

A

B

C

D

E

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E

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UI_POT

OUT_0 OUT_1 OUT_2 OUT_3 OUT_4 OUT_5 OUT_6 OUT_7
 ANA_0 ANA_1 ANA_2 ANA_3 ANA_4 ANA_5 ANA_6 ANA_7

UI_BUTTON

OUT_8 OUT_9 OUT_10 OUT_11 OUT_12 OUT_13 OUT_14 OUT_15
 ANA_8 ANA_9 ANA_10 ANA_11 ANA_12 ANA_13 ANA_14 ANA_15

UI_LED

LED_DATA_IN LED_DATA_OUT
 File: UI_LED.kicad_sch

MCU

QLED_DATA_OUT

Sheet5D7C8FD

ANA_0 DIN_0 OUTD
 ANA_1 DIN_1
 ANA_4 DIN_2
 ANA_5 DIN_3
 ANA_8 DIN_4
 ANA_9 DIN_5
 ANA_12 DIN_6
 ANA_13 DIN_7
 ADDRESS_AC
 ADDRESS_BC
 ADDRESS_CC

sheet5D8763D6

ANA_2 DIN_0 OUTD
 ANA_3 DIN_1
 ANA_6 DIN_2
 ANA_7 DIN_3
 ANA_10 DIN_4
 ANA_11 DIN_5
 ANA_14 DIN_6
 ANA_15 DIN_7
 ADDRESS_AC
 ADDRESS_BC
 ADDRESS_CC

File: UI_MUX.kicad_sch

Common Sheets:
500 GRID
600 USB_POWER
700 MCU

Module Specific:
800 HWCFG
900 LED
1000 UI

HWCFG_SHIFTD
 HWCFG_CLOCKD
 HWCFG_DATA

DHWCFG_SHIFT
 DHWCFG_CLOCK
 DHWCFG_DATA

File: HWCFG.kicad_sch

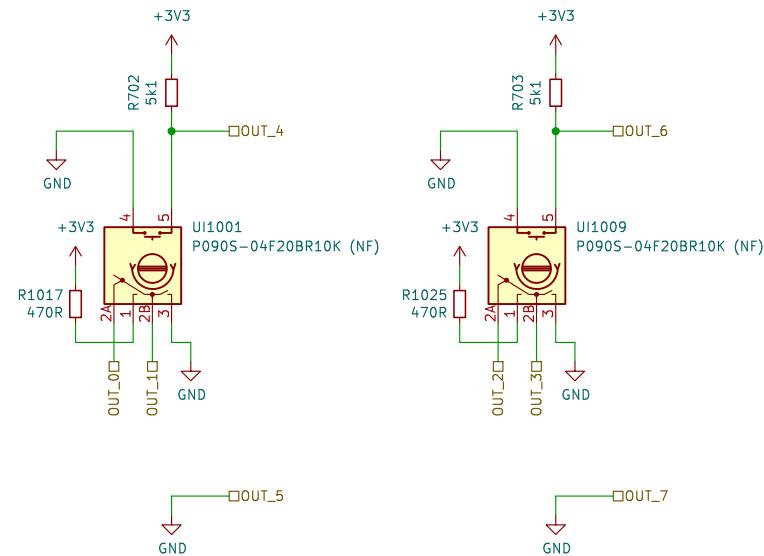
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 File: PCBA-TEK2.kicad_sch

Title:

Size: A3	Date:
KiCad E.D.A. 9.0.6	

Rev:	
Id: 1/10	

1000



Sheet: /UI_POT/
File: UI_POT.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.6

Rev:
Id: 2/10

1000

Simulation:
<http://tinyurl.com/y229mty4>

A

A

B

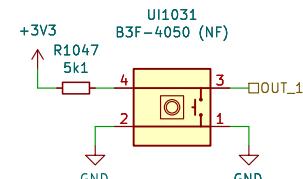
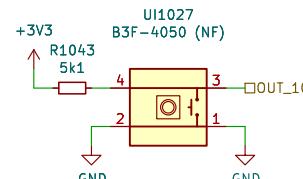
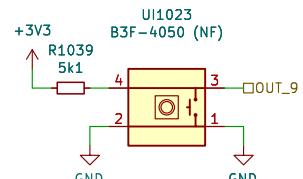
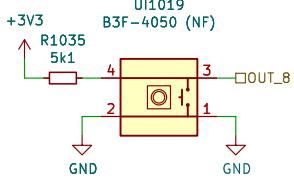
B

C

C

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D



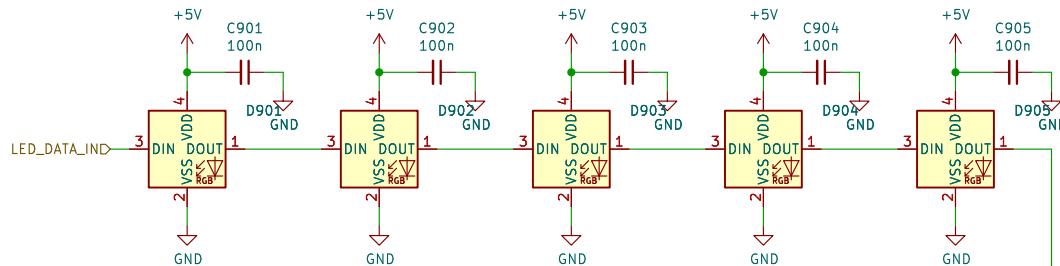
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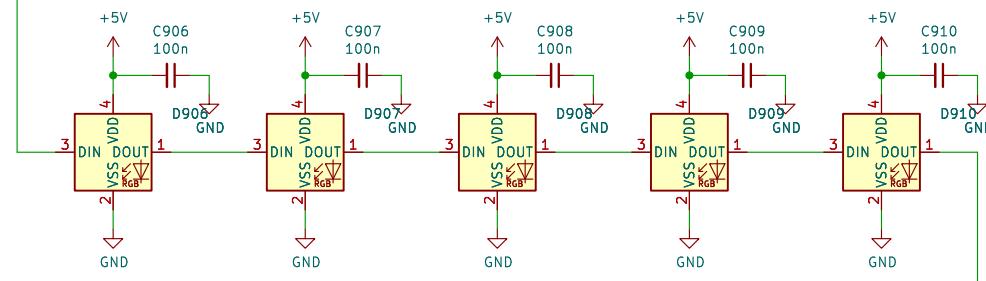
Rev:
 Id: 3/10

900

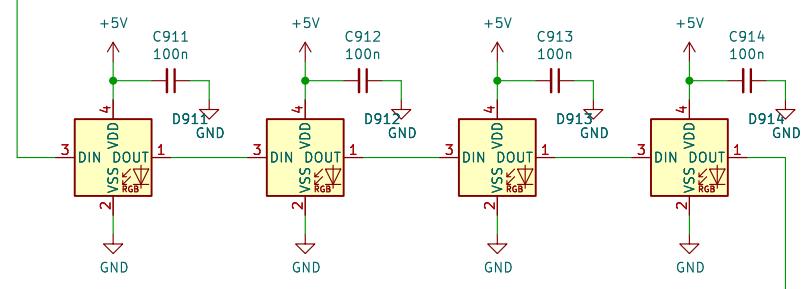
A



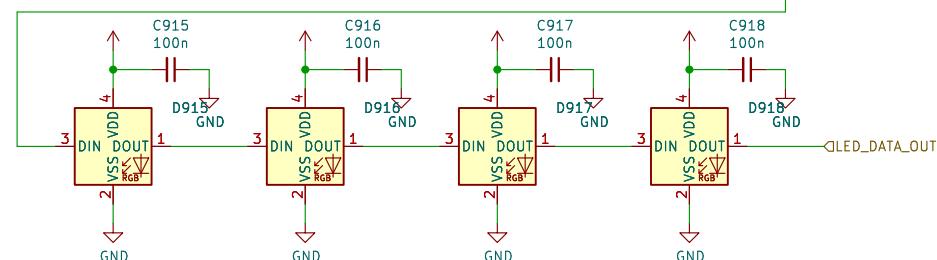
B



C



D



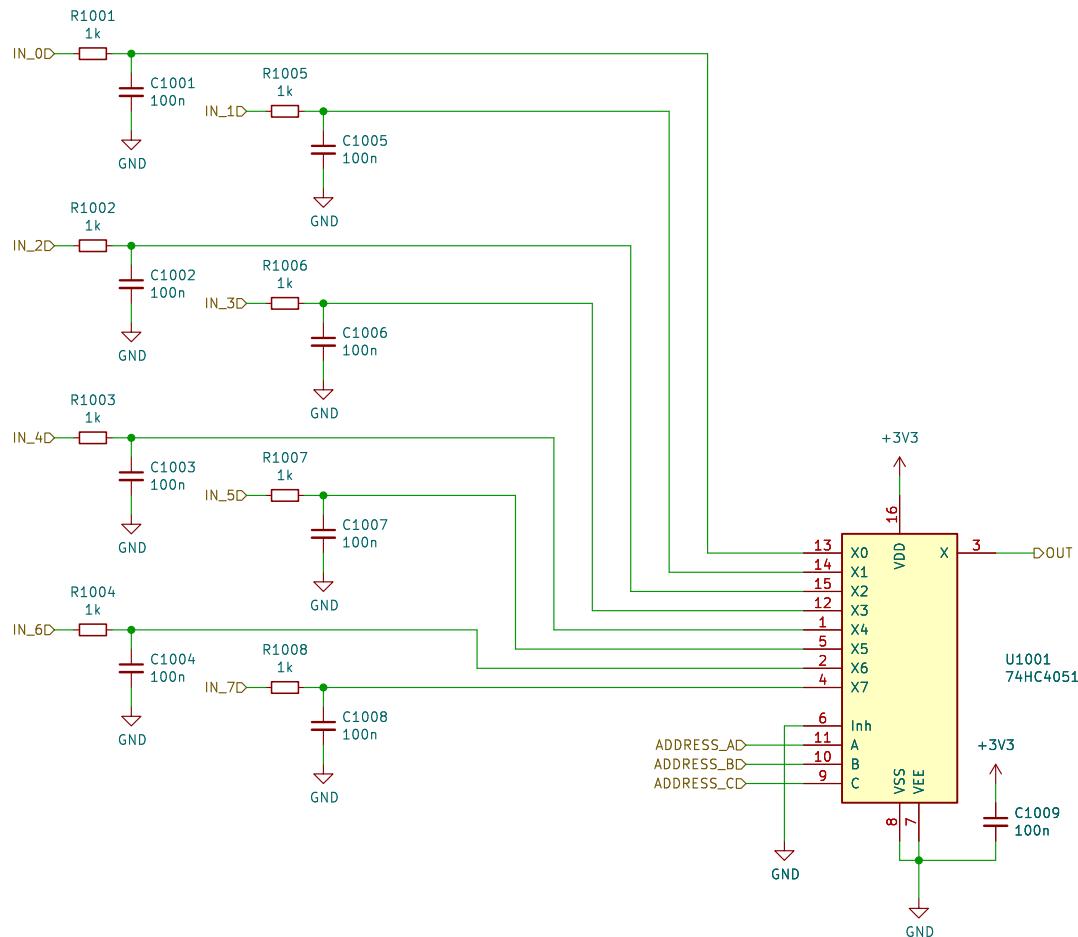
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Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.6

Rev:
Id: 4/10

1000



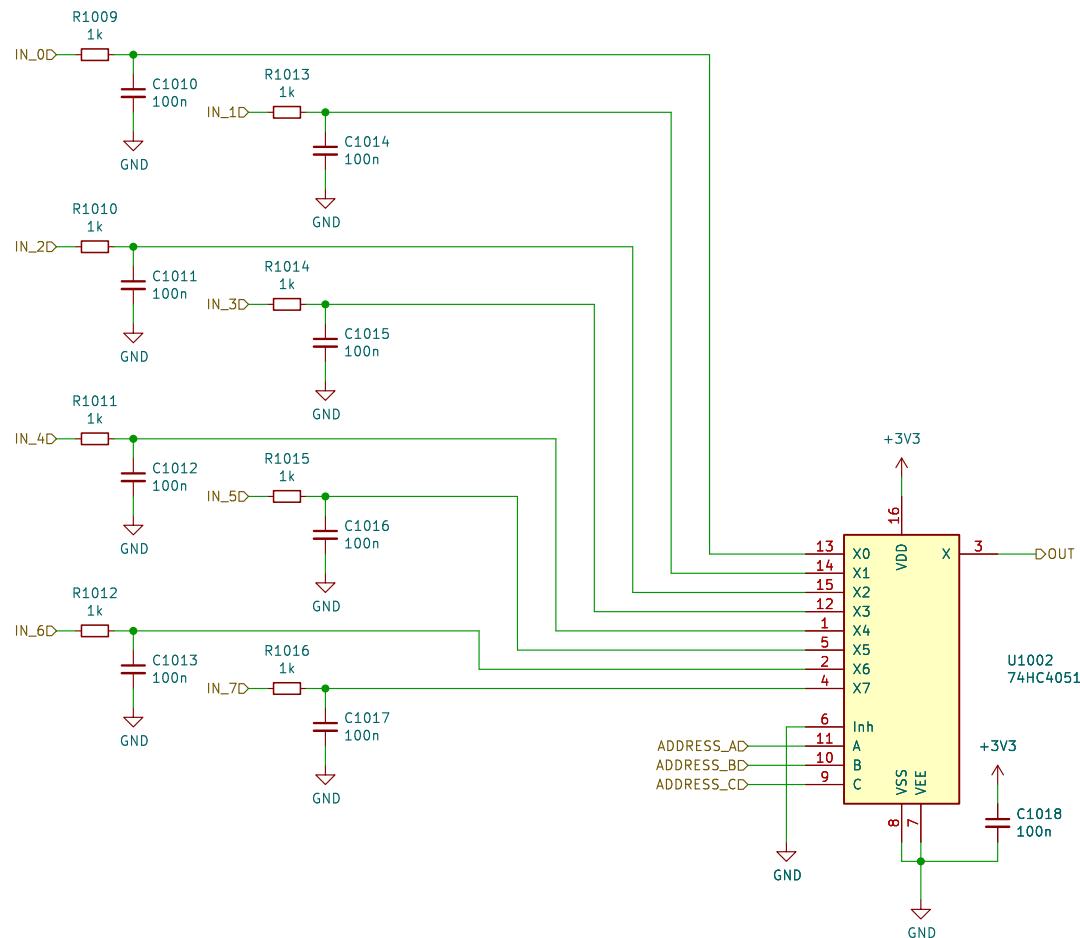
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File: UI_MUX.kicad_sch

Title:

Size: A4 | Date:
KiCad E.D.A. 9.0.6

Rev:
Id: 5/10

1000

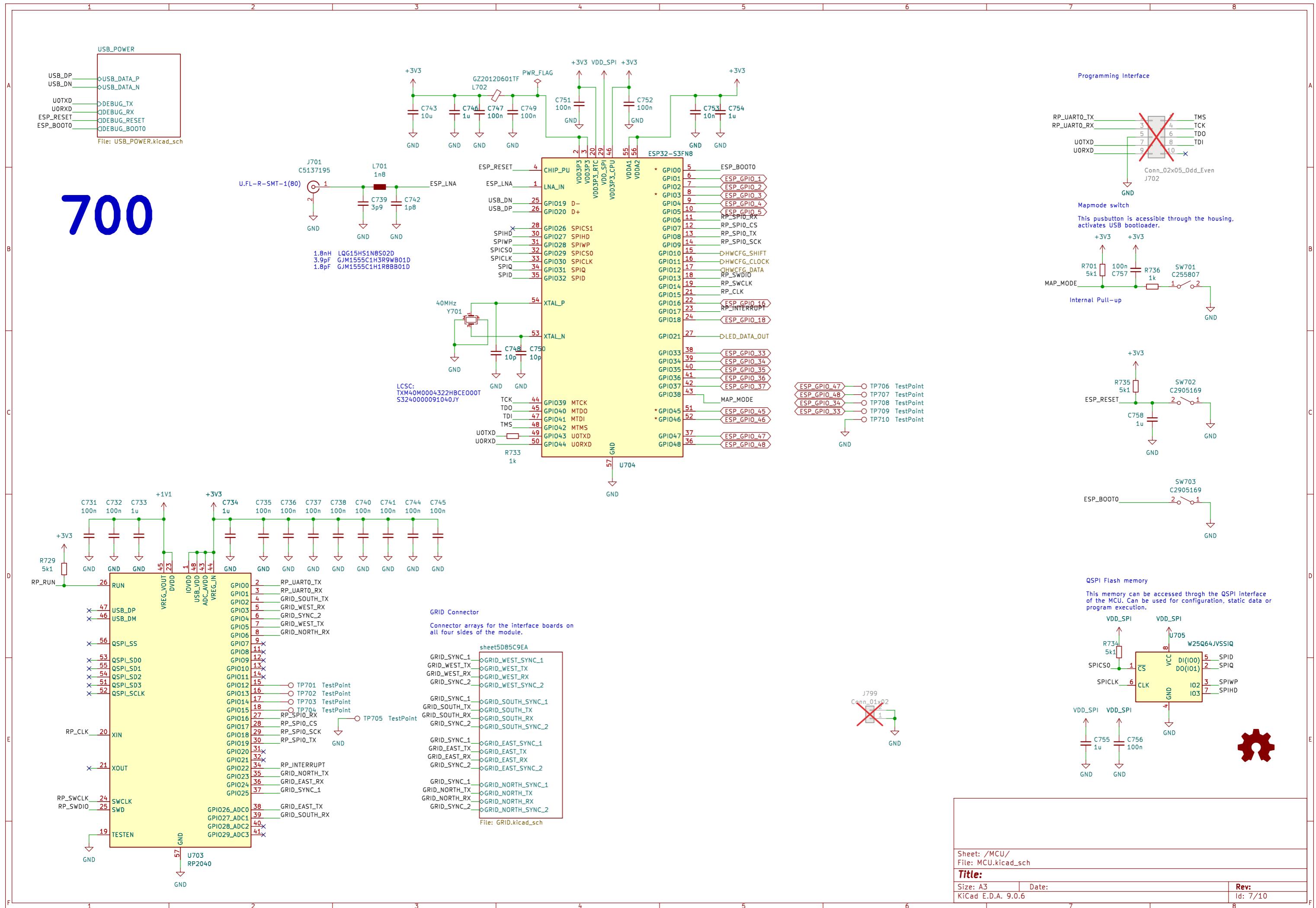


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File: UI_MUX.kicad_sch

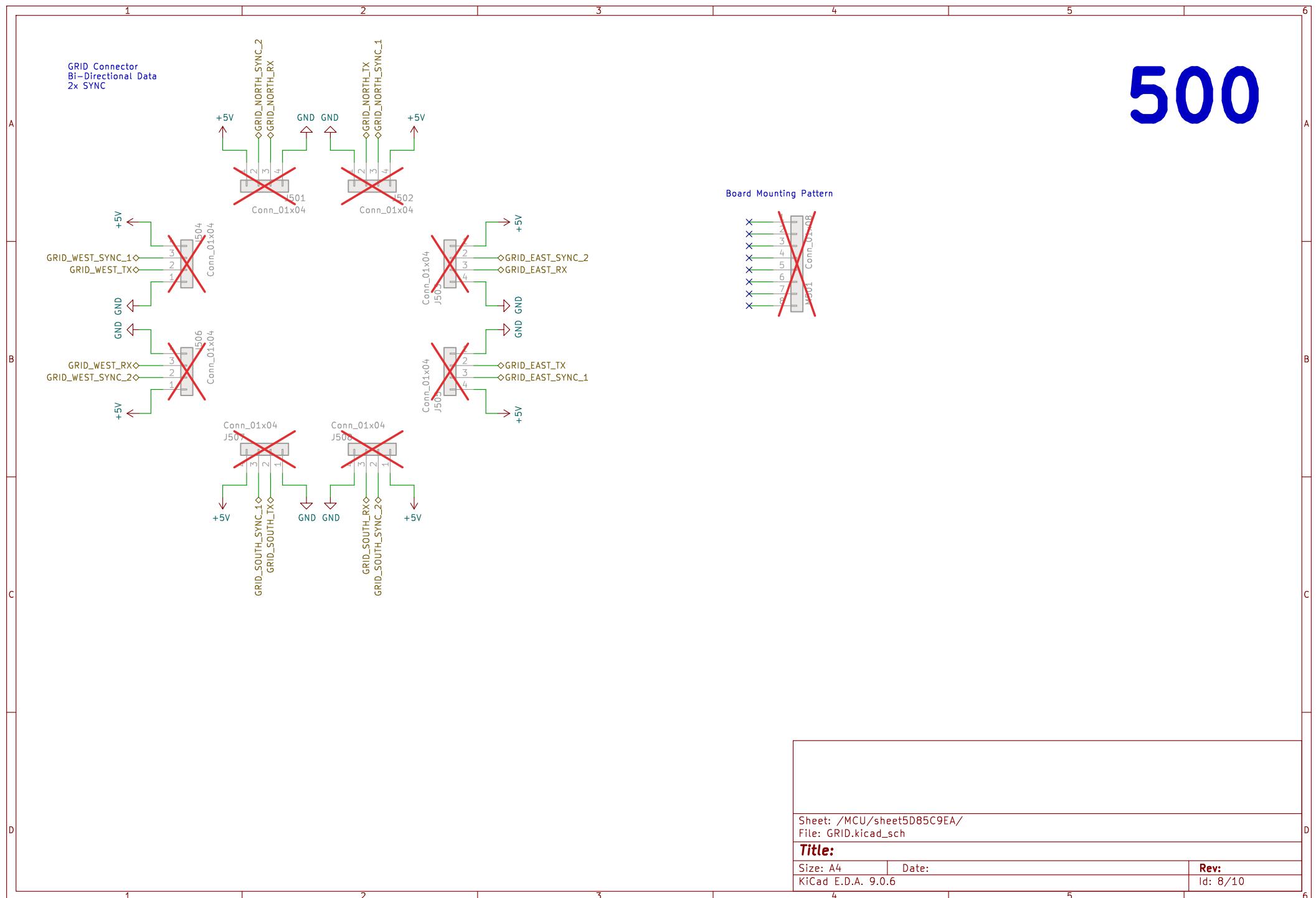
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Size: A4 | Date:
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Rev:
Id: 6/10



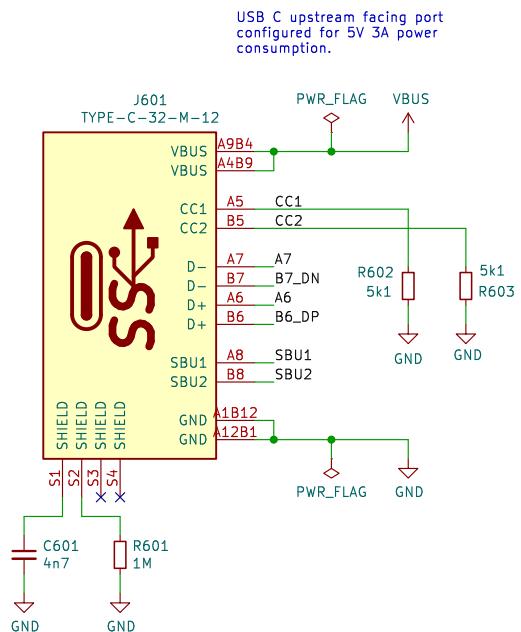
500



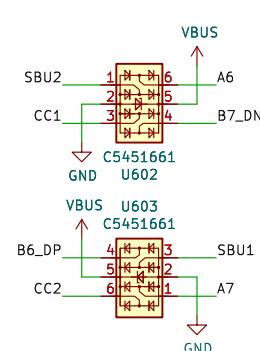
600

USB Port

ESD Prot.

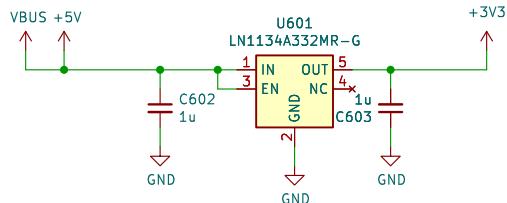


ESD protection for all 8 signals externally accessible via the USB C connector.

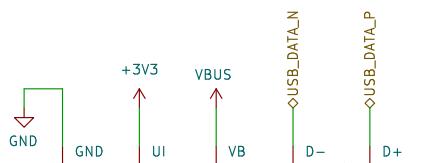


3V3 LDO

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

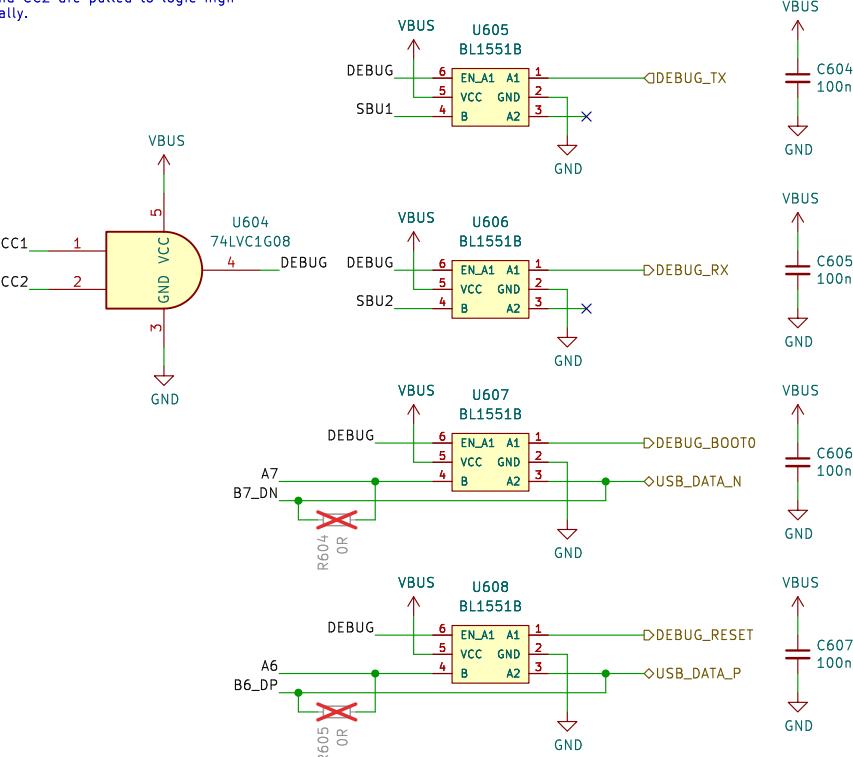


Testpoints



Debug-Mode Multiplexing

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



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

Title:

Size: A4 Date:
KiCad E.D.A. 9.0.6

Rev:
Id: 9/10

800

1 2 3 4 5 6

A

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B

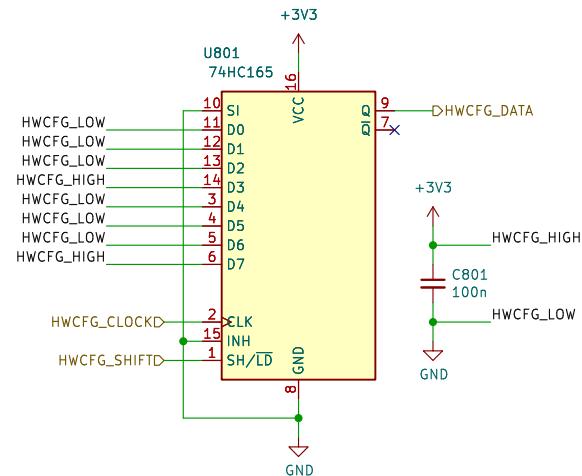
B

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D



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 soldered 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:
KiCad E.D.A. 9.0.6

Rev:
Id: 10/10

1 2 3 4 5 6