

LED Panel Controller

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Sheet: Panel Level Shifters

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Sheet: Mechanical

File: Mechanical.sch

TODO:

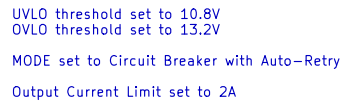
- Determine actual +12V current draw, reevaluate input protection
- Input EMI filter? - Drew
- Determine image size, external flash size - 16,384 bytes
- Determine +5V current draw, decide on converter - Drew
- Determine +3.3V Current Draw, decide on converter - Drew
- Remove high frequency PIC32MZ bypass caps - Drew
- Figure out panel connectors - Drew
- * Figure out panel level shifting - Logan
- Figure out SPI flash circuit - Drew
- * Figure out screen modes/mode LEDs
- Draw SD card sheet - Logan
- * Draw WiFi module sheet
- Draw I2C boost sheet with LTC1694 - Drew
- * Determine what will be configurable, add hardstraps
- * What will pushbuttons do?
- * What PIC32MZ SKU will we use? Should be highest memory
- Change PGOOD LEDs sheet to use +3.3V_PGL global power
- * Add USB Telemetry sheet

Sheet: /
File: LED_Panel_Controller.sch

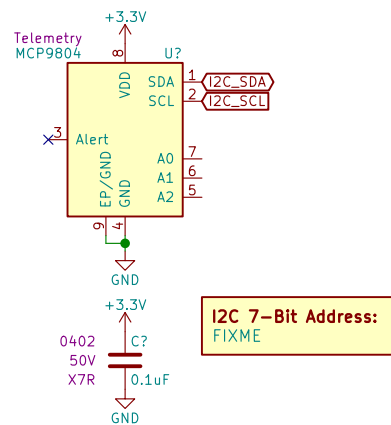
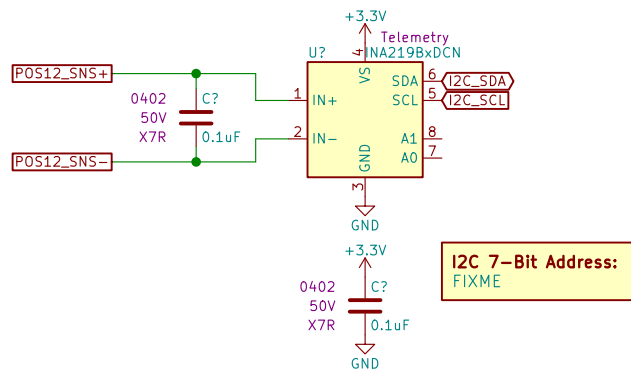
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Size: A Date: 2020-09-08
KiCad E.D.A. kicad (5.1.4)-1

Rev:
Id: 1/33



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Id: 2/33



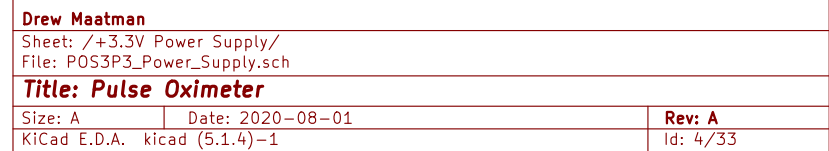
Drew Maatman

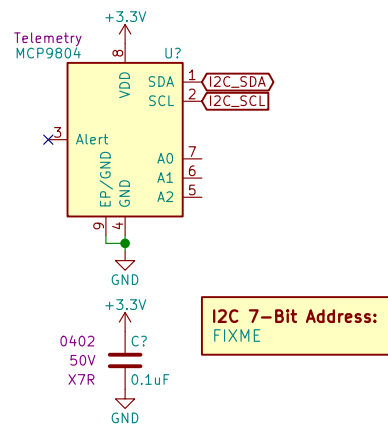
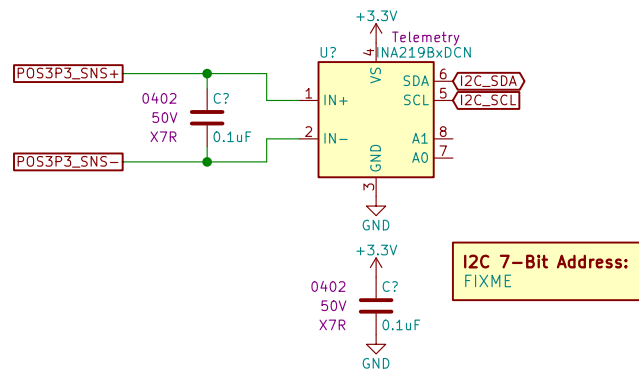
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Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 3/33





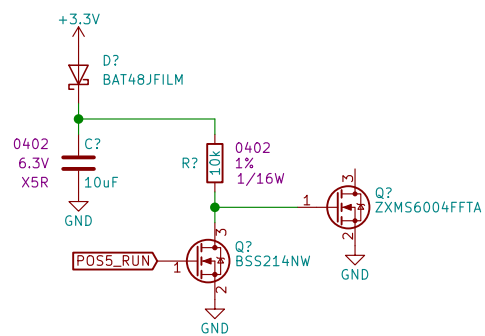
Drew Maatman

Sheet: /+3.3V Telemetry/
File: POS3P3_Telemetry.sch

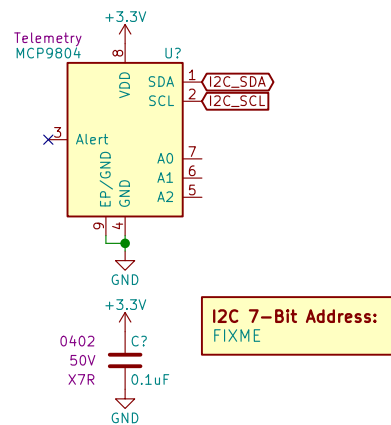
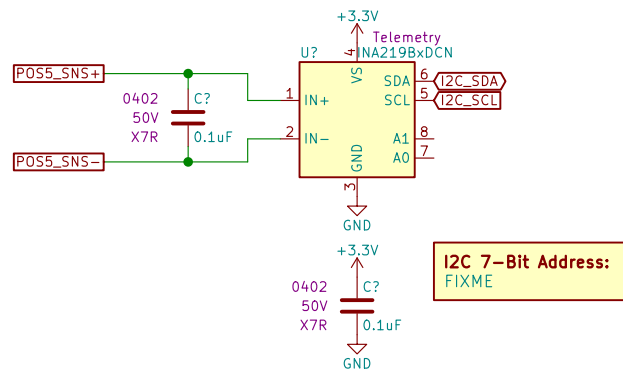
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Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
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Rev: A
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Sheet: /+5V Telemetry/

File: POS5_Telemetry.sch

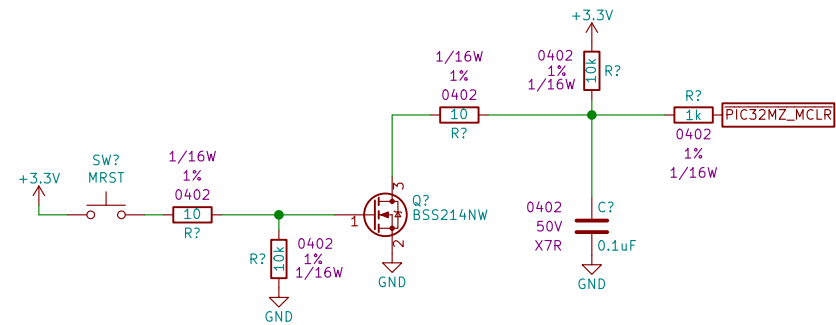
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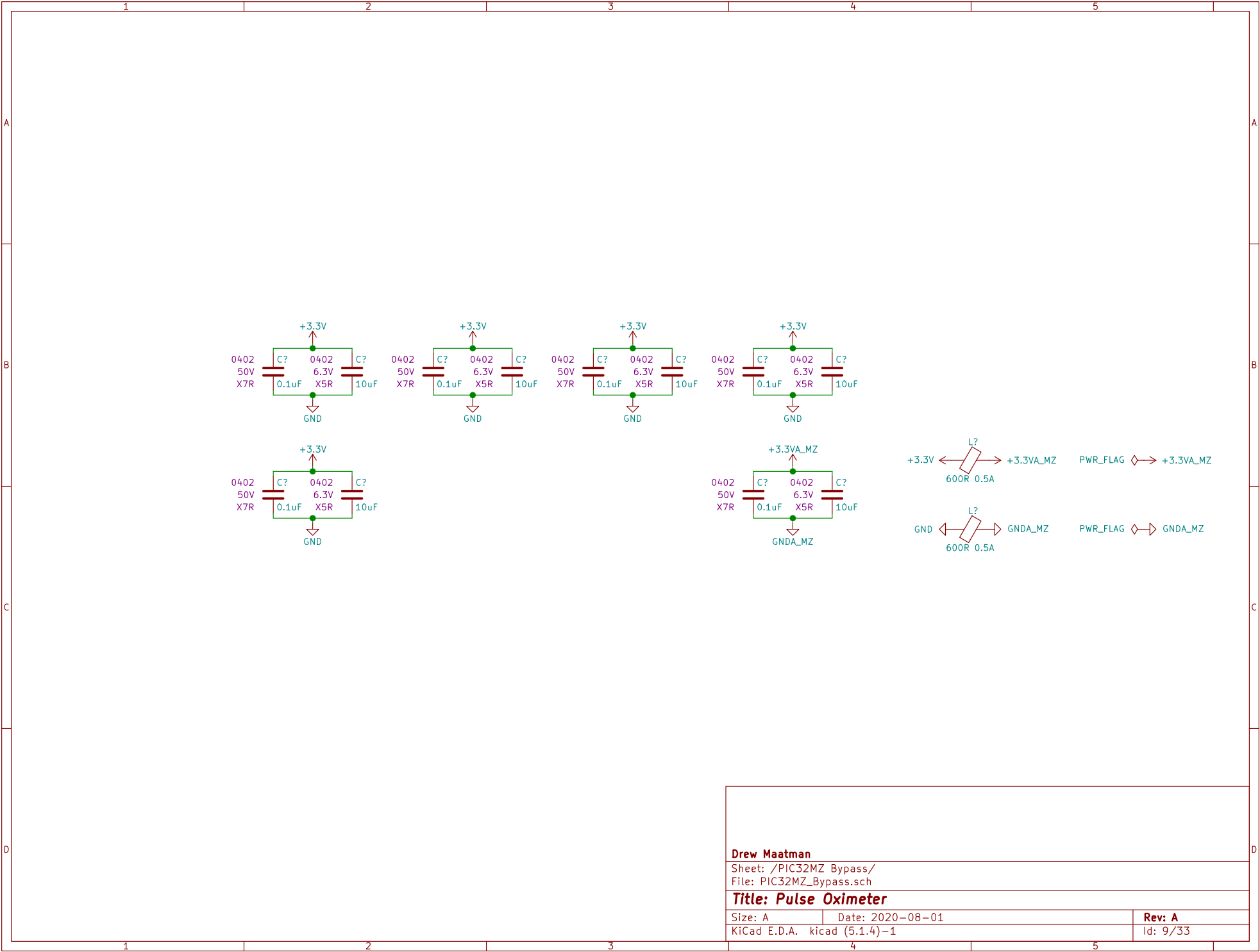
KiCad E.D.A. kicad (5.1.4)-1

Rev: A

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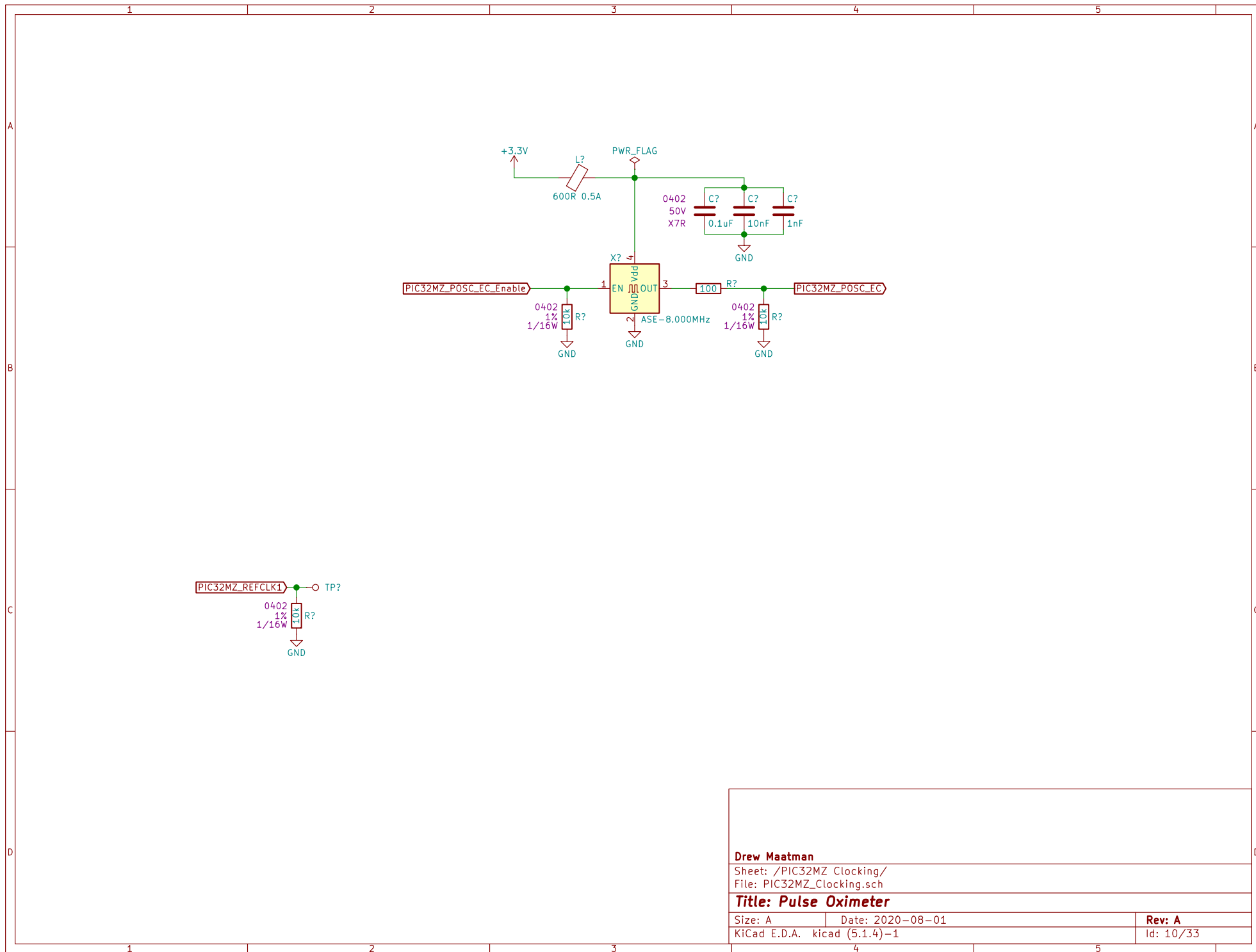
Drew Maatman

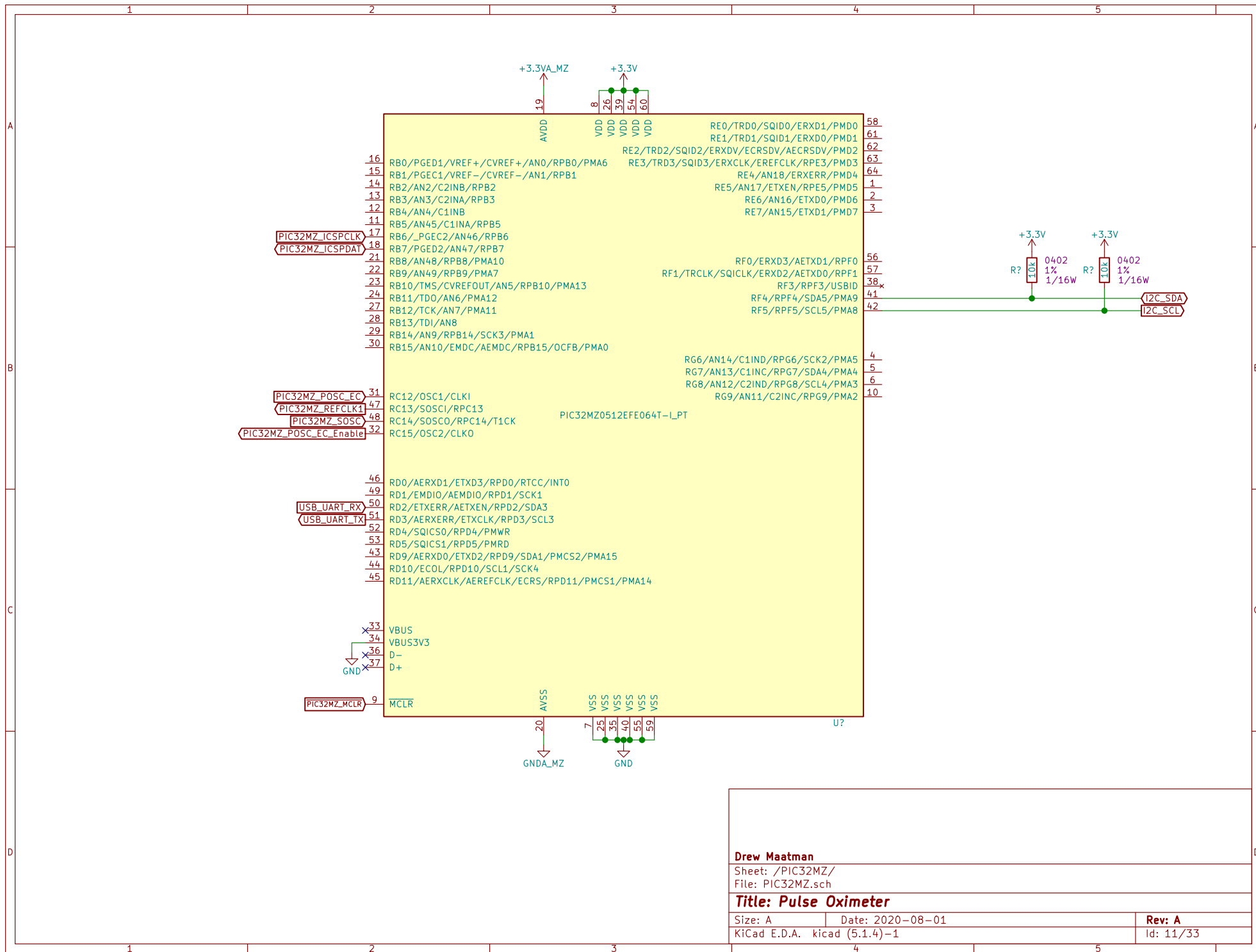
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File: PIC32MZ_Bypass.sch

Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
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Sheet: /PIC32MZ/
File: PIC32MZ.sch

Title: Pulse Oximeter

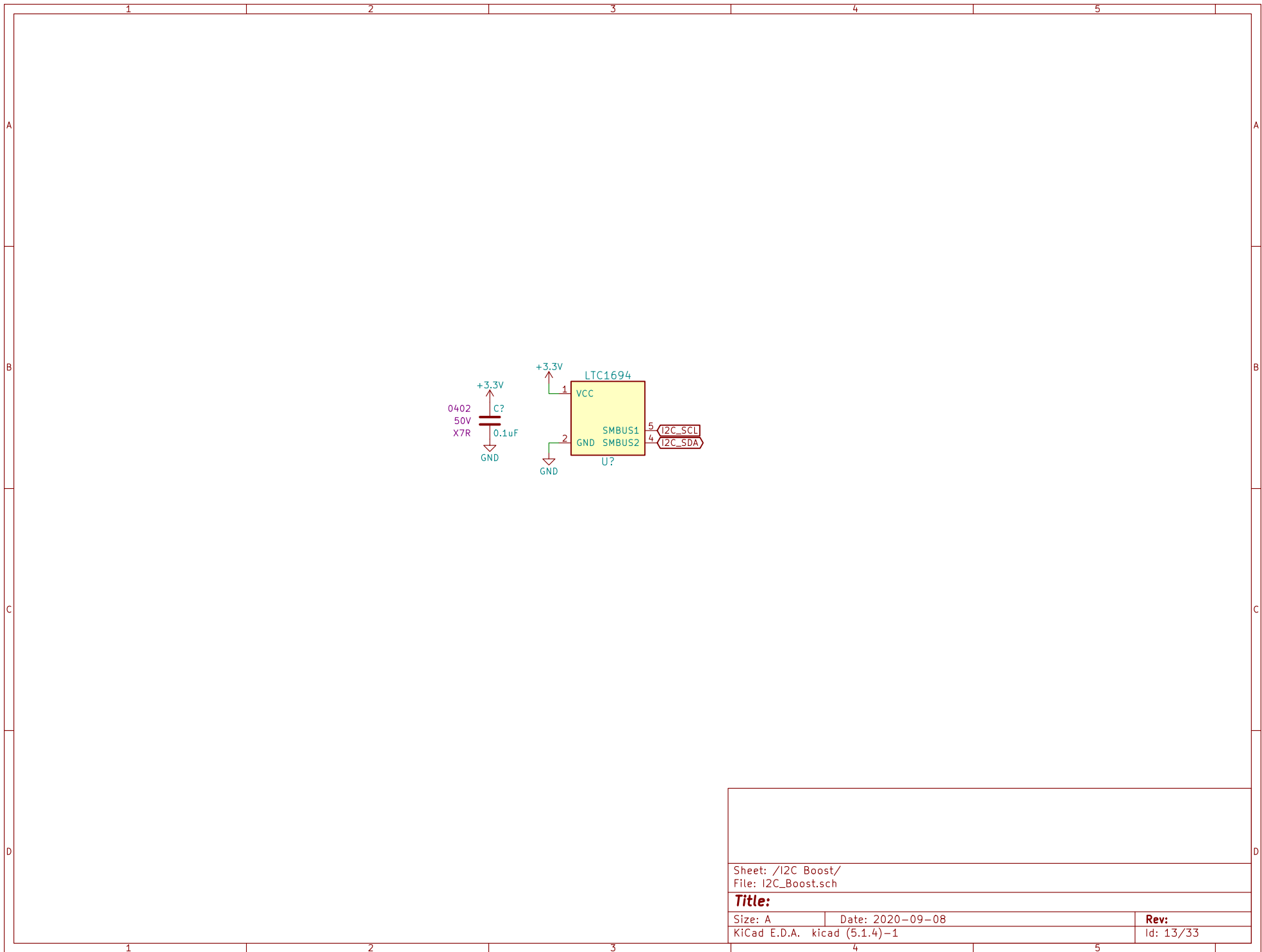
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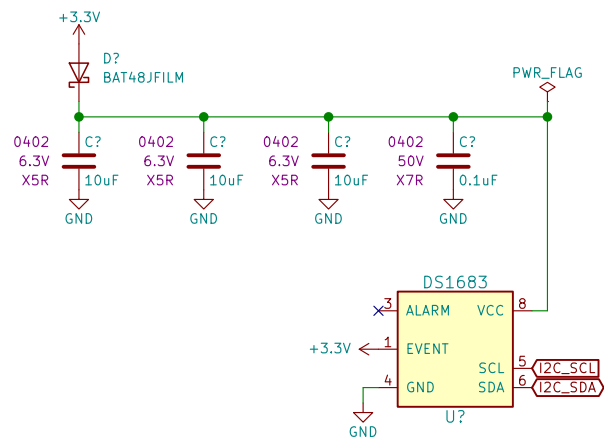
Rev: A

Id: 11/33

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																				Sheet: /Config Hardstraps/ File: config_hardstraps.sch					
Title:																									
Size: A					Date: 2020-09-08															Rev:					
KiCad E.D.A. kicad (5.1.4)-1																				Id: 12/33					



Sheet: /I2C Boost/ File: I2C_Boost.sch		
Title:		
Size: A	Date: 2020-09-08	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 13/33



I2C 7-Bit Address:
0x6B

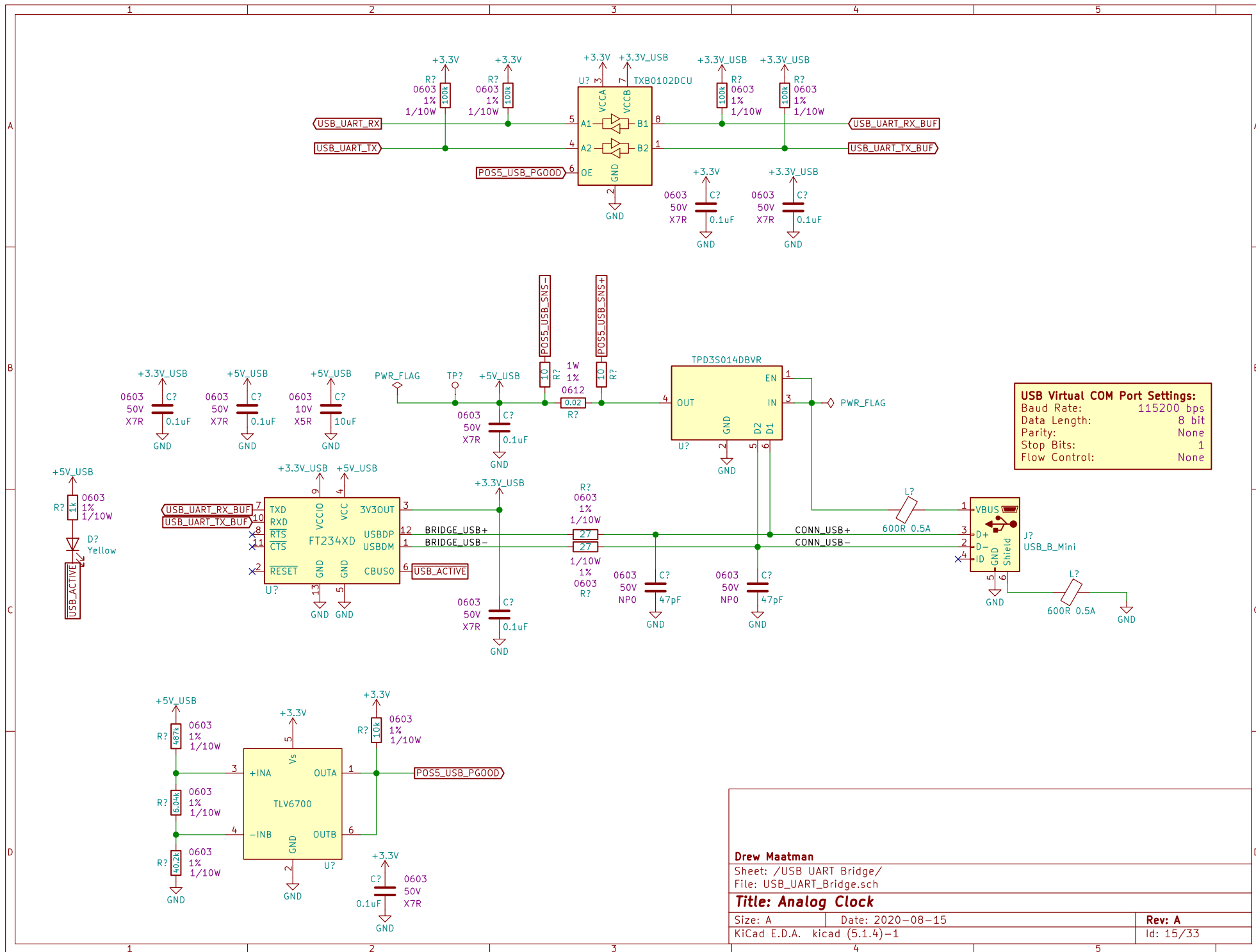
Drew Maatman

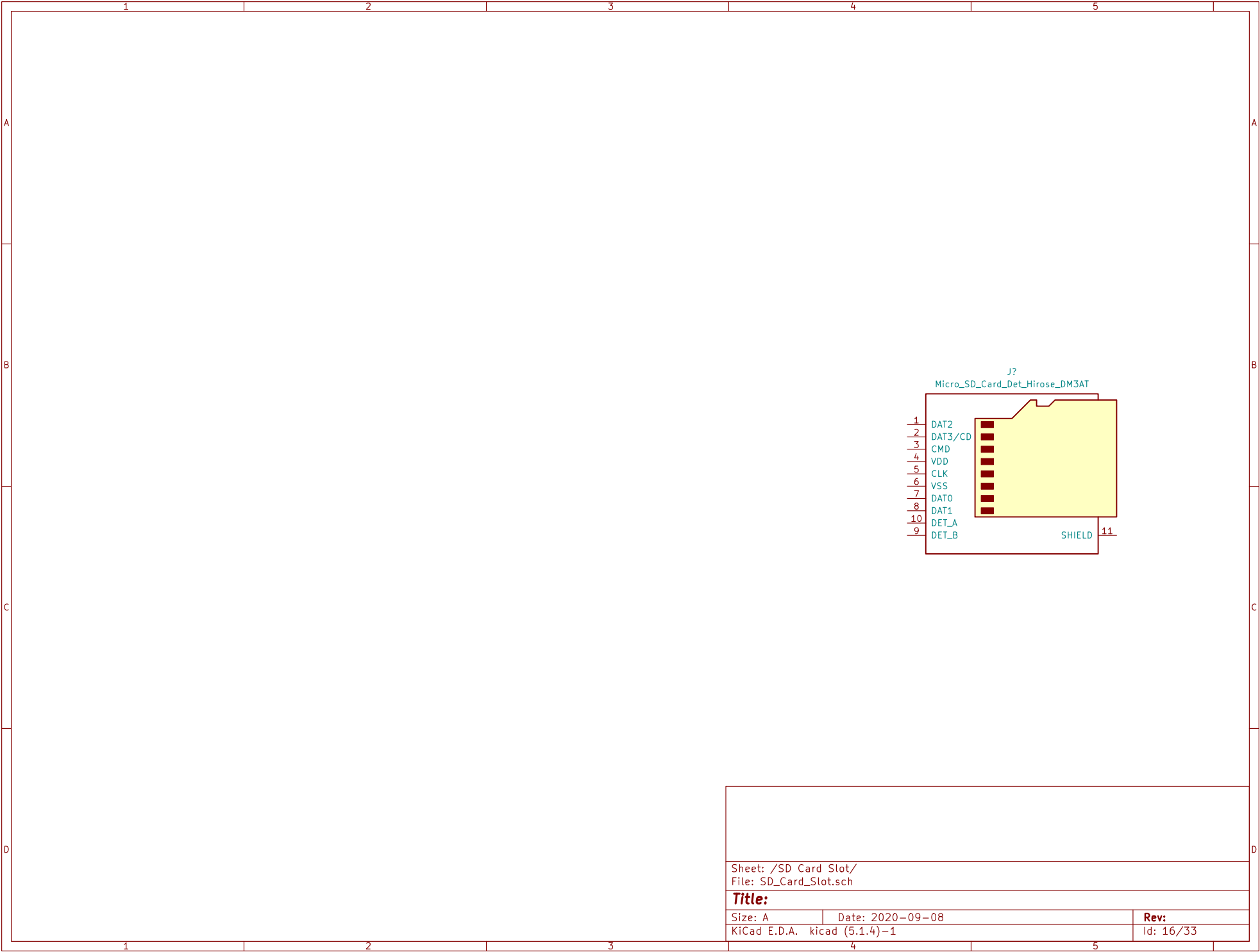
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File: Time_of_Flight.sch

Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 14/33





Sheet: /SD Card Slot/ File: SD_Card_Slot.sch		
Title:		
Size: A	Date: 2020-09-08	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 16/33

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File: WiFi_Module.sch

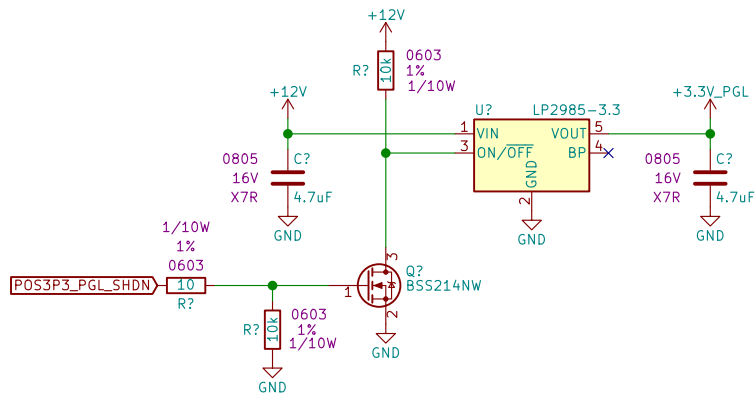
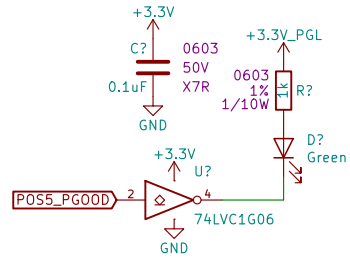
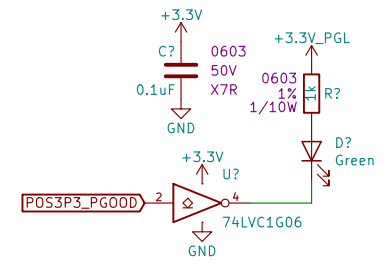
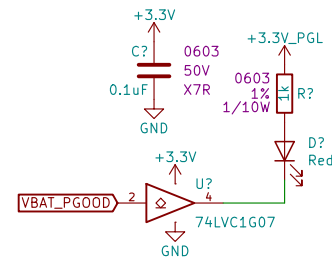
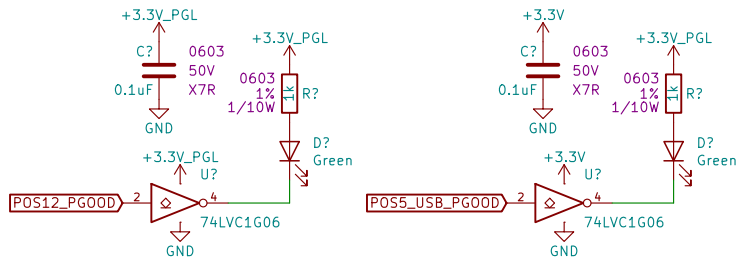
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Size: ADate: 2020-09-08

KiCad E.D.A. kicad (5.1.4)-1

Rev:Id: 17/33

Sheet: /WiFi Module/ File: WiFi_Module.sch		
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Size: A	Date: 2020-09-08	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 17/33



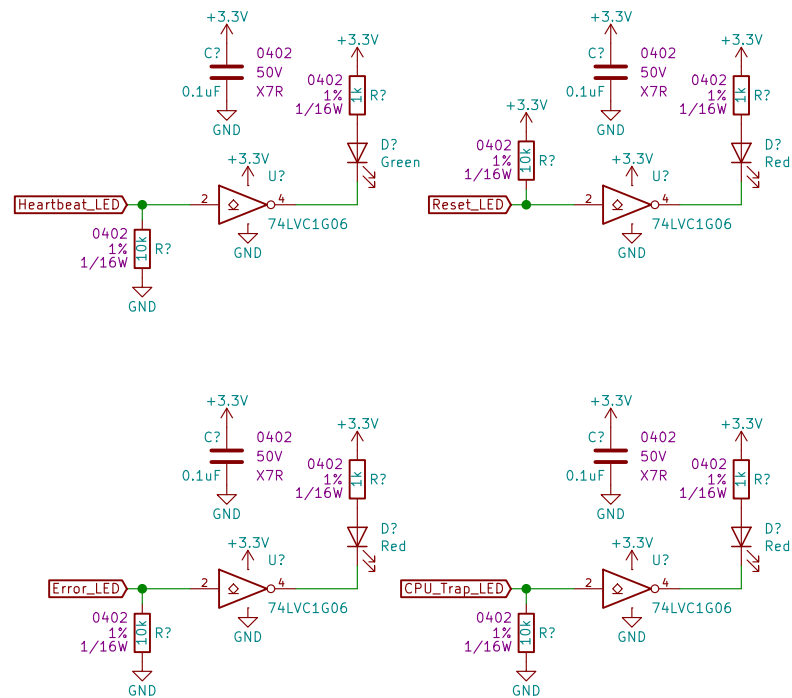
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Sheet: /PGOOD LEDs/
File: PGOOD_LEDs.sch

Title: Analog Clock

Size: A Date: 2020-08-15
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 18/33



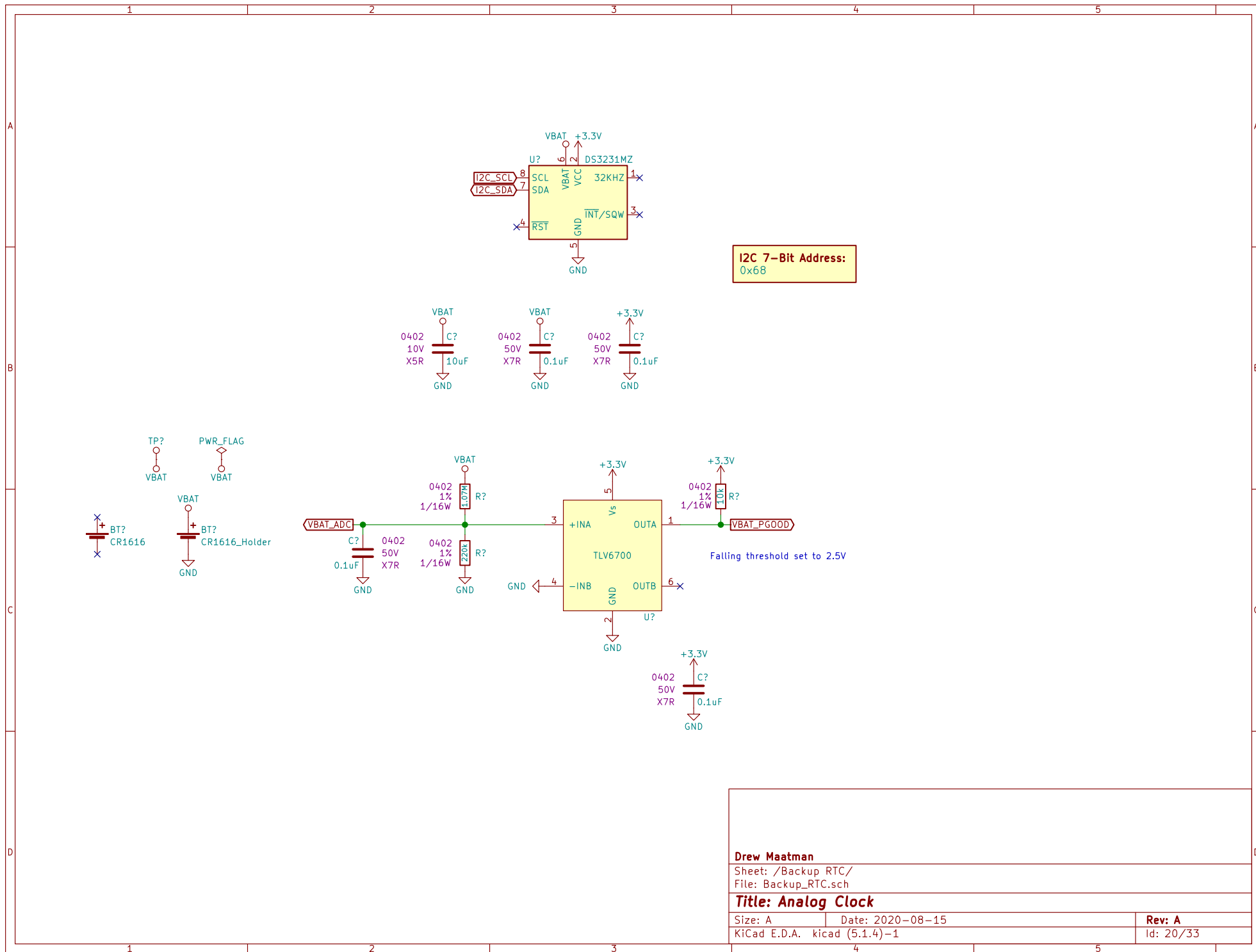
Drew Maatman

Sheet: /Status LEDs/
File: Status_LEDs.sch

Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 19/33



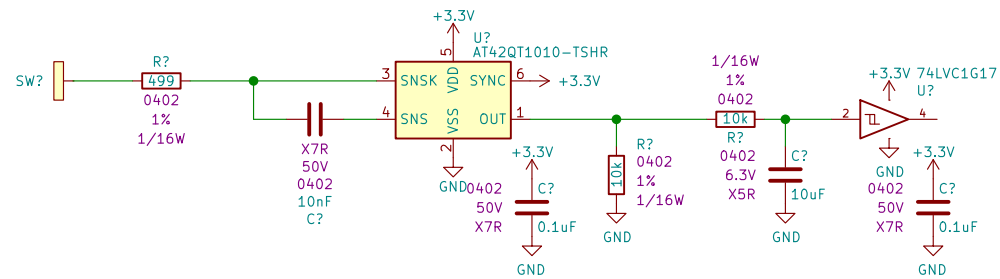
Drew Maatman

Sheet: /Backup_RTC/
File: Backup_RTC.sch

Title: Analog Clock

Size: A Date: 2020-08-15
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 20/33



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Sheet: /Pushbuttons/
File: Pushbuttons.sch

Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 21/33

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Sheet: /Mode LEDs/
File: Mode_LEDs.sch

Title:

Size: A

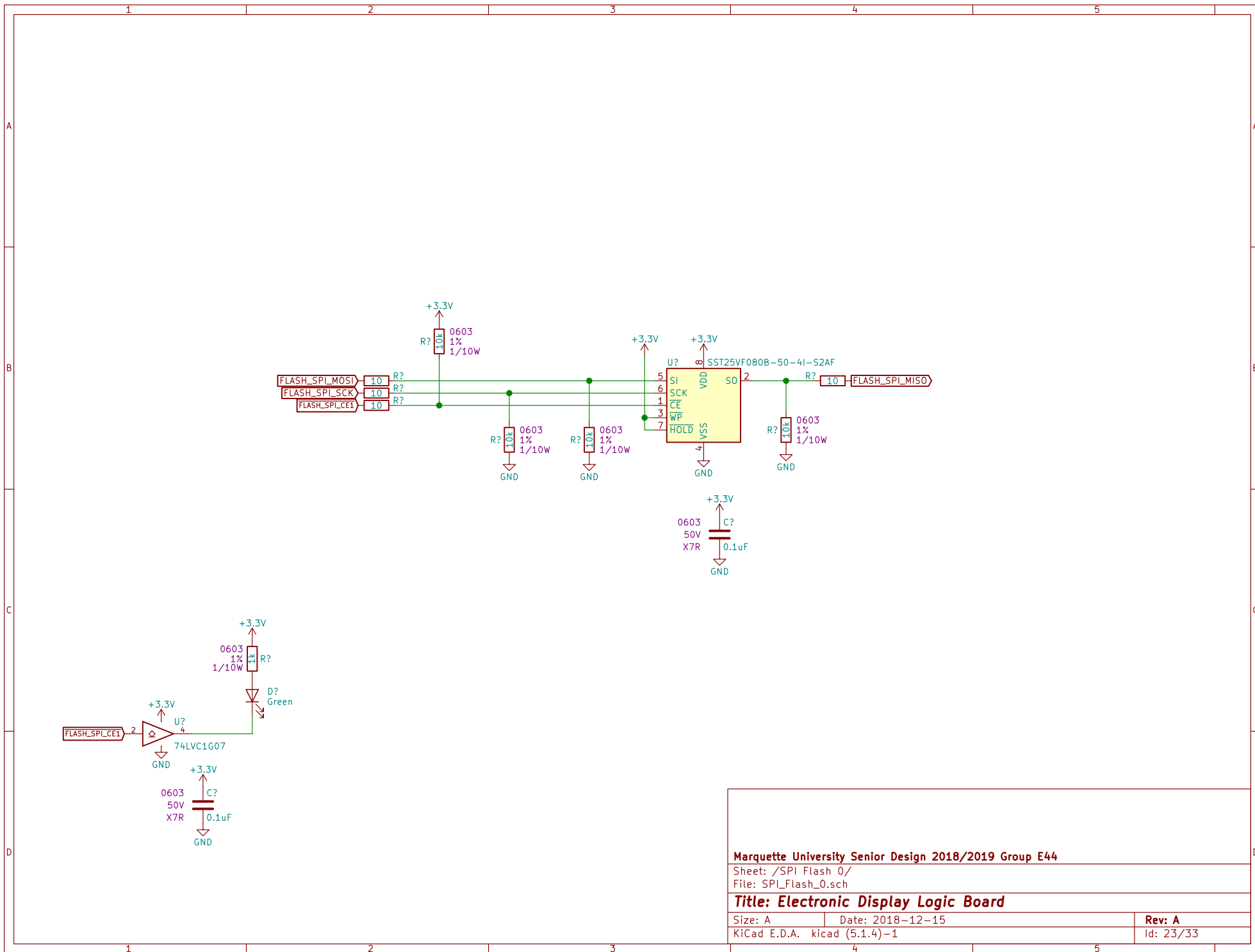
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KiCad E.D.A. kicad (5.1.4)–1

Rev:

Id: 22/33

Sheet: /Mode LEDs/		
File: Mode_LEDs.sch		
Title:		
Size: A	Date:	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 22/33



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Sheet: /SPI Flash 0/

File: SPI_Flash_0.sch

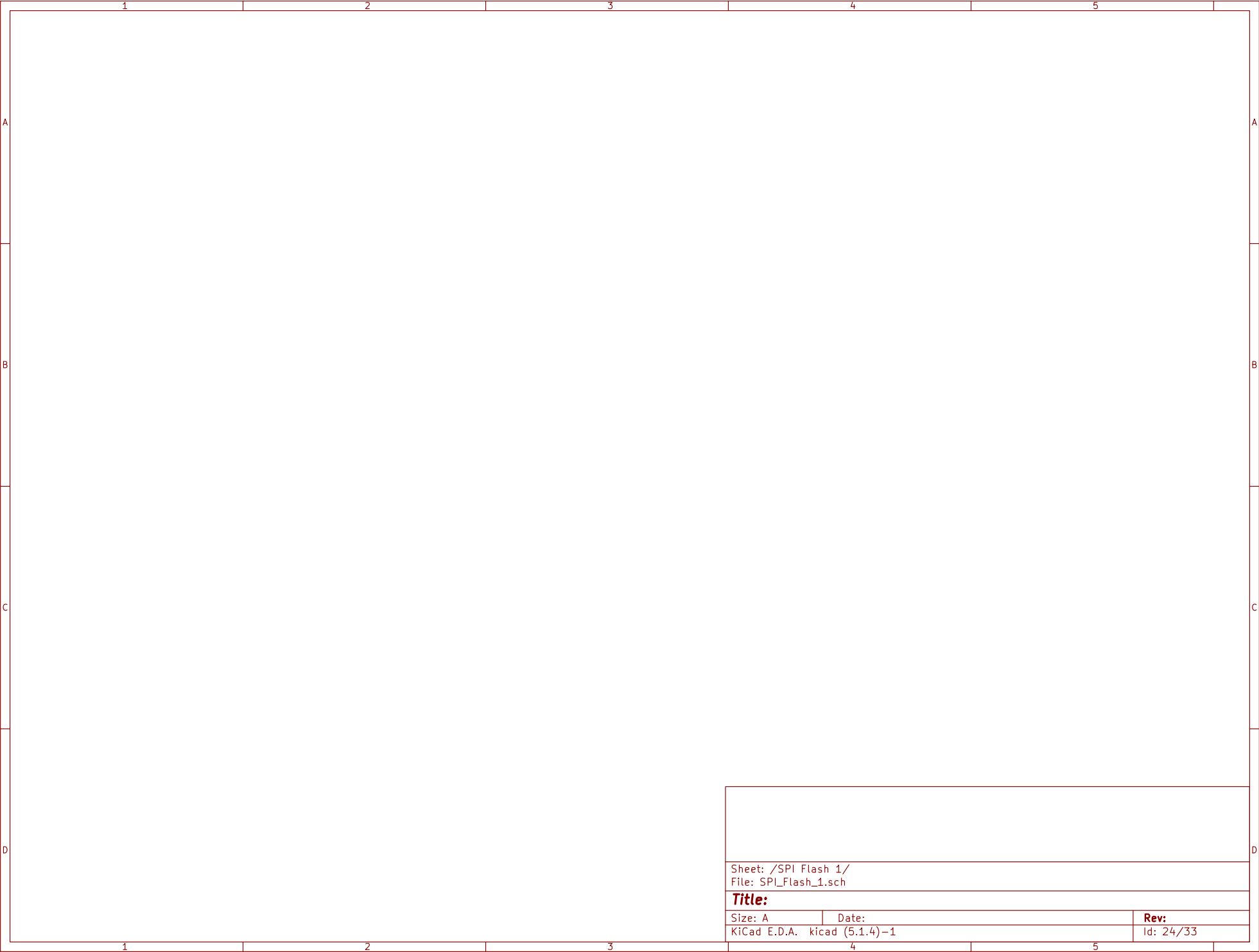
Title: Electronic Display Logic Board

Size: A Date: 2018-12-15

KiCad E.D.A. kicad (5.1.4)-1

Rev: A

Id: 23/33



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Sheet: /SPI Flash 2/
File: SPI_Flash_2.sch

Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 25/33

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Sheet: /SPI Flash 3/
File: SPI_Flash_3.sch

Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 26/33

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Sheet: /SPI Flash 4/
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Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 27/33

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Sheet: /SPI Flash 5/
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Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 28/33

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Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 29/33

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Title:

Size: ADate:KICad E.D.A. kicad (5.1.4)–1

Rev:Id: 30/33

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Size: A					Date:															Rev:				
KiCad E.D.A. kicad (5.1.4)–1																				Id: 30/33				

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Sheet: /Panel Level Shifters/
File: Panel_LevelShifters.sch

Title:

Size: A

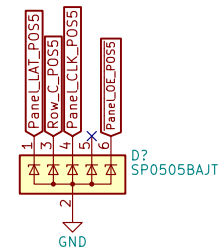
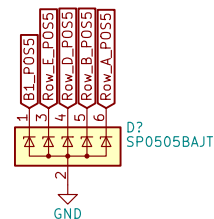
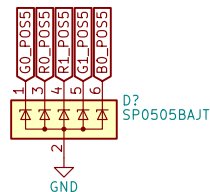
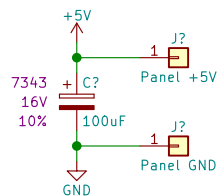
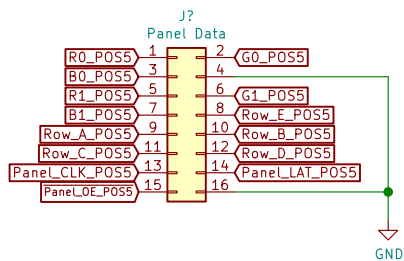
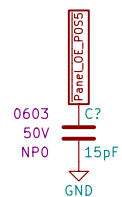
Date:

Rev:

KiCad E.D.A. kicad (5.1.4)–1

Id: 31/33

Sheet: /Panel Level Shifters/ File: Panel_LevelShifters.sch		
Title:		
Size: A	Date:	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 31/33



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Sheet: /Panel Connectors/
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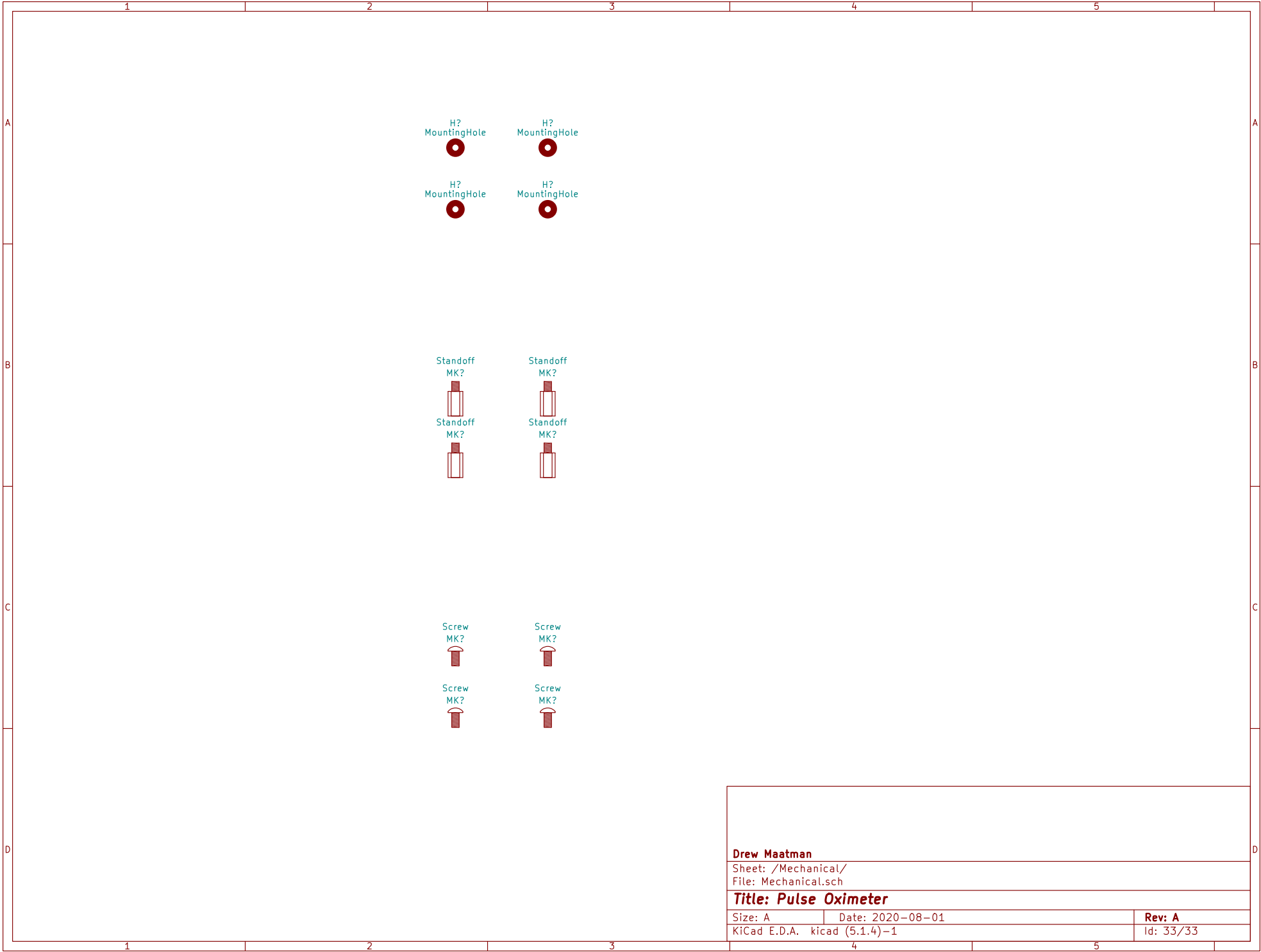
Title: Electronic Display Logic Board

Size: A Date: 2018-12-15

KiCad E.D.A. kicad (5.1.4)-1

Rev: A

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Drew Maatman

Sheet: /Mechanical/
File: Mechanical.sch

Title: Pulse Oximeter

Size: A Date: 2020-08-01
KiCad E.D.A. kicad (5.1.4)-1

Rev: A
Id: 33/33