

123456

A

Input Connectors

Power Management

File: InputConnectors.kicad\_sch

File: powerManagement.kicad\_sch

B

Microcontroller

GPIO Headers and Buttons

File: GPIOheaders.kicad\_sch

Display Connector and Driver

File: Microcontroller.kicad\_sch

File: display\_conn\_driver.kicad\_sch

C

D

Sheet: /  
File: ESP32\_BOARD.kicad\_sch

Title:

Size: A4Date:KiCad E.D.A. 9.0.0

Rev:  
Id: 1/6

6

A

B

C

D

6

Fiducials

FID1  
Fiducial

FID2  
Fiducial

FID3  
Fiducial

FID4  
Fiducial

The diagram illustrates the internal wiring of a Type-C connector. At the center is the **USB4105-GF-A** IC, which is configured for **ST2** (SuperSpeed USB 2.0) and **PD** (Power Delivery). The IC has several pins and connections:

- Power and Ground:**
  - VBUS** (pins B4, A9) is connected to a **+5V** supply.
  - VBUS** (pins A4, B9) is connected to **GND**.
  - GND** (pins A1, B12 and B1, A12) is connected to **GND**.
- USB 2.0 Data Lines:**
  - CC1** (pin A5) and **CC2** (pin B5) are connected to **ESP\_USB\_D+** and **ESP\_USB\_D-** respectively.
  - DP1** (pin A6) and **DP2** (pin B6) are connected to **ESP\_USB\_D+** and **ESP\_USB\_D-** respectively.
  - DN1** (pin A7) and **DN2** (pin B7) are connected to **ESP\_USB\_D+** and **ESP\_USB\_D-** respectively.
  - SBU1** (pin A8) and **SBU2** (pin B8) are connected to **GND**.
- Shielding:**
  - SHELL\_GND** (pins SH1, SH2, SH3, SH4) is connected to **GND**.
- Resistors:**
  - R16** (5.1kΩ) is a pull-down resistor on **CC1** (pin A5) to **GND**.
  - R17** (5.1kΩ) is a pull-down resistor on **CC2** (pin B5) to **GND**.

**5.1kΩ pull-down resistors on CC lines indicate USB 2.0 peripheral (Device Mode) configuration.**

## 2-PIN POWER CONNECTOR FOR 12V

The diagram shows a yellow rectangular component labeled 'ST1' and 'B2B-EH-A (LF)(SN)'. It has two pins, labeled '1' and '2'. Pin 1 is connected to a green wire that leads to a green arrow labeled '+12V'. Pin 2 is connected to a green wire that leads to a green arrow labeled 'GND'.

<b>Title:</b>		
Size: A5	Date:	<b>Rev:</b>
KiCad E.D.A. 9.0.0		Id: 2/6

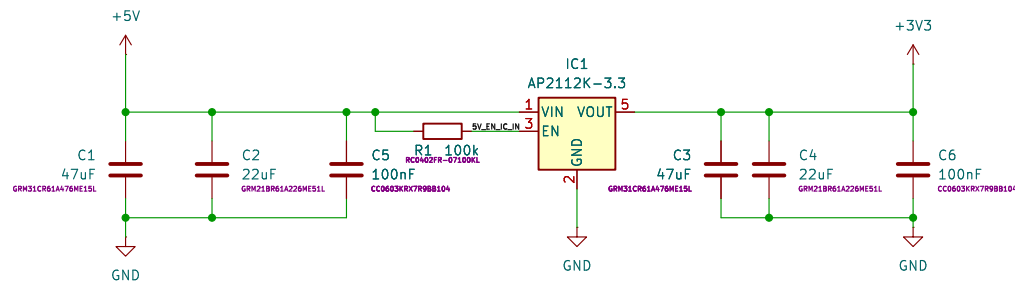
Size: A5	Date:	Rev:
KiCad E.D.A. 9.0.0		Id: 2/6

Date:	Rev:
-------	------

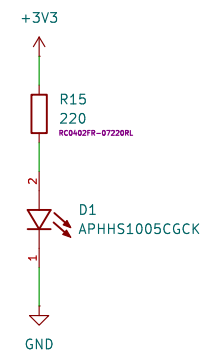
Rev:

Id: 2/6

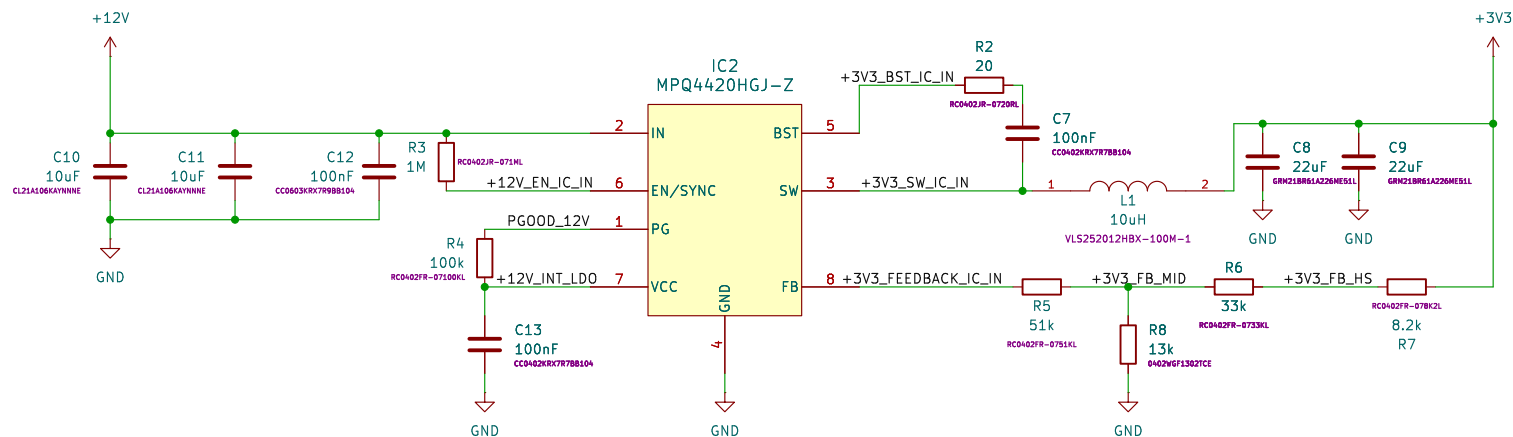
## 5V – 3.3V DC/DC



## Power-On LED Indication



## 12V – 3.3V DC/DC



Sheet: /Power Management/  
File: powerManagement.kicad\_sch

### Title:

Size: A4

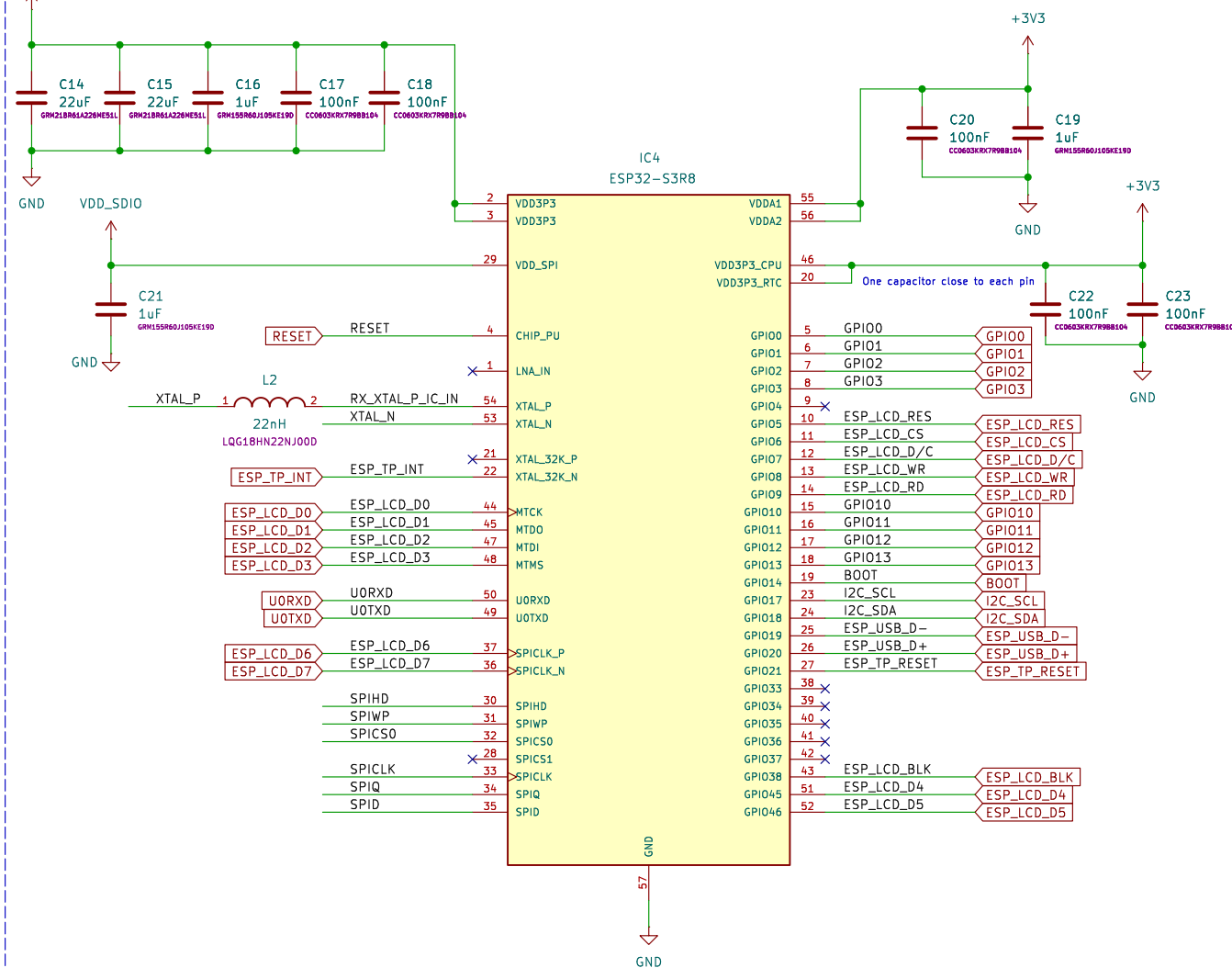
Date:

KiCad E.D.A. 9.0.0

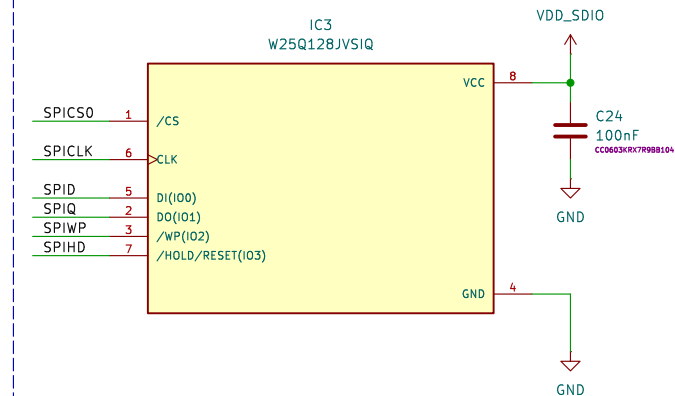
Rev:

Id: 3/6

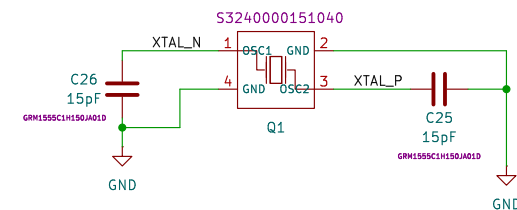
## Microcontroller



## SPI Flash



## Quartz



Sheet: /Microcontroller/  
File: Microcontroller.kicad\_sch

**Title:**

Size: A4

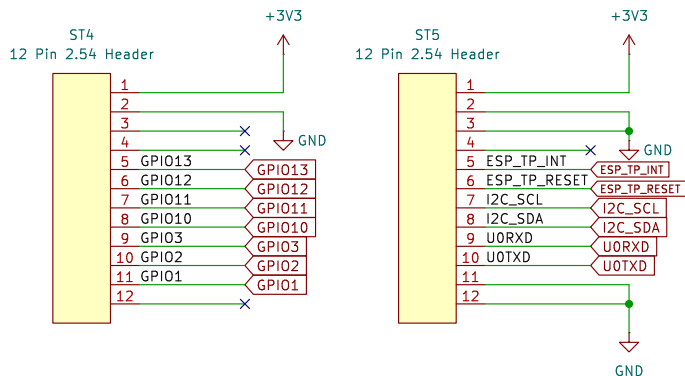
Date:

KiCad E.D.A. 9.0.0

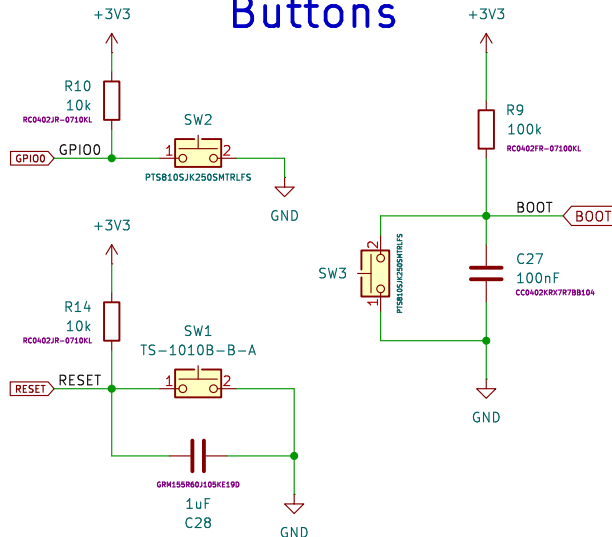
**Rev:**

Id: 4/6

## GPIO Headers



## Buttons



Sheet: /GPIO Headers and Buttons/  
File: GPIOheaders.kicad\_sch

**Title:**

Size: A5

Date:

KiCad E.D.A. 9.0.0

**Rev:**

Id: 5/6

