WE935B00 Module

Single-Band (2.4 GHz) Embedded Wi-Fi, 1X1, 802.11 b/g/n, module with integrated antenna

Description

WE935B00 module from Wi2Wi's EM series is a best in class single-band (2.4GHz) high performance embedded Wi-Fi module. This highly integrated plug and play, embedded Wi-Fi module with chip antenna and MHF4 IPEX connector includes dedicated microcontroller, MAC, baseband, RF transceiver, power amplifier, crystal, Tx/Rx switch, filter and OTP memory for calibration data and MAC address. WE935B00 (serial-to-WiFi module) is a complete wireless subsystem in a small form factor, featuring full 802.11 b/g/n capabilities with embedded Wireless LAN (WLAN) stack, supplicant and TCP/IP stack. By completely off-loading the external Microcontroller (MCU) from wireless and Networking Stack activities, user can dedicate the external host for application development and significantly reduce their time to market and R&D cost. This WLAN module supports UART, SPI and USB* host interfaces and comes in various operating temperatures and certified to FCC, CE and IC.
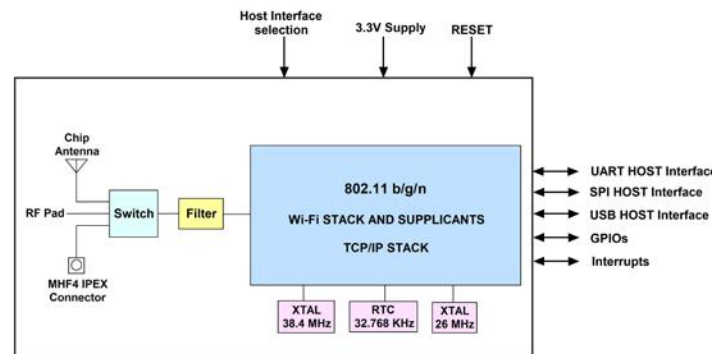

QFN-64 Footprint: 15 mm x 16.5 mm x 1.86 mm

Features

- Small footprint: 15 mm x 16.5 mm x 1.86 mm
- Compliant to IEEE 802.11b/g/n Wi-Fi, 1x1 SISO
- 20 MHz Channel Bandwidth
- UART, SPI, USB* Host Interfaces
- UART with hardware flow control
- Supports Station Mode, Access Point Mode and Con-current (simultaneous AP + Station) Mode
- Supports Open, WPA/WPA2-PSK & WEP
   (WEP in Station mode only)
- Supports 4 Stations/Clients in AP Mode
- Supports 10 TCP/UDP sockets which includes 2 SSL Sockets, 1 dedicated Web server and 1 dedicated HTTP Client
- Onboard chip Antenna + MHF4 IPEX connector
- Support for IEEE Power-Save Mode.
- Host Controlled Sleep wake pins
- Support for Antenna Diversity
- Maximum transmit power up to 18 dBm
- Receive Sensitivity -97 dBm
- Single power supply operation, 3.3V DC
- Available in industrial (-40℃ to +85℃), extended (-30℃ to +85℃) and commercial (0℃ to +70℃) operating temperature variants

Applications

- Industrial Sensor controller
- Medical monitoring equipment
- Vehicle rear view camera
- Warehousing and logistics handhelds
- Smart homes
- Smart energy
- Data logger

Block Diagram

* - USB interface support will be provided on request basis and is not available with general firmware.

Specification

Wi-Fi IEEE 802.11   : b/g/n, Single-Band (2.4GHz)
Available Channels   : Channels 1-14
Channel Bandwidth   : 20 MHz

802.11b Data Rates   : DSSS Modulation: 1 and 2 Mbps
  CCK Modulation: 5.5 and 11 Mbps

802.11g Data Rates   : OFDM Modulation: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps

802.11n Data Rates   : MCS0-MCS7 (up to 72.2 Mbps)

Max Transmit Power   : up to 18 dBm

Receive Sensitivity   : -97 dBm

Host Interfaces   : UART, SPI, USB*

Host Interface Selection : Host selection through host configuration pins (hardware)

Firmware Upgrade

UART Firmware Upgrade
Wireless Firmware Upgrade

Software Features

Modes of Operation   : Station/Client and Access Point
  : Supports 4 clients in AP Mode

Security Algorithms   : WPA (TKIP, AES),   WPA2 (TKIP, AES) and WEP

Network Protocols   : TCP, ARP, UDP, IPv4, DHCP, DNS, HTTP, DNS-SD, SSL

UART Baud Rates   : 9600bps to 12.5 Mbps (standard bauds as mention in User Guide) with Auto baud rate detection feature

Configuration   : Configuration command set over

Host Interfaces

UART   : Upto 12.5 Mbps baud with H/W flow control
SPI   : 25 MHz

Electrical Data

Power Supply   : 3.0V DC – 3.6V DC

Certifications

FCC   : 15C
IC   : RSS-247
CE   : EN 300 328 v1.9.1, EN 301 489-1 v1.9.2 EN 301 489-17 v2.2.1, EN 60950-1 (Ongoing)

Part Ordering

WE935B00-I3QT   : Industrial (-40°C to +85°C), on Tray
WE935B00-E3QT   : Extended (-30°C to +85°C), on Tray
WE935B00-C3QT   : Commercial (0°C to +70°C), on Tray
WE935B00-I3QR   : Industrial (-40°C to +85°C), on Reel
WE935B00-E3QR   : Extended (-30°C to +85°C), on Reel
WE935B00-C3QR   : Commercial (0°C to +70°C), on Reel

Development Kits

WE935B00-EVK3   :WE935B00-I3 Module on Evaluation Board, 2.4 GHz Rubber-Duck Antenna, MHF4 IPEX connector cable and USB-A/Micro-AB Cable

Additional Information:

For the latest collaterals, please visit the Wi2Wi Extranet Portal at: http://www.wi2wi.com/mgr/