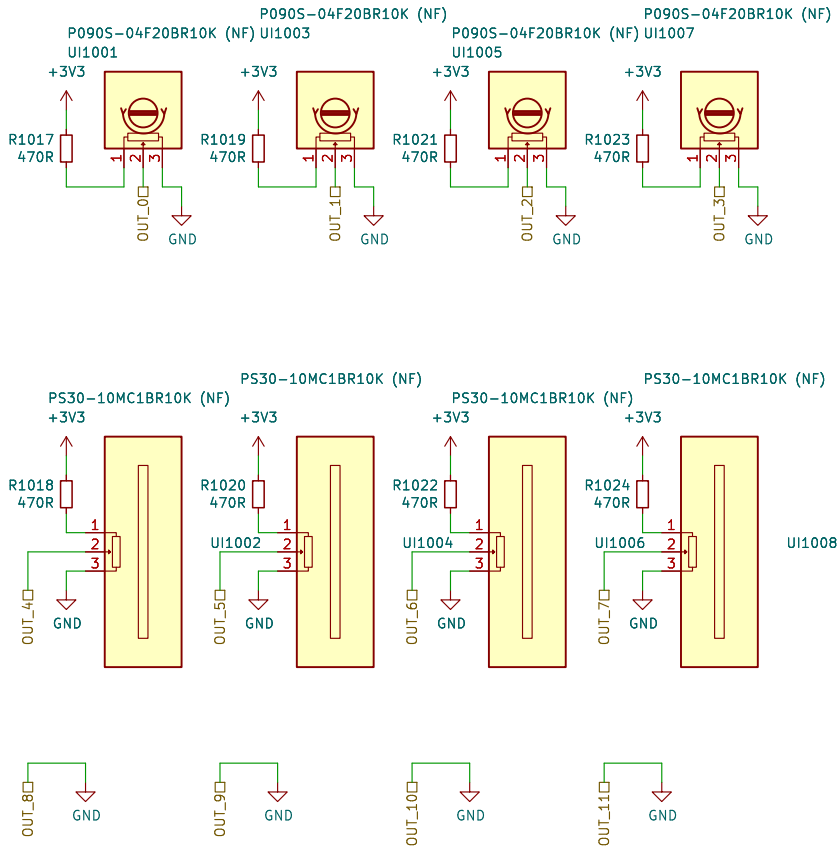




1000



Sheet: /UI_POT/
File: UI_POT.kicad_sch

Title:

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Simulation:
<http://tinyurl.com/y229mt4>



Sheet: /UI_BUTTON/ File: UI_BUTTON.kicad_sch		
Title:		
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Sheet: /UI_LED/
File: UI_LED.kicad_sch

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1000





500

GRID Connector
Bi-Directional Data
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
Title:		
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600

ESD Diodes
ESD protection for all of the externally accessible nets.

VBUS
USB_DATA_N
GND
TP601 GND
TP602 VB
TP603 D-
TP604 D+
USB_DATA_P
USB_DATA_N

+3V3 LDO Regulators
Regulators for generating independent power rails for the microcontroller and the user interface.

VBUS +5V
PWR_FLAG
+3V3
GZ2012D601TF L601
U602 LN1134A332MR-G
C601 1u
C602 1u
UI
TP605

J601 TYPE-C-32-M-12
VBUS
VBUS
CC1
CC2
D-
D-
D+
D+
SBU1
SBU2
SHIELD
SHIELD
SHIELD
SHIELD
GND
GND
A9B4
A4B9
A5
B5
A7
B7
A6
B6
A8
BB
A1B12
A12B1
R601 5k1
R602 5k1
C603 4n7
R603 1M
GND
GND

Sheet: /MCU/Sheet60F06FE1/ File: USB_POWER.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.6		Id: 9/10

Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 8.0.6		Id: 9/10

800

U801
74HC165

+3V3

16 VCC

9 Q[7:0] → HWCFG_DATA

7 X

+3V3

HWCFG_HIGH

C801
100n

HWCFG_LOW

GND

HWCFG_CLOCKD → 2 CLK

15 INH

HWCFG_SHIFTD → 1 SH/LD

8 GND

GND

HWCFG_LOW → 10 SI

HWCFG_HIGH → 11 D0

HWCFG_LOW → 12 D1

HWCFG_LOW → 13 D2

HWCFG_LOW → 14 D3

HWCFG_LOW → 3 D4

HWCFG_LOW → 4 D5

HWCFG_LOW → 5 D6

HWCFG_HIGH → 6 D7

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: Rev:

KiCad E.D.A. 8.0.6 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. 8.0.6	Id: 10/10