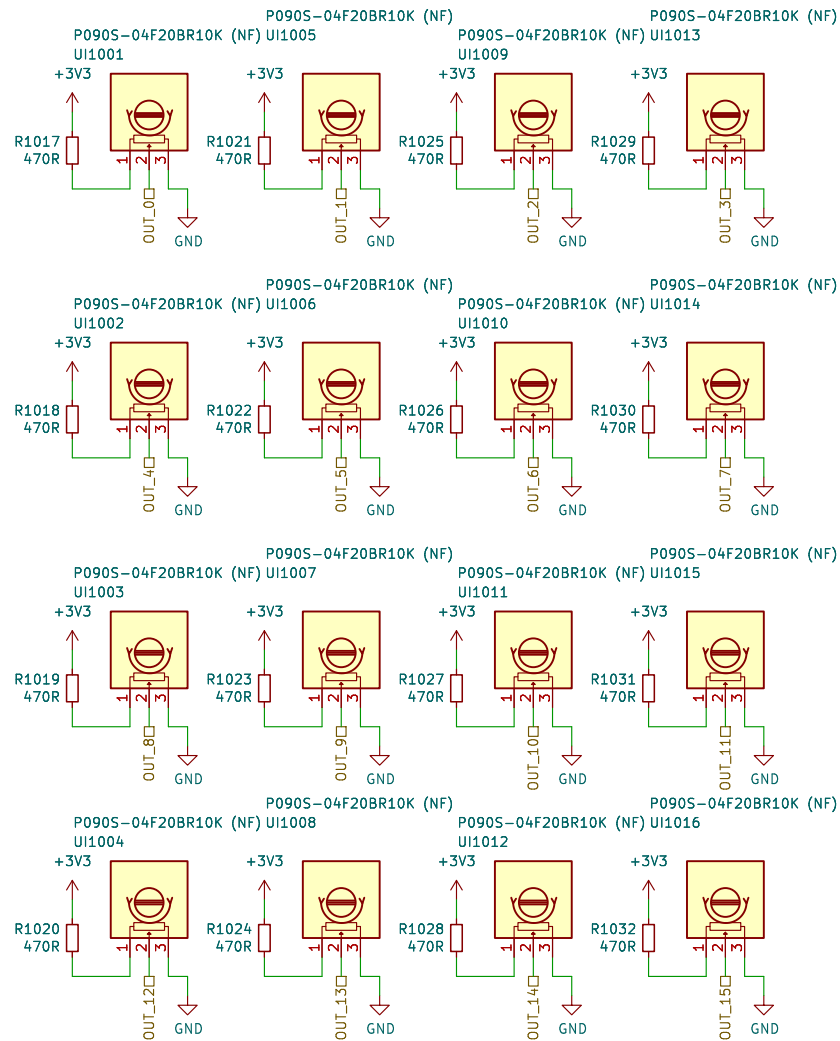


1000



Sheet: /UI_POT/
File: UI_POT.kicad_sch

Title:

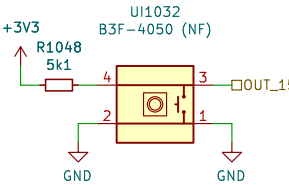
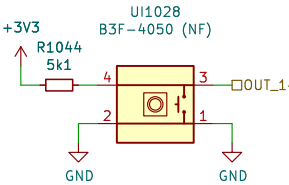
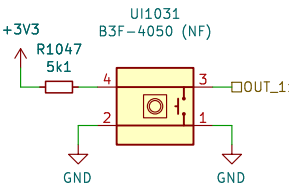
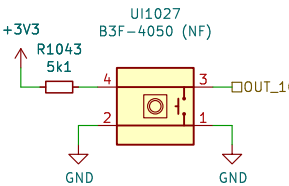
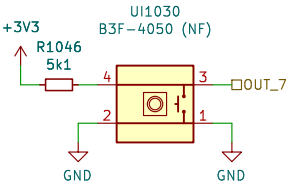
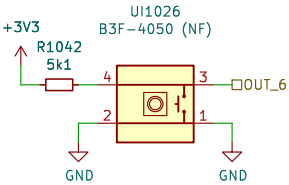
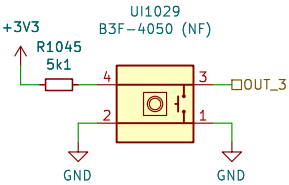
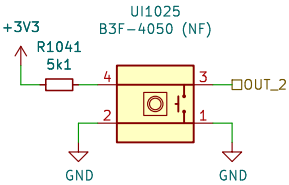
Size: A4
KiCad E.D.A. kicad-cli 7.0.11+1

Date:

Rev:
Id: 2/10

1000

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



Sheet: /UI_BUTTON/
File: UI_BUTTON.kicad_sch

Title:

Size: A4
KiCad E.D.A. kicad-cli 7.0.11+1

Date:

Rev:
Id: 3/10

900



Sheet: /UI_LED/
File: UI_LED.kicad_sch

Title:

Size: A4
KiCad E.D.A. kicad-cli 7.0.11+1

Date:

Rev:
Id: 4/10

1000



1000





500

GRID Connector
Bi-Directional Data
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		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.



Sheet: /MCU/Sheet60F06FE1/
File: USB_POWER.kicad_sch

Title:

Size: A4

Date:

KiCad E.D.A. kicad-cli 7.0.11+1

Rev:

Id: 9/10

800

```

    graph LR
        BU16[BU16] --- JP701[NF]
        PB44[PB44] --- JP801[NF]
        
        R702[R702 5k1] --> JP701
        R801[R801 5k1] --> JP801
        
        +V3_1[+3V3] --- JP701
        GND_1[GND] --- JP701
        
        +V3_2[+3V3] --- JP801
        GND_2[GND] --- JP801
        
        HWC_CFG_LOW[HWC_CFG_LOW] --> D0[D0]
        HWC_CFG_HIGH[HWC_CFG_HIGH] --> D7[D7]
        HWC_CLOCKD[HWC_CLOCKD] --> CLK[CLK]
        HWC_SHIFTD[HWC_SHIFTD] --> SH_LD[SH/LD]
        
        U801[U801 74HC165]
        VCC[VCC] --> +V3_3[+3V3]
        QI_Q[Q I/Q] --> DATA[HWC_CFG_DATA]
        
        C801[C801 100n] --- HWC_CFG_HIGH
        GND_3[GND] --- HWC_CFG_LOW
  
```

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:

KiCad E.D.A. kicad-cli 7.0.11+1
Id: 10/10

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 7.0.11+1	Id: 10/10