

ESP32-S WIFI + BLUETOOTH DEVELOPMENT BOARD WITH CAMERA 16 PINS, DRIVER CH340C, Micro-USB CONNECTOR



ESP32-CAMERA-01

Introduction :

This development board is equipped with a module based on the single-core 32-bit RISC-V ESP32-S microprocessor (32 Mbits Flash + 520 Kbits SRAM) with an internal clock frequency of up to 240 MHz and integrating 802.11 b/g/n/e/i Wi-Fi and Bluetooth 4.2 communication capabilities into a single component. The kit includes two 16-pin PCBs that stack on top of each other, as well as an OV3660 miniature camera equipped with a built-in flash and 3,1 million pixels, and a 3 dBi external antenna that plugs into the module's IPEX connector using the included 50-ohm cable. The board also features a RESET button, a 64-Mbit PSRAM64H external memory chip for image storage, and an micro-SD card reader (4 GB max). Many Arduino applications are available for the ESP32, and the built-in camera allows developers to create video applications with increased storage capacity and the use of an optional SD card.

This board, based on the ESP32 microprocessor, enables a wide range of wireless applications that combine speed and low power consumption—whether via Wi-Fi or Bluetooth—all integrated into a single component. It can be used to manage wireless sensors, transmit data, music, or images in real time, communicate with a router or a cell phone, or for any other industrial applications.

Technical specifications :

Microprocessor: ESP32-S 32-bit single-core RISC-V.
Memory: 32 Mbits Flash + 520 Kbits SRAM + 64 Mbits external PSRAM.
Clock frequency: 80 MHz to 240 MHz max.
Supported interfaces: UART / GPIO / ADC / DAC / PWM / SPI / I2C.
Camera: OV3660 with built-in flash, 3,1 million pixels (2048x1536 pixels).
Power supply: 5.0 Vdc (Micro-USB) or 5.0 Vdc / 3.3 Vdc (pins).
Antenna: PCB antenna integrated into the module, +2 dBi gain, IPEX connector.
Wi-Fi transmission: IEEE 802.11 b/g/n/e/i from 2.412 GHz to 2.484 GHz. +17 dBm.
Bluetooth transmission: 4.2 LE standard
Standby current: 6 mA. Active: 180 mA. With flash: 310 mA.
Operating temperatures: -40°C to +85°C. Humidity: <90%.
Board dimensions: 39.8 x 26.9 mm (16 pins). Weight: 17 g.



Items included :

DCard with micro-SD reader + card with Micro-USB connector.
Subminiature camera.

3 dBi external antenna with SMA/IPEX cable.

Available for download online:

- Arduino or Raspberry Pi IDE software for the ESP32.
- Espressif ESP32-C6 datasheet.
- Espressif ESP-IDF open-source programming guide.

