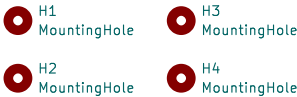
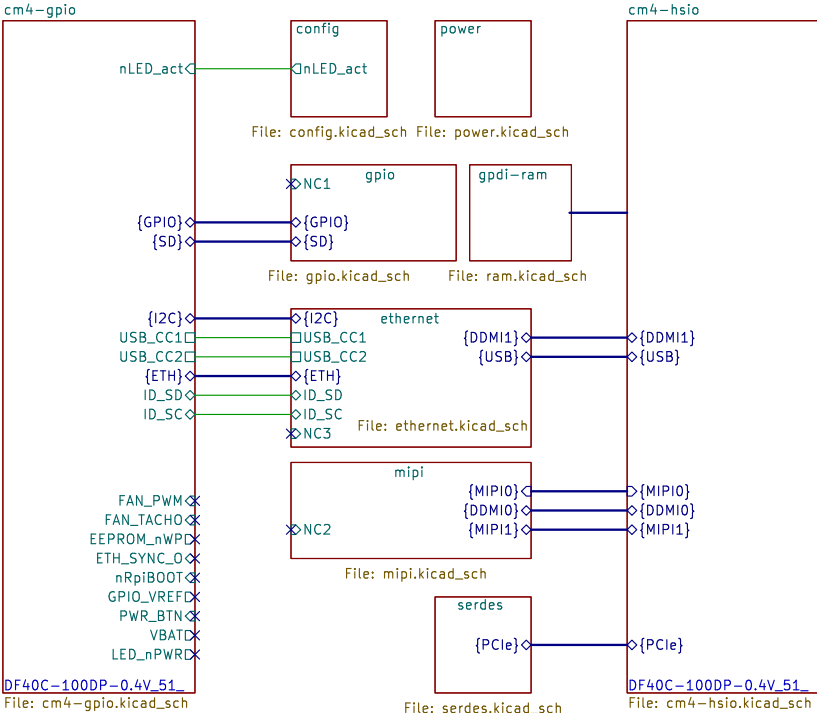
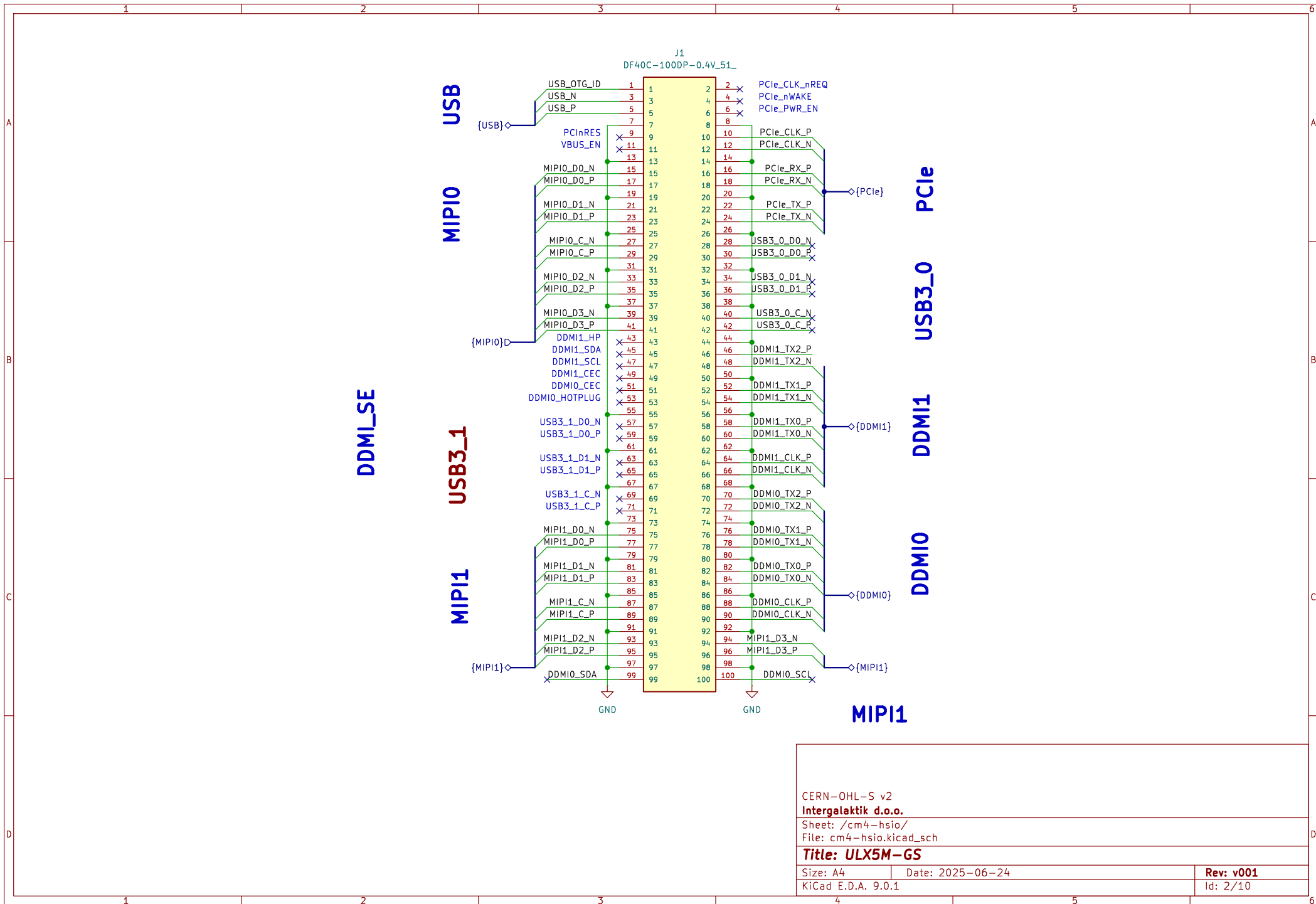


# # ULX5M Brainstorm

- \* 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-DSIO (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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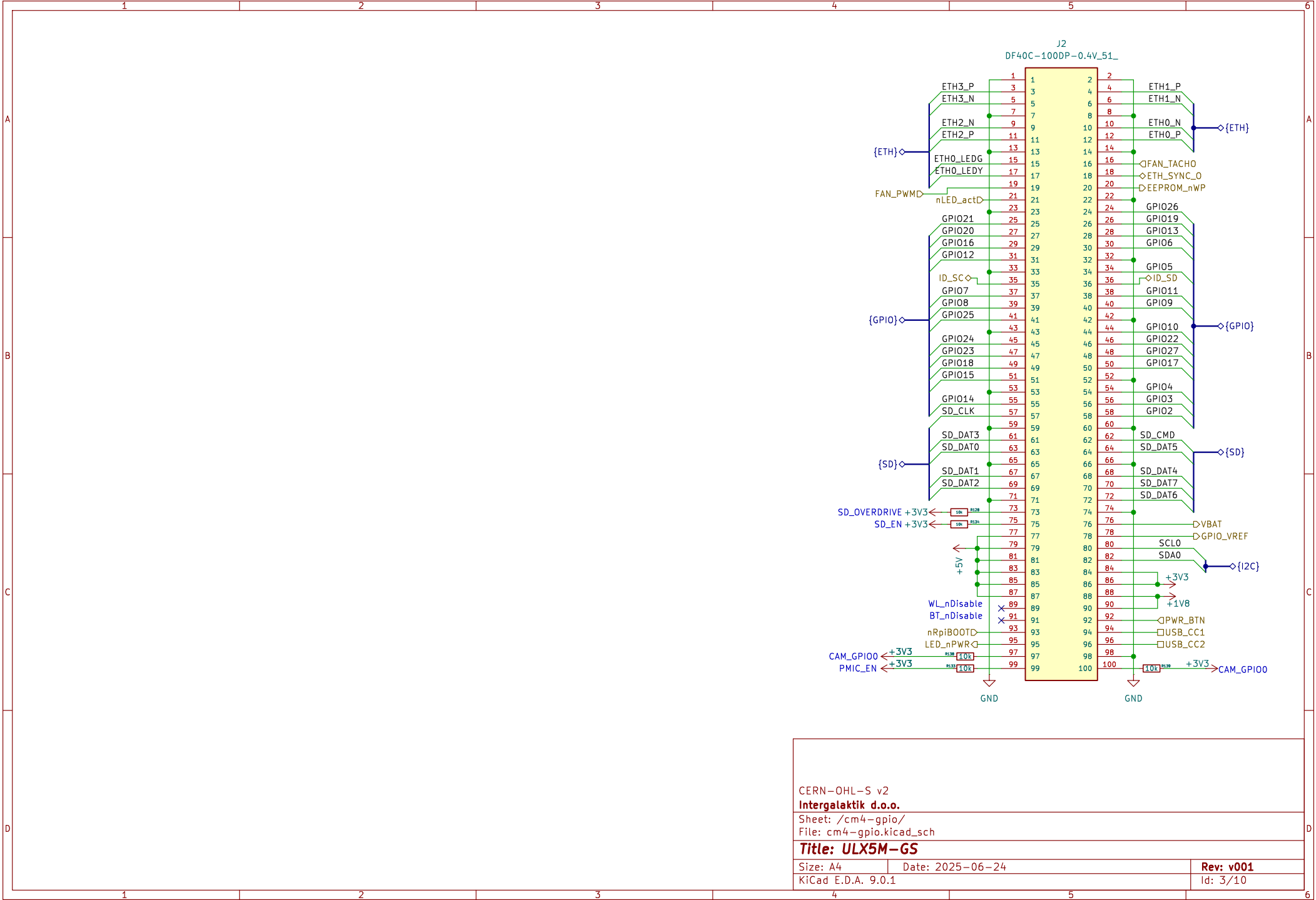
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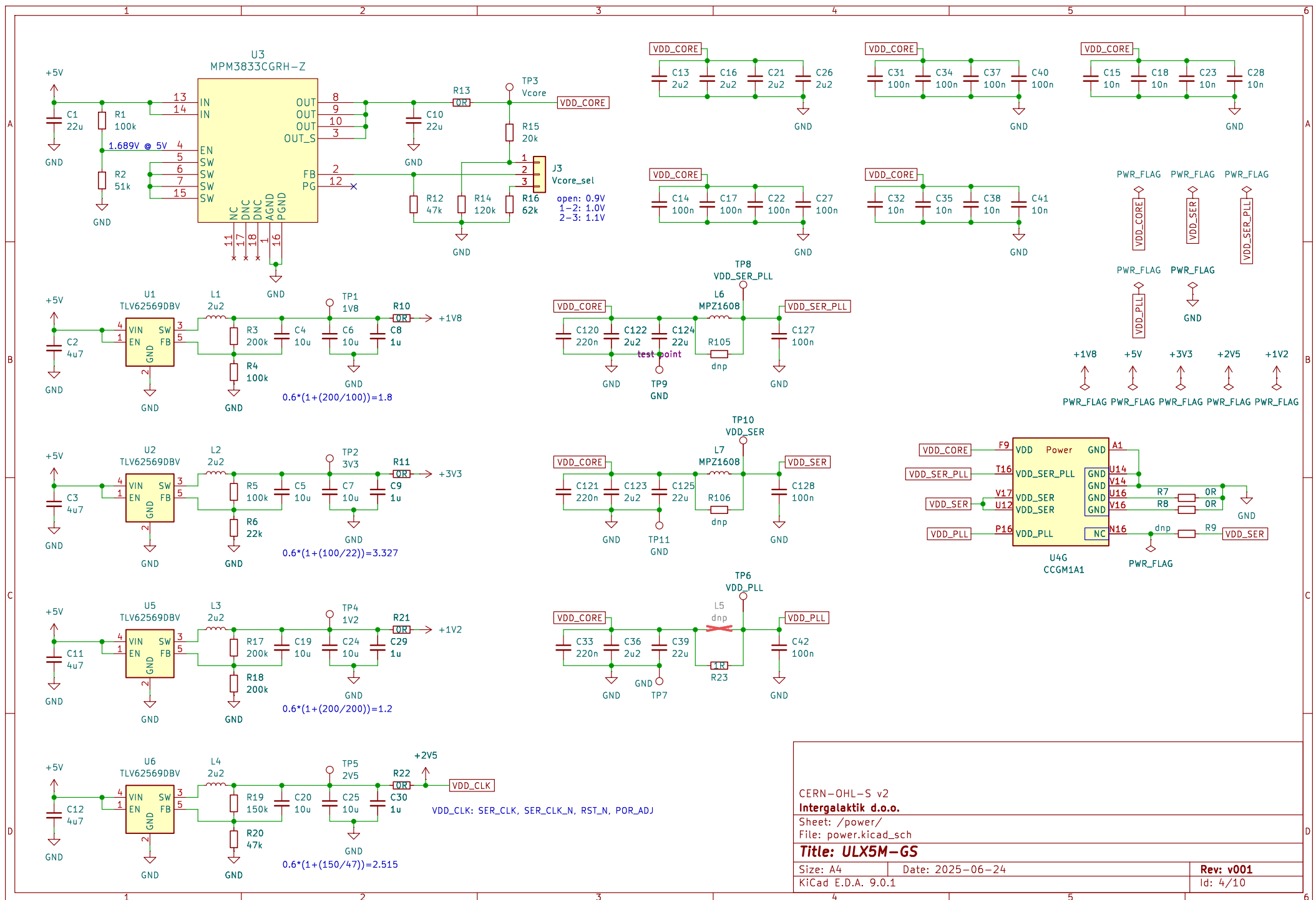
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Rev: v001

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

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**Title:** ULX5M-GS

**Title:** ULX5M-GS

Size: A4	Dat
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KiCad E.

4

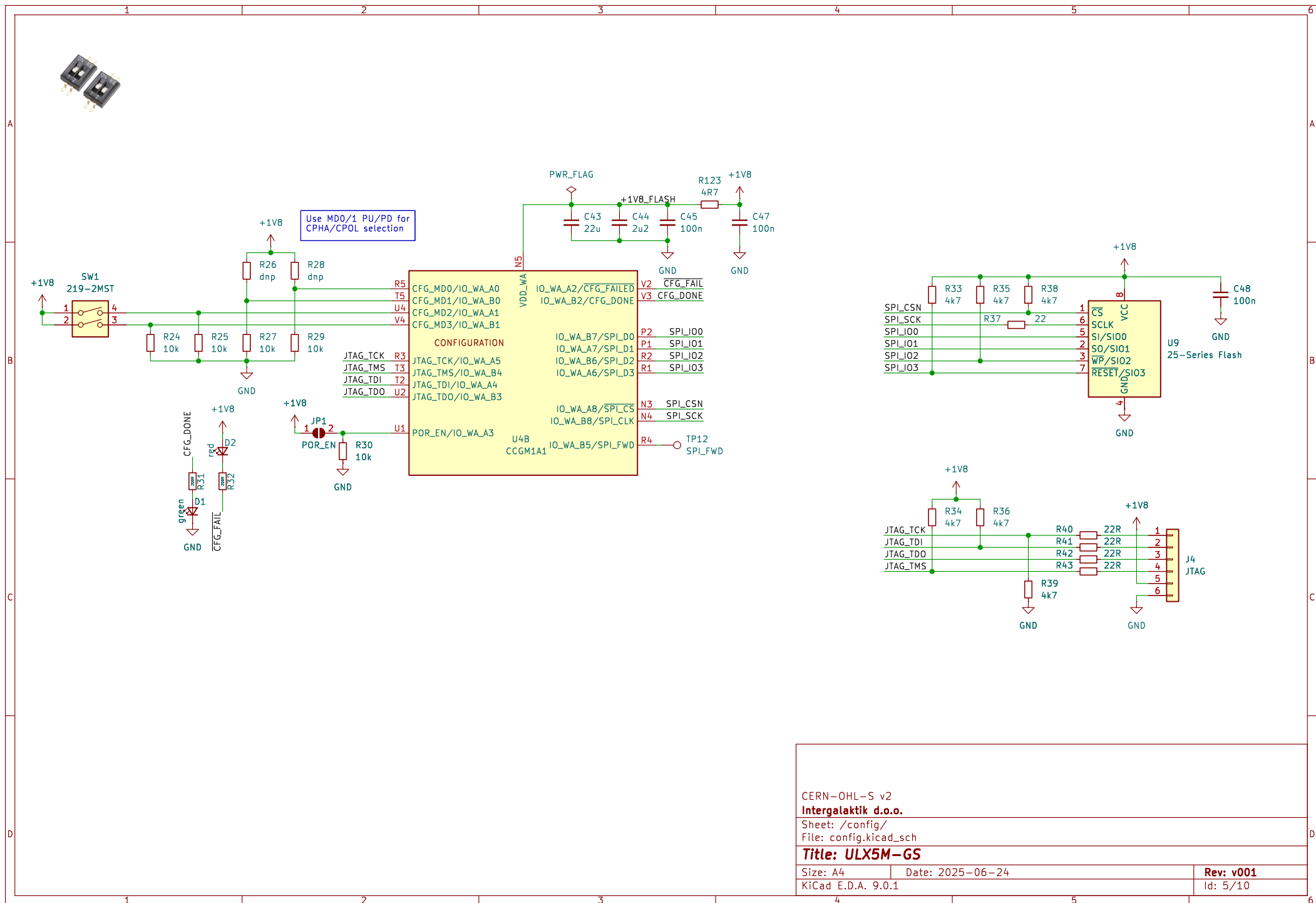
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Rev: v001

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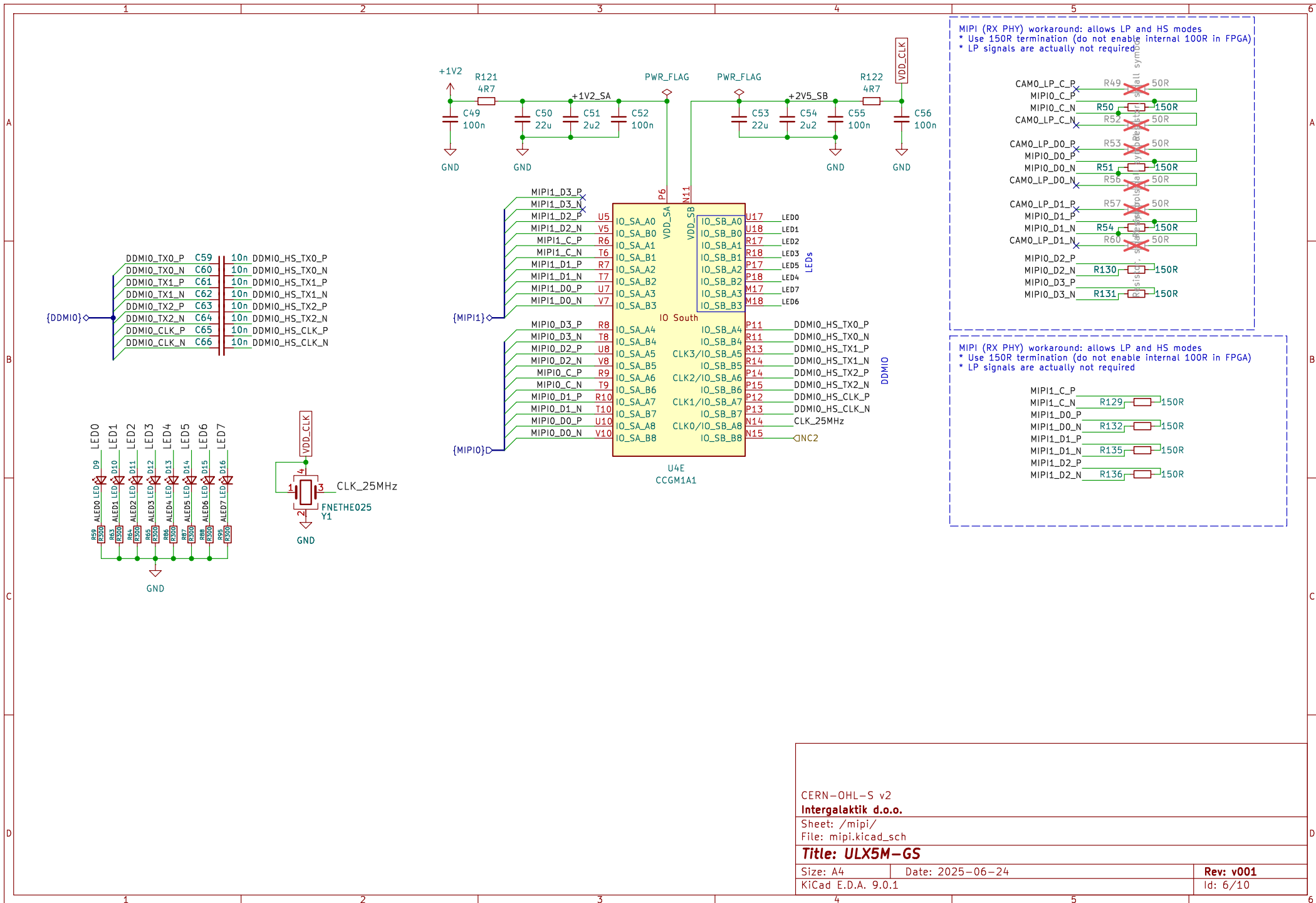
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Id: 5/10



CERN-OHL-S v2

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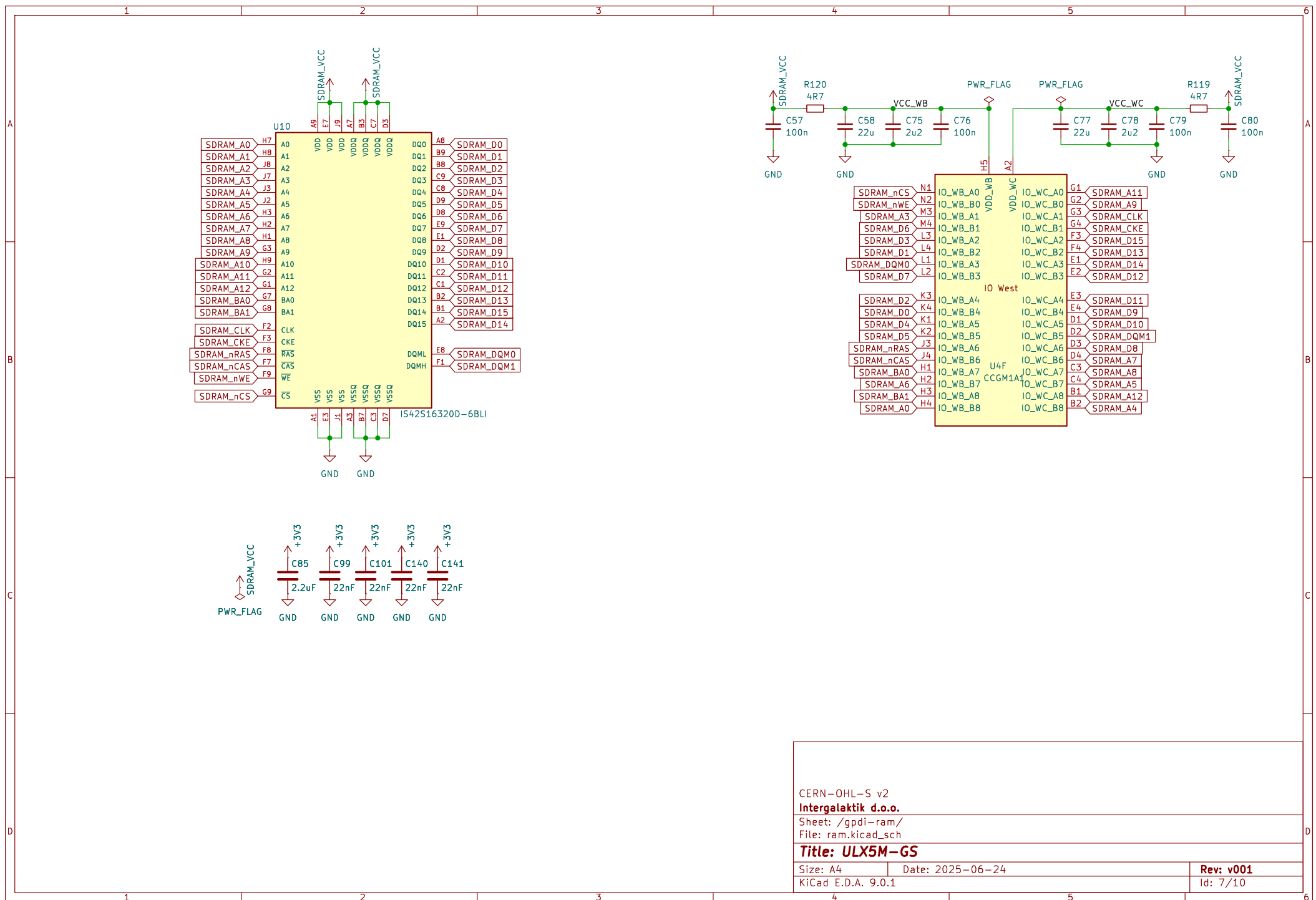
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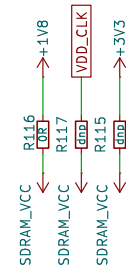
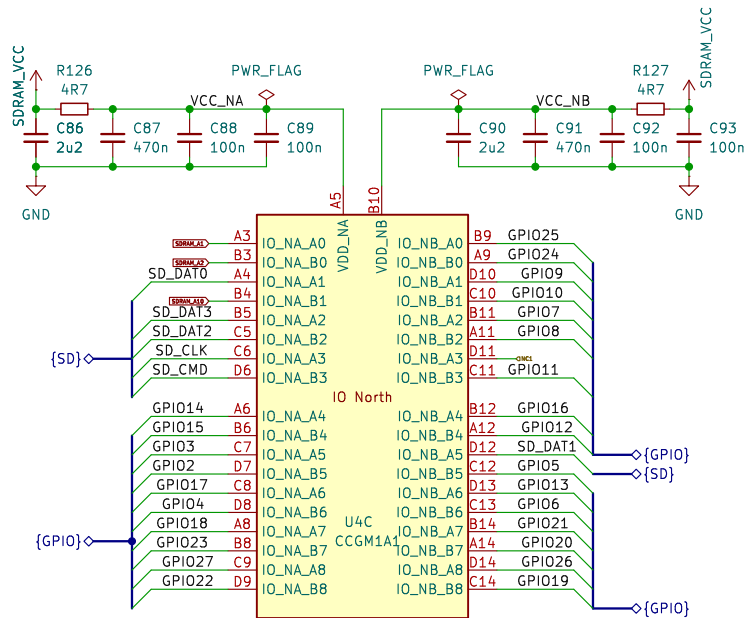
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Rev: v001

Id: 6/10



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



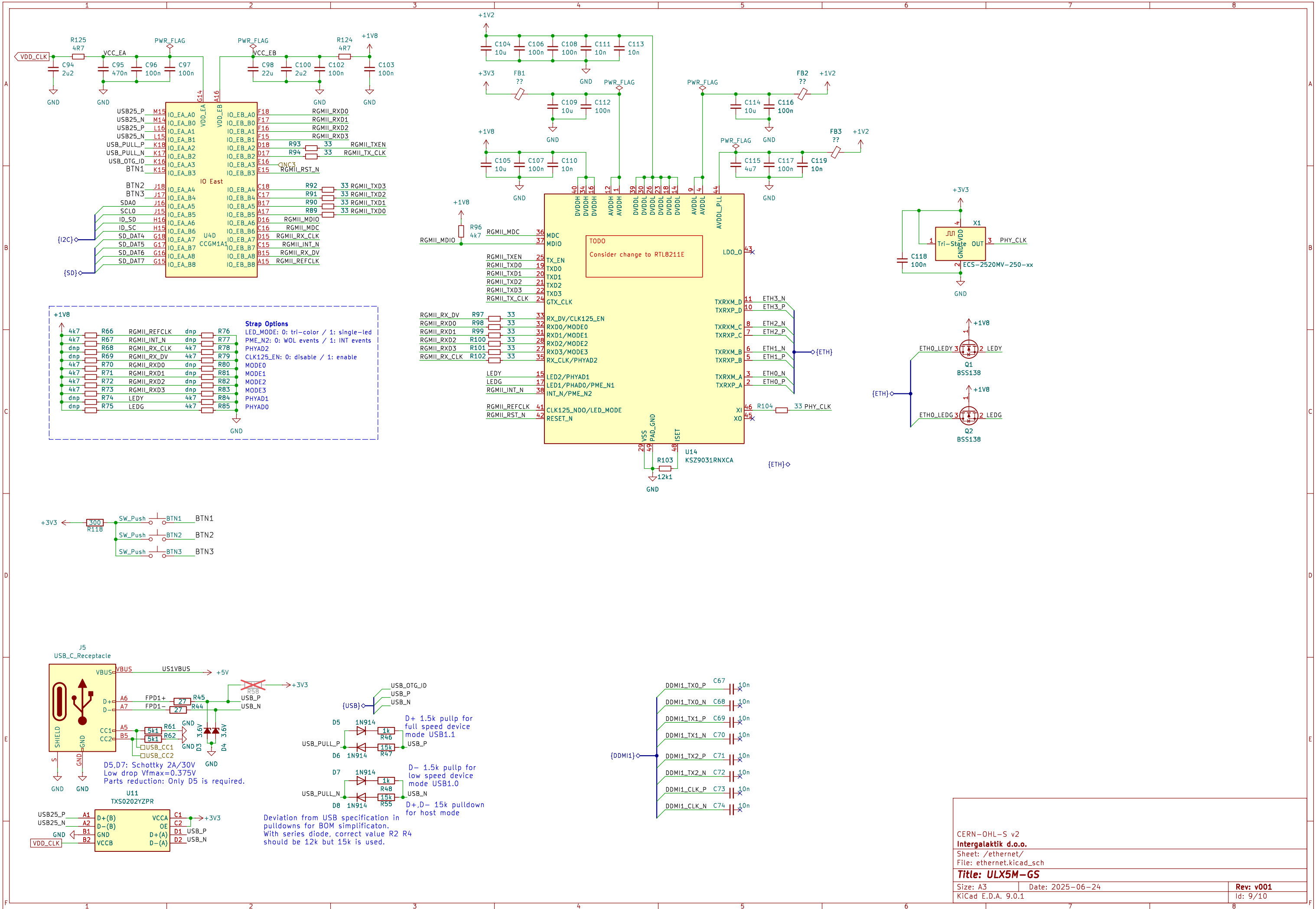
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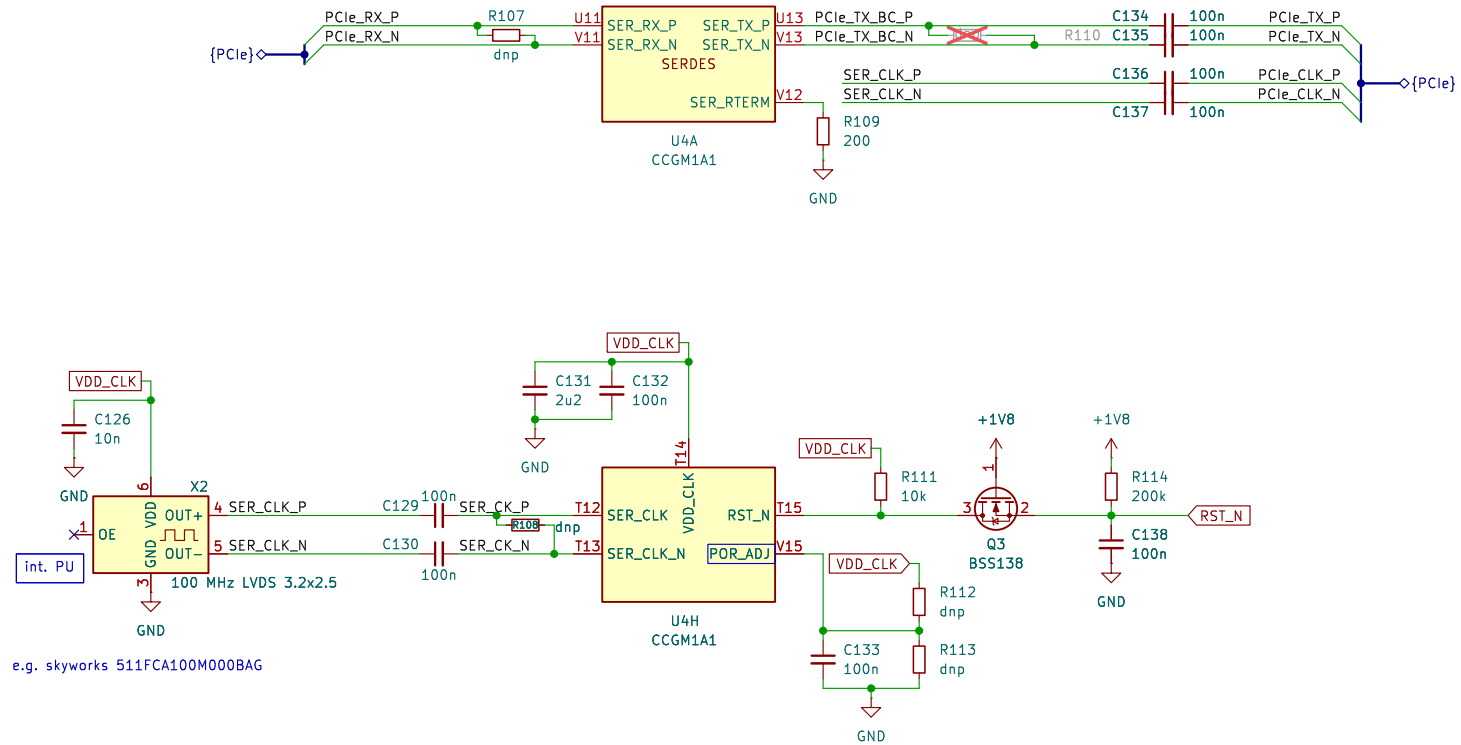
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KiCad E.D.A. 9.0.1

Rev: v001  
Id: 8/10







e.g. skyworks 511FCA100M000BAG

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Intergalaktik d.o.o.

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Size: A4 Date: 2025-06-24

KiCad E.D.A. 9.0.1

**Rev: v001**

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