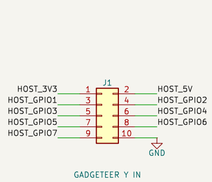
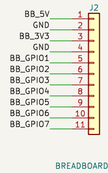
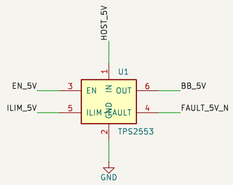
01 / GADGETEER Y INPUT J1 (HOST) AND BREADBOARD HEADER J2 (11 STRIPS)

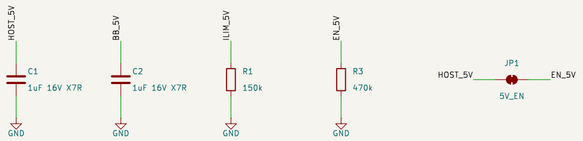






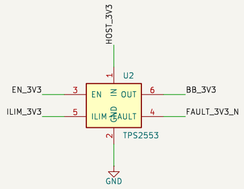
02 / 5V RAIL LIMITER U1 (TPS2553, RILIM 150k = 155/179/207 mA), JUMPER JP1 = 5V_EN

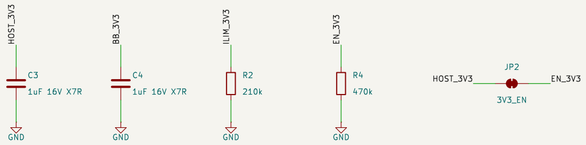






03 / 3V3 RAIL LIMITER U2 (TPS2553, RILIM 210k = 110/129/151 mA), JUMPER JP2 = 3V3_EN

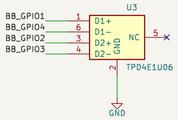


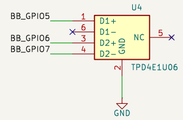




04 / GPIO PATH: HOST_GPIOn -> 330R -> BB_GPIOn -> J2, ESD ARRAYS U3 (GPIO1-4) AND U4 (GPIO5-7), GND TEST PADS









05 / INDICATORS: D1 5V PWR, D3 5V OVERCURRENT (FAULT#), D2 3V3 PWR, D4 3V3 OVERCURRENT



NETS: J1.1 HOST_3V3 -> U2.IN; J1.2 HOST_5V -> U1.IN; J1.3-9 HOST_GPIO1-7 -> R9-R15 only; J1.10 GND. J2: 1 BB_5V, 2 GND, 3 BB_3V3, 4 GND, 5-11 BB_GPIO1-7.

PIN MAP (01, CLAUDE.md Y row): host pin 1 +3.3V, pin 2 +5V, pins 3-9 GPIO1-7 (3 = GPIO1), pin 10 GND. Physical V2 Prime pin-1 mark NOT inspected (Q-PIN1).

U1/U2 TPS2553 auto-restart limiters: IN host rail, OUT breadboard rail. EN is tied to IN through bridged solder jumper JP1/JP2; R3/R4 470k pull EN low when the jumper is cut.

FAULT# (open drain) lights the amber LED from the HOST rail through R7/R8, no extra pull-up part; LED off does NOT mean safe.

U3/U4 TPD4E1U06 tap BB_GPIOn at the header entry, ahead of nothing else: pin 5 (and U4 pin 6, spare channel) carry explicit no-connect flags.

PWR_FLAGs: HOST_5V, HOST_3V3, GND. None on BB_5V/BB_3V3 because TPS2553 OUT is a power_out driver (a second driver would be an ERC pin conflict).

No external supply input, no chain socket, no pulls on GPIO (contract D2, D4). Rails are OUTPUTS: never feed power into the strips (7 V max, abs. max of the TPS2553).

GPIO is 3.3 V only (not 5 V tolerant), <5 MHz, 330R in series. NO HOT-PLUG. Study (v01): first cut, not qualified, not for fabrication until the checklist is signed off.

CERN-OHL-S-2.0 | KiCad only | black solder mask, white silkscreen | generated from design-contract.json by tools/create_schematic.py

Y socket to 11 breadboard strips, two TPS2553 rail limiters, 330R + ESD on seven GPIO
Generated from design-contract.json by tools/create_schematic.py
Smoothieware / CERN-OHL-S-2.0

Sheet: /
File: breadboard.kicad_sch

Title: Smoothie Breadboard adapter (Y socket to 11 breadboard strips)

Size: A2	Date: 2026-10-01	**Rev: v01**
KiCad E.D.A. 9.0.8		Id: 1/1