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1. INTRODUCTION

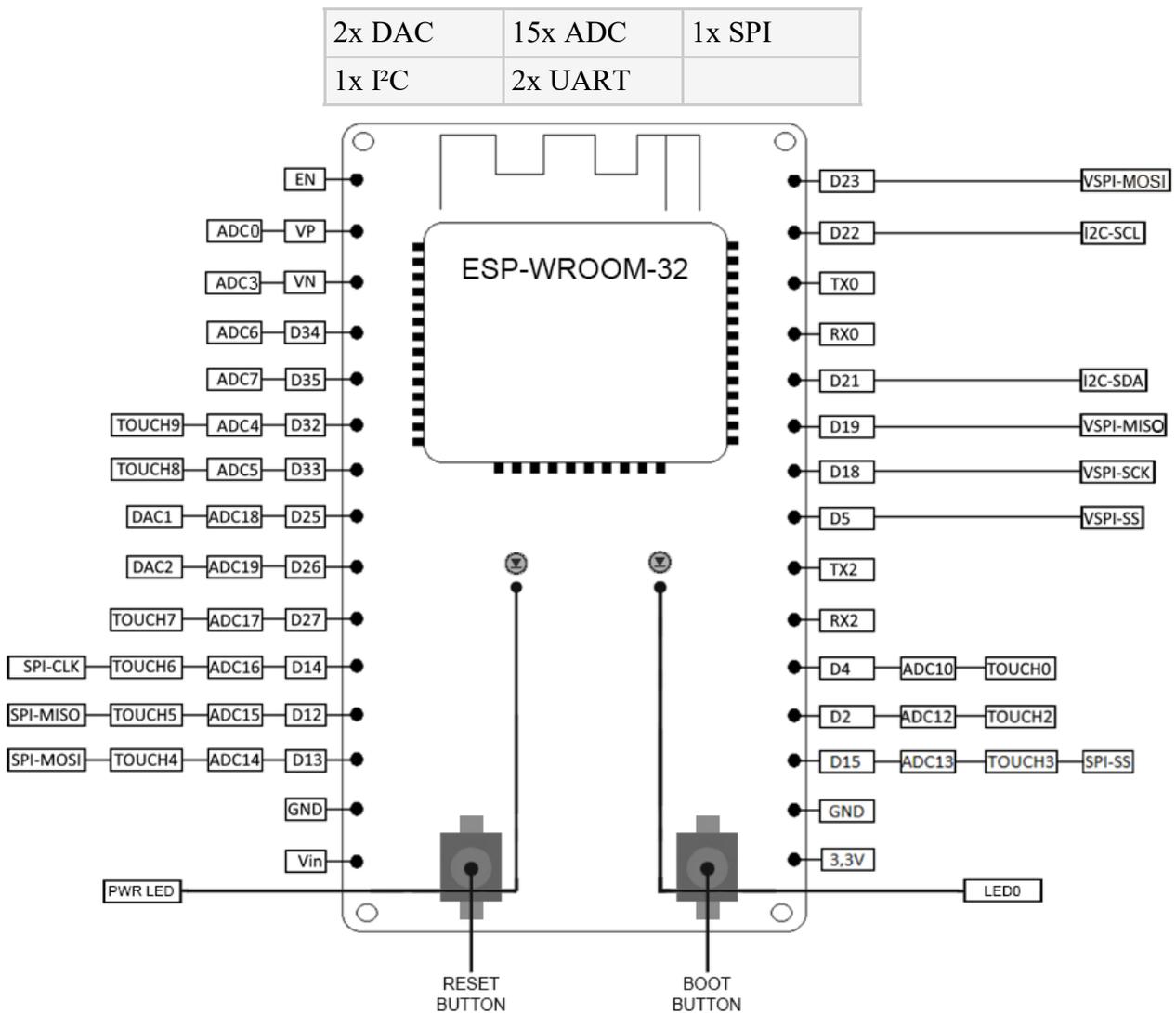
Dear customer,
 thank you for choosing our product.
 In the following, we will show you what to observe during commissioning and use.
 Should you encounter any unexpected problems during use, please do not hesitate to contact us.

2. OVERVIEW

The NodeMCU ESP32 module is a compact prototyping board and can be easily programmed via the Arduino IDE. It features 2.4 GHz dual-mode Wi-Fi and Bluetooth. Also integrated on the microcontroller development board are 512kb SRAM and 16MB memory.

PWM is enabled on every digital pin.

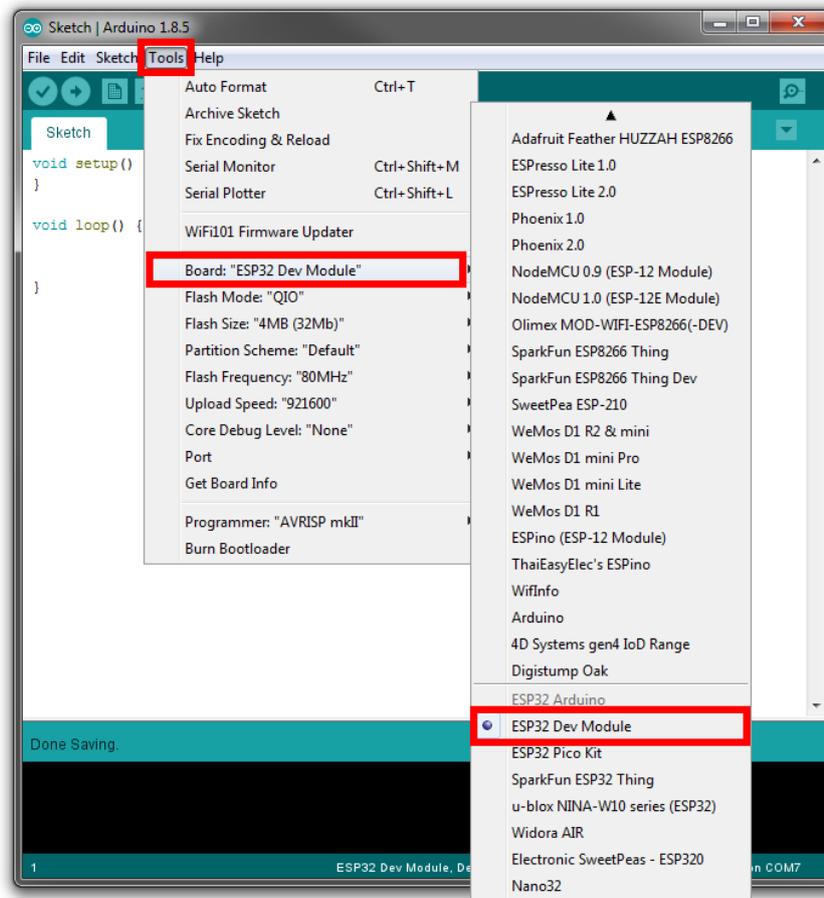
An overview of the available pins can be seen in the following figure:



3. MODULE INSTALLATION

If you have not yet installed the [Arduino IDE](#) on your computer, download and install it first.

Now open the Arduino IDE and change the board setting to "ESP32 Dev Module":



Download and install the [updated CP210x USB-UART driver](#) for your operating system.

The next step is to download the [official ESP32 library](#).

Unpack the contents of the archive into the "hardware" folder of your Arduino folder ("C:\Users\[your username]\Documents\Arduino\hardware").

Now restart your Arduino IDE. The module installation is now complete.



Attention! After the initial installation, the baud rate may have changed to "921600". This may cause problems. In this case, select the baud rate "115200" to avoid any problems.

4. USAGE

Your NodeMCU ESP32 is now ready to use. Simply connect it to your computer with a USB cable. The installed library already provides many examples to allow a quick insight into the module. You can find the examples in your Arduino IDE under "File -> Examples -> ESP32".

The fastest and easiest way to test your NodeMCU ESP32 is to get the device number. Either copy the code below or use the example "GetChipID":

```
uint64_t chipid;

void setup() {
  Serial.begin(115200);
}

void loop() {
  chipid=ESP.getEfuseMac();//The chip ID is essentially its MAC address
(length: 6 bytes).
  Serial.printf("ESP32 Chip ID = %04X",(uint16_t)(chipid>>32));//print
High 2 bytes
  Serial.printf("%08X\n",(uint32_t)chipid);//print Low 4bytes.

  delay(3000);
}
```

To upload, click the upload button from the Arduino IDE and hold down the "BOOT"-button on the SBC NodeMCU ESP32. The upload is completed until the writing has reached 100% and you will be asked to reboot (hard resetting via RTS pin ...) with the "EN" key.

You can show the output of the example in the serial monitor.

5. SUPPORT

We also support you after your purchase. If there are any questions left or if you encounter any problems please feel free to contact us by mail, phone or via our ticket support system on our website.

E-Mail: service@joy-it.net
Ticket-System: <http://support.joy-it.net>
Telefon: +49 (0)2845 98469 – 66 (11- 18 Uhr)

Visit our website for more informations:

www.joy-it.net

6. OTHER INFORMATIONS

Our take-back obligations under the Electrical and Electronic Equipment Act (ElektroG)

Symbol on electrical and electronic equipment:



This crossed-out dustbin means that electrical and electronic equipment does **not** belong in household waste. You must return the old devices to a collection point. Before disposal, you must separate old batteries and accumulators which are not enclosed in the old device from it.

Return options:

As an end user, you can dispose of your old device (which essentially fulfils the same function as the new one purchased from us) free of charge when purchasing a new device. Small appliances where no external dimensions are larger than 25 cm can be delivered in normal household quantities, irrespective of the purchase of a new appliance.

Possibility of return at our company during opening hours:

Simac GmbH, Pascalstr. 8, 47506 Neukirchen-Vluyn, Germany

Possibility of return in your area:

We will send you a parcel stamp with which you can return the device to us free of charge.

Please contact us by e-mail at Service@joy-it.net or by phone.

Information about packaging:

If you do not have suitable packaging material or do not wish to use your own, please contact us and we will send you suitable packaging. Please inform us if your device contains Lilon batteries in this case. an additional warning label must be attached.