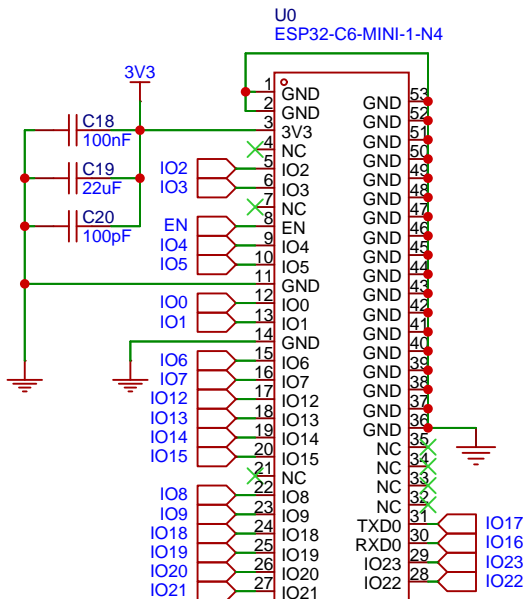


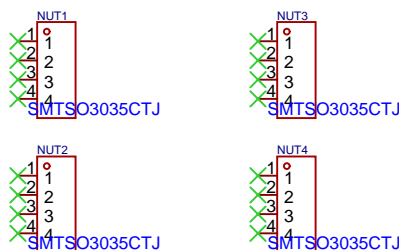
ESP32 IO LIST

IO0	SPI_SDA
IO1	SPI_SCK
IO2	POT_1
IO3	POT_2
IO4	SPI_DC
IO5	SPI_RES
IO6	INT
IO7	MRP
IO8	LDATA
IO9	SPI_BL
IO12	UD-
IO13	UD+
IO14	SDA
IO15	SCL
IO16	ENC_B
IO17	ENC_A
IO18	SPI_CS
IO19	CHRG
IO20	BAT_MEAS
IO21	MIC_WS
IO22	MIC_BCLK
IO23	MIC_DATA

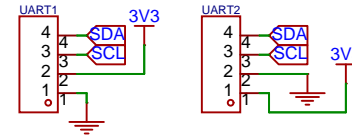
ESP32-C6



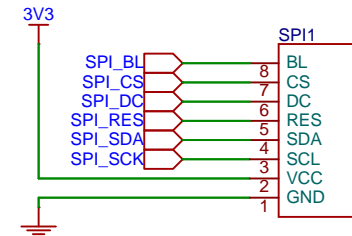
MOUNTING HARDWARE



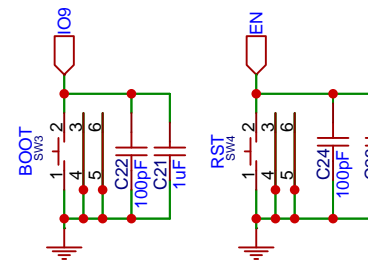
UART



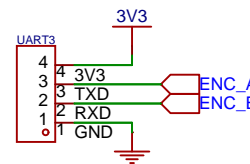
SPI



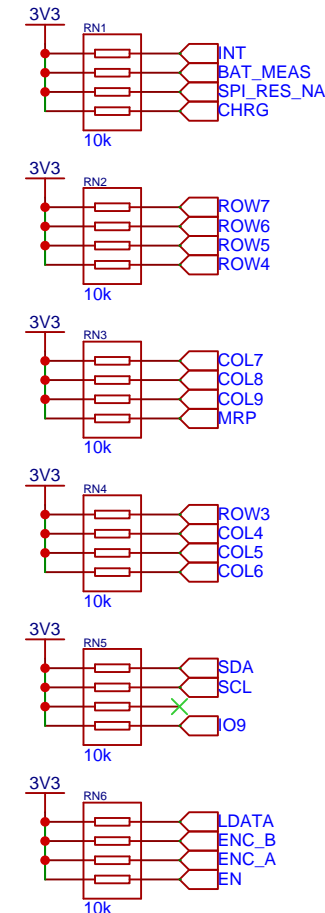
BOOT MODE IO



PROG



RESISTOR NETWORKS



Schematic

Macro keyboard + Wireless

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EasyEDA

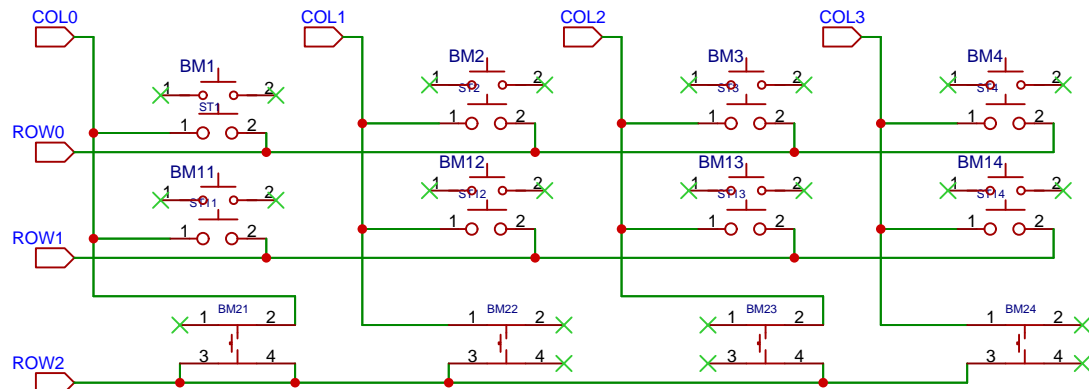
V0.1

A4

BKDN

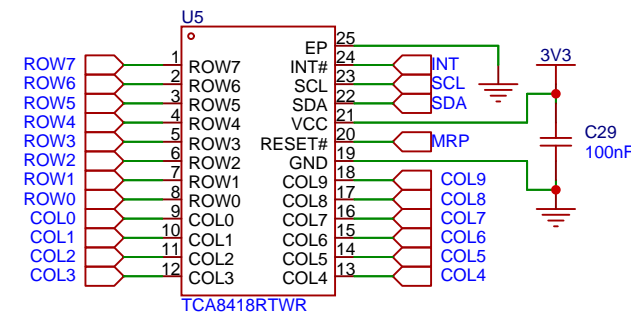
BUTTON MATRIX

BUTTONS ARE SHOWN UNCONNECTED IN SCHEMATIC.
HOT SWAPPABLE IN SOCKETS

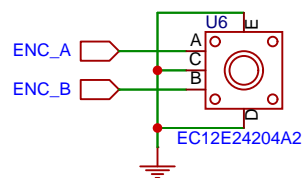


TCA8418 MATRIX IC

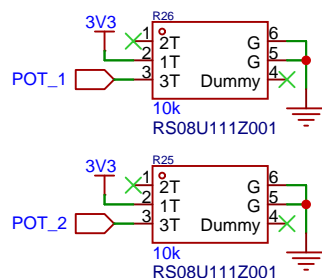
UNUSED ROWS AND COLUMNS ARE
CONNECTED THROUGH 10K PULLUPS ACC TO DATASHEET



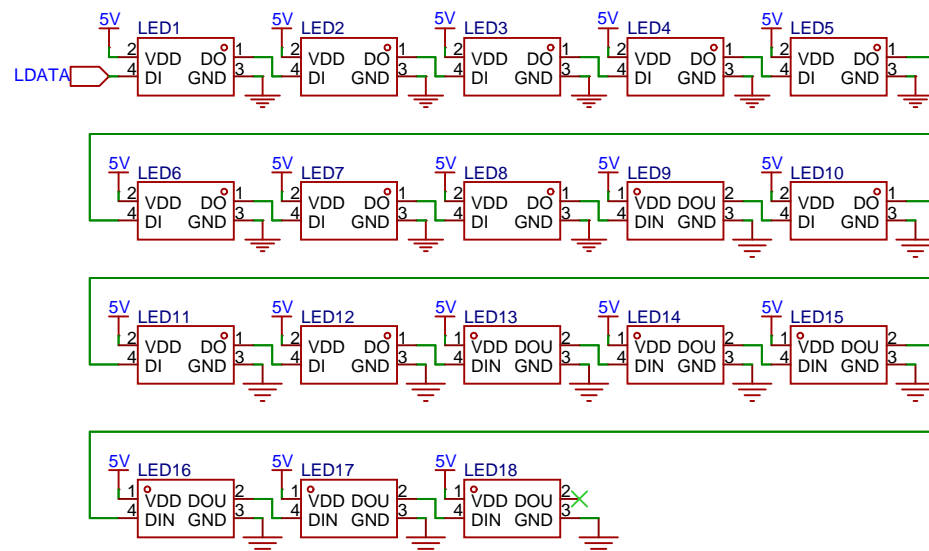
ENCODER



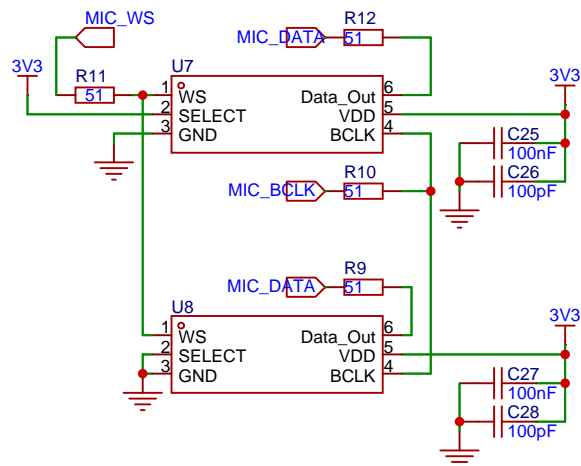
POTMETERS



RGB LEDs

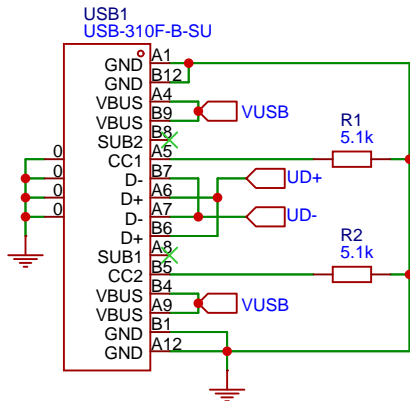


MEMS

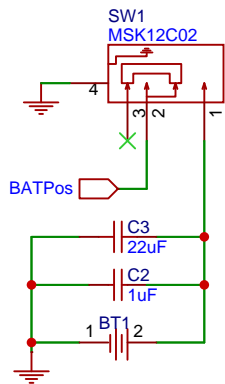


Schematic	Macro keyboard + Wireless		Update Date	2024-08-04
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USB-C CONNECTOR



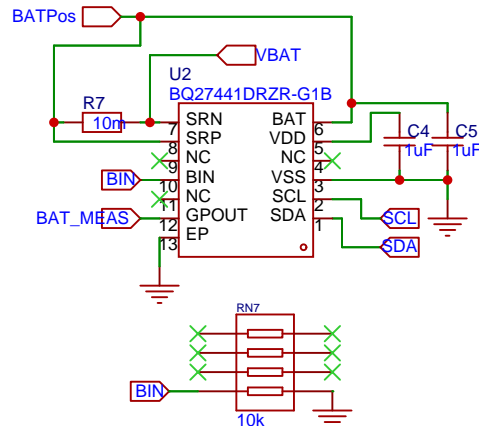
BAT HOLDER POWER SWITCH



BATTERY VOLTAGE MEASUREMENT

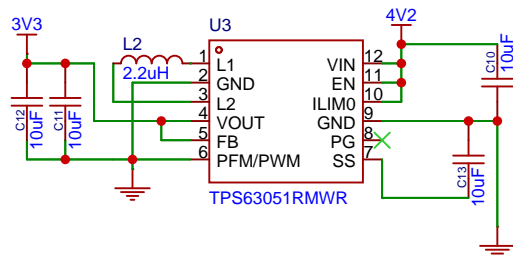
The diagram illustrates a battery voltage measurement circuit. The central component is the BQ27441DRZR-G1B IC (U2). The circuit includes the following components and connections:

- BATPos**: Connected to the SRN pin (pin 8) of the IC.
- VBAT**: Connected to the SRP pin (pin 9) of the IC.
- R7 (10n)**: A 10nF capacitor connected between the SRN and SRP pins.
- NC**: No connection pins (pins 10 and 11).
- BIN**: Connected to the BIN pin (pin 10) of the IC.
- BAT_MEAS**: Connected to the GPOUT pin (pin 12) of the IC.
- EP**: Connected to the EP pin (pin 13) of the IC.
- BAT VDD**: Connected to the BAT VDD pin (pin 6) of the IC.
- NC**: No connection pins (pins 5 and 7).
- VSS**: Connected to the VSS pin (pin 4) of the IC.
- SCL**: Connected to the SCL pin (pin 3) of the IC.
- SDA**: Connected to the SDA pin (pin 1) of the IC.
- C4 (1uF)** and **C5 (1uF)**: Two 1uF capacitors connected to the BAT VDD pin (pin 6) and the VSS pin (pin 4) respectively.
- Resistor Network (RN7)**: A network of resistors connected to the BIN pin (pin 10) and the GPOUT pin (pin 12). The network includes a 10k resistor and is connected to ground.



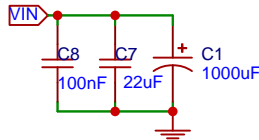
3.3V BUCK-BOOST

The diagram shows a 3.3V Buck-Boost converter circuit. The input voltage is 3V3, and the output voltage is 4V2. The circuit includes an input capacitor C12 (10uF), a feedback capacitor C11 (10uF), an inductor L2 (2.2uH), and an output capacitor C10 (10uF). The IC pins are labeled: 1 L1, 2 GND, 3 L2, 4 VIN, 5 VOUT, 6 FB, 7 PFM/PWM, 8 PG, 9 GND, 10 ILIM0, 11 EN, 12 VIN. The output voltage is 4V2.



VIN FILTER

The diagram illustrates a VIN filter circuit. It consists of three capacitors: C8 (100nF), C7 (22uF), and C1 (1000uF). The input signal VIN is connected to the left side of C8. The right side of C8 is connected to the left side of C7. The right side of C7 is connected to ground. The left side of C1 is connected to the right side of C7, and the right side of C1 is connected to the output. The output is marked with a '+' sign, indicating the positive terminal.



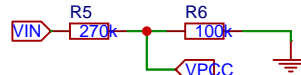
VPCC SETTING

$V_{pcc} = (R2 / (R1 + R2)) \times V_{in} = 1.23V$
 $V_{pcc} = (100K / (R1 + 100K)) \times 4.5 = 1.23V$
 $V_{pcc} = (100K / (270K + 100K)) \times 4.5 = 1.23V$

```

graph LR
    VIN[VIN] --- R5[R5 270K]
    R5 --- Node(( ))
    Node --- R6[R6 100K]
    Node --- VPCC[VPCC]
    R6 --- GND[Ground]
  
```

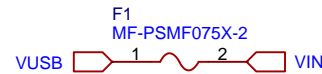
$$\begin{aligned} V_{pcc} &= (R_2 / (R_1 + R_2)) \times V_{in} = 1.23V \\ V_{pcc} &= (100K / (R_1 + 100K)) \times 4.5 = 1.23V \\ V_{pcc} &= (100K / (270K + 100K)) \times 4.5 = 1.23V \end{aligned}$$



FUSE

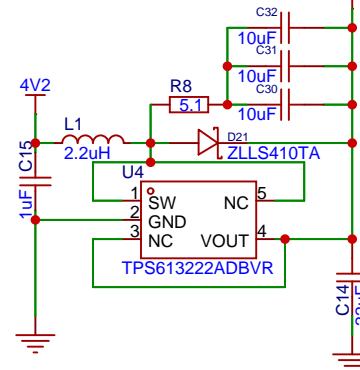
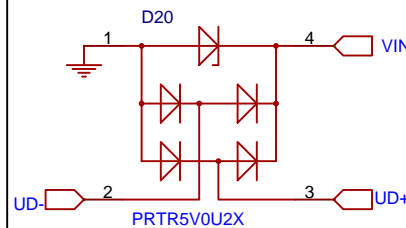
F1
MF-PSMF075X-2

VUSB 1 2 VIN

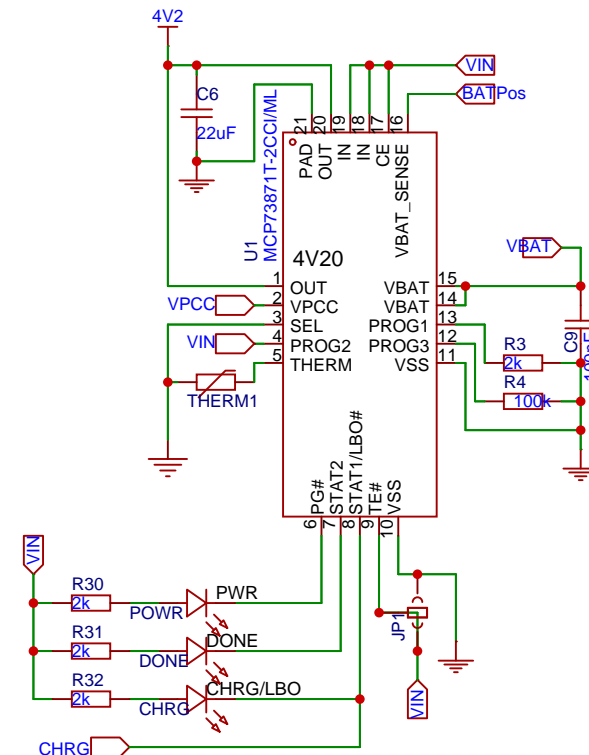



TVS DIODE ARRAY

The diagram shows a TVS Diode Array (D20) connected to a 5V0U2X component. The TVS array has four pins: 1 (GND), 2 (UD-), 3 (UD+), and 4 (VIN). The 5V0U2X component has pins 1 (GND), 2 (UD-), 3 (UD+), and 4 (VIN). The connections are as follows: Pin 1 of D20 to GND, Pin 2 of D20 to UD-, Pin 3 of D20 to UD+, and Pin 4 of D20 to VIN.

[illegible]

SETTIN	DESCRIPTION	CHOICE
SEL	POWER SOURCE SELECT (H=AC-DC, L=DC)	LOW (GND)
PROG1	FAST CHARGE CURRENT REG SETTING	2K TO GND (500mA)
PROG2	USB PORT INPUT CURRENT LIMIT	HIGH (VIN)
PROG3	TERMINATION SELECT POINT FOR INPUT	100K TO GND
TE	TIMER ENABLE (L=ON, H=OFF)	SELECT_VIN
CE	CHARGE ENABLE (L=OFF, H=ON)	NORMAL



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Reviewed	BK				
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		V0.1	A4	BKDN	