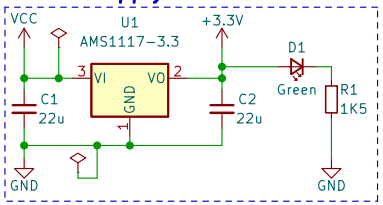
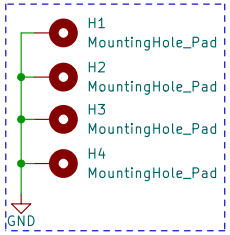
Power Supply



Min. of 22uF caps. to the Inp. and Outp of the regulator.

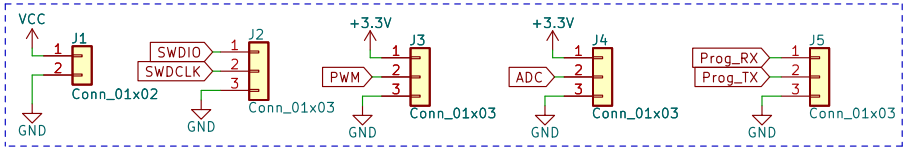
Datasheet: DS1117.

Mouting Holes



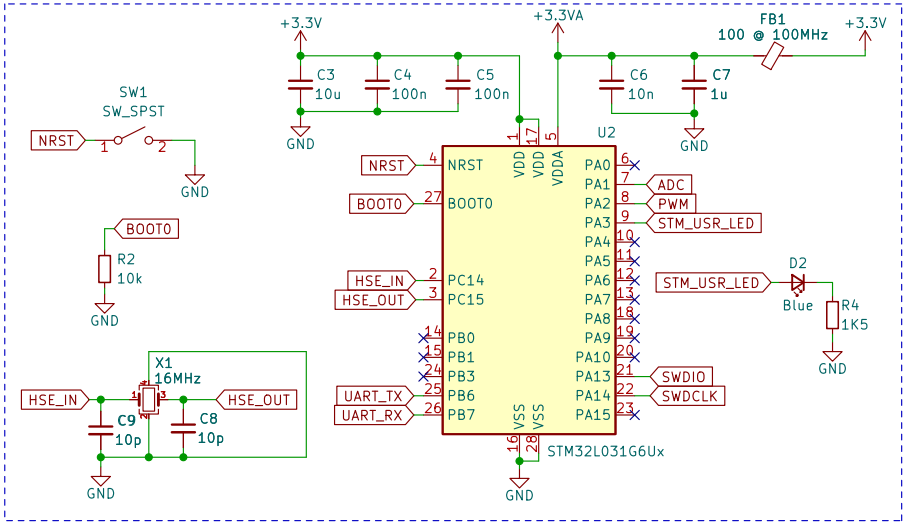
Mouting holes for M4 Screws.

Connectors



Terminal connectors, JST 2.5mm pitch.

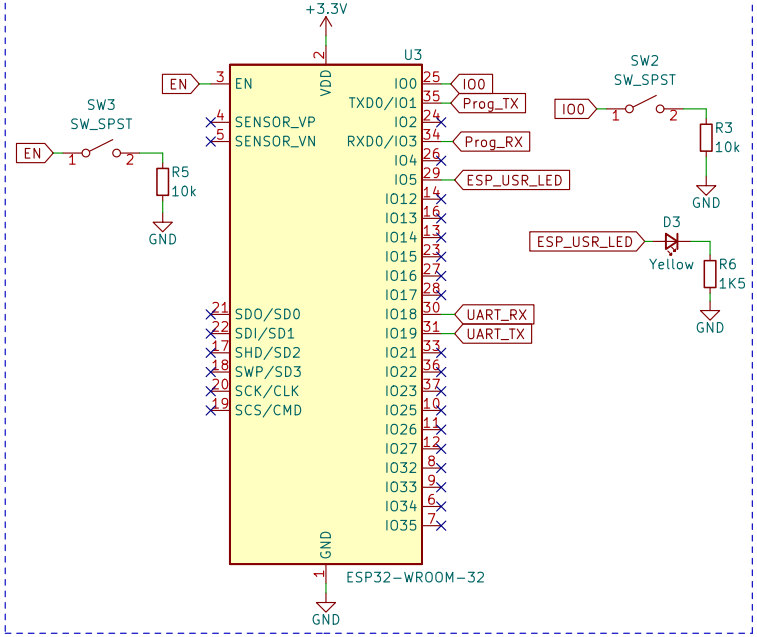
STM32 Microcontroller



Decapling cap. of 100nF for each VDD pin plus a 10uF cap. near the chip.
VDDA pin power filtering with a 10nF and a 1uF capacitors.
BOOT0 pin is pulled-down in order to boot from the flash memory.
UART protocol is used to sens the data to the ESP32.

STM32L0 Datasheet: DS10668.
STM32L0 Application Note: AN4467.
Crystal Application Note: AN2867.

ESP32



EN and IO0 pins are the mode selector (Runnin / Uploading).
ESP32 is programmed with USB-TTL converter.
The UART protocol is used to receive the data sent from the STM32 MCU.

Application Note: ESP32-Hardware-Design-Guidelines.

Read the data from an analog sensor and control the actuator with PWM signal.
transmit the data from the STM32 to the ESP32 via UART.
Send the data to the cloud with the ESP32.

Electro Scientific Club | Mohamed Yanis Hiou

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File: STM32L0_ESP32_Breakout_Board.kicad_sch

Title: STM32L0_ESP32_Breakout_Board

Size: A4	Date:	**Rev: 1.0**
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