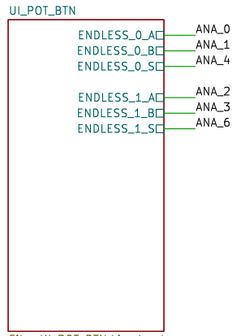
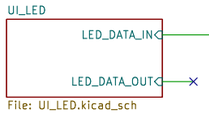
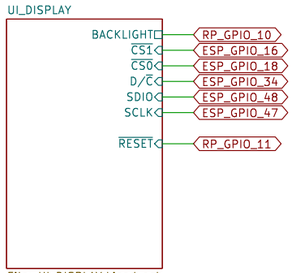
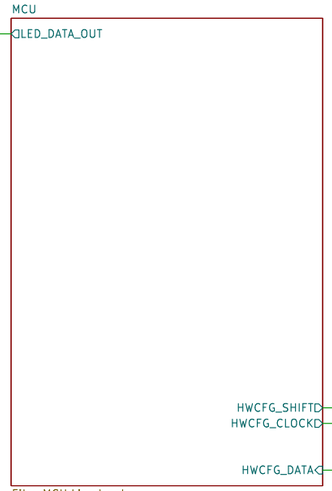
Common Sheets:
500 GRID
600 USB_POWER
700 MCU

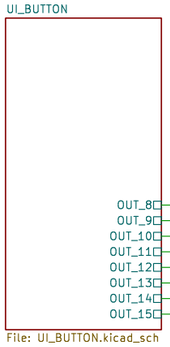
Module Specific:
800 HWCFG
900 LED
1000 UI

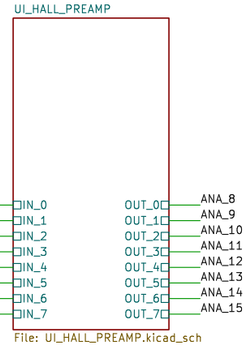


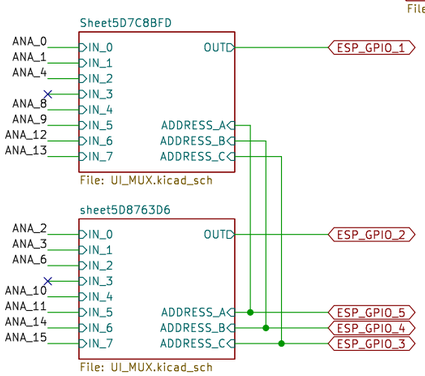


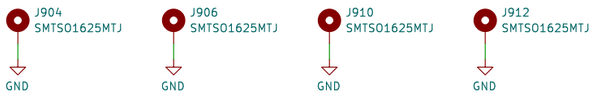


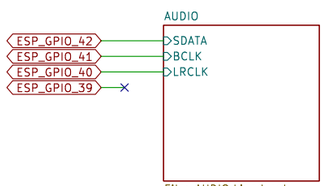












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KiCad E.D.A. 9.0.6		Id: 1/22

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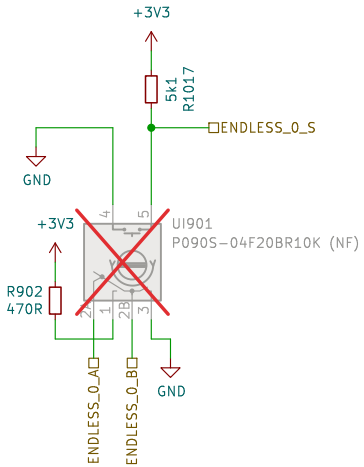

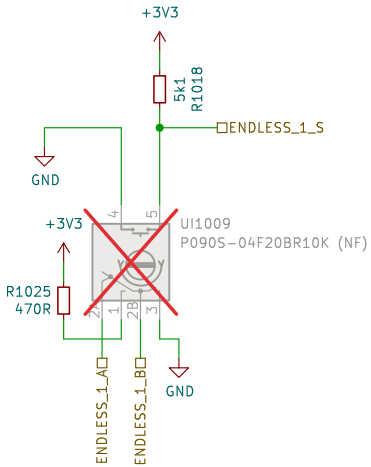

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KiCad E.D.A. 9.0.6		Id: 2/22

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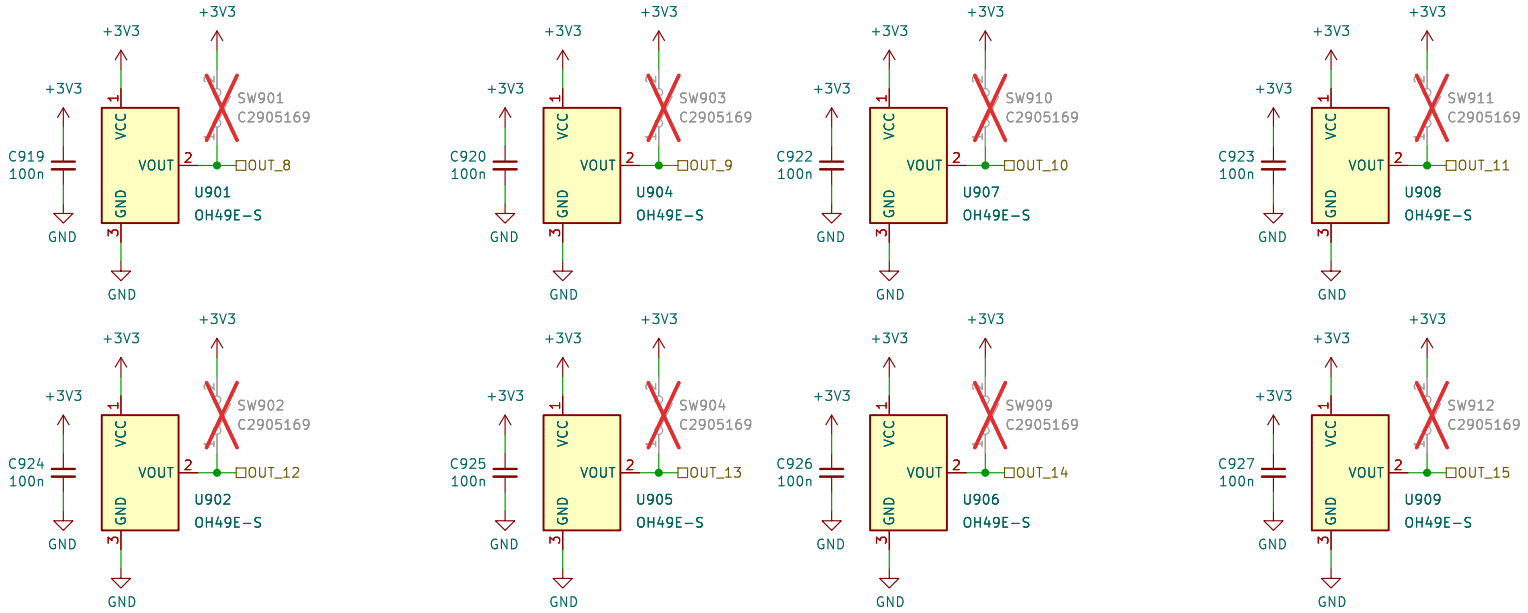
Simulation:

http://tinyurl.com/y229mty4



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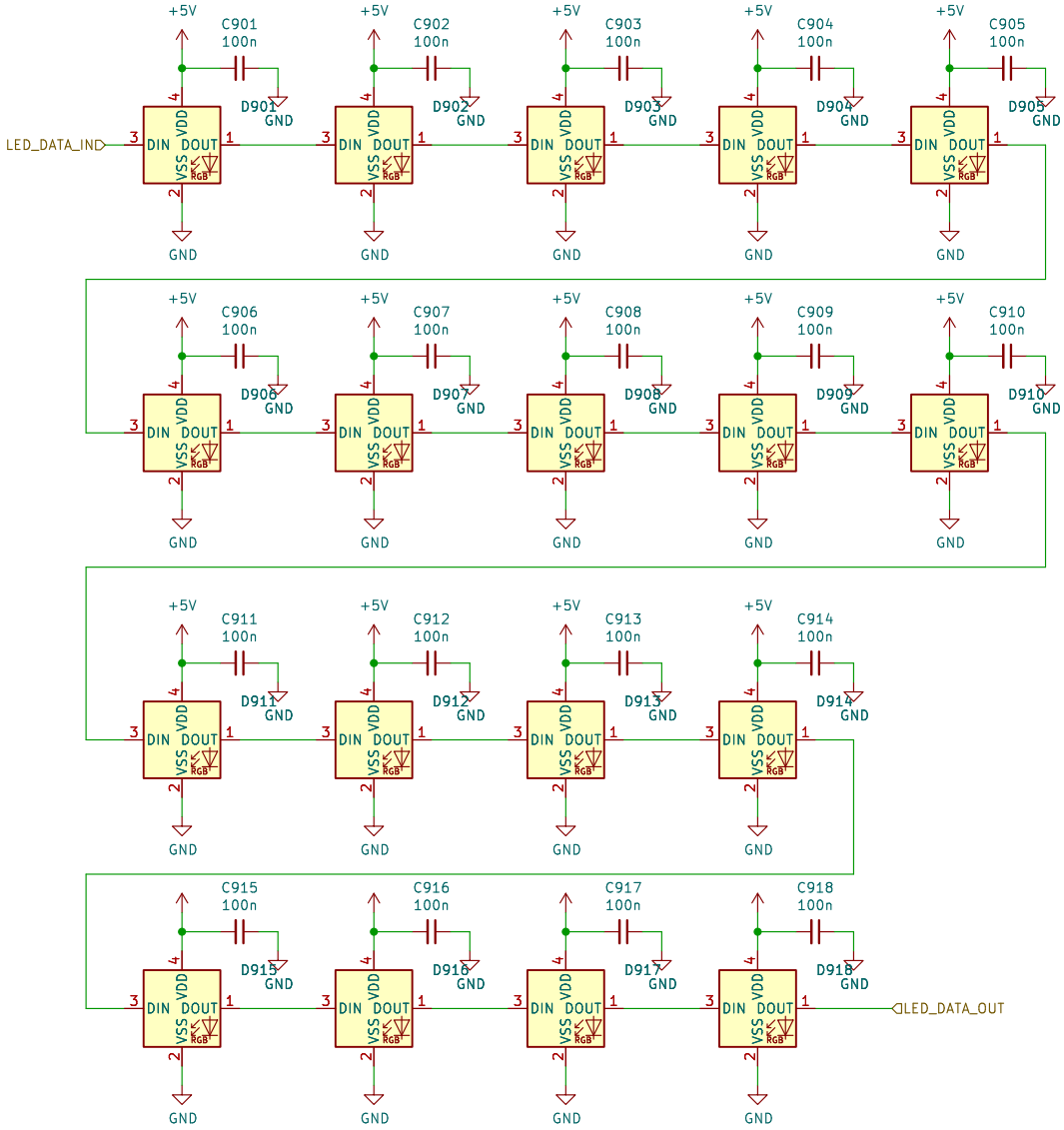
KiCad E.D.A. 9.0.6 | Id: 3/22

900



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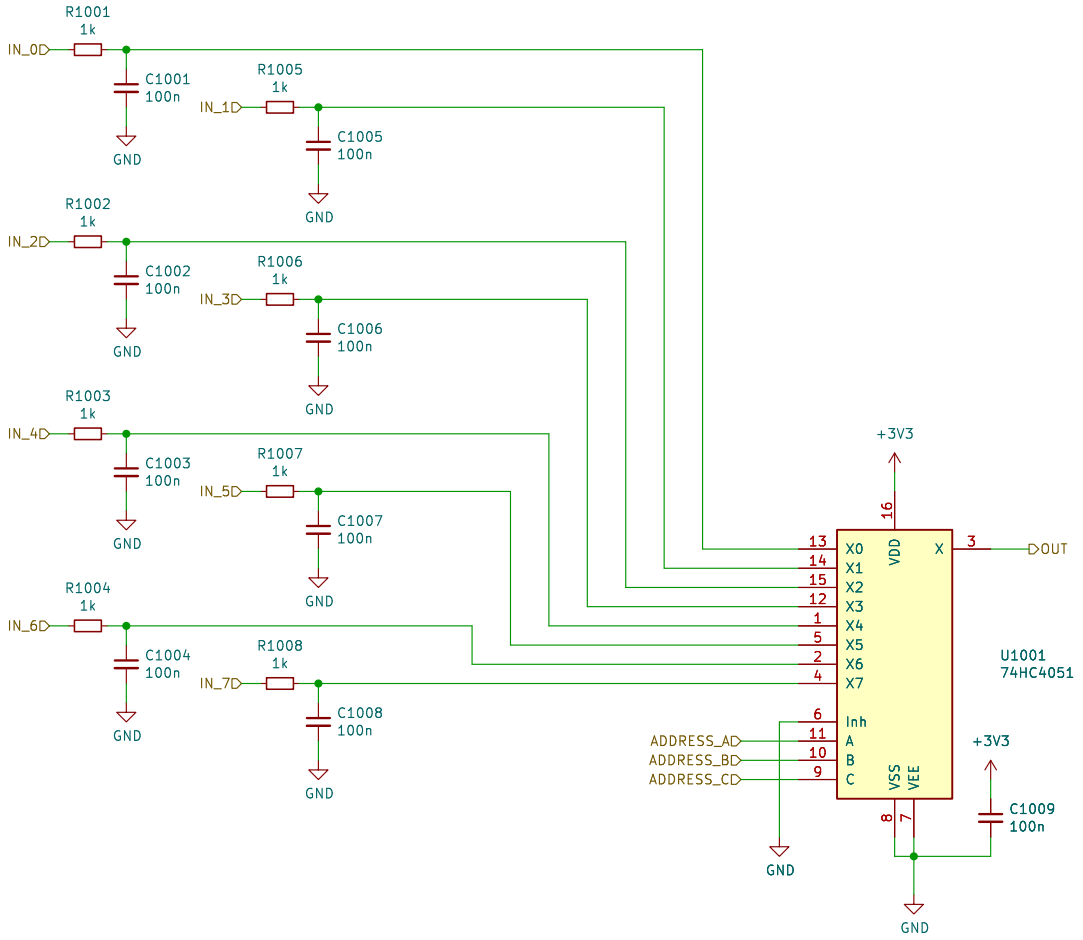

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KiCad E.D.A. 9.0.6		Id: 5/22

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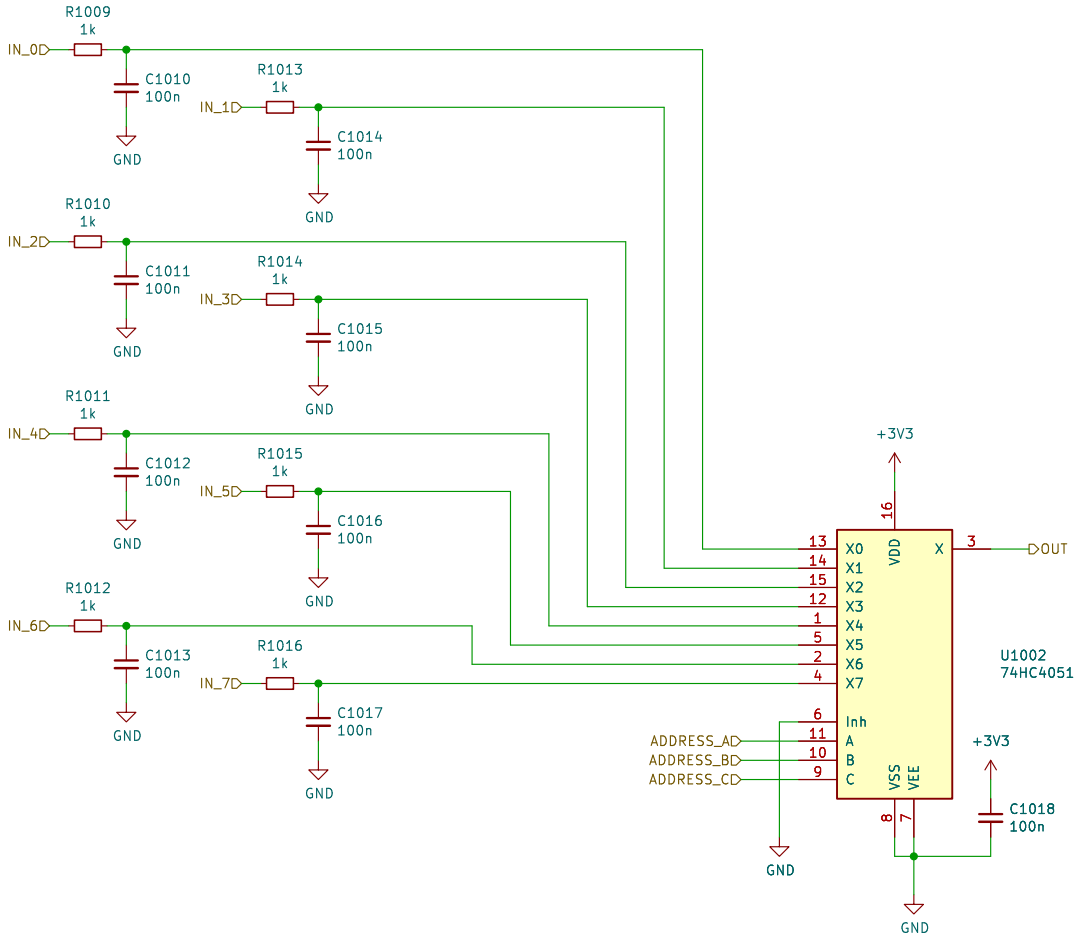

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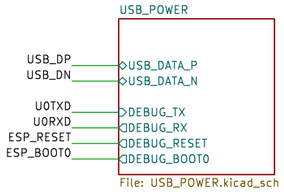
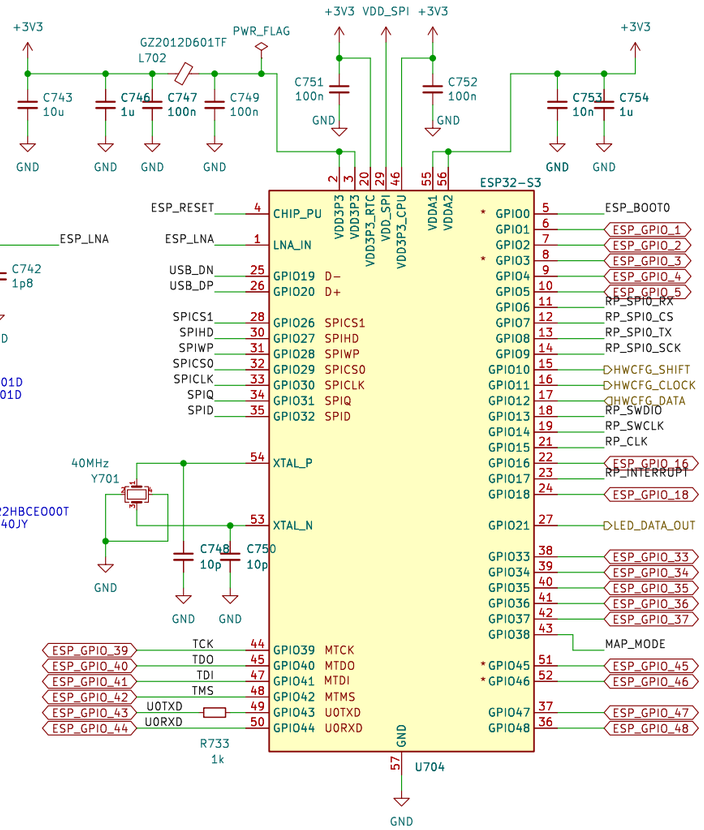
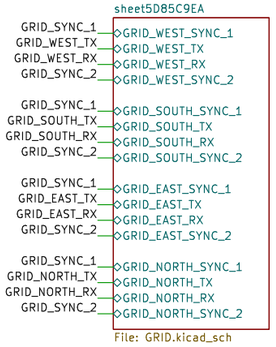
700



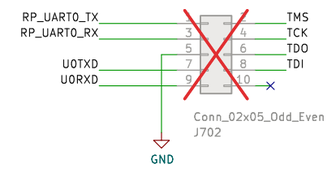


GRID Connector

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

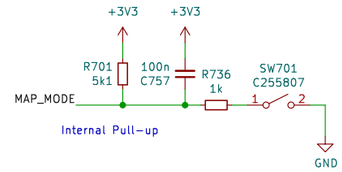


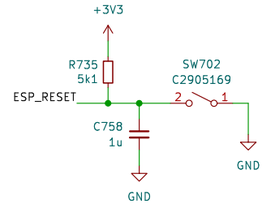
Programming Interface

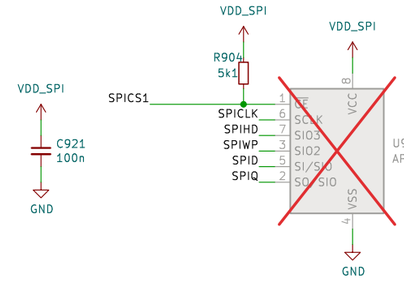


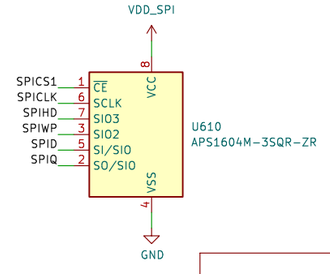
Mapmode switch

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



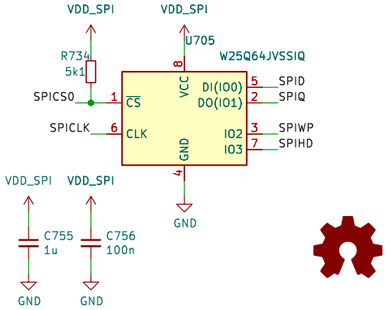






QSPI Flash memory

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



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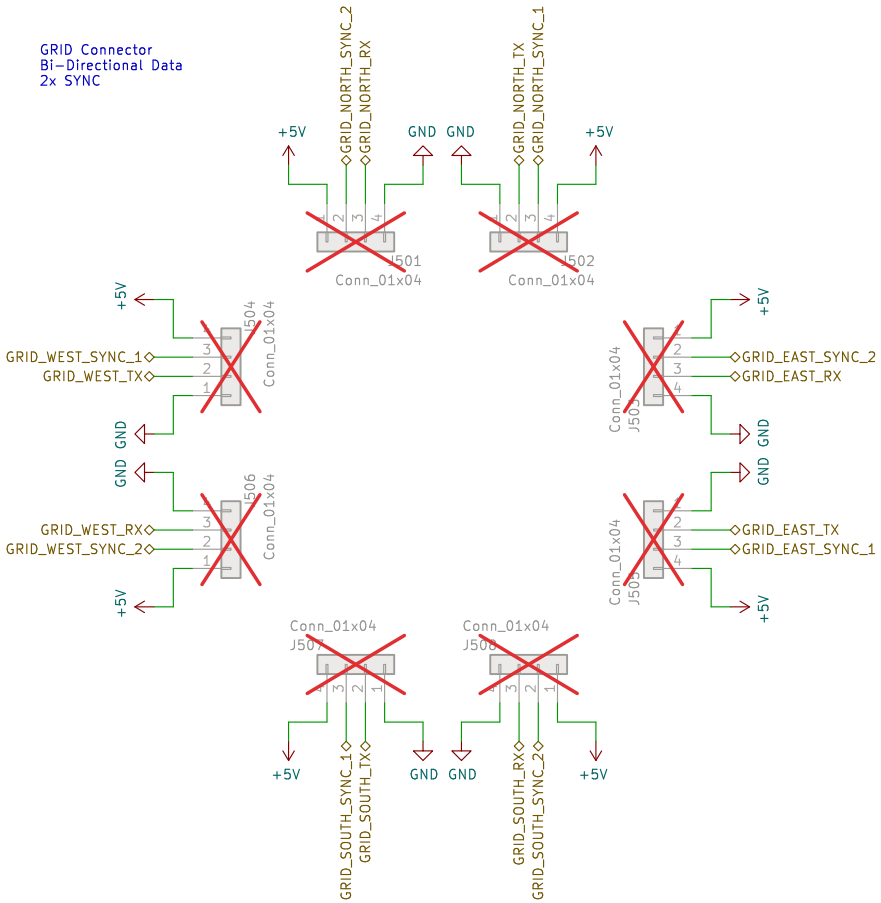
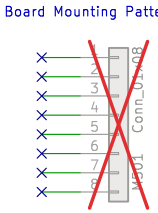
KiCad E.D.A. 9.0.6		Id: 7/22





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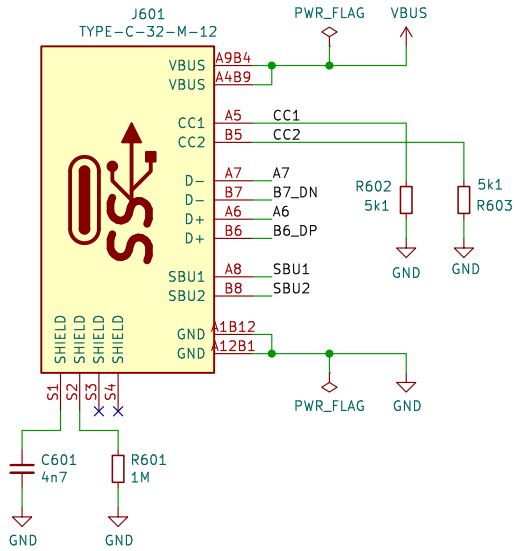
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 8/22

600

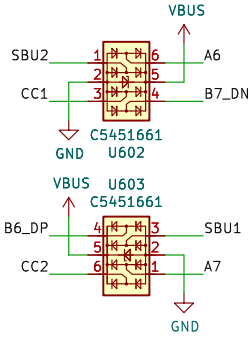
USB Port

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



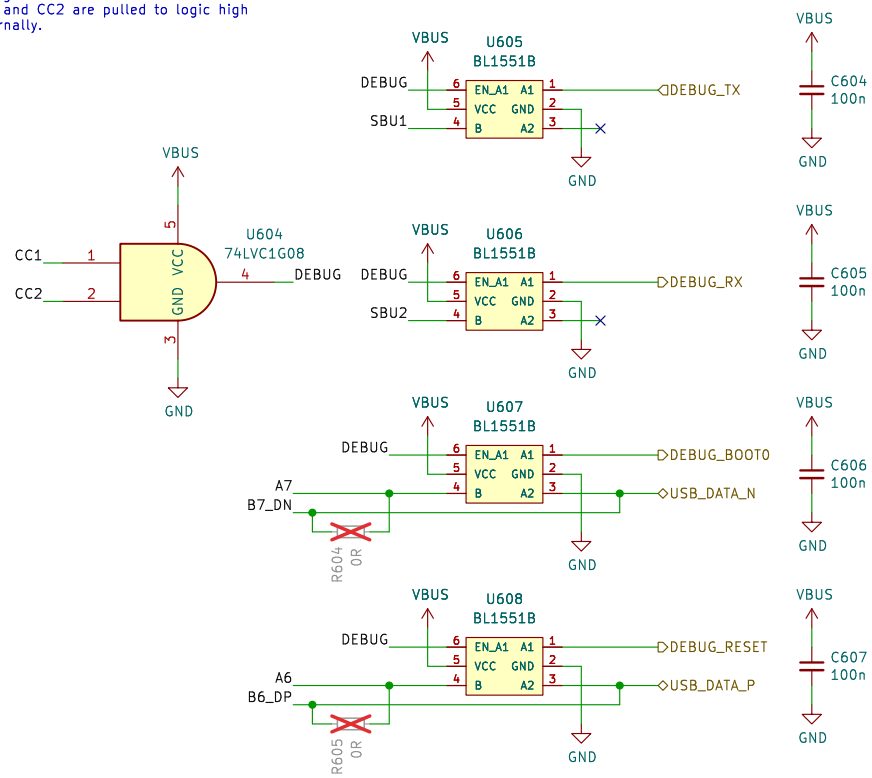
ESD Prot.

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



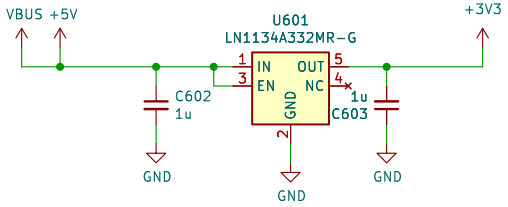
Debug-Mode Multiplexing

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

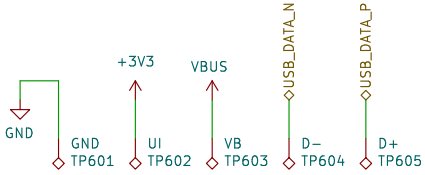


3V3 LDO

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



Testpoints



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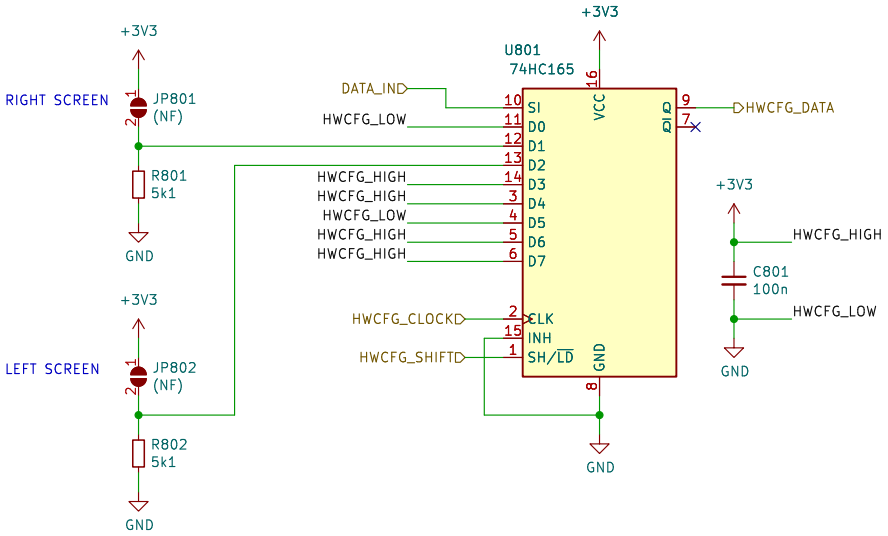
Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 9/22

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/		
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Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 10/22

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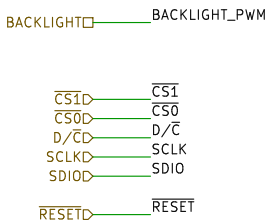

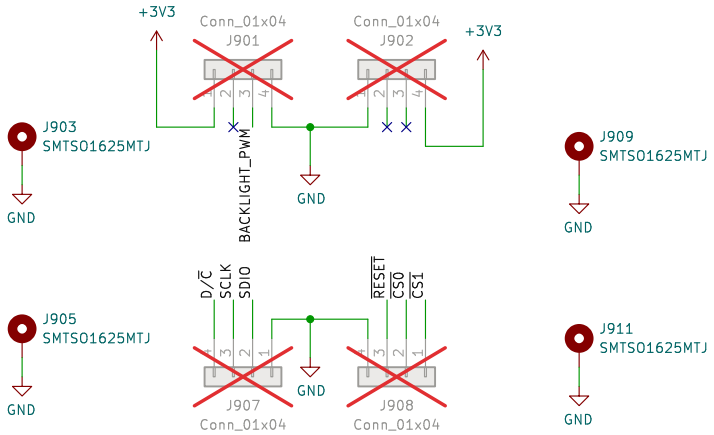

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Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 11/22

simulation

Sheet: /UI_HALL_PREAMP/
File: UI_HALL_PREAMP.kicad_sch

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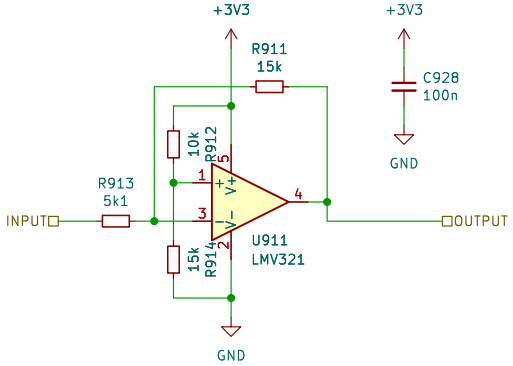
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 12/22



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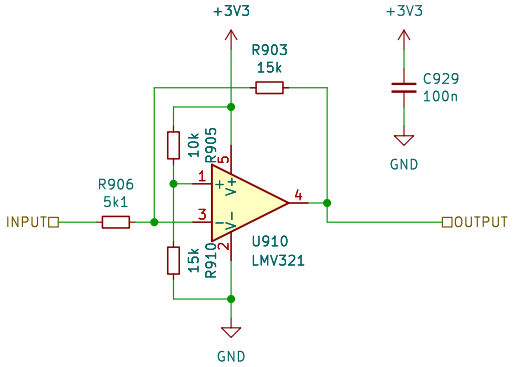
KiCad E.D.A. 9.0.6		Id: 13/22



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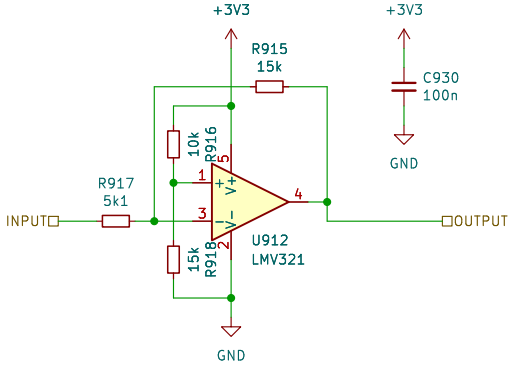
KiCad E.D.A. 9.0.6		Id: 14/22



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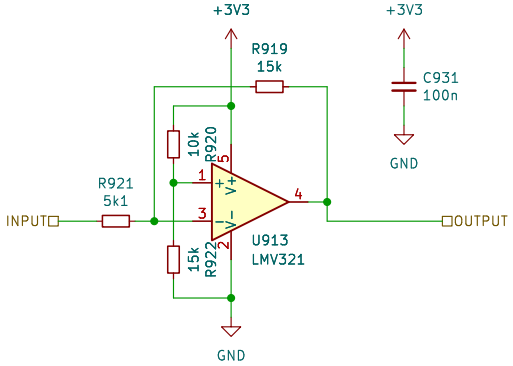
KiCad E.D.A. 9.0.6		Id: 15/22



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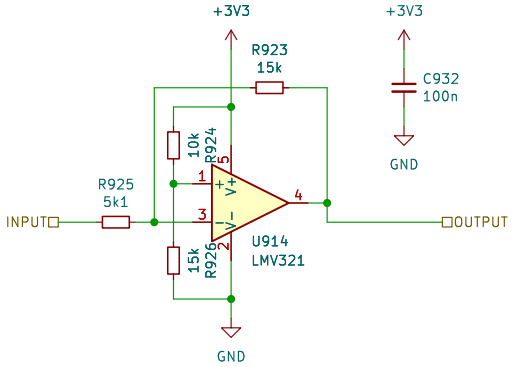
KiCad E.D.A. 9.0.6		Id: 16/22



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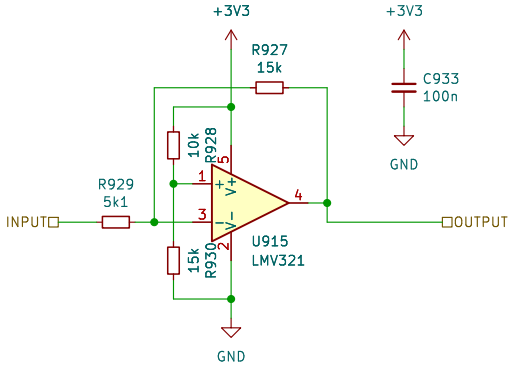
KiCad E.D.A. 9.0.6		Id: 17/22



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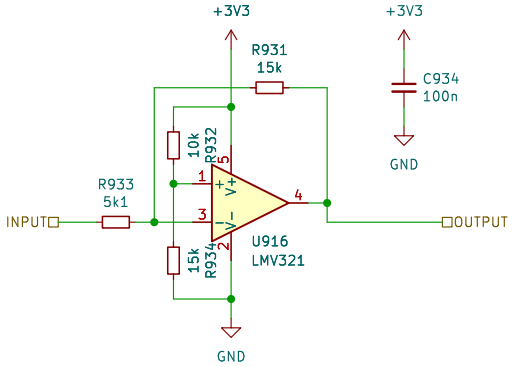
KiCad E.D.A. 9.0.6		Id: 18/22



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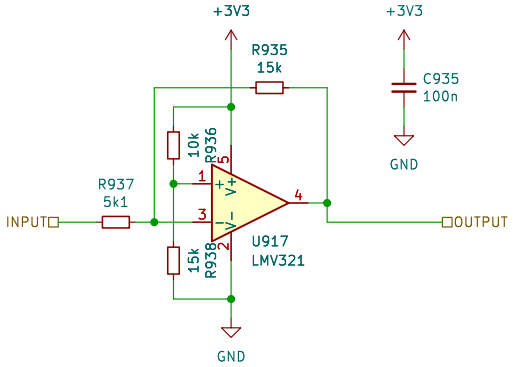

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Size: A4	Date:	**Rev:**
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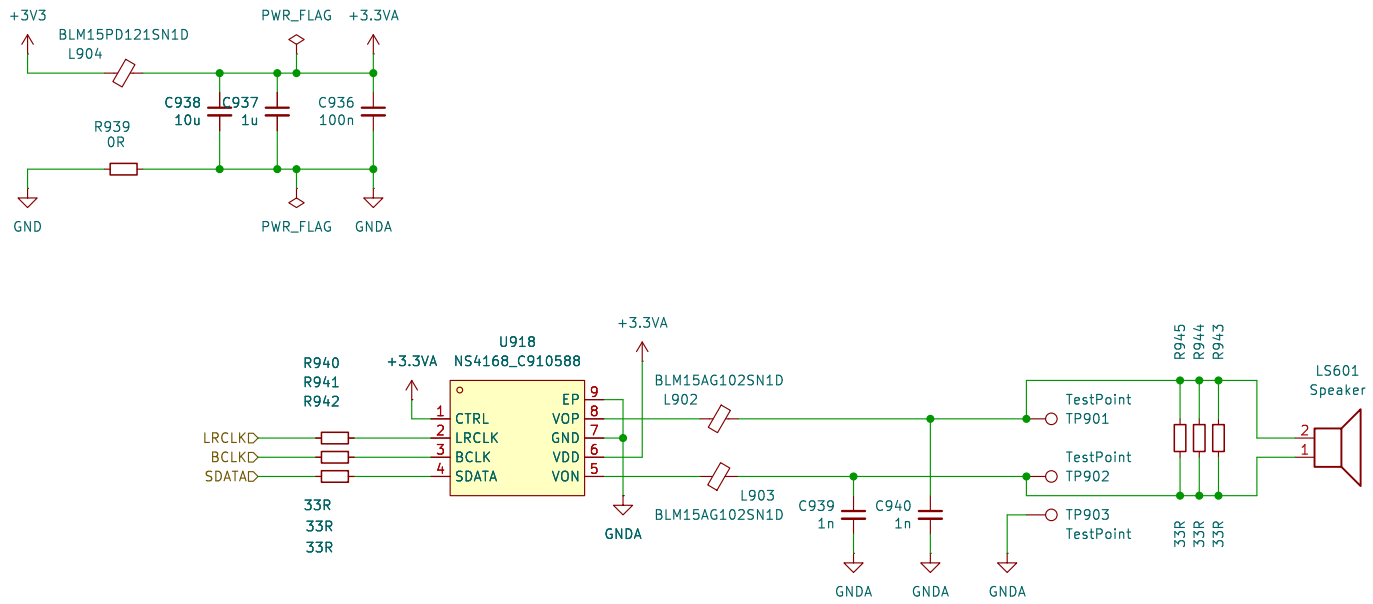

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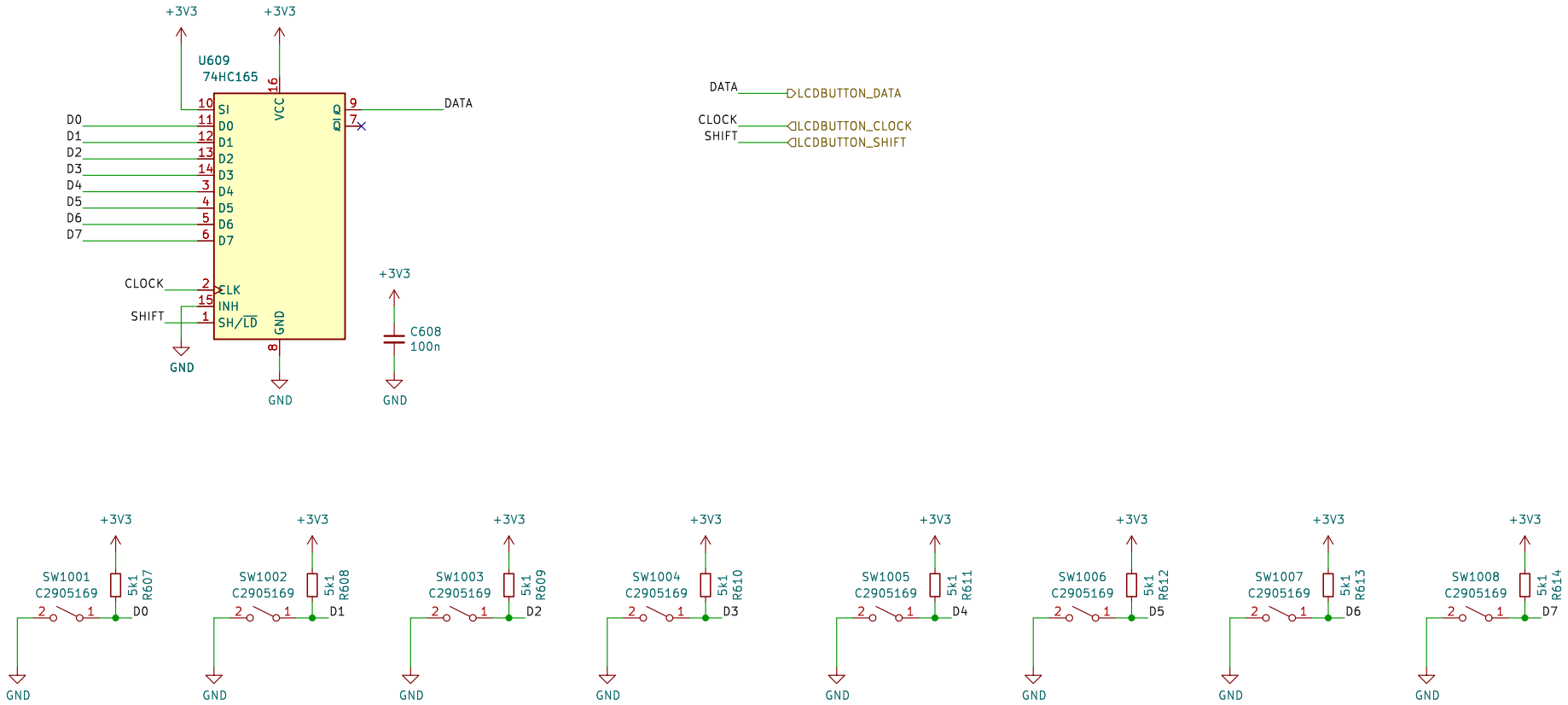

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