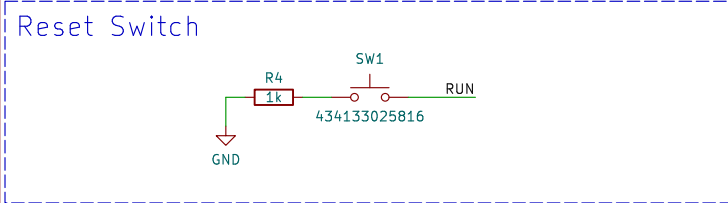


Power Rails

The diagram illustrates the power rail connections for a USB-C receptacle. The main components and connections are as follows:

- USB_C_Receptacle_USB2.0**: The primary connector, showing pins A4 (VBUS), A5 (CC1), B5 (CC2), A7 (D-), B7 (D-), A6 (D+), B6 (D+), A8 (SBU1), and B8 (SBU2).
- VBUS**: The main power line, connected to the VBUS pin (A4) and the VBUS terminal. It is also connected to a 5k Ω resistor (R1) and a 10 μ F capacitor (C13) to ground.
- CC1 and CC2**: Connected to pins A5 and B5, respectively, through 5k Ω resistors (R1 and R2) to ground.
- D- and D+**: Connected to pins A7, B7, A6, and B6, respectively, to the USB_D- and USB_D+ lines.
- SBU1 and SBU2**: Connected to pins A8 and B8, which are marked with an 'X' indicating they are not connected.
- Shield and Ground**: The shield is connected to the GND pin (A1) and the GND terminal.
- LEDs**: Two LEDs, D8 and D9, are connected to the +3V3 line through 1k Ω resistors (R41 and R42) to ground.



Flash / Boot & User Switch

Note: Switch to be used as flash boot inhibit and as user input

Programming

TP1 ○ — SWCLK

TP2 ○ — SWD

TP3 ○ — GND

TP4 ○ — +3V3

TP5 ○ — RUN

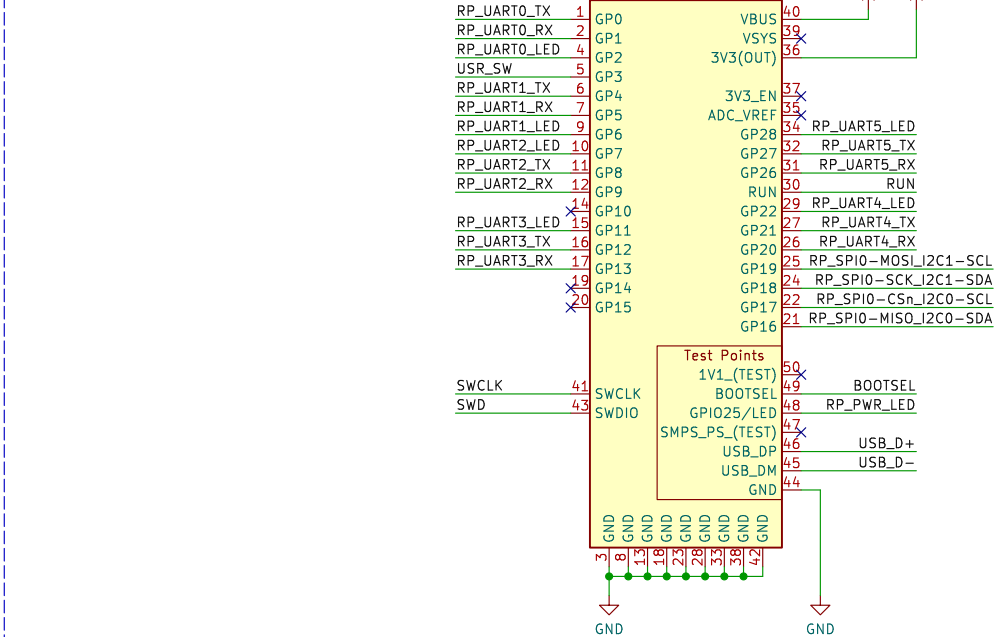
Note: Headers removed – Program via USB

Note: Test Points

Misc

Spare IO

Note: User LED, nominally 'power'



External Power

The left diagram shows a 1.27 HDR connector (J9) with three pins. Pin 3 is connected to VBUS, pin 2 to VOUT1_SELECT, and pin 1 to +3V3. The right diagram shows a 2.54 SKT connector (J10) with two pins. Pin 2 is connected to VOUT1_SELECT and pin 1 to GND.

Warning: For low power

A detailed black and white illustration of a unicorn's head. The unicorn has a long, flowing mane, a single horn on its forehead, and is wearing a decorative crown with a central gem and floral motifs. The illustration is positioned on the right side of the slide.

[illegible]

The schematic diagram illustrates the UART (PIO) interface for the Raspberry Pi 4B, showing connections for four UART modules (U6, U7, U8, U9) to the Raspberry Pi 4B. Each module is connected to a 3.3V supply, a 100nF capacitor, and a 1kΩ resistor. The modules are connected to the Raspberry Pi 4B via 2.54mm HDR connectors (J4, J5, J6, J7).

UART Module Connections:

- U6 (18012115411H):**
 - VDD1 (1) to +3V3
 - VOA (2) to GND
 - VIB (3) to GND
 - GND1 (4) to GND
 - VDD2 (8) to +3V3
 - VIA (7) to GND
 - VOB (6) to GND
 - GND2 (5) to GND
 - DUT2_VCC (8) to +3V3
 - DUT2_TX (7) to GND
 - DUT2_RX (6) to GND
 - DUT2_GND (5) to GND
- U7 (18012115411H):**
 - VDD1 (1) to +3V3
 - VOA (2) to GND
 - VIB (3) to GND
 - GND1 (4) to GND
 - VDD2 (8) to +3V3
 - VIA (7) to GND
 - VOB (6) to GND
 - GND2 (5) to GND
 - DUT3_VCC (8) to +3V3
 - DUT3_TX (7) to GND
 - DUT3_RX (6) to GND
 - DUT3_GND (5) to GND
- U8 (18012115411H):**
 - VDD1 (1) to +3V3
 - VOA (2) to GND
 - VIB (3) to GND
 - GND1 (4) to GND
 - VDD2 (8) to +3V3
 - VIA (7) to GND
 - VOB (6) to GND
 - GND2 (5) to GND
 - DUT4_VCC (8) to +3V3
 - DUT4_TX (7) to GND
 - DUT4_RX (6) to GND
 - DUT4_GND (5) to GND
- U9 (18012115411H):**
 - VDD1 (1) to +3V3
 - VOA (2) to GND
 - VIB (3) to GND
 - GND1 (4) to GND
 - VDD2 (8) to +3V3
 - VIA (7) to GND
 - VOB (6) to GND
 - GND2 (5) to GND
 - DUT5_VCC (8) to +3V3
 - DUT5_TX (7) to GND
 - DUT5_RX (6) to GND
 - DUT5_GND (5) to GND

GPIO Connections:

- RP_UART2_TX (R29):** Connected to GPIO 15 (pin 10k)
- RP_UART2_RX (R30):** Connected to GPIO 16 (pin 10k)
- RP_UART2_LED (R28):** Connected to GPIO 17 (pin 1k)
- RP_UART3_TX (R32):** Connected to GPIO 18 (pin 10k)
- RP_UART3_RX (R33):** Connected to GPIO 19 (pin 10k)
- RP_UART3_LED (R31):** Connected to GPIO 20 (pin 1k)
- RP_UART4_TX (R36):** Connected to GPIO 21 (pin 10k)
- RP_UART4_RX (R37):** Connected to GPIO 22 (pin 10k)
- RP_UART4_LED (R34):** Connected to GPIO 23 (pin 1k)
- RP_UART5_TX (R38):** Connected to GPIO 24 (pin 10k)
- RP_UART5_RX (R39):** Connected to GPIO 25 (pin 10k)
- RP_UART5_LED (R35):** Connected to GPIO 26 (pin 1k)

Capacitors:

- C25, C26, C29, C30:** 100nF capacitors connected to +3V3 and GND.

Connectors:

- J4, J5, J6, J7:** 2.54mm HDR connectors connected to the Raspberry Pi 4B.

I2C / SPI (HW)

RP_SPI0-MISO_I2C0-SDA 1
 RP_SPI0-CSn_I2C0-SCL 3
 RP_SPI0-SCK_I2C1-SDA 4
 RP_SPI0-MOSI_I2C1-SCL 5

J8 2.54 SKT

+3V3
 GND

RP_SPI0-MISO_I2C0-SDA R47 10k
 RP_SPI0-SCK_I2C1-SDA R46 10k
 RP_SPI0-CSn_I2C0-SCL R48 10k
 RP_SPI0-MOSI_I2C1-SCL R45 10k

J12 1.27 HDR
 J13 1.27 HDR
 J14 1.27 HDR
 J15 1.27 HDR

+3V3
 GND
 +3V3
 GND
 +3V3
 GND
 +3V3
 GND

Warning: No level translation provided for these signals

