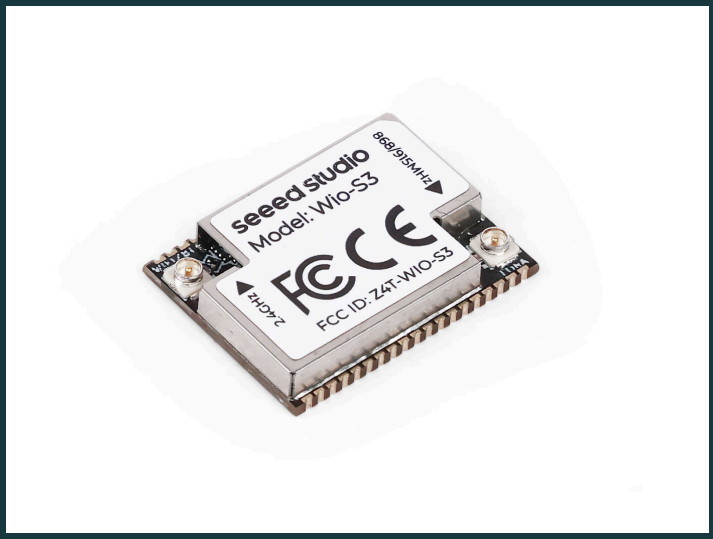
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INDUSTRIAL PRODUCT DATASHEET

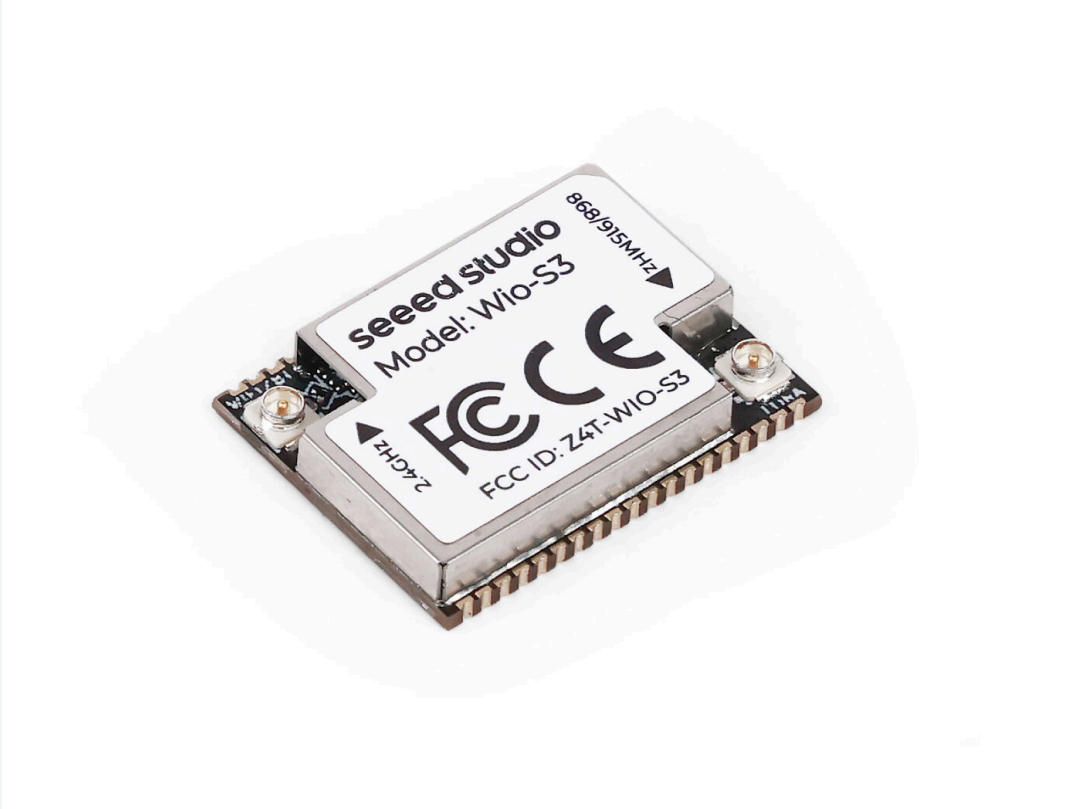
Wio-S3 Wireless LoRa Module with IPEX, ESP32-S3R8, Dual-core Xtensa® LX7 and SX1262 embedded, LoRaWAN, Wi-Fi & BLE, supports EU868 & US915

The Wio-S3 Wireless LoRa Module with IPEX delivers high-performance LoRaWAN, Wi-Fi, and BLE connectivity with ESP32-S3R8 and SX1262 for stable long-range IoT and Edge AI applications.

SKU	UPDATED	PRICE
100020327	2026-10-26 13:32:11	$7.99(Excl. VAT)



Overview



The Wio-S3 Wireless LoRa Module with IPEX integrates the ESP32-S3R8 dual-core Xtensa® LX7 processor and SX1262 LoRa transceiver, supporting LoRaWAN, 2.4GHz Wi-Fi, BLE 5.0, EU868 & US915. With 16MB Flash, 8MB PSRAM, up to 20.9dBm transmit power, -137dBm sensitivity for SF12 with 125KHz BW, built-in TCXO, and UART/I2C/ADC peripherals, it targets smart agriculture, industrial automation, IoT data logging, healthcare, wearables, and AIoT human-machine interface applications.

Key Features

01 **Go from Module Selection to a Working Project**

02 **See Modules, Resources, and Real Projects →**

03 **Edge Intelligence & Computing**

Equipped with a dual-core ESP32-S3 and larger memory (16MB Flash / 8MB PSRAM), it provides the processing power required for Edge AI and complex automation tasks that go beyond simple data sensing.

04 **High Performance**

The transmit power up to 20.9dBm @868/915MHz; -137dBm sensitivity for SF12 with 125KHz BW.

05 **Wireless Connectivity**

Embedded LoRaWAN protocol with support for global long range frequency plan, also supports 2.4GHz Wi-Fi and BLE 5.0.

06 **High Stability**

Includes a built-in TCXO to ensure consistent frequency stability and reliable performance under wide temperature conditions.

07 **Flexible Hardware Design**

Available in two versions (with or without an onboard IPEX connector), offering developers versatile antenna integration options.

08 **Abundant Peripherals**

Equipped with a variety of GPIO interfaces including UART, I2C, and ADC, providing great flexibility for peripheral expansion.

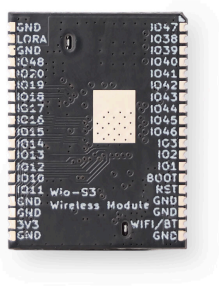
09 **Easy to Use**

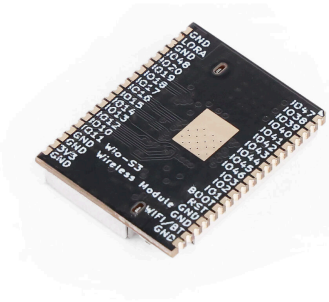
Comes with built-in command firmware and supports custom product development using an SDK.

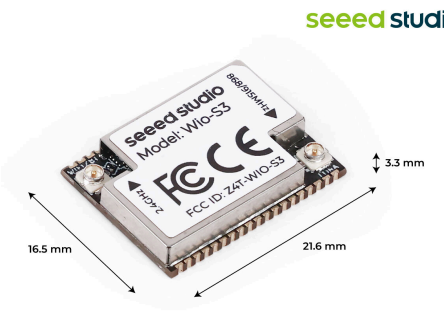
10 **FCC, CE, Telec Certified**

Product Gallery

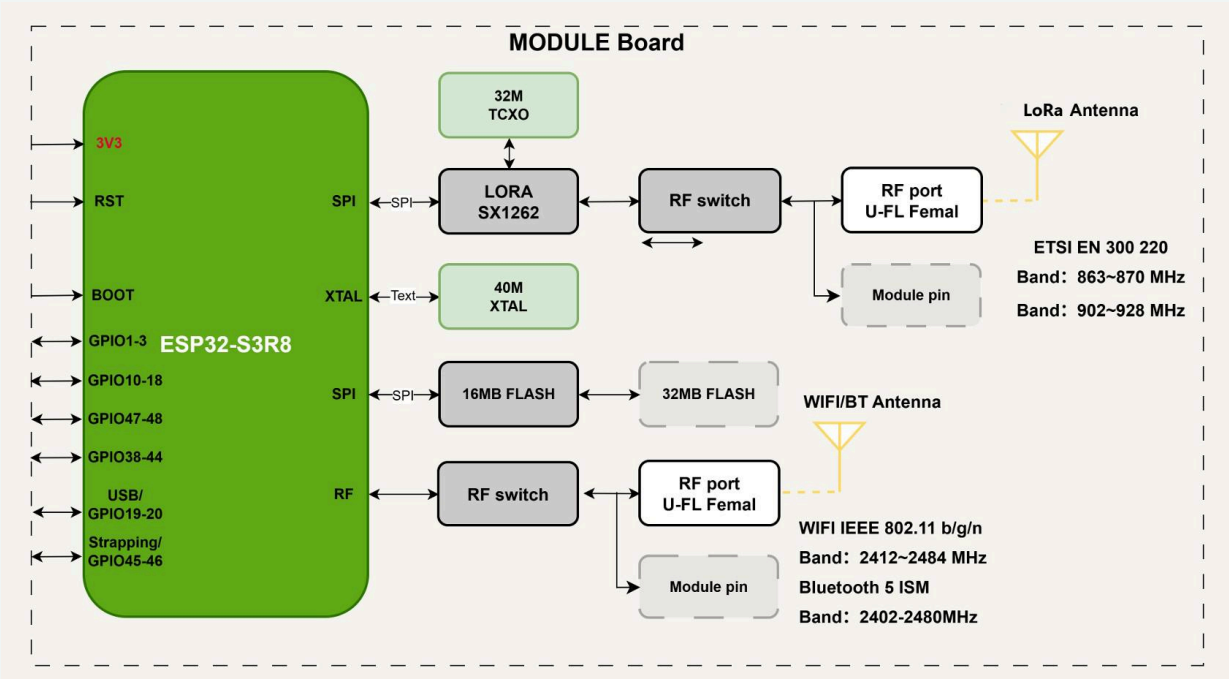


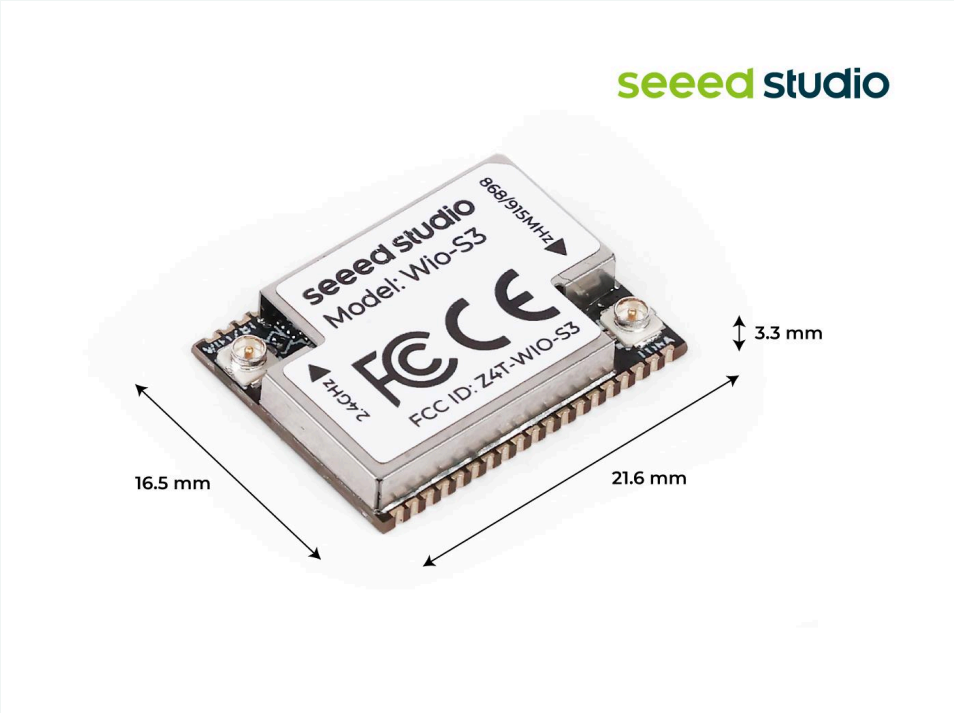






Hardware Overview







Applications

- **Smart Agriculture:** Enables remote monitoring of environmental conditions, supporting precision farming and smart irrigation.
- **Industrial Automation:** Supports industrial monitoring and mesh networking, improving system efficiency and reliability in complex environments.
- **IoT Data Logging & Remote Monitoring:** Ideal for low-power data loggers and distributed sensing applications, ensuring stable long-range communication.
- **Healthcare & Wearables:** Powers health monitoring and wearable devices with reliable data transmission and low-power operation.
- **AIoT & Human-Machine Interface:** Supports edge AI applications such as voice and image recognition, as well as touch and interactive control systems.

Resource Links

- https://www.seeedstudio.com/Wio-S3-Wireless-Module-p-6832.html
- Wio-S3 Datasheet & Specifications
- Espressif ESP32-S3R8 Datasheet
- Semtech SX1262 Datasheet
- Wio-S3 Kicad File
- Wio-S3 STEP 3D File
- ESP-IDF User Guide for ESP32-S3, SDK
- ESP32-S3 Test Tools and Guidelines

Seeed Technology Co.,Ltd.
9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676
Web: www.seeed.cc
Shop: www.seeedstudio.com