

POWER

The POWER section circuit includes the following components and connections:

- Lithium Ion Battery (3.7V to 4.2V):** Connected to the +BATT pin.
- TestPoint BATT_P1:** Located on the +BATT line.
- BATT_H1:** A test point for the battery voltage.
- U2: 1639150p33r:** A voltage regulator or monitoring IC. Its GND is connected to ground, EN is connected to +BATT, AD is connected to a 3V3 output, IN is connected to +BATT, and OUT is connected to the 3V3 output. A 10uF capacitor (C3) is connected to the IN pin, and a 10uF capacitor (C6) is connected to the OUT pin.
- 3V3:** A regulated 3.3V output line.
- U1: SN74LVC1G125DRYR:** A monostable multivibrator used as a power switch. Its DE pin is connected to +BATT, A pin is connected to ground, and the output (Q) is connected to the +BATT line. A 1k resistor (R1) is connected between +BATT and the output, and a 10uF capacitor (C2) is connected to the output to ground.
- U3: MAX1605AAZT:** A power switch or monitoring IC. Its VCC pin is connected to +BATT, IN pin is connected to the output of U1, and the output (OUT) is connected to the +BATT line. A 1k resistor (R9) is connected between the output and ground. A 10uF capacitor (C8) is connected to the VCC pin to ground.
- power_shutdown:** A signal line connected to the CLEAR pin of U3.
- U5: NCP73833T-FCLJIN:** A Lithium Battery Charger/Manager. Its PROG pin is connected to +BATT, THERM pin is connected to ground, VDD pin is connected to +BATT, VSS pin is connected to ground, VBAT pin is connected to +BATT, and VBAT2 pin is connected to +BATT. A 10k resistor (R14) is connected between +BATT and the VBAT pin, and a 10uF capacitor (C15) is connected to the VBAT2 pin to ground.

Notes:

- No ground separation between signal/power domain. Board is too crowded to implement that.
- <Power Switch>: Hysteresis = push button driver

User Buttons

The image displays two circuit diagrams for user buttons, both connected to a +3V3 supply and ground.


Left Circuit (stream_button):

- The circuit is connected to a +3V3 supply.
- A resistor R2 (10k) is connected between the +3V3 supply and the button input.
- A resistor R3 (470k) is connected between the button input and the button output.
- A capacitor C1 (1uF) is connected between the button output and ground.
- The button input is labeled "stream_button".
- The button output is labeled "EV6-7701P".

Right Circuit (flash_light_button):

- The circuit is connected to a +3V3 supply.
- A resistor R5 (10k) is connected between the +3V3 supply and the button input.
- A resistor R6 (240) is connected between the button input and the button output.
- A capacitor C4 (1uF) is connected between the button output and ground.
- The button input is labeled "flash_light_button".
- The button output is labeled "EV6-7701P".

Mechanical Drillings



The diagram illustrates two mechanical drillings, H1 and H2, on a red pad. Each drilling is represented by a red circle with a black dot in the center, connected by a red line to a red pad. The pad is labeled 'MountingHole_Pad'.

The diagram shows the I2S MIC module (M11 SPH0645LM4H-B) with the following connections:

- VDD**: Connected to +3V3.
- GND**: Connected to ground.
- DATA_BUS**: Connected to a 12k pull-up resistor to +3V3 and a 100k pull-down resistor to ground.
- SELECT**: Connected to a 12k pull-up resistor to +3V3 and a 33 ohm resistor to ground.
- +3V3**: Power supply, connected to a 1uF capacitor to ground.

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