

A

A

B

B

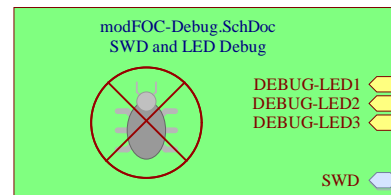
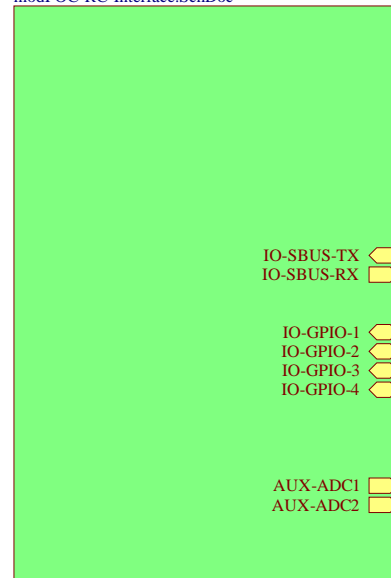
C

C

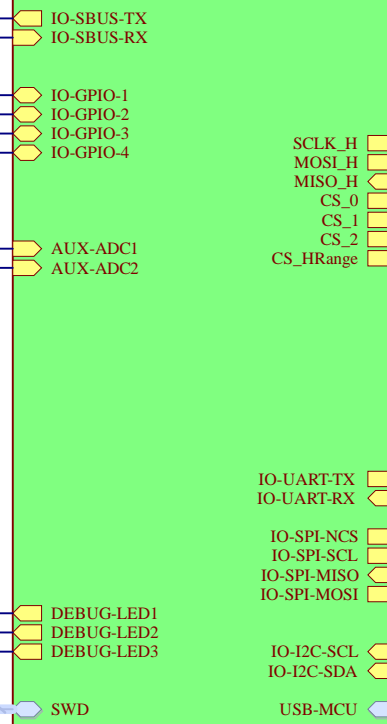
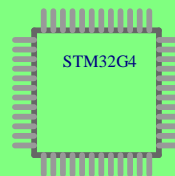
D

D

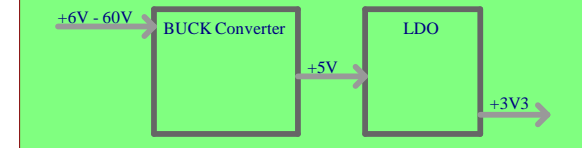
Designator
modFOC-RC-Interface.SchDoc



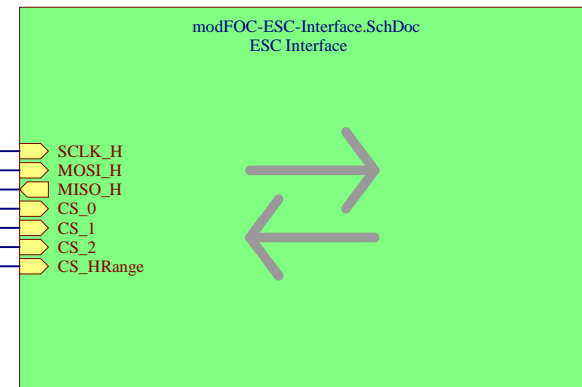
modFOC-MCU.SchDoc
STM32 MCU and Peripherals



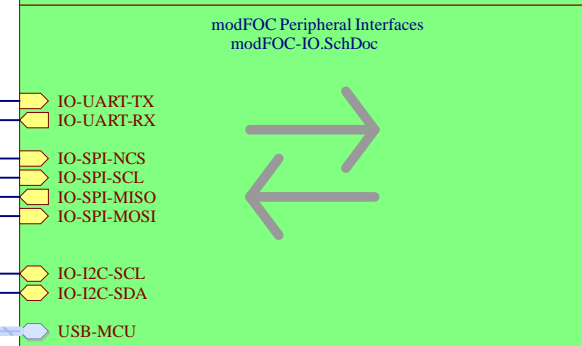
modFOC-Buck-Supply.SchDoc
Integrated Inductor Buck Supply



modFOC-ESC-Interface.SchDoc
ESC Interface



modFOC Peripheral Interfaces
modFOC-IO.SchDoc



Title **modFOC-Top MCU**

Size: **A4**

Number: **1**

Revision: **2.0**

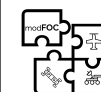
Date: **17.03.2022**

Time: **21:50:49**

Sheet **1** of **7**

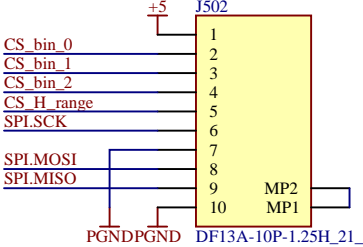
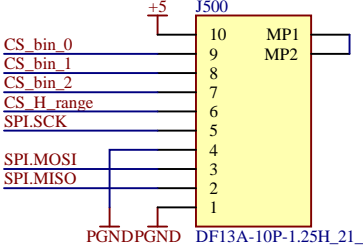
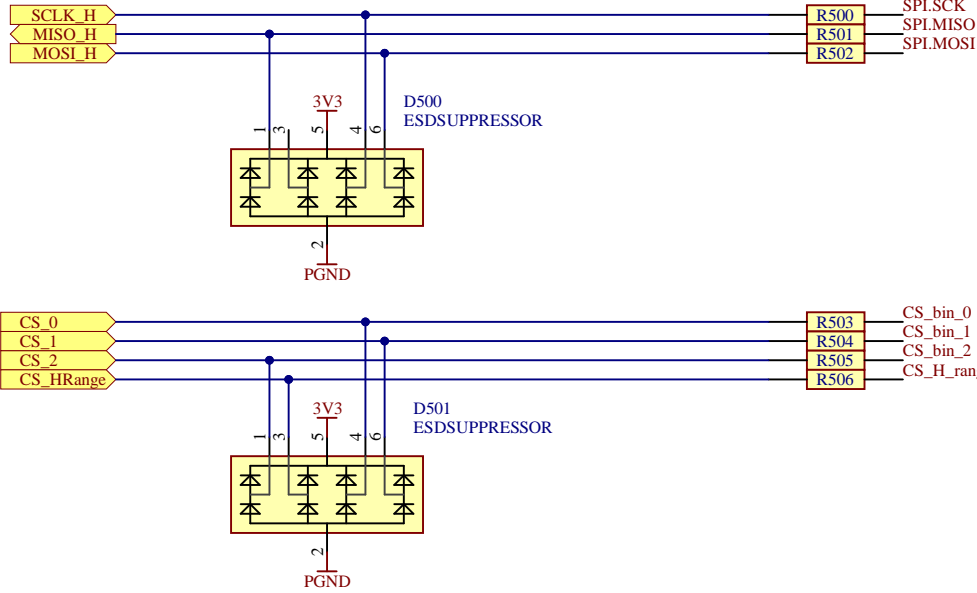
File: **modFOC-Top.SchDoc**

modFOC
HTL St. Pölten
Thomas Hofmann



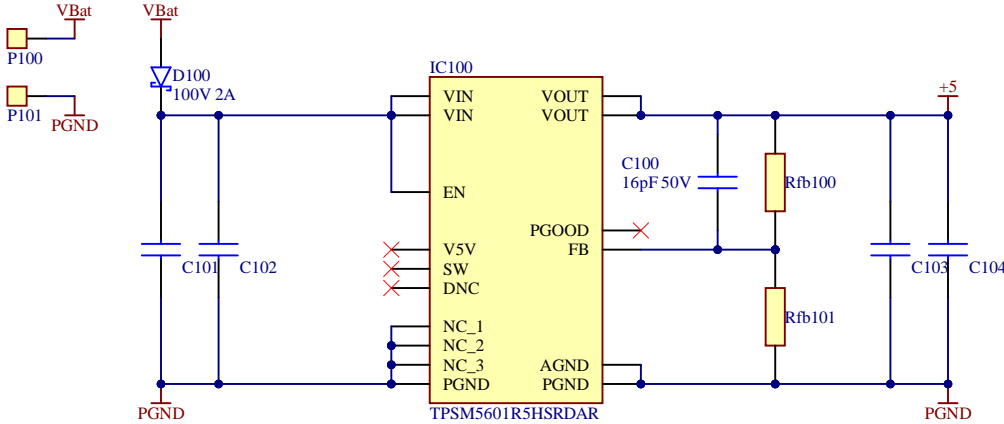
modFOC

Board Interconnect
RcMPPT-BMS

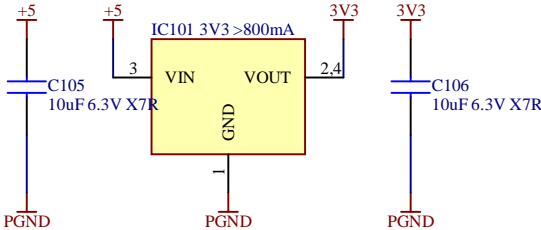


5V Buck Regulator
Integrated Inductor


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



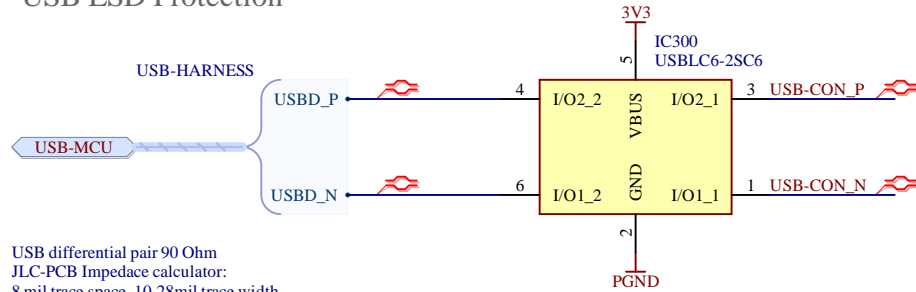
3.3V Linear Regulator



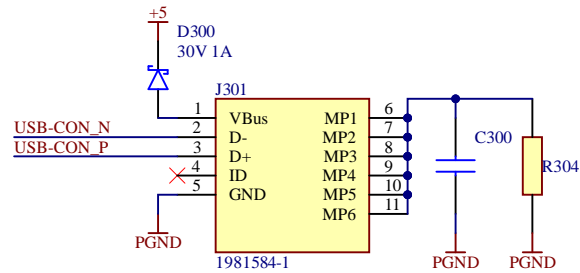
[illegible]

Title <i>modFOC-Debug</i>			<i>modFOC</i> <i>HTL St. Pölten</i> <i>Thomas Hofmann</i>	
Size: A4	Number: 6	Revision: 2.0		
Date: 17.03.2022	Time: 21:50:51	Sheet 4 of 7		
File: modFOC-Debug.SchDoc				

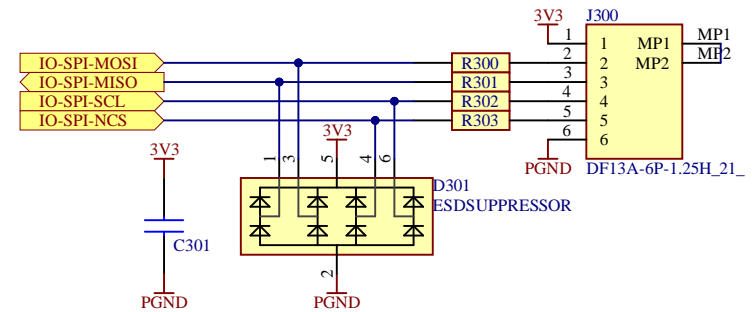
USB ESD Protection



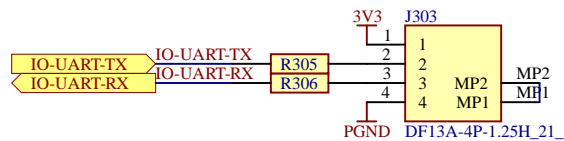
USB



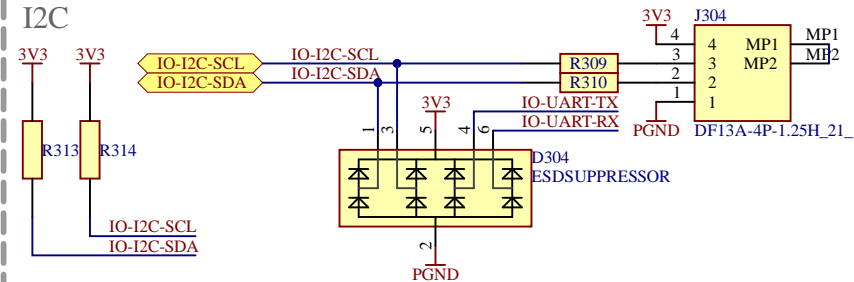
SPI



UART



I2C



Title **modFOC-IO**

Size: **A4**

Number: **5**

Revision: **2.0**

Date: **17.03.2022**

Time: **21:50:51**

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

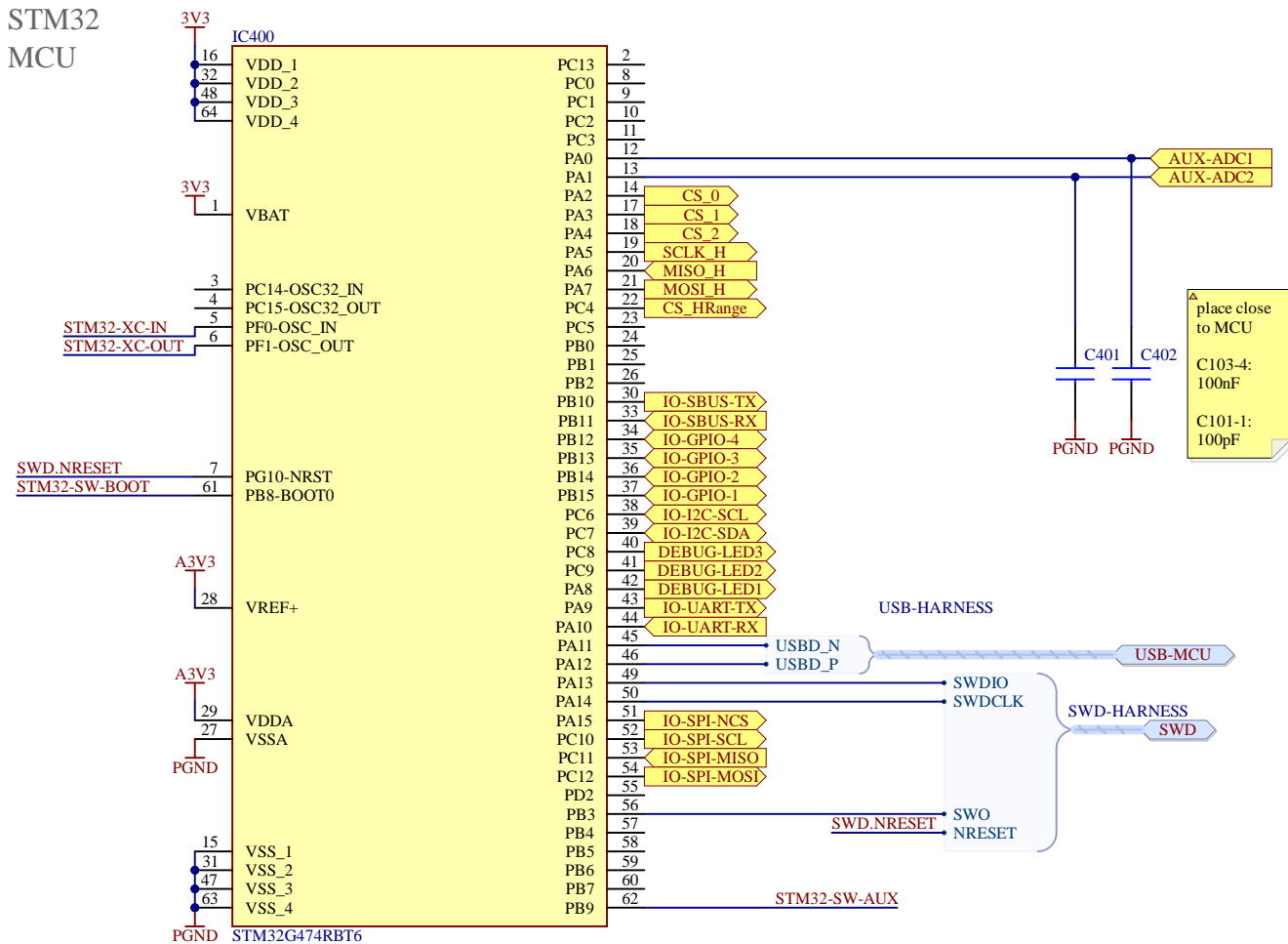
File: **modFOC-IO.SchDoc**

modFOC
HTL St. Pölten
Thomas Hofmann



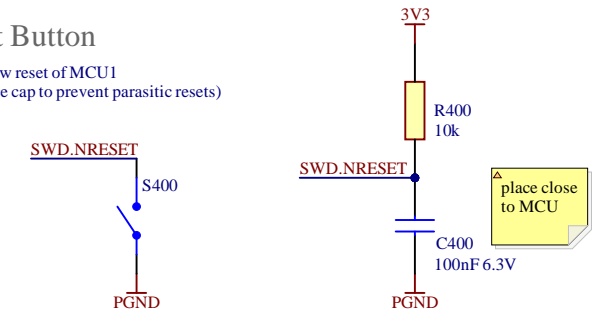
modFOC

STM32 MCU

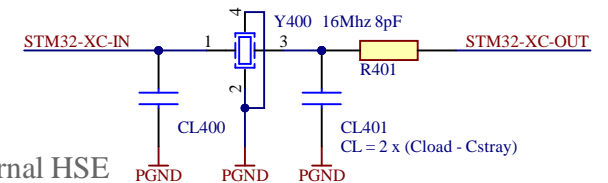


Reset Button

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

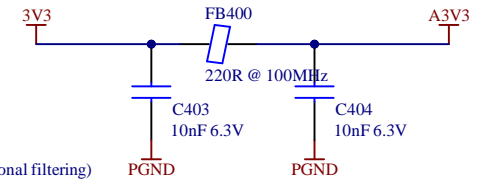


External HSE

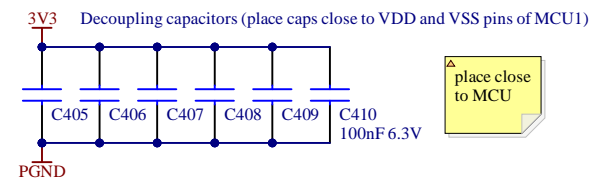


Analog Supply Filtering

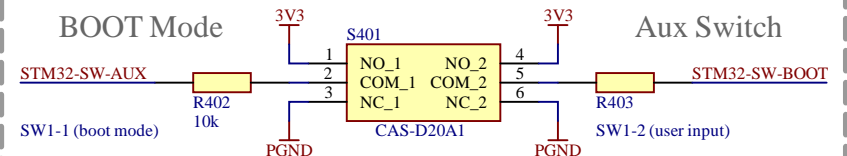
Analog VDD (additional filtering)



Decoupling Capacitors



BOOT Mode



Title **modFOC-MCU**

Size: **A4**

Number: **1**

Revision: **2.0**

Date: 17.03.2022

Time: 21:50:51

Sheet 6 of 7

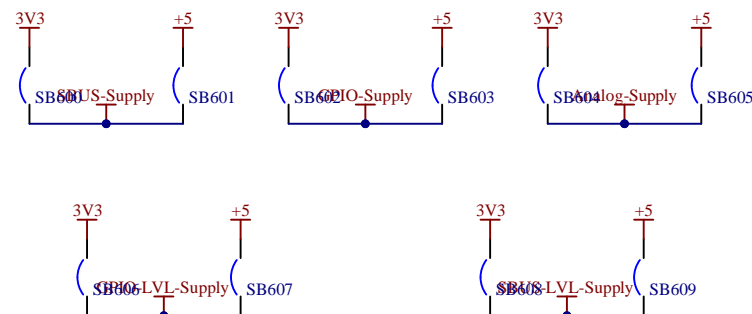
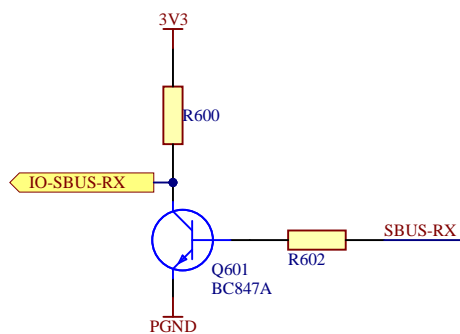
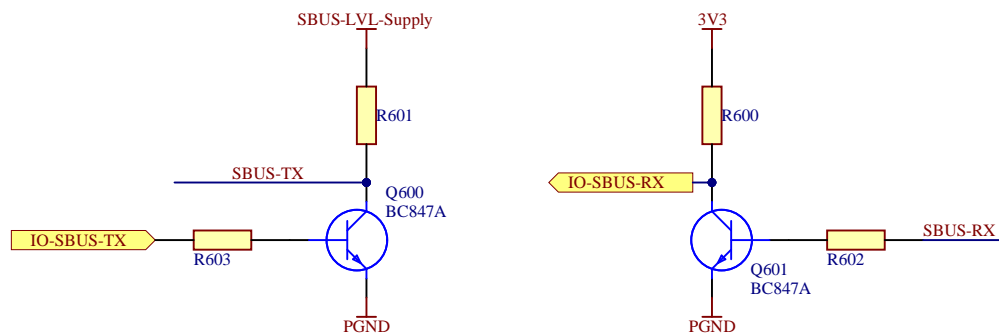
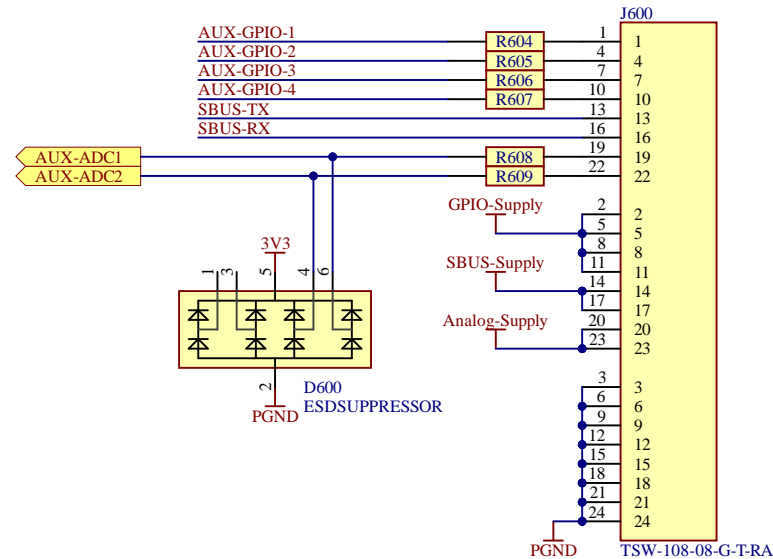
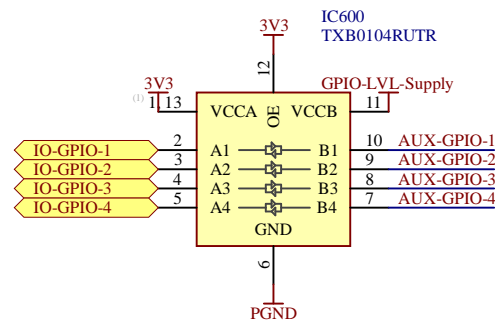
File: modFOC-MCU.SchDoc

modFOC
HTL St.Pölten
Thomas Hofmann



modFOC

GPIO Level Shift



Title **modFOC-RC-Interface**

Size: **A4**

Number: **7**

Revision: **2.0**

Date: **17.03.2022**

Time: **21:50:52**

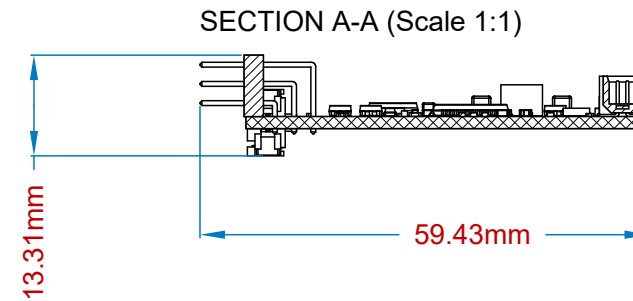
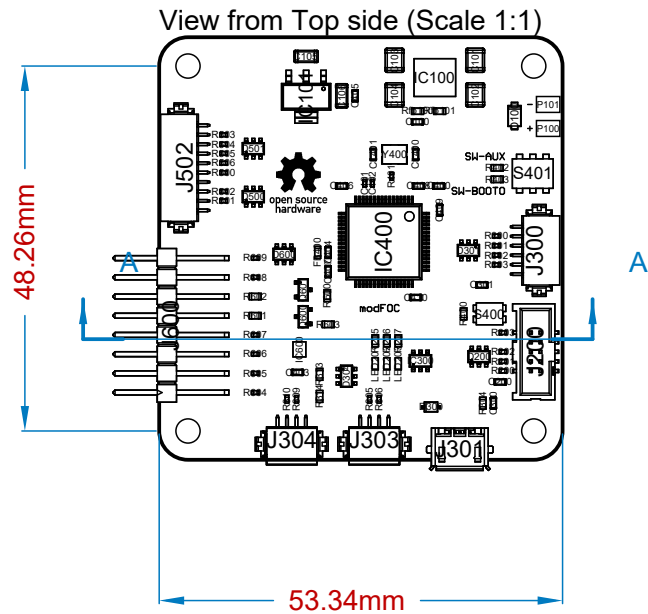
Sheet **7** of **7**

File: **modFOC-RC-Interface.SchDoc**

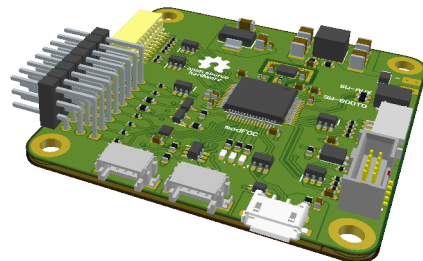
modFOC
HTL St. Pölten
Thomas Hofmann



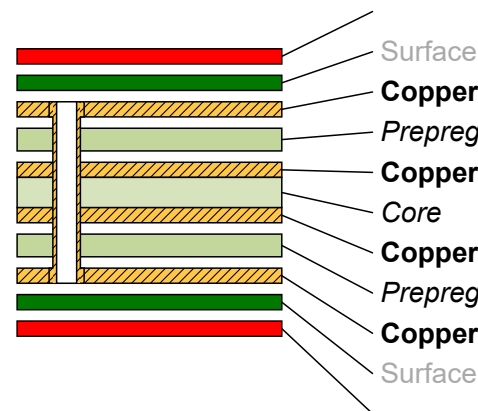
modFOC



Realistic View



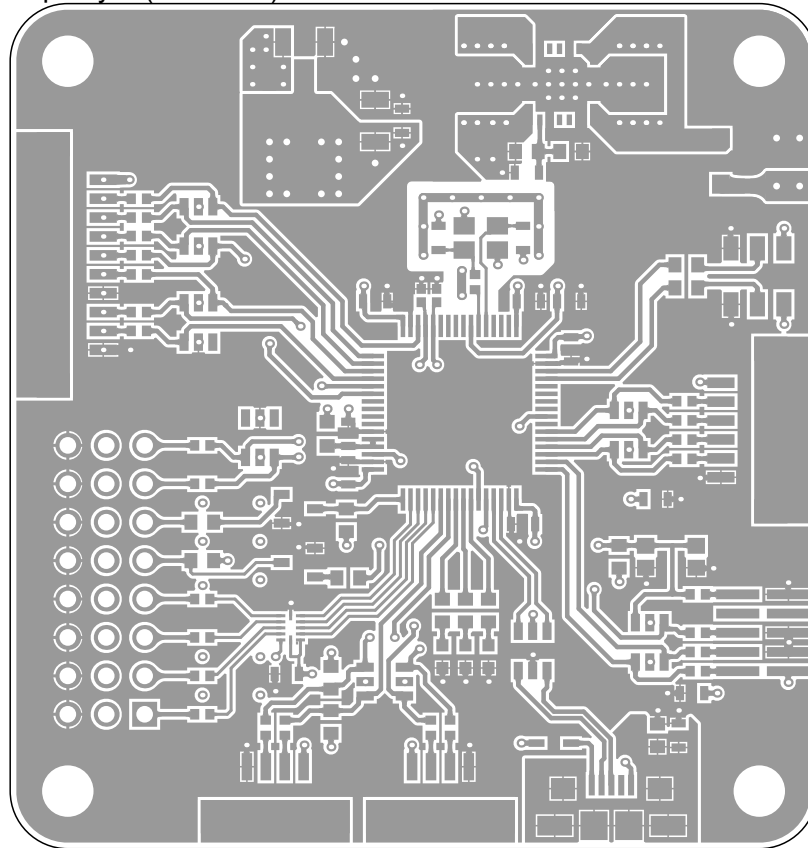
Layer Stack Legend



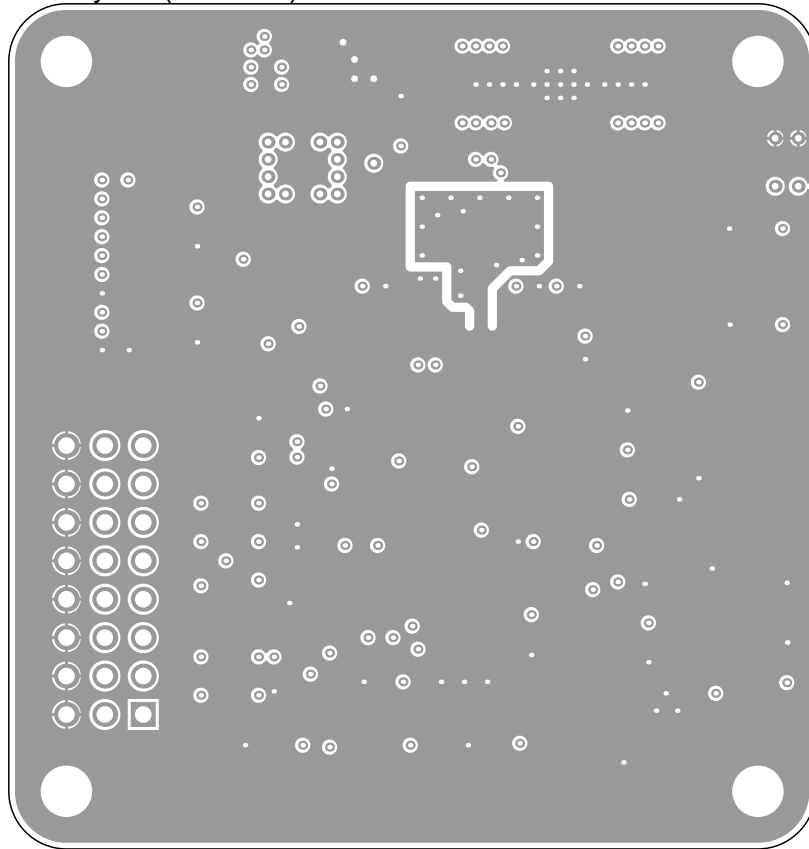
Material	Layer	Thickness	Dielectric Material	Type	Gerber
Surface Material	Top Overlay			Legend	GTO
Copper	Top Solder	0.01mm	SM-001	Solder Mask	GTS
Prepreg	Top Layer	0.04mm		Signal	GTL
Copper	Mid Layer 1	0.21mm	PP-022	Dielectric	
Core	Mid Layer 2	0.02mm	Core-040	Signal	G1
Copper	Mid Layer 2	0.02mm		Dielectric	G2
Prepreg	Bottom Layer	0.21mm	PP-022	Signal	GBL
Copper	Bottom Solder	0.04mm		Solder Mask	GBS
Surface Material	Bottom Overlay	0.01mm	SM-001	Legend	GBO

Total thickness: 1.61mm

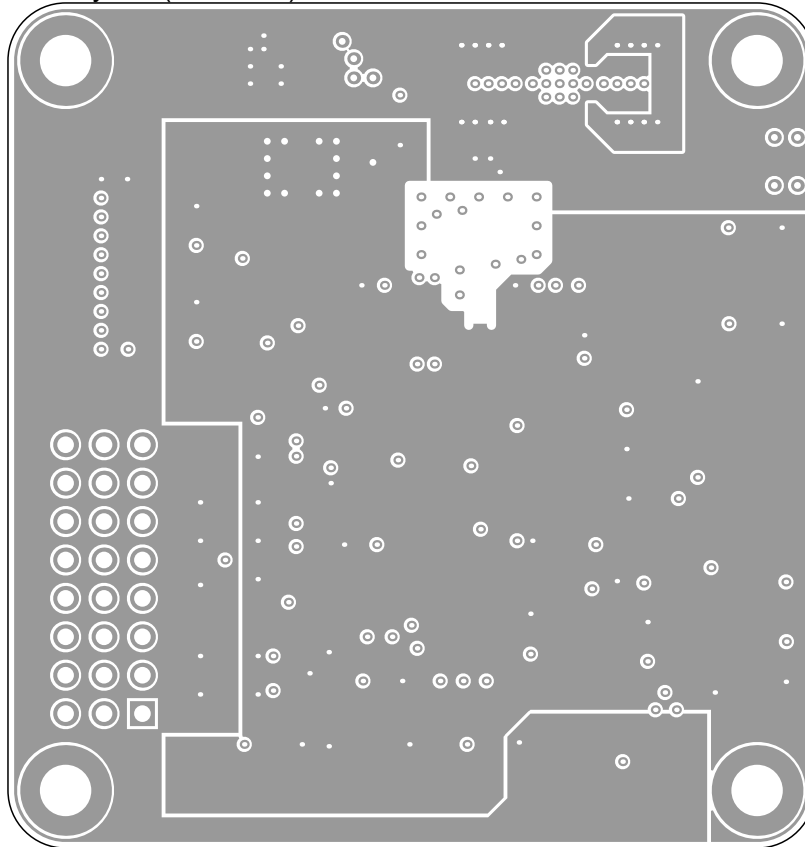
Top Layer (Scale 2:1)



Mid Layer 1 (Scale 2:1)



Mid Layer 2 (Scale 2:1)



Bottom Layer (Scale 2:1)

