

nPM1100 Evaluation Board — Reference Schematic (Summary)

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Top-level nets:

- VBUS_IN (5.0 V input)
- GND (system ground)
- VBAT (battery)
- VOUTB (3.0 V buck output)
- CHG (charge status)
- ERR (fault/indicator)
- ICHG (charge current set resistor)
- VOUTBSET0, VOUTBSET1 (voltage selection / solder jumpers)
- MODE (operating mode / solder jumper)

Key Components & Connections:

- U1: nPM1100 QFN24 (4x4 mm)
 - * VBUS pins -> VBUS_IN
 - * VBAT -> battery pad (BATT+)
 - * VOUTB -> Buck output (3.0 V), connect L1 and C_OUT close to device
 - * ICHG -> R_ICHG to AVSS (use 1.5 k Ω for 200 mA)
 - * VOUTBSET0/1 -> solder-bridges tied HIGH for 3.0V (connect to VSYS/DEC)
 - * CHG, ERR -> drive LED_CHG and LED_PWR via series resistors
 - * MODE -> solder jumper to select AUTO/PWM

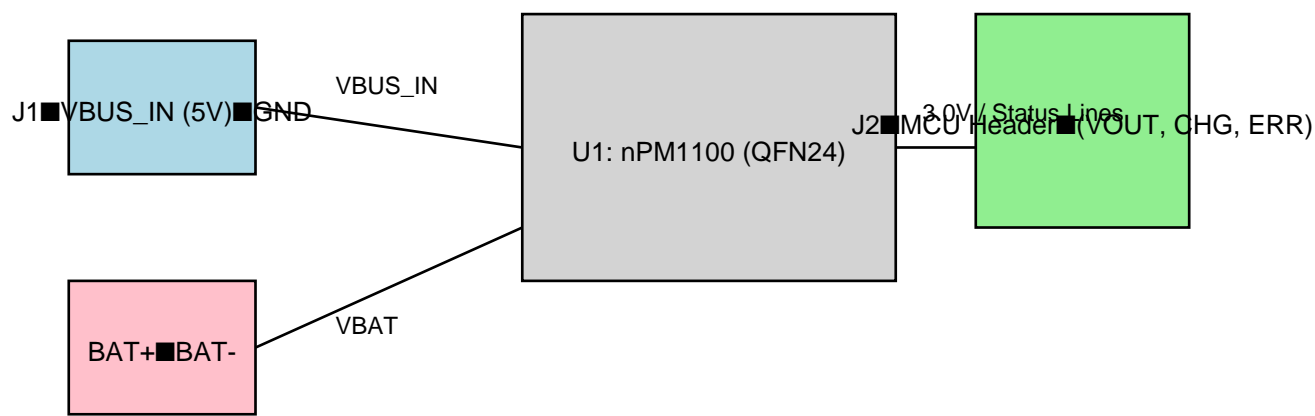
Passive recommendations:

- CIN: 10 μ F (0805) near VBUS pins
- C_DEC: 0.1 μ F (0603) near VBUS pins
- L1: 2.2 μ H inductor (0805/1206) between SW/DEC and VOUTB
- C_OUT: 10 μ F (0805) between VOUTB and GND
- R_ICHG: 1.5 k Ω (0603) to set 200 mA charge current
- LED resistors: 1 k Ω (0603)
- Battery ADC divider: Rtop=47k, Rbot=100k, Cdiv=10nF

Board Constraints:

- Size \leq 35mm x 35mm
- 4 layers max
- All SMD top-mounted
- 0403 \leq component size \leq 0805
- Expose MCU pins via header (VBUS, VBAT, CHG, ERR, GND, MODE)

nPM1100 Evaluation Board — Block Diagram



Block-level connections for nPM1100 Evaluation Board