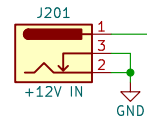
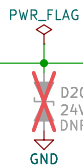


	1	2	3	4	5
	<h1>Thermal Camera</h1> <p>https://github.com/drewsum/Thermal_Camera</p>				
A	01. Table of Contents				
	02. POS12 Input	POS12_Input	14. Battery Management	Battery Management	26. Upstream USB Port
	03. POS12 Telemetry	POS12 Telemetry	15. PIC32MZ DA Programming	PIC32MZ DA Programming	27. PGOOD 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. 8.0.1-rc1</div> <div>Rev: PRELIM</div> <div>Id: 1/30</div>				
	1	2	3	4	5



UVLO threshold set to 10.8V
 OVLO threshold set to 13.2V
 MODE set to Circuit Breaker with Auto-Retry
 Output Current Limit set to 1.2A



+12Vin

TP202

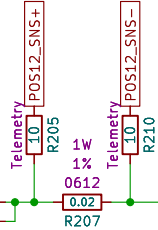
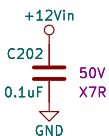
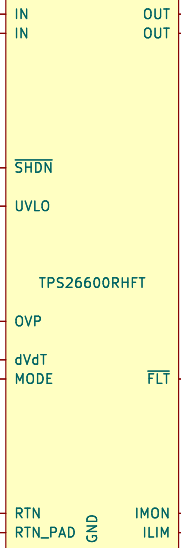
1% 51.1k R201

1% 1.19k R202

1% 51.1k R203

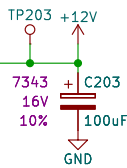
50V X7R
 C201
 10nF

1% 10k R204



+3.0V logic level at +13.2Vin

POS12_PG00D



PWR_FLAG
 +12V

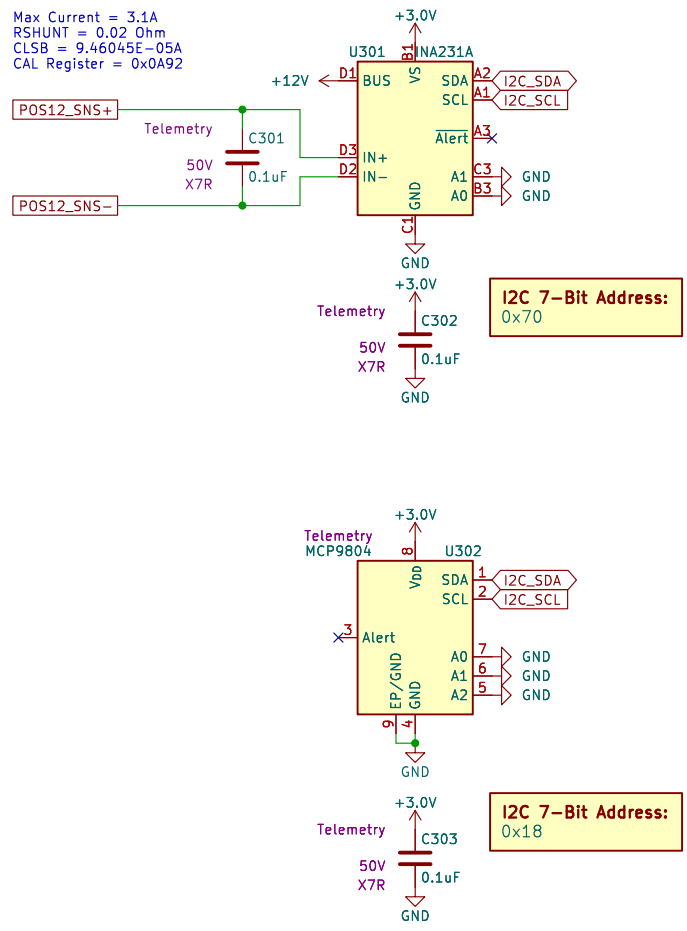
Drew Maatman and Michael Laffin

Sheet: /POS12_Input/
 File: POS12_Input.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
 KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
 Id: 2/30



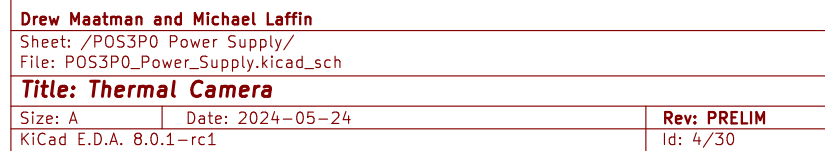
Drew Maatman and Michael Laffin

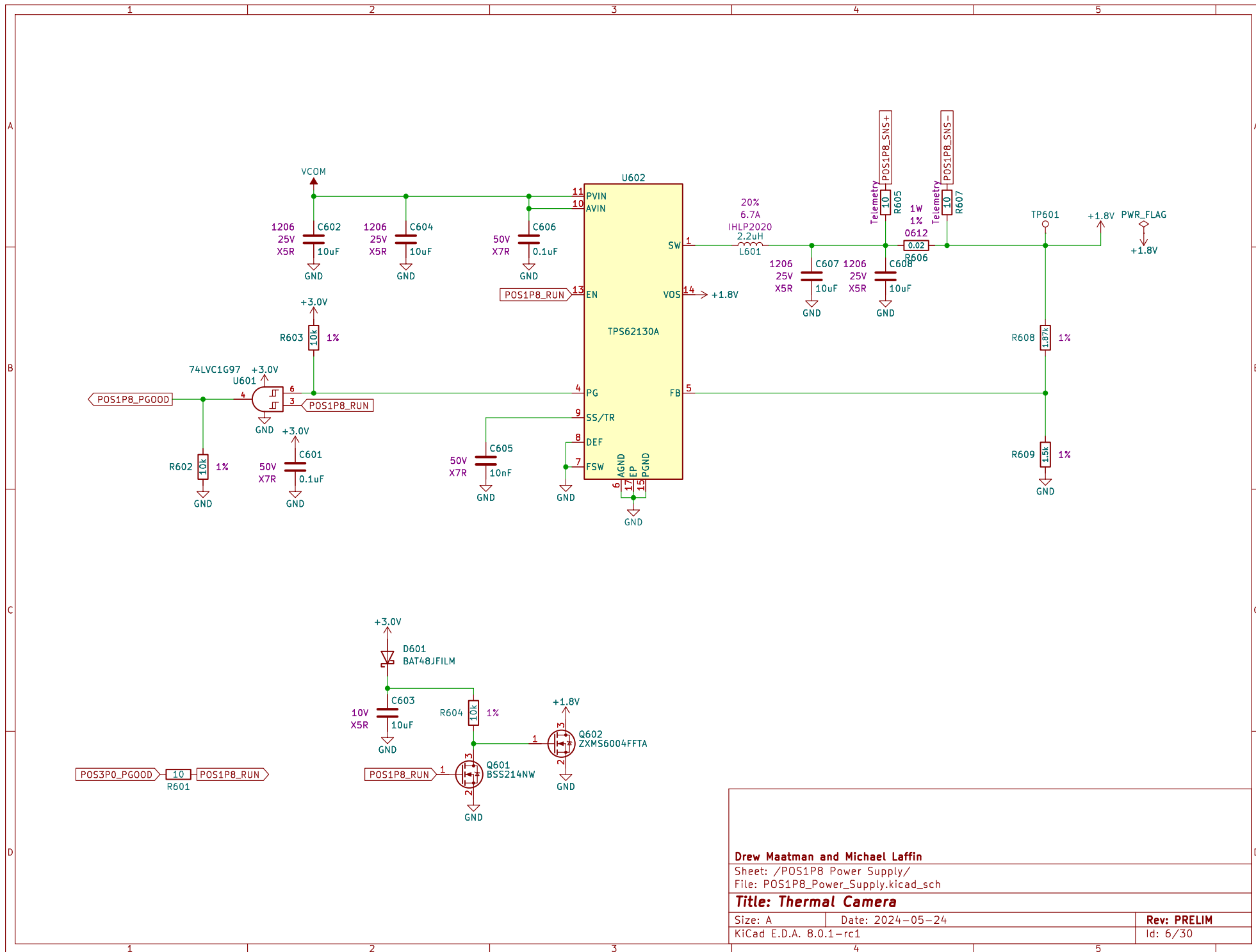
Sheet: /POS12 Telemetry/
File: POS12_Telemetry.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 3/30





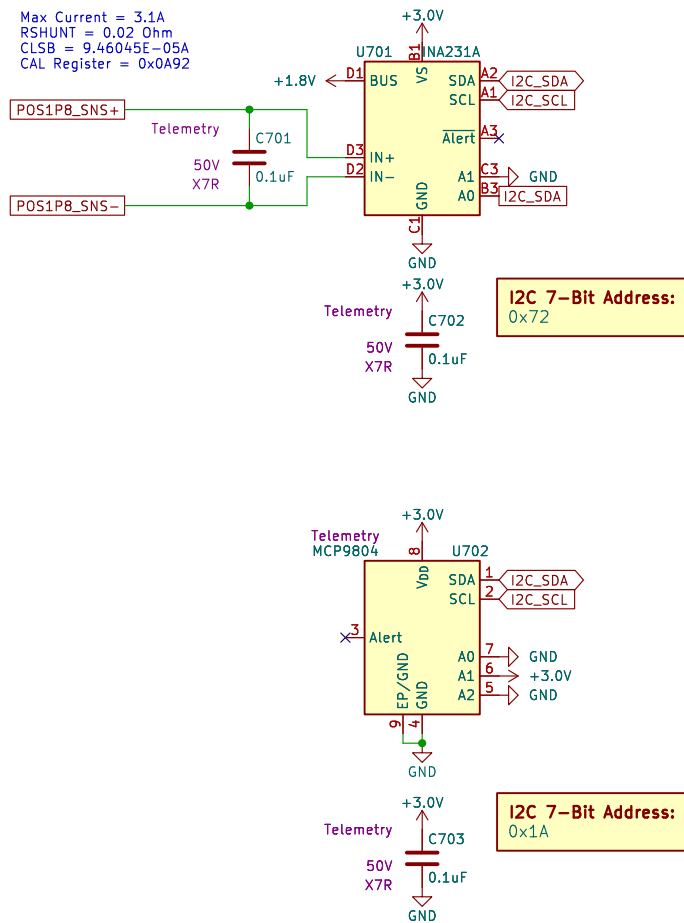
Drew Maatman and Michael Laffin

Sheet: /POS1P8 Power Supply/
File: POS1P8_Power_Supply.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 6/30



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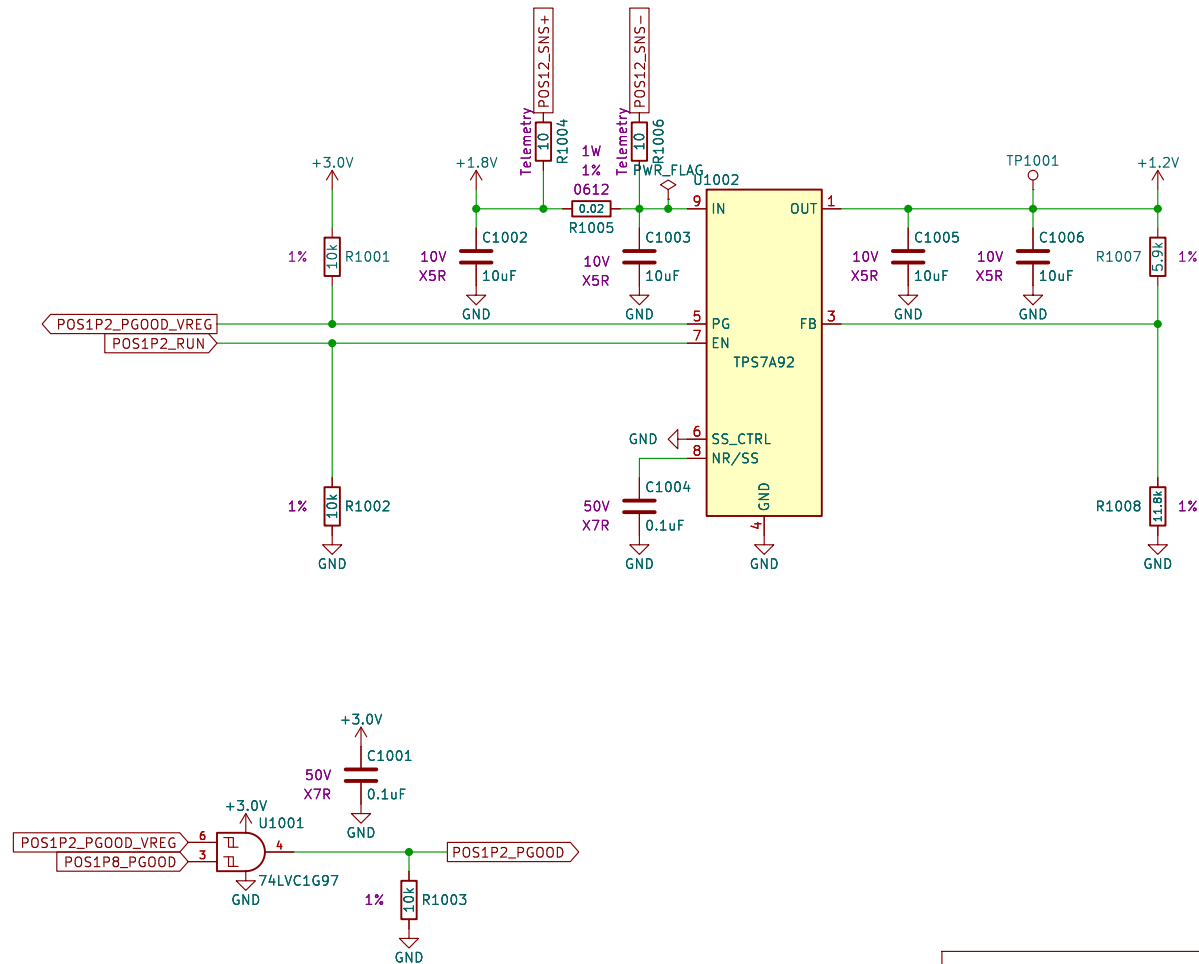
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 File: POS1P8_Telemetry.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
 KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
 Id: 7/30

Id: 8/30



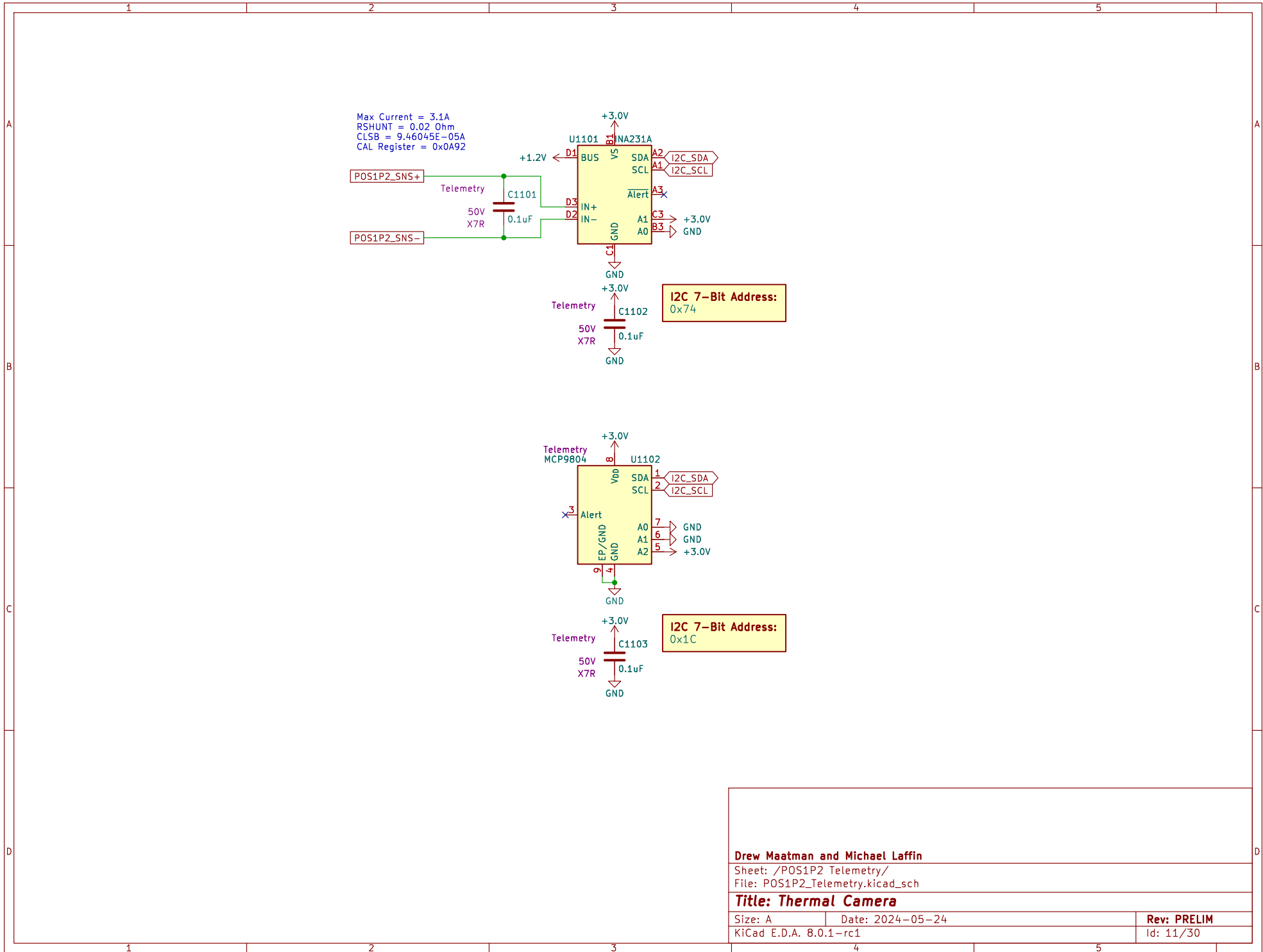
Drew Maatman and Michael Laffin

Sheet: /POS1P2 Power Supply/
File: POS1P2_Power_Supply.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 10/30



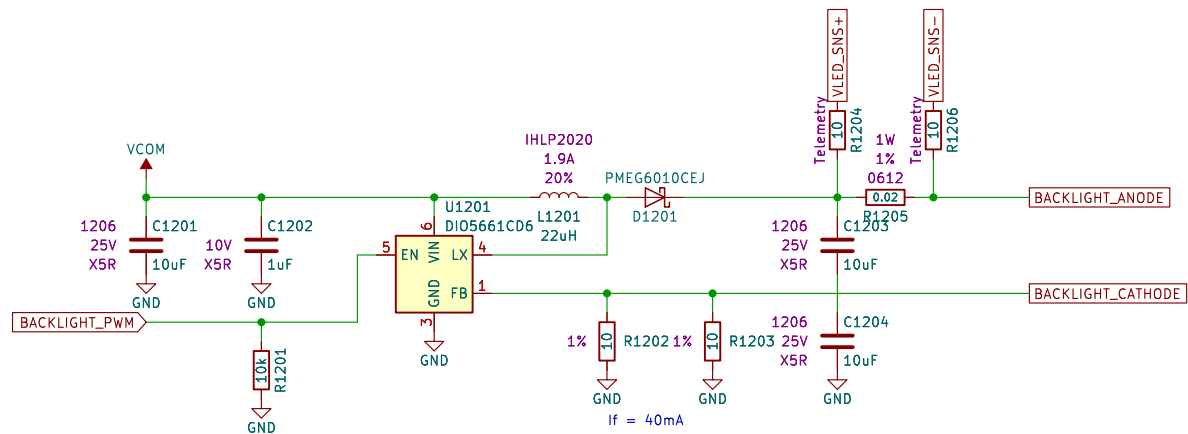
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Sheet: /POS1P2 Telemetry/
File: POS1P2_Telemetry.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 11/30



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Sheet: /LCD Backlight Power Supply/
File: LCD_Backlight_Power_Supply.kicad_sch

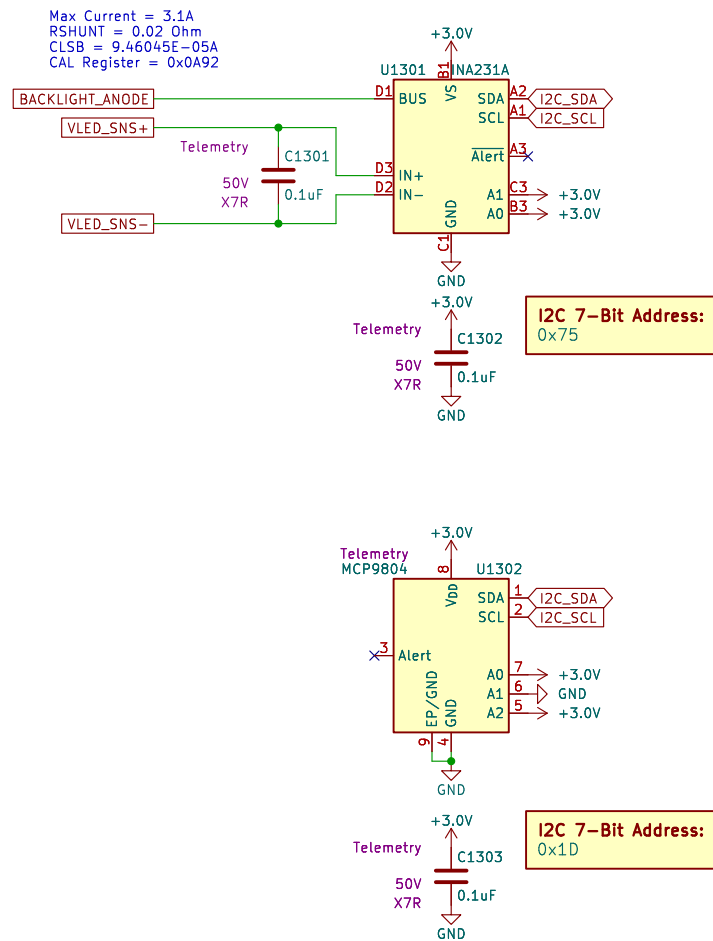
Title: Thermal Camera

Size: A Date: 2024-05-24

KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM

Id: 12/30



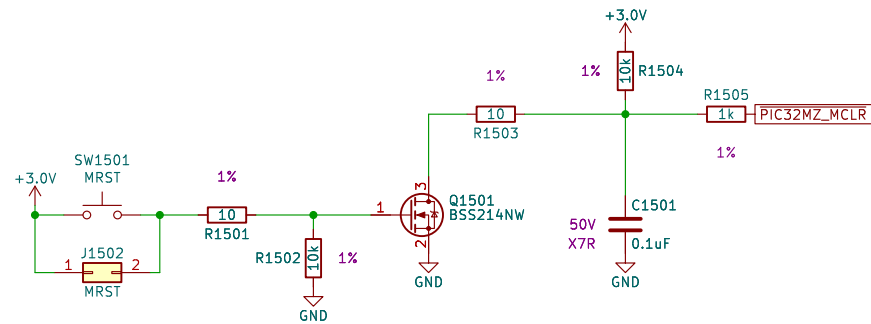
Drew Maatman and Michael Laffin

Sheet: /LCD Backlight Telemetry/
 File: LCD_Backlight_Telemetry.kicad_sch

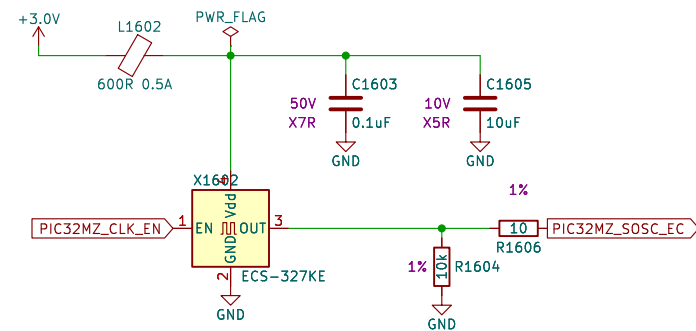
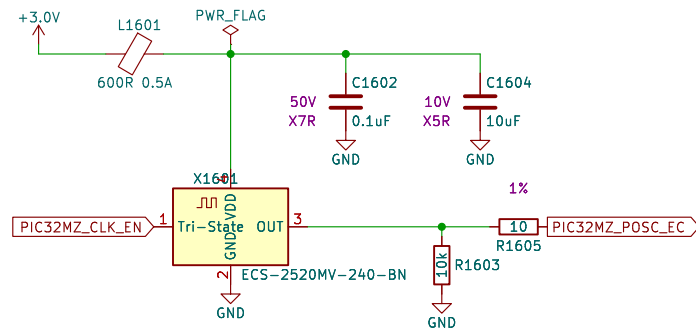
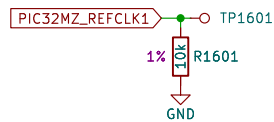
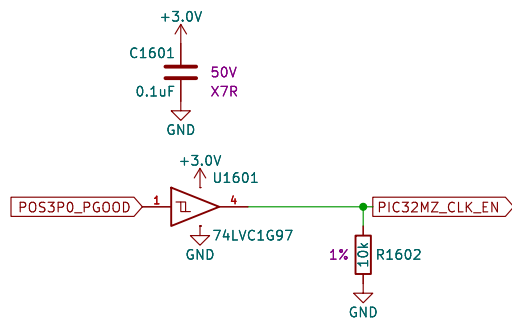
Title: Thermal Camera

Size: A Date: 2024-05-24
 KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
 Id: 13/30



Rev: PRELIM
Id: 15/30



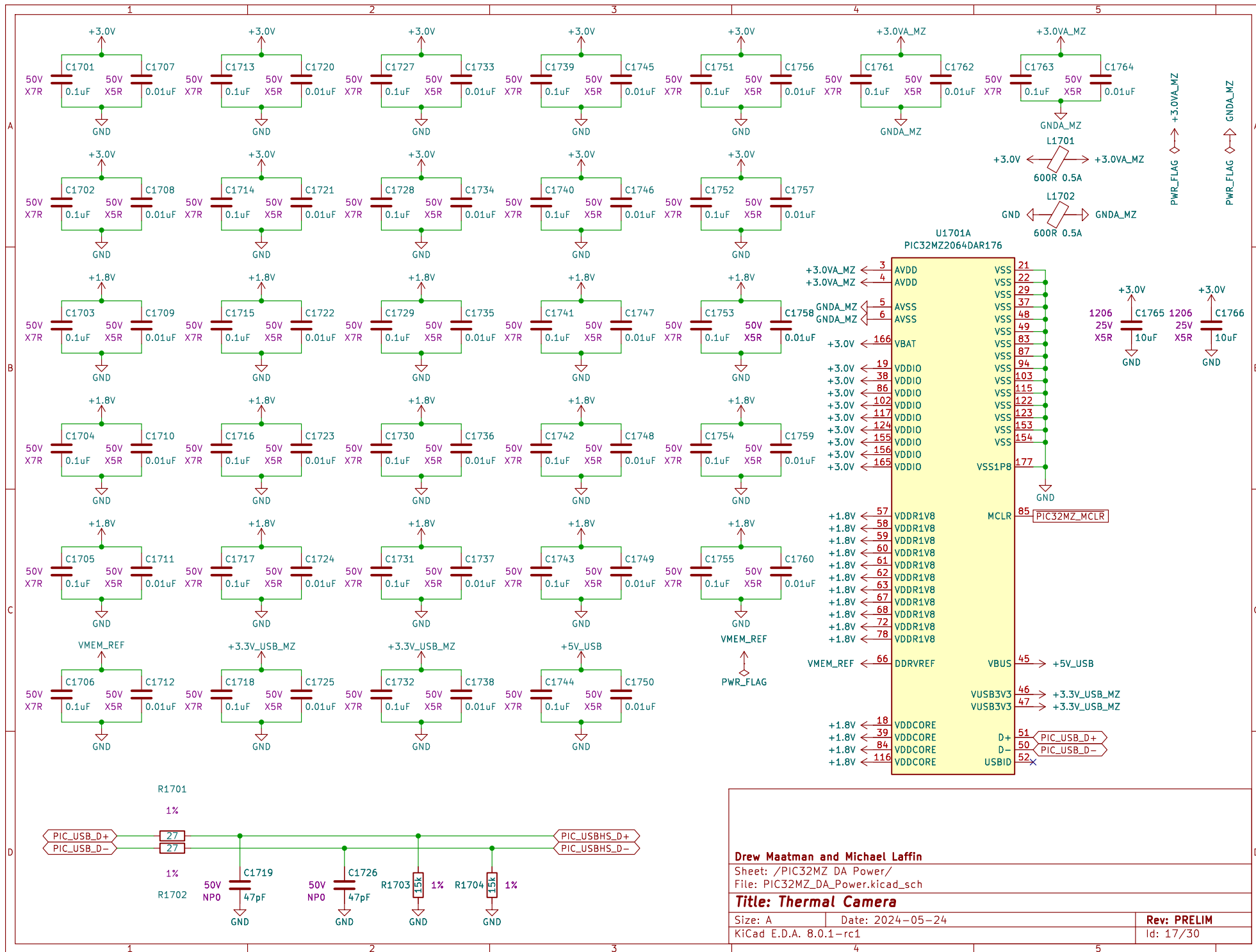
Drew Maatman and Michael Laffin

Sheet: /PIC32MZ DA Clocking/
File: PIC32MZ_DA_Clocking.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 16/30



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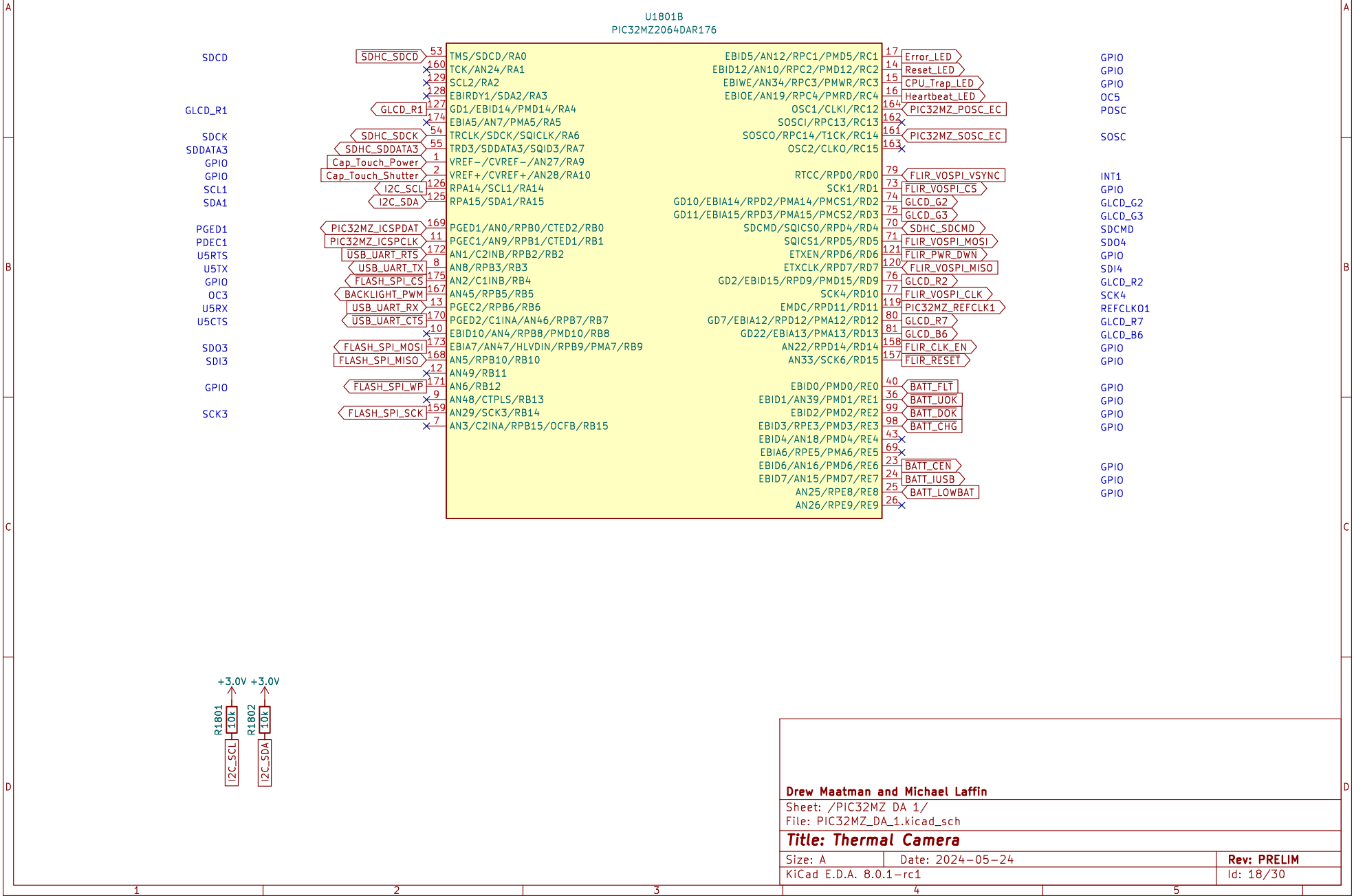
Sheet: /PIC32MZ DA Power/
File: PIC32MZ_DA_Power.kicad_sch

Title: Thermal Camera

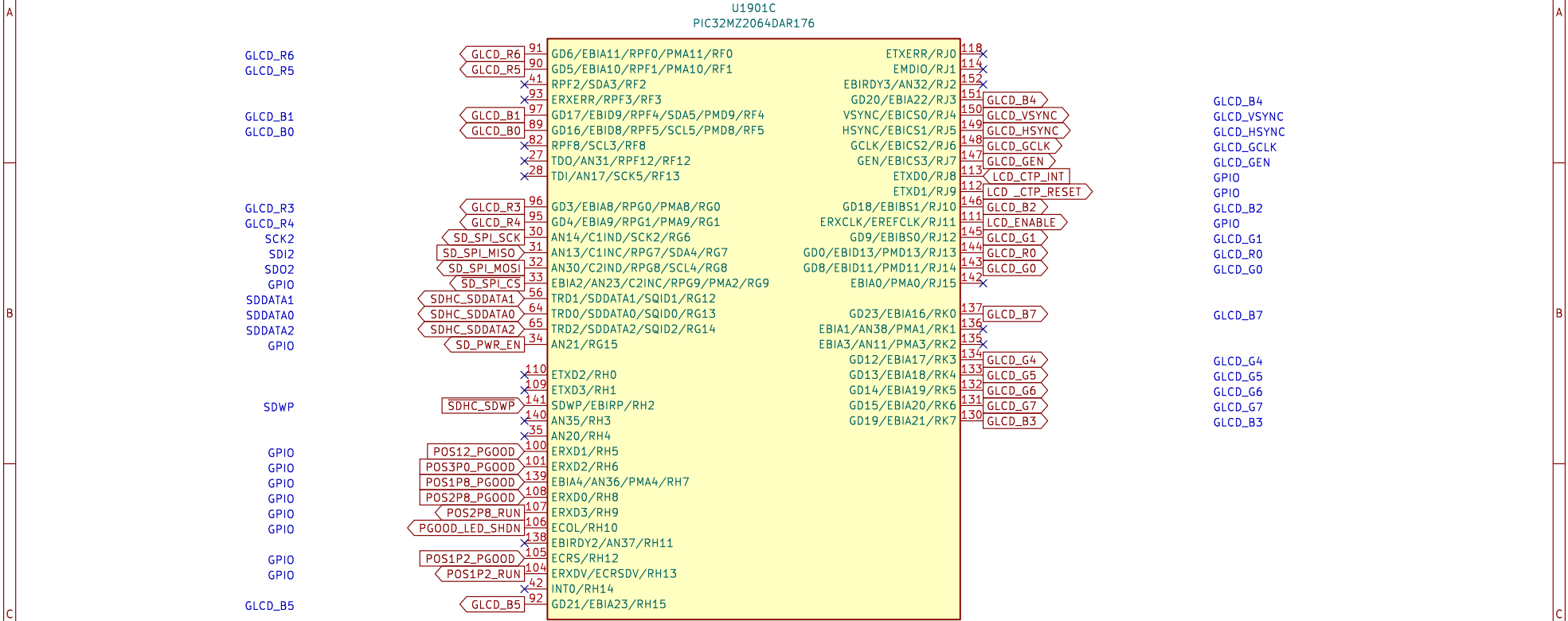
Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 17/30

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



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



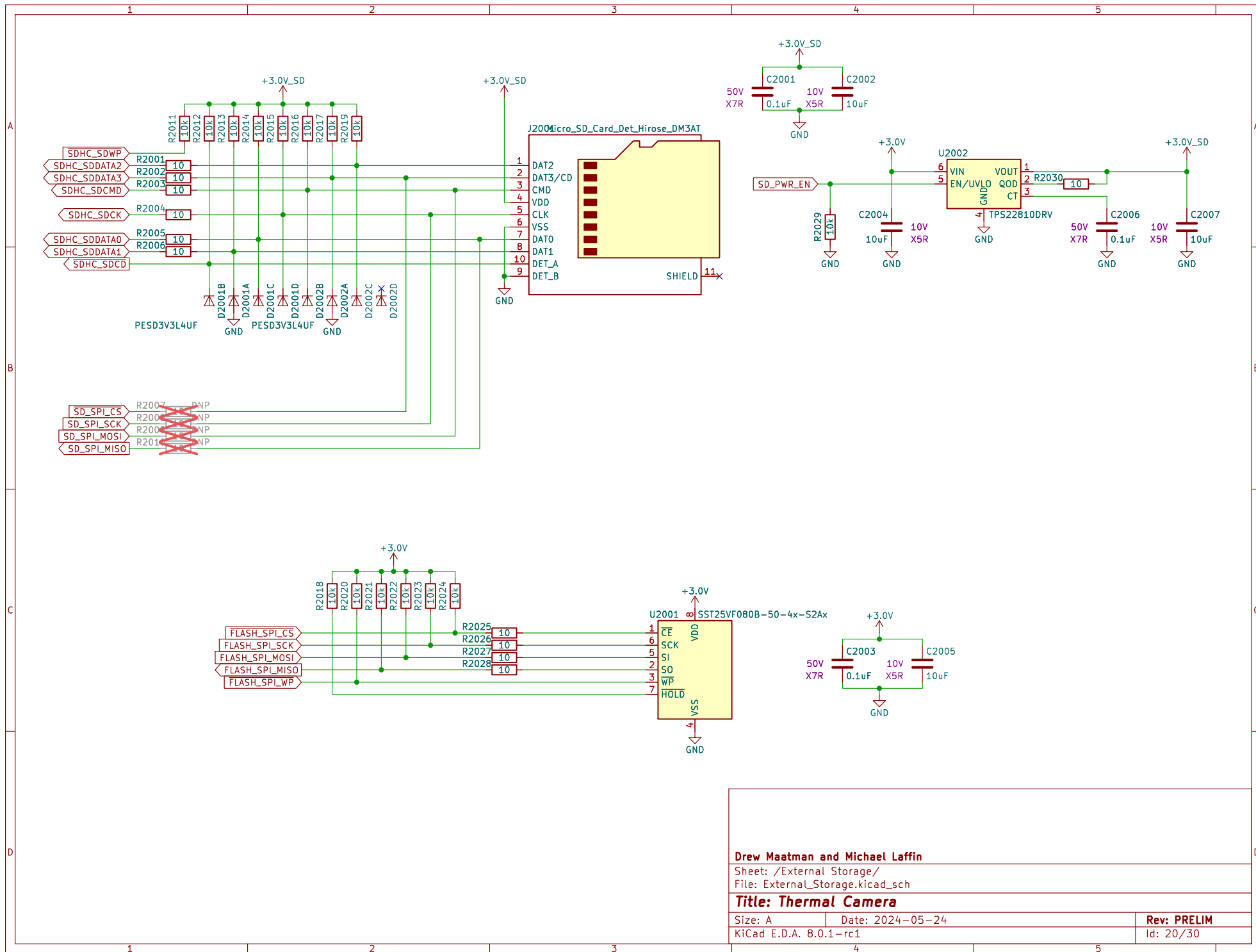
Drew Maatman and Michael Laffin

Sheet: /PIC32MZ DA 2/
File: PIC32MZ_DA_2.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 19/30



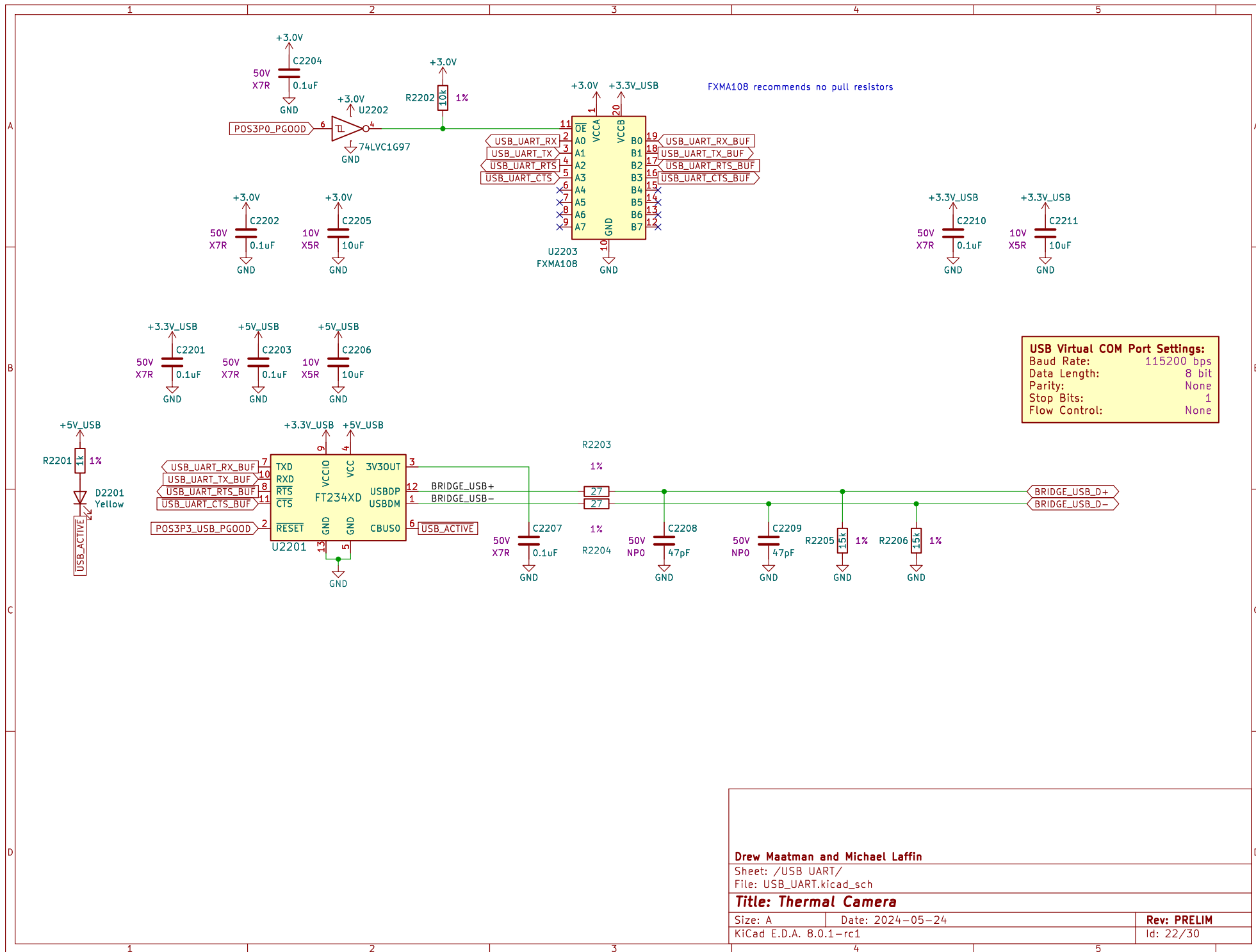
Drew Maatman and Michael Laffin

Sheet: /External Storage/
File: External_Storage.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 20/30



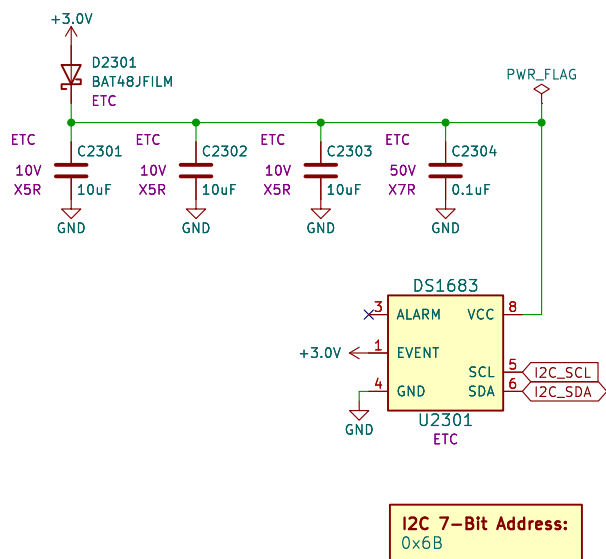
Drew Maatman and Michael Laffin

Sheet: /USB UART/
File: USB_UART.kicad_sch

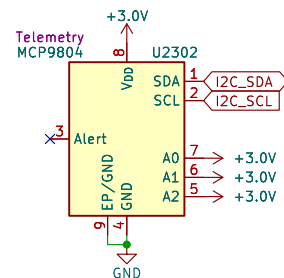
Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 22/30

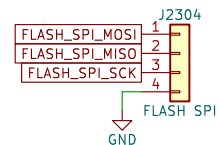
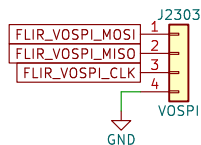
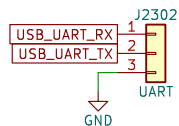
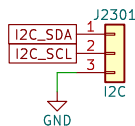


I2C 7-Bit Address:
0x6B



I2C 7-Bit Address:
0x1F

Ambient, place away from power components



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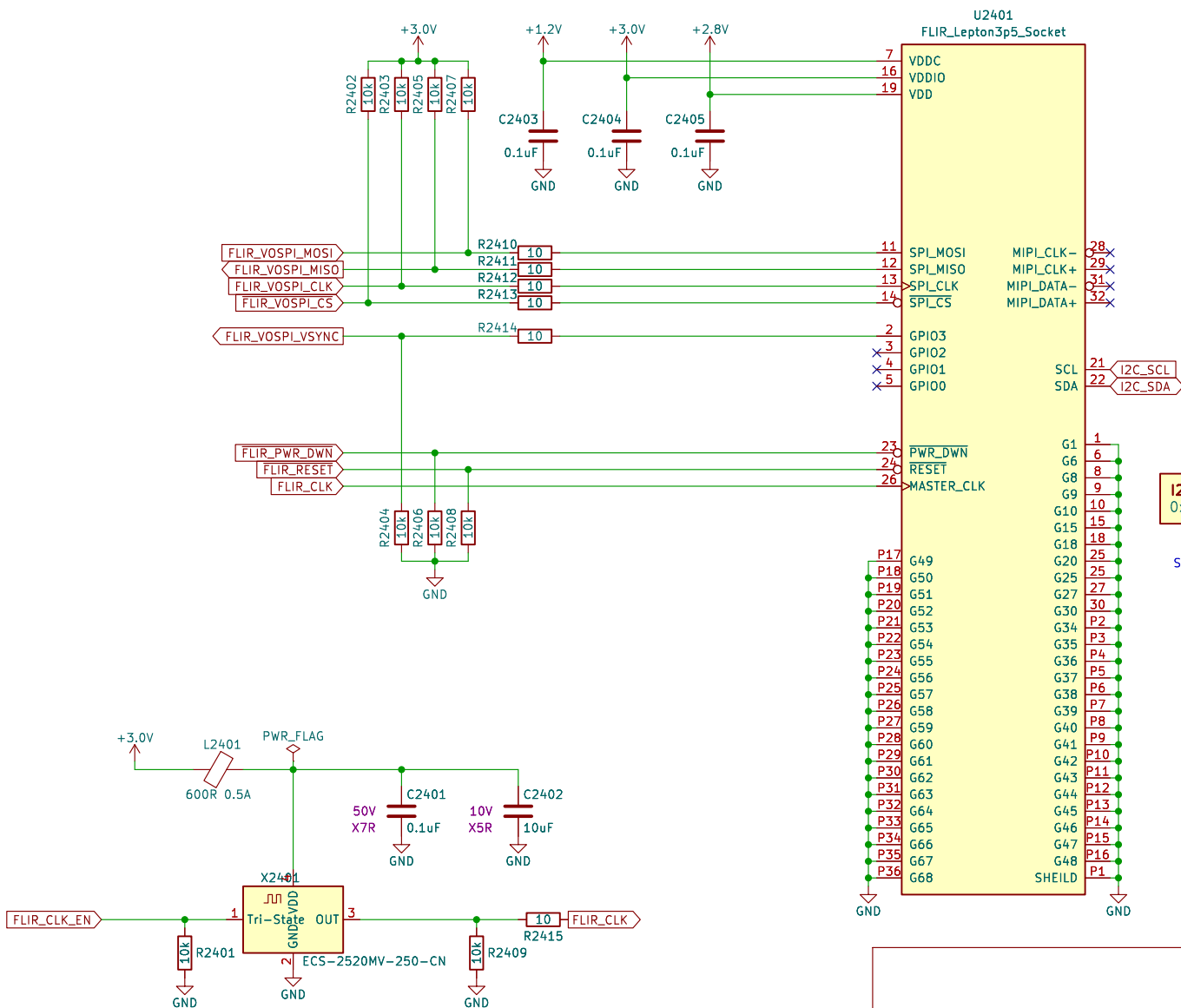
Sheet: /Elapsed Time Counter/
File: Elapsed_Time_Counter.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 23/30

Power Supply Considerations:
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



I2C 7-Bit Address:
0x2A

See FLIR document #110-0144-04 for I2C register map



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Sheet: /FLIR Lepton Sensor/
File: FLIR_Lepton_Sensor.kicad_sch

Title: Thermal Camera

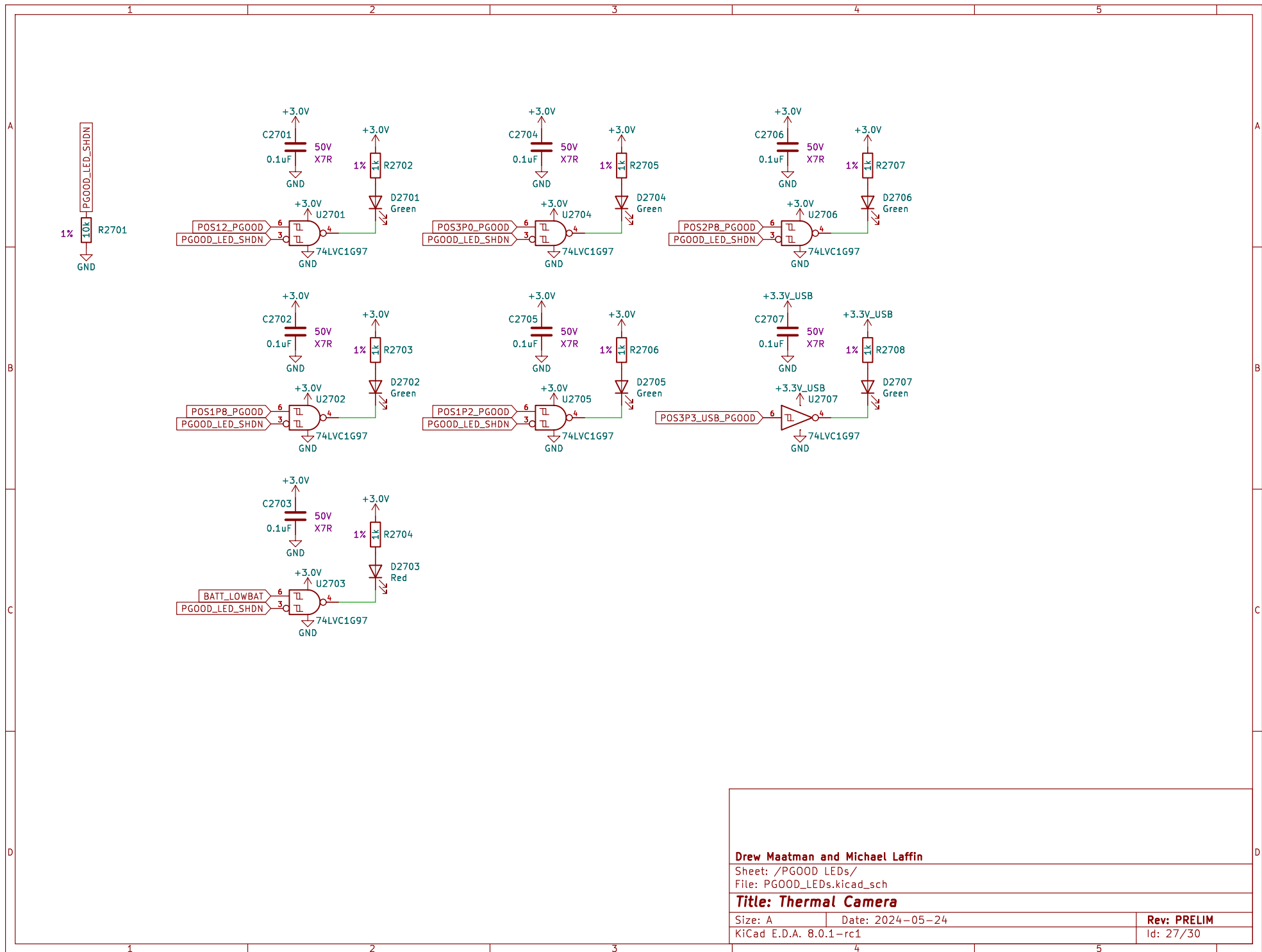
Size: A Date: 2024-05-24

KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM

Id: 24/30

Id: 26/30



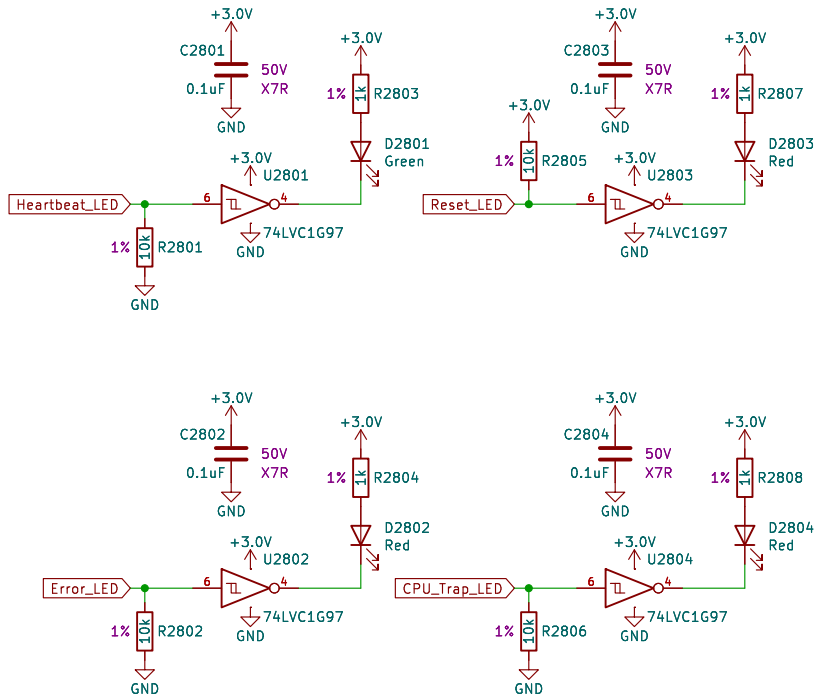
Drew Maatman and Michael Laffin

Sheet: /PGOOD LEDs/
File: PGGOOD_LEDs.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 27/30



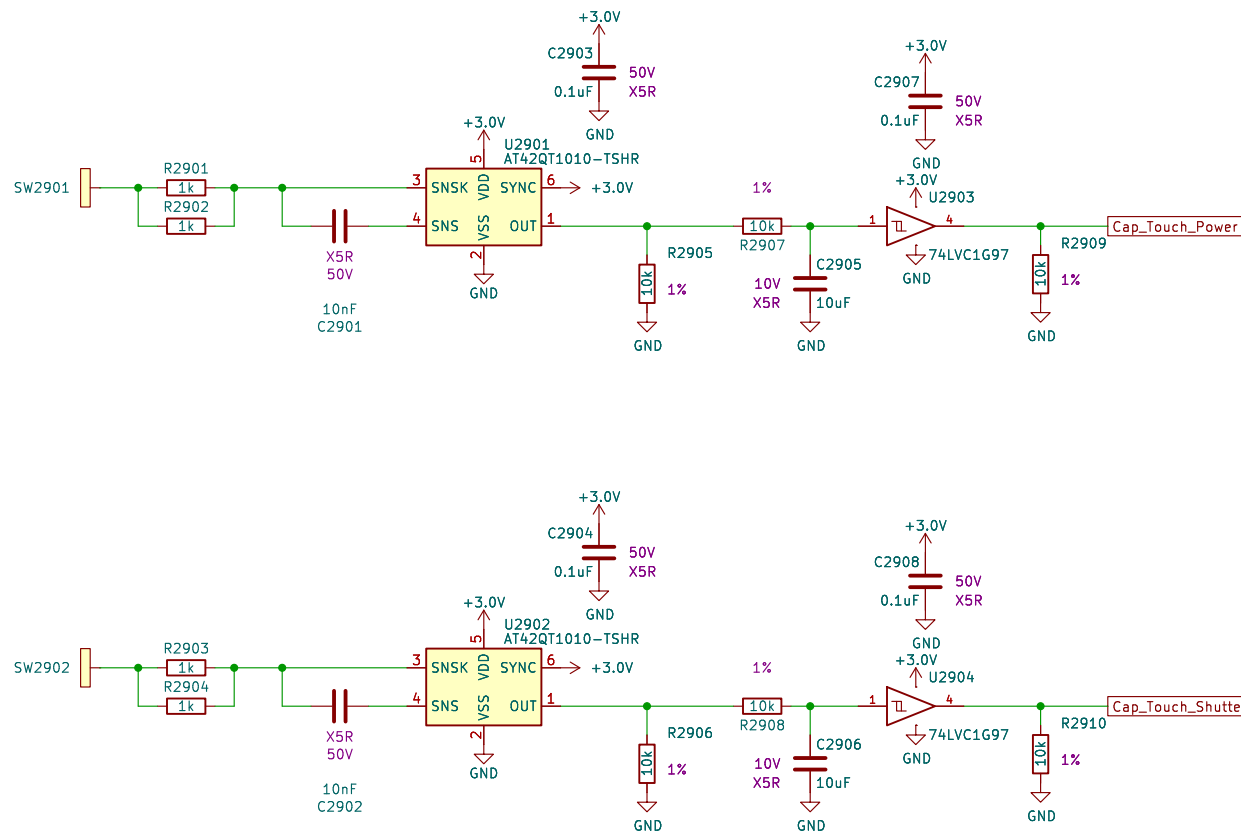
Drew Maatman and Michael Laffin

Sheet: /Status_LEDs/
File: Status_LEDs.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 28/30



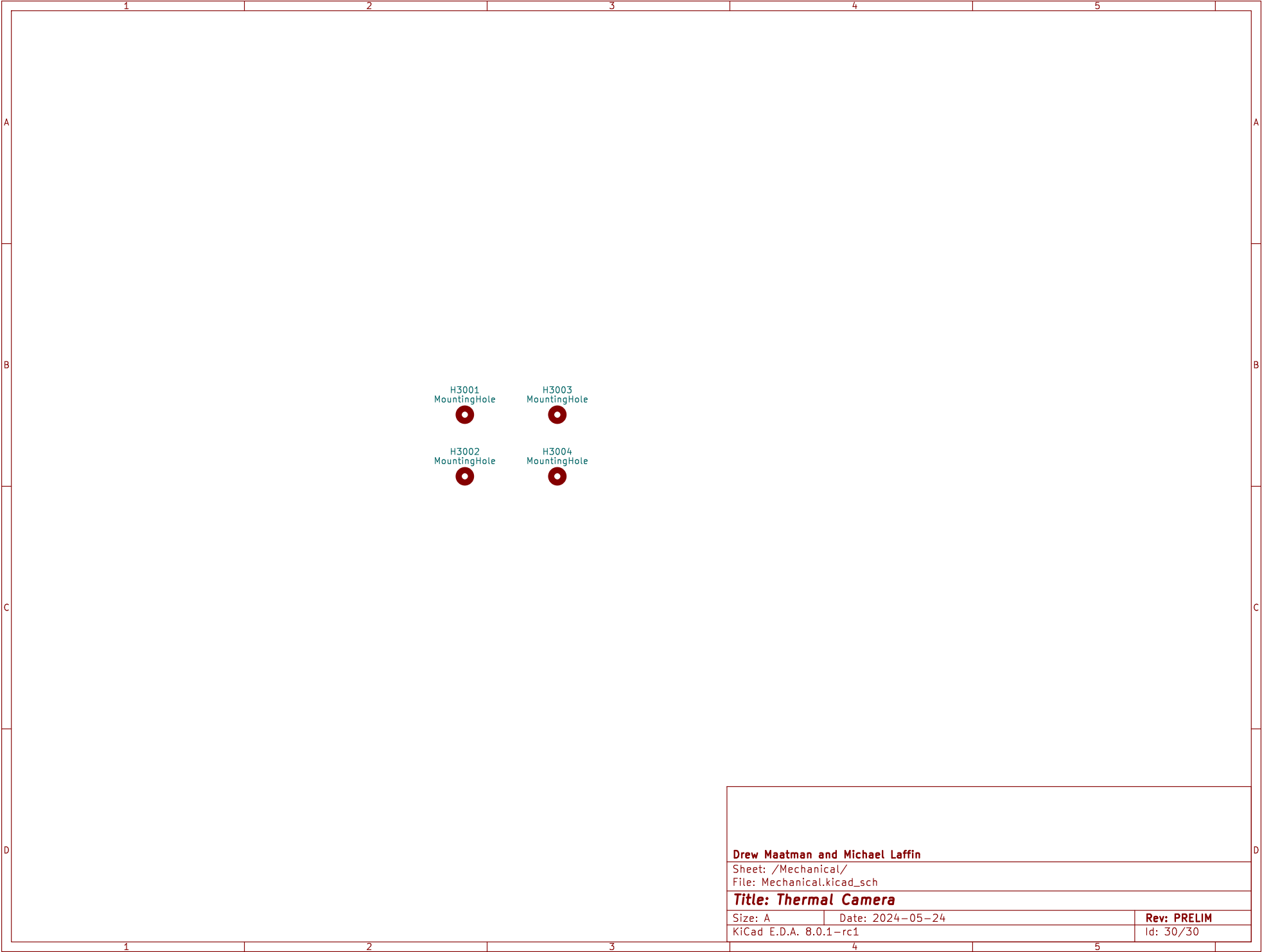
Drew Maatman and Michael Laffin

Sheet: /Capacitive Touch/
File: Capacitive_Touch.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 29/30



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Sheet: /Mechanical/
File: Mechanical.kicad_sch

Title: Thermal Camera

Size: A Date: 2024-05-24
KiCad E.D.A. 8.0.1-rc1

Rev: PRELIM
Id: 30/30