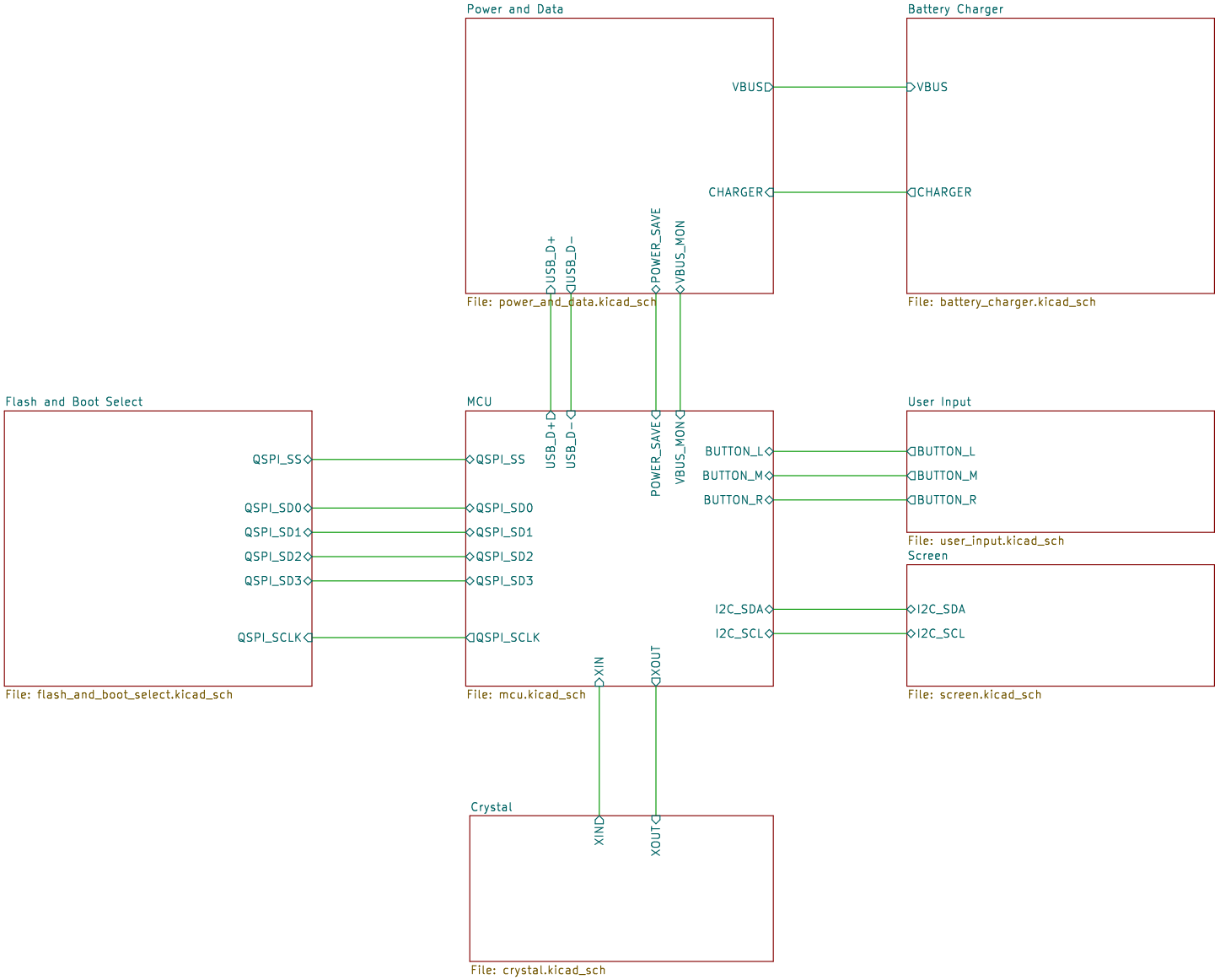


Goblin Hardwerks

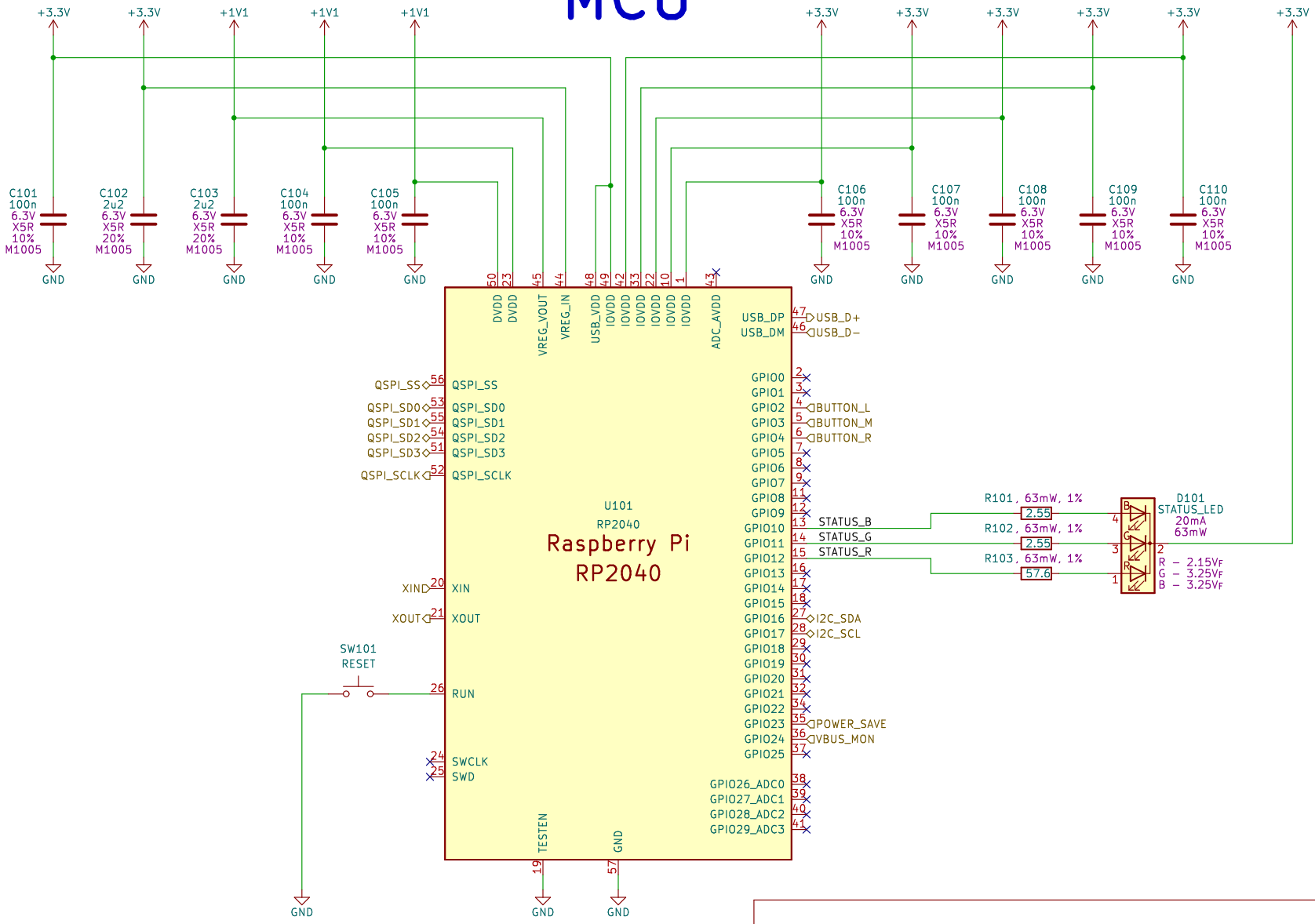
Sheet: /

File: RamaPotchi.kicad_sch

Title: RamaPotchi

Size: USLetter	Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9		Id: 0/8

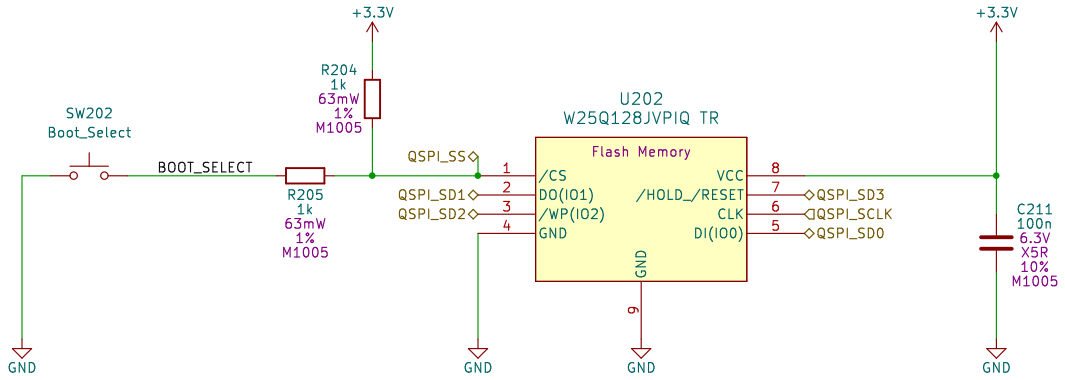
MCU



RP2040 Microcontroller.
RGB Status LED.
Hardware RESET switch.

Goblin Hardwerks	
Sheet: /MCU/	
File: mcu.kicad_sch	
Title: RamaPotchi	
Size: USLetter | Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9	Id: 1/8

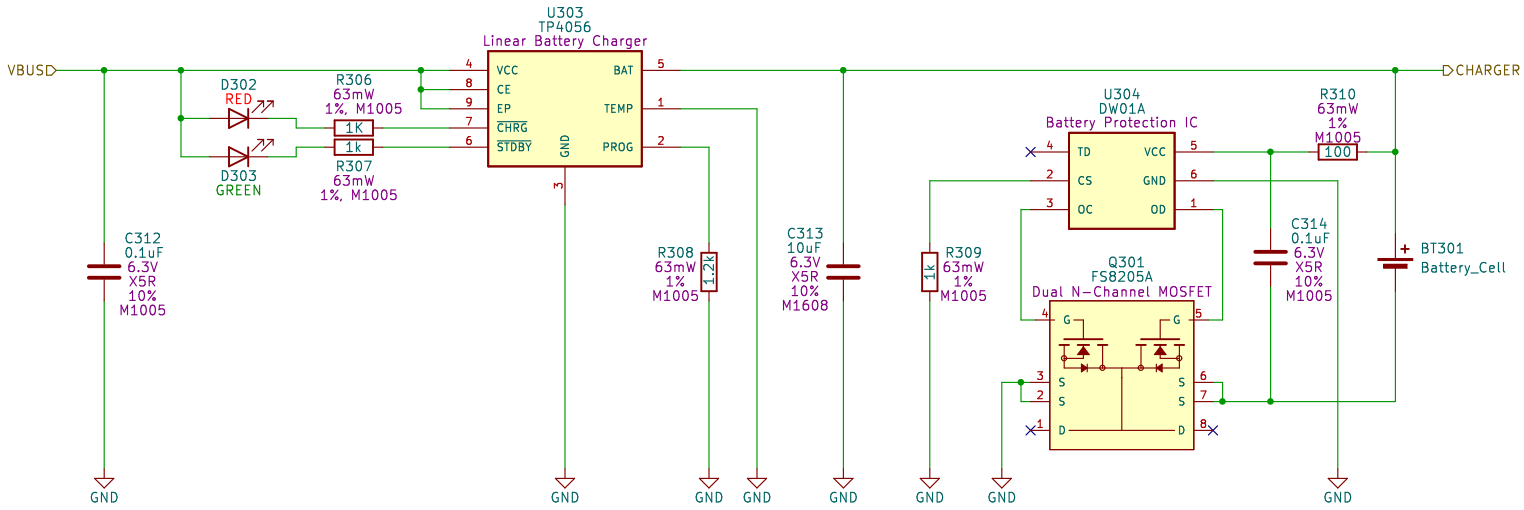
Flash and Boot Select



Quad-SPI Flash memory for MicroPython code storage.
Boot Select switch: Hold during power on to enter
USB Mass Storage mode. Allows the user to transfer
Micro Python code to the device.

Goblin Hardwerks		
Sheet: /Flash and Boot Select/		
File: flash_and_boot_select.kicad_sch		
Title: RamaPotchi		
Size: USLetter	Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9		Id: 2/8

Battery Charger



TP4056 Linear Lithium-Ion Battery Charging IC.
DW01A Over Charge, Over Discharge, and Over Current protection IC.
FS8205A Dual N-Channel MOSFET.
Manages the safe charging and discharging of the attached Lithium battery. Includes a Red charging indicator LED, and a Green standby indicator LED.

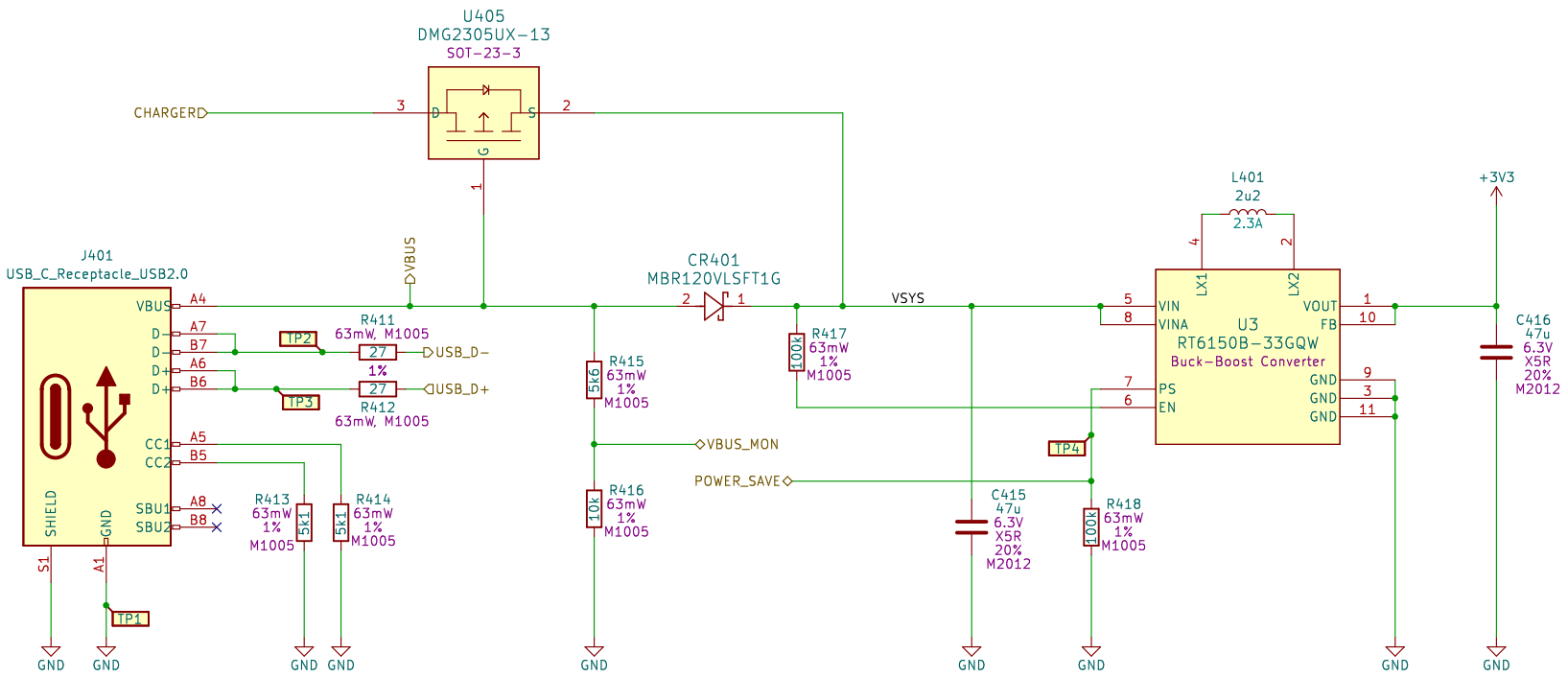
Goblin Hardwerks

Sheet: /Battery Charger/
File: battery_charger.kicad_sch

Title: RamaPotchi

Size: USLetter	Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9		Id: 3/8

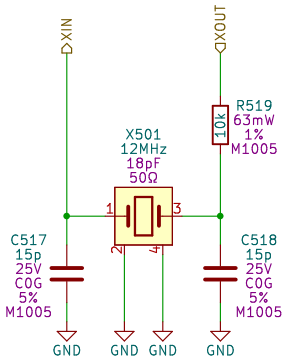
Power and Data



USB 2.0 Data and Power over USB-C.
P-Channel MOSFET for switching between internal and external power.
Buck-Boost Converter for 3.3V power.

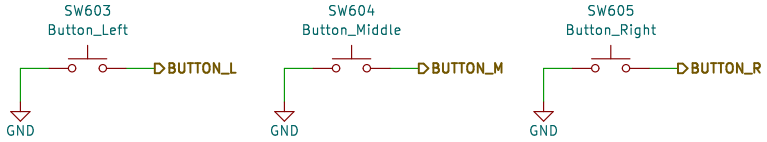
Goblin Hardwerks	
Sheet: /Power and Data/	
File: power_and_data.kicad_sch	
Title: RamaPotchi	
Size: USLetter | Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9	Id: 4/8

Crystal



Goblin Hardwerks		
Sheet: /Crystal/		
File: crystal.kicad_sch		
Title: RamaPotchi		
Size: USLetter	Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9		Id: 5/8

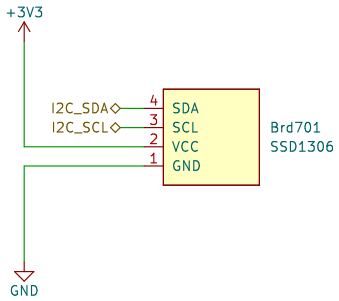
User Input



3 momentary switches for user input. Labelled by relative position: Left, Middle, and Right.

Goblin Hardwerks	
Sheet: /User Input/	
File: user_input.kicad_sch	
Title: RamaPotchi	
Size: USLetter | Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9	Id: 6/8

Screen



0.96'' 128x64 resolution monochrome OLED display, driven by a SSD1306 IC. I2C interface. 3.3V power.

Goblin Hardwerks		
Sheet: /Screen/		
File: screen.kicad_sch		
Title: RamaPotchi		
Size: USLetter	Date: 2023-12-21	**Rev: 0.2**
KiCad E.D.A. kicad 7.0.9		Id: 7/8