

# RAK3112 WisDuo LPWAN+BLE+Wi-Fi Module

Thank you for choosing RAK3112 WisDuo LPWAN+BLE+Wi-Fi Module for your awesome IoT project! 🙌 To help you get started, we have provided you with all the necessary documentation for your product.



## Product Description

The RAK3112 is a low-power, long-range LoRaWAN module based on the Espressif ESP32-S3 MCU with an integrated Semtech SX1262 LoRa transceiver. Supporting LoRa, BLE, and Wi-Fi, this module is ideal for various IoT applications such as home automation, sensor networks, building automation, and other IoT network applications.

### NOTE

There are two variants available for the RAK3112 Module:

1. Equipped with an MHF4 IPEX connector for external antenna integration.
2. No IPEX connector, but includes an RF pinout for connecting a custom antenna.

## Product Features

- Based on **Espressif ESP32-S3**
  - Xtensa® 32-bit LX7 dual-core microprocessor
  - 16 MB Flash
  - 512 kB SRAM
  - 512 kB RAM
  - 8 MB PSRAM
  - 16 kB RTC SRAM
- LoRa transceiver **Semtech SX1262**
  - LoRa and LoRaWAN support
  - Frequency support from 863 MHz to 928 MHz
- **LoRaWAN 1.0.2** specification compliant (LoRaWAN BasicModem support in preparation)
- **Supported bands:** IN865, EU868, AU915, US915, KR920, RU864, and AS923-1/2/3/4
- LoRaWAN Activation by OTAA/ABP
- LoRa Point-to-Point (P2P) communication
- BLE 5.0 support
- Wi-Fi support
- Custom firmware using Arduino
- I/O ports: UART/I2C/SPI/ADC/GPIO
- Long-range: greater than 10 km with optimized antenna
- **Supply Voltage:** 3.0 V ~ 3.6 V
- **Temperature range:** -40° C ~ 65° C



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