PCB

Board size: 189.0x55.0 mm (7.44x2.17 inches)

- This is the size of the rectangle that contains the board
- Thickness: 1.6 mm (63 mils)
- Material: FR4
- Finish: None
- Layers: 4
- Copper thickness: 35 µm

Solder mask: TOP / BOTTOM

- Color: Green

Silk screen: TOP / BOTTOM

- Color: White

Stackup:

Name	Type	Color	Thickness	Material	Epsilon_r	Loss tangent
F.SilkS	Top Silk Screen					
F.Paste	Top Solder Paste					
F.Mask	Top Solder Mask		10			
F.Cu	copper		35			
dielectric 1	prepreg		100	FR4	4.5	0.020
In1.Cu	copper		35			
dielectric 2	core		1240	FR4	4.5	0.020
In2.Cu	copper		35			
dielectric 3	prepreg		100	FR4	4.5	0.020
B.Cu	copper		35			
B.Mask	Bottom Solder Mask		10			
B.Paste	Bottom Solder Paste					
B.SilkS	Bottom Silk Screen					

Important sizes

Clearance: 0.2 mm (8 mils)

Track width: 0.2 mm (8 mils)

- By design rules: 0.16 mm (6 mils)

Drill: 0.4 mm (16 mils)

- Vias: 0.4 mm (16 mils) [Design: 0.4 mm (16 mils)]
- Pads: 0.6 mm (24 mils)
- The above values are real drill sizes, they add 0.1 mm (4 mils) to plated holes (PTH)

Via: 0.6/0.3 mm (24/12 mils)

- By design rules: 0.5/0.3 mm (20/12 mils)
- Micro via: yes [0.25/0.15 mm (10/6 mils)]
- Buried/blind via: yes
- Total: 129 (thru: 129 buried/blind: 0 micro: 0)

Outer Annular Ring: 0.1 mm (4 mils)

- By design rules: 0.1 mm (4 mils)

Eurocircuits class: 8C - Using min drill 0.35 mm for an OAR of 0.1 mm

General stats

Components count: (SMD/THT)

- Top: 3/52 (SMD + THT)
- Bottom: 0/1 (THT)

Defined tracks:

- 1.0 mm (39 mils)
- 2.0 mm (79 mils)

Used tracks:

- 0.2 mm (8 mils) (803) defined: no
- 1.0 mm (39 mils) (22) defined: yes

Defined vias:

Used vias:

- 0.6/0.3 mm (24/12 mils) (Count: 129, Aspect: 2.7 A) defined: no

Holes (excluding vias):

- 0.5 mm (20 mils) (32)
- 0.6 mm (24 mils) (8)
- 0.75 mm (30 mils) (3)
- 0.8 mm (31 mils) (130)
- 0.84 mm (33 mils) (78)

- 0.9 mm (35 mils) (2)
- 1.0 mm (39 mils) (10)
- 1.1 mm (43 mils) (8)
- 1.2 mm (47 mils) (2)
- 1.3 mm (51 mils) (4)
- 2.2 mm (87 mils) (2)
- 3.2 mm (126 mils) (4)
- 3.5 mm (138 mils) (2)

Oval holes:

Drill tools (including vias and computing adjusts and rounding):

- 0.4 mm (16 mils) (129)
- 0.6 mm (24 mils) (32)
- 0.7 mm (28 mils) (8)
- 0.85 mm (33 mils) (3)
- 0.9 mm (35 mils) (130)
- 0.95 mm (37 mils) (78)
- 1.0 mm (39 mils) (2)
- 1.1 mm (43 mils) (10)
- 1.2 mm (47 mils) (8)
- 1.3 mm (51 mils) (2)
- 1.4 mm (55 mils) (4)
- 2.3 mm (91 mils) (2)
- 3.3 mm (130 mils) (4)
- 3.5 mm (138 mils) (2)

Solder paste stats:

Using a paste with 87.75 % alloy, that has an specific gravity for the alloy of 7.4 g/cm^3 and 1.0 g/cm^3 for the flux. This paste has an specific gravity of 4.15 g/cm^3.

The stencil thickness is 0.12 mm.

Side	Pads with paste	Area [mm^2]	Paste [g]
Total	96	77.83	0.39

Note: this is just an approximation to the theoretical value. Margins of the solder mask and waste aren't computed.

Schematic

Schematic in SVG format

PCB Layers

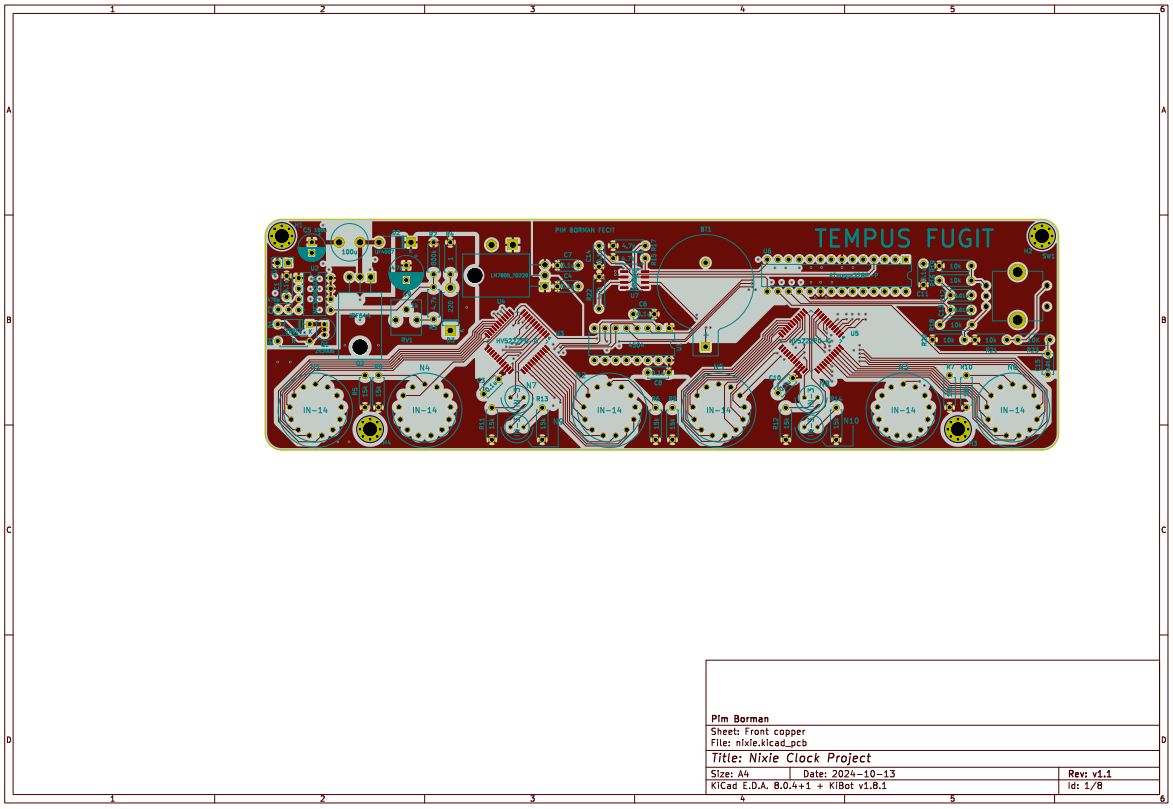

Figure 1: PCB Front copper

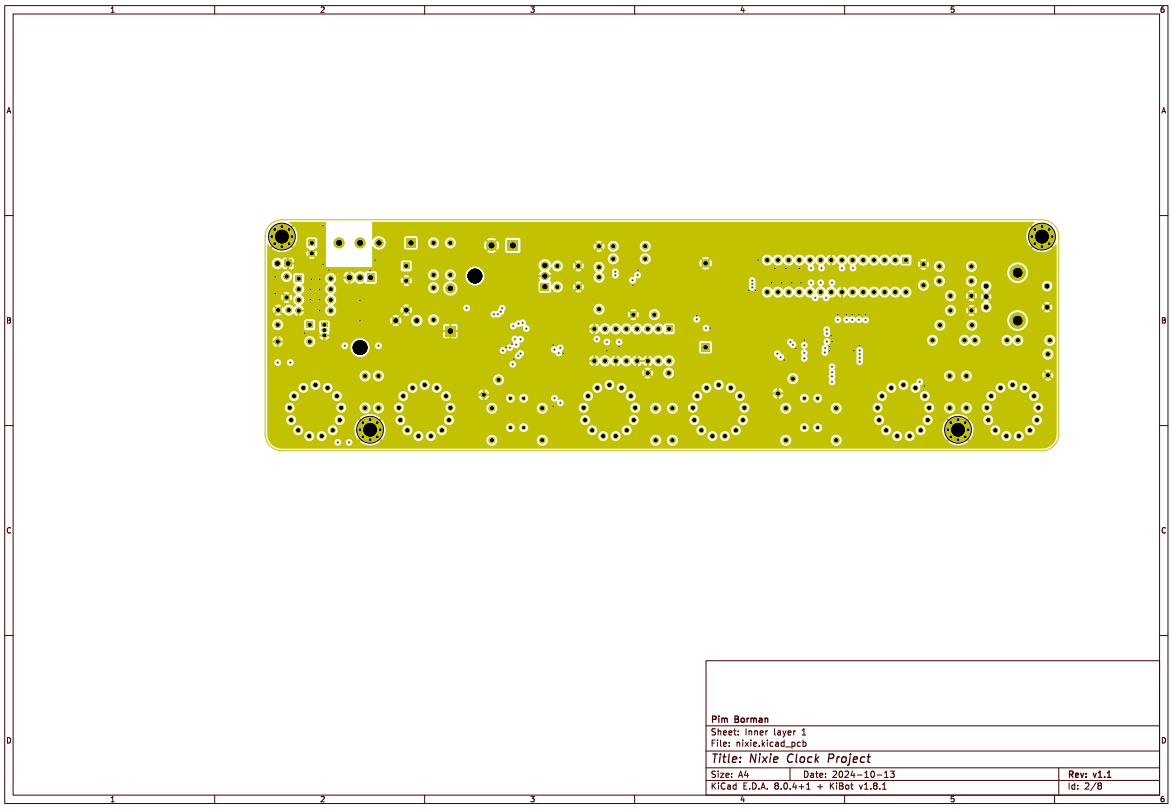

Figure 2: PCB Inner layer 1

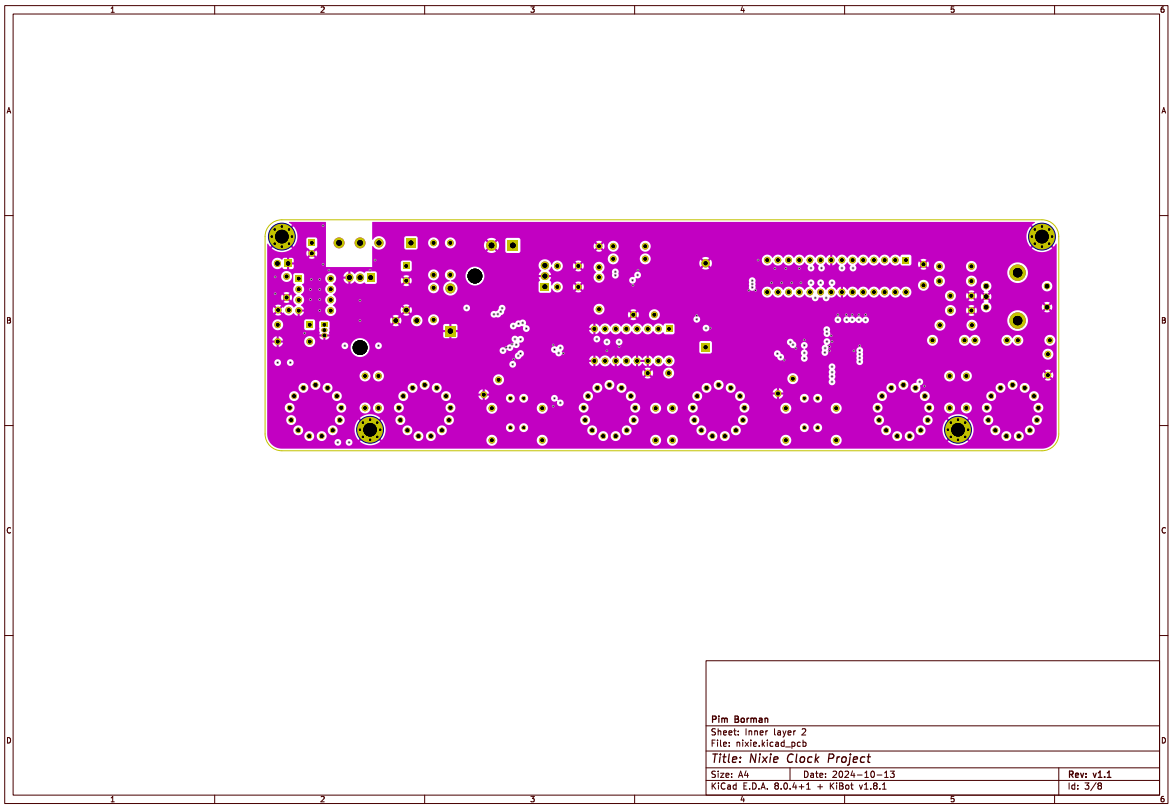

Figure 3: PCB Inner layer 2

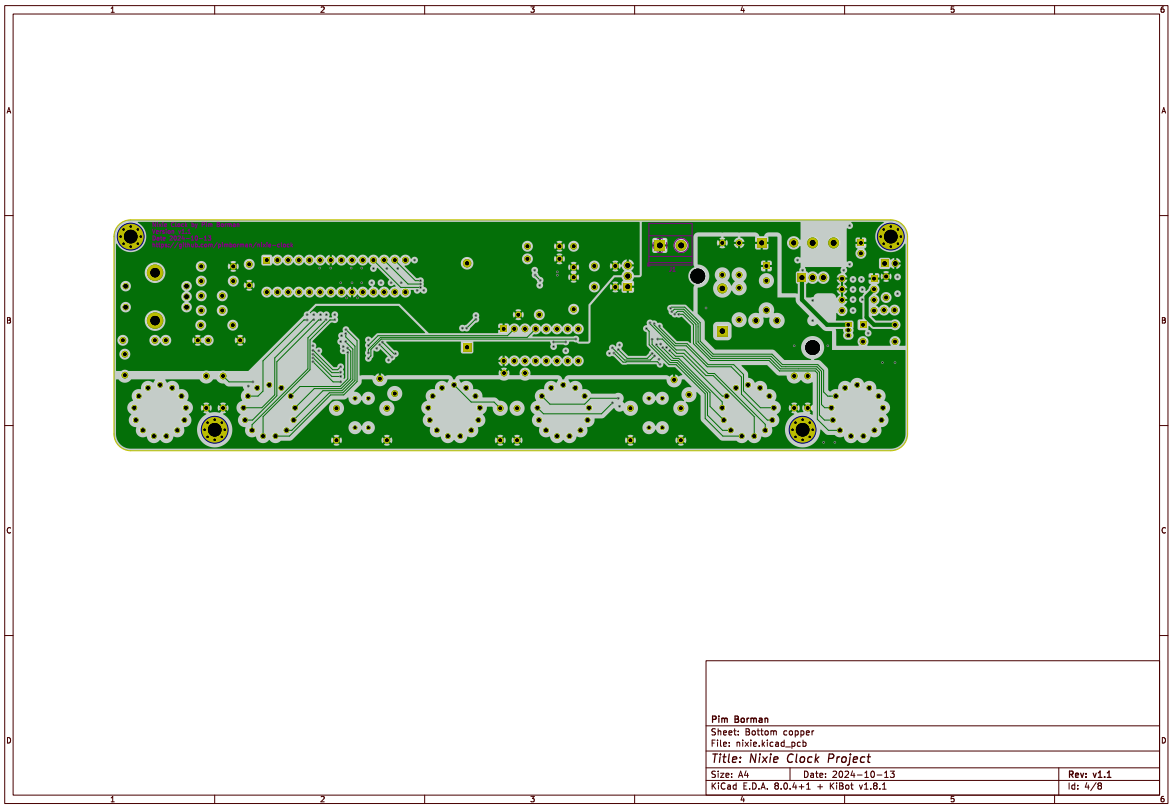

Figure 4: PCB Bottom copper

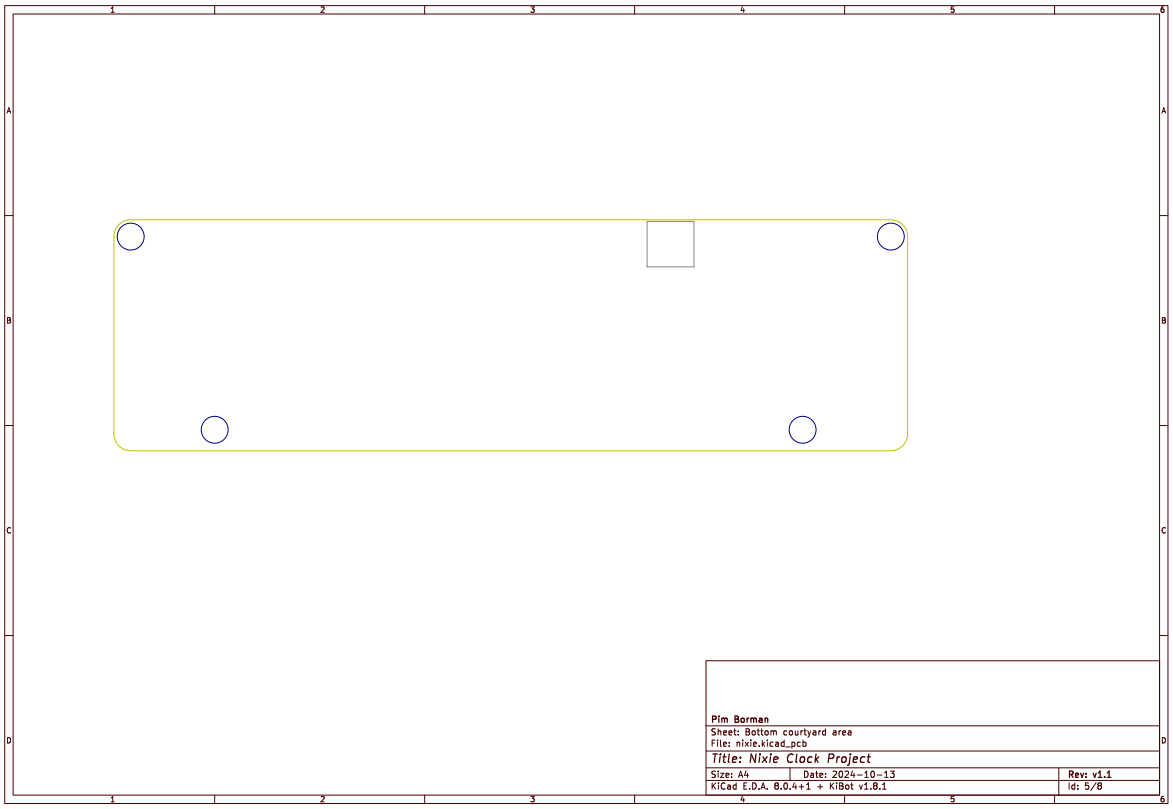

Figure 5: PCB Bottom courtyard area

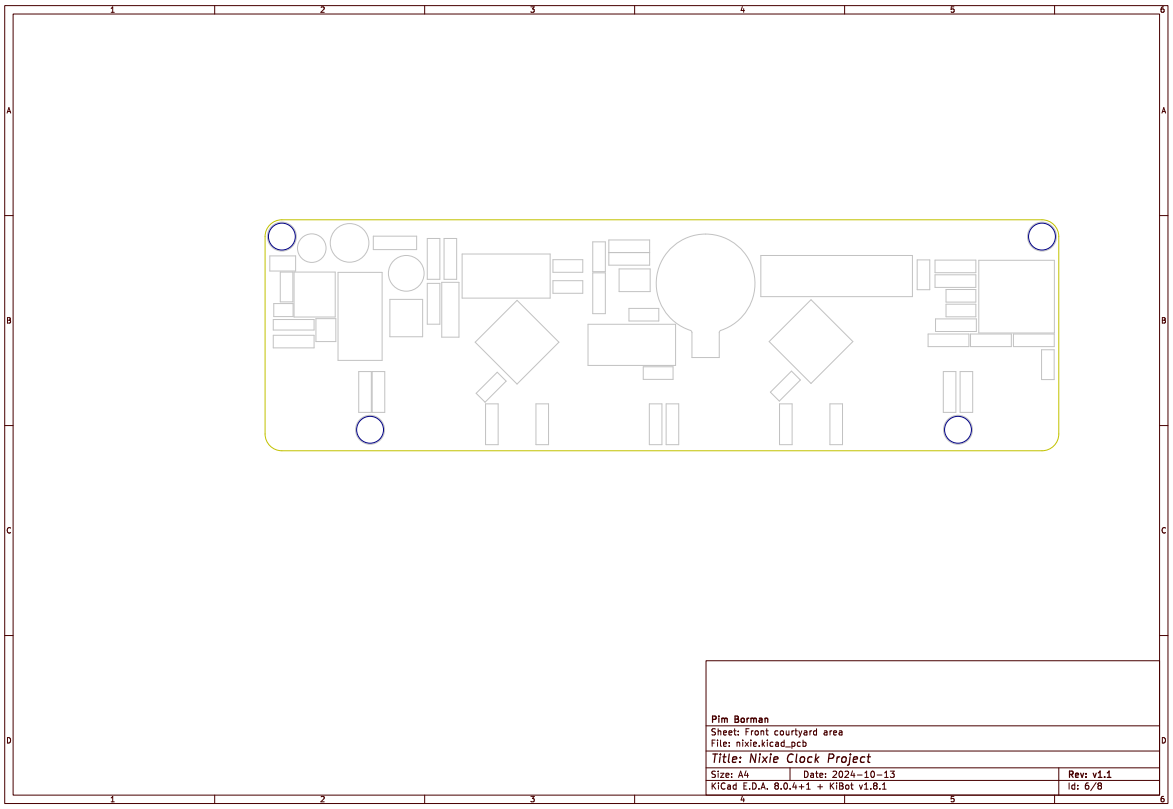

Figure 6: PCB Front courtyard area

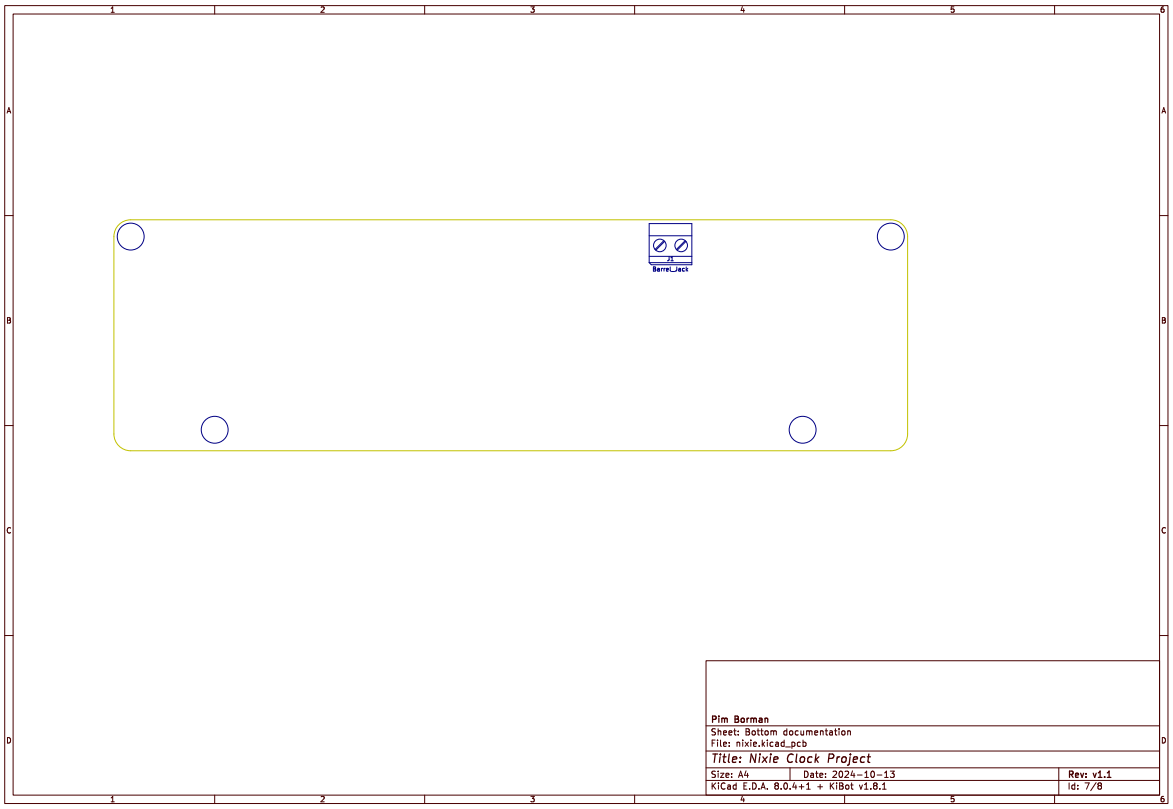

Figure 7: PCB Bottom documentation

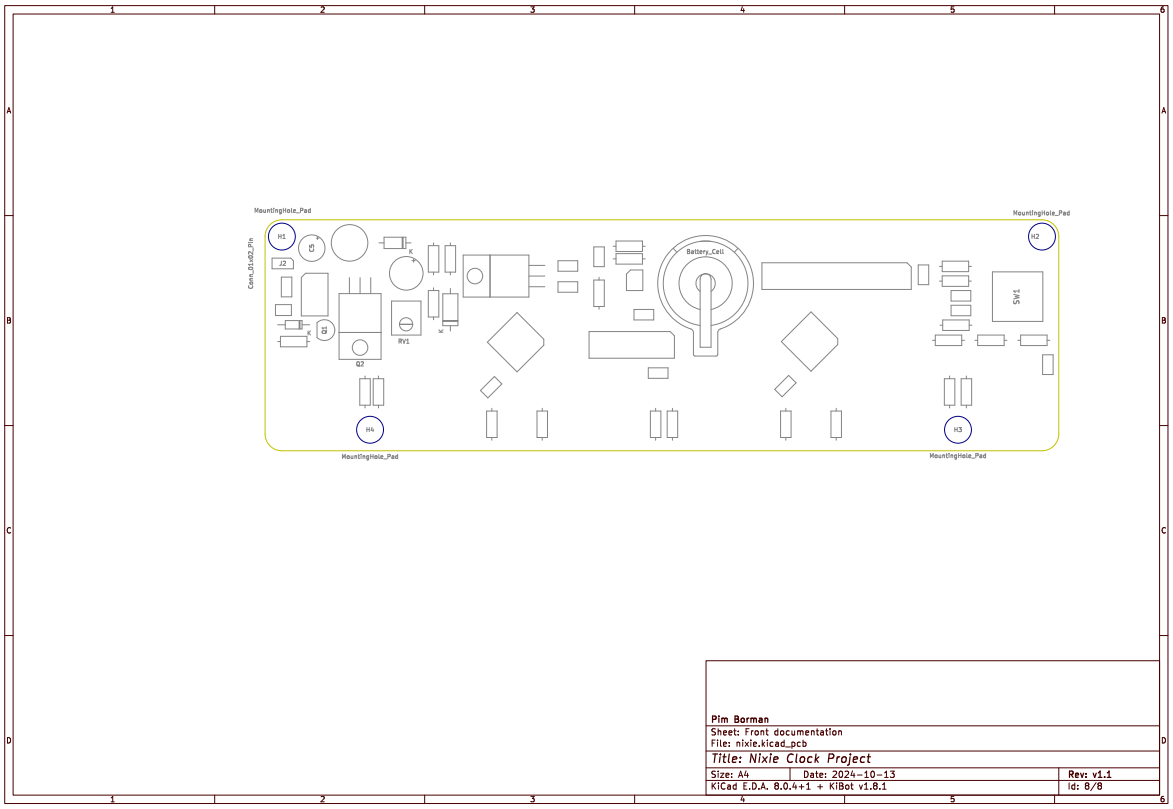

Figure 8: PCB Front documentation