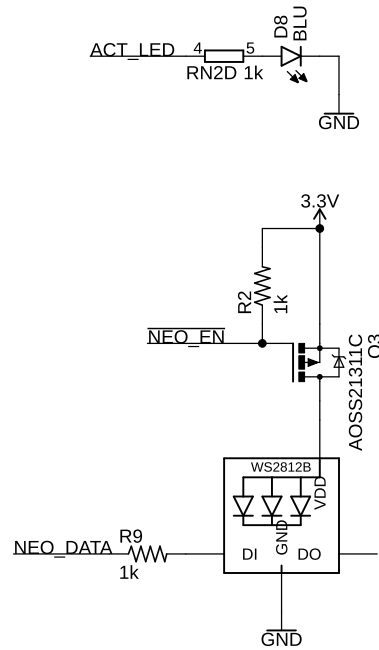


# Microcontroller

On ESP32-S3, these are IO4/748.

ESP32-S3-WROOM-1-N16R2

ON ESP32-S3-R8, IO pins 35-37  
are used by PSRAM.  
This will cause the chip to malfunction.  
**DO NOT USE AN ESP32-S3  
MODULE WITH PSRAM**



3.3V

R13 10k

S1 1\*2 2\*2

5

RST

KMR221GLFS

3.3V

R1 10k

S3 1\*2 2\*2

5

LOG\_EN

KMR221GLFS

S2 1\*2 2\*2

5

BOOT

KMR221GLFS

Application note:  
LOG\_EN should be tied to a flag  
to enable/disable logging  
when the button is held for a certain  
period of time

Input buttons with low-pass DC filters.

The RC circuit debounces  
the button press, making  
interrupts more accurate.

The debounce time is determined by

$$t = R \cdot C$$

For this case,  $t = 10000 \cdot 0.000001 = 10 \text{ ms}$

[illegible]

U8

CTG 1

CELL 2

VDD 3

EP 9

QSTRT 6

SCL 7

SDA 8

ALERT 5

BATT\_ALERT

GND 4

C3

0.1 uF

V\_BATT

GND

MAX17048G+T10

# 3V3 Regulator

Dynamic VIN selection: VBUS (USB) will override VBAT (LIPO) via D4 when both are present. When USB is present, Q1 is closed, cutting battery power. S1 controls Q2's output which allows both power sources into U2

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3V3 Regulator

U3: TPS63030DSKR

Components:

- L1: LQH3NPN1R5MJRL
- Q1: AOSS21311C
- Q2: AOSS21311C
- D4: BAT400
- R15: 100k
- R16: 100k
- C4: 0.1 uF
- TP14: 3.3V
- TP15: 3.3V
- TP16: 3.3V
- RN2B: 1k
- D6: RED LED
- S1: Switch
- S4: Switch

Connections:

- V\_USB to VIN (pin 5)
- V\_BATT to VIN (pin 8) via D4 and R16
- V\_BATT to Q1 gate (pin 4) via R16
- Q1 drain (pin 2) to V\_BATT
- Q1 source (pin 1) to Q2 gate (pin 4)
- Q2 drain (pin 2) to V\_BATT
- Q2 source (pin 1) to VIN (pin 5)
- EN (pin 6) to V\_BATT via R16 and to GND via C4
- PS/SYNC (pin 7) to GND
- VOUT (pin 1) to 3.3V (pin 2) via L1
- 3.3V (pin 2) to TP14
- 3.3V (pin 2) to TP15
- 3.3V (pin 2) to TP16
- TP16 to RN2B (1k) to D6 (RED LED)
- PGND (pin 3) to GND
- GND (pin 9) to GND

# USB-C Connector

Passive detection for USB plug-in. This is tied to a flag enable debugging USB MSC when a USB is plugged in

REV:  
F5

Sheet: 1/1