PCB

Board size: 55.5x49.5 mm (2.19x1.95 inches)

- This is the size of the rectangle that contains the board
- Thickness: 1.5 mm (59 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 [µm]	Material	Er	Loss tan
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		1140	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: 0.1 mm (4 mils)

Track width: 0.2 mm (8 mils)

- By design rules: 0.0 mm (0 mils)

Drill: 0.4 mm (16 mils)

- Vias: 0.4 mm (16 mils) [Design: 0.4 mm (16 mils)]
- Pads: 0.9 mm (35 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: 0.1/0.3 mm (4/12 mils)
- Micro via: yes [0.15/0.1 mm (6/4 mils)]
- Buried/blind via: yes
- Total: 23 (thru: 23 buried/blind: 0 micro: 0)

Outer Annular Ring: 0.1 mm (4 mils)

- By design rules: 0.3 mm (12 mils)

Eurocircuits class: 8C - Using min drill 0.35 mm for an OAR of 0.13 mm

General stats

Components count: (SMD/THT)

- Top: 25/8 (SMD + THT)
- Bottom: 8/0 (SMD)

Defined tracks:

Used tracks:

- 0.2 mm (8 mils) (129) defined: no
- 0.3 mm (12 mils) (60) defined: no

Defined vias:

Used vias:

- 0.6/0.3 mm (24/12 mils) (Count: 2, Aspect: 2.5 A) defined: no
- 0.8/0.3 mm (31/12 mils) (Count: 21, Aspect: 1.9 A) defined: no

Holes (excluding vias):

- 0.8 mm (31 mils) (2)
- 1.0 mm (39 mils) (4)
- 1.1 mm (43 mils) (4)
- 1.5 mm (59 mils) (2)
- 1.6 mm (63 mils) (1)
- 1.75 mm (69 mils) (2)

Oval holes:

- 1.5x4.02 mm (59x158 mils) (2)

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

- 0.4 mm (16 mils) (23)
- 0.9 mm (35 mils) (2)
- 1.1 mm (43 mils) (4)
- 1.2 mm (47 mils) (4)
- 1.6 mm (63 mils) (4)
- 1.7 mm (67 mils) (1)
- 1.85 mm (73 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]
Top	106	131.00	0.65
Bottom	22	60.10	0.30
Total	128	191.10	0.95

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

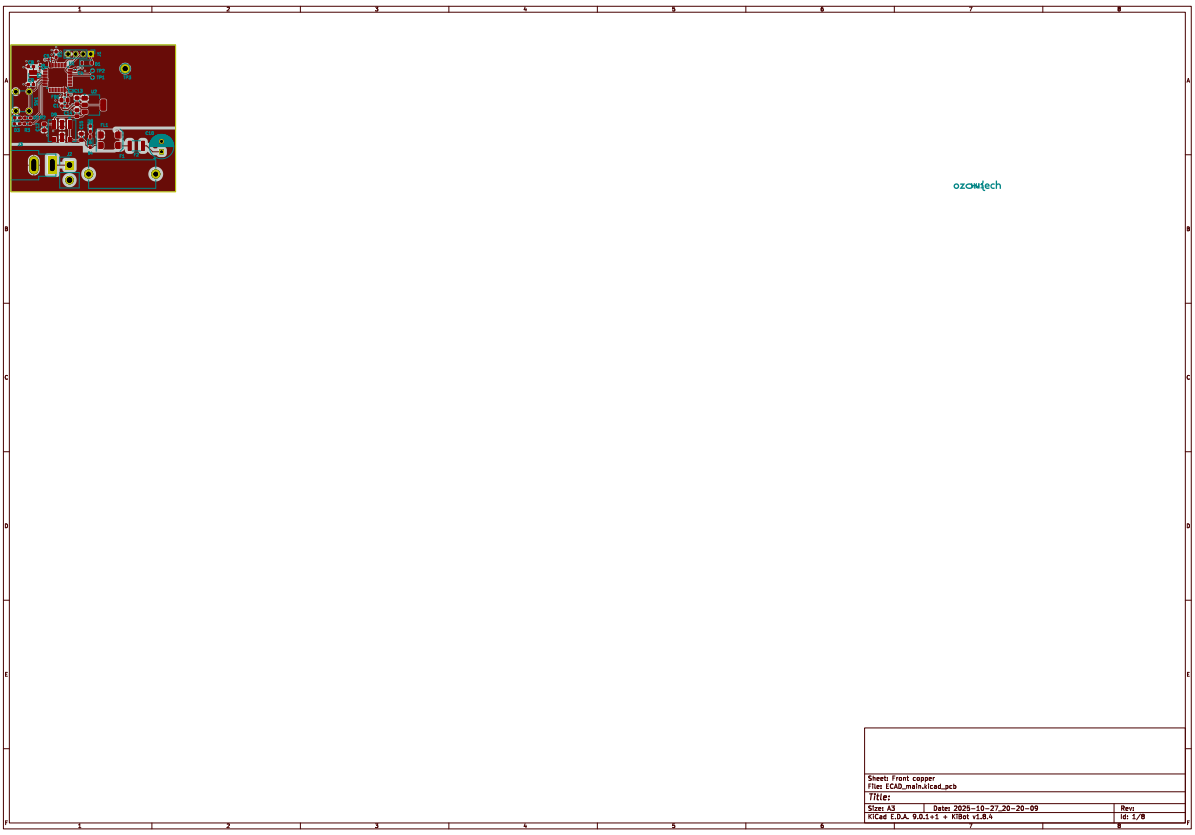

Figure 1: PCB Front copper

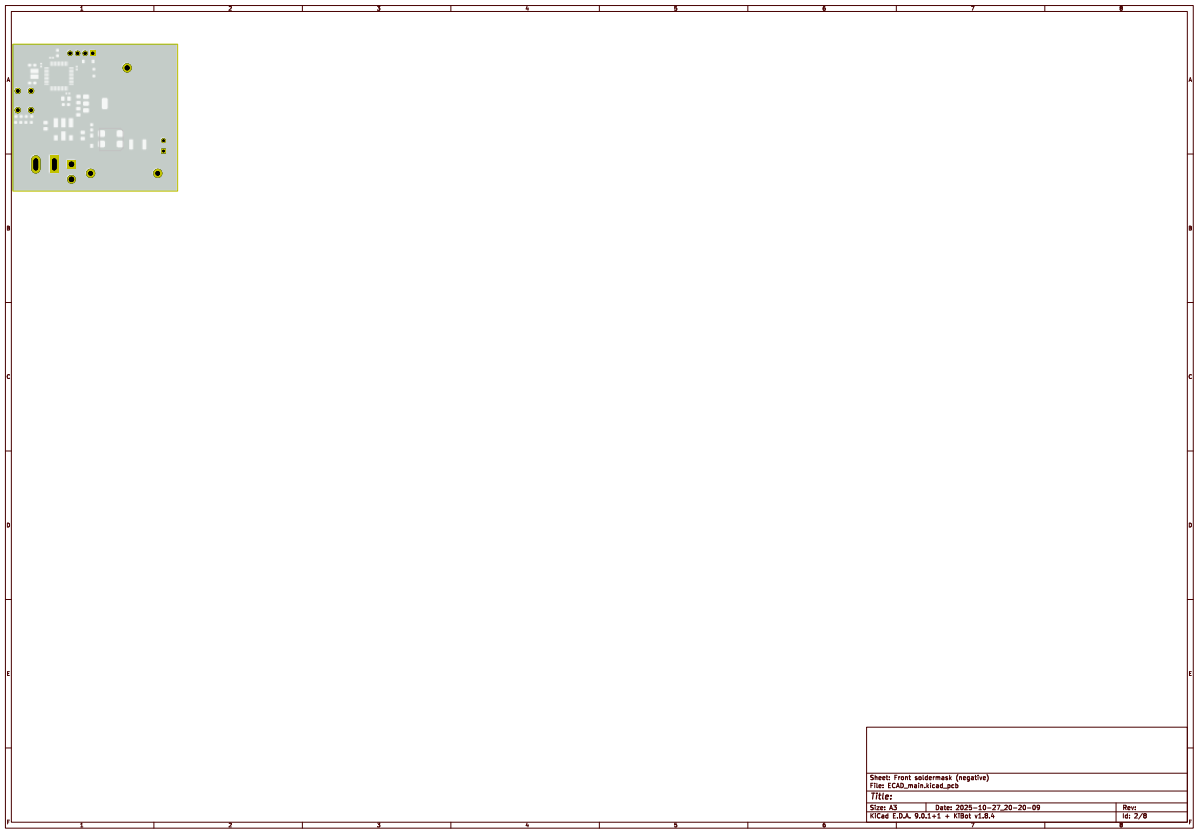

Figure 2: PCB Front soldermask (negative)

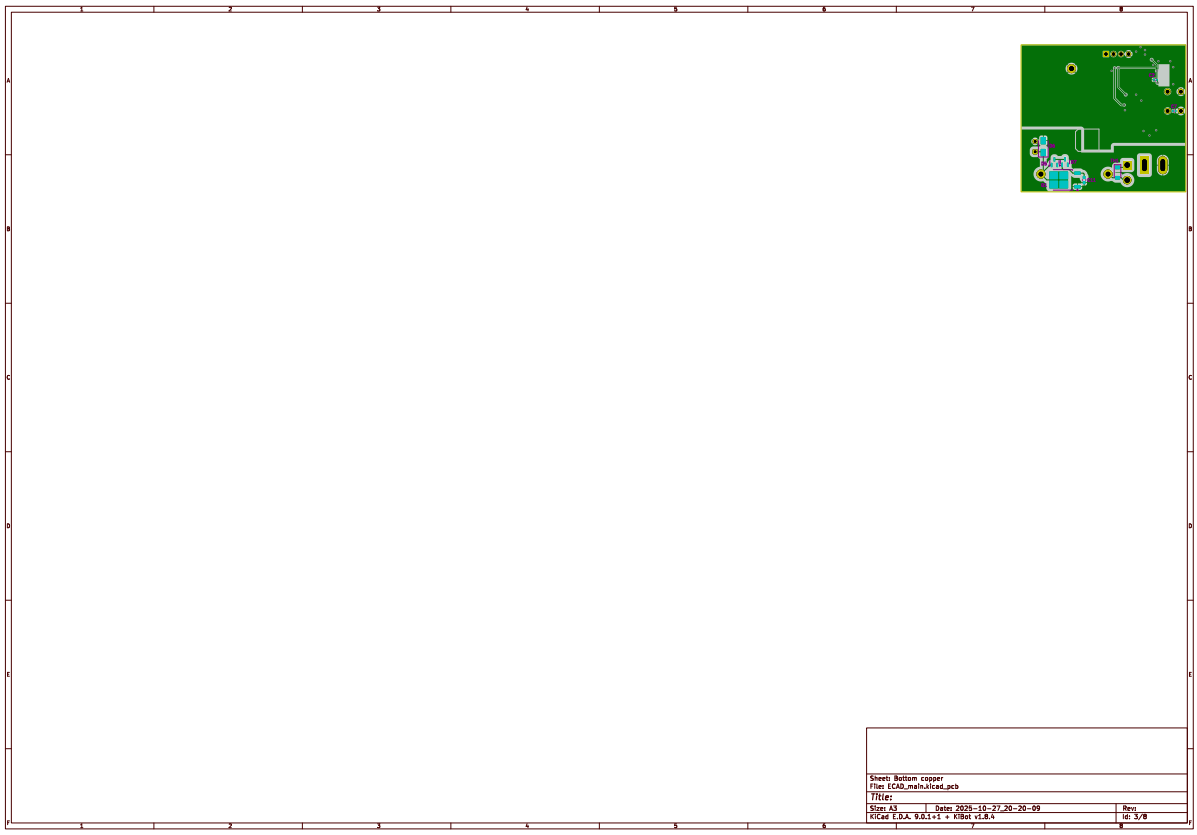

Figure 3: PCB Bottom copper

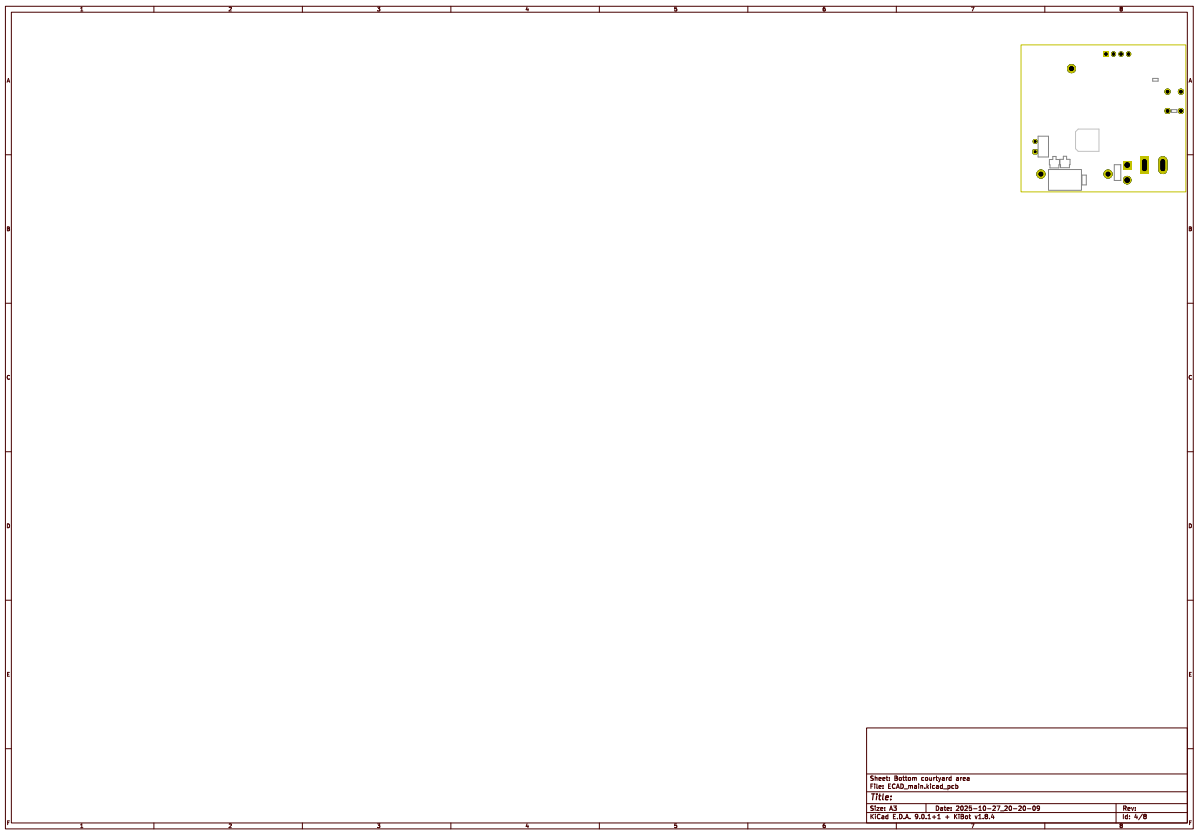

Figure 4: PCB Bottom courtyard area

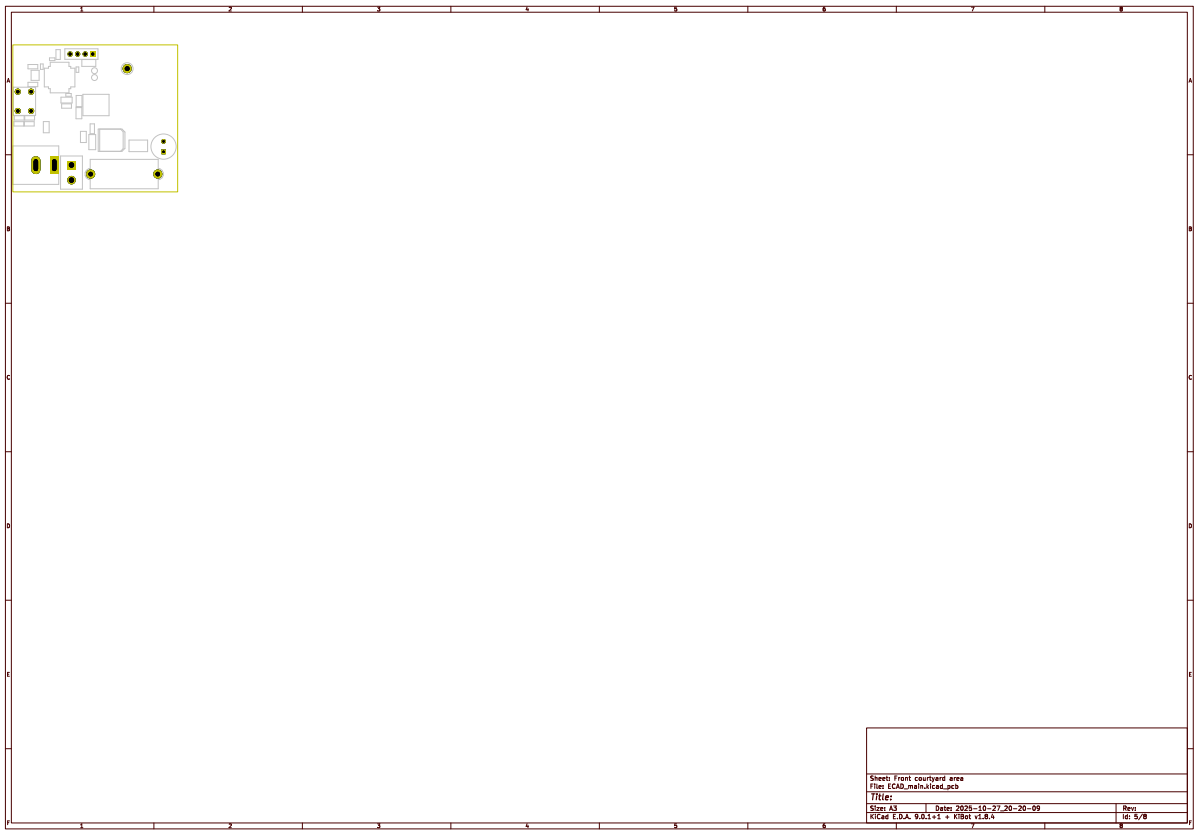

Figure 5: PCB Front courtyard area

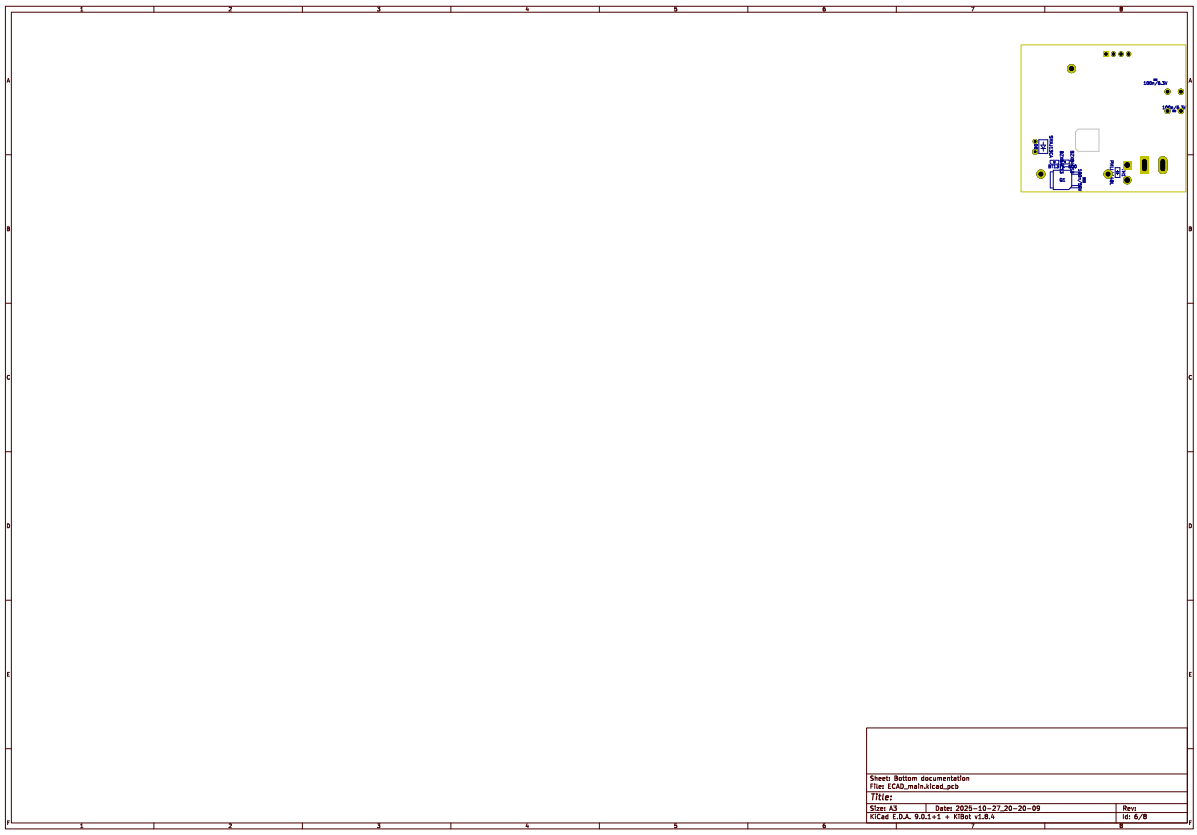

Figure 6: PCB Bottom documentation

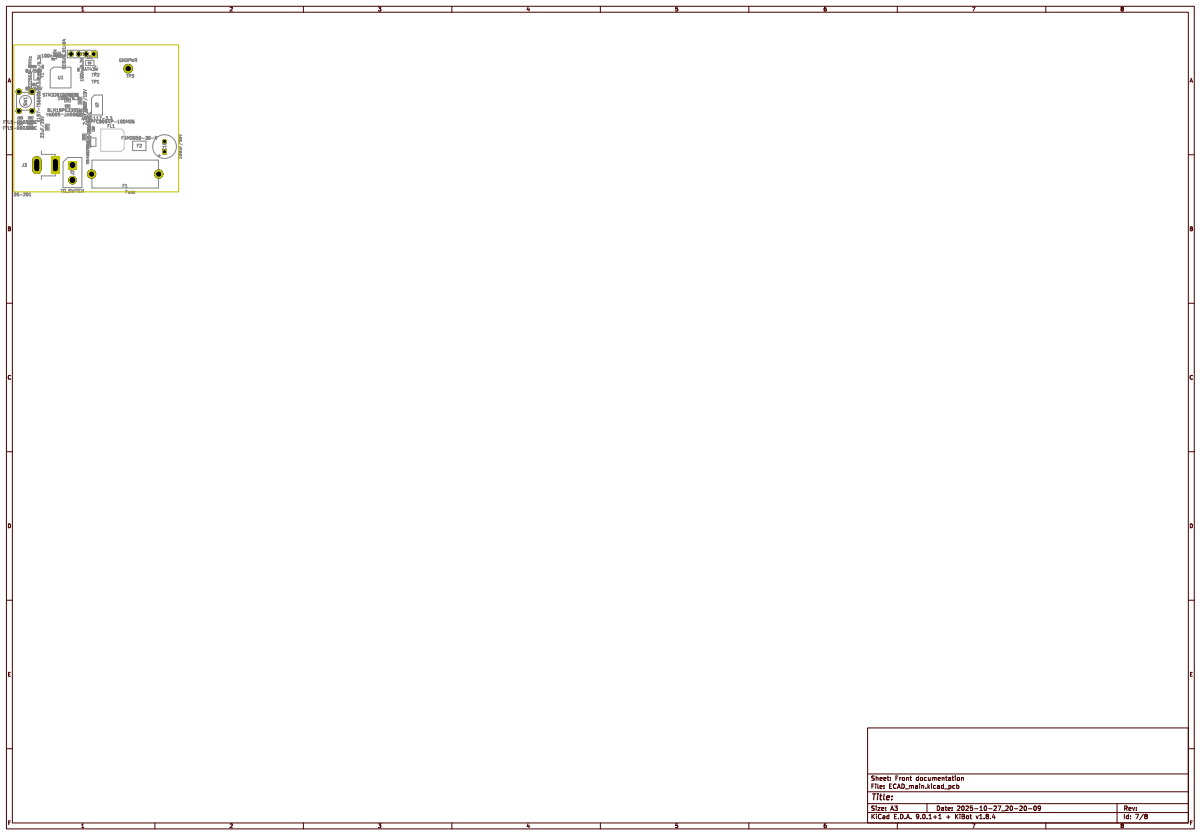

Figure 7: PCB Front documentation

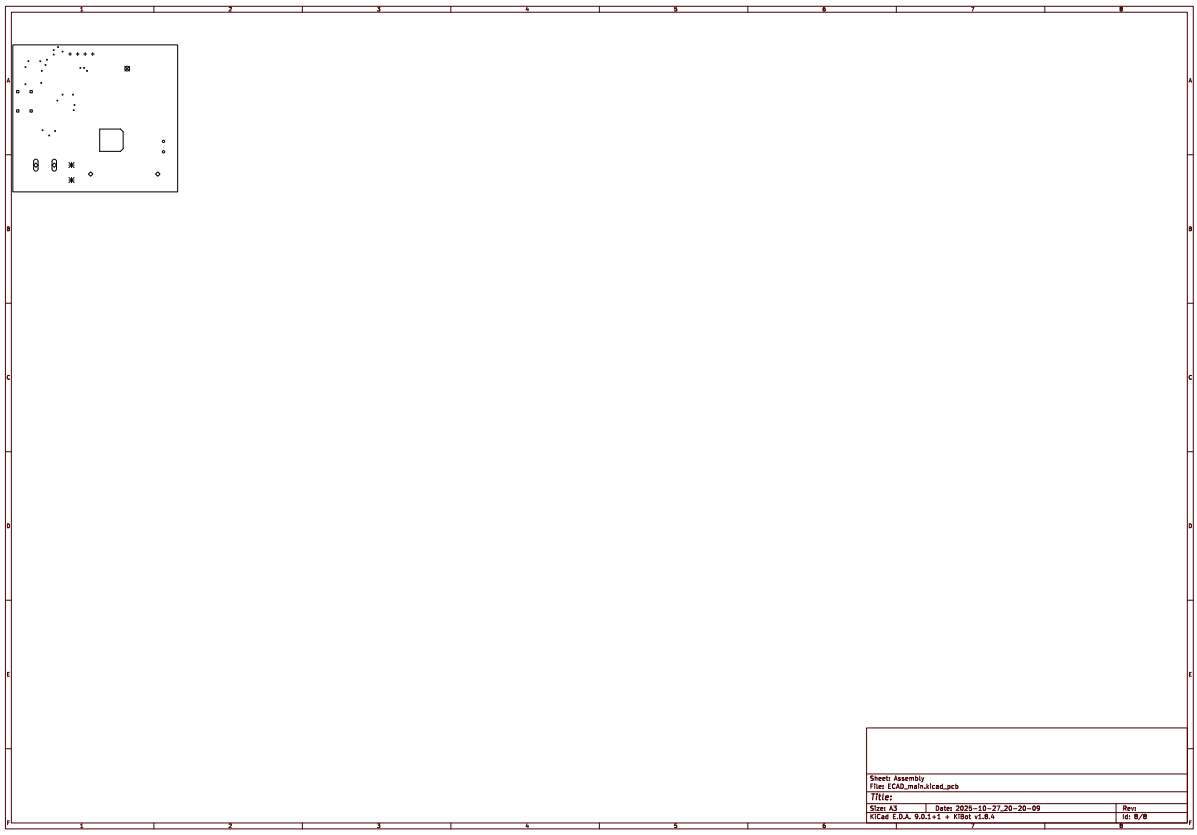

Figure 8: PCB Assembly