



Sheet: /UI\_ENC/ENCODER\_8/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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

Date:

Rev:  
Id: 2/23



# 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: 4/23



Sheet: /UI\_ENC/ENCODER\_5/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

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

**Rev:**

Id: 5/23

Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 6/23



# 500

GRID Connector  
Bi-Directional Data  
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 8/23



600

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

VBUS  
USB\_DATA\_N  
USB\_DATA\_P  
GND

TP601 GND  
TP602 VB  
TP603 D-  
TP604 D+  
GND  
VBUS  
USB\_DATA\_P  
USB\_DATA\_N

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

VBUS +5V  
GZ2012D601TF L601  
PWR\_FLAG  
GND  
C601 1u  
U602 LN1134A332MR-G  
IN EN NC OUT  
GND  
C602 1u  
TP605 UI  
+3V3

J601 TYPE-C-32-M-12  
VBUS  
VBUS  
CC1  
CC2  
D-  
D-  
D+  
D+  
SBU1  
SBU2  
SHIELD  
SHIELD  
SHIELD  
GND  
GND  
PWR\_FLAG  
GND  
GND  
A9B4  
A4B9  
A5  
B5  
A7  
B7  
A6  
B6  
A8  
B8  
A1B12  
A12B1  
R601 5k1  
R602 5k1  
C603 4n7  
R603 1M  
GND  
GND

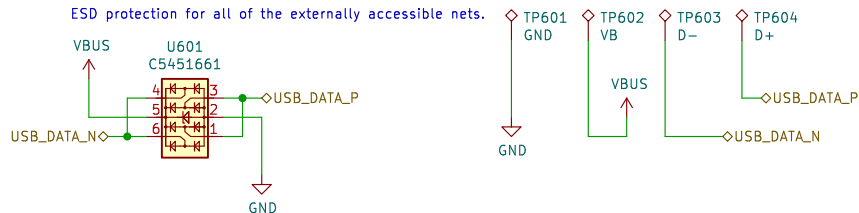
Sheet: /MCU/Sheet60F06FE1/  
File: USB\_POWER.kicad\_sch

Title:

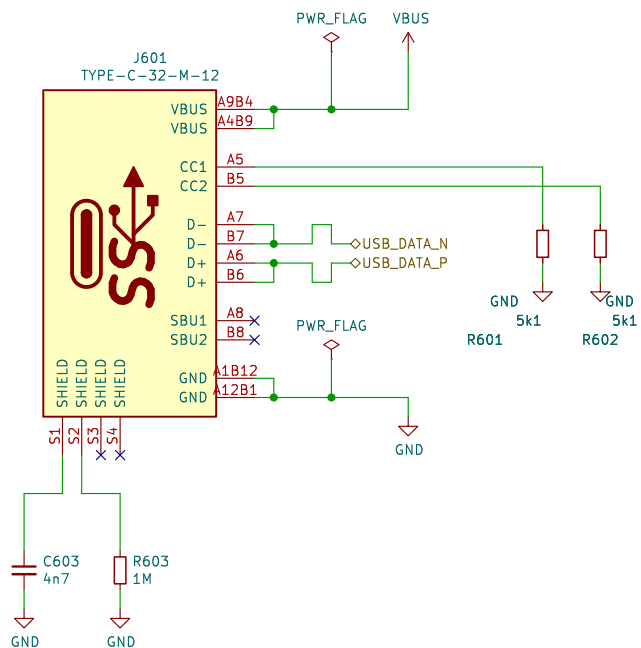
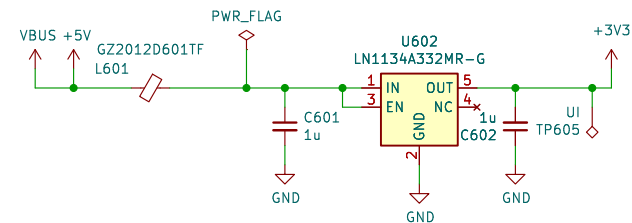
Size: A4 Date: Rev:

KiCad E.D.A. kicad-cli 7.0.11+1 Id: 9/23

ESD protection for all of the externally accessible nets.



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



Sheet: /MCU/Sheet60F06FE1/  
File: USB\_POWER.kicad\_sch

**Title:**

Size: A4

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

Date:

Rev:

Id: 9/23

800

OPEN IF EN16  
CLOSED IF NO DETENT

U801  
74HC165

DATA\_IND

+3V3

HWCFG\_HIGH

HWCFG\_LOW

HWCFG\_CLOCKD

HWCFG\_SHIFTD

SH/LD

CLK

INH

SI

D0

D1

D2

D3

D4

D5

D6

D7

VCC

GND

HWCFG\_DATA

C801  
100n

HWCFG\_HIGH

HWCFG\_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		
<b>Title:</b>		
Size: A4	Date:	Rev:
KiCad E.D.A.	kicad-cli 7.0.11+1	Id: 10/23

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/		D
File: HWCFG.kicad_sch		
<b>Title:</b>		
Size: A4	Date:	<b>Rev:</b>
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 10/23





Sheet: /UI\_ENC/ENCODER\_6/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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

Date:

Rev:  
Id: 12/23





Sheet: /UI\_ENC/ENCODER\_3/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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

Date:

Rev:  
Id: 14/23



Sheet: /UI\_ENC/ENCODER\_1/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

Date:

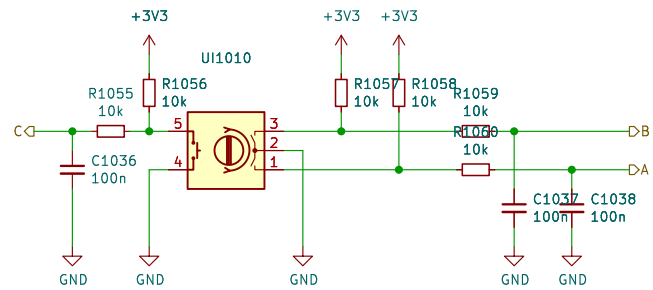
KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

Id: 15/23







Sheet: /UI\_ENC/ENCODER\_14/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

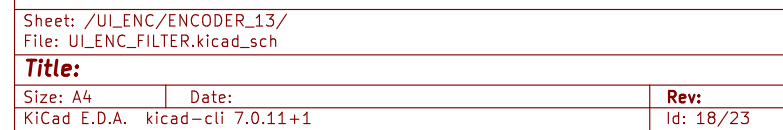
Size: A4

Date:

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

**Rev:**

Id: 17/23





Sheet: /UI\_ENC/ENCODER\_10/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4

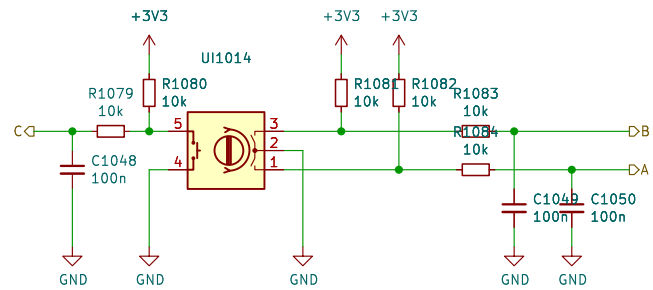
Date:

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

**Rev:**

Id: 19/23

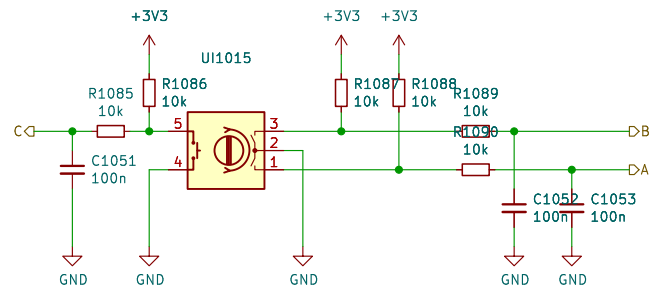
Rev:  
Id: 20/23



Sheet: /UI\_ENC/ENCODER\_2/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

Size: A4	Date:	Rev:
KiCad E.D.A. kicad-cli 7.0.11+1		Id: 21/23



Sheet: /UI\_ENC/ENCODER\_4/  
File: UI\_ENC\_FILTER.kicad\_sch

**Title:**

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

Date:

Rev:

Id: 22/23

