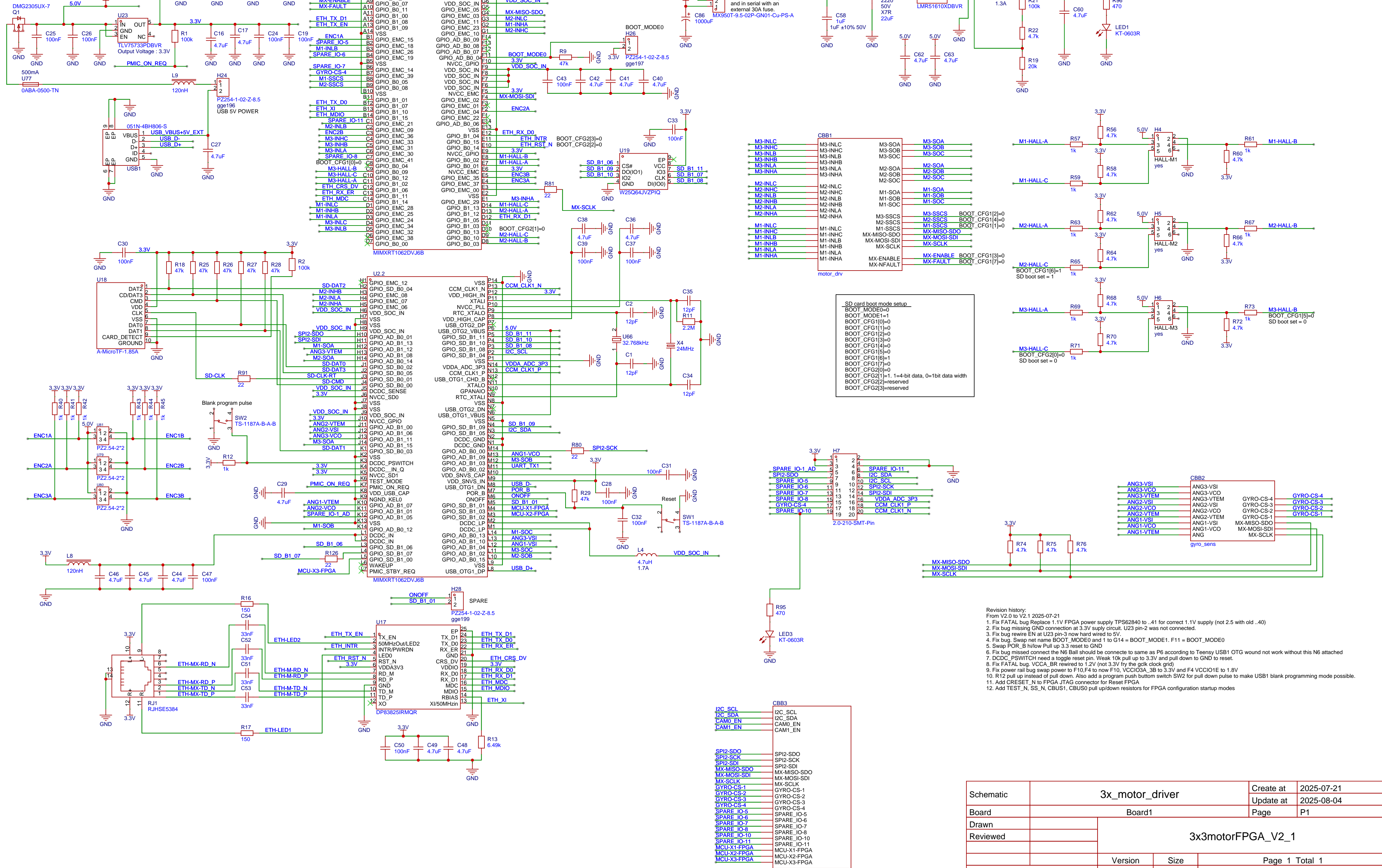



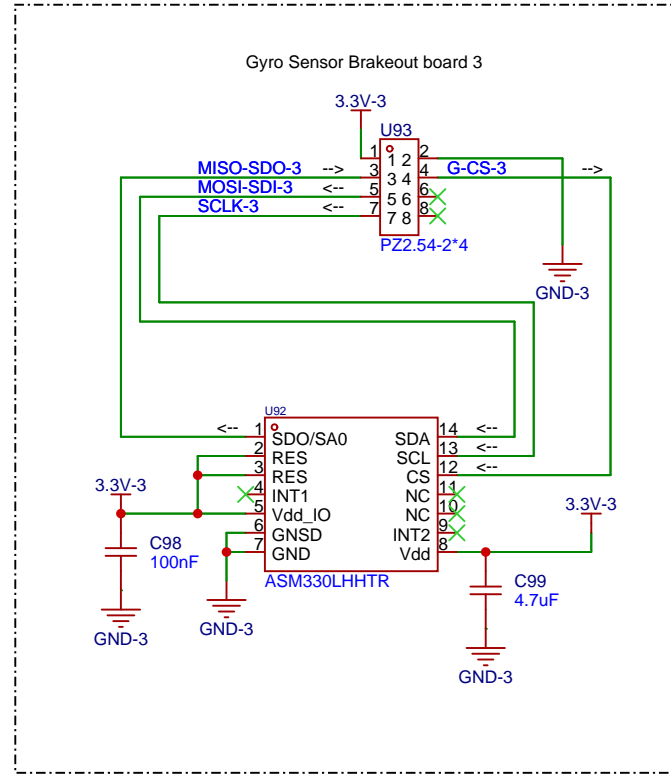
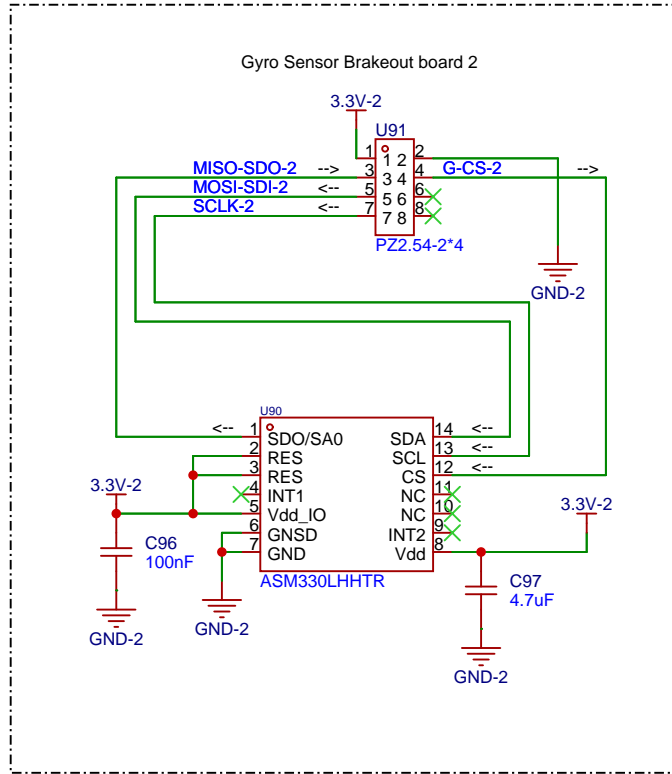
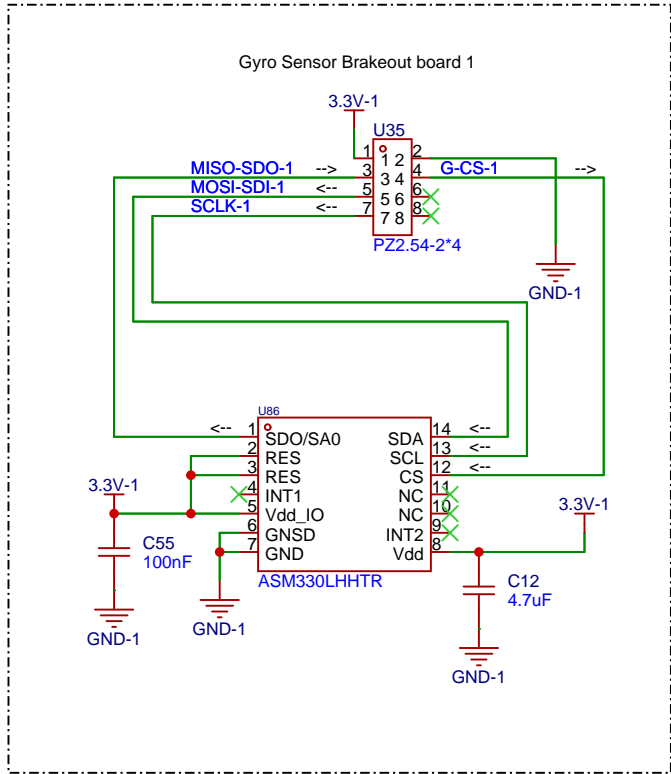
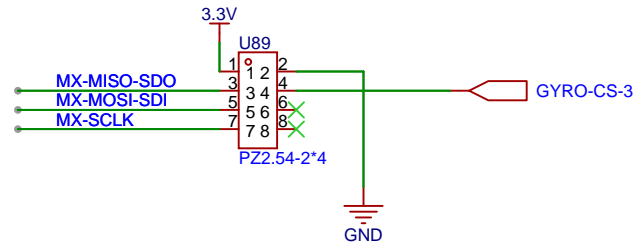
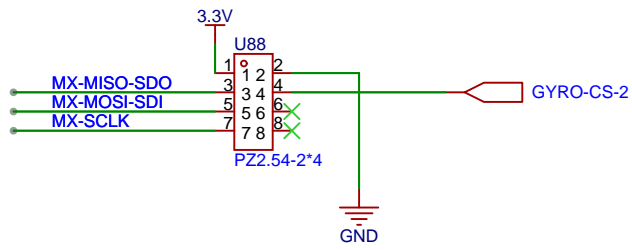
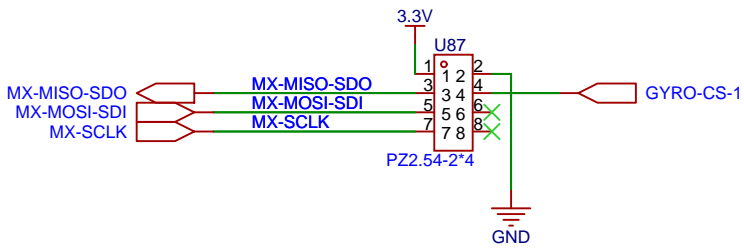
3x3Motor V2.1

3x3MotorFPGA
Open Source 18-36V 3x motor controller board.
Designed by: Olle Welin 2025

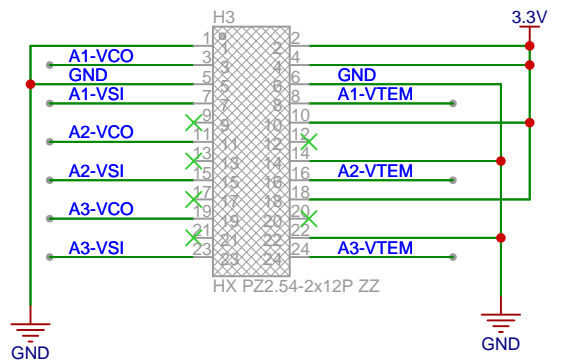
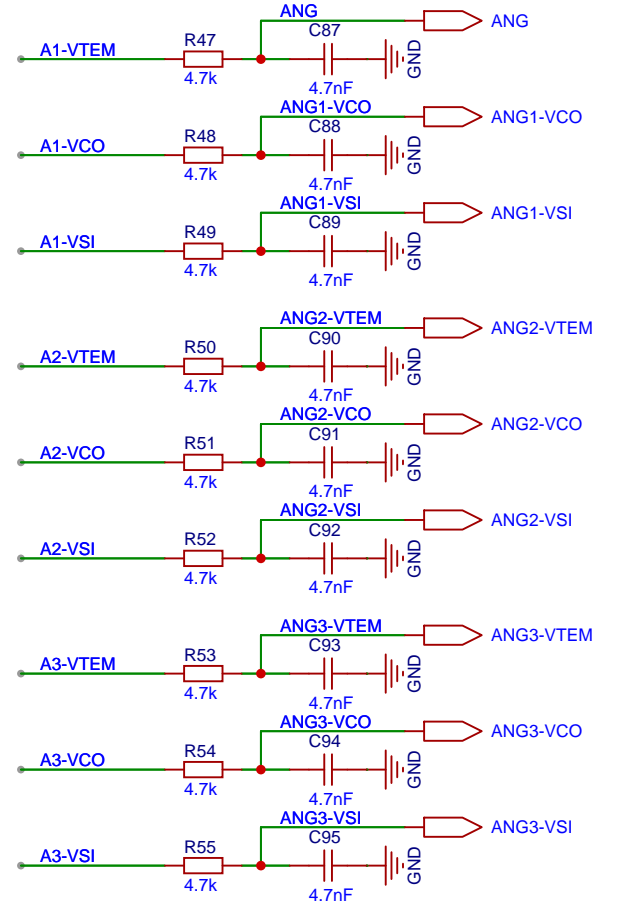


Revision history:
From V2.0 to V2.1 2025-07-21
1. Fix FATAL bug Replace 1.1V FPGA power supply TPS62840 to .41 for correct 1.1V supply (not 2.5 with old .40)
2. Fix bug missing GND connection at 3.3V supply circuit. U23 pin-2 was not connected.
3. Fix bug rewired EN at U23 pin-3 now hard wired to 5V.
4. Fix bug. Swap net name BOOT_MODE0 and 1 to G14 = BOOT_MODE1. F11 = BOOT_MODE0
5. Swap POR_B hi/low Pull up 3.3V reset to GND
6. Fix bug missed connect the N6 Ball should be connecte to same as P6 according to Teensy USB1 OTG wound not work without this N6 attached
7. DCDC_PSWITCH need a toggle reset pin. Weak 10k pull up to 3.3V and pull down to GND to reset.
8. Fix FATAL bug. VCCA_BFR rewired to 1.2V (not 3.3V for the gclk clock gnd)
9. Fix power rail bug swap power to F10,F4 to now F10, VCCIO3A. 3B to 3.3V and F4 VCCIO1E to 1.8V
10. R12 pull up instead of pull down. Also add a program push button switch SW2 for pull down pulse to make USB1 blank programming mode possible.
11. Add CRESET_N to FPGA JTAG connector for Reset FPGA
12. Add TEST_N, SS_N, CBUS1, CBUS0 pull up/down resistors for FPGA configuration startup modes

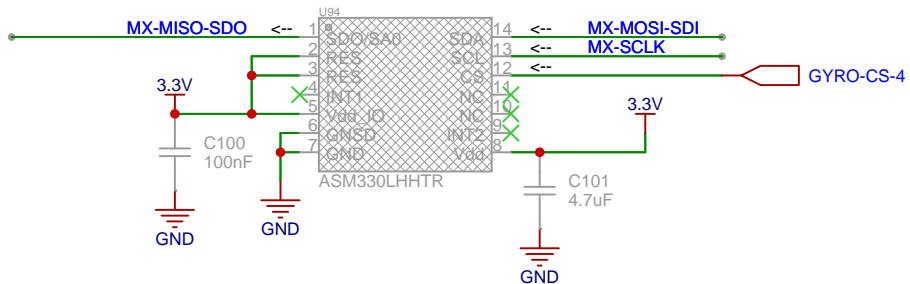
Schematic	3x_motor_driver			Create at	2025-07-21
				Update at	2025-08-04
Board	Board1			Page	P1
Drawn		3x3motorFPGA_V2_1			
Reviewed					
		Version	Size	Page 1 Total 1	
		V2.1	A4	EasyEDA.com	




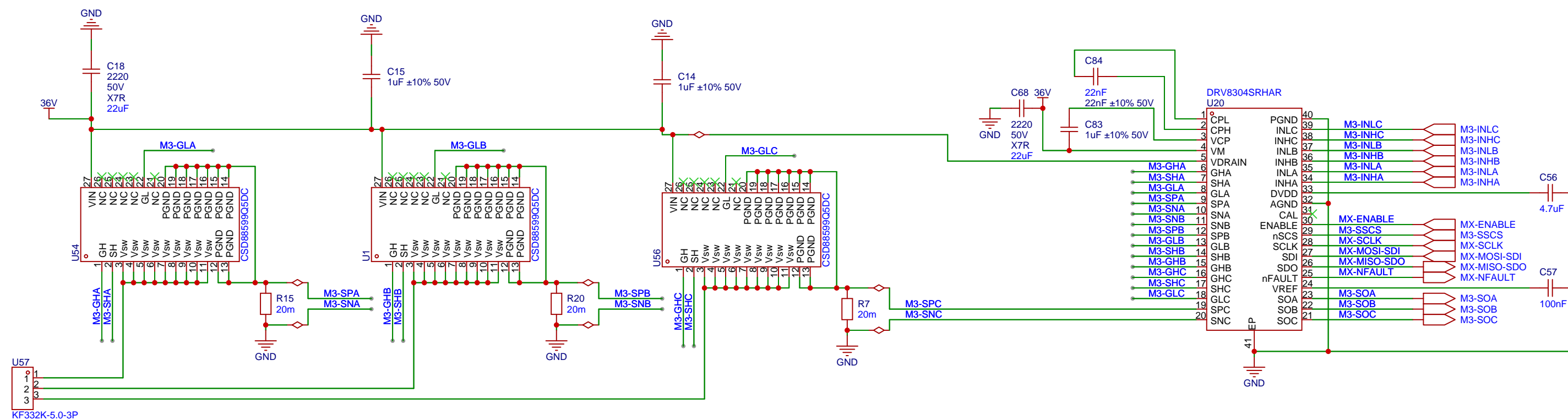
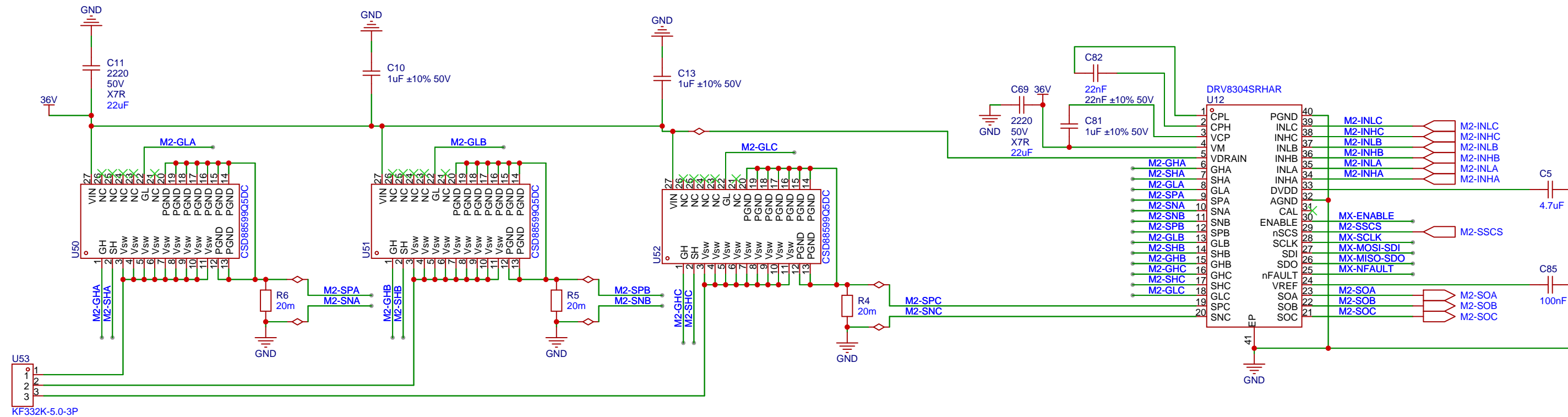
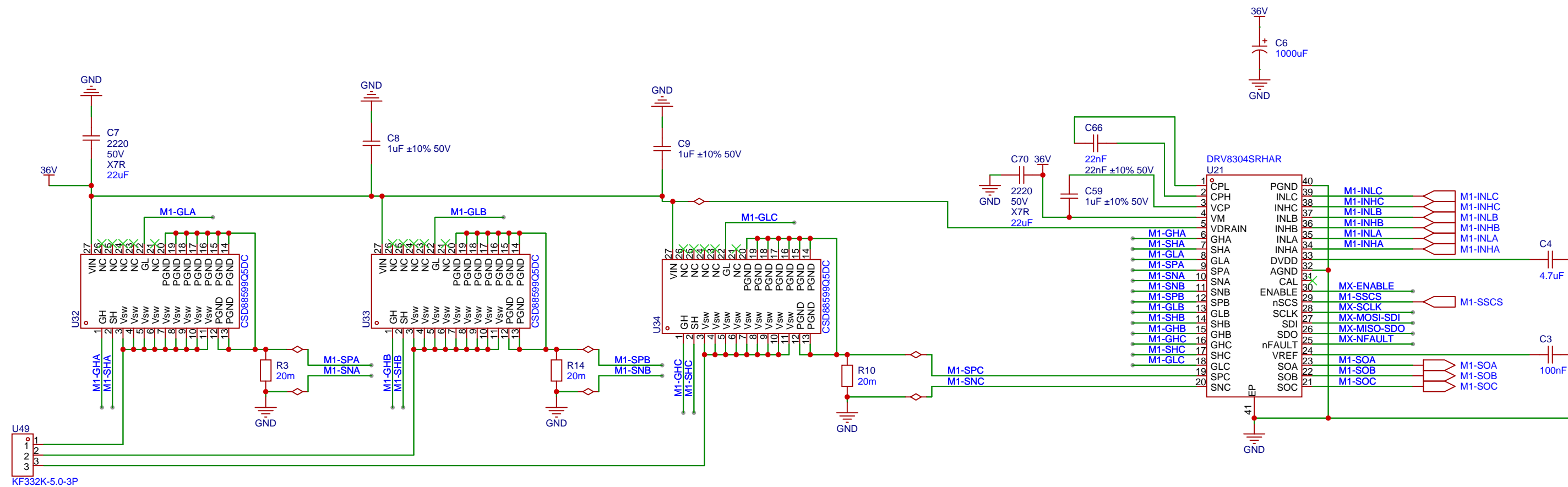
Angular sensor option input interface to 3 x ADA4571



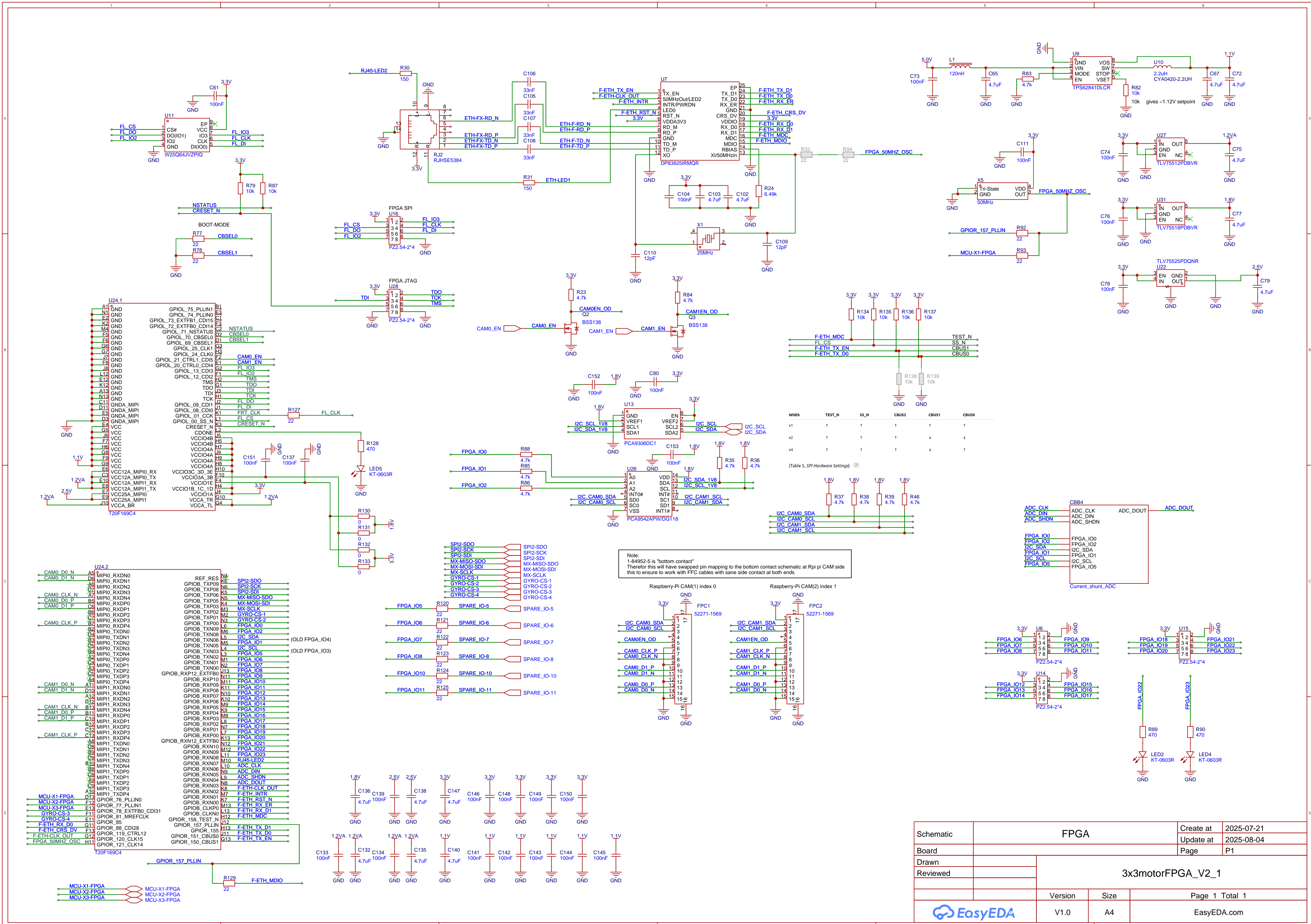
Gyro Sensor 4 On board for candel out vehical frame movements

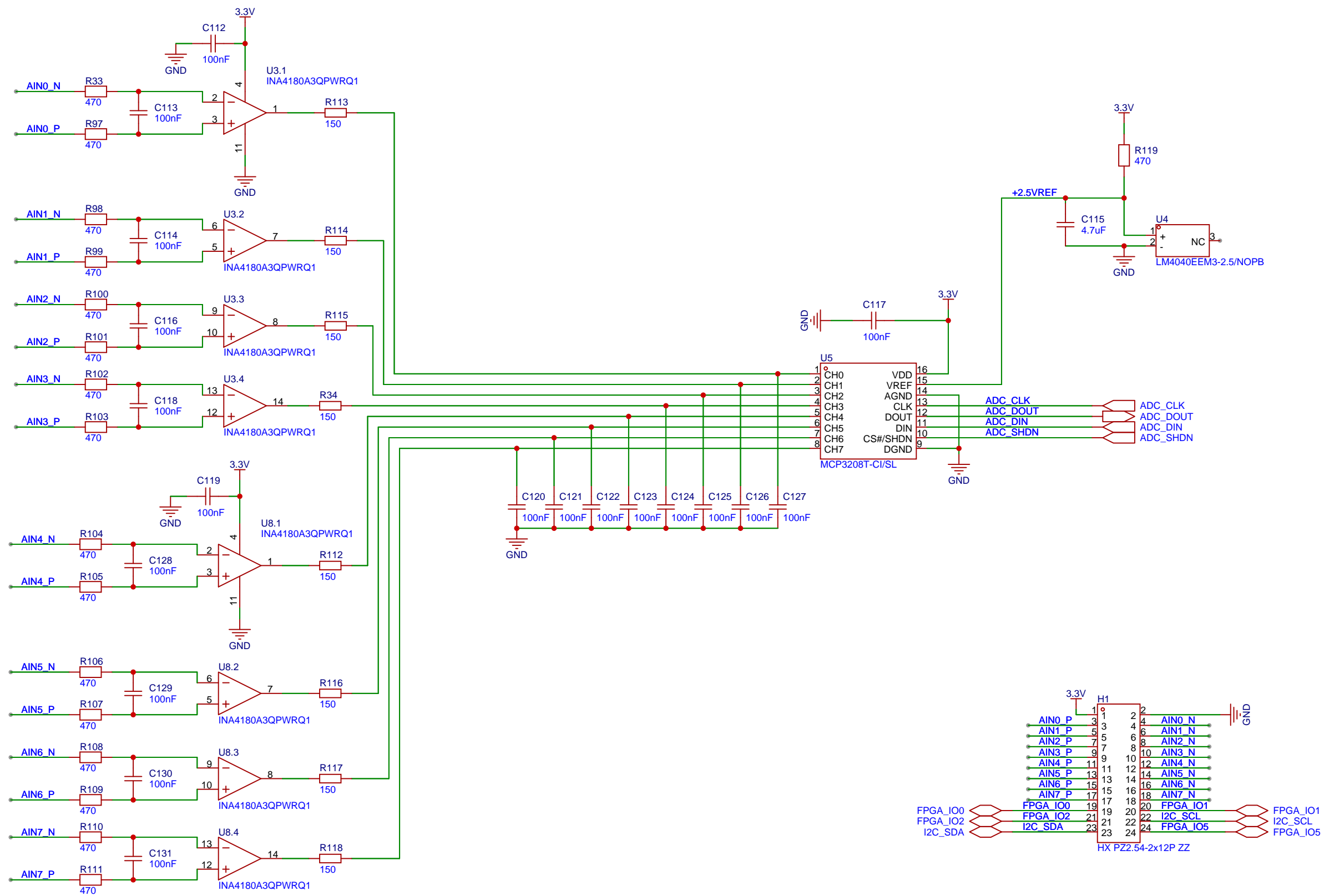



Schematic	gyro_sens			Create at	2025-07-21
				Update at	2025-07-21
Board				Page	P1
Drawn		3x3motorFPGA_V2_1			
Reviewed					
		Version	Size	Page 1 Total 1	
		V1.0	A4	EasyEDA.com	



Schematic	motor_drv		Create at	2025-07-21
			Update at	2025-07-21
			Page	P1
Board				
Drawn				
Reviewed				
		3x3motorFPGA_V2_1		
		Version	Size	Page 1 Total 1
		V1.0	A4	EasyEDA.com





Schematic	Current_shunt_ADC			Create at	2025-07-21
				Update at	2025-07-21
Board				Page	P1
Drawn		3x3motorFPGA_V2_1			
Reviewed					
		Version	Size	Page 1 Total 1	
		V1.0	A4	EasyEDA.com	