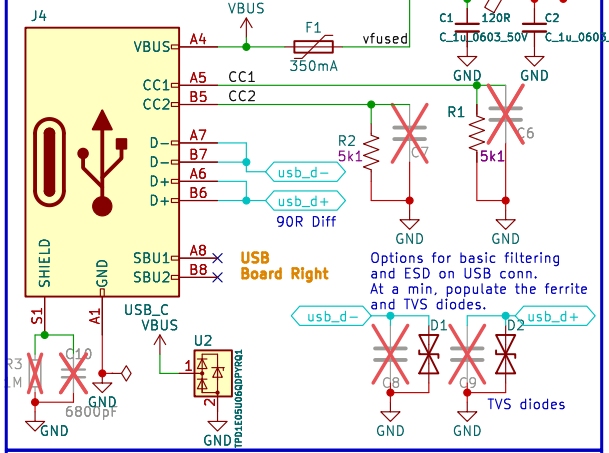
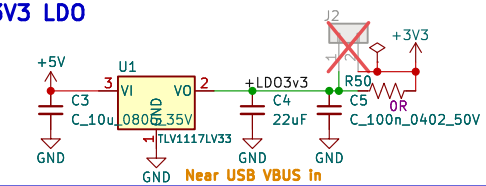
ChipIgnite/Efabless Explain FPGA ASIC Teaching Board

USB connector

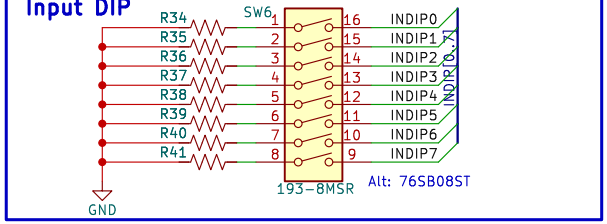
Power and USB2



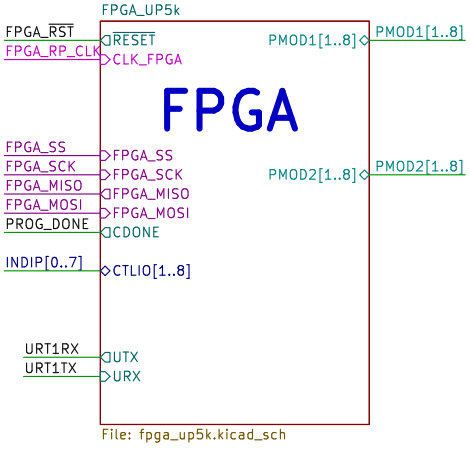
3V3 LDO



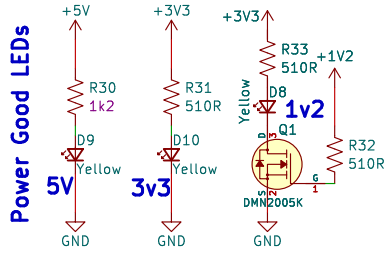
Input DIP

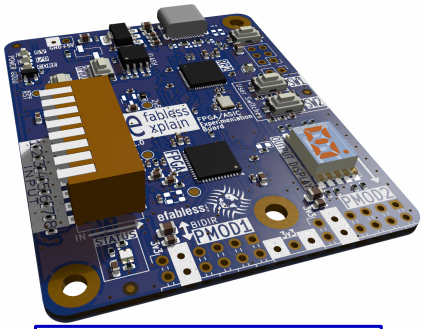


FPGA



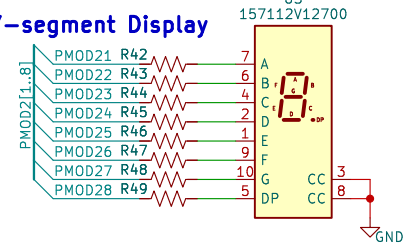
Indication



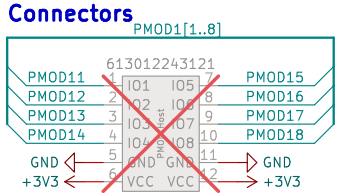


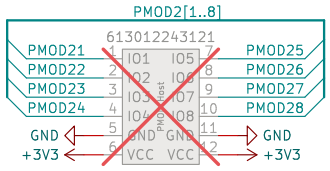
Output and External

7−segment Display

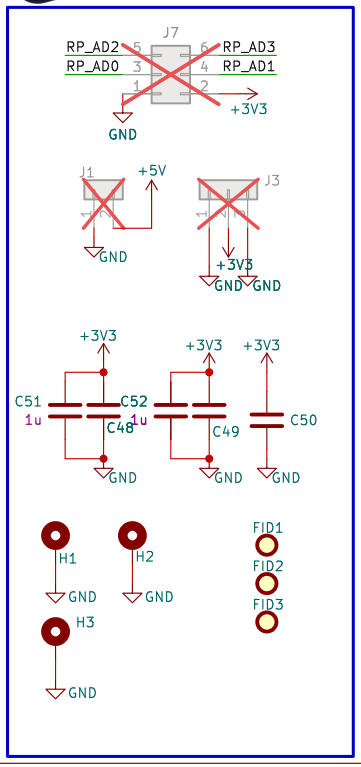


User Connectors

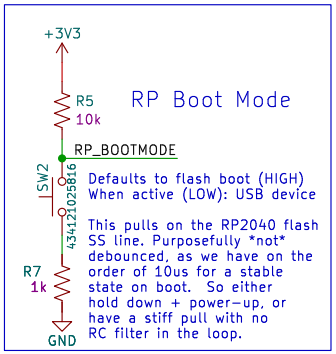


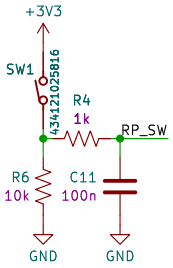


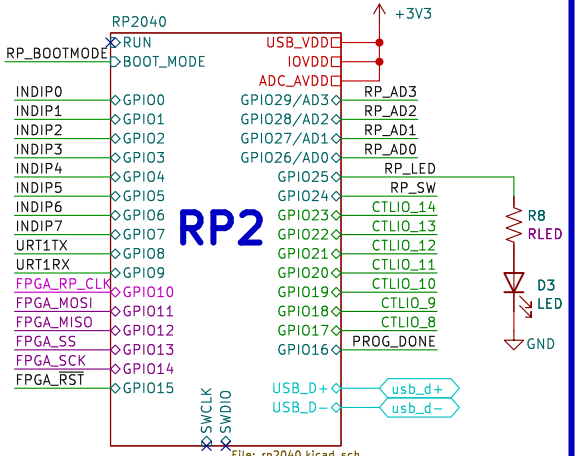
Host PMODs, Bottom



RP2040 MCU







Psychogenic Technologies for efabless

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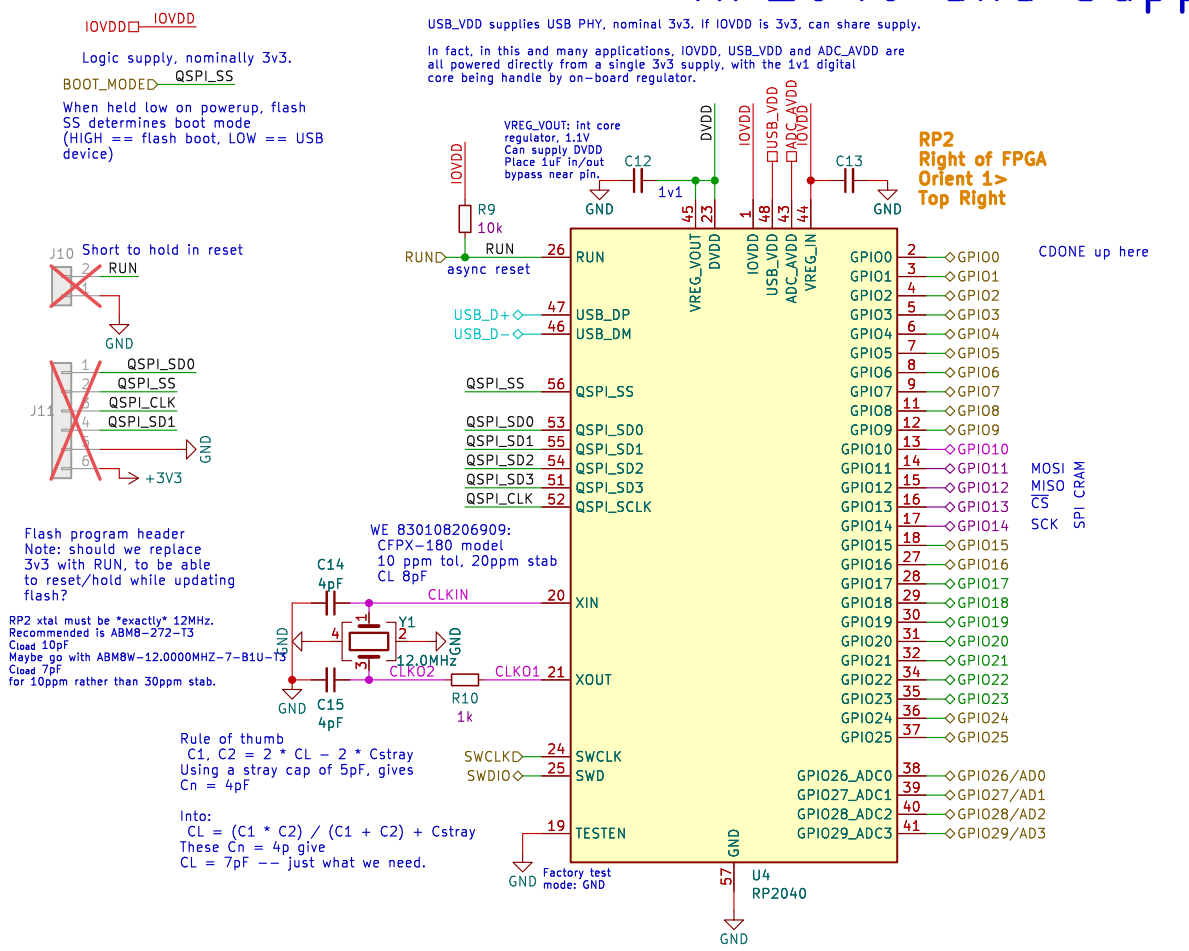
File: ChipigniteExplain.kicad_sch

Title: ChipIgnite Explain

Size: A4	Date: 2025−02−21	**Rev: 1.1**
KiCad E.D.A. 8.0.8		Id: 1/3

RP2040 and Support



	Function								
GPIO	F1	F2	F3	F4	F5	F6	F7	F8	F9
0	SPI0 RX	UART0 TX	I2C0 SDA	PWM0 A	SIO	PIO0	PIO1		USB OVCUR DET
1	SPI0 CSn	UART0 RX	I2C0 SCL	PWM0 B	SIO	PIO0	PIO1		USB VBUS DET
2	SPI0 SCK	UART0 CTS	I2C1 SDA	PWM1 A	SIO	PIO0	PIO1		USB VBUS EN
3	SPI0 TX	UART0 RTS	I2C1 SCL	PWM1 B	SIO	PIO0	PIO1		USB OVCUR DET
4	SPI0 RX	UART1 TX	I2C0 SDA	PWM2 A	SIO	PIO0	PIO1		USB VBUS DET
5	SPI0 CSn	UART1 RX	I2C0 SCL	PWM2 B	SIO	PIO0	PIO1		USB VBUS EN
6	SPI0 SCK	UART1 CTS	I2C1 SDA	PWM3 A	SIO	PIO0	PIO1		USB OVCUR DET
7	SPI0 TX	UART1 RTS	I2C1 SCL	PWM3 B	SIO	PIO0	PIO1		USB VBUS DET
8	SPI1 RX	UART1 TX	I2C0 SDA	PWM4 A	SIO	PIO0	PIO1		USB VBUS EN
9	SPI1 CSn	UART1 RX	I2C0 SCL	PWM4 B	SIO	PIO0	PIO1		USB OVCUR DET
10	SPI1 SCK	UART1 CTS	I2C1 SDA	PWM5 A	SIO	PIO0	PIO1		USB VBUS DET
11	SPI1 TX	UART1 RTS	I2C1 SCL	PWM5 B	SIO	PIO0	PIO1		USB VBUS EN
12	SPI1 RX	UART0 TX	I2C0 SDA	PWM6 A	SIO	PIO0	PIO1		USB OVCUR DET
13	SPI1 CSn	UART0 RX	I2C0 SCL	PWM6 B	SIO	PIO0	PIO1		USB VBUS DET
14	SPI1 SCK	UART0 CTS	I2C1 SDA	PWM7 A	SIO	PIO0	PIO1		USB VBUS EN
15	SPI1 TX	UART0 RTS	I2C1 SCL	PWM7 B	SIO	PIO0	PIO1		USB OVCUR DET
16	SPI0 RX	UART0 TX	I2C0 SDA	PWM0 A	SIO	PIO0	PIO1		USB VBUS DET
17	SPI0 CSn	UART0 RX	I2C0 SCL	PWM0 B	SIO	PIO0	PIO1		USB VBUS EN
18	SPI0 SCK	UART0 CTS	I2C1 SDA	PWM1 A	SIO	PIO0	PIO1		USB OVCUR DET
19	SPI0 TX	UART0 RTS	I2C1 SCL	PWM1 B	SIO	PIO0	PIO1		USB VBUS DET
20	SPI0 RX	UART1 TX	I2C0 SDA	PWM2 A	SIO	PIO0	PIO1	CLOCK GPIN0	USB VBUS EN
21	SPI0 CSn	UART1 RX	I2C0 SCL	PWM2 B	SIO	PIO0	PIO1	CLOCK GPOUT0	USB OVCUR DET
22	SPI0 SCK	UART1 CTS	I2C1 SDA	PWM3 A	SIO	PIO0	PIO1	CLOCK GPIN1	USB VBUS DET
23	SPI0 TX	UART1 RTS	I2C1 SCL	PWM3 B	SIO	PIO0	PIO1	CLOCK GPOUT1	USB VBUS EN
24	SPI1 RX	UART1 TX	I2C0 SDA	PWM4 A	SIO	PIO0	PIO1	CLOCK GPOUT2	USB OVCUR DET
25	SPI1 CSn	UART1 RX	I2C0 SCL	PWM4 B	SIO	PIO0	PIO1	CLOCK GPOUT3	USB VBUS DET
26	SPI1 SCK	UART1 CTS	I2C1 SDA	PWM5 A	SIO	PIO0	PIO1		USB VBUS EN
27	SPI1 TX	UART1 RTS	I2C1 SCL	PWM5 B	SIO	PIO0	PIO1		USB OVCUR DET
28	SPI1 RX	UART0 TX	I2C0 SDA	PWM6 A	SIO	PIO0	PIO1		USB VBUS DET
29	SPI1 CSn	UART0 RX	I2C0 SCL	PWM6 B	SIO	PIO0	PIO1		USB VBUS EN

Psychogenic Technologies

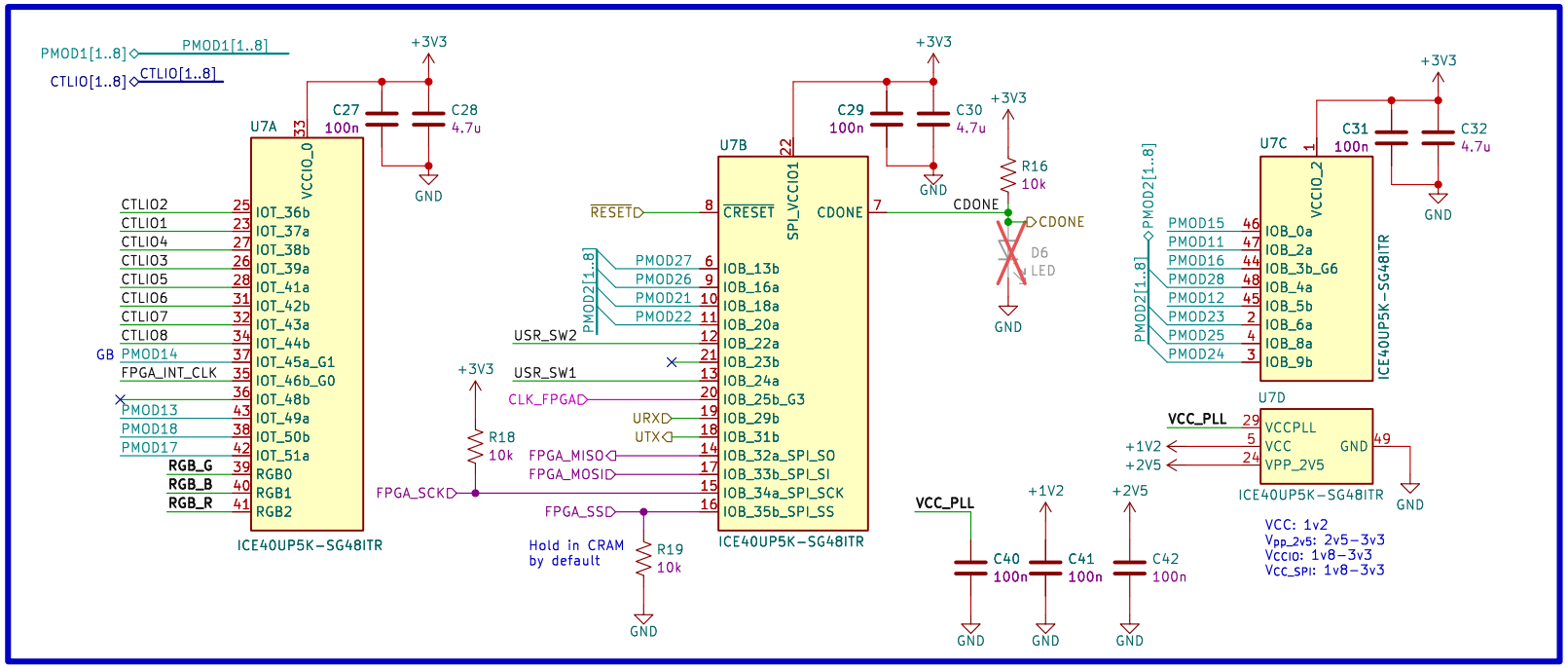
Sheet: /RP2040/

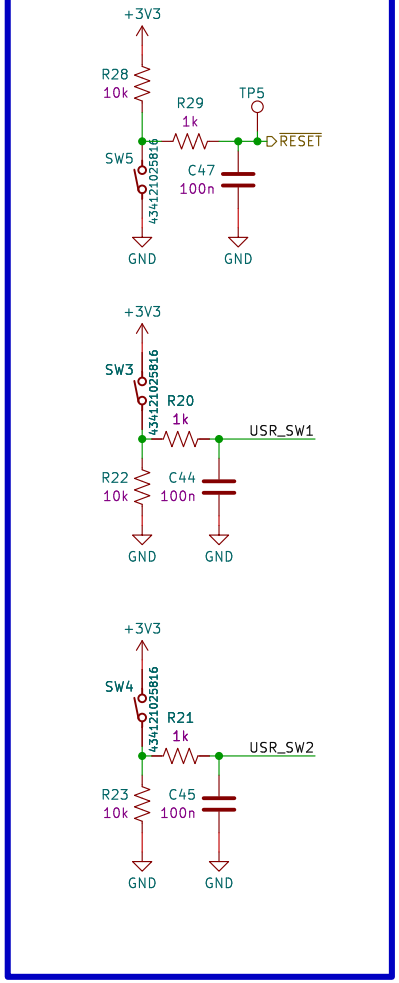
File: rp2040.kicad_sch

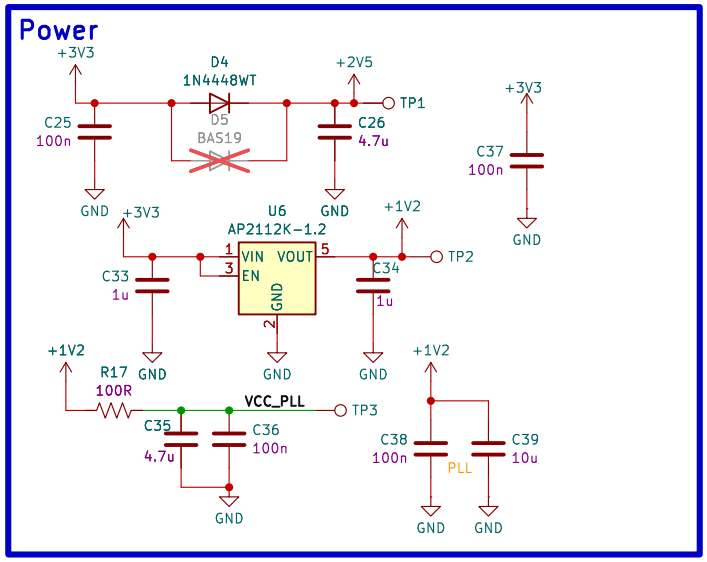
Title: Tiny Tapeout 4/5 Demo Board

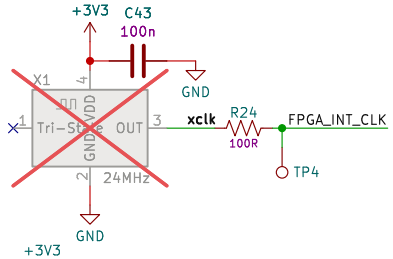
Size: A4	Date: 2024-12-26	**Rev: 1.0**
KiCad E.D.A. 8.0.8		Id: 3/3

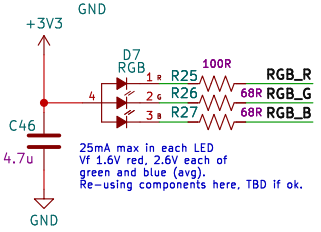
UP5K FPGA and Support











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