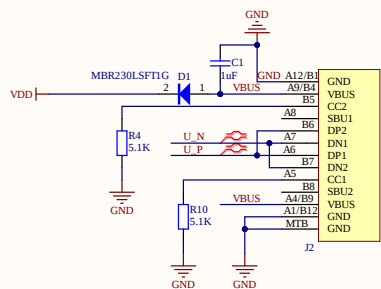


Type-C Interface

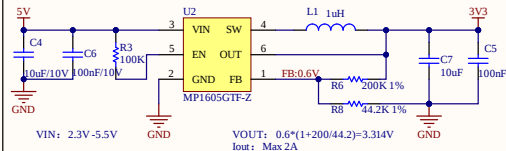


DC-DC

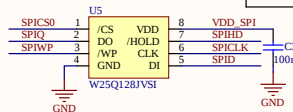
VIN: 2.3V-5.5V

VOUT: $0.6 \times (1 + 200/44.2) = 3.314V$

Iout: Max 2A



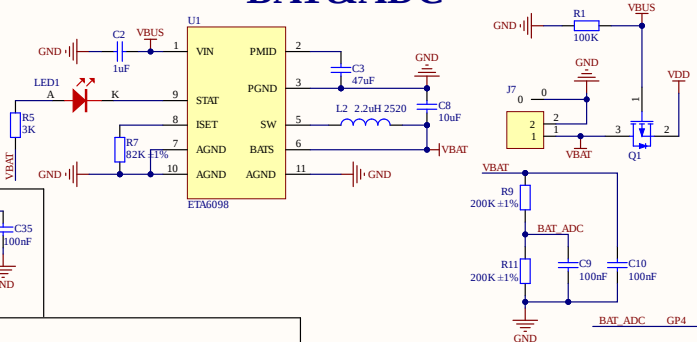
The diagram shows the connection of a W25Q128VSI flash memory to a microcontroller (U5). The microcontroller pins are SPICSO (1), SPIQ (2), SPIWP (3), and GND (4). The flash memory pins are /CS (8), VDD (7), DO /HOLD (6), W/P (5), CLK (6), SPICLK (7), SPID (5), and DI (6). A 100nF capacitor (C35) is connected between VDD and GND. A 3K resistor (R5) is connected between VBIAS and GND.



BAT&ADC

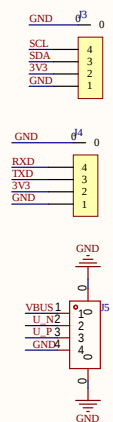
The schematic diagram illustrates the internal circuitry of the BAT&ADC module. Key components include:

- U1 (ETA6098):** The main IC, with pins labeled VIN, PMID, PGND, STAT, ISET, SW, AGND, BAIS, and AGND.
- Capacitors:** C2 (1uF), C3 (47uF), C5 (100uF), C8 (10uF), C9 (100nF), and C10 (100nF).
- Resistors:** R1 (100K), R5 (3K), R7 (82K), R9 (200K ±1%), and R11 (200K ±1%).
- LEDs:** LED1 and LED A.
- Power Supply:** VBAT, VBUS, and GND connections.
- Output:** BAT_ADC and GP4 connections.



OUTPUT

The diagram shows the output connections for the Raspberry Pi 4B. It includes three 4-pin headers and a 15-pin connector. The top header is connected to SCL, SDA, 3V3, and GND. The middle header is connected to RXD, TXD, 3V3, and GND. The bottom header is connected to VBUS, U_N2, U_F3, GND4, and a ground symbol. A 15-pin connector is shown between the middle and bottom headers, with pins 1, 2, 3, 4, and 5 connected to the bottom header's pins 1, 2, 3, 4, and 5 respectively. The bottom header is connected to a ground symbol.



LCD_BL

The circuit diagram, titled "LCD_BL", illustrates a power management system for an LCD backlight. It features a boost converter section and two LED driver sections.

Boost Converter Section:

- Input:** A 5V supply is connected to the input of the boost converter (pin 4 of the AP3032). A 100nF capacitor (C12) is connected to the input, and a 100nF/25V capacitor (C16) is connected to the input ground.
- Control:** The EN pin (pin 6) is connected to a 3V3 supply through a 10k resistor (R15). The FB pin (pin 3) is connected to the output of the feedback divider (R27 and R28) through a 100nF capacitor (C17).
- Inductor:** A 10uH inductor (L3) is connected between the input and output of the boost converter.
- Output:** The output of the boost converter (pin 5) is connected to the anode of a 1N5819 diode (D2). The cathode of the diode is connected to the output ground.

LED Driver Section:

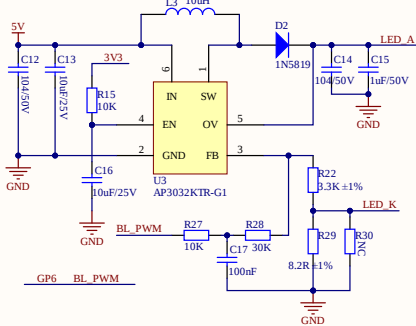
- LED A:** The output of the boost converter (pin 5) is connected to the anode of LED A. The cathode of LED A is connected to the output ground through a 100nF/50V capacitor (C14) and a 1uF/50V capacitor (C15).
- LED K:** The output of the boost converter (pin 5) is connected to the anode of LED K. The cathode of LED K is connected to the output ground through a 100nF/50V capacitor (C14) and a 1uF/50V capacitor (C15).

Other Components:

- AP3032:** The main power management IC, labeled "AP3032KTR-G1".
- Resistors:** R27 (10k), R28 (30k), R29 (8.2R ±1%), and R30 (8.2R ±1%).
- Capacitors:** C12 (100nF), C13 (3V3), C14 (100nF/50V), C15 (1uF/50V), C16 (100nF/25V), and C17 (100nF).
- Diode:** D2 (1N5819).

Connections:

- 5V:** Input supply voltage.
- 3V3:** Control supply voltage.
- LED A:** Backlight LED A.
- LED K:** Backlight LED K.
- GND:** Ground connection.
- BL_PWM:** Pulse-width modulation signal for the backlight.
- GP6:** General purpose input/output signal.



SD Card

TF1

1 D2
2 CS
3 D3
4 D4
5 D5
6 D6
7 D7
8 D8
9 D9
10 D10

3V3
C11 100nF
GND

9 GND
10 GND

SD CLK GP1
SD MISO GP2
SD MOSI GP2
SD CS GP2
NC R16GP0

17 R17 10K
18 R18 10K
19 R19 10K
20 R20 10K
21 R21 10K
22 R22 10K
23 R23 10K
24 R24 10K
25 R25 NC
26 R26 NC

SD CS NC
SD CLK
SD MISO
SD MOSI
SD D2
SD D1

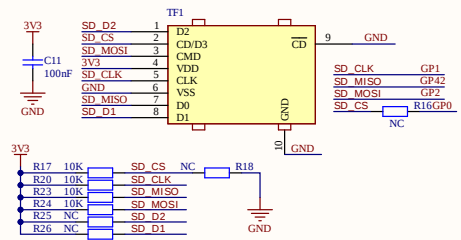
3V3
GND

QMI

U14 QMB658

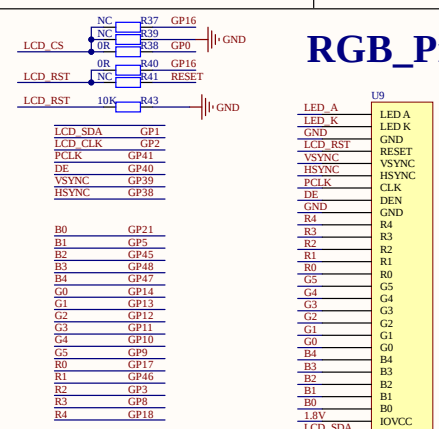
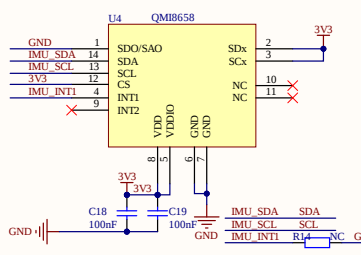
1 SDO/SAO
2 SDx
3 SCx
4 IMU SDA
5 IMU SCL
6 IMU VCC
7 IMU GND
8 IMU SDA
9 IMU SCL
10 IMU VCC
11 IMU GND

3V3
GND



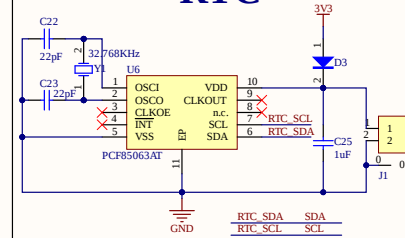
Pin connection diagram for the RGB_Prot module. The diagram shows connections for LCD CS, LCD RST, LCD SDA, LCD CLK, PCLK, VSYNC, HSYNC, B0-B4, R0-R4, G0-G4, and I0-I4. The connections are as follows:

- LCD CS: NC
- LCD RST: OR
- LCD SDA: GP1
- LCD CLK: GP2
- PCLK: GP4
- VSYNC: GP40
- HSYNC: GP39
- B0: GP21
- B1: GP5
- B2: GP45
- B3: GP48
- B4: GP47
- G0: GP14
- G1: GP13
- G2: GP12
- G3: GP11
- G4: GP10
- G5: GP9
- R0: GP17
- R1: GP46
- R2: GP3
- R3: GP18
- R4: GP19
- I0: GP22
- I1: GP23
- I2: GP24
- I3: GP25
- I4: GP26

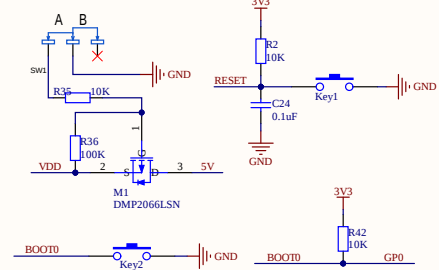
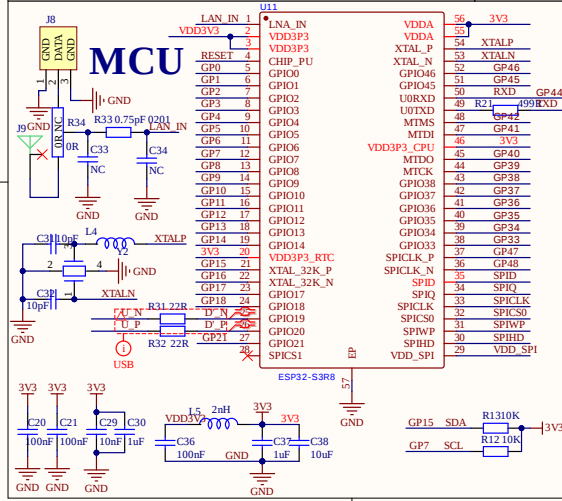
[illegible]

GP37
 GP36
 GP35
 GP34
 GP33
 GP47
 GP48
 SPID
 SPIQ
 SPCLK
 SPICLK
 SPIC50
 SPIWP
 SPHID
 VDD SP1

C22
 22pF
 3V3
 U6
 32.768KHz
 C23
 22pF
 1
 2
 OSC1
 OSC0
 CLKOUT
 CLKOE
 INT
 VSS
 PCF85063AT
 10
 9
 8
 7
 6
 VDD
 SCL
 SDA
 RTC_SCL
 RTC_SDA
 C25
 1uF
 1
 2
 0
 0
 J1
 3V3
 D3
 GND
 RTC_SDA
 SDA
 RTC_SCL
 SCL



KEY&SWITCH

[illegible]

GPIO	LCD	SD_Card	IMU	RTC	URAT	KEY_IO	Other
IO0						BOOT0	IO0
IO1	LCD_SDA	SD_CLK					
IO2	LCD_CLK	SD_MOSI					
IO3	R2						
IO4							BAT_ADC
IO5	B1						
IO6	BL_PWM						
IO7			IMU_SCL	RTC_SCL			SCL
IO8	R3						
IO9	G5						
IO10	G4						
IO11	G3						
IO12	G2						
IO13	G1						
IO14	G0						
IO15			IMU_SDA	RTC_SDA			SDA
IO16	LCD_RST						
IO17	R0						
IO18	R4						
IO19							USB_N
IO20							USB_P
IO21	B0						
IO38	HSYNC						
IO39	VSYNC						
IO40	DE						
IO41	PCLK						
IO42	LCD_CS	SD_MISO					
IO43					TXD		U0_TXD
IO44					RXD		U0_RXD
IO45	B2						
IO46	R1						
IO47	B4						
IO48	B3						
RESET						CHP_UP	