Title **RcMPPT-Top SCC**

Size: A4

Number: 1

Revision: 2.0

Date: 18.12.2021

Time: 19:53:16

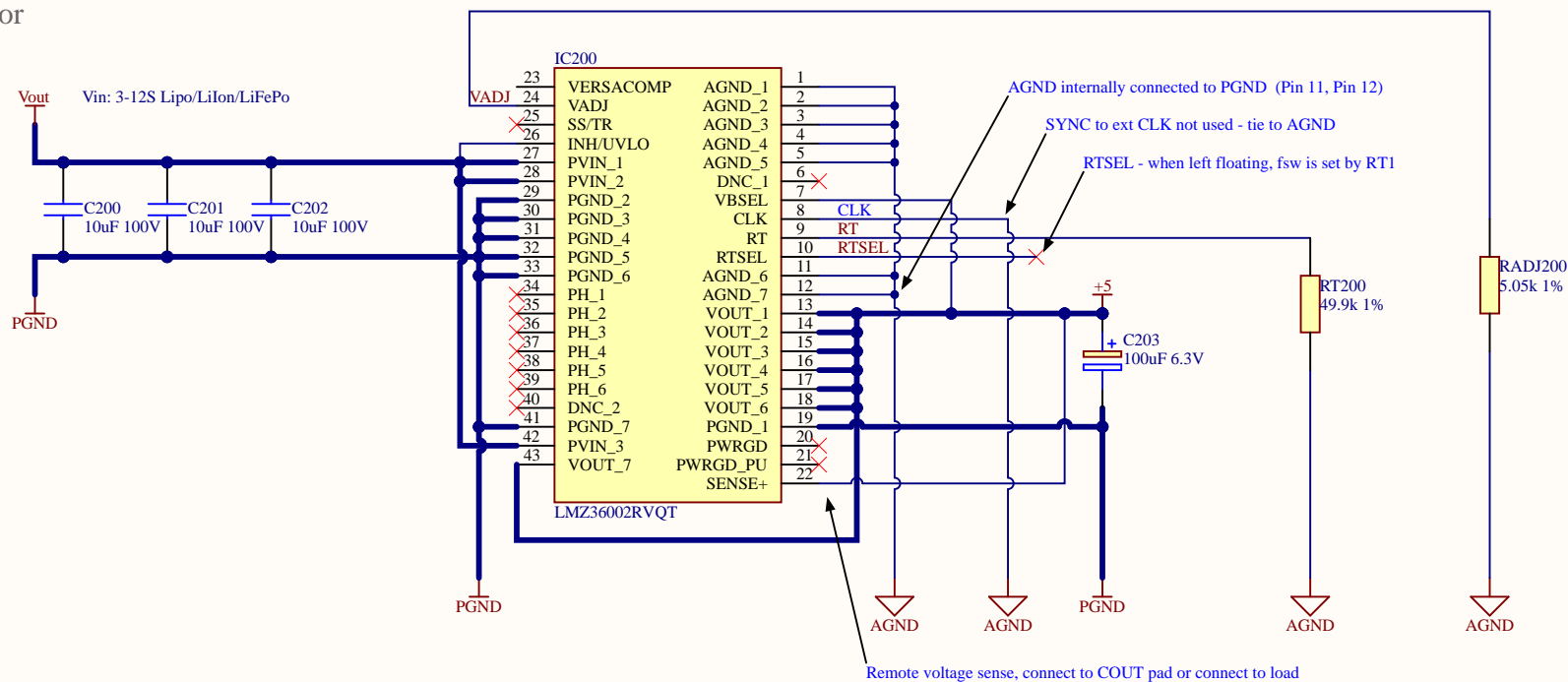
Sheet 1 of 8

File: RcMPPT-Top.SchDoc

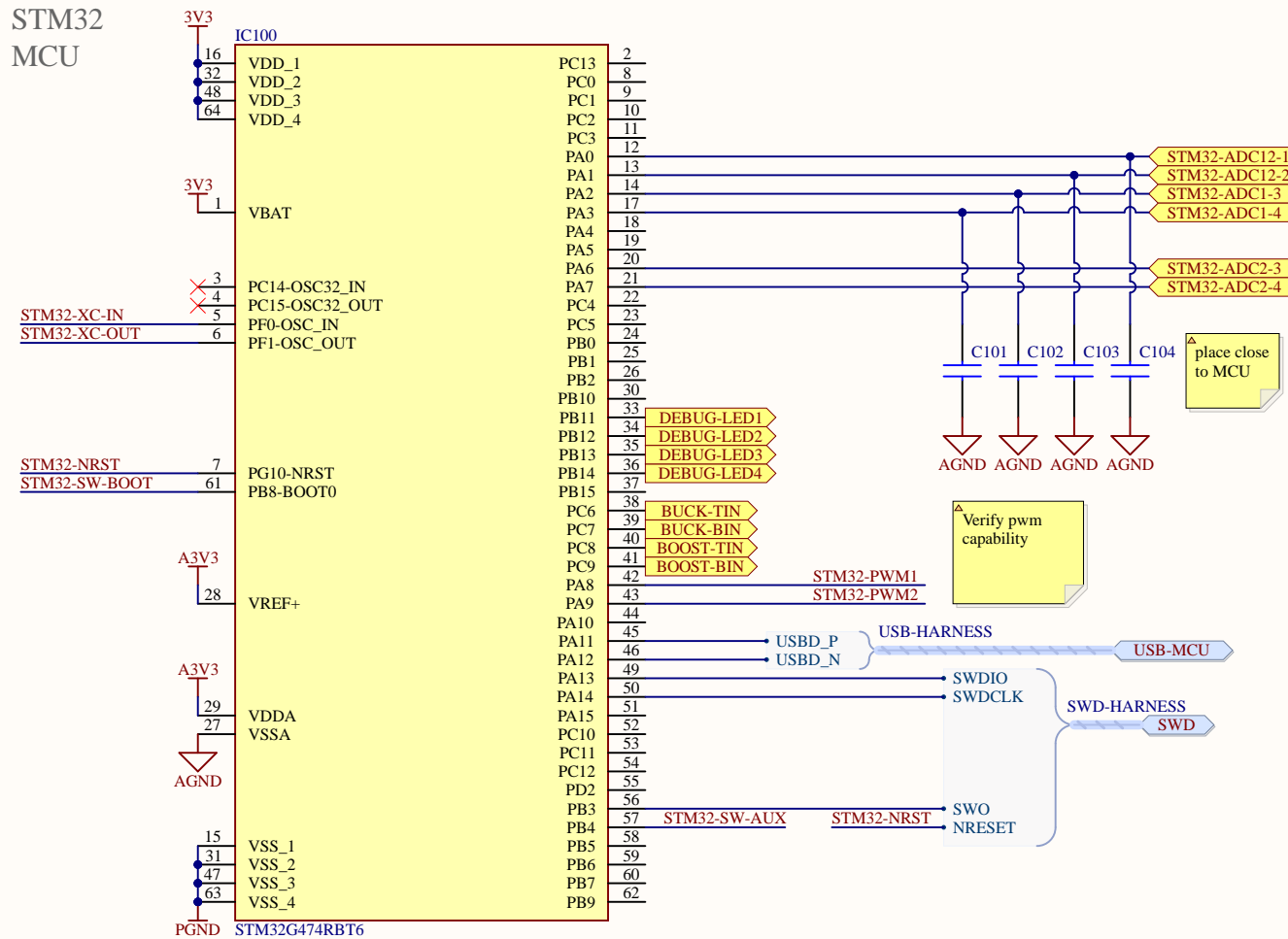
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HTL St. Pölten  
Thomas Hofmann  
\*  
\*

RcMPPT

## 5V Buck Regulator Integrated Inductor

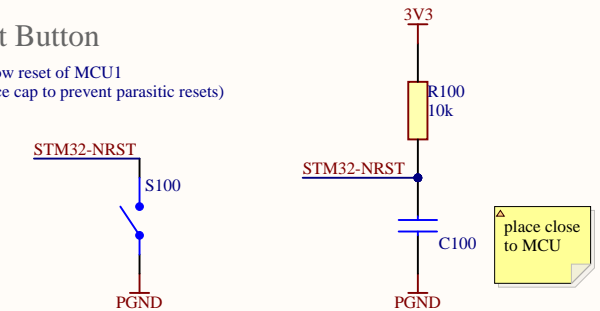


# STM32 MCU

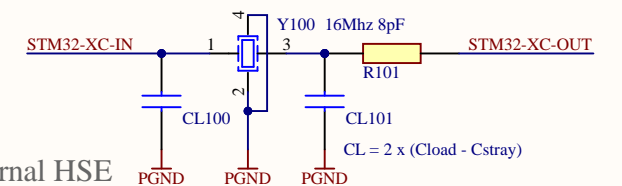


## Reset Button

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

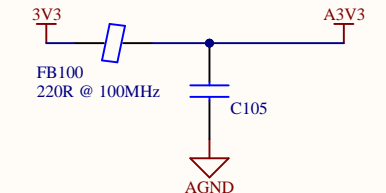


## External HSE

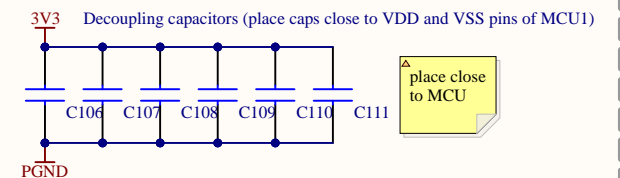


## Analog Supply Filtering

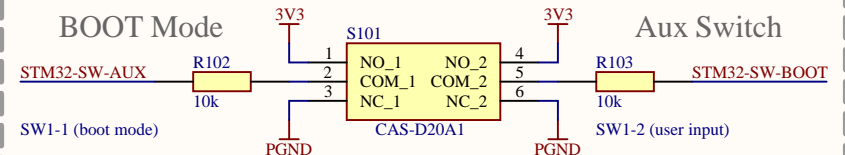
Analog VDD (additional filtering)



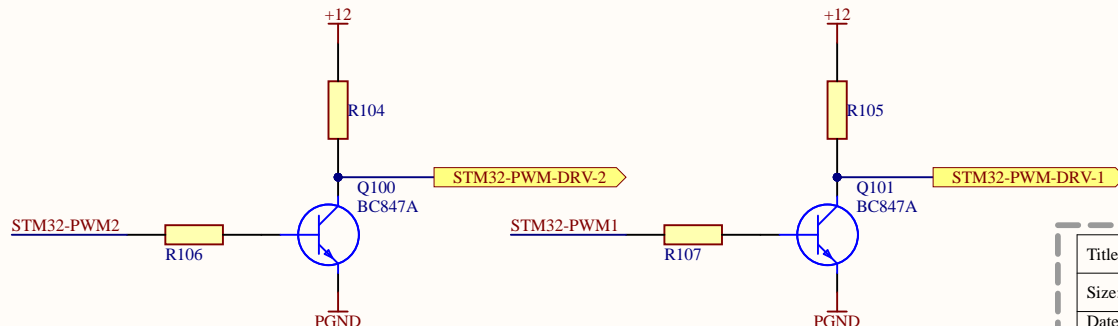
## Decoupling Capacitors



## BOOT Mode



## Aux Switch



Title **RcMPPT-MCU**

Size: A4

Number: 1

Revision: 2.0

Date: 18.12.2021

Time: 19:53:16

Sheet 3 of 8

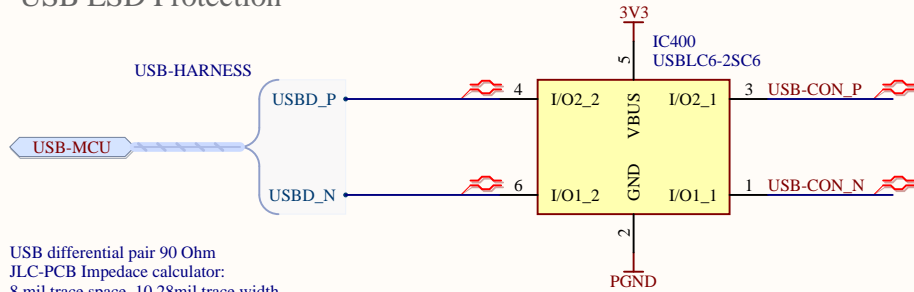
File: RcMPPT-MCU.SchDoc

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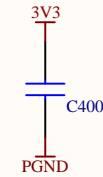
RcMPPT



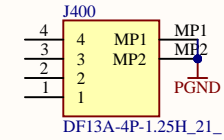
## USB ESD Protection



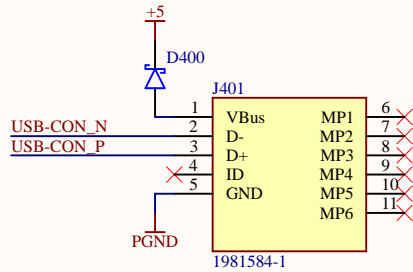
## CAN



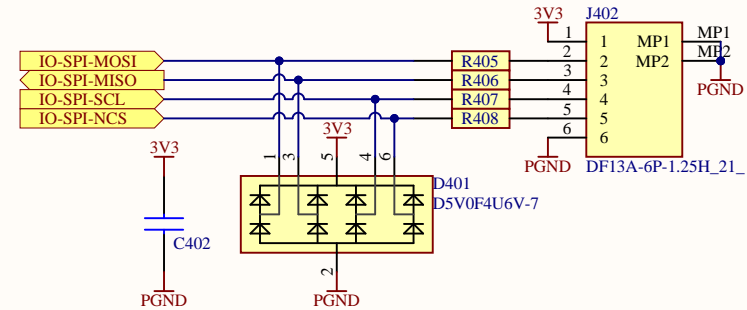
TODO: Source isolated can controller



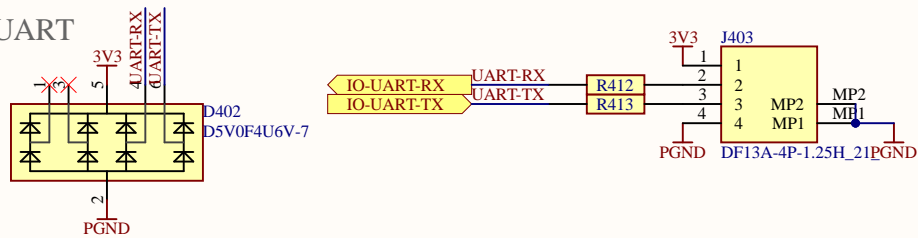
## USB



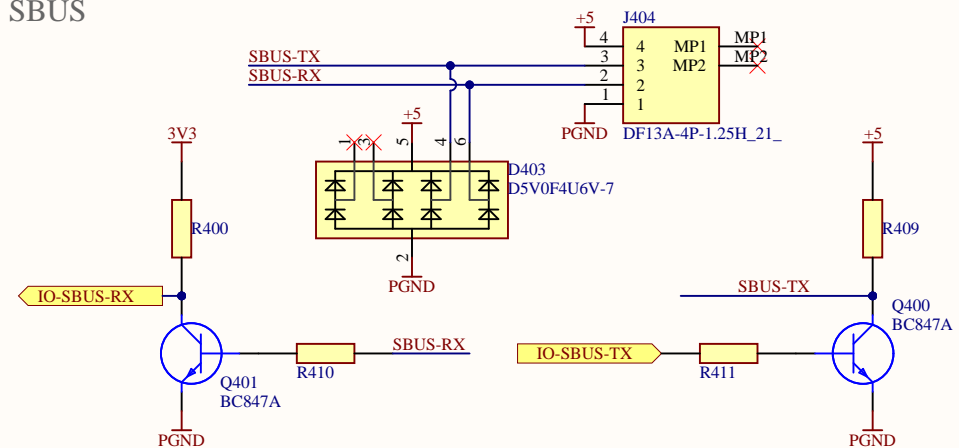
## SPI



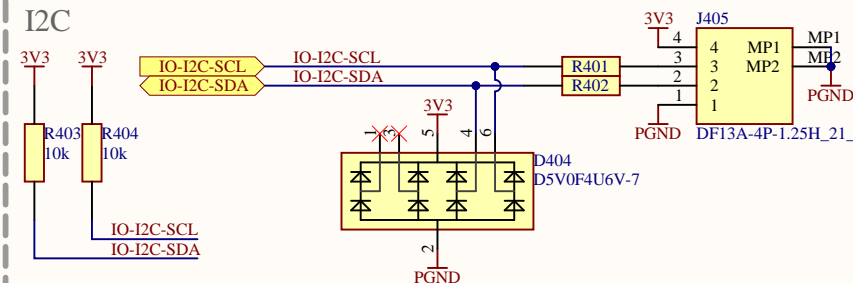
## UART



## SBUS



## I2C



Title **RcMPPT-IO**

Size: A4

Number:5

Revision:2.0

Date: 18.12.2021

Time: 19:53:17

Sheet 5 of 8

File: RcMPPT-IO.SchDoc

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[illegible]

Place C500 close to D500 for optimal ESD suppression

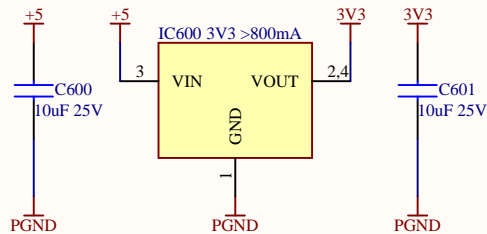
The schematic diagram illustrates the LED driver circuit for the debug LEDs. It features a 4-to-1 multiplexer at the top, which selects between four inputs: DEBUG-LED1, DEBUG-LED2, DEBUG-LED3, and DEBUG-LED4. The multiplexer's output is connected to a series of four 1k resistors (R504, R505, R506, R507). Each resistor is connected to the anode of a corresponding LED (LED500, LED501, LED502, LED503). The cathodes of all four LEDs are connected to a common ground labeled PGND. The LEDs are labeled as Green.

Title <b><i>RcMPPT-Debug</i></b>		
Size: <b>A4</b>	Number: <b>6</b>	Revision: <b>2.0</b>
Date: <b>18.12.2021</b>	Time: <b>19:53:17</b>	Sheet <b>6</b> of <b>8</b>
File: <b>RcMPPT-Debug.SchDoc</b>		

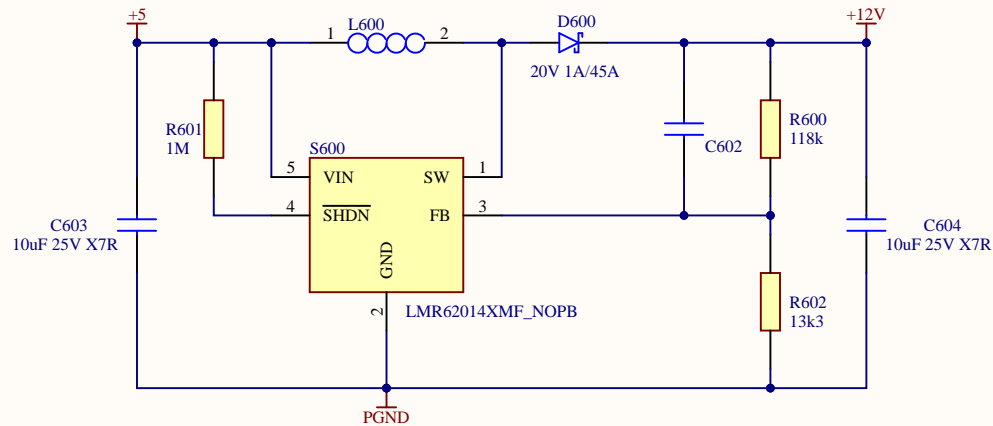
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Thomas Hofmann  
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RcMPPT

3.3V Linear Regulator



5V to 12V Boost Regulator



Board Interconnect  
RcMPPT-BMS

