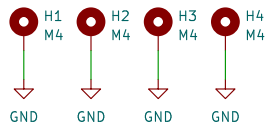
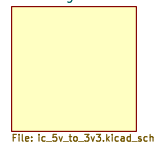
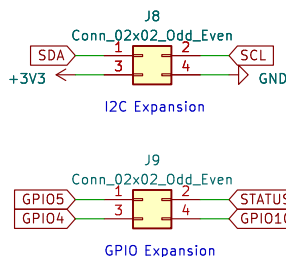


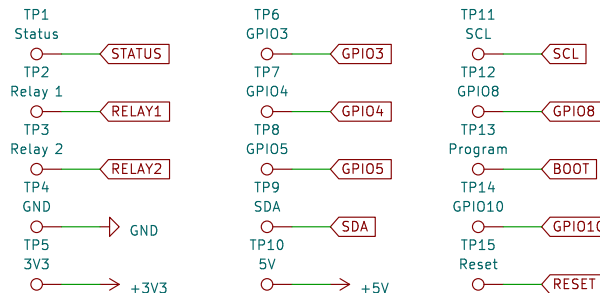
### 3.3v Regulator



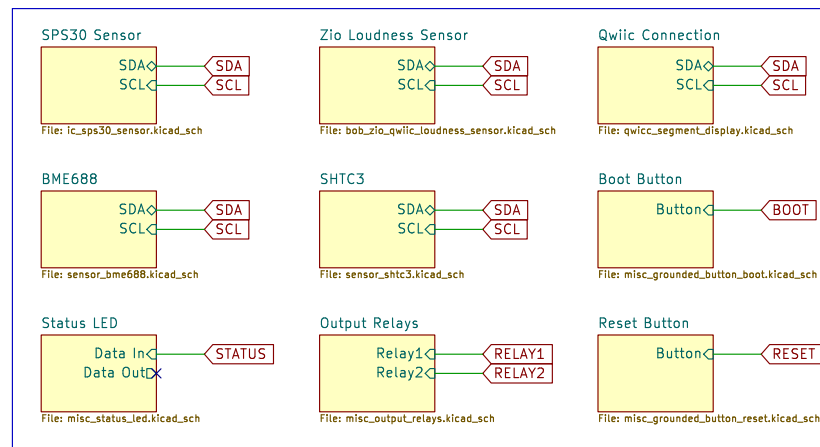
### Expansion



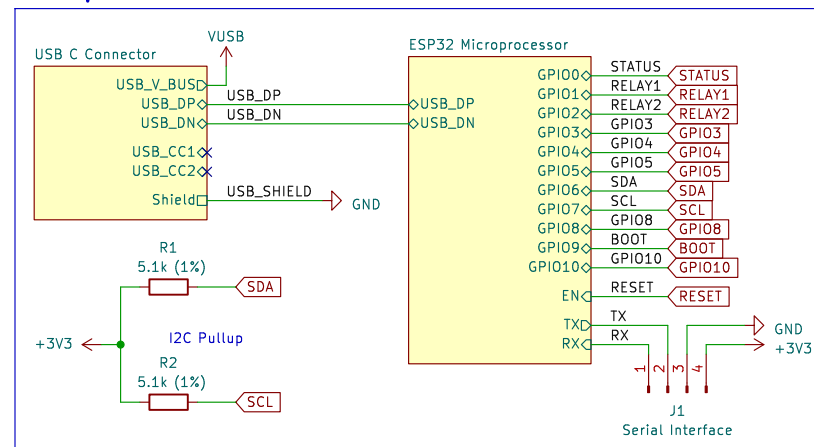
### Testpoints (for hacking)



### Sensors & IO



### Microprocessor



Sensors:  
 SPS30: PM2.5  
 BME688: Gas, VOC, CO2, Pressure  
 SHTC3: Temperature, Humidity  
 Zio Loudness Sensor(\*): Sound Levels  
 Qwiic: LCD or Segment Display

\* Woodshop Note:  
 There is a different configuration for the woodshop  
 Instead of LCD Screen use 2x Segment Displays  
 Add Zio Loudness Sensor

Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

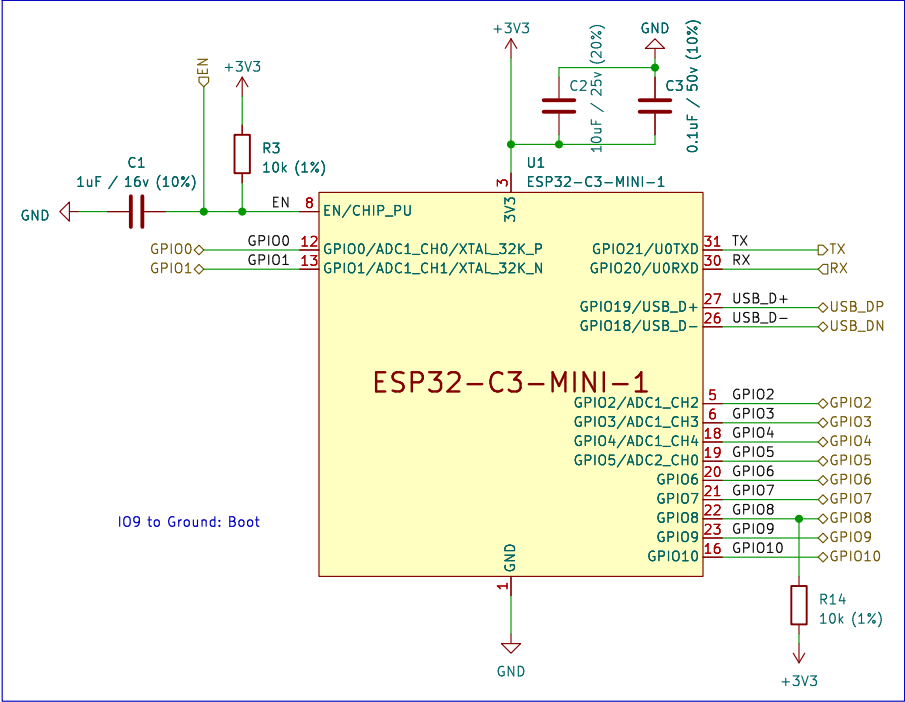
Sheet: /  
 File: KwartzLab – SensorBoard – Rev3.kicad\_sch

Title: Kwartzlab Environmental Sensor

Size: USLetter Date: 2023-04-20  
 KiCad E.D.A. kicad (7.0.0-0)

Rev: 3  
 Id: 1/13

ESP32 Microprocessor



Created By: Erin Reed (FireLabs - [www.firelabs.ca](http://www.firelabs.ca))

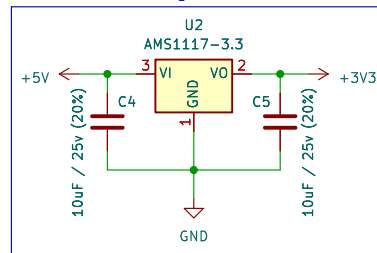
Sheet: /ESP32 Microprocessor/  
File: ic\_esp32\_c3\_mini.kicad\_sch

Title: Kwartlab Environmental Sensor

Size: USLetter Date: 2023-04-20  
KiCad E.D.A. kicad (7.0.0-0)

Rev: 3  
Id: 2/13

## 5v to 3v3 Regulator



Notes:  
Max Current Output is 1A

Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

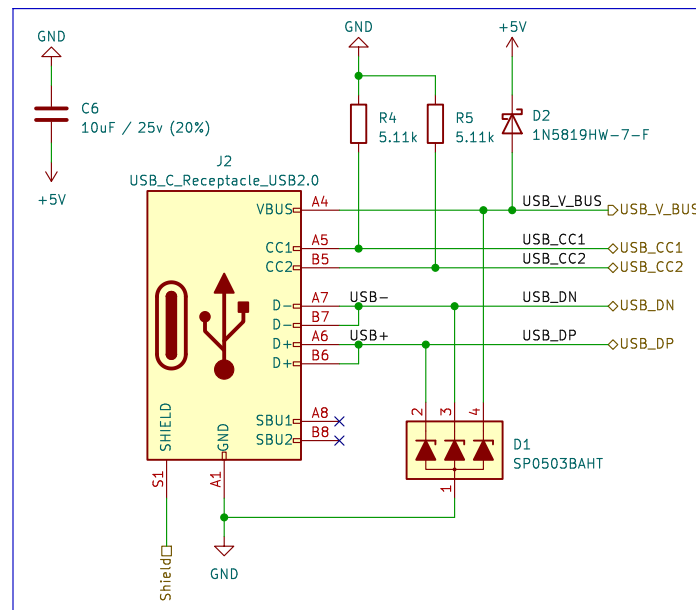
Sheet: /3.3v Regulator/  
File: ic\_5v\_to\_3v3.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

Size: USLetter | Date: 2023-04-20  
KiCad E.D.A. kicad (7.0.0-0)

Rev: 3  
Id: 3/13

## USB C Port



USB Type C Port in USB 2.0 Mode

Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

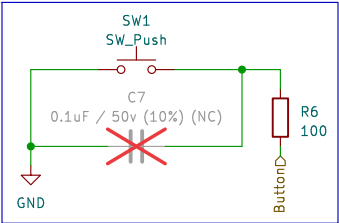
Sheet: /USB C Connector/  
File: connector\_usb\_c.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

Size: USLetter Date: 2023-04-20  
KiCad E.D.A. kicad (7.0.0-0)

Rev: 3  
Id: 4/13

Grounded Button



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

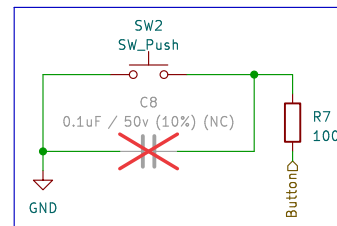
Sheet: /Boot Button/  
File: misc\_grounded\_button\_boot.kicad\_sch

Title: Kwartzlab Environmental Sensor

Size: USLetter    Date: 2023-04-20  
KiCad E.D.A.    kicad (7.0.0-0)

Rev: 3  
Id: 5/13

### Grounded Button



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /Reset Button/

File: misc\_grounding\_button\_reset.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

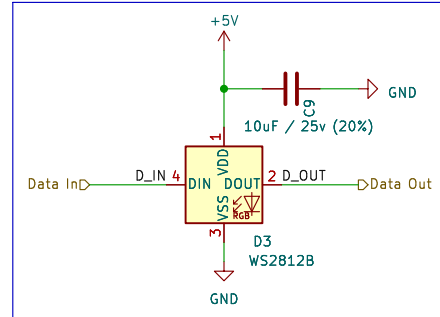
Size: USLetter Date: 2023-04-20

KiCad E.D.A. kicad (7.0.0-0)

Rev: 3

Id: 6/13

## WS2812B LED



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /Status LED/

File: misc\_status\_led.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

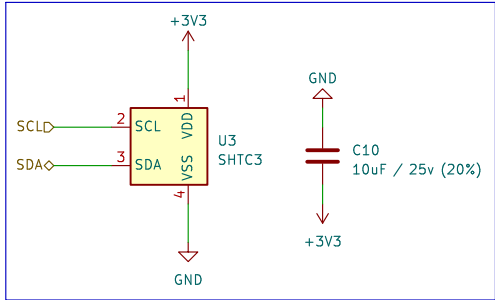
Size: USLetter Date: 2023-04-20

KiCad E.D.A. kicad (7.0.0-0)

Rev: 3

Id: 7/13

Temperature, Humidity Sensor



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

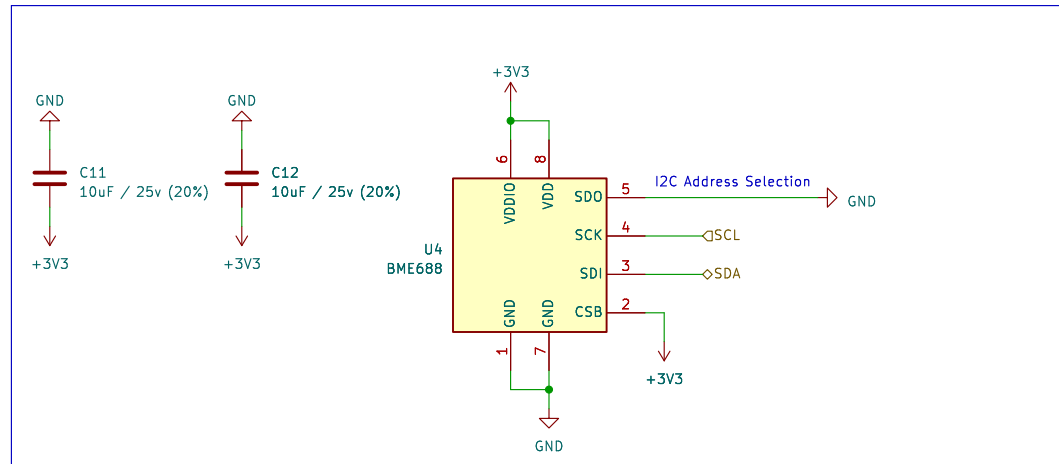
Sheet: /SHTC3/  
File: sensor\_shtc3.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

Size: USLetter	Date: 2023-04-20	Rev: 3
KiCad E.D.A. kicad (7.0.0-0)		Id: 8/13



## VOC, CO2, Gas, Pressure Sensor



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /BME688/

File: sensor\_bme688.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

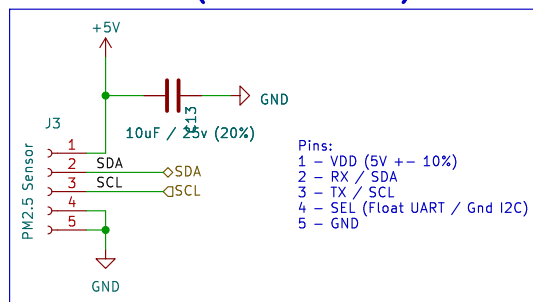
Size: USLetter Date: 2023-04-20

KiCad E.D.A. kicad (7.0.0-0)

Rev: 3

Id: 9/13

### PM2.5 Sensor (JST Connection)



Created By: Erin Reed (FireLabs - [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /SPS30 Sensor/

File: ic\_sps30\_sensor.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

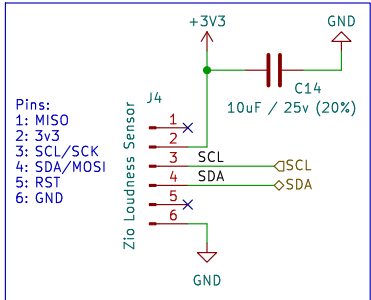
Size: USLetter Date: 2023-04-20

KiCad E.D.A. kicad (7.0.0-0)

Rev: 3

Id: 10/13

Zio Loudness Sensor (2x3 Pin Connection)



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

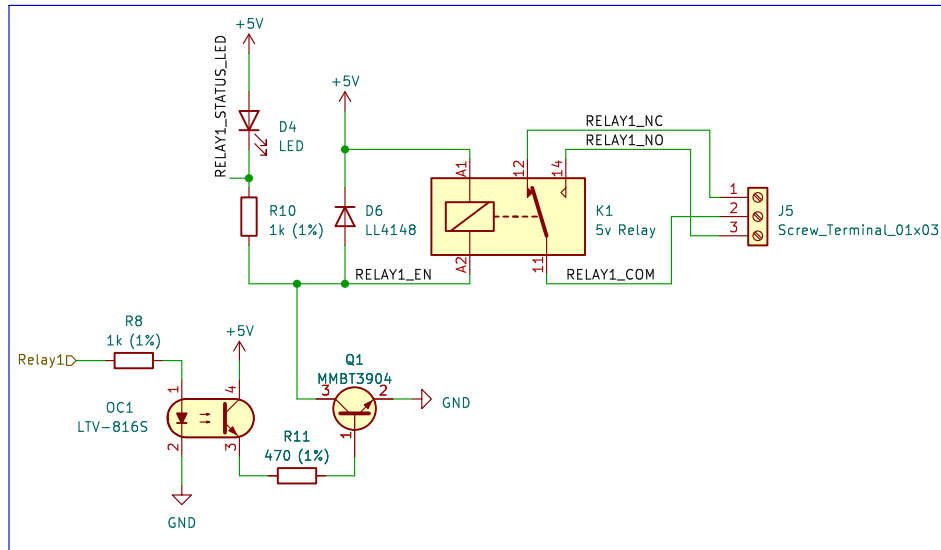
Sheet: //Zio Loudness Sensor/  
File: bob\_zio\_qwiic\_loudness\_sensor.kicad\_sch

Title: Kwartzlab Environmental Sensor

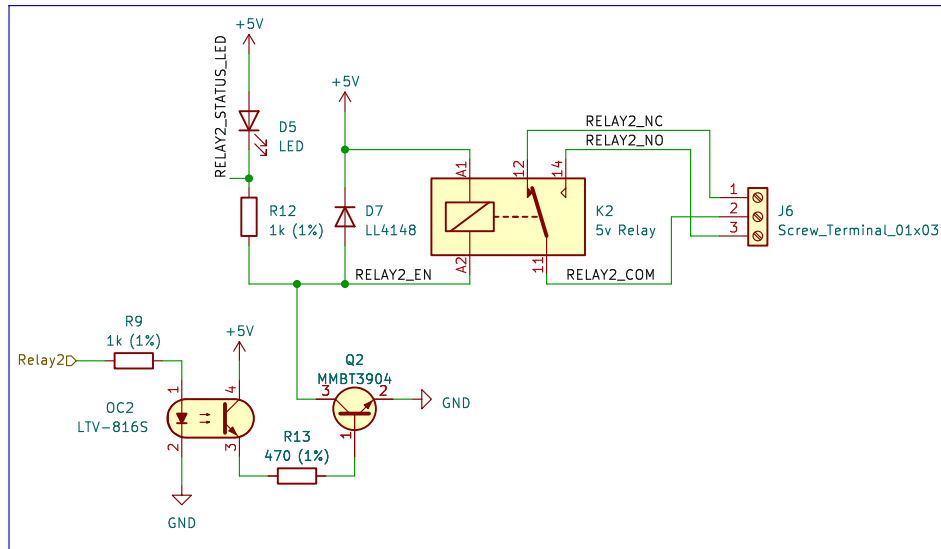
Size: USLetter    Date: 2023-04-20  
KiCad E.D.A.    kicad (7.0.0-0)

Rev: 3  
Id: 11/13

## Relay 1



## Relay 2



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /Output Relays/

File: misc\_output\_relays.kicad\_sch

**Title: Kwartzlab Environmental Sensor**

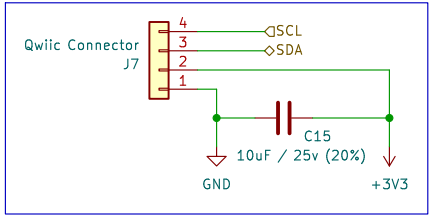
Size: USLetter Date: 2023-04-20

KiCad E.D.A. kicad (7.0.0-0)

Rev: 3

Id: 12/13

Qwiic Connector



Created By: Erin Reed (FireLabs – [www.firelabs.ca](http://www.firelabs.ca))

Sheet: /Qwiic Connection/  
File: qwicc\_segment\_display.kicad\_sch

Title: Kwartzlab Environmental Sensor

Size: USLetter      Date: 2023-04-20  
KiCad E.D.A.      kicad (7.0.0-0)

Rev: 3  
Id: 13/13