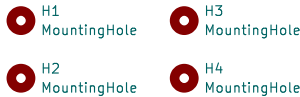
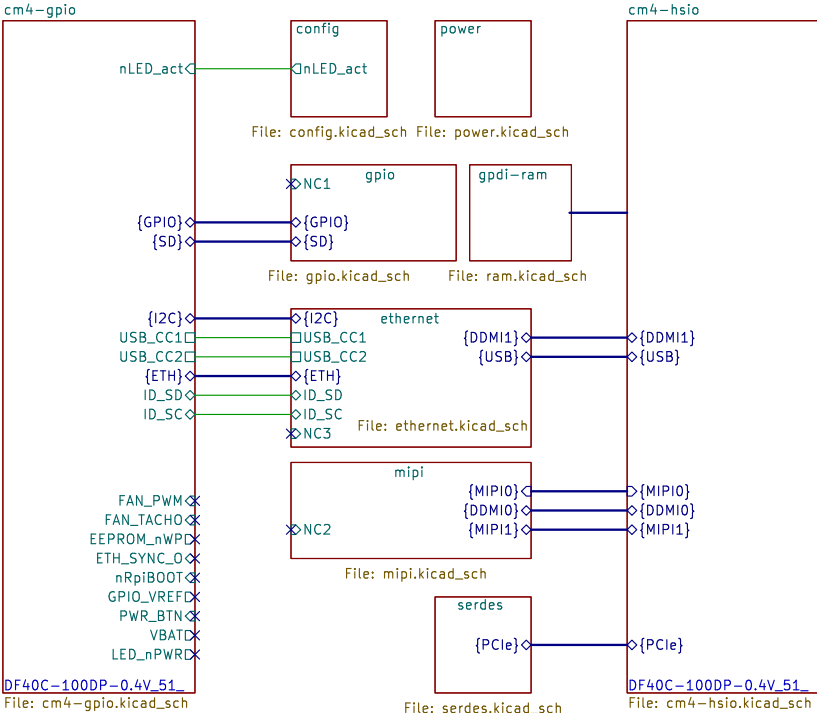
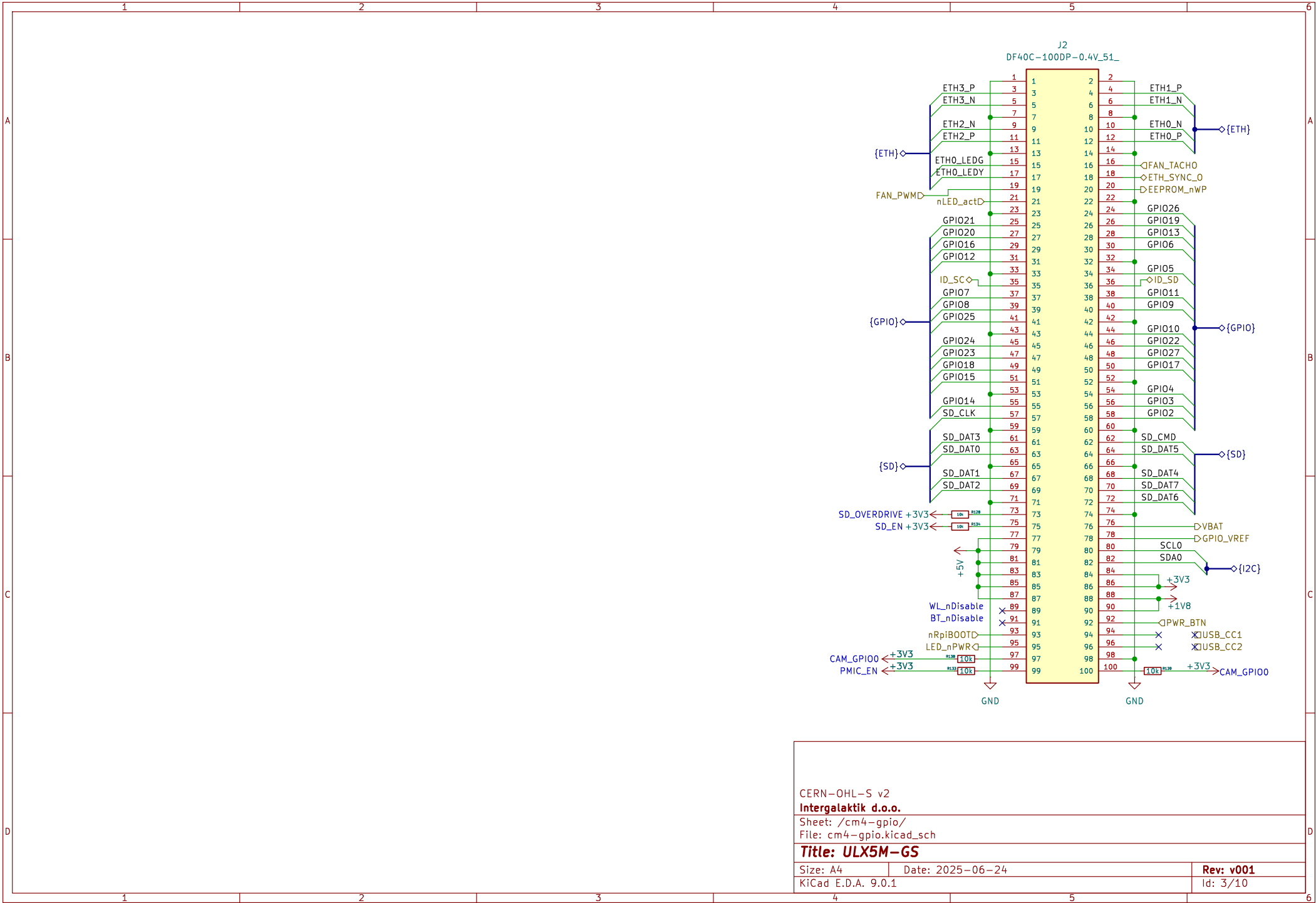


ULX5M Brainstorm

- * Power regulators
 - * [MPM3833C](https://www.monolithicpower.com/en/mpm3833c.html) 0.9V..1.1V V_core, 3A
 - * [TI62569](https://www.ti.com/lit/ds/symlink/tlv62569.pdf?ts=1709559273755) 1.2V, 1.8V, 2.5V, 3.3V V_io, 2A
- * GateMate
 - * compatibility to A1/A2/A4
 - * ext. clock: 100 MHz lvds (can be used for both serdes and pll), no other ext. clock required
- * programmer interface
 - * usb bootloader from ULX4 (TODO for patrick, check if sd boots @ 1V8)
 - * use usb-c connector
 - * select between flash and jtag config (DIP switch)
- * Gigabit Ethernet
 - * RTL8211E
- * SDRAM 1V8
- * Interfaces
 - * [X] SD Card (7 gpio) -- with levelshifter? (TODO for patrick)
 - * [X] RPi GPIO (26 gpio) -- 1V8 / 3V3 (user can select)
 - * [X] HDMI0 (8+2 gpio) -- at least
 - * [X] HDMI1 (8+2 gpio)
 - * [X] MIPI-CSI0 (6 gpio) -- at least
 - * [X] MIPI-CSI1 (10 gpio)
 - * [X] MIPI-DSI0 (6 gpio)
 - * [X] MIPI-DSI1 (10 gpio)
 - * [X] USB (2 gpio) -- with levelshifter?





CERN-OHL-S v2

Intergalaktik d.o.o.

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File: cm4-gpio.kicad_sch

Title: ULX5M-GS

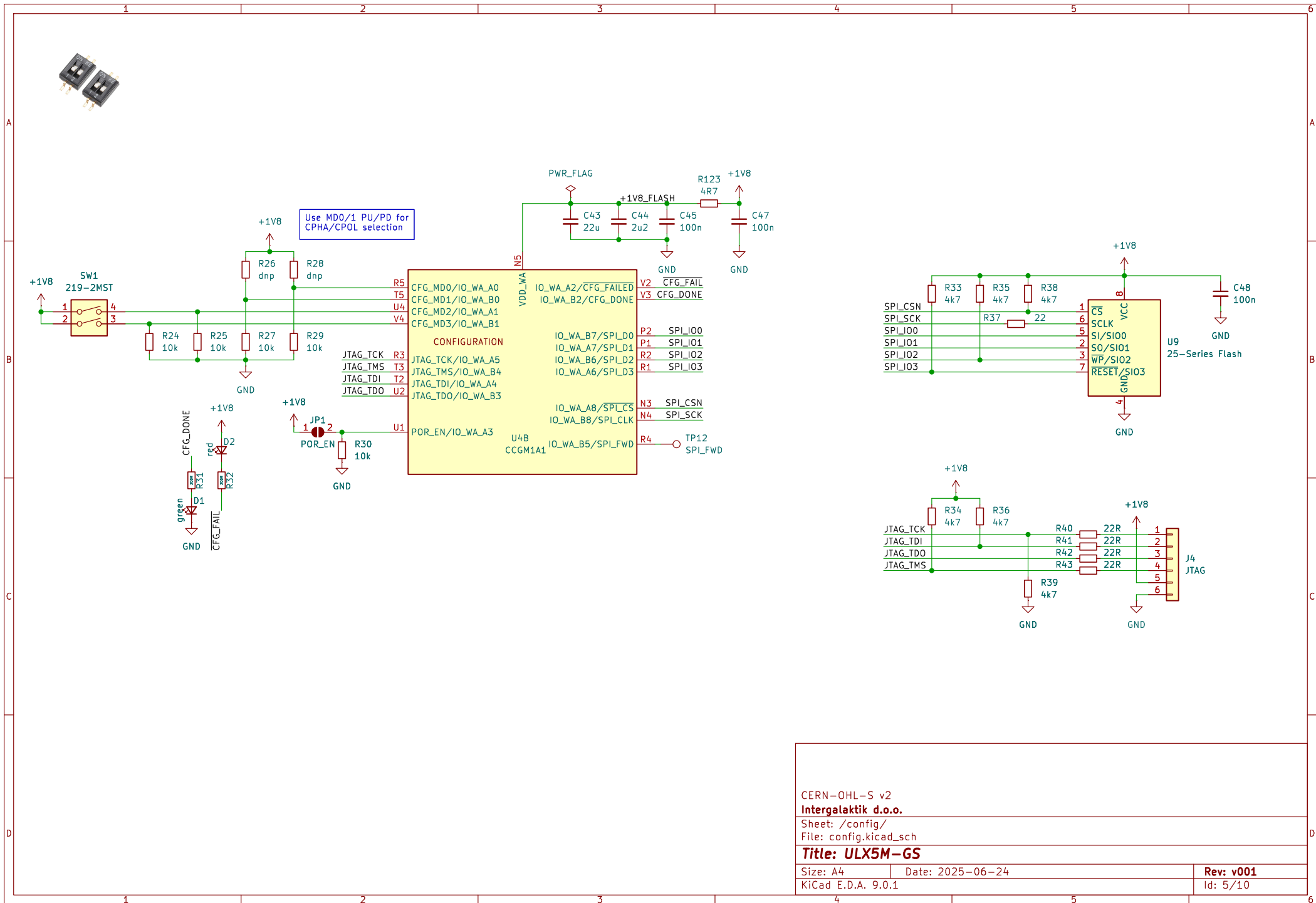
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Date: 2025-06-24

KiCad E.D.A. 9.0.1

Rev: v001

Id: 3/10



CERN-OHL-S v2

Intergalaktik d.o.o.

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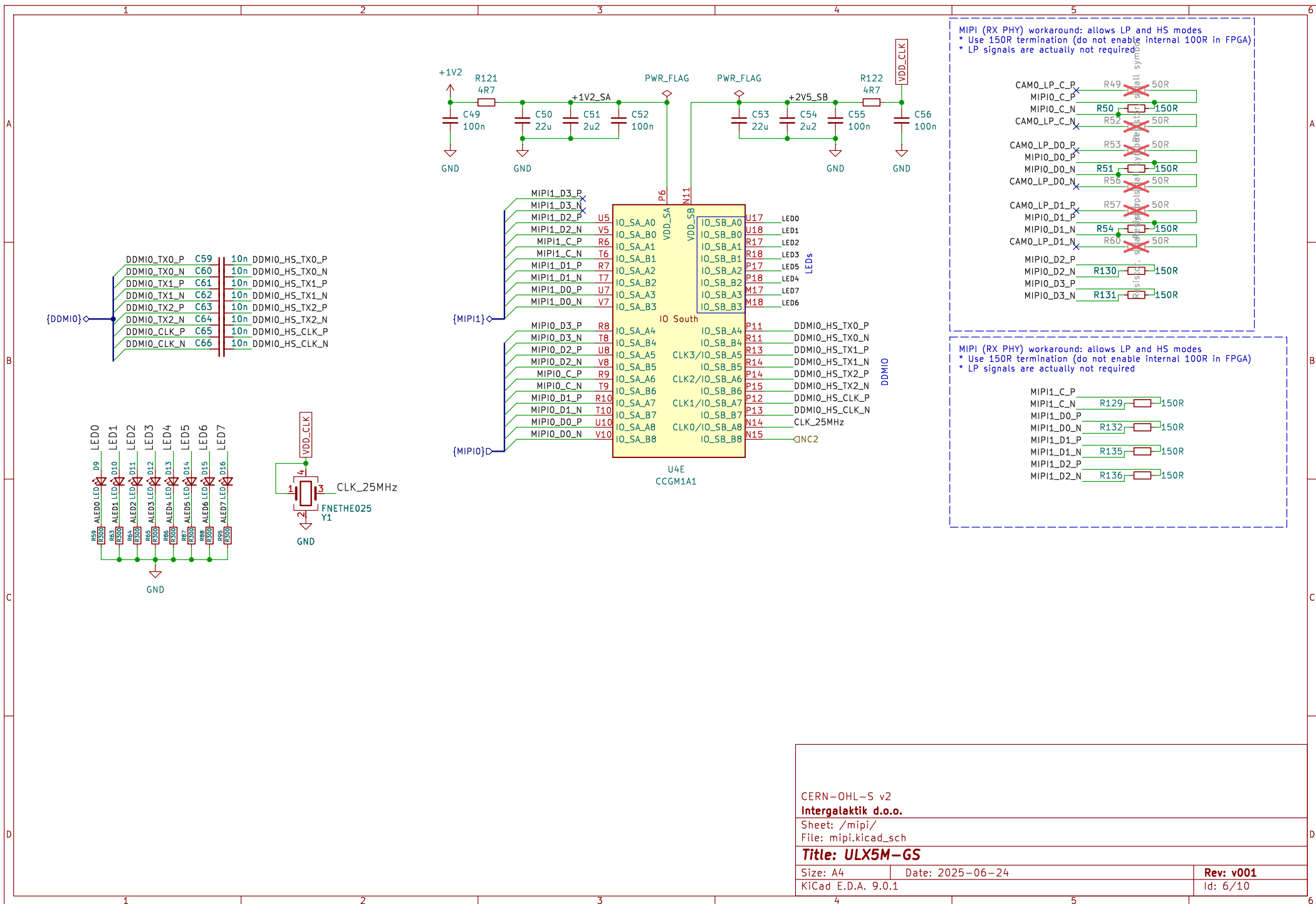
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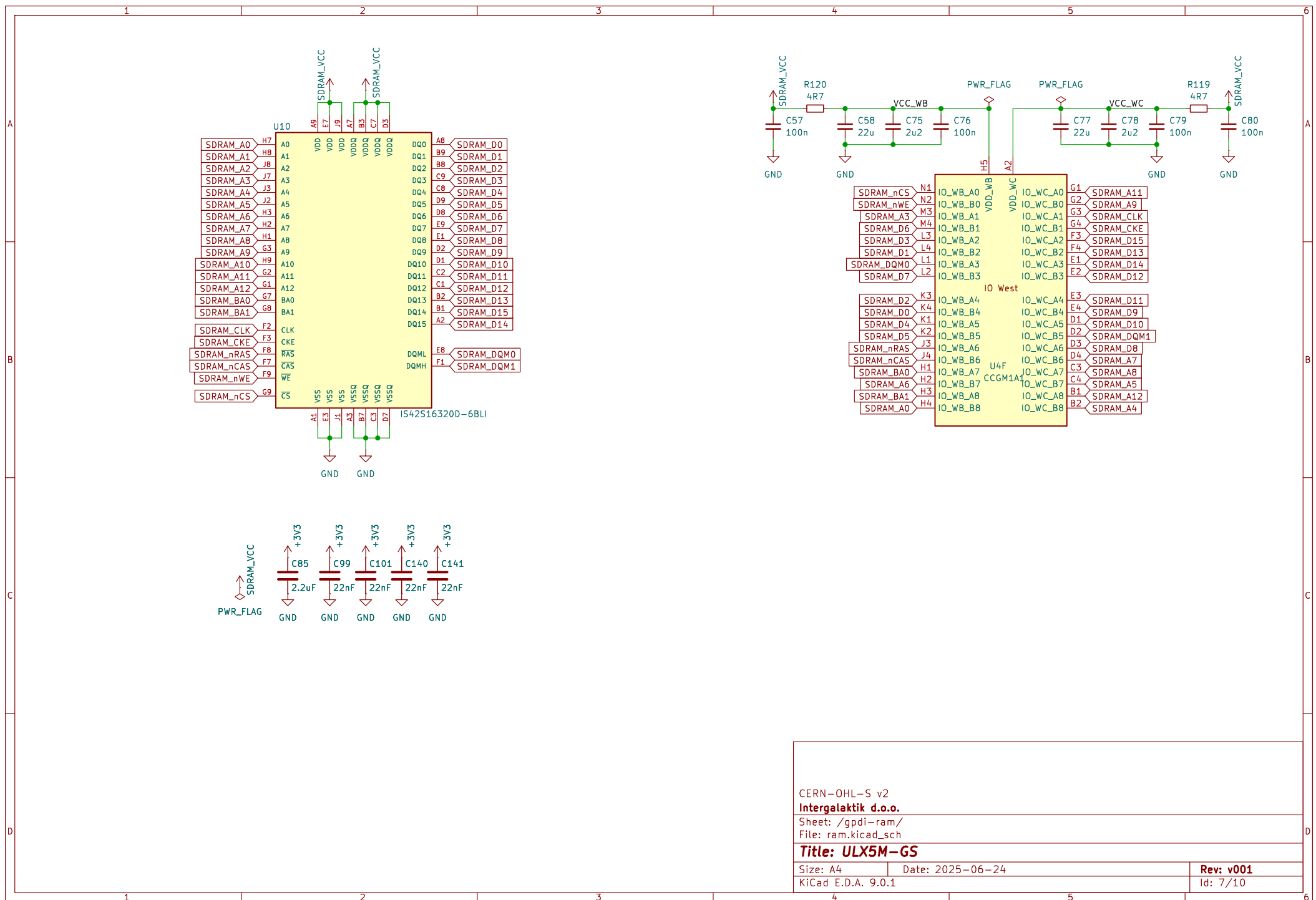
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KiCad E.D.A. 9.0.1

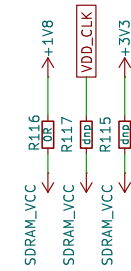
Rev: v001

Id: 5/10

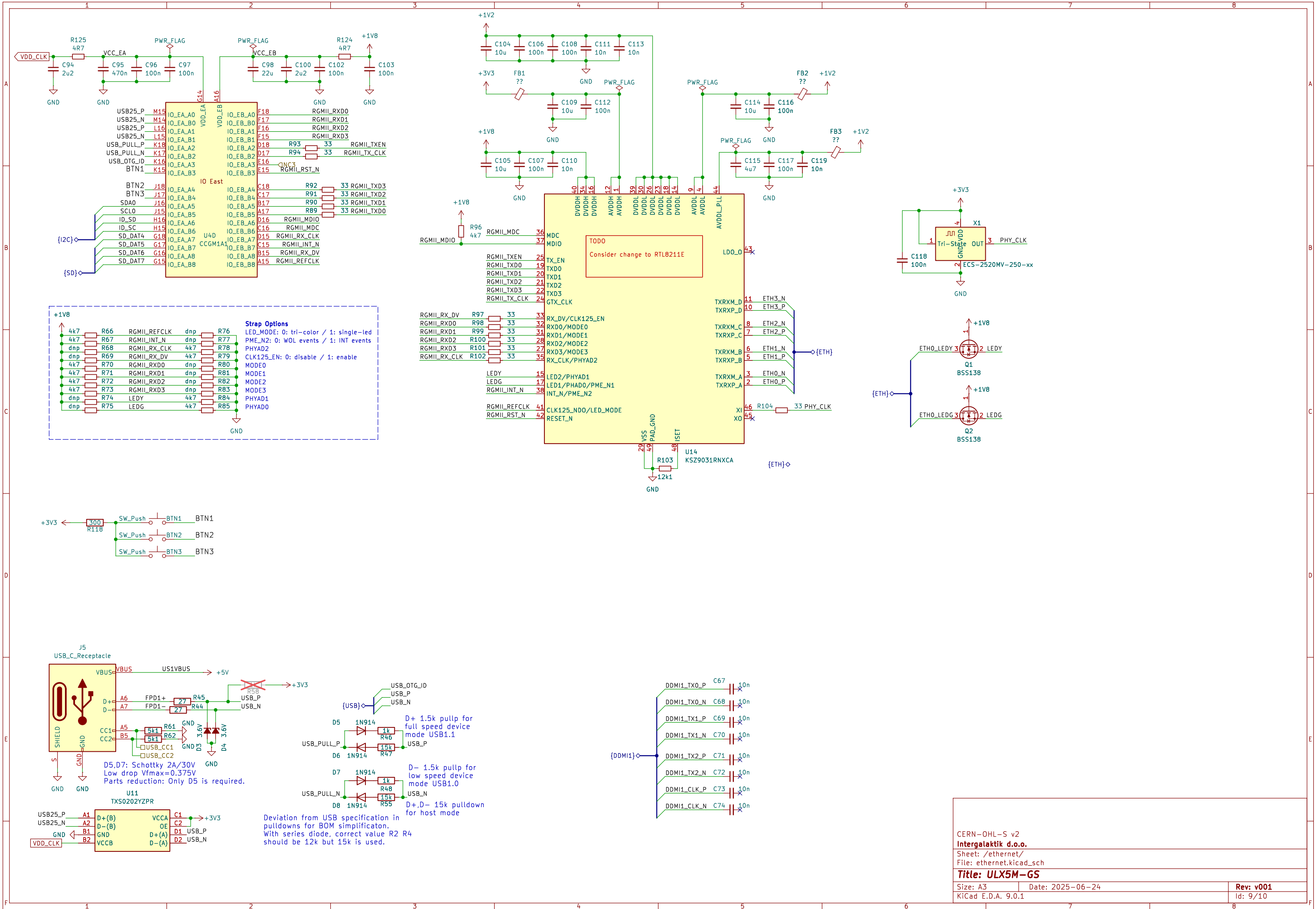


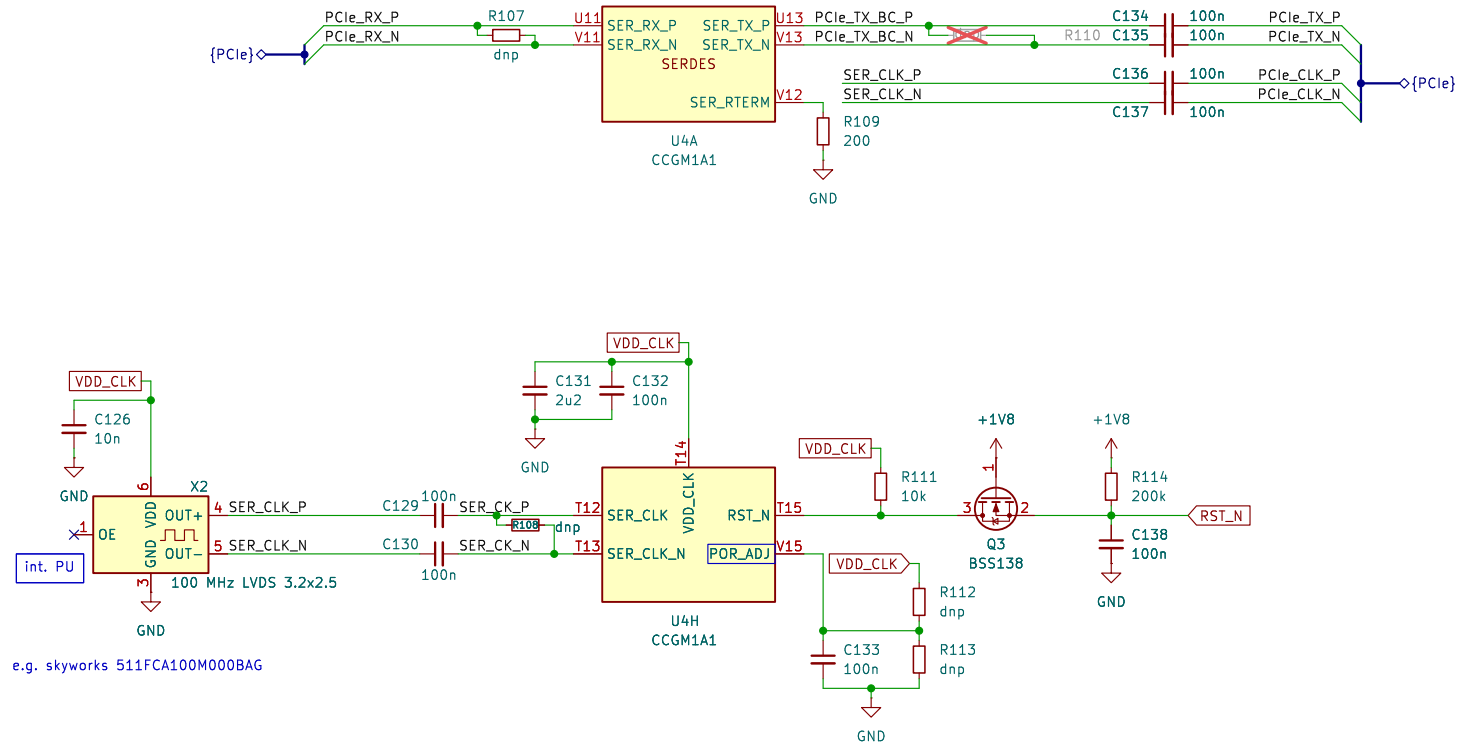


GPIO banks are actually not 3.3V tolerant. Use this option at your own risk.



Id: 8/10





e.g. skyworks 511FCA100M000BAG

CERN-OHL-S v2
Intergalaktik d.o.o.

Sheet: /serdes/
File: serdes.kicad_sch

Title: ULX5M-GS

Size: A4 Date: 2025-06-24
KiCad E.D.A. 9.0.1

Rev: v001
Id: 10/10