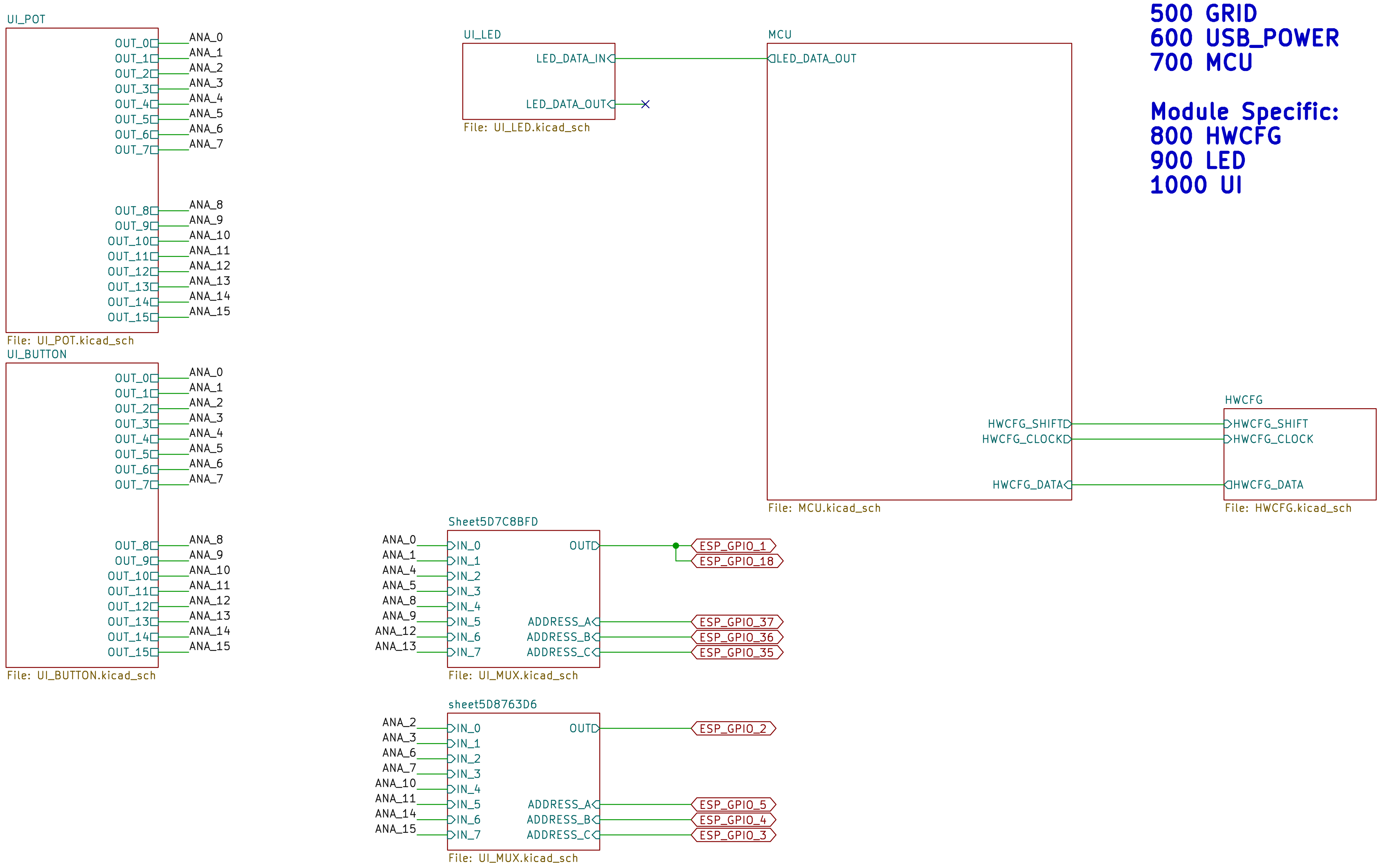


Common Sheets:
500 GRID
600 USB_POWER
700 MCU

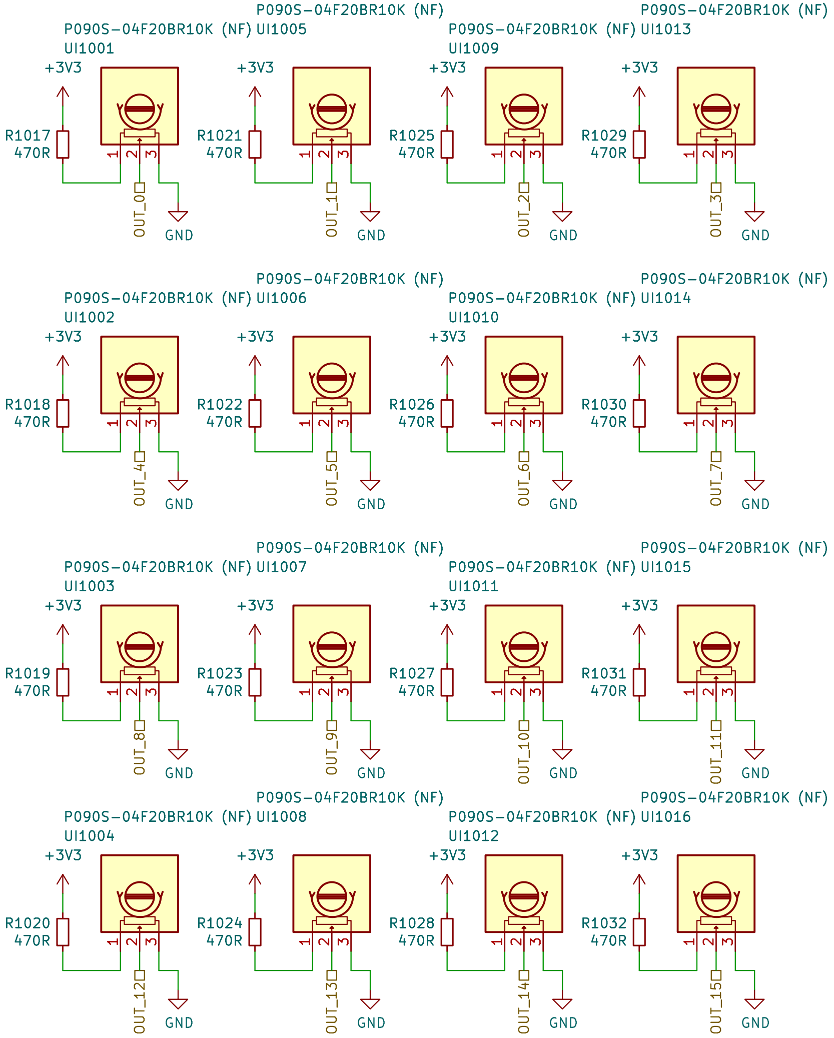
Module Specific:
800 HWCFG
900 LED
1000 UI

Sheet: /
File: PO16_BU16.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



Sheet: /UI_POT/
File: UI_POT.kicad_sch

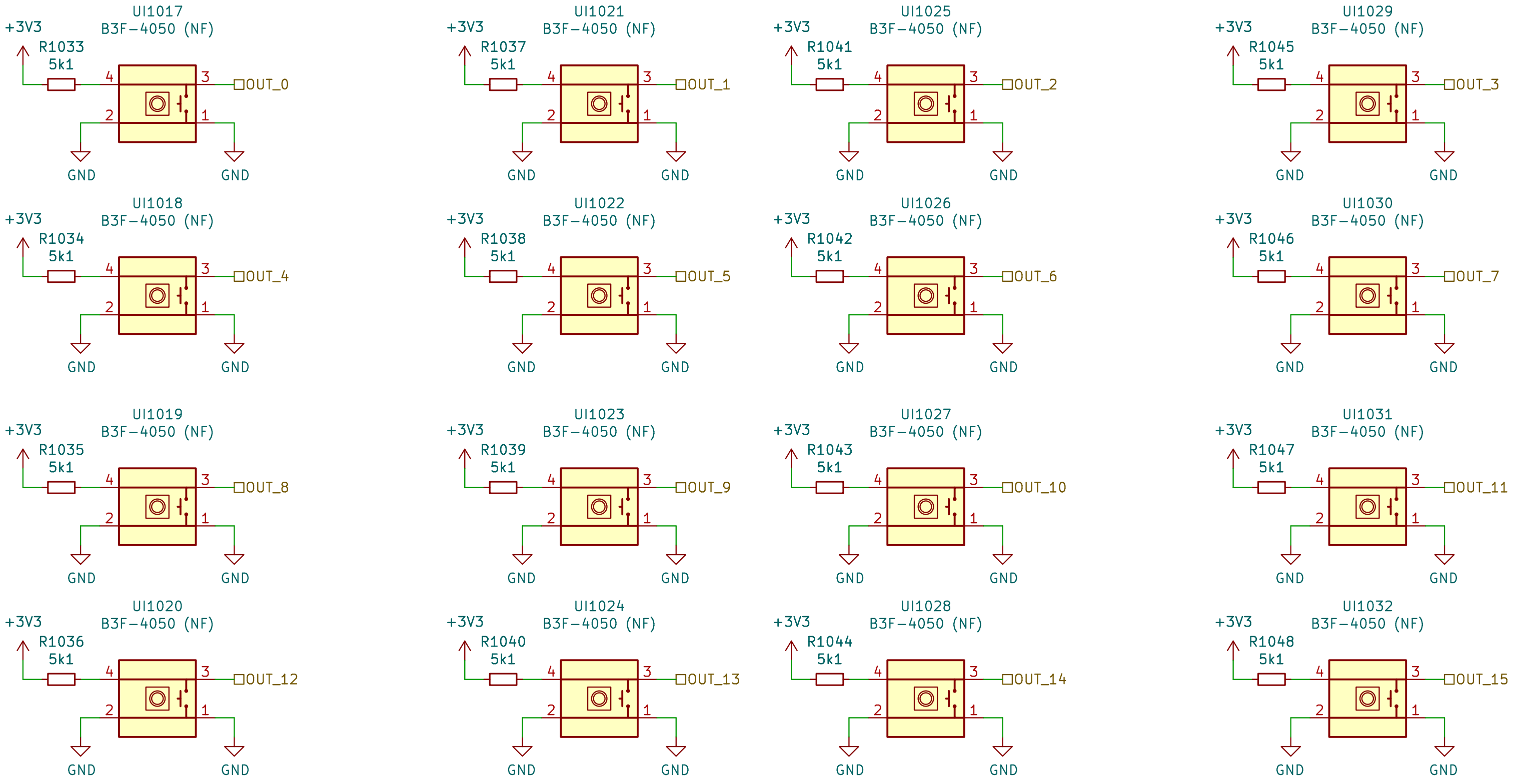
Title:

Size: A4 Date: **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 Id: 2/10

1000

Simulation:

http://tinyurl.com/y229mty4



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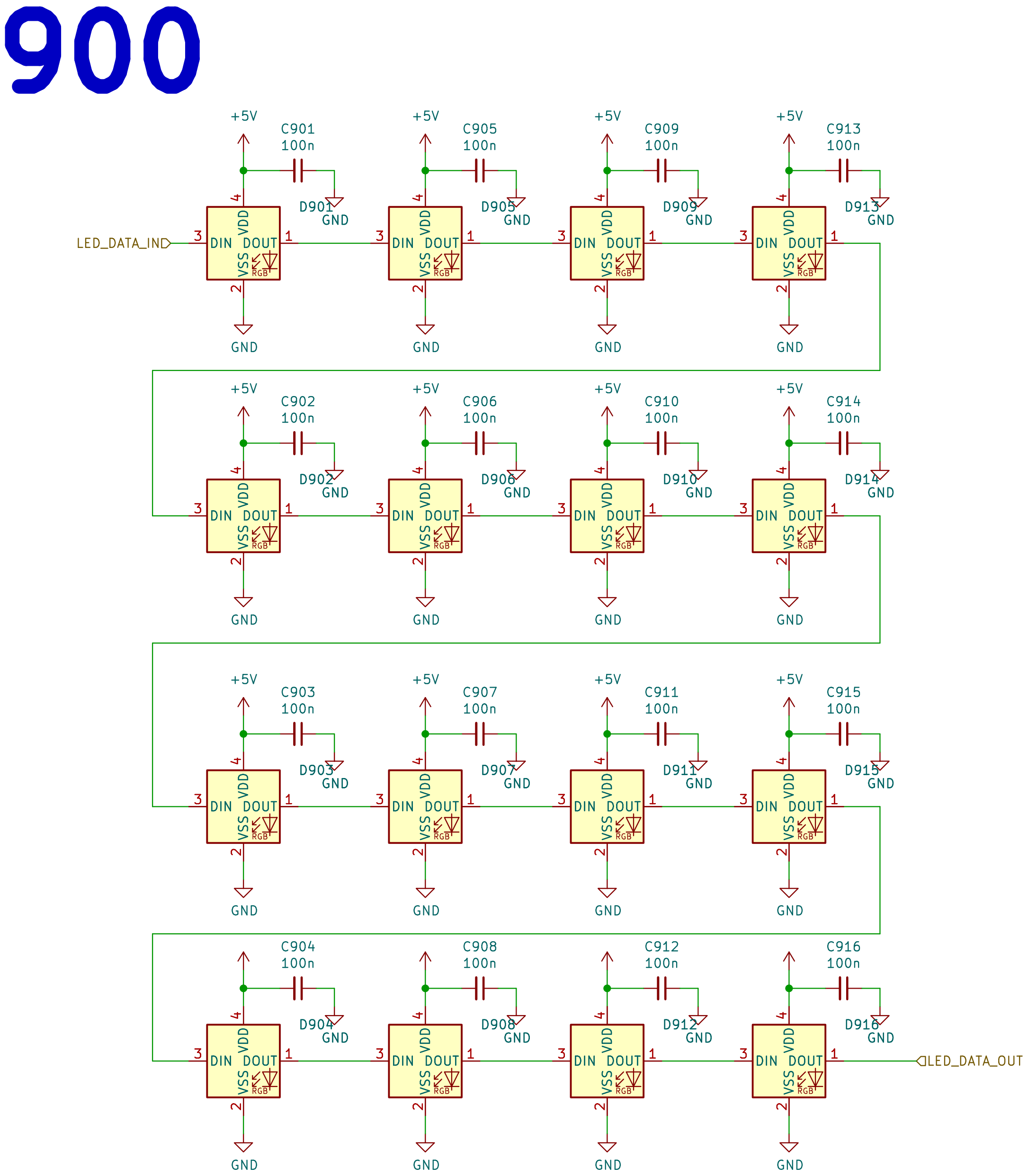
File: UI_BUTTON.kicad_sch

Title:

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

Rev:
Id: 3/10

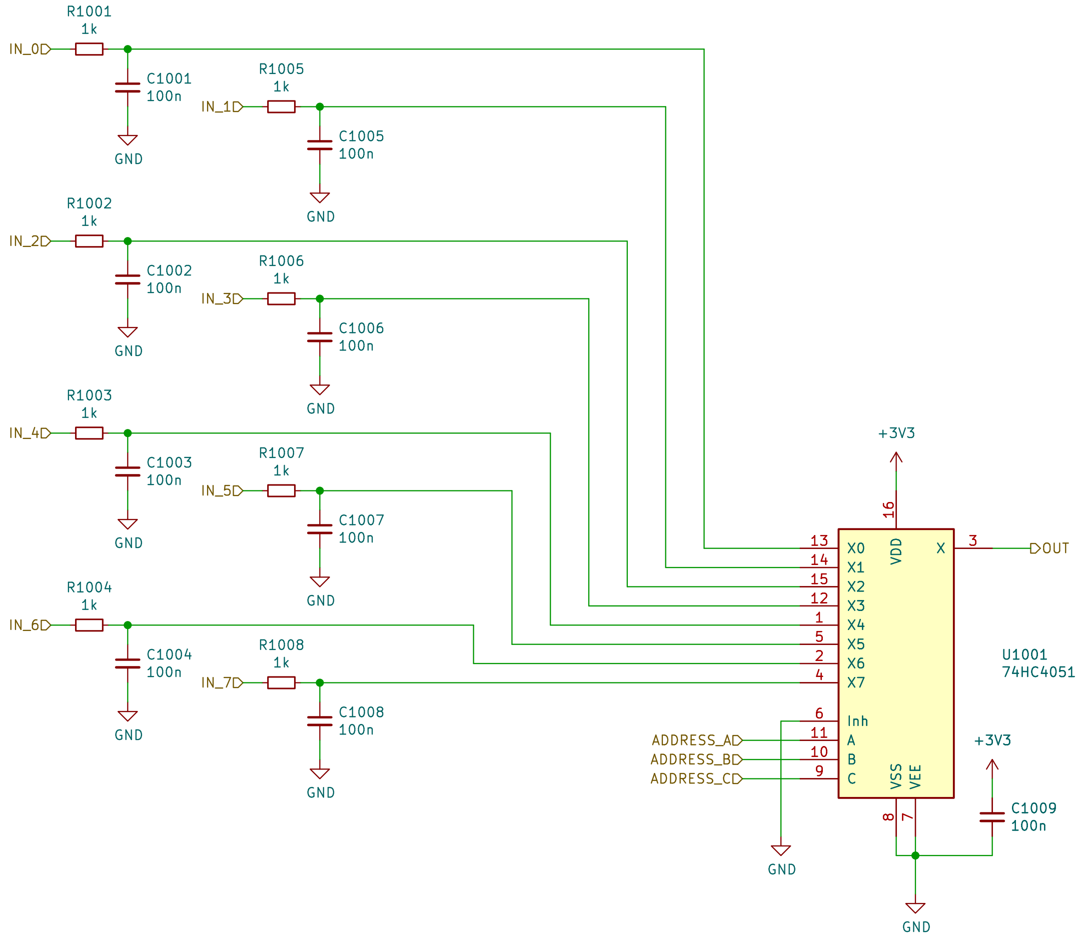


Sheet: /UI_LED/
File: UI_LED.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1		Id: 4/10

1000

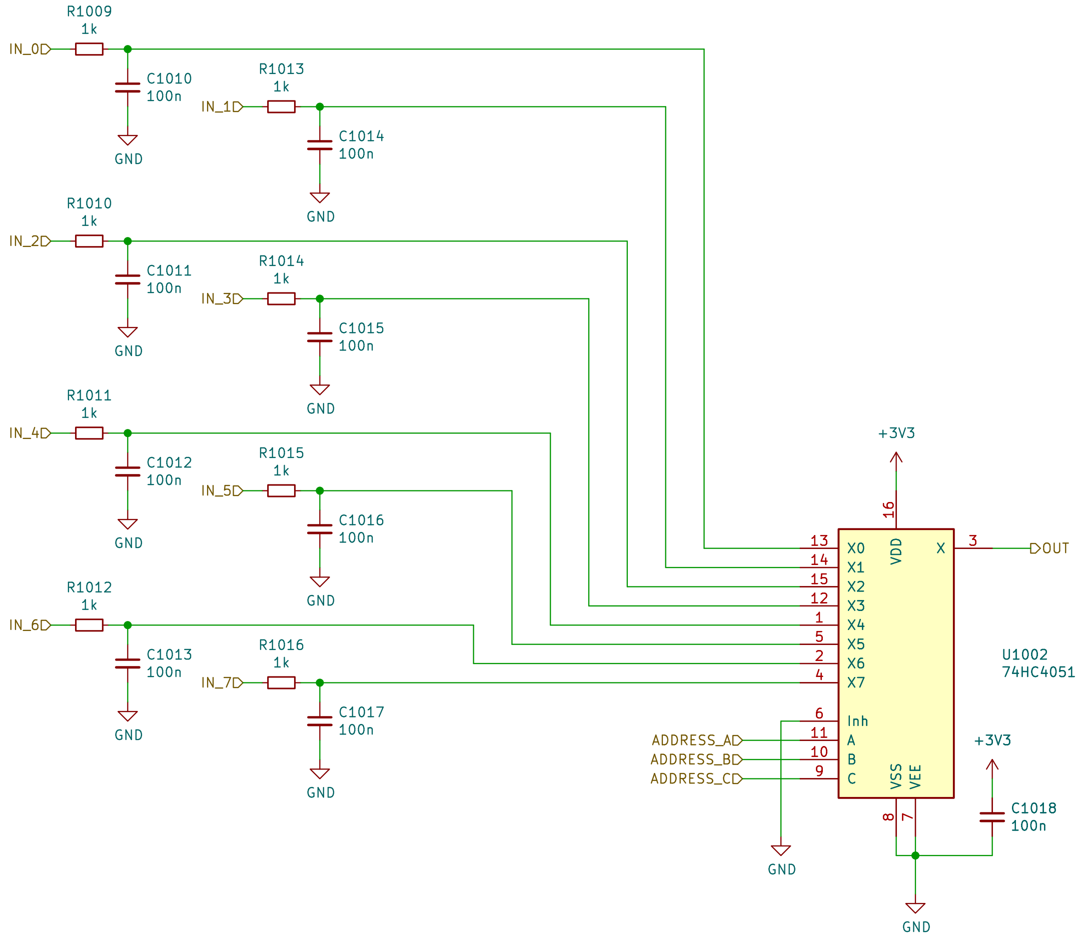


Sheet: /Sheet5D7C8BFD/
File: UI_MUX.kicad_sch

Title:

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

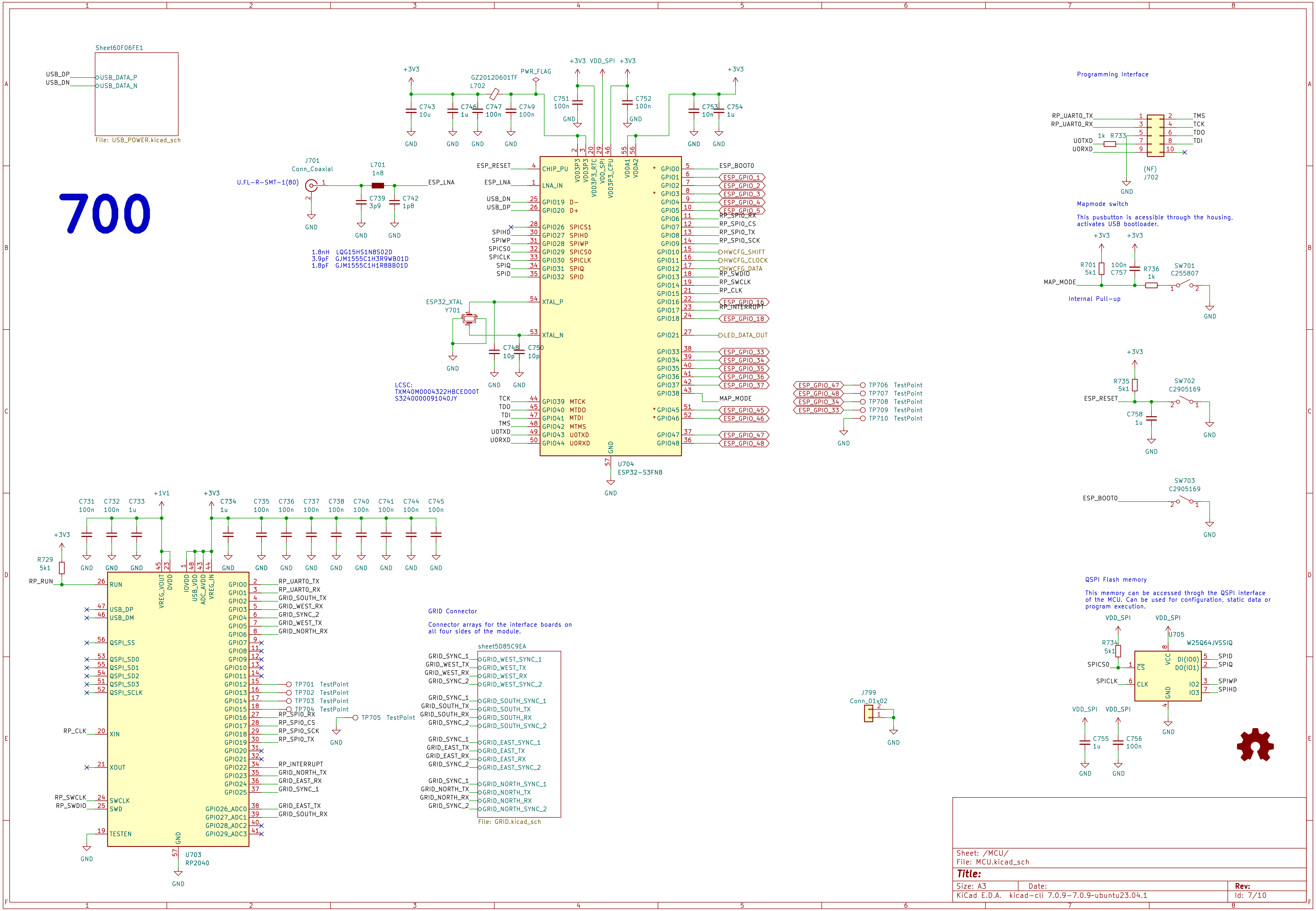
1000



Sheet: /sheet5D8763D6/
File: UI_MUX.kicad_sch

Title:

Size: A4 Date: **Rev:**
KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1 Id: 6/10



1.8nH LQG15HS1N8S02D
3.9pF GJM1555C1H3R9WB01D
1.8pF GJM1555C1H1R8BB01D

LCSC:
TXM40M0004322HBCEO0OT
S3240000091040JY

Programming Interface

Mapmode switch

This pusbutton is accessible through the housing,
activates USB bootloader.

Internal Pull-up

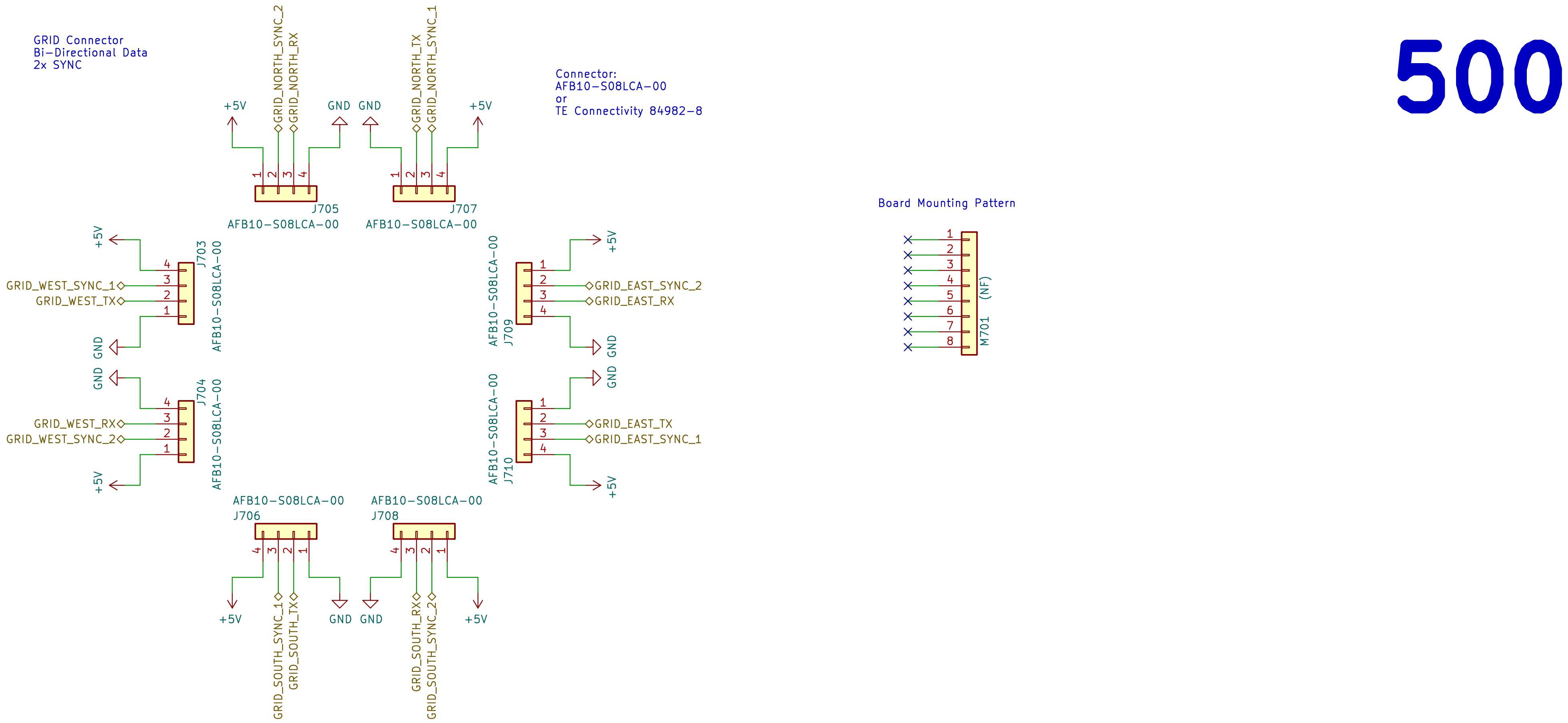
GRID Connector

Connector arrays for the interface boards on
all four sides of the module.

QSPI Flash memory

This memory can be accessed throgh the QSPI interface
of the MCU. Can be used for configuration, static data or
program execution.

Sheet: /MCU/
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

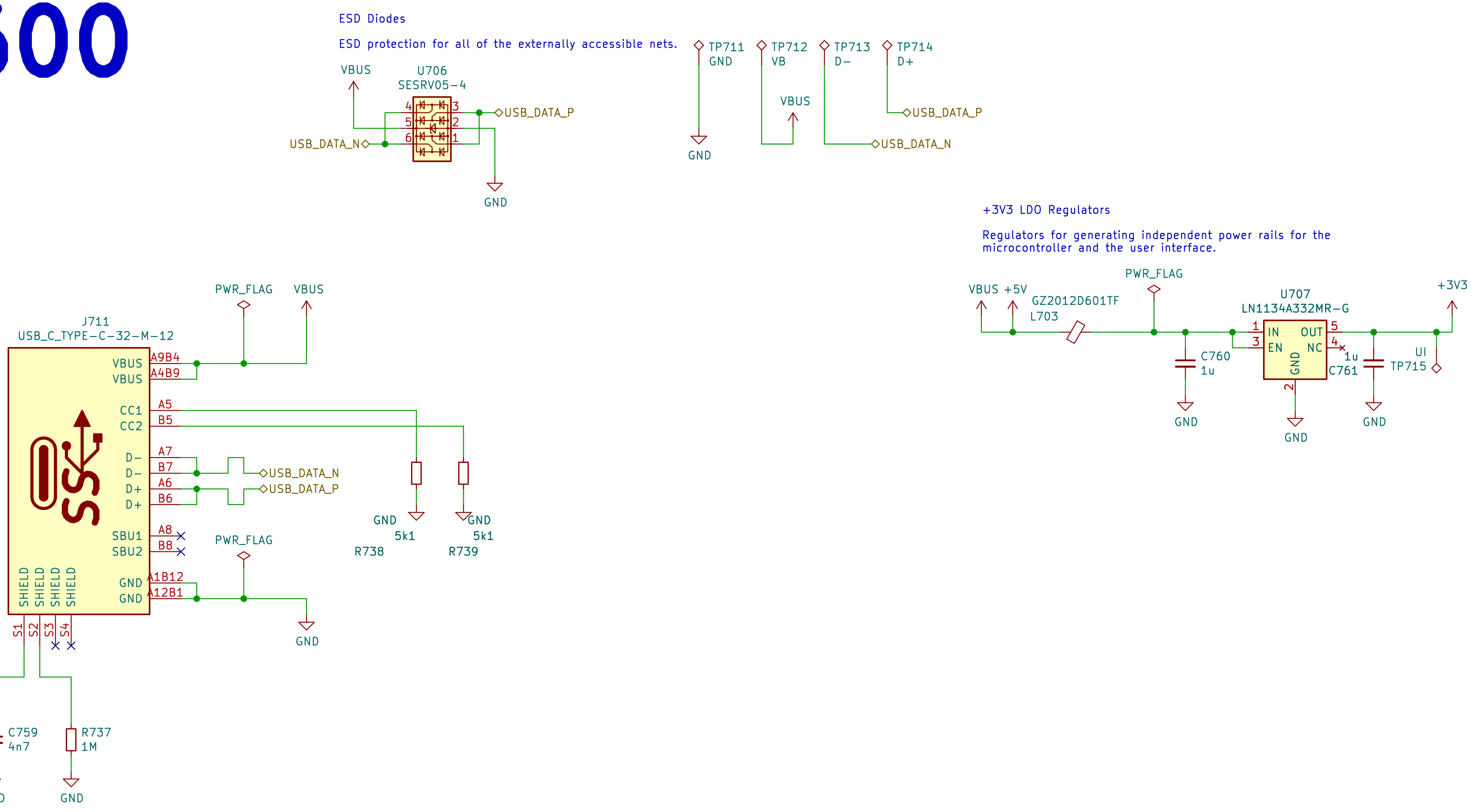
Board Mounting Pattern

Sheet: /MCU/sheet5D85C9EA/
File: GRID.kicad_sch

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

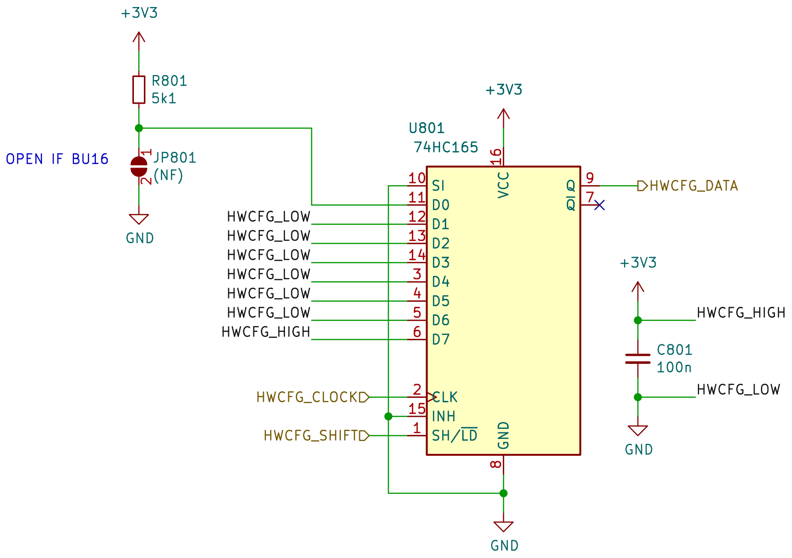
Regulators for generating independent power rails for the microcontroller and the user interface.

Sheet: /MCU/Sheet60F06FE1/
File: USB_POWER.kicad_sch

Title:

Size: A4 | Date: | **Rev:**
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