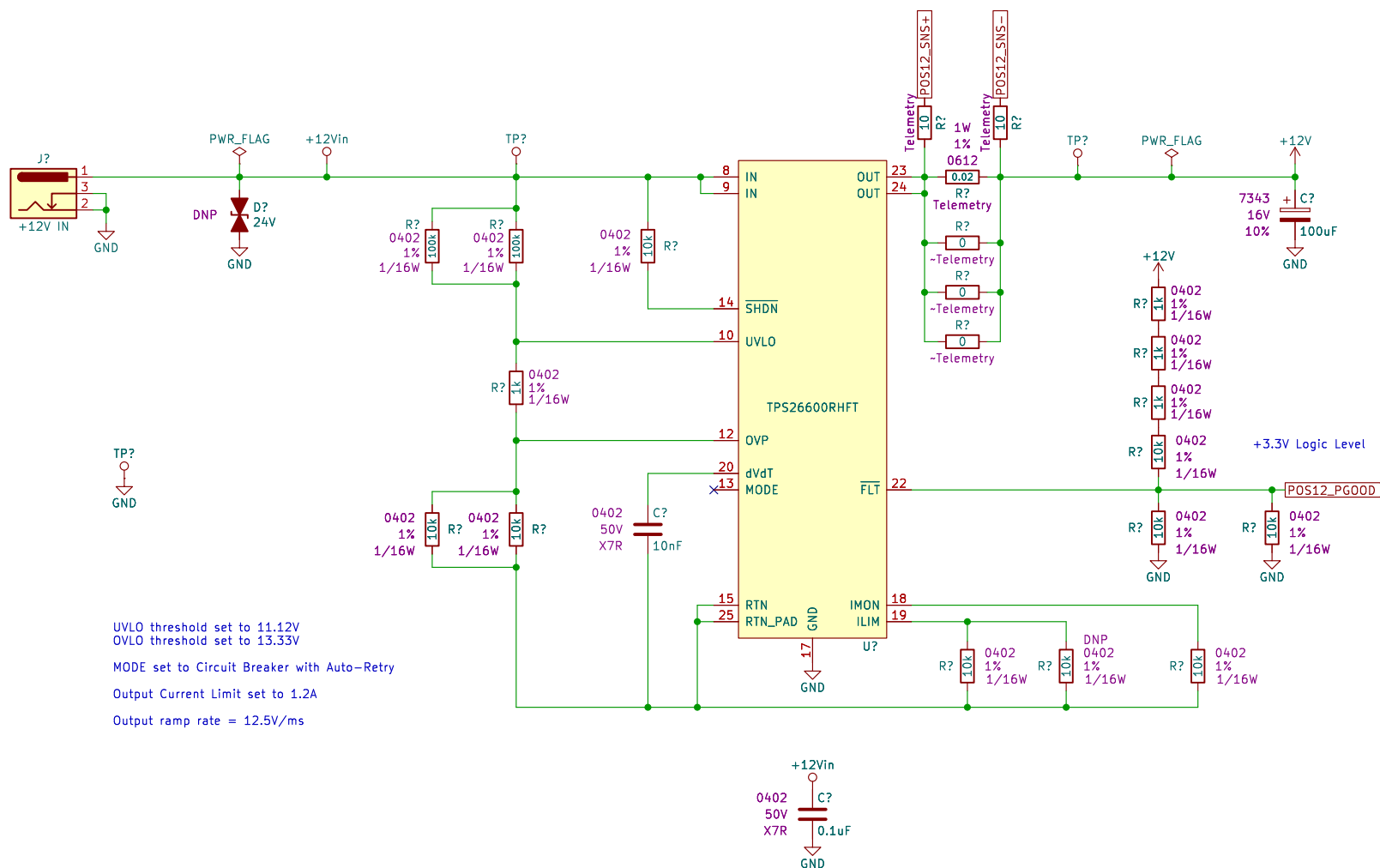




## Switch to fewer components, more BOM line items



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Sheet: /+12V Input/  
File: POS12\_Input.kicad\_sch

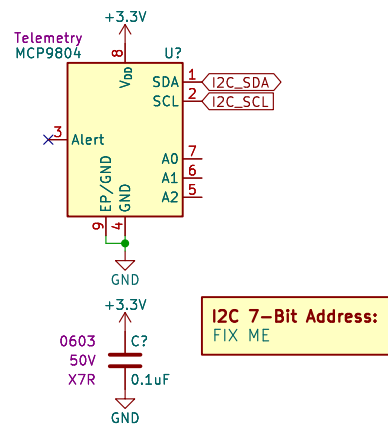
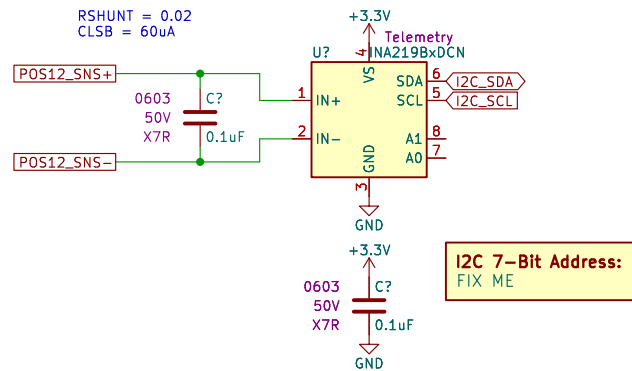
**Title: Analog Clock**

Size: A	Date: 2020-08-15
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Id: 2/21



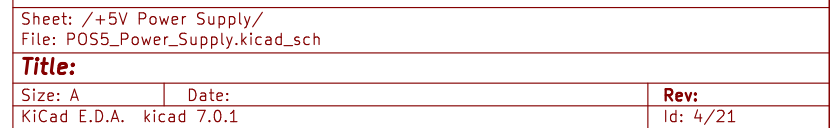
Drew Maatman

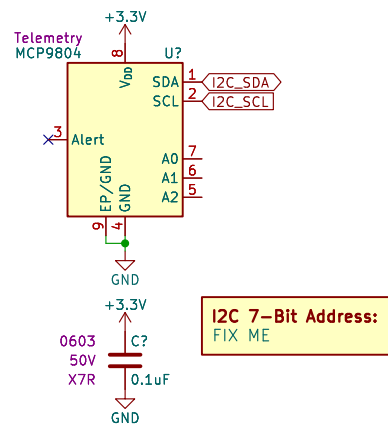
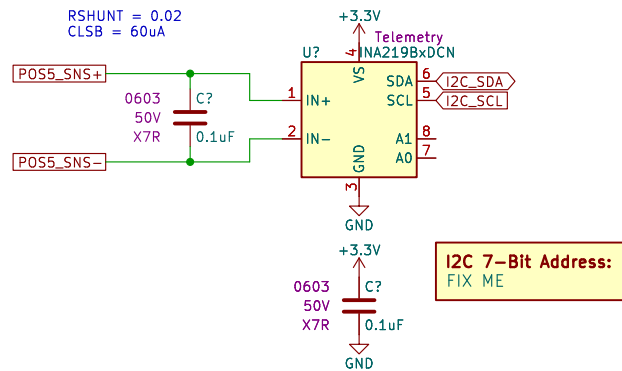
Sheet: /+12V Telemetry/  
File: POS12\_Telemetry.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
KiCad E.D.A. kicad 7.0.1

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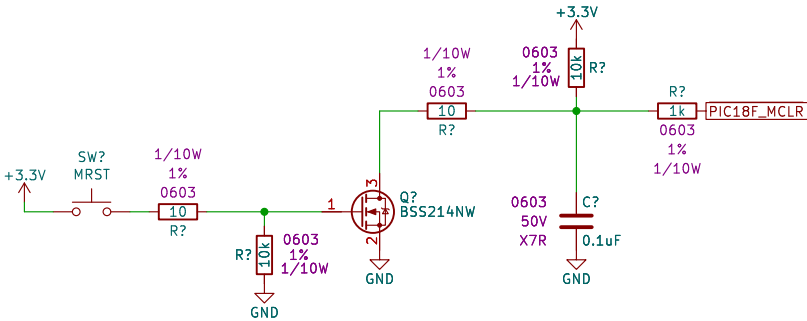
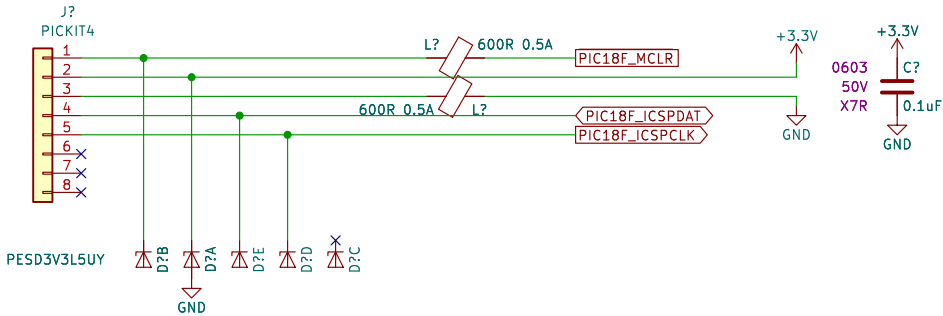
Sheet: /+5V Telemetry/  
File: POS5\_Telemetry.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
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+5V?



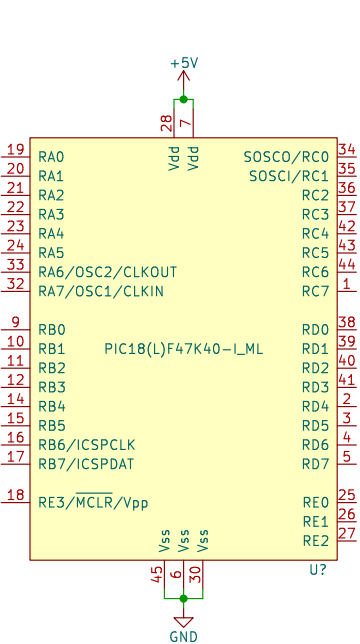
Sheet: /PIC18F Programming/  
File: PIC18F\_Programming.kicad\_sch

**Title:**

Size: A	Date:
KiCad E.D.A. kicad 7.0.1	

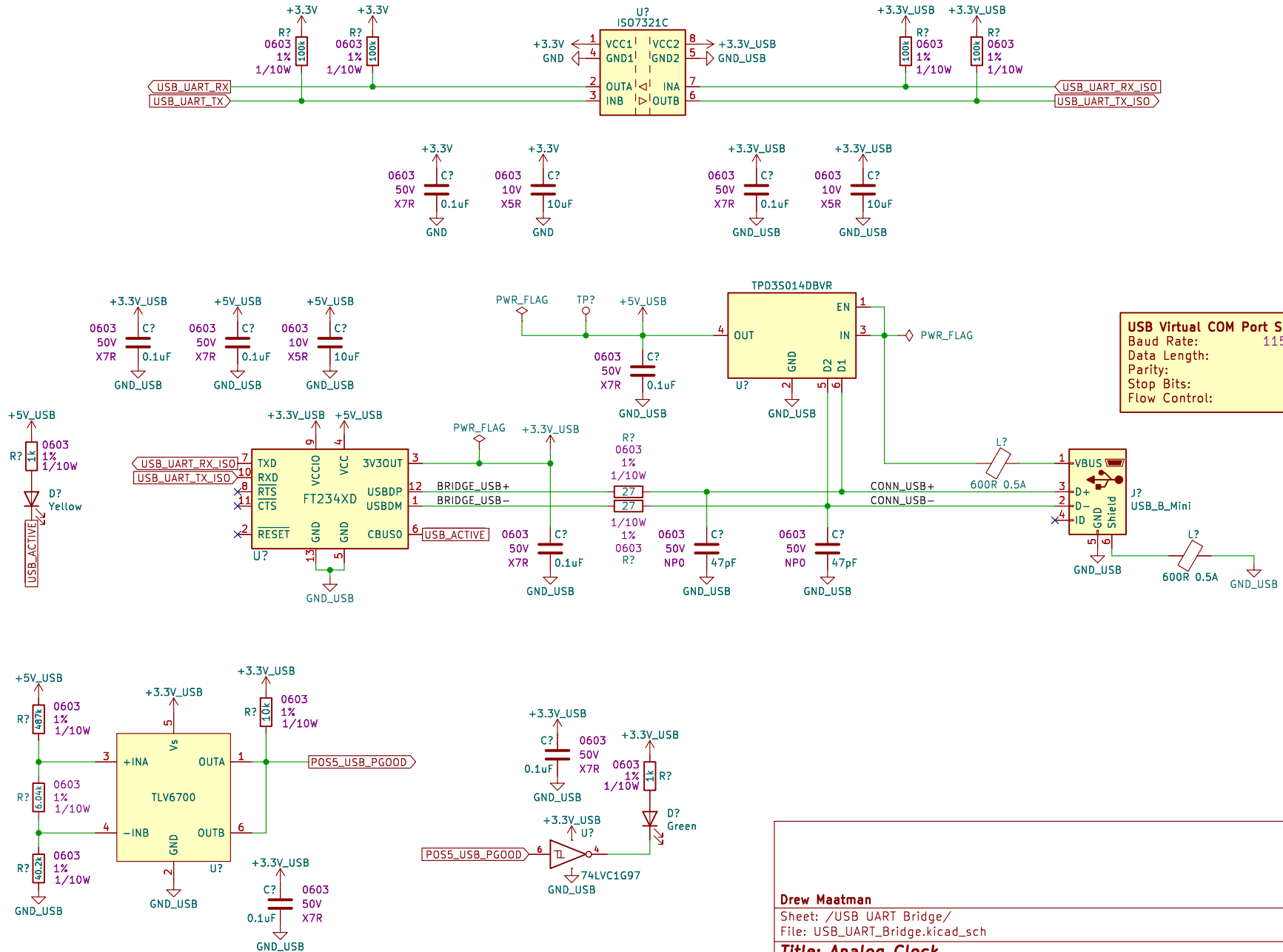
Rev:  
Id: 6/21

Switch to TQFP version  
PIC18F47K40T-I/PTCT-ND



DFP0\_EN  
DFP1\_EN  
DFP2\_EN  
DFP3\_EN  
DFP0\_OC  
DFP1\_OC  
DFP2\_OC  
DFP3\_OC

# Switch to Non-Isolated



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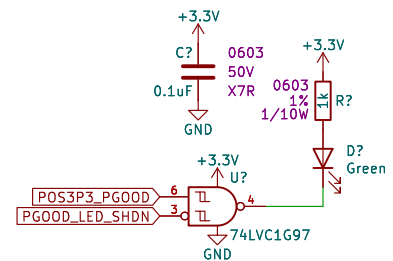
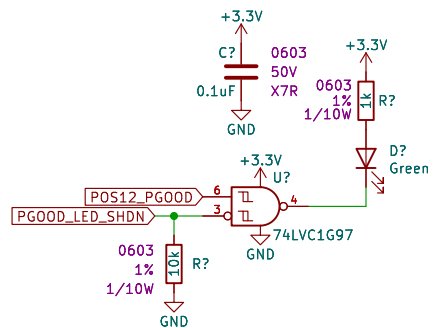
Sheet: /USB UART Bridge/  
 File: USB\_UART\_Bridge.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
 KiCad E.D.A. kicad 7.0.1

Rev: A  
 Id: 8/21





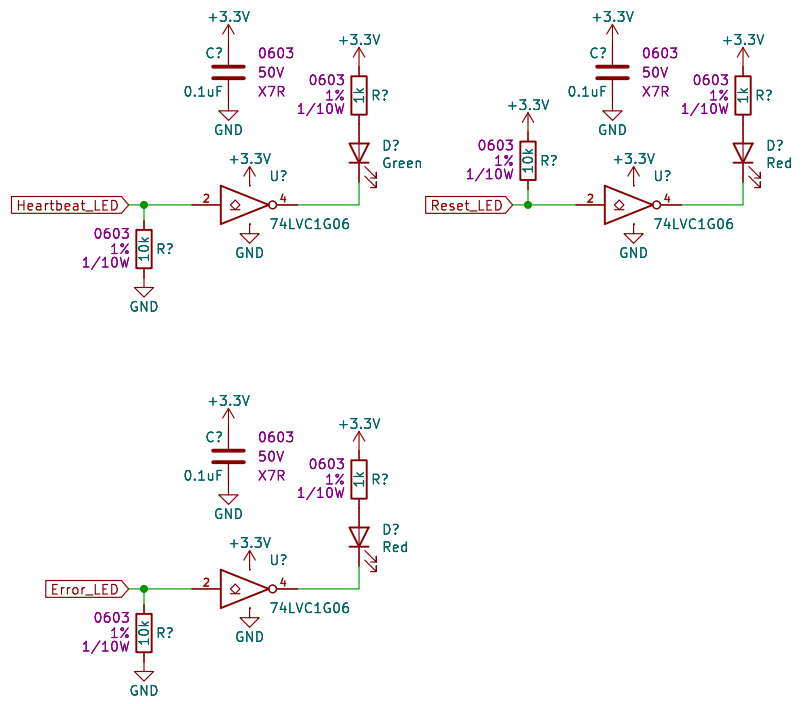
**Drew Maatman**

Sheet: /PGOOD\_LEDs/  
File: PGOOD\_LEDs.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
KiCad E.D.A. kicad 7.0.1

**Rev: A**  
Id: 9/21



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Sheet: /Status LEDs/  
File: Status\_LEDs.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
KiCad E.D.A. kicad 7.0.1

Rev: A  
Id: 10/21

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

Sheet: /Hub LEDs/  
File: Hub\_LEDs.kicad\_sch

Title:

Size: A

Date:

Rev:

KiCad E.D.A.    kicad 7.0.1

Id: 11/21

Sheet: /Hub LEDs/ File: Hub_LEDs.kicad_sch																								
Title:																								
Size: A					Date:															Rev:				
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1					2					3					4					5					
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1					2					3					4					5					

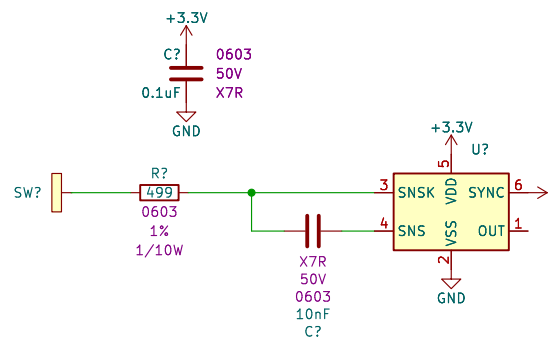
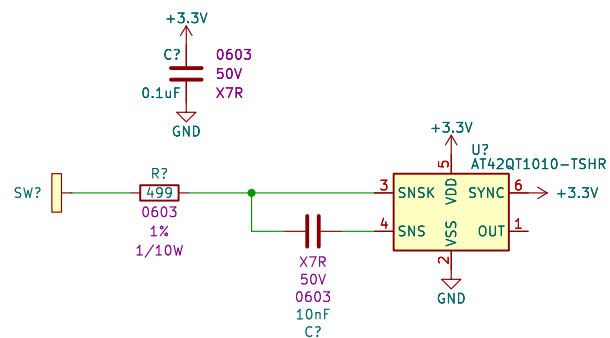
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File: Display.kicad\_sch

Title:

Size: ADate:KiCad E.D.A. kicad 7.0.1

Rev:Id: 12/21

Sheet: /Display/ File: Display.kicad_sch																								
Title:																								
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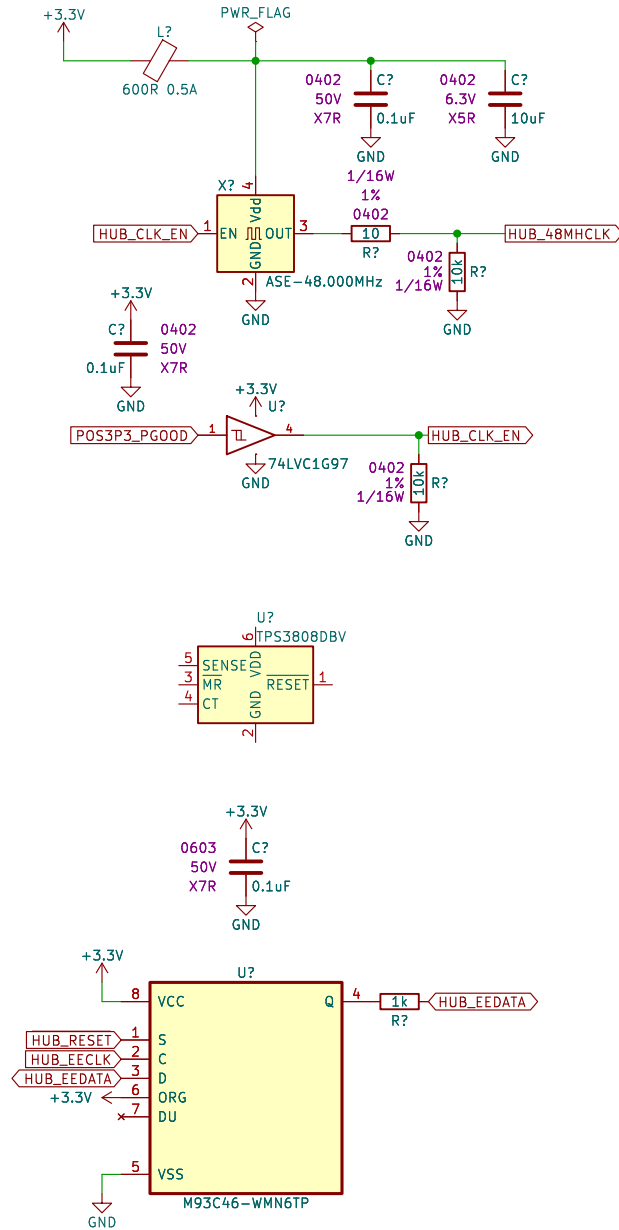
Sheet: /Pushbuttons/  
File: Pushbuttons.kicad\_sch

**Title: Analog Clock**

Size: A Date: 2020-08-15  
KiCad E.D.A. kicad 7.0.1

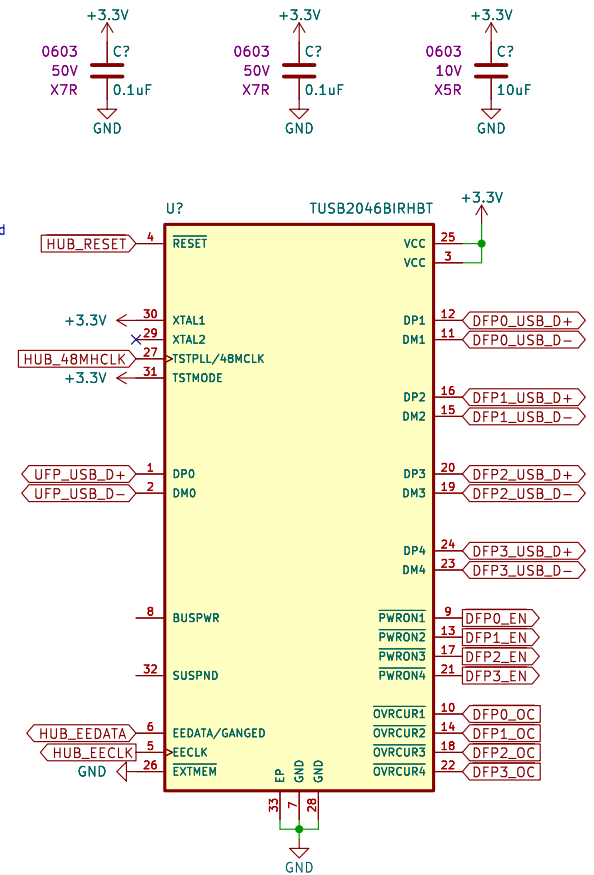
**Rev: A**  
Id: 13/21

# Figure out when to start clocking



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

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

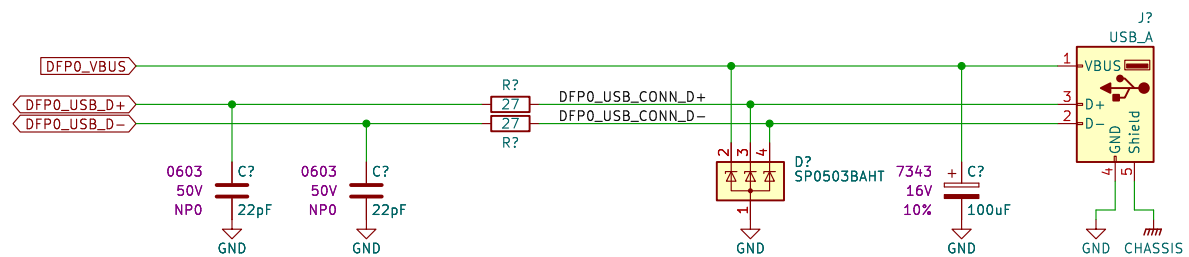


Sheet: /Hub Controller/  
File: Hub\_Controller.kicad\_sch

**Title:**

Size: A Date:  
KiCad E.D.A. kicad 7.0.1

**Rev:**  
Id: 15/21



Sheet: /Downstream Port 0/  
File: Downstream\_Port\_0.kicad\_sch

**Title:**

Size: A

Date:

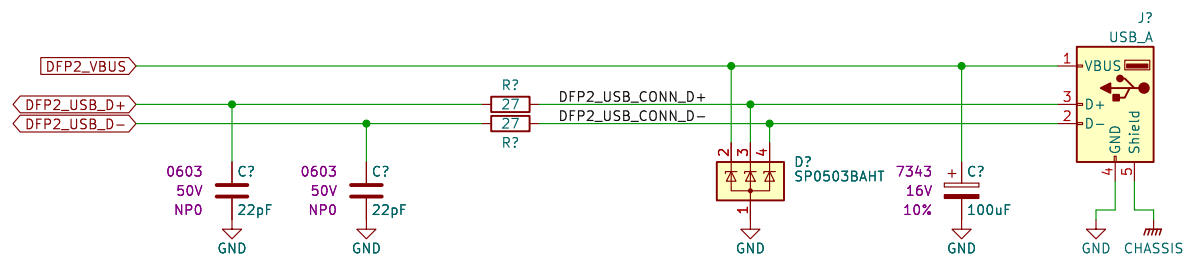
KiCad E.D.A. kicad 7.0.1

**Rev:**

Id: 16/21

Id: 17/21





Sheet: /Downstream Port 2/  
File: Downstream\_Port\_2.kicad\_sch

**Title:**

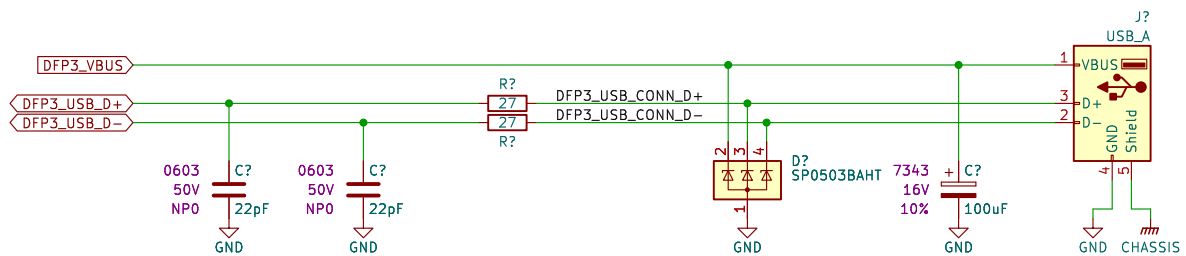
Size: A

Date:

KiCad E.D.A. kicad 7.0.1

**Rev:**

Id: 18/21



Sheet: /Downstream Port 3/  
File: Downstream\_Port\_3.kicad\_sch

**Title:**

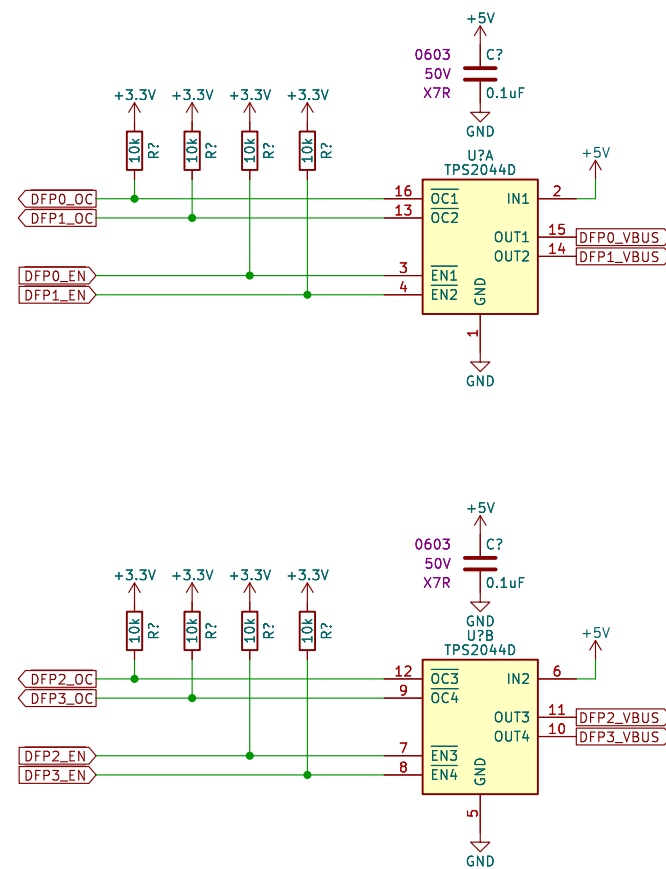
Size: A

Date:

KiCad E.D.A. kicad 7.0.1

**Rev:**

Id: 19/21



Sheet: /Port Power Control/  
File: port\_power\_control.kicad\_sch

**Title:**

Size: A4

Date:

Rev:

KiCad E.D.A. kicad 7.0.1

Id: 20/21

123456					
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B					
C					
D					
123456					

Sheet: /Power ORing/ File: power_oring.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad 7.0.1		Id: 21/21

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

Sheet: /Upstream Port/  
File: Upstream\_Port.kicad\_sch

Title:

Size: ADate:KiCad E.D.A. kicad 7.0.1

Rev:Id: 22/21

Sheet: /Upstream Port/ File: Upstream_Port.kicad_sch																								
Title:																								
Size: A					Date:															Rev:				
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