
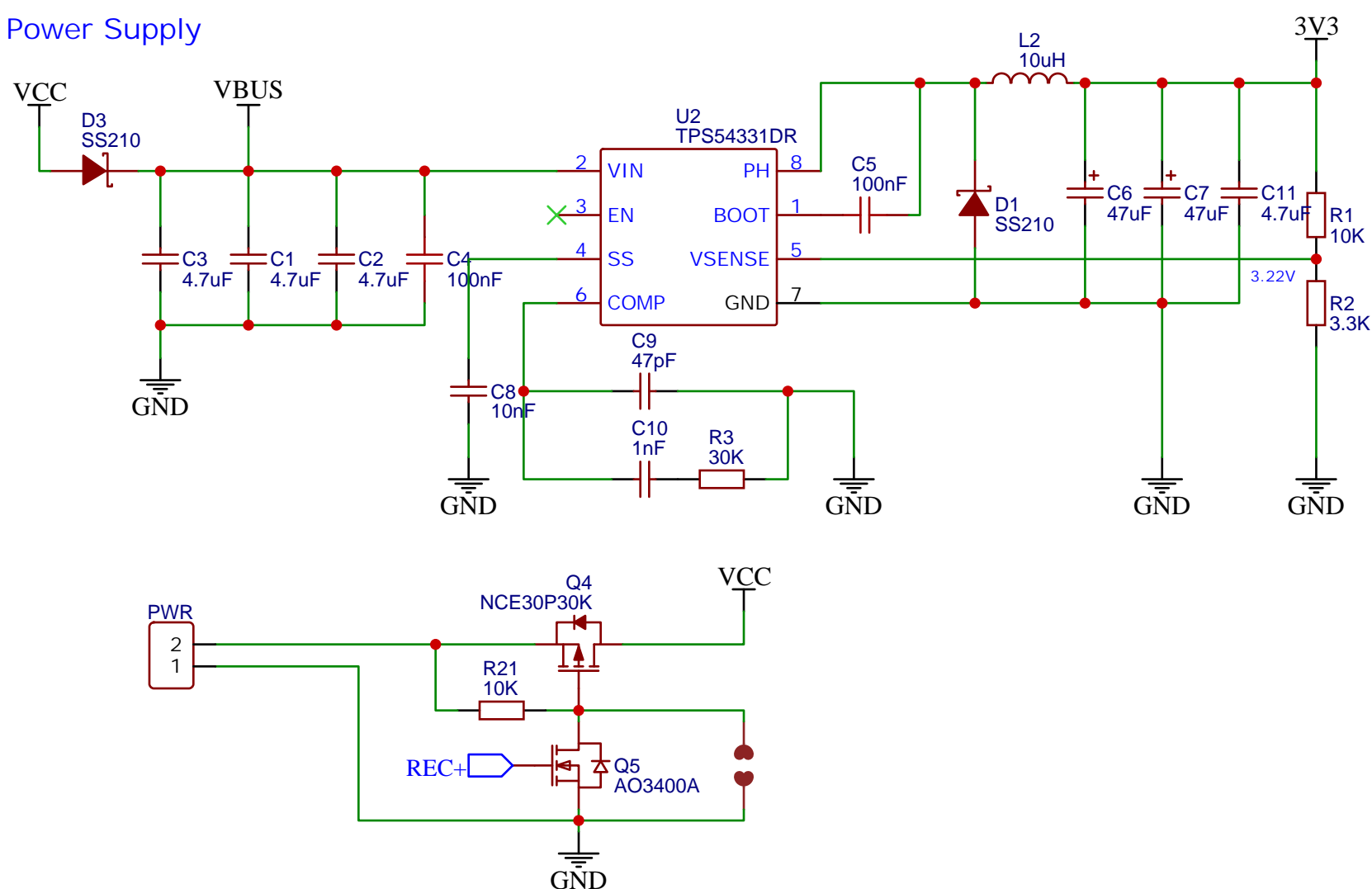



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The schematic diagram illustrates the hardware circuit for the microcontroller. Key components and connections include:

- Power Supply:** VCC and GND connections. A voltage divider (R4, R5) provides VBAT. A decoupling capacitor (C12) is connected to VBAT.
- LED:** LED1 (KT-0603R) is connected to GND through resistor R6 (200Ω).
- GPIOs:** GPIO0 (nRES), BOOT, and GPIO1 are connected to 3V3 and GND through resistors R7 (10K) and R10 (10K).
- Diode:** D2 (SMF05CT1G) is connected to TX3, RX3, SEN, and RECS.
- Connectors:** H1 Ext, H2 (HDR-F-2.54 1x3), and H3 (HDR-F-2.54 1x3) are connected to TX3, RX3, RECS, SEN, and GND through resistors R11, R12, R13, and R14.
- Capacitor:** C18 (100nF) is connected to VCC and GND.

The diagram illustrates a 6-channel signal conditioning module. It consists of three NCE6005AS comparators (Q1, Q2, Q3) and a 12-pin header (J1). Each channel (CH1-CH6) has a differential input pair (CH1, CH2; CH3, CH4; CH5, CH6) connected to the comparators via 10k resistors (R15, R16; R17, R18; R19, R20). The comparators' outputs (D1, D2) are connected to the header pins. The header is labeled 'HDR-M-2.54\_2x6'. The circuit is powered by VCC and GND.

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