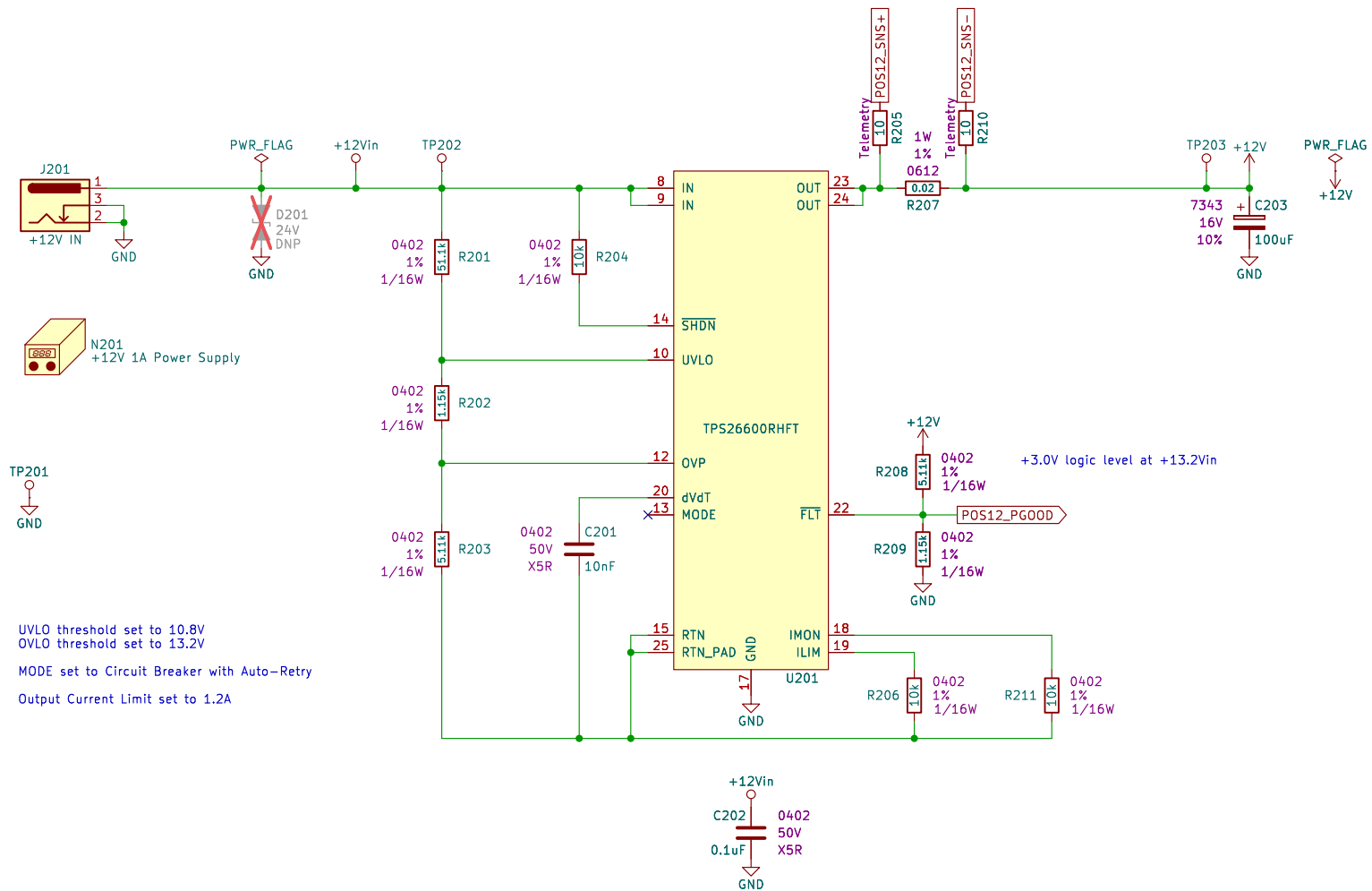


	1	2	3	4	5
	<h1>Thermal Camera</h1> <p><a href="https://github.com/drewsum/Thermal_Camera">https://github.com/drewsum/Thermal_Camera</a></p>				
A	01. Table of Contents				
	02. POS12 Input	POS12_Input	14. Battery Management	Battery Management	26. Upstream USB Port
	03. POS12 Telemetry	POS12 Telemetry	15. PIC32MZ DA Programming	PIC32MZ DA Programming	27. PGOOD LEDs
	04. POS3P0 Power Supply	POS3P0 Power Supply	16. PIC32MZ DA Clocking	PIC32MZ DA Clocking	28. Status LEDs
	05. POS3P0 Telemetry	POS3P0 Telemetry	17. PIC32MZ DA Power	PIC32MZ DA Power	29. Capacitive Touch
B	06. POS1P8 Power Supply	POS1P8 Power Supply	18. PIC32MZ DA 1	PIC32MZ DA 1	30. Mechanical
	07. POS1P8 Telemetry	POS1P8 Telemetry	19. PIC32MZ DA 2	PIC32MZ DA 2	
	08. POS2P8 Power Supply	POS2P8 Power Supply	20. External Storage	External Storage	
	09. POS2P8 Telemetry	POS2P8 Telemetry	21. Graphic LCD	Graphic LCD	
	10. POS1P2 Power Supply	POS1P2 Power Supply	22. USB UART	USB UART	
C	11. POS1P2 Telemetry	POS1P2 Telemetry	23. Elapsed Time Counter	Elapsed Time Counter	
	12. LCD Backlight Power Supply	LCD Backlight Power Supply	24. FLIR Lepton Sensor	FLIR Lepton Sensor	
	13. LCD Backlight Telemetry	LCD Backlight Telemetry	25. USB Hub	USB Hub	
D					
				<div>Drew Maatman and Michael Laffin</div> <div>Sheet: /</div> <div>File: Thermal_Camera.kicad_sch</div> <div>Title: Thermal Camera</div> <div>Size: ADate: 2024-05-24</div> <div>KiCad E.D.A. 8.0.4Rev: PRELIMId: 1/30</div>	
	1	2	3	4	5



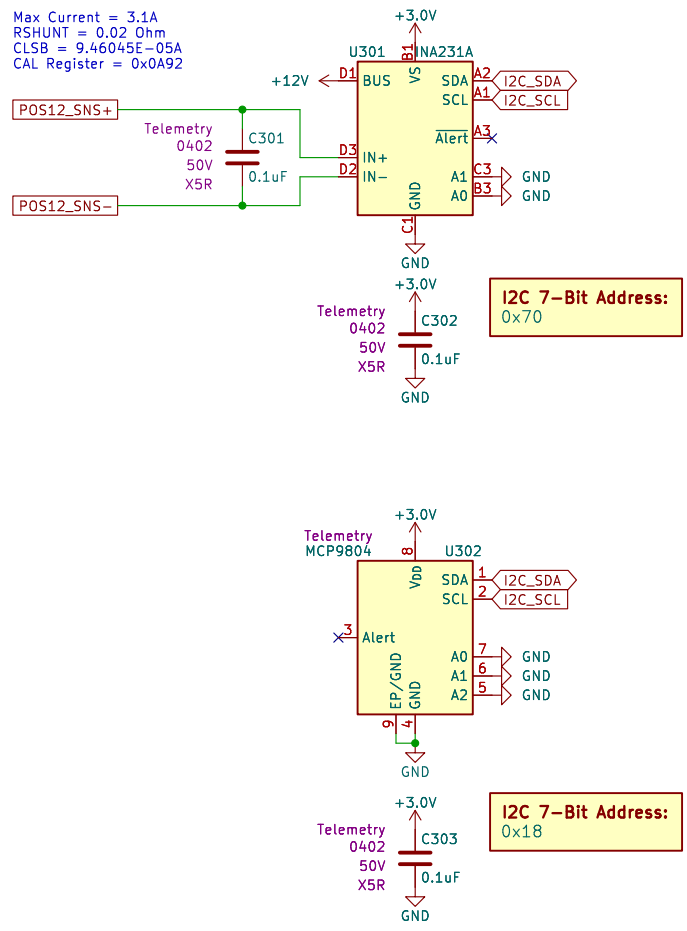
Drew Maatman and Michael Laffin

Sheet: /POS12\_Input/  
 File: POS12\_Input.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
 KiCad E.D.A. 8.0.4

Rev: PRELIM  
 Id: 2/30



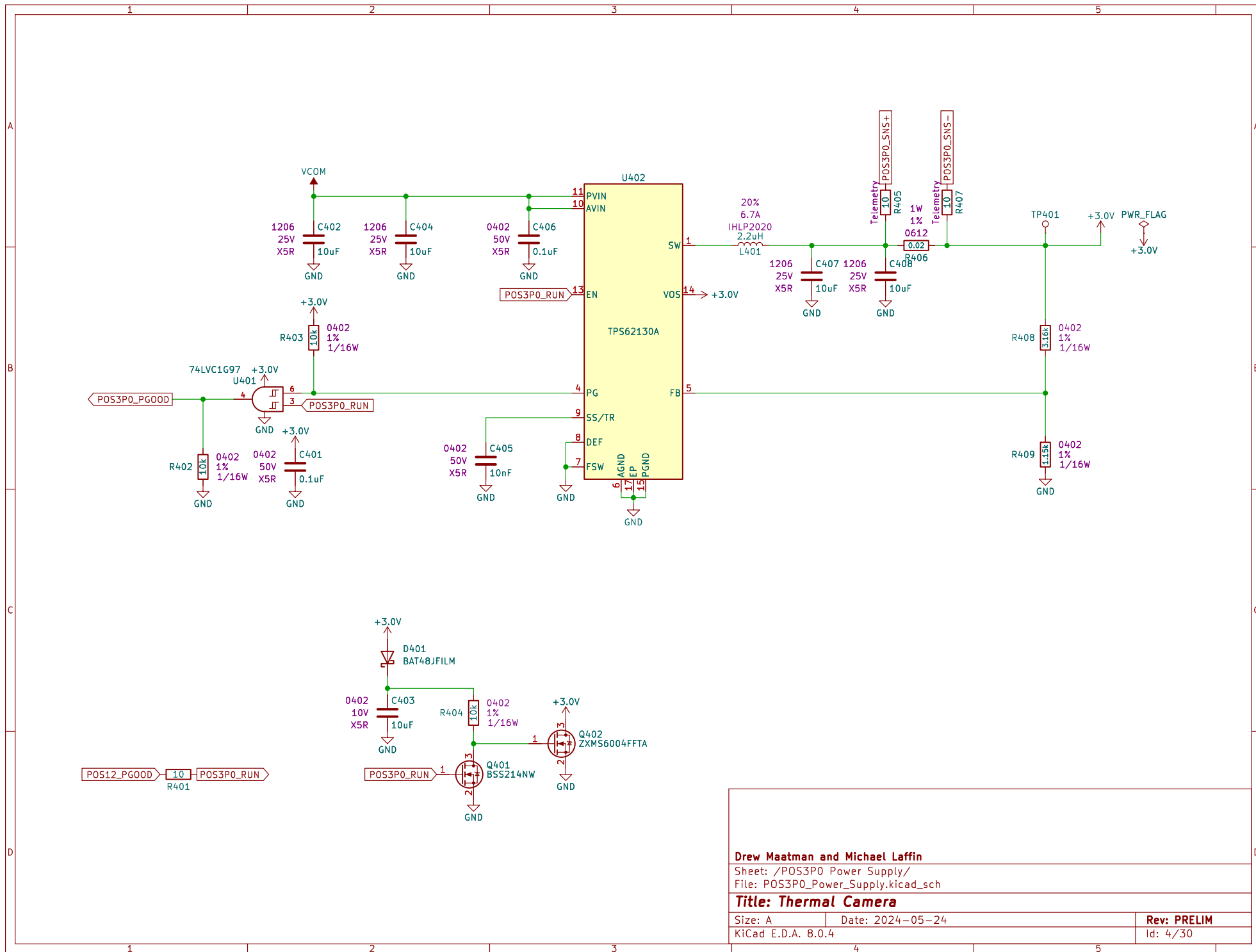
Drew Maatman and Michael Laffin

Sheet: /POS12 Telemetry/  
File: POS12\_Telemetry.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 3/30



Drew Maatman and Michael Laffin

Sheet: /POS3P0 Power Supply/

File: POS3P0\_Power\_Supply.kicad\_sch

**Title: Thermal Camera**

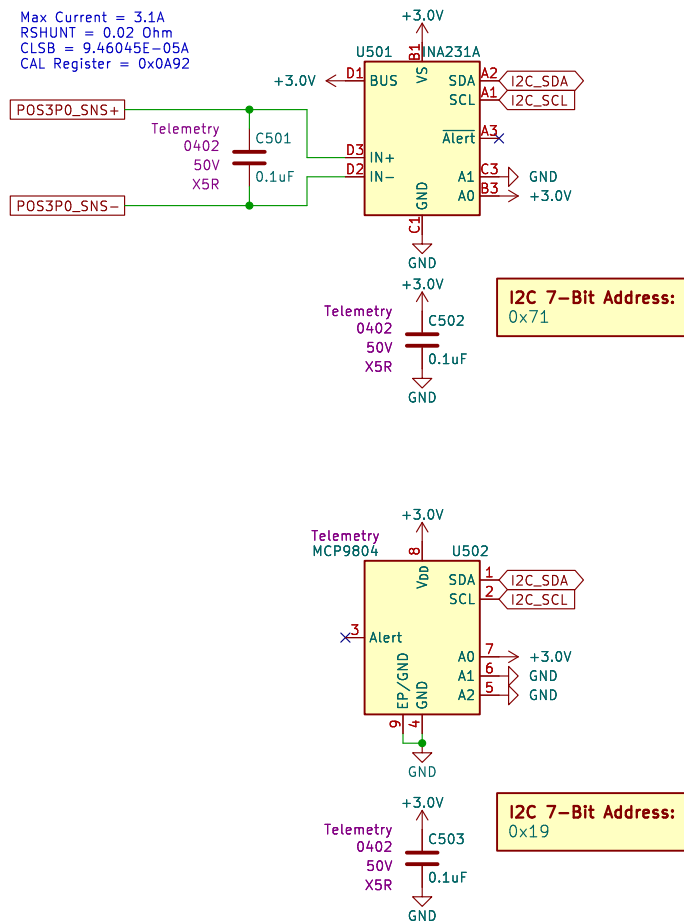
Size: A

Date: 2024-05-24

KiCad E.D.A. 8.0.4

Rev: PRELIM

Id: 4/30



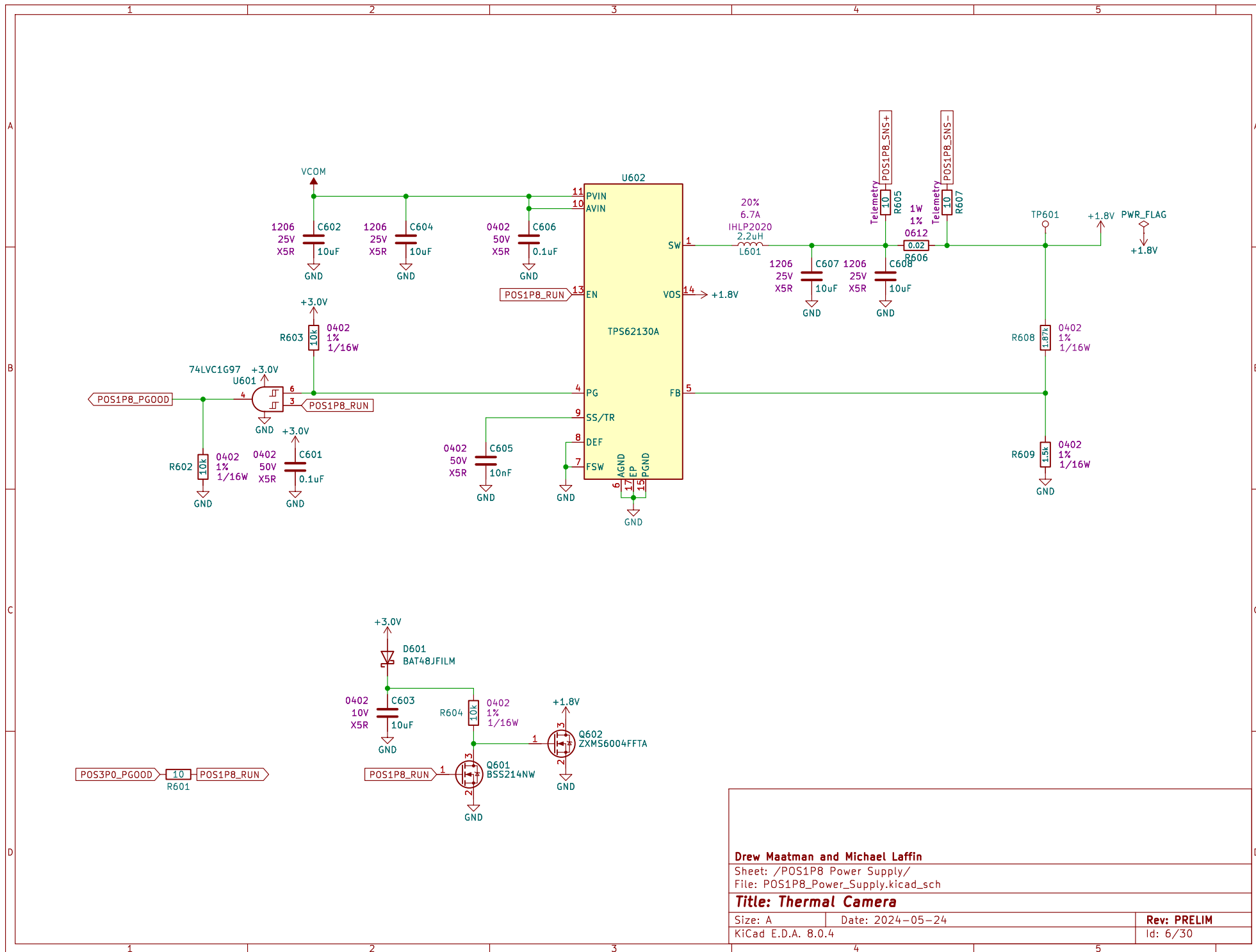
Drew Maatman and Michael Laffin

Sheet: /POS3P0 Telemetry/  
File: POS3P0\_Telemetry.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 5/30



Drew Maatman and Michael Laffin

Sheet: /POS1P8 Power Supply/

File: POS1P8\_Power\_Supply.kicad\_sch

**Title: Thermal Camera**

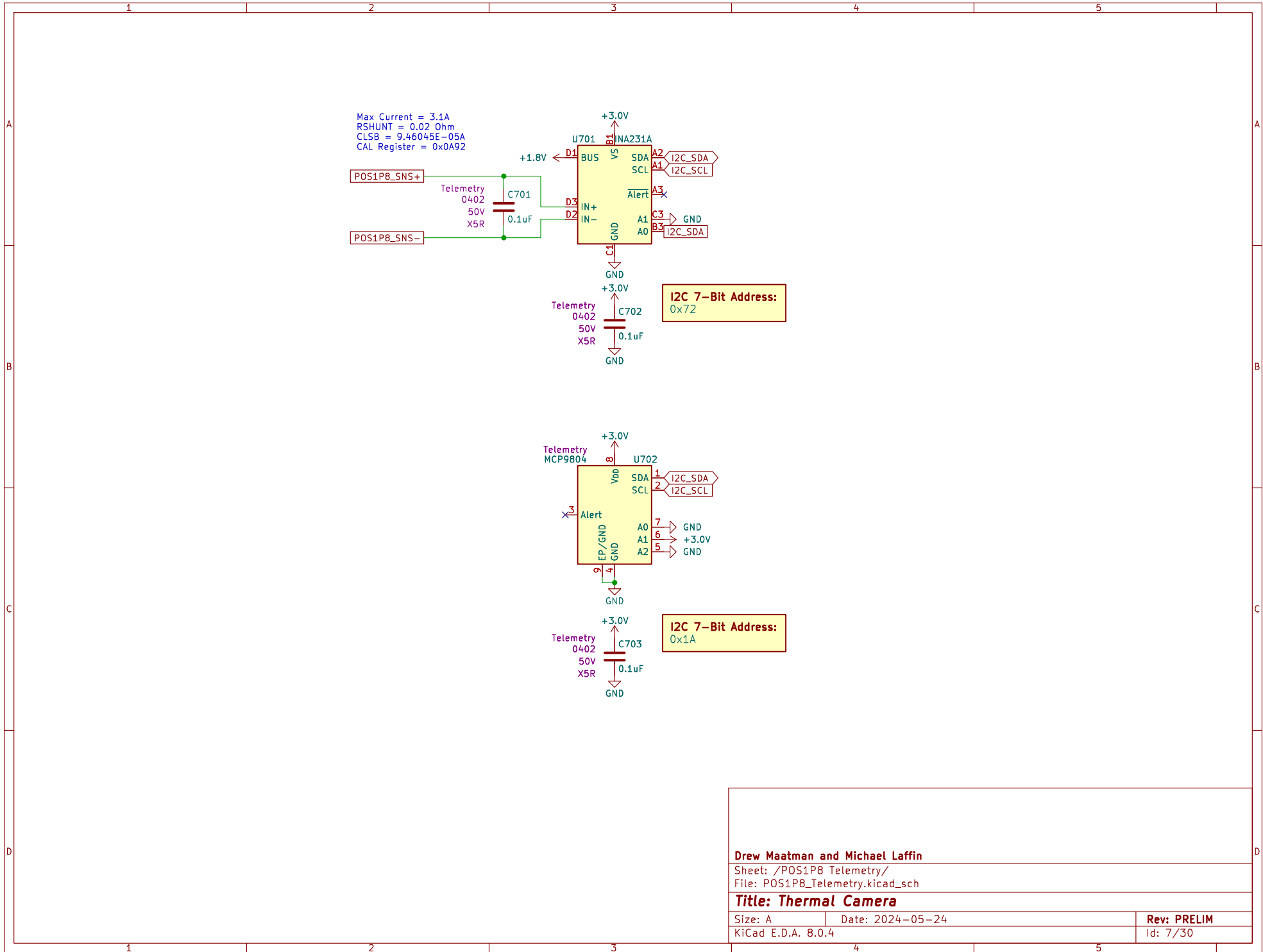
Size: A

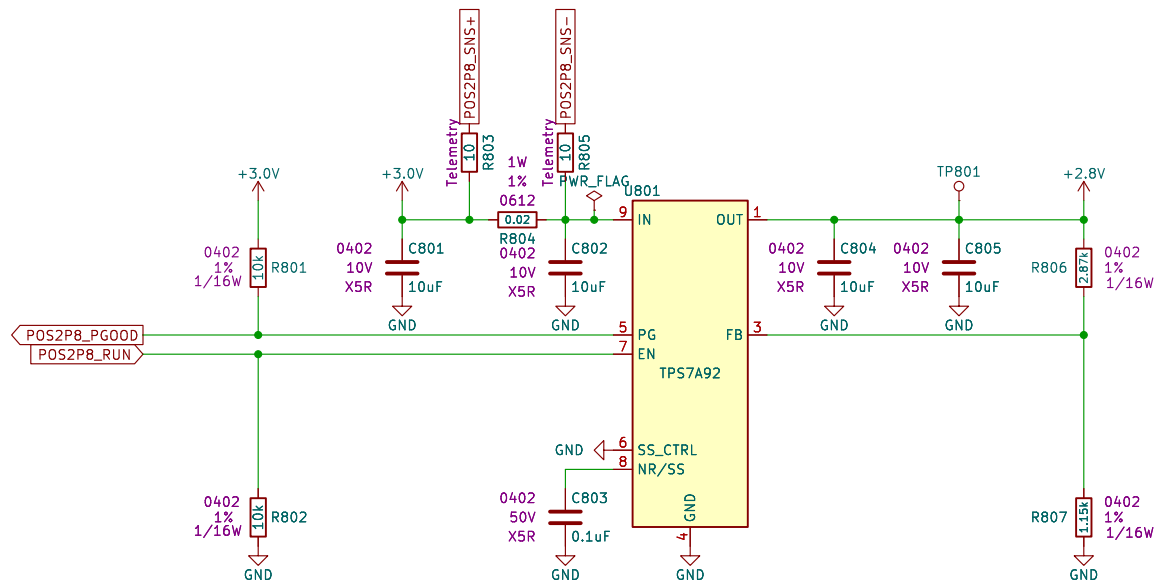
Date: 2024-05-24

KiCad E.D.A. 8.0.4

Rev: PRELIM

Id: 6/30





Drew Maatman and Michael Laffin

Sheet: /POS2P8 Power Supply/

File: POS2P8\_Power\_Supply.kicad\_sch

**Title: Thermal Camera**

Size: A

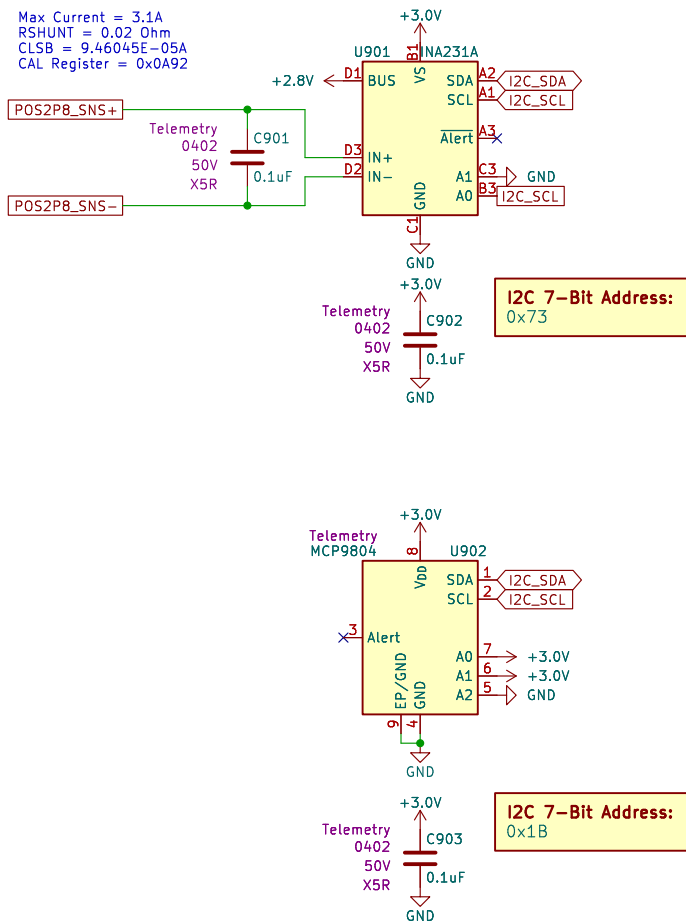
Date: 2024-05-24

Rev: PRELIM

KiCad E.D.A. 8.0.4

Id: 8/30





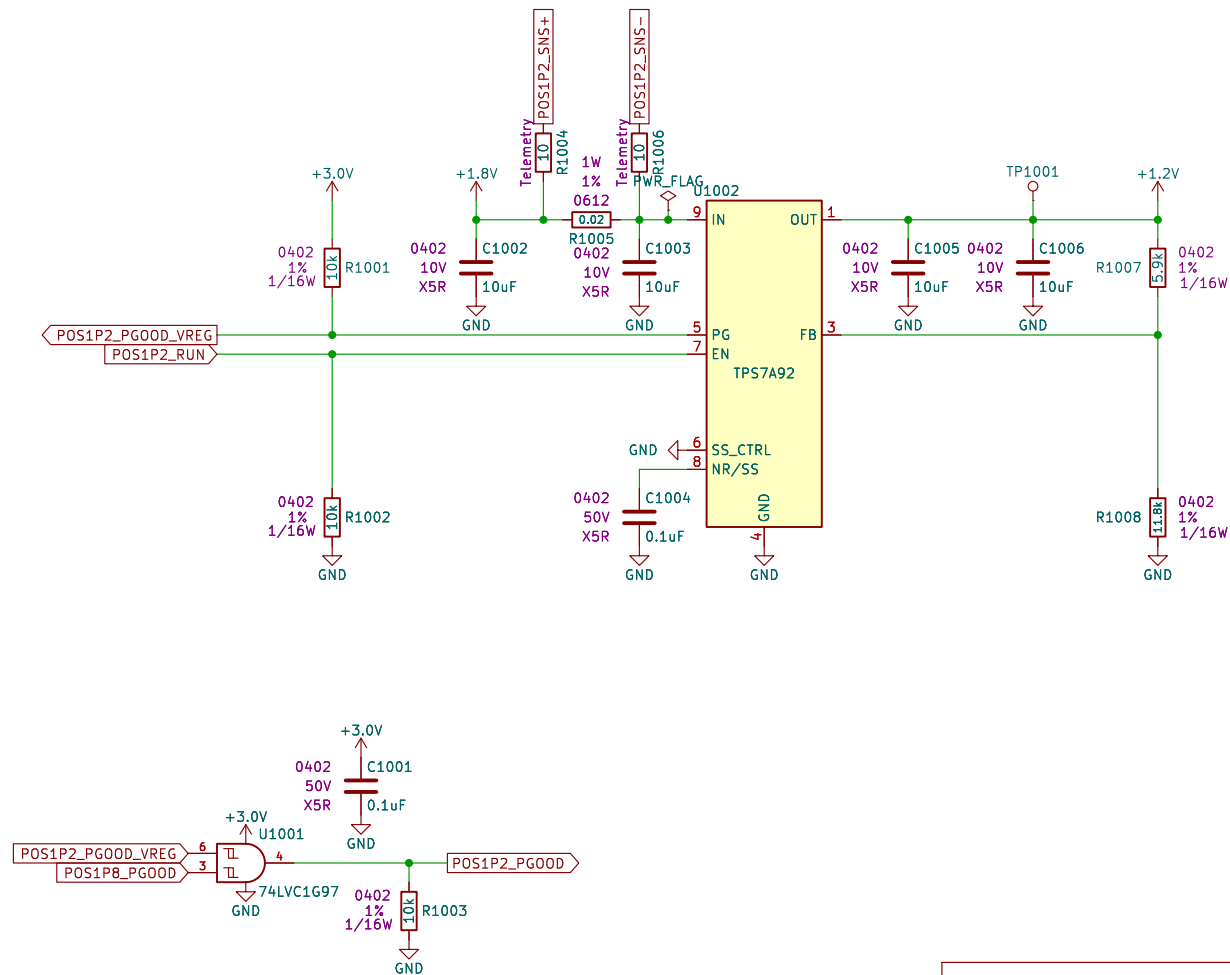
Drew Maatman and Michael Laffin

Sheet: /POS2P8 Telemetry/  
File: POS2P8\_Telemetry.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 9/30



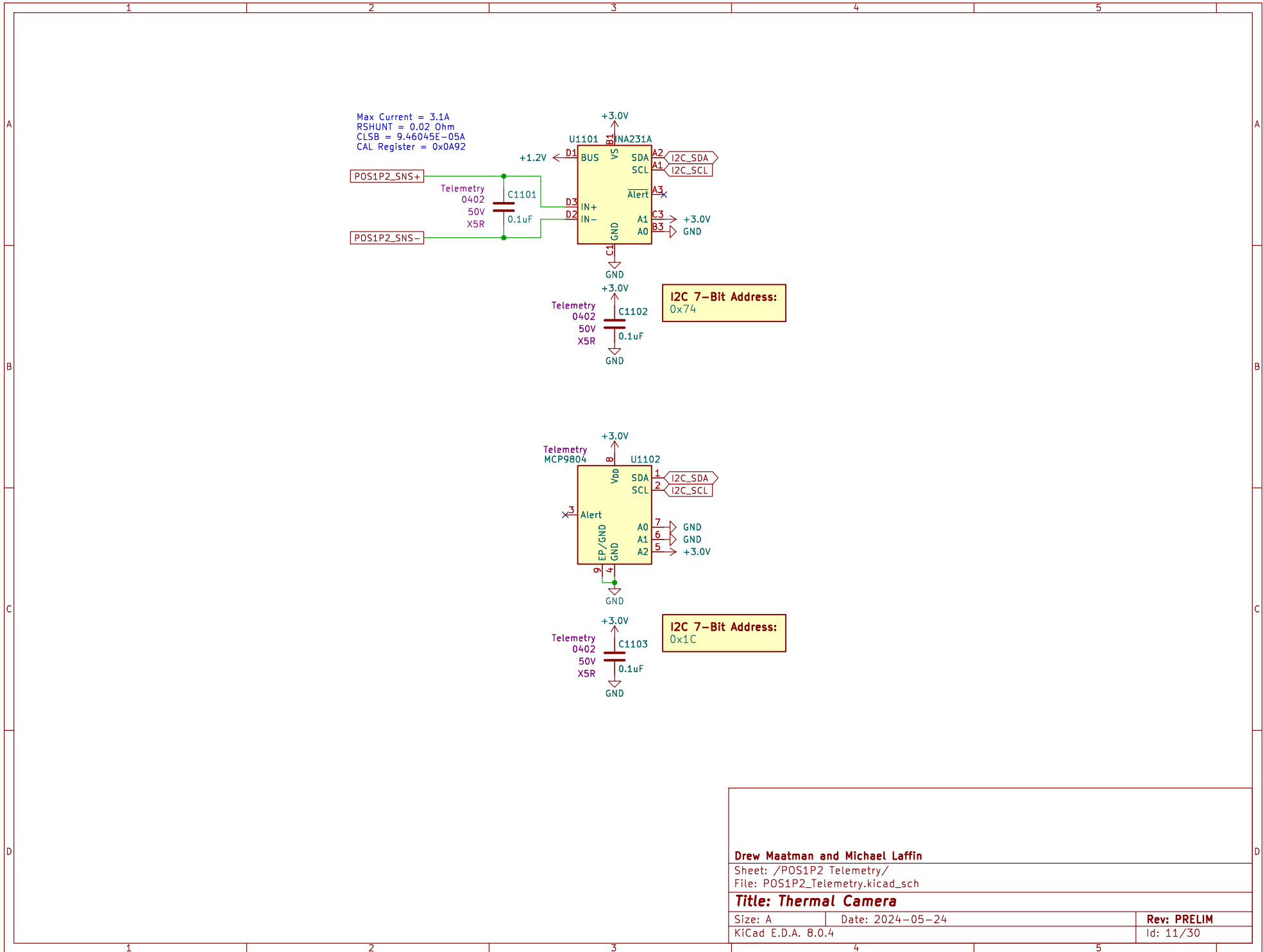
Drew Maatman and Michael Laffin

Sheet: /POS1P2 Power Supply/  
File: POS1P2\_Power\_Supply.kicad\_sch

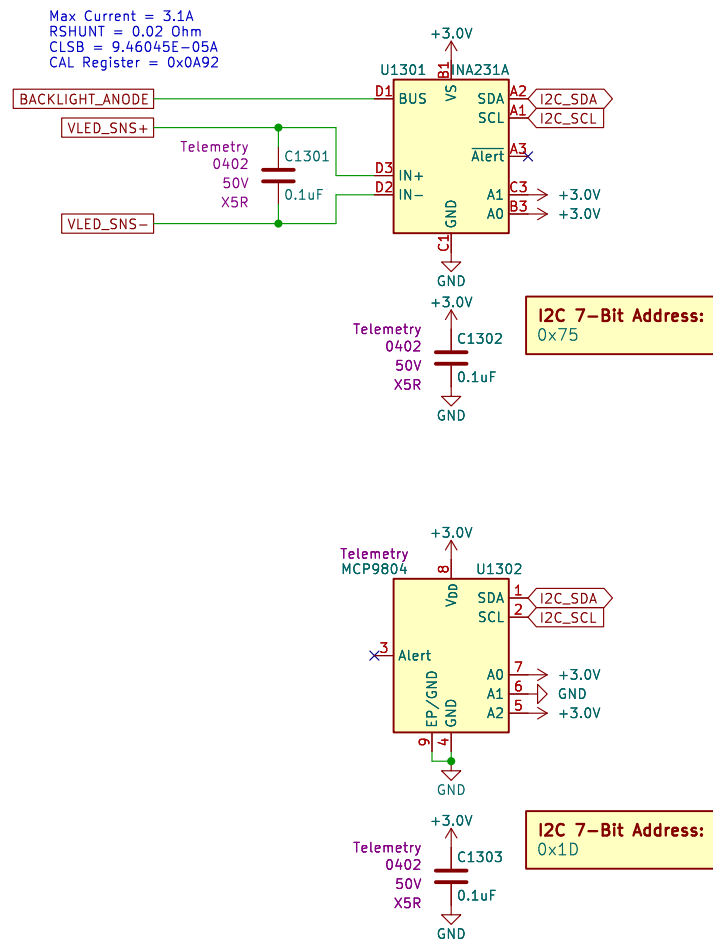
**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 10/30







Drew Maatman and Michael Laffin

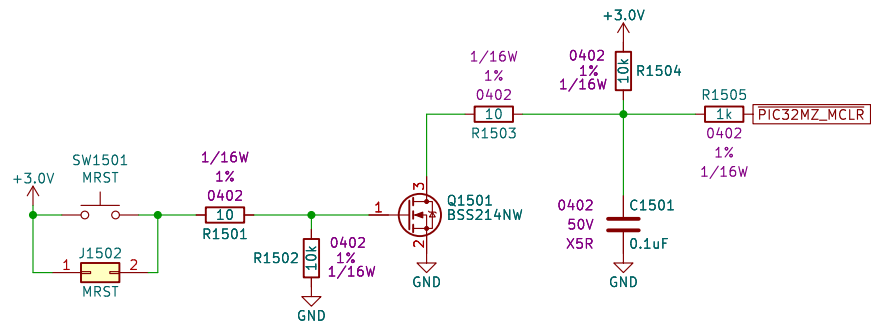
Sheet: /LCD Backlight Telemetry/  
File: LCD\_Backlight\_Telemetry.kicad\_sch

**Title: Thermal Camera**

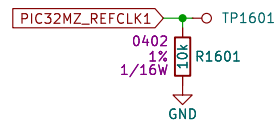
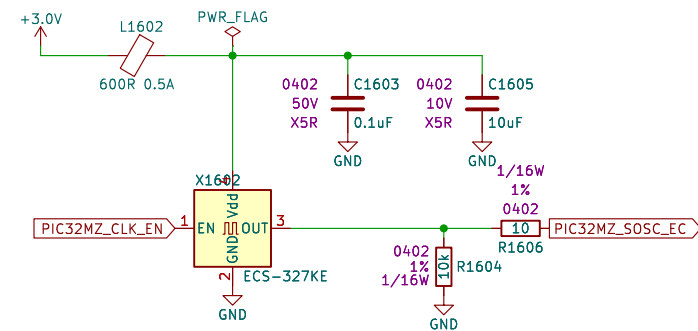
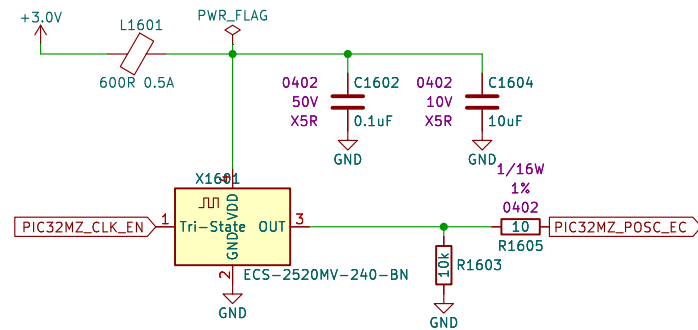
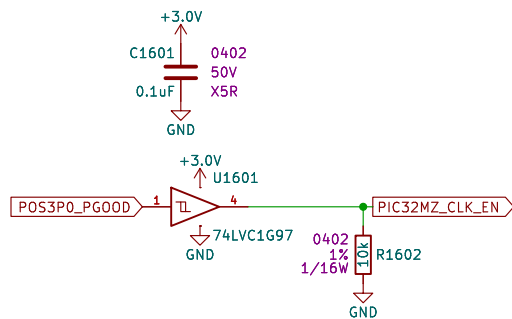
Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 13/30





Rev: PRELIM  
Id: 15/30



Drew Maatman and Michael Laffin

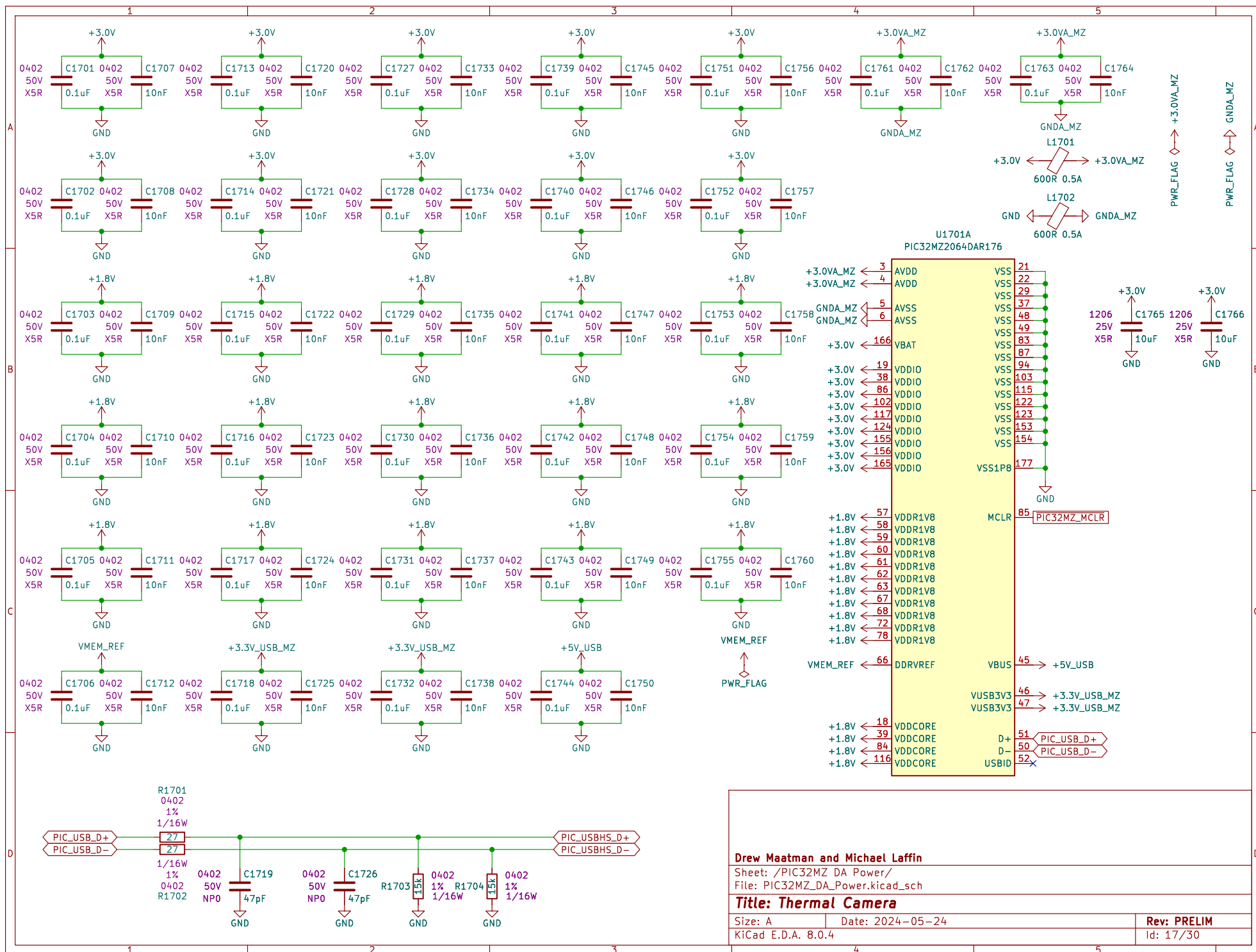
Sheet: /PIC32MZ DA Clocking/  
File: PIC32MZ\_DA\_Clocking.kicad\_sch

**Title: Thermal Camera**

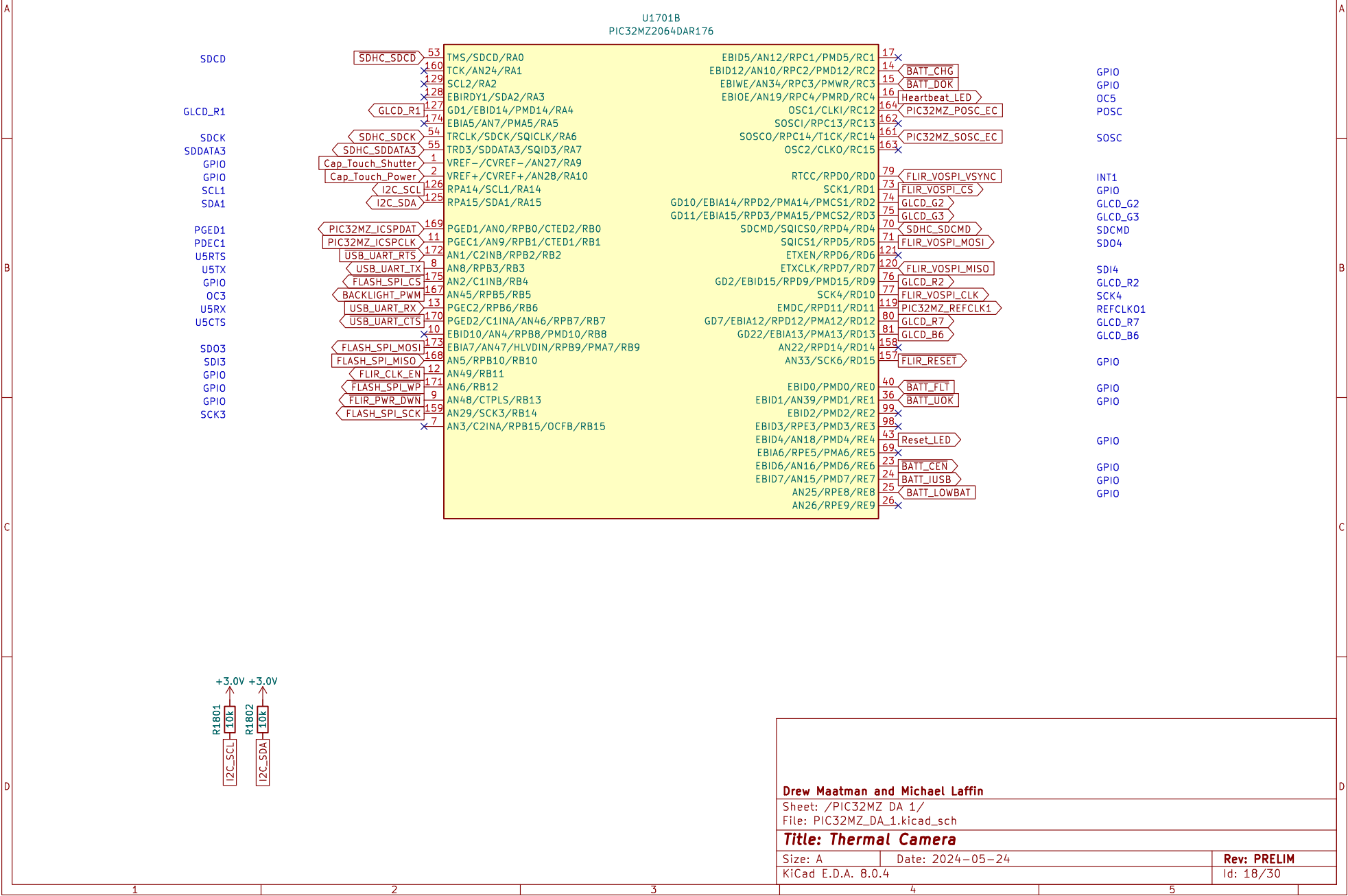
Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 16/30





See TABLE 36-1:RGB COLOR MAPPING for Graphic LCD Pin Mapping



Drew Maatman and Michael Laffin

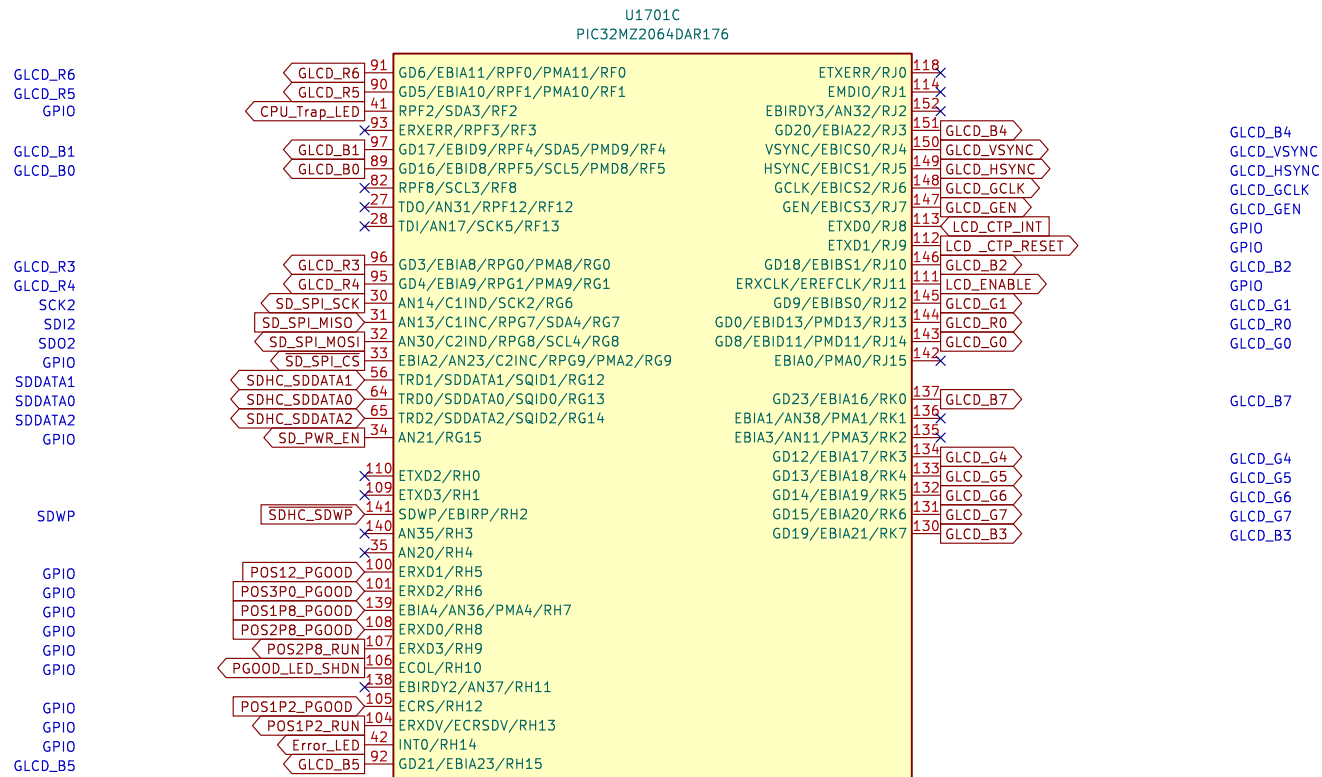
Sheet: /PIC32MZ DA 1/  
File: PIC32MZ\_DA\_1.kicad\_sch

Title: Thermal Camera

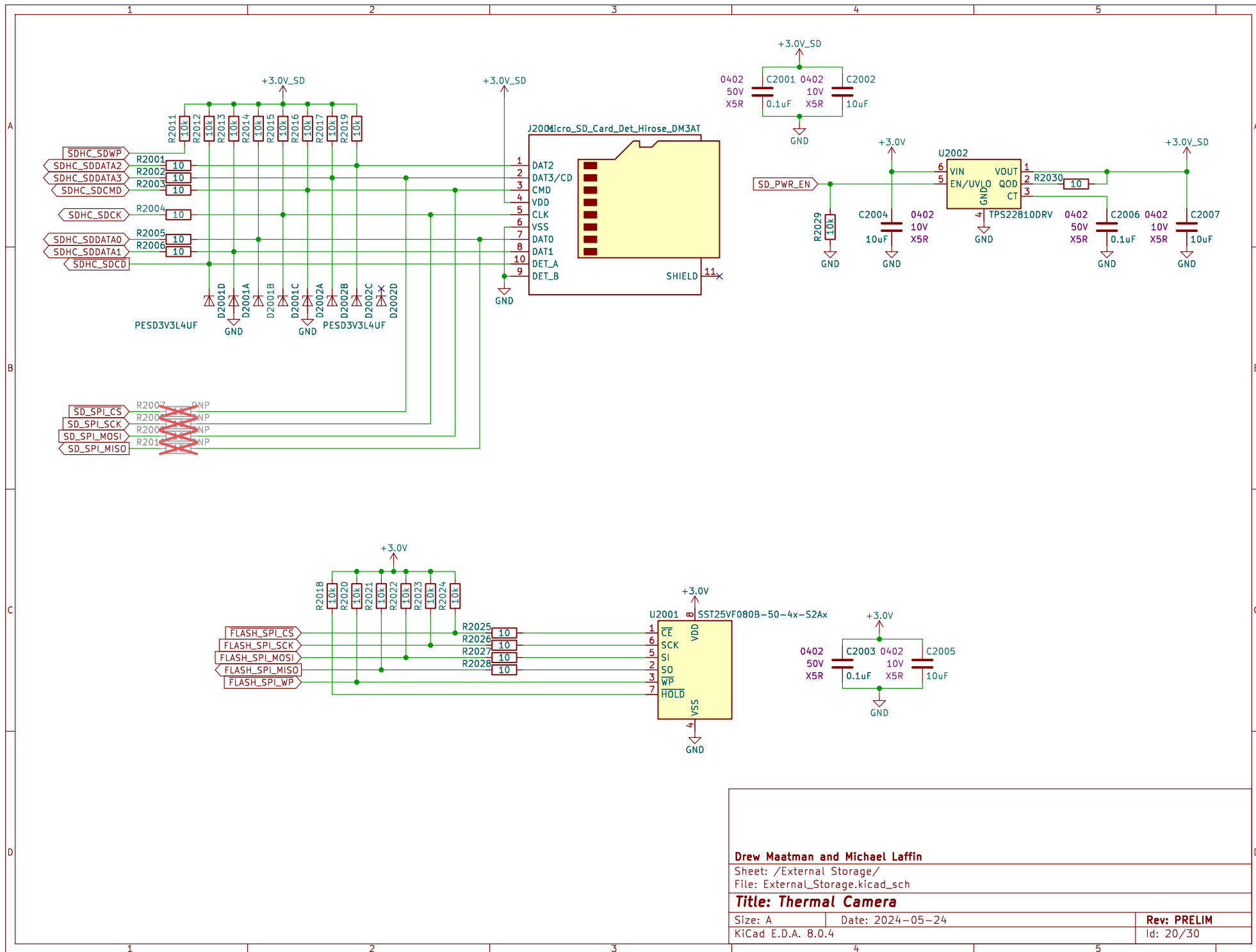
Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 18/30

See TABLE 36-1:RGB COLOR MAPPING for Graphic LCD Pin Mapping



Id: 19/30



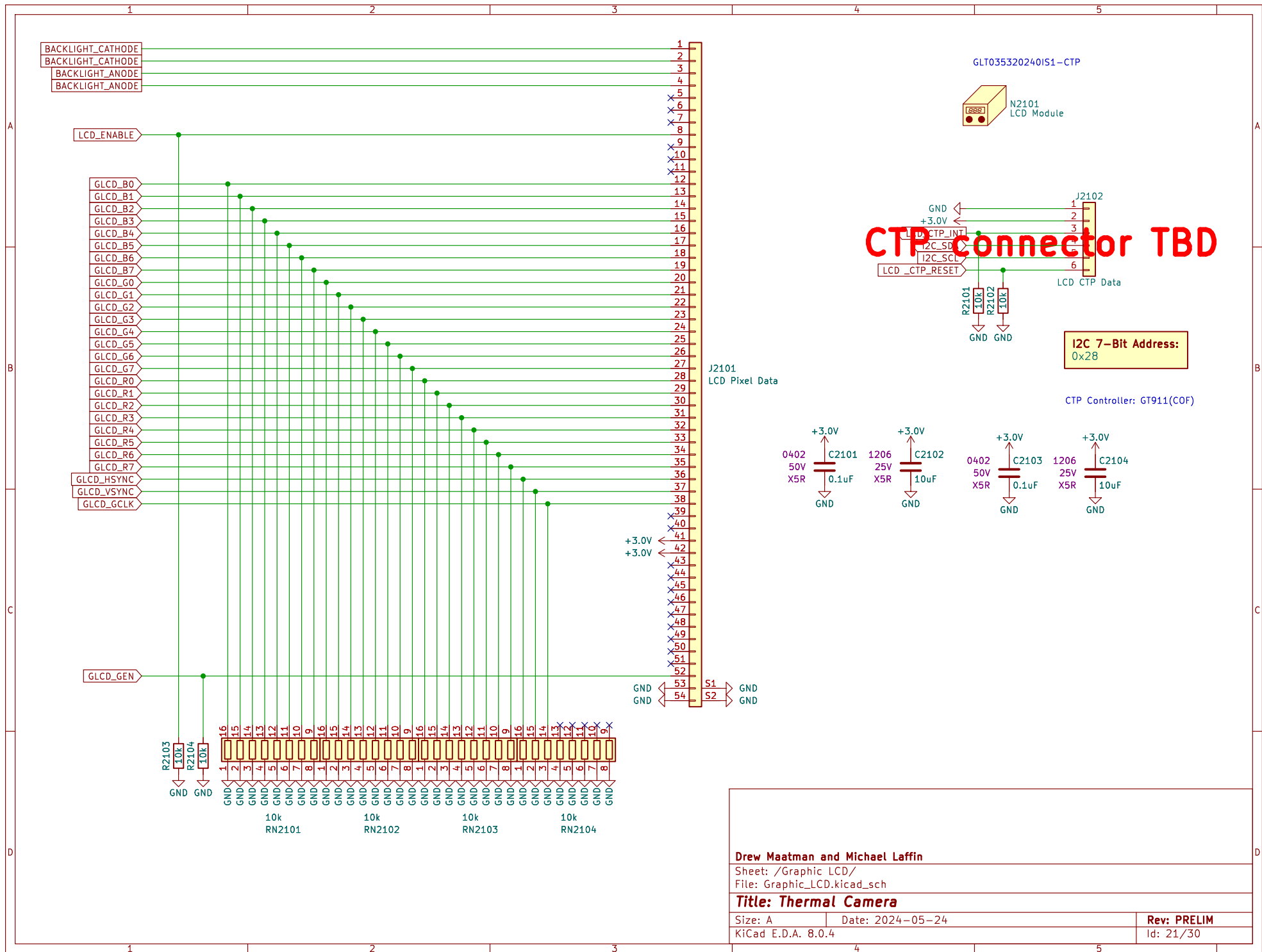
Drew Maatman and Michael Laffin

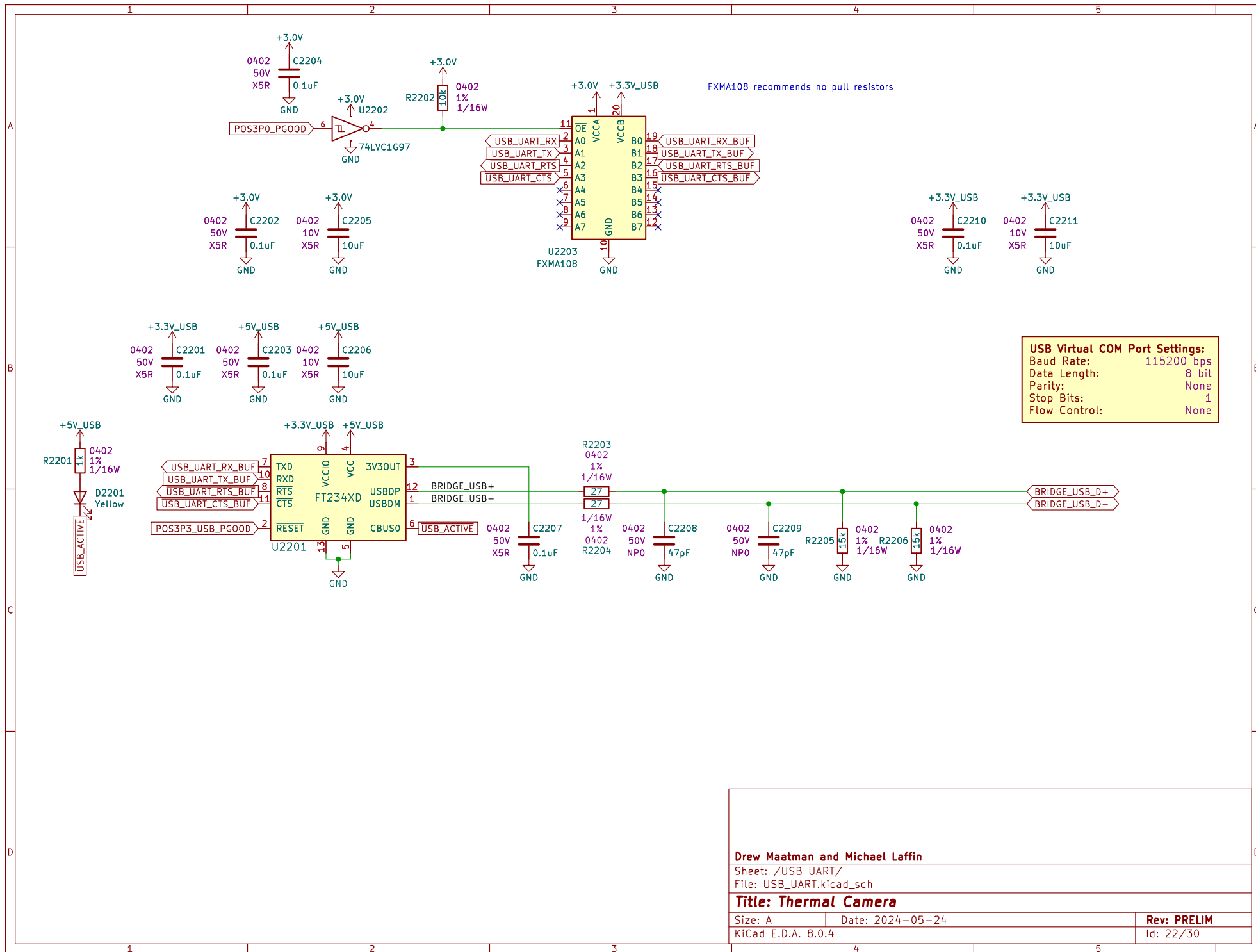
Sheet: /External Storage/  
File: External\_Storage.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 20/30





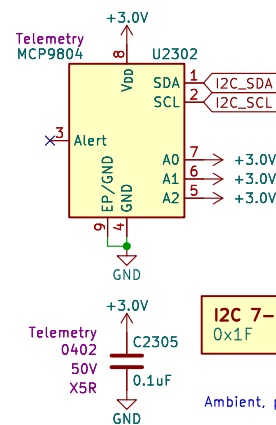
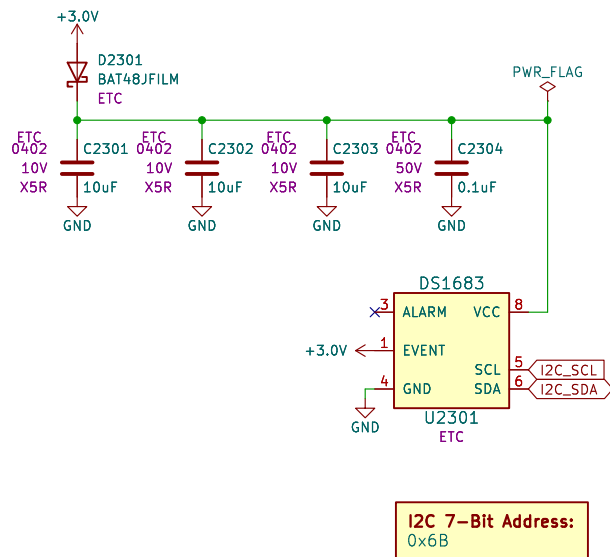
Drew Maatman and Michael Laffin

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

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 22/30



Drew Maatman and Michael Laffin

Sheet: /Elapsed Time Counter/  
File: Elapsed\_Time\_Counter.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 23/30

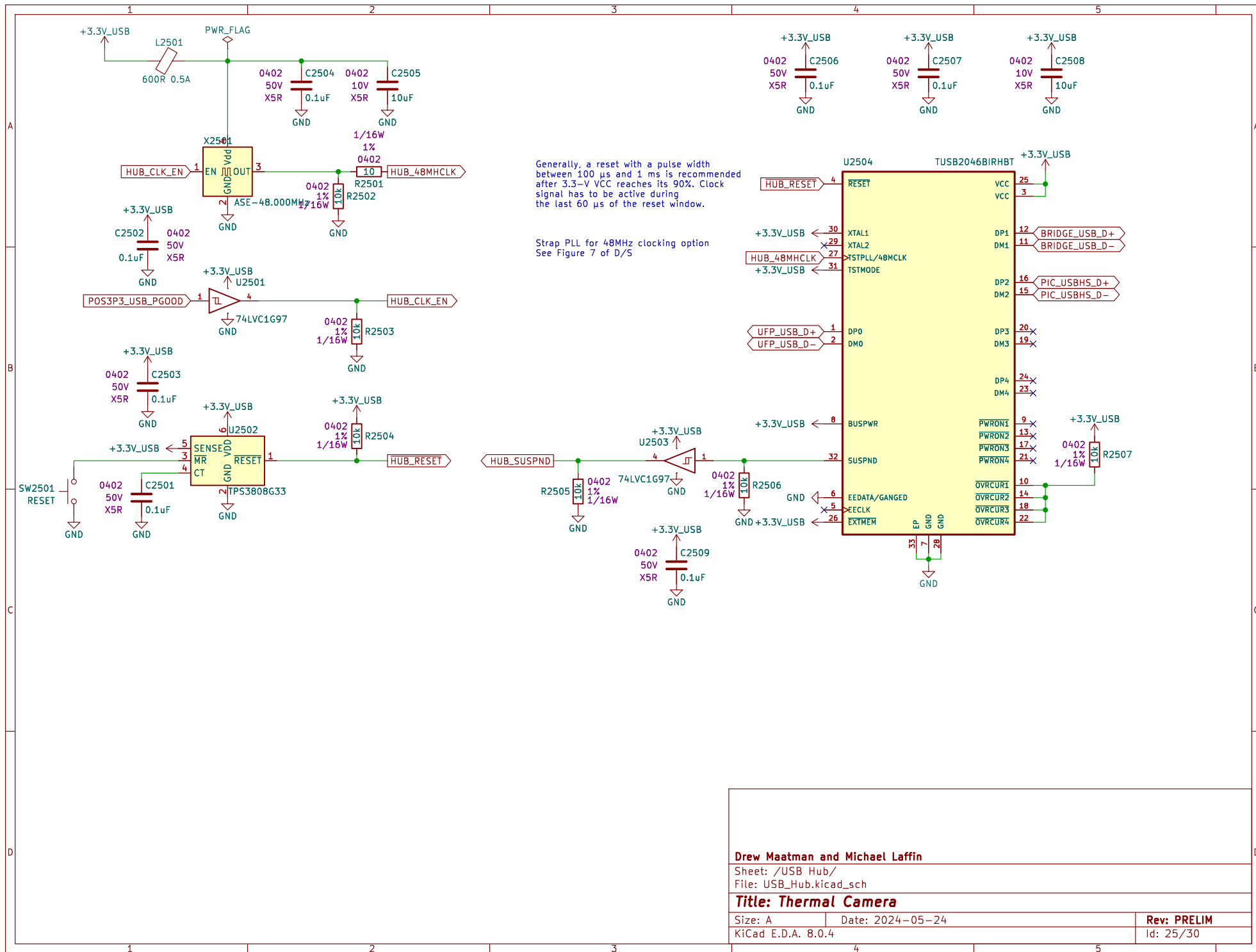
VDDC: 1.20V (1.14V min, 1.26V max), 50mVpp max ripple, 110mA max draw  
VDD: 2.80V (2.72V min, 2.88V max), 30mVpp max ripple, 16mA max draw  
VDDIO: 2.8V min, 3.1V max, 50mVpp max ripple, 310mA max draw

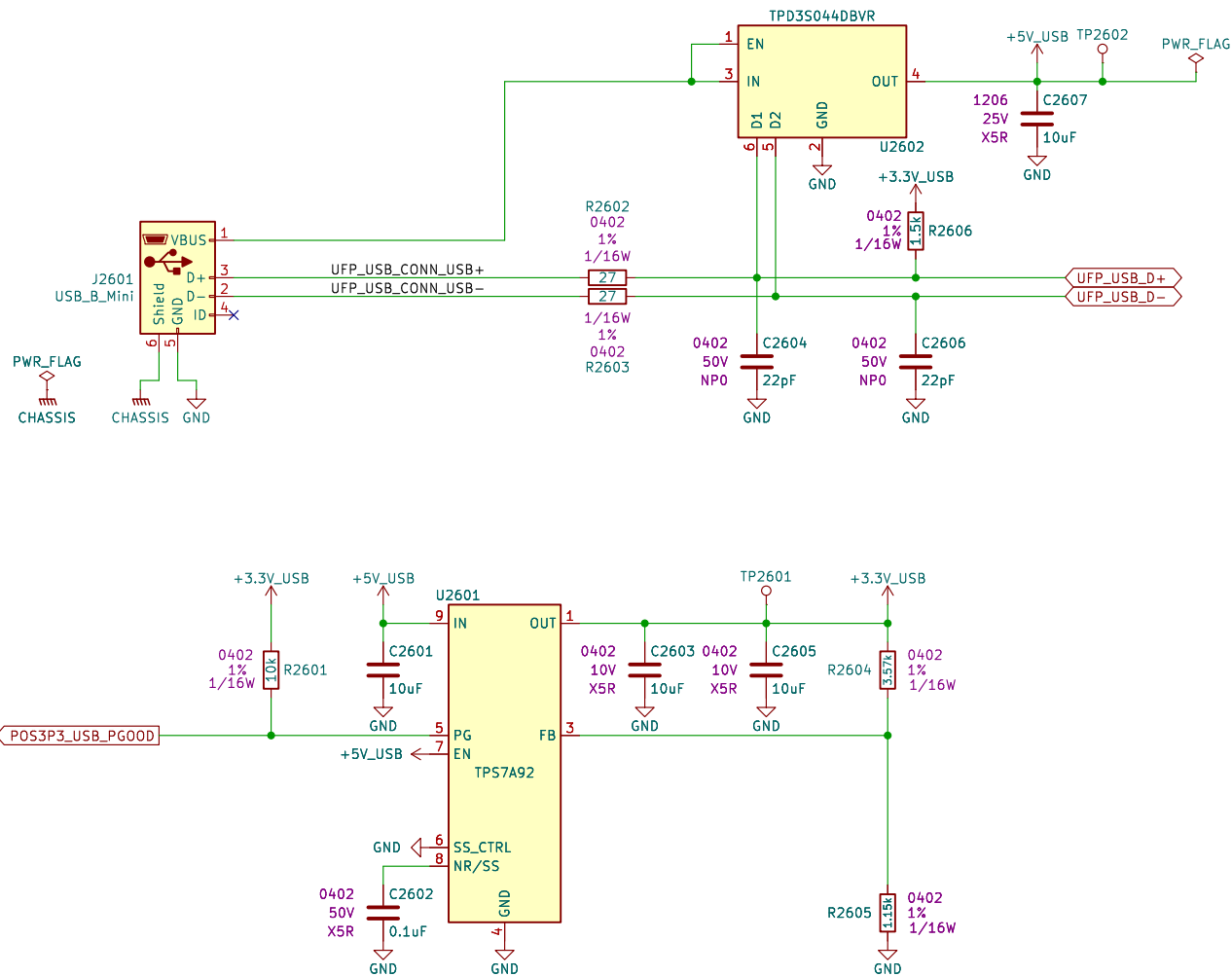


N2401  
Lepton3.5 Sensor

Rev: PRELIM  
Id: 24/30







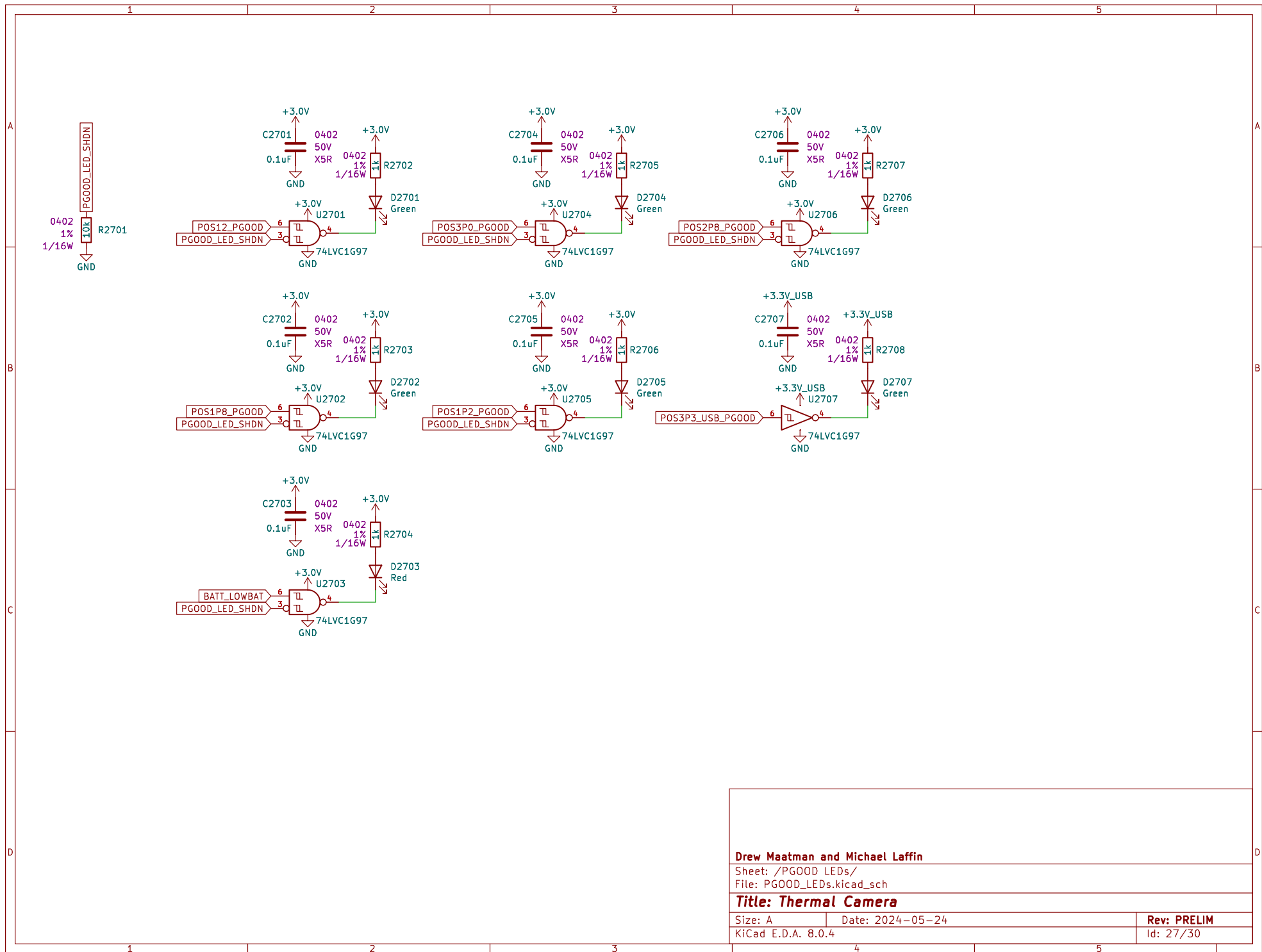
Drew Maatman and Michael Laffin

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

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 26/30



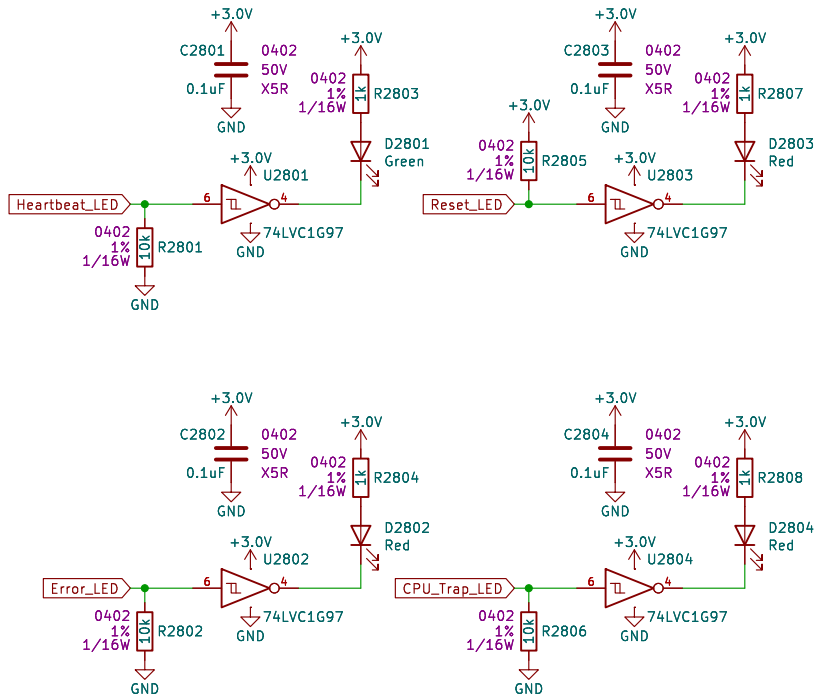
Drew Maatman and Michael Laffin

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

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 27/30



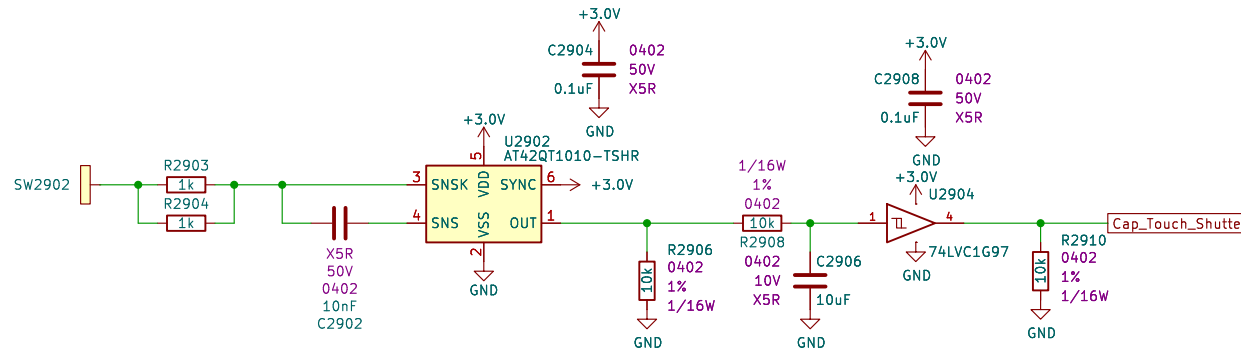
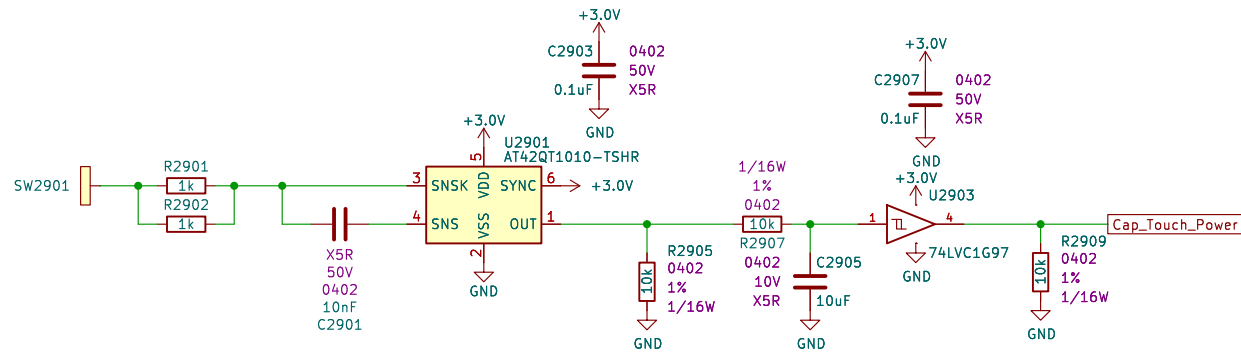
Drew Maatman and Michael Laffin

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

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

Rev: PRELIM  
Id: 28/30



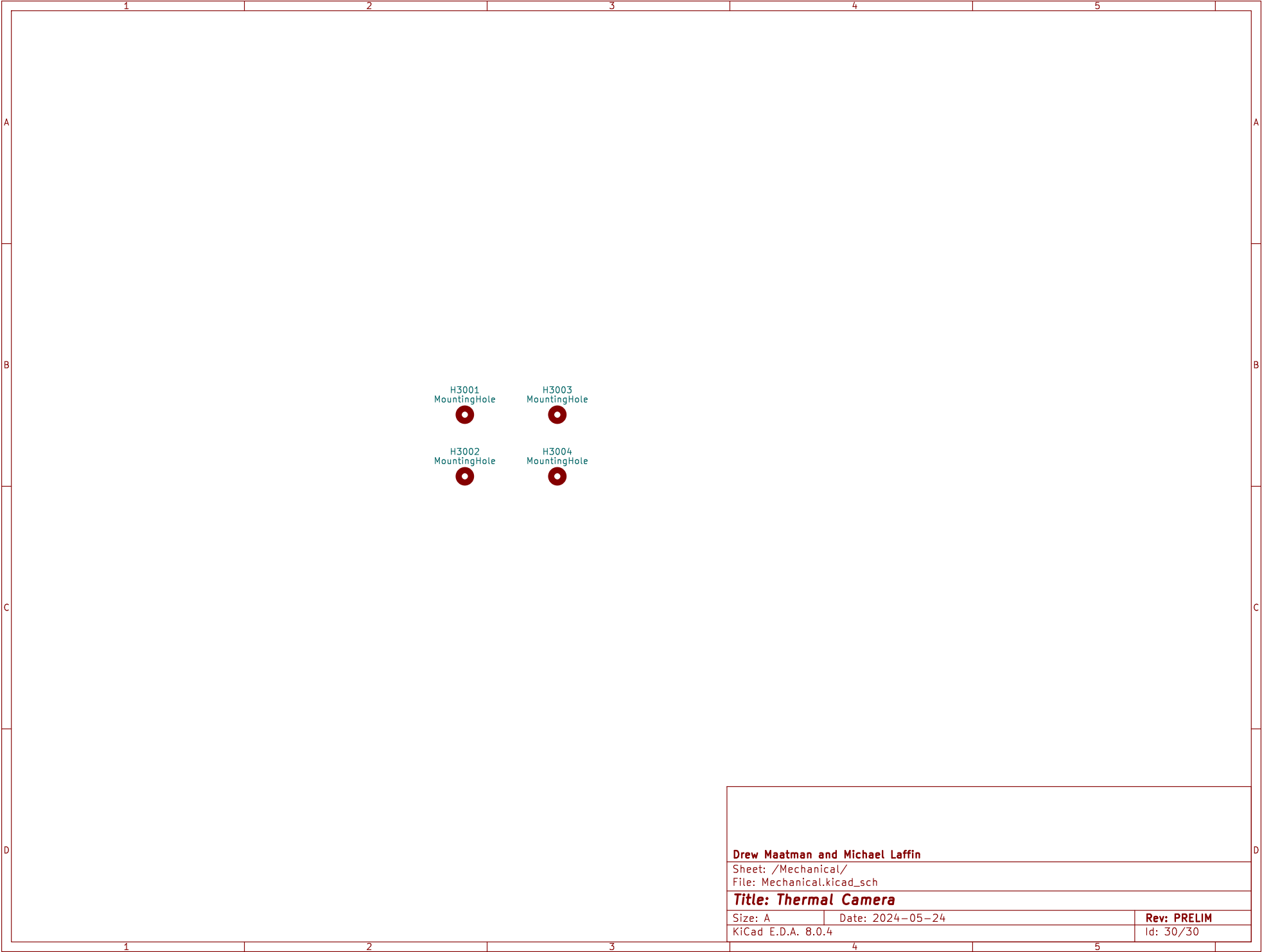
Drew Maatman and Michael Laffin

Sheet: /Capacitive Touch/  
File: Capacitive\_Touch.kicad\_sch

**Title: Thermal Camera**

Size: A Date: 2024-05-24  
KiCad E.D.A. 8.0.4

**Rev: PRELIM**  
Id: 29/30



Drew Maatman and Michael Laffin

Sheet: /Mechanical/  
File: Mechanical.kicad\_sch

**Title: Thermal Camera**

Size: A	Date: 2024-05-24	Rev: PRELIM
KiCad E.D.A. 8.0.4		Id: 30/30