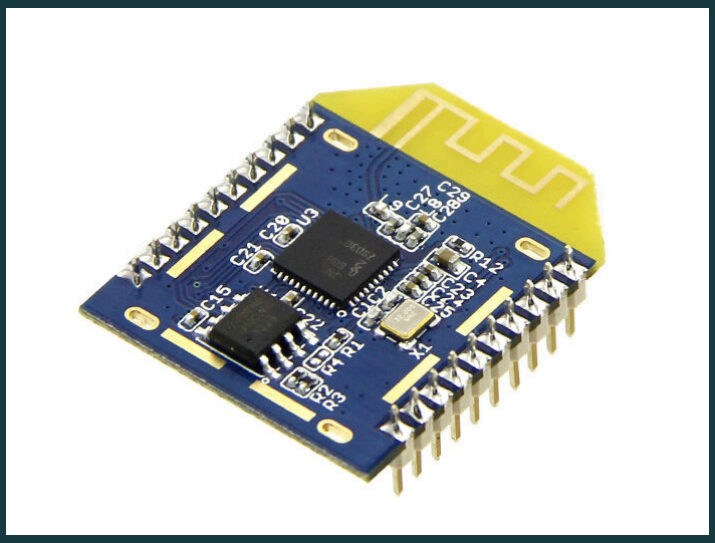
seeed studio

INDUSTRIAL PRODUCT DATASHEET

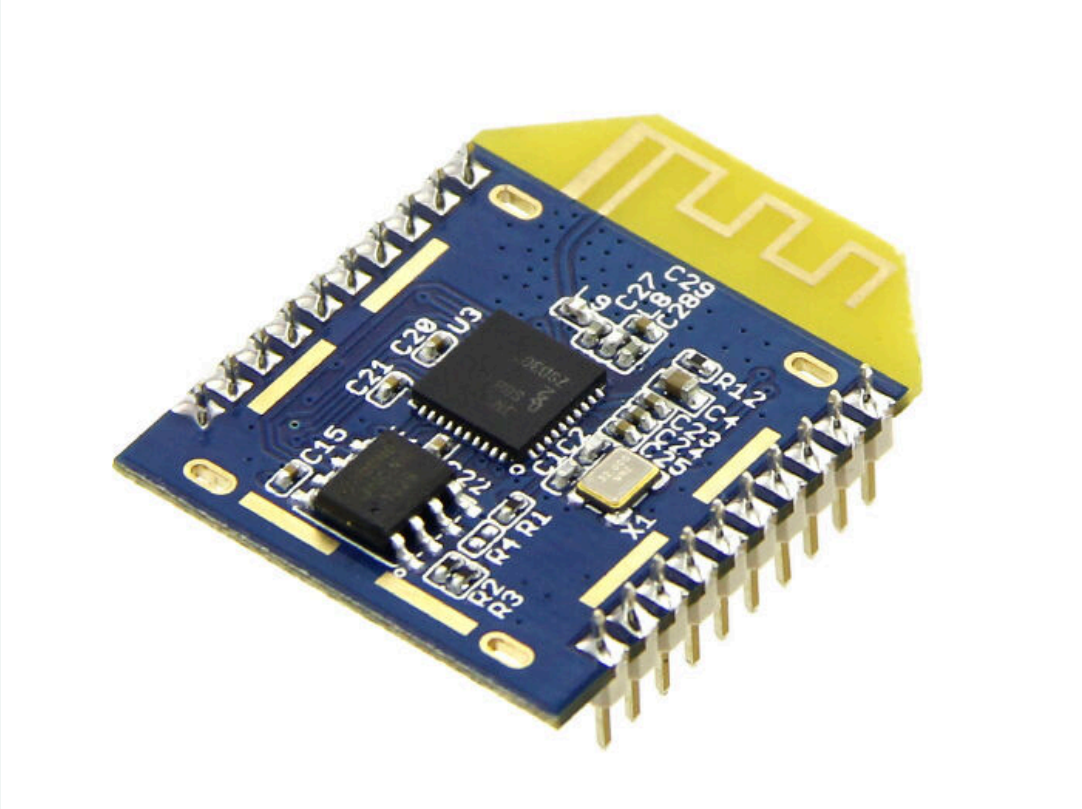
Mesh Bee - Open Source Zigbee Pro Module with MCU (JN5168)

Mesh Bee is an open-source ZigBee Pro module with JN5168 MCU, offering easy serial AT commands and XBee socket compatibility.

SKU	UPDATED	PRICE
114990002	2025-07-30 07:42:05	$19.90(Excl. VAT)



Overview



The Mesh Bee is a 2.4GHz ZigBee Pro wireless module based on the NXP JN5168 microcontroller, providing easy-to-use serial commands for transparent point-to-point or mesh networking. It features open-source hardware and firmware, a programmable 32-bit RISC CPU, and socket compatibility with XBee modules.

Key Features

Mesh Bee is a 2.4GHz wireless transceiver from seeed studio. It's based on NXP's newly JN516x series wireless microcontroller chip and supports ZigBee Pro network stack. The factory firmware wraps the complicated ZigBee stack operation into a few easy to use serial commands, and drives Mesh Bee into a transparent serial communication node that can be part of a simple point-to-point connection or a complex mesh network. Moreover, Mesh Bee is totally open hardware and open sourced, which means that you can customize the firmware on your requirements. You can use JN516x's ARM core to control things and JenOS to simplify your development. The development environment and tools from NXP are all free. Mesh Bee will bring you lots of fun.

Feature:

- Range: Indoor/Urban: up to 30m; Outdoor line-of-sight: up to 100m;
- Receiver Sensitivity: -95dBm
- Data Transmission Rate: 4800, 9600, 19200, 38400, 57600, 115200 (bps)
- Working Frequency: unlicensed 2.4GHz band
- Communication type: Point to Point or Start Network or Mesh Network
- OTA support: update node's firmware on-the-air
- Easy-to-Use Serial Interface and rich extendable ports
- Easy-to-Use AT Command: Setup ZigBee network, Set Serial Baud Rate, etc.
- Open source Hardware and Firmware
- Programmable 32-bit RISC CPU: 32M clock, 256KB Flash, 32KB RAM, 4KB EEPROM
- Socket compatible with the Xbee, so you can plug it into any Xbee socket as a quick replacement.

Note: Mesh Bee will not communicate with Xbee as the ZigBee stack versions they're using are different.

Specification

- Microprocessor :JN5168 (32-bit RISC CPU, 32MHz clock speed)
- Resources :256kB/32kB/4kB (Flash/RAM/EEPROM)
- PCB size :24.5mmx30.5mmx0.8mm
- Outline Dimension :24.5mmx30.5mmx9.77mm
- Indicators :No
- Power supply :3.3V
- IO counts :12
- ADC input :3(2 multiplexing with IO)
- Interfaces :UARTx2, SPI, I2C
- Program interface :UART+MISO

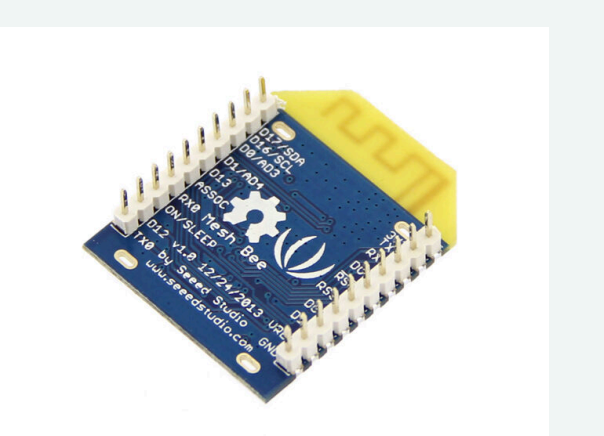
- Connectivity :Socket compatible with XBee
- Communication Protocol :Uart(TTL)
- Operating Frequency Band :2.4GHz
- Stack/Software :RF4CE, JenNet-IP , ZigBee Pro

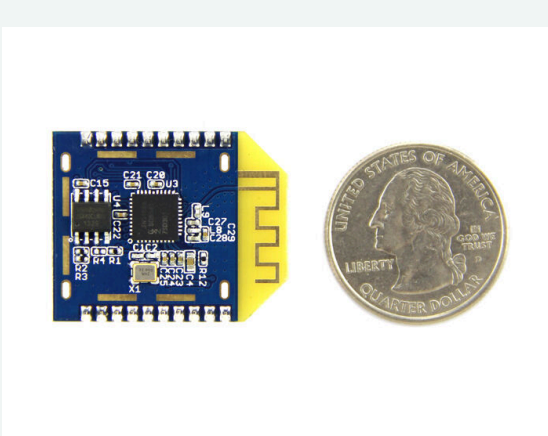
Resources

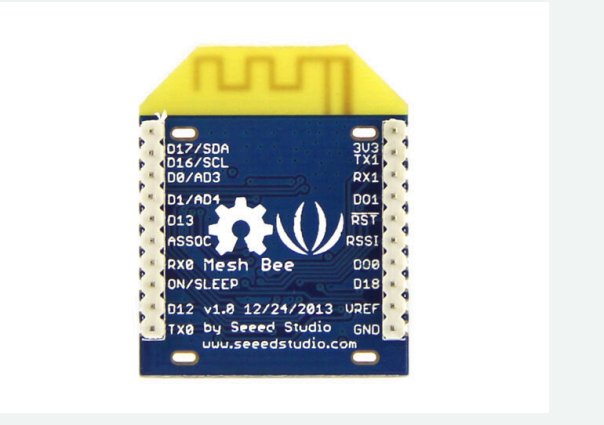
- Mesh Bee firmware source code on Github
- MeshBee Google discussion group
- MeshBee User's manual v0.1
- MeshBee CookBook v0.1

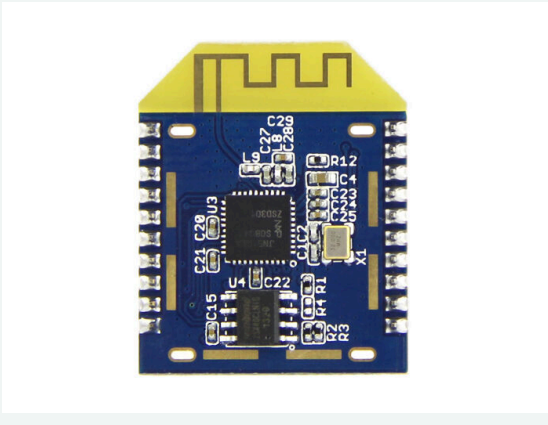
Application

Product Gallery









Part List

Mesh Bee	1

Compliance & Logistics



HSCODE	8517709000
USHSCODE	8517790000
UPC	841454105930
EUHSCODE	8517180000
COO	CHINA

Resource Links

- https://www.seeedstudio.com/Mesh-Bee-Open-Source-Zigbee-Pro-Module-with-MCU-JN516-p-1751.html
- Eagle file for Mesh Bee v1.0
- AT command manual for Mesh Bee V1.0
- JN5168 datasheet
- Cook Book for v1004
- User Manual for v1004

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