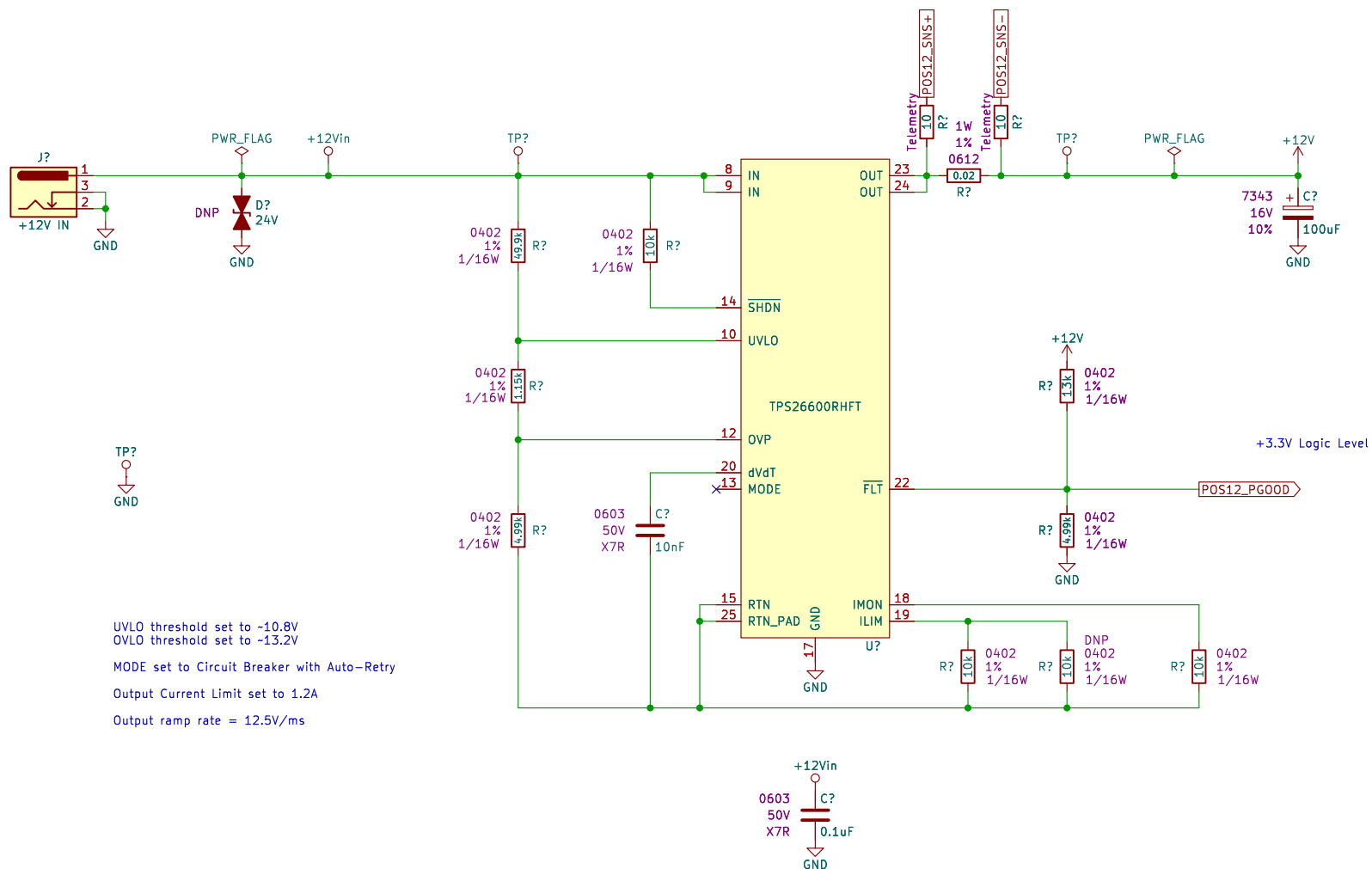


Switch to fewer components, more BOM line items



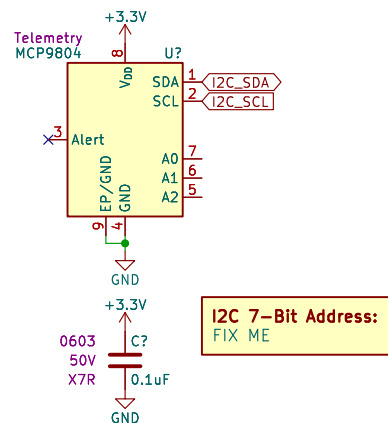
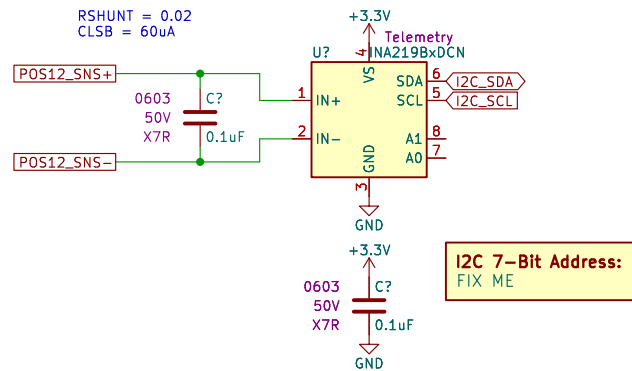
Drew Maatman

Sheet: /+12V Input/
File: POS12_Input.kicad_sch

Title: USB Hub

Size: A	Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1	

Rev: PRELIM
Id: 2/24



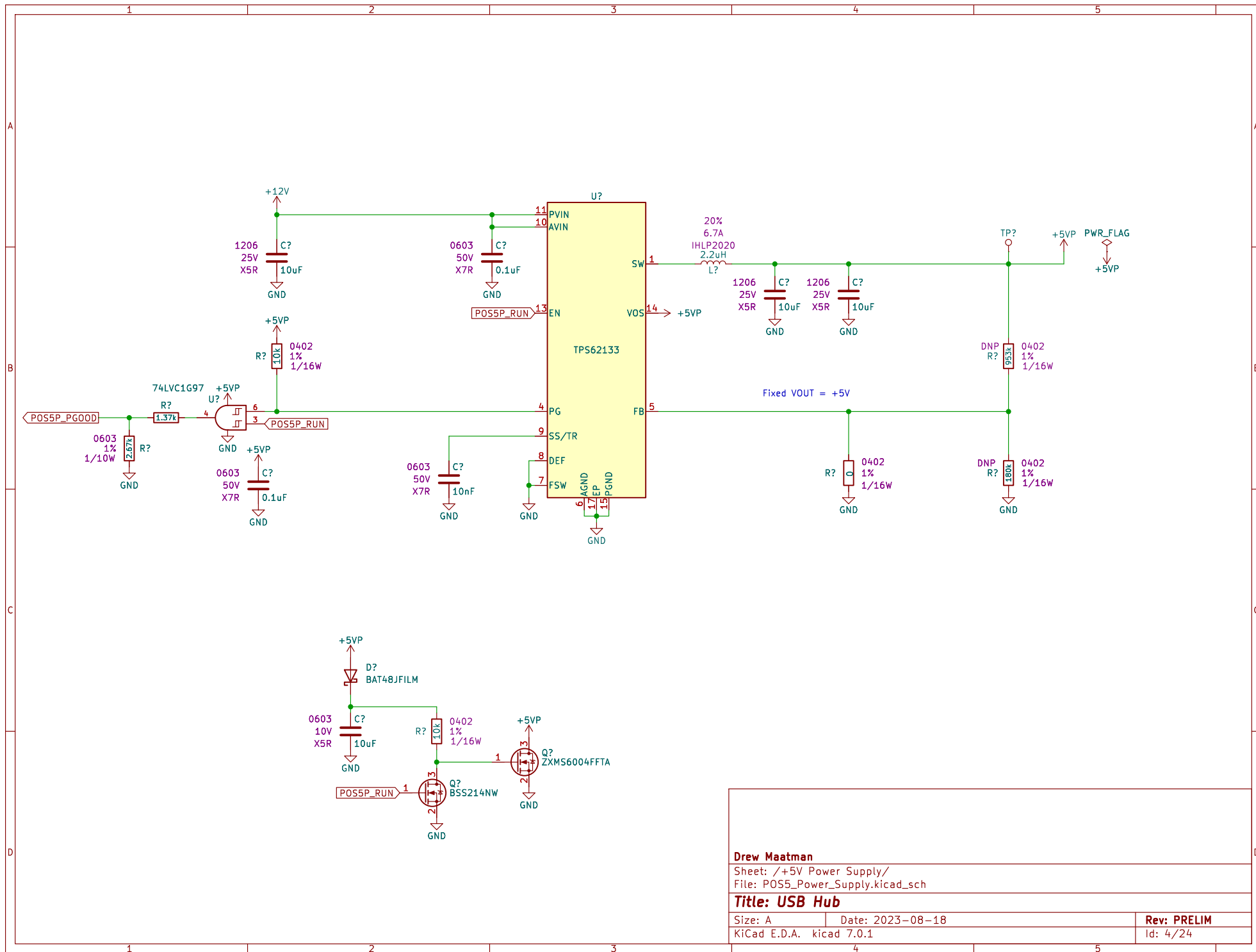
Drew Maatman

Sheet: /+12V Telemetry/
File: POS12_Telemetry.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 3/24



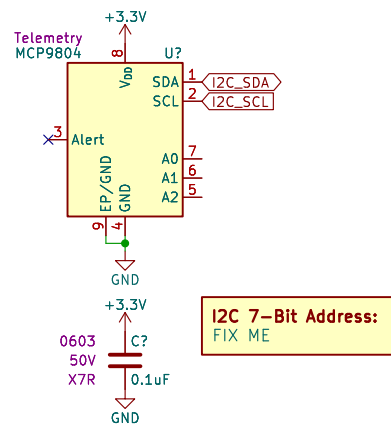
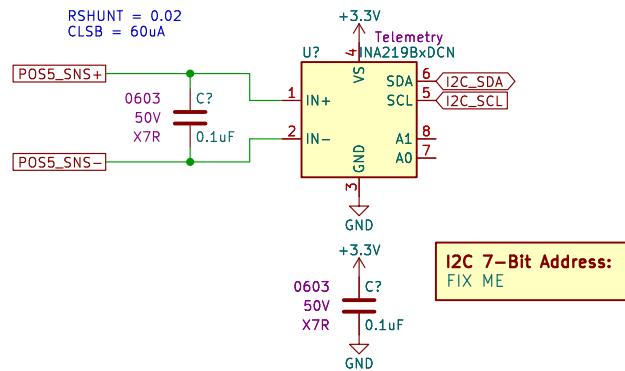
Drew Maatman

Sheet: /+5V Power Supply/
File: POS5_Power_Supply.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 4/24



Drew Maatman

Sheet: /+5V Telemetry/

File: POS5_Telemetry.kicad_sch

Title: USB Hub

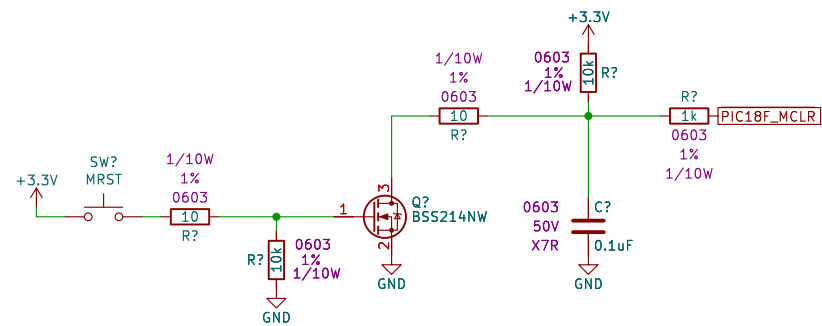
Size: A

Date: 2023-08-18

Rev: PRELIM

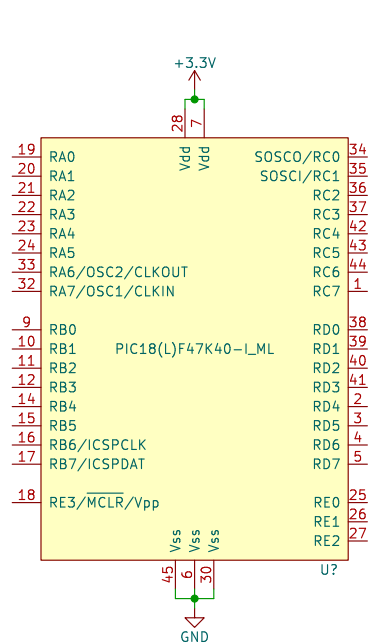
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Id: 5/24



Rev: PRELIM
Id: 6/24

Switch to TQFP version
PIC18F47K40T-I/PTCT-ND



DFP0_EN
DFP1_EN
DFP2_EN
DFP3_EN
DFP0_OC
DFP1_OC
DFP2_OC
DFP3_OC

POS5_SOURCE_STATUS

Drew Maatman

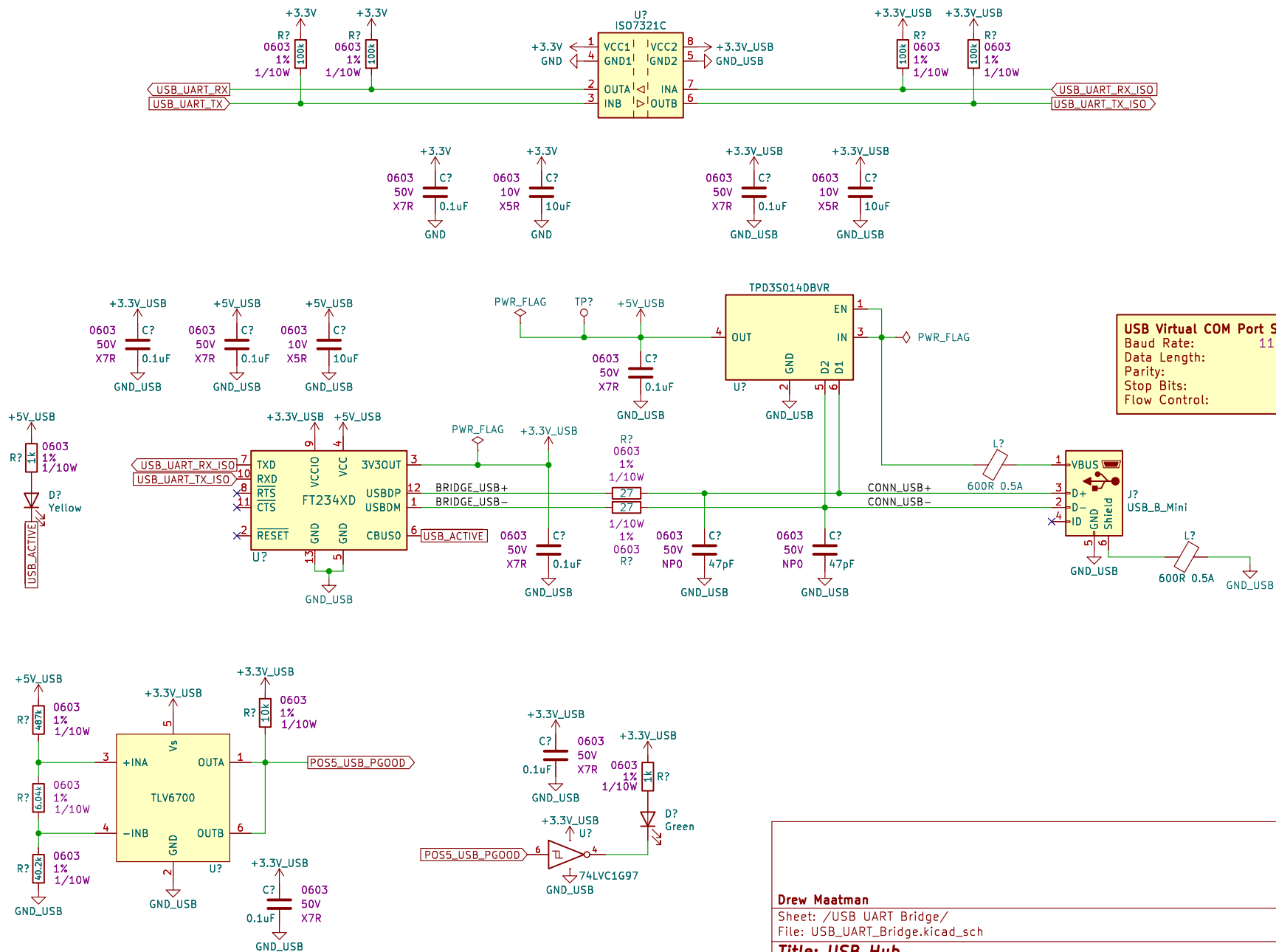
Sheet: /PIC18F Core/
File: PIC18F_Core.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 7/24

Switch to Non-Isolated



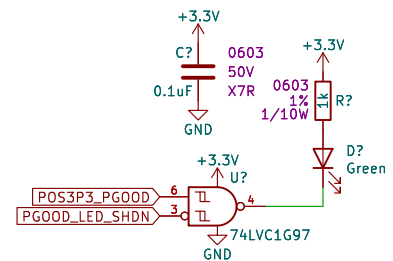
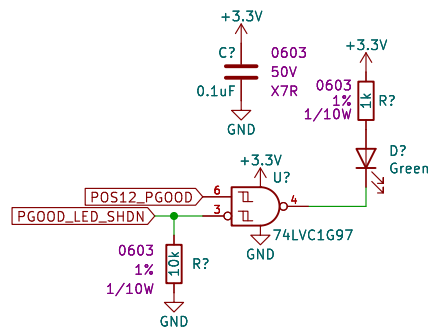
Drew Maatman

Sheet: /USB UART Bridge/
 File: USB_UART_Bridge.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
 KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
 Id: 8/24



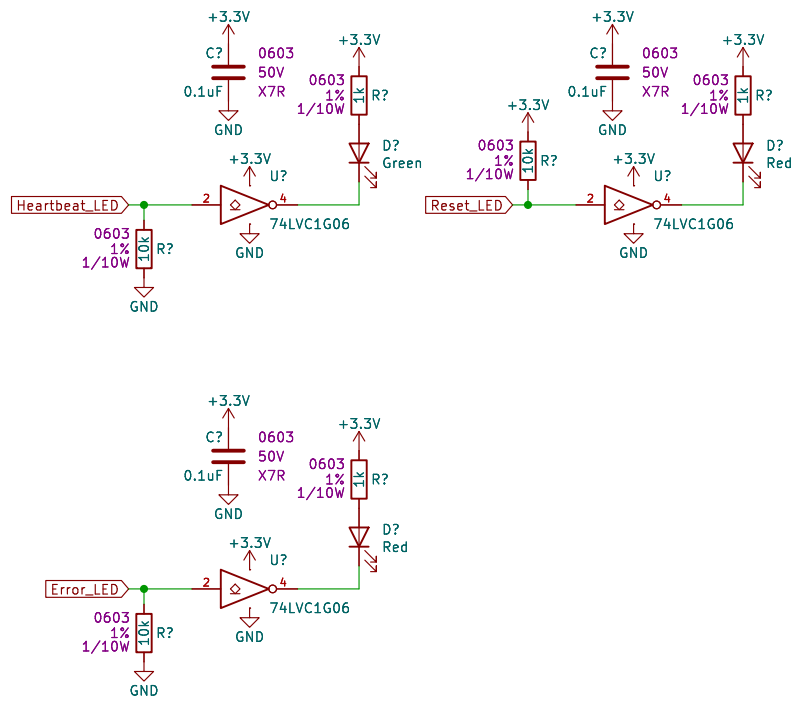
Drew Maatman

Sheet: /PGOOD LEDs/
File: PG00D_LEDs.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 9/24



Drew Maatman

Sheet: /Status LEDs/
File: Status_LEDs.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 10/24

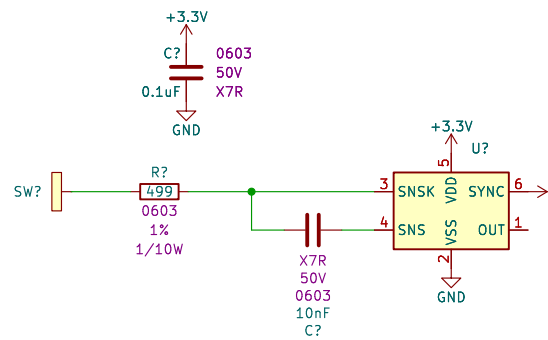
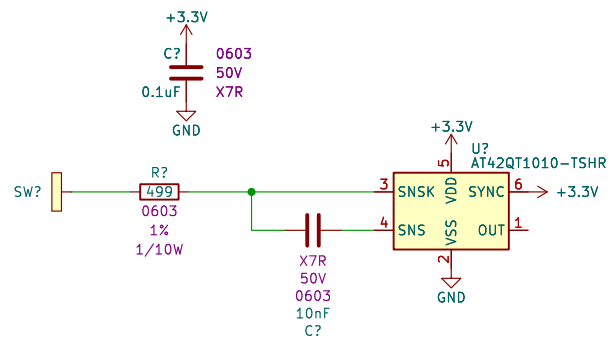
1					2					3					4					5					
A																									A
B																									B
C																									C
D																									D
1					2					3					4					5					

Drew Maatman		
Sheet: /Hub LEDs/		
File: Hub_LEDs.kicad_sch		
Title: USB Hub		
Size: A	Date: 2023-08-18	Rev: PRELIM
KiCad E.D.A. kicad 7.0.1		Id: 11/24

1					2					3					4					5					
A																									A
B																									B
C																									C
D																									D
1					2					3					4					5					

<

Drew Maatman		
Sheet: /Display/ File: Display.kicad_sch		
Title: USB Hub		
Size: A	Date: 2023-08-18	Rev: PRELIM
KiCad E.D.A. kicad 7.0.1		Id: 12/24



Drew Maatman

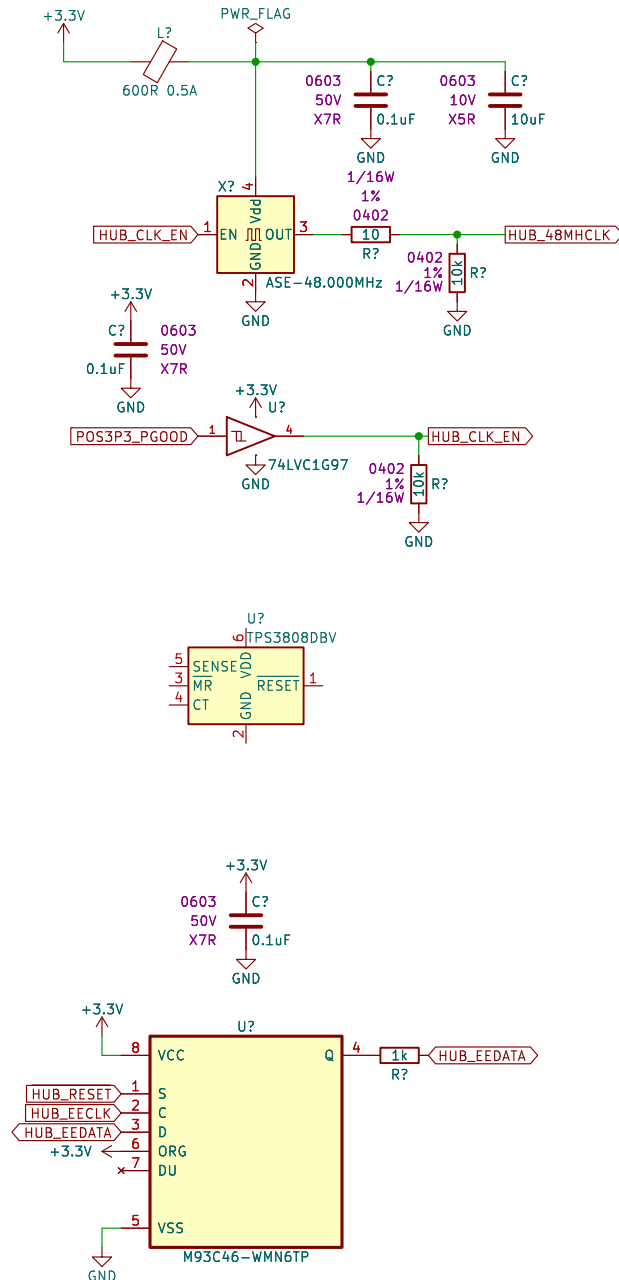
Sheet: /Pushbuttons/
File: Pushbuttons.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

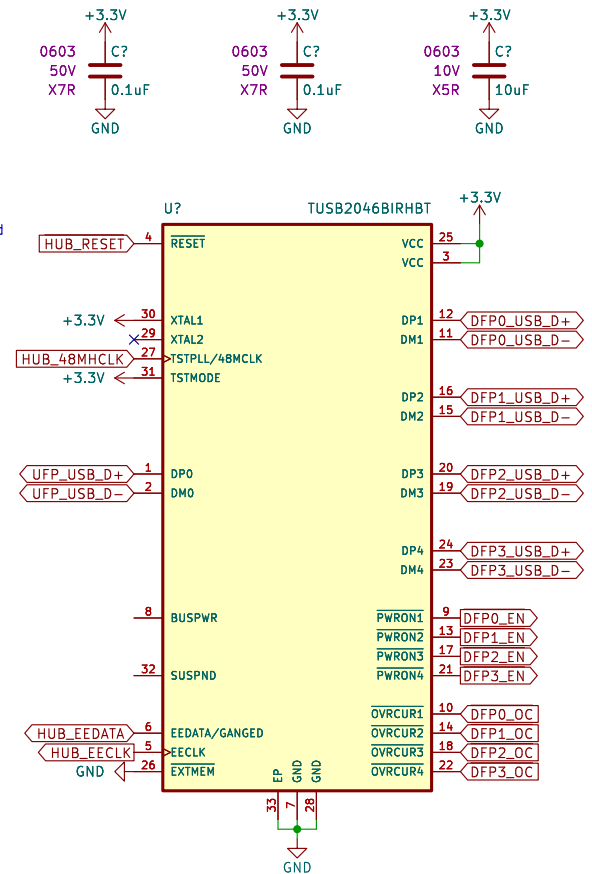
Rev: PRELIM
Id: 13/24

Figure out when to start clocking



Generally, a reset with a pulse width between 100 μ s and 1 ms is recommended after 3.3-V VCC reaches its 90%. Clock signal has to be active during the last 60 μ s of the reset window.

Strap PLL for 48MHz clocking option
See Figure 7 of D/S



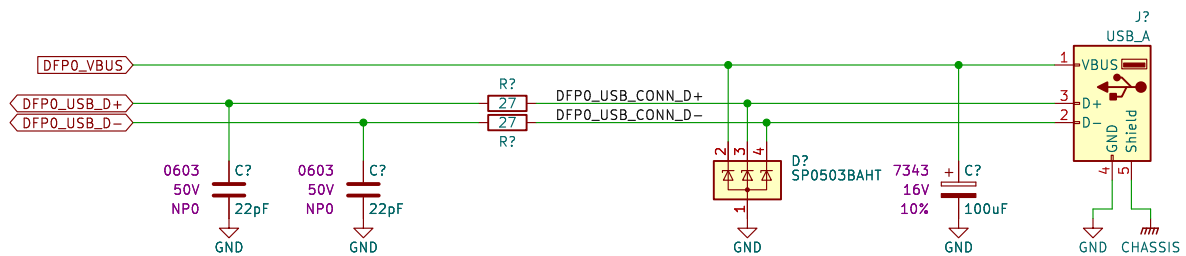
Drew Maatman

Sheet: /Hub Controller/
File: Hub_Controller.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 15/24



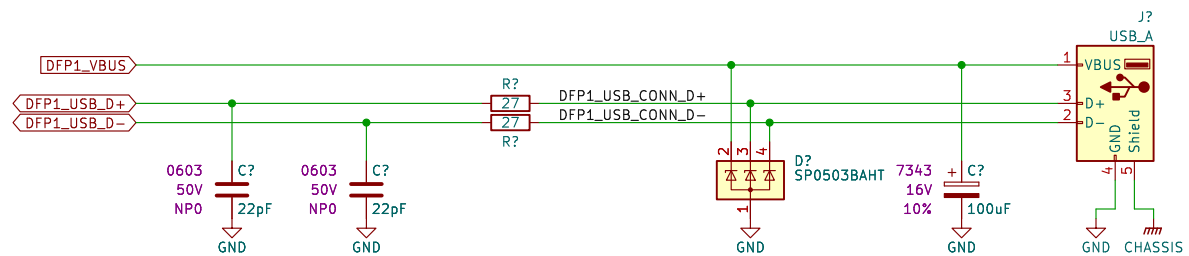
Drew Maatman

Sheet: /Downstream Port 0/
File: Downstream_Port_0.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 16/24



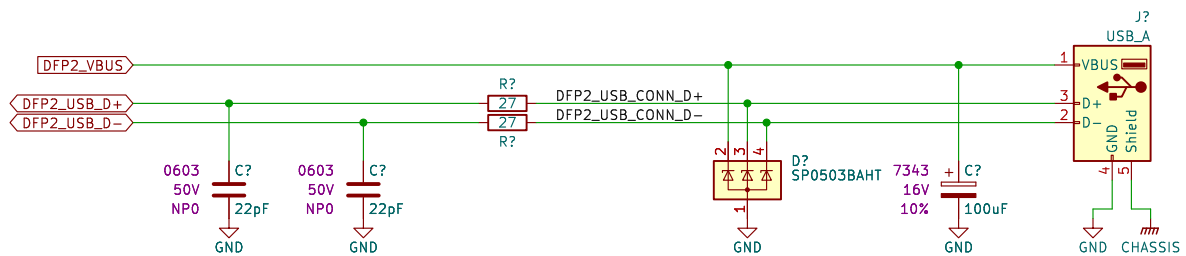
Drew Maatman

Sheet: /Downstream Port 1/
File: Downstream_Port1.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 17/24



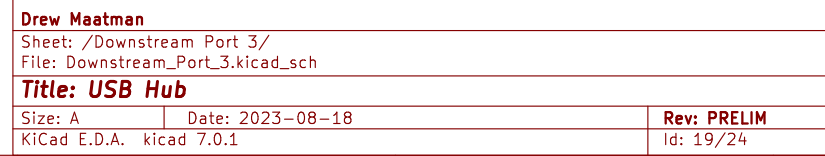
Drew Maatman

Sheet: /Downstream Port 2/
File: Downstream_Port_2.kicad_sch

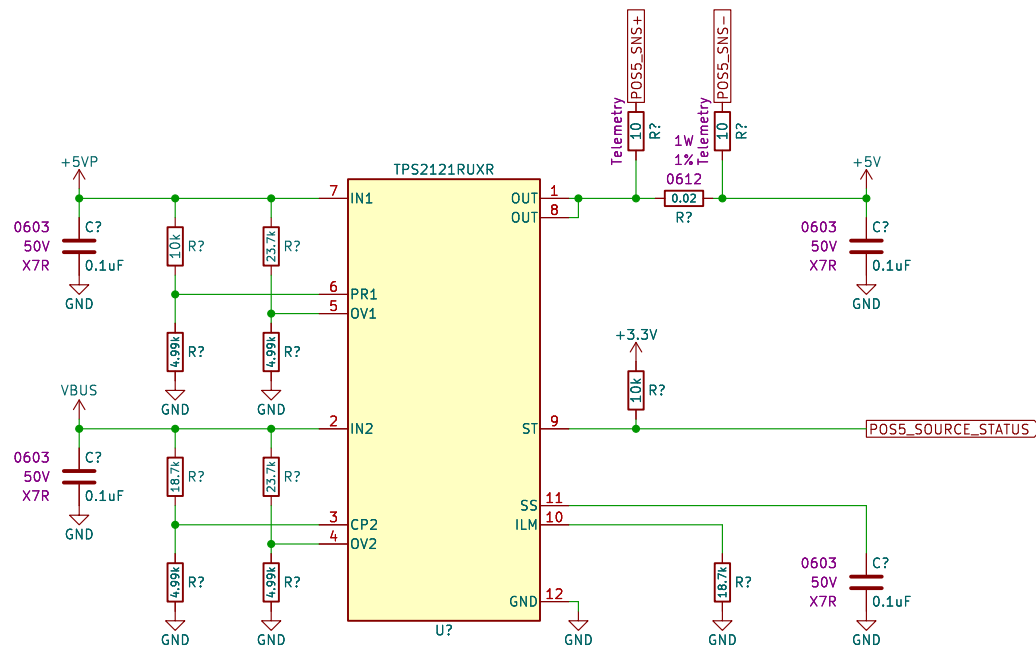
Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 18/24



Rev: PRELIM
Id: 20/24



OVP ~ 6V on IN1, IN2
IN1 is prioritized unless IN1 is under PR1 threshold

Output current limit = 5.2A (4.6A min, 5.8A max)
Output slew rate = 780mV/ms

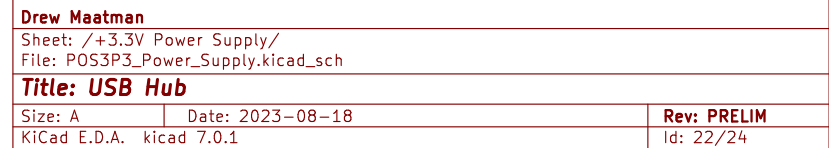
Drew Maatman

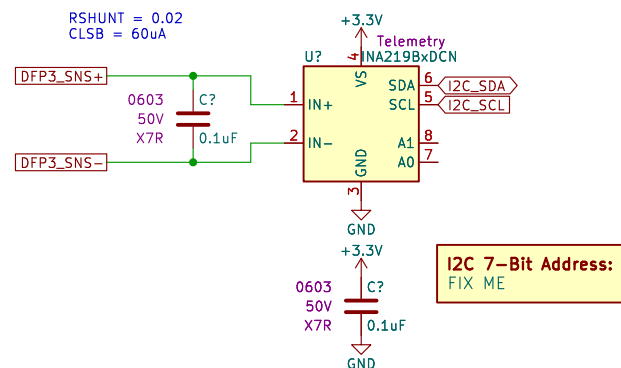
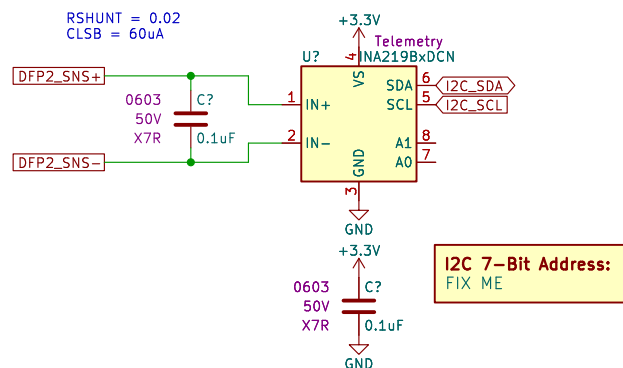
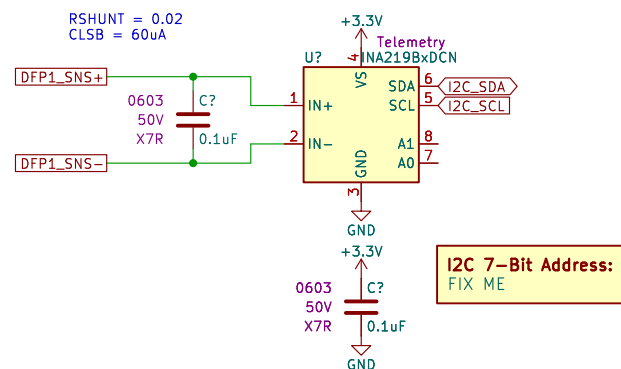
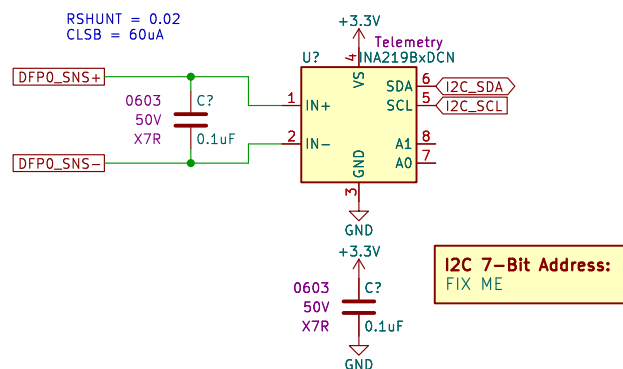
Sheet: /Power ORing/
File: power_oring.kicad_sch

Title: USB Hub

Size: A Date: 2023-08-18
KiCad E.D.A. kicad 7.0.1

Rev: PRELIM
Id: 21/24





Sheet: /Port Telemetry/
File: Port_Telemetry.kicad_sch

Title:

Size: A4

Date:

KiCad E.D.A. kicad 7.0.1

Rev:

Id: 24/24