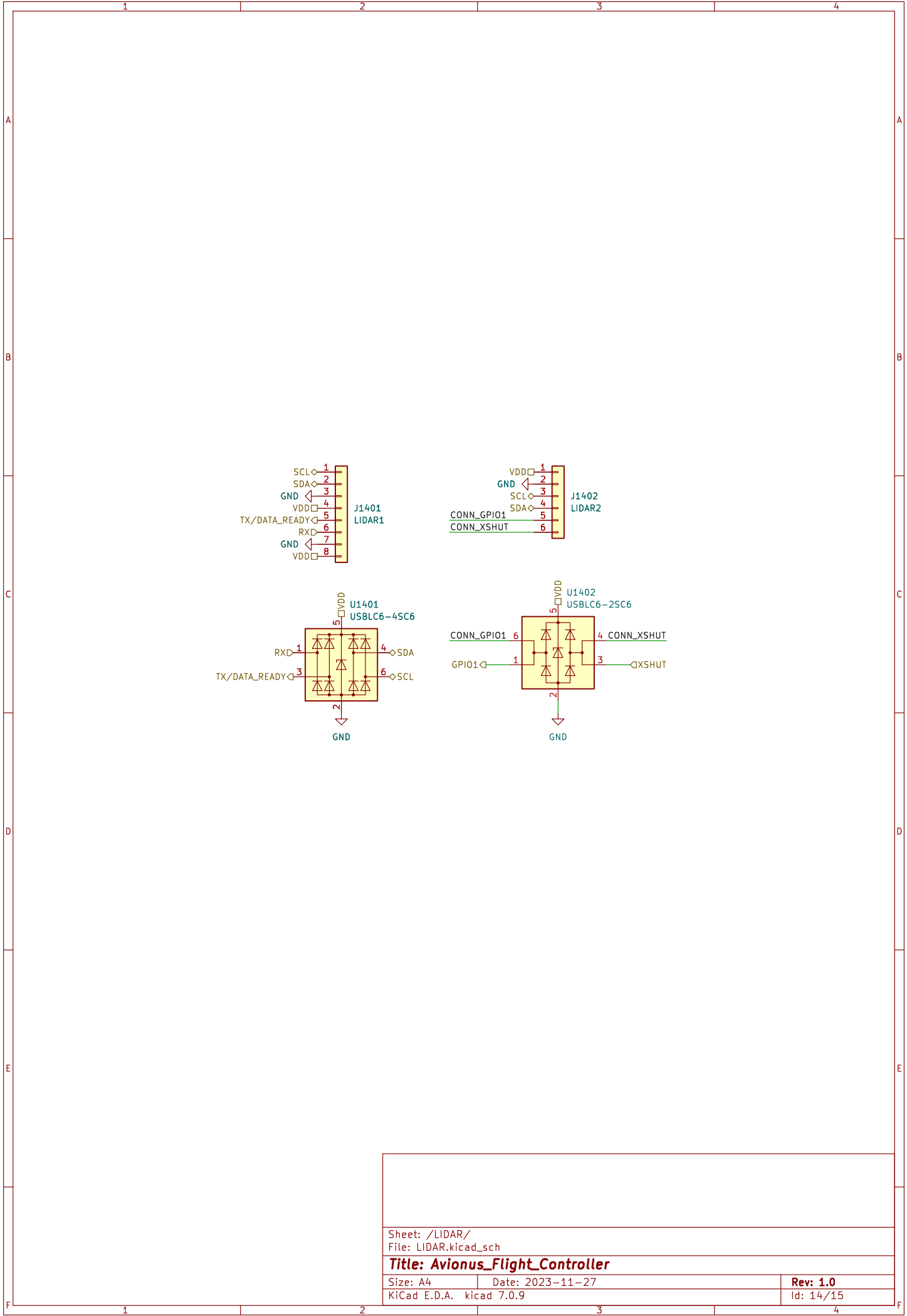
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Rev: 1.0

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Id: 13/15



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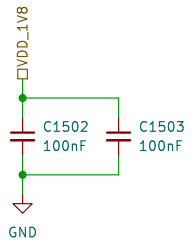
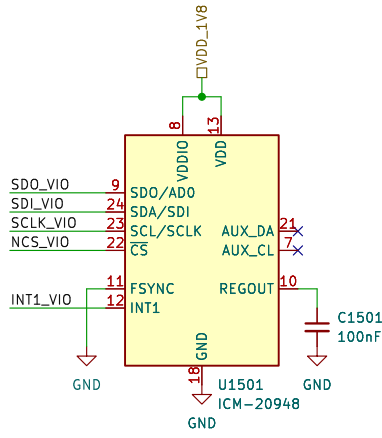
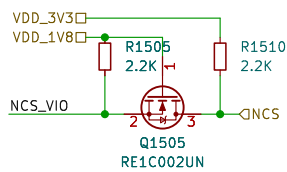
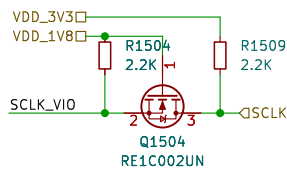
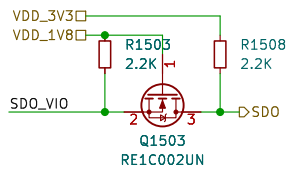
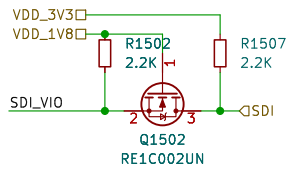
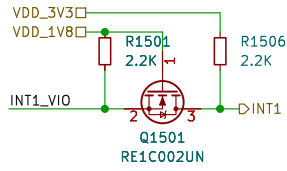
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