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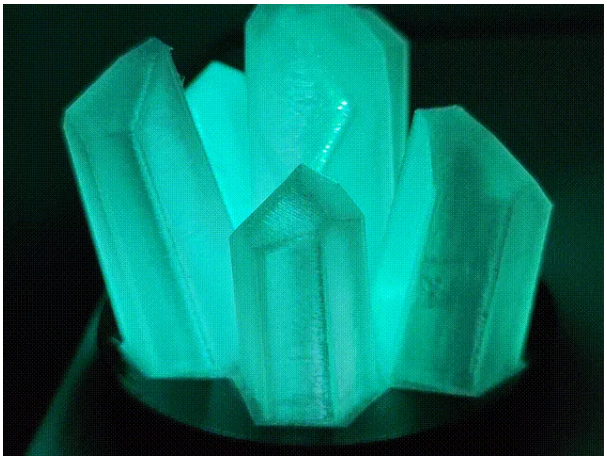

Glowing Quartz Crystal Cluster — WLED & ESP32-C3 (v1)

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VIEW IN BROWSER

updated 10. 10. 2026 | published 10. 10. 2026

Summary

A 3D-printed quartz crystal cluster on a light-up base.

3.58 hrs	3 pcs	0.20 mm 0.10 mm	0.40 mm	PLA	98 g	Prusa CORE One / +

Art & Design > Other Art & Designs

Tags: lamp led wled cluster cristal quartz etc wledlamp quartzled quartzilizer

//A bottle of Jack and creativity to start

So basically, it’s a lamp... a lamp in the shape of quartz. I was looking for something with addressable LEDs, and it didn’t exist, so I had to make it for you.

I tried to make it as simple as possible, with as little material as possible.

List of materials:

- Clear PLA
- Black, wood, or even pink PLA (if you’re into it, I’m not judging)
- ESP32-C3 Super Mini (the cheapest), or even an ESP8266, but I think it’s no longer supported by WLED
- WS2812 addressable LEDs from a 1 m, 144 LEDs/m strip (because the soldering pads are close to the LEDs) (**NO WATERPROOF PROTECTION**)
- A computer
- A 3D printer
- A soldering iron
- A bunch of wire
- Brain cells (not too many, just enough to know how to hold the soldering iron—one side is hot, the other is cold)

Printed parts:

Base

- PLA
- 15%
- no supports
- 0.2 layers

Quartz itself

- clear PLA
- 10%
- 0.2 layers (does the trick; I should try 0.1 layers to see if it gives a clearer result)
- 2 tree supports needed (look at the .3mf file; I generated them) and **ONLY THOSE**, or it will be impossible to clean
- **LOWEST TEMPERATURE POSSIBLE** (my PLA could be printed at 180°)

1 center LED support, 6 exterior LED supports

- BLACK PLA (this is important; it prevents the LEDs from glowing outside their quartz)
- 100%
- 0.1 layers
- automatic supports to the bed

How to:

- **LEDs:** Cut 7 pieces, remove the backing tape to reveal the soldering pads, and apply some solder to them. Yes, to all 6 pads...

- Please check the polarity of the LEDs (there’s a mark with an arrow on the front). Place them in their supports and place them in the quartz. **THE CENTER SUPPORT HAS A LONGER FOOT**, even though it’s a really, really **TIGHT** fit (a little hard to put in place). I made the foot to make sure I didn’t push them too far into the quartz. The exterior supports were supposed to have a specific orientation, but it doesn’t matter anymore because the printer’s resolution isn’t high enough. Position them as shown in the picture.
- Solder the wires from the center to each LED in series (keep track of the center wire; it’s your data line).
- Solder your ESP’s 5V, GND, and data line to pin 2.
- Install WLED from: https://install.wled.me/
- Set up your configuration with pin 2 for data and 7 LEDs.
- Put everything in place and enjoy.

Other details:

- Two version of the base, one with a hole to put a usb c cable through or a connector on the side. Second version with the esp support directly on the side that i prefer because you can use a c/c cable.
- I tryed to make the quartz the most "natural" possible. If you are a gemnologyst please dont hurt me.
- The fusion file is messy **AS HELL**, i'm a bad designer sorry for those who will try to work on it. For instense : if you try to increase the hight of a quartz, you will need to rework on the base and the LEDs supports.
- This is the first version, next one will maybe have an induction to transfer the electricity. Maybe a version that fit a nice glass contener from ikea. And the hardest, a version that i can make a mold with silicon, then pour epoxy resine... so if somebody is has some courage to do it, or if somebody is interested in it, let me know!

As usual, the 3MF, Fusion 360, and STL files are there.

No commercial use (because of fusion360 and wled (if you use it))/ Have fun with it / Share it / Credit it

And help me get some Prusameters by liking, printing, etc. <3

For the few people that will click on this post and read it until the end...

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...

...

... get a life dude... serioulsy.

;-p

Model files

support-led-ext-x6.3mf

baseesp32c3-final.3mf

baseesp32c3-final.obj

quartz-body-final.obj

support-led-centre.obj

support-led-ext-x6.obj

quartz-body-full.3mf

base-usb-connector.obj

quartz-lamp-full.f3z

Print files

baseesp32c3-final_04n_02mm_pla_coreone_46m.bgcode

PLA 0.40 mm 0.20 mm 0.76 hrs 29 g Prusa CORE One / +

support-led-ext-x6_04n_01mm_pla_coreone_34m.bgcode

PLA 0.40 mm 0.10 mm 0.57 hrs 5 g Prusa CORE One / +

quartz-body-full_04n_02mm_pla_coreone_2h15m.bgcode

PLA 0.40 mm 0.20 mm 2.25 hrs 64 g Prusa CORE One / +

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