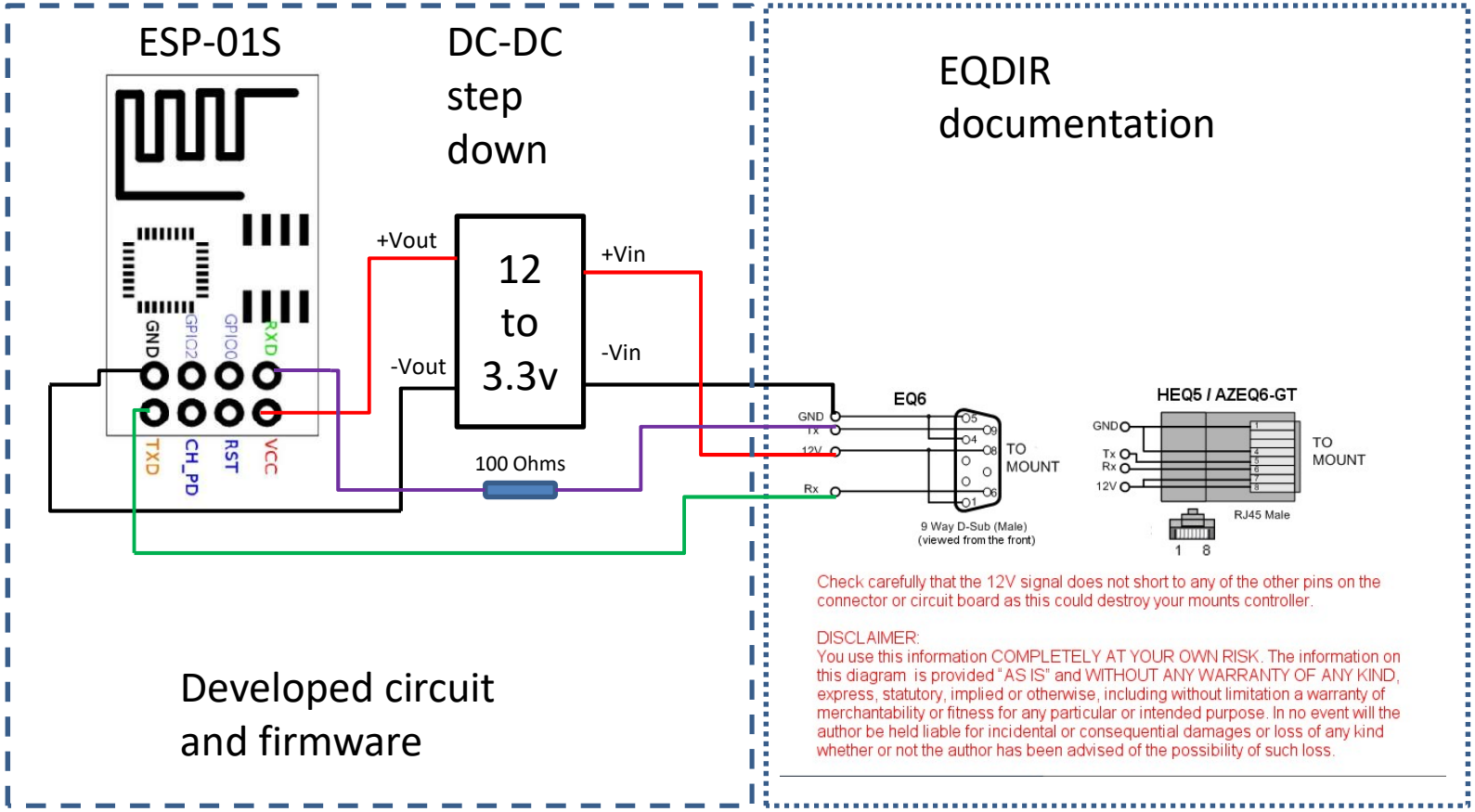
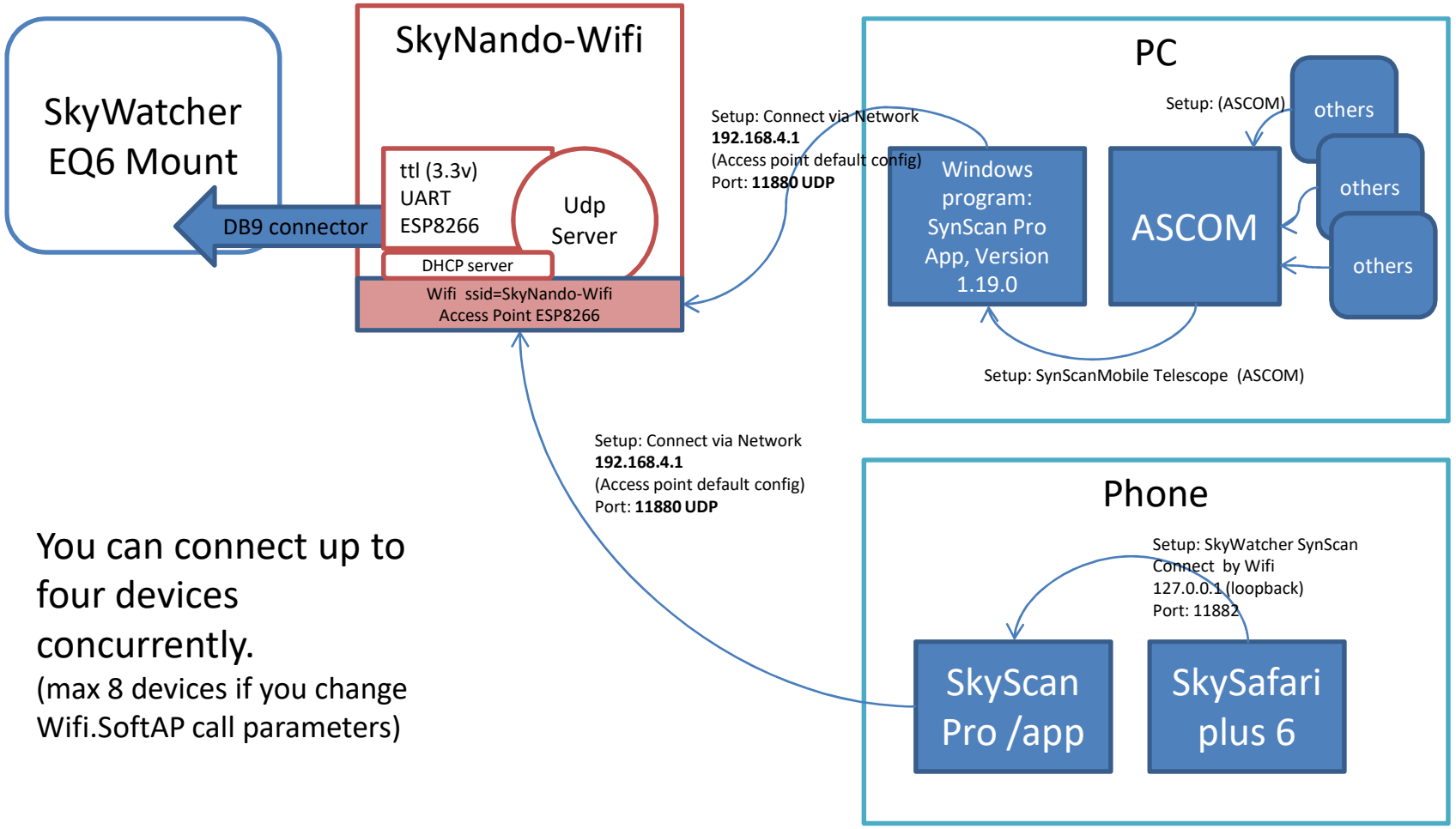
Electronics



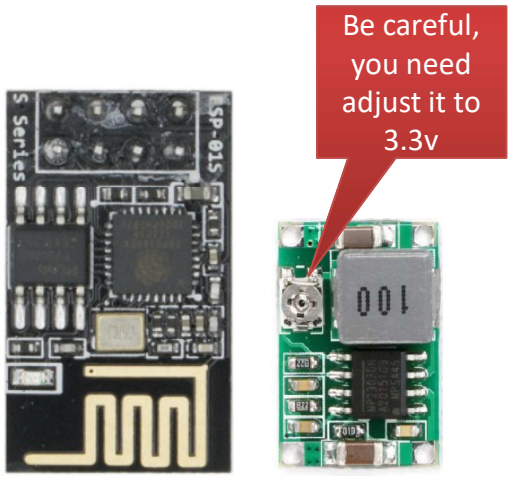
Communications context



You can connect up to four devices concurrently.
(max 8 devices if you change Wifi.SoftAP call parameters)

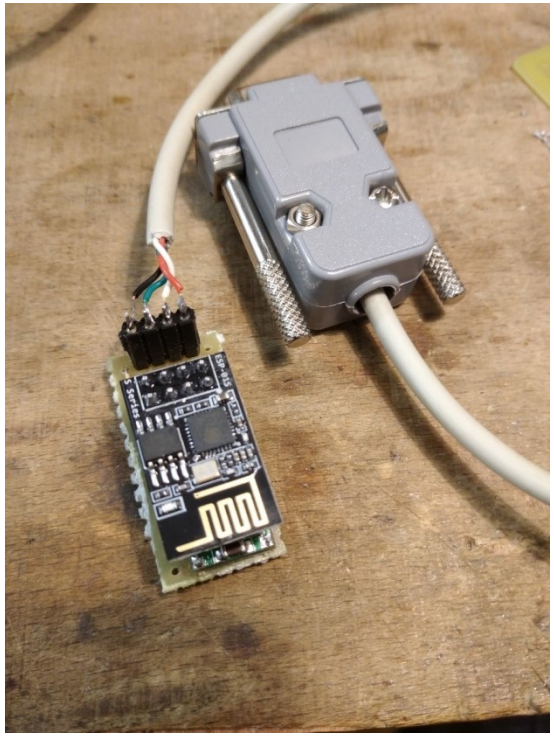
BoM (Bill of materials)

- Modules
  - ESP-01S (better than ESP-01, there is pull-up resistors and it's easy to integrate)
  - DC-DC step down mini
- Resistors
  - 100 Ohms 1/8w
- Miscellaneous
  - 1x DB9 male connector
  - 1x Connector Shell
  - 20cm 4 wire cable (like USB cable)
  - 1x4 pin sockets and 1x4 pin male.
  - mini-board 6x14 dots from a development board

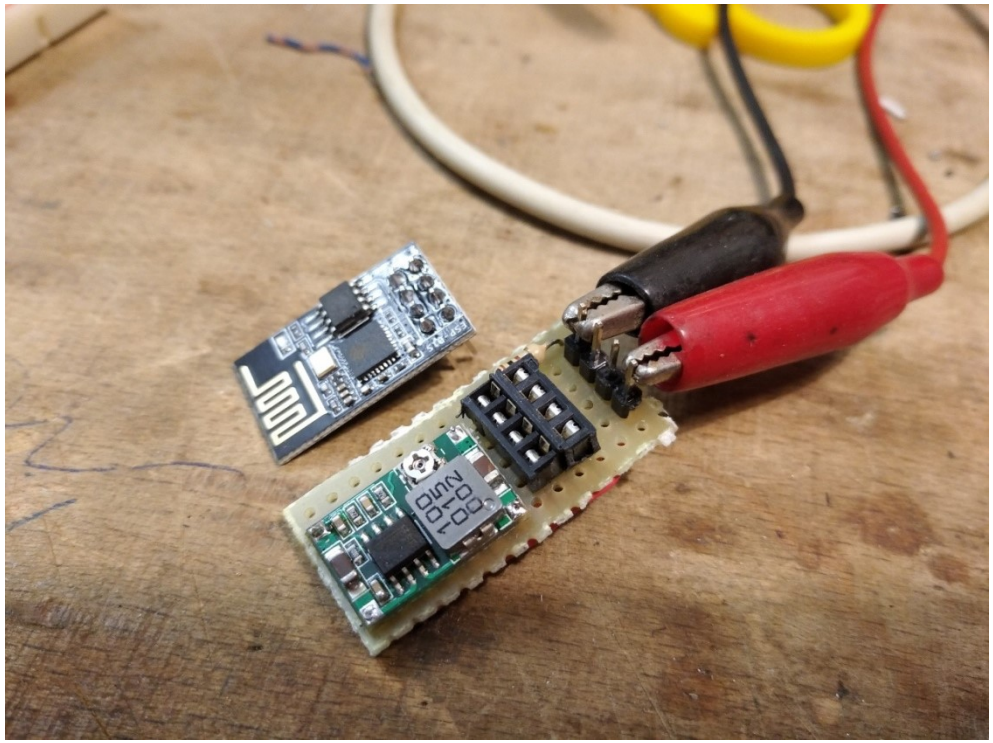


Assembly instructions (1)

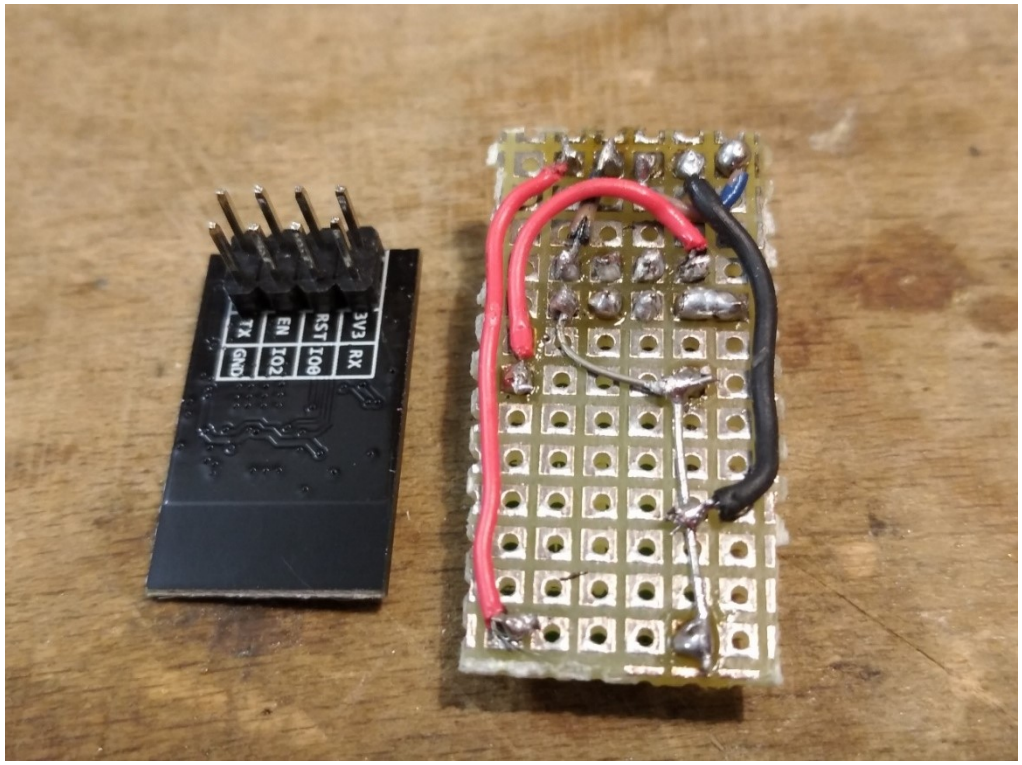
Follow the wiring diagram in Electronics page and build one device like this:



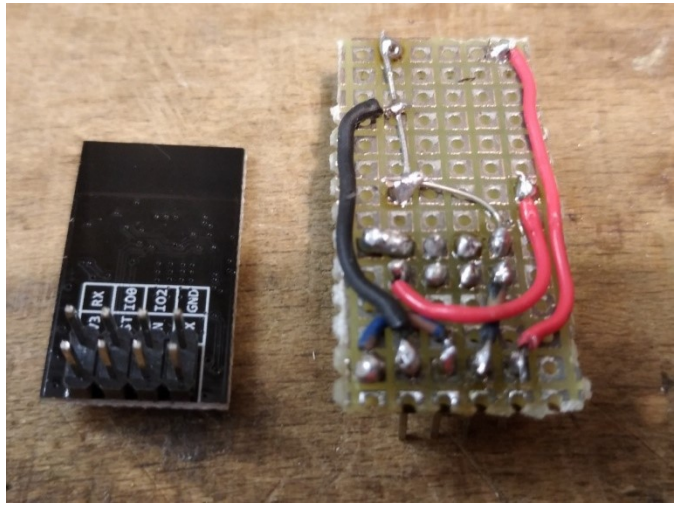
Assembly instructions (2)

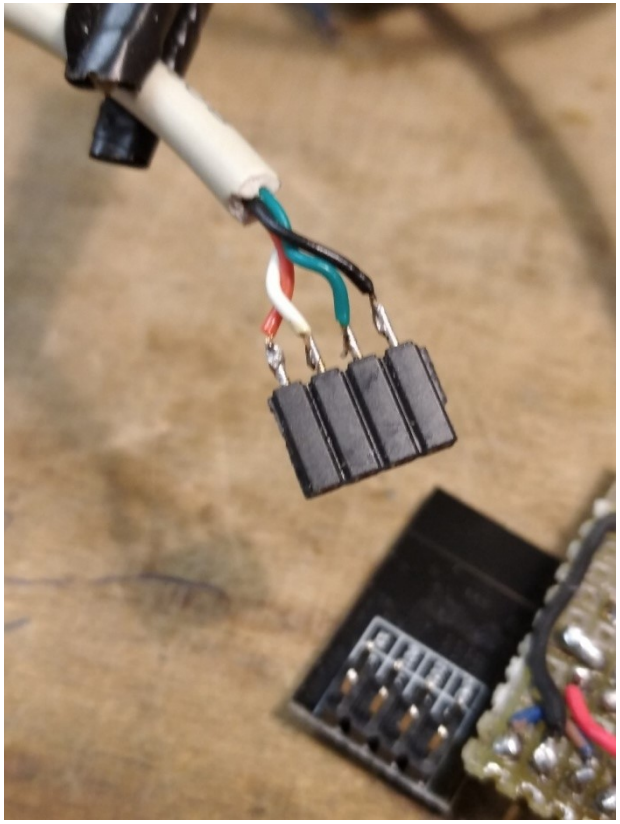


Assembly instructions (3)



Assembly instructions (4)



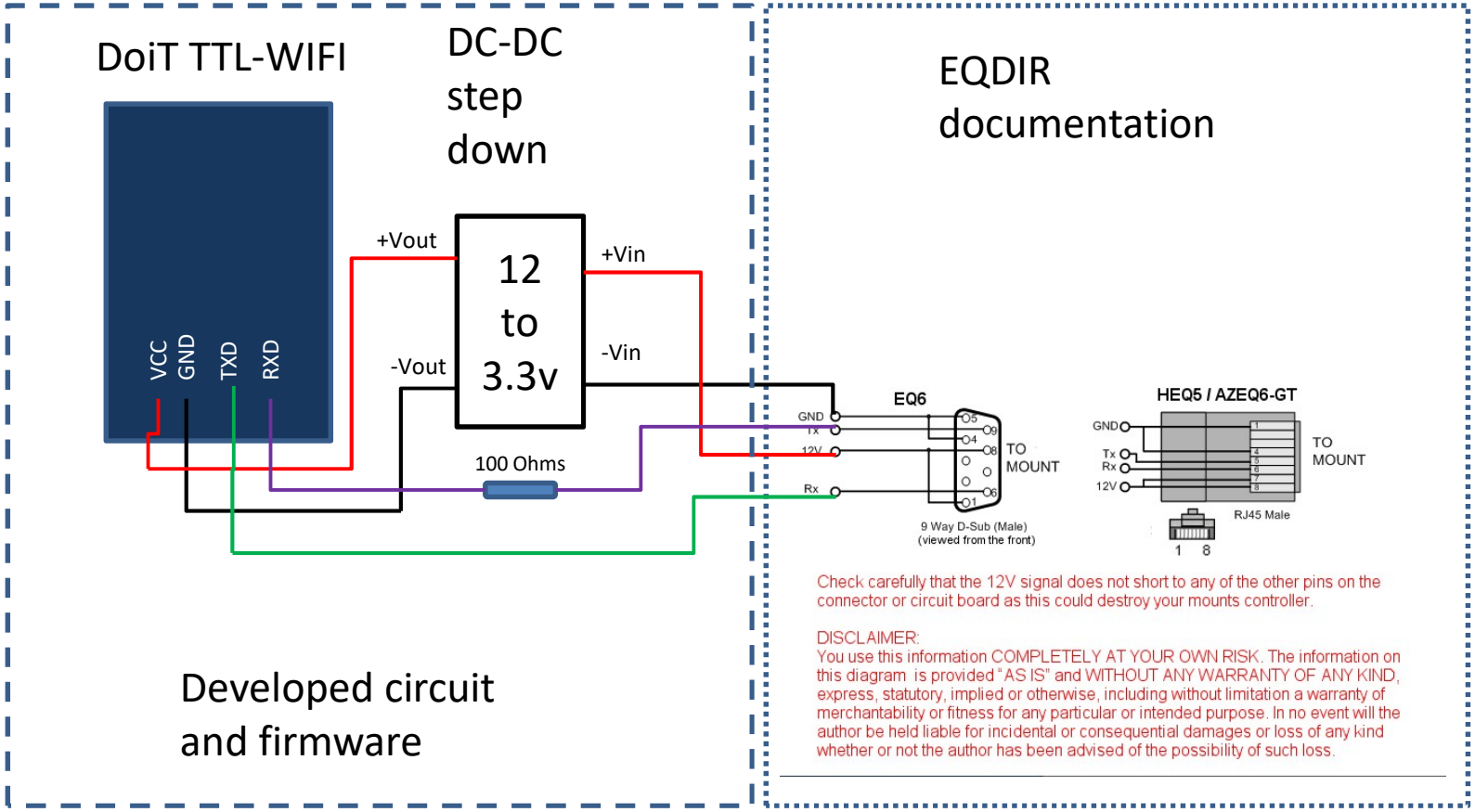


HW Alternative

- You can build a device using the “Doit TTL-WiFi” item.

- BoM
  - Modules
    - ESP-01S (better than ESP-01, there is pull-up resistors and it’s easy to integrate)
    - DC-DC step down mini
  - Resistors
    - 100 Ohms 1/8w
  - Miscellaneous
    - 1x DB9 male connector
    - 1x Connector Shell
    - 20cm 4 wire cable (like USB cable)
    - 1x4 pin sockets and 1x4 pin male.
    - mini-board 6x14 dots from a development board

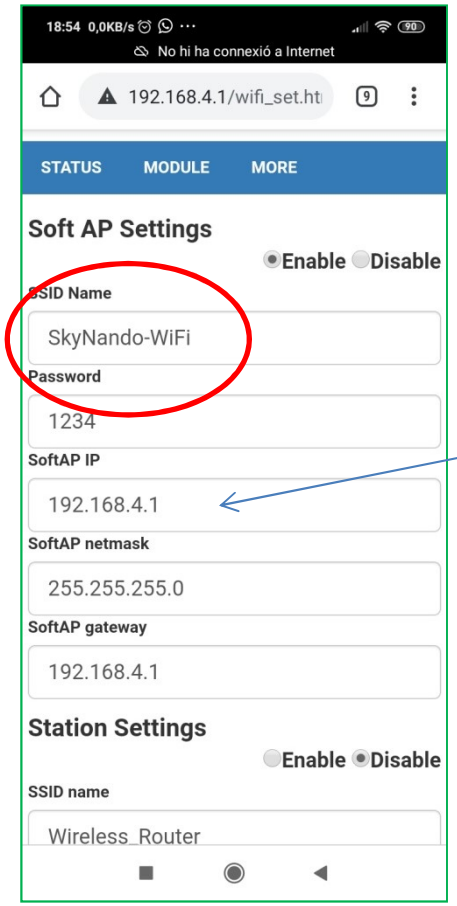
Electronics (2)



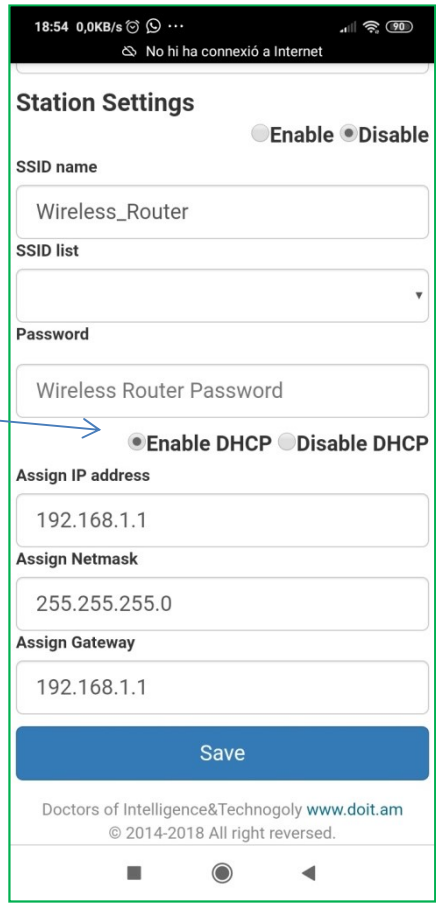
Configure Doit TTL-WiFi (1)

As Access point...

Up to you !

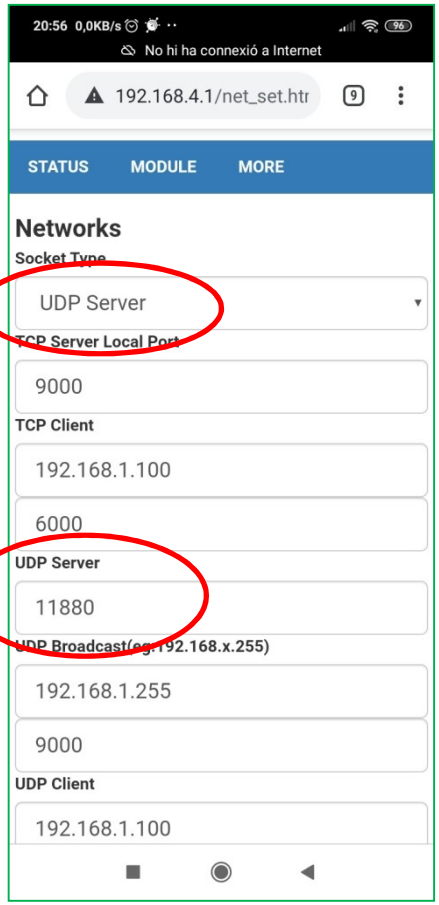


Recomended

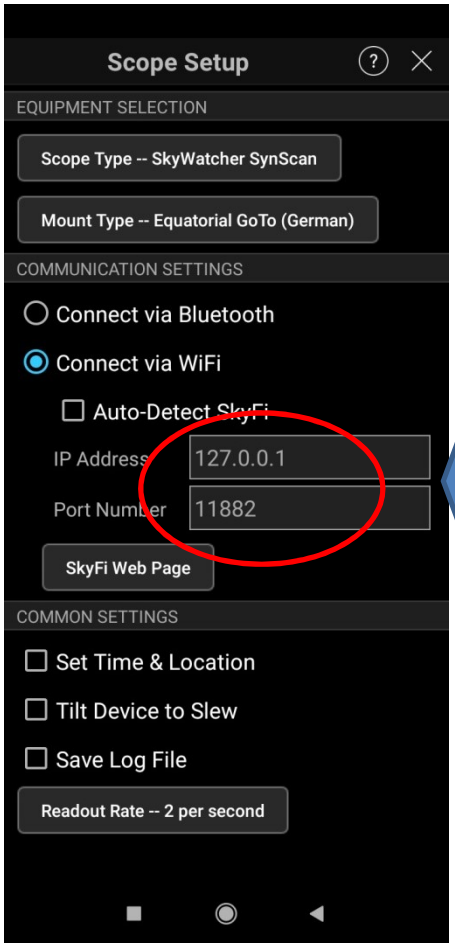


Configure Doit TTL-WiFi ()

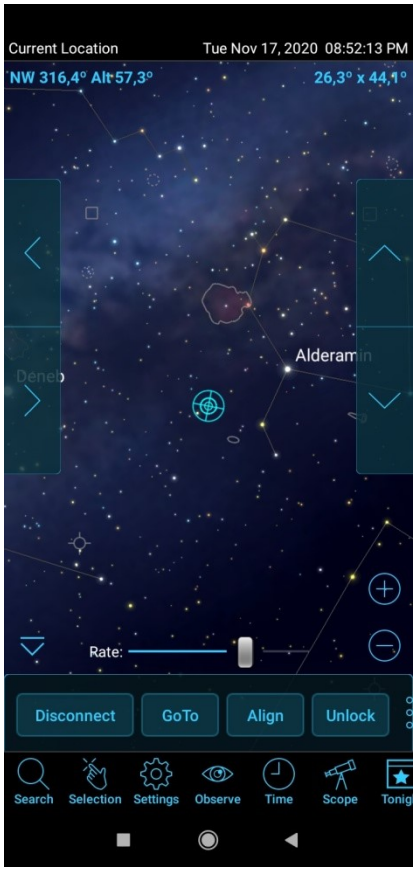
In “Network”, you should configure the UDP protocol listening in 11880 port

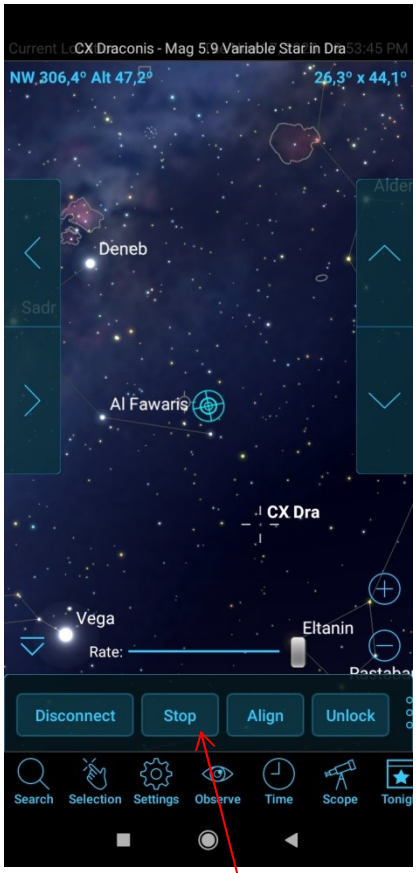


Configure *Safari 6 plus app*



Loopback address & port

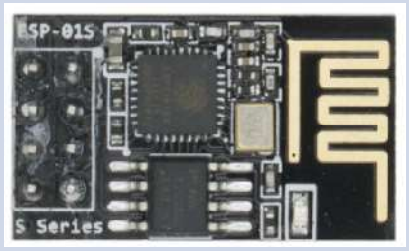
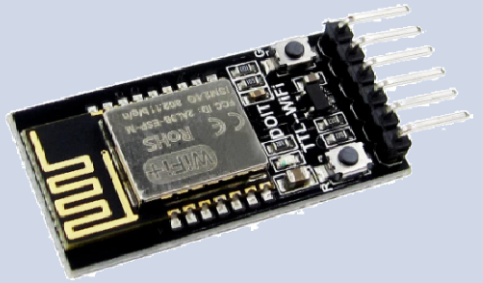




Connected and slew motion...

You could have in your hands an stellarium that can control your mount.

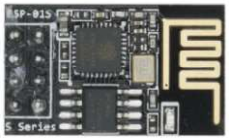
Comparative

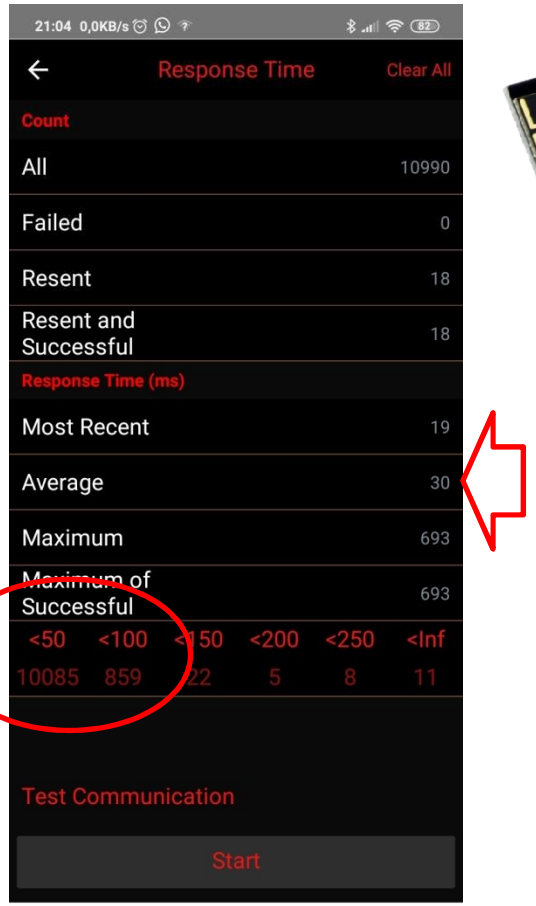
	ESP-01S	DoiT TTL-WiFi
Picture		
Cost	Cheapest under 1€	Cheap unde 3€
Programing	Easy throught Arduino IDE (but not for novice)	You don’t need programming nothing, only configure
Integration	Easy	Easy
Advantages	Speed	Reset button, led indicator
Disadvantages	nothing	Some retrying packets in comms test

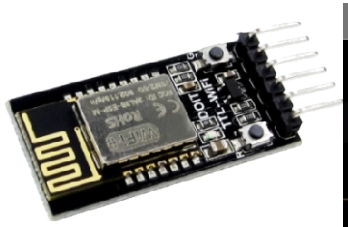
Diagnostics

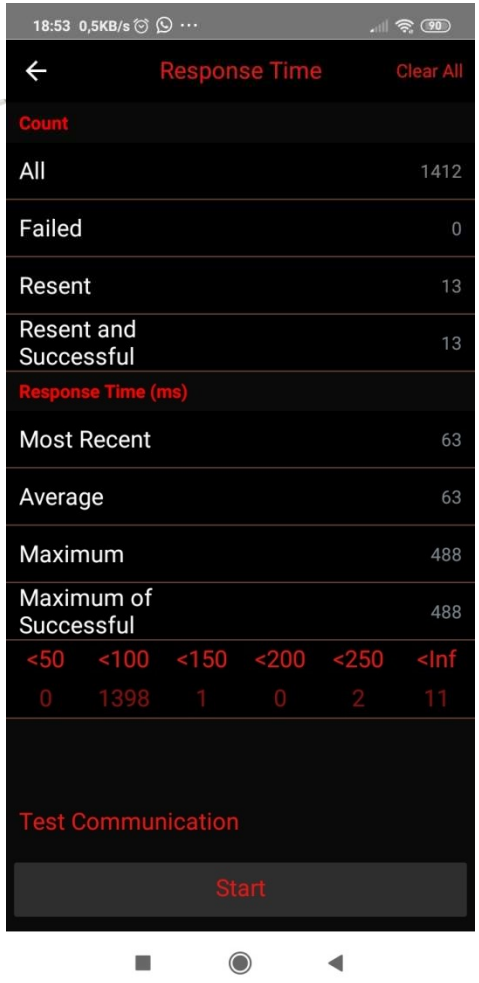
With SynScan Pro App you have a Diagnostics option and a response time test.

There you have the result using each item.







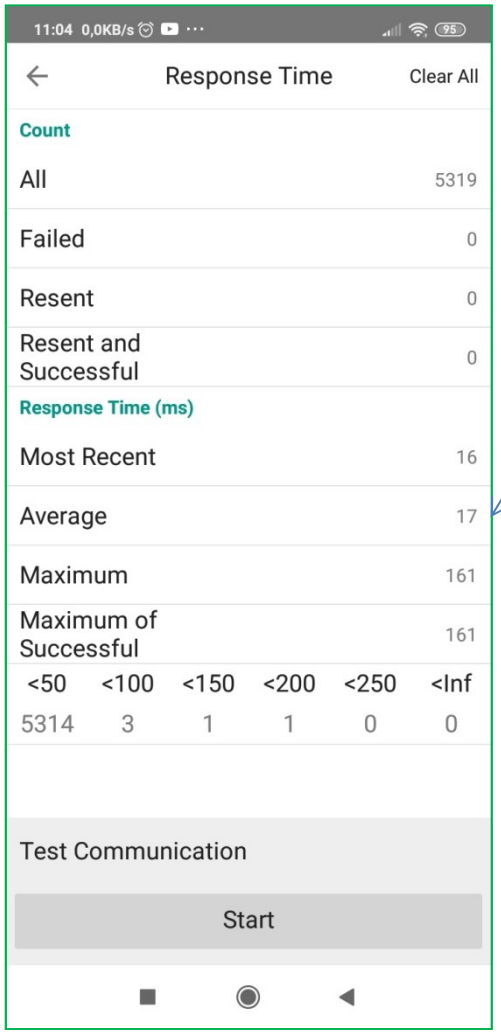


Working...

- SkyNando-Wifi (ESP-01s version)
- https://www.youtube.com/watch?v=sFFKFTEkweU

- SkyNando-Wifi (DoiT TTL-WiFi version)
- https://www.youtube.com/watch?v=DeSCxQLQGFw

Record ESP-01S



In a tests with 5k packets the average is 17 ms, no resent packets and no failures!!!

Conclusion:

If you could I recommend you to build the interface with ESP-01s.