

A

A

B

B

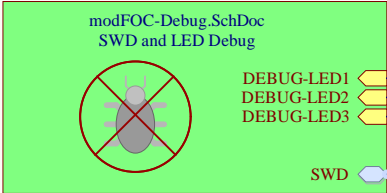
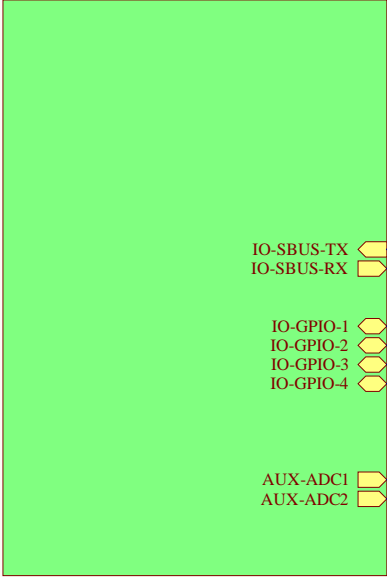
C

C

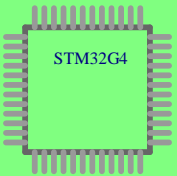
D

D

Designator  
modFOC-RC-Interface.SchDoc



modFOC-MCU.SchDoc  
STM32 MCU and Peripherals



IO-SBUS-TX  
IO-SBUS-RX

IO-GPIO-1  
IO-GPIO-2  
IO-GPIO-3  
IO-GPIO-4

AUX-ADC1  
AUX-ADC2

SCLK\_H  
MOSI\_H  
MISO\_H  
CS\_0  
CS\_1  
CS\_2  
CS\_HRange

IO-UART-TX  
IO-UART-RX

IO-SPI-NCS  
IO-SPI-SCL  
IO-SPI-MISO  
IO-SPI-MOSI

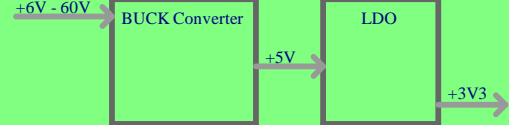
IO-I2C-SCL  
IO-I2C-SDA

USB-MCU

DEBUG-LED1  
DEBUG-LED2  
DEBUG-LED3

SWD

modFOC-Buck-Supply.SchDoc  
Integrated Inductor Buck Supply



modFOC-ESC-Interface.SchDoc  
ESC Interface



modFOC Peripheral Interfaces  
modFOC-IO.SchDoc



Title **RcMPPT-Top SCC**

Size: A4

Number: 1

Revision: 2.0

Date: 17.03.2022

Time: 20:59:45

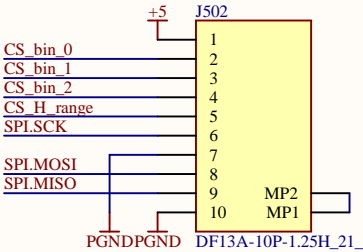
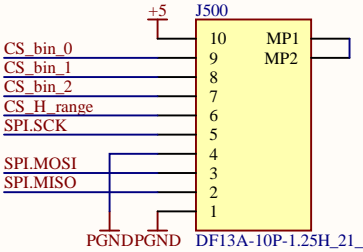
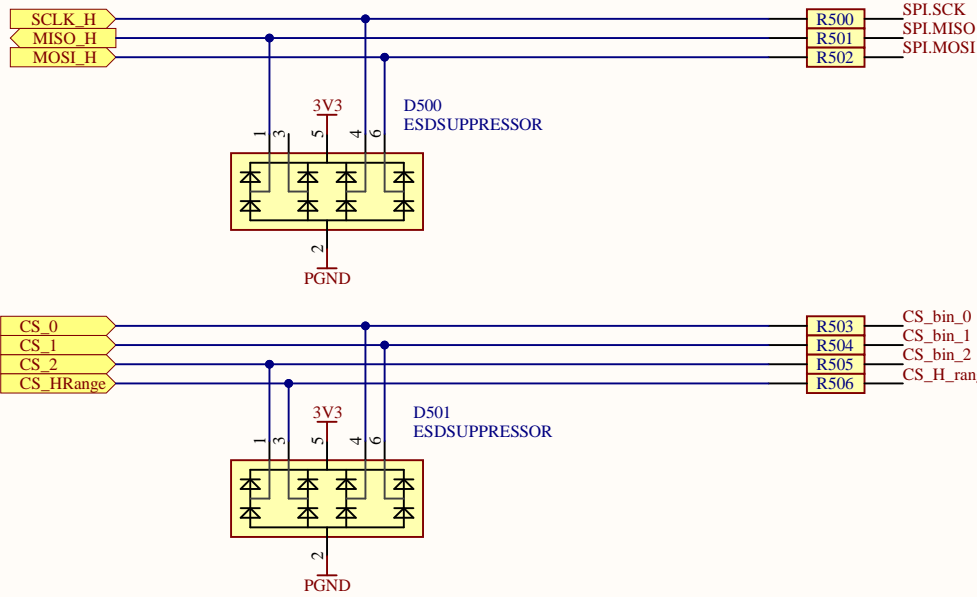
Sheet 1 of 7

File: modFOC-Top.SchDoc

RcMPPT  
HTL St. Pölten  
Thomas Hofmann  
\*  
\*



Board Interconnect  
RcMPPT-BMS



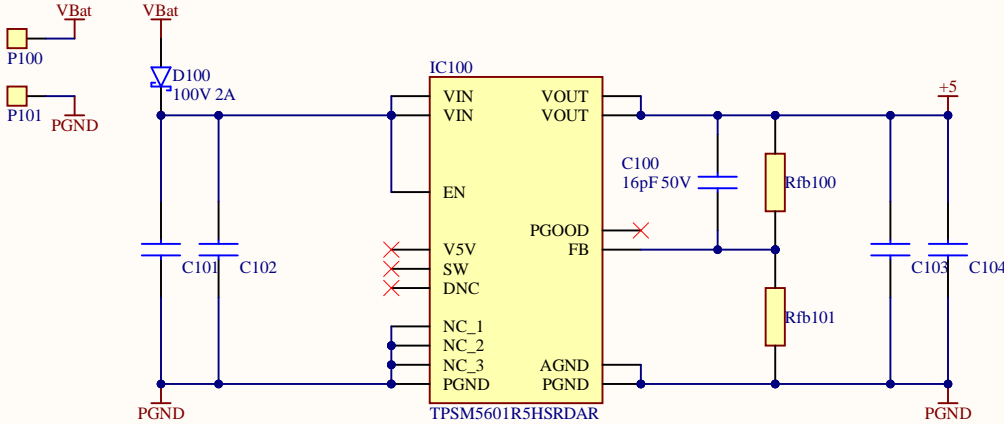
Title <b>RcMPPT-BMS-Interface</b>		
Size: <b>A4</b>	Number: <b>8</b>	Revision: <b>2.0</b>
Date: <b>17.03.2022</b>	Time: <b>20:59:45</b>	Sheet <b>2</b> of <b>7</b>
File: <b>modFOC-ESC-Interface.SchDoc</b>		

RcMPPT  
HTL St. Pölten  
Thomas Hofmann  
\*  
\*

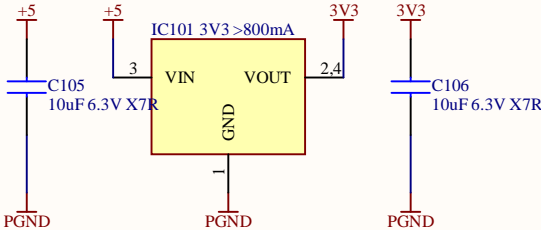


5V Buck Regulator  
Integrated Inductor

VBat: 3-12S Lipo/Lilon/LiFePo  
VPanel: 6-60V



3.3V Linear Regulator



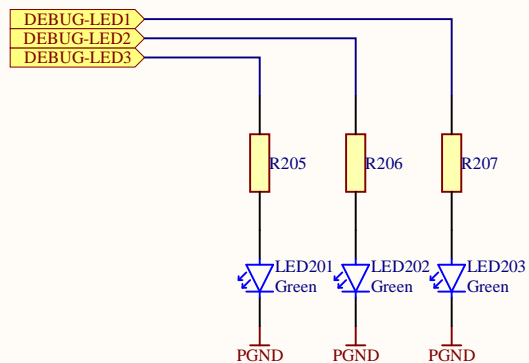
Title <b>RcMPPT-Buck-Supply</b>		
Size: <b>A4</b>	Number: <b>2</b>	Revision: <b>2.0</b>
Date: <b>17.03.2022</b>	Time: <b>20:59:45</b>	Sheet <b>3</b> of <b>7</b>
File: <b>modFOC-Buck-Supply.SchDoc</b>		

RcMPPT  
HTL St. Pölten  
Thomas Hofmann  
\*  
\*



[illegible]

Indicator LEDs

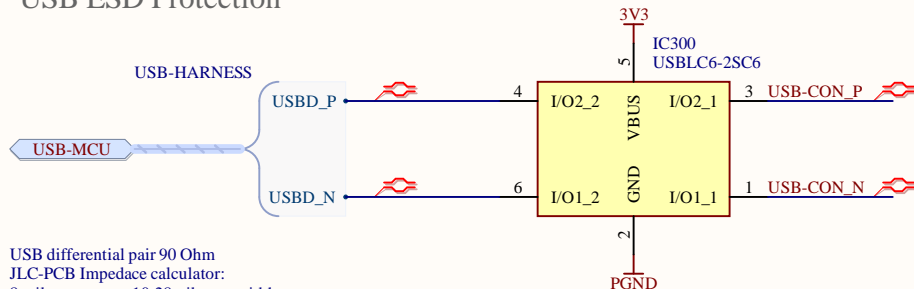


Title <b><i>RcMPPT-Debug</i></b>		
Size: <b>A4</b>	Number: <b>6</b>	Revision: <b>2.0</b>
Date: <b>17.03.2022</b>	Time: <b>20:59:46</b>	Sheet <b>4</b> of <b>7</b>
File: <b>modFOC-Debug.SchDoc</b>		

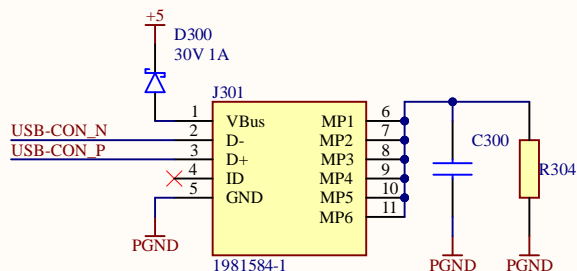
*RcMPPT*  
*HTL St. Pölten*  
*Thomas Hofmann*  
\*  
\*

RcMPPT

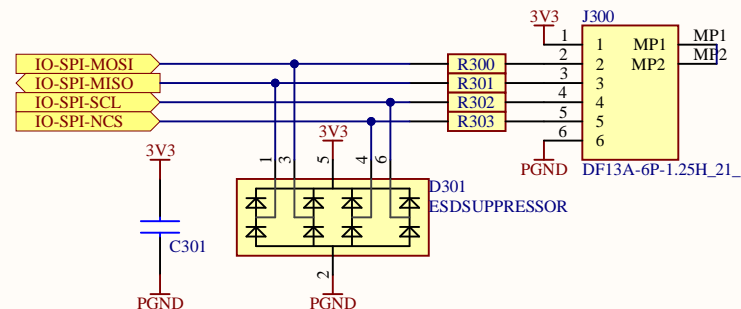
## USB ESD Protection



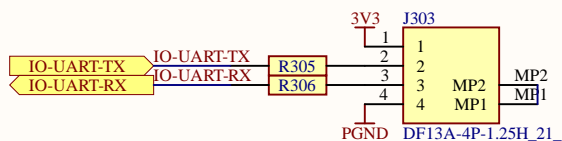
## USB



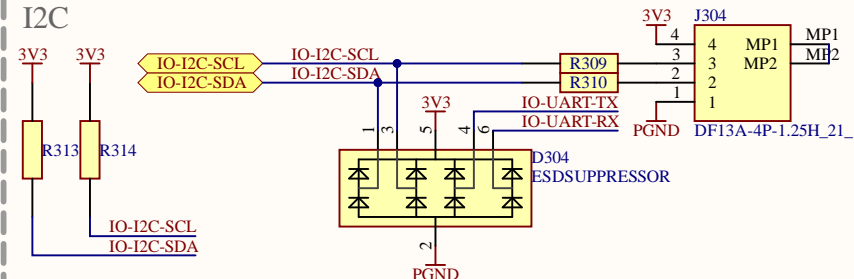
## SPI



## UART



## I2C



Title **RcMPPT-IO**

Size: **A4**

Number: **5**

Revision: **2.0**

Date: **17.03.2022**

Time: **20:59:46**

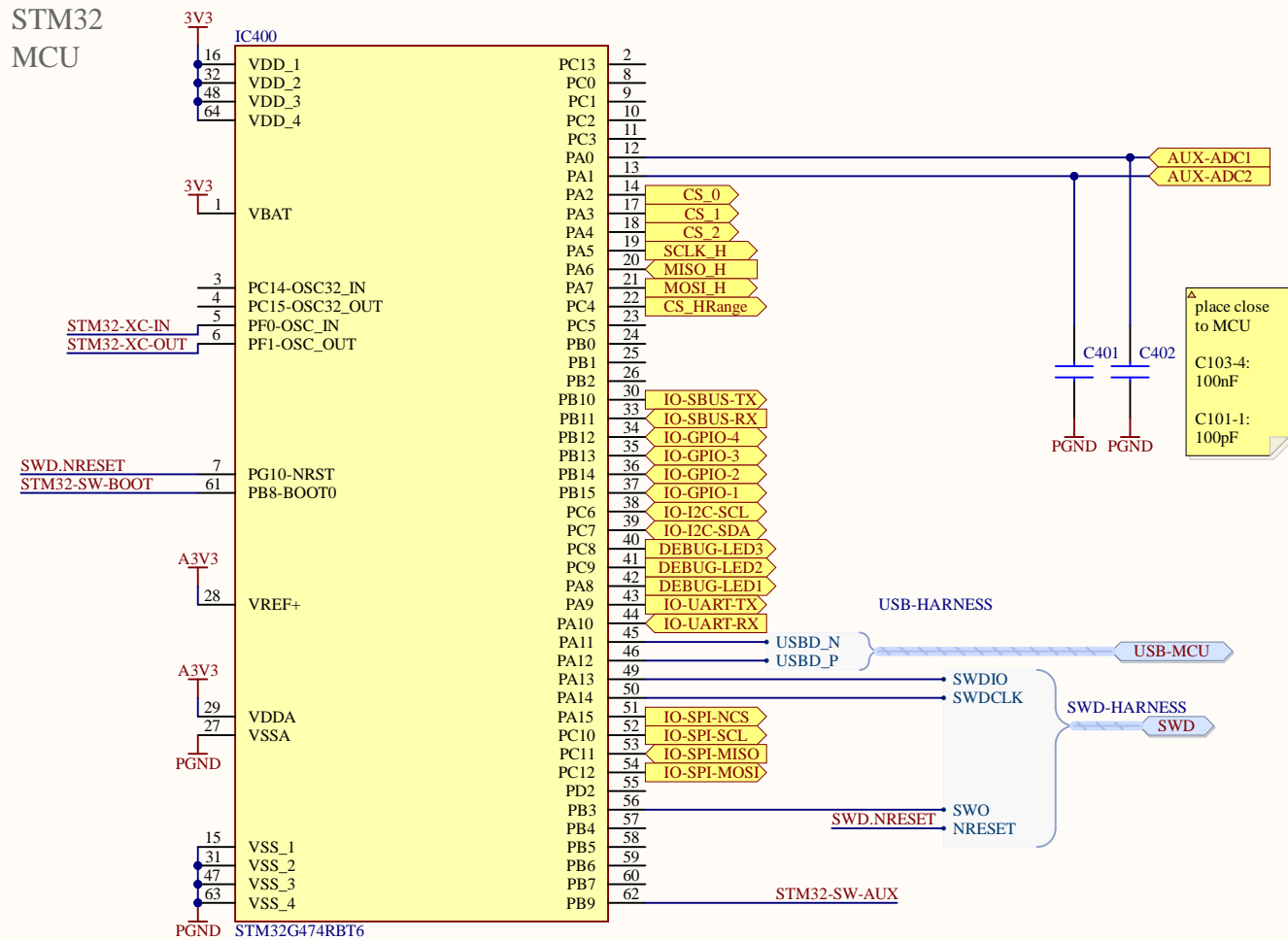
Sheet **5** of **7**

File: **modFOC-IO.SchDoc**

RcMPPT  
HTL St. Pölten  
Thomas Hofmann  
\*  
\*

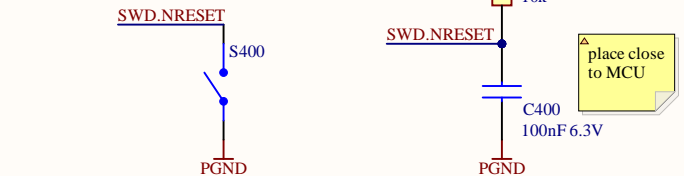
RcMPPT

# STM32 MCU



## Reset Button

Active low reset of MCU1  
(debounce cap to prevent parasitic resets)

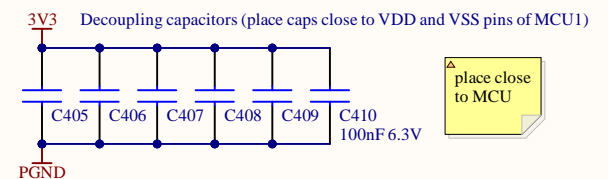
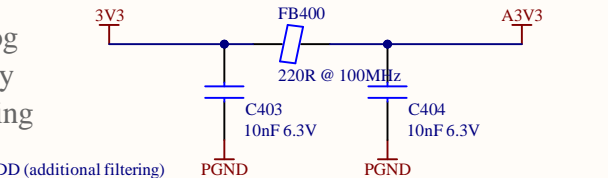
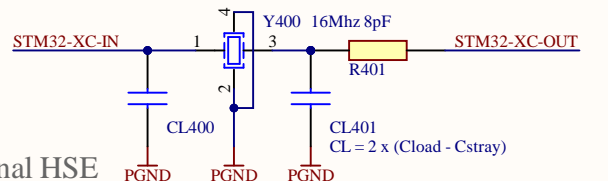


## External HSE

## Analog Supply Filtering

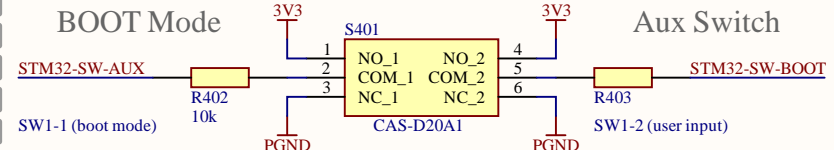
Analog VDD (additional filtering)

## Decoupling Capacitors



## BOOT Mode

## Aux Switch



Title **RcMPPT-MCU**

Size: **A4**

Number: **1**

Revision: **2.0**

Date: **17.03.2022**

Time: **20:59:46**

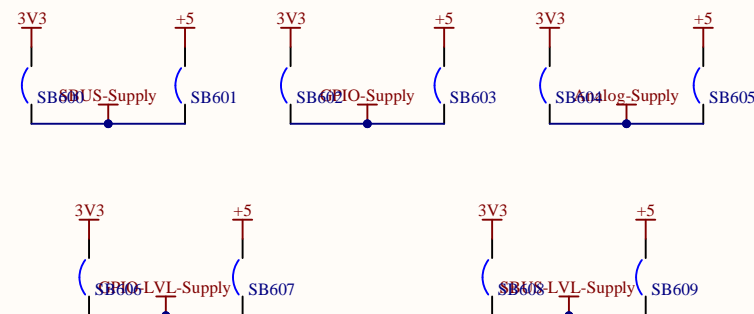
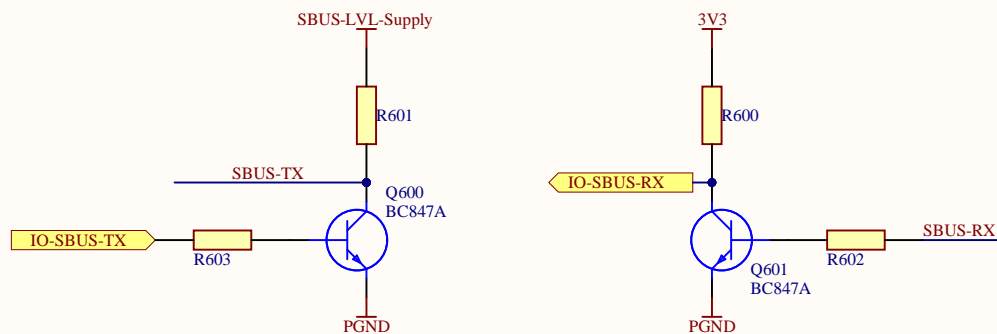
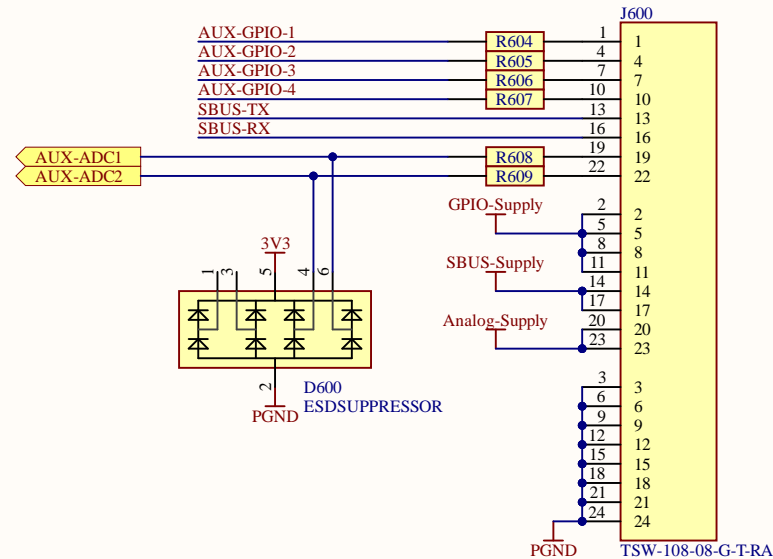
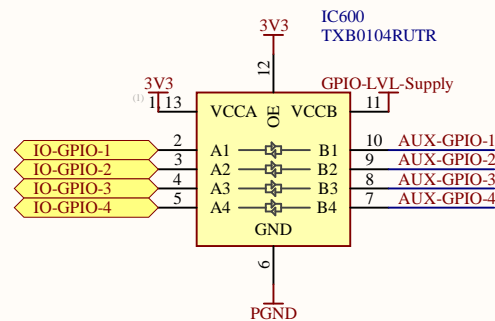
Sheet **6** of **7**

File: **modFOC-MCU.SchDoc**

RcMPPT  
HTL St.Pölten  
Thomas Hofmann

RcMPPT

GPIO Level Shift

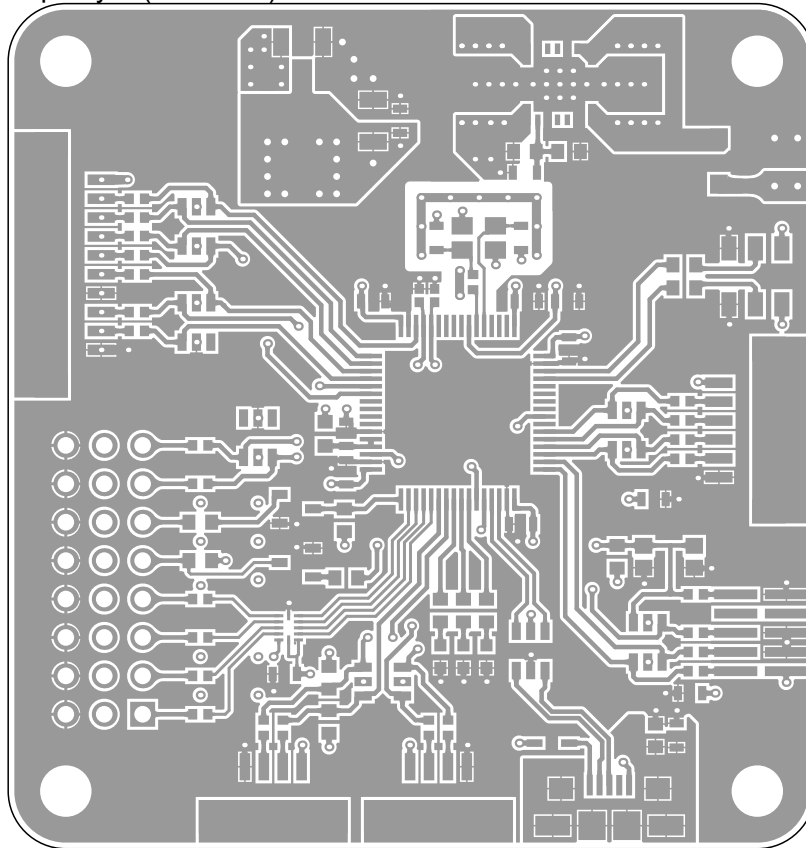


Title <i><b>modFOC-RC-Interface</b></i>			<i>modFOC</i> <i>HTL St. Pölten</i> <i>Thomas Hofmann</i> <i>*</i> <i>Thomas Hofmann</i>
Size: <b>A4</b>	Number: <b>7</b>	Revision: <b>2.0</b>	
Date: <b>17.03.2022</b>	Time: <b>20:59:47</b>	Sheet <b>7</b> of <b>7</b>	
File: <b>modFOC-RC-Interface.SchDoc</b>			

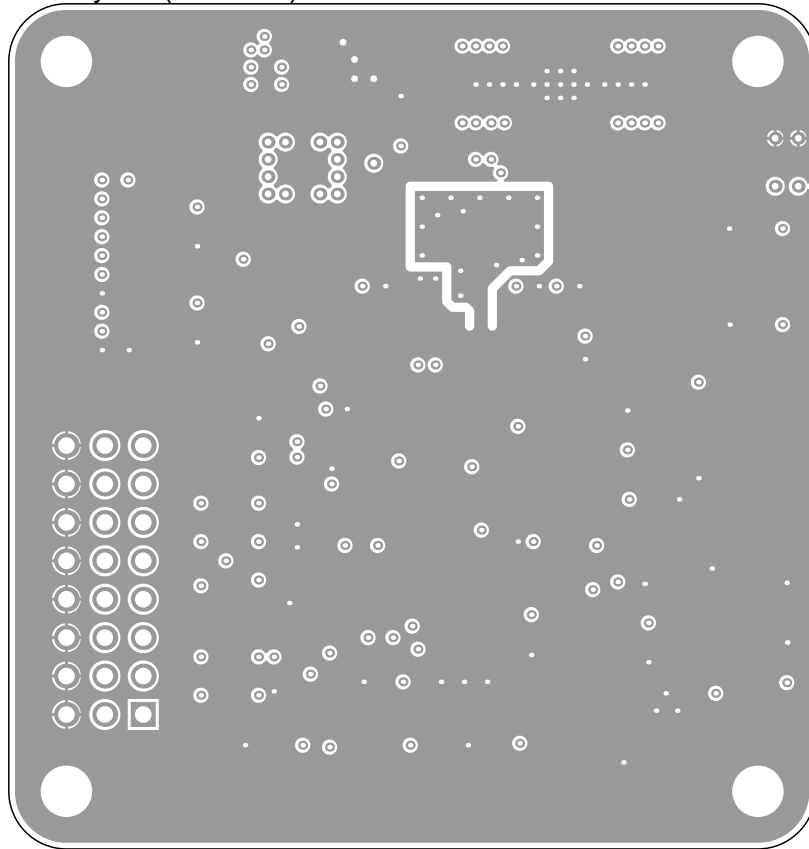




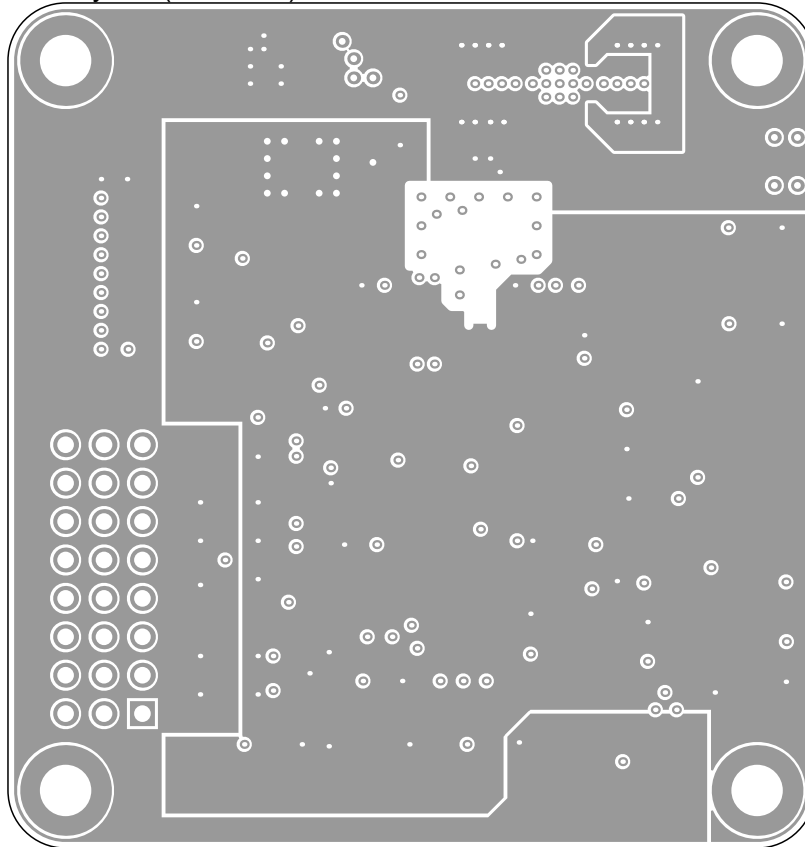
Top Layer (Scale 2:1)



Mid Layer 1 (Scale 2:1)



Mid Layer 2 (Scale 2:1)



Bottom Layer (Scale 2:1)

