

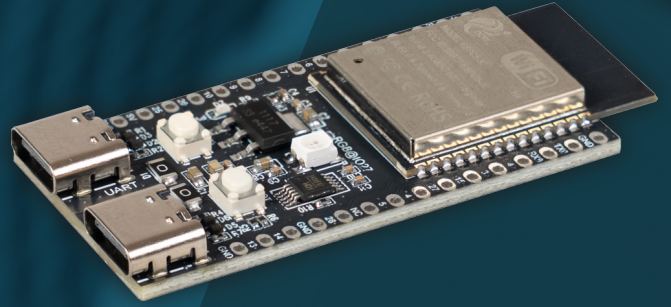
ESP32-C5 WIRELESS MODULE

NEXT-GENERATION RISC-V MODULE WITH DUAL-BAND WI-FI 6 AND MULTI-PROTOCOL CONNECTIVITY

JOY-IT

SPECIAL FEATURES

- ✓ 32-bit ultra-low-power RISC-V single-core microprocessor @ 240 MHz
- ✓ Dual-band Wi-Fi 6 (2.4 GHz & 5 GHz) for fast and reliable wireless communication
- ✓ Integrated BTLE, Zigbee, and Thread support
- ✓ Flexible power supply: 5 V via USB or 5V pin, 3.3 V via 3V pin
- ✓ USB Type-C interface for easy programming and debugging
- ✓ 22 GPIO pins with onboard reset, boot buttons, RGB LED, and power LED



The ESP32-C5 Module is a highly integrated wireless development platform designed for modern IoT and connectivity-focused applications. It is based on an ultra-low-power 32-bit RISC-V single-core processor, offering an excellent balance between performance, energy efficiency, and flexibility for embedded designs.

Supporting dual-band Wi-Fi 6 (2.4 GHz and 5 GHz) as well as BTLE, Zigbee, and Thread, the ESP32-C5 enables reliable and future-ready wireless communication across a wide range of use cases, including smart home devices, industrial automation, and connected sensor networks.

The module offers flexible power options and can be supplied with 5 V via USB or the 5V pin, or alternatively with 3.3 V via the 3V pin, making it easy to integrate into both development setups and custom hardware designs. Programming and debugging are handled conveniently via a USB Type-C interface, and 22 GPIO pins provide ample connectivity for external peripherals.

Additional onboard features such as reset and boot buttons, an RGB LED, and a power LED support efficient development, testing, and status monitoring. Its compact dimensions and low weight make the ESP32-C5 module ideal for space-constrained applications and rapid prototyping.

For detailed technical specifications and in-depth information about the microprocessor and its internal features, please refer to the official Espressif ESP32-C5 datasheet.

MAIN FEATURES

Model	ESP32-C5
Processor	Ultra-low-power SoC with 32-bit RISC-V single-core microprocessor @240 MHz
Wireless connectivity	2.4 and 5 GHz dual-band Wi-Fi 6 (802.11ax), BT 5 (LE), Zigbee, and Thread (802.15.4)
ROM	320 KB
SRAM	400 KB
Interfaces	USB, UART, SPI, I ² C, I ² S, PWM, ADC
Logic level	3.3 V
Input low level	0.825 V max.
Input high level	2.475 V min.
Output low level	0.33 V max.
Output high level	2.97 V min.
Supply voltage	5 V via USB or 5V pin, 3.3 V via 3V pin
Programming interfaces	ESP32-C5 USB Type-C Port, USB Type-C to UART Port
GPIO Pins	22
Pin / row spacing	2.54 mm / 22.86 mm
Special features	Reset button, boot button, RGB-LED(GPIO 27), power led

FURTHER INFORMATION

Weight	10 g
Dimensions (l x w x h)	53.6 x 25.3 x 4.8 mm
Article number	SBC-ESP32-C5
Scope of delivery	ESP32-C5-Module, 2x 15 pin pin header
Customs tariff number	8473302000
EAN	4250236830582

