

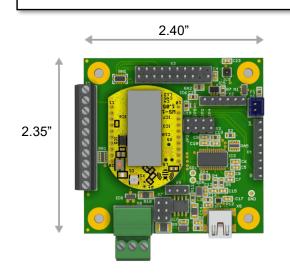
## MINI-MAX/WB-1

### 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-IoTsensor 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!



Connect BRD-WB-L-USB to a Windows PC using the USB cable



Connect sensors and other external devices to WillowBee using the pin headers



Download one of the supplied examples to join a LoRaWAN network

### www.bipom.com



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tester.c Tester' Project Files tester' Project I
 tester.c
 tester.h
 tora\_app.h
 tora\_app.c
 tmHandler.c
 se-identity.h
 off-se.c
 credentials.h for( ;; )
{ // Clear Screen
tprintf("\033[2J"); tprintf("\r\n=== WillowBee RF Tester Rev %d.0%d (C) 2023 BiPOM Electronics ====", FIRMWARE\_REVISION\_MAJOR, FIRMWA
tprintf("\r\n"); trintf("\r\nl) Select Mode [%s]", Modes[currMode] ); tprintf("\r\n2) Select Frequency [%d Hz]\*, currFreq ); tprintf("\r\n3) Select Bandwidth [%s]", Bandwidths[currBw] ); tprintf("\r\n4) Select Spreading Factor [%s] (LoRa only)\*, SpreadingFactors[currSF] ); tprintf("\r\n6) Select Interpacket Delay [%d ms]\*, currItPDelay ); twreatf("\r\n6) tprintf("\r\n");
tprintf("\r\n"); for(;;) key = USART2\_GetChar(); if( key != -1 ) break; switch( toupper(key) ) t case '1': E Files STM Development System based on Micro-IDE Build Debug Find in Files 1 Find in Files 2 Loader Ln 105. Col 1 Disconnected NUM

### Software Features:

- Supported by popular development packages
- Micro-IDE integrates GCC Compiler and Downloader for WillowBee
- Keil µVision 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



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