

100010048 | Seeed Studio XIAO ESP32-C5

SKU: 100010048

Product Overview

Seeed Studio XIAO ESP32-C5 is the first XIAO module with 5 GHz Wi-Fi support. It features RISC-V architecture, dual-band Wi-Fi 6 (2.4 GHz and 5 GHz), Bluetooth 5 (LE), and IEEE 802.15.4 connectivity for Zigbee and Thread protocols. The module supports IoT application protocols such as Matter, HomeKit, and MQTT, providing reliable wireless performance for projects.

Features

First Seeed Studio XIAO with 5 GHz Wi-Fi Provides dual-band Wi-Fi 6 for cleaner spectrum access and higher throughput in 5 GHz, while maintaining 2.4 GHz compatibility.

Comprehensive connectivity Dual-band Wi-Fi 6, Bluetooth 5 LE, and IEEE 802.15.4 provide comprehensive IoT protocol coverage, with full support for Matter, HomeKit, and MQTT.

High-performance core Equipped with a 32-bit RISC-V single-core processor running up to 240 MHz, the XIAO ESP32-C5 integrates 384 KB on-chip SRAM, 320 KB ROM, 8MB Flash, and 8MB PSRAM. This combination ensures smooth protocol handling, multitasking, and application scalability.

Enhanced security Secure boot, flash encryption, and hardware cryptographic accelerators to protect firmware and data integrity.

Built-in Battery Interface for Low-Power Designs Integrated battery management supporting ultra-low-power operation, with deep-sleep current as low as 15 uA.

Product Image



Product image

Specifications

2.4GHz Rod Antenna (2.81dBi)

Product: XIAOESP32-C5

Chipset: ESP32-C5HR8

Processor: High-performance 32-bit RISC-V single-core microprocessor, upto 240MHz and a low-power 32-bit RISC-V core at up to 48MHz (according to Datasheet, up to 20MHz p.69 of Technical Reference Manual v0.2)

SRAM: 384KB

RSRAM: 8MB

Flash: 8MB

Interface: 11xGPIO Pin

1x Analog Pin + 4x Analog Pad on the reverse side:

1x I2C:

1x UART:

1x SPI:

1 x JTAG (Pads on the reverse side):

OnBoard: 1x User LED (Green)

1x Charge LED (Battery Charging Indicator):

1x Reset Button:

1x Boot Button:

1x UFL Connector:

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Antenna: 2.4GHz FPC (2.9dBi) (same as used on XIAO ESP32-C3)Optional:

Wireless Connectivity: 2.4 and 5 GHz dual-band Wi-Fi 6 (802.11ax)

Bluetooth® 5 (LE):

Zigbee:

Thread (802.15.4):

Power Input: Type-C:5V/DC

Battery:3.7V:

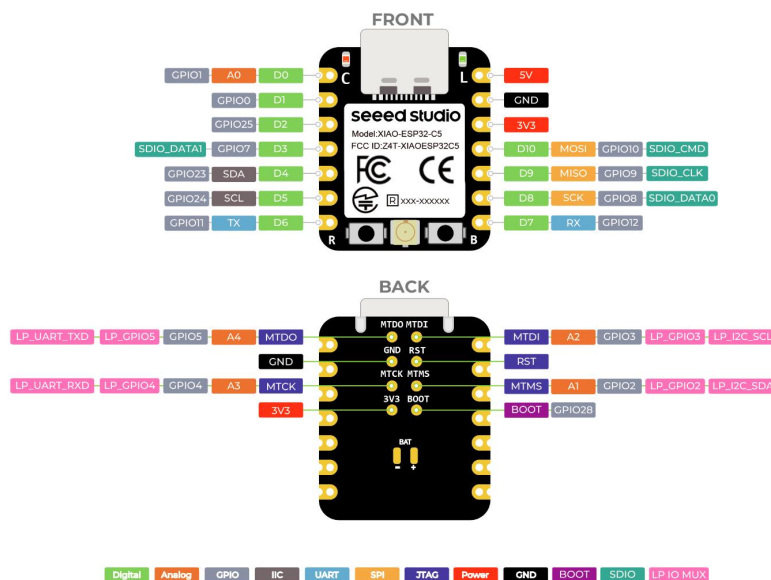
DeepSleep(Typ.)(Low Power Firmware): USB Power Supply:375 uABattery Power (BAT):15 uA

WorkingTemperature: 0degC~85degC

Dimensions: 21 x 17.8mm

Hardware Overview

XIAO ESP32-C5 Pin Definition



Hardware overview image

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