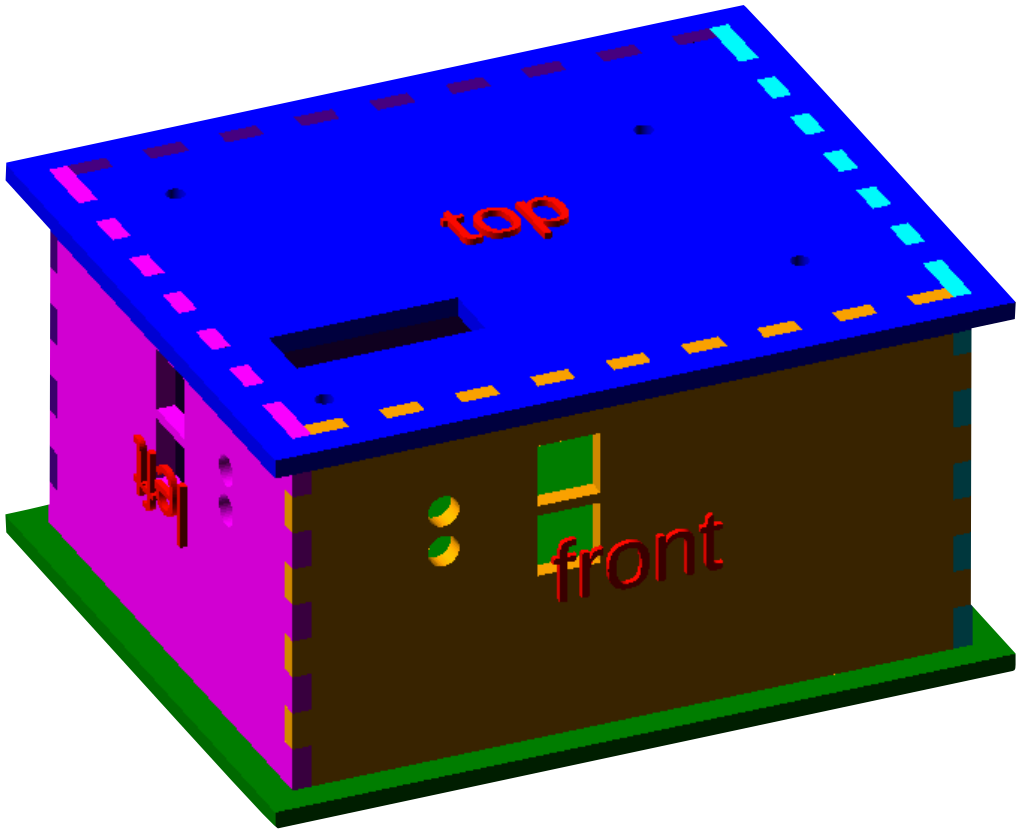
Laser cut box

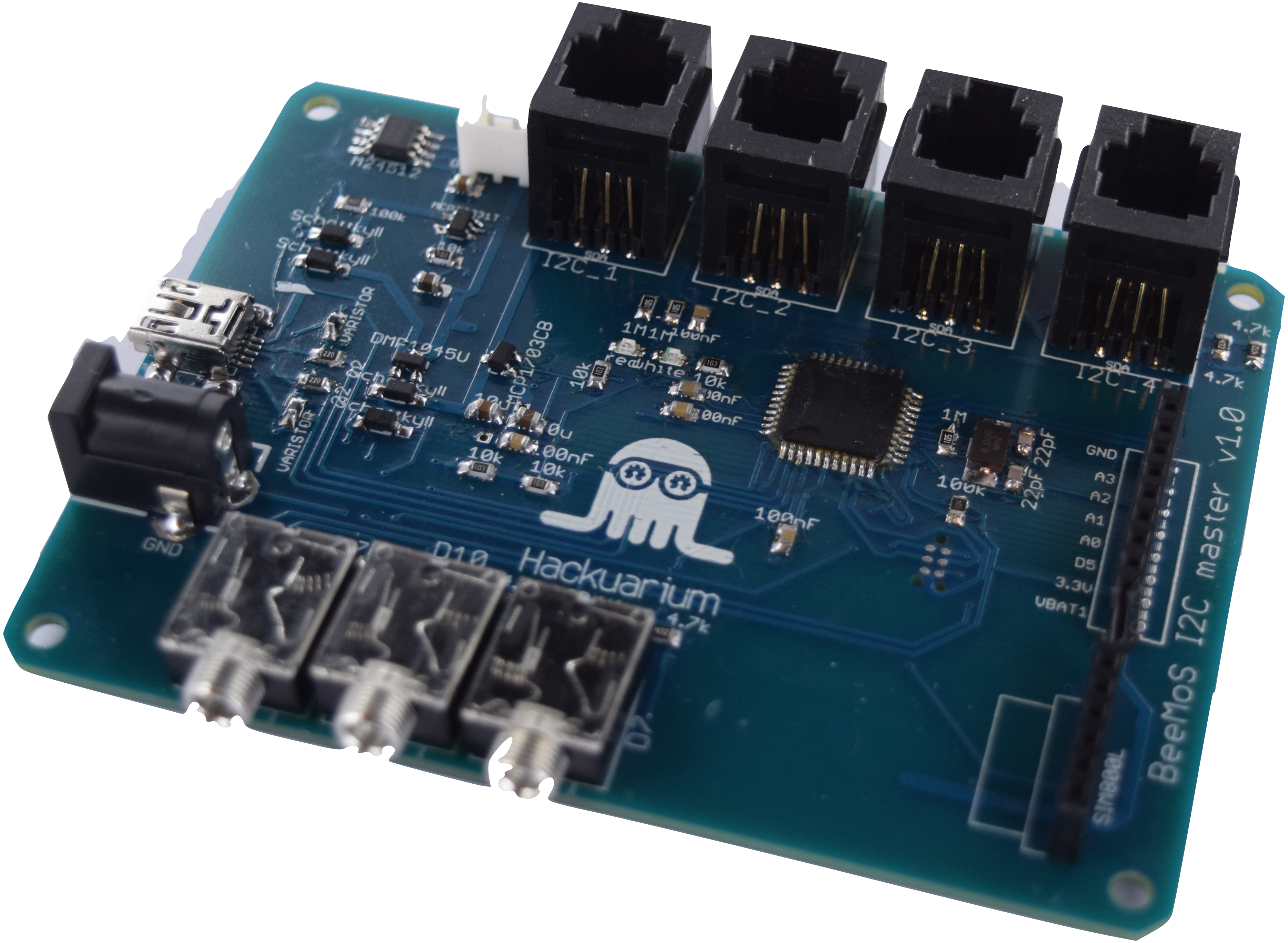
https://github.com/Hackuarium/laser-cut-box

luc@patiny.com

Goal

- Quickly design a box for PCB based projects



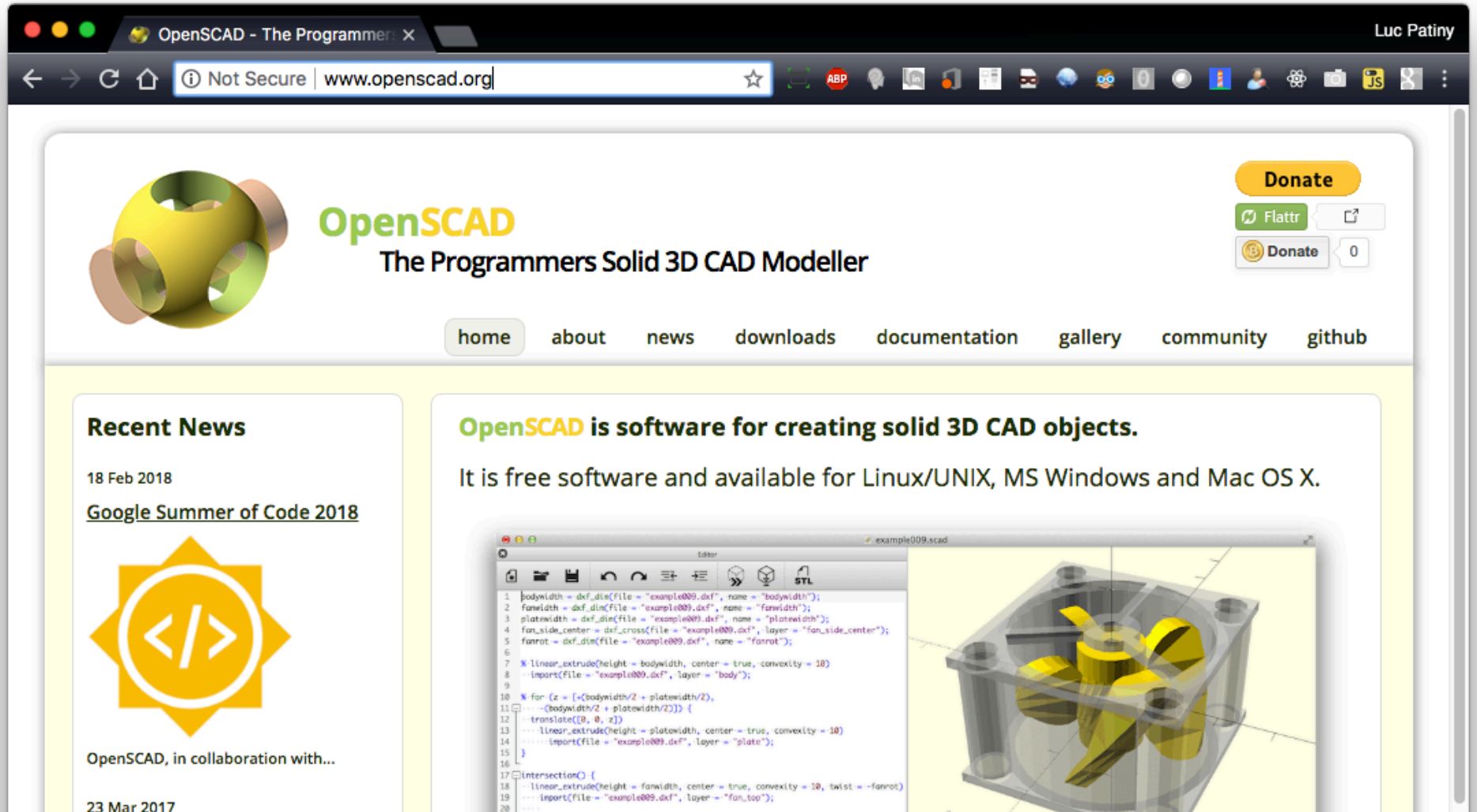

BeeMoS I2C master v1.0
Hackuarium
I2C_1
I2C_2
I2C_3
I2C_4
GND
A3
A2
A1
A0
D5
3.3V
VBAT1
D10
GND
M24512
VARISTOR
VARISTOR
DMP1045U
4.7k
4.7k
22pF
22pF
100nF
100nF
1M
100k
10k
10k
10k
10k

Installation

1

Install OpenSCAD

https://github.com/Hackuarium/laser-cut-box



Download the project

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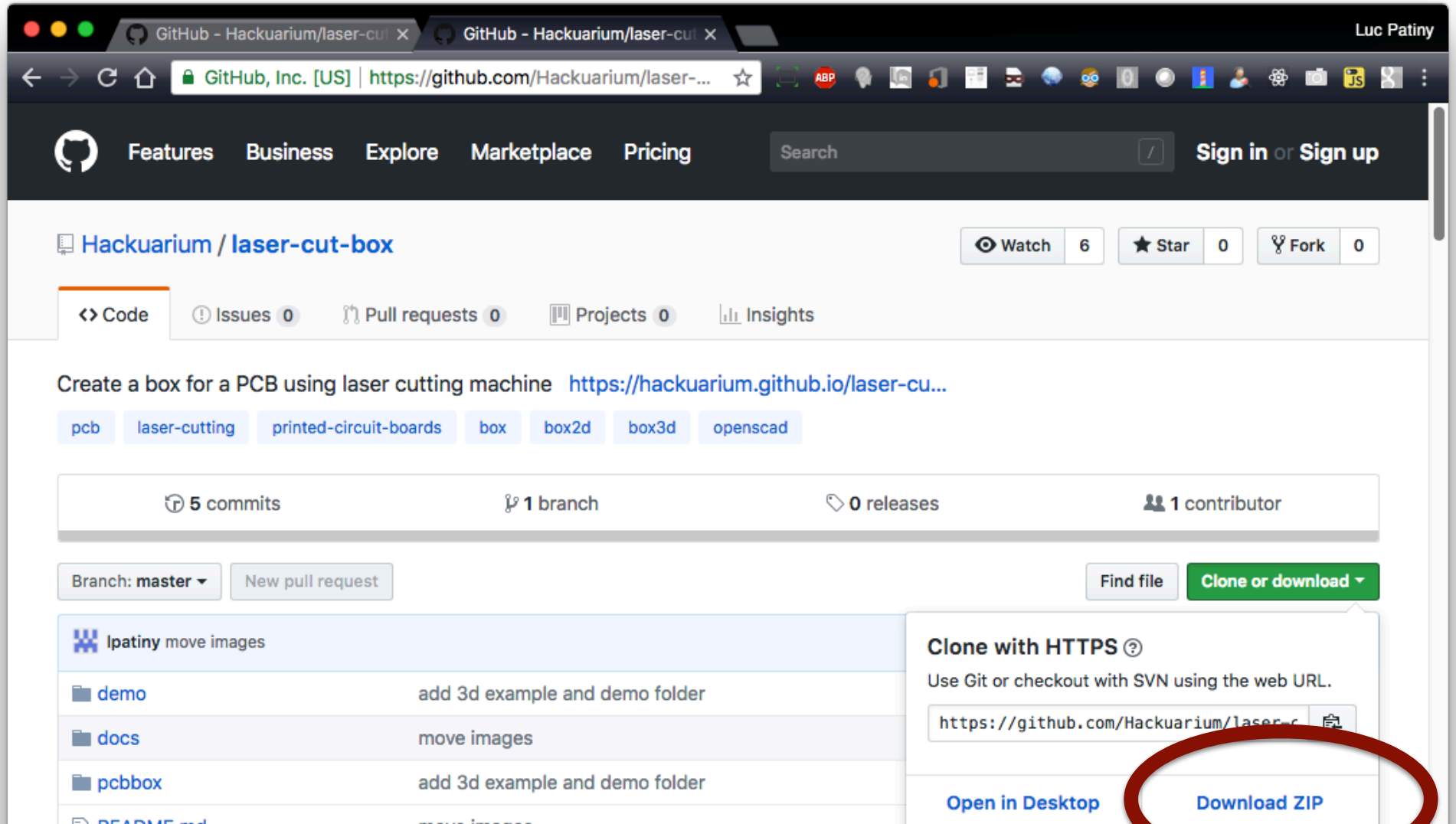
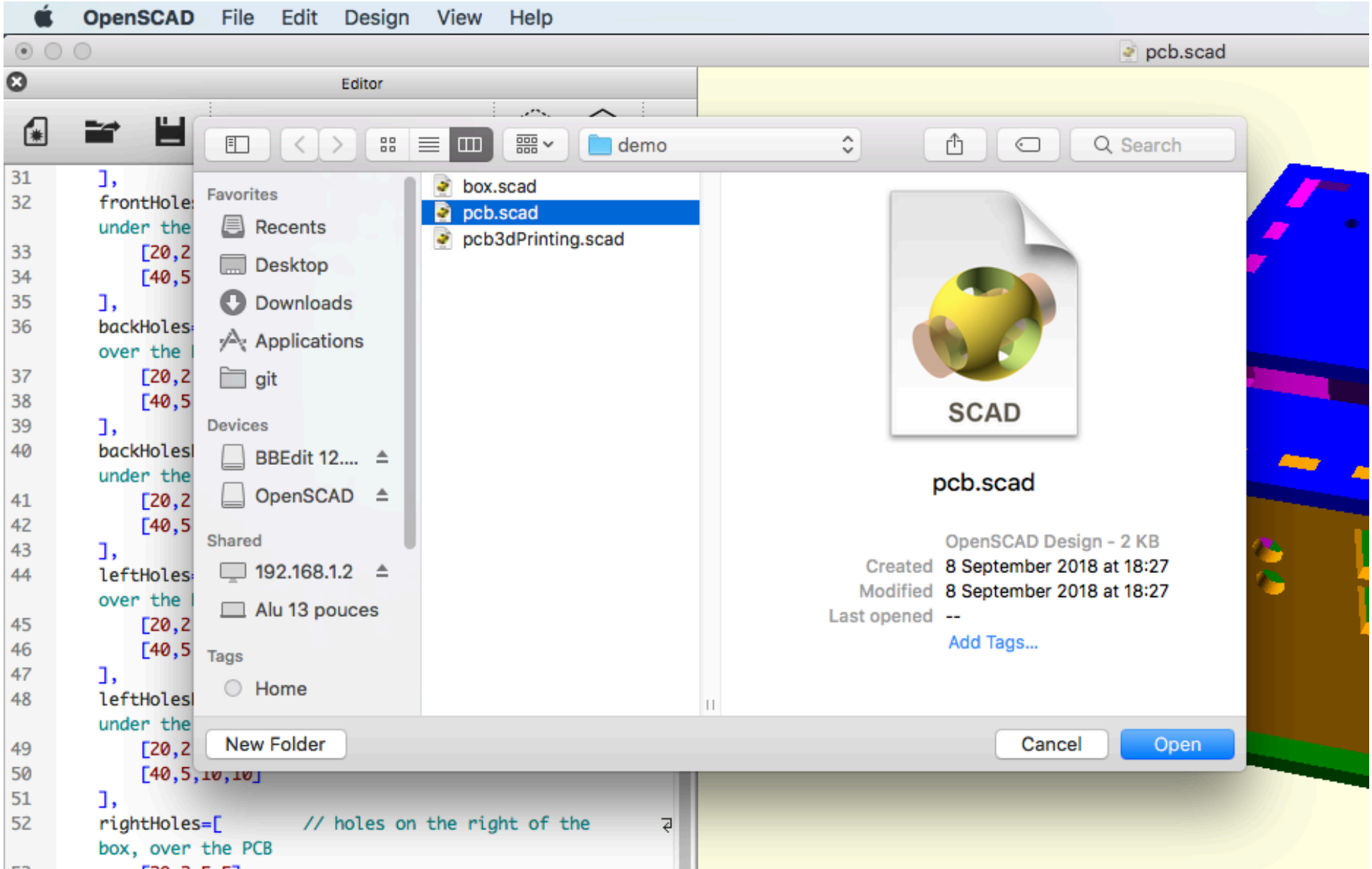
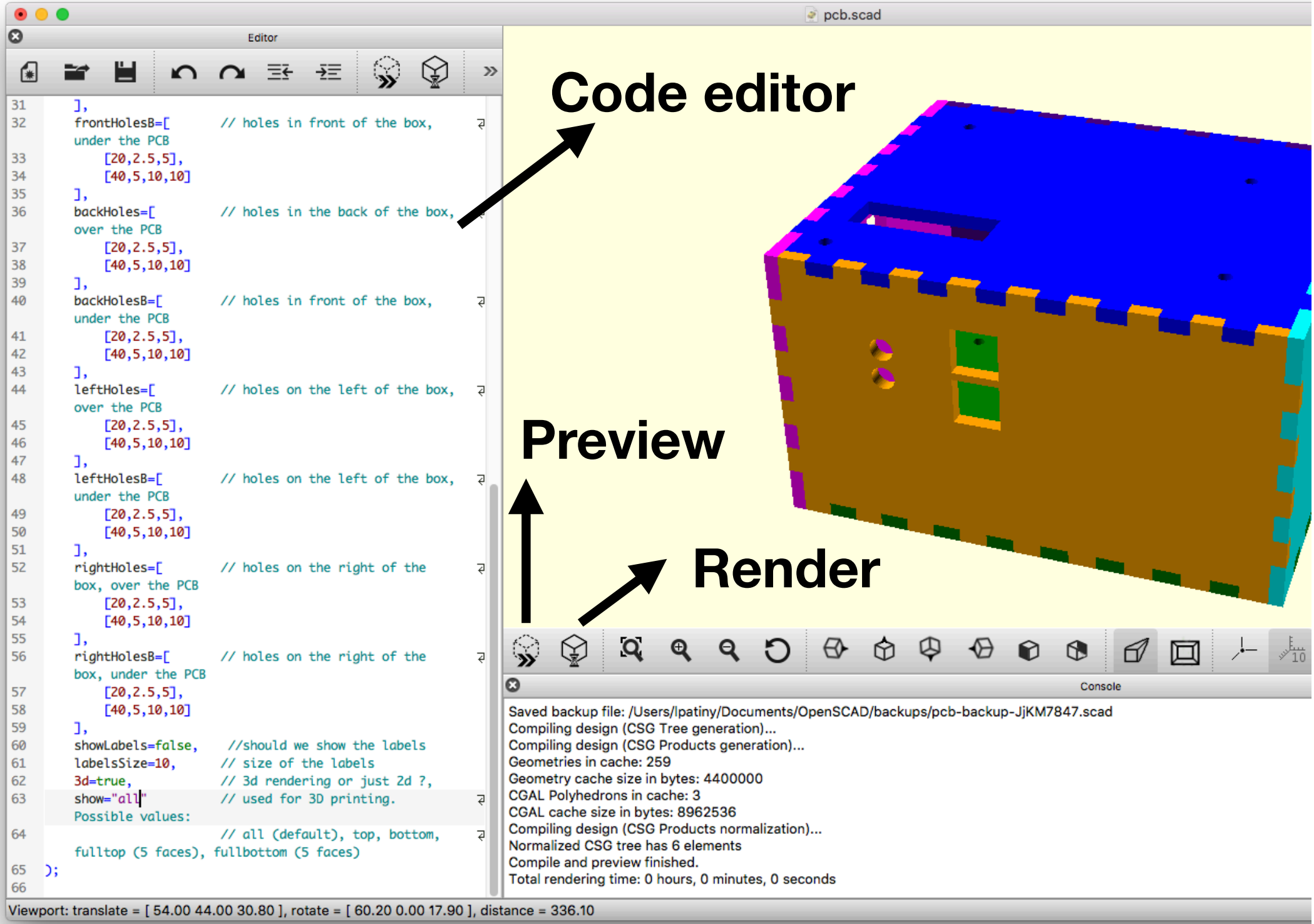


Open: demo → pcb.scad





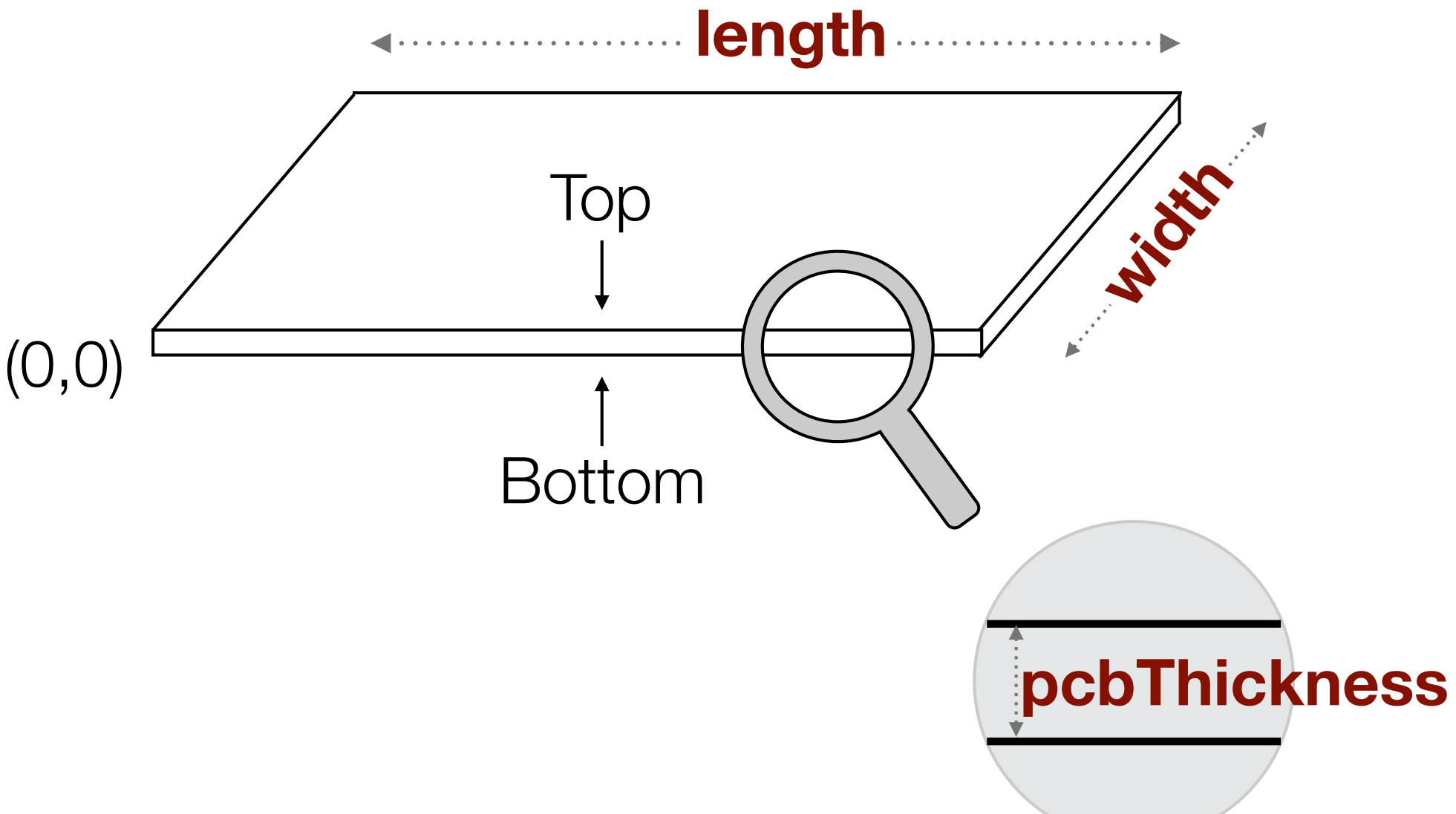

```
    ],
    frontHolesB=[       // holes in front of the box, under the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    backHoles=[         // holes in the back of the box, over the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    backHolesB=[        // holes in front of the box, under the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    leftHoles=[         // holes on the left of the box, over the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    leftHolesB=[        // holes on the left of the box, under the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    rightHoles=[        // holes on the right of the box, over the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    rightHolesB=[       // holes on the right of the box, under the PCB
        [20,2.5,5],
        [40,5,10,10]
    ],
    showLabels=false,    //should we show the labels
    labelsSize=10,      // size of the labels
    3d=true,            // 3d rendering or just 2d ?,
    show="all"          // used for 3D printing. Possible values:
                        // all (default), top, bottom, fulltop (5 faces), fullbottom (5 faces)
);

```

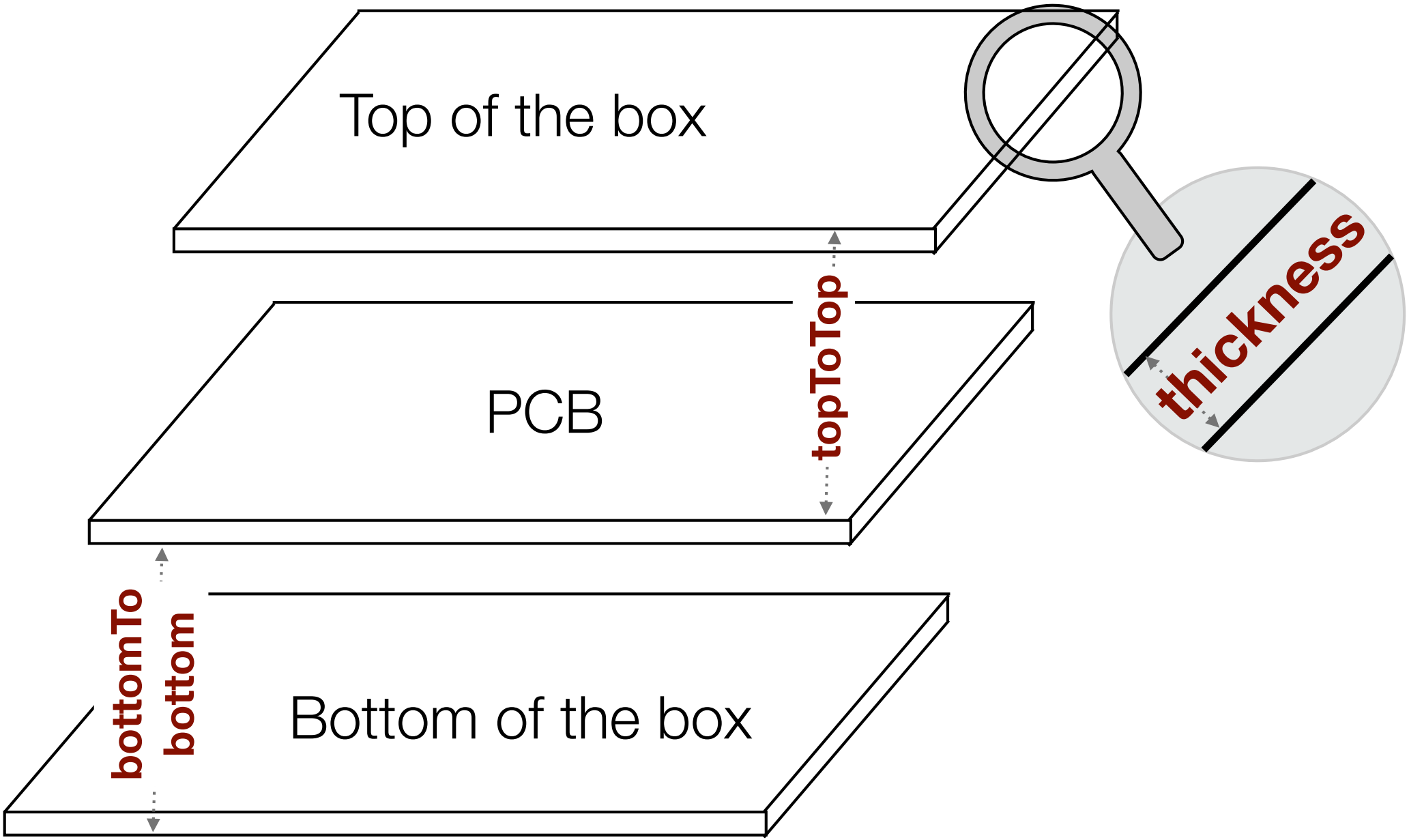
Parameters

2

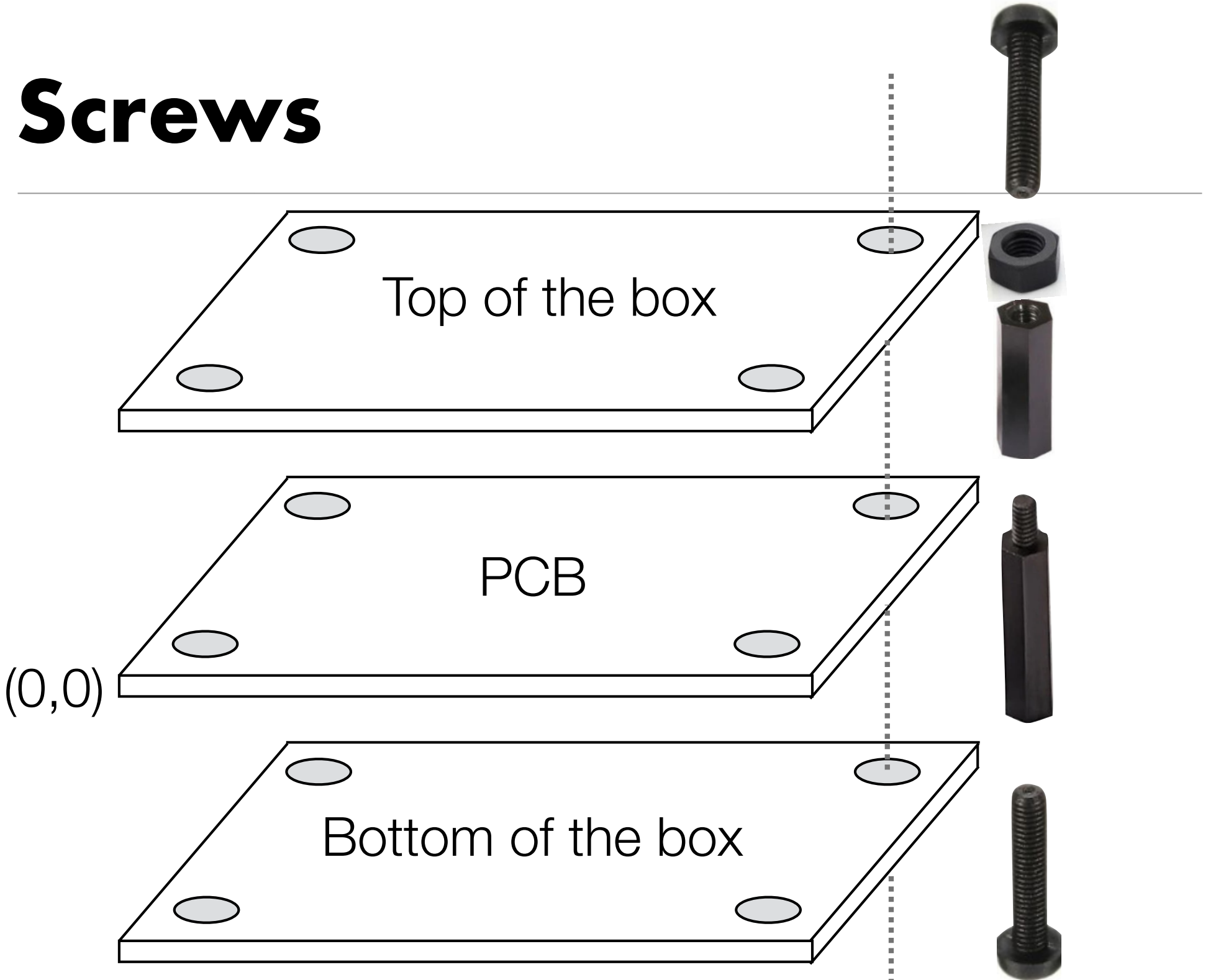
PCB



Distance top / bottom



Screws



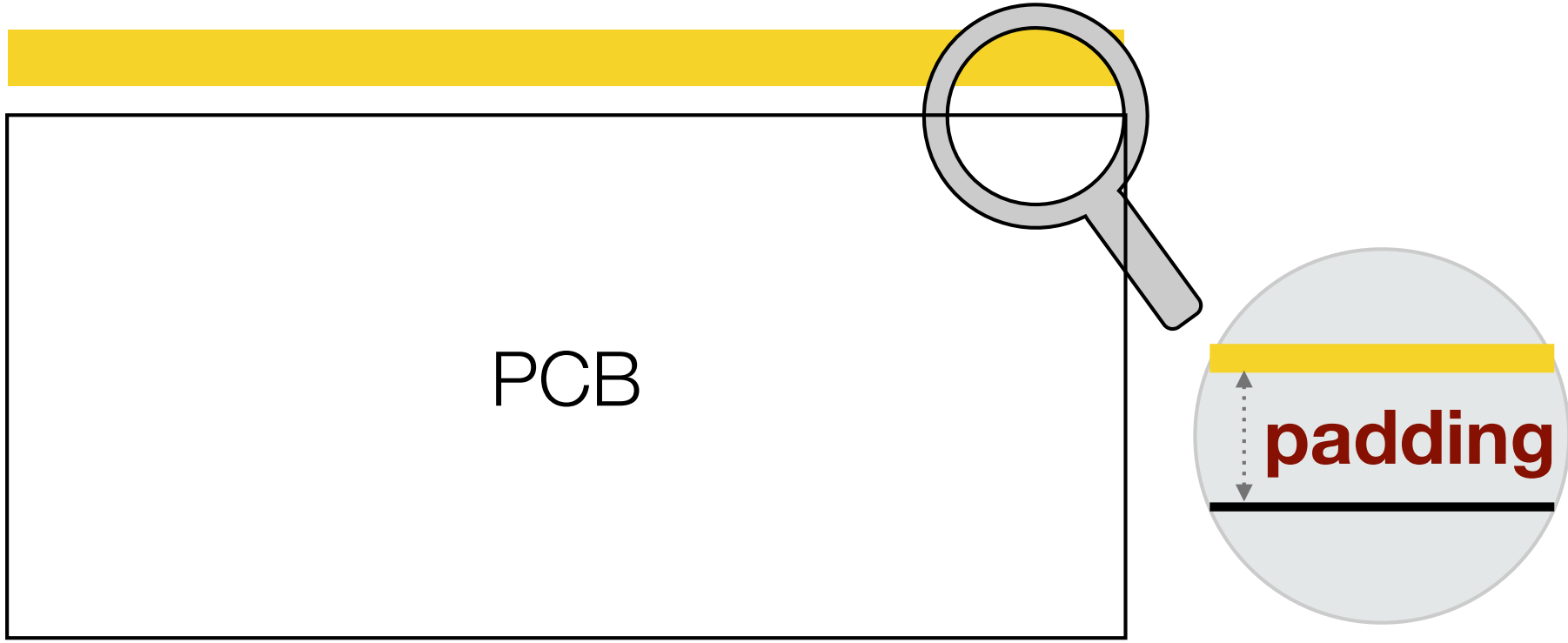
screws

```
screws=[
    [5,5],
    [10,70],
    [85,15],
    [80,60]
],
screwDiameter=3,
```

- array of X / Y
- unlimited number of holes
- allows to fix the PCB
- holes on top and bottom
- should specify diameter

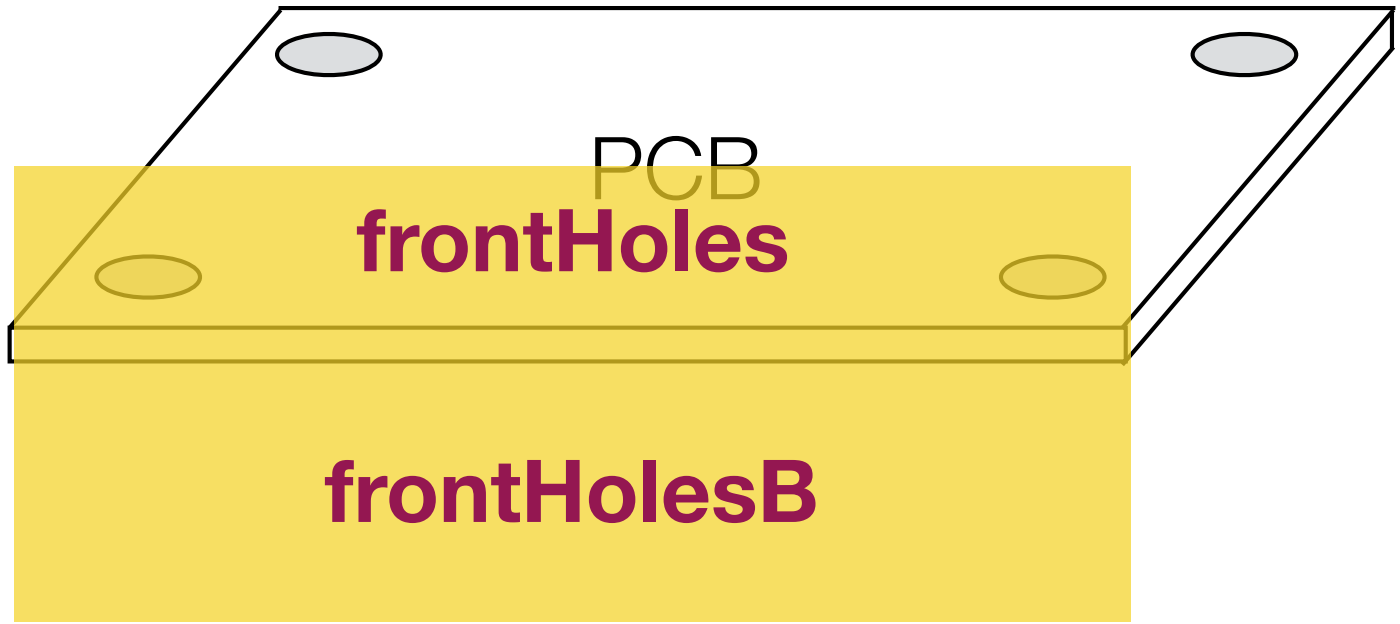
padding

- Distance between PCB and side walls



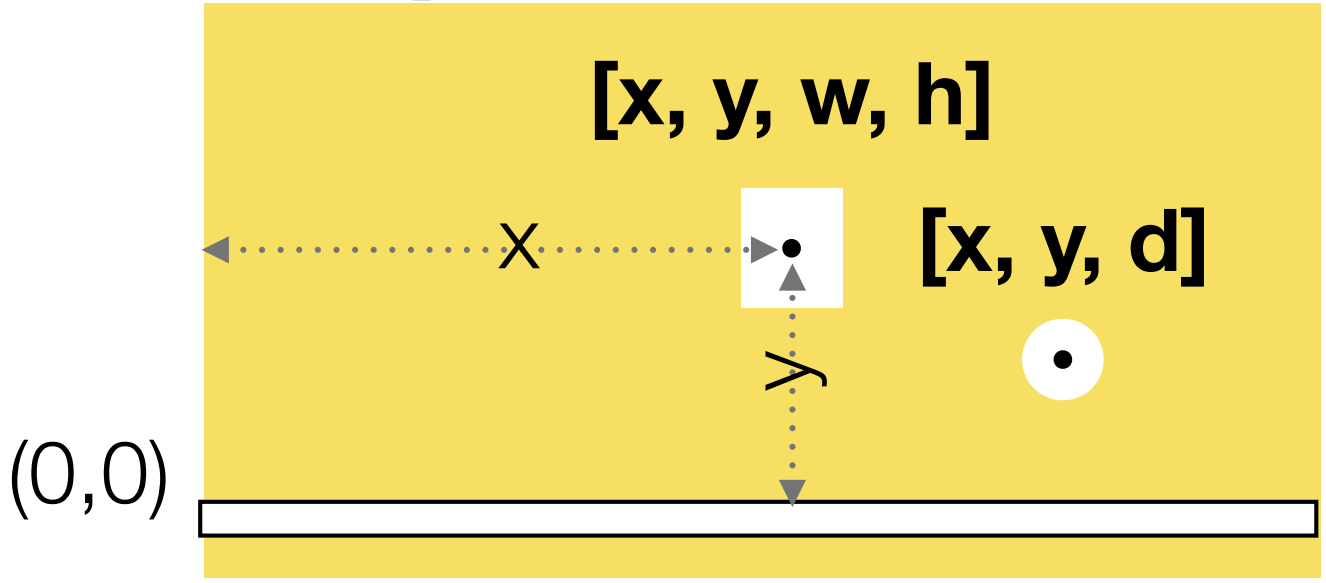
Front and holes

- 2 parts: over the PCB and under the PCB



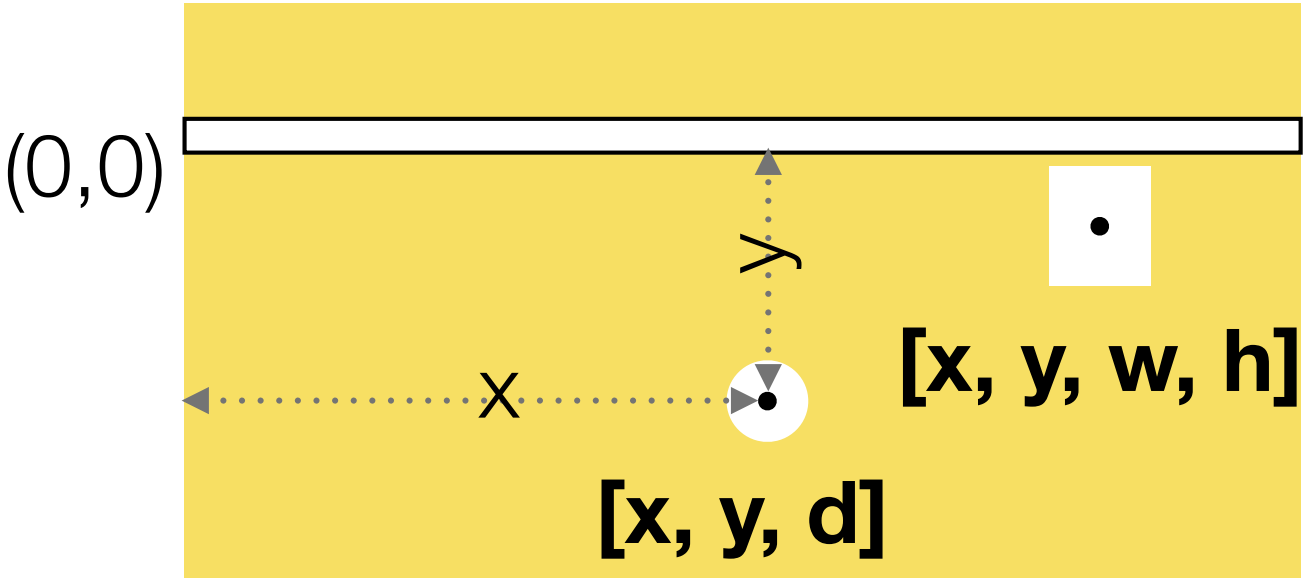
frontHoles

- [x, y, w, h]: centered rectangle
- [x, y, d]: centered circle of diameter d
- (0,0) is top left of PCB

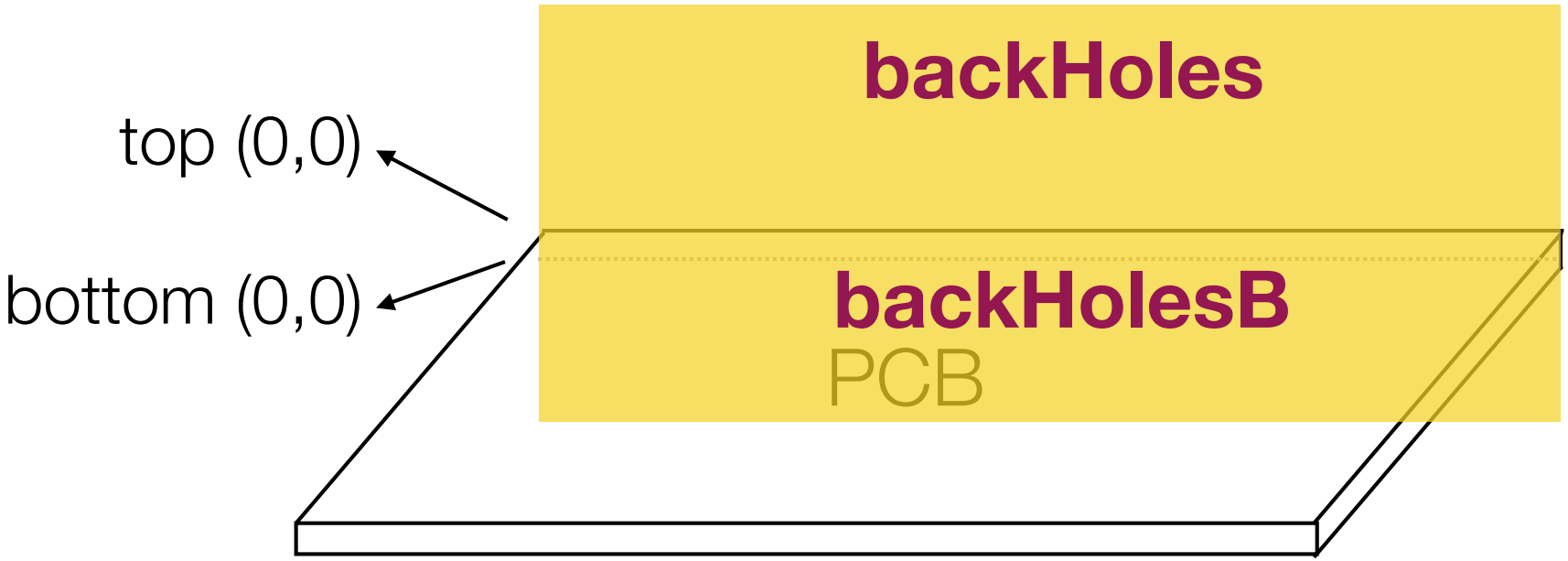


frontHolesB (bottom)

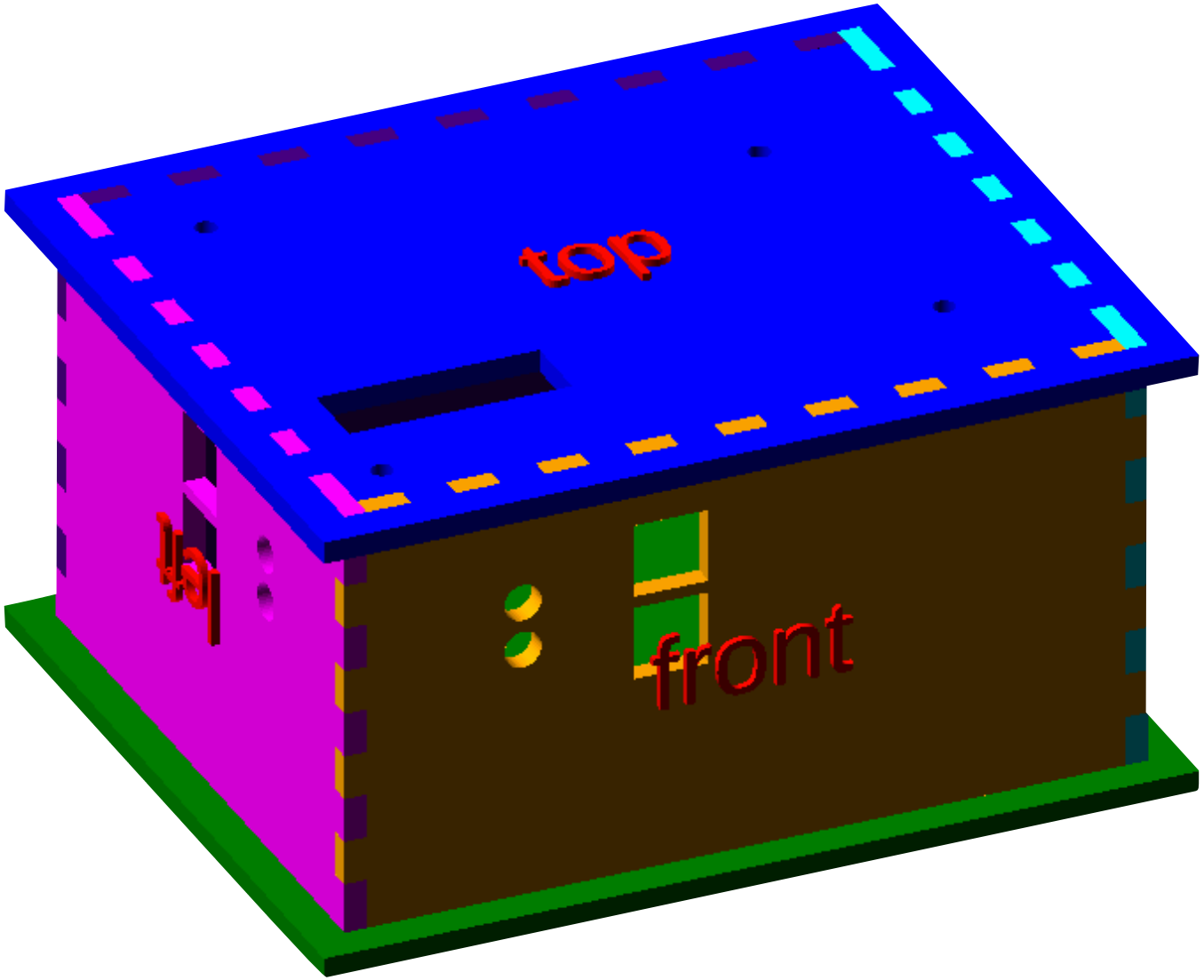
- [x, y, w, h]: centered rectangle
- [x, y, d]: centered circle of diameter d
- (0,0) is top left of PCB
- y > 0 !



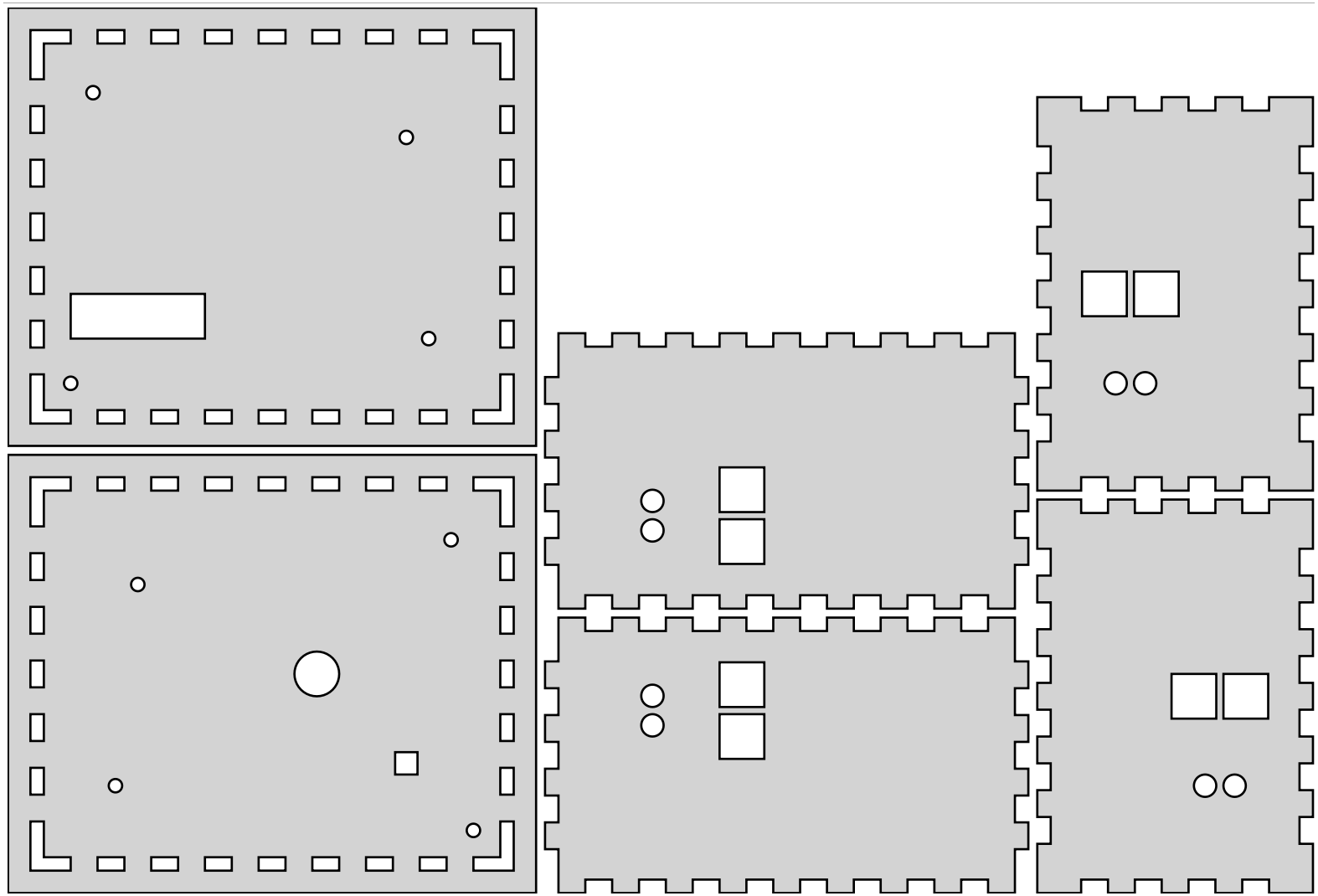
Back



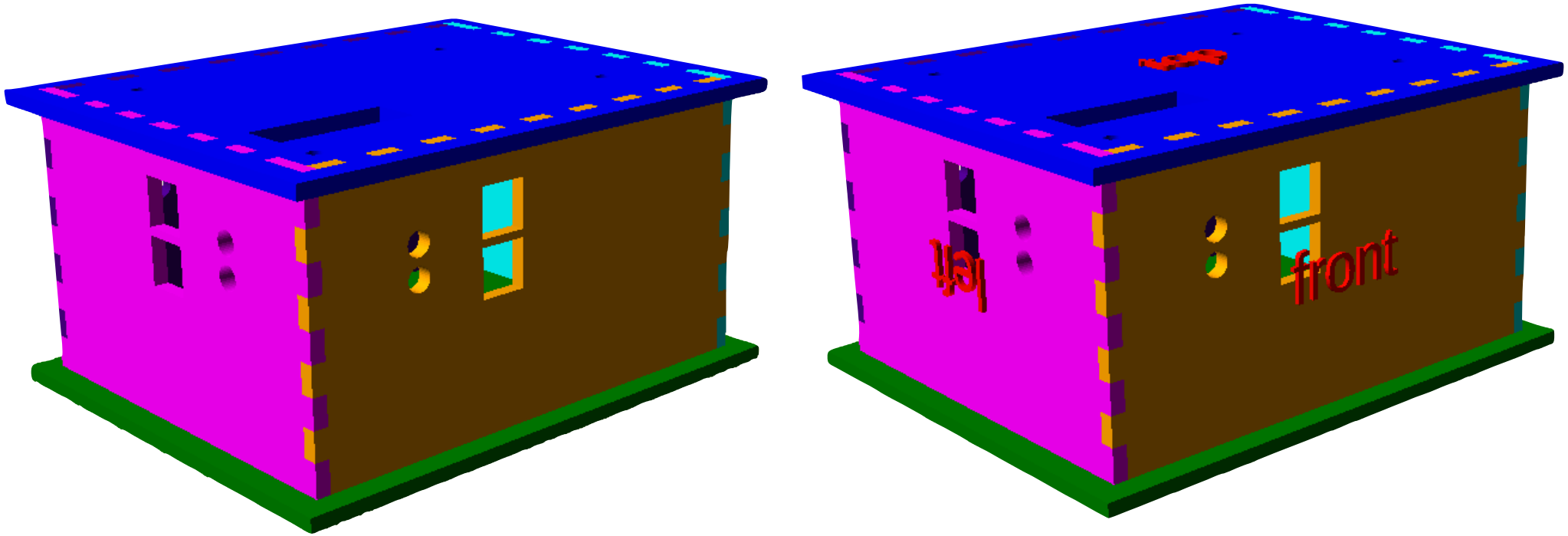
3d=true



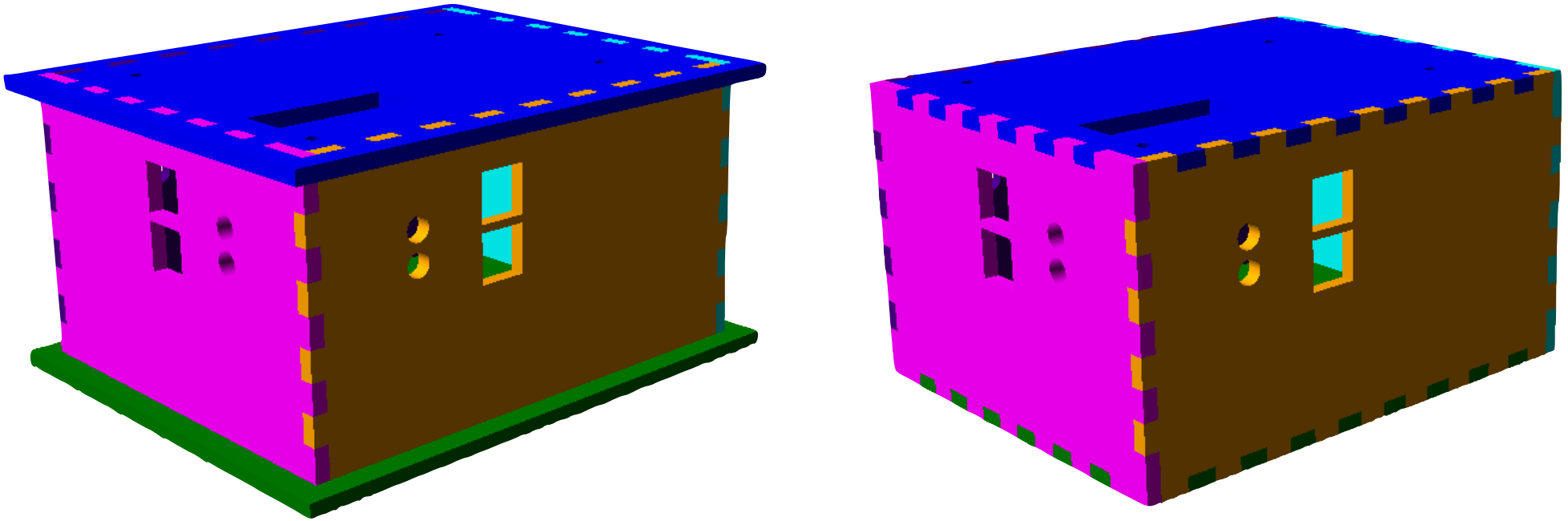
3d=false



showLabels=false / true



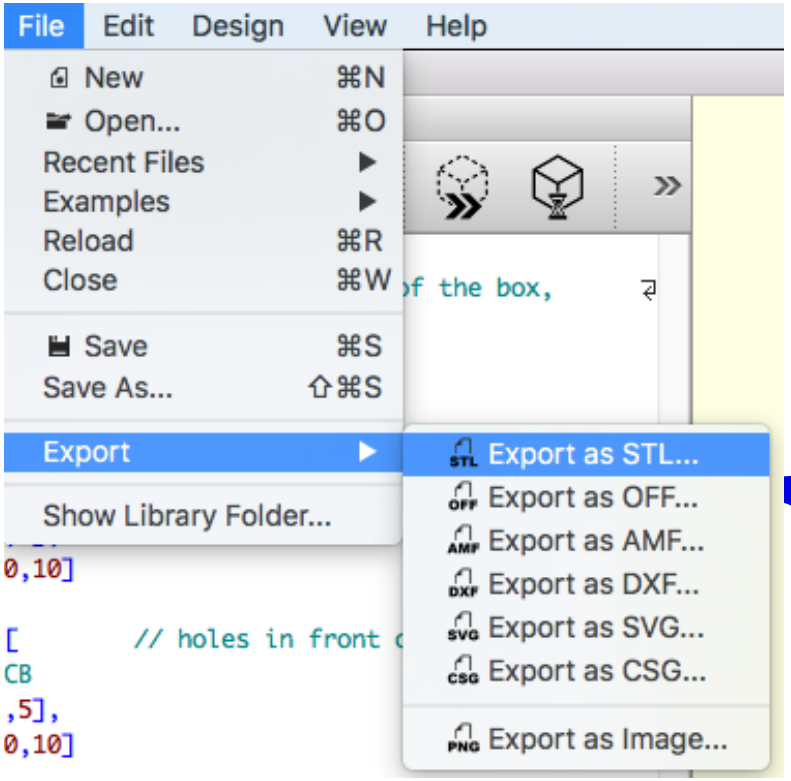
extend=10 / 0

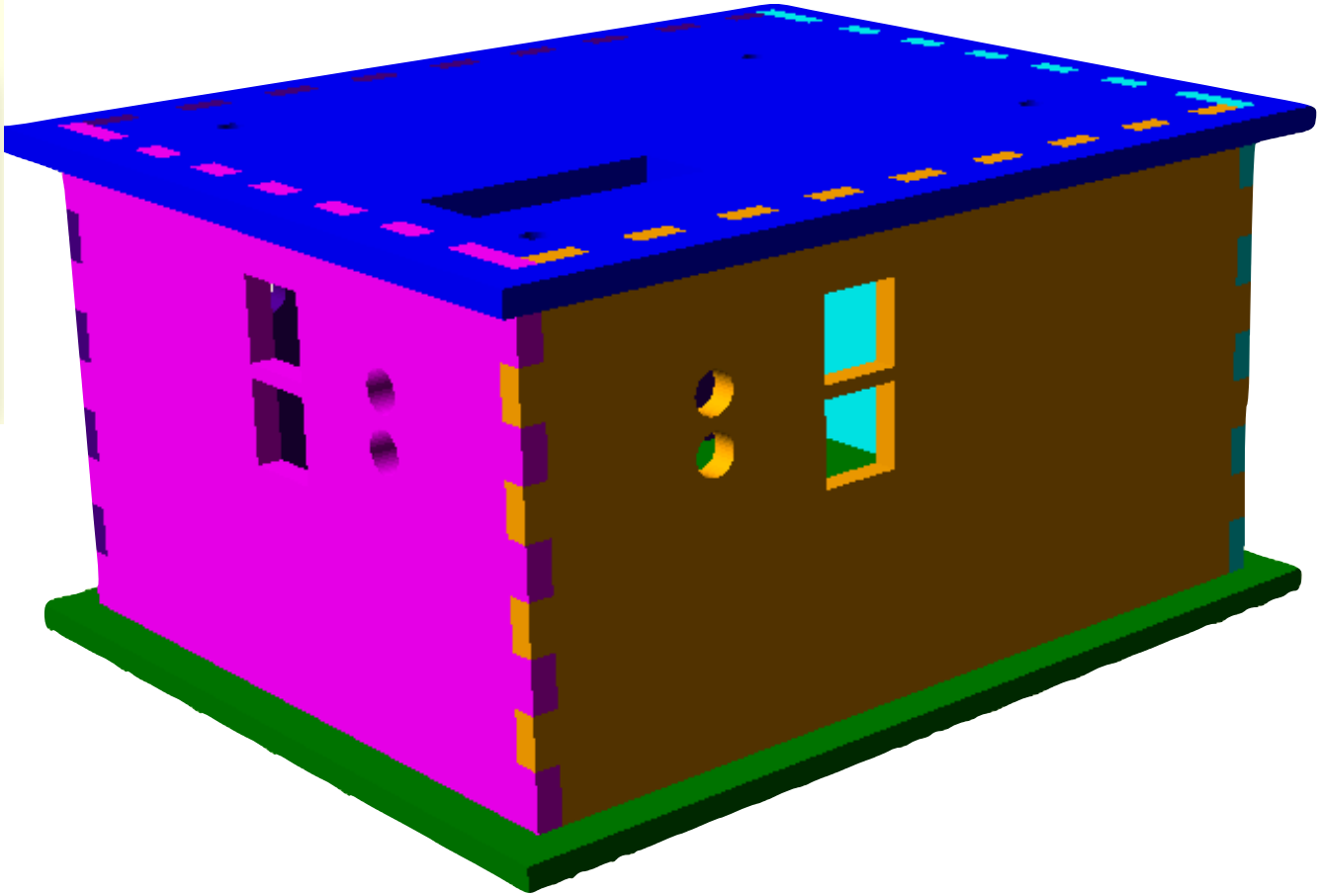


Exportation

3

export STL for 3D printing





export DXF for laser cutting