

UI_LED

LED_DATA_IN<

LED_DATA_OUT<

File: UI_LED.kicad_sch

MCU

LED_DATA_OUT

File: MCU.kicad_sch

UI_ENC

ENCODER_MISO<

ENCODER_SCK<

ENCODER_CS<

FADER_MUX_A_1<

FADER_MUX_A_2<

FADER_MUX_OUT_1D

FADER_MUX_OUT_2D

File: UI_ENC.kicad_sch

HWCFG

HWCFG_SHIFTD

HWCFG_CLOCKD

HWCFG_DATA<

HWCFG_SHIFT

HWCFG_CLOCK

HWCFG_DATA

DATA_IN<

File: HWCFG.kicad_sch

Sheet: /
File: EF44.kicad_sch

Title:

Size: A3

Date:

Rev:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Id: 1/11

900



Sheet: /UI_LED/
File: UI_LED.kicad_sch

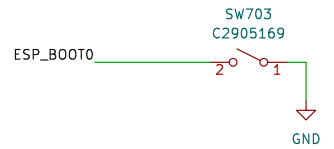
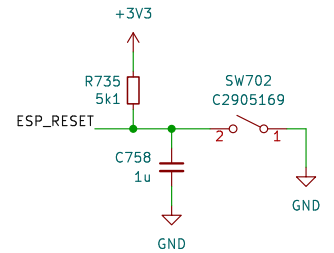
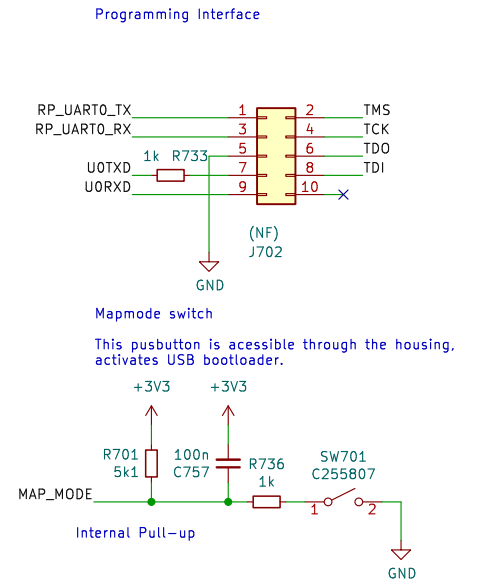
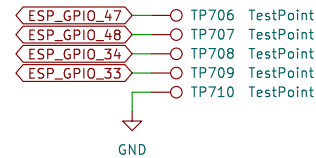
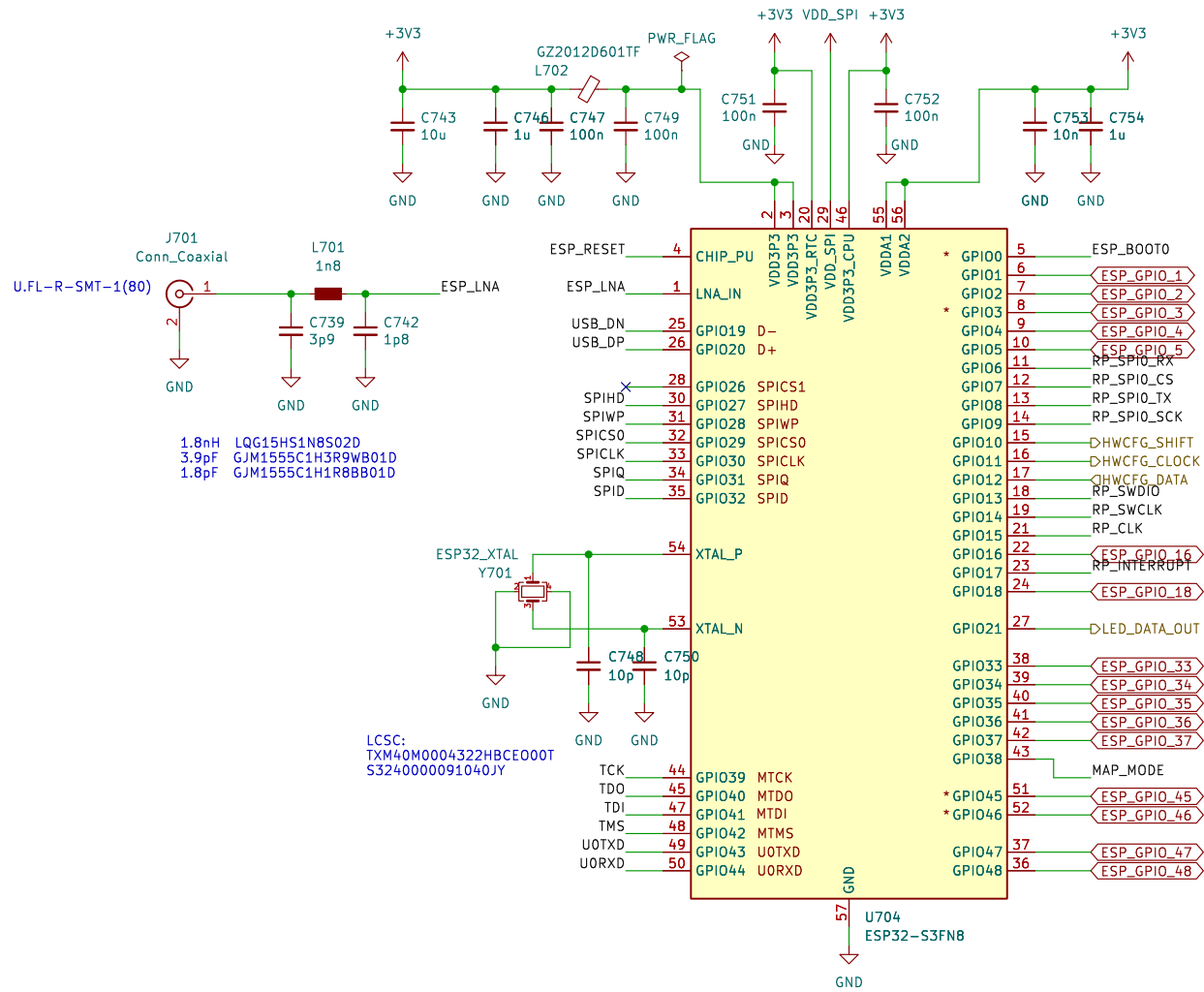
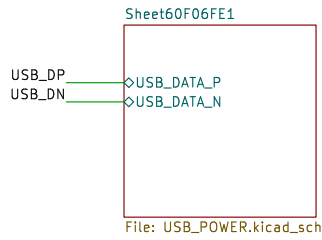
Title:

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

Date:

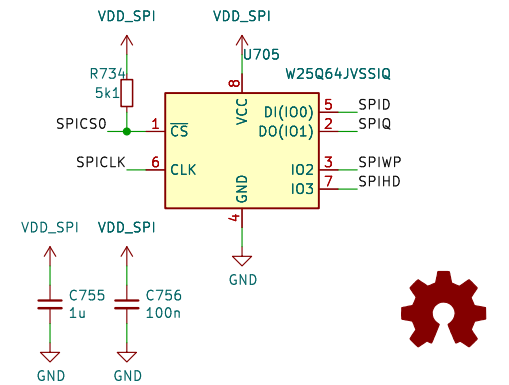
Rev:
Id: 4/11

700



QSPI Flash memory

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



GRID Connector
Bi-Directional Data
2x SYNC

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

Board Mounting Pattern

M701 (NF)

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

Title:

Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.9-ubuntu23.04.1	Id: 8/11

GRID Connector
Bi-Directional Data
2x SYNC

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

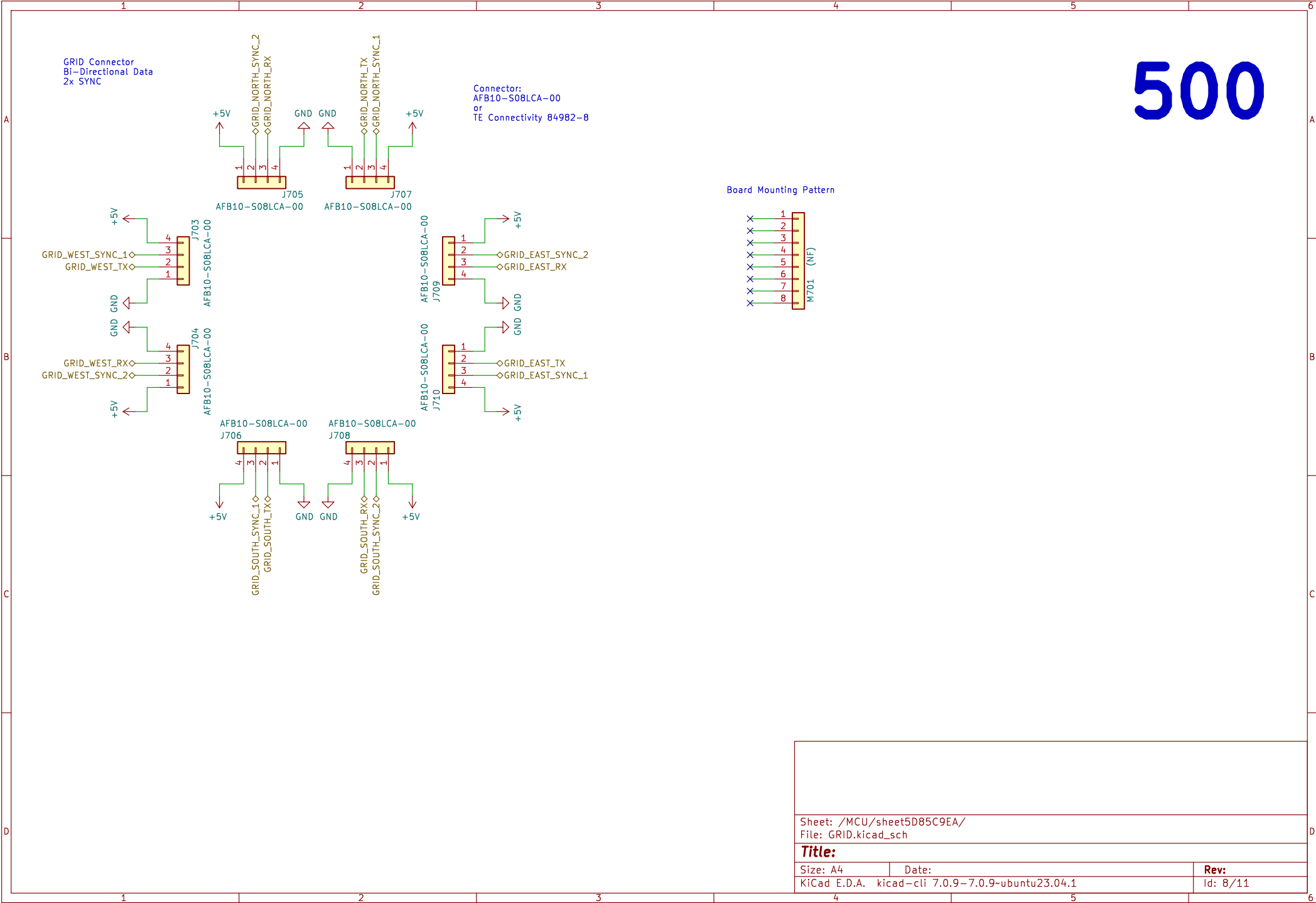
Board Mounting Pattern

M701 (NF)

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

Title:

Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.9-ubuntu23.04.1	Id: 8/11



Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1		Id: 8/11

Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.9-7.0.9-ubuntu23.04.1	Id: 8/11

KiCad E.D.A. kicad-cli 7.0.9-7.0.9~ubuntu23.04.1	Id: 8/11
--	----------

4	5	6
---	---	---

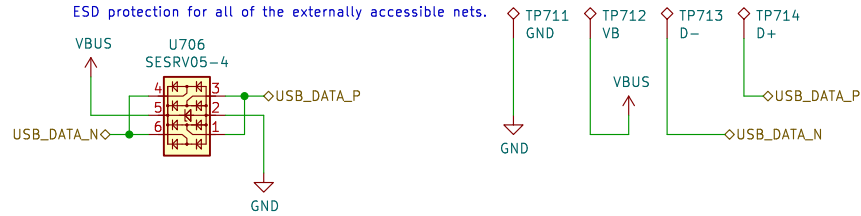
Id: 8/11

6

600

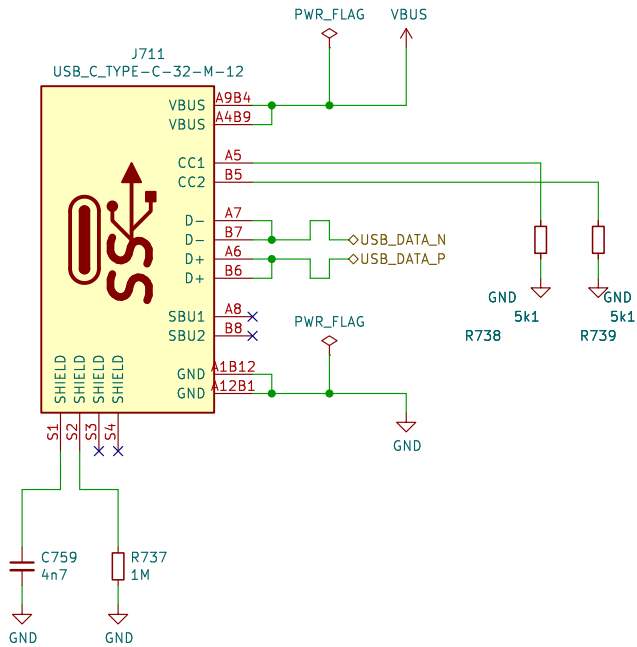
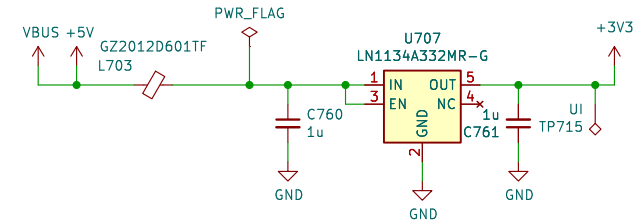
ESD Diodes

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:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 9/11

800

OPEN IF EN16
CLOSED IF NO DETENT

U801
74HC165

DATA_IND

+3V3

VCC

Q

HWCFG_DATA

HWCFG_LOW

HWCFG_HIGH

HWCFG_CLOCKD

HWCFG_SHIFTD

R801
5k1

JP801
(NF)

C801
100n

GND

Board Identification

Grid firmware can identify the hardware and the board revision through 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: 10/11

Grid firmware can identify the hardware and the board revision through 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.

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

Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

```
RevA 0000
RevB 0001
RevC 0010
RevD 0011
...
```

Sheet: /HWCFG/ File: HWCFG.kicad_sch	
Title:	
Size: A4	Date:
KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1	Rev: Id: 10/11



Sheet: /UI_ENC/ENCODER_0/
File: UI_ENC_FILTER.kicad_sch

Title:

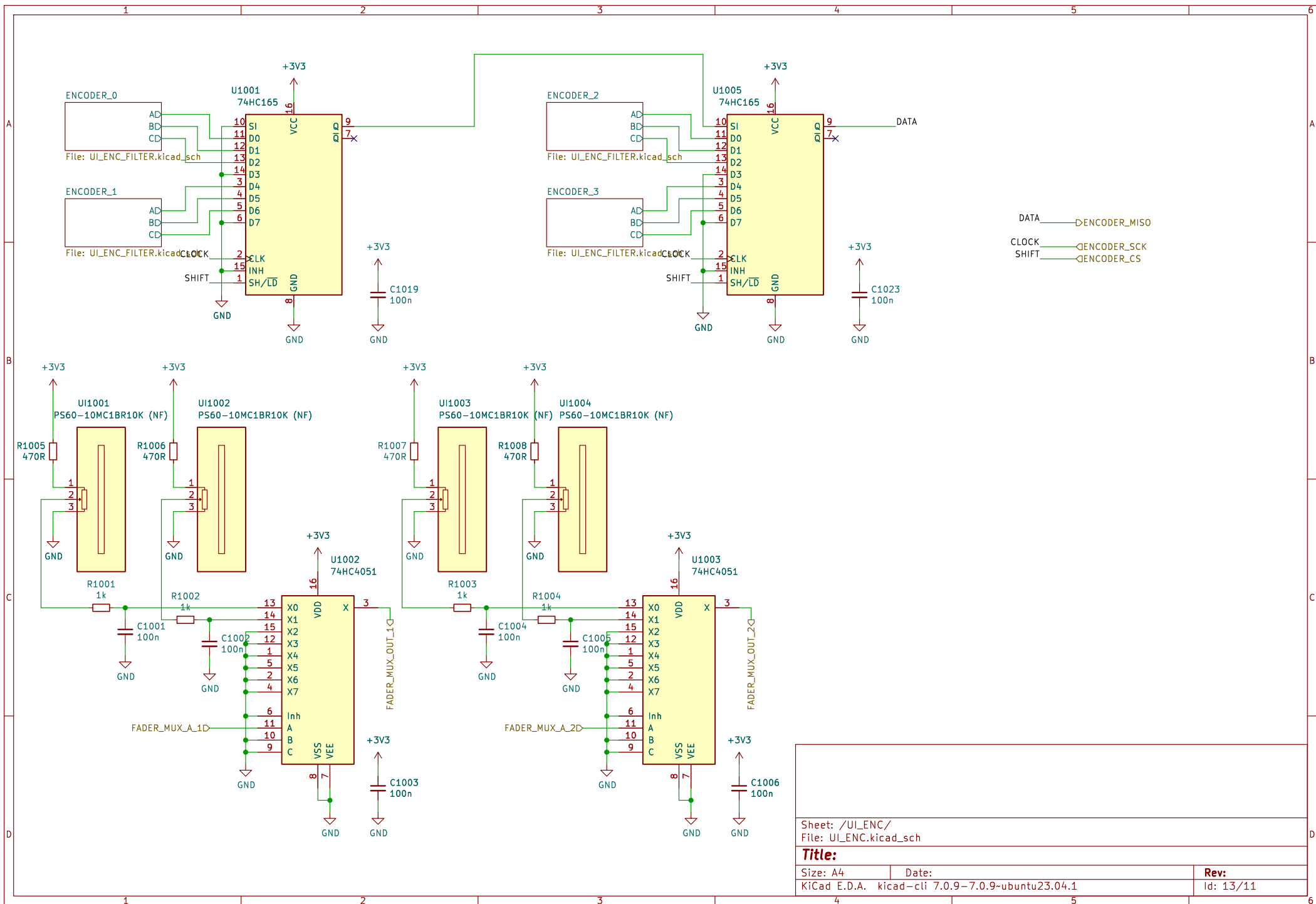
Size: A4

Date:

Rev:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Id: 11/11





Sheet: /UI_ENC/ENCODER_3/
File: UI_ENC_FILTER.kicad_sch

Title:

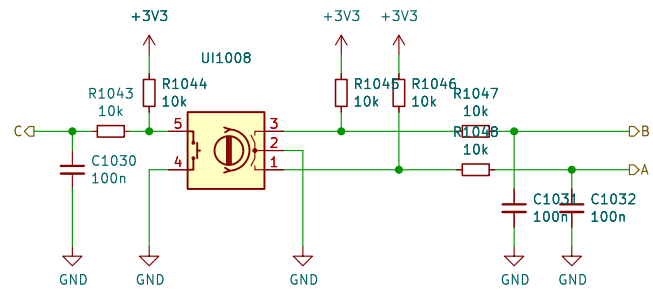
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 14/11



Sheet: /UI_ENC/ENCODER_1/
File: UI_ENC_FILTER.kicad_sch

Title:

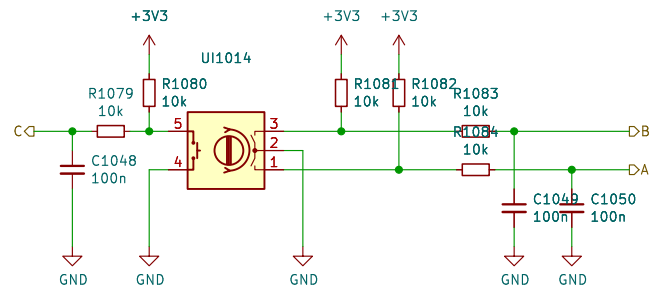
Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 15/11



Sheet: /UI_ENC/ENCODER_2/
File: UI_ENC_FILTER.kicad_sch

Title:

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.9-7.0.9-ubuntu23.04.1

Rev:

Id: 21/11