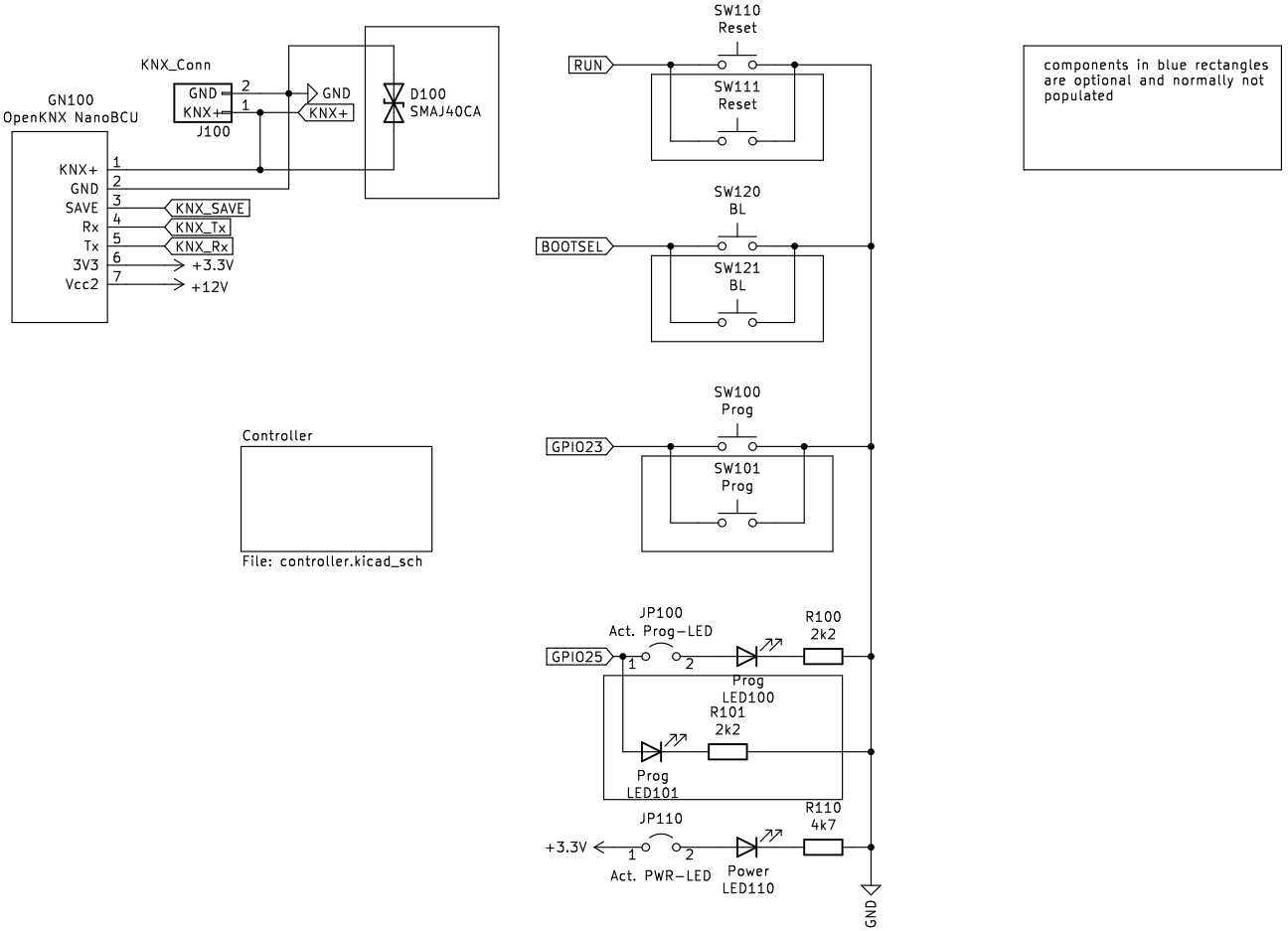
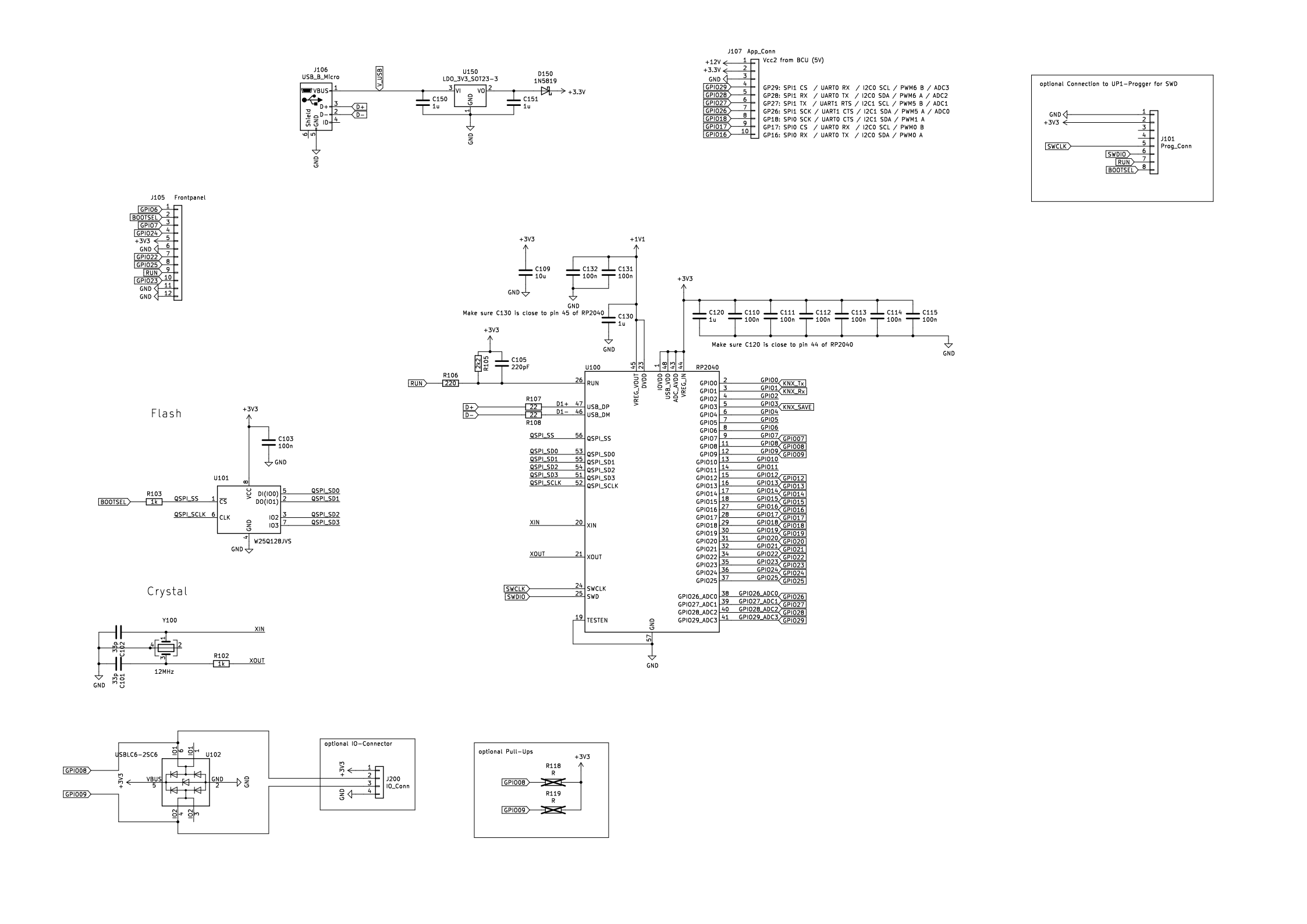


components in blue rectangles are optional and normally not populated

PCB / Layout vs. Schematic Versioning:
Schematics are versioned with Vxx.yy (e.g. V01.02).
Layouts are versioned with a matching Vxx.yy and an optional letter indicating a layout change without impact on the schematic (V01.02, V01.02a, V10.02b).


J106
USB_B_Micro
VBUS
D+
D-
ID
Shield
GND
V_USB
U150
LDO_3V3_SOT23-3
VI
VO
GND
C150
1u
C151
1u
D150
1N5819
+3.3V
J107 App_Conn
+12V
+3.3V
GND
GPIO29
GPIO28
GPIO27
GPIO26
GPIO18
GPIO17
GPIO16
Vcc2 from BCU (5V)
GP29: SPI1 CS / UART0 RX / I2C0 SCL / PWM6 B / ADC3
GP28: SPI1 RX / UART0 TX / I2C0 SDA / PWM6 A / ADC2
GP27: SPI1 TX / UART1 RTS / I2C1 SCL / PWM5 B / ADC1
GP26: SPI1 SCK / UART1 CTS / I2C1 SDA / PWM5 A / ADC0
GP18: SPI0 SCK / UART0 CTS / I2C1 SDA / PWM1 A
GP17: SPI0 CS / UART0 RX / I2C0 SCL / PWM0 B
GP16: SPI0 RX / UART0 TX / I2C0 SDA / PWM0 A
optional Connection to UP1-Progger for SWD
GND
+3V3
SWCLK
SWDIO
RUN
BOOTSEL
J101
Prog_Conn
J105 Frontpanel
GPIO6
BOOTSEL
GPIO7
GPIO24
+3V3
GND
GPIO22
GPIO25
RUN
GPIO23
GND
GND
+3V3
+1V1
C109
10u
C132
100n
C131
100n
C130
1u
Make sure C130 is close to pin 45 of RP2040
C120
1u
C110
100n
C111
100n
C112
100n
C113
100n
C114
100n
C115
100n
Make sure C120 is close to pin 44 of RP2040
R105
2k2
C105
220pF
R106
220
RUN
U100
RP2040
VREG_VOUT
DVDD
IOVDD
USB_VDD
ADC_AVDD
VREG_IN
R107
22
R108
22
D+
D-
D1+
D1-
USB_DP
USB_DM
QSPI_SS
QSPI_SD0
QSPI_SD1
QSPI_SD2
QSPI_SD3
QSPI_SCLK
XIN
XOUT
SWCLK
SWD
TESTEN
Flash
C103
100n
U101
R103
1k
BOOTSEL
QSPI_SS
QSPI_SCLK
VCC
CS
CLK
DI(IO0)
DO(IO1)
IO2
IO3
GND
W25Q128JVS
Crystal
Y100
12MHz
C102
33p
C101
33p
R102
1k
XIN
XOUT
USBLC6-2SC6
U102
IO1
IO2
VBUS
GPIO008
GPIO009
optional IO-Connector
J200
IO_Conn
optional Pull-Ups
R118
R
R119
R