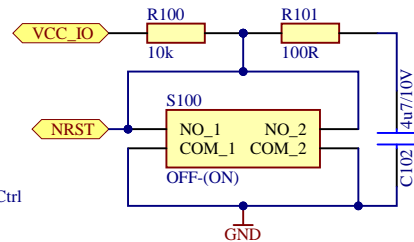
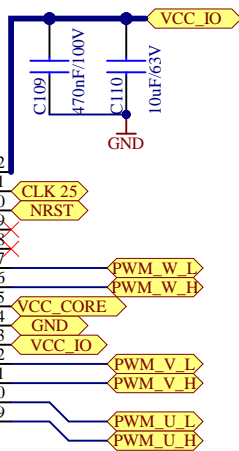
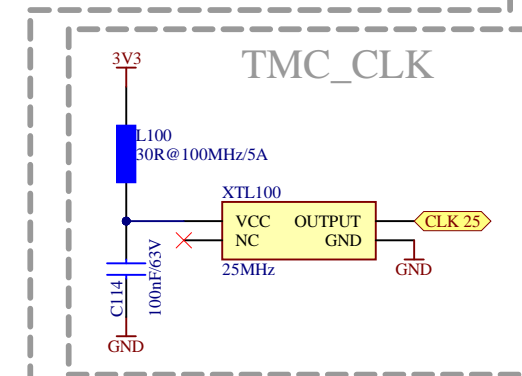
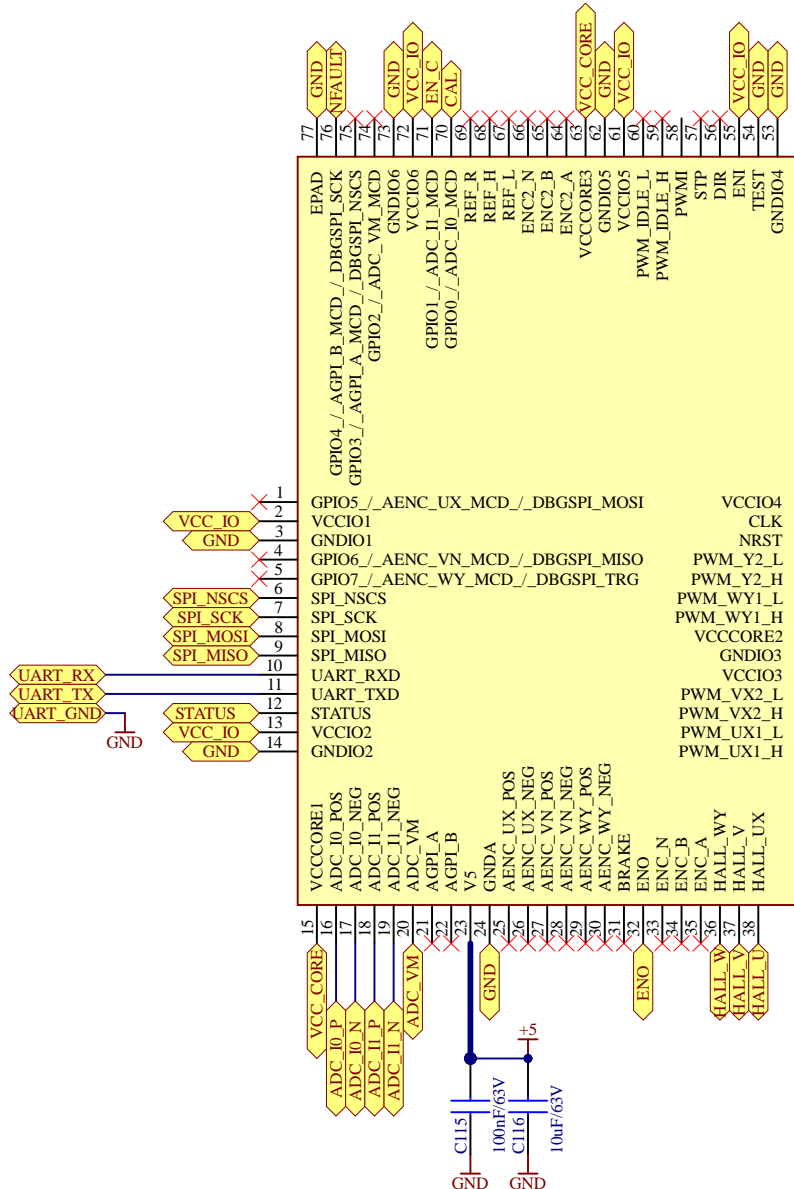
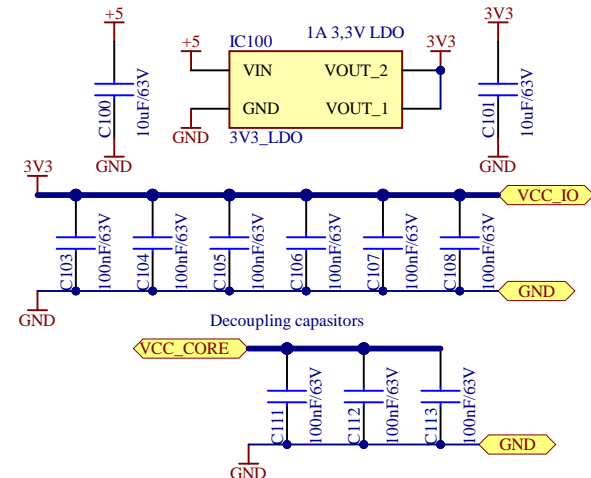


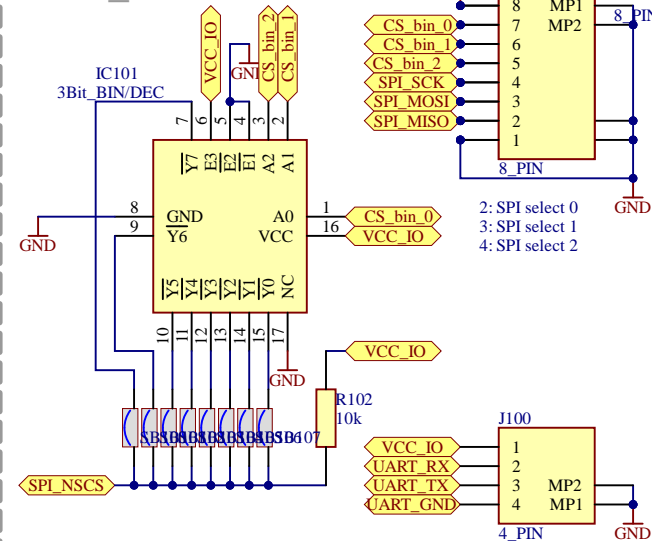
TMC_4671

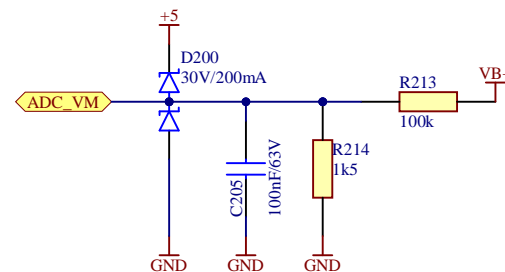
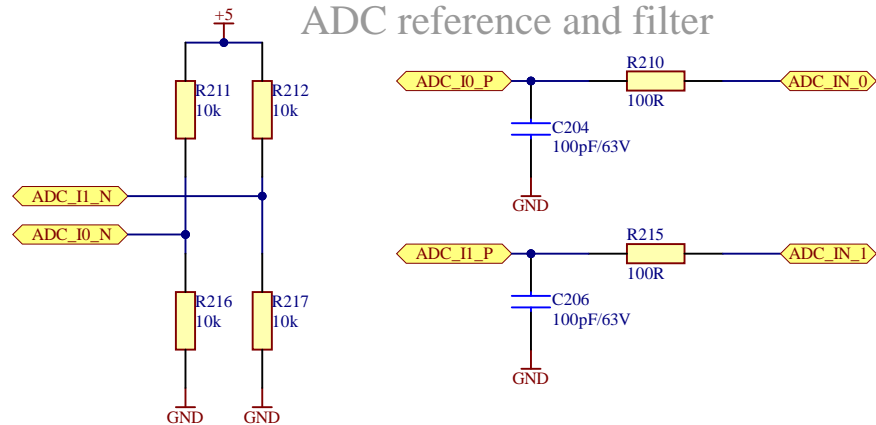
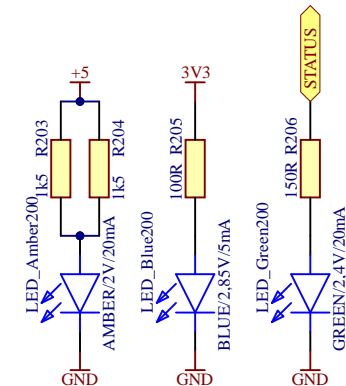
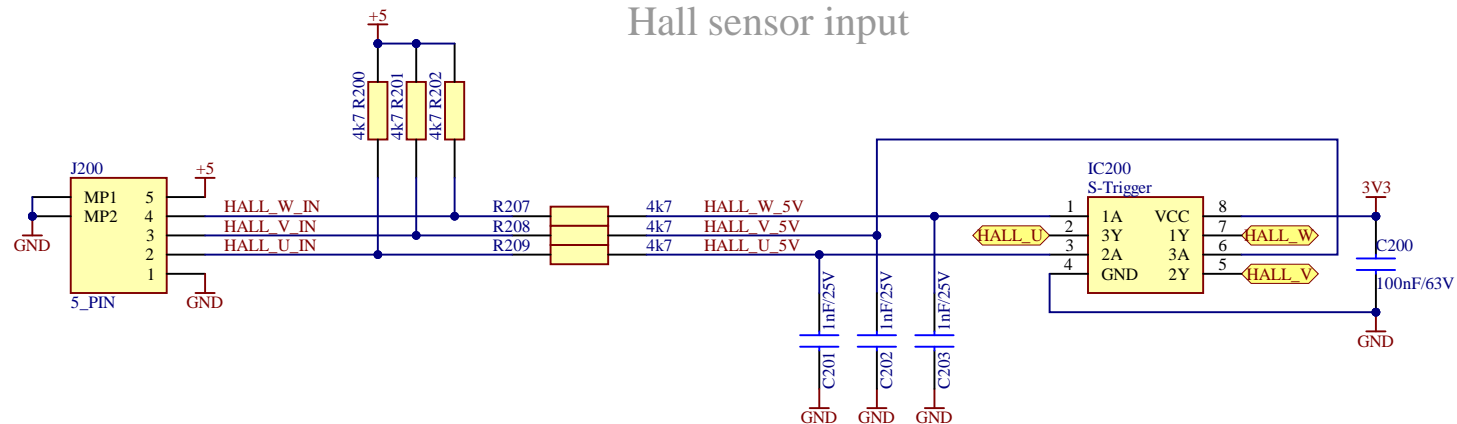


TMC_Power

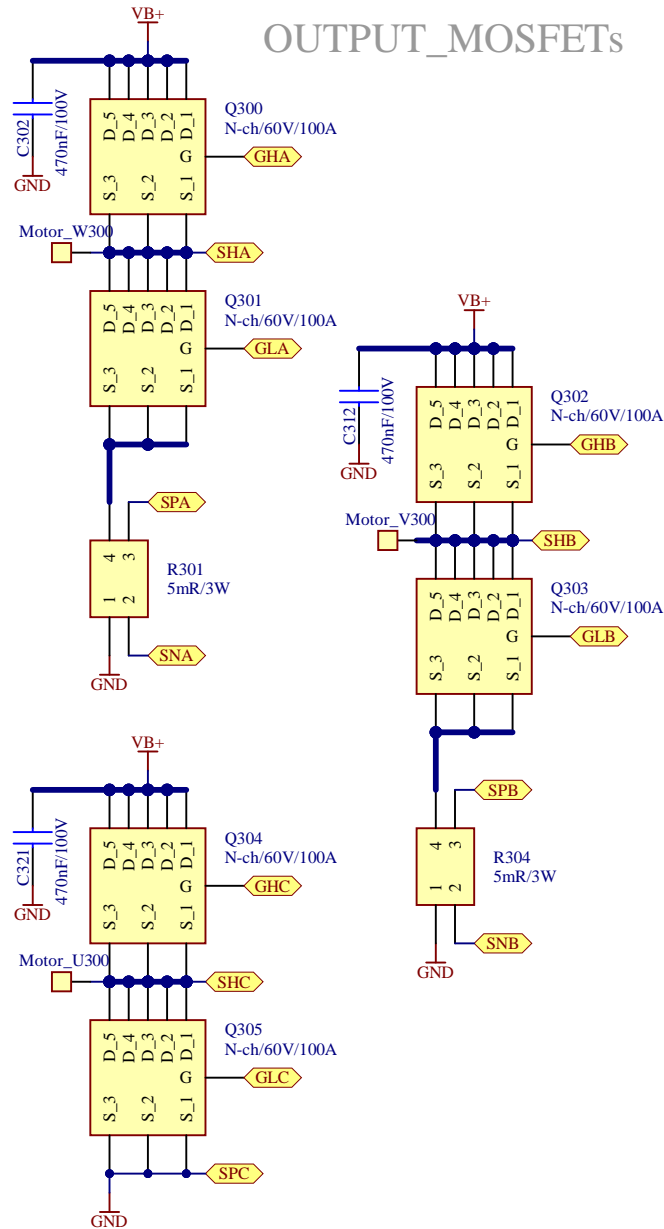


TMC_IO

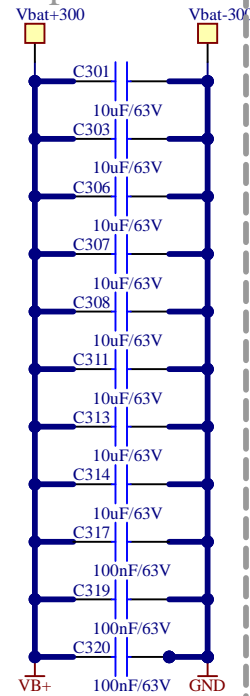




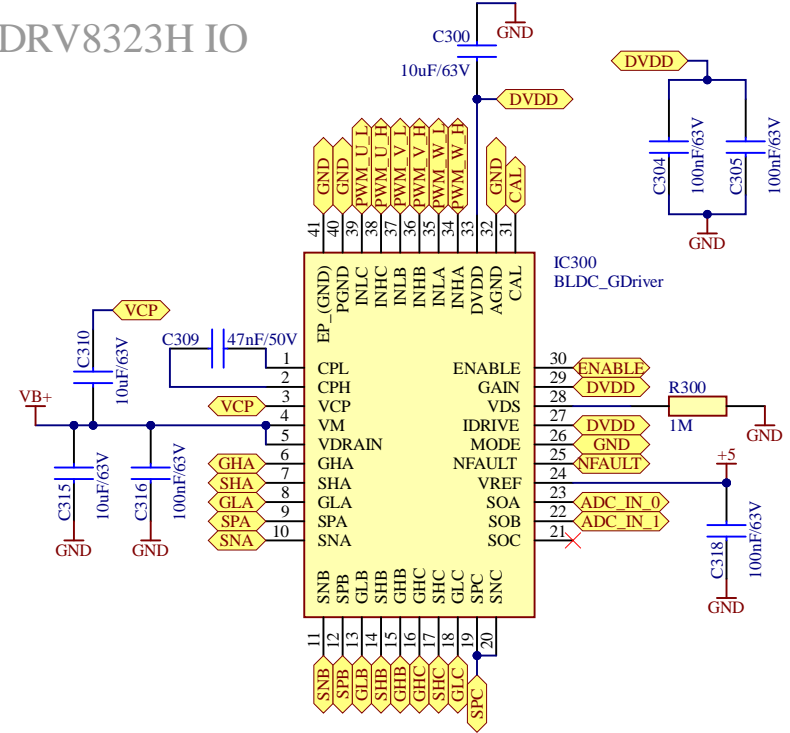
OUTPUT_MOSFETs



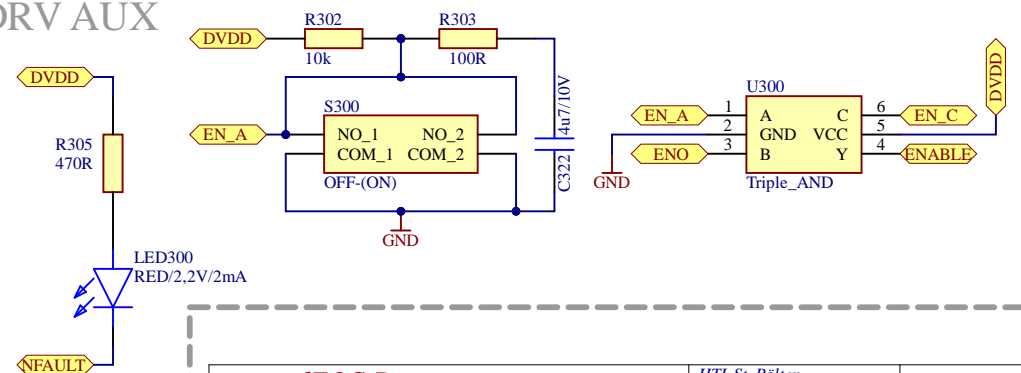
Input Buffer

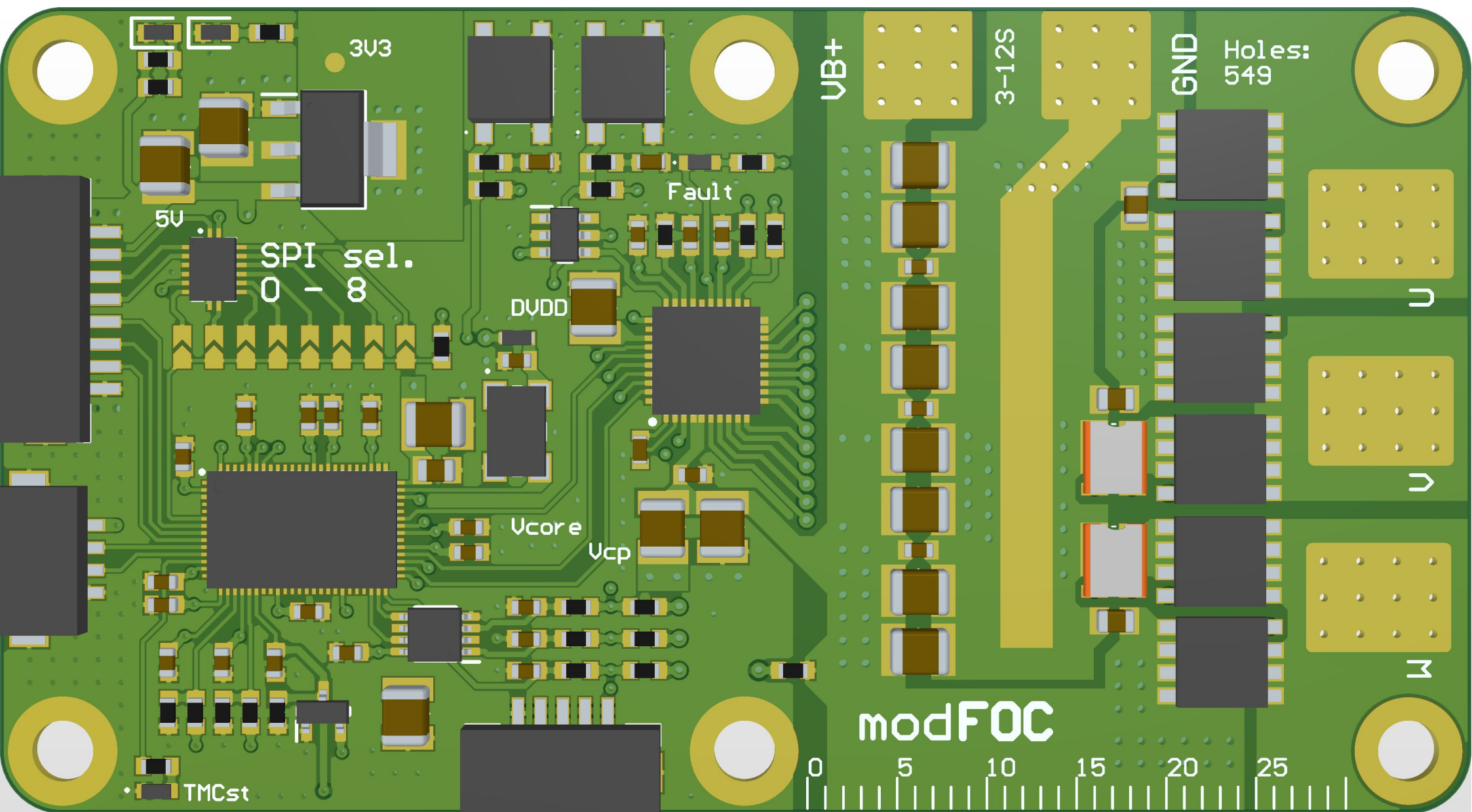


DRV8323H IO



DRV AUX

Title **modFOC-Powerstage**HTL St. Pölten
Mathias GillerSize: **A4**Number: **3**Revision: **1**Date: **06.04.2021**Time: **11:39:42**Sheet **3** of **3**File: **C:\Users\Thomas\Documents\GitHub\modFOC\Hardware\modFOC-ESC\modFOC-Powerstage.SchDoc****Altium**



3V3

5V

SPI sel.
0 - 8

DVDD

Fault

Vcore

Vcp

VB+

3-12S

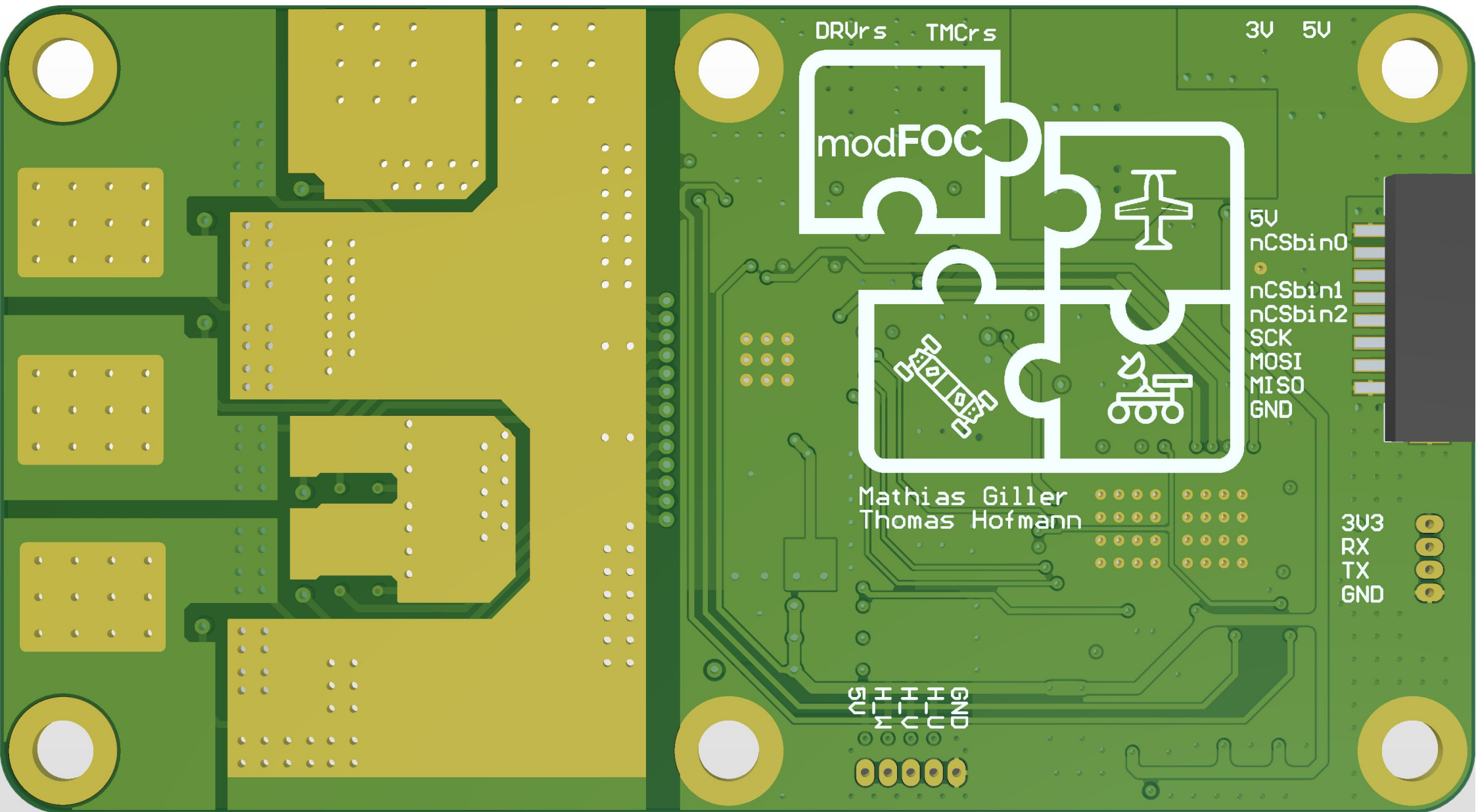
GND

Holes:
549

TMCst

modFOC

0 5 10 15 20 25



DRVrs TMCrs

3V 5V

modFOC



5V
nCSbin0

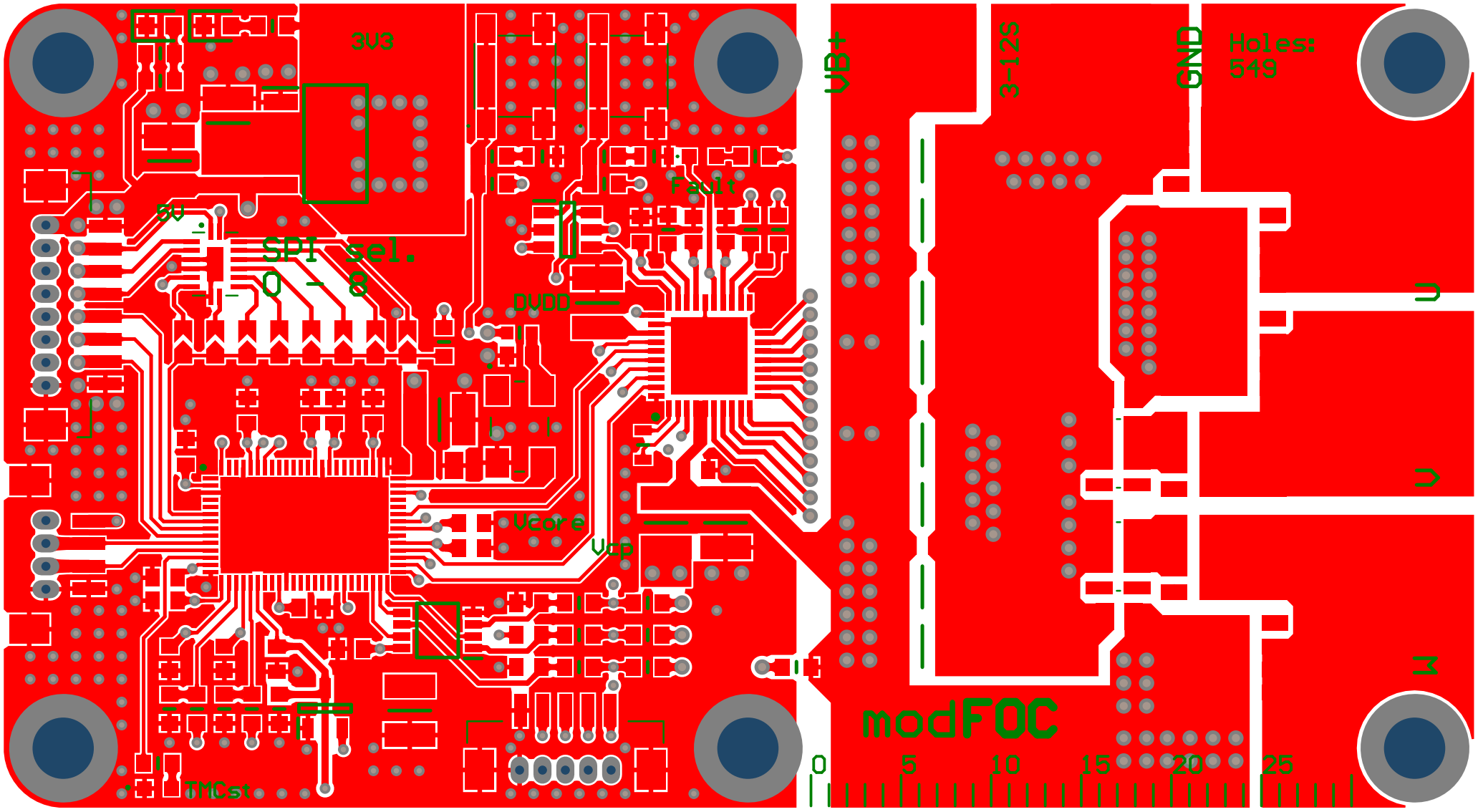
nCSbin1
nCSbin2

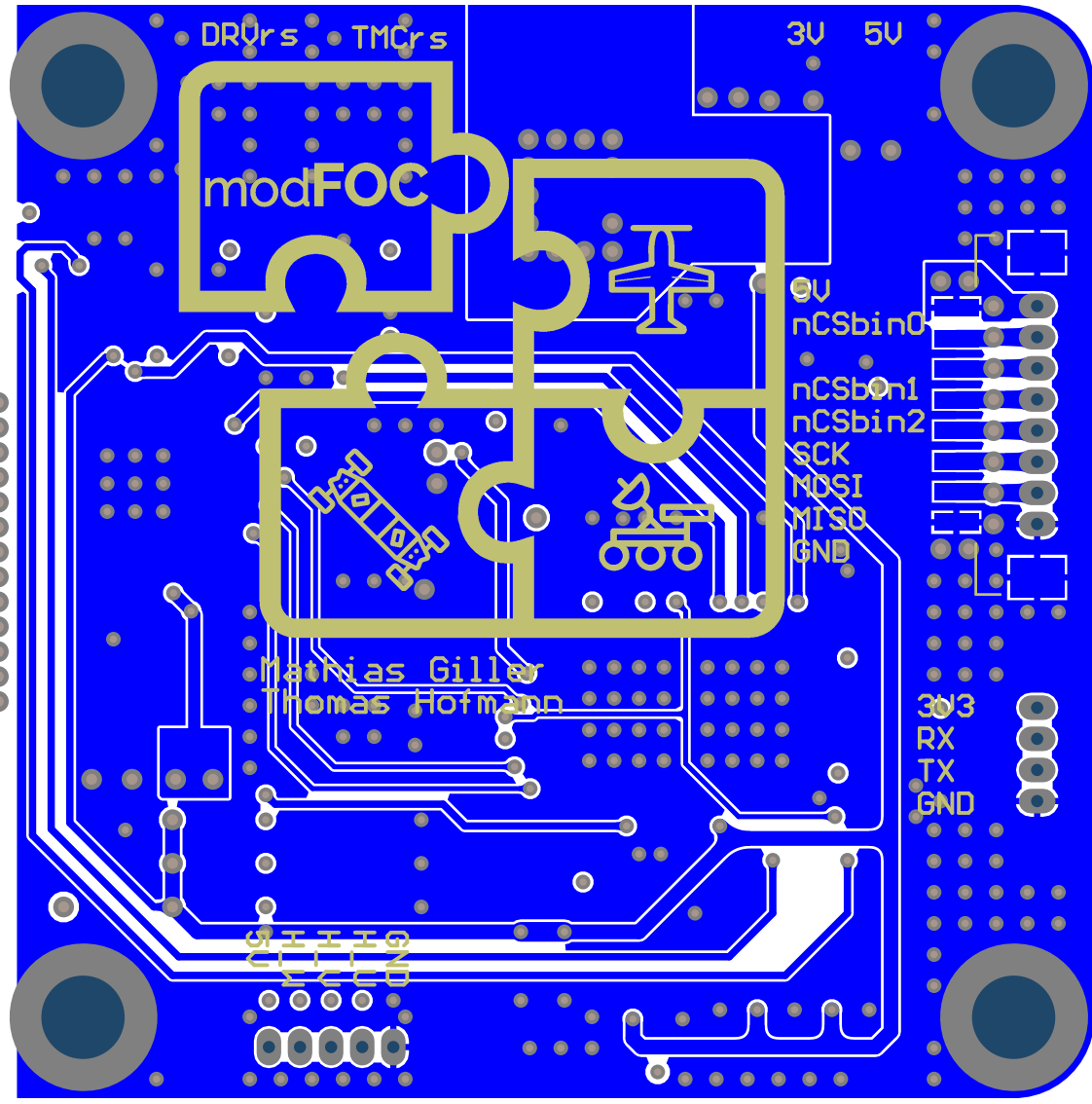
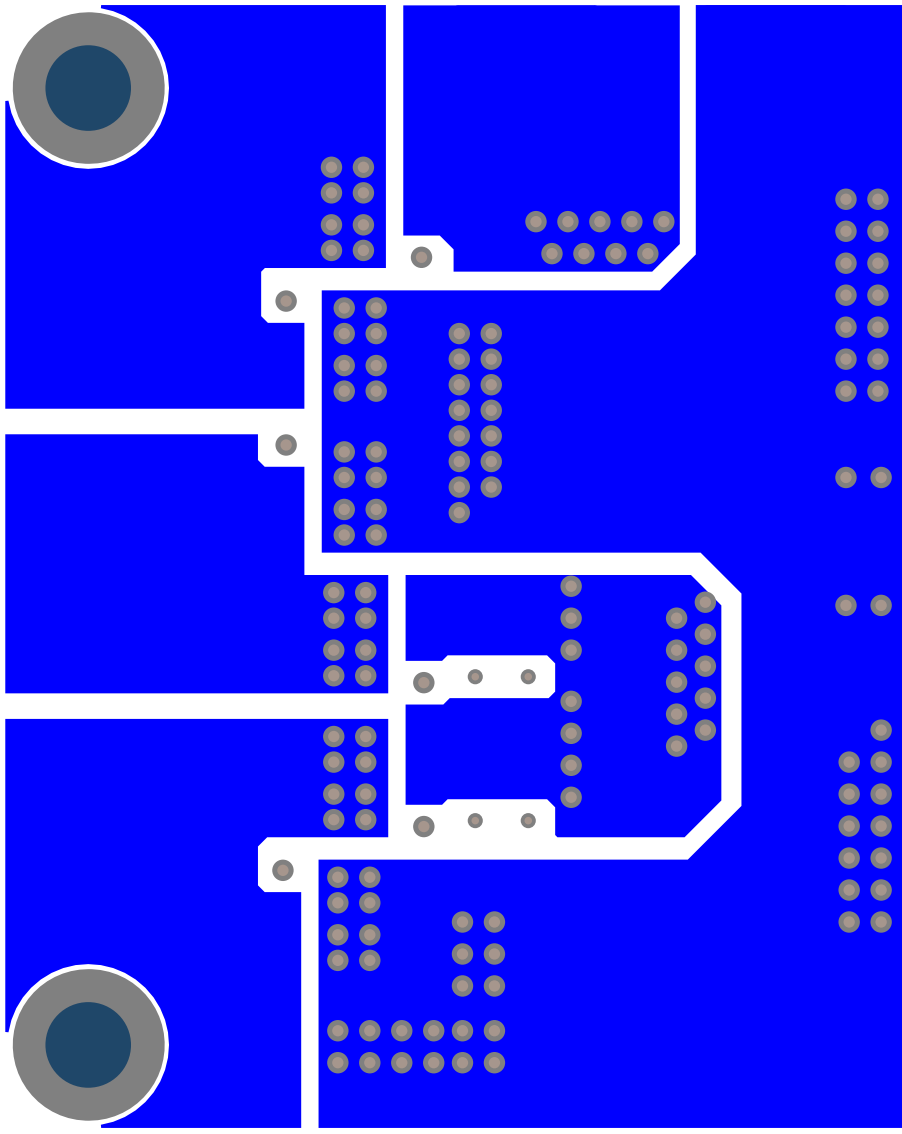
SCK
MOSI
MISO
GND

Mathias Giller
Thomas Hofmann

3V3
RX
TX
GND

5V
I1
I2
I3
I4
GND





Designator	Description	Comment	Manufacturer_Name	Manufacturer_Part_Number	Footprint	Quantity
C100, C101, C110, C116, C300, C301, C303, C306, C307, C308, C310, C311, C313, C314, C315	Capacitor	10uF/63V	Samsung Electro-Mechanics	CL32B106KMVNNWE	CAPC3225X280N	15
C102, C322	Capacitor	4u7/10V	Samsung Electro-Mechanics	CL10A475KP8NNNC	CAPC1608X90N	2
C103, C104, C105, C106, C107, C108, C111, C112, C113, C114, C115, C200, C205, C304, C305, C316, C317, C318, C319, C320	Capacitor	100nF/63V	Vishay	VJ0603Y104JXJAC	CAPC1608X97N	20
C109, C302, C312, C321	Capacitor	470nF/100V	AVX	08051C474KAT2A	CAPC2012X140N	4
C201, C202, C203	Capacitor	1nF/25V	Murata Electronics	GRM033R71E102KA01D	CAPC1608X97N	3
C204, C206	Capacitor	100pF/63V	Kemet	C0603C101K1HAC TU	CAPC1608X87N	2
C309	Capacitor	47nF/50V	TDK	CGA3E2X7R1H473K080AA	CAPC1608X90N	1
CON100, CON101	Connector	8_PIN	Hirose	DF13A-8P-1.25H(21)	DF13A8P125H21	2
D200	Schottky Diode	30V/200mA	Rectron	BAT54S	SOT95P240X110-3N	1
IC100	Integrated Circuit	3V3_LDO	Diodes Inc.	AP2114H-3.3TRG1	SOT230P700X180-4N	1
IC101	Integrated Circuit	3Bit_BIN/DEC	Nexperia	74LVC138ABQ,115	74HCT595BQ115	1
IC200	Integrated Circuit	S-Trigger	Nexperia	74LVC3G17DP,125	SOP65P400X110-8N	1
IC300	Integrated Circuit	BLDC_GDriver	Texas Instruments	DRV8323HRTAR	QFN50P600X600X80-41N-D	1
IC 100, Motor_U300, Motor_V300, Motor_W300, Vbat-300, Vbat+300, XTL100	FOC Motion Controller, [NoValue], 25Mhz Oscillator	Motion Ctrl, PowerPad, PW_PAD_SMOL, 25MHz			QFN40P1050X650X90-77N, POWER_PAD, PW_PAD_SMOL, FOX924B25	7
J100	Connector	4_PIN	Hirose	DF13A-4P-1.25H(21)	DF13A4P125H21	1
J200	Connector	5_PIN	Hirose	DF13A-5P-1.25H(21)	DF13A5P125H21	1
L100	Ferrite Bead	30R@100MHz/5A	Murata Electronics	BLM18KG300TH1D	BLM18KG101TH1D	1
LED300	LED	RED/2,2V/2mA	OSRAM	LS L29K-G1J2-1-Z	LSL29KG1J21Z	1
LED_Amber200	LED	AMBER/2V/20mA	Avago Technologies	ASMT-RA45-AP932	LEDC1608X55N	1
LED_Blue200	LED	BLUE/2,85V/5mA	OSRAM	LB Q39G-L200-35-1	LEDC1608X40N	1
LED_Green200	LED	GREEN/2,4V/20mA	OSRAM	LG Q396-PS-35	LGQ396PS35	1
Q300, Q301, Q302, Q303, Q304, Q305	MOSFET (N-Channel)	N-ch/60V/100A	Toshiba	TPH2R506PL,L1Q	TPHR9003NLL1Q	6
R100, R102, R211, R212, R216, R217, R302	Resistor	10k	YAGEO (PHYCOMP)	RC0603FR-0710KL	RESC1608X55N	7
R101, R205, R210, R215, R303	Resistor	100R	Vishay	CRCW0603100RFEAC	RESC1608X55N	5
R200, R201, R202, R207, R208, R209	Resistor	4k7	Vishay	CRCW06034K70JNEAC	RESC1608X55N	6
R203, R204, R214	Resistor	1k5	Panasonic	ERJ1GNF1501C	RESC1608X55N	3
R206	Resistor	150R	ROHM Semiconductor	SFR03EZPF1500	RESC1608X55N	1
R213	Resistor	100k	Panasonic	ERJ1GNF1003C	RESC1608X55N	1
R300	Resistor	1M	YAGEO (PHYCOMP)	RC0603FR-071ML	RESC1608X55N	1
R301, R304	Resistor	5mR/3W	Vishay	WSK1216L5000FEA	WSK1216L1000FEA	2
R305	Resistor	470R	YAGEO (PHYCOMP)	RC0603FR-10470RL	RESC1608X55N	1
S100, S300	Switch	OFF-(ON)	C & K COMPONENTS	PTS647SK38SMTR2LFS	PTS647SK38SMTR2LFS	2
SB100, SB101, SB102, SB103, SB104, SB105, SB106, SB107	Solder Bridge	Solder Bridge		RC0603JR-070RL	SOLDER-BRIDGE_R0603-0R	8
U300	3 Input AND Gate	Triple_AND	Diodes Inc.	74LVC1G11W6-7	SOT95P285X140-6N	1