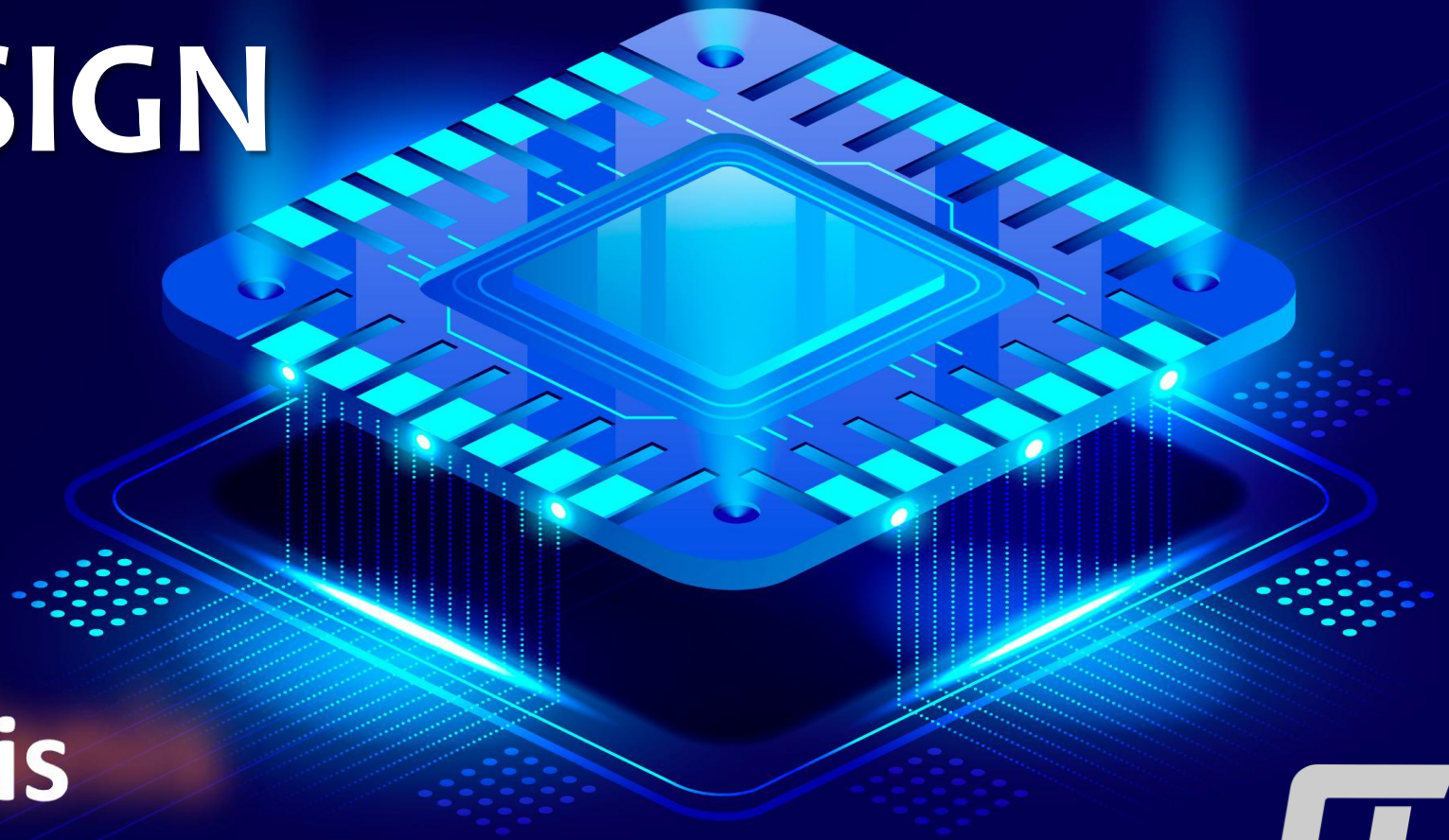
PRINTED CIRCUIT BOARD DESIGN



By:

Mohamed Yanis Hiou

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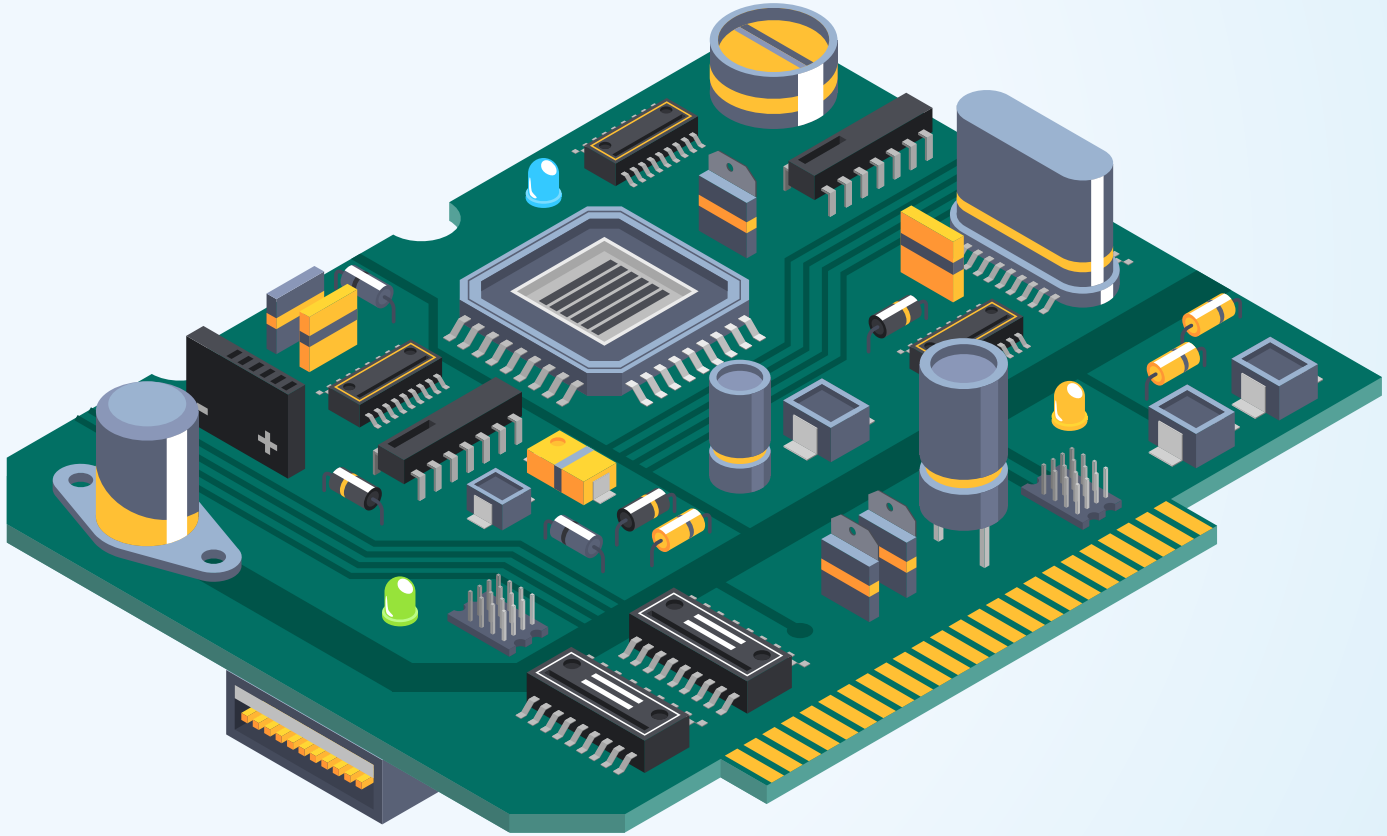
What is a PCB?



A Printed Circuit Board is

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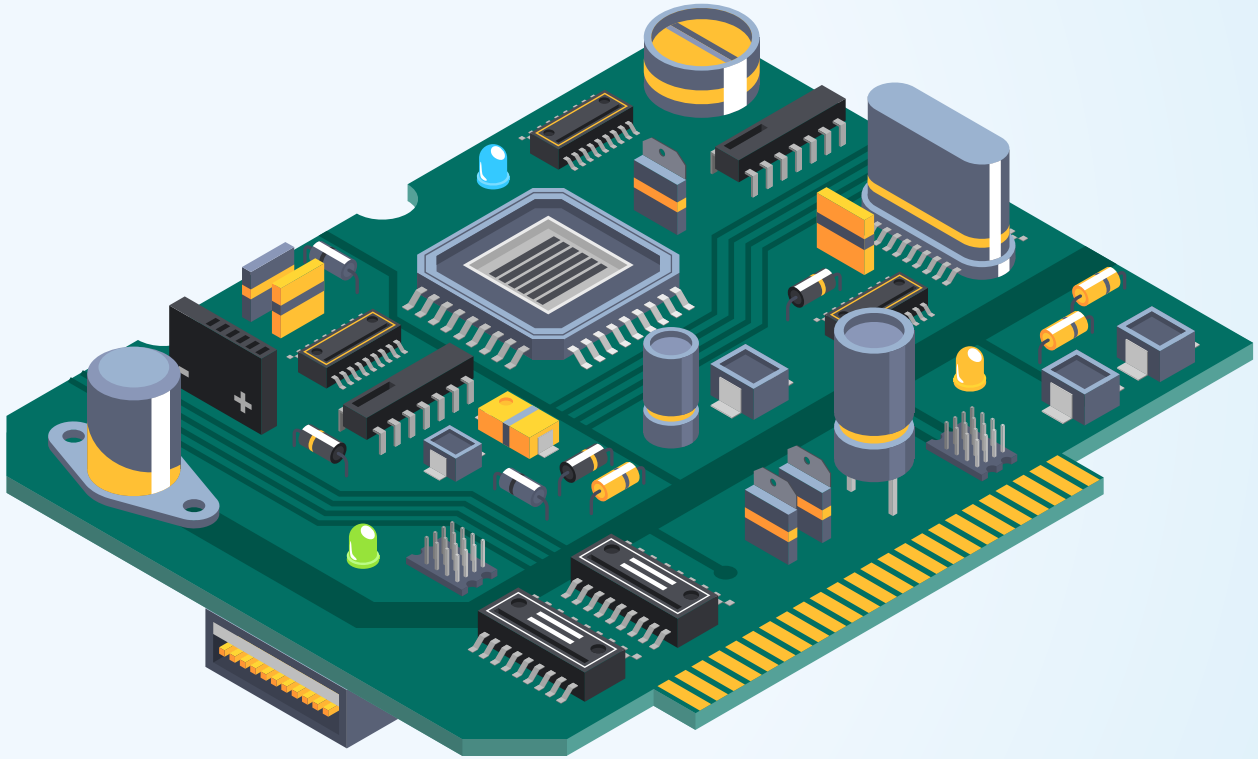
A printed circuit board (PCB) is an electronic assembly that uses copper conductors to create electrical connections between components.

A printed circuit board can have multiple layers of copper which almost always are arranged in pairs.



Why PCBs?

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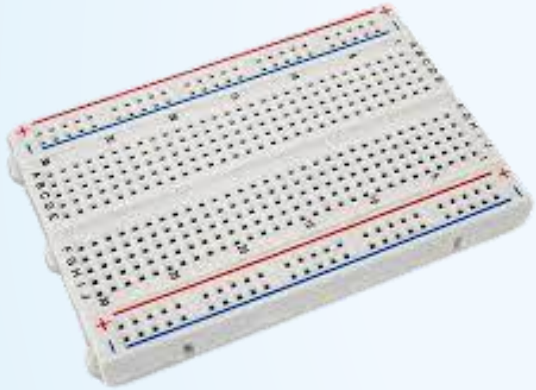
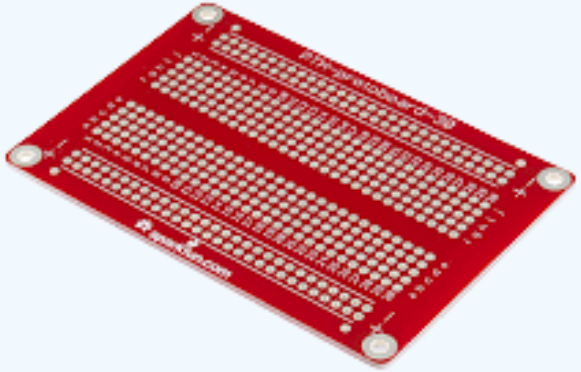
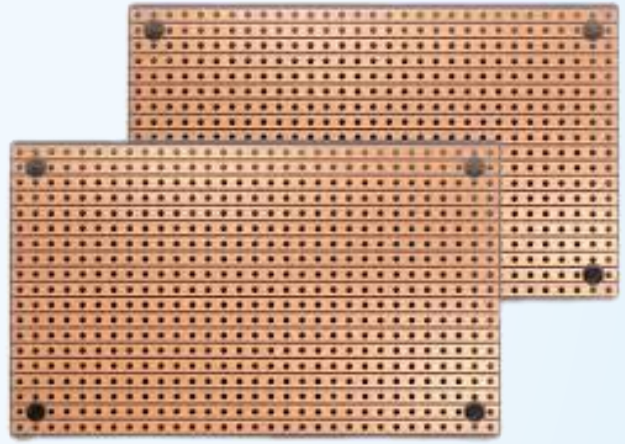
A PCB offers a solid surface on which to mount components that make up an electronic equipment, in an organized and orderly manner.







Where Do We Find PCBs?

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Everywhere!

PCB Fabrication Process

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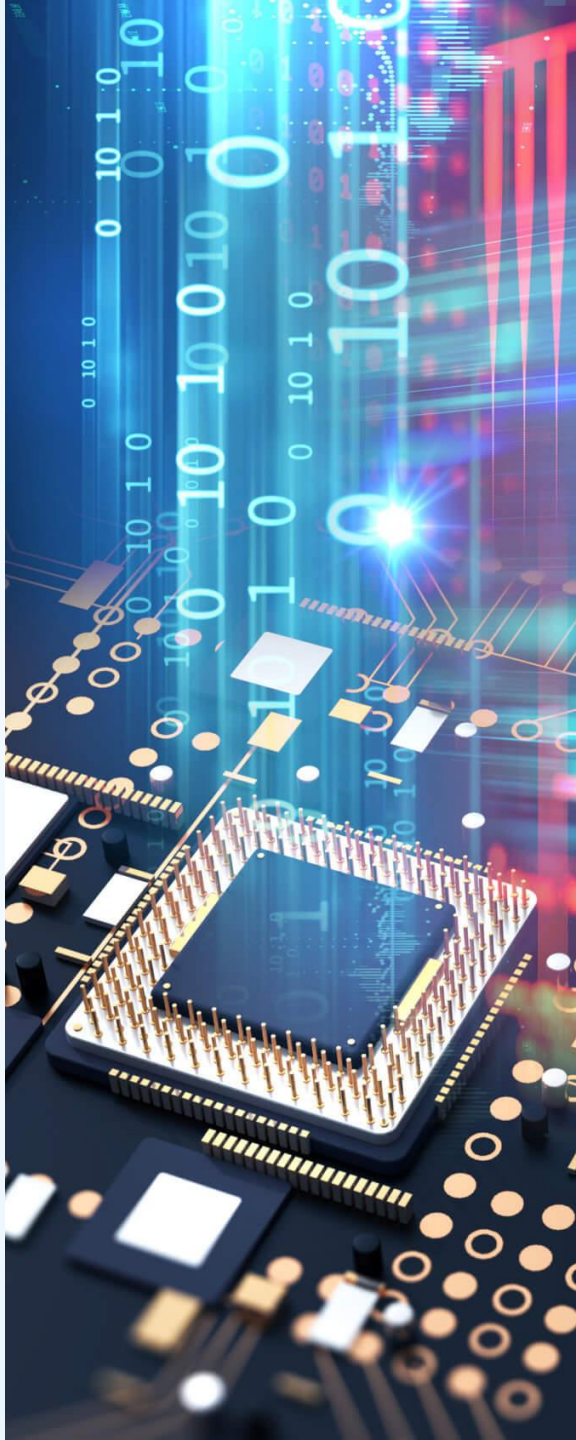
1) Design
2) Fabrication
3) Assembly
4) Testing



PCB Design

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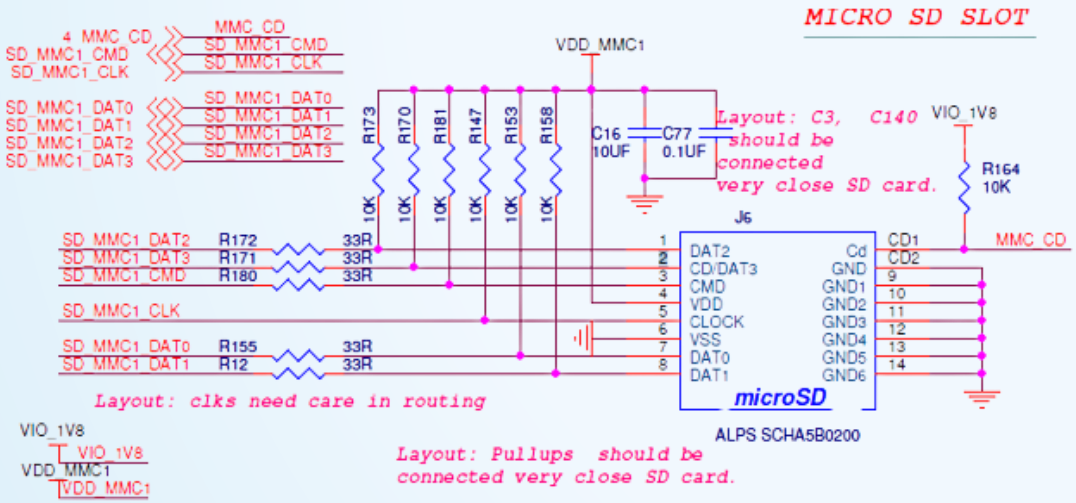
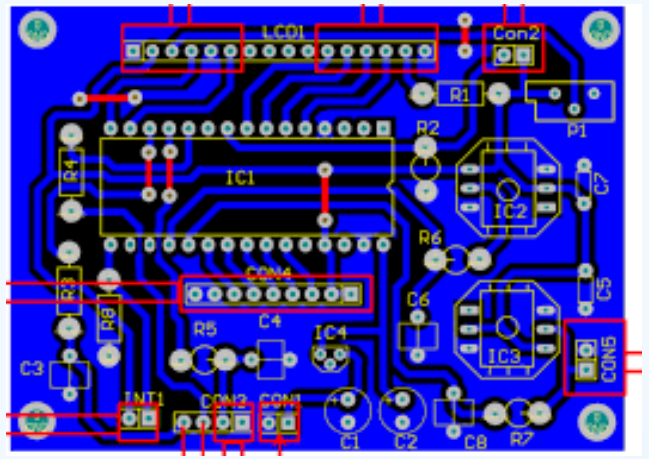
1) Schematics
2) ERC (Electrical Rule Check)
3) Footprint Assignment
4) PCB Layout
5) DRC (Design Rule Check)





PCB Design (Symbol / Footprint)

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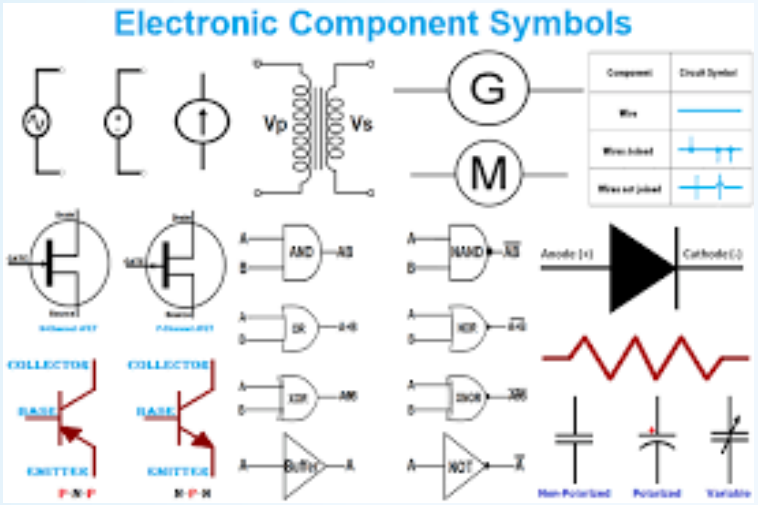

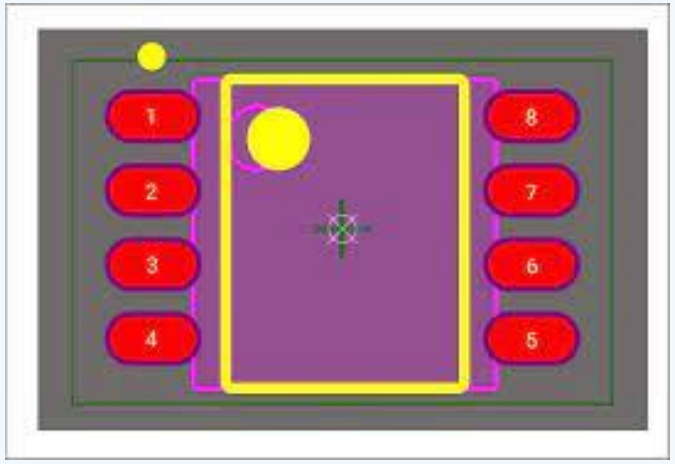

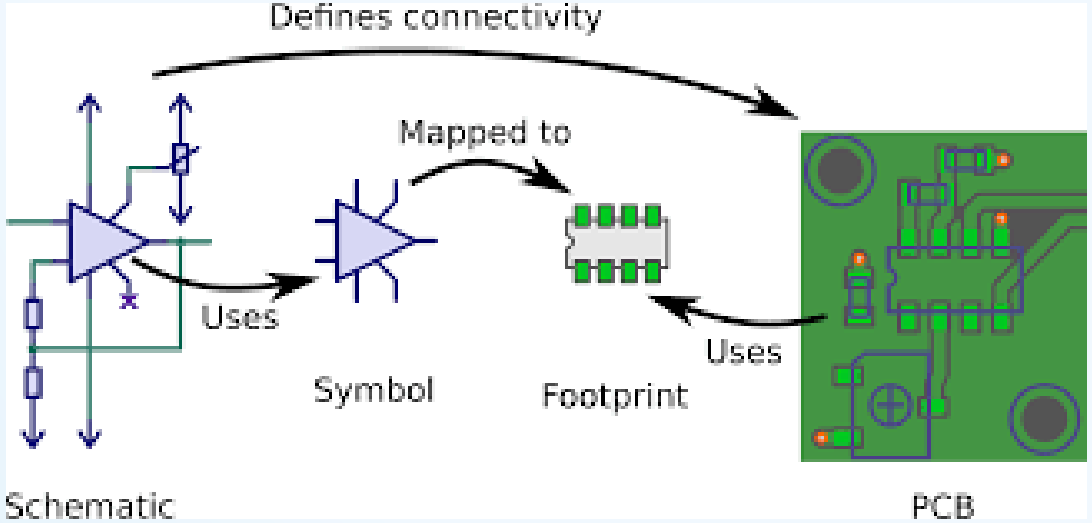

PCB Stackup

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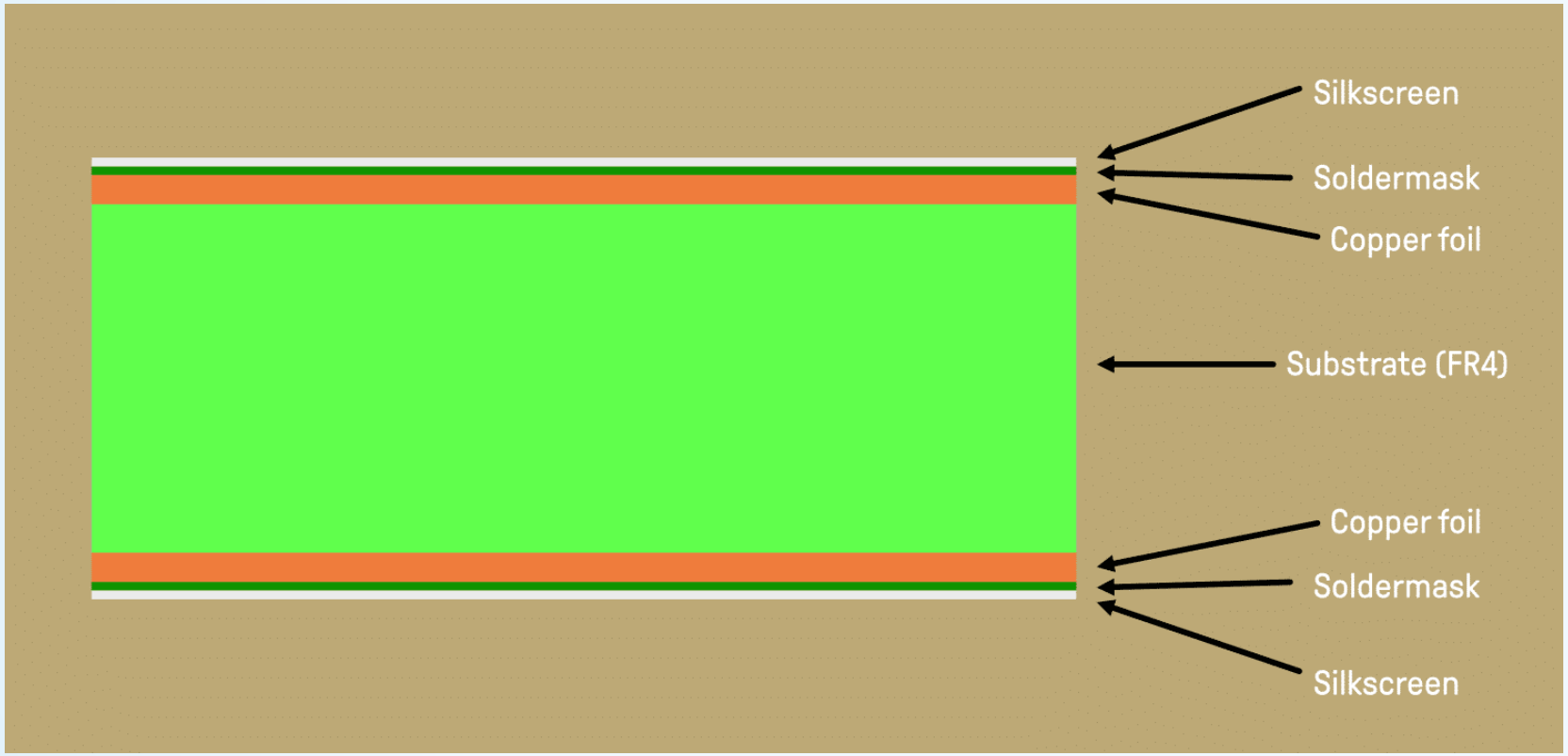

PCB Stackup

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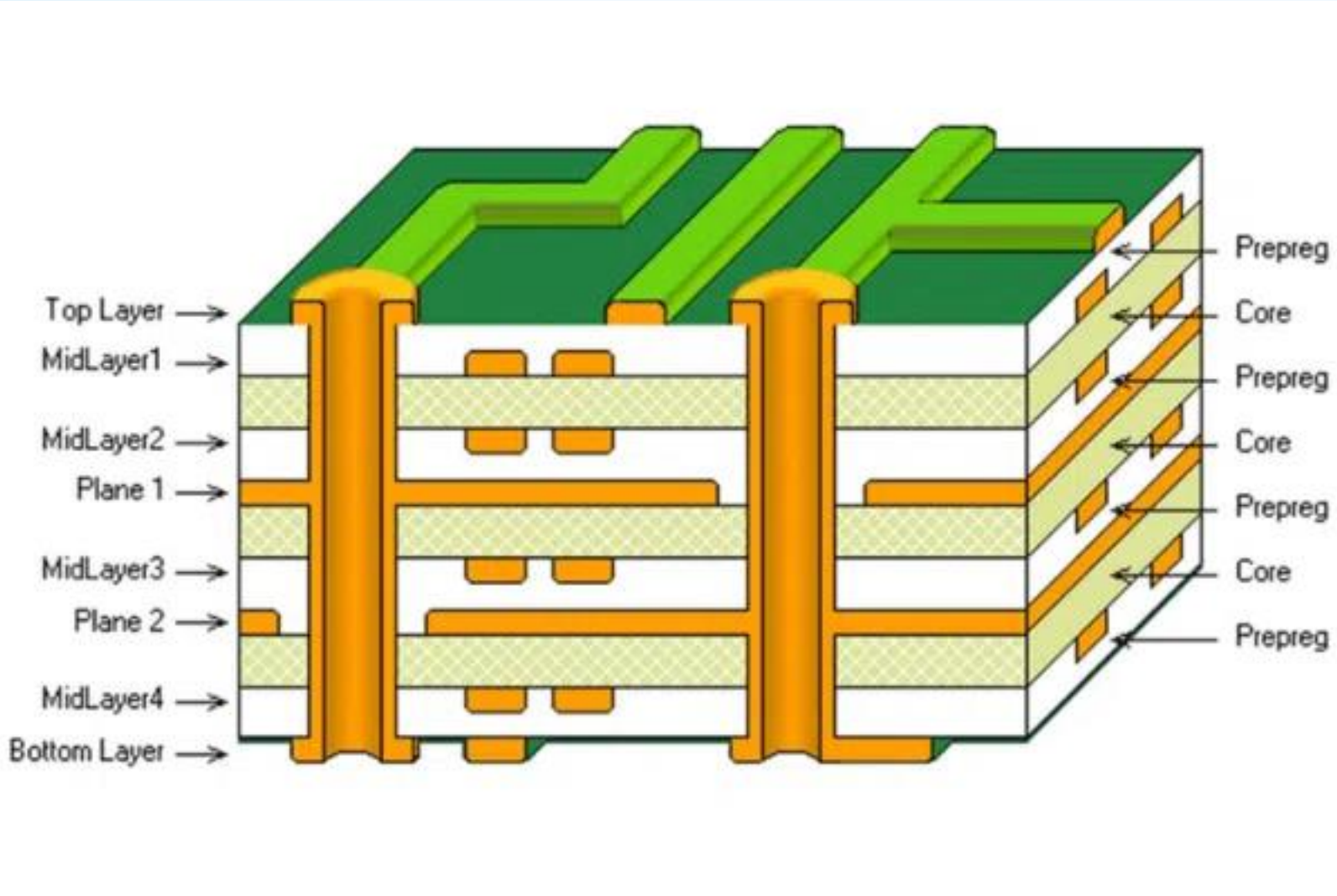

Components Types

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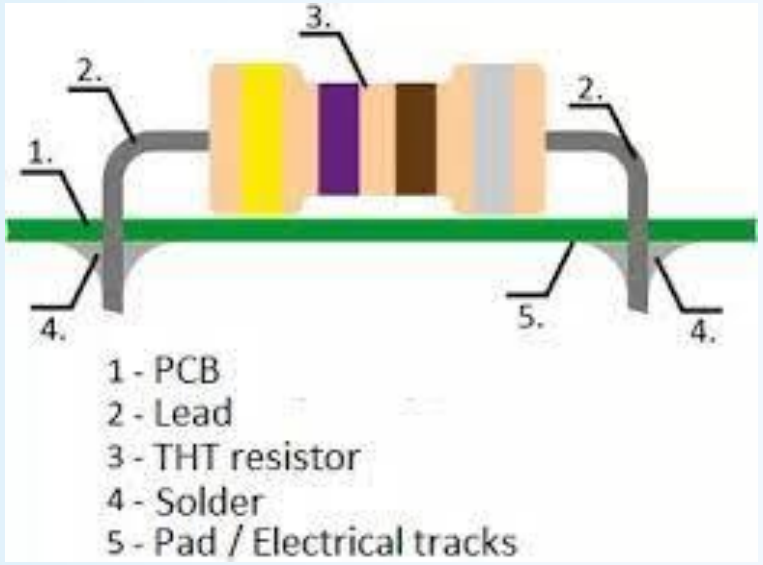
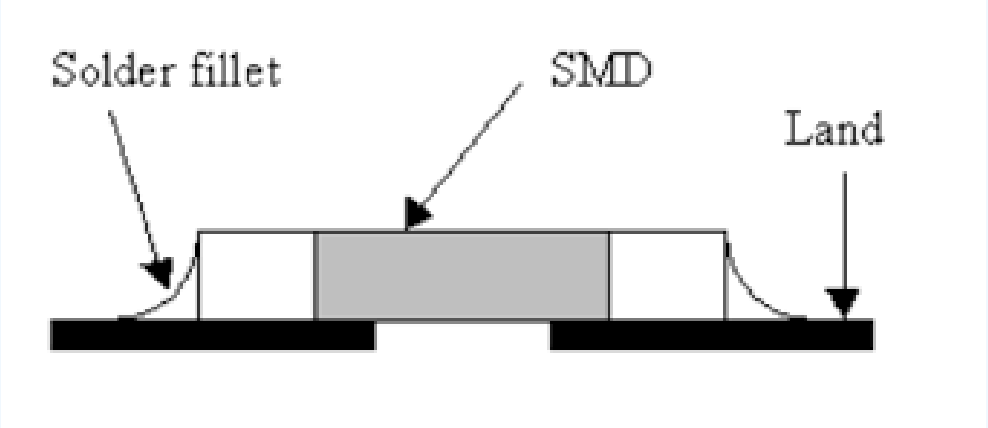
THT and SMT are the two major types of mounting technology for PCB. These technologies are used in mounting electronic components on circuit boards.

Components Types





Packages

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Software

ELECTRO CLUB

EasyEDA

KiCad

ALTIUM DESIGNER

EAGLE

Xpedition

SATURN

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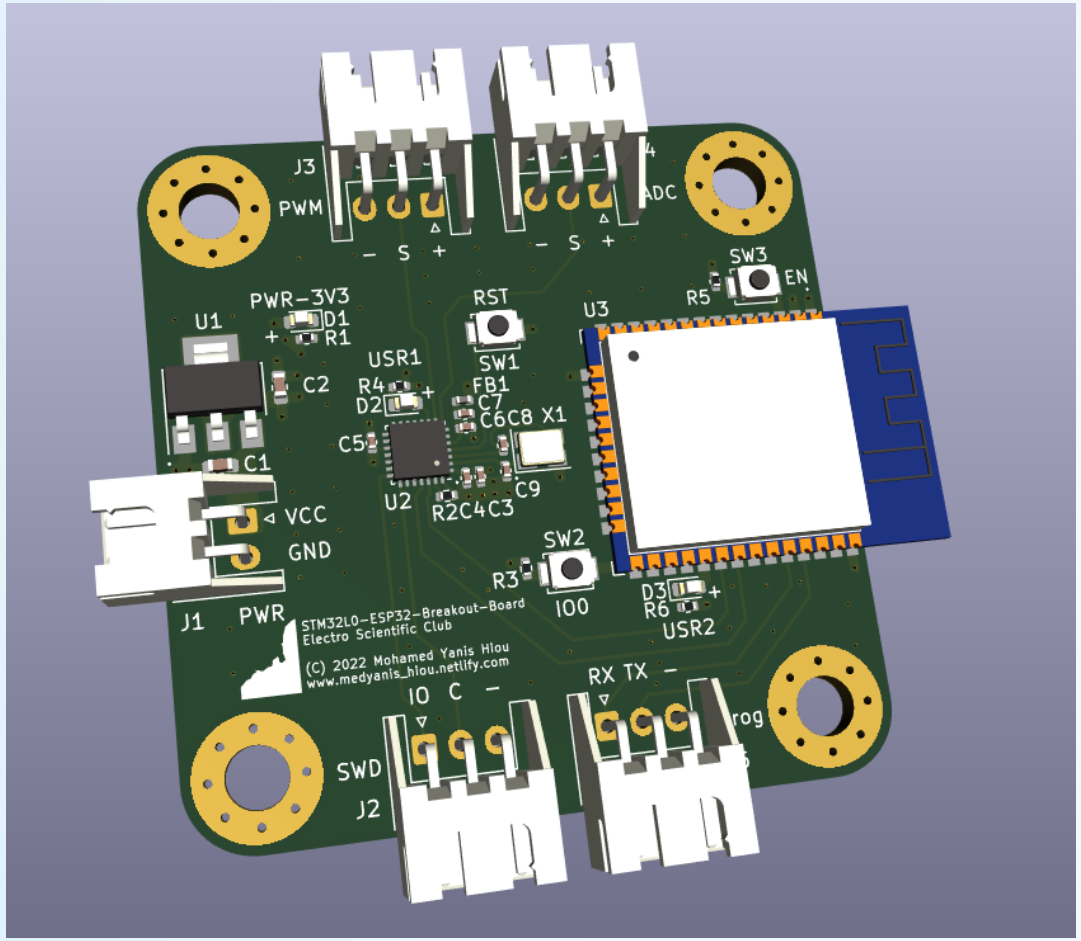
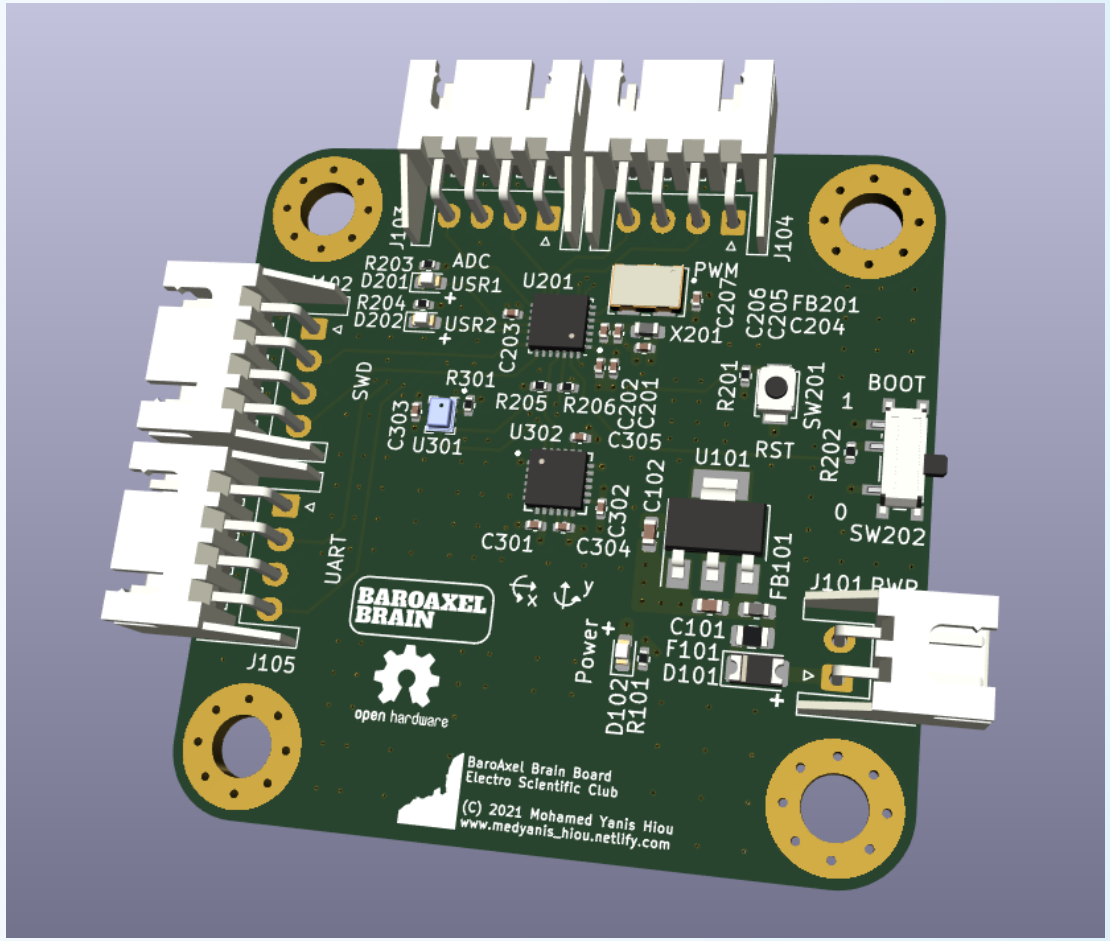
Let’s Make Our First PCB!!

Some Previous Work





Some Previous Work

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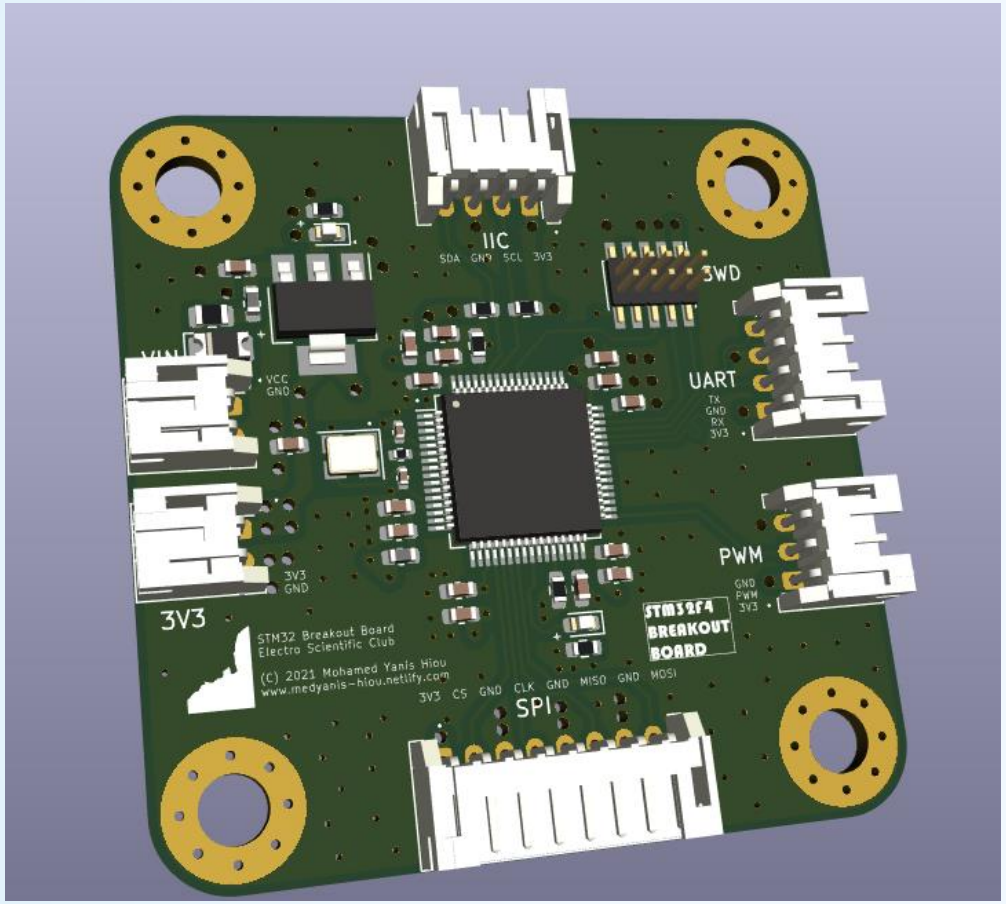

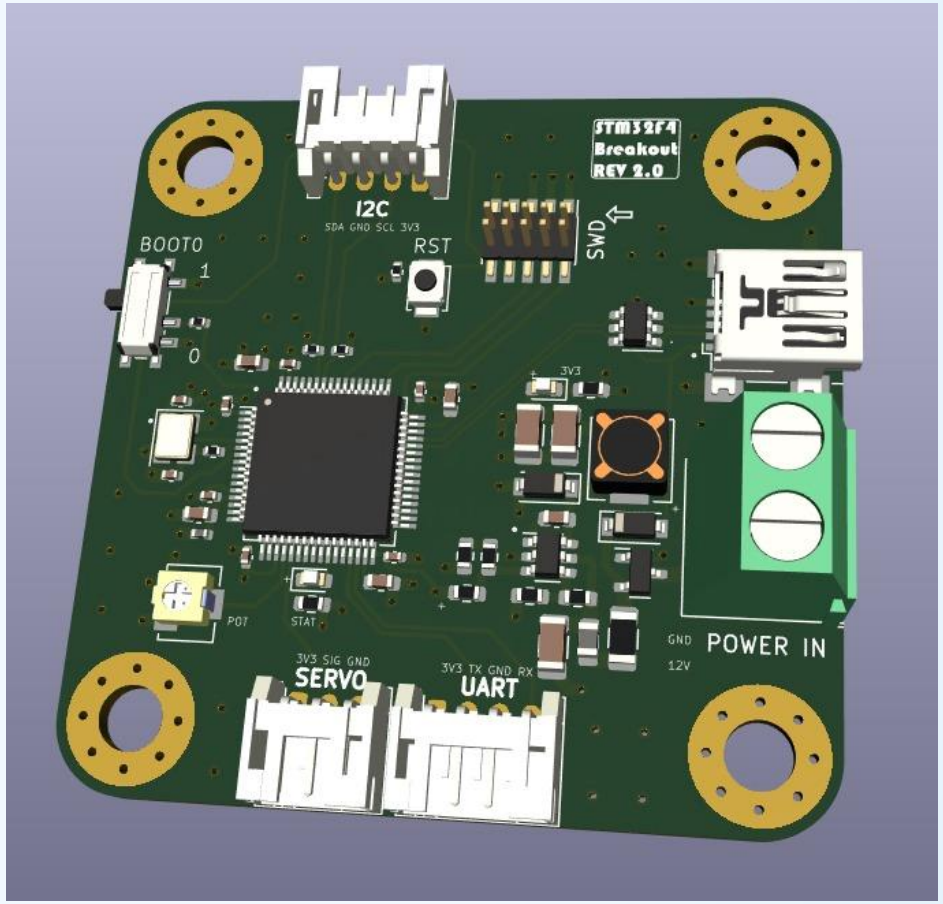

Some Previous Work

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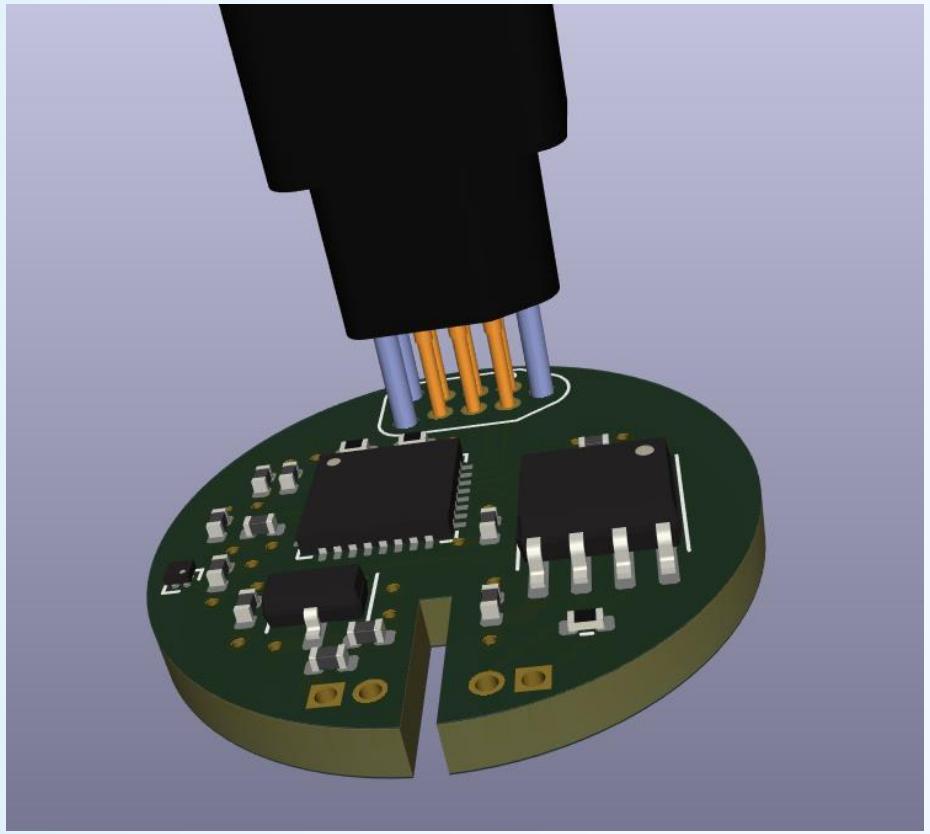

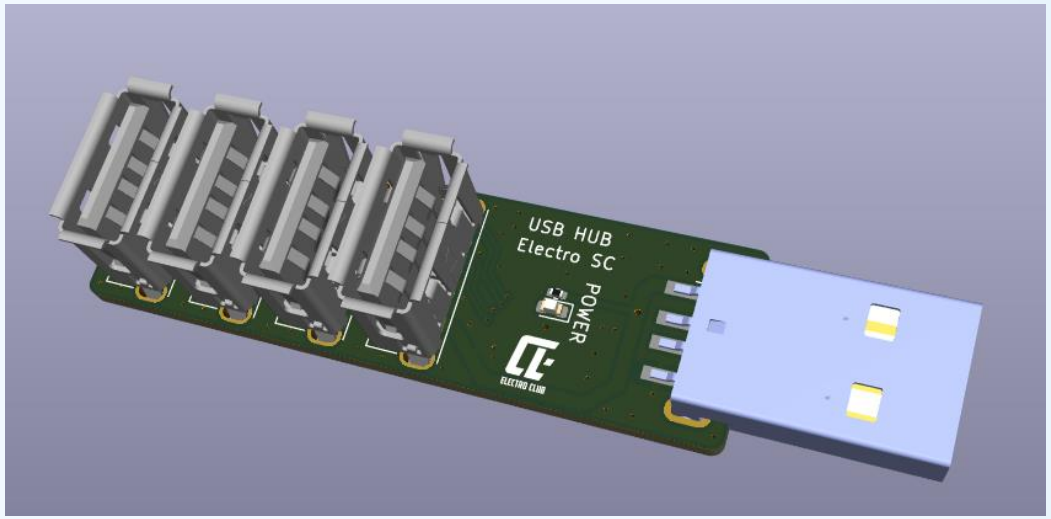

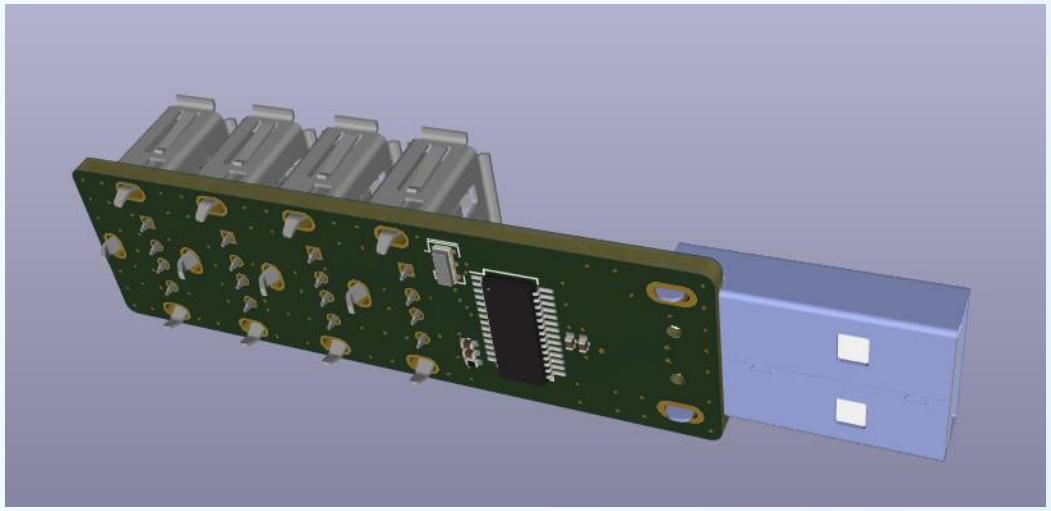

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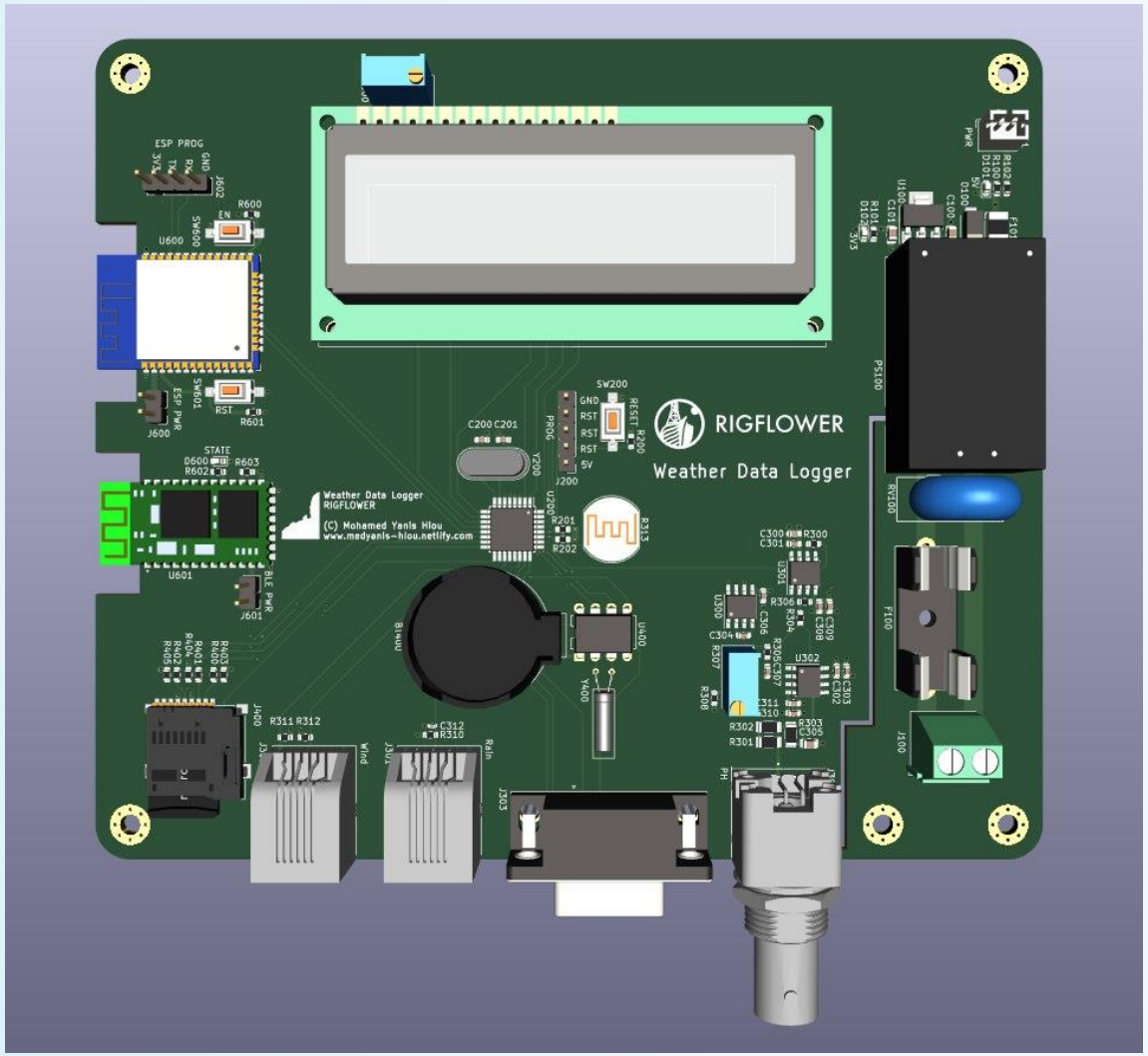

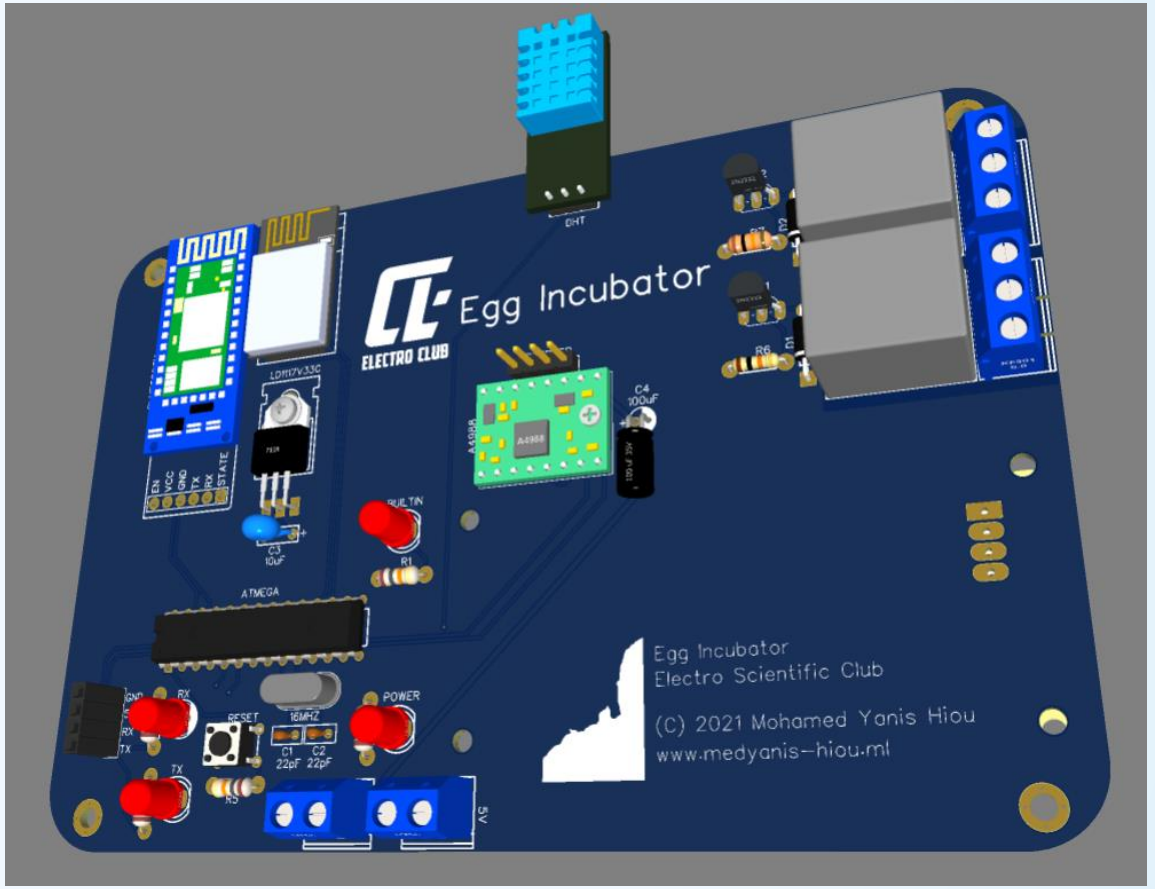

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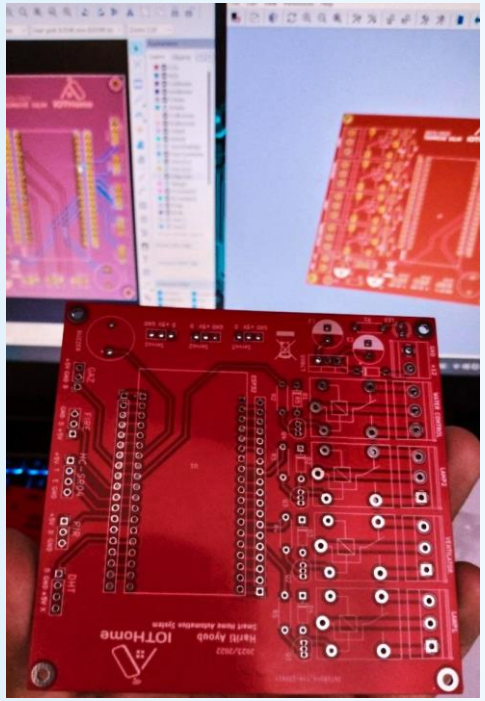

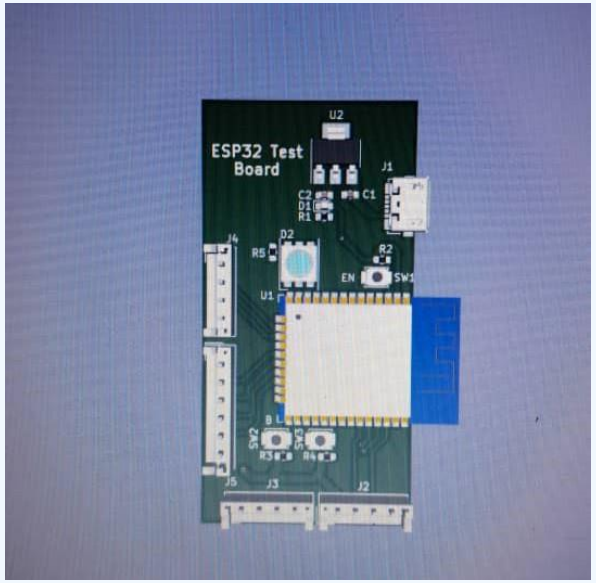

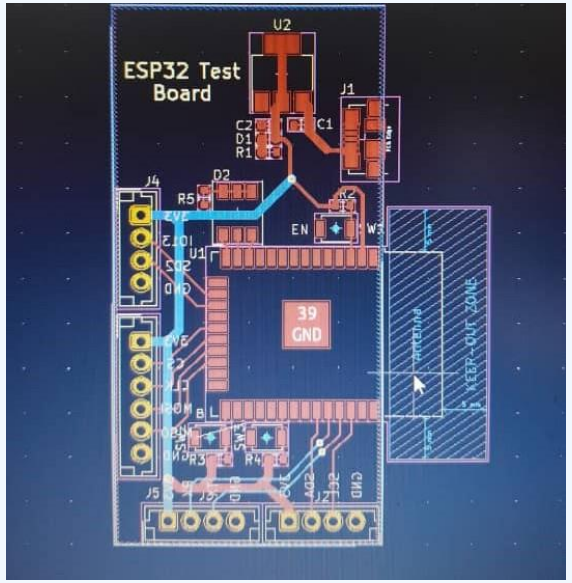

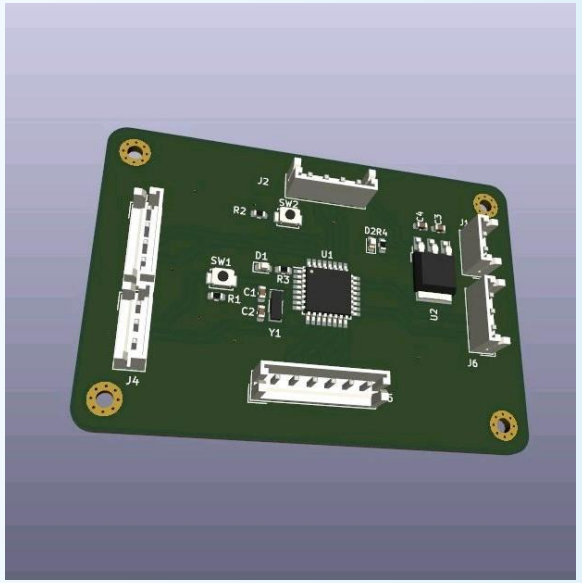

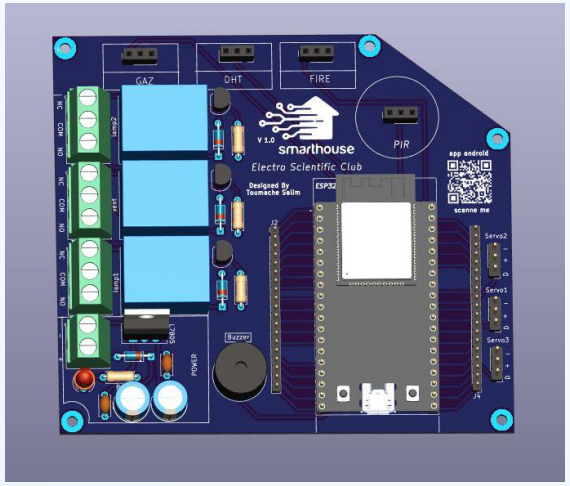

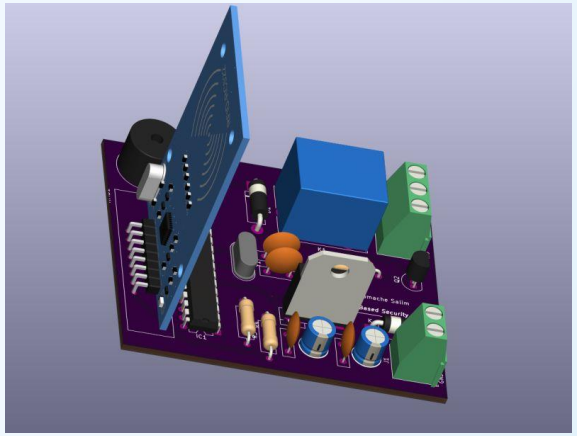

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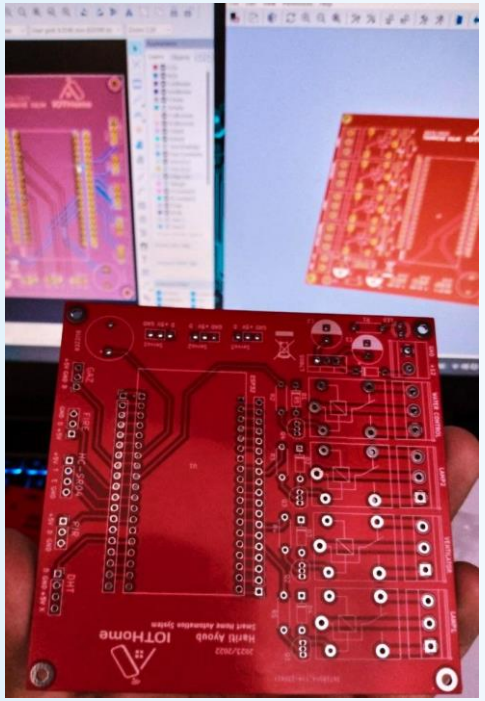

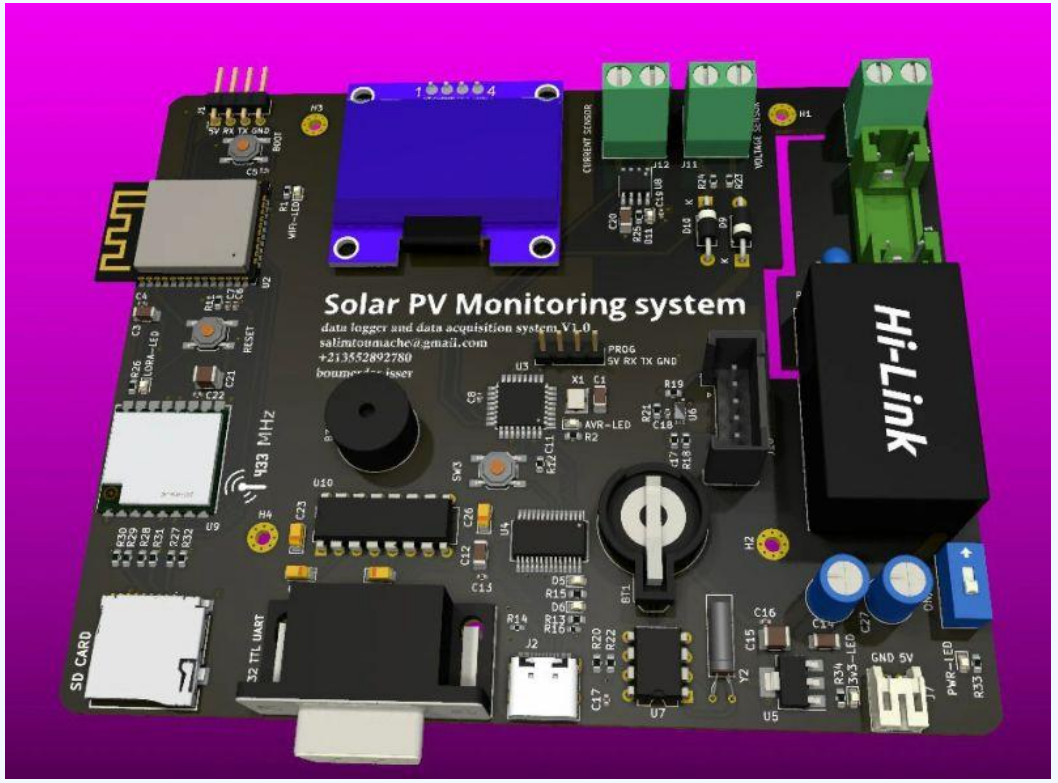

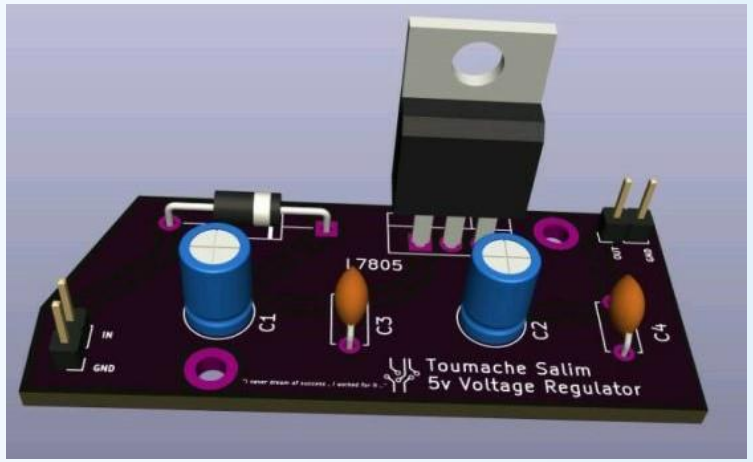

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Questions

Some Resources and Roadmaps!

https://tinyurl.com/mbed-roadmap

https://tinyurl.com/yanis-learning-folder

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