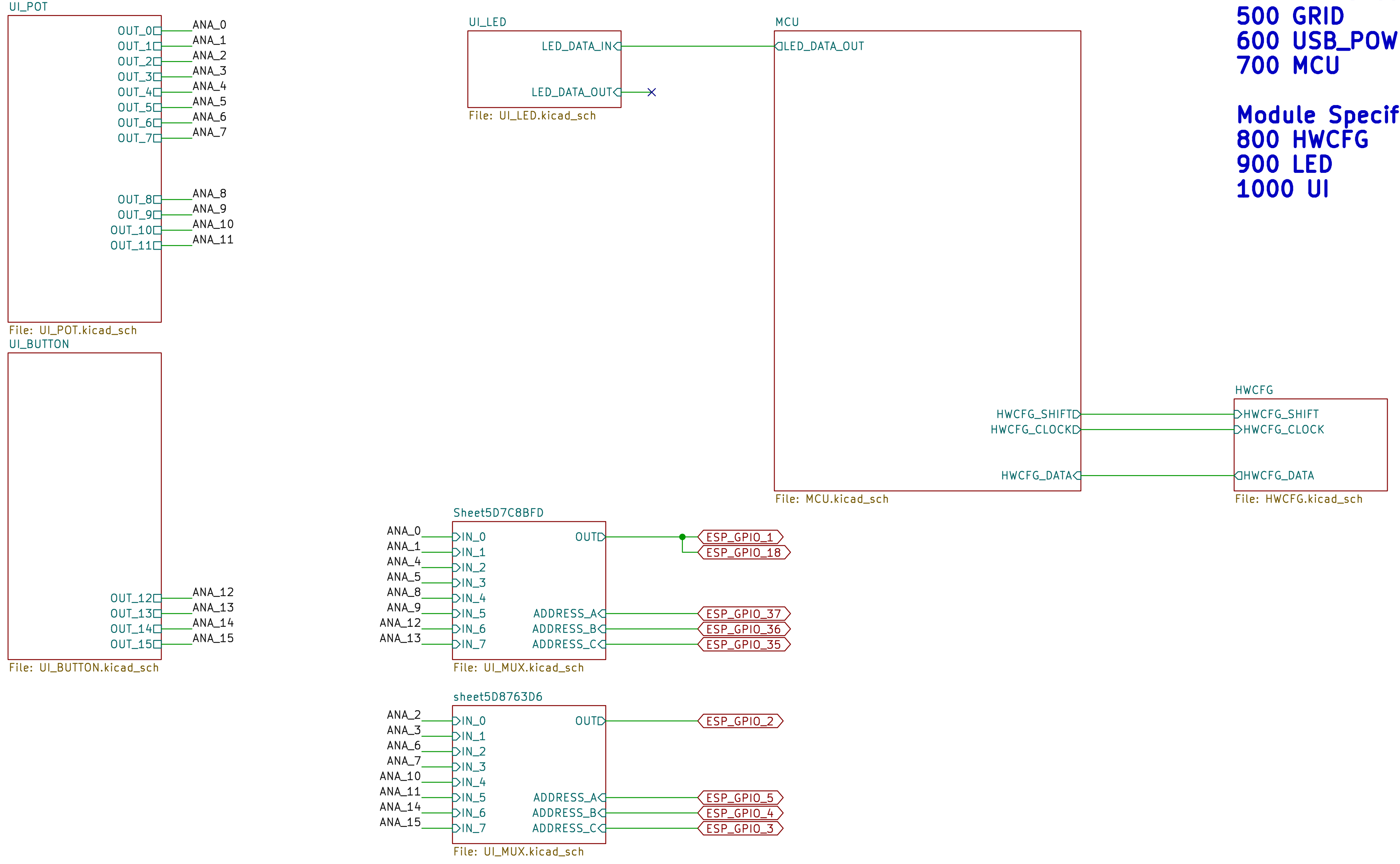


Common Sheets:
500 GRID
600 USB_POWER
700 MCU

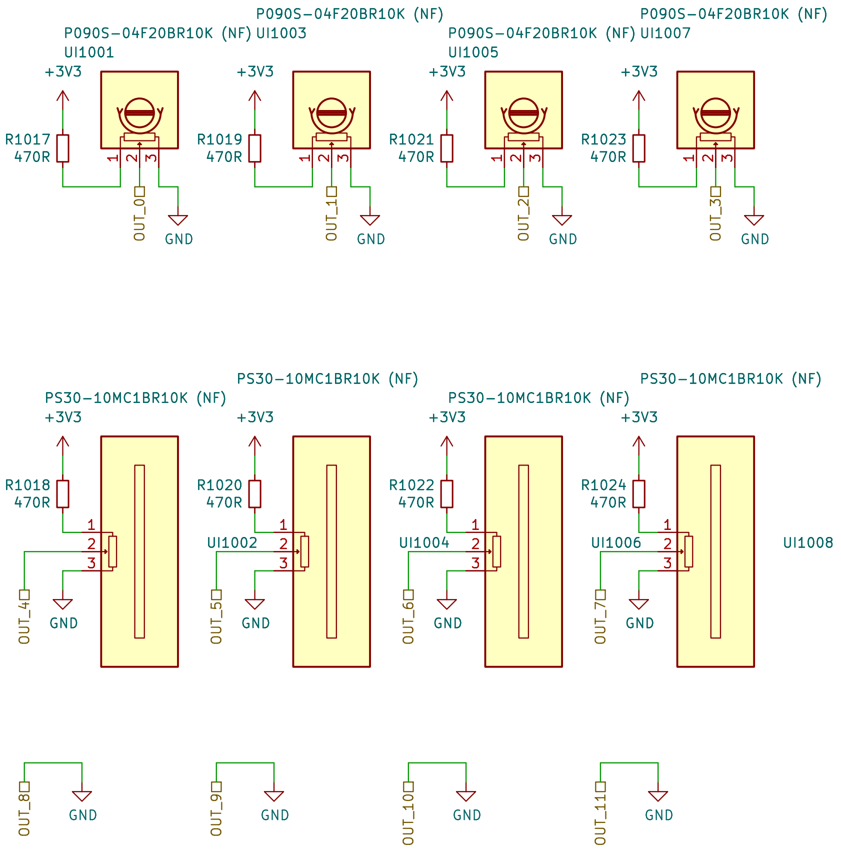
Module Specific:
800 HWCFG
900 LED
1000 UI

Sheet: /
File: PCBA-PBF4.kicad_sch

Title:

Size: A3 | Date: | **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 | Id: 1/10

1000



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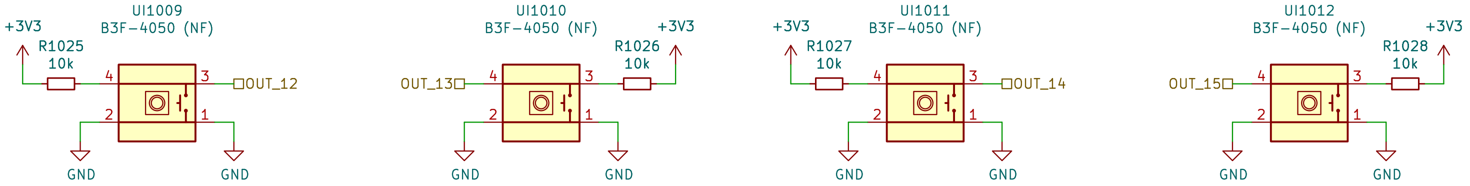
Size: A4 Date:
KiCad E.D.A. kicad−cli 7.0.9−7.0.9~ubuntu23.04.1

Rev:
Id: 2/10

1000

Simulation:

http://tinyurl.com/y229mty4



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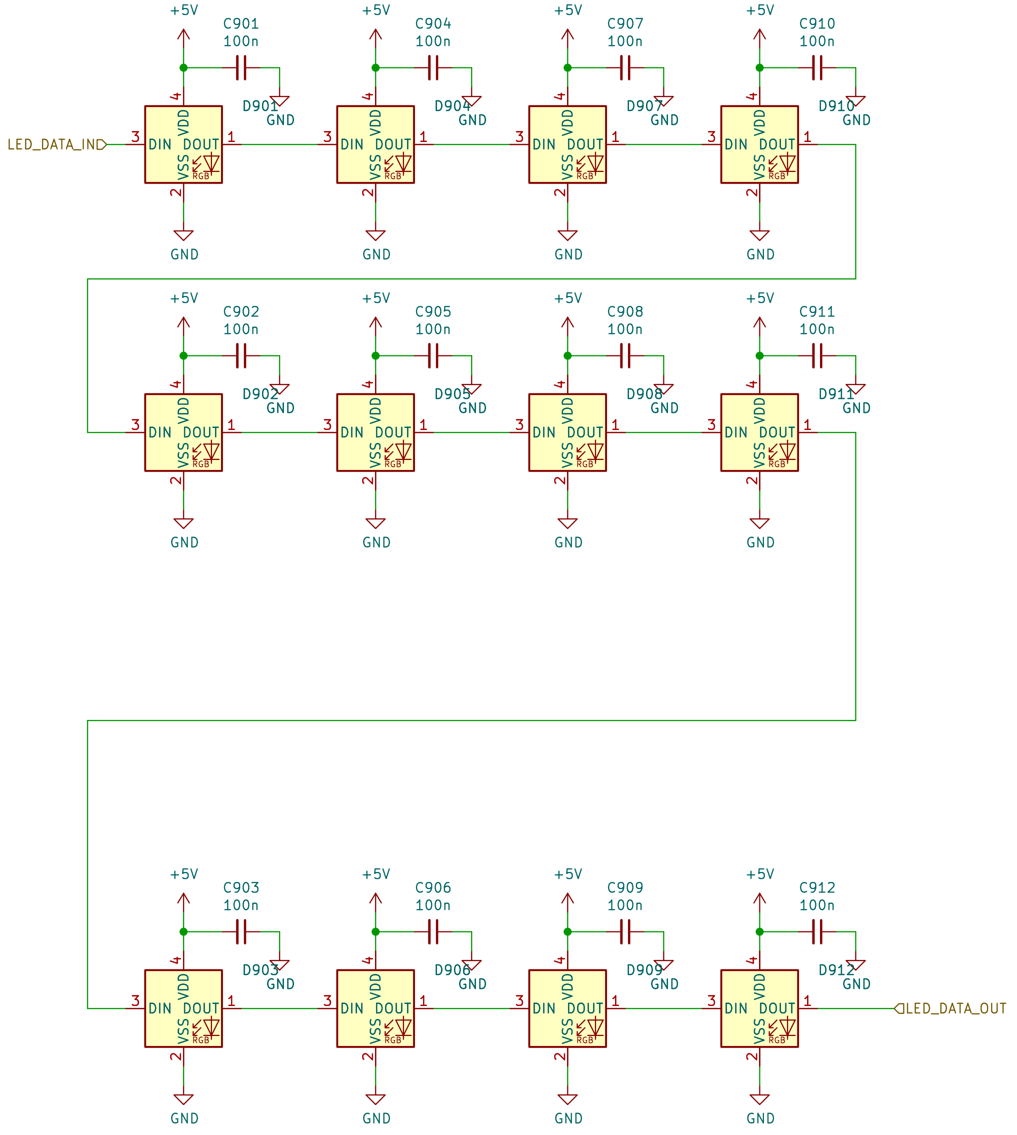
Rev:
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1
Id: 3/10

900



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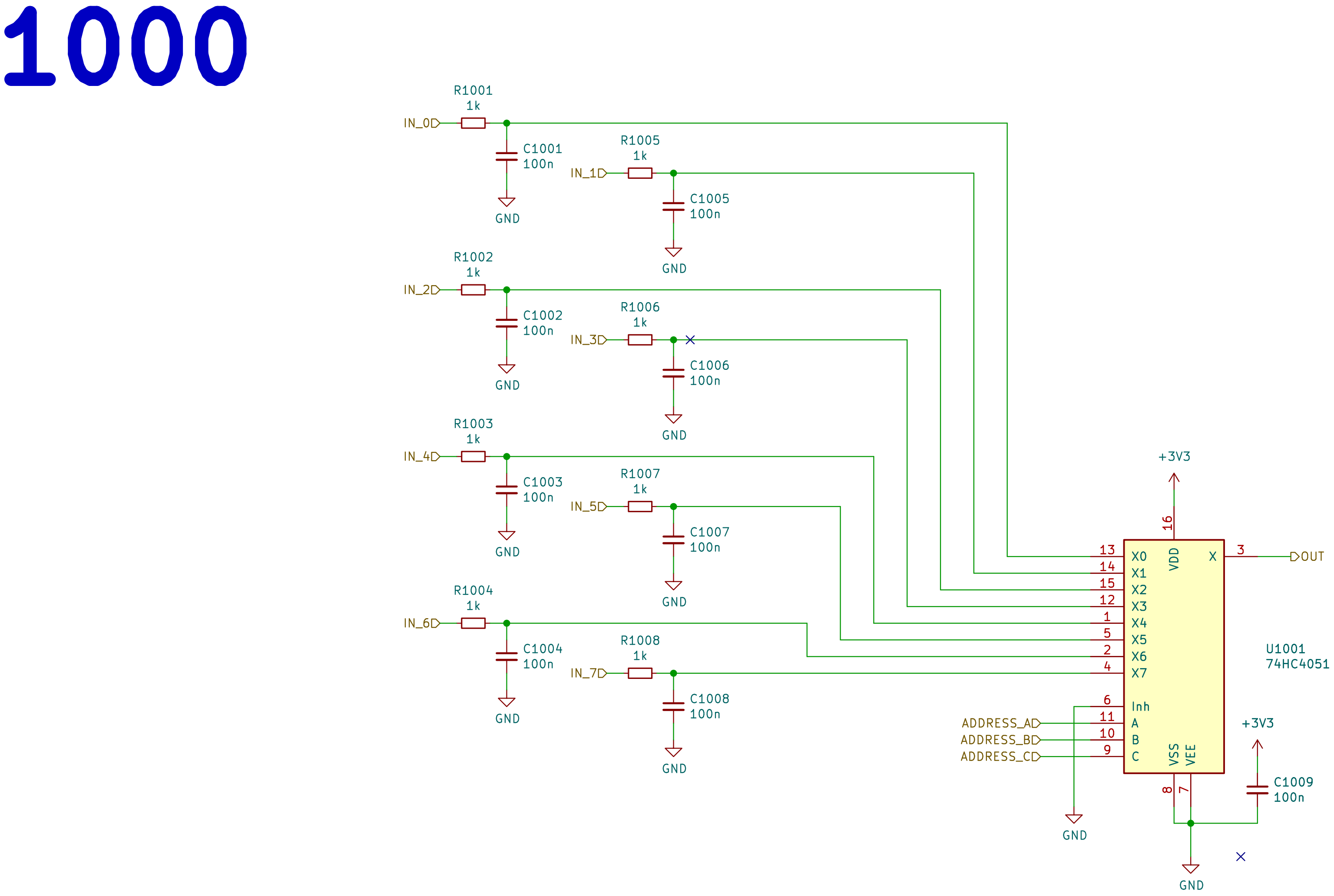
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1		Id: 4/10



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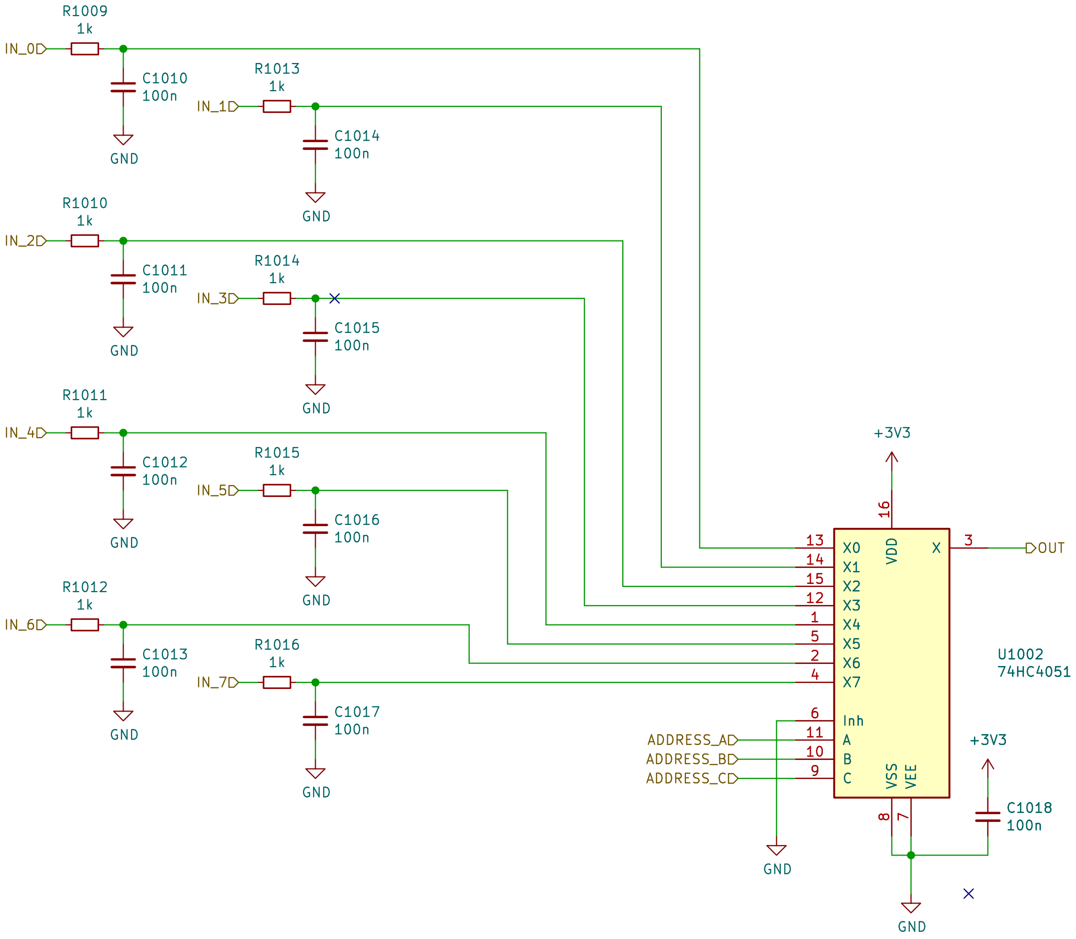
Title:

Size: A4 Date: **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 Id: 5/10

1000



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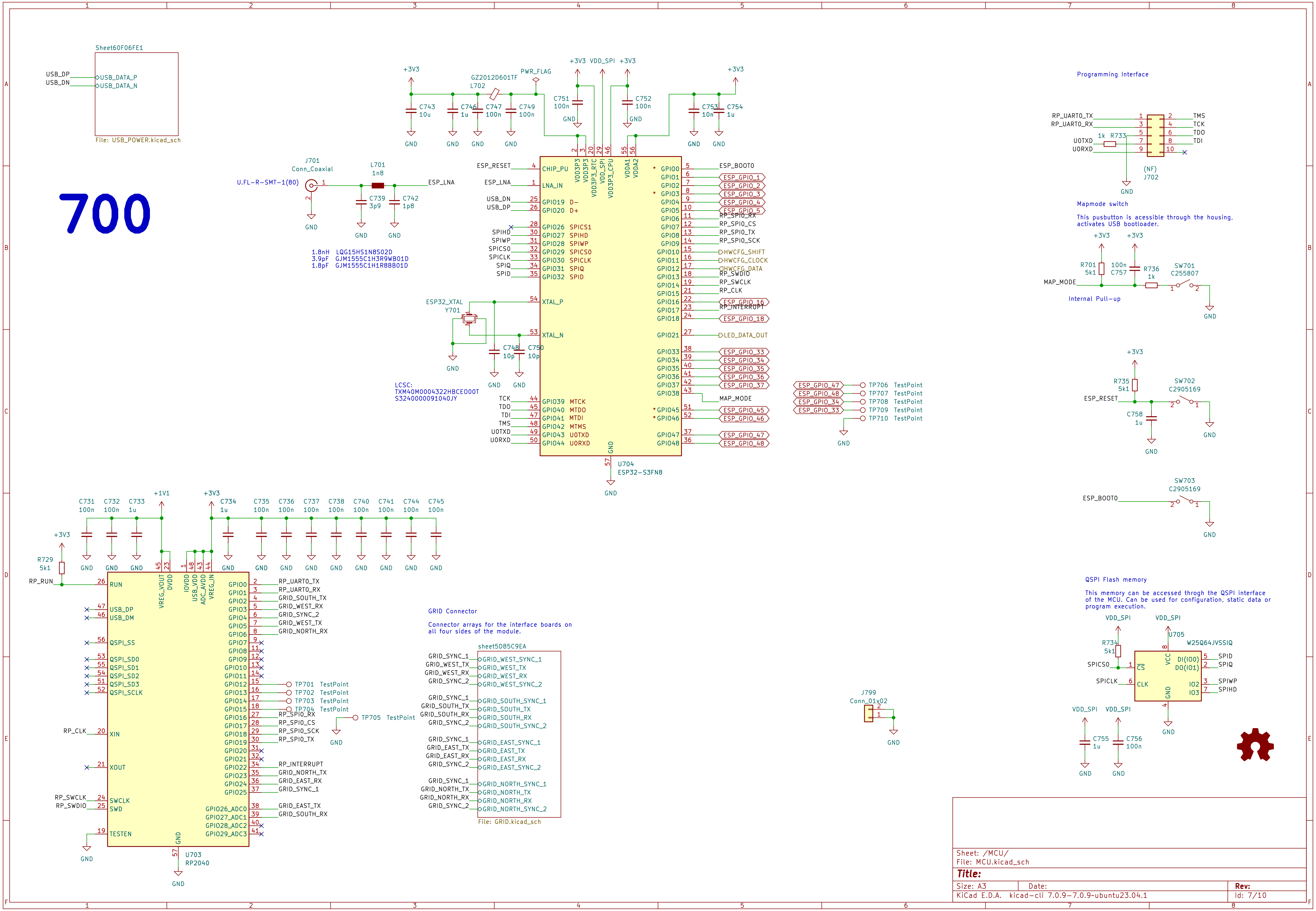
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1		Id: 6/10



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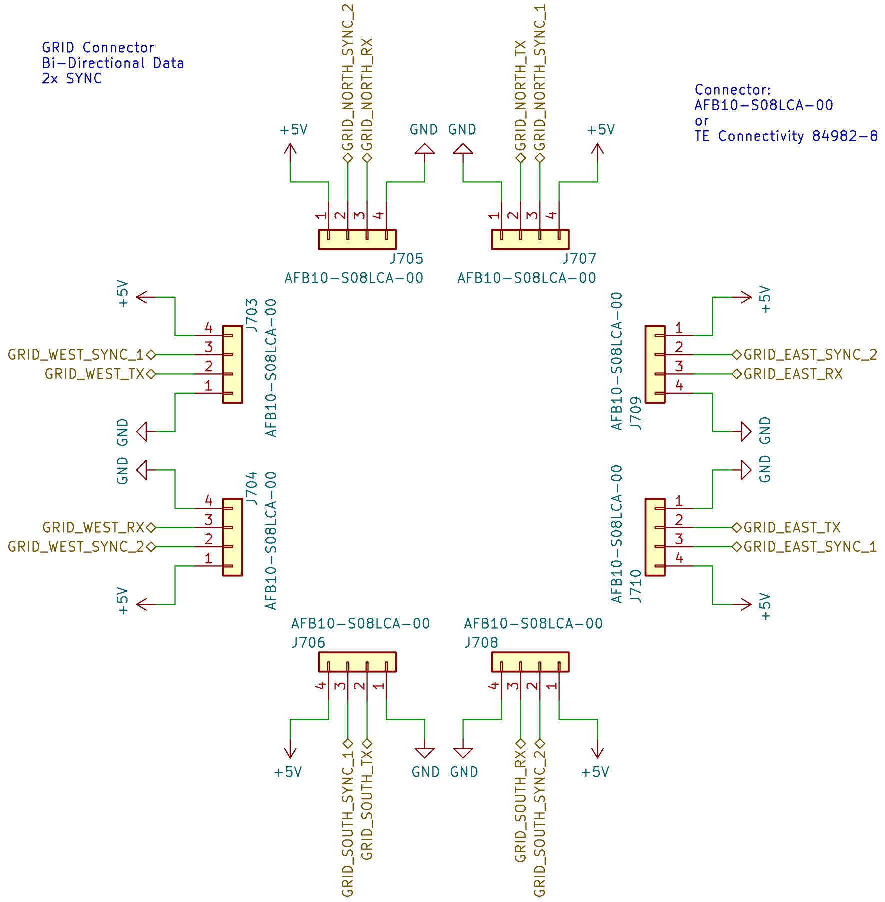
File: MCU.kicad_sch

Title:

Size: A3 Date: Rev:
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1 Id: 7/10

GRID Connector
Bi-Directional Data
2x SYNC

Connector:
AFB10-S08LCA-00
or
TE Connectivity 84982-8



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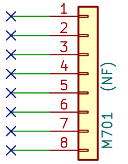
Board Mounting Pattern



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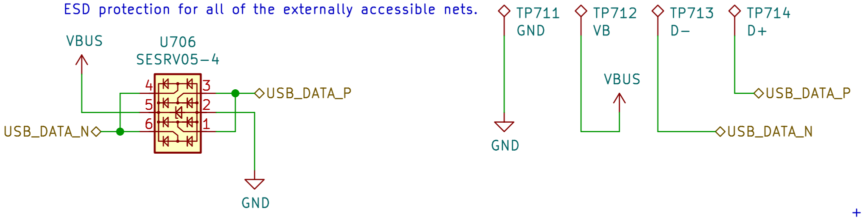
Title:

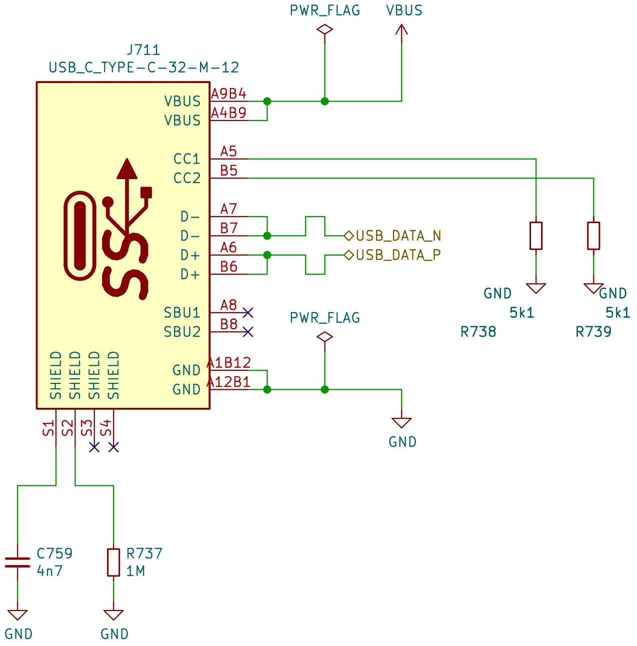
Size: A4 Date: **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 Id: 8/10

600

ESD Diodes

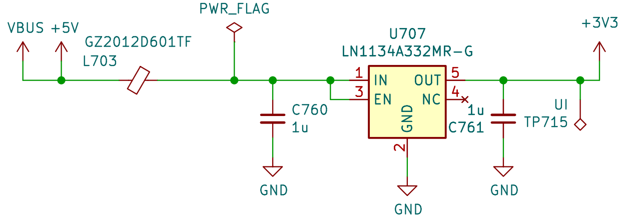
ESD protection for all of the externally accessible nets.





+3V3 LDO Regulators

Regulators for generating independent power rails for the microcontroller and the user interface.



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Title:

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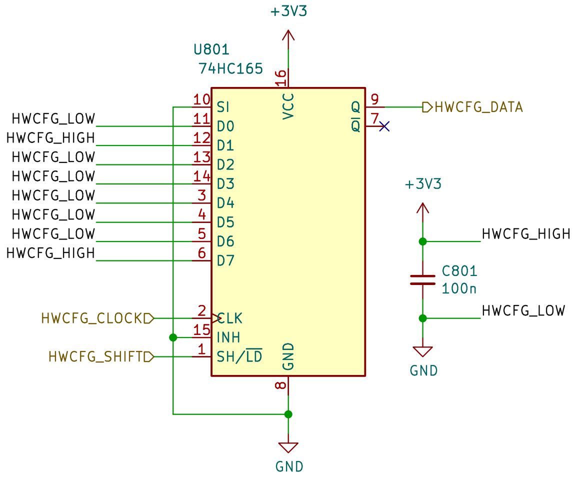
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1		Id: 9/10

800



Board Identification

Grid firmware can identify the hardware and the board revision thorugh a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

4b'Model + 4b'Revision + nb'Reserved (Multiple shift registers)

D0: MODEL (LSB)
D1: MODEL
D2: MODEL
D3: MODEL (MSB)
D4: REVISION (LSB)
D5: REVISION
D6: REVISION
D7: REVISION (MSB)

Model Codes (D3-D0):

Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

Revision Codes (D7-D4):

RevA	0000
RevB	0001
RevC	0010
RevD	0011
...	

Sheet: /HWCFG/
File: HWCFG.kicad_sch

Title:

Size: A4 Date: **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 Id: 10/10