



Common Sheets:

500 GRID

600 USB\_POWER

700 MCU

Module Specific:

800 HWCFG

900 LED

1000 UI

Sheet: /

File: PCBA-TEK2.kicad\_sch

Title:

Size: A3

Date:

Rev:

KiCad E.D.A.    kicad-cli 7.0.11+1

Id: 1/10

1000



Sheet: /UI\_POT/

File: UI\_POT.kicad\_sch

**Title:**

Size: A4

Date:

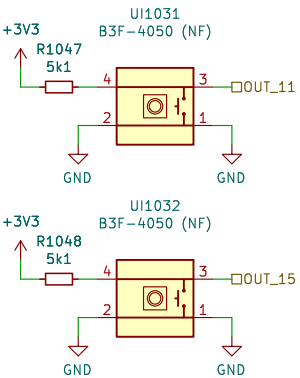
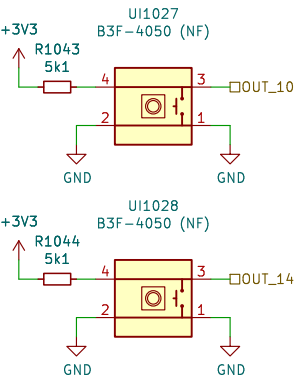
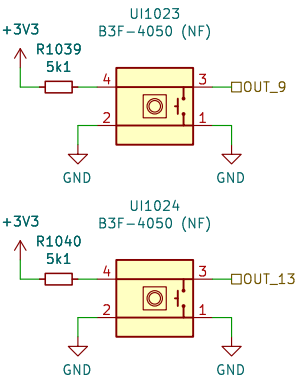
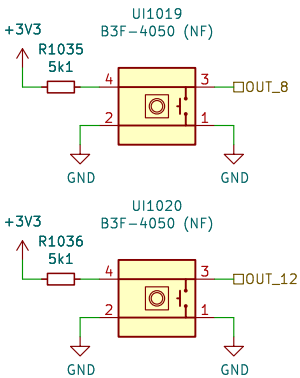
KiCad E.D.A. kicad-cli 7.0.11+1

**Rev:**

Id: 2/10

1000

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



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

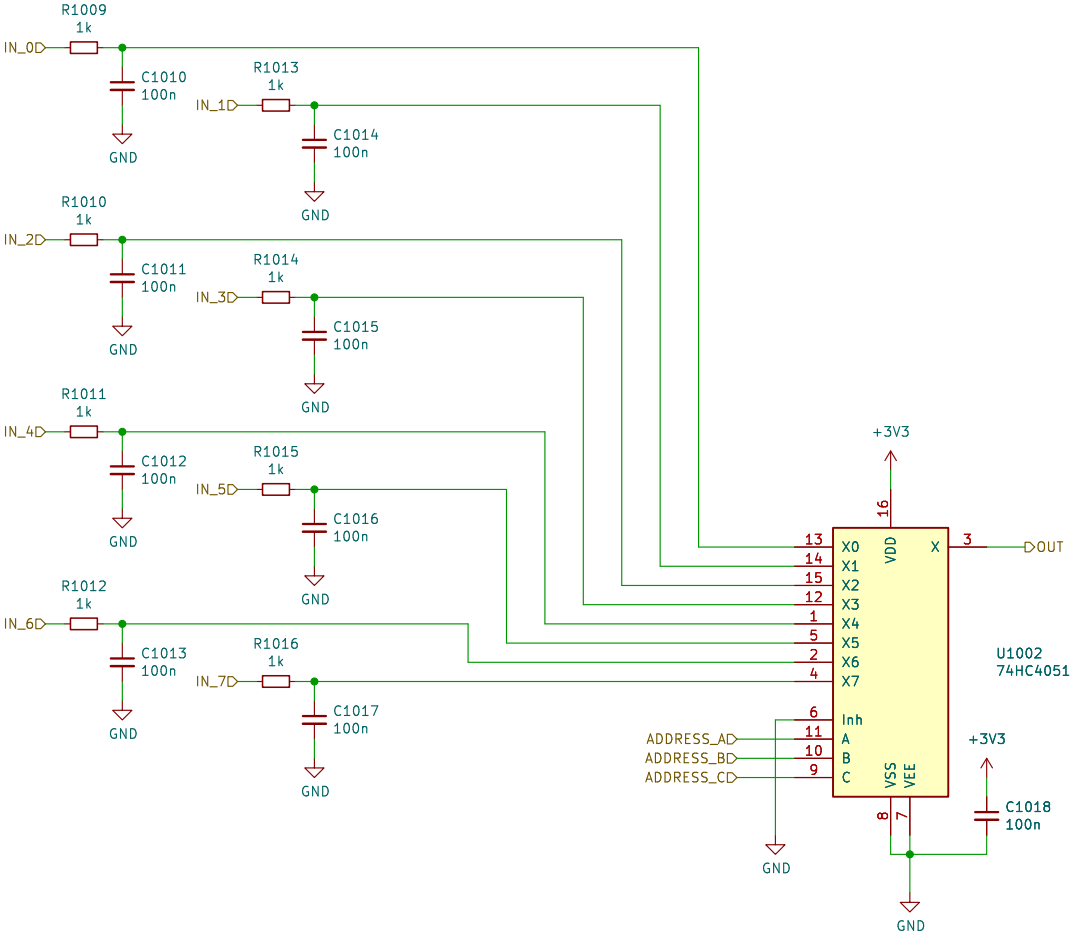
Date:

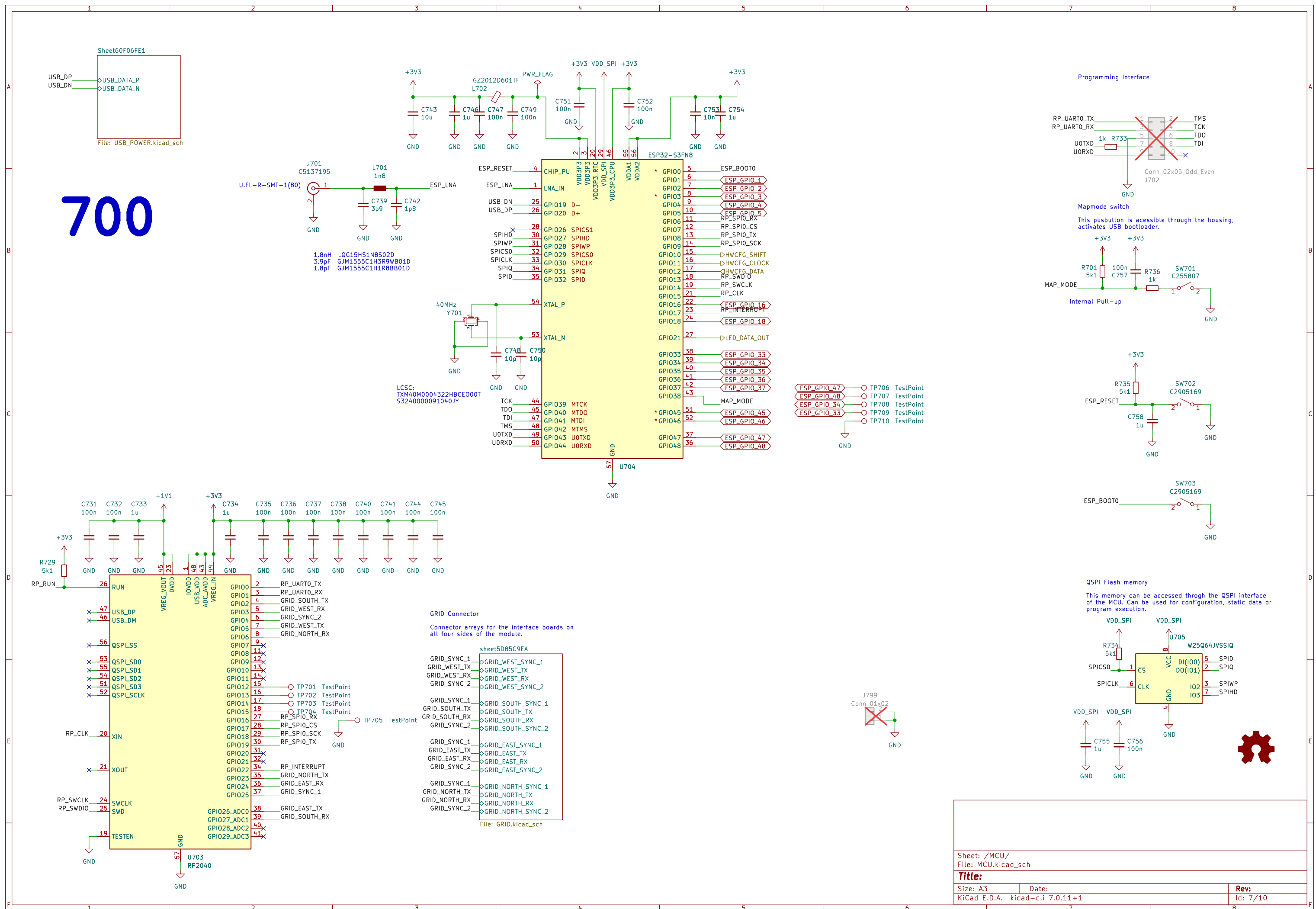
**Rev:**  
Id: 4/10

1000



1000





500

GRID Connector  
Bi-Directional Data  
2x SYNC

Board Mounting Pattern



Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch		
<b>Title:</b>		
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.

U601  
C5451661

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

TP601  
GND

TP602  
VB

TP603  
D-

TP604  
D+

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

U602  
LN1134A332MR-G

VBUS +5V  
GZ2012D601TF  
L601

PWR\_FLAG

C601  
1u

C602  
1u

TP605  
UI

+3V3

J601  
TYPE-C-32-M-12

VBUS  
VBUS

CC1  
A5  
B5

CC2  
A7  
B7

D-  
D-  
D+  
D+  
A6  
B6

SBU1  
A8  
BB

SBU2

SHIELD  
SHIELD  
SHIELD  
S1  
S2  
S3  
S4

GND  
A1B12  
A12B1

PWR\_FLAG

GND

R601  
5k1

R602  
5k1

C603  
4n7

R603  
1M

GND

GND

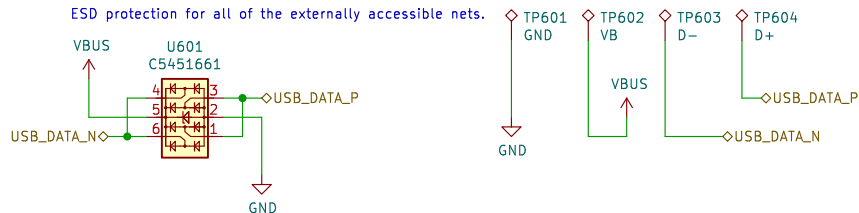
Sheet: /MCU/Sheet60F06FE1/  
File: USB\_POWER.kicad\_sch

**Title:**

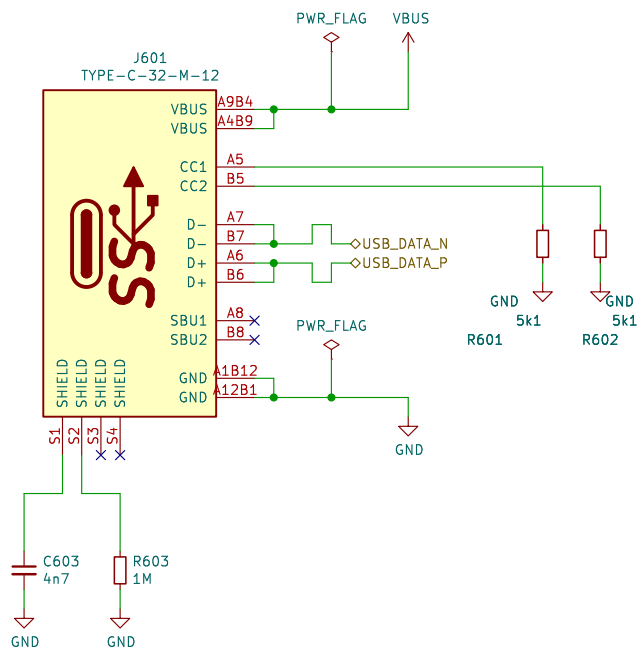
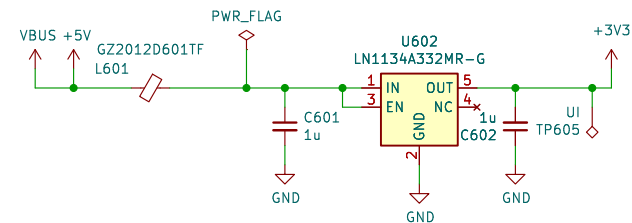
Size: A4 Date: Rev:

KiCad E.D.A. kicad-cli 7.0.11+1 Id: 9/10

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

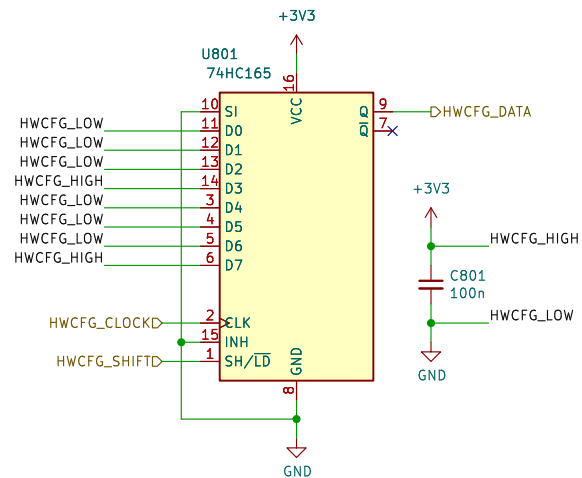
KiCad E.D.A.	kicad-cli 7.0.11+1
--------------	--------------------

Date:

Rev:

Id: 9/10

800



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

Date:

Rev:

Id: 10/10