

Pico Wifi Analyzer with LCD

Aug 2026



Introduction

This project was borne out of the fact that we were starting one of our other projects, and while messing about with the Pico, an LCD Screen and Wifi connections, I had a bit of a Eureka moment, thus the Wifi Analyzer project was born.

There are some considerations around this project, and in no particular order, they are:

While we explain everything in great detail, we do assume that you know how to do the following:

- Connect to your Pico
- Use Thonny
- Setup the Pico Firmware
- Create and save files on to your Pico
- Basic Pico stuff really

You can find some guides on this site regarding this, or use your favorite search engine to get this info.

- This is Phase 1. Phase 2 will be a different LCD
- For Phase 1 we have used an I2C LCD, so you will need the same, we do not cover SPI in Phase 1
- The LCD is a SSD1306 Chip based LCD, we will supply the driver for you.
- We are using the Pico 2W - A Pico 1 W will also work very well.
- Remember, the Pico only supports 2.4Ghz Wifi. So you can't test anything 5Ghz.
- The Project will contain 3 Main Areas: **(1)** The Wiring and Hardware. **(2)** The Software. **(3)** The Enclosure.
- Depending on the LCD you use, your UI experience may differ.
- The project name is a little misleading, this is not an Analyzer, its a Monitor.

As I have said, this is Phase 1 and it is using a 128×64 Pixel LCD, which you can accommodate all of the relevant information, but it is not graphical and it's pretty small to read.

I started this project because I have a few SSIDs at home, as well as a couple of Routers with Wifi, occasionally one of them drops out and does not recover, so I wanted a visual device that I could glance at to see what the state of the different Wifi SSIDs is. For this reason, this device sits on top of my monitor.

If you would like to make one of these, then please read on, we will explain the hardware, the wiring, the Software and you can download the Software as well as the 3D STLs once it is all finished.

There are four sections on this Wiki that you will have to complete first, which explains the wiring, how to test your LCD address, get your Pico MAC Address etc, you will need this information before starting the main project.

As stated, there will be two phases to this project, if you are reading this around August 2026 then we have likely only completed Phase 1. Phase 2 will come a little later when we get the new LCDs.

- Phase 1 - Wifi Analyzer is working.
- Phase 2 - Add new LCD, Add Graphics to replace the text. Show Signal Strength of Wifi. Create a new Enclosure.
- [Pico Wifi Analyzer - Phase 1](#)
- [Pico Wifi Analyzer - Phase 2 - Coming Soon](#)

The good thing about this project really is that at the end of it you have a working Pico and LCD screen with Wifi and I am sure are many of your own projects that you could think of that would utilise this build.

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Last update: **2026/08/20 16:49**

