LEARN HOW TO USE EASYEDA

Design and Order Professional PCB.

Abstract

This basic guide of EasyEDA software will help you to create professional schematic of any circuit, prepare PCB and order it online from JLCPCB.

What Are Common Uses for PCB?

Because so many different sectors use PCBs, you can find them almost everywhere in everything from small consumer device to huge piece of machinery. Where are printed circuit board used? Here are the most common PCB applications by industry.

- Medical Equipment
- Consumer Electronics
- Industrial Equipment
- Automotive Components
- Aerospace Components
- Safety and Security Equipment
- Telecommunication Equipment
- Military and Defense Application

Aim for this guide is:
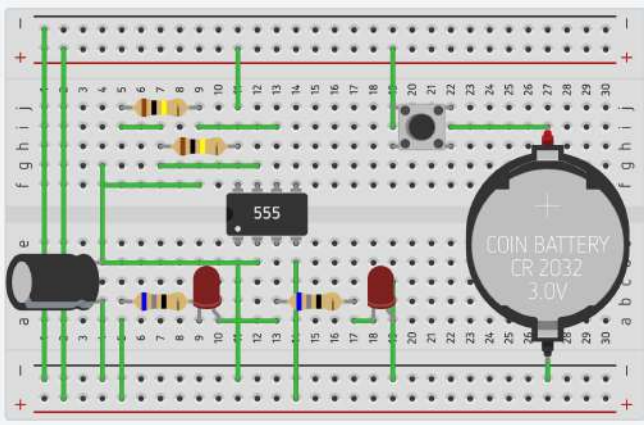
To be able to convert a prototype circuit
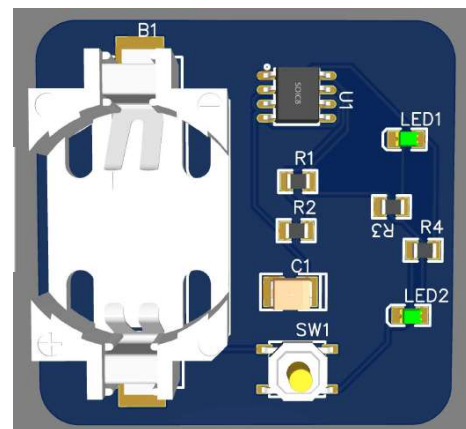
To a professional PCB with all components on it.

# Create an EasyEDA Account and Create a New Project

Welcome to EasyEDA, a great web based on EDA (Electronics Design Automation) tool for electronics engineers, educators, students, makers and enthusiasts.

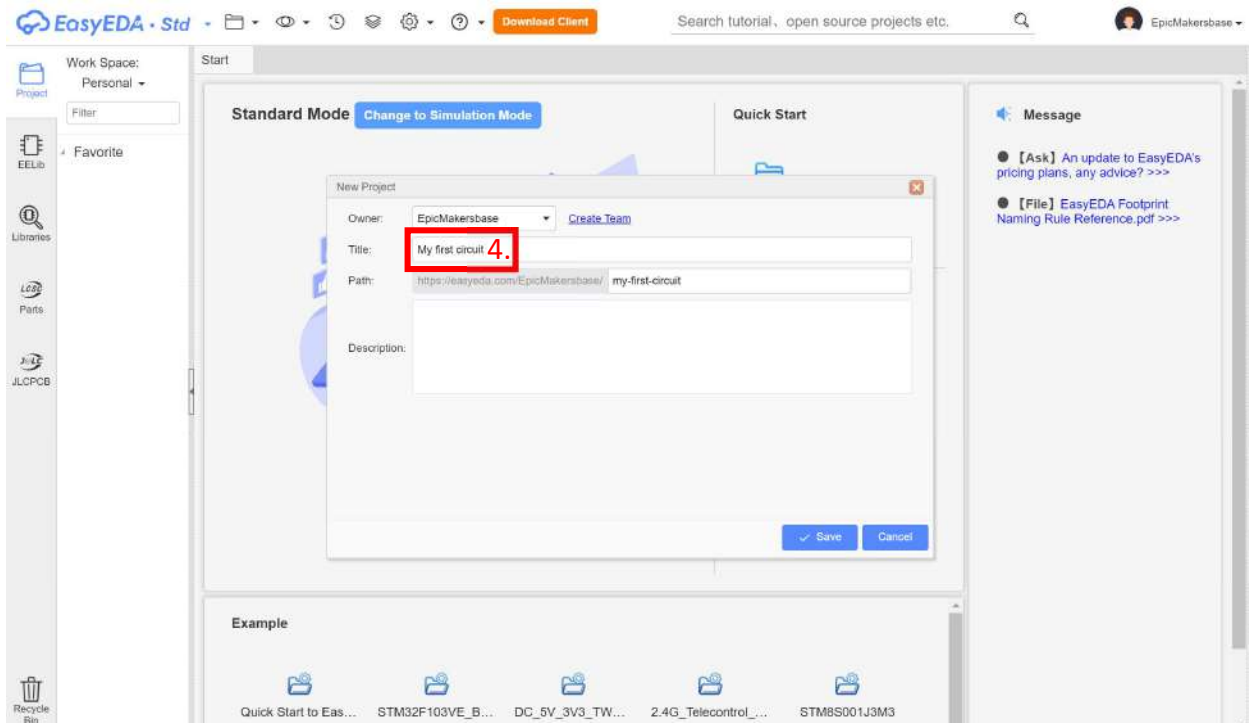There is no need to install any software. Just open EasyEDA in any HTML5 capable, standards compliant web browser. https://easyeda.com/

EasyEDA main page.

1. Register to create a new account on EasyEDA.
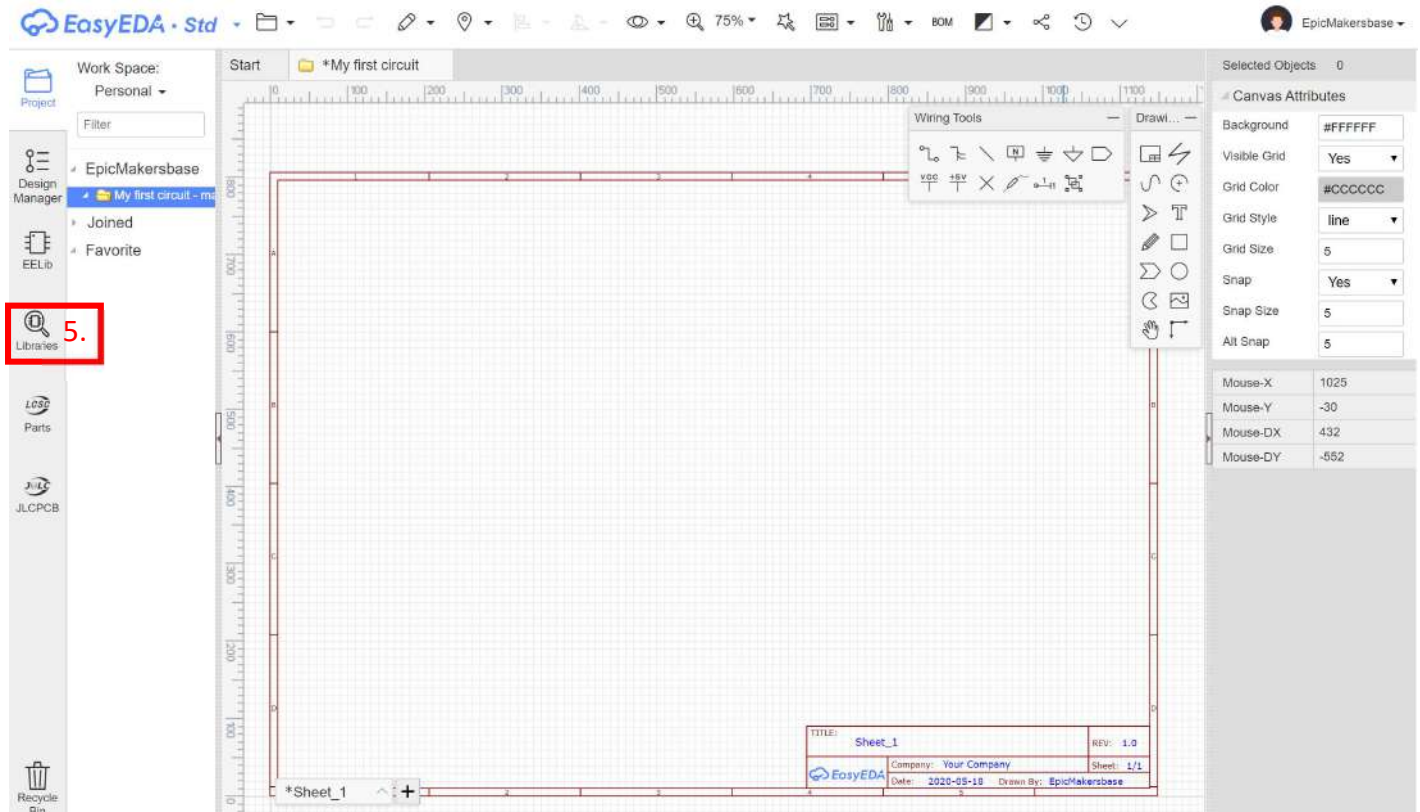2. After successful login, click on EasyEDA Designer button.
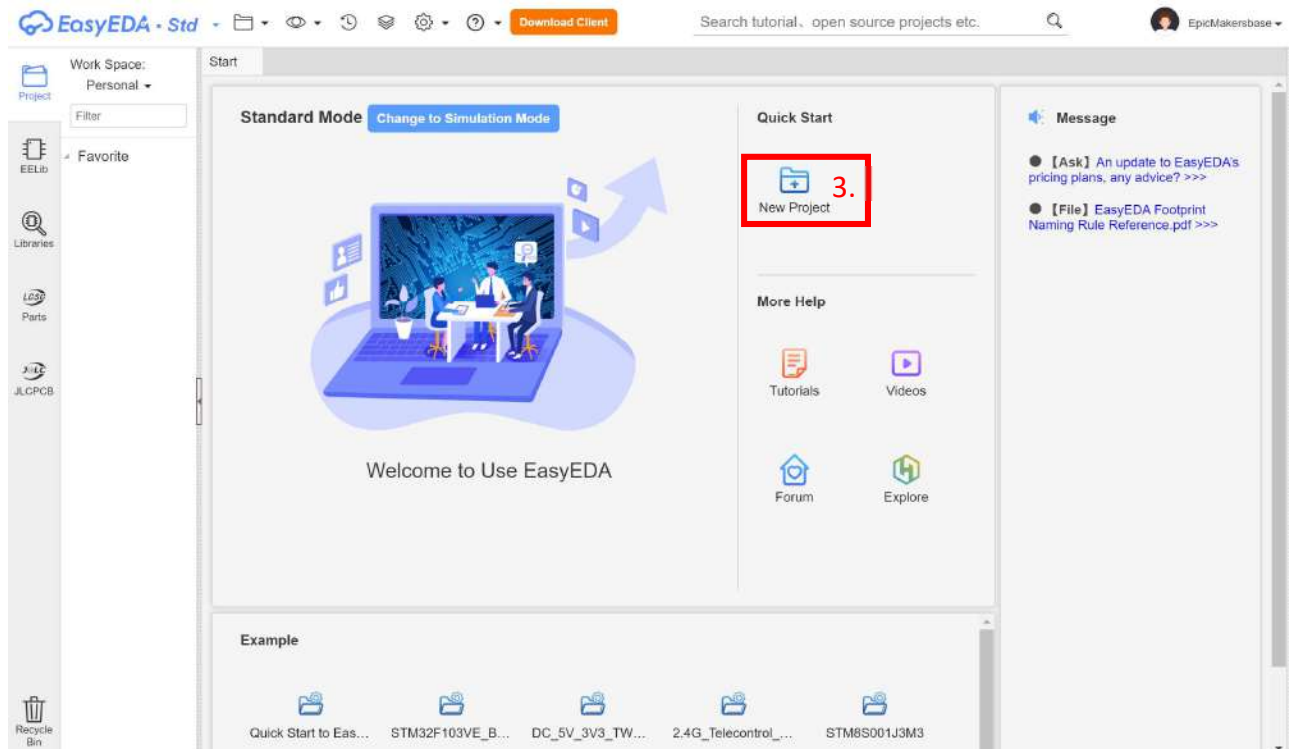
Empty workspace.

3. Create new project.

4. Name your project and click save.

Create New Schematic and PCB

5.   Click on library to select components to add.
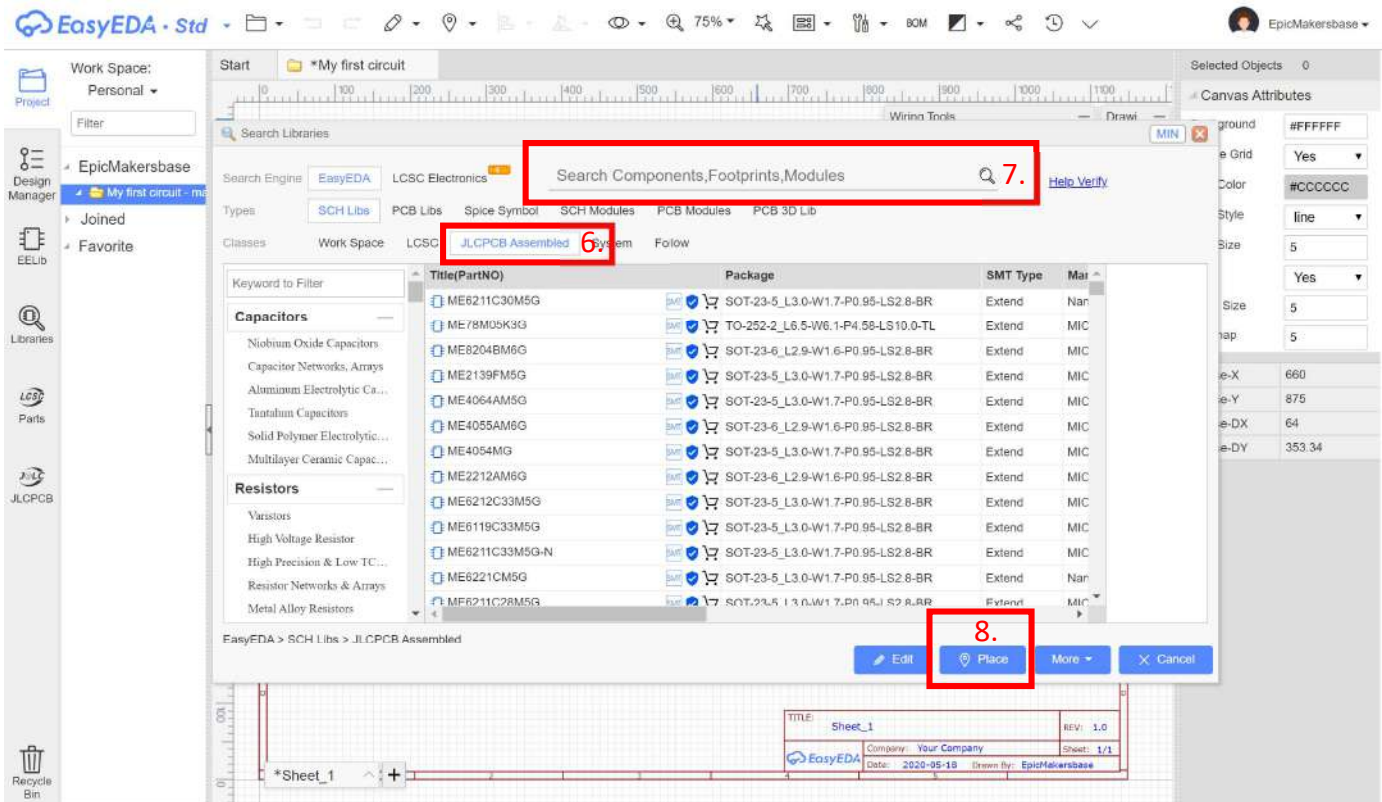
6. Select JLCPCB Assembly (JLCPCB are manufactures of professional PCB) so we can use their SMT (Assembly) service.

7. Search the component by part number or value, select the component from the list.

8. Click place and place it on the sheet.

Components list for making blinking LED using 555 timer IC:

	Component Name	Part No.	Quantity
1	555 Timer IC	LMC555CMX	1
2	CR2032 cell holder	CR2032-BS-6-1	1
3	10uf Capacitor	CA45A-B-25V-10uF-K	1
4	LED lights	17-21/T1D-CP2R1TY/3T	2
5	100K resistor	RTAN0805BKE100K	2
6	100 Ω resistor	TC0225F1000TCE	2
7	Button switch	TS-1187A-C-G-A	1
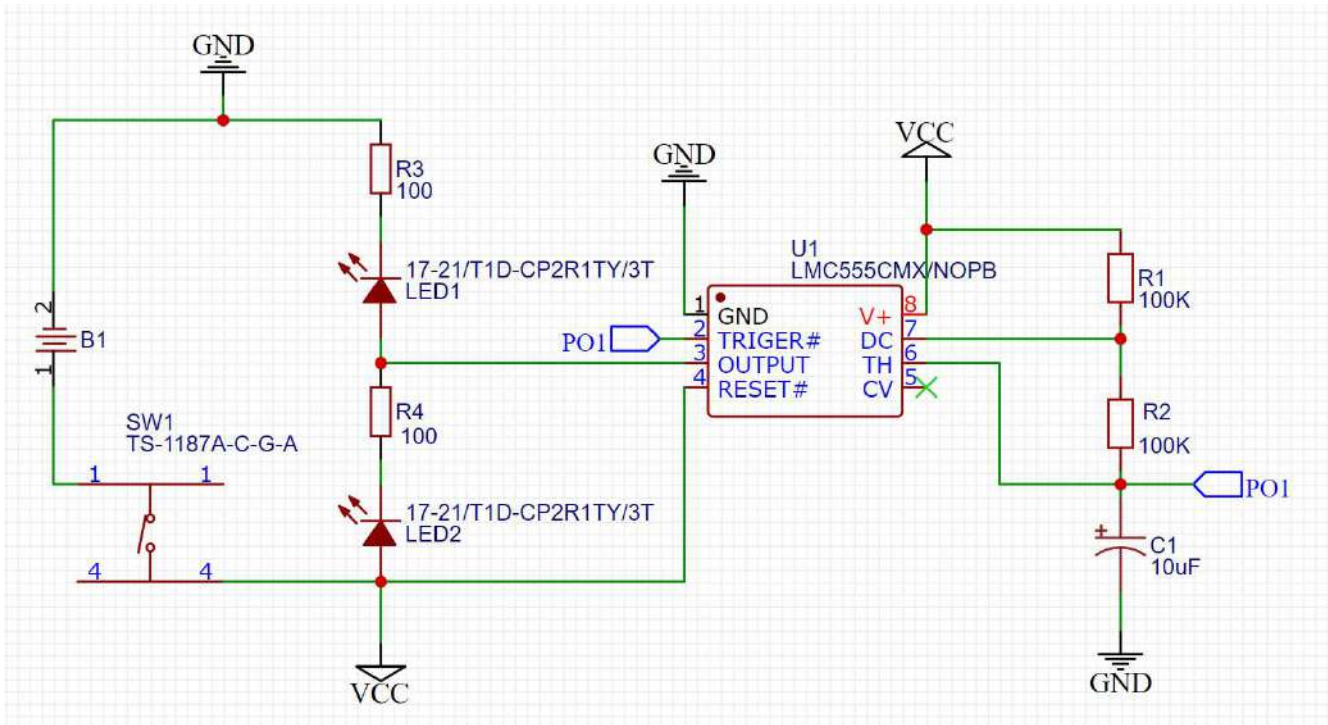
Schematic drawing.

9. Create the above schematic using the wiring tools to join all the components. Components can be placed according to user as long as all the connections are made.
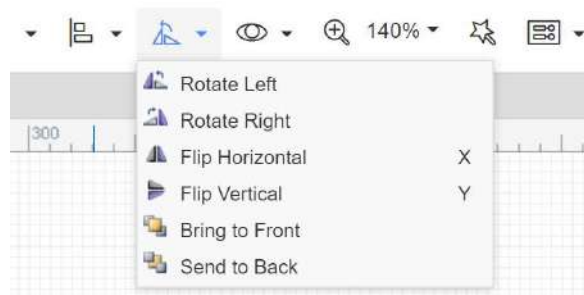
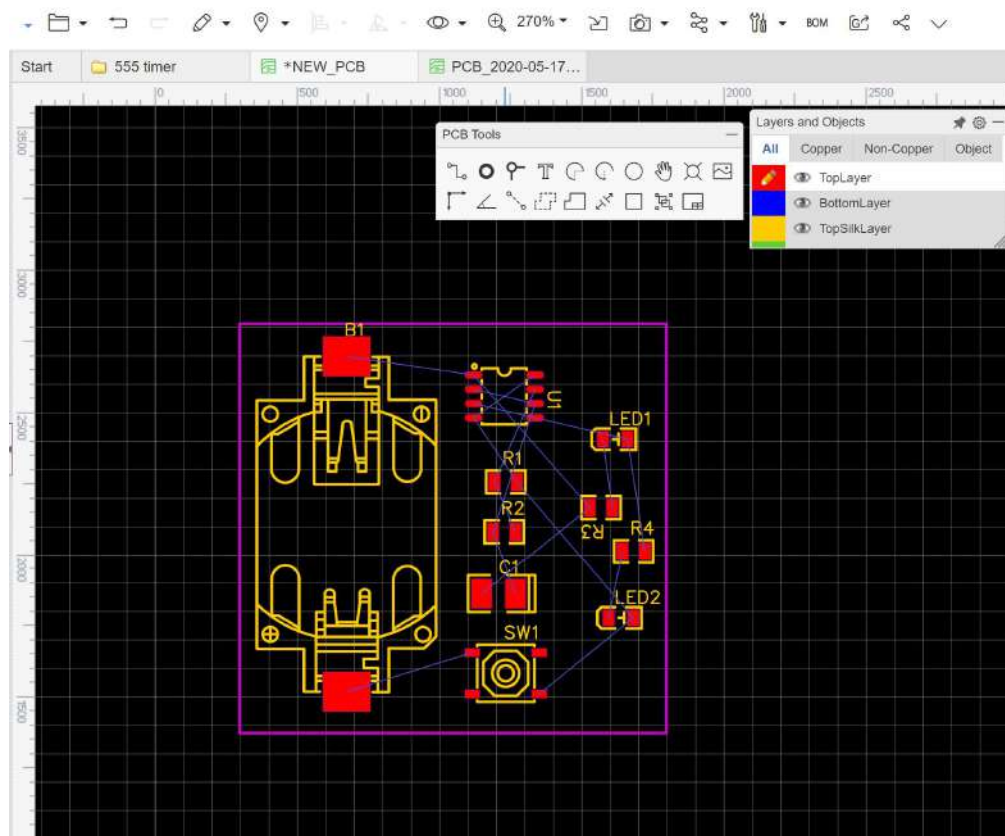10. Rotate components as per the schematic given.
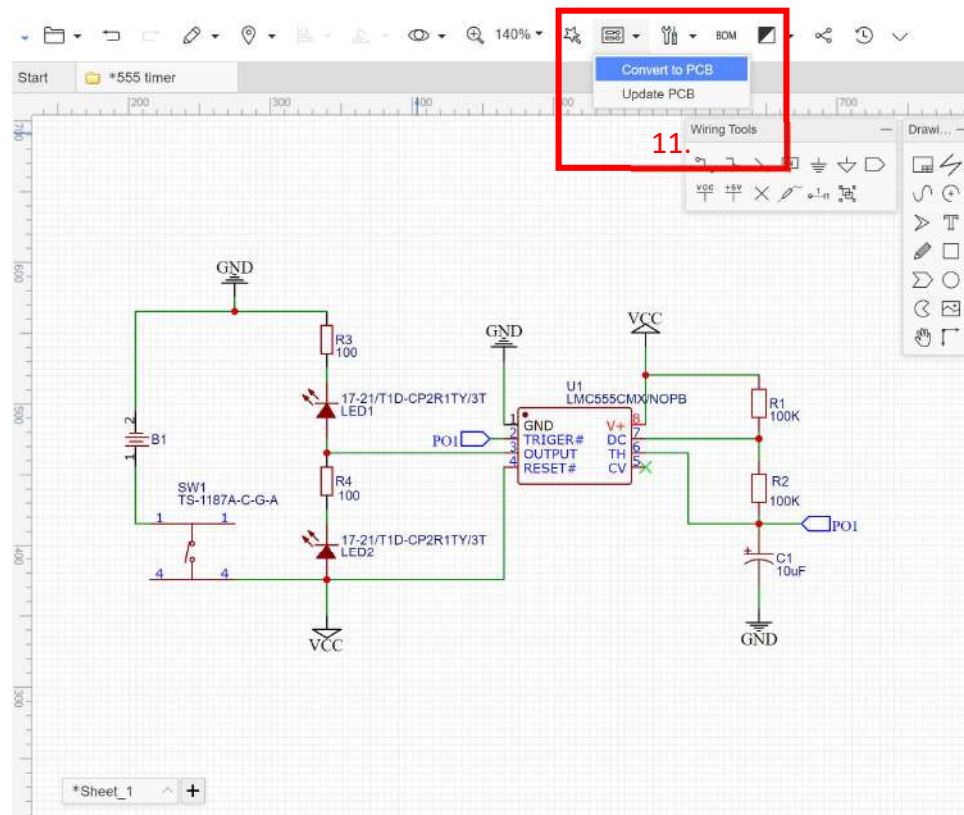
11.   Select convert to PCB option as shown in figure.
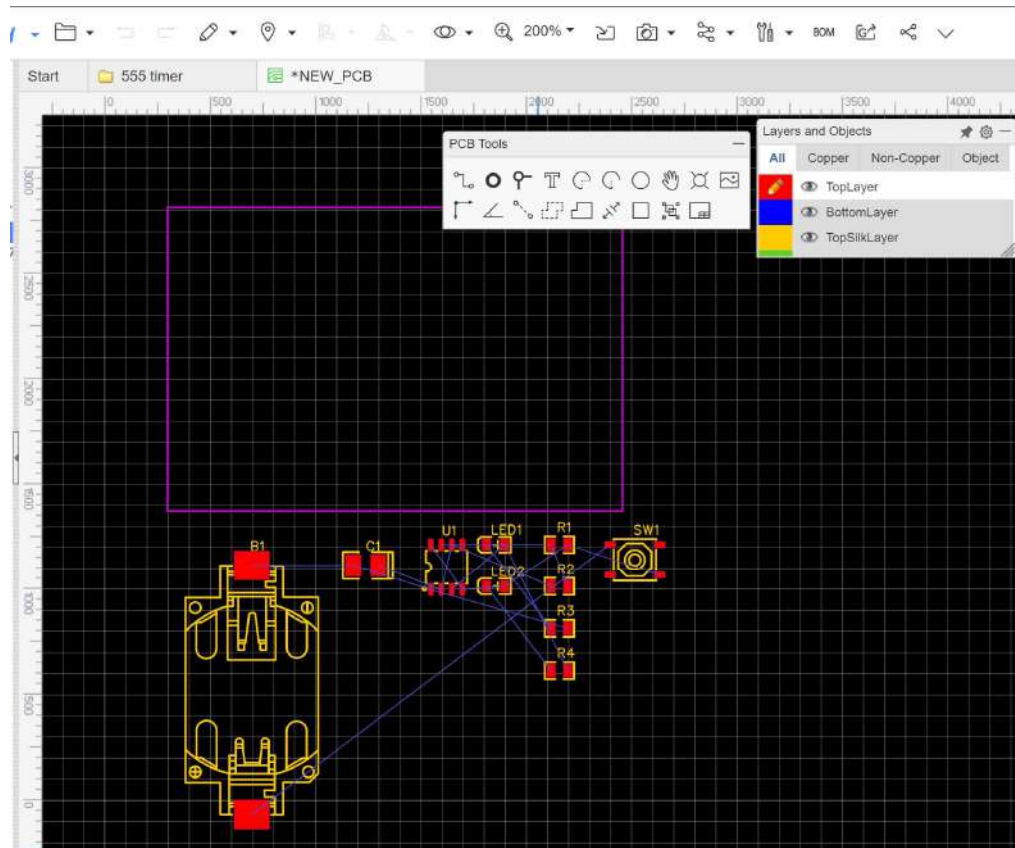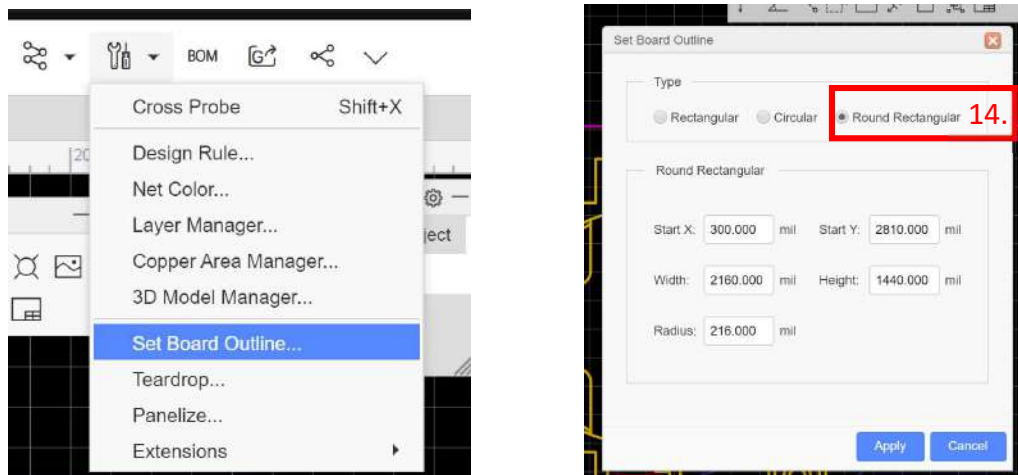

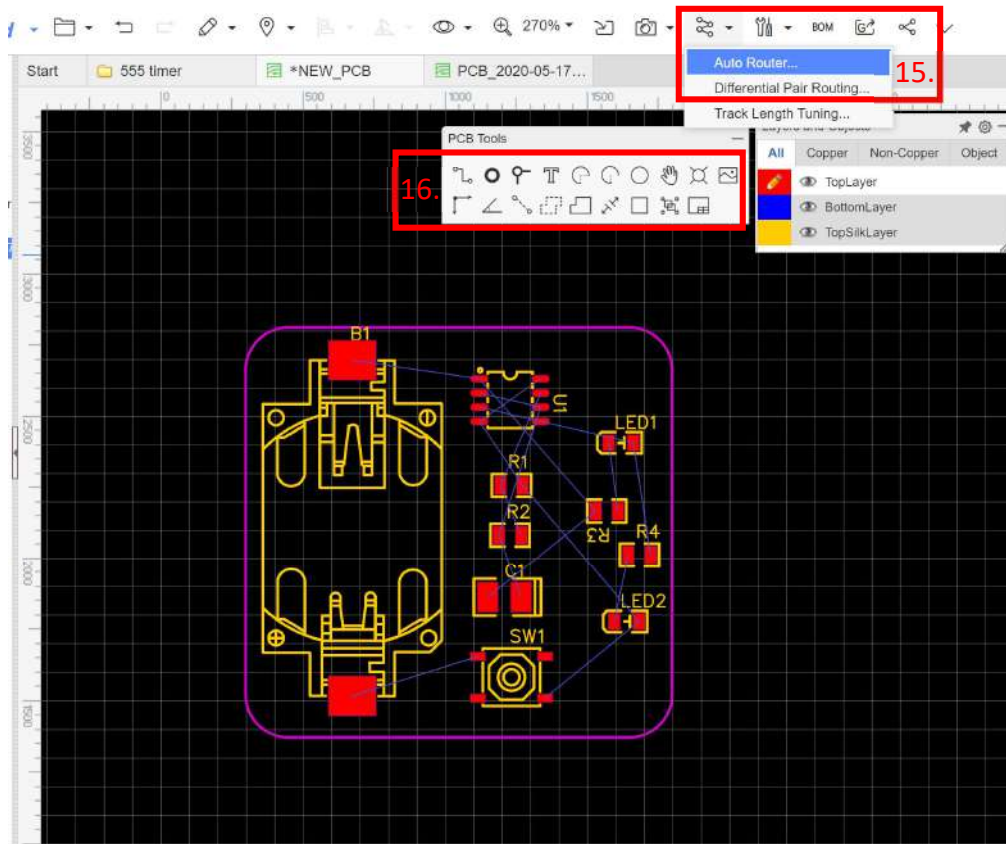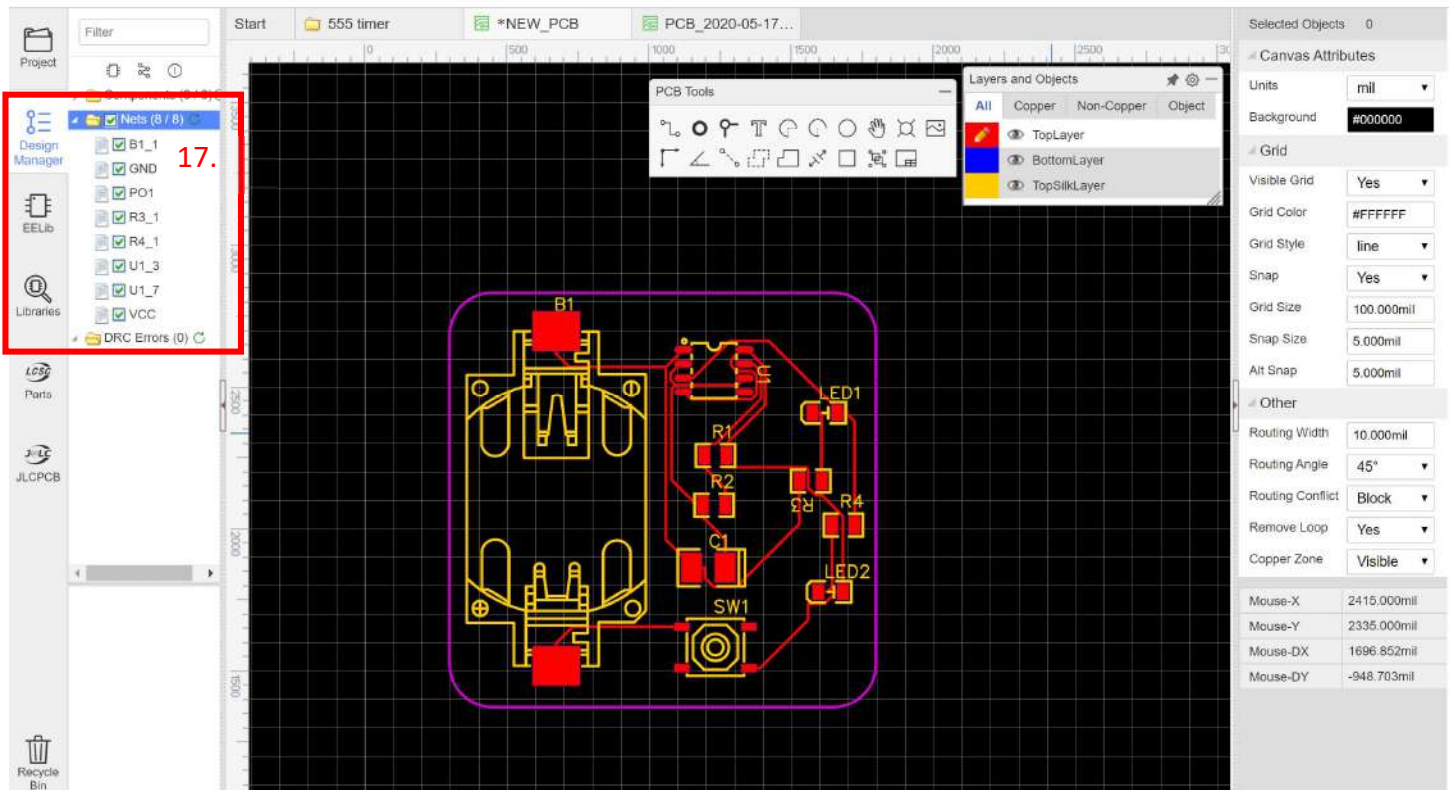12.   Arrange all the components as per requirements and shrink the pink outer border.

13. Rearrange the outer border of PCB.

14. Select Set Board Outline, Select Round Rectangular and click apply.

15. Use Auto router feature to make the traces automatically.

16. The PCB can be manually routed as well with PCB Tools.

17. Check in Design Manager tab if all the Net points are routed without error. If the nets have problem connecting, try to increase the space between components or move the component to different location.
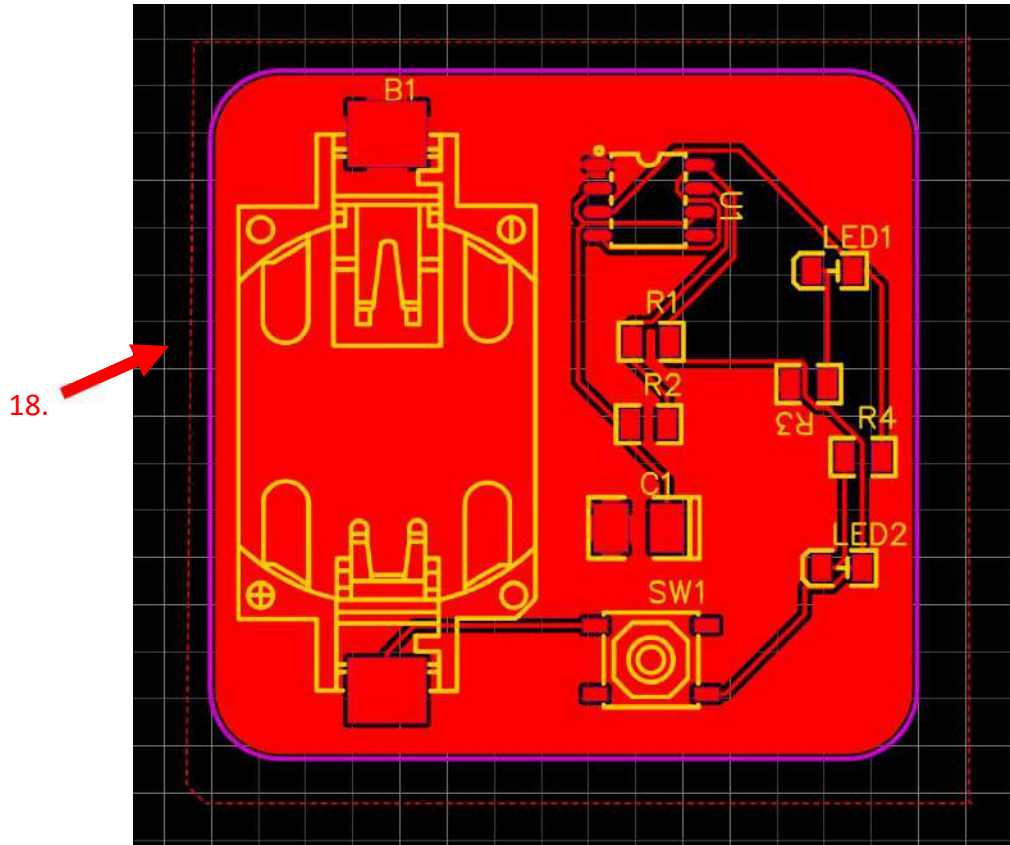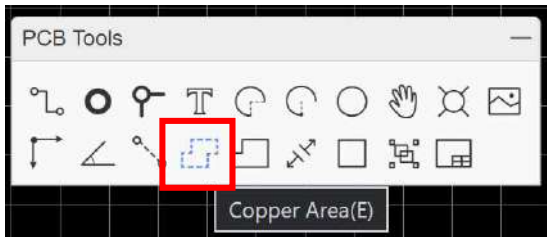
18.   Select the copper area tool, select Net as GND and create outer border line around the board. This will fill the unused area with GND. You can also do this for the botton area.
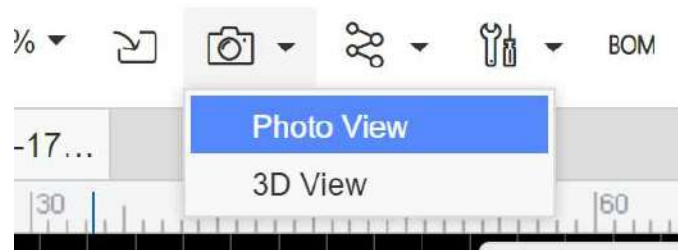
19. Choose Photoview or 3D view to see how the pcb will actually look like.
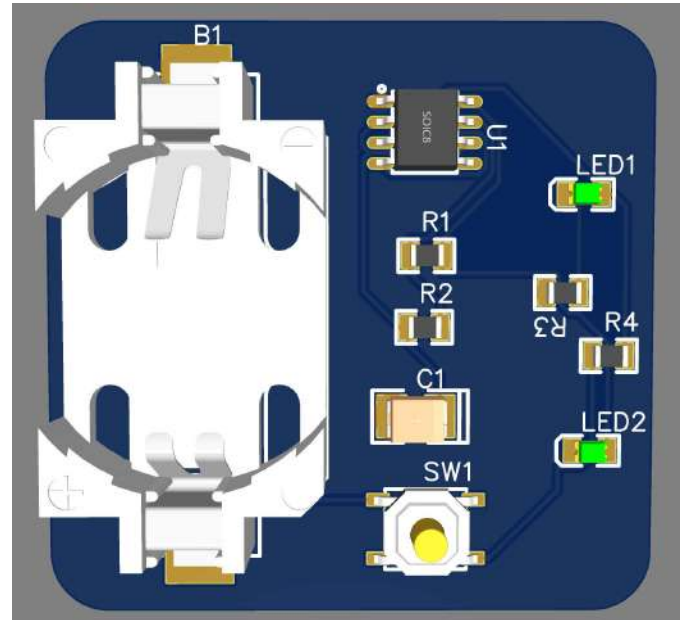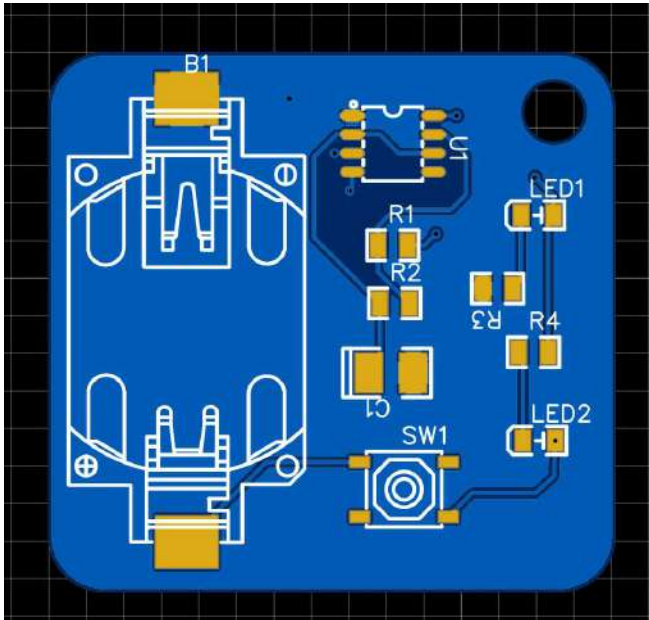
Ordering PCB

3
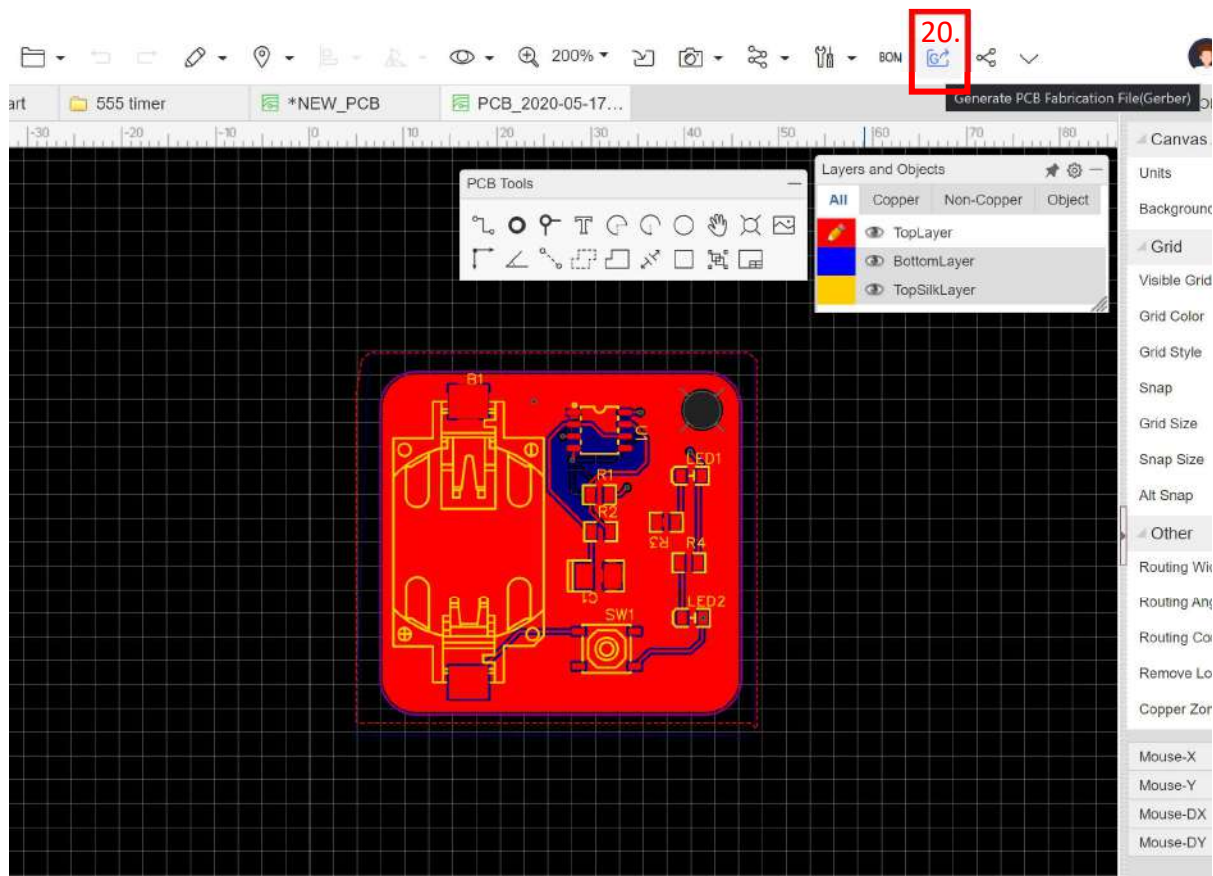
20. Click Generate PCB Fabrication File button.
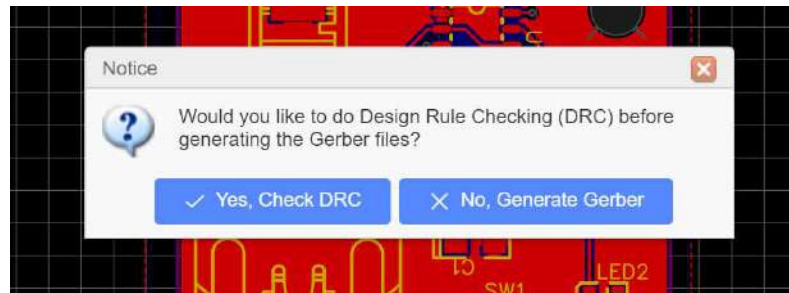
21.   Select No to only Generate Gerber.
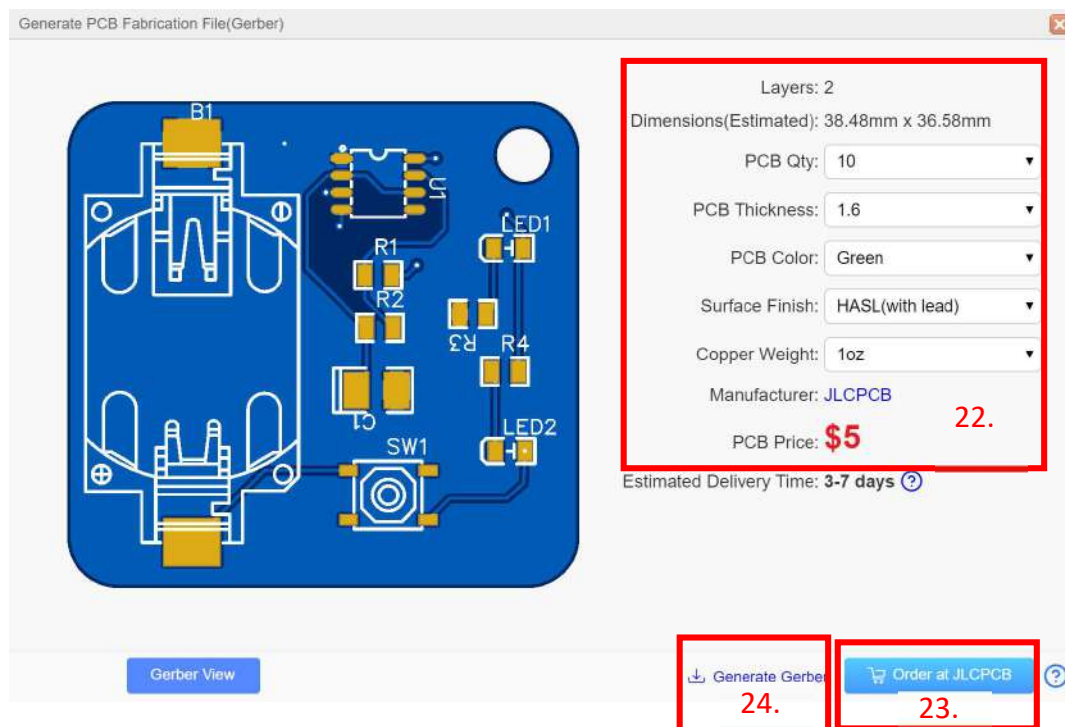
22.   This shows the quantity, price for total quantity and the estimated delievery time.

23.   The PCB can be directly ordered from JLCPCB.

24.   Gerber files can also be downloaded for manually uploading files on JLCPCB. If you would like fully assembled PCB with all components on it (SMT Service), follow further steps.
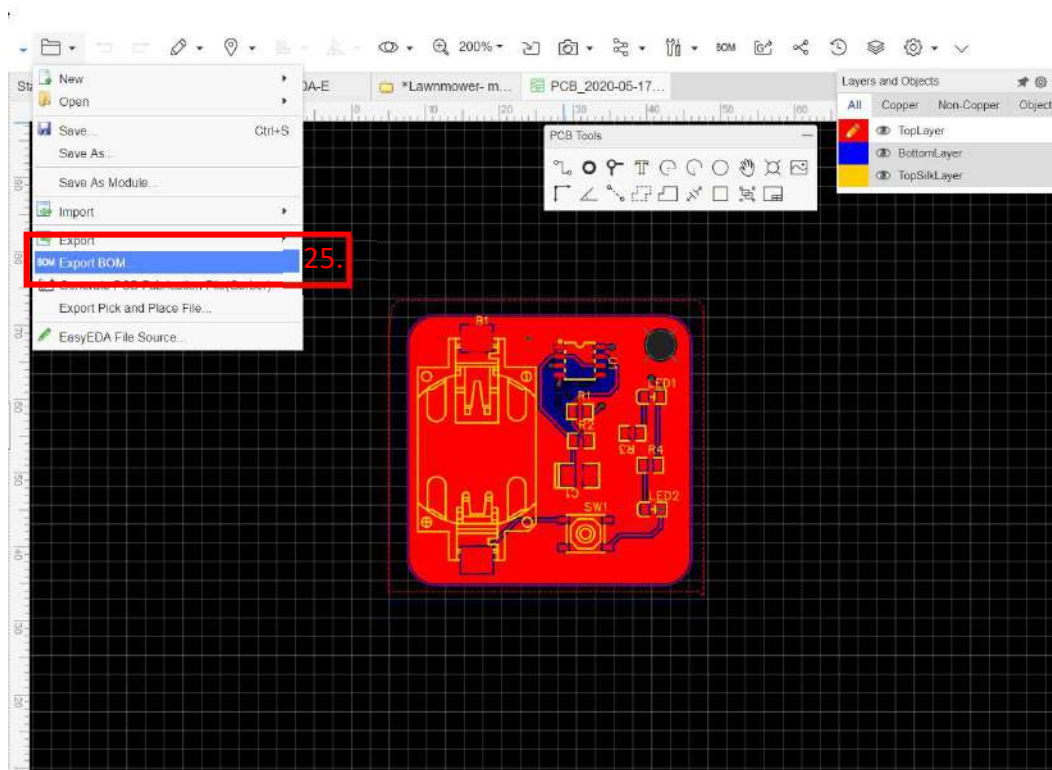
25.   Export BOM (Bill of Material) and save for using assembly service (SMT service) of JLCPCB.
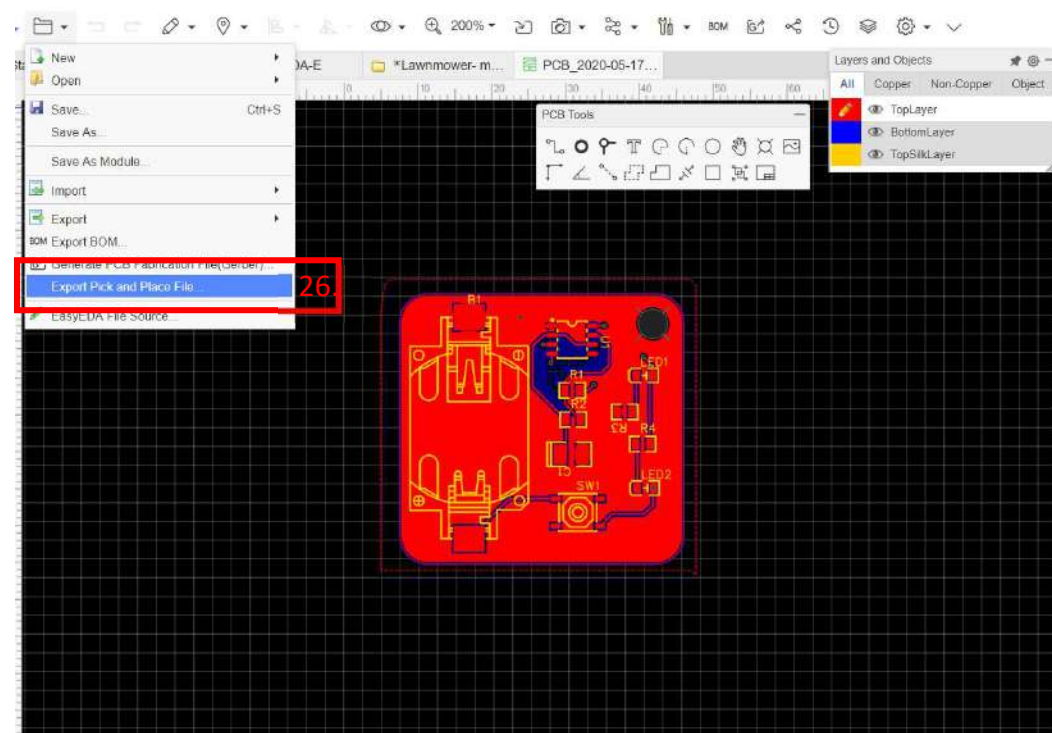
26.   Export Pick and Place file and save it for SMT services.
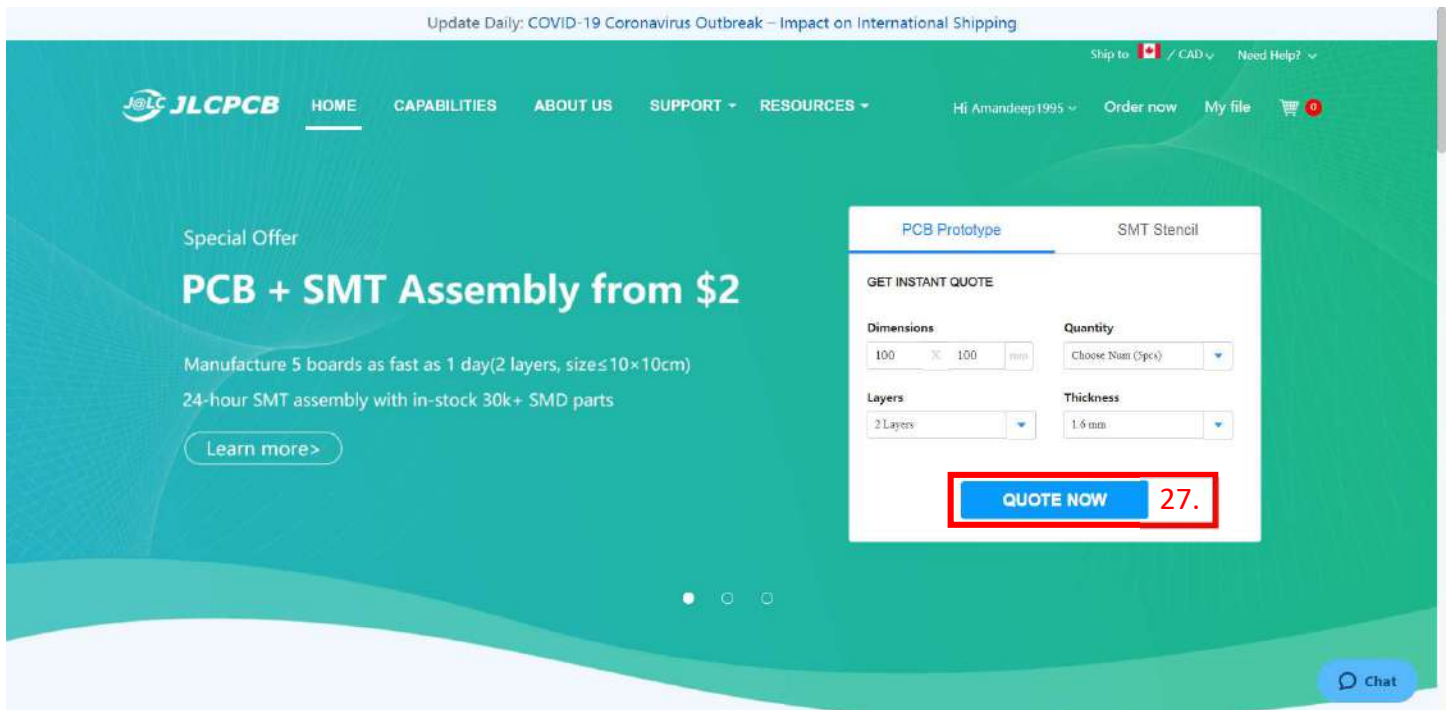
27. Open https://jlcpcb.com/ and click on Quote now.
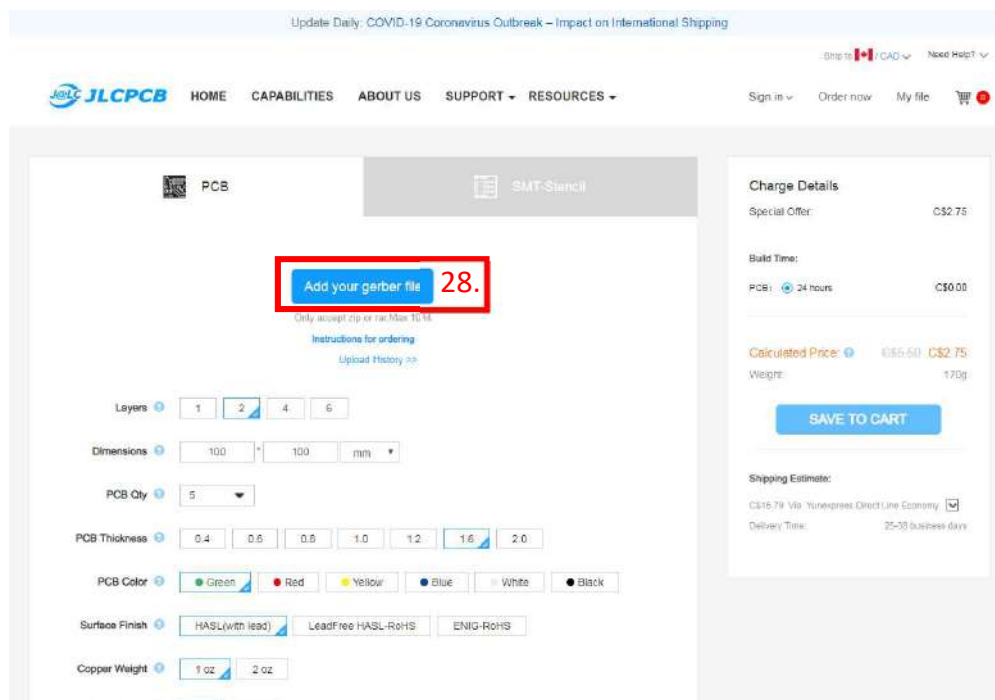
28. Upload gerber files downloaded in step 24.

29. 2D image of the PCB can be seen and reviewed, you can order only PCB without any components soldered on it at this point.

30. Click on SMT Assembly.
31. Choose Assemble on top side.
32. Click confirm to go further.

33.   Upload files downloaded in step 25 and 26 and click next.

34.   Confirm all the components and click next.

35. A 3D view will be displayed of the PCB, oriantation of components in the display might be wrong but it will be correct in the actual oredered PCB. Save to cart and order it with your shipping details.

Contact Information

Contact us for any information at makerspace@uwindsor.ca

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