

RAK11720 WisDuo LPWAN+BLE Module

Thank you for choosing RAK11720 WisDuo LPWAN+BLE Module in your awesome IoT project! 🙌 To help you get started, we have provided you with all the necessary documentation for your product.



Product Description

RAK11720 is a low-power, long-range LoRaWAN module based on the Ambiq Apollo3 Blue AMA3B1KK-KBR-B0 SoC MCU. It supports Bluetooth 5.0 (Bluetooth Low Energy) and the Semtech SX1262 LoRa transceiver. This module complies with LoRaWAN 1.0.3 specifications (Classes A, B, and C) and also supports LoRa point-to-point (P2P) communication, facilitating the quick implementation of customized LoRa networks. The module's dual RF communication capabilities (LoRa and BLE) make it suitable for various IoT applications, including home automation, sensor networks, building automation, and other IoT network applications.

The RAK11720's default firmware is based on RUI3 (RAKwireless Unified Interface). This allows easy use as a standalone module by developing custom firmware via Arduino-compatible RUI3 APIs. Sensors and other external peripherals can be interfaced directly, eliminating the need for an additional MCU. Additionally, the RAK11720 can be interfaced with an external host MCU using AT commands via UART or BLE.

NOTE

There are two variants available for the RAK11720 Module:

1. With MHF4 IPEX connector to connect external antennas
2. No IPEX connector but with RF pinout to connect custom antenna

Product Features

- Based on AMA3B1KK-KBR-B0 and SX1262
- ARM Cortex-M4F
- 1 MB Flash and 348 KB SRAM
- LoRaWAN 1.0.3 specification compliant
- **Supported bands:** EU433, CN470, IN865, EU868, AU915, US915, KR920, RU864, and AS923-1/2/3/4
- LoRaWAN Activation by OTAA/ABP
- LoRa Point-to-Point (P2P) communication
- Custom firmware using Arduino via RUI3 API
- Easy-to-use AT Command set via UART interface
- I/O ports: UART/I2C/SPI/ADC/GPIO
- Long-range - greater than 10 km with optimized antenna
- Ultra-low-power consumption of 2.37 μ A in sleep mode
- **Supply Voltage:** 1.8 V ~ 3.6 V
- **Temperature range:** -40° C ~ 85° C



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