

# Catalog

## Overview ..... 3



### 1.1. Basic performance parameters ..... 3

### 1.2. Application scenarios ..... 4

## Specifications ..... 5

## Mechanical size and pin definition ..... 6

### 3.1 Encapsulation size ..... 6

ITEM	ESP32-CAM	ESP32-CAM-MB
Picture		
USB to serial port CH340G	NO	YES
Automatic download	NO	YES
Manual download	NO	YES
Need a fly line	NEED	NEED NOT
Direct development	NO	YES

## Overview

### Introduction

The HK-ESP32-CAM-MB module is a small camera module with a size of 39.8\*27\*. This module can work independently as the smallest system. A new WiFi+Bluetooth dual-mode development board based on ESP32 design, using PCB on-board antenna, with 2 high-performance 32-bit LX6CPU, using 7-level pipeline architecture, main frequency adjustment range 80MHz to 240Mhz. Ultra-low power consumption, deep sleep current is as low as 6mA. It is an ultra-small 802.11b/g/n Wi-Fi + BT/BLE SoC module.

HK-ESP32-CAM-MB adopts Micro USB interface, convenient and reliable connection method, convenient to apply to various IoT hardware terminal occasions.

### 1.1 Basic performance parameters:

- Use low-power dual-core 32-bit CPU, which can be used as an application processor,,
- The main frequency is up to 240MHz, and the computing power is up to 600 DMIPS
- Built-in 520 KB SRAM, external 8MB PSRAM
- Support UART/SPI/I2C/PWM/ADC/DAC and other interfaces
- Support OV2640 and OV7670 cameras, built-in flash
- Support picture WiFi upload
- Support TF card
- Support multiple sleep modes.
- Embedded Lwip and FreeRTOS
- Support STA/AP/STA+AP working mode
- Support Smart Config/AirKiss one-click network configuration
- Support secondary development

### 1.2 Application scenarios:

- Home smart device image transmission
- Wireless monitoring

- Smart agriculture
- QR wireless recognition
- Wireless positioning system signal
- And other applications

## Specifications:

Specifications	Description
Operating Voltage	4.75-5.25V
SPI Flash	default 32Mbit
RAM	internal 520KB+ external 8MB PSRAM
Wi-Fi	802.11b/g/n/e/i
Bluetooth	Bluetooth 4.2BR/EDR 和 BLE standard
Support interface (2Mbps)	UART、SPI、I2C、PWM
Support TF card	Maximum support 4G
IO interface	9pcs
Serial port rate	default 115200bps
Spectrum range	2400 ~2483.5MHz
Antenna form	Onboard PCB antenna, gain 2dbi
Image output format	JPEG (support only OV2640), BMP, GRAYSCALE
Encapsulation	DIP-16
Transmit power	802.11b: $17 \pm 2$ dBm (@11Mbps) 802.11g: $14 \pm 2$ dBm (@54Mbps) 802.11n: $13 \pm 2$ dBm (@MCS7)
Receiver sensitivity	CCK, 1Mbps: -90dBm CCK, 11Mbps: -85dBm 6Mbps (1/2BPSK) : -88dBm 54Mbps (3/464-QAM) : -70dBm MCS7 (65Mbps, 72.2Mbps) : -67dBm
Power consumption	Turn off the flash: 180mA@5V Turn on the flash and the brightness is maximized: 310mA@5V Deep-sleep: Minimum power consumption can reach 6mA@5V Moderm-sleep: Minimum 20mA@5V Light-sleep: Minimum 6.7mA@5V
safety	WPA/WPA2/WPA2-Enterprise/WPS
Operating temperature	-20 °C ~ 70 °C
Storage environment	-40 °C ~ 125 °C, < 90%RH
weight	10g

## Mechanical size and pin definition

