SENSOR SUHU WIFI MINI v0.1 (CONTOH rancang.in)

ESP32-C3-MINI-1 · SHT40 · USB-C (5 V + data) · AP2112K 3,3 V · ±40 x 25 mm, 2 lapis

Contoh desain, belum diproduksi, belum diuji di perangkat keras.

Papan

USB-C 16P + USBLC6 (ESD)

AP2112K-3.3 LDO

ESP32-C3-MINI-1-N4 + EN/BOOT

SHT40 + pull-up I2C, LED status

Generated by gen_sensor_suhu_wifi_mini.py — lihat README.md.

File: papan.kicad_sch

rancang.in contoh: ESP32-C3 + SHT40, USB-C

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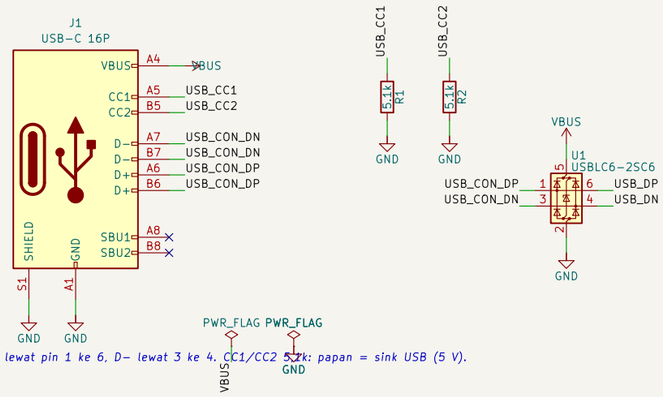
File: sensor-suhu-wifi-mini.kicad_sch

Title: Sensor suhu WiFi mini v0.1

Size: A3	Date: 2026-10-28	**Rev: 0.1**
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USB-C 5 V + DATA

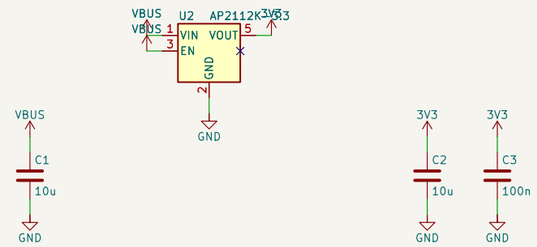
TYPE-C-31-M-12 16P · D+/D- ke USB-Serial-JTAG ESP32-C3 · CC 5,1k



USBLC6: D+ lewat pin 1 ke 6, D- lewat 3 ke 4. CC1/CC2 5,1k: papan = sink USB (5 V).

3,3 V — AP2112K-3.3

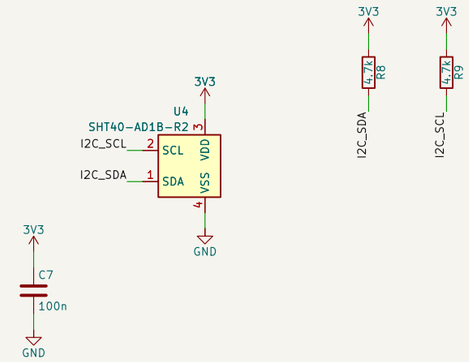
LDO 600 mA, VIN maks 6 V · dari VBUS 5 V · ±0,17 W saat WiFi



CIN dan COUT >= 1 uF keramik (datasheet DS39724 catatan 4); 10 uF untuk puncak WiFi.

SHT40-AD1B — I2C 0x44

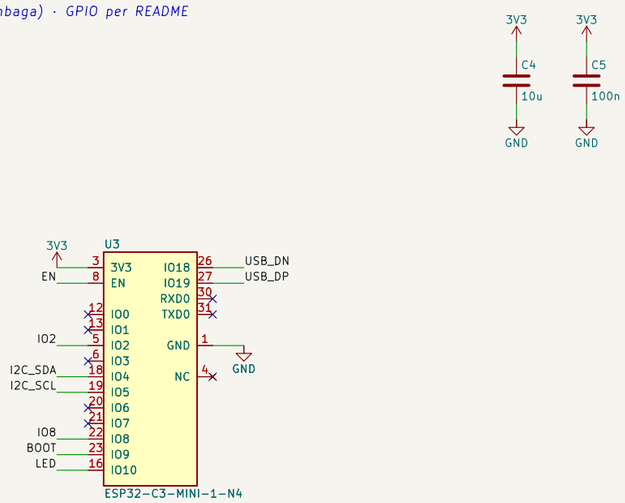
Suhu ±0,2 C · RH ±1,8 % · pull-up 4,7k · IO4 SDA, IO5 SCL



Tanpa tembaga di bawah sensor selain pad pin (datasheet bagian 5.3); jauhkan dari ESP32-C3.

ESP32-C3-MINI-1-N4

Flash 4 MB · antena PCB (tepi papan, bebas tembaga) · GPIO per README

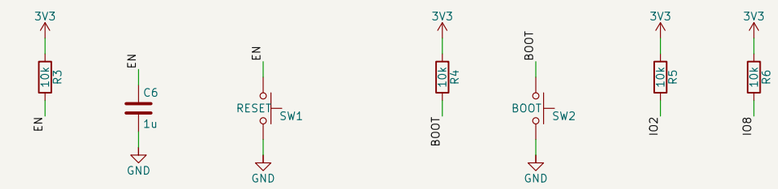


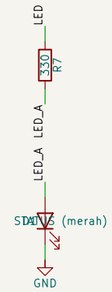
IO0, IO1, IO3, IO6, IO7, RXD0, TXD0 tidak dipakai (flag NC). IO2, IO8, IO9 = strapping (README).

RESET, BOOT, STRAPPING, LED

EN: RC 10k + 1 uF · BOOT = IO9 · pull-up 10k IO2/IO8

Boot normal: IO2=1, IO9=1 (SPI boot). Download: tahan BOOT (IO9=0) lalu RESET, atau cukup colok USB: USB-Serial-JTAG bawaan, tanpa chip UART.





LED merah Vf ±2 V: ±4 mA dari 3,3 V lewat 330 ohm (IO10).

rancang.in contoh: ESP32-C3 + SHT40, USB-C

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Title: Sensor suhu WiFi mini: USB-C, LDO 3,3 V, ESP32-C3-MINI-1, SHT40

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