Product: ESP32 WiFi & Bluetooth Development Board

Model(s): ESP32

OEM/Integrators Installations User Manual

The module is limited to OEM installation only.

This product is mounted inside of the end product only by professional installers OEM. They use this module with changing the power and control signal setting by software of end product within the scope of this application. End user cannot change this setting.

This device is intended only for OEM integrators under the following conditions:

1) The antenna must be installed such 20cm is maintained between the antenna and users, the antenna is a **PCB printed** antenna with a gain of **2.0dBi**.
2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as these two conditions are met, further transmitter test will not be required. However, integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

The OEM integrator has to be aware no to provide information to the end user regarding how to install or remove this RF module in the user manual of the end product with integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.

This exterior label can use wording such as the following:

“Contains FCC ID: 2A4RQ-ESP32”

When the module is installed inside another device, the user manual of this device must contain below warning statement:

Frederal Communication Commission Interference Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

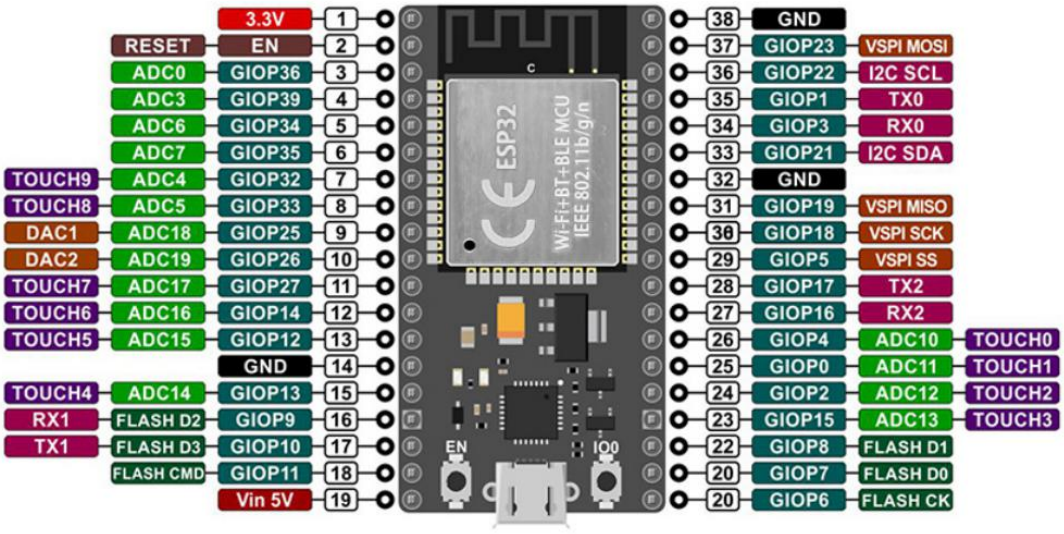
This transmitter must be co-located or operating to conjunction with any other antenna or transmitter.

That separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

Installation:

Download mode: Directly download the code after connecting to the computer through a USB cable. Note: The baud rate cannot be selected as 1152000.

Run mode: Press the EN key on the development board, the development board will go to run mode.



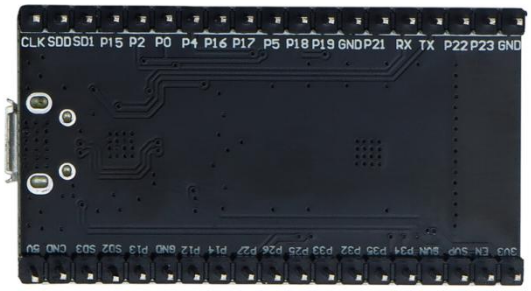
Pin No.	Pin Name	Pin Description
1	3.3V	Power Supply
2	EN	Enable module, active high
3	SVP	GPIO36，ADC1_CH0，RTC_GPIO0
4	SVN	GPIO39，ADC1_CH3，RTC_GPIO3
5	P34	GPIO34，ADC1_CH6，RTC_GPIO4
6	P35	GPIO35，ADC1_CH7，RTC_GPIO5

7	P32	GPIO32, XTAL_32K_P (32.768 kHz Crystals input), ADC1_CH4, TOUCH9,RTC_GPIO9
8	P33	GPIO33, XTAL_32K_N (32.768 kHz Crystals output), ADC1_CH5, TOUCH8,RTC_GPIO8
9	P25	GPIO25，DAC_1，ADC2_CH8， RTC_GPIO6，EMAC_RXD0
10	P26	GPIO26，DAC_2，ADC2_CH9，RTC_GPIO7， EMAC_RX_DV
11	P27	GPIO27，ADC2_CH7，TOUCH7，RTC_GPIO17， EMAC_RX_DV
12	P14	GPIO14, ADC2_CH6, TOUCH6, RTC_GPIO16, MTMS, HSPICLK, HS2_CLK,SD_CLK, EMAC_TXD2
13	P12	GPIO12, ADC2_CH5, TOUCH5, RTC_GPIO15, MTDI, HSPIQ, HS2_DATA2,SD_DATA2, EMAC_TXD3
14	GND	Ground

15	P13	GPIO13, ADC2_CH4, TOUCH4, RTC_GPIO14, MTCK, HSPID, HS2_DATA3,SD_DATA3, EMAC_RX_ER
16	SD2	GPIO9, SD_DATA2, SPIHD, HS1_DATA2, U1RXD
17	SD3	GPIO10, SD_DATA3, SPIWP, HS1_DATA3, U1TXD
18	CMD	GPIO11, SD_CMD, SPICS0, HS1_CMD, U1RTS
19	5V	Power Supply
20	CLK	GPIO6, SD_CLK, SPICLK, HS1_CLK, U1CTS
21	SD0	GPIO7, SD_DATA0, SPIQ, HS1_DATA0, U2RTS
22	SD1	GPIO8, SD_DATA1, SPID, HS1_DATA1, U2CTS
23	P15	GPIO15, ADC2_CH3, TOUCH3, MTDO, HSPICS0, RTC_GPIO13, HS2_CMD,SD_CMD, EMAC_RXD3
24	P2	GPIO2, ADC2_CH2, TOUCH2, RTC_GPIO12, HSPIWP, HS2_DATA0,SD_DATA0
25	P0	GPIO0, ADC2_CH1, TOUCH1, CLK_OUT1, RTC_GPIO11,EMAC_TX_CLK; Download mode: external pull down; Operation mode: suspension or external pull up

26	P4	GPIO4, ADC2_CH0, TOUCH0, RTC_GPIO10, HSPIHD, HS2_DATA1,SD_DATA1, EMAC_TX_ER
27	P16	GPIO16, HS1_DATA4, U2RXD, EMAC_CLK_OUT
28	P17	GPIO17, HS1_DATA5, U2TXD, EMAC_CLK_OUT_180
29	P5	GPIO5, VSPICS0, HS1_DATA6, EMAC_RX_CLK
30	P18	GPIO18, VSPICLK, HS1_DATA7
31	P19	GPIO19, VSPIQ, U0CTS, EMAC_TXD0
32	GND	Ground
33	P21	GPIO21, VSPIHD, EMAC_TX_EN
34	RX	GPIO3, U0RXD, CLK_OUT2
35	TX	GPIO1, U0TXD, CLK_OUT3, EMAC_RXD2
36	P22	GPIO22, VSPIWP, U0RTS, EMAC_TXD1
37	P23	GPIO23, VSPID, HS1_STROBE
38	GND	Ground

More module information is provided below:



ESP32 BOTVIEW

ESP32 TOPVIEW

Outline Dimension