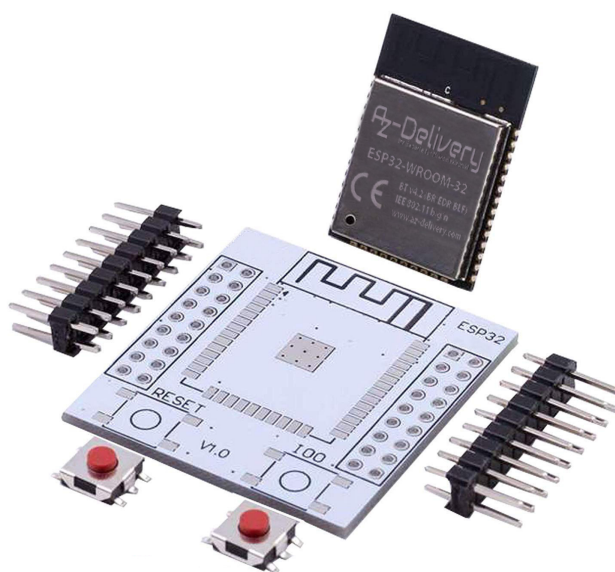


Welcome!

And thank you for purchasing our **AZ-Delivery ESP-32** with an adapter card. On the following pages, we will take you through the soldering of the ESP32 Chip onto the adapter card.

We wish you a lot of fun!



It is important to mention that an SMD component is being handled. It is not suitable for beginners at soldering, and it should be noted that one must have soldering experience!

Before we can start soldering, we first have to check the scope of supply:

1x ESP32

1x adapter board

2x pin header (2x9 Pin)

2x microswitch

If everything had been delivered, we then prepare our material. You will need:

Soldering iron with a fine tip

Solder for electronics (flux in the core)

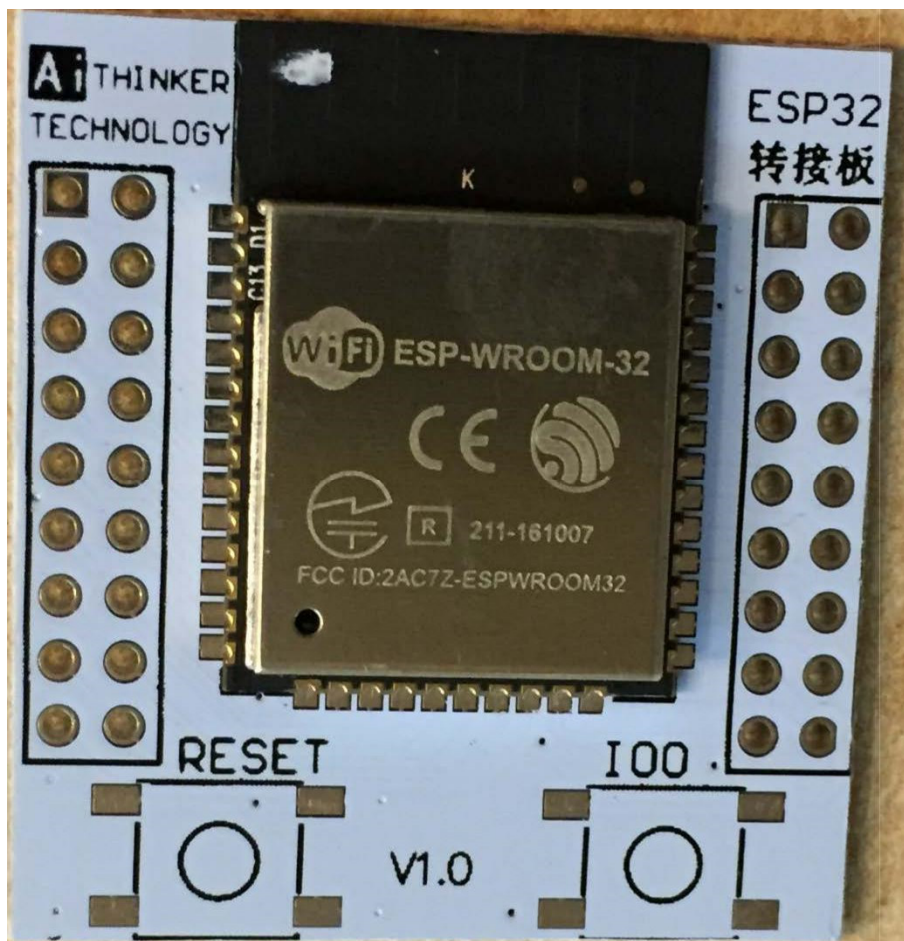
If possible de-soldering wire

Soldering the board:

After everything has been prepared, we will take the ESP32 out of the packaging.



And place it on the board to check it and its condition:

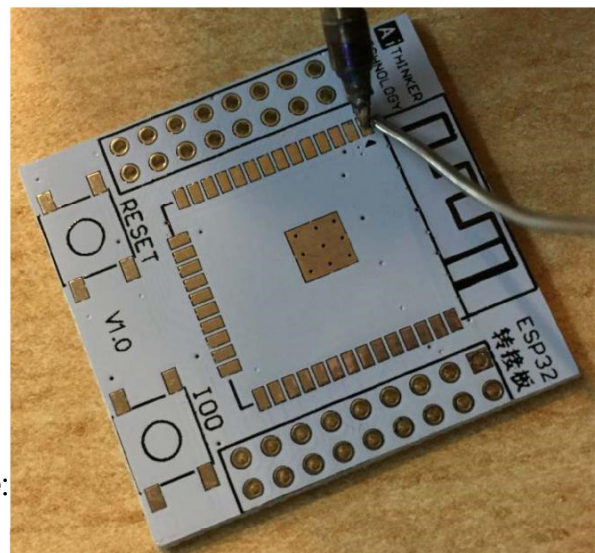
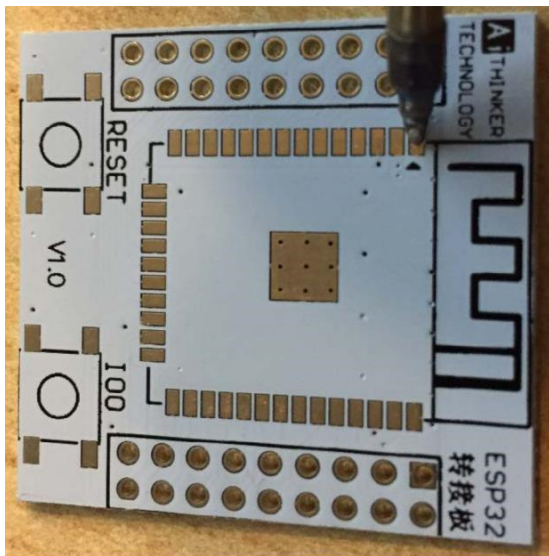


The contacts should be the same as the ones on the picture, accurately matching when one lies on top of the other.

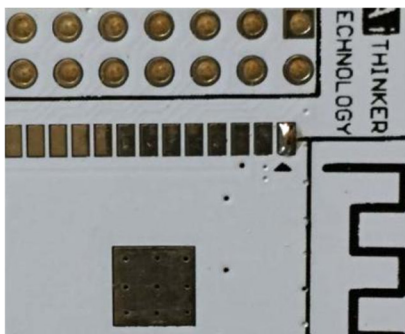
Therefore, we have the correct board with the correct chip.

Now we remove the ESP32 again and we heat up our soldering iron. Depending on the solder used, the temperature should be between 300 - 330°C (solder containing lead) or 350 - 370°C (solder containing no lead). If the soldering iron is too hot, the flux might evaporate too quickly and the component (ESP32- Chip) might overheat, leading to its death. Even at the correct or lower temperature, it is advised to solder in a quick manner!

When our soldering iron reaches the perfect working temperature, we tin one of the 16 soldering pads on the board, by slightly heating the pad and then adding some solder.



The result should look similar to this picture:

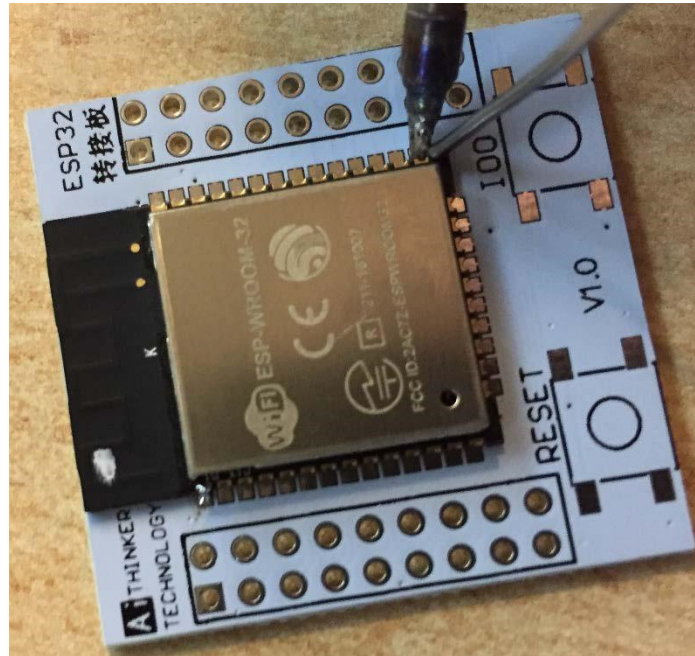


Subsequently, we place the ESP32 chip on the board and again we briefly heat up the tinned pad. With a light press on the top of the chip, we fix its position and leave the ESP32 to rest on the board.



Now you can still make a small position adjustment, by heating the soldered joint, but be careful: do not heat it for too long, otherwise, the danger of death caused by overheating and bridging caused by the solder will occur.

If the chip is attached to its intended location, we fix it by soldering the opposite contact.

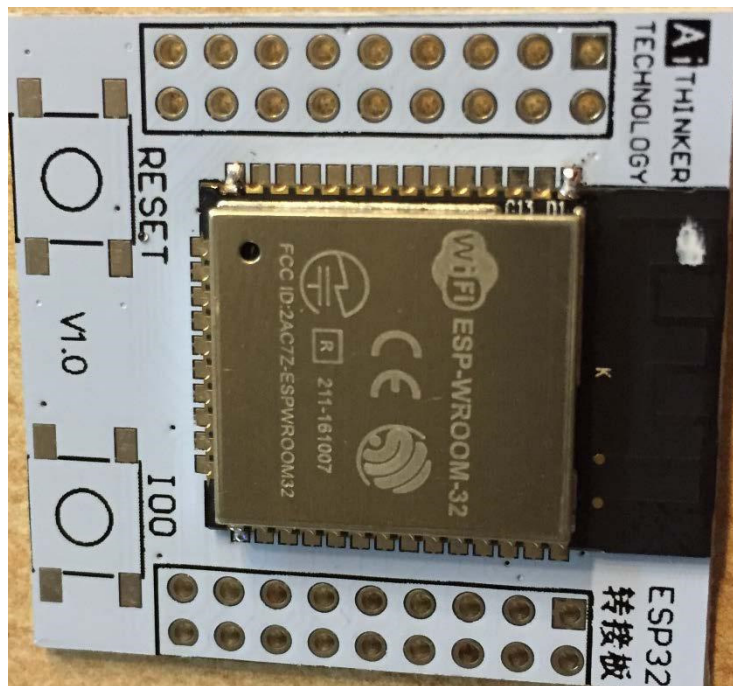


Firstly, the contact and the pad should be simultaneously heated, and shortly thereafter, some solder should be added. Please make sure to avoid adding too much solder. Otherwise, solder bridges will be produced. If that happens, then you can remove the solder bridge with a de-soldering wire. To do that, simply place the de-soldering wire on the solder bridge and heat it up with the soldering iron. The de-soldering wire absorbs the solder. If necessary, repeat several times, or until the desired result is reached.

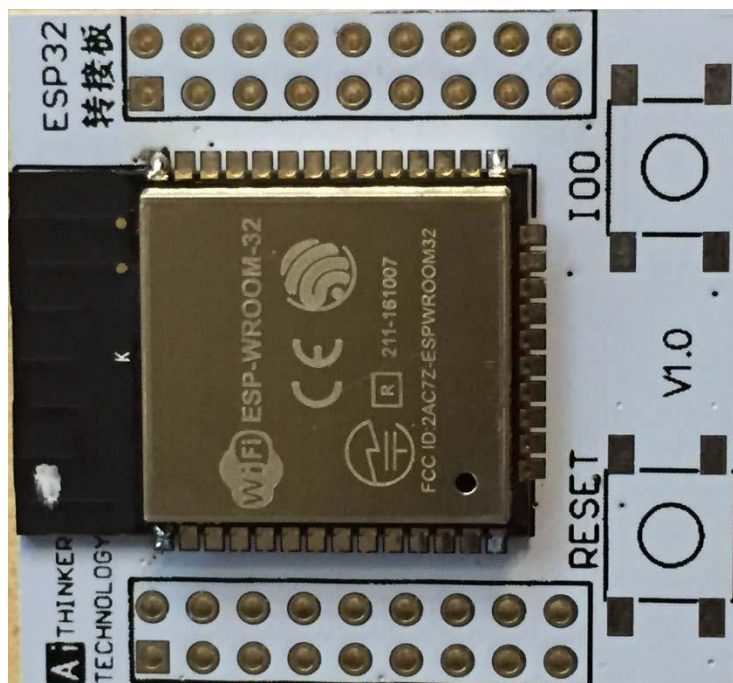
This is how the 2 soldered joints look now:



Now we should solder the 2 opposite contacts:

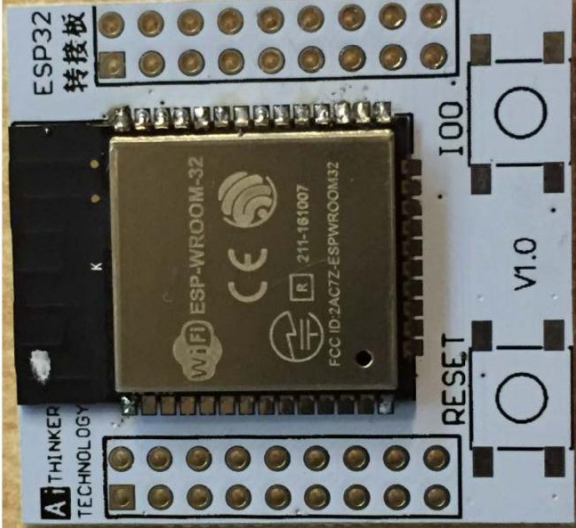
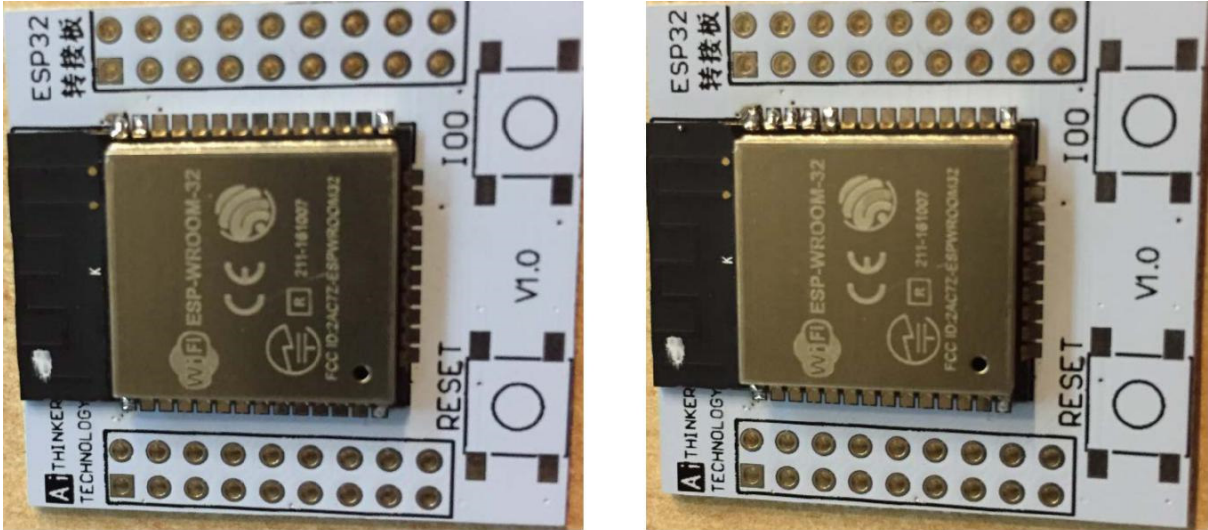


Firstly, you should heat up the contact and then add solder.

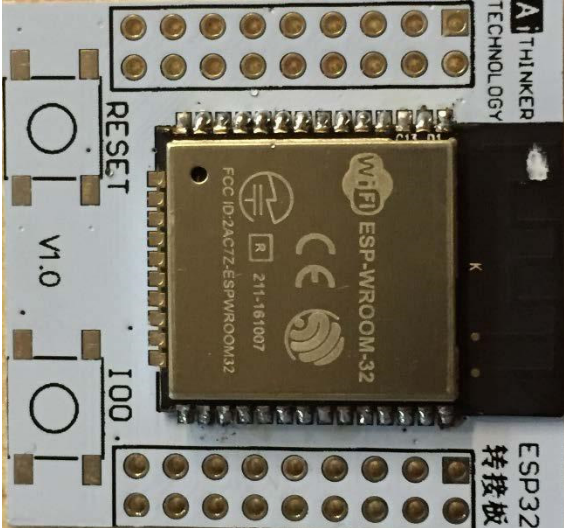


Four contacts have now been soldered, meaning that the ESP32-chip is now fixed and that it would not be able to slip anymore.

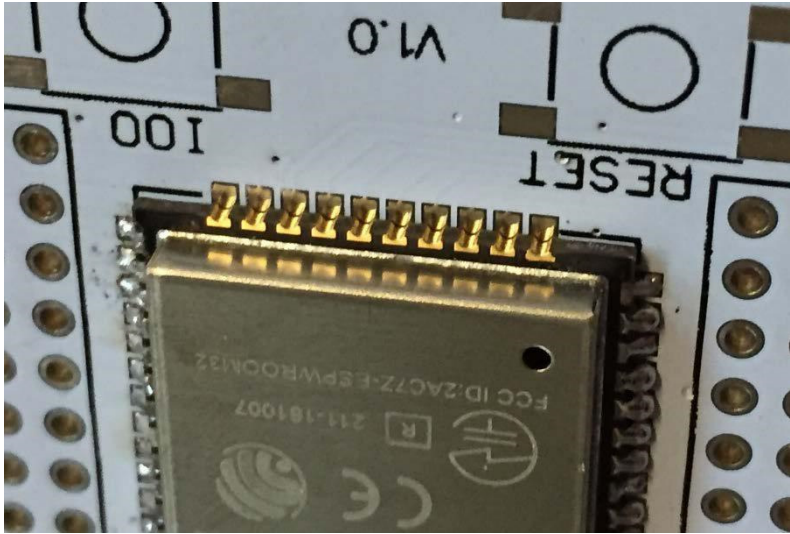
On the side, one contact after the other can now be soldered:



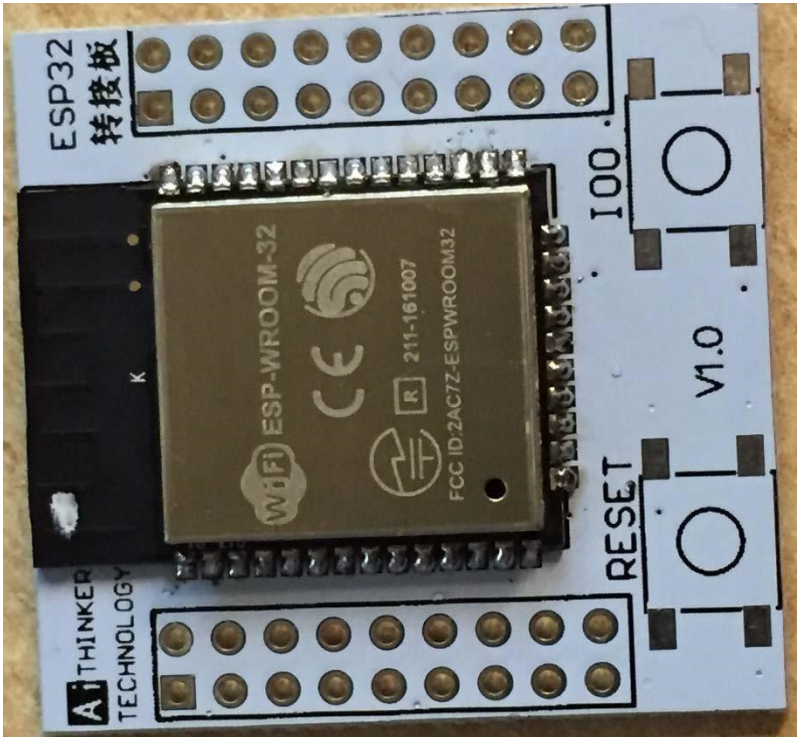
If the one side is now finished, proceed with completing the other sides:



Finally, on the ESP-32, the 3rd side is soldered contact by contact:

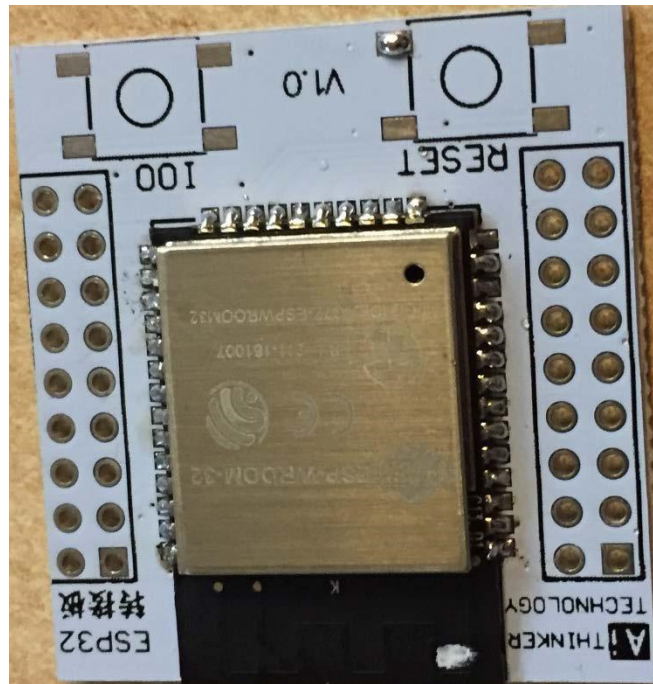


Now all contacts are soldered:

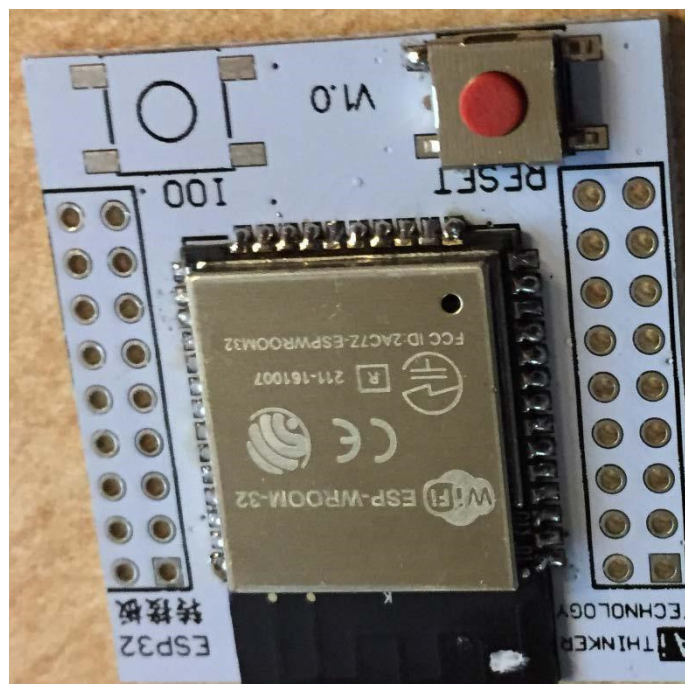


If all contacts of the ESP32 chip are soldered, then we should continue onto soldering the 2 SMD buttons on the board.

Here we also tin one of the pads onto the board:



Lastly, we set the button on the tinned spot and we fix it.

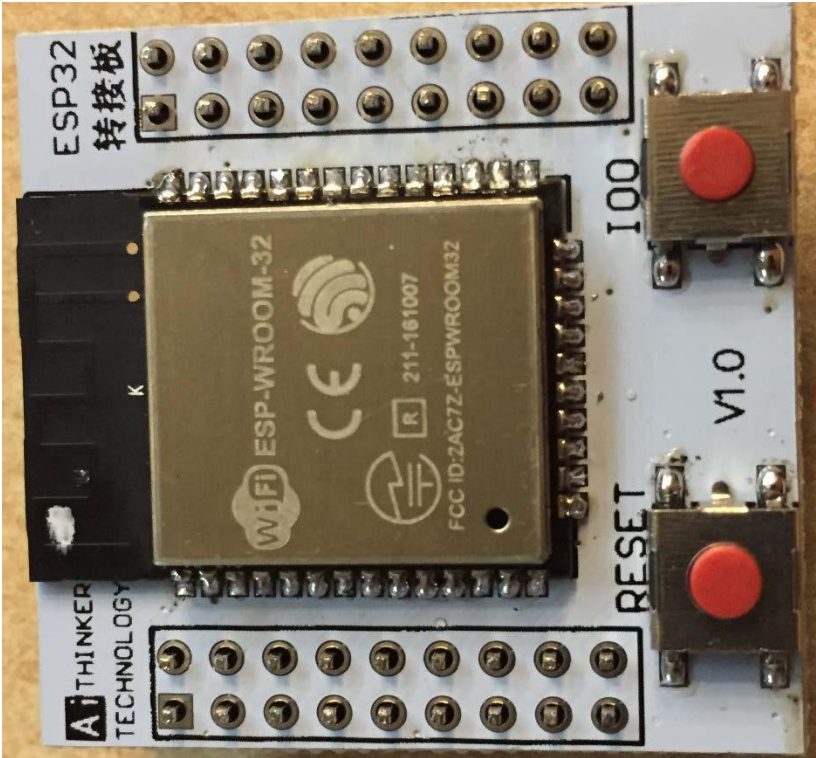


Now you have the possibility again to make a small position adjustment, and again it is recommendable not to heat it up for too long, otherwise, the mechanical button will get damaged.

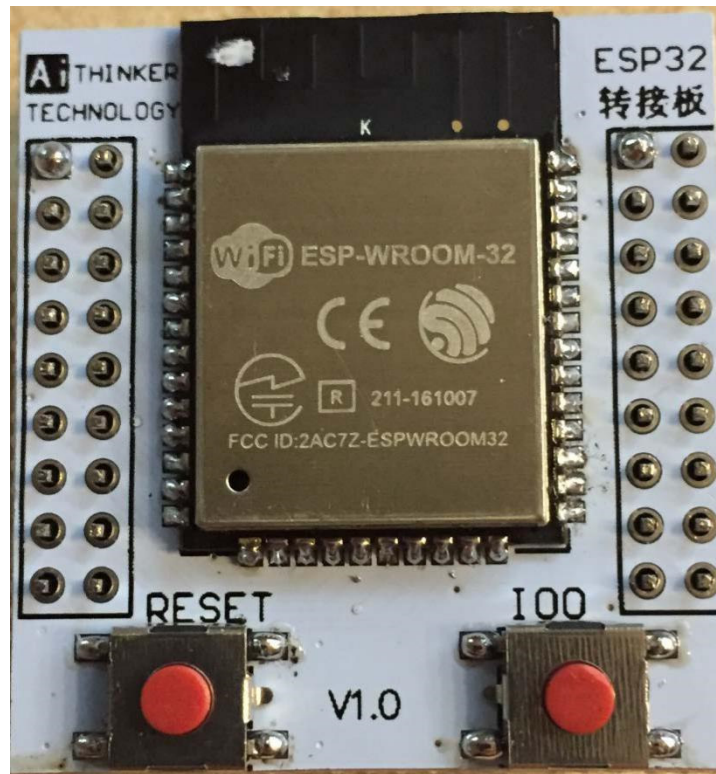
Then all 4 contacts of the button should be soldered. Follow the same steps for the 2nd button.



Now that we have soldered all of the SMD contacts, we can solder the pin headers on both sides. To do that, we should take the pin headers and put them on the board:



Here we also solder, on each side, only one pin:

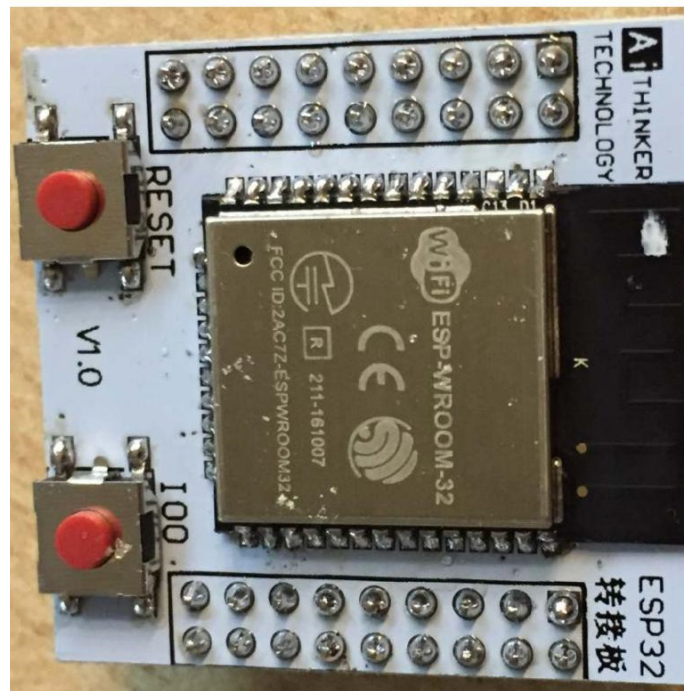
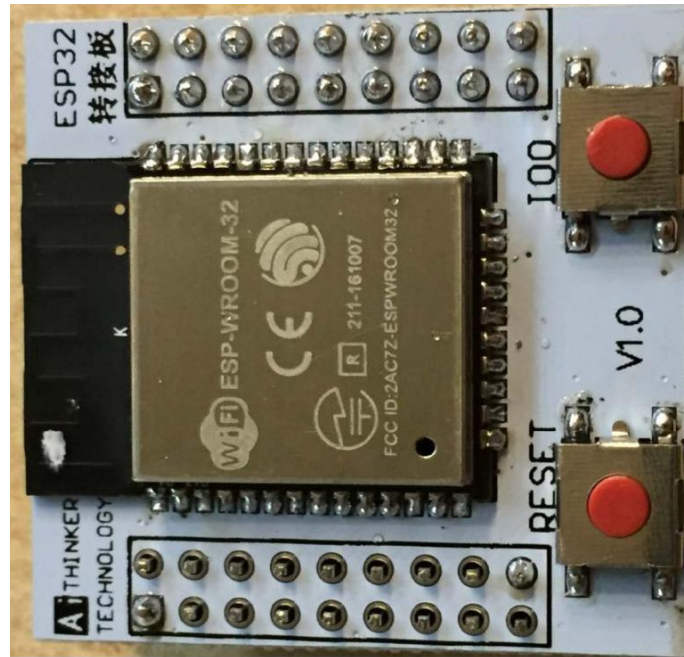


Now, if necessary, you can still adjust and align the pin header.

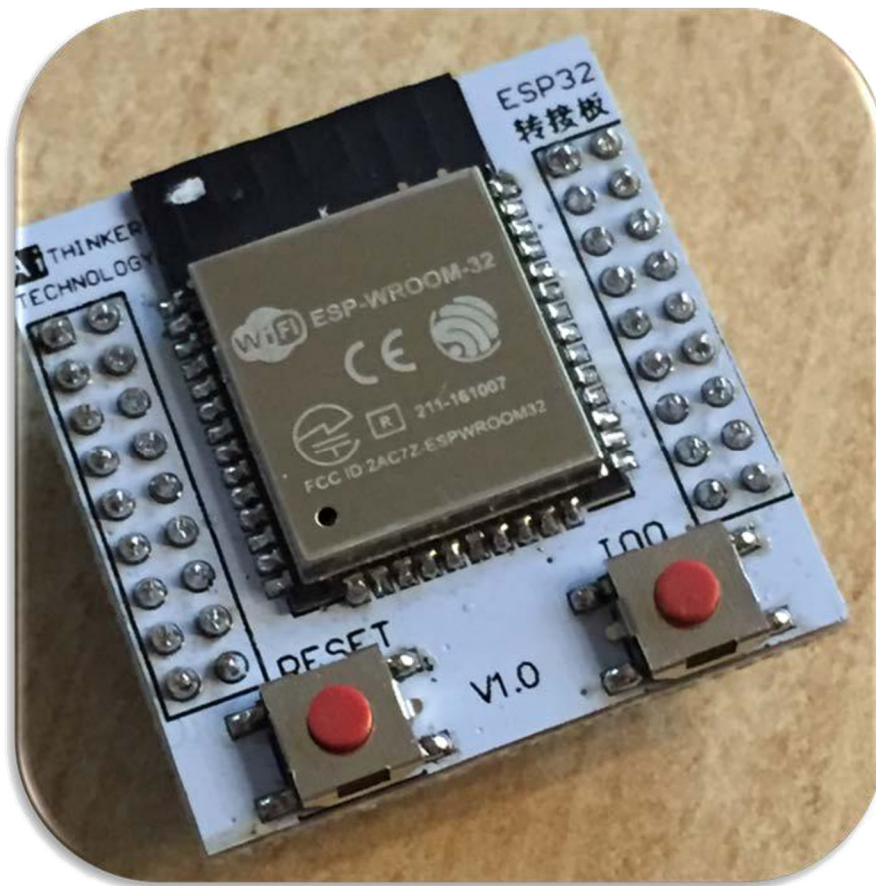
If both strips are correctly placed, then we should solder the pin on the other side:



Let us solder the pins on each side:



We are now done with the soldering process:



You did it! Now it is time for programming; in another eBook, you can find all the necessary information about this topic.

Now it is time to learn and put your own projects into practice.

And for more hardware, our online shop is always at your disposal:

<https://az-delivery.de>

Enjoy!

Imprint

<https://az-delivery.de/pages/about-us>