

X_STEP

Y_STEP

Y_DIR Y_FAULT

Z_STEP Z_DIR

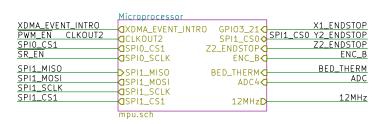
E_STEP E_DIR

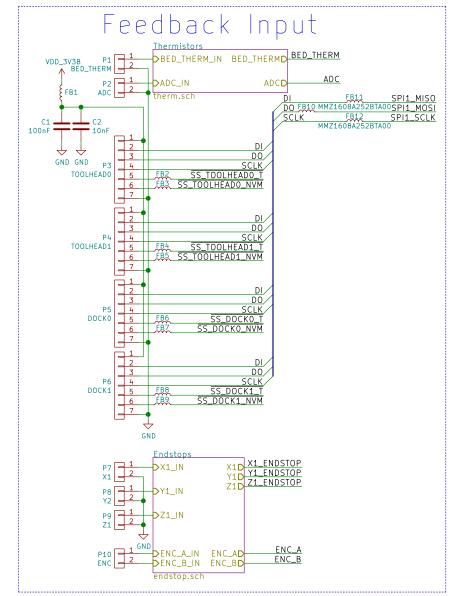
E_FAULT

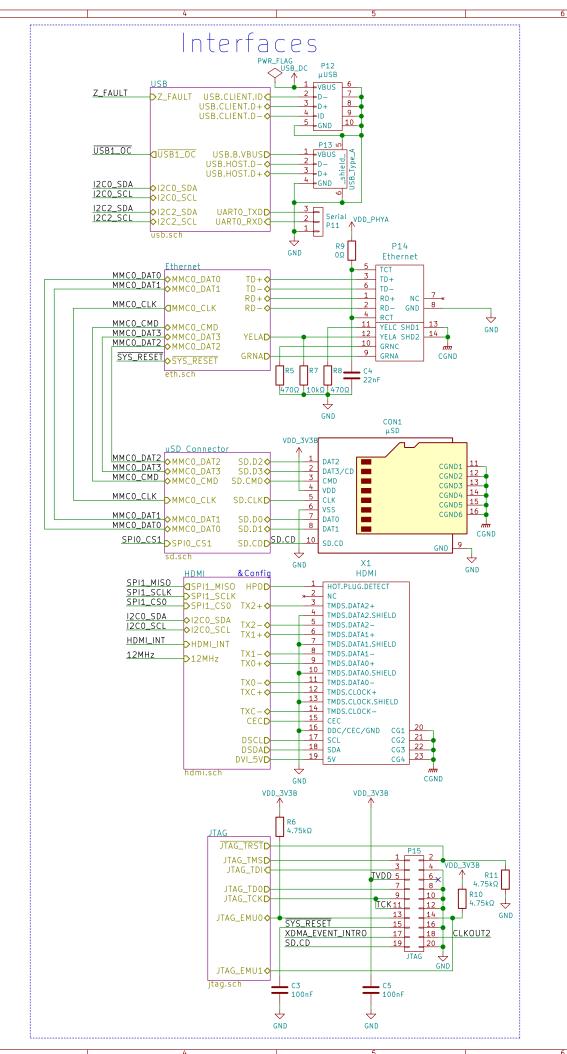
H_STEP H_DIR

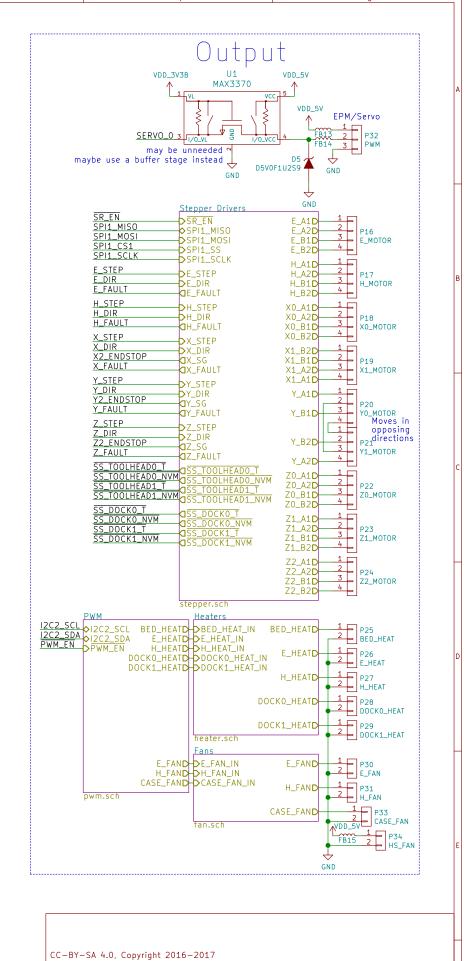
H_FAULT

X_DIR X_FAULT







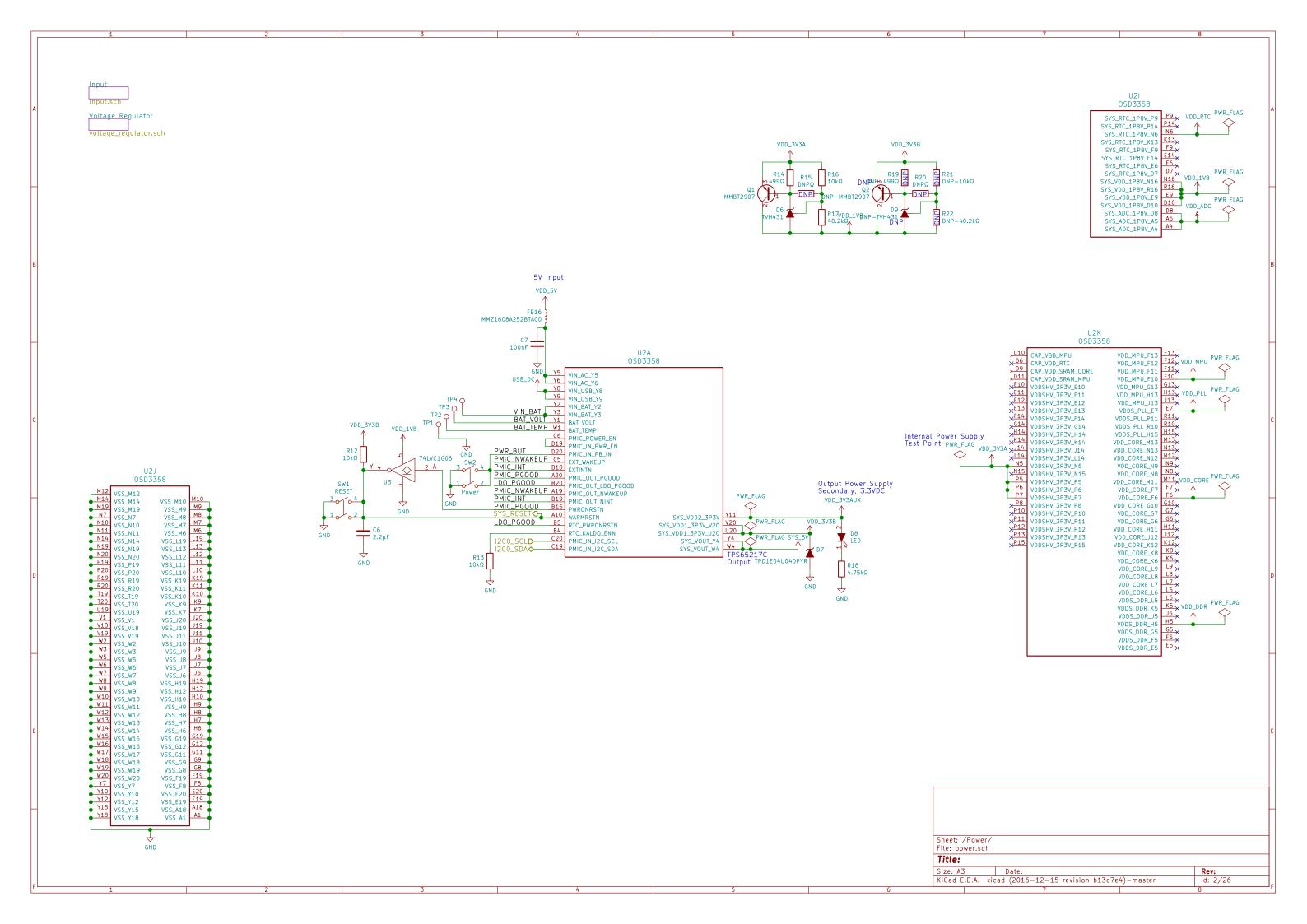


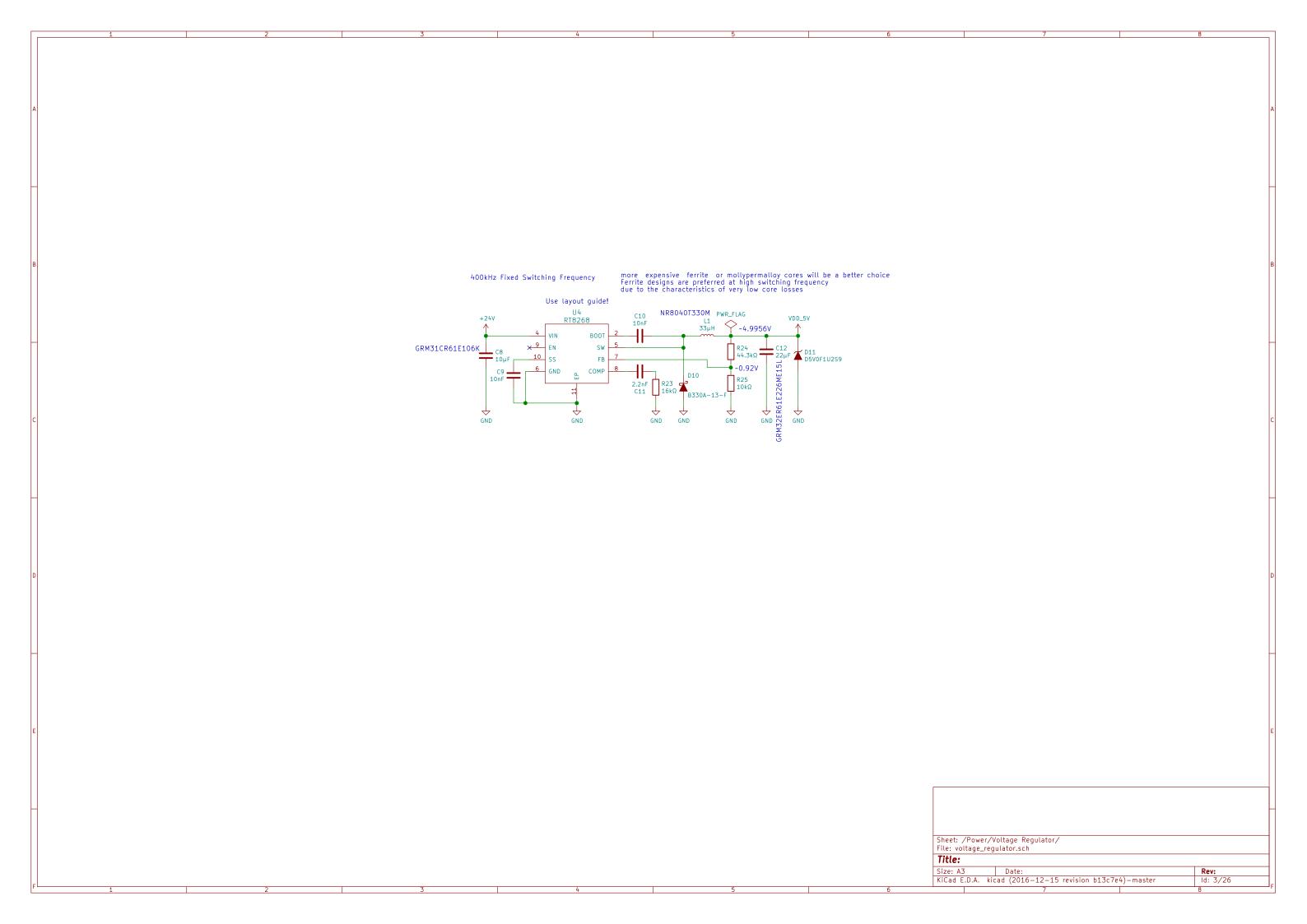
Aleph Objects Inc. Sheet: / File: KiMBo.sch

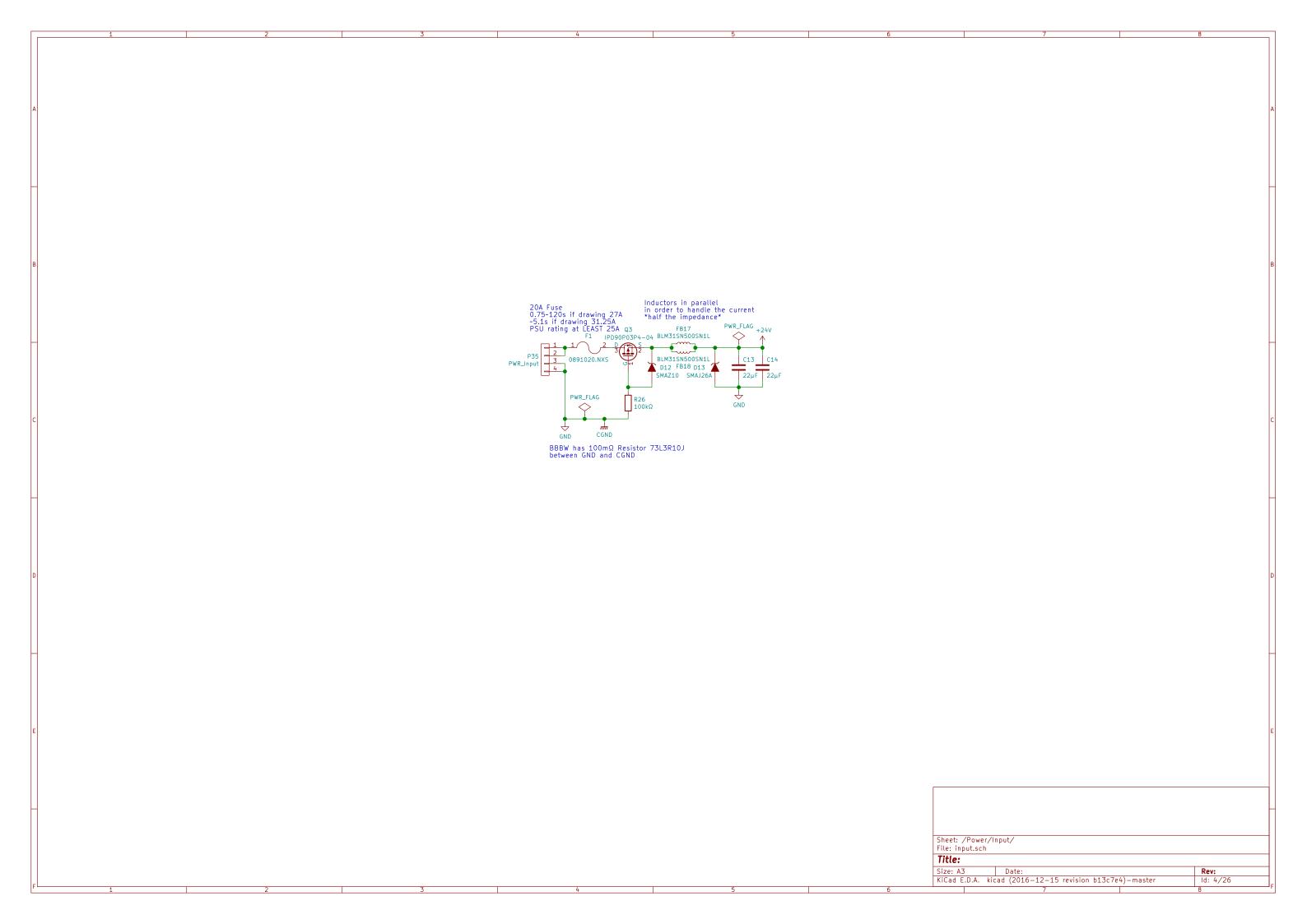
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 Date: 2017-03-17

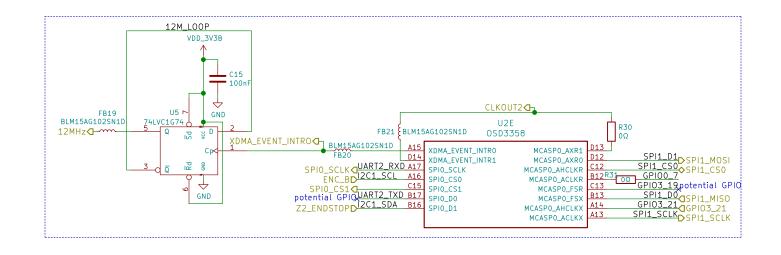
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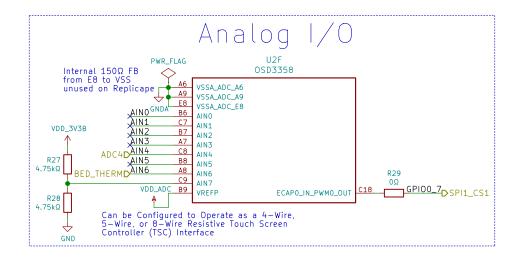


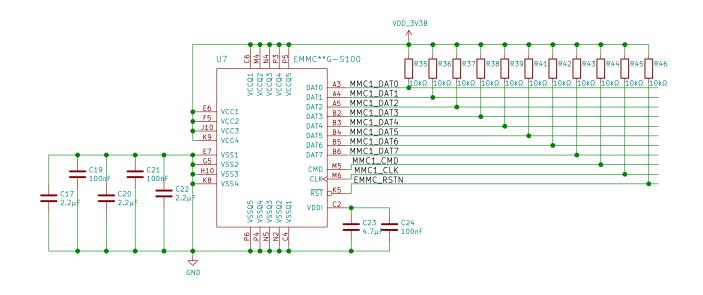


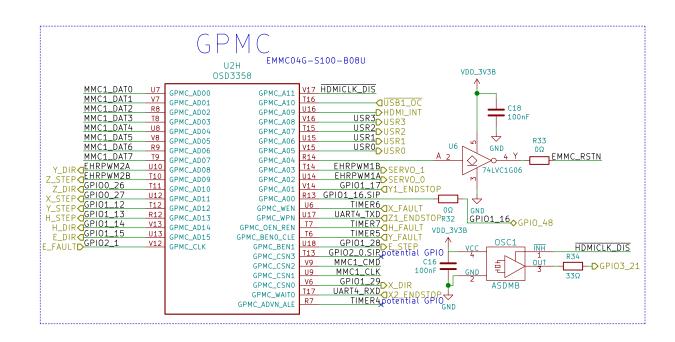


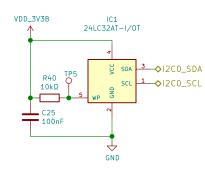
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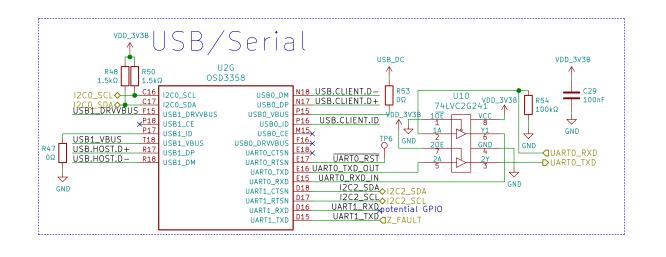


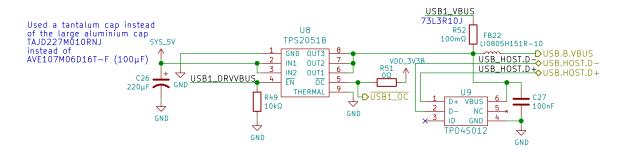






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File: flash.sch		
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Size: A3	Date:	Rev:
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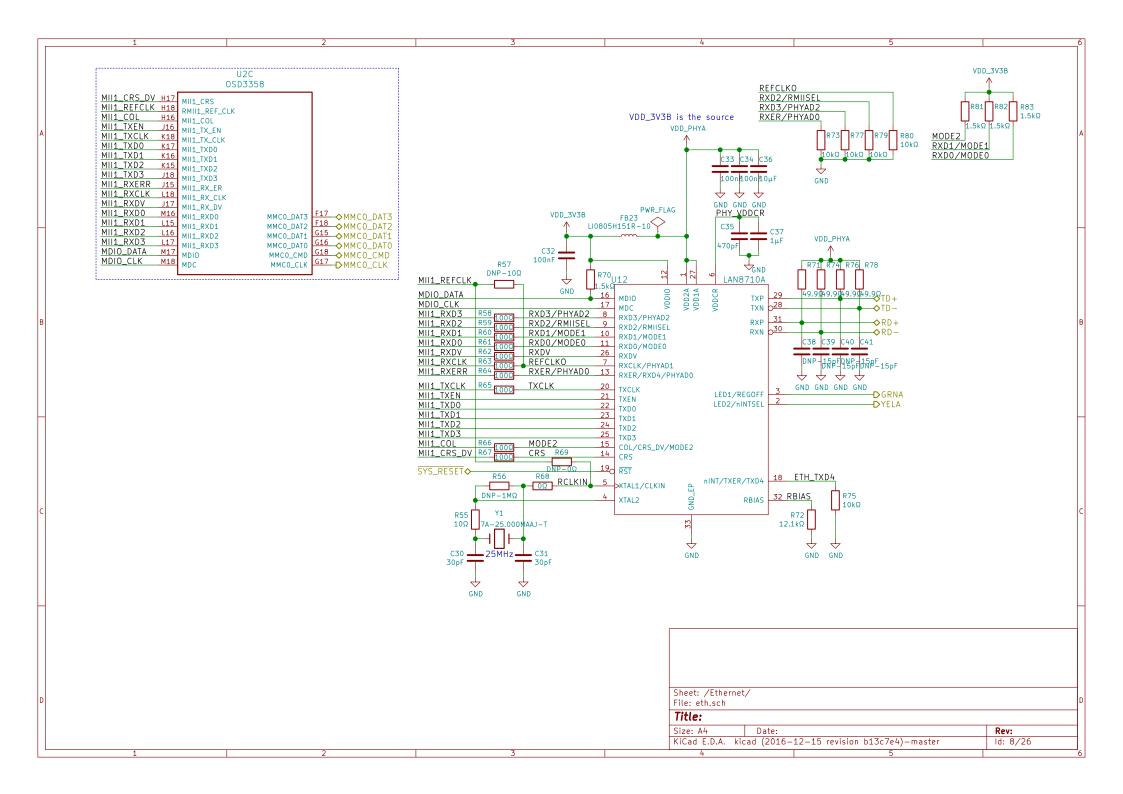


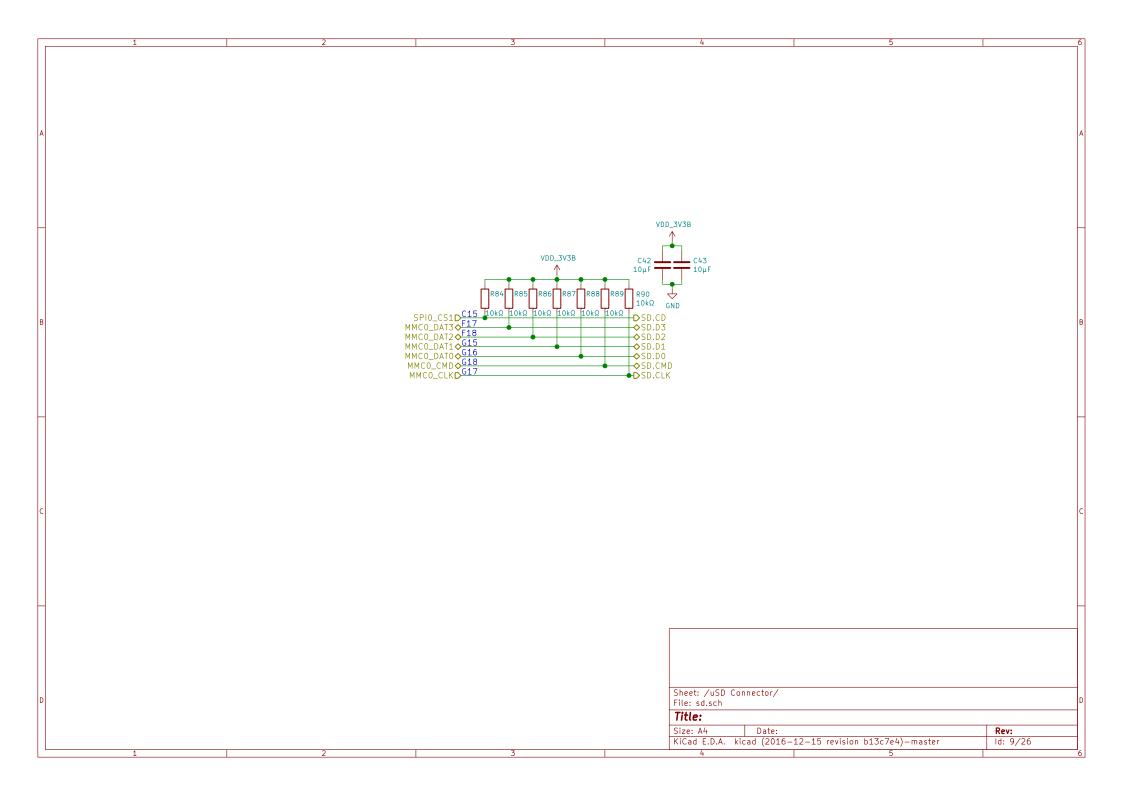
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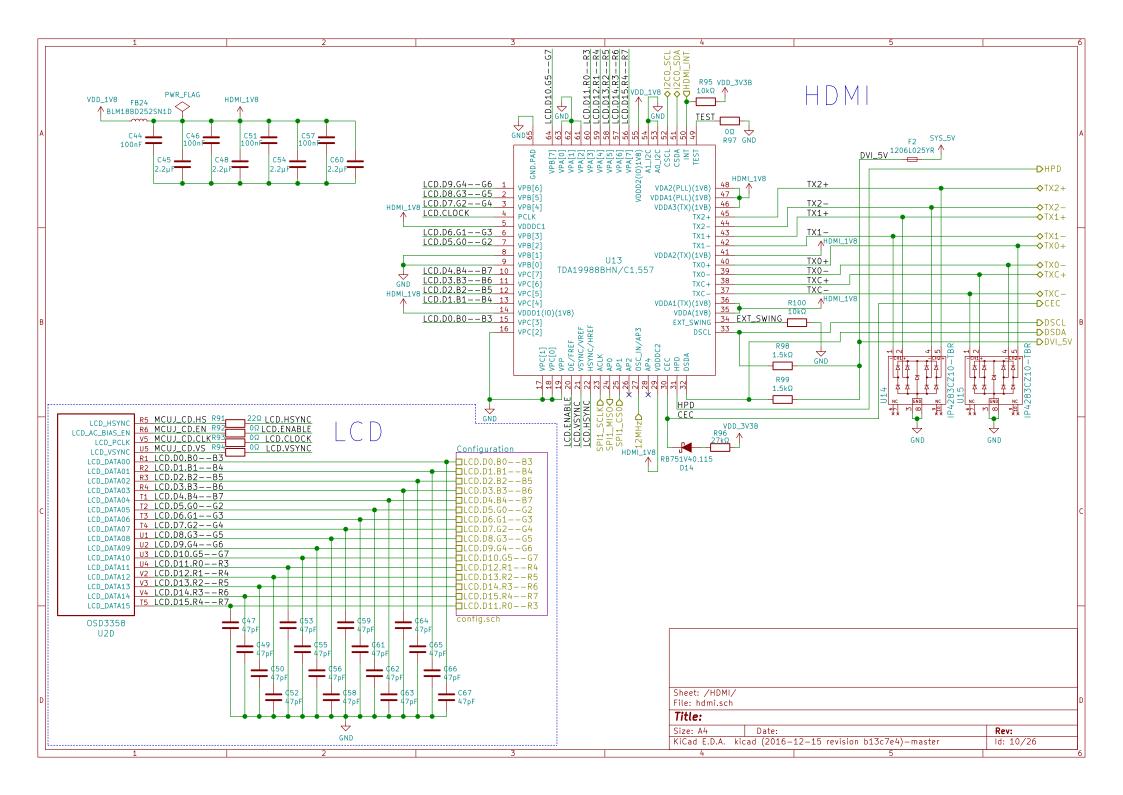
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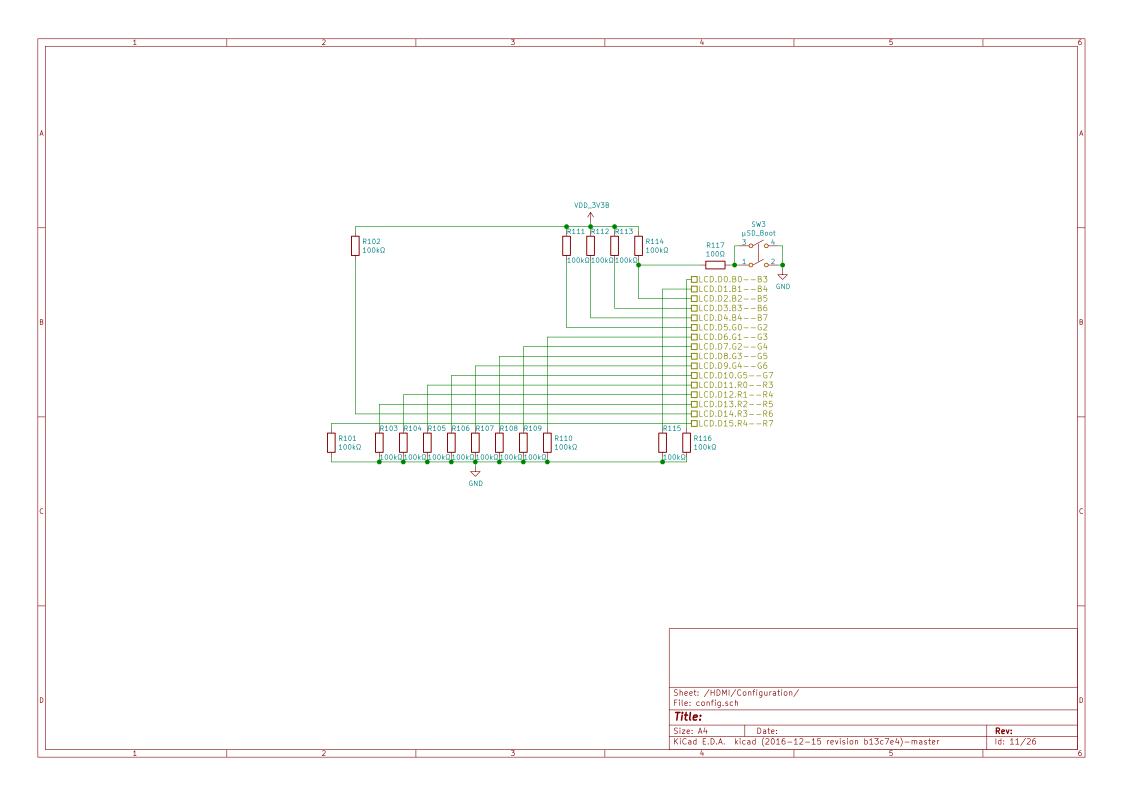
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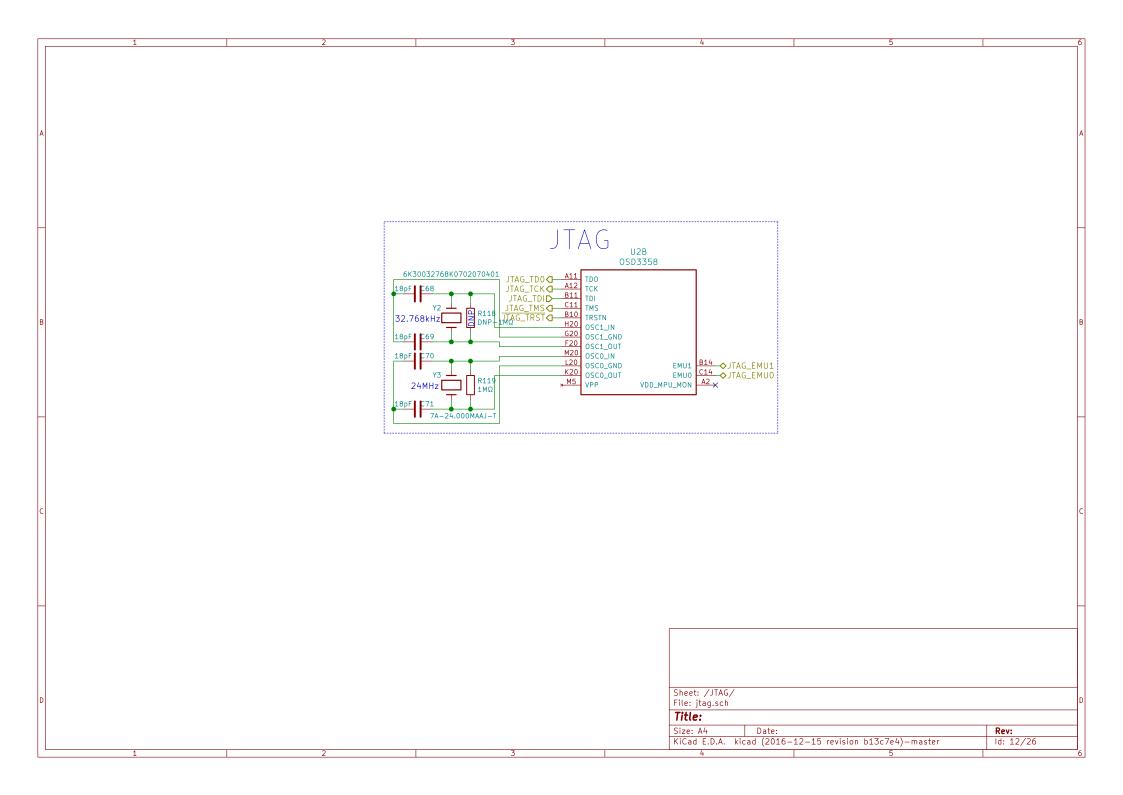
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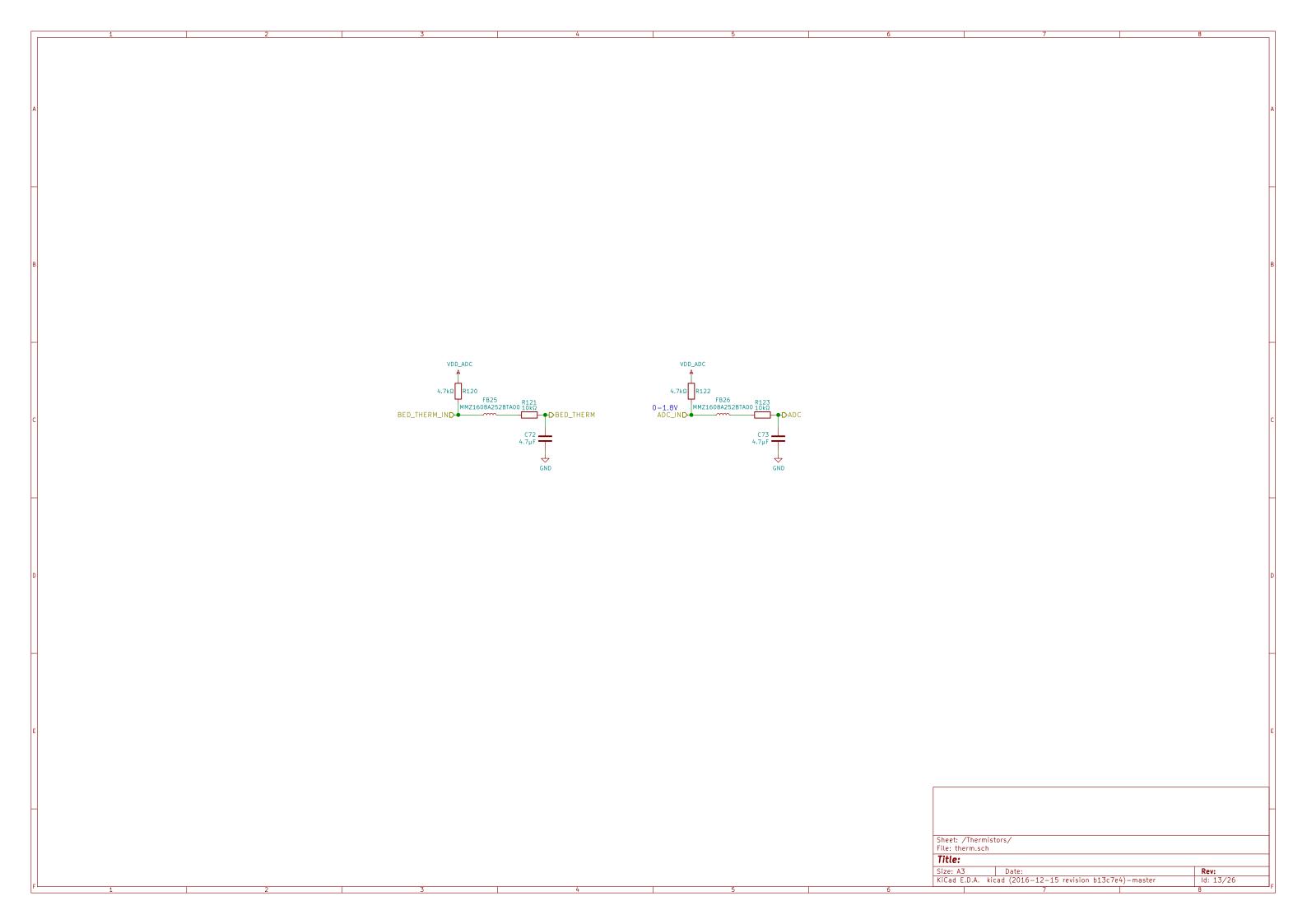


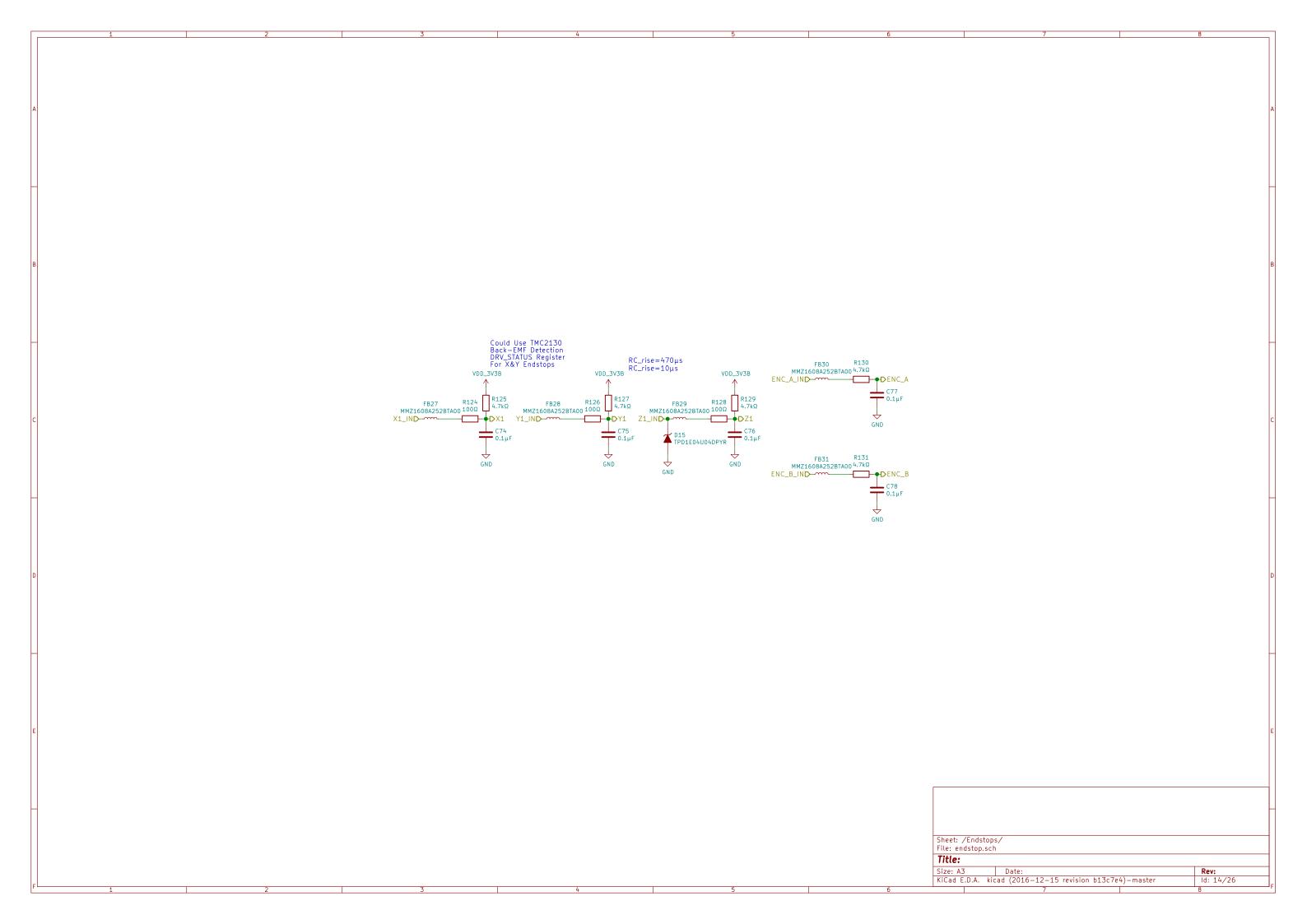


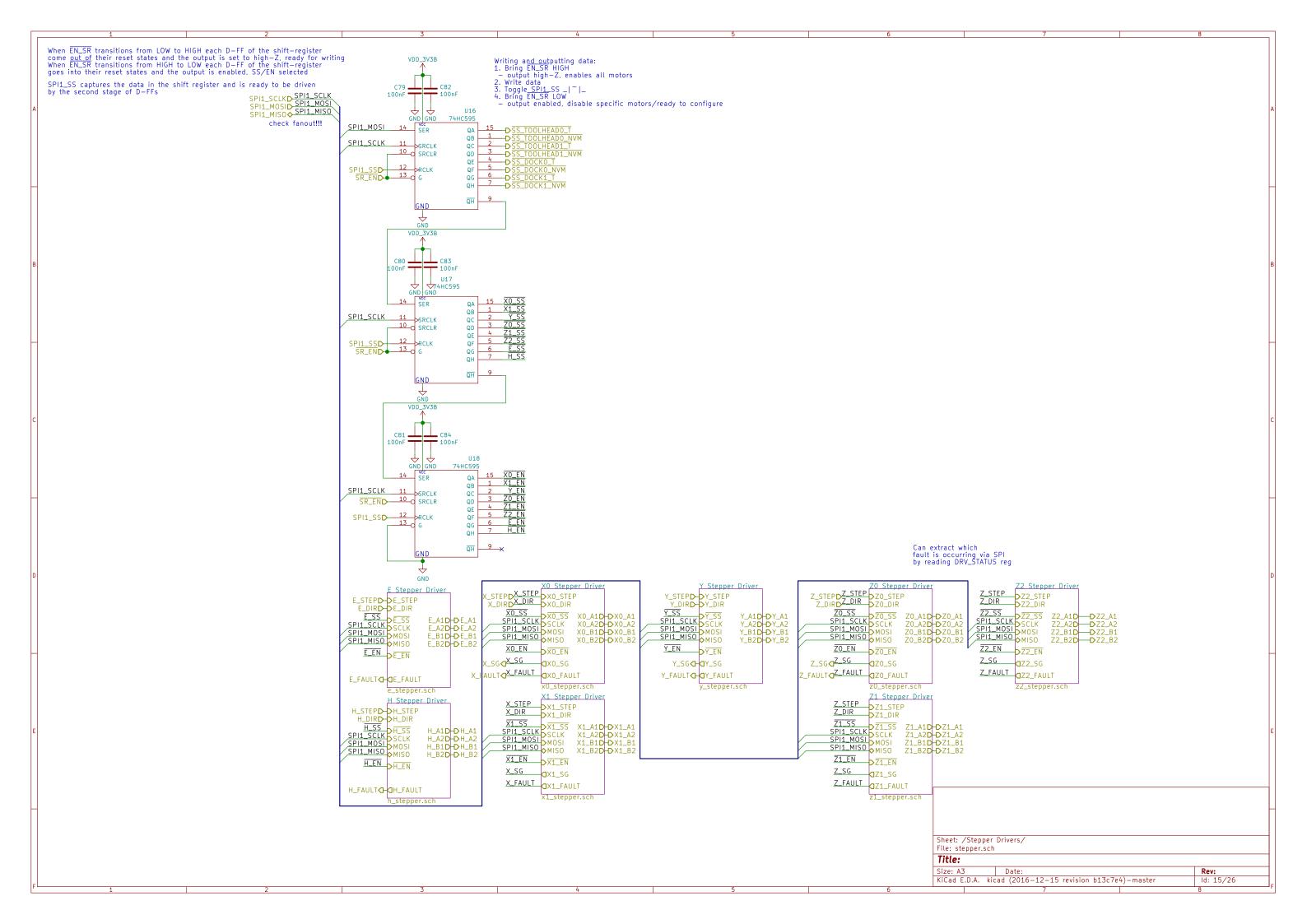






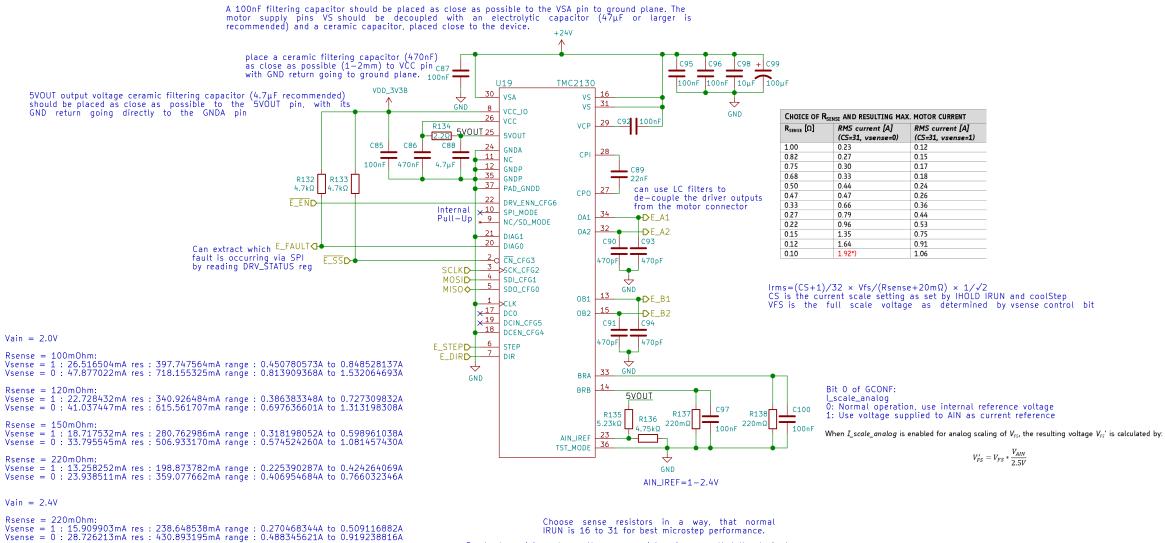






See Chapter 29 of the datasheet for layout

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

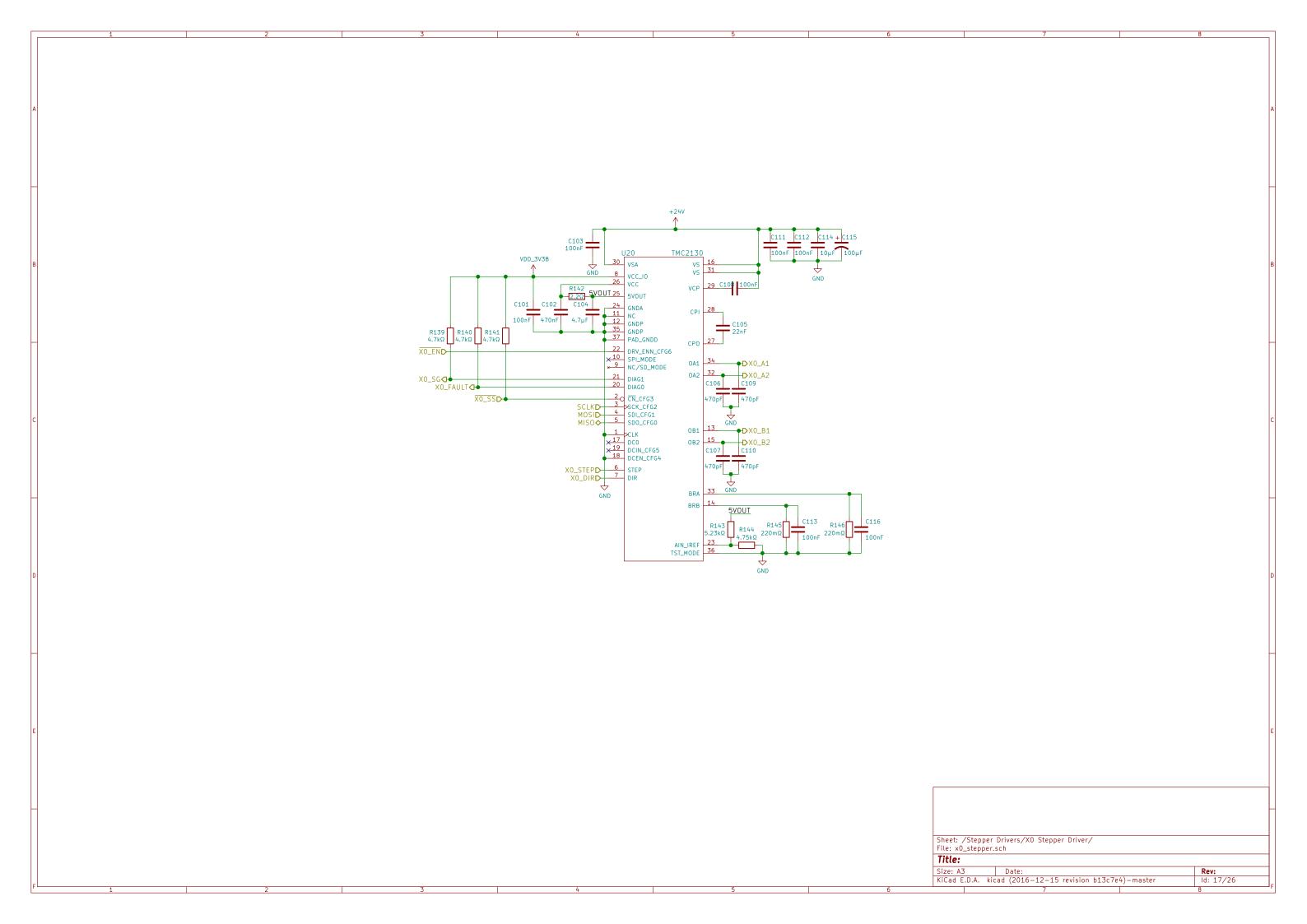
Rsense = 220m0hm: Vsense = 1 : 15.775726mA res : 236.635888mA range : 0.26818734A to 0.504823228A Vsense = 0 : 28.483949mA res : 427.259243mA range : 0.484227141A to 0.911486384A

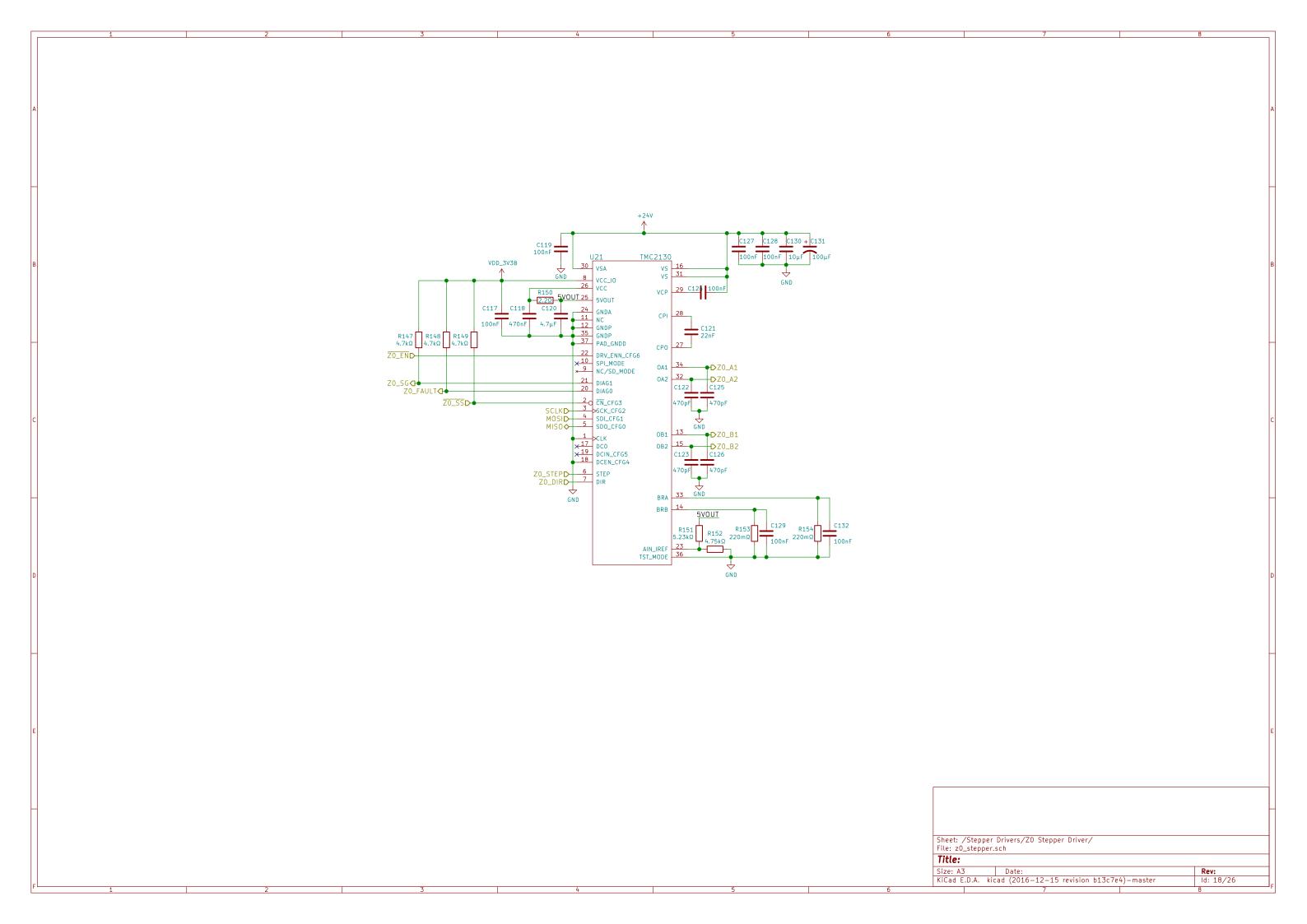
Sense input tolerance / motor current full scale tolerance -using internal reference	I _{COIL}	I_scale_analog=0, vsense=0	-5	+5	%
Sense input tolerance / motor current full scale tolerance -using external reference voltage	I _{con}	I_scale_analog=1, V _{AIN} =2V, vsense=0 Vain = 2.379759	-2 519V	+2	%

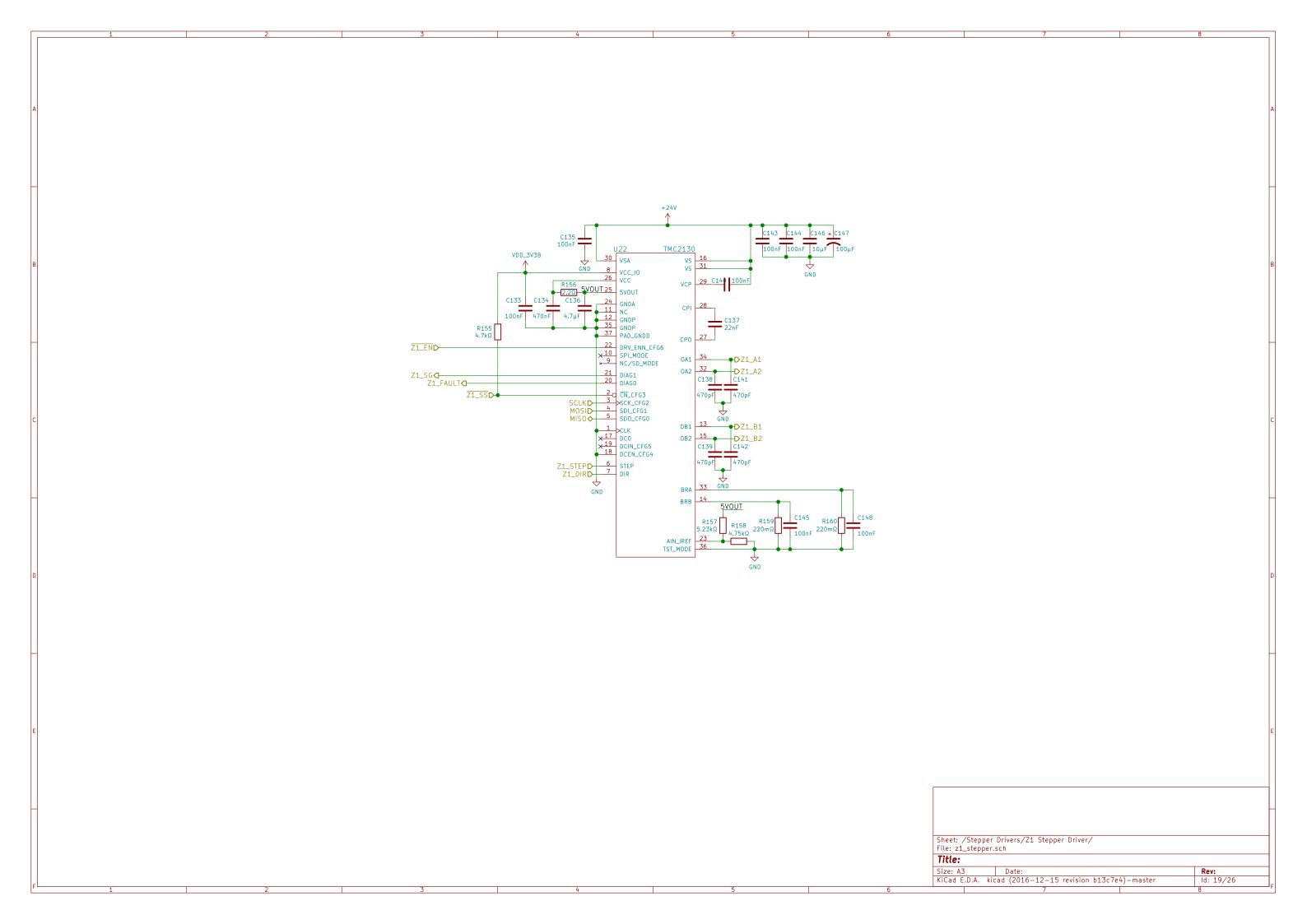
The sense resistor voltage range can be selected by the vsense bit in CHOPCONF. The low sensitivity setting (high sense resistor voltage, vsense=0) brings *best and most robust current regulation*, while high sensitivity (low sense resistor voltage, vsense=1) reduces power dissipation in the sense resistor.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

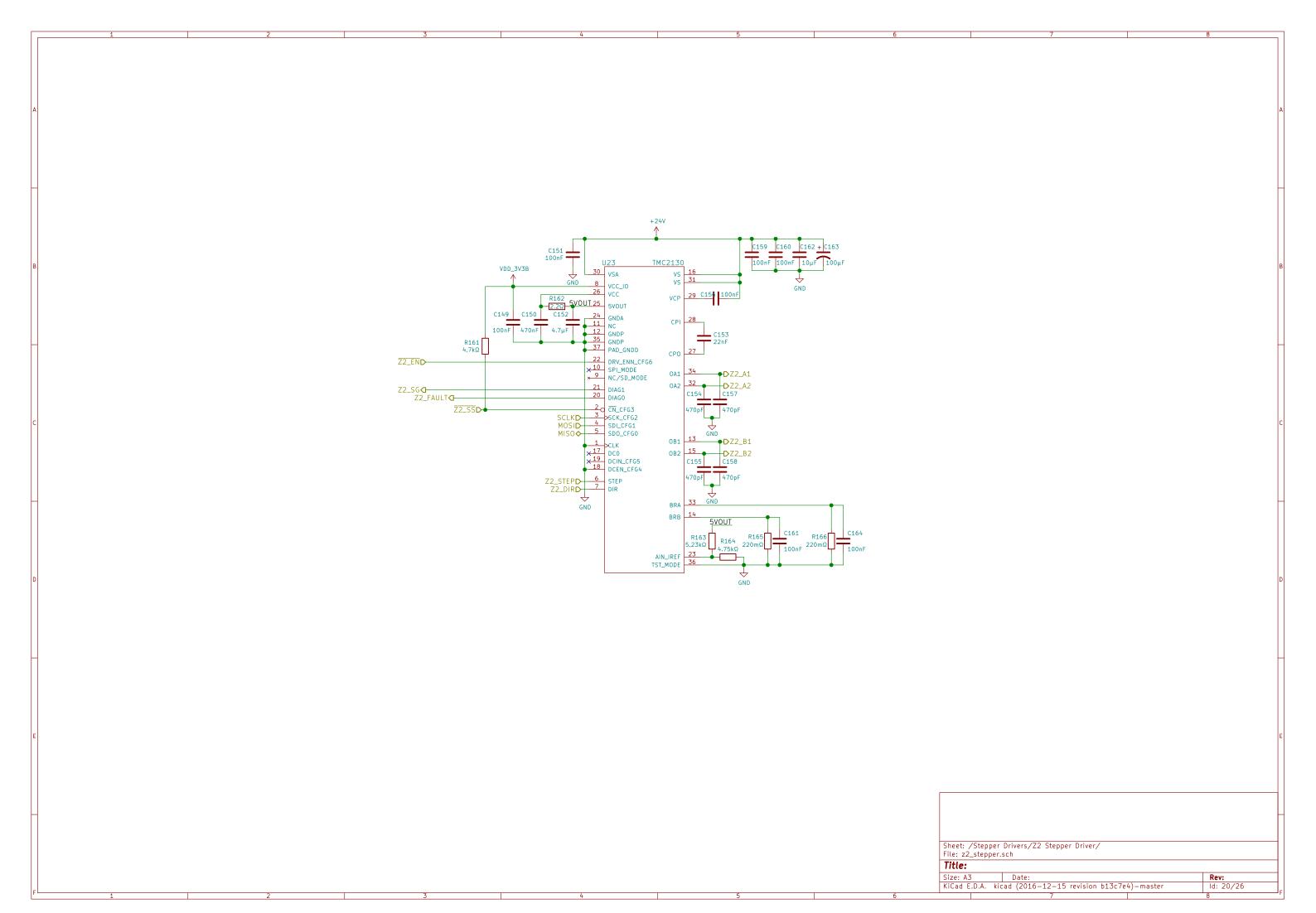
vsense	Allows control of the sense resistor voltage range	0	V _{FS} = 0.32 V	Vsrtl=325mV
	for full scale current.	1	V _{FS} = 0.18 V	

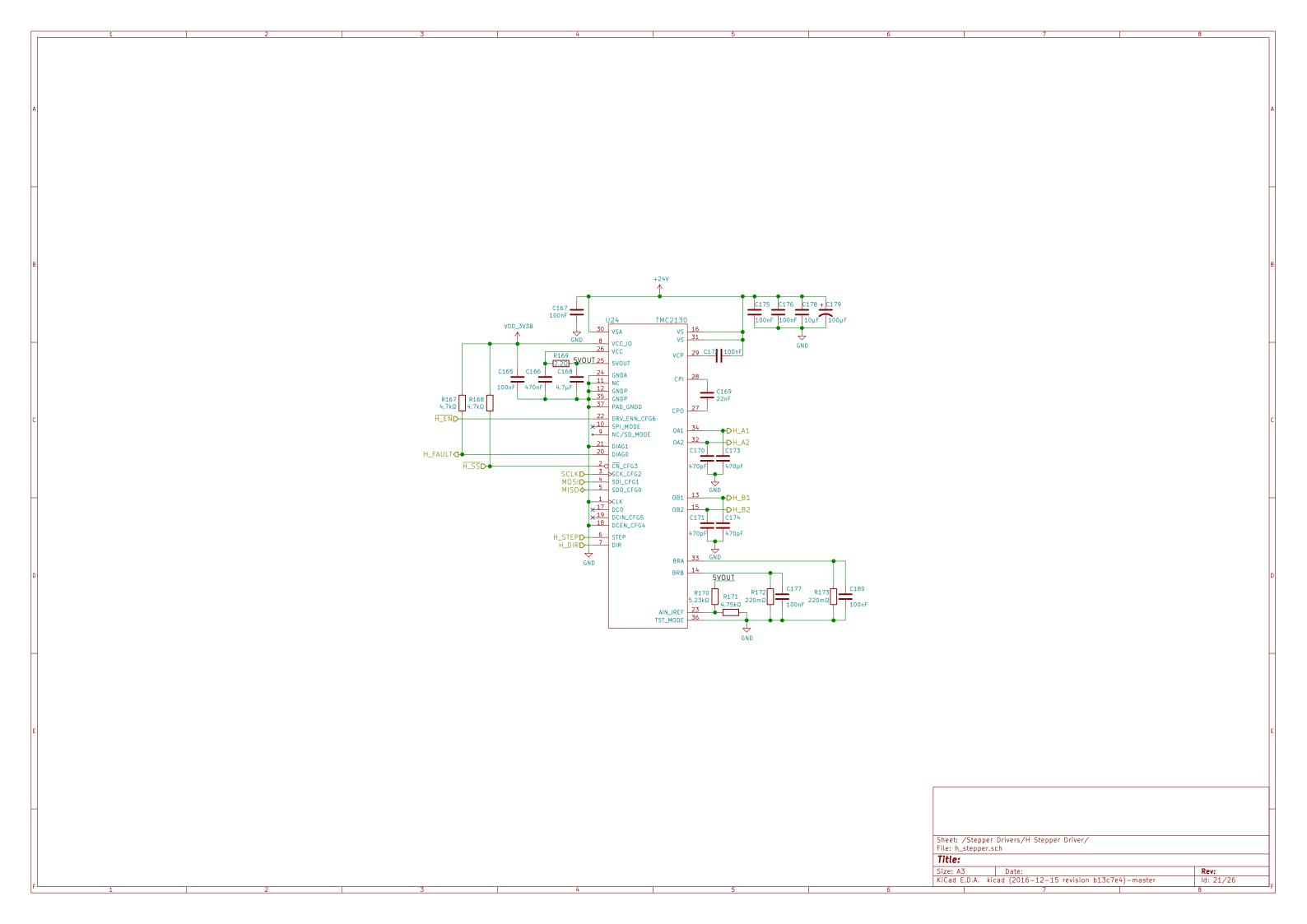
for full scale current.	1	V _{FS} = 0.18 V			
			Sheet: /Stepper	Drivers/E Stepper Driver/	
			File: e_stepper.s	ch	
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			Size: A3	Date:	Rev:
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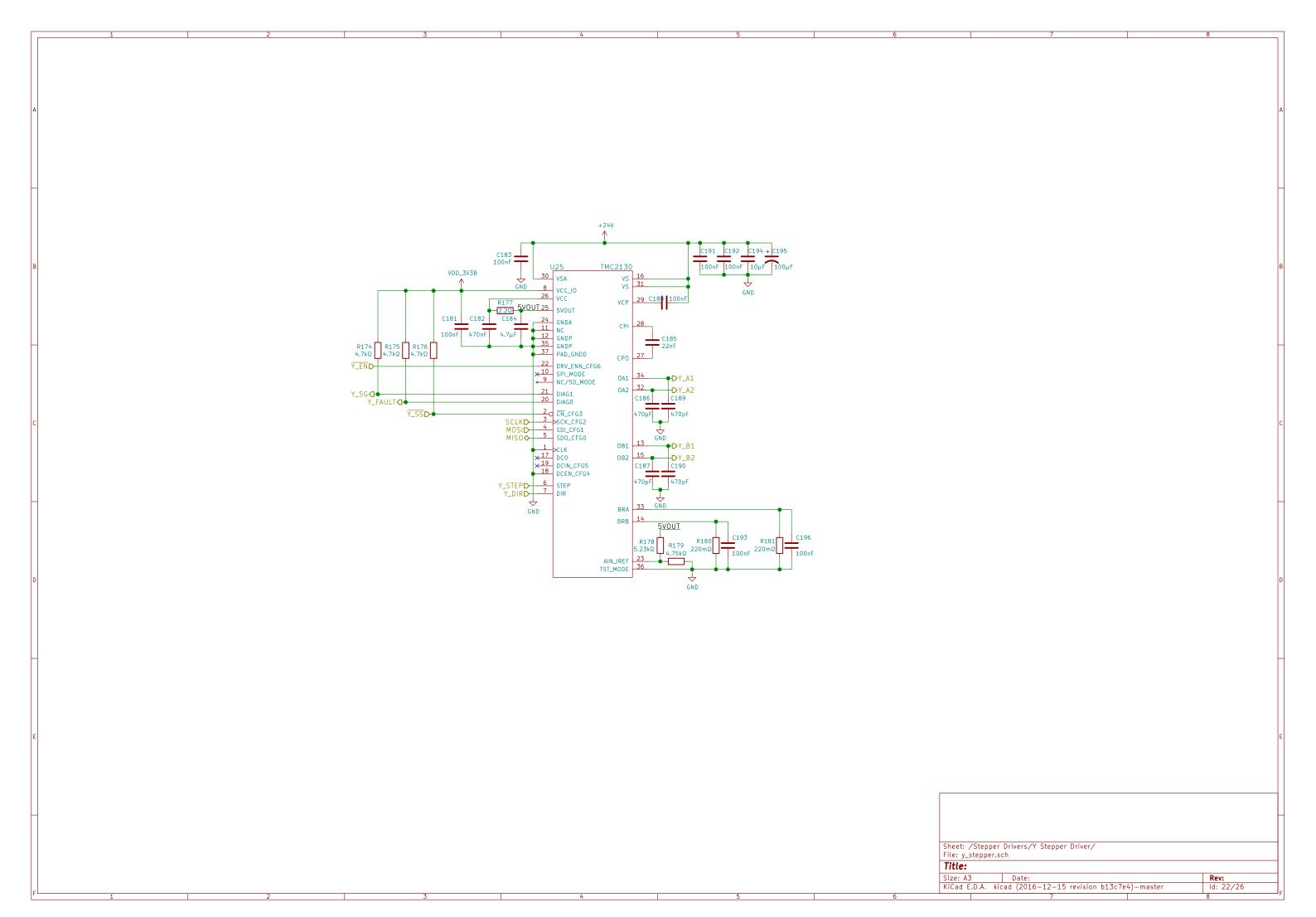


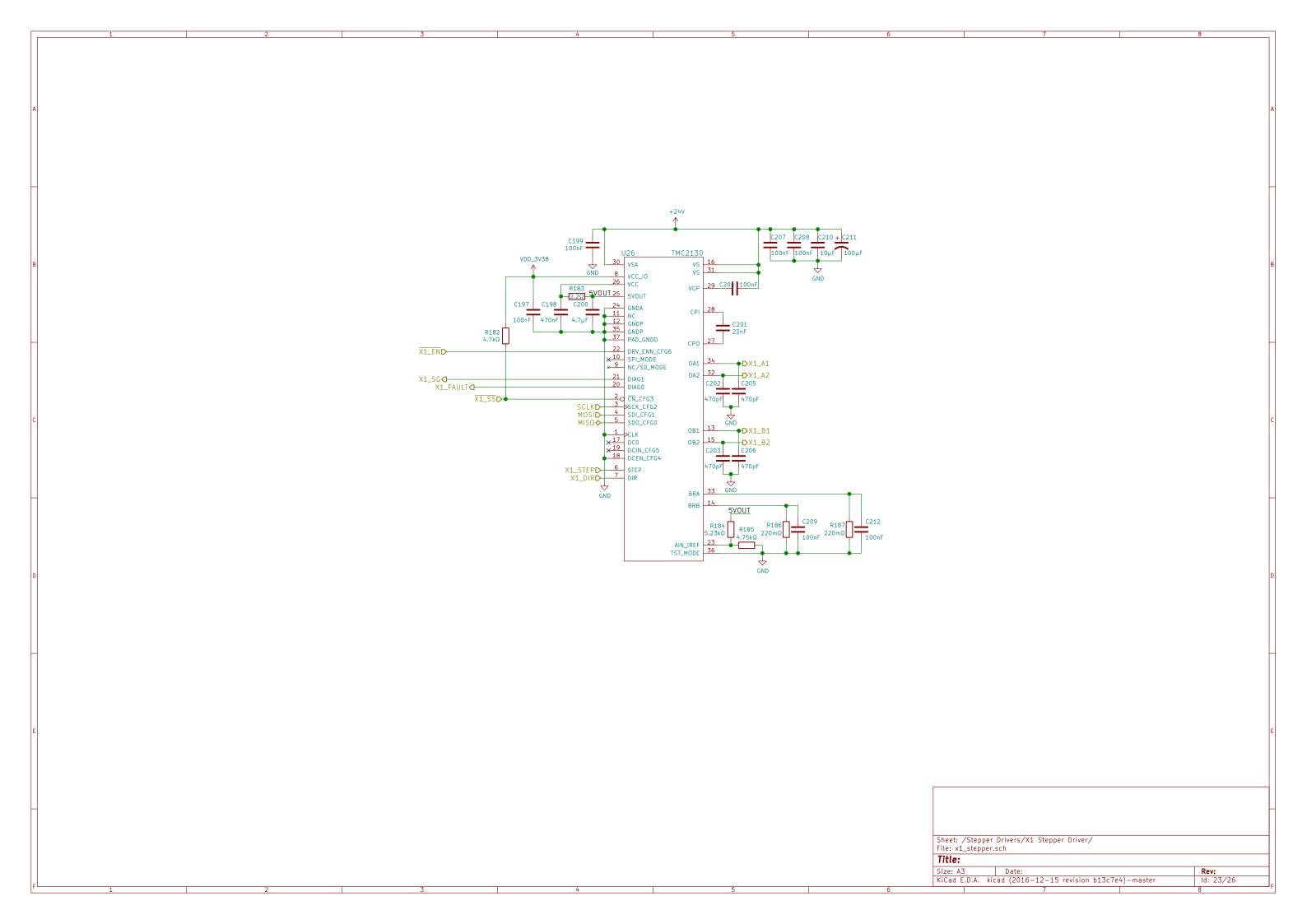


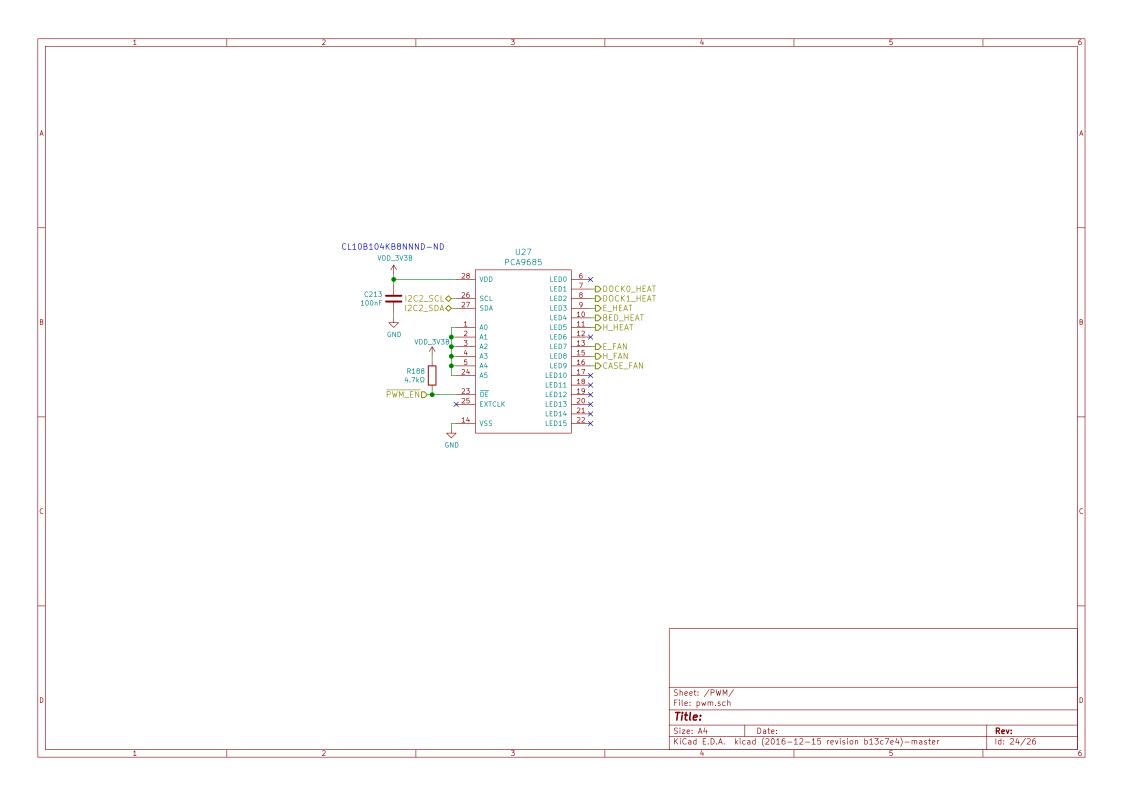


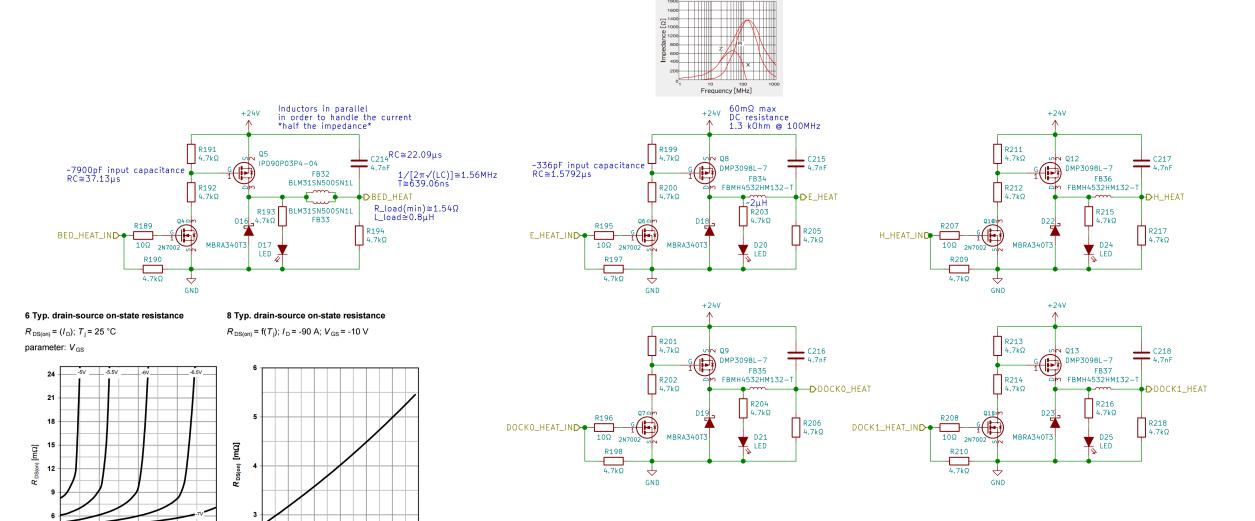












180

-/ _D [A]

270

-60 -20 20

60 100 140 180

T, [°C]

