Title **RcMPPT-Top SCC**

Size: A4

Number: 1

Revision: 2.0

Date: 07.03.2022

Time: 13:24:48

Sheet 1 of 8

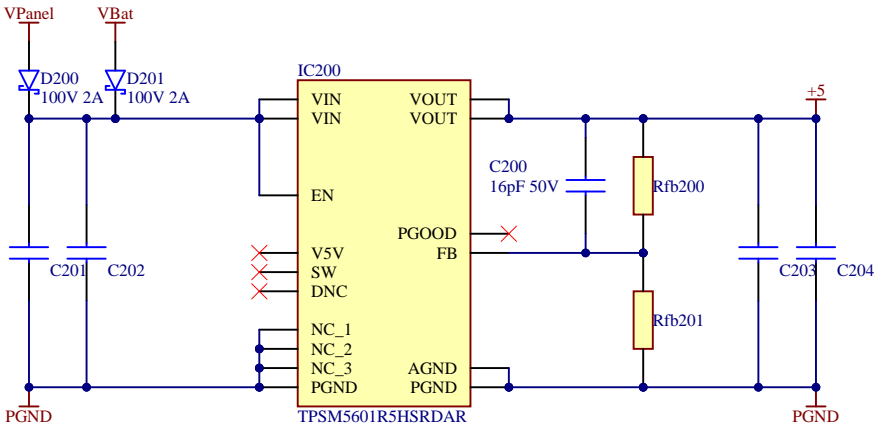
File: RcMPPT-Top.SchDoc

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RcMPPT

5V Buck Regulator
Integrated Inductor

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

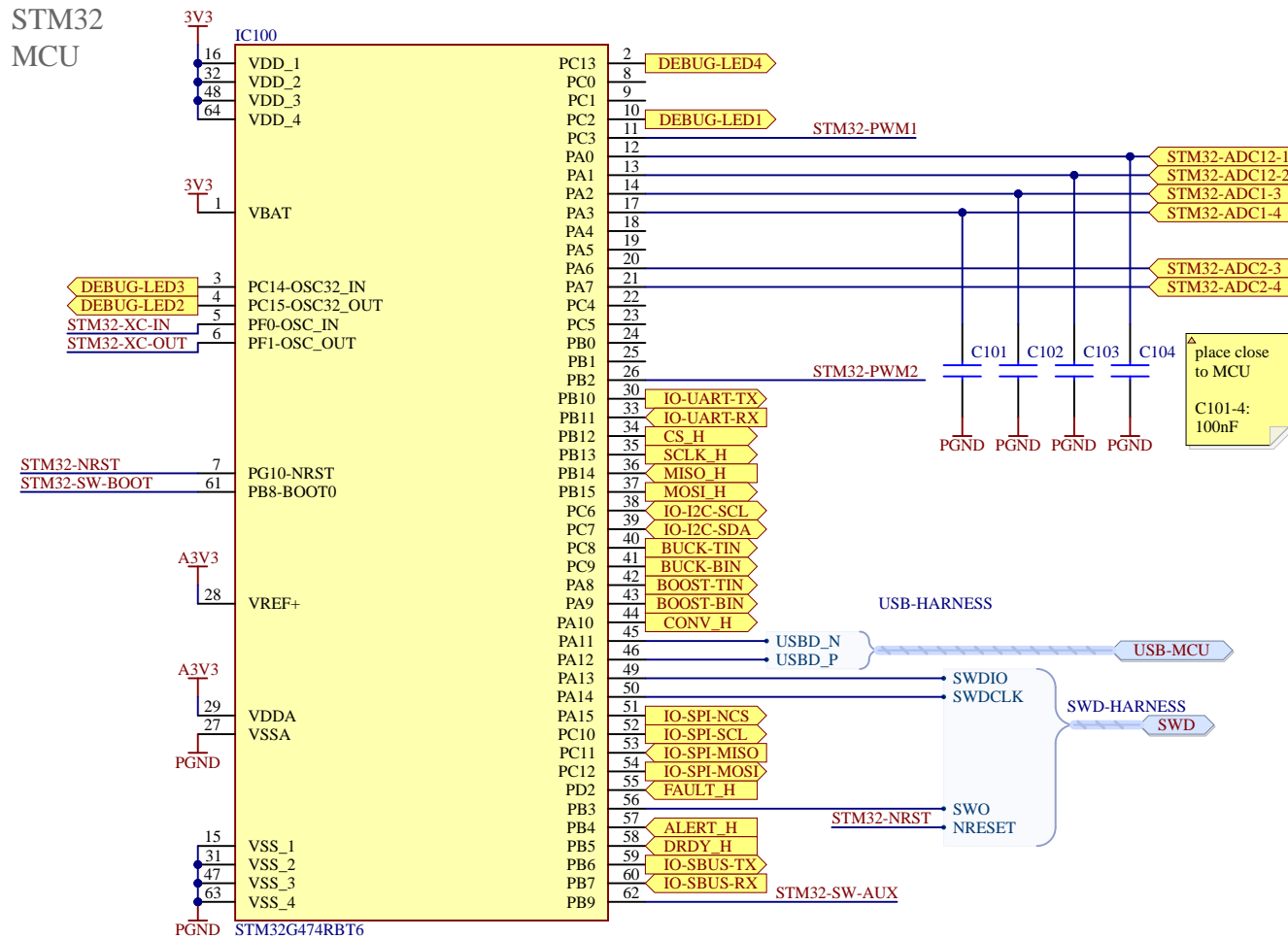


Title RcMPPT-Buck-Supply		
Size: A4	Number: 2	Revision: 2.0
Date: 07.03.2022	Time: 13:24:48	Sheet 2 of 8
File: RcMPPT-Buck-Supply.SchDoc		

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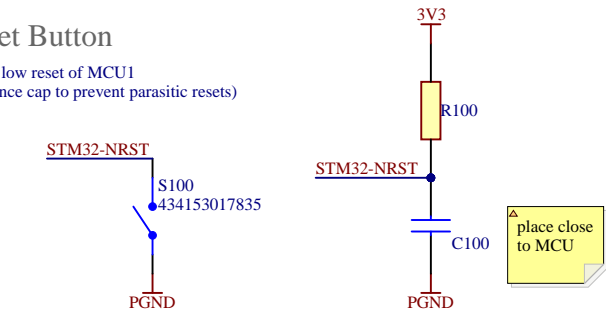


STM32 MCU

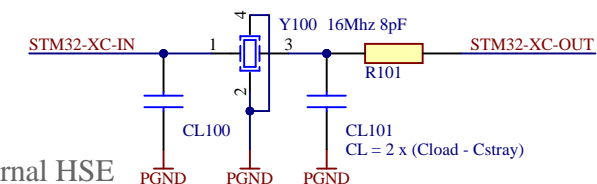


Reset Button

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

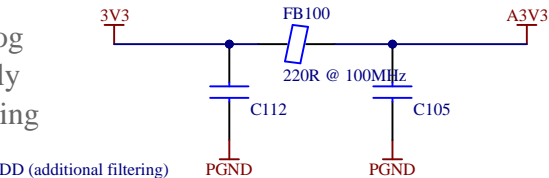


External HSE

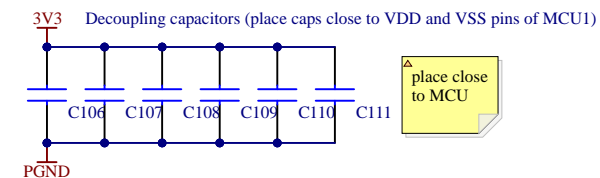


Analog Supply Filtering

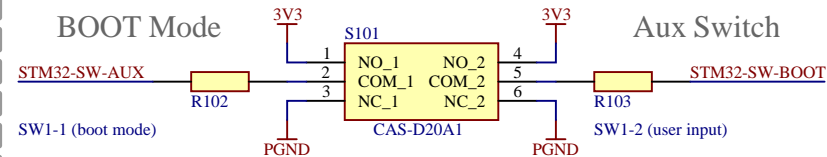
Analog VDD (additional filtering)



Decoupling Capacitors

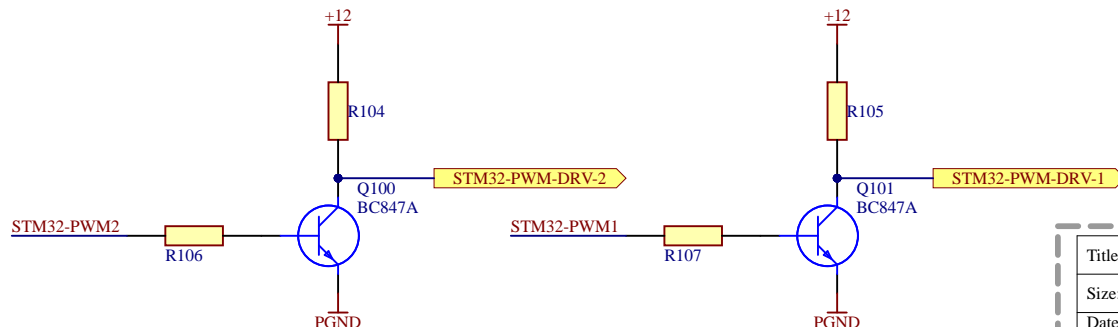


BOOT Mode



Aux Switch

SW1-2 (user input)



Title **RcMPPT-MCU**

Size: A4

Number: 1

Revision: 2.0

Date: 07.03.2022

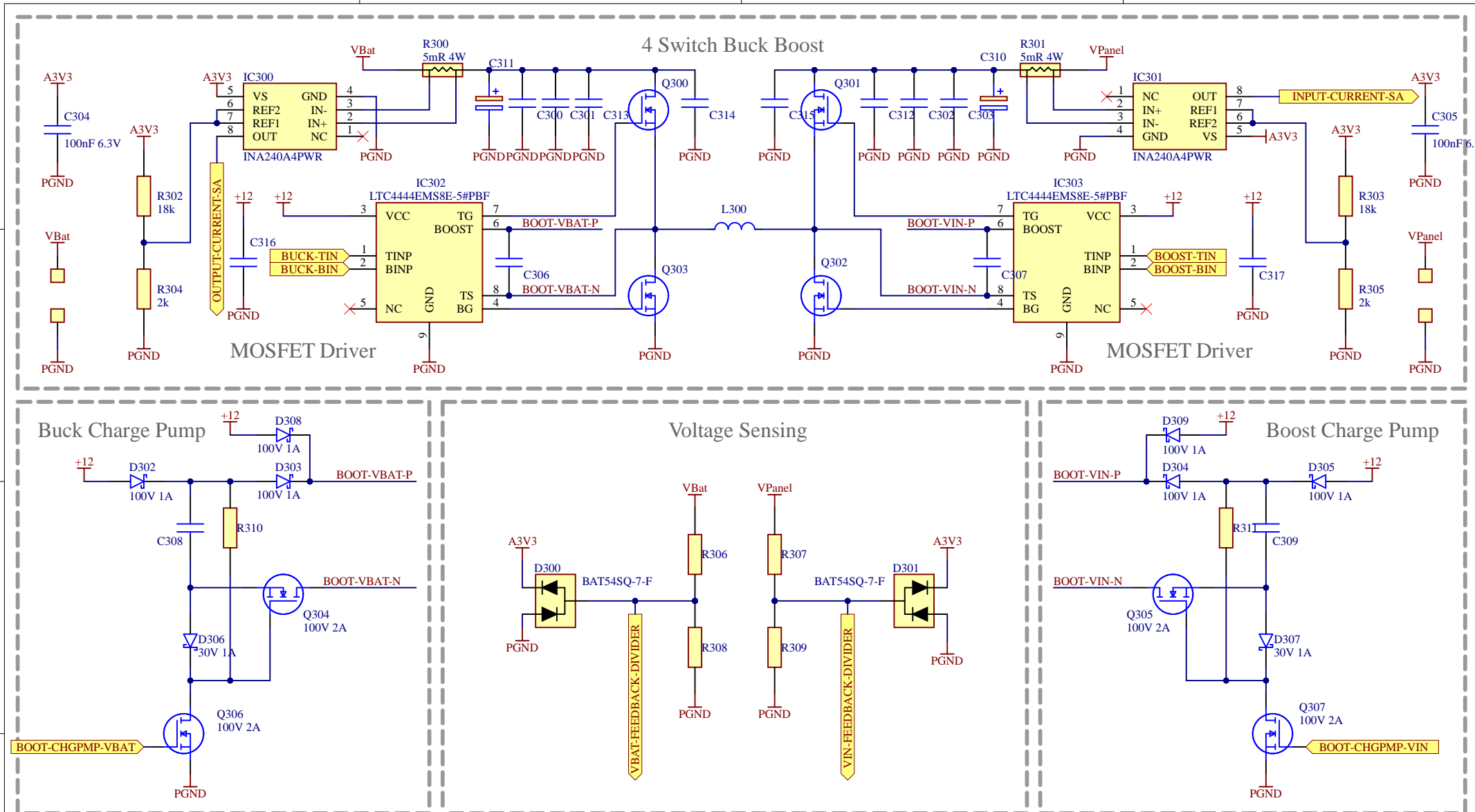
Time: 13:24:49

Sheet 3 of 8

File: RcMPPT-MCU.SchDoc

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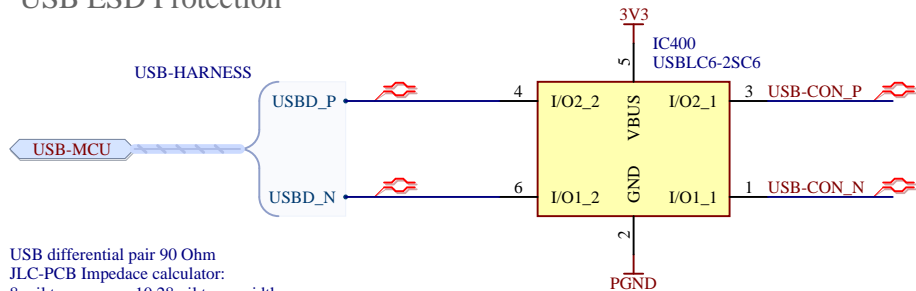
Title **RcMPPT-DCDC**Size: **A4**Number: **4**Revision: **2.0**Date: **07.03.2022**Time: **13:24:49**Sheet **4** of **8**File: **RcMPPT-DCDC.SchDoc**

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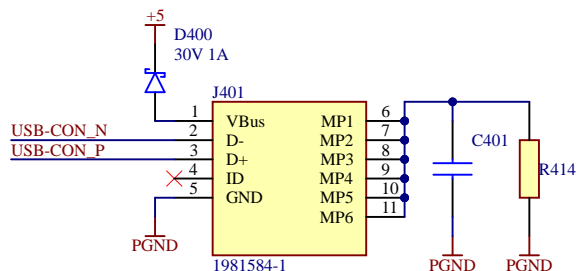
USB ESD Protection



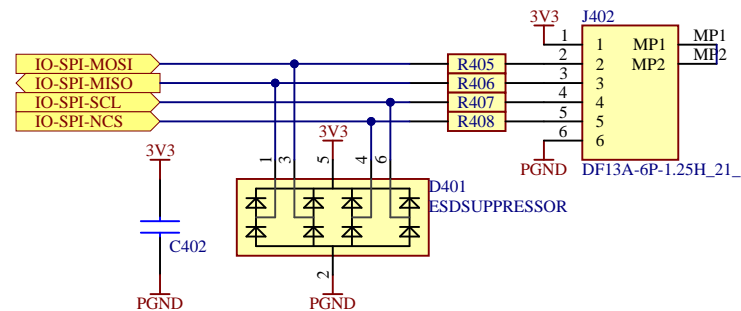
CAN

TODO: Source isolated can controller

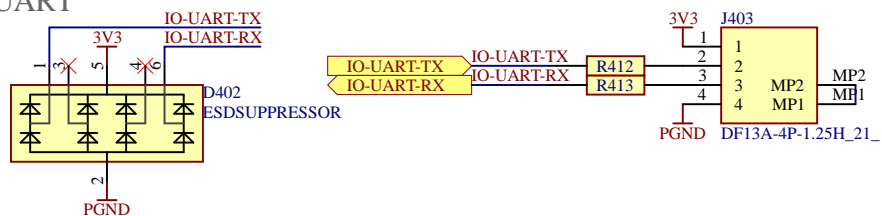
USB



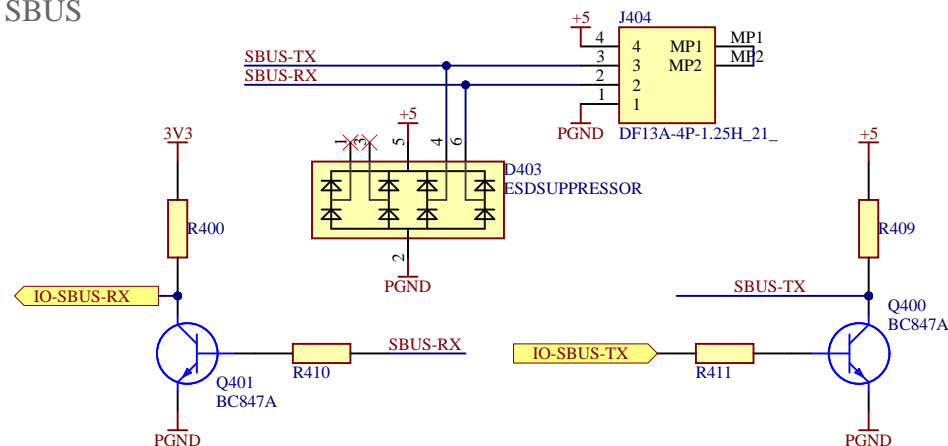
SPI



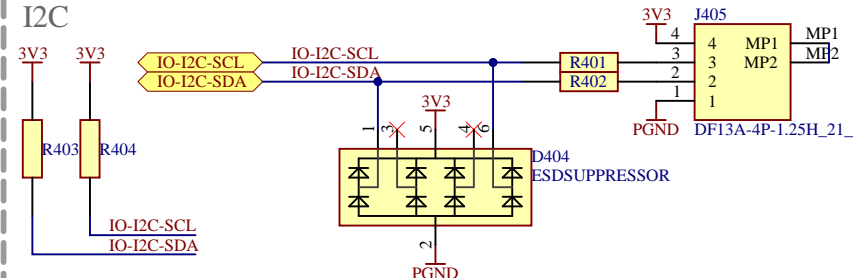
UART



SBUS



I2C



Title **RcMPPT-IO**

Size: A4

Number:5

Revision:2.0

Date: 07.03.2022

Time: 13:24:49

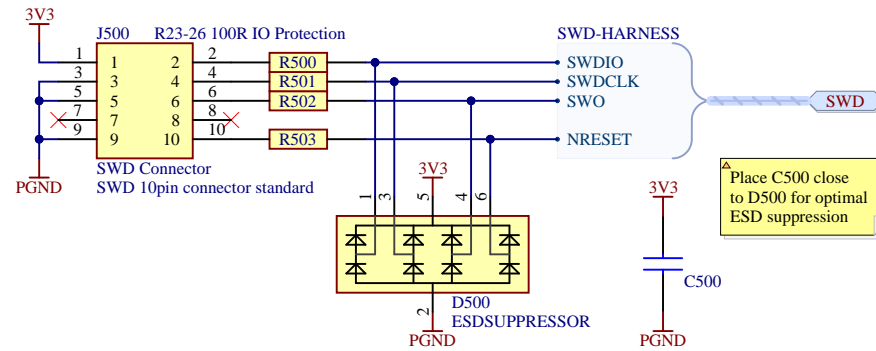
Sheet 5 of 8

File: RcMPPT-IO.SchDoc

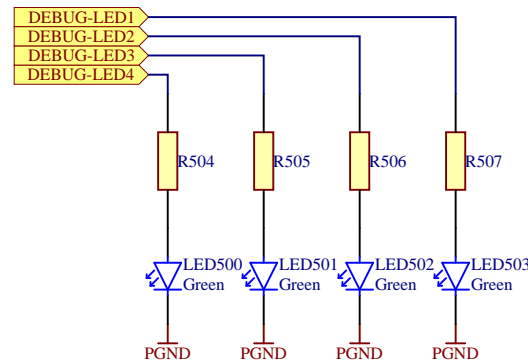
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SWD



Indicator LEDs

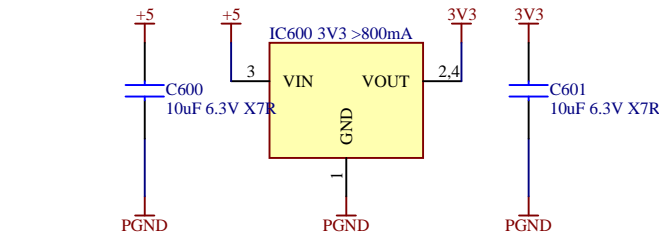


Title RcMPPT-Debug		
Size: A4	Number: 6	Revision: 2.0
Date: 07.03.2022	Time: 13:24:50	Sheet 6 of 8
File: RcMPPT-Debug.SchDoc		

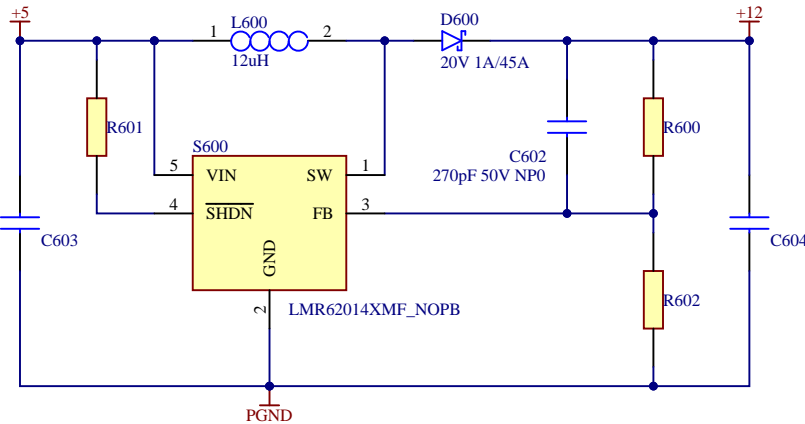
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RcMPPT

3.3V Linear Regulator



5V to 12V Boost Regulator

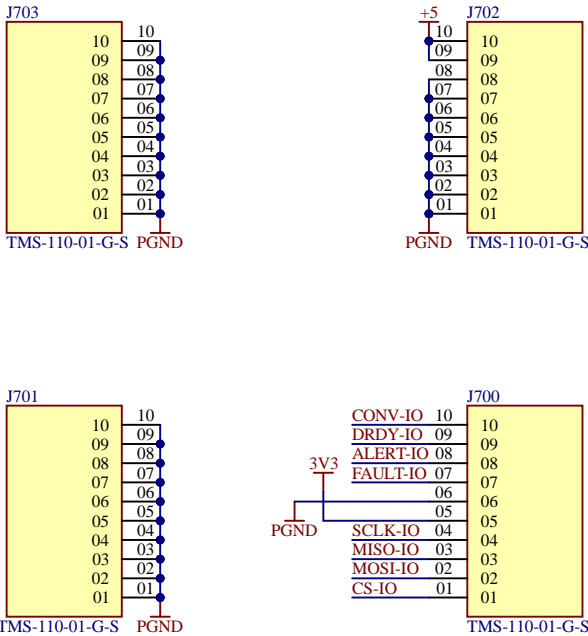
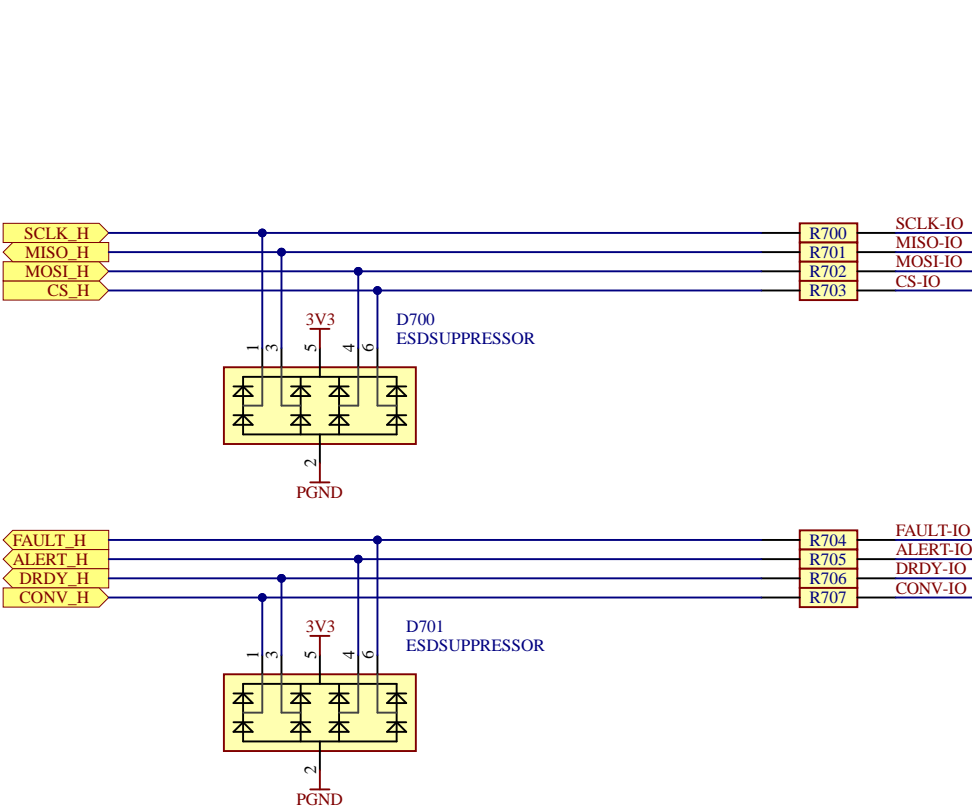


Title RcMPPT-Supply		
Size: A4	Number: 7	Revision: 2.0
Date: 07.03.2022	Time: 13:24:50	Sheet 7 of 8
File: RcMPPT-Supply.SchDoc		

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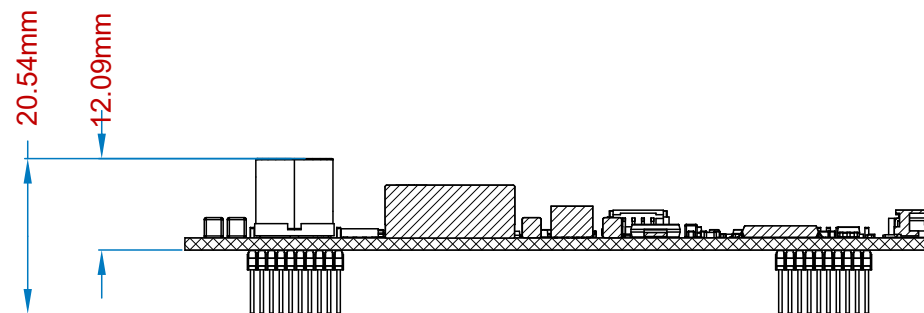
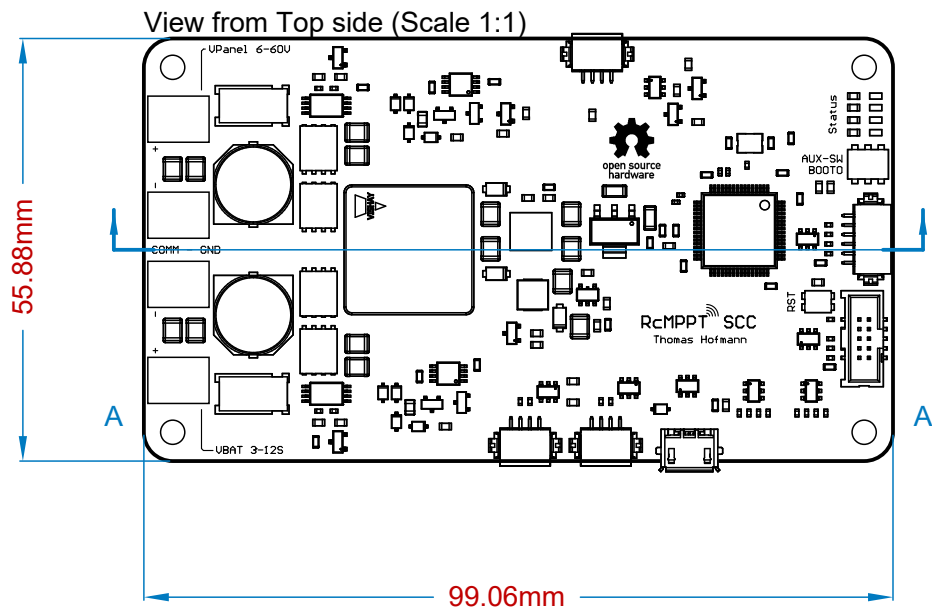
Board Interconnect
RcMPPT-BMS



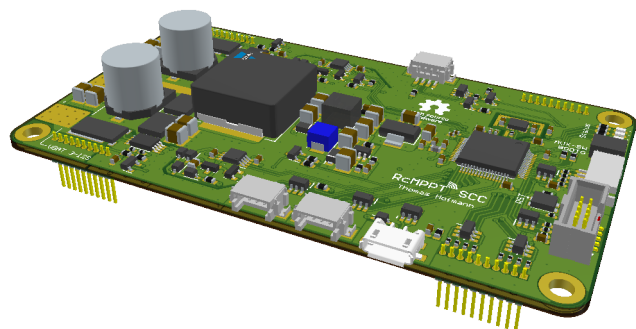
Title RcMPPT-BMS-Interface		
Size: A4	Number: 8	Revision: 2.0
Date: 07.03.2022	Time: 13:24:50	Sheet 8 of 8
File: RcMPPT-BMS-Interface.SchDoc		

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Realistic View

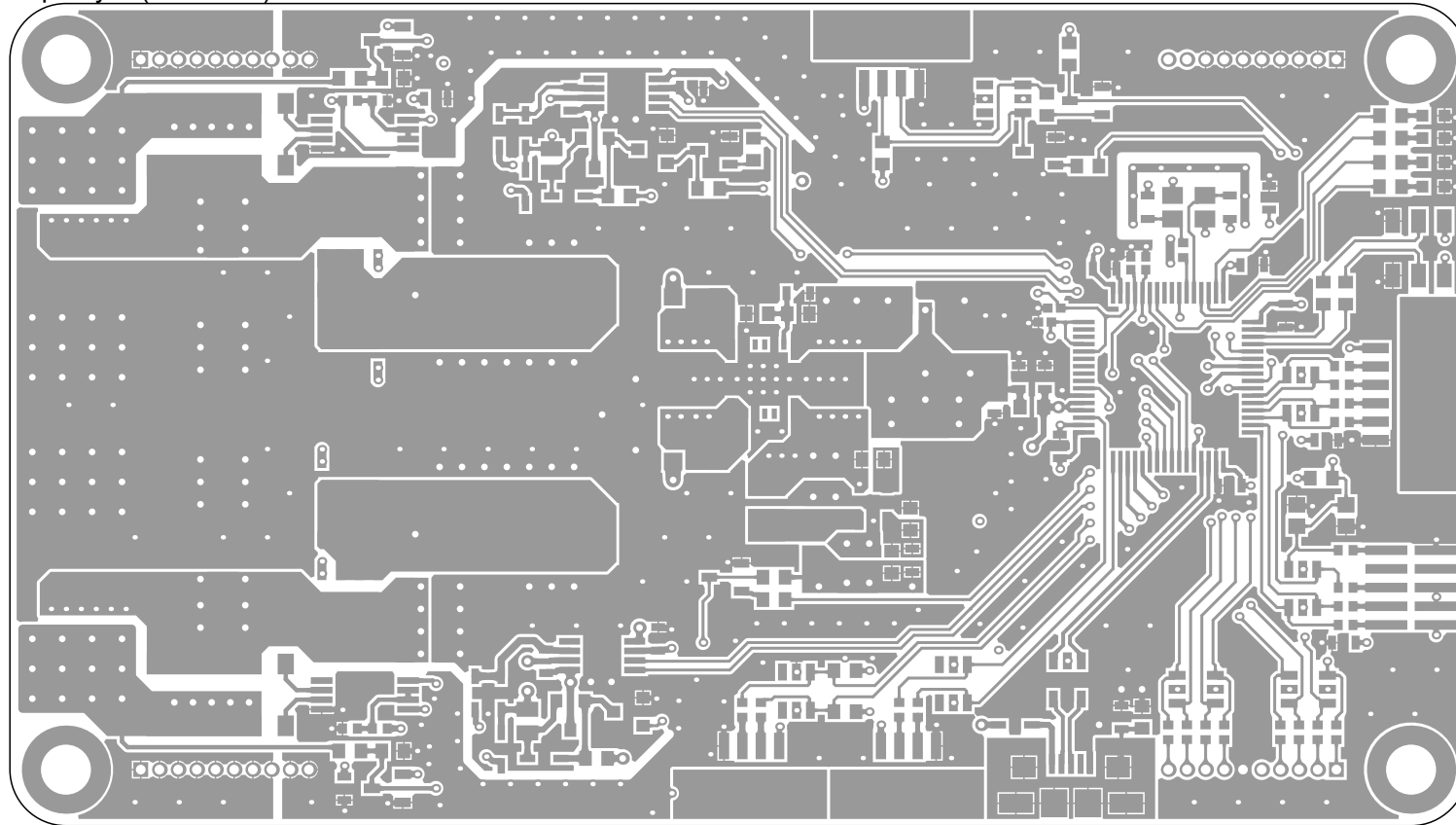


Layer Stack Legend

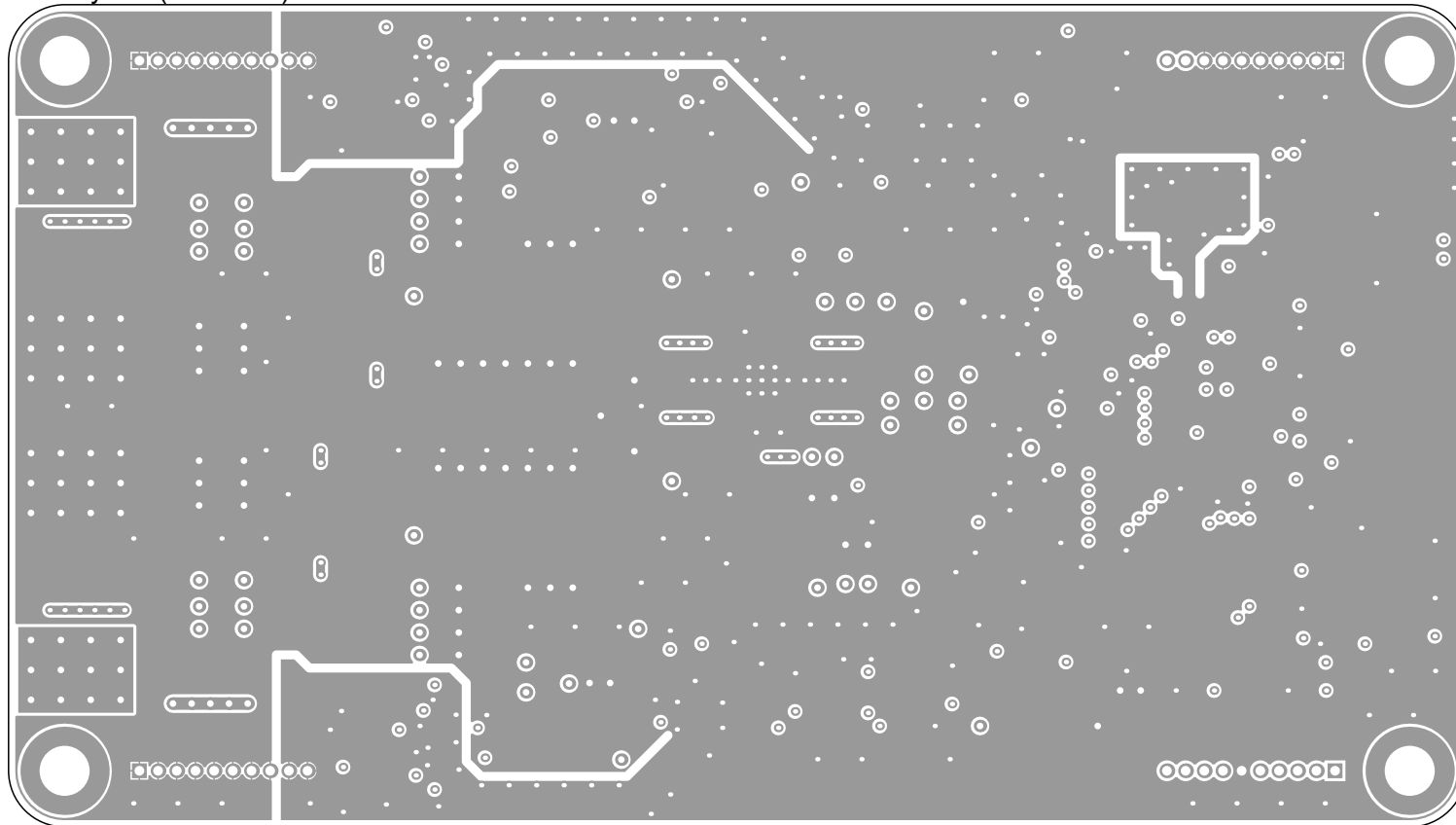
Material	Layer	Thickness	Dielectric Material	Type	Gerber
Surface Material	Top Overlay			Legend	GTO
Top Solder	Top Solder	0.01mm	SM-001	Solder Mask	GTS
Copper	Top Layer	0.04mm		Signal	GTL
Prepreg		0.21mm	PP-022	Dielectric	
Copper	Mid Layer 1	0.02mm		Signal	G1
Core		1.06mm	Core-040	Dielectric	
Copper	Mid Layer 2	0.02mm		Signal	G2
Prepreg		0.21mm	PP-022	Dielectric	
Copper	Bottom Layer	0.04mm		Signal	GBL
Surface Material	Bottom Solder	0.01mm	SM-001	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

Total thickness: 1.61mm

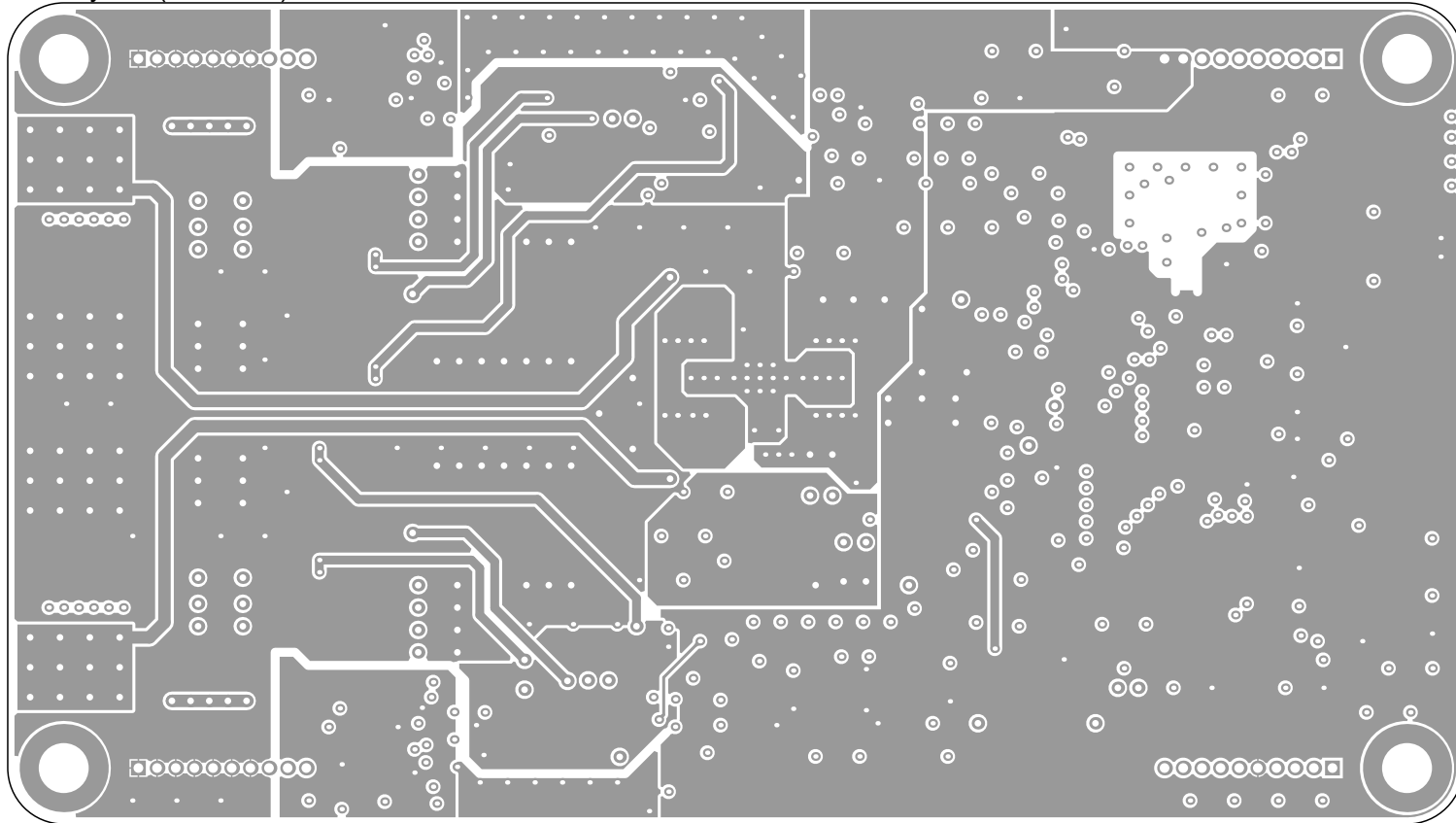
Top Layer (Scale 2:1)



Mid Layer 1 (Scale 2:1)



Mid Layer 2 (Scale 2:1)



Bottom Layer (Scale 2:1)

