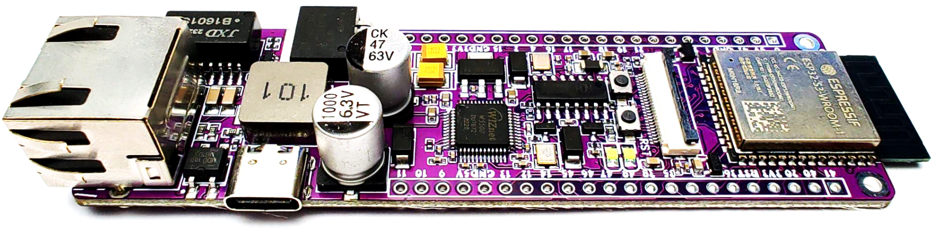
Esp32-Stick-PoE-P-Cam

PROKYBER

Rev. 5.0.0
Posted at 3. 4. 2024

Contents

Esp32-Stick-PoE-P-Cam



Product summary

This is CE certified upgraded version of an open-source development board for Esp32 with Ethernet and passive PoE support.

It was made because the original Esp32-Stick boards lacked the camera support. Moreover it was impossible to handle both the camera and the Ethernet using classic vanilla Esp32 since both peripherals require a lot of pins. So we decided to build the upgraded board around Esp32-S3, which has much more pins and W5500 SPI ethernet module.

The board is pin-to-pin compatible with other Esp32-Stick-Cam boards, Camera, Machine Learning examples and passive PoE are available!

Hardware characteristics

- ESP32-S3-WROOM-1 (N16R8) with 16MB Flash, 8MB ram.
- USB-C connector USB2.
- 36 Gpios(17 are not used by Ethernet or the camera).
- W5500 chip for the Ethernet.
- LM2576HVS(PoE-P)
- CH340G USB-UART converter.
- USER-Led(GPIO2).
- Reset button and User button(GPIO0).
- Accepts power through: USB, External source (3.3V-5V),Passive POE
- The 3.3V branch(Ams1117) can provide 700mA of current, the 5V branch(LM2576HVS) also provides 700mA.

Features

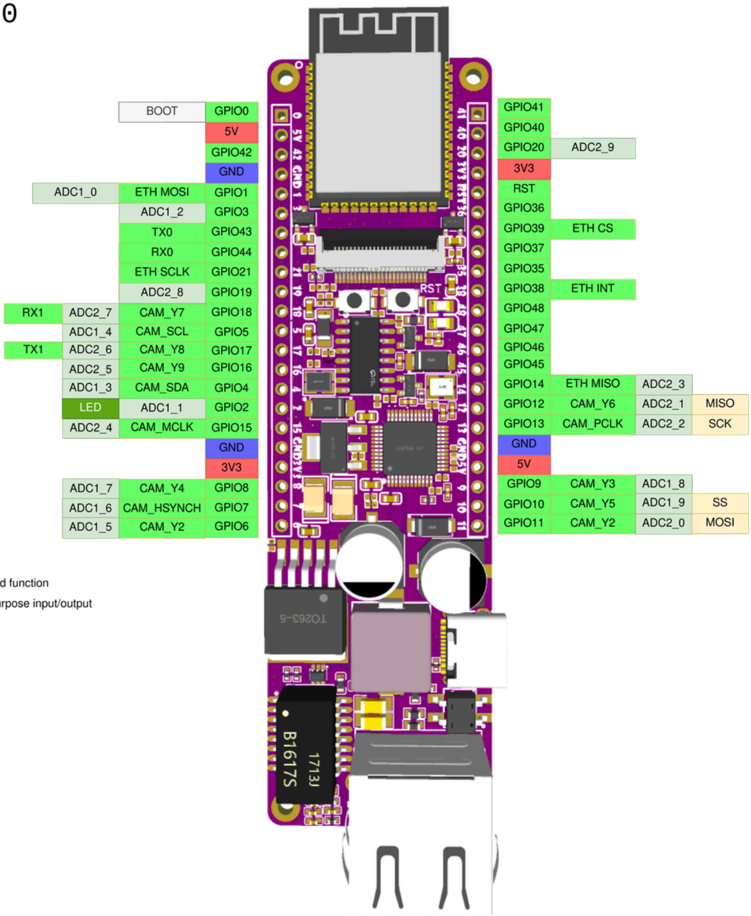
- Ov2640 and Ov5640 Camera support.
- 36 Gpios(17 are not used by Ethernet or the camera)
- USB Type-C
- Esp32-Stick-Poe-P-Cam has 5V output, so you can power additional peripherals.
- Esp32-Stick-Cam boards are fully programmable in Arduino and are supported in ESPHome home automation environment.
- No external USB-UART converter is required, ready for plug-and-play programming!
- All the Esp32-Stick-Cam boards have the same length and width so they can easily be replaced with one another.
- Any code written for one board is compatible with another because they share the same CPU and pinout.

Packaging example

Example of product packaging in a sealed bag with BAR code according to the seller's needs. The package contains: 1xEsp32-Stick-PoE-A-Cam

Esp32-Stick-PoE-P-Cam

V5.0.0



⬜ Boot related function
🟩 General purpose input/output
🟥 Power
🟦 Ground
🟨 Fast SPI
▨ ADC

Pinout

Example projects

Basic Camera and Ethernet Platformio

- The tutorial is available at:
  https://github.com/allexoK/Esp32-Stick-Cam-Boards-Platformio

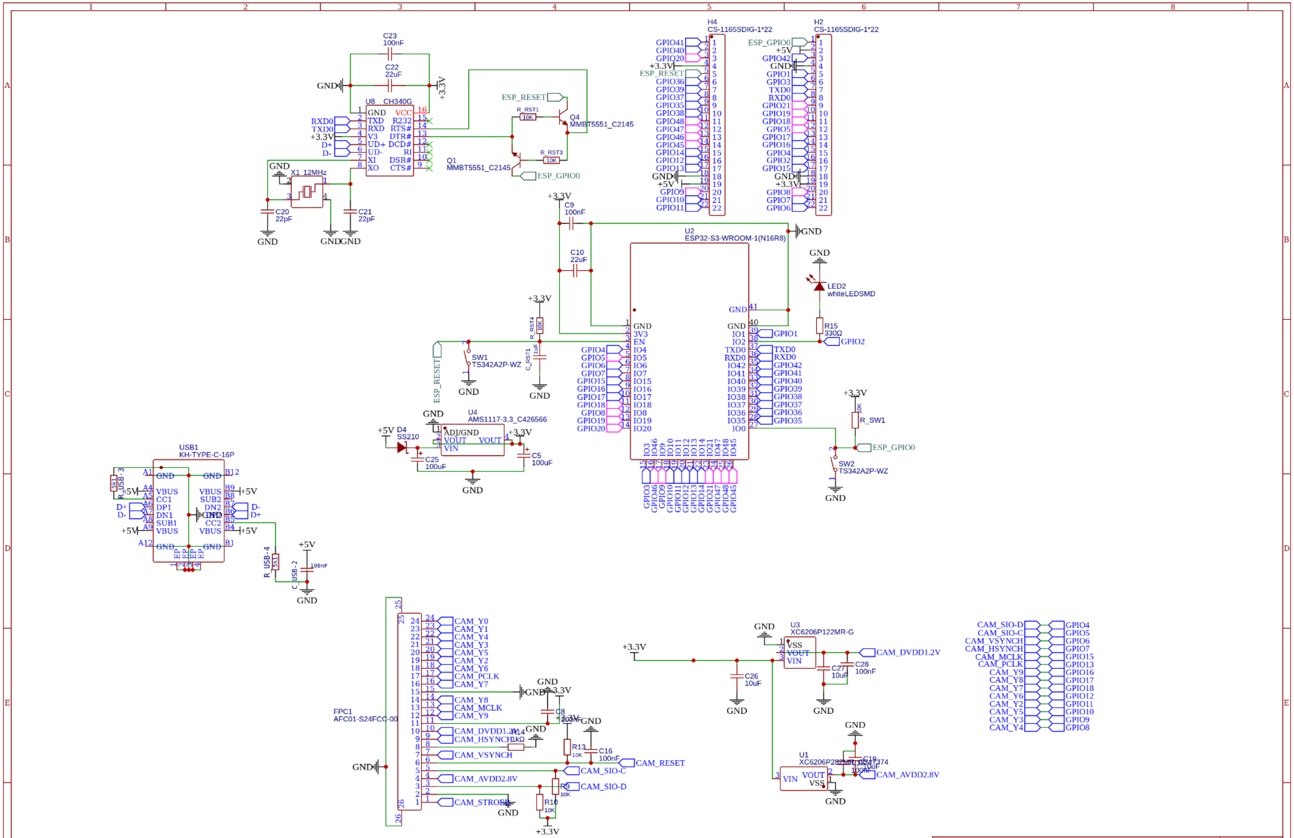
Machine Learning

- The tutorial is available in pdf format at:
  https://github.com/allexoK/Esp32-Stick-Cam-Machine-Learning-Guides

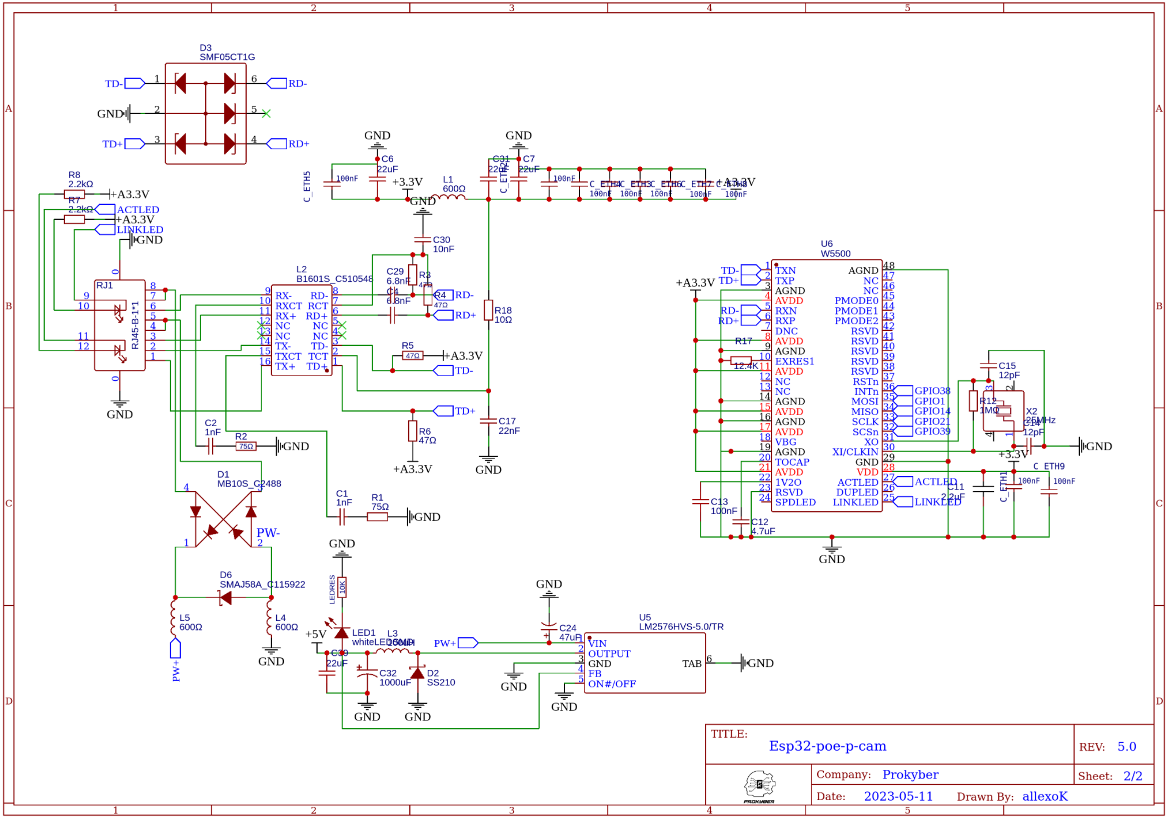
Parameters Summary

	Main chip	GPIO	Logic level	Vin	Pins soldered	Temp	Flash	RAM	Protocols	Connectors	Programming options	Main distinctive feature(s)
Esp32-Stick-PoE-P-Cam	Esp32-S3	36	3.3V	3.3-5V 9-57V	No	-40…+85	16MB	8MB	Wifi, Ethernet, Bluetooth, BLE, GPIO, I2C ,I2S, SPI, UART	USB-C, RJ45	Arduino IDE, ESP-IDF	Passive PoE, Camera support, 9-57 Vin, Same size as other Esp32-Stick-Cam boards

Schematics



TITLE: Esp32-poe-p-cam
REV: 5.0
Company: Prokyber
Sheet: 1/2
Date: 2023-05-10
Drawn By: allexoK



TITLE: Esp32-poe-p-cam
REV: 5.0
Company: Prokyber
Sheet: 2/2
Date: 2023-05-11
Drawn By: allexoK