



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

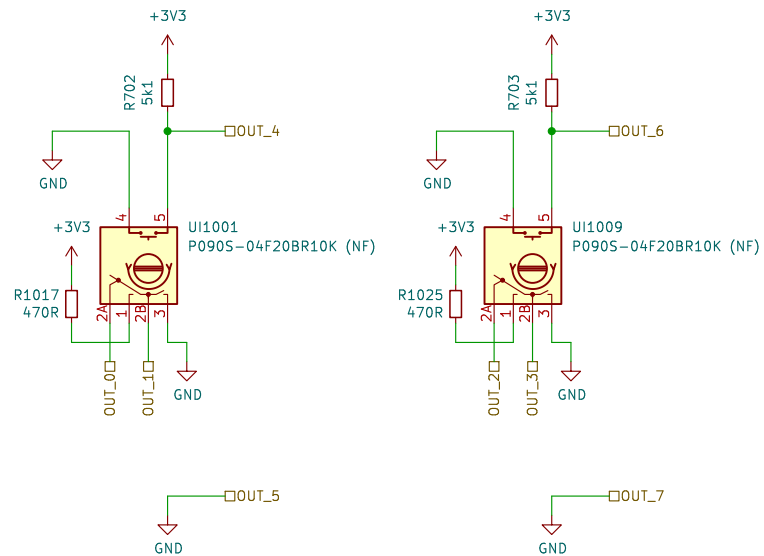
Date:

Rev:

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

Id: 1/10

1000



Sheet: /UI_POT/
File: UI_POT.kicad_sch

Title:

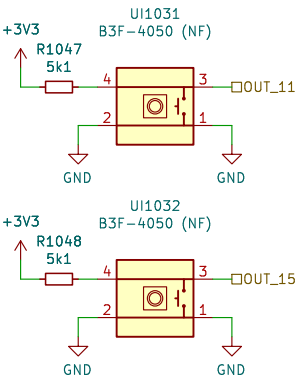
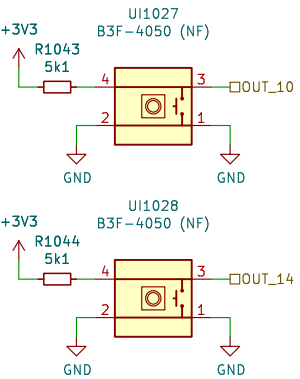
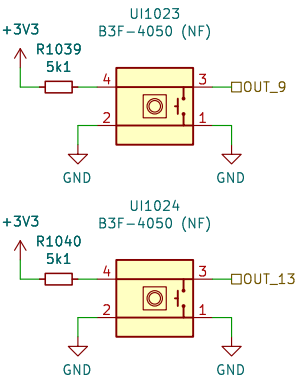
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|---------------------------------|-------|
| Size: A4 | Date: |
| KiCad E.D.A. kicad-cli 7.0.11+1 | |

Date:

Rev:
Id: 2/10

1000

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



Sheet: /UI_BUTTON/
File: UI_BUTTON.kicad_sch

Title:

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

Date:

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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:

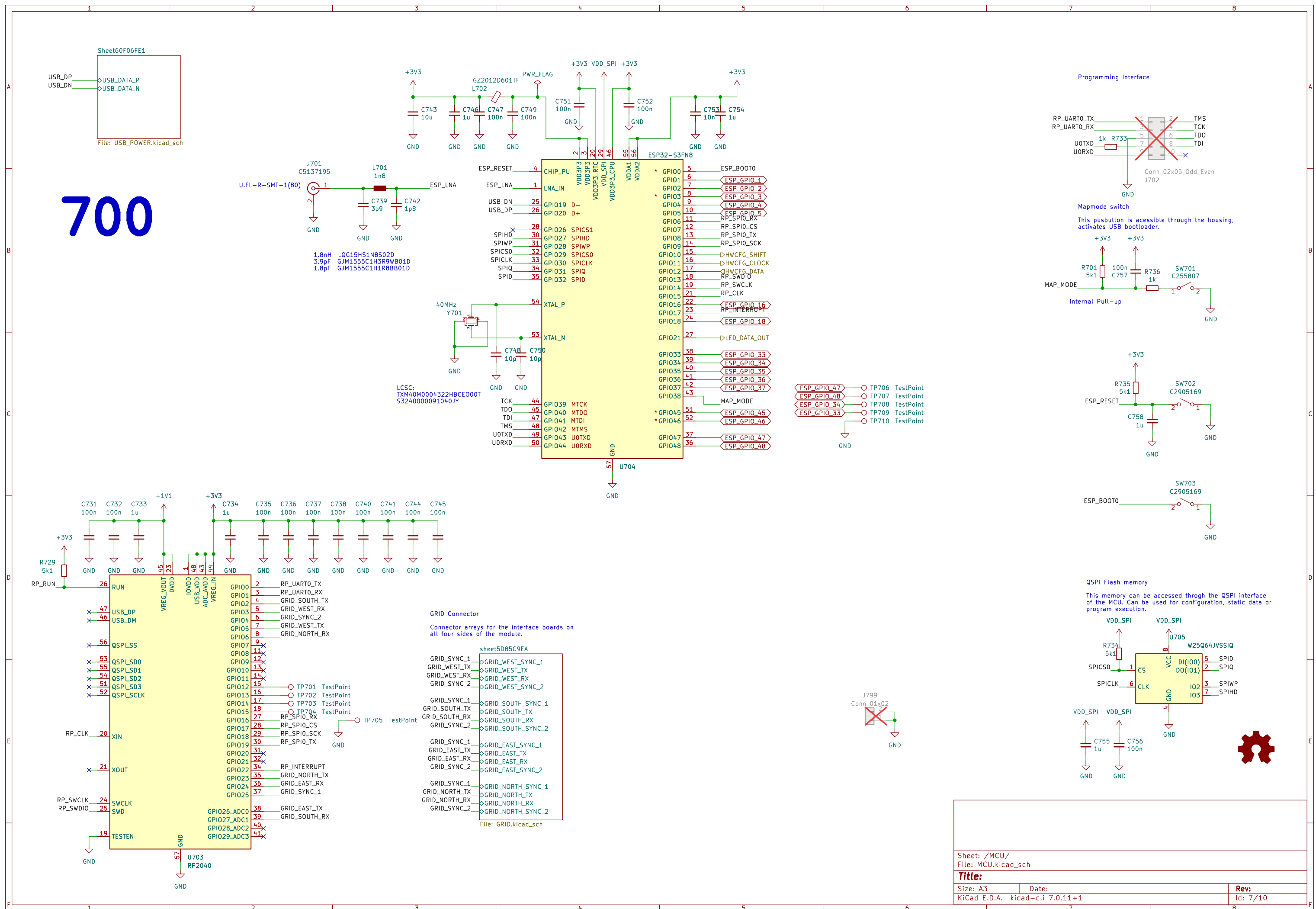
Rev:
Id: 4/10

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500

GRID Connector
Bi-Directional Data
2x SYNC

Board Mounting Pattern

M501 Conn_01x08

J501 Conn_01x04

J502 Conn_01x04

J503 Conn_01x04

J504 Conn_01x04

J505 Conn_01x04

J506 Conn_01x04

J507 Conn_01x04

J508 Conn_01x04

GRID_NORTH_SYNC_2

GRID_NORTH_SYNC_RX

GRID_NORTH_TX

GRID_NORTH_SYNC_1

GRID_WEST_SYNC_1

GRID_WEST_TX

GRID_WEST_RX

GRID_WEST_SYNC_2

GRID_EAST_SYNC_2

GRID_EAST_RX

GRID_EAST_TX

GRID_EAST_SYNC_1

GRID_SOUTH_SYNC_1

GRID_SOUTH_SYNC_TX

GRID_SOUTH_RX

GRID_SOUTH_SYNC_2

5V

GND

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

Title:

Size: A4 Date: Rev:

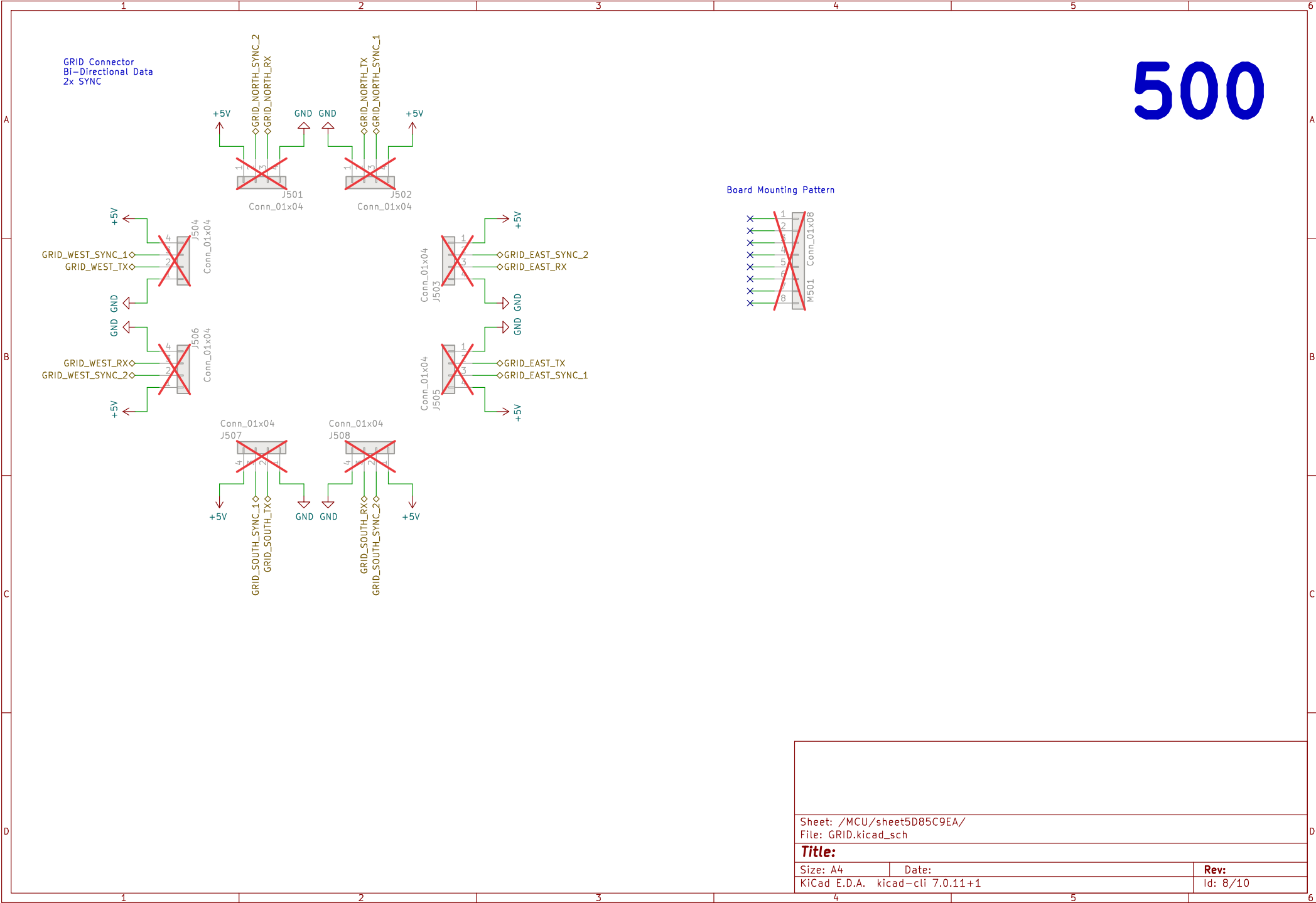
KiCad E.D.A. kicad-cli 7.0.11+1 Id: 8/10

GRID Connector
Bi-Directional Data
2x SYNC

500

Board Mounting Pattern

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| Sheet: /MCU/sheet5D85C9EA/ File: GRID.kicad_sch | | |
| Title: | | |
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| Size: A4 | Date: | Rev: |
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| Size: A4 | Date: | Rev: |
| KiCad E.D.A. kicad-cli 7.0.11+1 | | Id: 8/10 |

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| 7.0.11+1 | Id: 8/10 |
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| | | |
|---|---|---|
| 4 | 5 | 6 |
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6

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

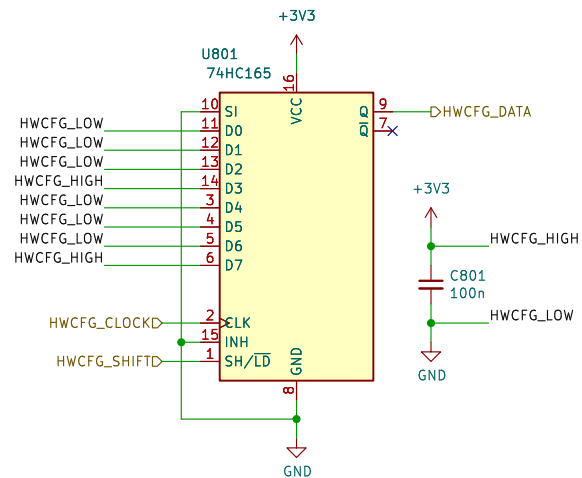
Date:

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

Rev:

Id: 9/10

800



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