

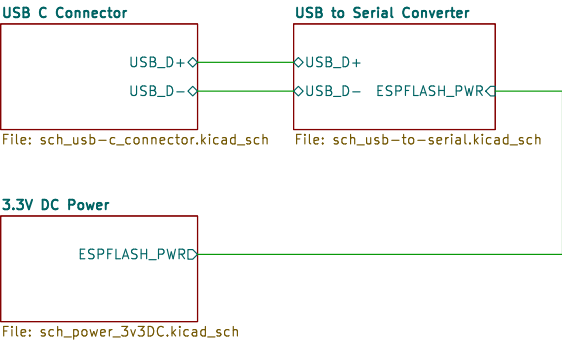
YAOEF (Yet Another Open ESP Flasher)

Issued 2025-03-20

Status: TESTED

Rev 1.1

PROJECT ARCHITECTURE



PROJECT DESCRIPTION

A design for a simple "dongle" for flashing ESP32 based devices that have the ESPFlash header implemented (per Jon Oxer, SuperHouse. Ref <http://superhouse.tv/espflash>).

Why build USB capabilities into every ESP32 design when a simple header will suffice? Saves on parts count, additional footprint, etc. The dongle supports auto-programming logic. A power switch allows the dongle to be used for serial debugging when under circuit power (i.e., turn the switch off to disable USB power to ESPFlash header).

PROJECT NOTES

N/a

DESIGN NOTES KEY

DESIGN NOTE:

Example text for informational design notes.

DESIGN NOTE:

Example text for cautionary design notes.

DESIGN NOTE:

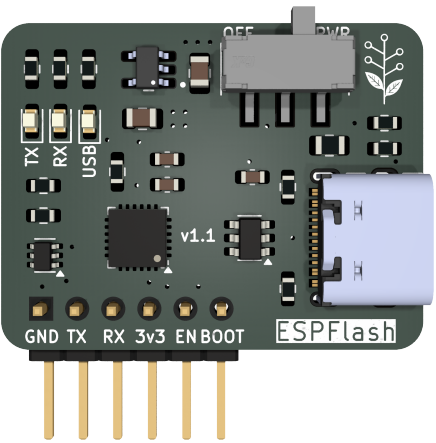
Example text for critical design notes.

LAYOUT NOTE:

Example text for critical layout guidelines.

DRAFT – Very early stage of schematic, ignore details.
PRELIM – Close to final schematic.
PROTOTYPE – Untested in its built form.
TESTED – A board with this schematic has been built and tested.

TOP VIEW



Title: YAOEF (Yet Another Open ESP Flasher)

Sheet: /
File: ESPFlash.kicad_sch

Rev: 1.1

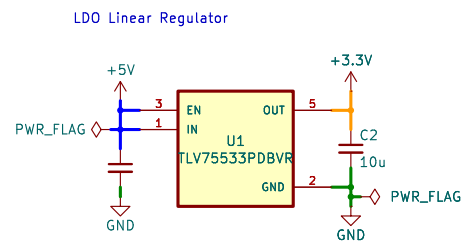
Date: 2025-03-20

Id: 1/5

KiCad E.D.A. 9.0.2



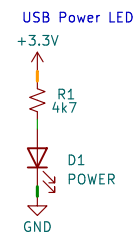
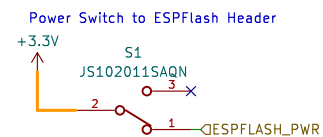
[2] 3.3v DC Power Supply



DESIGN NOTE:

V_{IN}: 1.45 to 5.5V

V_{OUT}: fixed 3.3V, max 500mA



Title: 3.3v DC Power Supply

Sheet: /3.3V DC Power/

File: sch_power_3v3DC.kicad_sch

Rev: 1.1

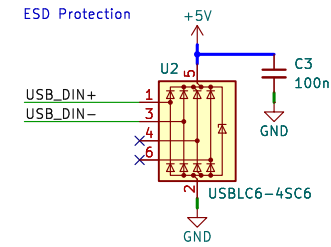
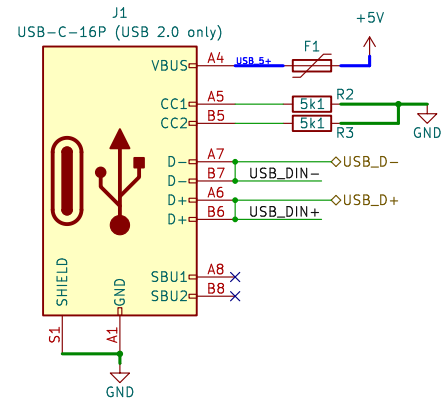
Date: 2025-03-20

Id: 2/5

KiCad E.D.A. 9.0.2



[3] USB C Connector & ESD Protection



Title: USB C Connector & ESD Protection

Sheet: /USB C Connector/

File: sch_usb-c_connector.kicad_sch

Rev: 1.1

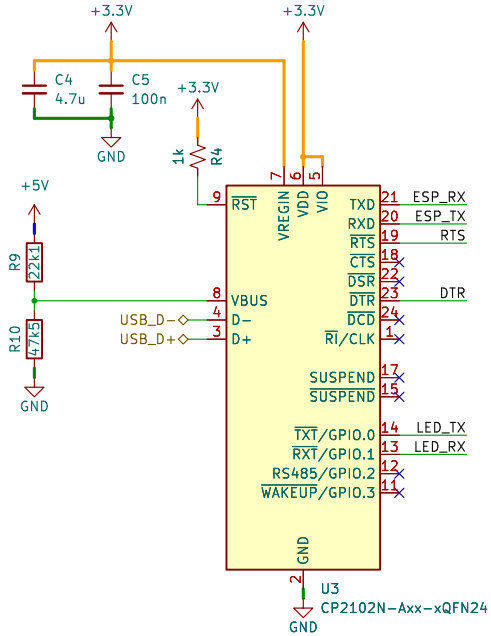
Date: 2025-03-20

Id: 3/5

KiCad E.D.A. 9.0.2

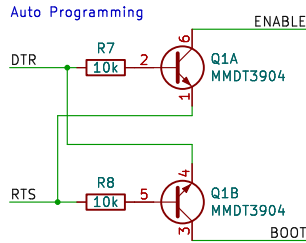
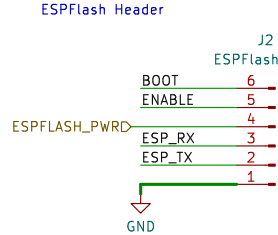
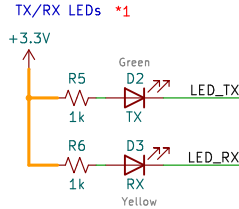


[4] USB to Serial Converter



* 1 - DESIGN NOTE:

The TX/RX LEDs will not light out of the box. The CP2102N UART needs to be reprogrammed using the Silicon Labs Xpress Configurator.



[5] Revision History

14-Mar-2025 – Rev 1.0
Status: Prototype

Initial version.

20-Mar-2025 – Rev 1.1
Status: Prototype

- * Swapped LDO regulator for a SOT-23 device (previous was large SOT223). This opens up room on the board for a power switch.
- * Added surface mount power switch to allow 3.3V to be disabled on ESPFlash header. Allows in circuit serial monitoring/flashing when circuit is under normal power.
- * Added tear drops to vias and critical through-holes.
- * Updated BOM entries to include DigiKey cut-tape options (and noted own stocked items).

xx-xxx-20xx – Rev 0.0
Status: ???