Description

This is an adapter board that will allow you to use the HS402 oscilloscope wirelessly via an ESP32 (WROOM32 or WROOM32D).

The adapter board was designed to allow a **30 pin NodeMCU** (WROOM32 or WROOM32D) to be stacked on top of an STM32F411.

!!! Before ordering this PCB adapter, ensure that your ESP32 board pinout is **exactly** as the one shown in the picture [NODEMCU-ESP32-30pins.png]!!!

Steps for the assembling:

1. Solder the male headers on the STM32F411,

2. Remove the plastic spacers from the male headers,

3. Place the STM32F411 on the adapter board, and solder the relevant pins to the adapter board (GND, VCC, PB12, PB13, PB14, PA9, and PA10).

4. Fit the adapter into the HS402 oscilloscope mainboard and test that everything works as expected,

5. Solder some of the remaining STM32F411 pins to ensure mechanical strength - choose pins from both sides of the STM32F411,

6. Solder the male headers on the ESP32 NodeMCU - some may skip this, as headers may have been are already soldered,

7. Solder the female headers on the adapter board,

8. Fit the ESP32 on the adapter board,

9. Solder the wires to provide power supply to the 2 boards,

10. Provide **5 volts** to the soldered wires, taking care of the voltage polarity,

11. Enjoy your new wireless oscilloscope.

Ordering PCBs:

In the attachments, there are 2 Gerber packages: one with a single board and one with a panelized board (by V-scoring).

The panel is 1x2 (1 line and 2 columns) -> this will allow you to **order 10 PCBs at the price of 5 PCBs** - for the case of JLCPCB.

If you use a different PCB manufacturer and the panel is not accepted, then you will have to use the Gerber for a single board.

Notes:

This adapter board is **not the official** WiFi adapter for HS402 oscilloscope.

So this design is not maintained or suported by the developer of HS402 oscilloscope.

This adapter is a reduced version with fewer functions (no voltage monitoring and no RGB LED indications).

Order it only after you understand his limitations.

For more Infos about how to build the HS402 oscilloscope and how to prepare the boards for WiFi operation, please check the HS402 oscilloscope webpage.