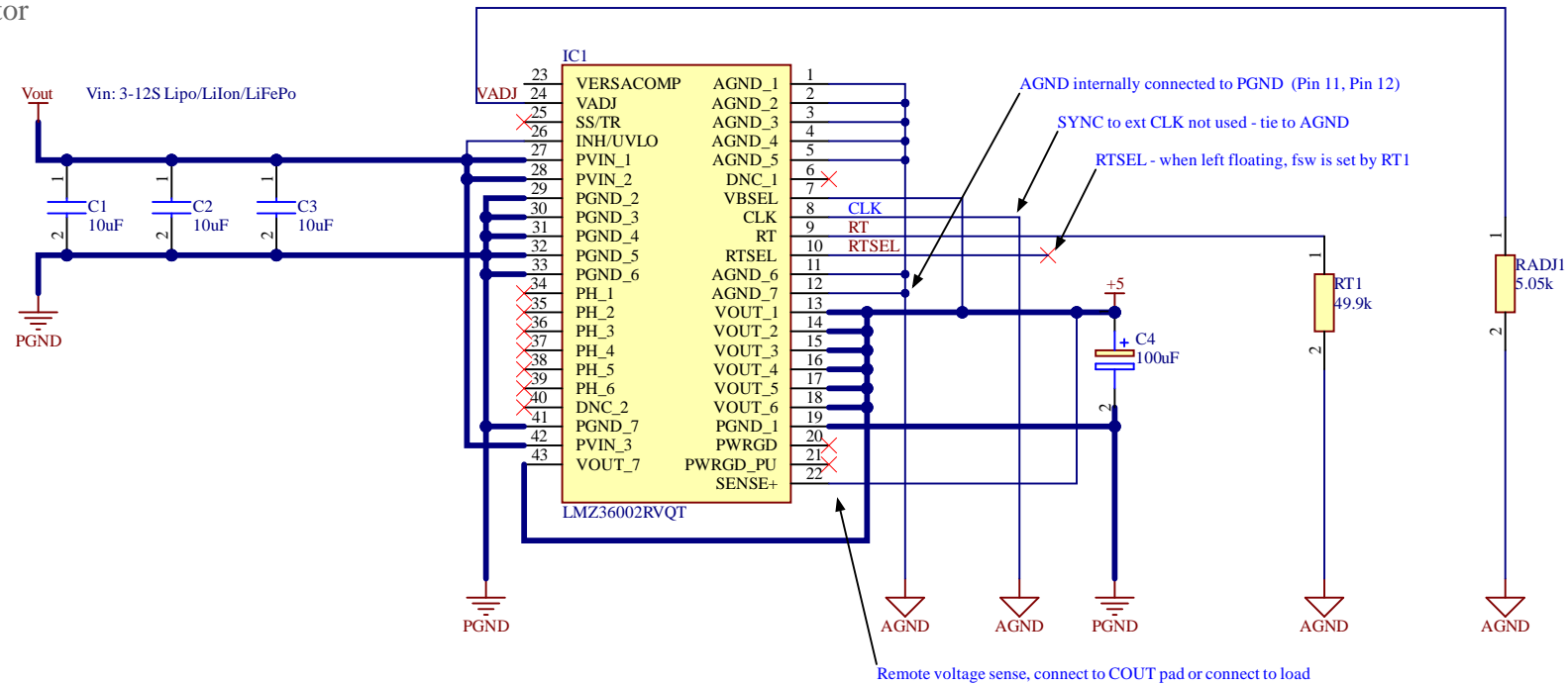
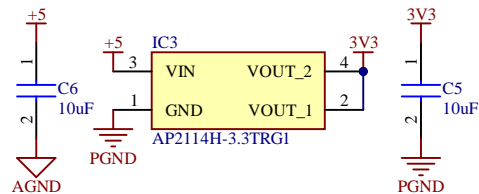



5V Buck Regulator Integrated Inductor

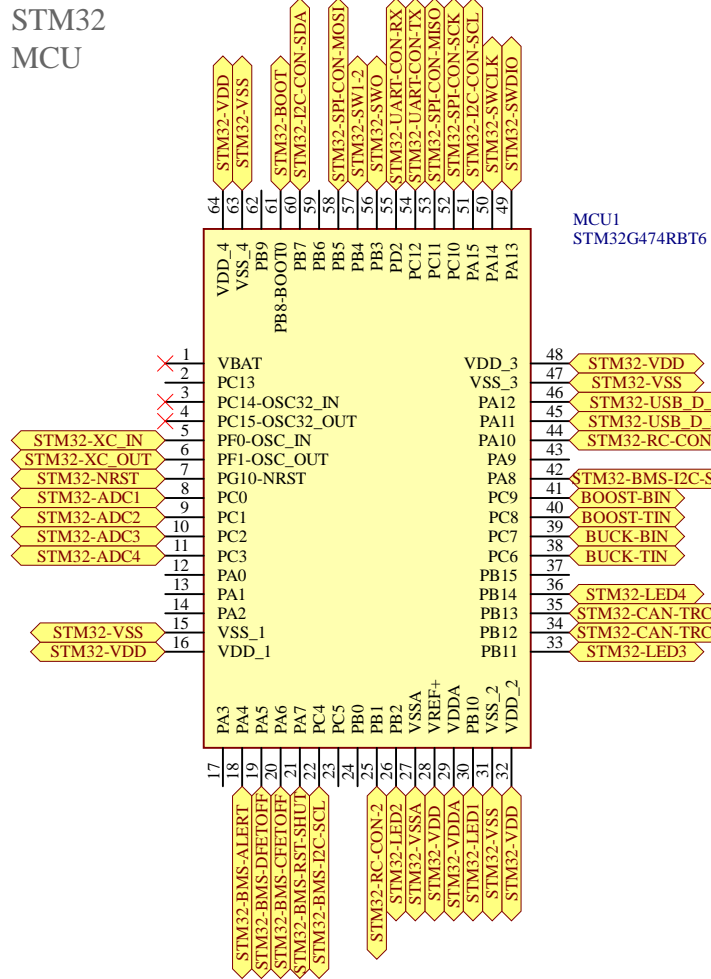


3.3V Linear Regulator

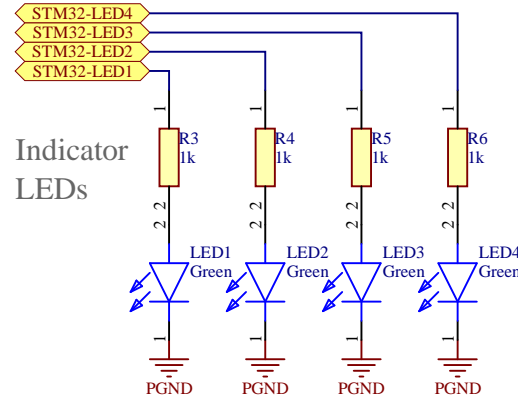


Title <i>RcMPPT-Power_Module</i>			<div><div>*</div><div>*</div><div>*</div><div>*</div></div> 
Size: A4	Number: 1	Revision: 1.0	
Date: 04.02.2021	Time: 21:34:42	Sheet 1 of 4	
File: C:\Users\Thomas\Documents\GitHub\RcMPPT\Hardware\RcMPPT-SCC\RcMPPT-Power_Module.SchDoc			

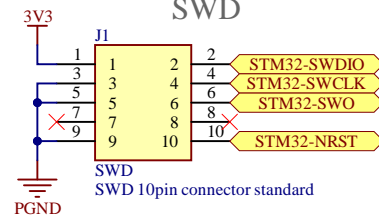
STM32 MCU



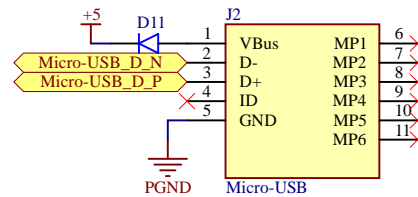
Indicator LEDs



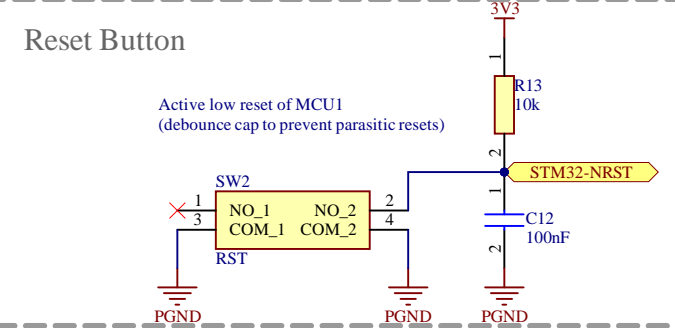
SWD



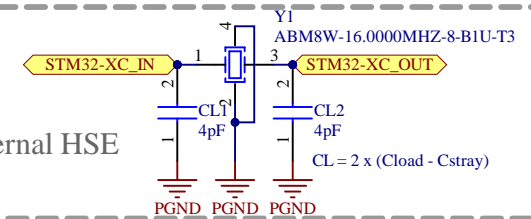
USB



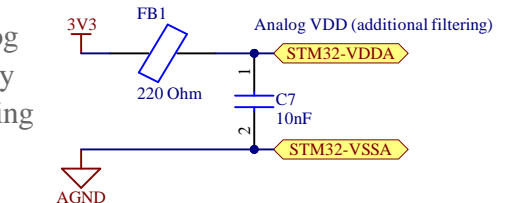
Reset Button



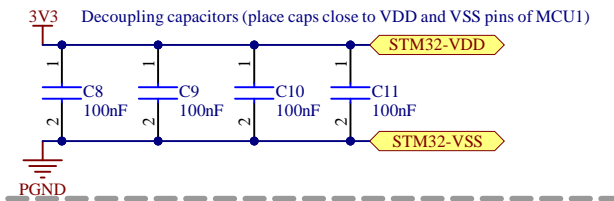
External HSE



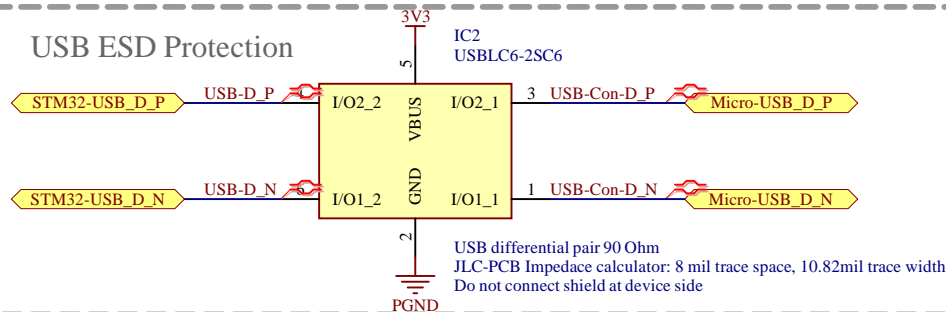
Analog Supply Filtering



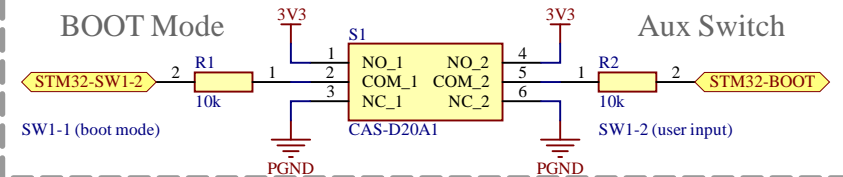
Decoupling Capacitors



USB ESD Protection



BOOT Mode



Title **RcMPPT-MCU**

Size: **A4**

Number: **2**

Revision: **1.0**

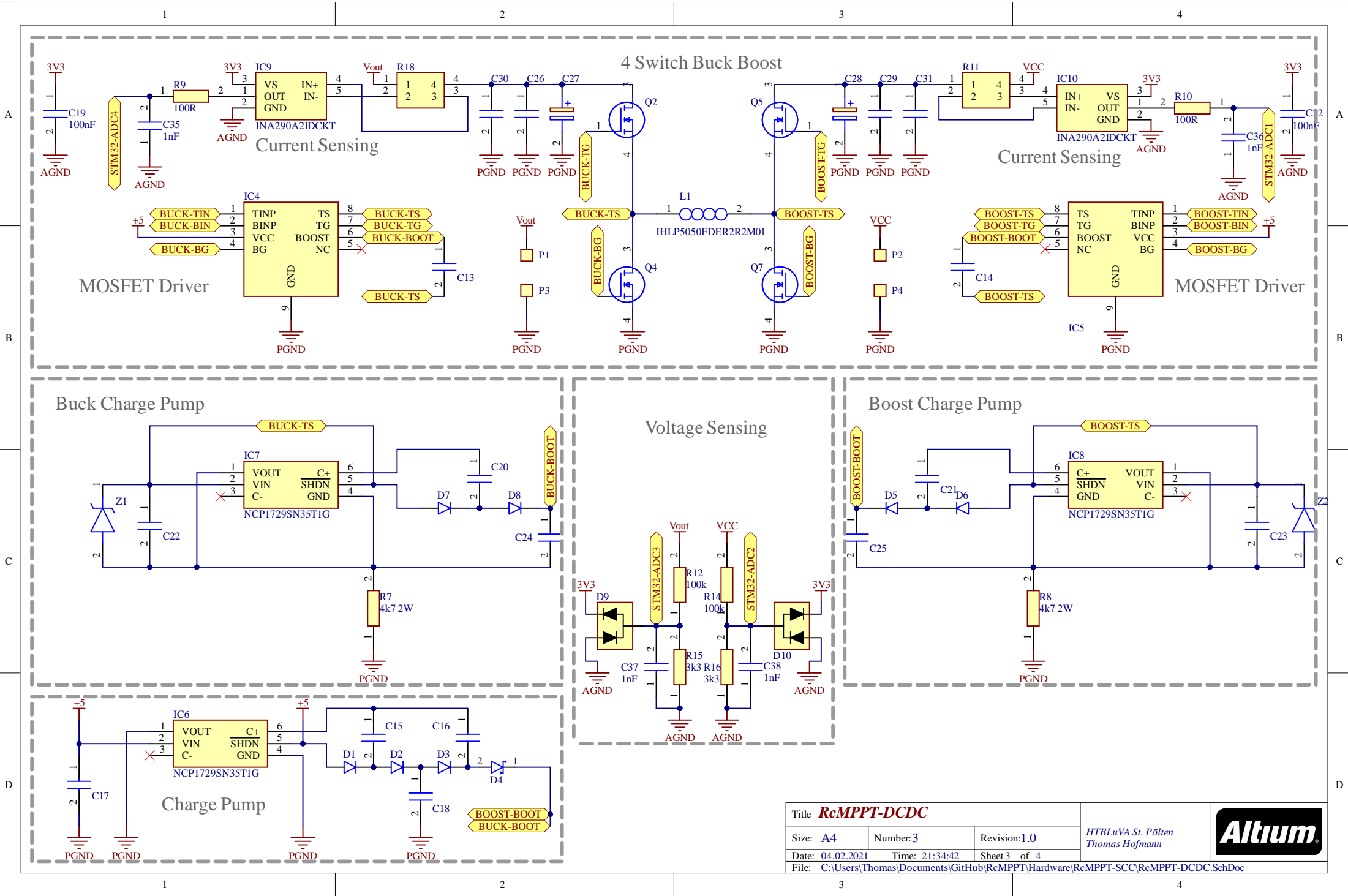
Date: **04.02.2021**

Time: **21:34:42**

Sheet **2** of **4**

File: **C:\Users\Thomas\Documents\GitHub\RcMPPT\Hardware\RcMPPT-SCC\RcMPPT-MCU.SchDoc**

Altium



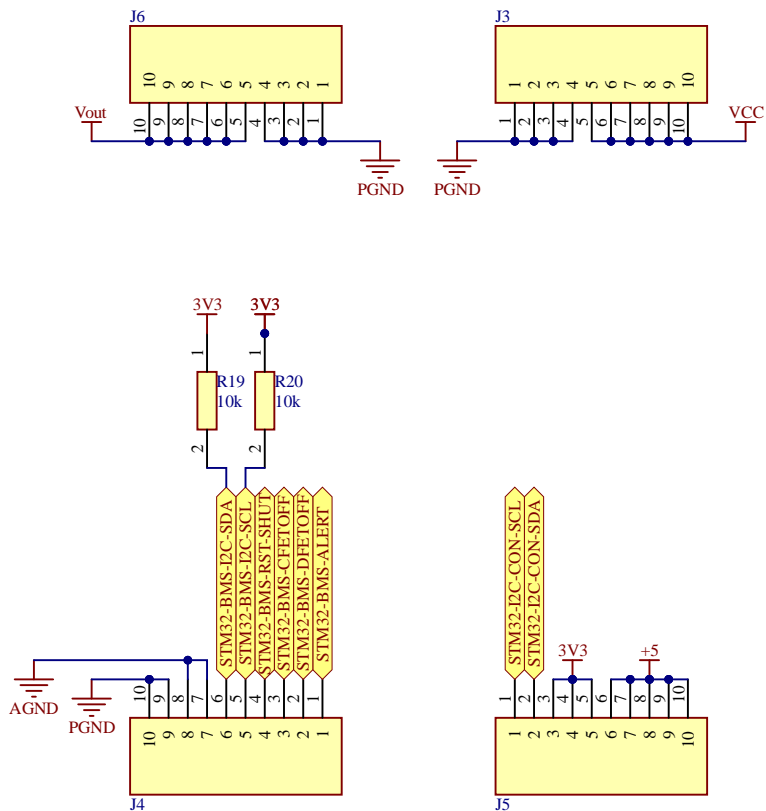
1

2

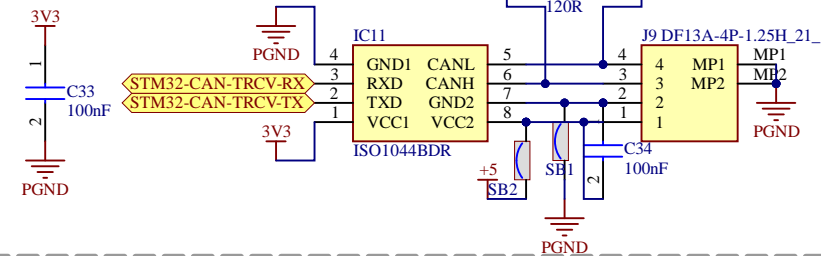
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4

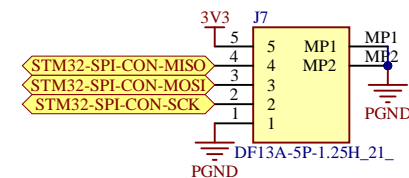
Board Interconnect RcMPPT-BMS



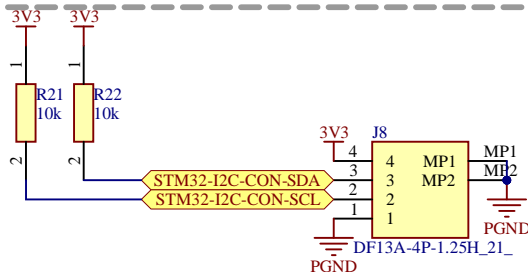
CAN



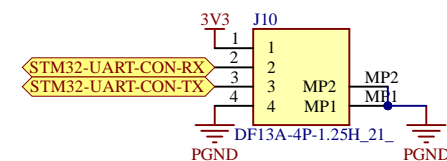
SPI



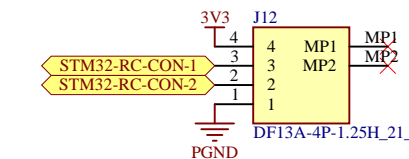
I2C



UART



SBUS



Title **RcMPPT-IO**

Size: **A4**

Number: **4**

Revision: **1.0**

Date: **04.02.2021**

Time: **21:34:42**

Sheet **4** of **4**

File: **C:\Users\Thomas\Documents\GitHub\RcMPPT\Hardware\RcMPPT-SCC\RcMPPT-IO.SchDoc**



1

2

3

4

RcMPPT[📶]
Thomas Hofmann



open source
hardware

Reset

BOOT/AUX

MCU1

USB

SWD

SPI +
- I2C +

VOUT

Vin

RADJ1

C4

C5

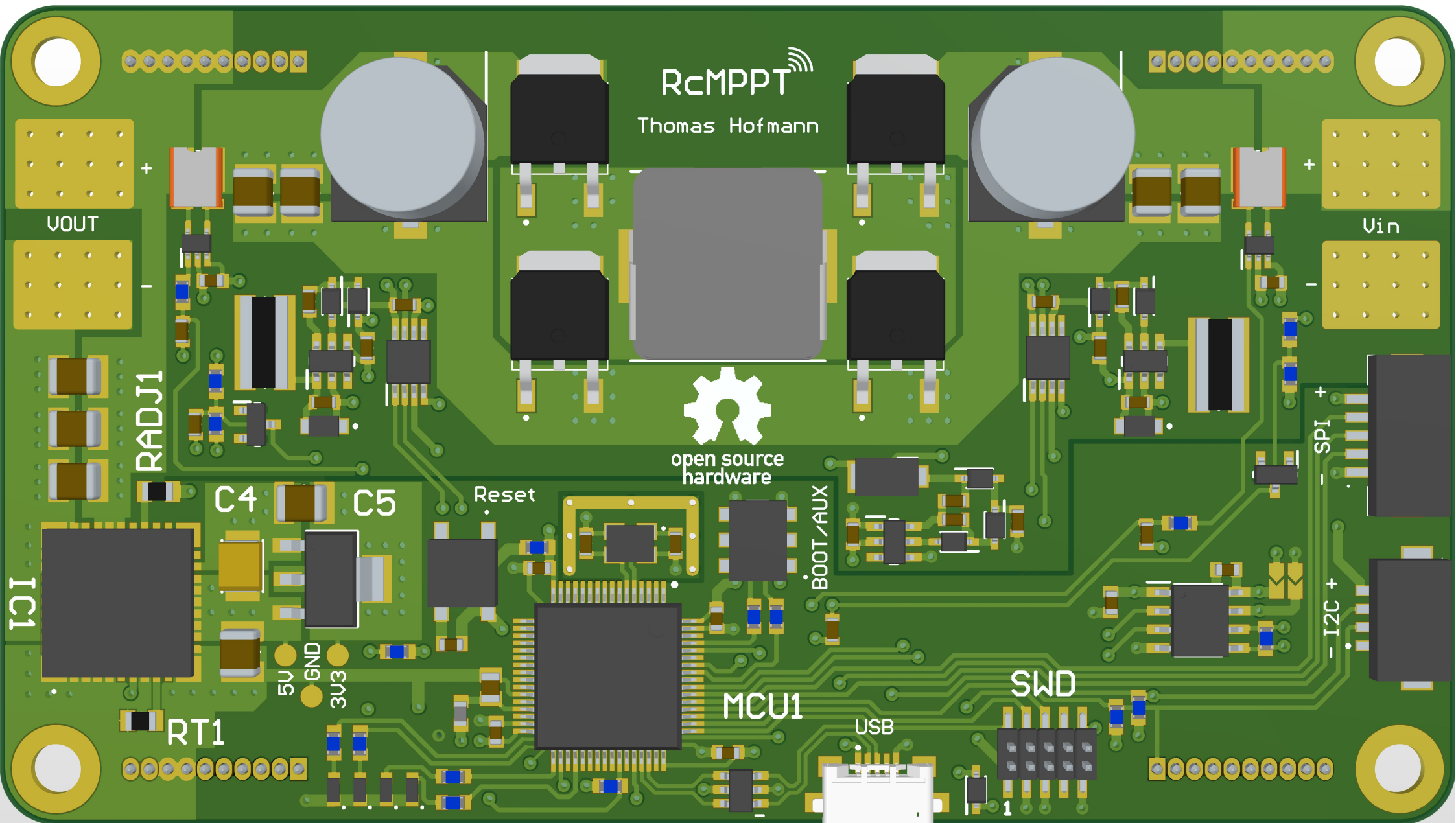
RT1

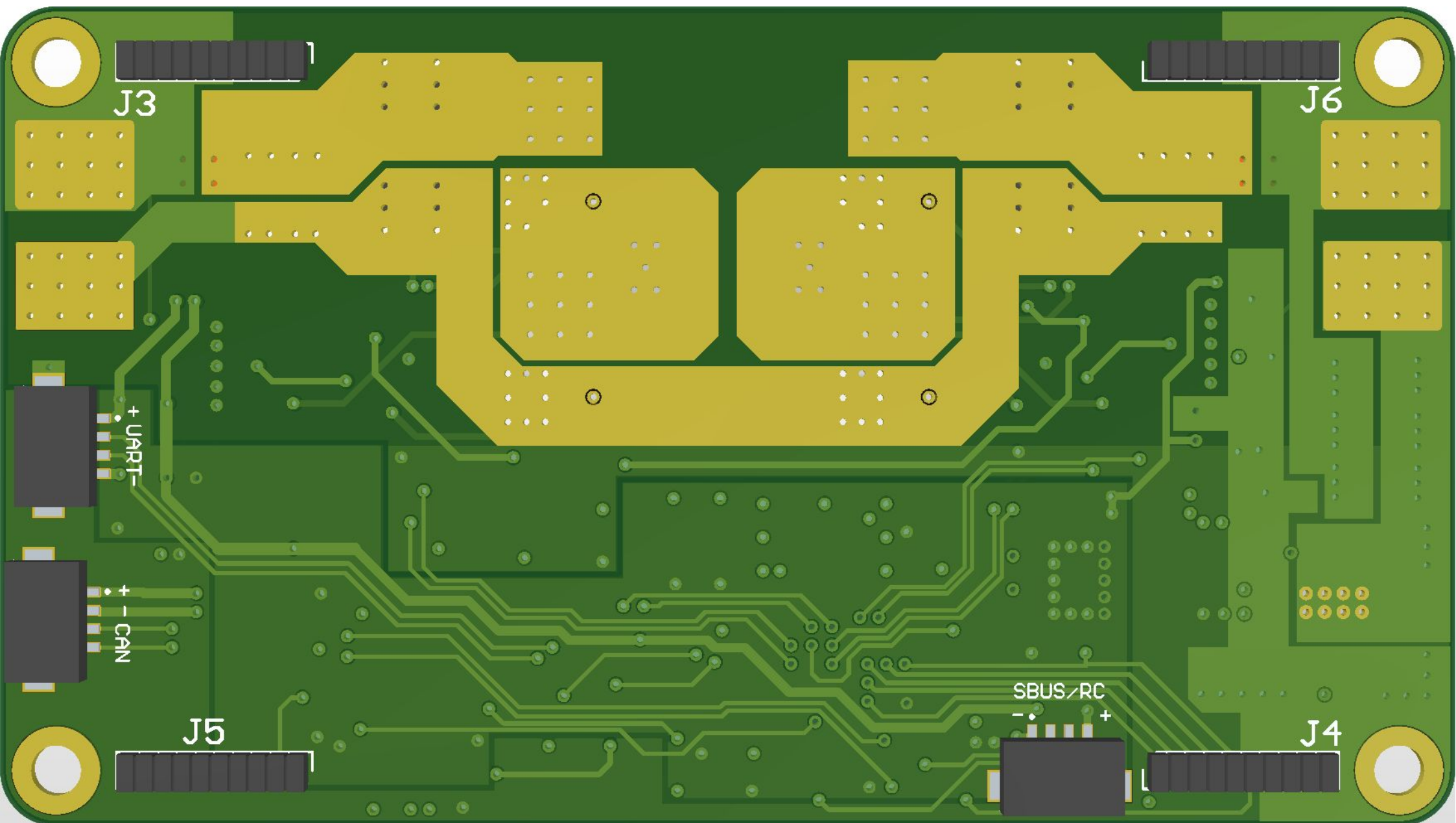
5V

GND

3V3

IC1





Quantity	Comment	Description	Designator	Manufacturer_Part_Number
5	10uF	Capacitor	C1, C2, C3, C5, C6	CL32B106KMVNNWE
1	100uF	Capacitor Polarised	C4	8TPE100MAZB
1	10nF	Capacitor	C7	C0805C103J3GACTU
9	100nF	Capacitor	C8, C9, C10, C11, C12, C19, C32, C33, C34	VJ0603Y104JXJAC
12	C1608X5R1E335K080A C	Capacitor	C13, C14, C15, C16, C17, C18, C20, C21, C22, C23, C24, C25	C1608X5R1E335K080AC
4	GRM32EC72A106KE05 L	Capacitor	C26, C29, C30, C31	GRM32EC72A106KE05L
2	UUX2A470MNL1GS	Capacitor Polarised	C27, C28	UUX2A470MNL1GS
4	1nF	Capacitor	C35, C36, C37, C38	06035A102JAT2A
2	4pF	Capacitor	CL1, CL2	CL10C040CB8NNNC
8	BAS3010A03WE6327HTSA1	Diode	D1, D2, D3, D5, D6, D7, D8, D11	BAS3010A03WE6327HTSA1
1	V8PAM10S-M3_H	Schottky Diode	D4	V8PAM10S-M3/H
2	BAT54SQ-7-F	Schottky Diode	D9, D10	BAT54SQ-7-F
1	220 Ohm	Ferrite Bead	FB1	MPZ1608S221ATA00
1	LMZ36002RVQT	Integrated Circuit	IC1	LMZ36002RVQT
1	USBLC6-2SC6	Integrated Circuit	IC2	USBLC6-2SC6
1	AP2114H-3.3TRG1	Integrated Circuit	IC3	AP2114H-3.3TRG1
2	LTC4444EMS8E-5#PBF	Integrated Circuit	IC4, IC5	LTC4444EMS8E-5#PBF
3	NCP1729SN35T1G	Integrated Circuit	IC6, IC7, IC8	NCP1729SN35T1G
2	INA290A2IDCKT	Integrated Circuit	IC9, IC10	INA290A2IDCKT
1	ISO1044BDR	Integrated Circuit	IC11	ISO1044BDR
1	SWD	Connector	J1	M50-3600542R
1	Micro-USB	Connector	J2	1981584-1
4	M52-040023V1045	Connector	J3, J4, J5, J6	M52-040023V1045
1	DF13A-5P-1.25H_21_	Connector	J7	DF13A-5P-1.25H(21)
4	DF13A-4P-1.25H_21_	Connector	J8, J9, J10, J12	DF13A-4P-1.25H(21)
1	IHLP5050FDER2R2M01	Inductor	L1	IHLP5050FDER2R2M01
4	Green	LED	LED1, LED2, LED3, LED4	LG Q396-PS-35
1	STM32G474RBT6	Integrated Circuit	MCU1	STM32G474RBT6
4	PowerPad		P1, P2, P3, P4	
4	IPD90N10S4L06ATMA1	MOSFET (N-Channel)	Q2, Q4, Q5, Q7	IPD90N10S4L06ATMA1
7	10k	Resistor	R1, R2, R13, R19, R20, R21, R22	MCT06030C1002FP500
4	1k	Resistor	R3, R4, R5, R6	MCT06030C1001FP500
2	4k7 2W	Resistor	R7, R8	RCL12254K70FKEG
2	100R	Resistor	R9, R10	ERJ-3EKF1000V
2	WSK1216L5000FEA	Resistor	R11, R18	WSK1216L5000FEA
2	100k	Resistor	R12, R14	ERJ-PA3J104V
2	3k3	Resistor	R15, R16	ERJ-PA3J332V
1	120R	Resistor	R17	ERJPA3J121V
1	5.05k	Resistor	RADJ1	RT0805BRD075K05L
1	49.9k	Resistor	RT1	ERJ-6ENF4992V
1	CAS-D20A1	Switch	S1	CAS-D20A1
2	Solder Bridge	Solder Bridge	SB1, SB2	RC0603JR-070RL
1	RST	Switch	SW2	PTS 647 SK38 SMTR2 LFS
1	ABM8W-16.0000MHZ-8-B1U-T3	Crystal or Oscillator	Y1	ABM8W-16.0000MHZ-8-B1U-T3
2	YFZVFHTR10B	Zener Diode	Z1, Z2	YFZVFHTR10B