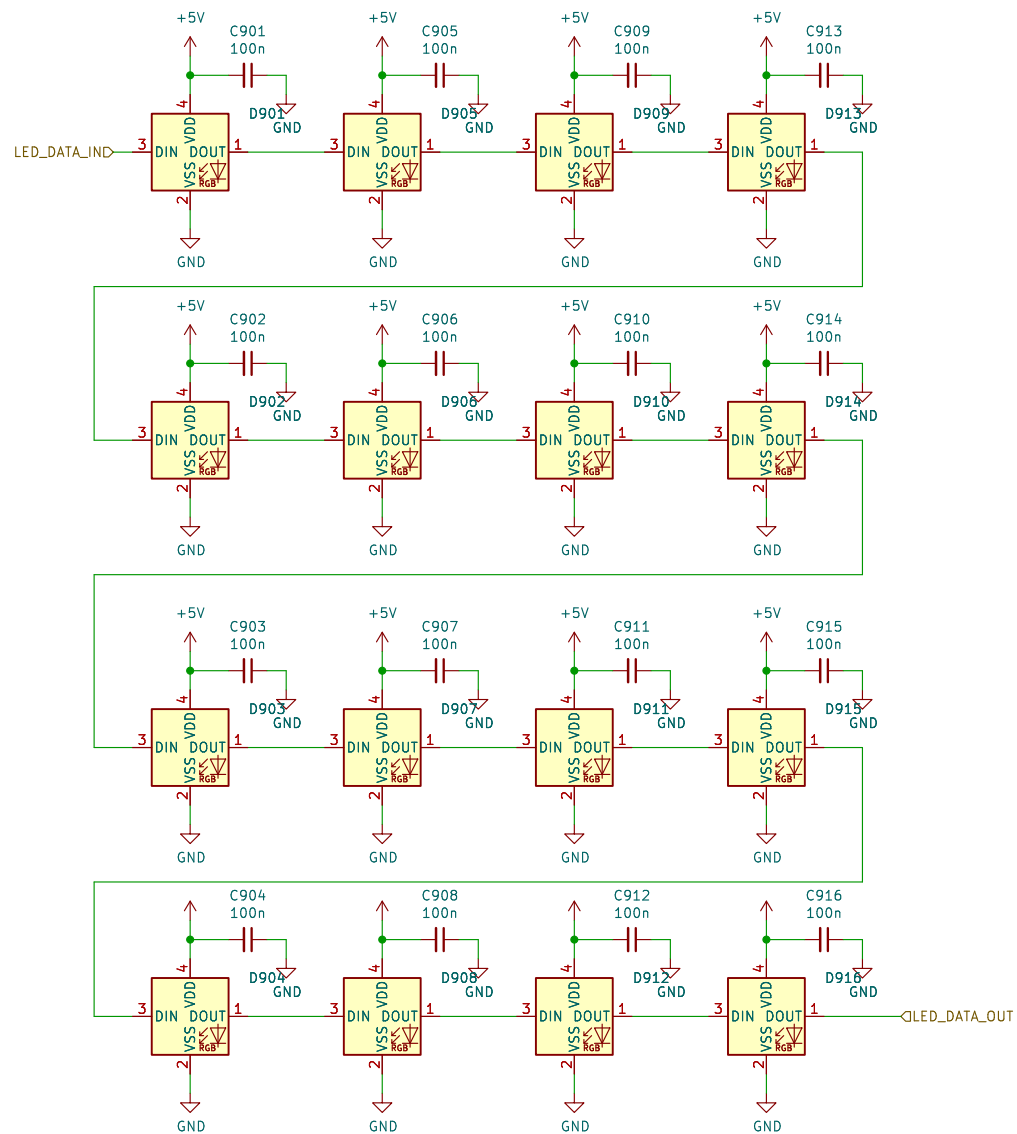


# 900



Sheet: /UI\_LED/  
File: UI\_LED.kicad\_sch

**Title:**

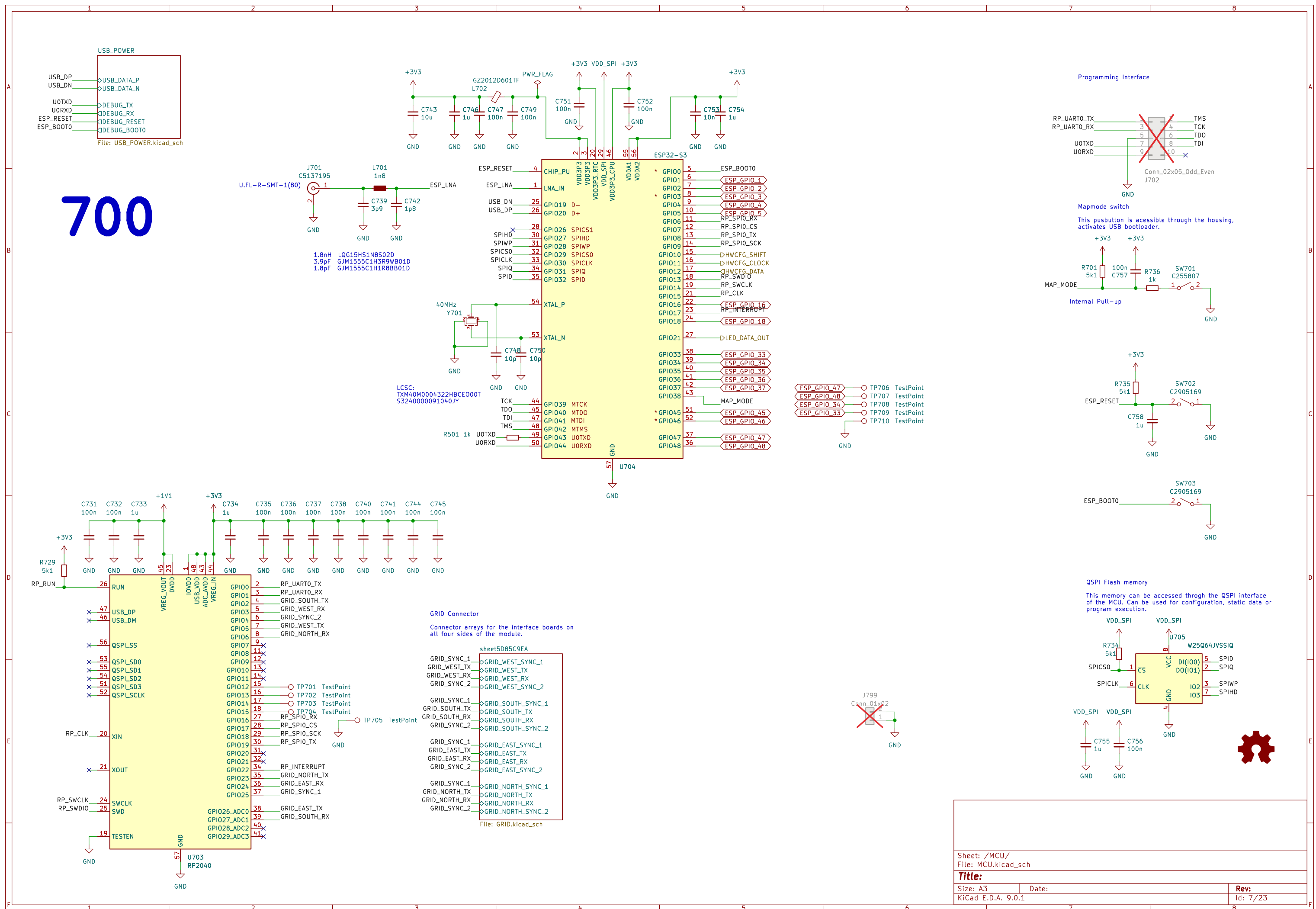
Size: A4

Date:

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**800**

OPEN IF EN16  
CLOSED IF NO DETENT

+3V3

JP801  
(NF)

R801  
5k1

GND

DATA\_IND

HWCFG\_HIGH

HWCFG\_HIGH

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_LOW

HWCFG\_HIGH

HWCFG\_HIGH

HWCFG\_CLOCKD

HWCFG\_SHIFTD

U801  
74HC165

VCC

DQ

HWCFG\_DATA

+3V3

C801  
100n

GND

GND

GND

**Board Identification**

Grid firmware can identify the hardware and the board revision thorough 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		
<b>Title:</b>		
Size: A4	Date:	<b>Rev:</b>
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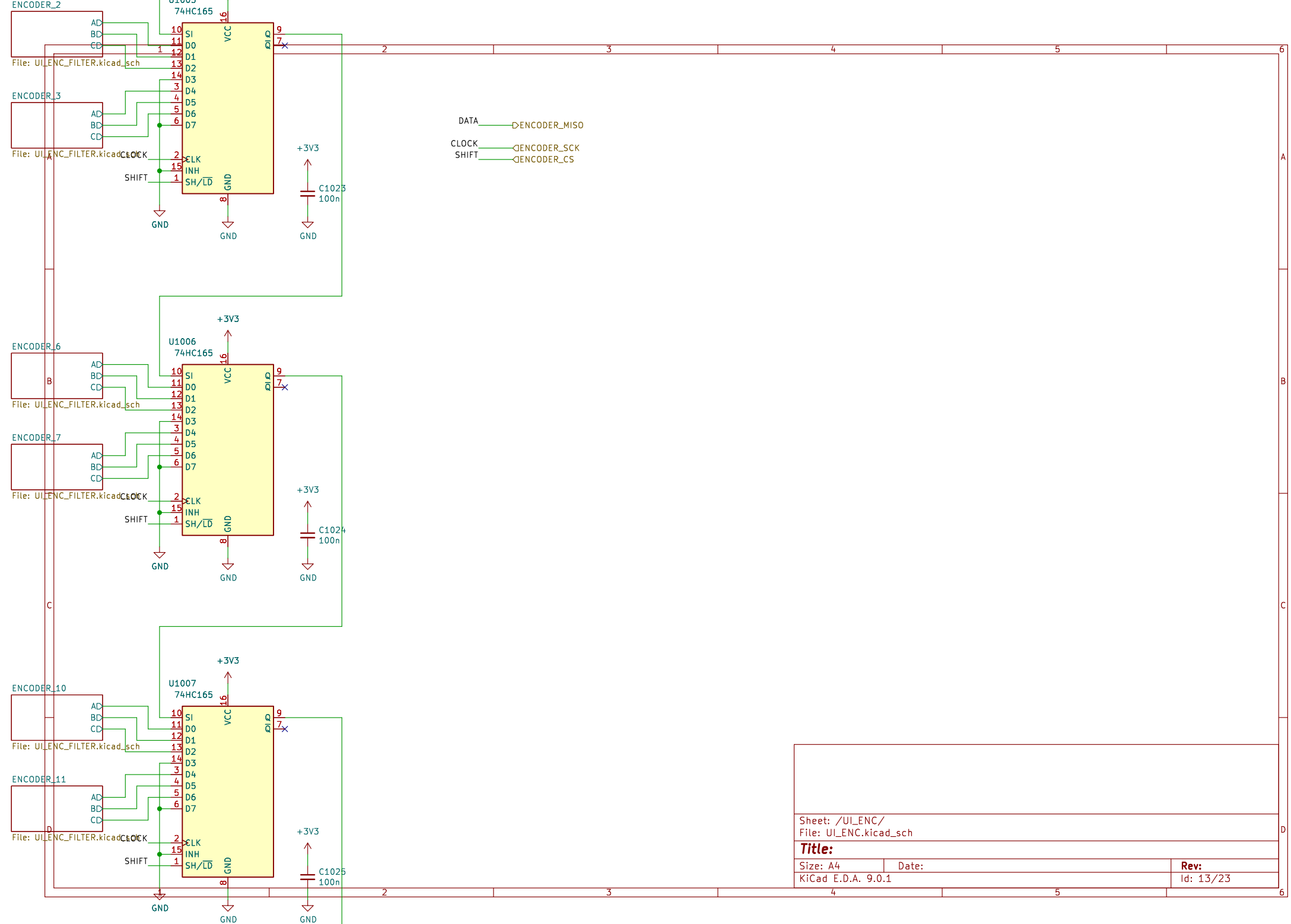
Grid firmware can identify the hardware and the board revision through a 3 wire serial interface using one or more shift register as read only memory. The content of the memory is defined by pulling the inputs high or low through pcb traces or solderable configuration jumpers.

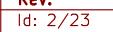
D0: MODEL (LSB)  
D1: MODEL  
D2: MODEL  
D3: MODEL (MSB)  
D4: REVISION (LSB)  
D5: REVISION  
D6: REVISION  
D7: REVISION (MSB)

Po16	0000
Bo16	0001
PBF4	0010
EN16	0011
...	

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

Sheet: /HWCFG/ File: HWCFG.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.1		Id: 10/23





Sheet: /UI\_ENC/ENCODER\_11/  
File: UI\_ENC\_FILTER.kicad\_sch

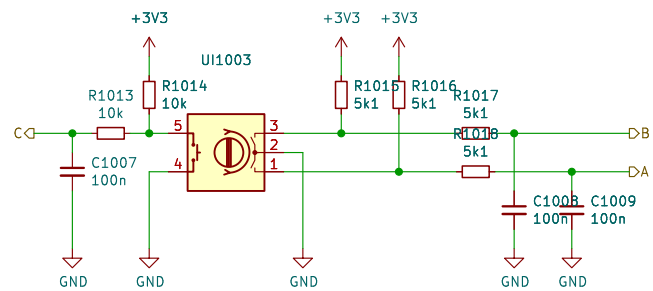
**Title:**

Size: A4	Date:
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Date:

Rev:

Id: 3/23



Sheet: /UI\_ENC/ENCODER\_5/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

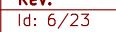
Date:

Rev:

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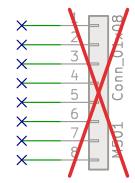




500

GRID Connector  
Bi-Directional Data  
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/  
File: GRID.kicad\_sch

**Title:**

Size: A4

Date:

KiCad E.D.A. 9.0.1

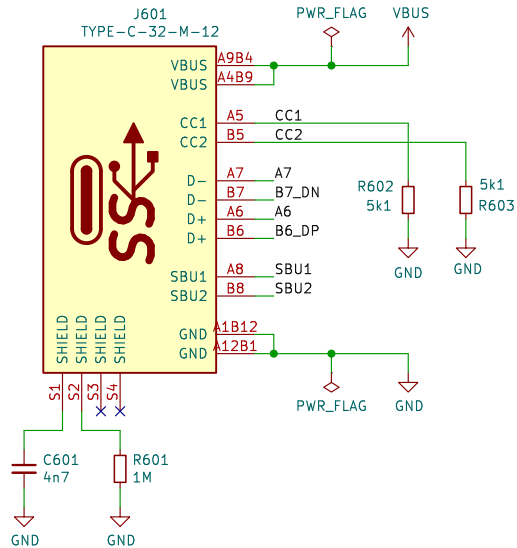
**Rev:**

Id: 8/23

600

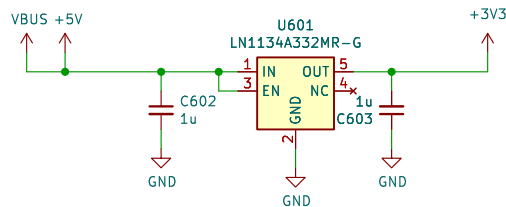
## USB Port

USB C upstream facing port configured for 5V 3A power consumption.



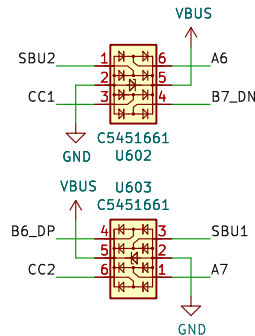
## 3V3 LDO

LDO regulator for generating the +3V3 power rail for the microcontroller and UI.



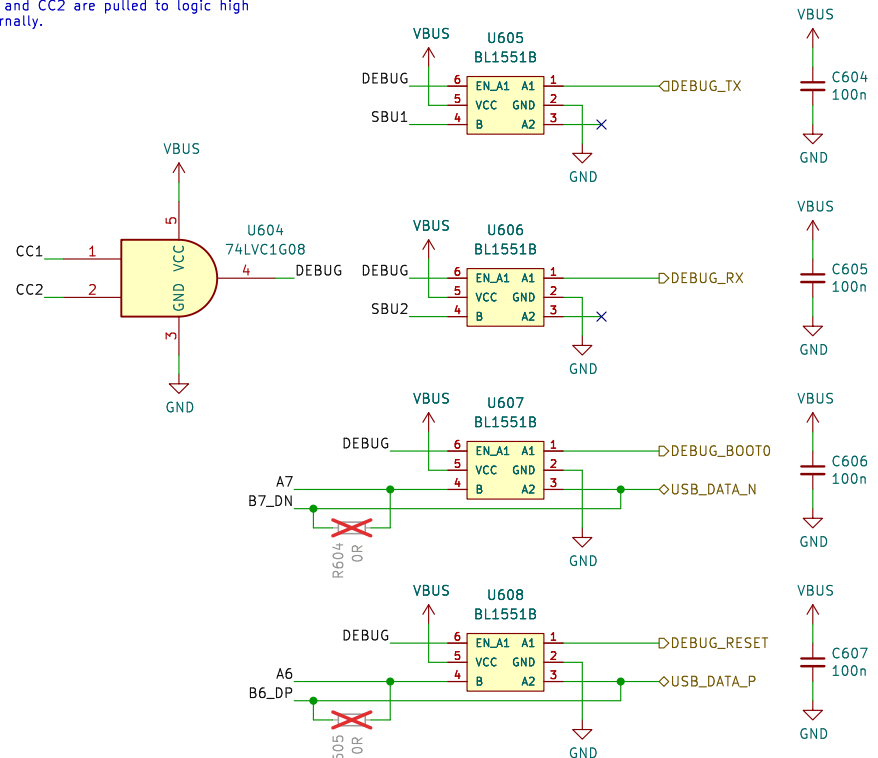
## ESD Prot.

ESP protection for all 8 signals externally accessible via the USB C connector.

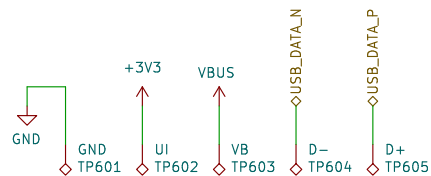


## Debug-Mode Multiplexing

Debug.mode is activated when both CC1 and CC2 are pulled to logic high externally.



## Testpoints



Sheet: /MCU/USB\_POWER/  
File: USB\_POWER.kicad\_sch

**Title:**

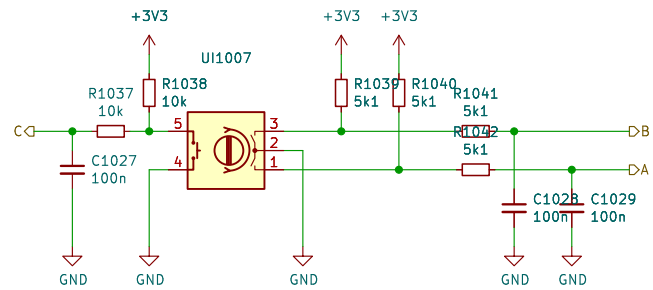
Size: A4 Date:

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**Rev:**  
Id: 9/23







Sheet: /UI\_ENC/ENCODER\_3/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

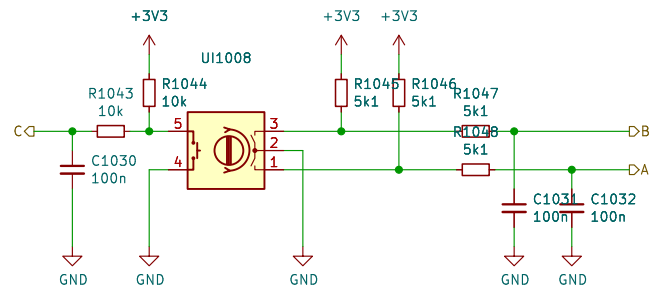
Size: A4

Date:

**Rev:**

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Id: 14/23



Sheet: /UI\_ENC/ENCODER\_1/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

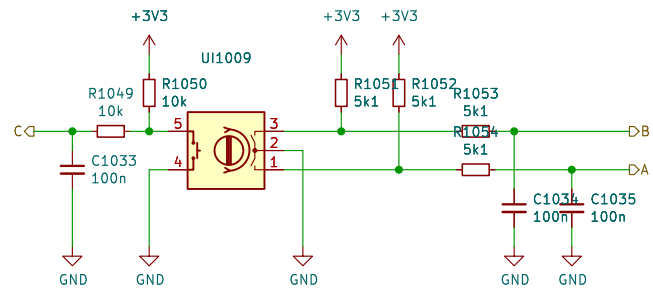
Size: A4

Date:

Rev:

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Sheet: /UI\_ENC/ENCODER\_7/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

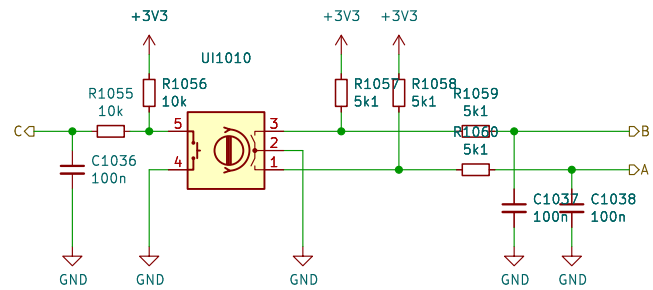
Date:

**Rev:**

KiCad E.D.A. 9.0.1

Id: 16/23





Sheet: /UI\_ENC/ENCODER\_14/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

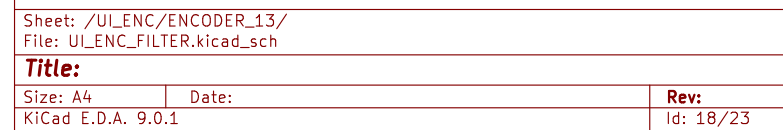
Size: A4

Date:

**Rev:**

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Id: 17/23



Sheet: /UI\_ENC/ENCODER\_10/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

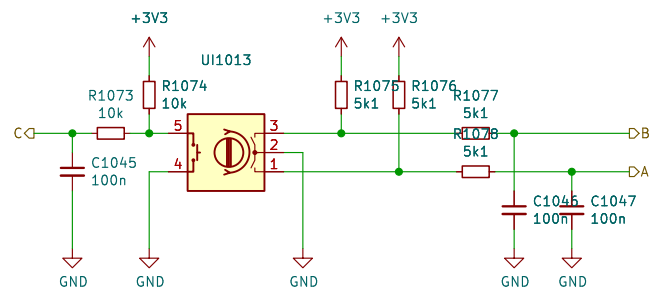
Size: A4

Date:

Size: A4	
KiCad E.D.A. 9.0.1	

Rev:

Id: 19/23



Sheet: /UI\_ENC/ENCODER\_15/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

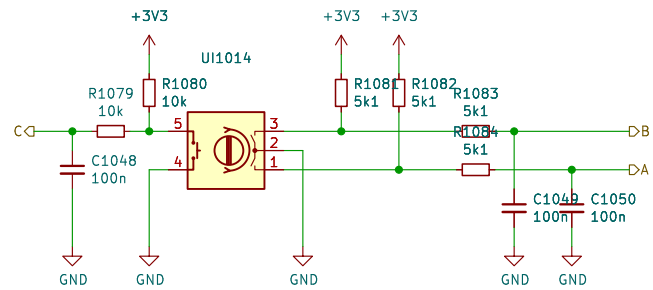
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.1

Id: 20/23



Sheet: /UI\_ENC/ENCODER\_2/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

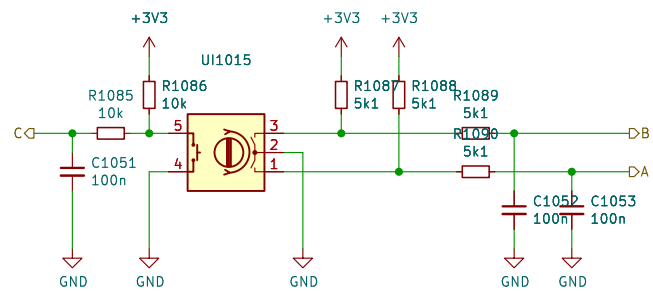
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.1

Id: 21/23



Sheet: /UI\_ENC/ENCODER\_4/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

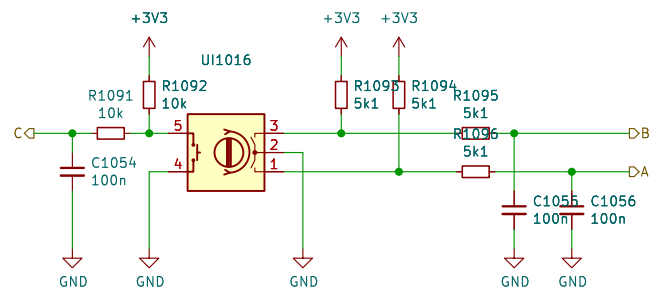
Size: A4

Date:

Rev:

KiCad E.D.A. 9.0.1

Id: 22/23



Sheet: /UI\_ENC/ENCODER\_9/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

**Rev:**

KiCad E.D.A. 9.0.1

Id: 23/23