

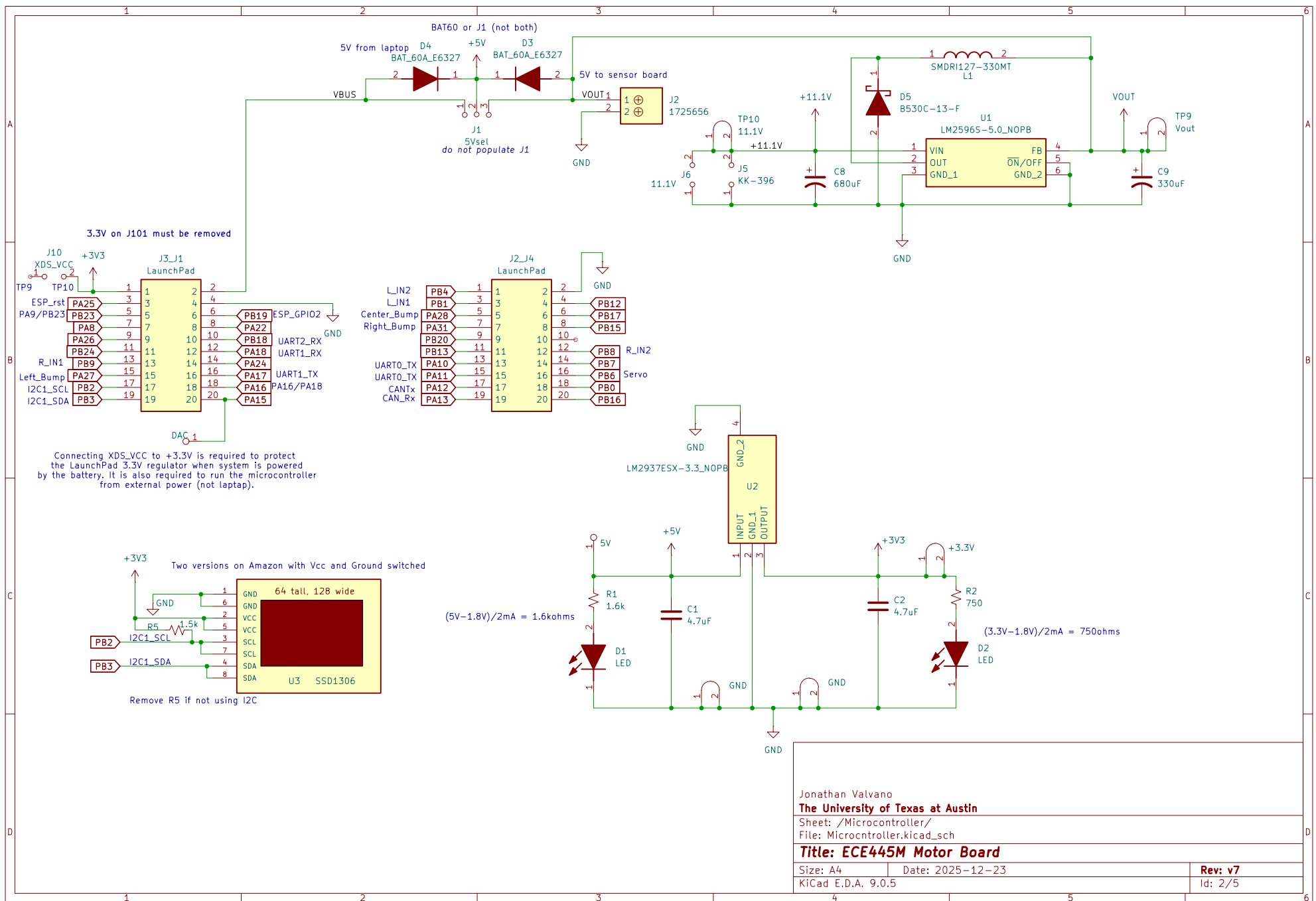


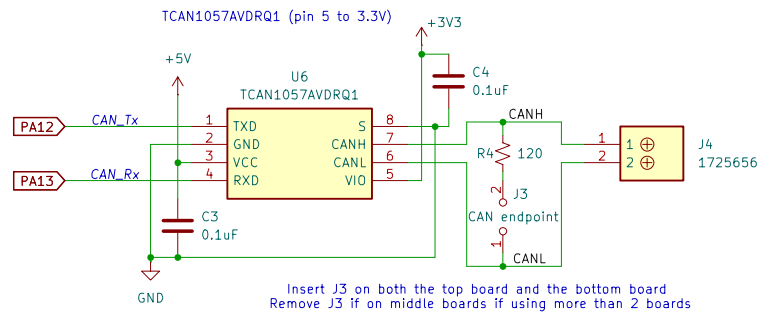
File: CAN.kicad\_sch

File: Inputs.kicad\_sch

File: Motor.kicad\_sch

Id: 1/5





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Sheet: /CAN Interface/

File: CAN.kicad\_sch

Title: ECE445M Motor Board

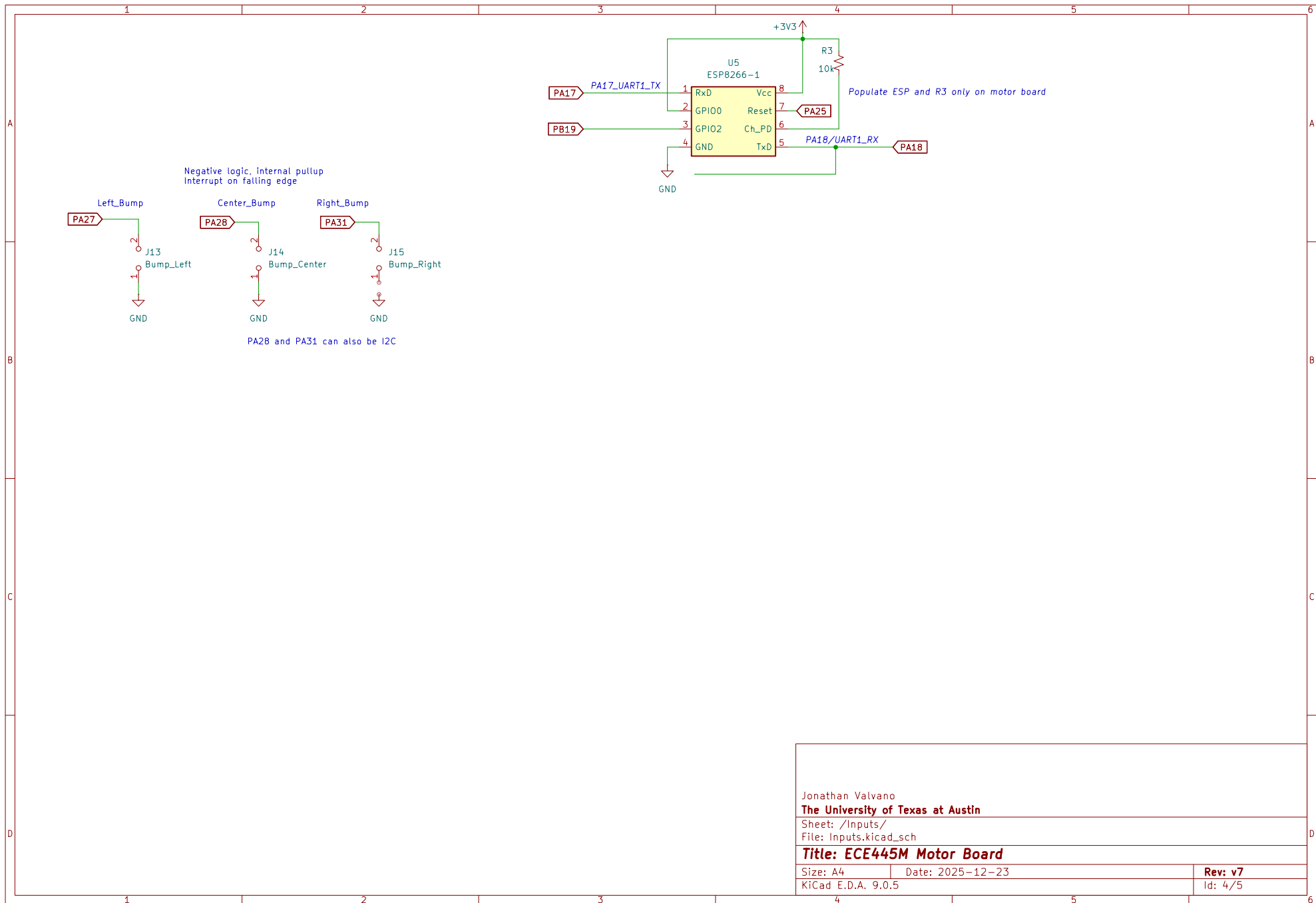
Size: A4

Date: 2025-12-23

Rev: v7

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Sheet: /Inputs/

File: Inputs.kicad\_sch

**Title: ECE445M Motor Board**

Size: A4

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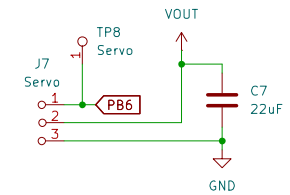
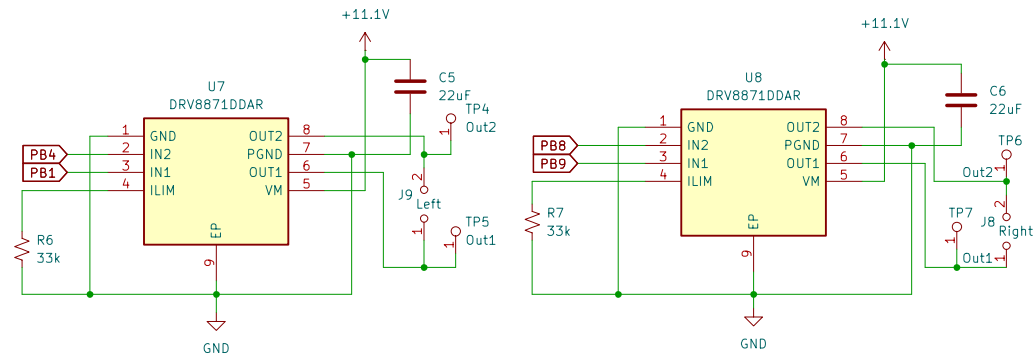
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| PINCM | Pin | Mode  | Timer    | Usage  |
|-------|-----|-------|----------|--|
| 17    | PB4 | Mode4 | TIMA1_C0 | Left Motor, IN2, PWM low for forward, GPIO high for reverse  |
| 13    | PB1 | Mode4 | TIMA1_C1 | Left Motor, IN1, GPIO high for forward, PWM low for reverse  |
| 25    | PB8 | Mode4 | TIMA0_C0 | Right Motor, IN2, PWM low for forward, GPIO high for reverse |
| 26    | PB9 | Mode4 | TIMA0_C1 | Right Motor, IN1, GPIO high for forward, PWM low for reverse |
| 23    | PB6 | Mode7 | TIMG6_C0 | Steering Servo PWM high 20ms period                          |

Ittrip = 65kV/RILIM(kohm).  
If RILIM = 33 kΩ, the DRV8871-Q1 device  
limits motor current to 2 A no matter  
how much load torque is applied

IN1 IN2 have 100k internal pulldowns



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Sheet: /Motor Circuits/

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