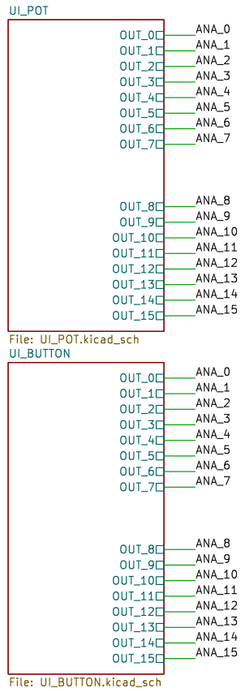

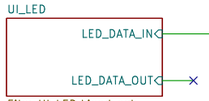

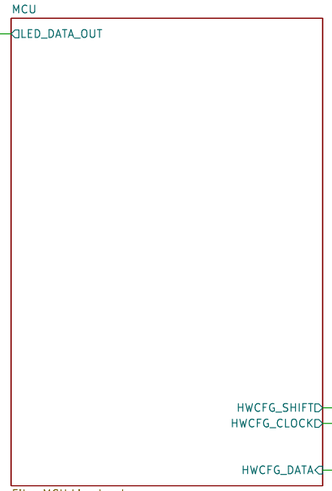

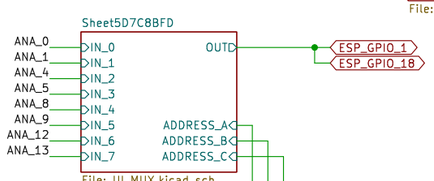

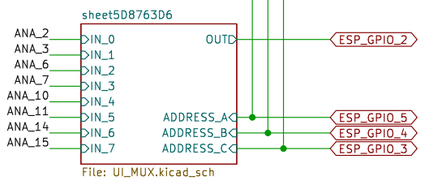

Common Sheets:
500 GRID
600 USB_POWER
700 MCU

Module Specific:
800 HWCFG
900 LED
1000 UI

Sheet: /
File: PCBA-P016.kicad_sch

Title:

Size: A3	Date:	**Rev:**
KiCad E.D.A. 8.0.8		Id: 1/10

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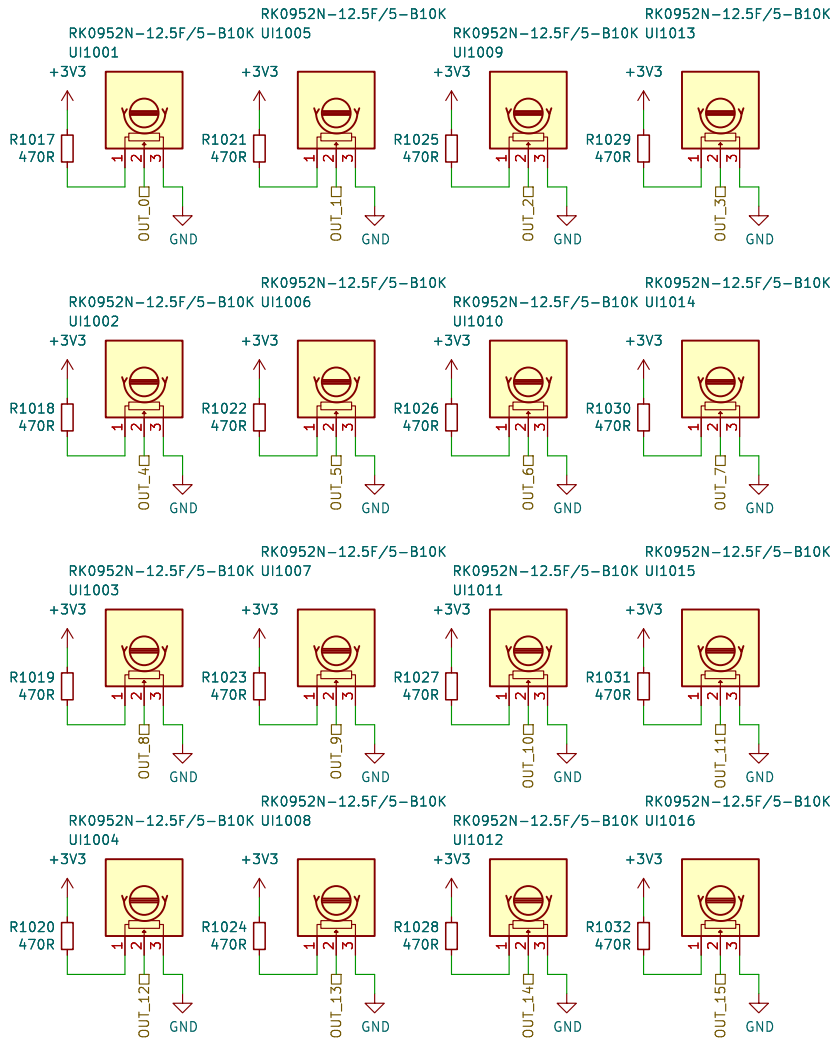

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Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.8		Id: 2/10

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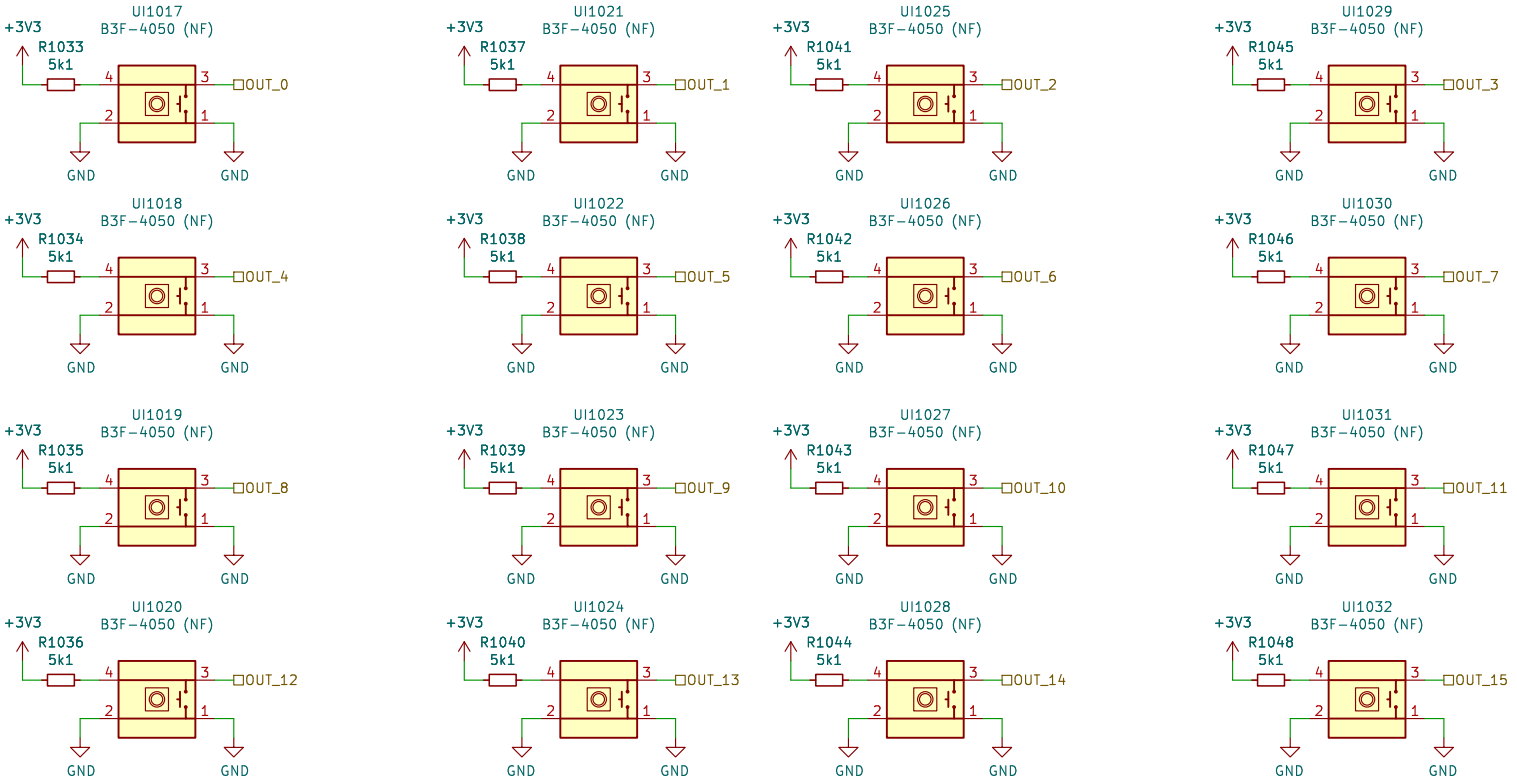
Simulation:

http://tinyurl.com/y229mty4



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KiCad E.D.A. 8.0.8		Id: 3/10

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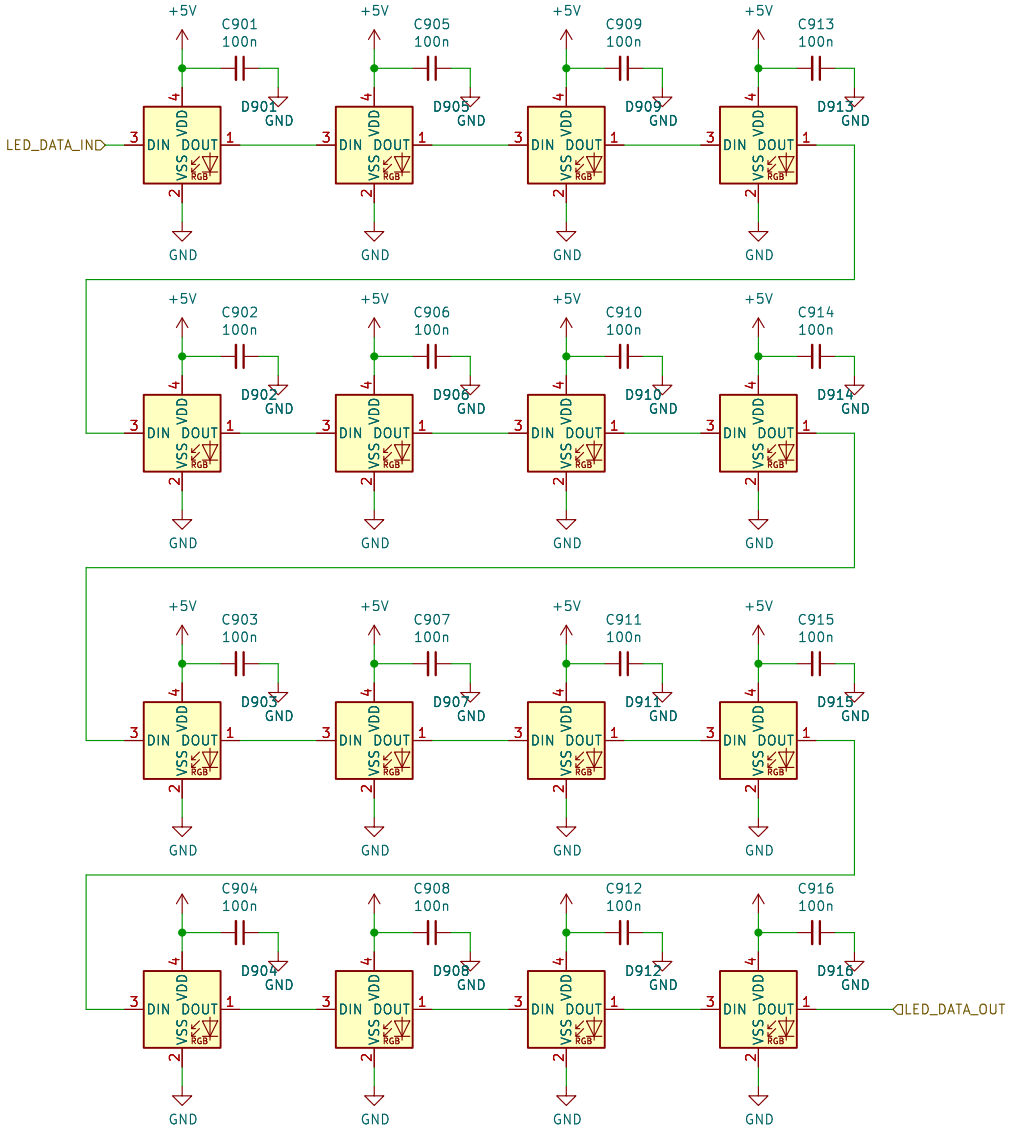

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KiCad E.D.A. 8.0.8		Id: 4/10

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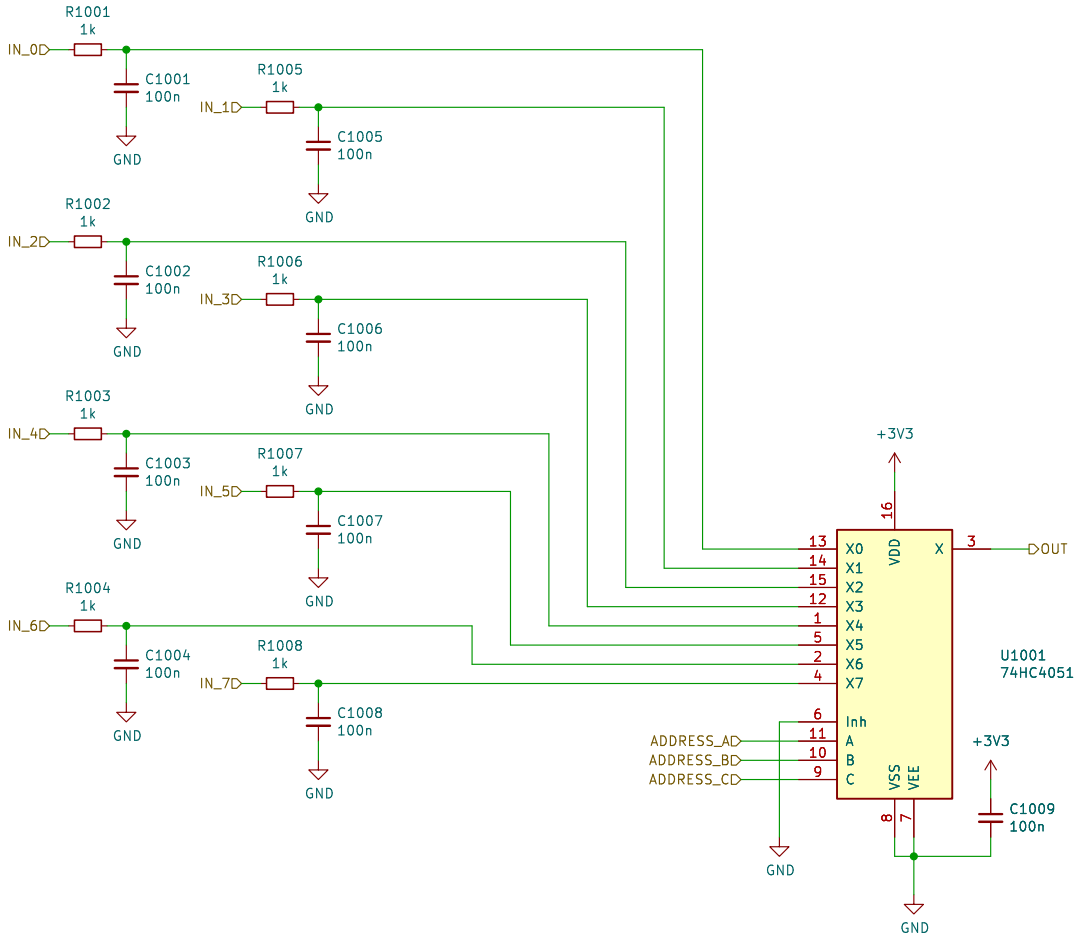

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Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.8		Id: 5/10

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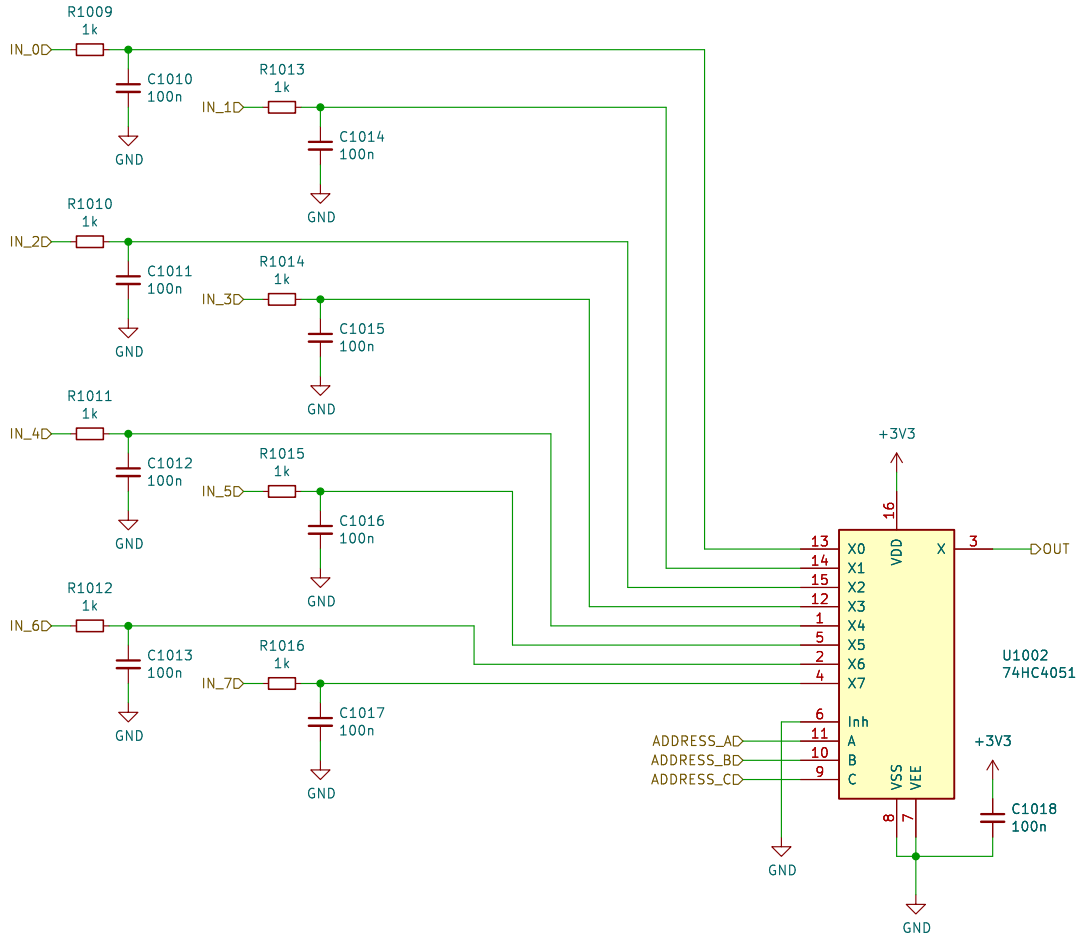

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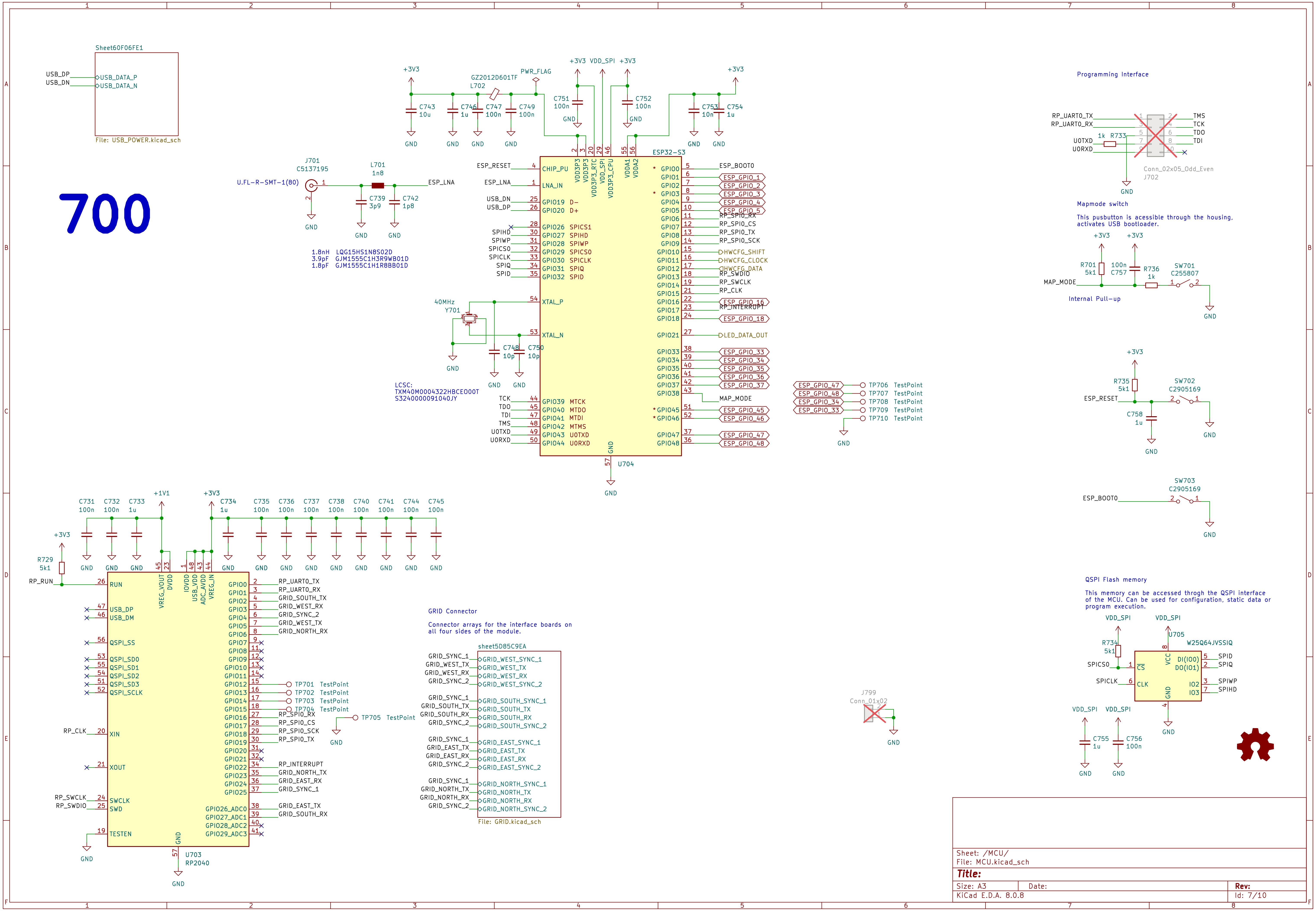
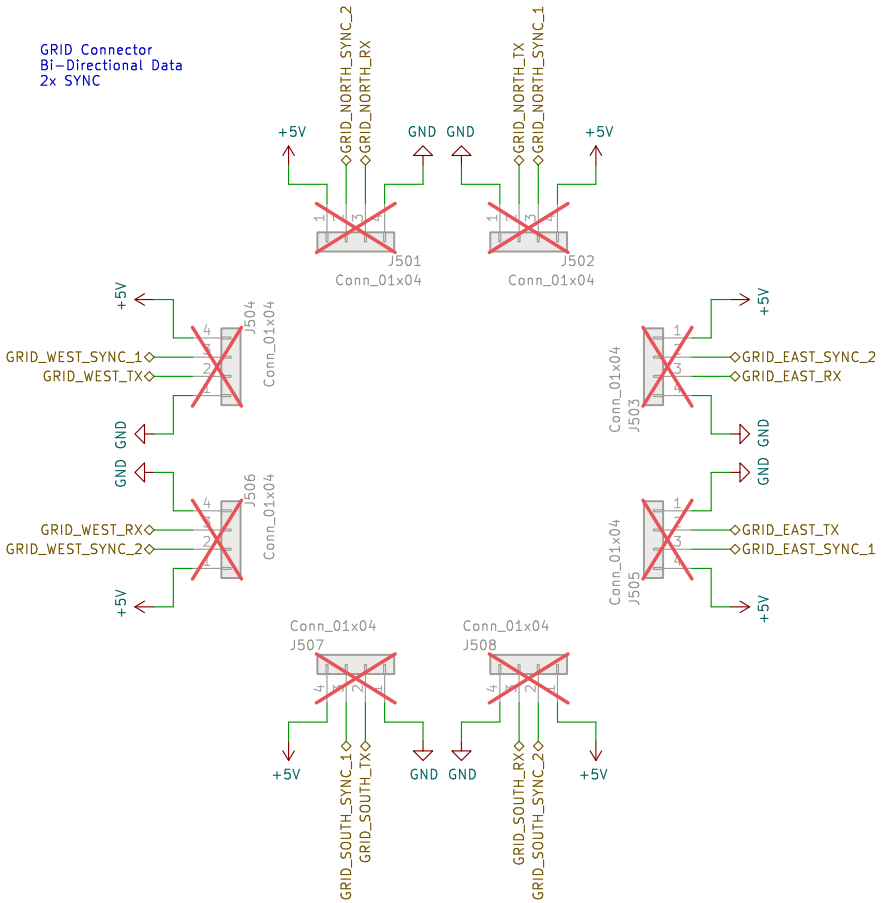
KiCad E.D.A. 8.0.8		Id: 6/10


700
Sheet60F06FE1
USB_DATA_P
USB_DATA_N
File: USB_POWER.kicad_sch
USB_DP
USB_DN
Programming Interface
Conn_02x05_Odd_Even
J702
Mapmode switch
This pusbutton is accessible through the housing, activates USB bootloader.
Internal Pull-up
MAP_MODE
ESP_RESET
ESP_BOOT0
SW701
C255807
SW702
C2905169
SW703
C2905169
U.FL-R-SMT-1(80)
J701
C5137195
L701
1n8
ESP_LNA
1.8nH LQG15HS1N8S02D
3.9pF GJM1555C1H3R9WB01D
1.8pF GJM1555C1H1R8BB01D
40MHz
Y701
LCSC:
TXM40M0004322HBCEO00T
S3240000091040JY
GZ2012D601TF
L702
PWR_FLAG
ESP32-S3
U704
RP2040
U703
GRID Connector
Connector arrays for the interface boards on all four sides of the module.
sheet5D85C9EA
File: GRID.kicad_sch
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.
W25Q64JVSSIQ
U705
J799
Conn_01x02
Sheet: /MCU/
File: MCU.kicad_sch
Title:
Size: A3
Date:
Rev:
KiCad E.D.A. 8.0.8
Id: 7/10



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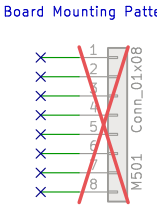

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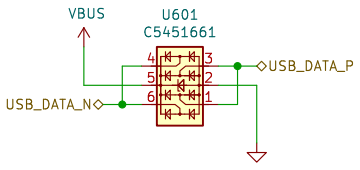
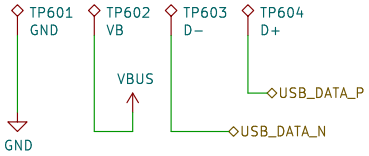
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.8		Id: 8/10

600

ESD Diodes

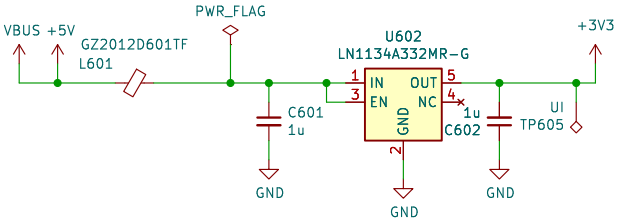
ESD protection for all of the externally accessible nets.

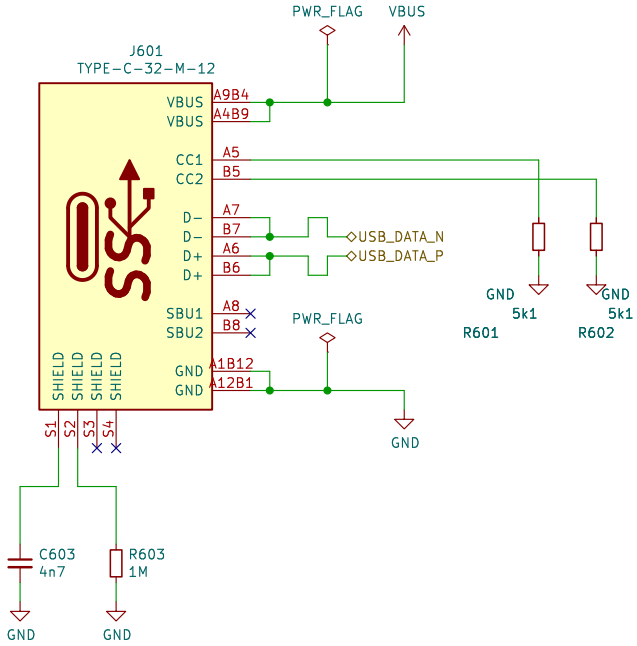




+3V3 LDO Regulators

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





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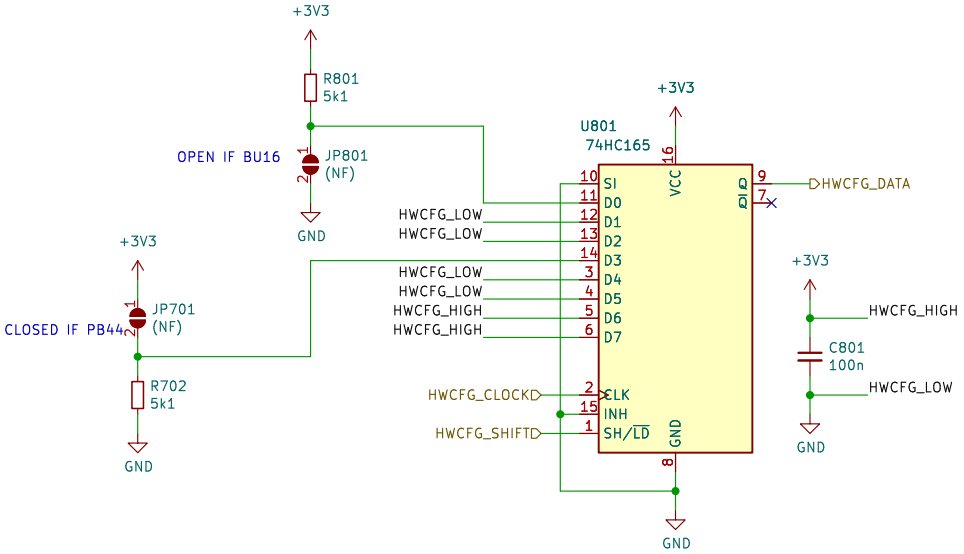
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.8		Id: 9/10

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. 8.0.8		Id: 10/10