

## Case for a TTGO ESP-32-OLED board

 **Polymath**

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### Summary

Case with a clip-on lid, no screws required with antenna socket space and using PETG to allow for flexible button arms

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Tags: [esp32](#) [screwless](#) [oled](#) [lora](#) [esp32case](#)

Designed to not require screws and so so no screw posts or bosses within the case. Antenna socket space in the clear. Flexible assignement of the USB cable port to allow for different plug designs.

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This is Version 7 - after several small adjustments.

TTGO ESP32-OLED LoRa case © 2023 by Polymath (Steve Sims) from an original by Yogatech is licensed under Attribution-NonCommercial-ShareAlike 4.0 International. Please ensure that this licensing statement remains in place.

Specific amendments have been made to remove the need for screws (the lid clips on), to reposition the opening for the OLED screen and to modify the USB port for the cables available.

Suggested printing in PETG at a resolution of 0.2 mm for toughness and the flexibility to allow the lid clips to work thus allowing a screwless design. Finer print extends print time significantly but may produce a prettier result.

X and Y calibrations are important to ensure accurate dimensions of the finished box as it is very small and so small errors are significant

## **Post-Printing**

The OpenSCAD file gives as much detail as I could generate. I hope it all makes sense.

I used Prusa Slicer version 2.6.0-alpha6+win64 and used organic supports. These were particularly useful for the long PCB slots and required a thin pointed tool to remove, but came away quite cleanly. Without supports the length of the slots was just too great for my printer's bridging capability and the slots had long loose strings and poor sharpness.

Just a little fettling required to remove a few tiny blobs in critical places and to file back the lid clip slopes on the base to ensure a good final fit of the parts to clip together. Final fit is good and if your board is a little different I hope that supplying in the OpenSCAD will allow you to adjust if required. Shout out to Yogatech (<https://github.com/YogoGit/TTGO-LORA32-V1.0>) for his original concept and I hope that this screwless variant will provide what you need.

## **How I designed this**

I used Prusa Slicer to open Yogatech's STL file and then its measuring tool to extract the design.

Using these dimensions I produced a prototype for my colleague G6JME and then made adjustments as required (at 0.2mm accuracy) to exactly match the boards he had.

Using OpenSCAD I was able to make a case without requiring the use of screws. I use OpenSCAD in parallel with Notepad++ to edit and view on the fly. Printing in PETG gave the strength and flexibility required and although PLA would have been stronger it would have been more brittle and as use in a vehicle was envisaged would have been more sensitive to 'sunlight on the dash' and possible thermal degradation. I hope that the liberal annotation of the OpenSCAD will help with understanding. I have used my own include file `ercstd.scad` (edge-rounded-cube) to round the corners, usable on any OpenSCAD 'cube'. Enjoy ...

# This remix is based on



## TTGO ESP32-OLED Lora Case

by yogotech

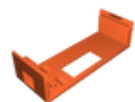
## Model files



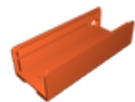
**lora-box-v7.scad**



**ercstd.scad**



**lora-box-v7-lid.stl**



**lora-box-v7-base.stl**

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