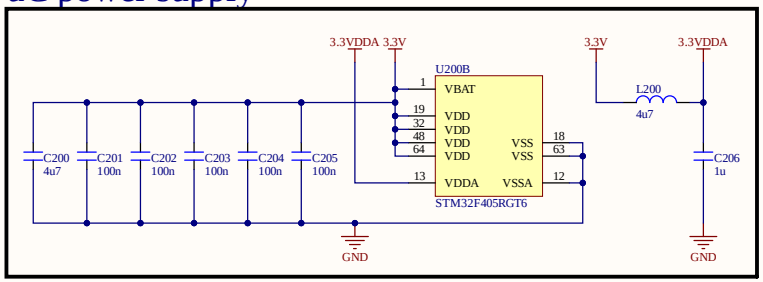
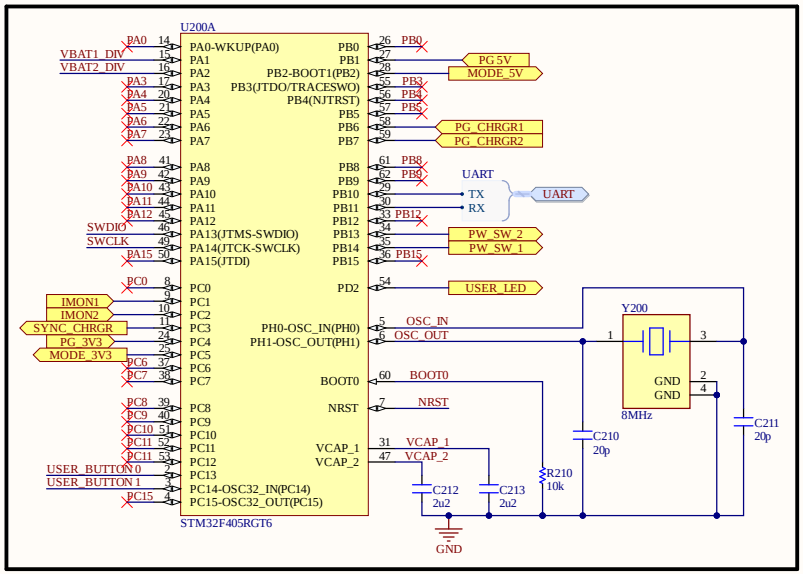
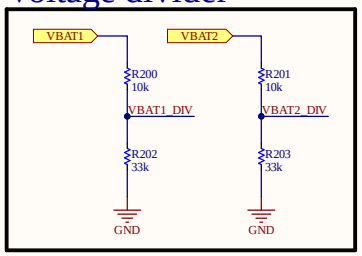
uC power supply



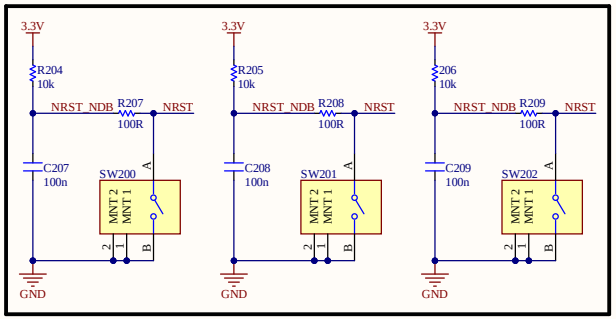
uC



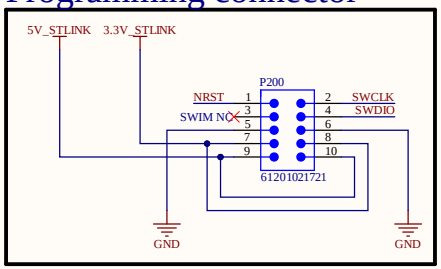
Voltage divider



Reset & user buttons



Programming connector



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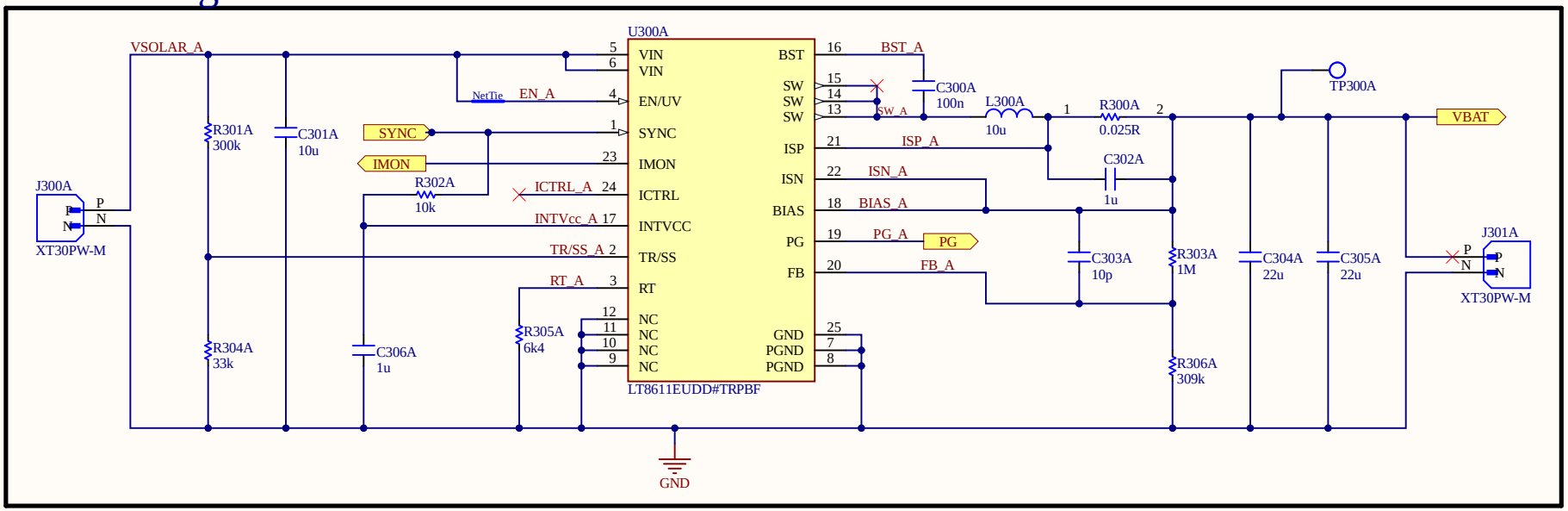
MPPT charger 4.1V 2A



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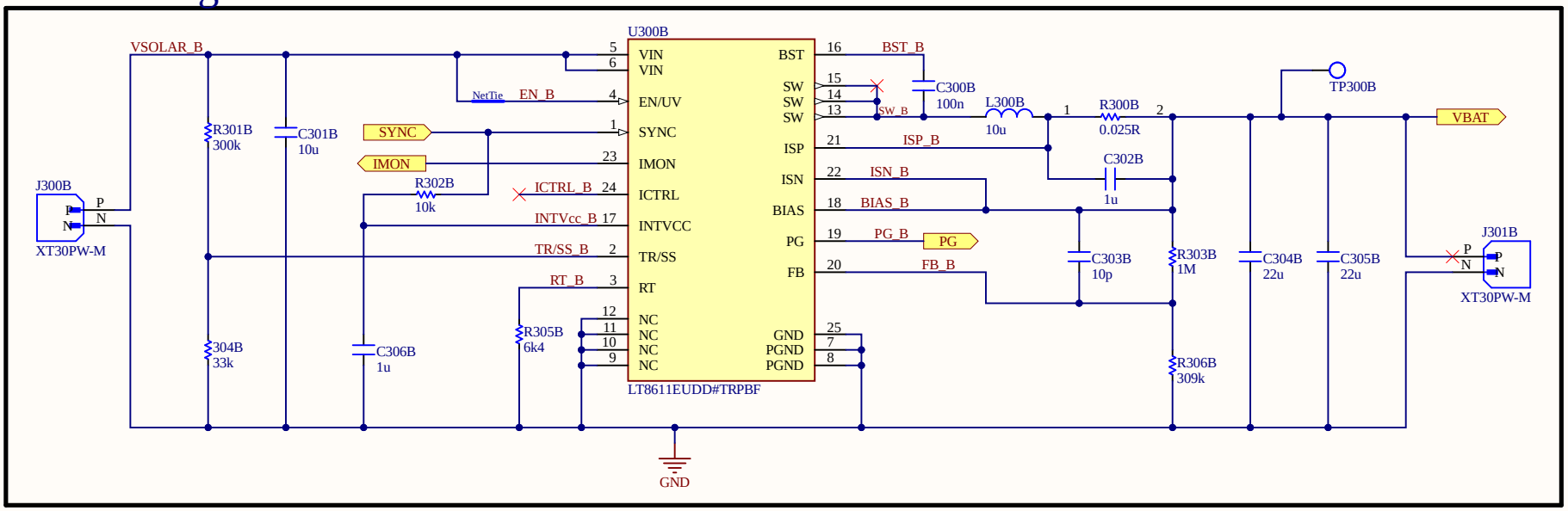
MPPT charger 4.1V 2A



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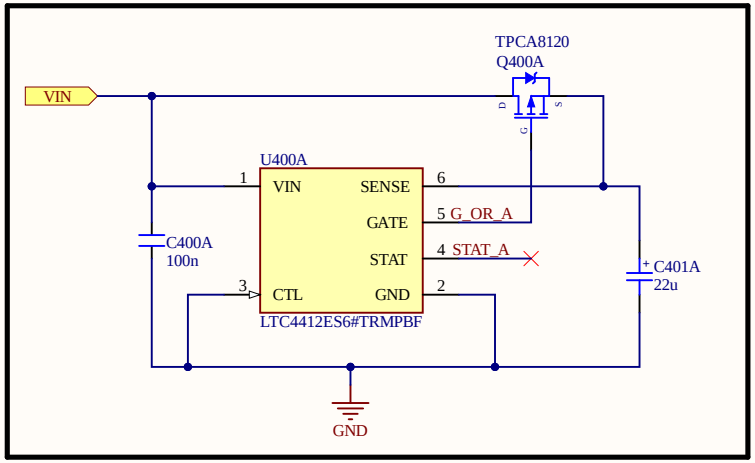
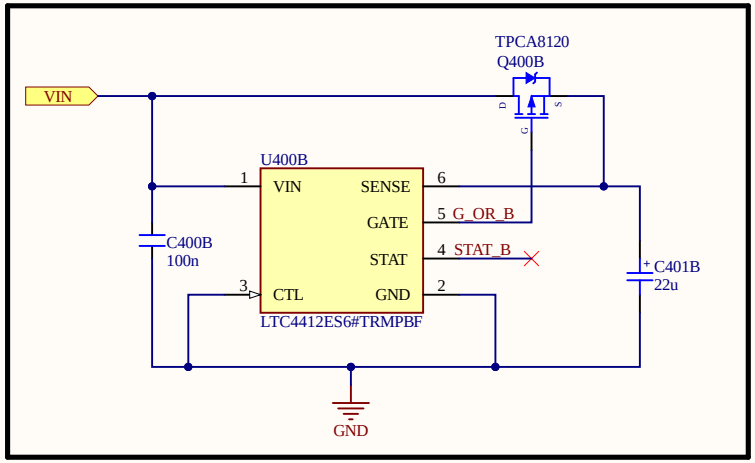
Ideal diode 5A



Ideal diode 5A



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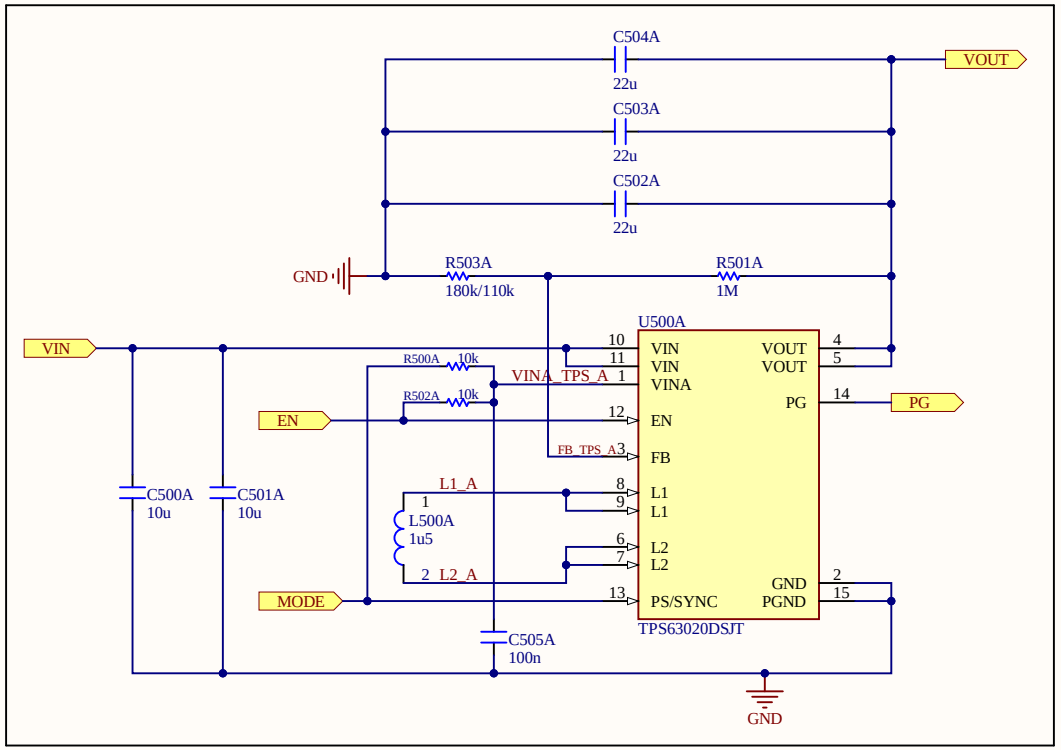
Buck-Boost converter



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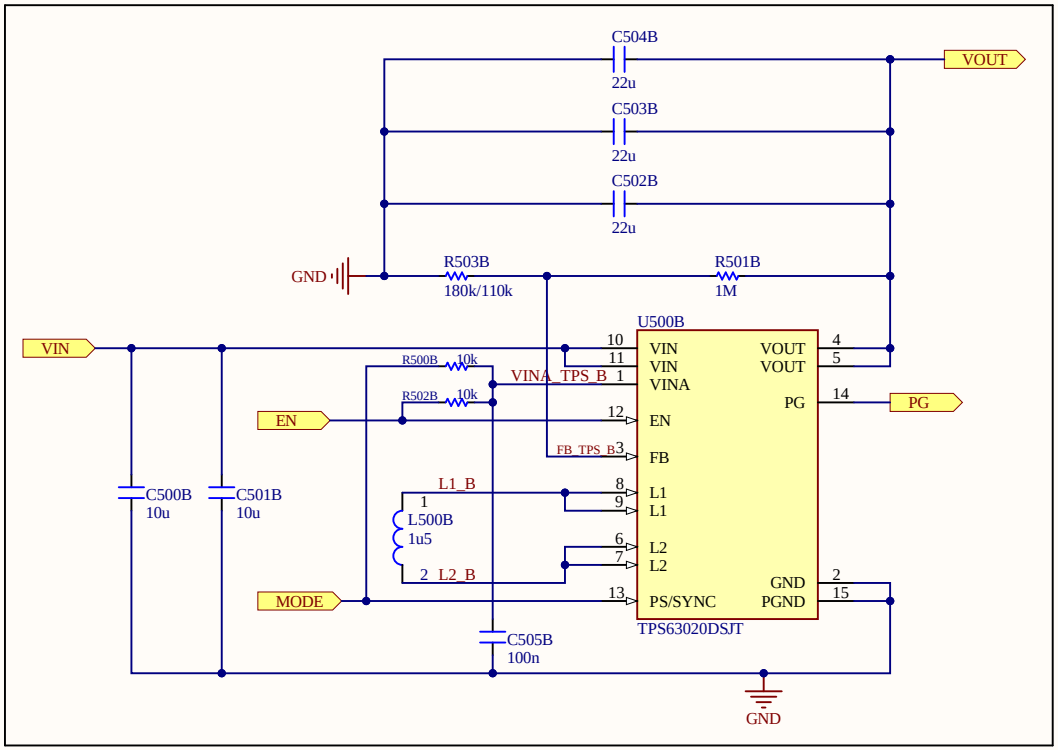
Buck-Boost converter



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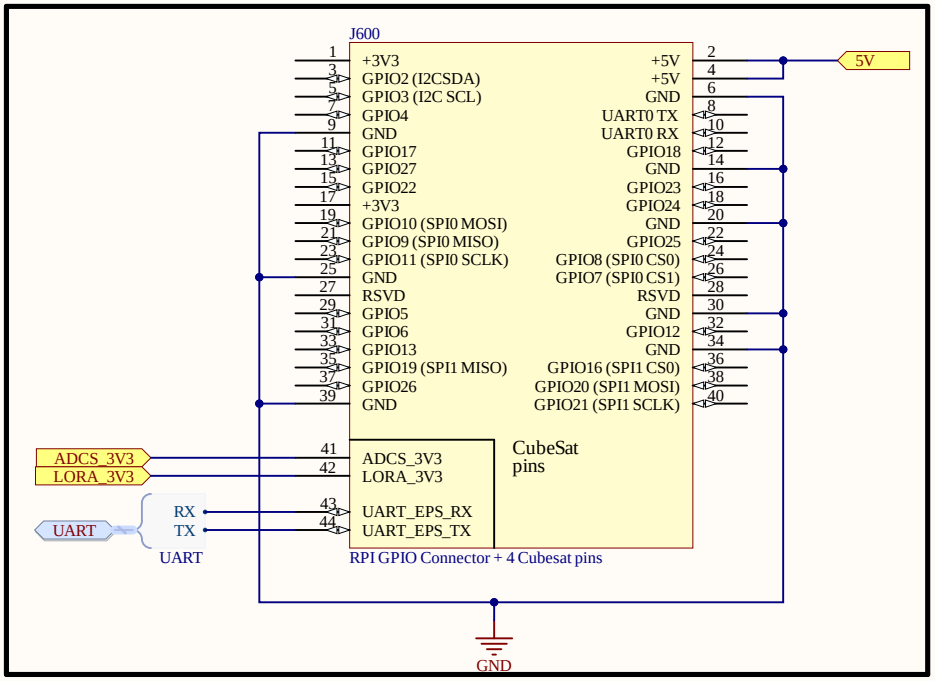
Board-to-board connector



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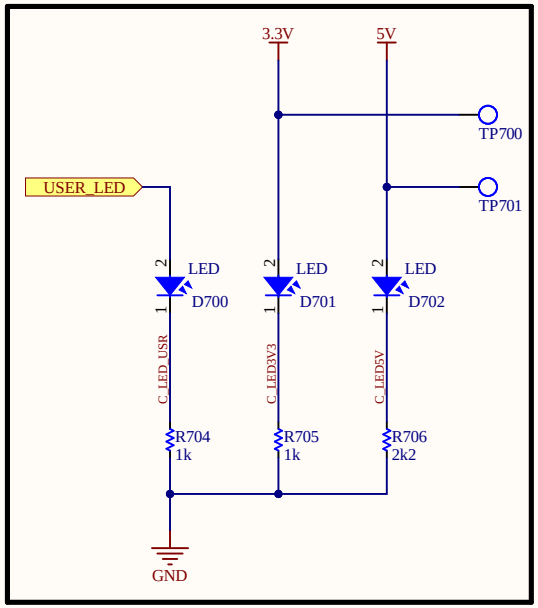
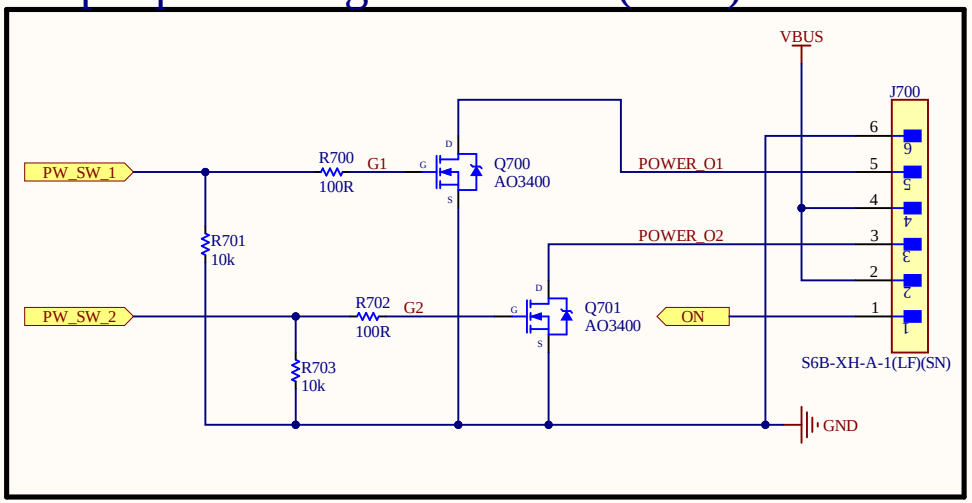
LEDs



Output power stage and on/off (RBF)



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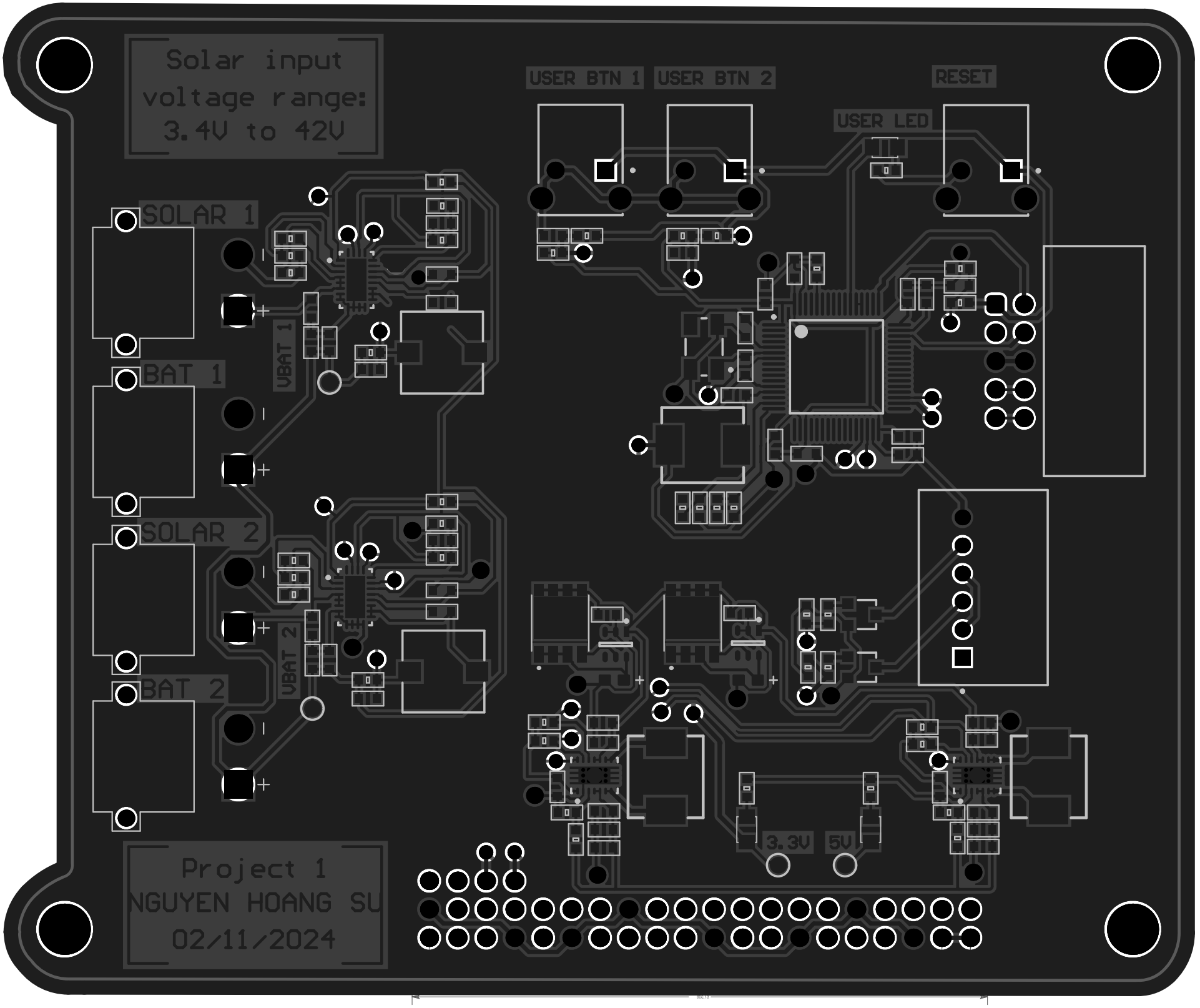
Solar input
voltage range:
3.4V to 42V
USER BTN 1
USER BTN 2
RESET
USER LED
SOLAR 1
BAT 1
VBAT 1
SOLAR 2
BAT 2
VBAT 2
3.3V
5V
Project 1
NGUYEN HOANG SU
02/11/2024

Comment	Description	Designator	Footprint	LibRef	Quantity
10k	Resistor	206, R200, R201, R204, R205, R210, R302A, R302B, R500A, R500B, R502A, R502B, R701, R703	RES-SMD-0603	Res-SMD	14
33k	Resistor	304B, R202, R203, R304A	RES-SMD-0603	Res-SMD	4
4u7		C200	CN-SMD-0603	CN	1
100n		C201, C202, C203, C204, C205, C207, C208, C209, C300A, C300B, C400A, C400B, C505A, C505B	CN-SMD-0603	CN	14
1u		C206, C302A, C302B, C306A, C306B	CN-SMD-0603	CN	5
20p		C210, C211	CN-SMD-0603	CN	2
2u2		C212, C213	CN-SMD-0603	CN	2
10u		C301A, C301B, C500A, C500B, C501A, C501B	CN-SMD-0603	CN	6
10p		C303A, C303B	CN-SMD-0603	CN	2
22u		C304A, C304B, C305A, C305B, C502A, C502B, C503A, C503B, C504A, C504B	CN-SMD-0603	CN	10
22u	Capacitor SMD Tantalum 0603	C401A, C401B	CAP_TANT_0603	CAP_TANT_0603	2
LED		D700, D701, D702	LED-0805-Green	LED SMD	3
XT30PW-M	Socket; DC supply; XT30; male; PIN: 2; on PCBs; THT; Colour: yellow	J300A, J300B, J301A, J301B	AMASS_XT30PW-M	XT30PW-M	4
RPI GPIO Connector + 4 Cubesat pins		J600	header 40 pins	Header 40 pins	1
S6B-XH-A-1(LF)(SN)	CONN HEADER R/A P6OS2.5MM	J700	FP-S6B-XH-A-1_LF_SN-MFG	CMP-17439-000023-1	1
4u7		L200	L-SMD-0630	L-SMD-1	1
10u		L300A, L300B	L-SMD-M-7.3x4.5	L-SMD-1	2
1u5		L500A, L500B	L-SMD-0630	L-SMD-1	2
61201021721		P200	61201021721	CMP-1502-00021-2	1
TPCA8120		Q400A, Q400B	Mosfet P channel	Mosfet P channel	2
AO3400	N-MOS 30V 5.8A	Q700, Q701	SOT23-123	AO3400	2
100R	Resistor	R207, R208, R209, R700, R702	RES-SMD-0603	Res-SMD	5
0.025R	Resistor	R300A, R300B	RES-SMD-0603	Res-SMD	2
300k	Resistor	R301A, R301B	RES-SMD-0603	Res-SMD	2
1M	Resistor	R303A, R303B, R501A, R501B	RES-SMD-0603	Res-SMD	4
6k4	Resistor	R305A, R305B	RES-SMD-0603	Res-SMD	2
309k	Resistor	R306A, R306B	RES-SMD-0603	Res-SMD	2
180k/110k	Resistor	R503A, R503B	RES-SMD-0603	Res-SMD	2
1k	Resistor	R704, R705	RES-SMD-0603	Res-SMD	2
2k2	Resistor	R706	RES-SMD-0603	Res-SMD	1
EVQ-PF006K	EVQ-PF006K Switch Tactile N.O. SPST Round Button PC Pins 0.02A 15VDC 1N Thru-Hole Bulk	SW200, SW201, SW202	FP-EVQ-PF006K-MFG	CMP-00287-39802768-1	3
Test-Point		TP300A, TP300B, TP700, TP701	TESTPOINT	Test-Point	4
STM32F405RGT6	ARM Cortex-M4 32-bit MCU+FPU, 210 DMIPS, 1024 kB Flash, 192 kB Internal RAM, 51 I/Os, 64-pin LQFP, -40 to 85 degC, Tray	U200	STM-LQFP64_M	CMP-0243-00019-3	1
LT8611EUDD#TRPBF	IC REG BUCK ADJ 2.5A 24QFN	U300A, U300B	FP-UDD-24-05-08-1833-IPC_B	CMP-0491-02169-2	2
LTC4412ES6#TRMPBF	IC OR CTRLR SRC SELECT TSOT23-6	U400A, U400B	FP-S6-6-05-08-1636-IPC_C	CMP-0479-00425-2	2
TPS63020DSJT	IC REG BCK BST ADJ 3.5A 14VSON	U500A, U500B	FP-DSJ0014A-MFG	CMP-2000-07282-2	2
8MHz	Crystal 8MHz ±20ppm 18pF SMD-4 5mm x 3.2mm	Y200	FP-ABM3B-MFG	CMP-1688-00002-2	1