3x3Motor

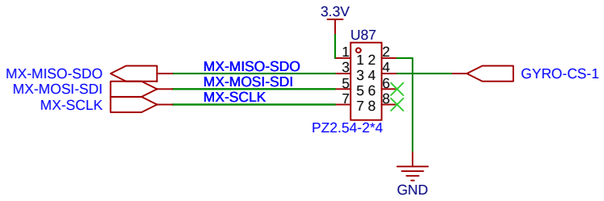
V2.1

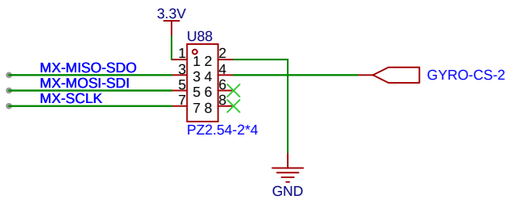
3x3MotorFPGA
Open Source 18-36V 3x motor controller board.
Designed by: Olle Welin 2025

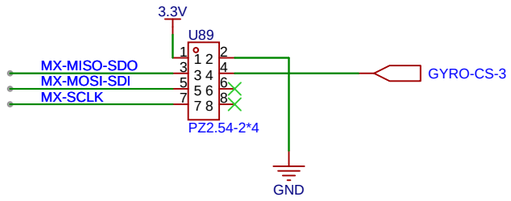
Revision history:

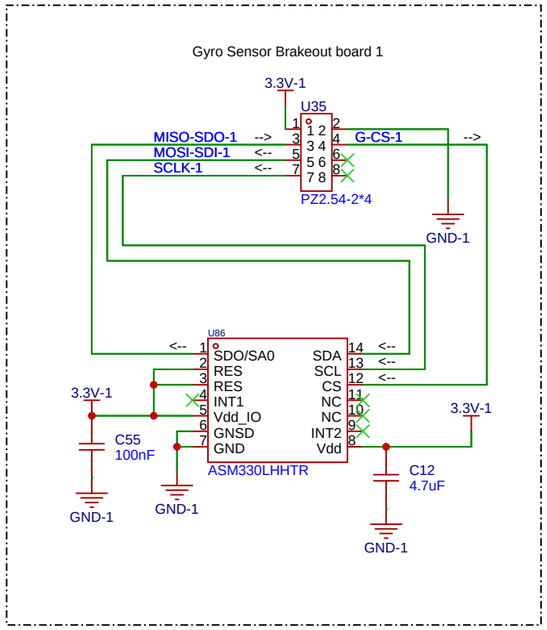
From V2.0 to V2.1 2025-07-21
1. Fix FATAL bug Replace 1.1V FPGA power supply TPS62840 to ..41 for correct 1.1V supply (not 2.5 with old ..40)
2. Fix bug missing GND connection at 3.3V suply circuit. U23 pin-2 was not connected.
3. Fix bug rewire EN at U23 pin-3 now hard wired to 5V.
4. Fix bug. Swap Silk screen comment BOOT_MODE0 and 1
5. Swap POR_B hi/low Pull up 3.3 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_BR rewired to 1.2V (not 3.3V fry the gclk clock grid)
9. Fix power rail bug swap power to F10,F4 to now F10, VCCIO3A_3B to 3.3V and F4 VCCIO1E to 1.8V

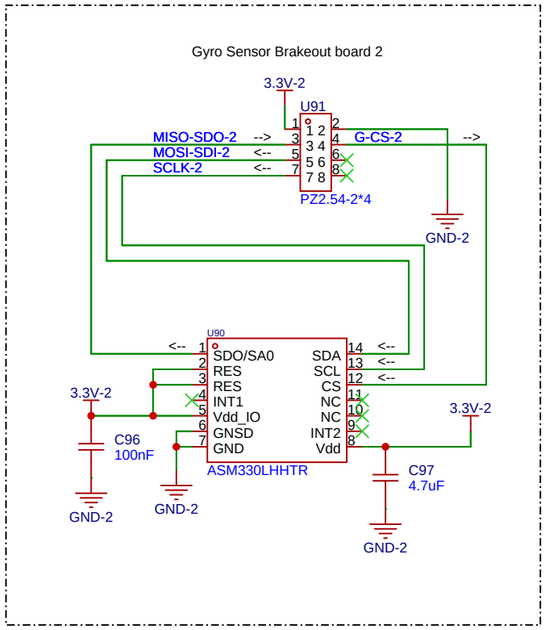
Schematic	3x_motor_driver	Create at	2025-07-21
		Update at	2025-07-23
Board	Board1	Page	P1
Drawn		3x3motorFPGA_V2_1	
Reviewed			
		Version	Size	Page 1 Total 1
EasyEDA		V2.1	A4	EasyEDA.com

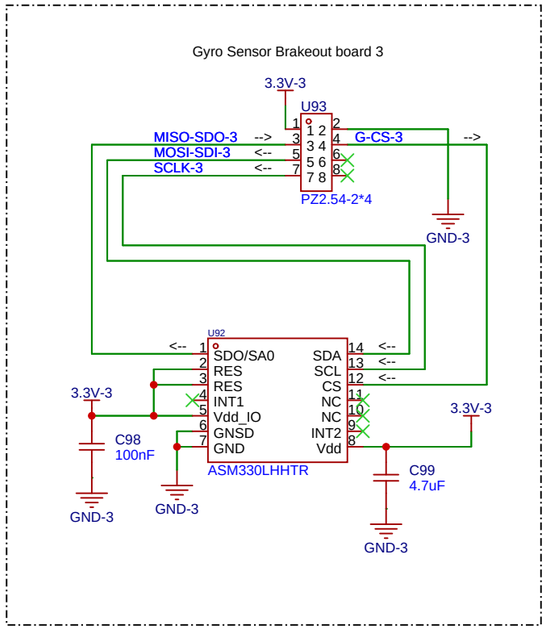


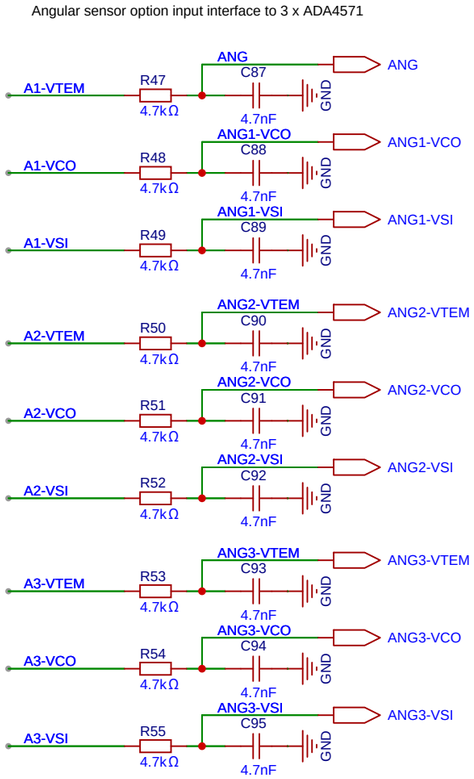


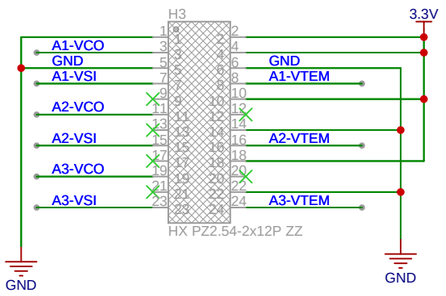


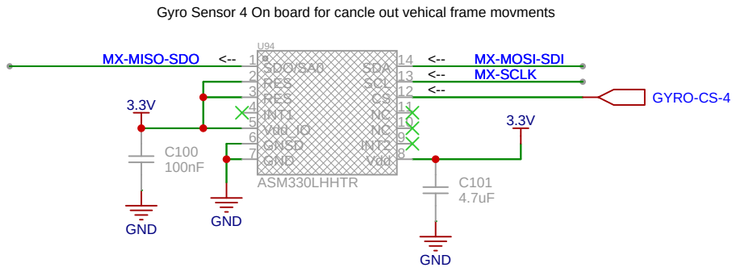












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Reviewed			
		Version	Size
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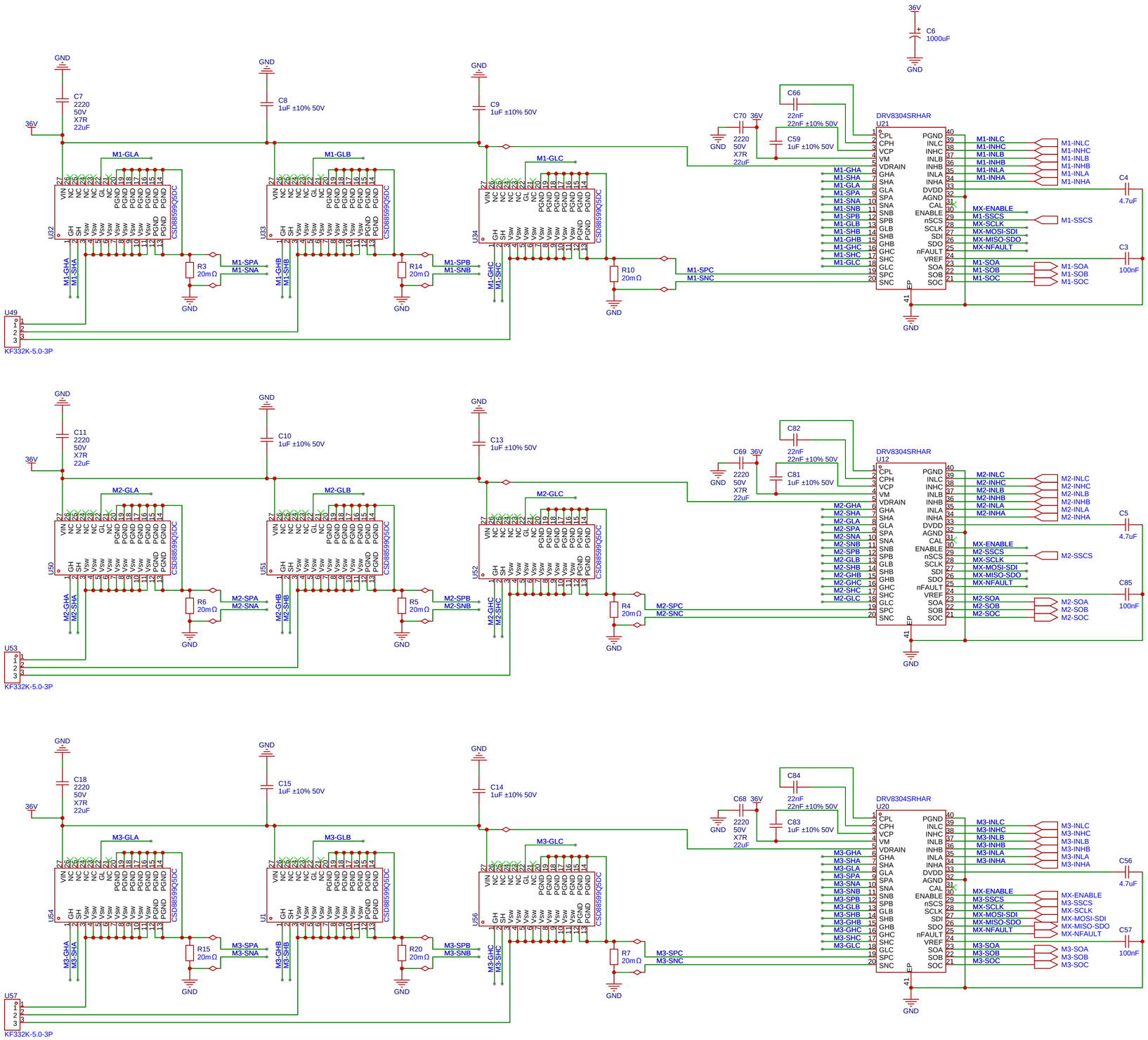

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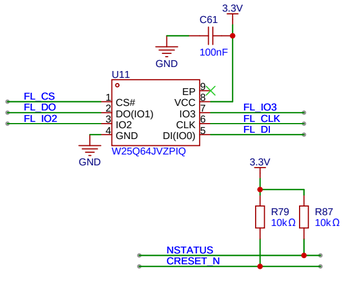
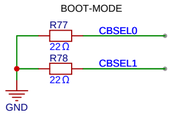
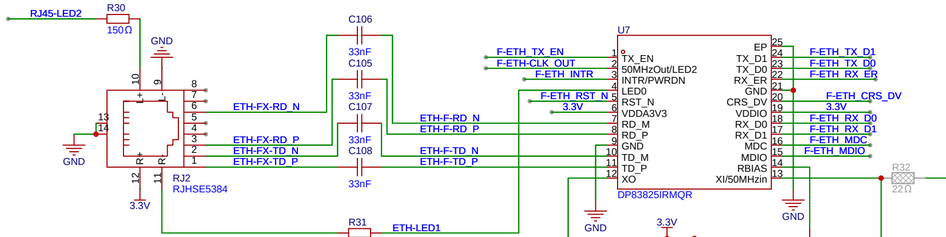
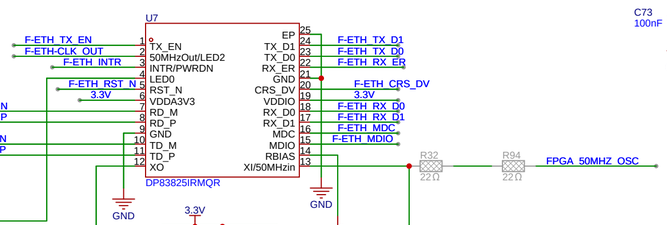
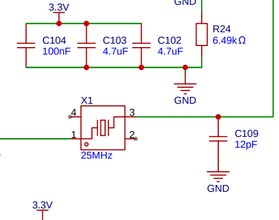
		Page 1 Total 1	
		EasyEDA.com	

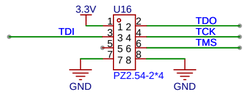


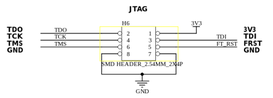


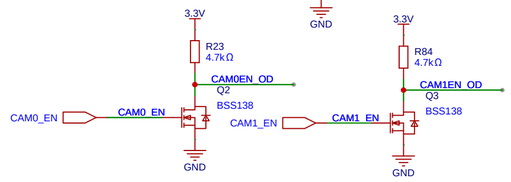


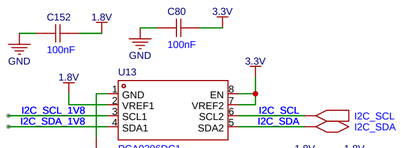


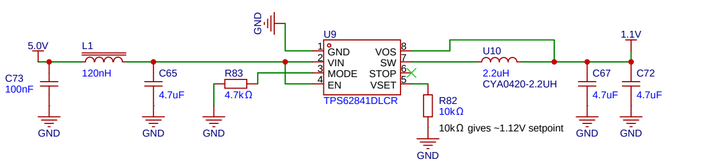


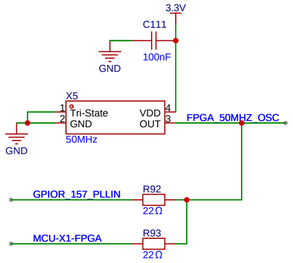


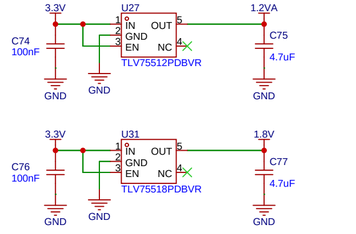


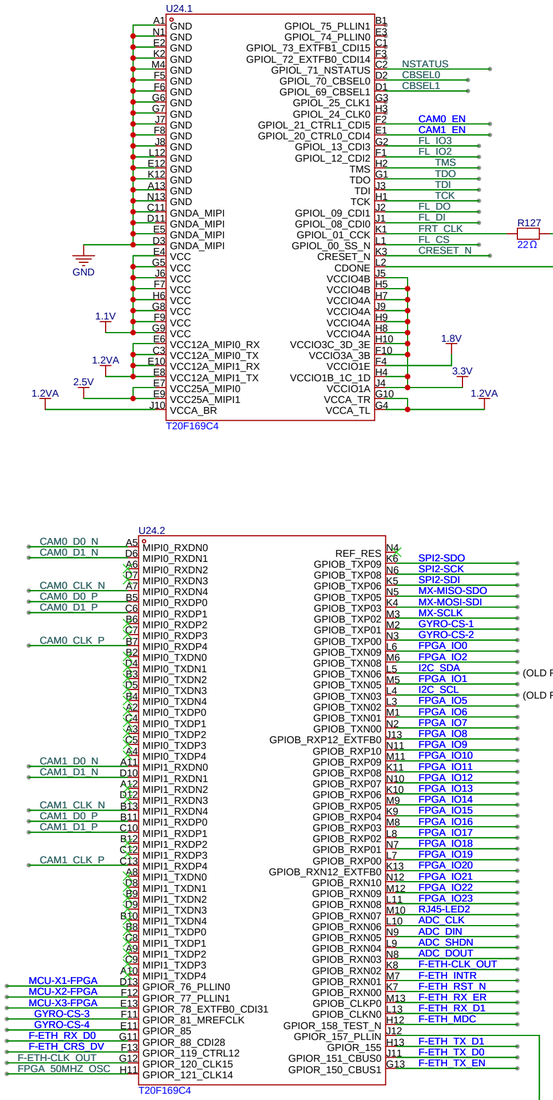


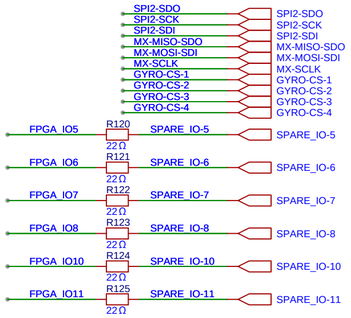




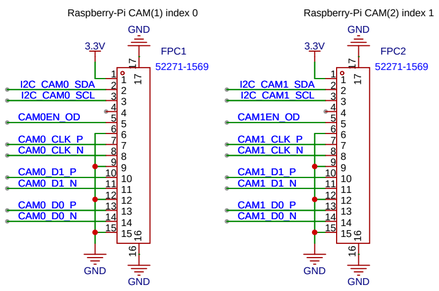


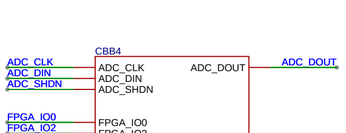


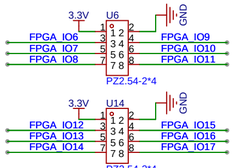


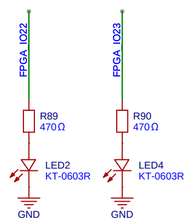


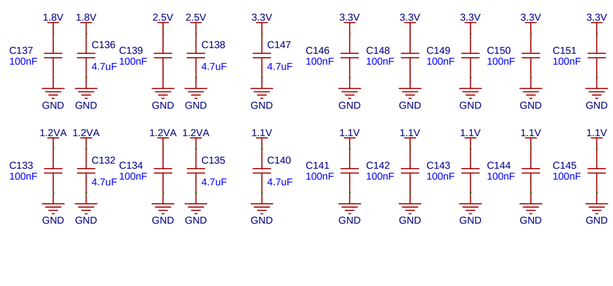
Note:
1-84952-5 is "bottom contact"
Therefor this will have swapped pin mapping to the bottom contact schematic at Rpi pi CAM side
this to ensure to work with FFC cables with sane side contact at both ends

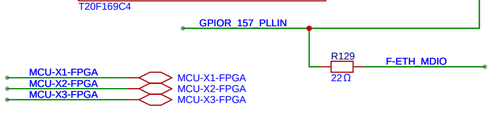












Schematic	FPGA	Create at	2025-07-21
		Update at	2025-07-23
Board		Page	P1
Drawn		3x3motorFPGA_V2_1	
Reviewed			
		Version	Size
EasyEDA		V1.0	A4
		Page 1 Total 1	
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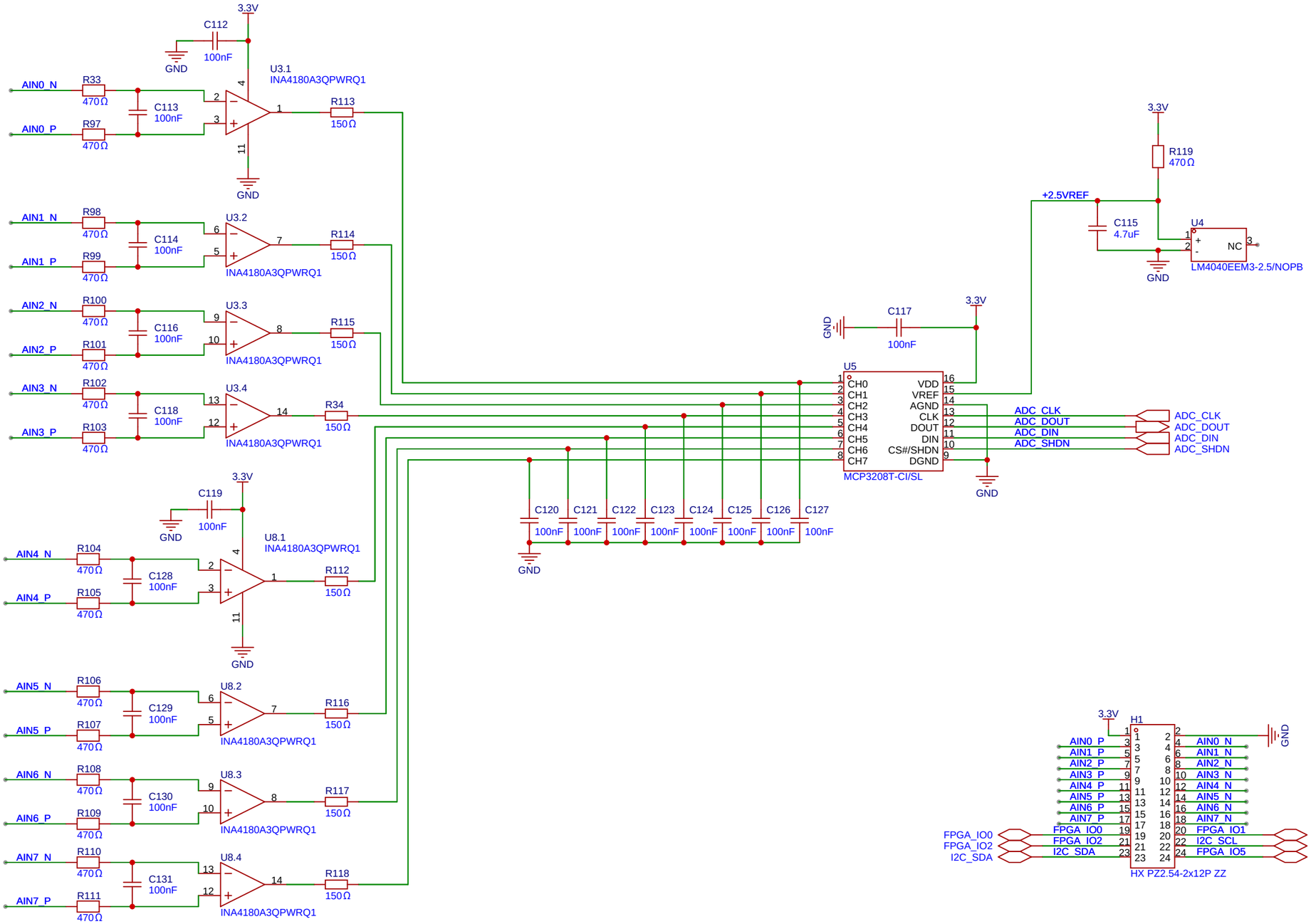

Schematic	Current_shunt_ADC	Create at	2025-07-21
		Update at	2025-07-21
Board		Page	P1
Drawn		3x3motorFPGA_V2_1	
Reviewed			
	Version	Size	Page 1 Total 1
EasyEDA	V1.0	A4	EasyEDA.com