



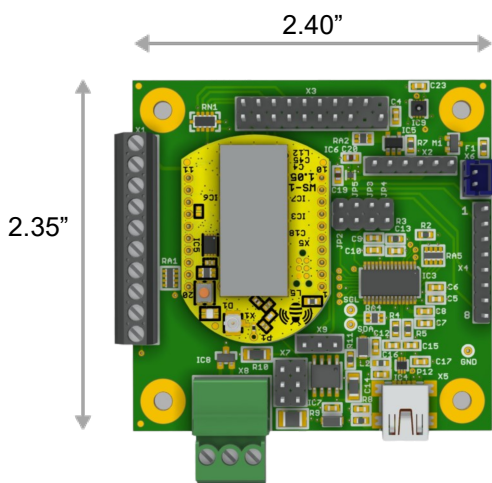
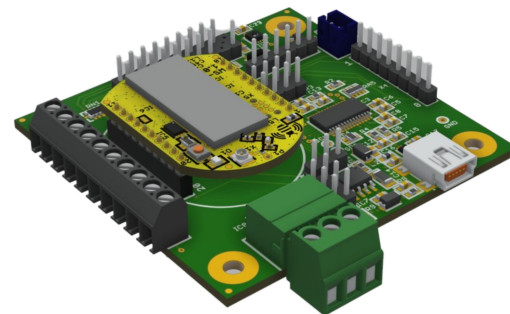
# MINI-MAX/WB-1

## Microcontroller and Wireless Sensor Board for WillowBee

MINI-MAX/WB-1 is a versatile carrier board that can be used for evaluation, demonstration and deployment of WillowBee wireless module products. WillowBee is an industrial wireless microcontroller module that is designed for LoRaWAN and CAT-M1/NB-IoT sensor end-node designs and embedded applications that need wireless communications. Programs are downloaded into the MINI-MAX/WB-1 with a Windows PC through the USB port or JTAG port. Downloads typically take only a few seconds.

Engineering kits based on MINI-MAX/WB-1 and WillowBee is available.

MINI-MAX/WB-1 is fully backed by a 3-year warranty, technical support and application assistance from BiPOM Electronics, Inc.



### Engineering Kit contents:

- MINI-MAX/WB-1 board
- WillowBee wireless module (LoRaWAN or Cellular)
- Mini USB cable
- Flex Antenna
- Development System (Free download from BiPOM website)
- (Optional) Tag Connect Debug Cable for STLINK-V3SET

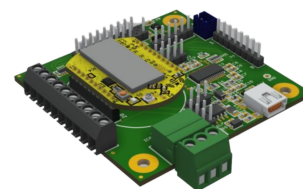
### Engineering Kit Part Numbers:

- EKIT-WB-L-MAXI** for LoRaWAN
- EKIT-WB-NS-MAXI** for CAT-M1/NB-IoT Sequans
- EKIT-WB-NT-MAXI** for CAT-M1/NB-IoT Telit



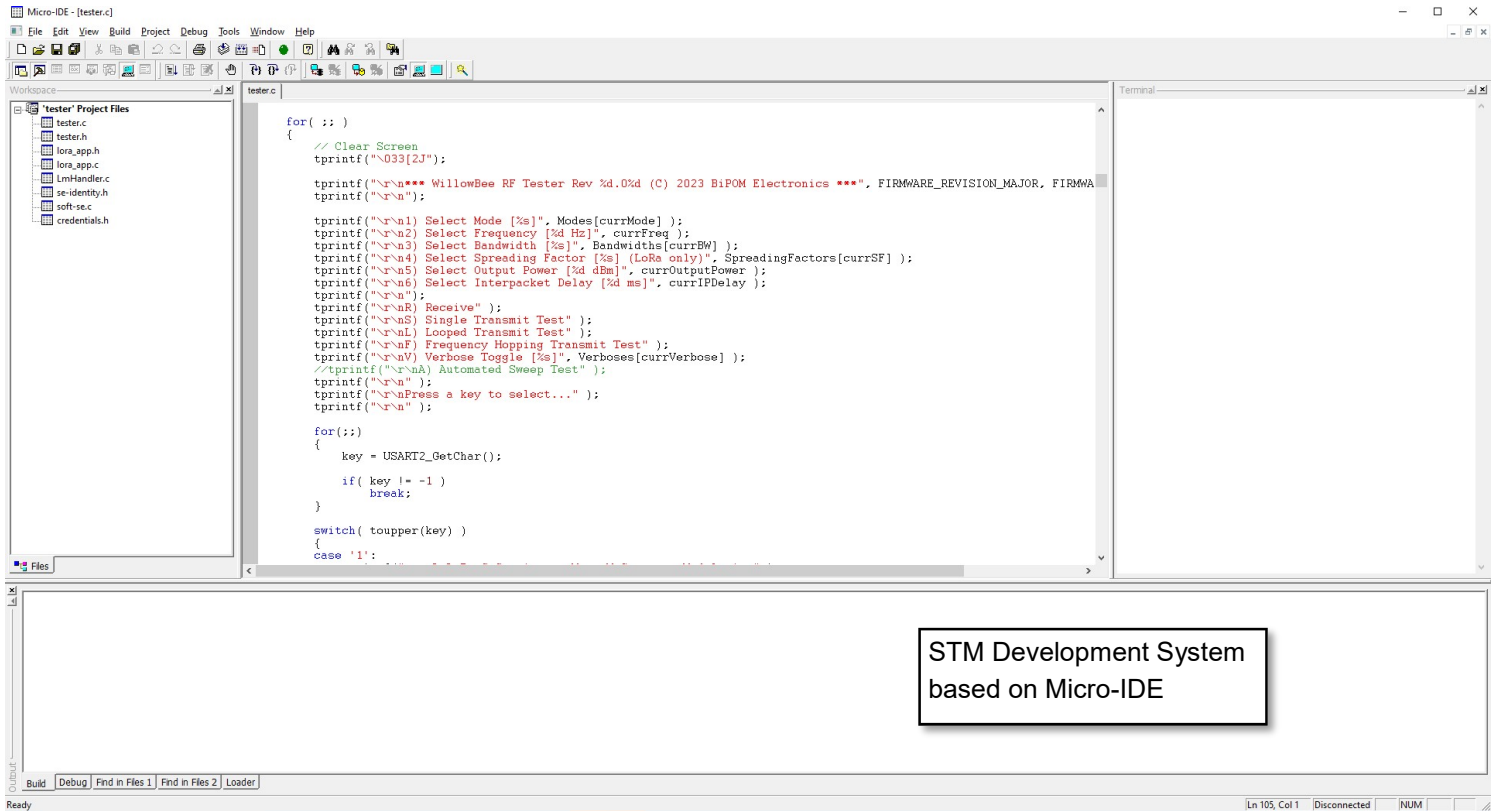
### MINI-MAX/WB-1 Specifications:

- Expansion connector for easy access to WillowBee
- Communication Method: USB and RS485
- Type B Mini high-retention USB connector
- USB approved for industrial environments
- FTDI chip to convert USB to serial port
- External power or 5 Volts on USB
- 3.3V Regulator for WillowBee
- Connector for optional 3.6V battery
- 4x Analog inputs, 12-bit resolution, screw terminal
- 1x Digital output, open drain
- 1x Digital input, dry contact
- Expansion bus interface to low-cost peripheral boards
- 4 mounting holes
- Temperature range: -40°C to +85°C
- Dimensions: 2.35" (59.7mm) x 2.40" (61mm)



## Easy to Get Started!

- 1 Connect BRD-WB-L-USB to a Windows PC using the USB cable
- 2 Connect sensors and other external devices to WillowBee using the pin headers
- 3 Download one of the supplied examples to join a LoRaWAN network



STM Development System based on Micro-IDE

### Software Features:

- Supported by popular development packages
- Micro-IDE integrates GCC Compiler and Downloader for WillowBee
- Keil  $\mu$ Vision and ST Micro Cube support
- Command line downloader for any 3rd party development tool
- Examples for all major build environments
- Various LoRa sensor projects
- Libraries and drivers for a variety of sensor components and IC's.
- Generic UART, I2C, SPI, 1-wire, analog and digital I/O drivers
- Open source examples for:
  - LED Control
  - FreeRTOS
  - UART
  - Watchdog Timer
  - Engineering Console
  - LoRa End Node
  - Wireless Tester ( Transmit and Receive )
  - Actual Sensor Examples

