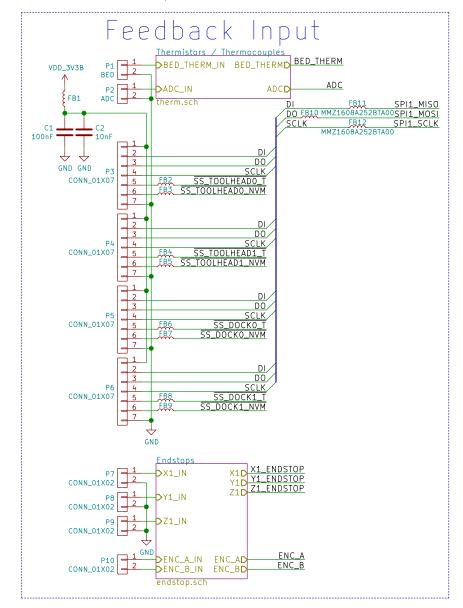
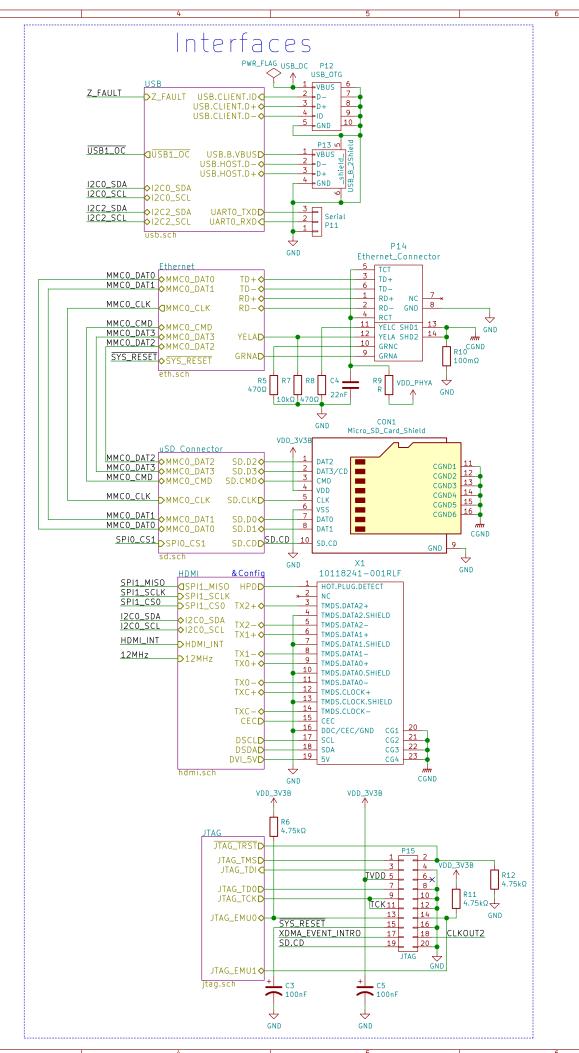
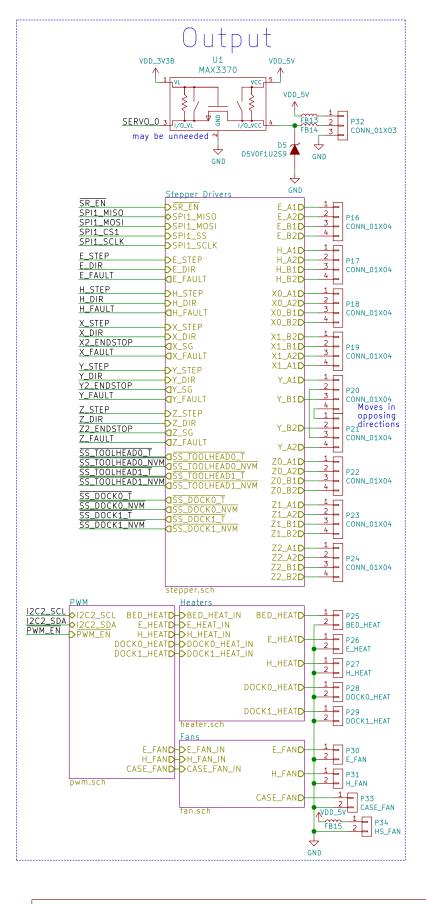


	Microprocessor		
XDMA_EVENT_INTRO	XDMA_EVENT_INTRO	GPI03_21 <	X1_ENDSTOP
PWM_EN CLKOUT2	CLKOUT2	SPI1_CSO	SPI1_CS0 Y2_ENDSTOP
SPI0_CS1		2_ENDSTOP	Z2_ENDSTOP
SR_EN	SPIO SCLK	ENC BC	ENC_B
SPI1_MISO		BED_THERM	BED_THERM
SPI1_MOSI	SPI1 MOSI	ADC4C	ADC
SPI1_SCLK	SPI1 SCLK	ADCT	
SPI1_CS1	SPI1 CS1	12MHzD	12MHz
		12111120	
	mpu.sch		







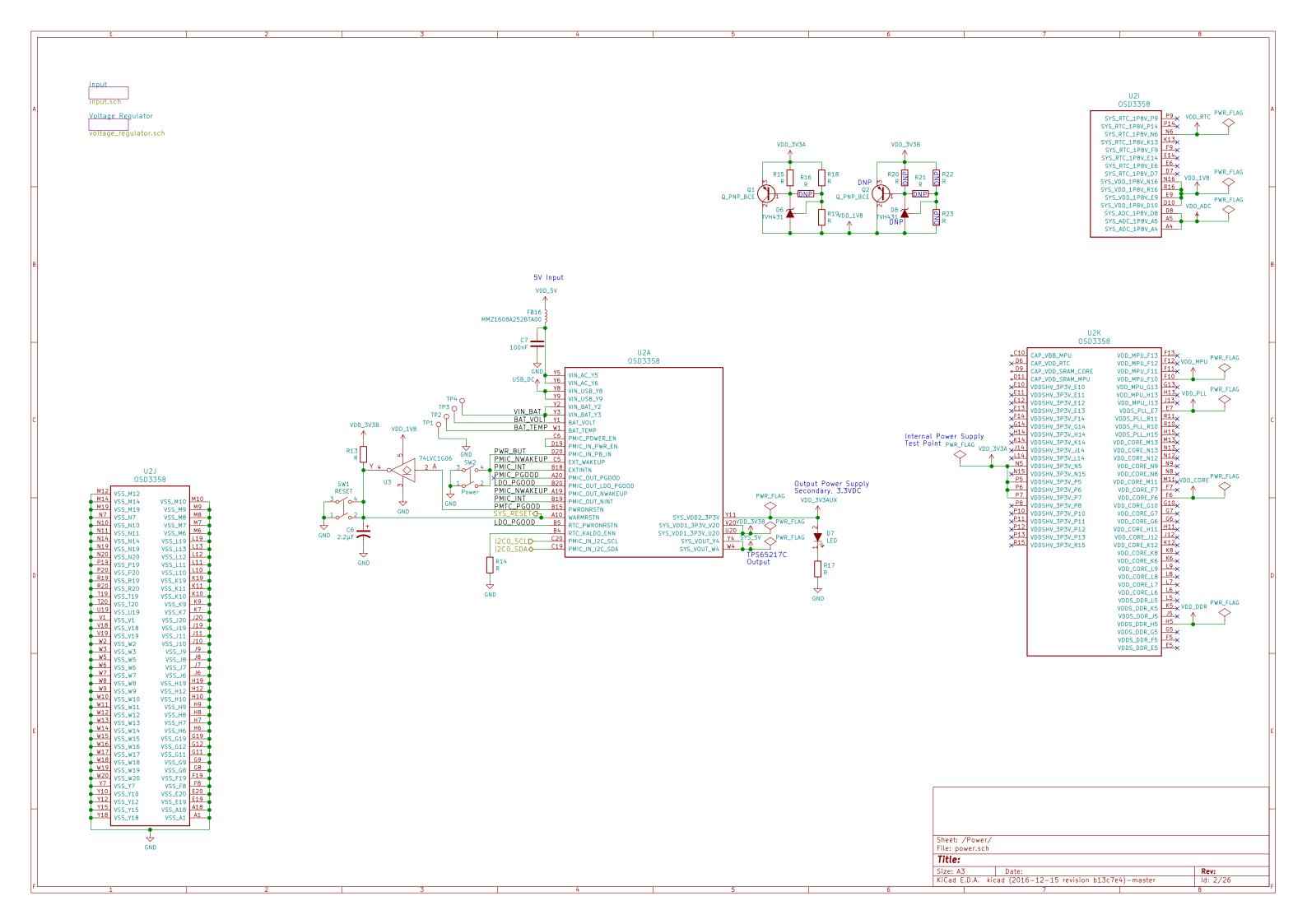
CC-BY-SA 4.0, Copyright 2016

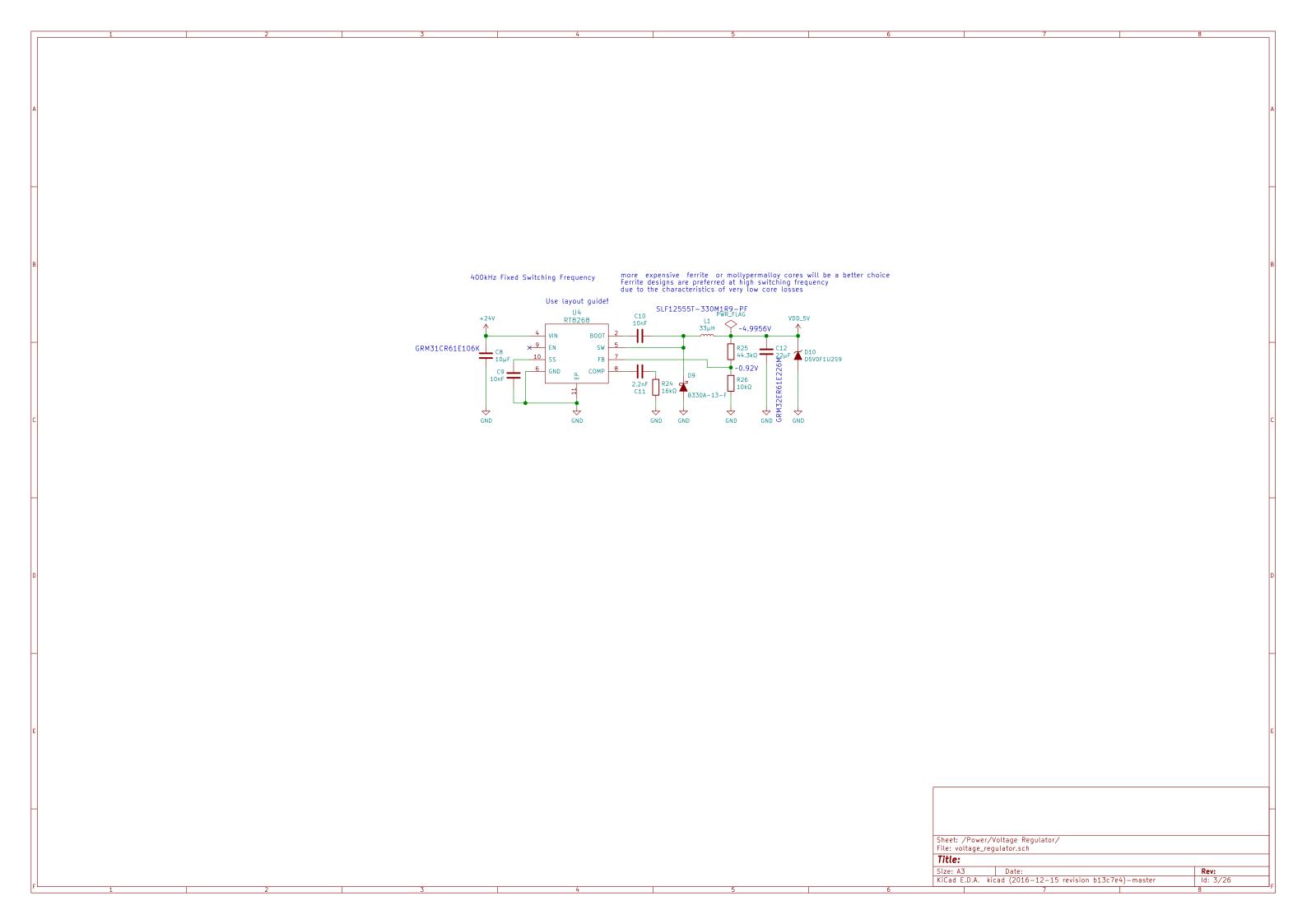
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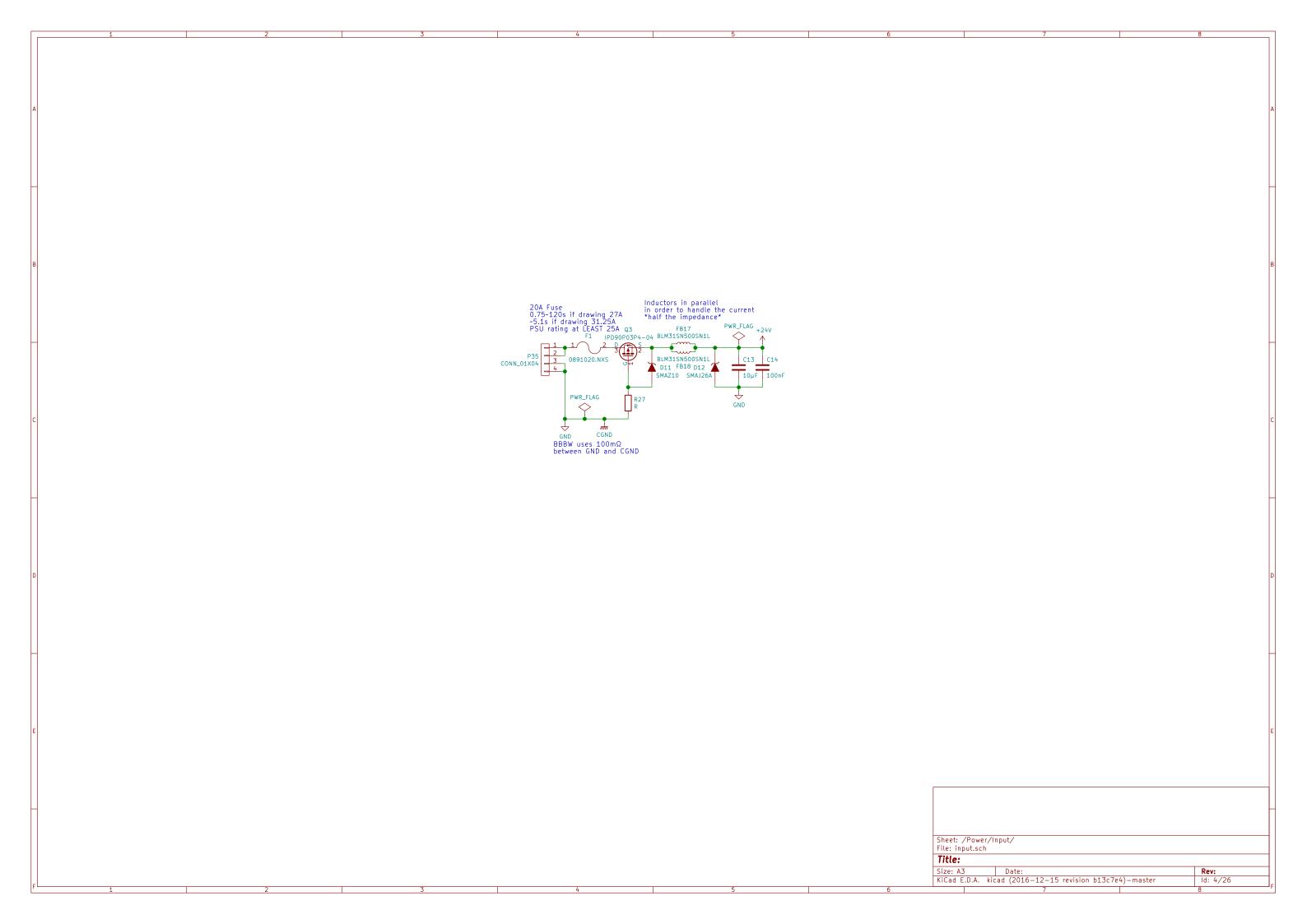
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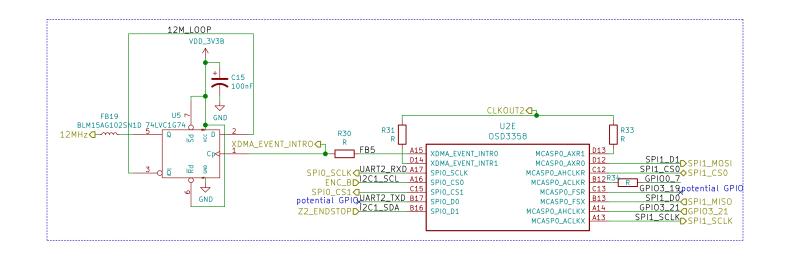


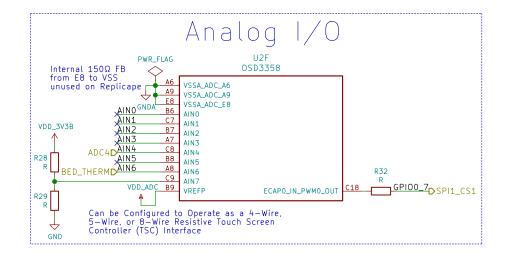


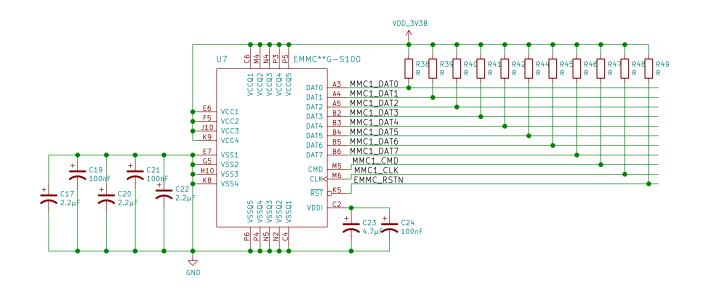
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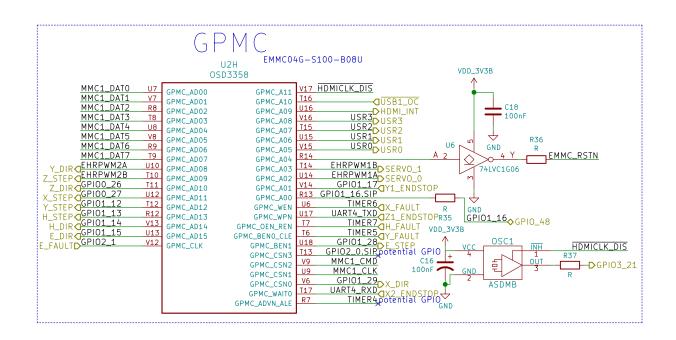
U2L
OSD3358

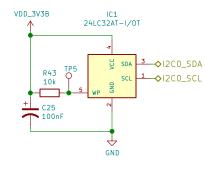
*B1 NC_B1 EXTL3B Y19.
*B2 NC_B2 EXTL3A Y17.
*C1 NC_C1 EXTL2A Y14.
*C3 NC_C2 EXTL1B Y14.
*C3 NC_C3 EXTL1AB Y14.
*C3 NC_C4 NC_V11 V10.
*D1 NC_D1 NC_V10 U11.
*D3 NC_D3 NC_D4 NC_D2 NC_U11 P1.
*D4 NC_D4 NC_D5 NC_P2 P2.
*E1 NC_E1 NC_P1 NC_P1 NC_P3 NC_P4 NC_E1 NC_P1 NC_



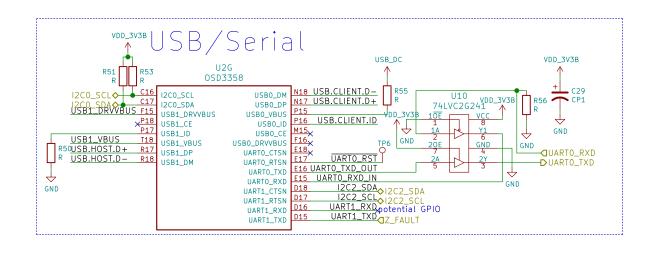


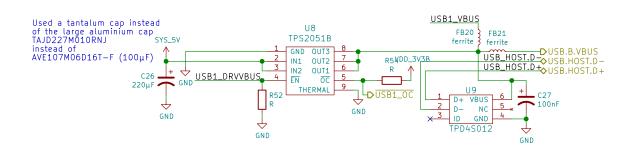






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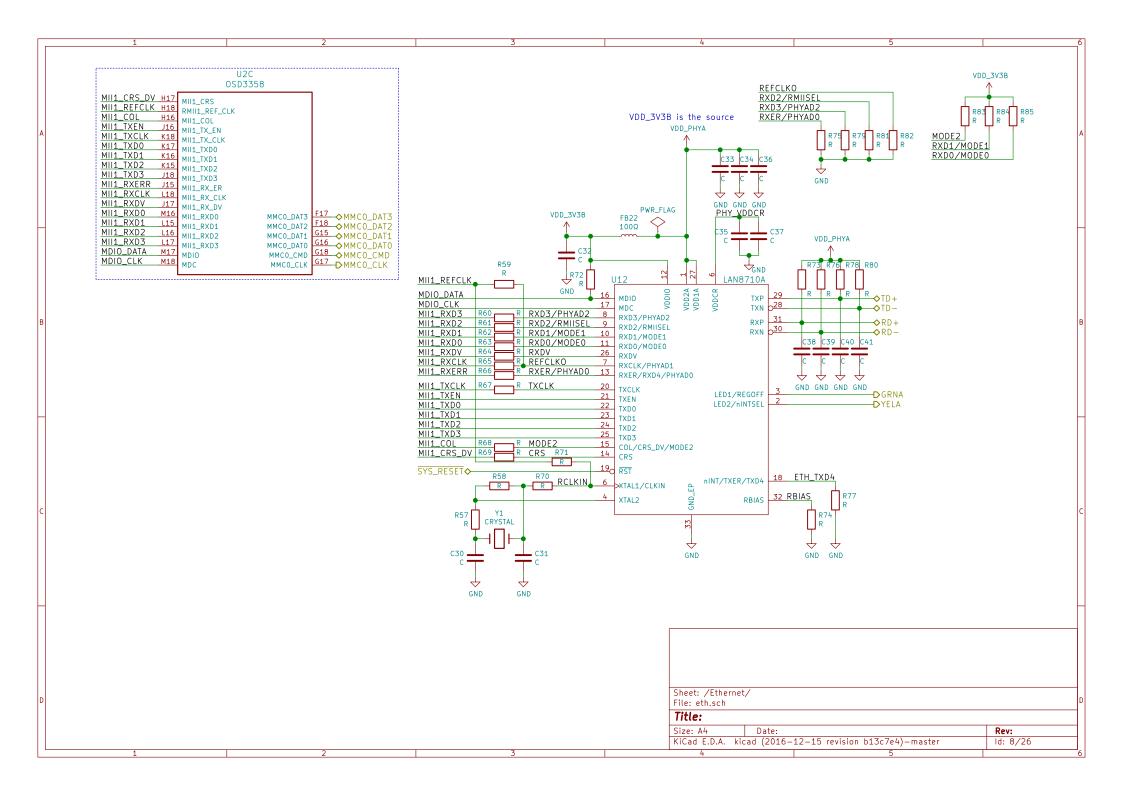


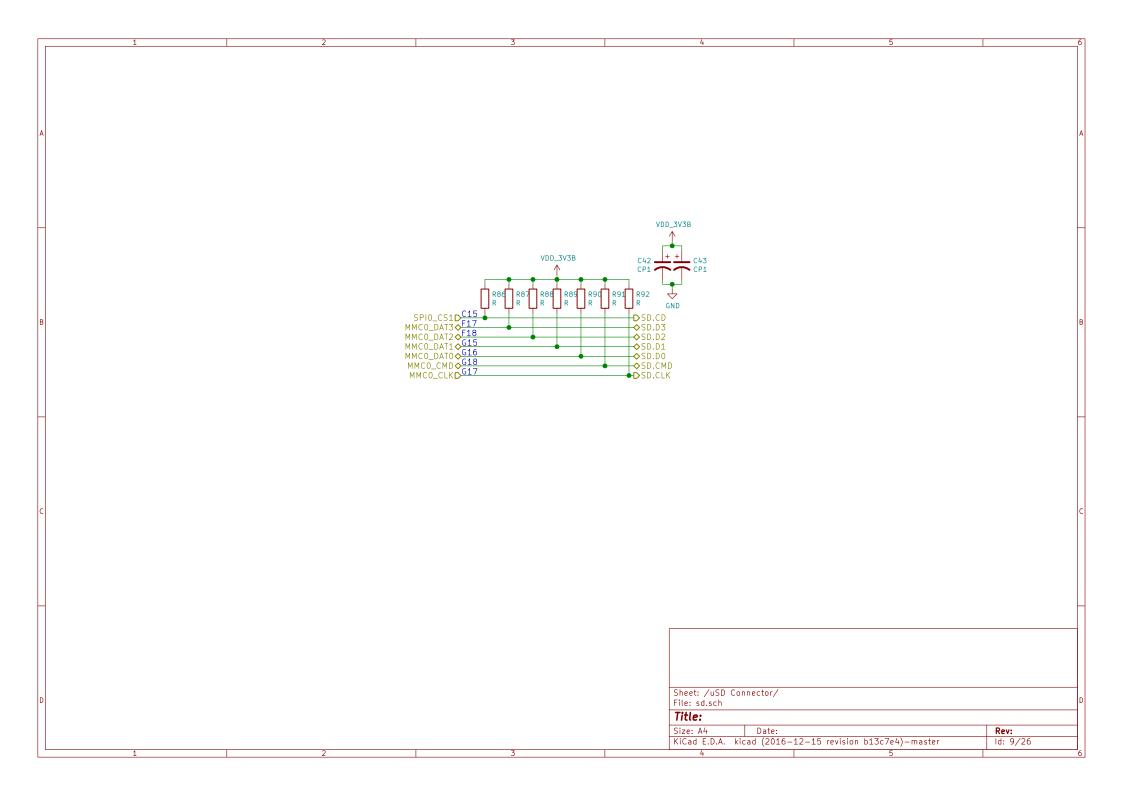
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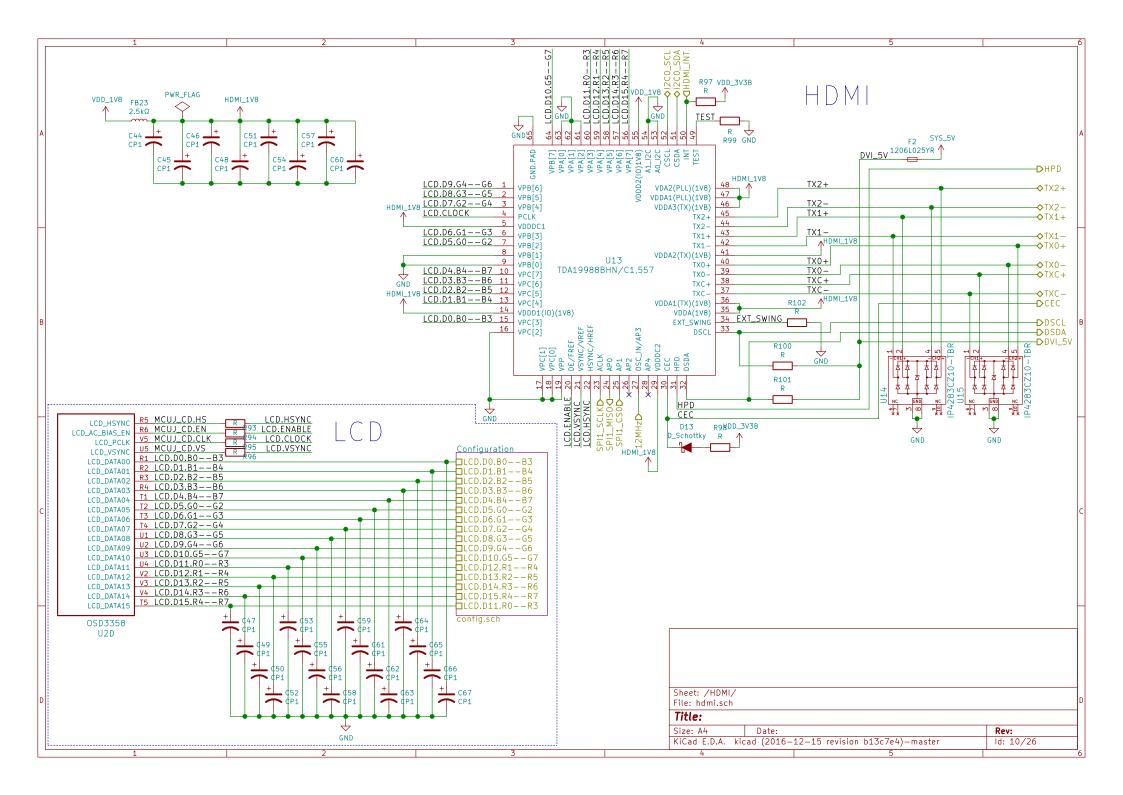
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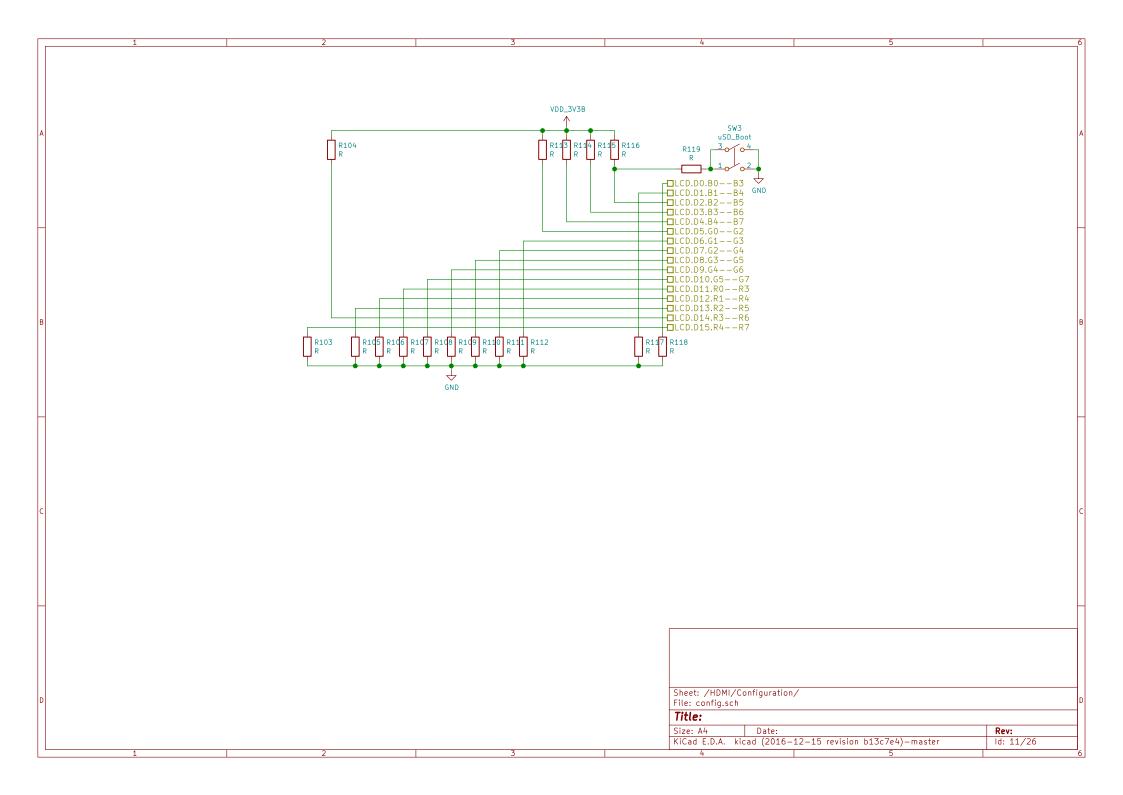
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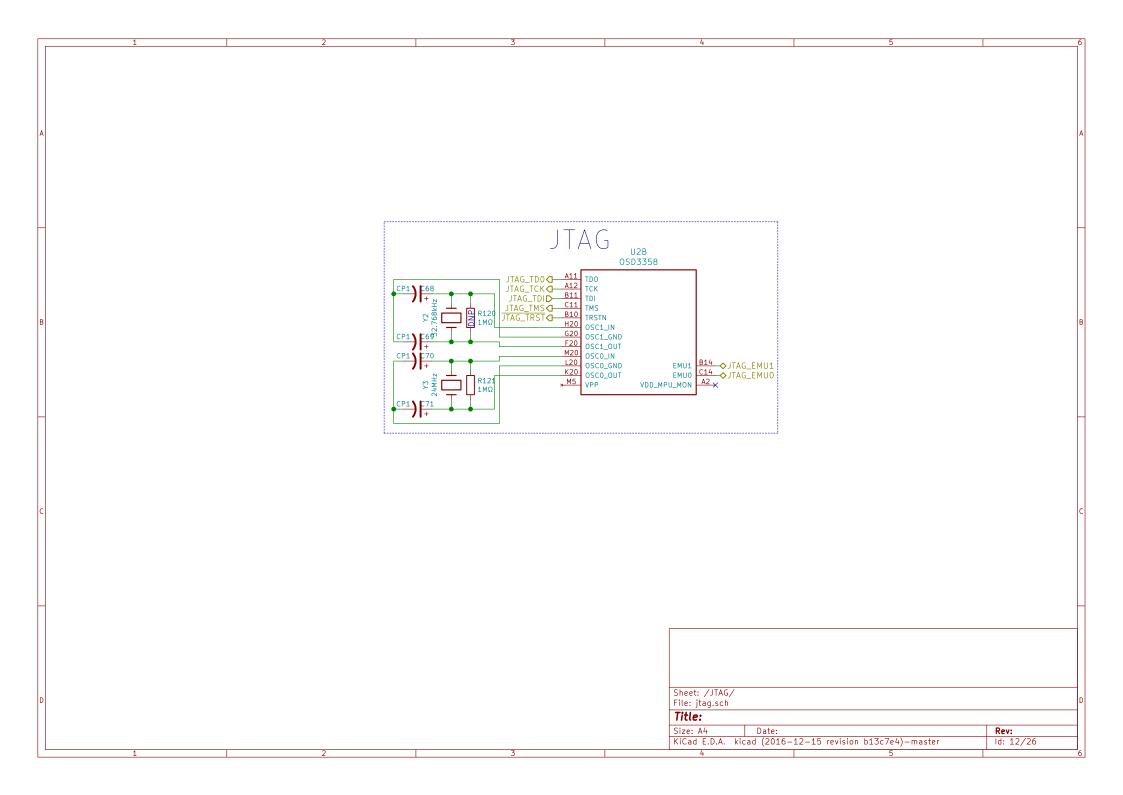
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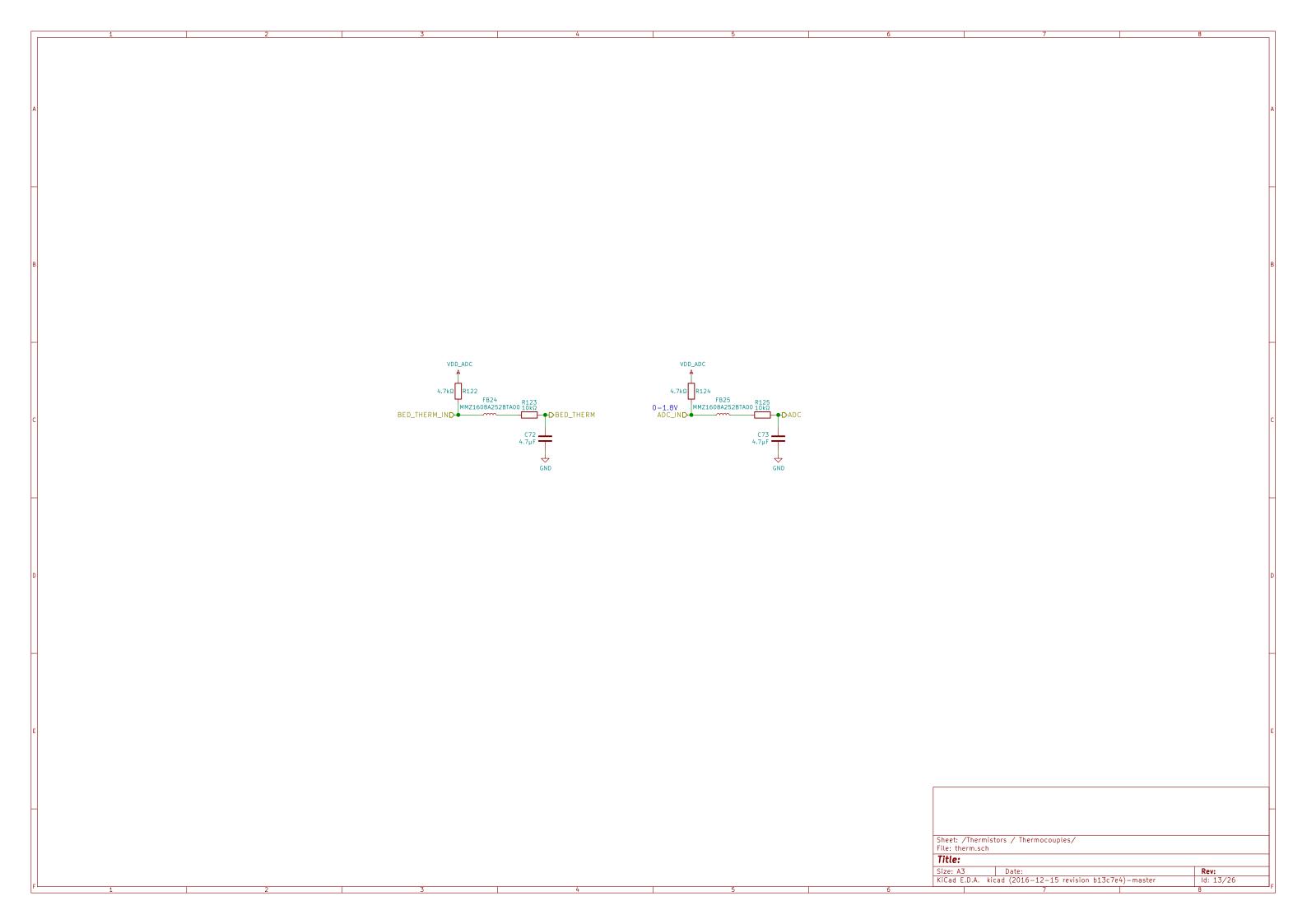


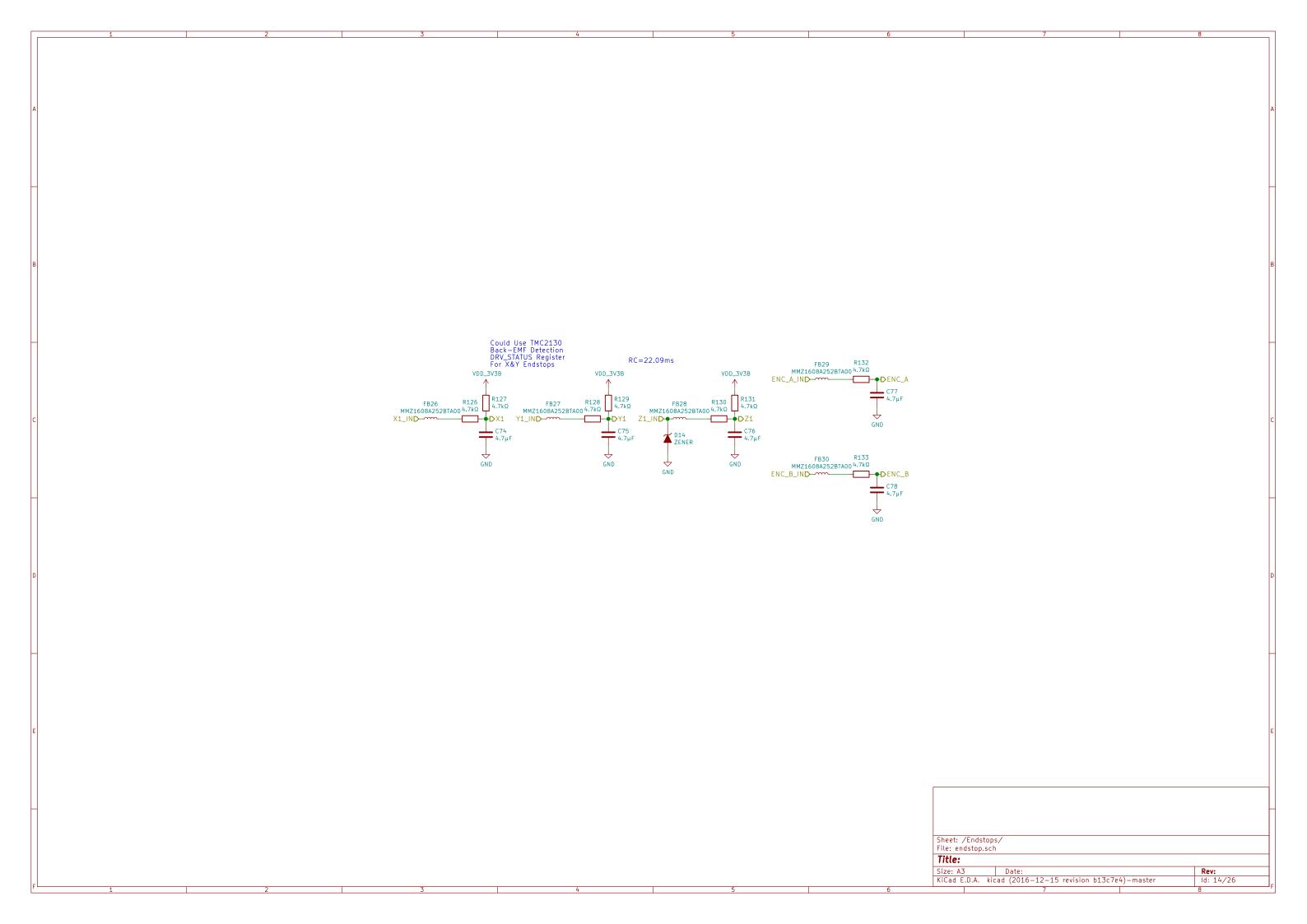


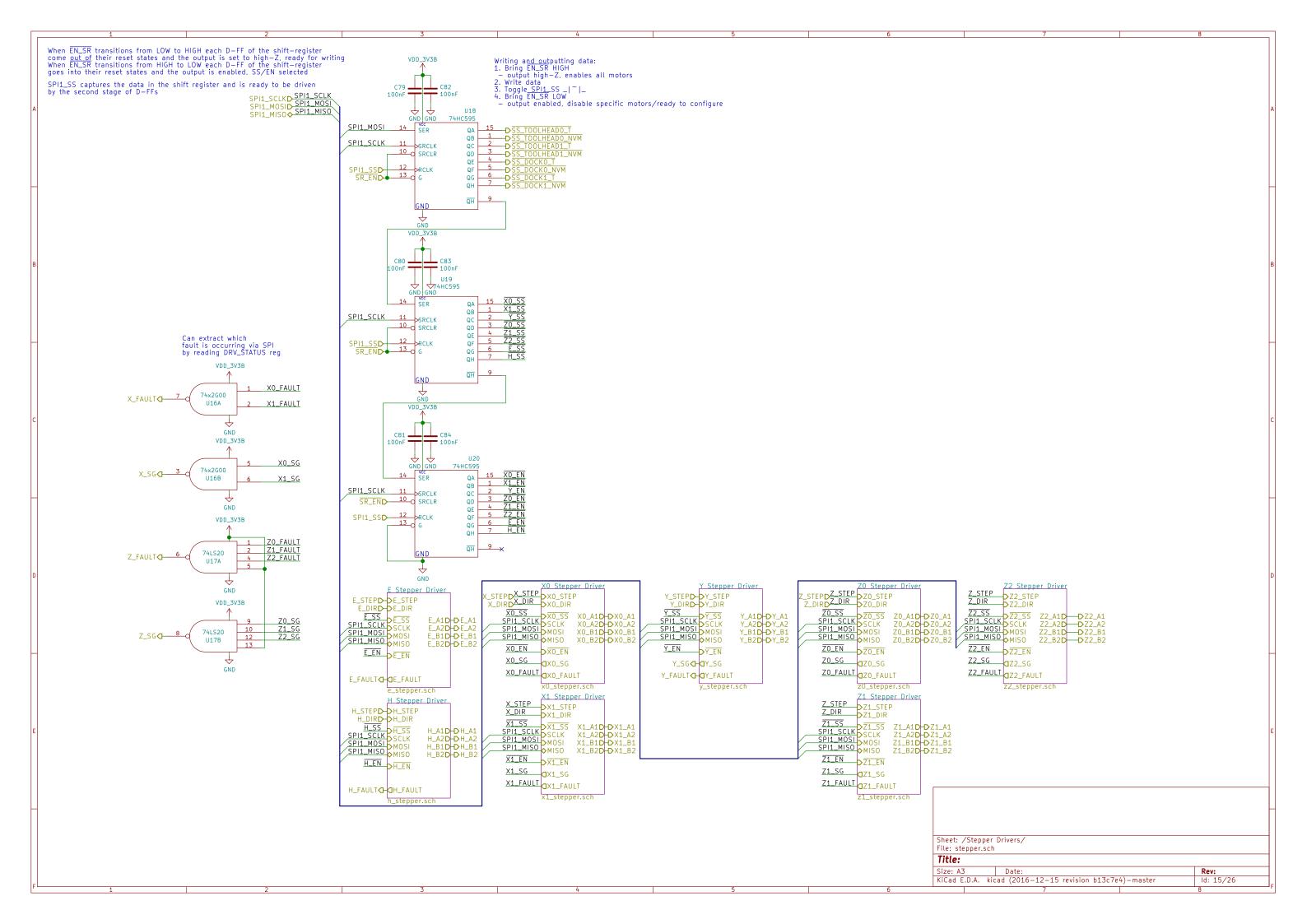






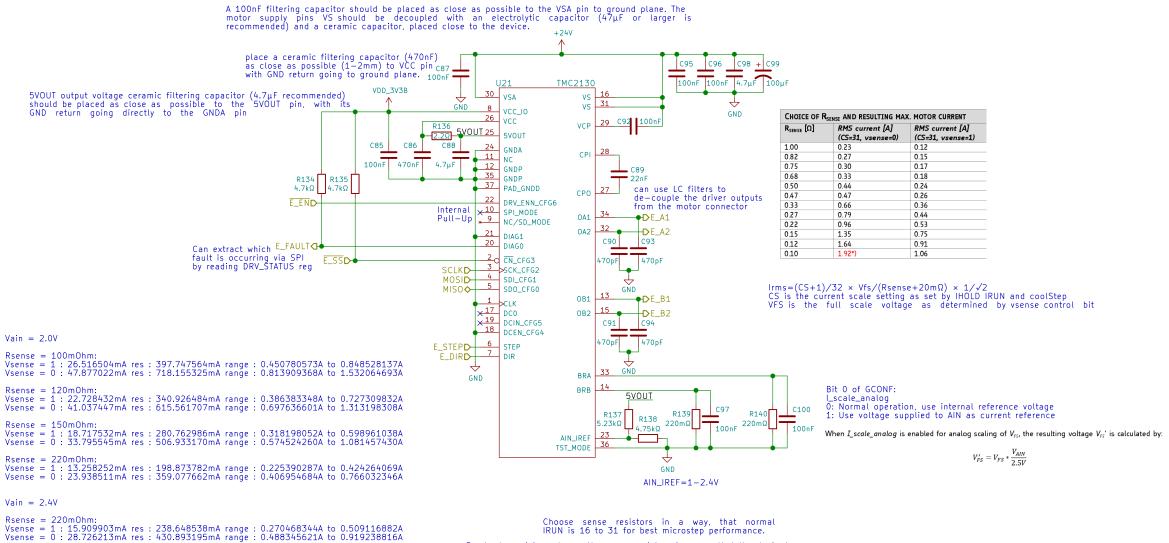






See Chapter 29 of the datasheet for layout

Place sense resistors and all filter capacitors as close as possible to the related IC pins. Use a solid common GND for all GND connections, also for sense resistor GND. Connect 5VOUT filtering capacitor directly to 5VOUT and GNDA pin. See layout hints for more details. Low ESR electrolytic capacitors are recommended for VS filtering.



Choose sense resistors in a way, that normal IRUN is 16 to 31 for best microstep performance.

For best precision, choose the sense resistors in a way that the desired maximum current is reached with AIN in the range 2V to $2.4\mathrm{V}$

Vain = 2.379759519V

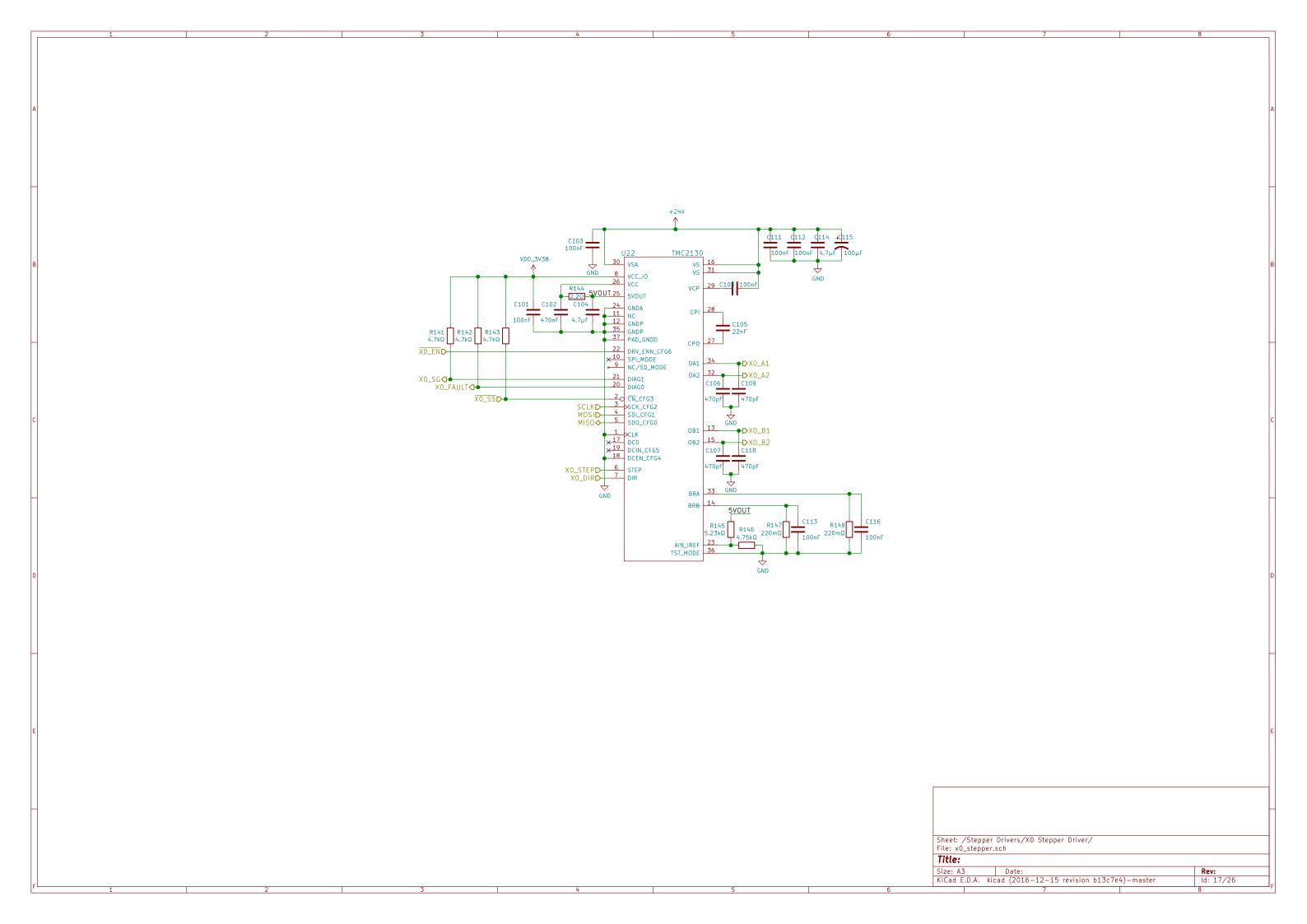
Rsense = 220m0hm: Vsense = 1 : 15.775726mA res : 236.635888mA range : 0.26818734A to 0.504823228A Vsense = 0 : 28.483949mA res : 427.259243mA range : 0.484227141A to 0.911486384A

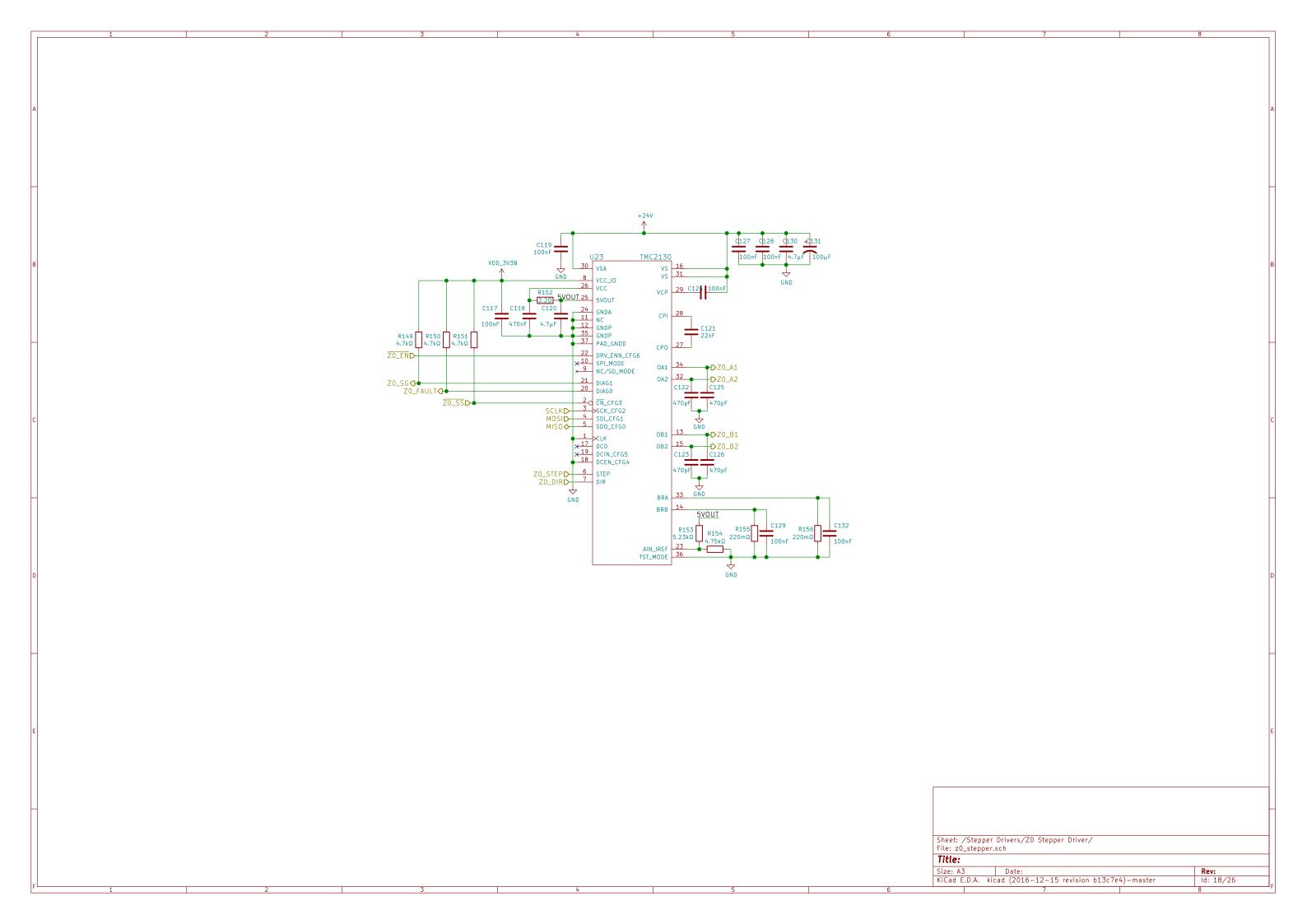
Sense input tolerance / motor current full scale tolerance -using internal reference	Icon	I_scale_analog=0, vsense=0	-5	+5	%
Sense input tolerance / motor current full scale tolerance -using external reference voltage	Icon	I_scale_analog=1, V _{AIN} =2V, vsense=0 Vain = 2.379759	-2 519V	+2	%

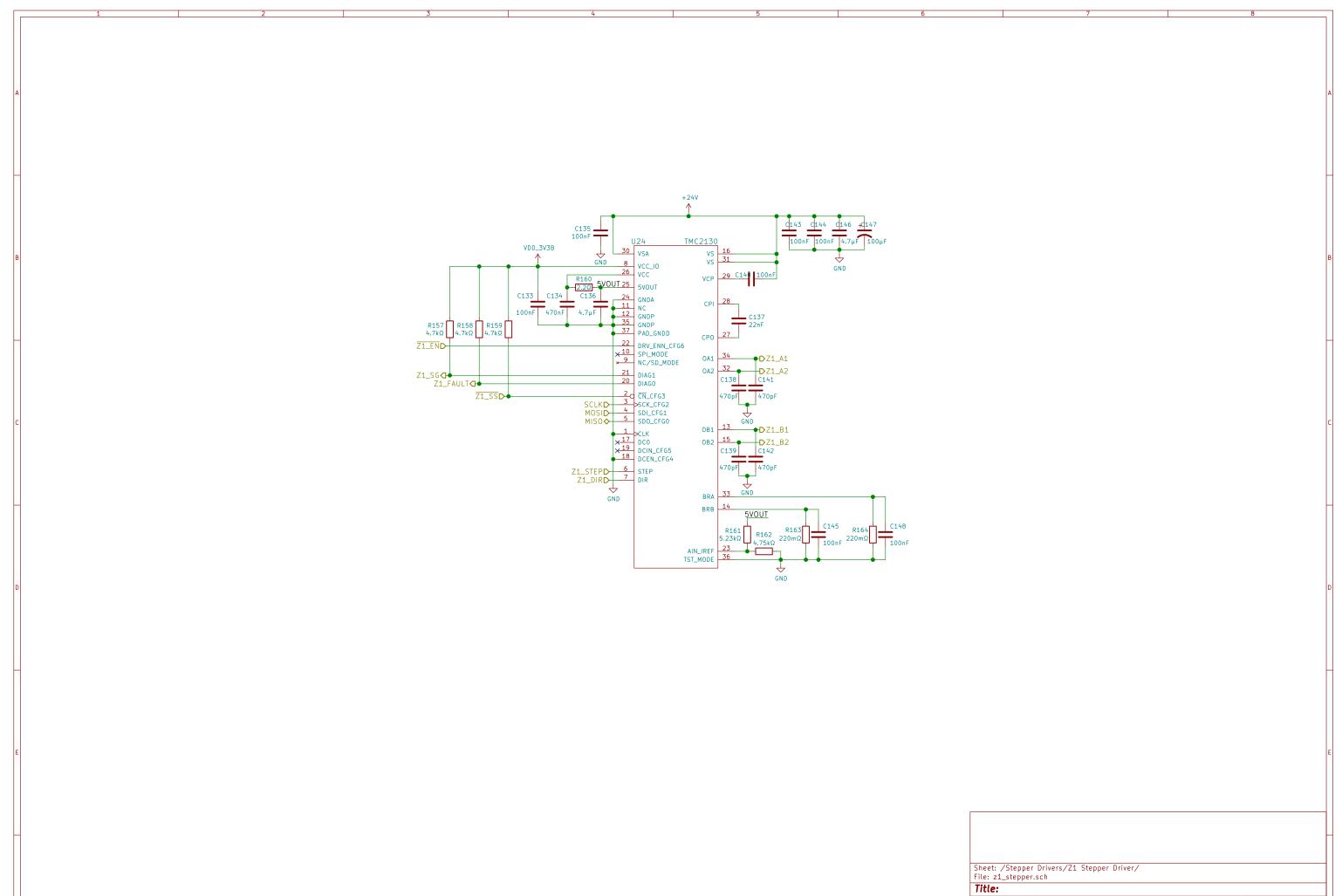
The sense resistor voltage range can be selected by the vsense bit in CHOPCONF. The low sensitivity setting (high sense resistor voltage, vsense=0) brings *best and most robust current regulation*, while high sensitivity (low sense resistor voltage, vsense=1) reduces power dissipation in the sense resistor. The high sensitivity setting reduces the power dissipation in the sense resistor by nearly half.

vsense	Allows control of the sense resistor voltage range	0	V _{FS} = 0.32 V	Vsrtl=325mV
	for full scale current.	1	V _{FS} = 0.18 V	

for full scale current.	1	V _{FS} = 0.18 V			
			Sheet: /Stepper File: e_stepper.s	Drivers/E Stepper Driver/ ch	
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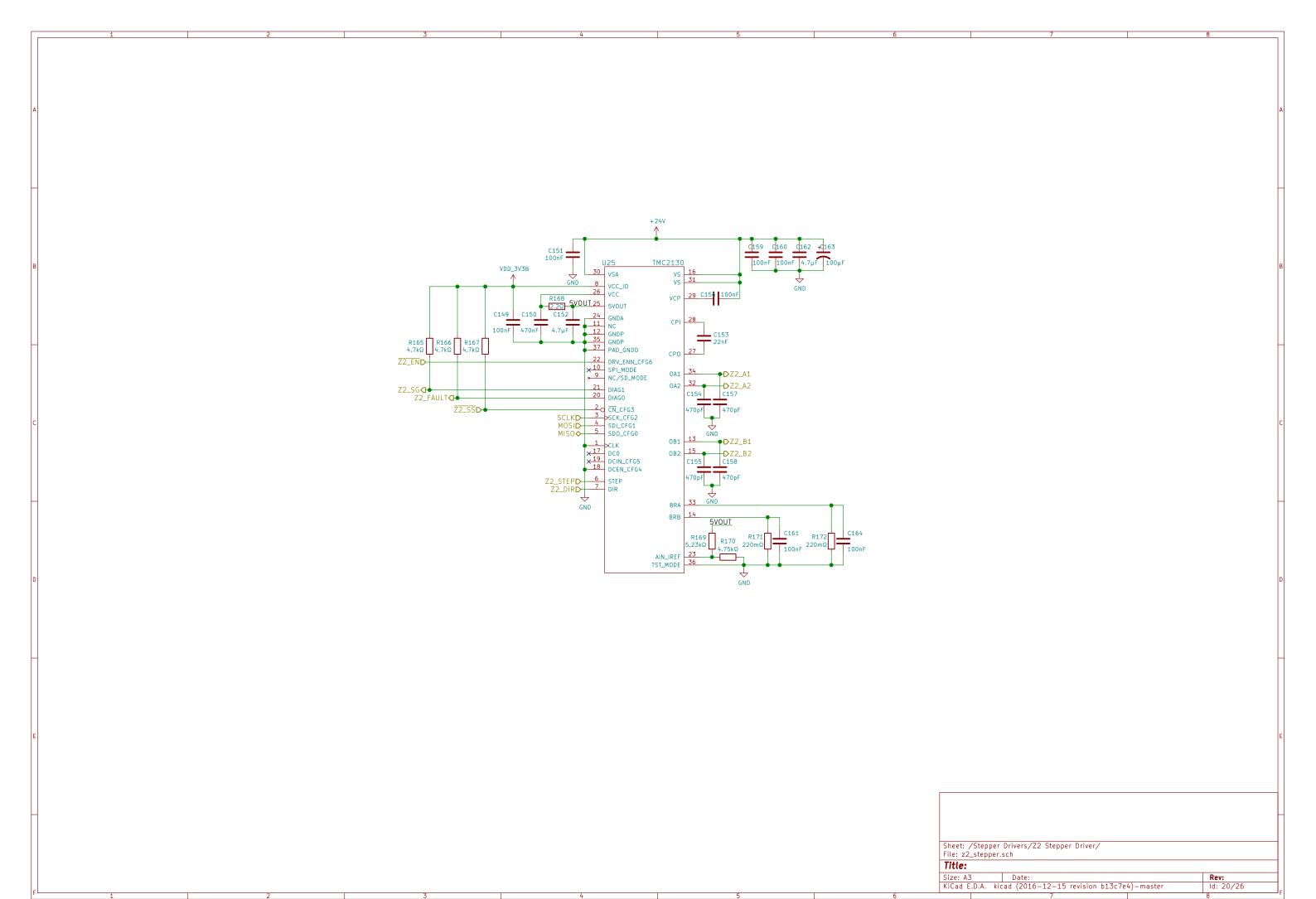


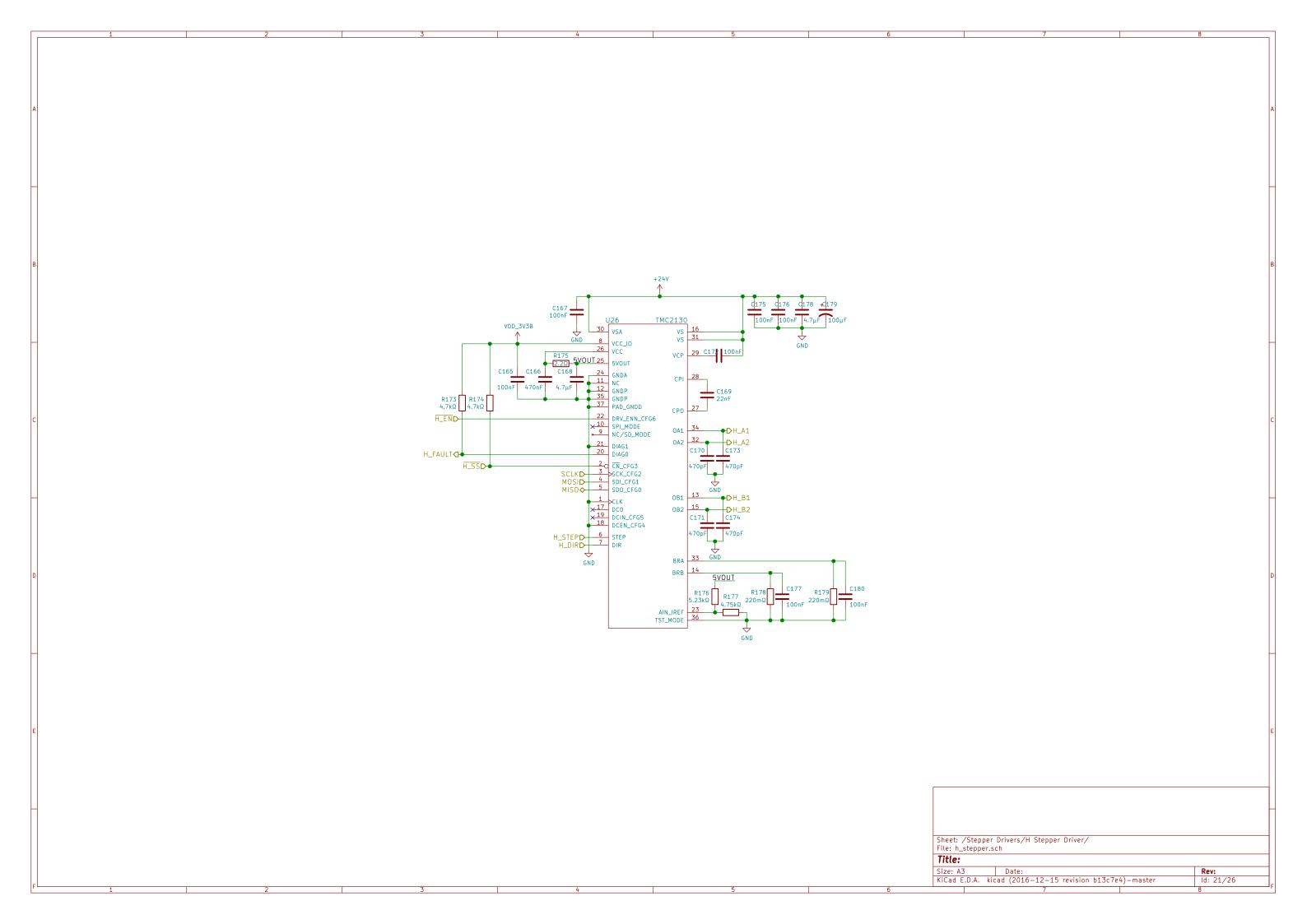


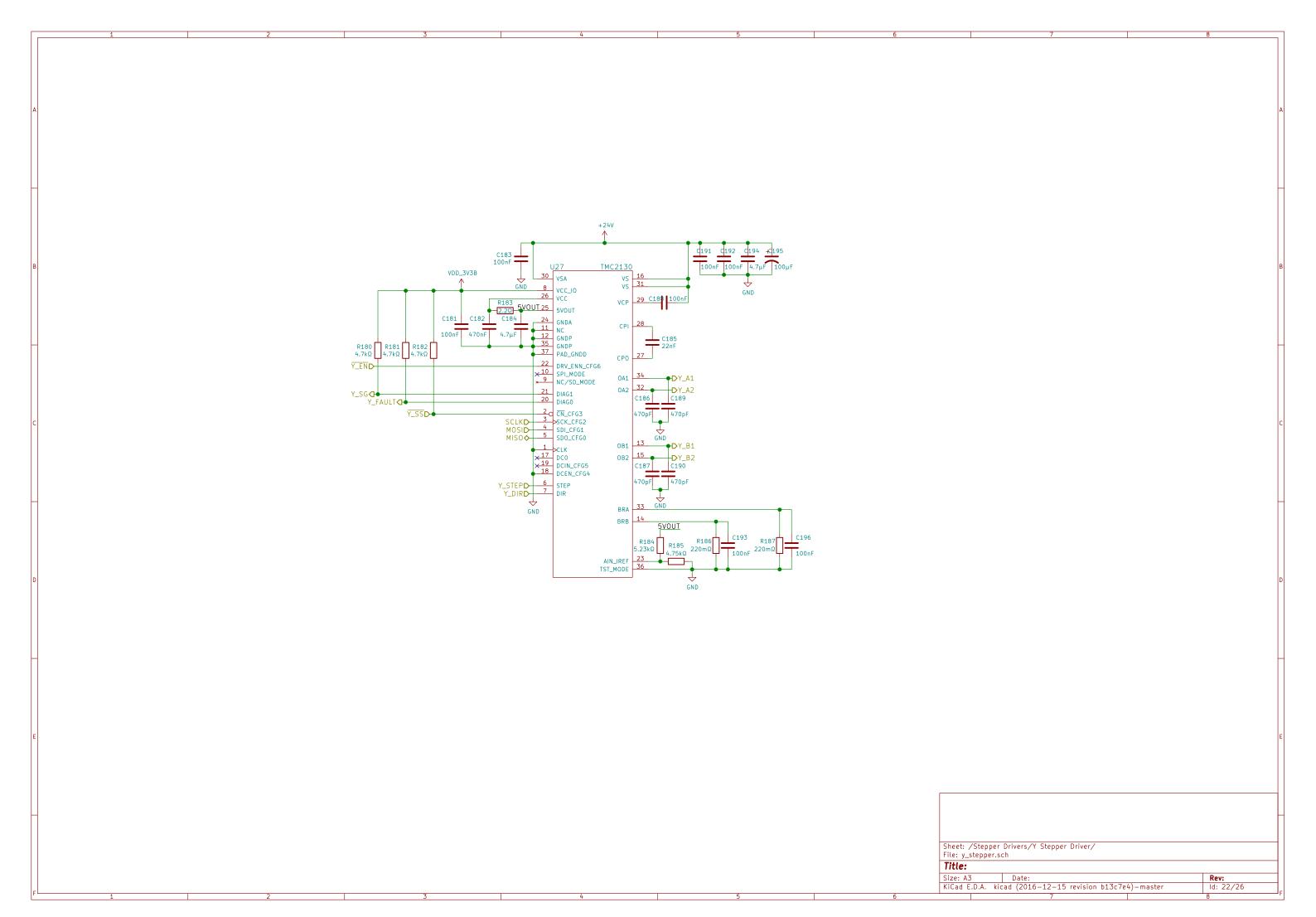
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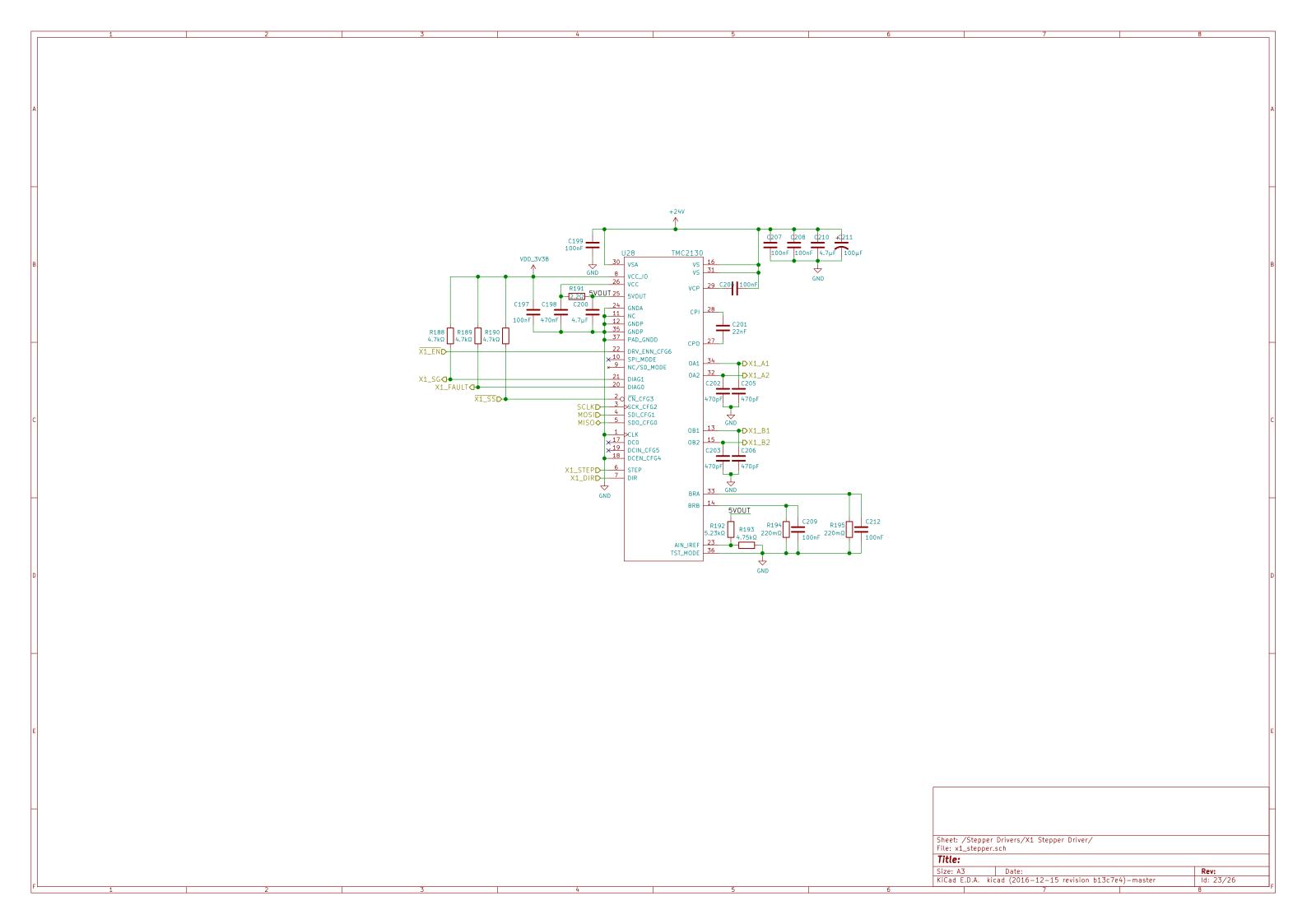
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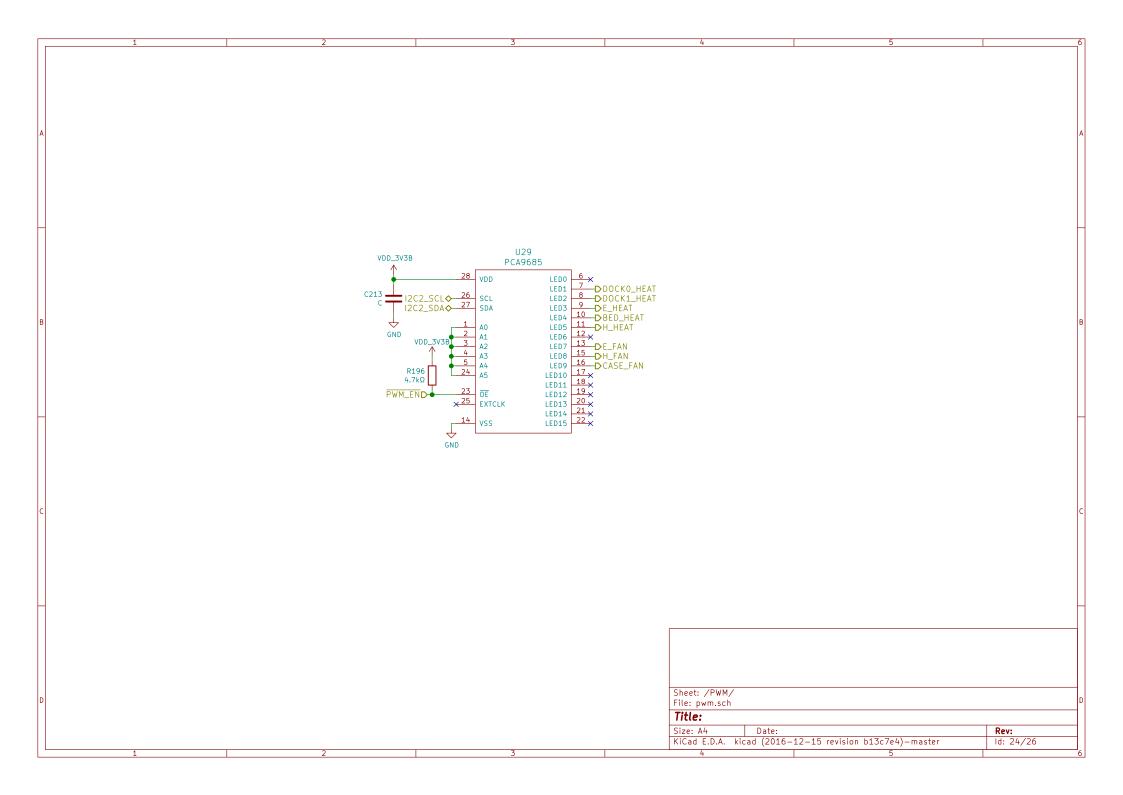
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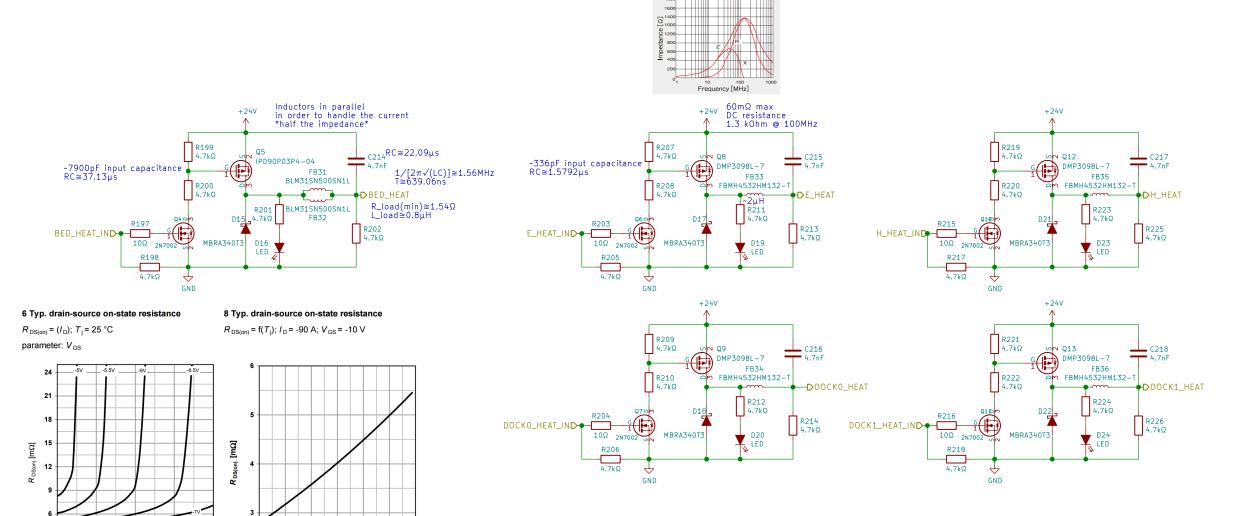












180

-/ _D [A]

270

-60 -20 20

60 100 140 180

T, [°C]

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