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JLCPCB PCBA ORDER TUTORIAL

English v1.0

Abstract

This guide explains how to order a fully assembled PCB from JLCPCB through a simple, three-step process: preparing the fabrication files, ordering components, and submitting the PCBA assembly. It aims to ensure a clear and reproducible workflow for the OCTAVie project.

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How to Order PCBA with JLCPCB

This document is part of a two-part tutorial series that explains how to place a PCBA (Printed Circuit Board Assembly) order with JLCPCB.

The complete workflow is divided into:

1. Ordering the components.
2. Placing the PCBA assembly order once the components have been received by JLCPCB.

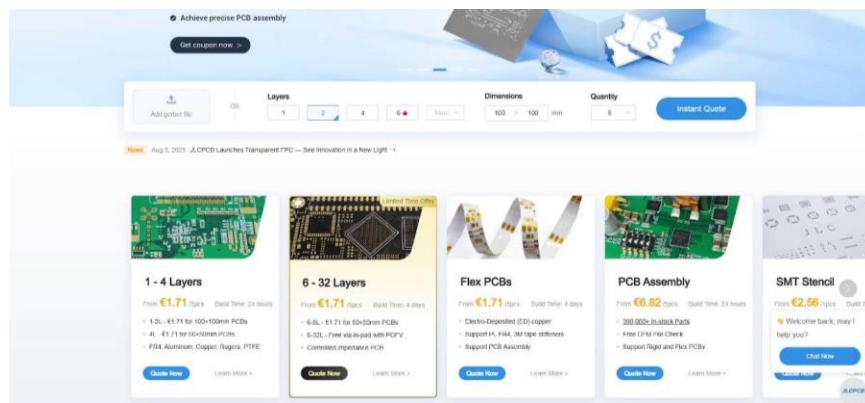
The objective of this guide is to provide a clear, step-by-step process, so that even users with little technical background can successfully reproduce the procedure.

Part 1 – Preparing and Uploading the Fabrication Files

In this section, we explain how to prepare and upload the fabrication files that JLCPCB requires for PCB fabrication and assembly. These files describe the PCB layout and the placement of components, and they are mandatory before you can place an order for assembly.

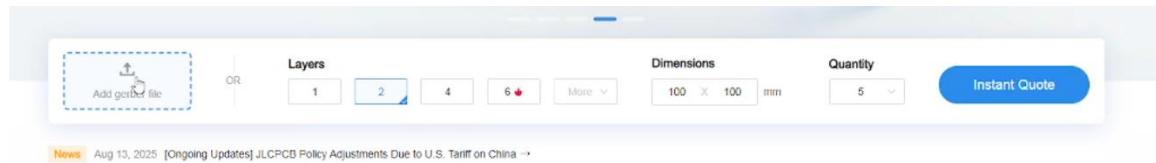
Step 1 – Access the PCB Assembly Ordering Page

Go to <https://jlcpcb.com/>. Log into your JLCPCB account and click on “quote now” of the 1-4 layers sub-windows.



Step 2 – Upload the Fabrication Files

Click on 'Add your Gerber file' and upload the compressed archive (.zip) containing your design files. This archive should include the Gerber files et le Drill files. Note, that for all this project this archive will directly be available to you in the project file.



Step 3 – Review the PCB Preview

After uploading, JLCPCB generates a visual preview of your board. Check that the board outline, copper layers, and drill holes are correct before proceeding. Note that all the right options will be added into JLC automatically. If you do not feel comfortable, leave them by default and it will work.

The screenshot shows the PCB design software's upload process. At the top, there are tabs for Standard PCB/PCBA, Advanced PCB/PCBA (highlighted with a yellow banner), SMT-Stencil, and 3D Printing/CNC. Below the tabs, a green PCB image is displayed with a message: "Success, this file has been saved to your File Manager". The software interface includes the following sections:

- Charge Details:** Special Offer €1.70, Via Covering €0.00, Surface Finish €0.00.
- Build Time:** PCB options: 2 days €0.00, 24 hours €6.13, 24 hours PCBA Only €0.00.
- Calculated Price:** €3.41 + €1.70 = €5.11. Note: Additional charges may apply for special cases.
- Shipping Estimate:** DHL Express: 2-4 business days, Weight: 0.29kg.
- Coupons:** Save €25.56 / Save €12.78.

Step 4 – Select PCB Assembly

If you do not feel comfortable to solder the component yourself, you choose pick select assembly PCB. The option by default are also adapted to this project.

The screenshot shows the assembly configuration screen. At the top left is a "PCB Assembly" icon. To the right is a "COUPON" button with the text "Assembly cost starting from \$0 with coupon" and a toggle switch. The main area displays the PCB with various components. Below the PCB are assembly options:

- Assemble top side:** Selected (radio button checked).
- Assemble bottom side:** Unselected (radio button uncheckable).
- PCBA Type:** Economic (selected), Standard, What's the difference?
- Assembly Side:** Top Side (selected), Bottom Side, Both Sides.
- PCBA Qty:** 5 (selected), 2.

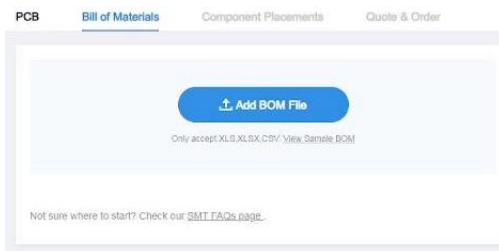
If you feel comfortable assembling it yourself, it will be less expensive, and you will receive the board faster. In that case, you can select the stencil option. However, note that for the microphone, you will need a reflow oven to solder it, and even then, success is not always guaranteed.



For the purpose of this tutorial, we will proceed with the assembly option, as it is the most likely choice for users without prior experience.

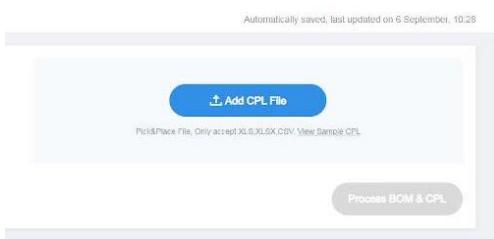
Step 5 – Check the Bill of Materials (BOM)

JLCPCB automatically parses the BOM file (the list of the components on the PCB). Note that the document for all PCB in the project will be available to you.



Step 6 – Check the Component Placement (CPL)

Just like the BOM, you will also need to upload the Component Placement file, which indicates where the components should be placed on the board. Note that the documentation for all PCBs in the project will also be available to you.



Step 7 – Finalize File Submission

Once the files have been verified, save the configuration to proceed to the next step. The project will then be available under “**My Project**” -> “**Quote**” on the JLCPCB website, allowing you to return to it later if needed. If you wish to continue immediately, you can proceed by completing the BOM directly. In cases where JLCPCB reports unavailable components, please refer to **Part 2 of this document**, which explains how to handle component sourcing.

Top Side Total 13 parts detected 9 Parts confirmed 2 parts to be confirmed 1 parts Inventory shortage 1 parts not selected							Automatically saved, last updated on 6 September, 10:28	
Uploaded BOM Data				Review Matched Parts				
Top Designator	Comment	Footprint	Matched Part Detail	Qty	Source	Lib Type	Total Cost	<input type="checkbox"/> Select
C1,C4	100nF	100nF	HT100INF80ASZ C2874956 -55°C~+175°C 1 N-Channel 1.22nF 100A 105n...	Q 0	JLCPCB	Extended	€0.00	<input type="checkbox"/>
C5	470nF	470nF	SMD4552-470nF C47345363 1812 Gas Discharge Tube Arresters (GDT) RO...	Q 0	JLCPCB	Extended	€0.00	<input type="checkbox"/>
D1	150000RS75000	150000RS75000	150000RS75000 C5156920 140° 150mcd 20mA 2V 625nm 630nm Red Wat...	Q 0	JLCPCB	Extended	€0.00	<input type="checkbox"/>
IC1	MCP6021_1_SN	MCP6021_1_SN	MCP6021_1-SN C148054 -40°C~+85°C 1.0 10MHz 1mA 1pA 2.5V~5...	Q 0	JLCPCB	Extended	€0.00	<input type="checkbox"/>
R1	AC0805FR-074 K7L	AC0805FR-074K 7L	0805W5F470TSE C17673 -55°C~+155°C 125mW 150V 4.7kΩ Thick Film...	Q 0	JLCPCB	Basic	€0.00	<input type="checkbox"/>
R2	RC0805JR-071 KL	RC0805JR-071K L	0805W5F1001TSE C17513 -55°C~+155°C 125mW 150V 1kΩ Thick Film R...	Q 0	JLCPCB	Basic	€0.00	<input type="checkbox"/>
R3	RC0805JR-071 OKL	RC0805JR-071OKL	0805W5F1002TSE C17414 -55°C~+155°C 10kΩ 125mW 150V Thick Film ...	Q 0	JLCPCB	Basic	€0.00	<input type="checkbox"/>
R4	RC0805JR-071 ML	RC0805JR-071ML	0805W5F1004TSE C17514 -55°C~+155°C 125mW 150V 1MΩ Thick Film R...	Q 0	JLCPCB	Basic	€0.00	<input type="checkbox"/>
R5	RC0805JR-071 8KL	RC0805JR-0718KL	0805W5F1602TSE C17506 -55°C~+155°C 125mW 150V 18kΩ Thick Film ...	Q 0	JLCPCB	Extended	€0.00	<input type="checkbox"/>
R6,R7	RC0805JR-071 0OKL	RC0805JR-0710OKL	0805W5F1603TSE C149504 -55°C~+155°C 100kΩ 125mW 150V Thick Film ...	Q 0	JLCPCB	Basic	€0.00	<input type="checkbox"/>
U1	IMP23ABSUTR	IMP23ABSUTR	IMP23ABSUTR C3171746 -55°C~+155°C 125mW 150V Thick Film ...	Q 5	My Parts	Extended	€0.00	<input type="checkbox"/> Standard Unit

Part 2 – Ordering Components from JLCPCB

In this section, we will explain how to order the components required for your assembly. This step is mandatory before you can proceed with the PCBA order. JLCPCB requires that all components are stocked and available in their warehouse before the assembly service can begin.

Step 1 – Access the JLCPCB Website

Open the JLCPCB website (<https://jlcpcb.com>) and log into your personal account. Make sure your account is active and that you can access the Parts section.

Step 2 – Navigate to the Parts Section

In the top menu bar, click on 'Parts'. This section allows you to search for, select, and order the electronic components required for your design.

Step 3 – Search for Components

Use the search bar to look for each part number listed in your Bill of Materials (BOM). Ensure that you use the correct manufacturer part number to avoid mistakes.

Reference Qty	Value	Manufacturer	Stock	Price	Description
1	MN	YAGEO	231373	€0.0015	-55°C~155°C 125mW 150V 1Kg Thick Film Resistor ±10ppm/C ±0% 0805
5000+	€0.0009				
					Full Reel: 5000 Total: €0.01
					Show More
					Add to My Part List
					Idle parts available

Step 4 – Check Availability and Stock

Confirm that the required quantity is available in JLCPCB's stock. If a component is out of stock, you may need to select an alternative or adjust your order.

Search results for 0805 capa 1uF:

Reference Qty	Value	MN	MP
2	100nF	KMFH	C0905C104K5RAC1U
3	1uF	KDMET	C0905C105K5RAC1U
4	1.47uF	KEMET	C0905C1474K5RAC1U
5	0.1	1.0PF	C0905C104K5RAC1U
6	1	MCP6021	Microchip MCP6021-I/SN
7	1	Conex D141ST Sales	B20-PW-SM1-TB
8	1.47K	YAGHO	A0905H0R014K2U
9	1.1k	YAGEO	R0805SJR-071KL
10	1.10K	YAGEO	R0805SJR-0710KL
11	1.1M	YAGHO	R0805H0R011M1
12	1.1K	YAGEO	R0805SJR-0710KL
13	2.00K	YAGEO	R0805SJR-07100KL
14	1	IMP23ABS	Microchip IMP23ABSUTR

⚠ Note: If the component is not directly available but listed in the database, you can request a quotation. For example, the MEMS microphone IMP23ABSUTR is sometimes not available in stock but can still be ordered through a quotation process. Be aware that this may significantly increase lead time.

Step 5 – Add Components to Cart

For each part, specify the required quantity and add it to your shopping cart. Repeat this process for all the items in your BOM.

In stock Parts Pre-order Parts

Compare	MFR Part #	Description	Manufacturer	Stock	Quantity	Price
	MCP6021-I/SN	-40°C~+85°C 1.0 10MHz 1mA 1pA 1pA 2.5V~5.5V 3.5uV/°C 30mA 5.5V 500u...	Microchip Tech	30	1+ 100+ Show More	€0.6764 €0.6408 Min: 1 Full Reel: 100 Total: €3.38

Step 6 – Review Your Cart

Once all components have been added, open your cart to verify the correctness of part numbers, quantities, and availability. Double-check this step to prevent errors during assembly.

The screenshot shows the JLCPCB Parts Cart page. On the left is a sidebar with navigation links: Order History, Projects, Parts Manager (selected), My Parts Lib, Order Parts, Parts Cart, Parts Order History, Quote History, My Lists, Consign Parts, Manual Parts Selection, New Parts Request, Payments, Setting, and Messages. The main area is titled 'Parts Cart' and shows a table of selected parts. The table has columns for Part Number, Description, Unit Price, Qty, and Total Price. A search bar and filter buttons for 'JLCPCB Parts (13)', 'Global Sourcing Parts (0)', and 'Idle Parts (0)' are at the top. Buttons for 'Export' and '+ Add Parts' are on the right. A message bubble on the right says 'Welcome back, may I help you?' with a 'Chat Now' button. At the bottom right is a 'Secure Checkout' button.

Part Number	Description	Unit Price	Qty	Total Price
Samsung Electro-Mechanics CL21B105KAFNFNE C1712	1uF 25V X7R ±10% 0805 Multilayer Ceramic Capacitors MLCC - ...	€0.0098	15 2997 Available	€0.15
YAGEO RCD805JR-0710KL C100049	-55°C~+155°C 100kΩ 125mW 150V Thick Film Resistor ±100ppm/°C ...	€0.0015	10 7173 Available	€0.02
YAGEO RCD805JR-0718KL C137468	-55°C~+155°C 125mW 150V 18kΩ Thick Film Resistor ±100ppm/°C ±...	€0.0008	5 2223 Available	€0.01
YAGEO RCD805JR-071ML C107699	-55°C~+155°C 125mW 150V 1MΩ Thick Film Resistor ±100ppm/°C ±5...	€0.0015	5 34237 Available	€0.01
YAGEO RCD805JR-0710KL C100047	-55°C~+155°C 10kΩ 125mW 150V Thick Film Resistor ±100ppm/°C ±...	€0.0015	5 341784 Available	€0.01
YAGEO RCD805JR-071KL C100046	-55°C~+155°C 125mW 150V 1kΩ Thick Film Resistor ±100ppm/°C ±5...	€0.0015	5 226390 Available	€0.01
YAGEO AC0805FR-074KL C140869	...		5	
<input checked="" type="checkbox"/> ALL	(All parts ordered at JLCPCB are only for PCBA orders. Pickup service is unavailable.)	Subtotal (13) Items	€20.93	

Step 7 – Place the Order

Click on 'Proceed to Checkout' to finalize the order. Once the order is validated, JLCPCB will process and prepare your components.

Step 8 – Wait for Component Reception

JLCPCB will handle the reception of components into their warehouse. Only after this step will you be able to continue with Part 3 of the tutorial and place your PCBA order.

Part Number	Description	Quantity	Unit Price	Status	Action	
AC0805FR-074K7L	YAGEO AC0805FR-074K7L JLCPCB Part #C140869	5 X	\$0.0038	\$0.02	Paid	
CL21B105KAF-NF-NF	Samsung Electro-Mechanics CL21B105KAF-NF JLCPCB Part #C1712	16 X	\$0.0115	\$0.18	Complete	Reorder
150080R875000	Wurth 150080R875000 JLCPCB Part #C5156920	5 X	\$0.3435	\$1.72	Paid	
RC0805JR-071ML	YAGEO RC0805JR-071ML JLCPCB Part #C107699	5 X	\$0.0017	\$0.01	Complete	Reorder
RC0806JR-0716KL	YAGEO RC0806JR-0716KL JLCPCB Part #C137468	5 X	\$0.0009	\$0.01	Complete	Reorder
MCP6021-I/SN	MICROCHIP MCP6021-I/SN JLCPCB Part #C148054	5 X	\$0.7905	\$3.96	Paid	
RC0805JR-0710KL	YAGEO RC0805JR-0710KL JLCPCB Part #C100047	5 X	\$0.0018	\$0.01	Complete	
RC0806JR-07100KL	YAGEO RC0806JR-07100KL JLCPCB Part #C100049	10 X	\$0.0017	\$0.02	Paid	
IMP23AB5UTR	ST MICROELECTRONICS ST MICROELECTRONICS	5 X	\$3.3765	\$16.89	Awaiting Quote	Cancel Order

Part 3 – Ordering the PCBA Assembly

In this section, we explain how to place the PCBA (Printed Circuit Board Assembly) order with JLCPCB. This step can only be performed once your components have been received at JLCPCB's warehouse (see Part 2). The process links your fabrication files with the stocked components to create the assembled boards.

Step 1 – Access the PCB Assembly Service

Log into your JLCPCB account and go to the 'Quote & Order' section. Select 'PCB Assembly' to start a new order.

File Name	Date	Status
Microphone_OCTAVic_FAB_v3	2025-08-29 07:43:11	Created (Newest)
OCTAVic_FPOAsys_Fab_V2	2025-07-14 09:39:47	Created (Newest)

Step 2 – Review Component Matching

JLCPCB automatically matches your BOM with components in stock. If you ordered components separately (Part 2), they are linked automatically once available in the warehouse.

The screenshot shows a table titled "Uploaded BOM Data" and "Review Matched Parts". The table includes columns for Top Designator, Comment, Footprint, Matched Part Detail, Qty, Source, Lib Type, Total Cost, and a "Select" checkbox. The "Matched Part Detail" column contains detailed component information such as part number, value, and description. A tooltip for a resistor part (C10047) indicates it is a 10kΩ 125mW 150V Thick Film Resistor ±1% ±100ppm/°C 0805 Chip Resistor - Surface Mount ROHS. The "Total Cost" column shows prices ranging from €0.00 to €0.1372. The "Select" column has checkboxes for each row.

Uploaded BOM Data			Review Matched Parts					
Top Designator	Comment	Footprint	Matched Part Detail	Qty	Source	Lib Type	Total Cost	Select
C1,C4	100nF	Capa smd 0805	C0905C104K5RACTU C3018562 100nF 50V X7R ±10% 0805 Multilayer Ceramic...	Q 20	10 My Parts 10 JLCPCB	Extended	€0.1372	<input checked="" type="checkbox"/>
C2,C3,C6	1uF	smd 0805	CL21B105KAFNPNE C1712 1uF 25V X7R ±10% 0805 Multilayer Ceramic C...	Q 21	15 My Parts 6 JLCPCB	Extended	€0.0588	<input checked="" type="checkbox"/>
C5	470nF	capa smd 0805	CL21B474KBFRNNNE C13967 470nF 50V X7R ±10% 0805 Multilayer Ceramic...	Q 20	JLCPCB	Basic	€0.2352	<input checked="" type="checkbox"/>
D1	150000RS75000	150000RS75000	C5156920 140° 150mcd 20mA 2V 625nm 630nm Red Wat...	Q 5	My Parts	Extended	€0.00	<input checked="" type="checkbox"/>
IC1	MCP6021_I_SN	MCP6021_I_SN	MCP6021_I_SN -40°C~+85°C 20MHz 1mA 1pA 2.5V-5...	Q 5	My Parts	Extended	€0.00	<input checked="" type="checkbox"/>
J1	B3B_PH-SM4-T-B	B3B-PH-SM4-TB	B3B-PH-SM4-TB(LF)(SN) C160353 -25°C~+85°C 1 100V 1x5P 2A/2mm 3 3P 6mm	Q 5	My Parts	Extended	€0.00	<input checked="" type="checkbox"/>
R1	AC0805FR-074	AC0805FR-074K7L	AC0805FR-074K7L C140869 -55°C~+155°C 125mW 150V 4.7kΩ Thick Film ...	Q 20	5 My Parts 15 JLCPCB	Extended	€0.0496	<input checked="" type="checkbox"/>
R2	RC0805JR-071	RC0805JR-071K1L	RC0805JR-071K1L C100046 -55°C~+155°C 125mW 150V 1kΩ Thick Film R...	Q 20	5 My Parts 15 JLCPCB	Extended	€0.0230	<input checked="" type="checkbox"/>
R3	RC0805JR-071	RC0805JR-0710KL	RC0805JR-0710KL C100047 -55°C~+155°C 10kΩ 125mW 150V Thick Film R...	Q 20	5 My Parts 15 JLCPCB	Extended	€0.0390	<input checked="" type="checkbox"/>
R4	RC0805JR-071	RC0805JR-071ML	RC0805JR-071ML C107699 -55°C~+155°C 125mW 150V 1MΩ Thick Film R...	Q 20	15 JLCPCB	Extended	€0.0217	<input checked="" type="checkbox"/>
R5	RC0805JR-071	RC0805JR-0718KL	RC0805JR-0718KL C137468 -55°C~+155°C 125mW 150V 18kΩ Thick Film ...	Q 20	5 My Parts 15 JLCPCB	Extended	€0.0115	<input checked="" type="checkbox"/>
R6,R7	RC0805JR-071	RC0805JR-07100KL	RC0805JR-07100KL C100049 -55°C~+155°C 100kΩ 125mW 150V Thick Film ...	Q 20	10 My Parts 10 JLCPCB	Extended	€0.0145	<input checked="" type="checkbox"/>
U1	IMP23ABSUTR	IMP23ABSUTR	IMP23ABSUTR C3171746 -3dB 150μA 2.75V 64dB Omnidirectional RHL...	Q 5	My Parts	Extended	€0.00	<input checked="" type="checkbox"/>

+ Add Part

Please carefully check the packages of selected parts before proceeding.

Step 3 – Check Placement (CPL File)

Verify the component placement preview carefully to ensure footprints, orientations, and positions are correct. Adjust if necessary.

The screenshot shows a PCB layout with components like U1, IC1, R1-R7, and C1-C6. A callout box highlights a component with rotation options: "Rotate 15°", "Rotate 45°", "Rotate 90°", "Rotate 135°", and "Rotate 180°". Below the PCB, a note says "Microphone – Ultrasounds OCTAV V3.0". To the right is a table of component details and a "NEXT" button. A sidebar on the right includes a welcome message and a "Chat Now" button.

C5	C12967	475nF	capa sm...
D1	C0156920	150000RS...	T50000R...
IC1	C140854	MCP602...	MCP602...
J1	C160353	B3B-PH...	B3B-PH...
R1	C100869	AC0805...	AC0805...
R2	C100046	RC0805J...	RC0805J...
R3	C100047	RC0805J...	RC0805J...
R4	C107699	RC0805J...	RC0805J...
R5	C137468	RC0805J...	RC0805J...
R6,R7	C100049	RC0805J...	RC0805J...
U1	C3171746	IMP23AB...	IMP23AB...

* The preview for reference only. Check final part placement at DFM Analysis in Order History in 4-6 hours after placing the order.

NEXT

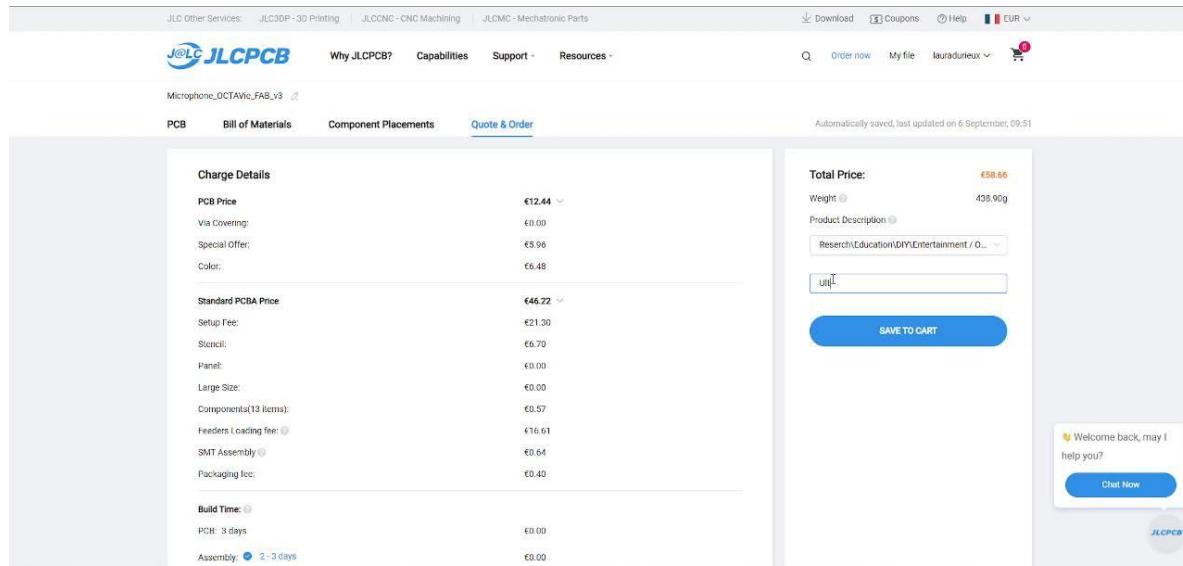
Welcome back, may I help you?

Chat Now

JLCPCB

Step 4 – Finalize and Save to Cart

Once satisfied, review the order summary including PCB parameters, assembly options, and components. Save the order to your cart.



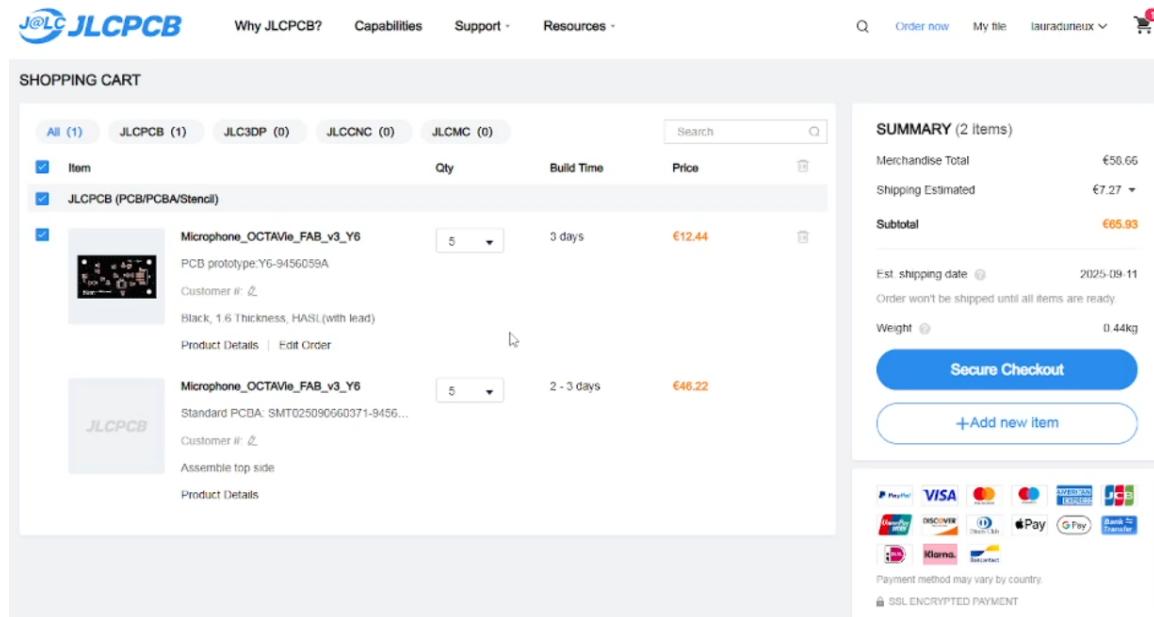
The screenshot shows the 'Quote & Order' section of the JLCPCB website. On the left, there's a 'Charge Details' table with various cost breakdowns. On the right, a summary box shows the total price as €58.66, weight as 495.00g, and a 'SAVE TO CART' button. A sidebar on the right includes a welcome message and a 'Chat Now' button.

Charge Details	
PCB Price	€12.44
Via Covering:	€0.00
Special Offer:	€5.96
Color:	€6.48
Standard PCBA Price	€46.22
Setup Fee:	€21.30
Stencil:	€6.70
Panel:	€0.00
Large Size:	€0.00
Components (13 items):	€0.57
Feeders / Loading fee:	€16.61
SMT Assembly:	€0.64
Packaging fee:	€0.40
Build Time:	
PCB: 3 days	€0.00
Assembly: 2-3 days	€0.00

Total Price: €58.66
Weight: 495.00g
Product Description: Research\Education\DIY\Entertainment / 0...
Welcome back, may I help you?
Chat Now

Step 5 – Proceed to Checkout

Click 'Checkout' to confirm the order. This guide does not include payment details.



The screenshot shows the 'SHOPPING CART' section of the JLCPCB website. It lists two items: a PCB prototype and a standard PCBA. The right side shows a 'SUMMARY' table with totals and a 'Secure Checkout' button. Below the summary, payment method icons are displayed.

All (1)	JLCPCB (1)	JLC3DP (0)	JLCCNC (0)	JLCMC (0)
<input checked="" type="checkbox"/> Item				
<input checked="" type="checkbox"/> JLCPCB (PCB/PCBA/Stencil)				

SUMMARY (2 items)

Merchandise Total	€58.66
Shipping Estimated	€7.27
Subtotal	€65.93
Est. shipping date	2025-09-11
Order won't be shipped until all items are ready.	
Weight	0.44kg

Secure Checkout

+Add new item

Payment method may vary by country.
SSL ENCRYPTED PAYMENT

Step 6 – Wait for Production

After confirmation, JLCPCB will manufacture and assemble your boards. You will receive a tracking number once the boards are shipped.

License Information

Hardware license: CERN Open Hardware License v2 (Strongly Reciprocal – OHL-S).

Software license: GNU General Public License v3 (GPLv3), ensuring that all modifications remain open-source.

Documentation license: Creative Commons Attribution-ShareAlike 4.0 International (CC-BY-SA 4.0).

Versioning

AUTHORS	VERSION	DATE	COMMENT
L. DURIEUX	V1.0	26.09.25	Document first release
L. DURIEUX	V1.0	05.10.2025	Formatting
A. BARBELIVIEN		01.11.25	Proofreading
M. MAJCHRZAK			