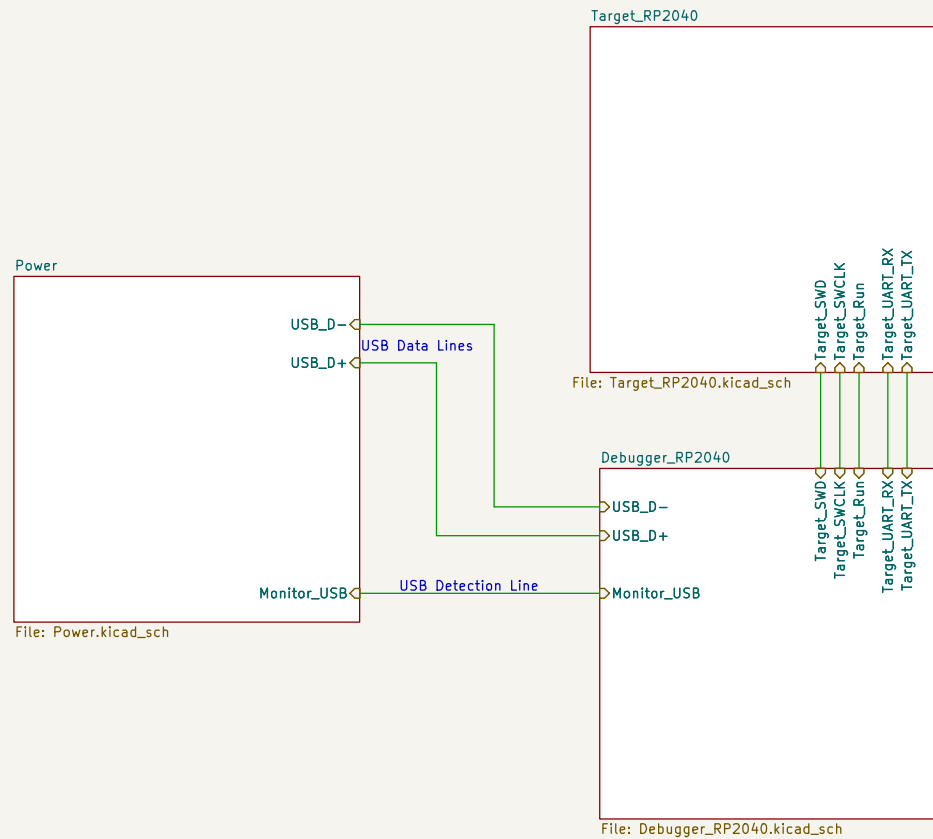
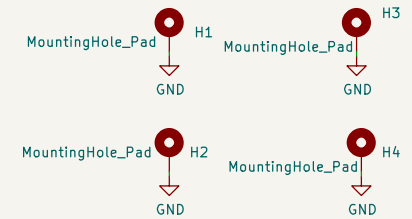


UNI-KIT-V4

Mounting Holes



Pico A = Debugger
Pico B = Target

Pico A GND -> Pico B GND
Pico A GP2 -> Pico B SWCLK
Pico A GP3 -> Pico B SWDIO
Pico A GP4/UART1 TX -> Pico B GP1/UART0 RX
Pico A GP5/UART1 RX -> Pico B GP0/UART0 TX

Sheet: /
File: zed-uni-kit-V4.kicad_sch

Title: Uni-Kit Micro Plus

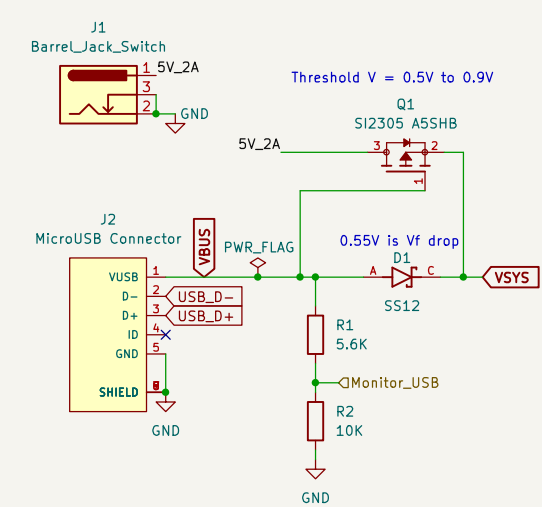
Size: A4
KiCad E.D.A. 8.0.3

Date:

Rev:
Id: 1/4

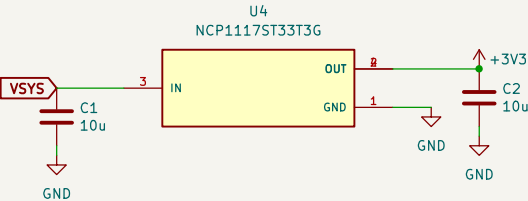
POWER SECTION:

USB Section:



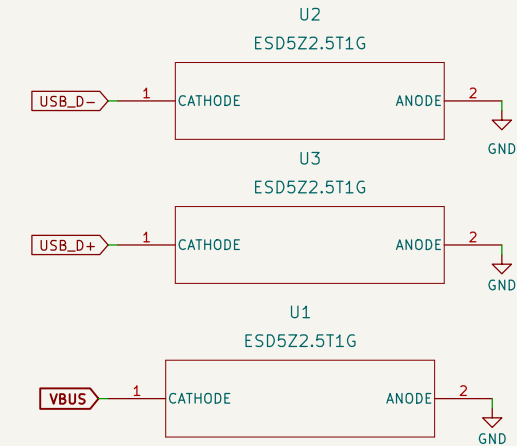
GPIO24 monitors the existence of VBUS, while R10 and R1 act to pull VBUS down to make sure it is 0V if VBUS is not present.

3V3 LDO:

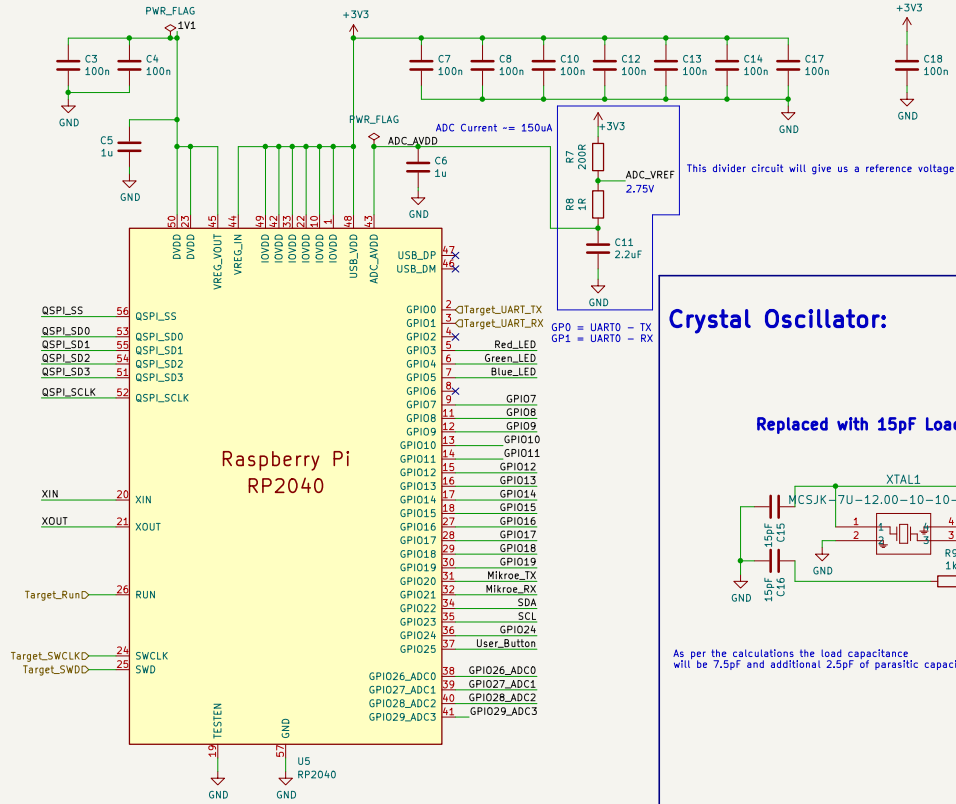


Internal protection features consist of output current limiting, safe operating area compensation, and thermal shutdown.

ESD Protection

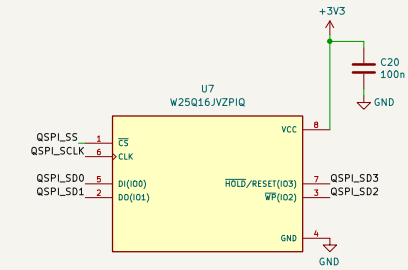


Target RP2040:



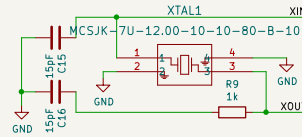
we need to make sure that directly below these lines is a ground. A solid, uninterrupted area of ground copper, stretching the entire length of the track. On this design, almost the entirety of the bottom copper layer is devoted to ground, and particular care was taken to ensure that the USB tracks pass over nothing but ground.

Flash Memory:



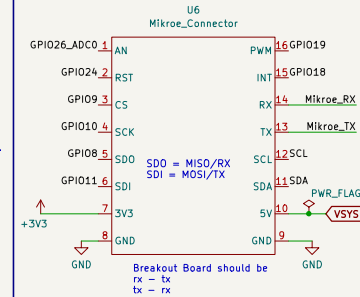
Crystal Oscillator:

Replaced with 15pF Load Capacitors

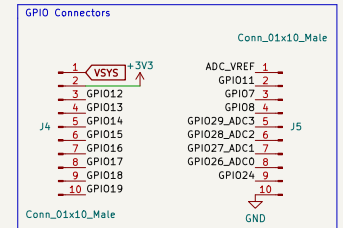
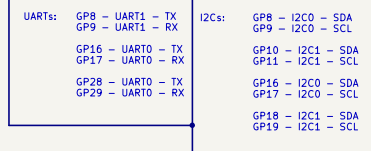


As per the calculations the load capacitance will be 7.5pF and additional 2.5pF of parasitic capacitance from the PCB Tracks and XIN, XOUT Pins.

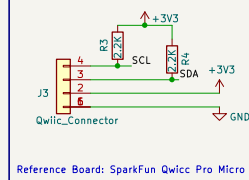
GPIOs and Mikroe Connector:



Breakout Board should be rx - tx tx - rx

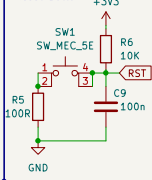


Qwicc Connector

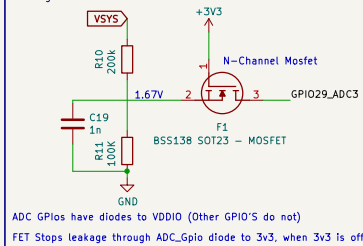


Reference Board: SparkFun Qwicc Pro Micro

Reset Button

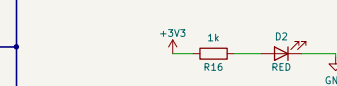


Leakage Prevention:

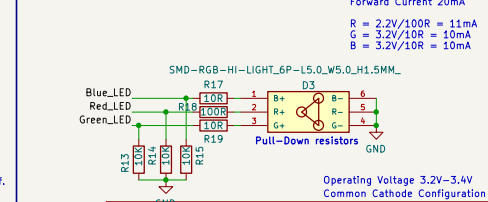


ADC GPIOs have diodes to VDDIO (Other GPIO'S do not)
FET Stops leakage through ADC_Gpio diode to 3V3, when 3V3 is off.

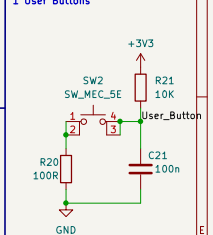
Power LED



User LED



1 User Buttons



Sheet: /Target_RP2040/

File: Target_RP2040.kicad_sch

Title: Uni-Kit Micro Plus

Size: A3

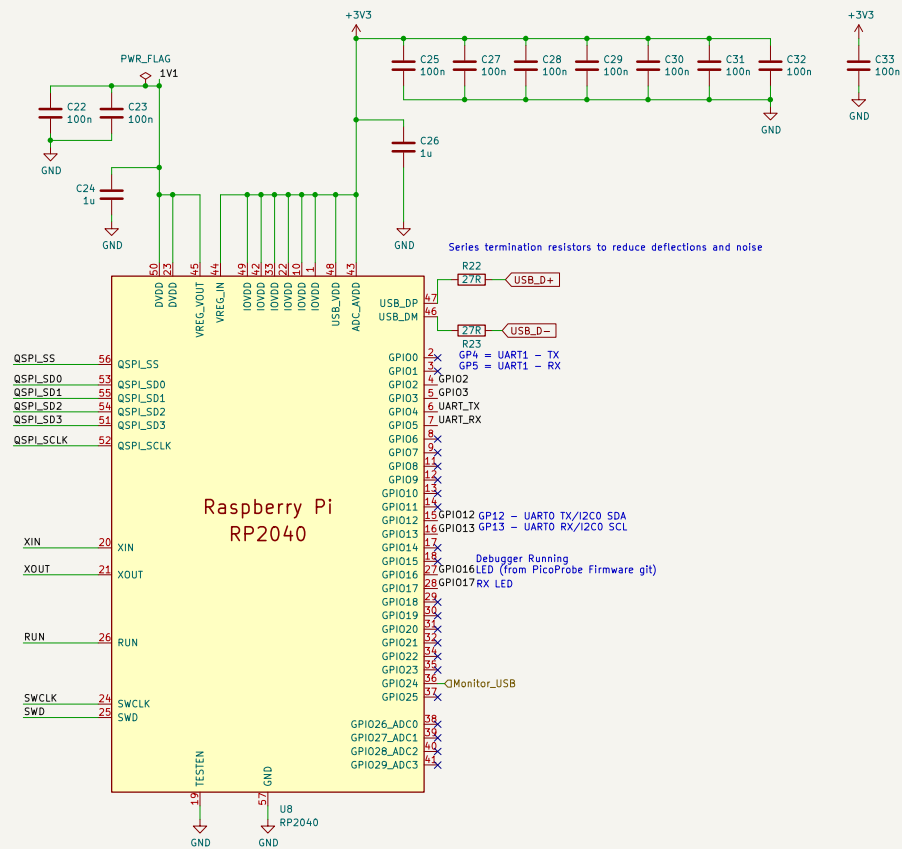
Date:

Rev:

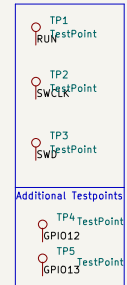
KiCad E.D.A. 8.0.3

Id: 3/4

RP2040 MCU:

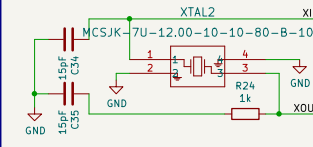


To Debug the Debugger

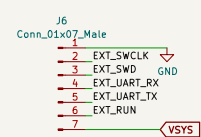


GP12 - UART0 TX/I2C0 SDA
GP13 - UART0 RX/I2C0 SCL

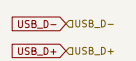
Crystal Oscillator:



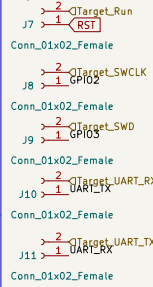
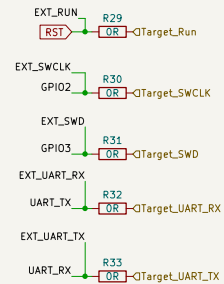
External target Connector



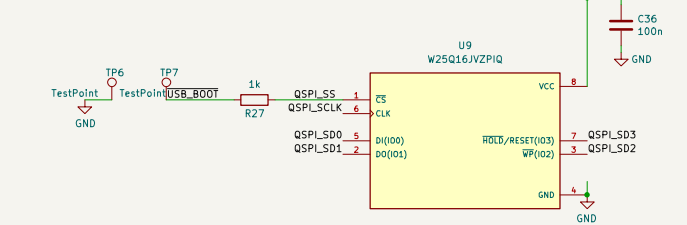
Labels:



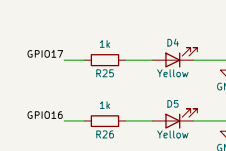
Target Connections



Flash Memory



Debugger LED



Zilliot Technologies

Sheet: /Debugger_RP2040/

File: Debugger_RP2040.kicad_sch

Title: Uni-Kit Micro Plus

Title: Uni-Kit Micro Plus	
Size: A3	Date: 12/12/2023

Size: A3	
KiCad EDA 8.0.3	

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Rev: V4

Id: 5/4