

INDUSTRIAL PRODUCT DATASHEET

XIAO ESP32S3 & Wio-SX1262 Kit for Meshtastic & LoRa

Thumb-sized Meshtastic kit with ESP32-S3 and LoRa/SX1262, offering dual wireless connectivity for versatile IoT roles.

SKU

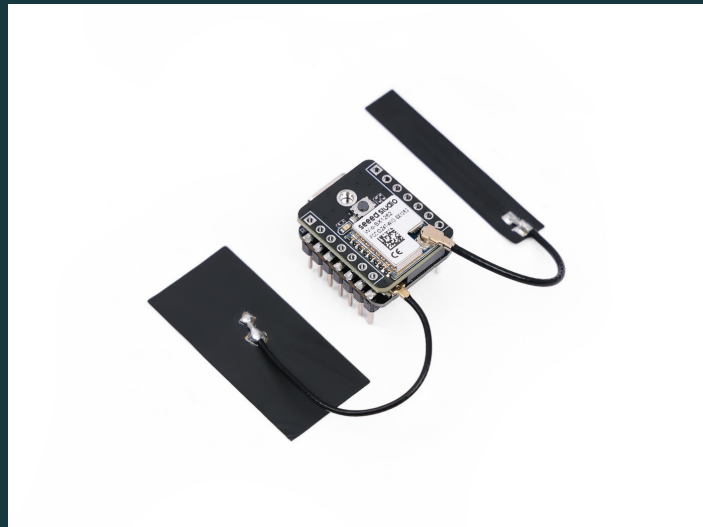
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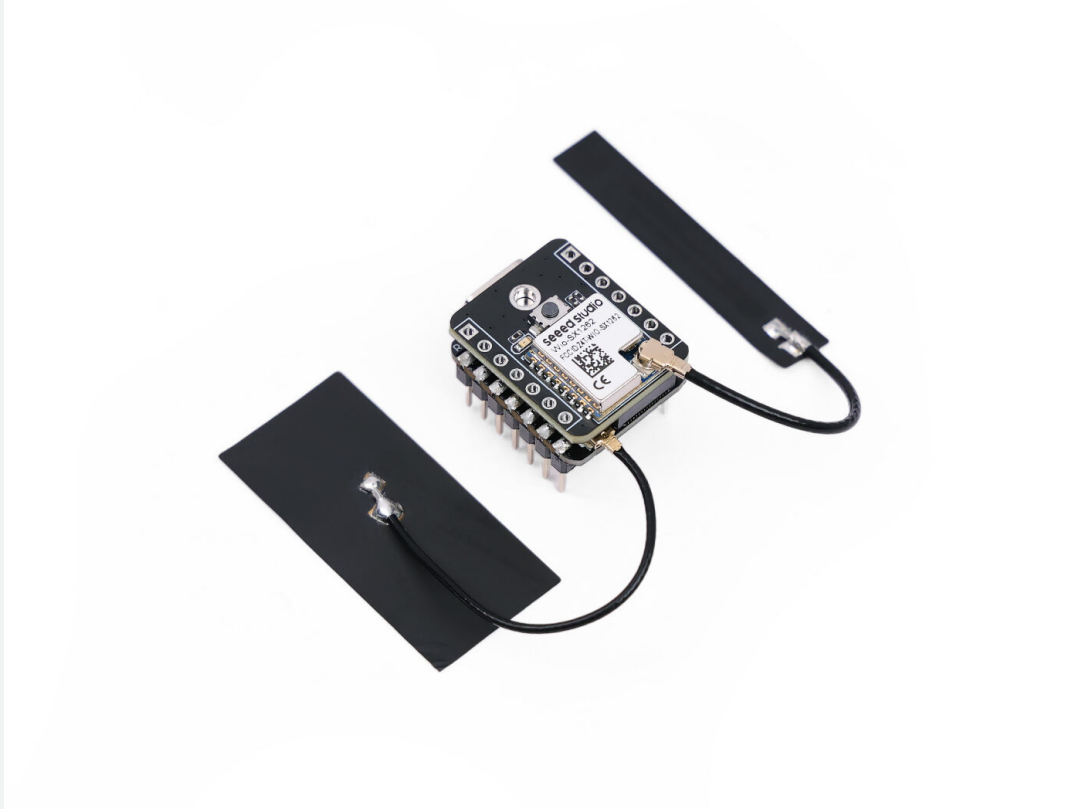
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PRICE

\$10.90(Excl. VAT)



Overview



The XIAO ESP32S3 & Wio-SX1262 Kit combines a powerful ESP32-S3 MCU and LoRa/SX1262 module, pre-flashed with Meshtastic firmware for out-of-the-box mesh networking. It offers dual wireless connectivity with LoRa (862–930 MHz) and 2.4 GHz Wi-Fi/BLE 5.0, and can serve as a Meshtastic node, LoRaWAN sensor, or single-channel gateway.

Key Features

Note:

The SX1262 in the "Xiao nRF52840 & Wio-SX1262 Kit" **IS NOT COMPATIBLE** with the Xiao ESP32S3.

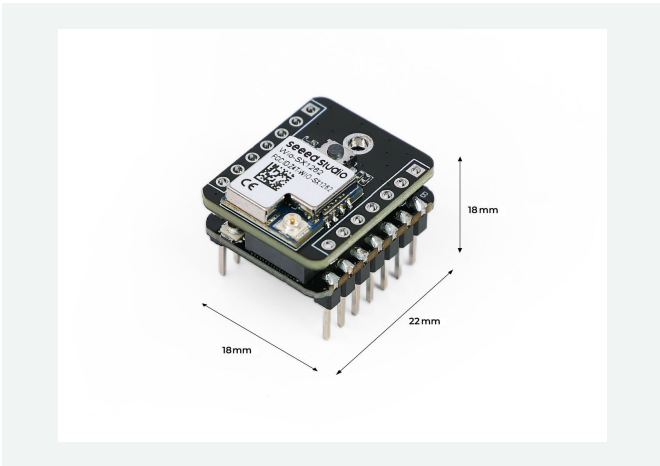
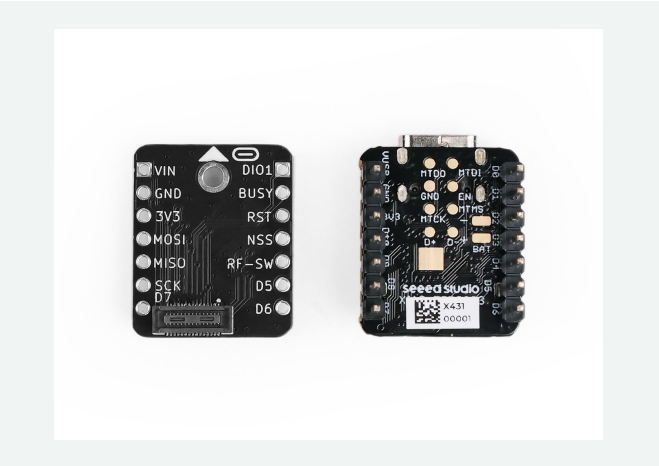
- **Ready for Meshtastic** : Pre-flashed with [Meshtastic](#) firmware, the kit works out of the box and can quickly join or create a Meshtastic mesh network.
- **Dual Wireless Connectivity** : Supports long-range LoRa communication (862–930 MHz) along with 2.4 GHz Wi-Fi and BLE 5.0. When used with a U.FL antenna, it can achieve 2–5 km LoRa communication and 100 m+ Wi-Fi/BLE range.
- **Thumb-Sized Compact Design** : With a compact size of just 21 × 18 mm and the classic XIAO form factor, it is ideal for space-constrained projects such as wearables and embedded devices.
- **Powerful ESP32-S3 MCU** : Powered by the ESP32-S3 dual-core Xtensa processor running up to 240 MHz. The board includes multiple expansion interfaces and supports Arduino and MicroPython development.
- **Integrated Power Management** : Equipped with a USB Type-C interface and built-in lithium battery charging management for flexible power options.
- **Flexible for Multiple Applications** : The same hardware can be used as a Meshtastic node or router, a single-channel LoRaWAN gateway, or a LoRa/LoRaWAN sensor platform

Compatible with [XIAO Expansion Board](#) for adding screens and sensors, and add Grove sensors via the [Grove expansion Board](#).

Support connecting an external high-performance LoRa antenna using an IPEX to SMA connector:

- FPC antenna included in package
- **2 dBi external antenna** and [SMA to I-PEX antenna cable](#).
- **3 dBi fiberglass antenna** and RPSMA-K to U.FL RF cable

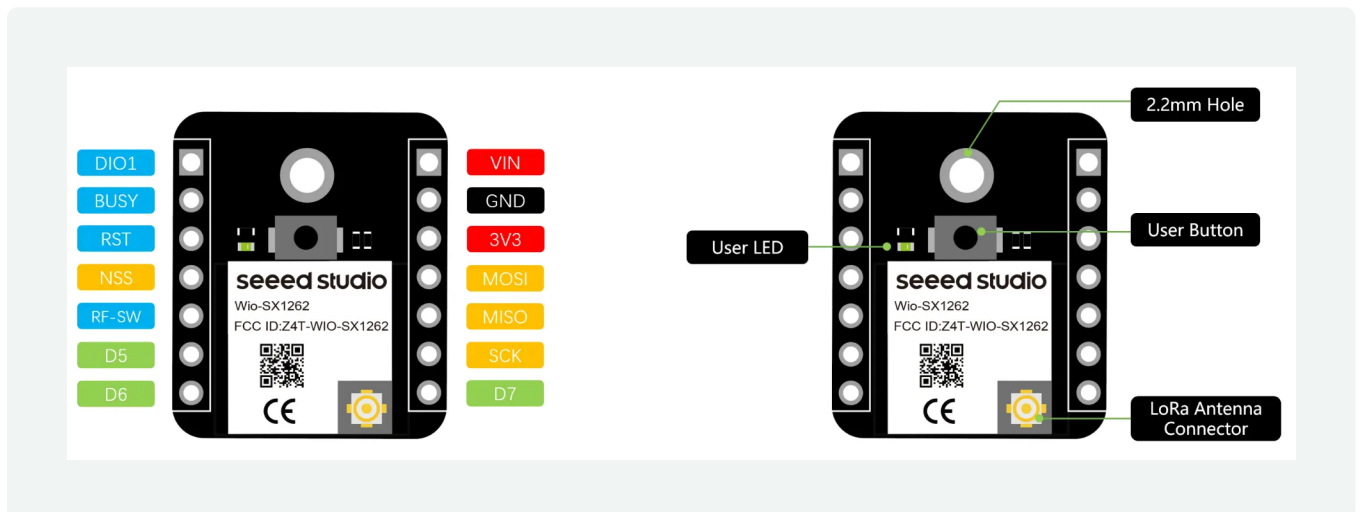
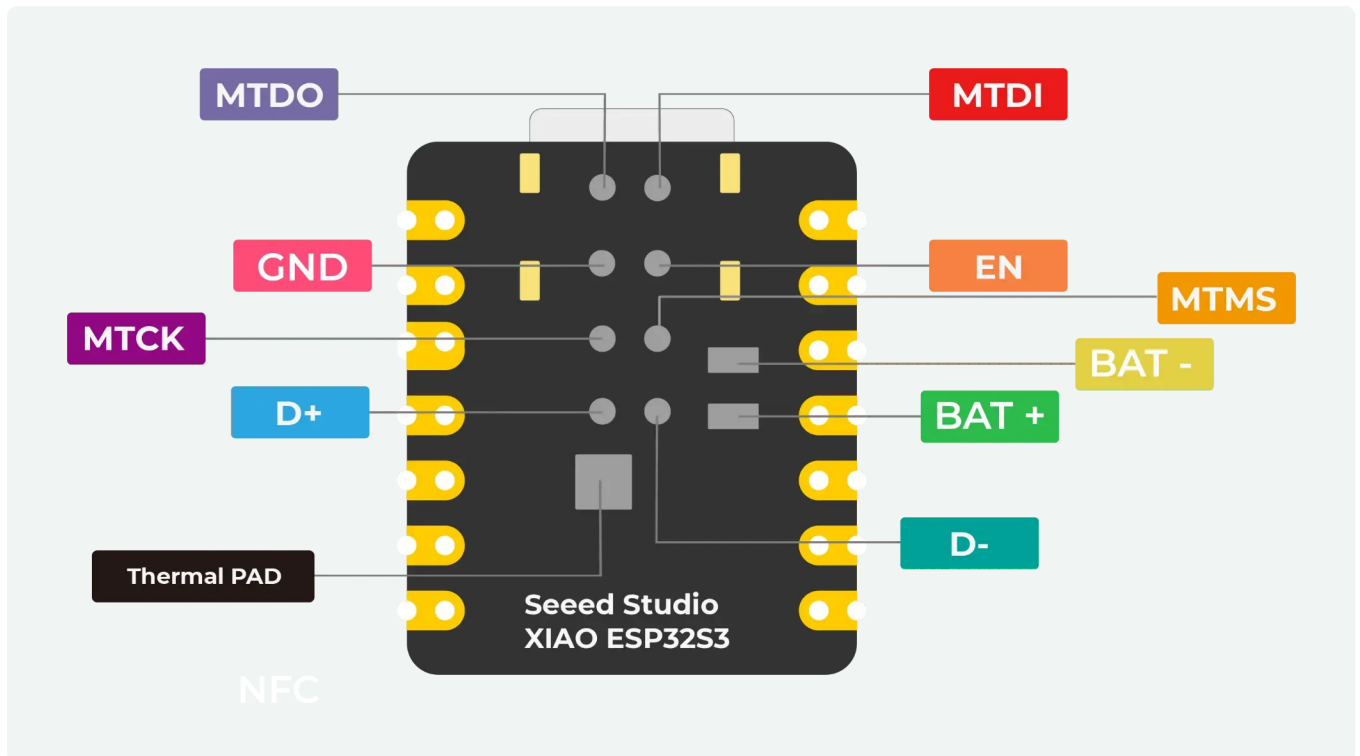
Product Gallery



Specification

ESP32S3	ESP32-S3R8, Xtensa LX7 dual-core, 32-bit processor running up to 240 MHz
LoRa	Based on Semtech SX1262, supports 862-930MHz,
BLE	Bluetooth 5.0, Bluetooth mesh

Wi-Fi	Complete 2.4GHz Wi-Fi subsystem
Interface	ESP32S3: 1x UART, 1x IIC, 1x IIS, 1x SPI(connect to SX1262),11x GPIO(PWM), 9x ADC, 1x User LED, 1x Charge LED, 1x Reset button, 1x Boot button Wio-SX1262: 1xUser button, 1xSPI(connect to ESP32S3)
Power	Input voltage (Type-C): 5V Input voltage (BAT): 4.2V
	Charging battery current: 100mA
Working Temperature	-40°C ~ 65°C
Dimensions	21 x 17.8mm



Applications

- **Meshtastic Node & Router:** An ultra-small node that can serve as a portable device or as a fixed router to expand the Meshtastic network.
- **LoRa/LoRaWAN Sensor:** A mini LoRaWAN sensor, ideal for beginners exploring LoRa/LoRaWAN. It can be used with the XIAO extension board and Grove sensors for rapid prototyping.
- **LoRaWAN Single Channel Gateway:** The most cost-effective single-channel LoRaWAN gateway for connecting multiple LoRaWAN sensors and transmitting data to LoRaWAN Network Servers such as The Things Network and Chirpstack.

Part List

XIAO ESP32S3	x1
Wio-SX1262 extension board	x1
Wi-Fi antenna	x1
LoRa antenna	x1

Compliance & Logistics

HSCODE	8543709990
USHSCODE	8517180050
UPC	
EUHSCODE	8543709099
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/Wio-SX1262-with-XIAO-ESP32S3-p-5982.html>
- [Wio-SX1262 for XIAO 3D file](#)
- [Schematic Diagram Wio-SX1262 for XIAO](#)
- [Wio-SX1262 Module Datasheet](#)
- [Casing 3D file](#)
- [XIAO ESP32S3 Kit Kicad Library](#)

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