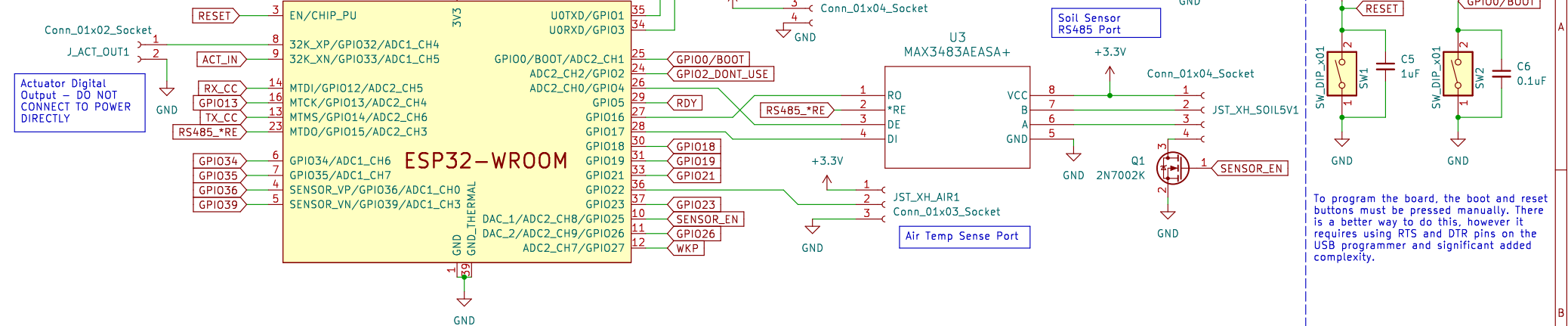
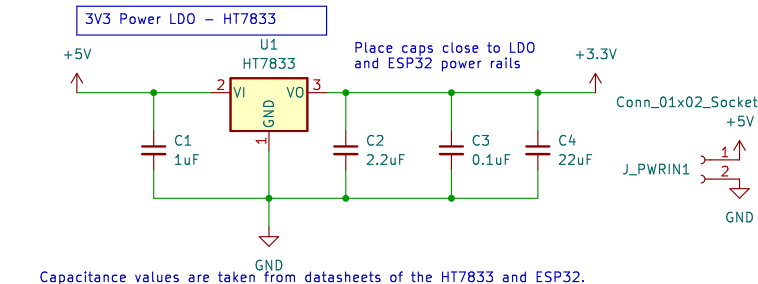


The actuator output is given as a digital (low power) signal. This is so the actuator can optionally use a separate power supply than the sensor board and be decoupled from it since it may have significantly different power requirements. We plan to use a transistor on a separate circuit board to power the actuator separately, with the transistor base triggered by the ACT_OUT signal.

Programming Port. On CP2104 Friend, pinout is:
RTS | RX | TX | V+ (5V/3V3) | CTS | GND
RTS and CTS remain unused.

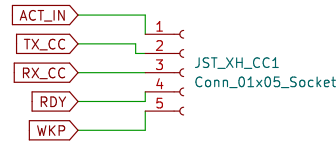


To program the board, the boot and reset buttons must be pressed manually. There is a better way to do this, however it requires using RTS and DTR pins on the USB programmer and significant added complexity.



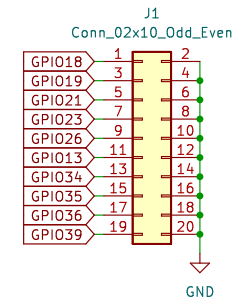
Capacitance values are taken from datasheets of the HT7833 and ESP32.

CottonCandy Node Connections



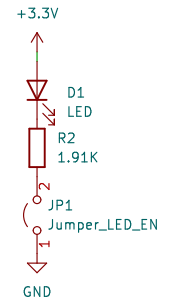
We assume that actuation input will be provided as a pulse, akin to the WKP signal, on a different port which we name "ACT_IN". The actual downstream data is expected on the "RX_CC" port.

Spare GPIO Bank



Spare GPIOs are paired with GND for simplified connection to external devices. This is presented as a 2x10 standard 0.100" female(?) connector on the board.

Optional Power LED



- H1 MountingHole
- H2 MountingHole
- H3 MountingHole
- H4 MountingHole

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File: esp32_sensor_node.kicad_sch		
Title: ESP32 WROOM 32 – CottonCandy Sensor and Actuator Platform		
Size: A4	Date: Dec 17 2023	Rev: 1.1
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