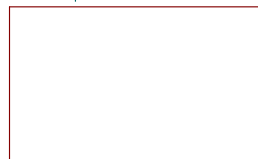
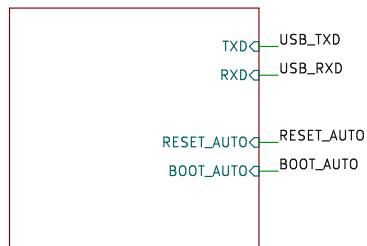


Power input



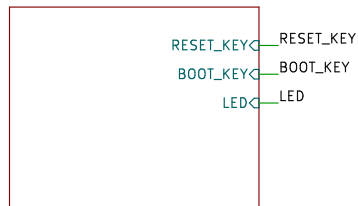
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USB



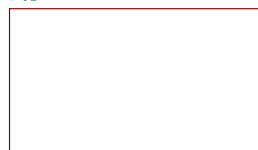
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User Interface



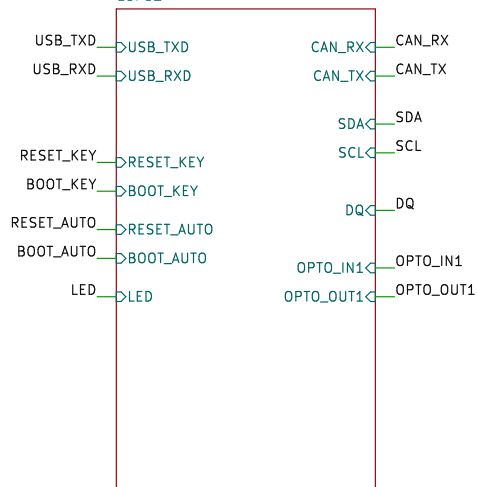
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PCB



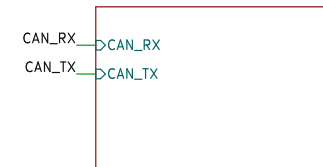
File: PCB.kicad_sch

ESP32



File: ESP32.kicad_sch

CAN bus



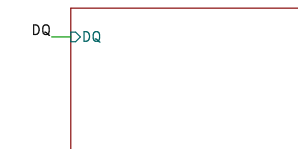
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I2C



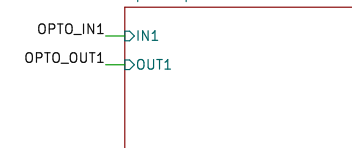
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Onewire



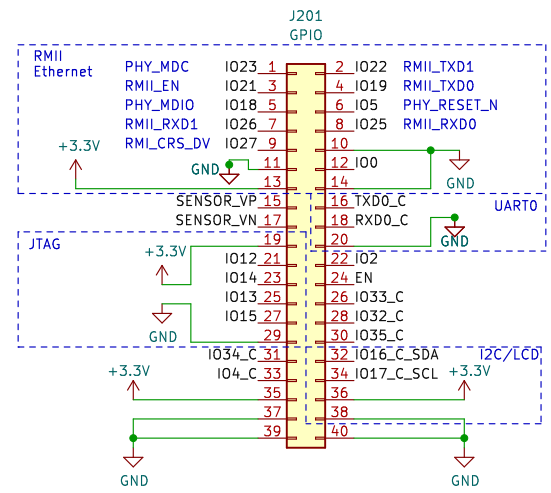
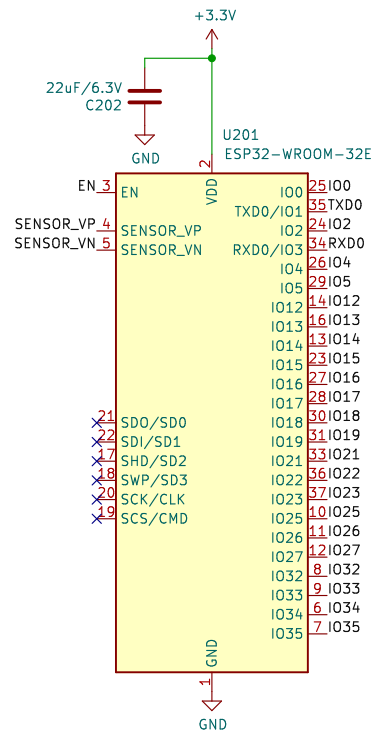
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Optocouplers

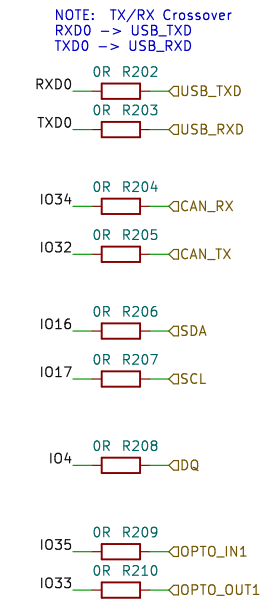


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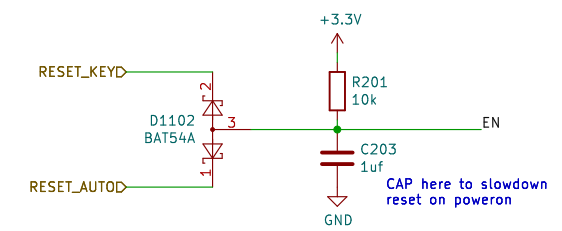
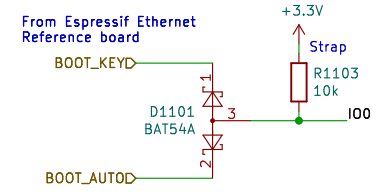
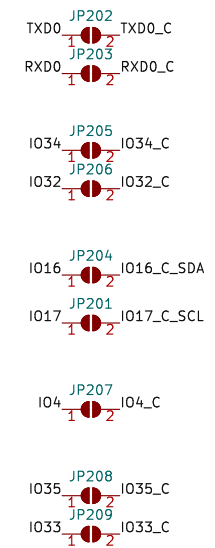
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Hot Labs Ltd	
Sheet: / File: SH-ESP32.kicad_sch	
Title: Sailor Hat with ESP32	
Size: A4	Date: 2021-12-31
KiCad E.D.A. kicad (6.0.1-0)	Rev: 2.0.1 Id: 1/10



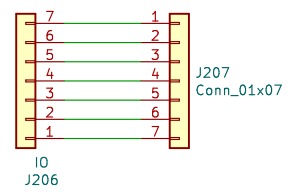
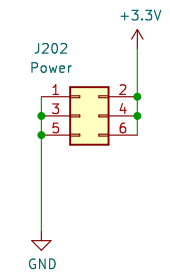
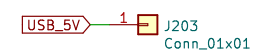
OR jumpers allow for rerouting and disabling peripherals



Solder jumpers allow for rerouting peripherals GPIOs to J201



For safety reasons, a USB 5V two-pin header was downgraded to a single pin test point.



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Sheet: /ESP32/
File: ESP32.kicad_sch

Title: Sailor Hat with ESP32

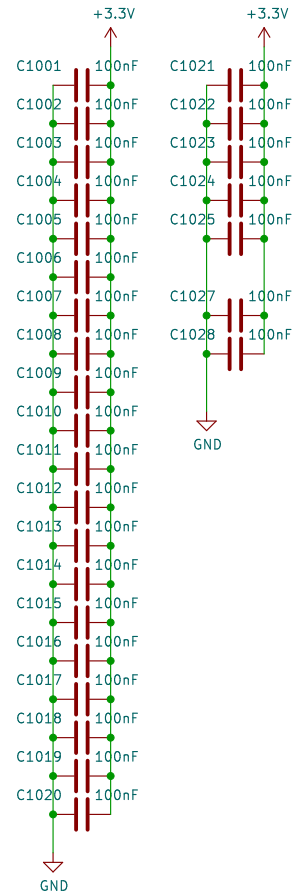
Size: A4	Date: 2021-12-31	Rev: 2.0.1
KiCad E.D.A. kicad (6.0.1-0)		

Id: 3/10

Mounting holes

- H1001 MountingHole
- H1002 MountingHole

Decoupling caps



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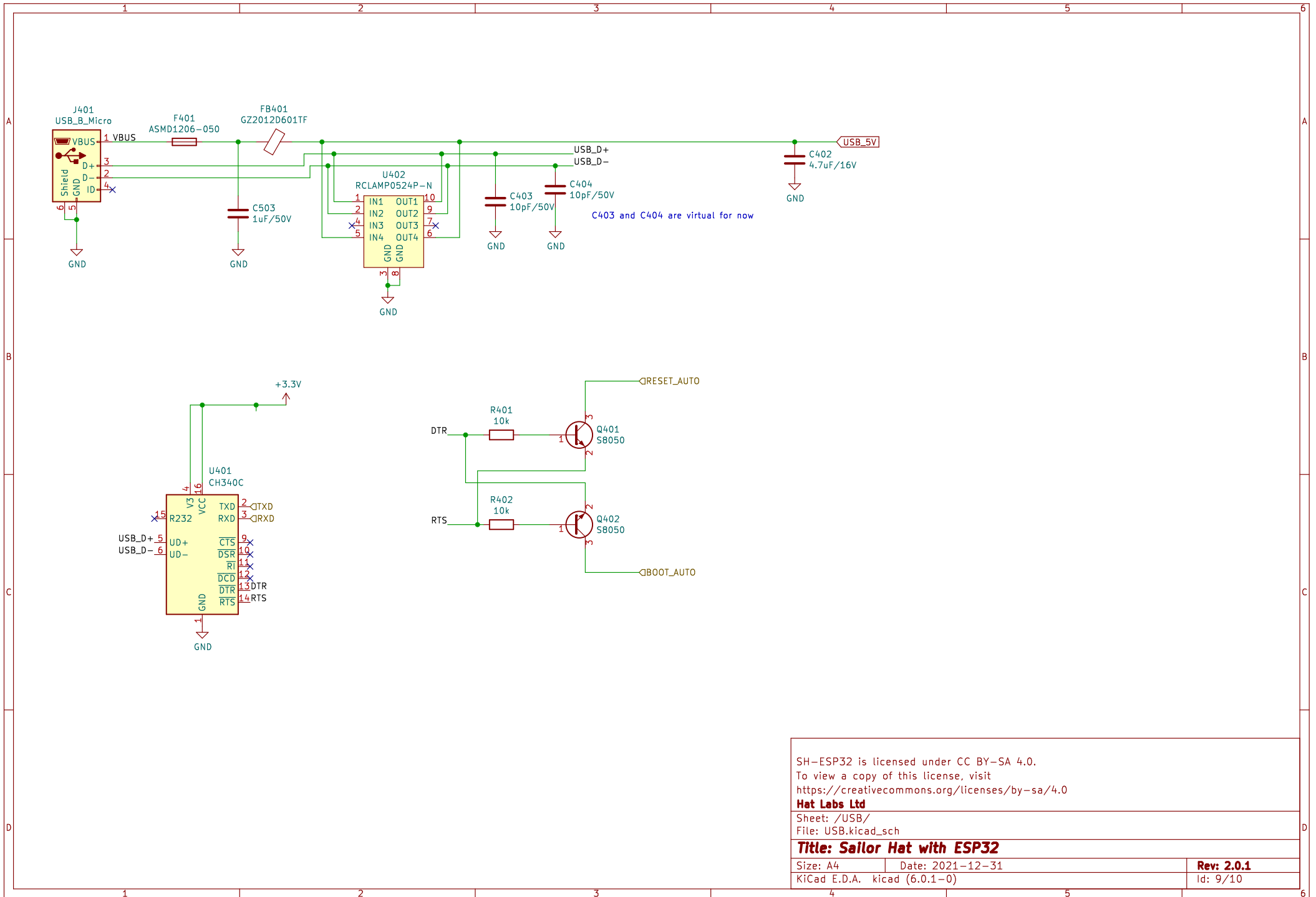
Hat Labs Ltd

Sheet: /PCB/
File: PCB.kicad_sch

Title: Sailor Hat with ESP32

Size: A4 Date: 2021-12-31
KiCad E.D.A. kicad (6.0.1-0)

Rev: 2.0.1
Id: 7/10



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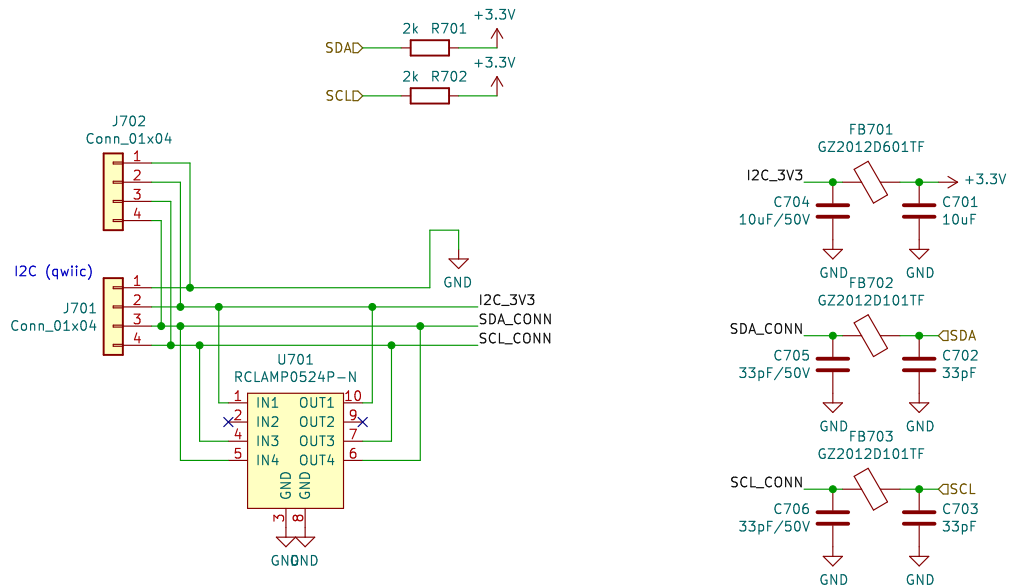
Hat Labs Ltd

Sheet: /USB/
 File: USB.kicad_sch

Title: Sailor Hat with ESP32

Size: A4 Date: 2021-12-31
 KiCad E.D.A. kicad (6.0.1-0)

Rev: 2.0.1
 Id: 9/10



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Sheet: /I2C/

File: I2C.kicad_sch

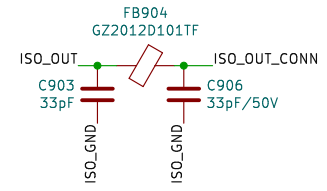
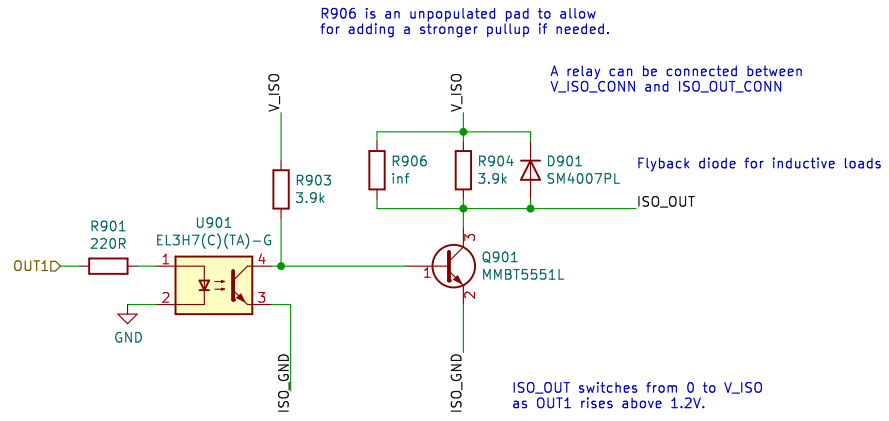
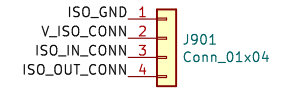
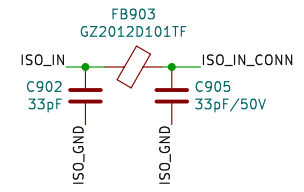
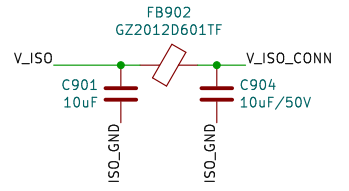
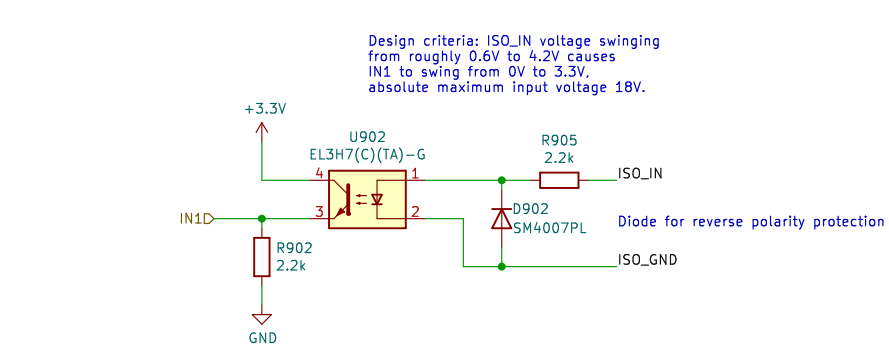
Title: Sailor Hat with ESP32

Size: A4 Date: 2021-12-31

KiCad E.D.A. kicad (6.0.1-0)

Rev: 2.0.1

Id: 4/10



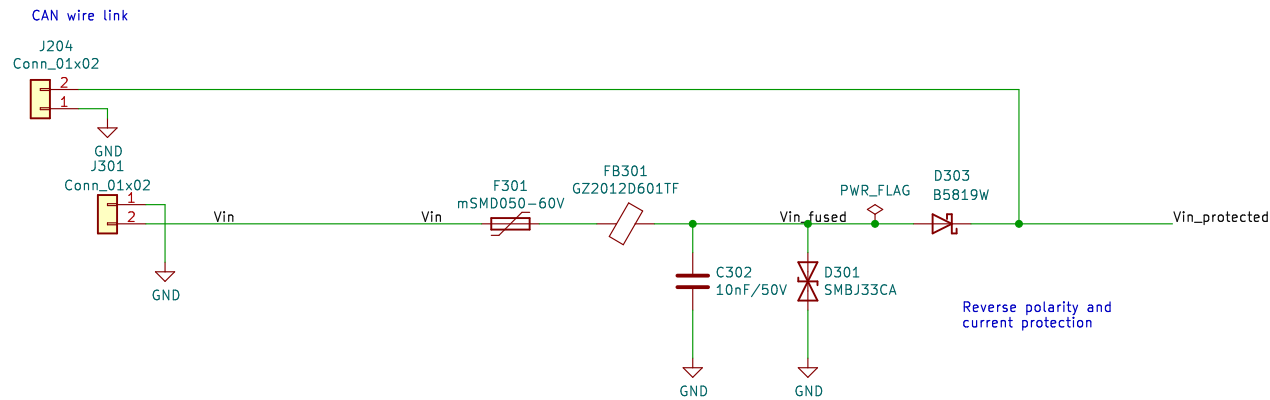
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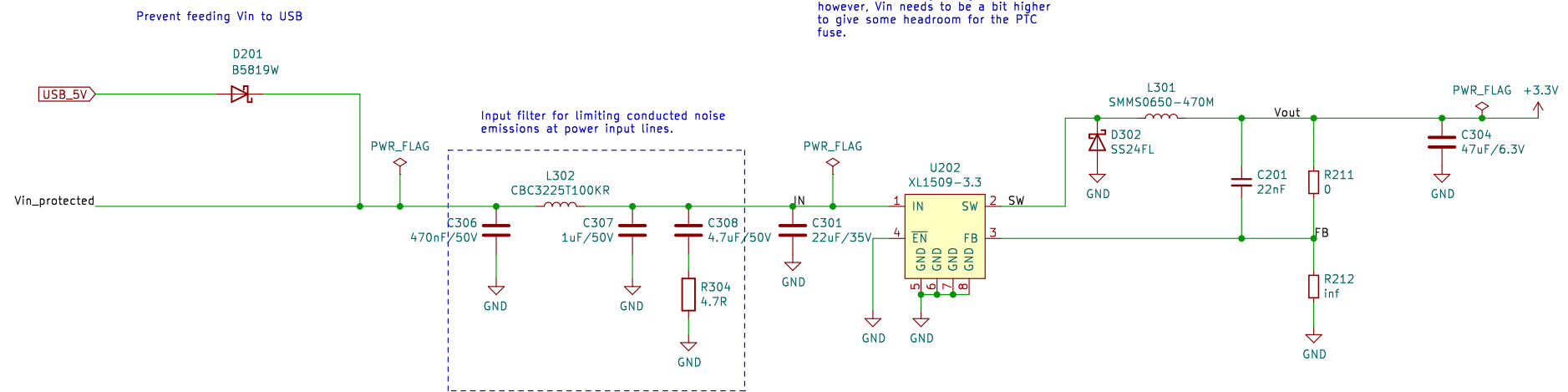
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 File: optocouplers.kicad_sch

Title: Sailor Hat with ESP32

Size: A4	Date: 2021-12-31	Rev: 2.0.1
KiCad E.D.A. kicad (6.0.1-0)		Id: 6/10



Reverse polarity and current protection

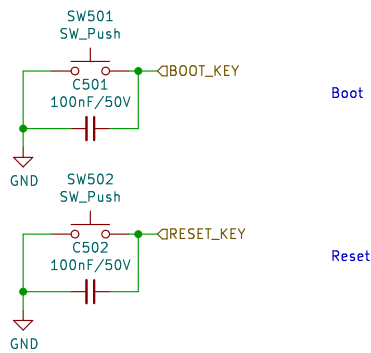
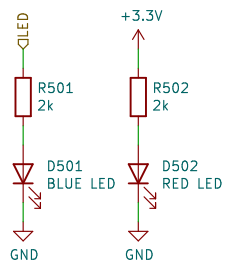


Converter IC voltage range 4.5-50V, however, Vin needs to be a bit higher to give some headroom for the PTC fuse.

Prevent feeding Vin to USB

Input filter for limiting conducted noise emissions at power input lines.

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Sheet: /Power input/	
File: power-input.kicad_sch	
Title: Sailor Hat with ESP32	
Size: A4	Date: 2021-12-31
KiCad E.D.A. kicad (6.0.1-0)	Rev: 2.0.1 Id: 8/10



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Sheet: /User Interface/
 File: UI.kicad_sch

Title: Sailor Hat with ESP32

Size: A4 Date: 2021-12-31
 KiCad E.D.A. kicad (6.0.1-0)

Rev: 2.0.1
 Id: 10/10