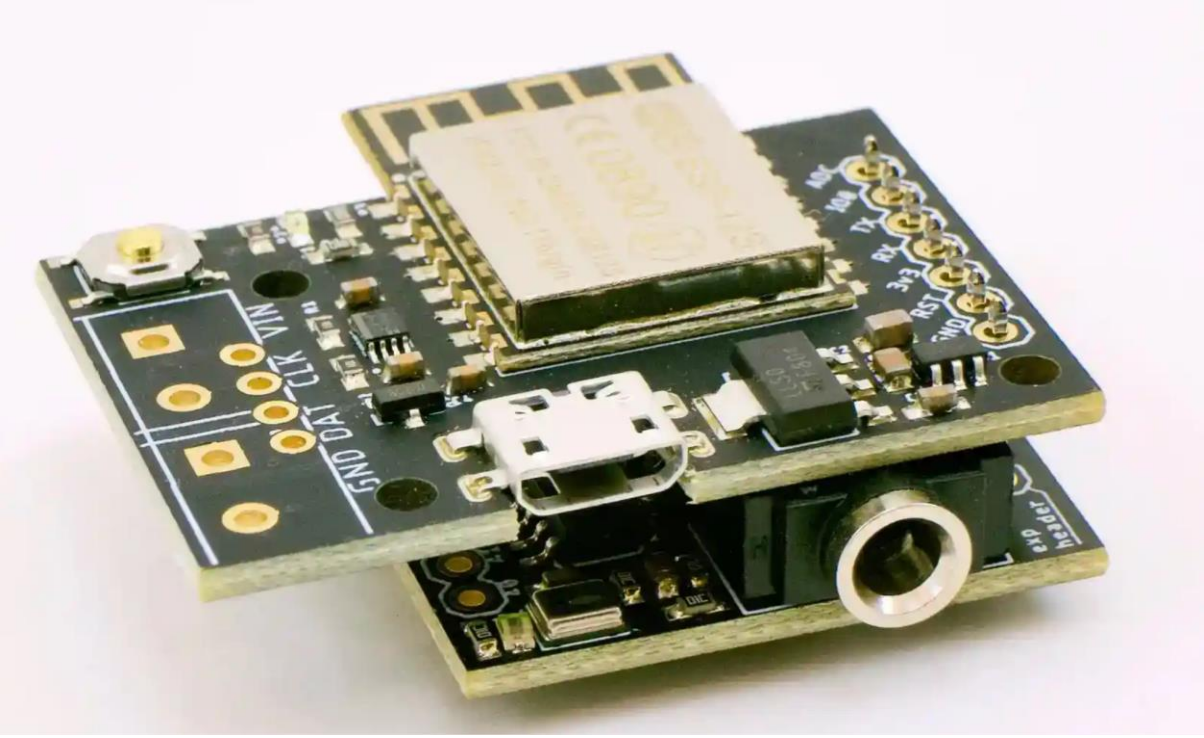
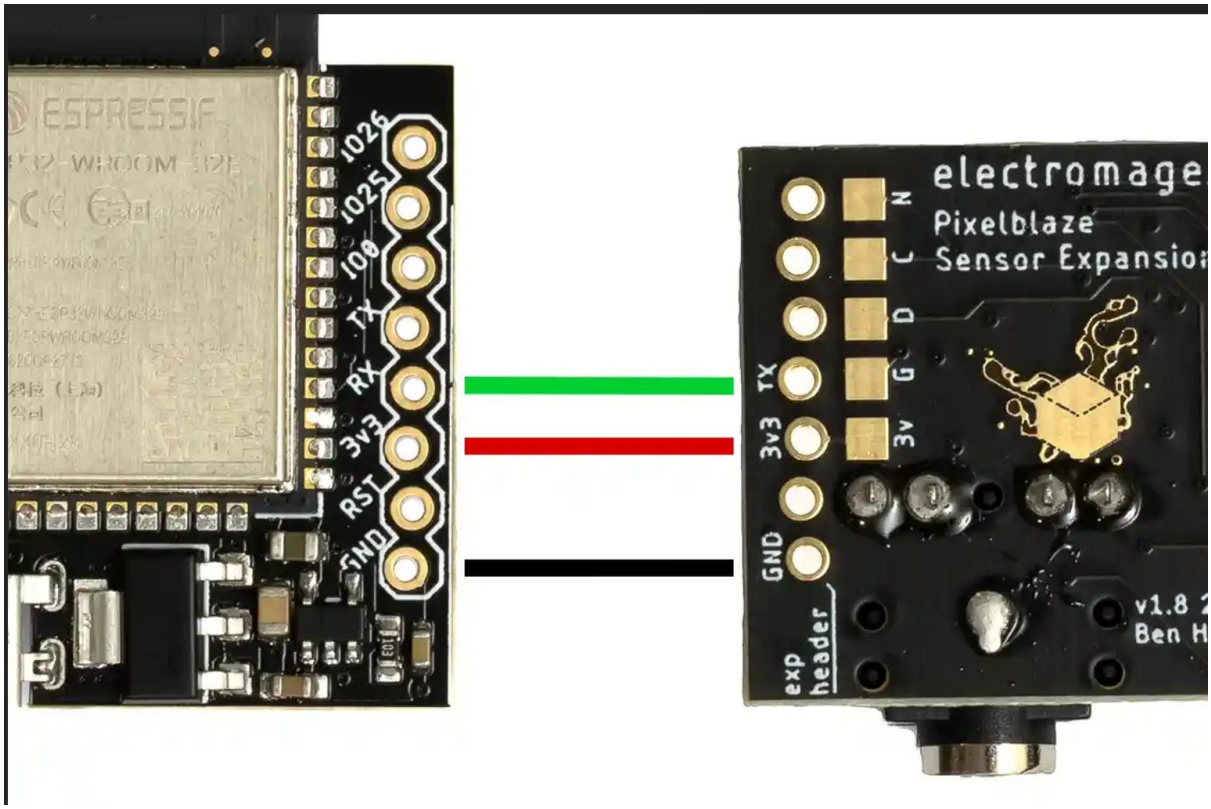
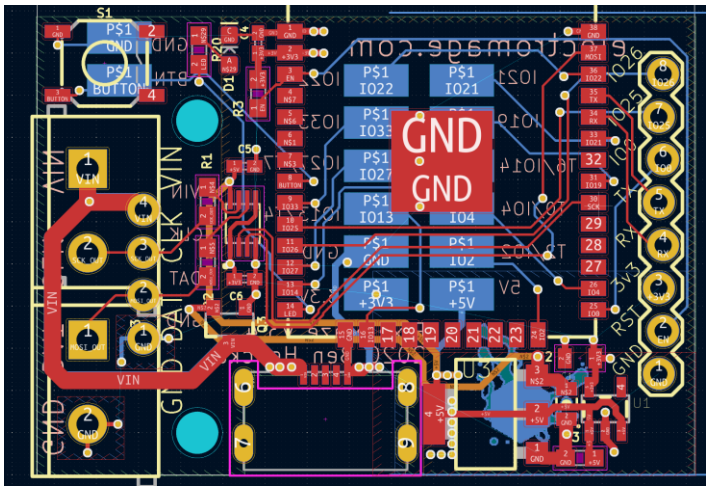
Pixleblaze is a ESP32 LED controller working with a Sensor board attached to it underneath as below (more info at https://electromage.com/docs/sensor-expansion-board):



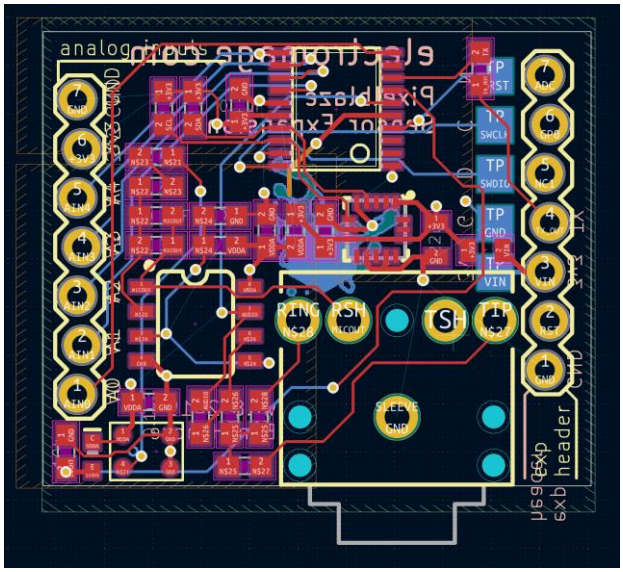
Both boards are attached with a header (space between the 2 boards is exactly 5mm) going into the holes you can see on the right of the schematics below: GND, 3V3 and RX



I have attached in the folder the PCB designs for both boards.
Pixel Blaze:



Sensor Board:



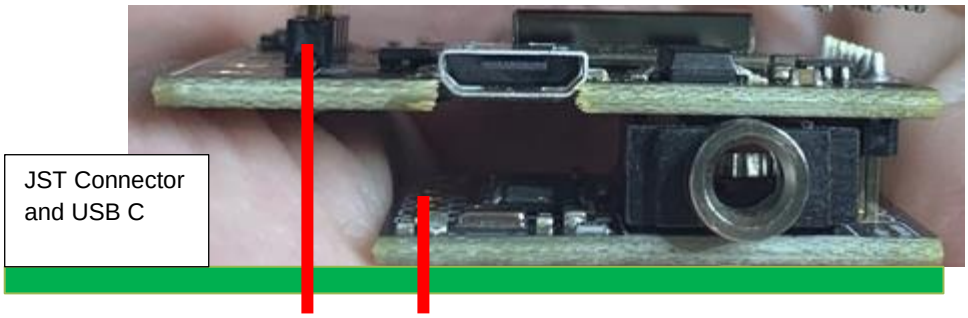
I would like to have a PCB with the following features:

- Female USB-C for 5V power (up to 3A)
  - This power must be electrically switchable with a On/Off button (on top or side of the board
  - Expose 2 pads (low priority, only if enough space) for 5V/GND on the board before and after the switch
  - After the switch, power goes to the Pixelblaze board (VIN and GND on the left). Note that there are 2 sets of holes (small and big), use the most convenient one (small one seems better for 2.54mm pin header and space use).

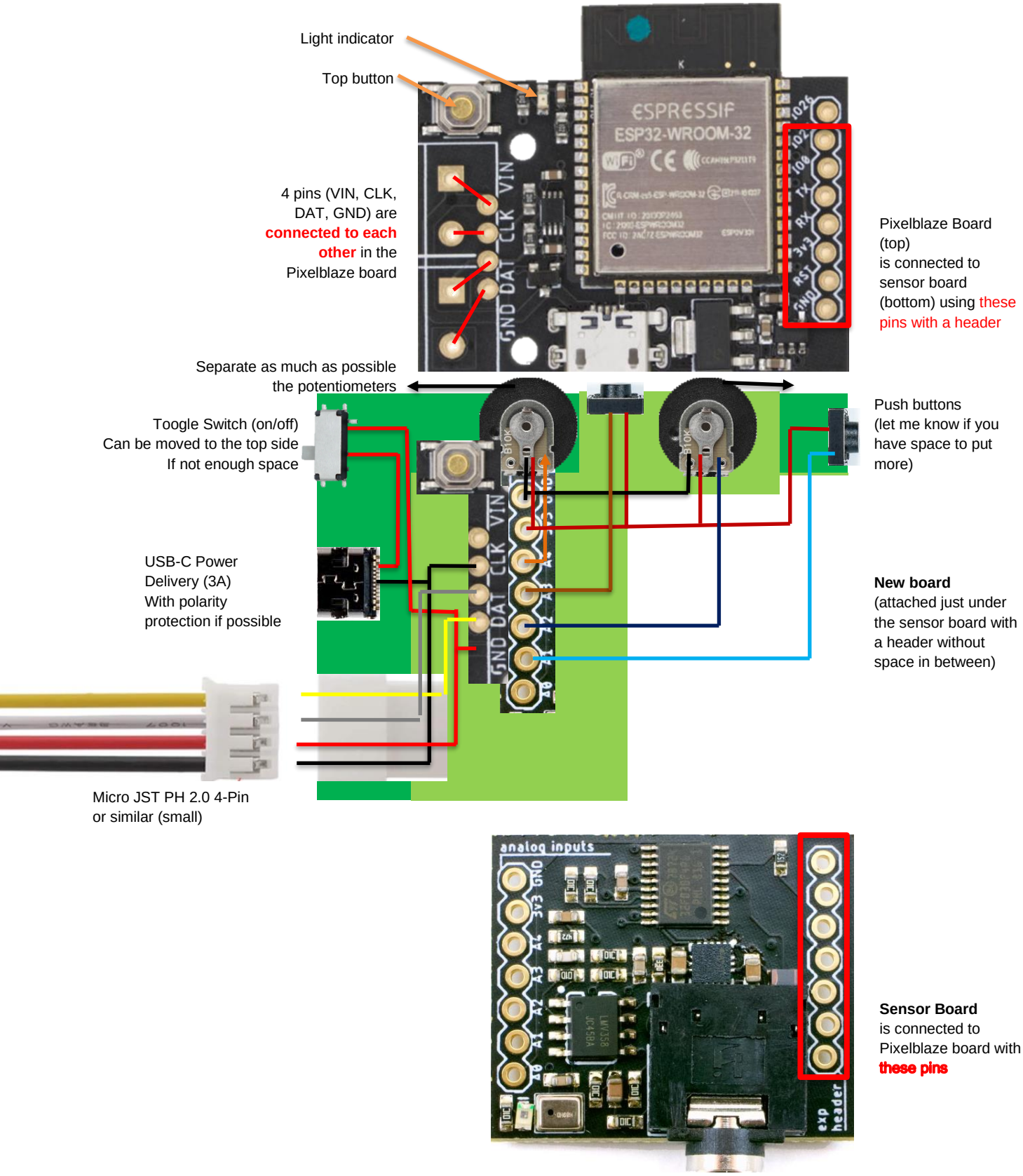
  - The 4 outputs of the pixelblaze (GND, DAT, CLK and VIN) then go to a Micro JST PH 2.0 4-Pin on the left side of the board

- 2 thumbwheel potentiometer (with small rotation resistance) with as much space as possible between them and 2 side push buttons (if not enough space, replace one thumbwheel potentiometer by a button) connected to A0, A1, A2, A3 or A4 (I'm flexible) and 3v3+GND of the sensor board. They can be placed at the top of the board because the Pixelblaze board is bigger there than the sensor board

- The side view of the board will look like **this** (red lines are 2.54mm headers).



See below top view:


Light indicator
Top button
4 pins (VIN, CLK, DAT, GND) are connected to each other in the Pixelblaze board
Pixelblaze Board (top) is connected to sensor board (bottom) using these pins with a header
Separate as much as possible the potentiometers
Toogle Switch (on/off) Can be moved to the top side If not enough space
Push buttons (let me know if you have space to put more)
USB-C Power Delivery (3A) With polarity protection if possible
New board (attached just under the sensor board with a header without space in between)
Micro JST PH 2.0 4-Pin or similar (small)
Sensor Board is connected to Pixelblaze board with these pins
ESPRESSIF
ESP32-WROOM-32
GND DAT CLK VIN
analog inputs
exp header

Enclosure:

- Black color, finish as smooth as possible for 3d printing
- Logo “HOLOLIT” visible on the top (file sent separately) through 3D printing (debossing?)
- Contains all 3 boards securely
- Buttons should be covered by the enclosure (except side potentiometers and toogle of course) but easy to press. Add a small bump on the enclosure buttons to be able to “feel it” under the thumb (use similar design to the enclosure design attached for pressing the buttons through the enclosure)
- Top button of the Pixelblaze board can be pressed
- Light indicator of the Pixelbaze can be seen (small hole is fine)
- Can be reopened once closed (clip system ?)
- Attached files have already existing design of enclosure you can re-use
- Keep the “trap door” to “close” the Pixelblaze USB-mini port