



Serial2WiFi Stack

Product Data Sheet

Introduction

Serial2WiFi stack is a complete wireless subsystem featuring full 802.11 WLAN with Serial interface, in a small form factor module solution. It provides low-power wireless transport to any device with a serial interface for data transfer. This enables devices with a simple serial interface to connect to the Wireless Network and thus to the LAN and the Internet.



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Description

GlobalEdge's Serial2WiFi Stack has been developed to be integrated into Wi-Fi chipsets or embedded into microcontrollers to allow RS-232 serial data to be transmitted over a Wi-Fi network. This enables devices with a simple serial interface to connect to the Wireless Network and thus to the LAN and the Internet. This stack has been designed to be portable across various Operating Systems and 802.11 Wi-Fi chipsets.

Key Features

- Simple AT Command Line interface
- Small Footprint
- Available as a standalone or integrated solution
- Allows any microcontroller / processor with a serial interface to access the Wi-Fi Network and thus connect to a LAN or the Internet
- Portable across processors and Operating Systems
- In cable replacement mode it is easy to Wi-Fi enable legacy embedded systems
- Automatic Connection Establishment without user intervention

Specifications

- AT Command Line interface
- Compliant with 802.11a/b/g
- Infrastructure and Ad-hoc Mode support
- Host Interface: RS-232 with Hardware and Software Flow Control Support
- Max Baud Rate: 2 Mbps (hardware dependent)
- Physical Range: 100 Meters
- Security Modes: WEP, WPA-PSK/WPA2-PSK
- Protocols Supported: ARP, ICMP, IP, UDP and TCP

Software Features**Host Command Protocol**

- AT Commands for
- Scan
- Connect
- Network Configuration
- Open Connection
- Close Connection
- Save Configuration
- Transmit / Receive Data
- Query Status

Networking Protocols

- IP, UDP, TCP, ARP, ICMP
- DHCP Client
- WEB Server
- DNS Client

Advanced Features

- Auto Connect on Data
- Auto Connect on Power On

Supported 802.11 Features

- **Wireless Interface**
 - IEEE 802.11 a/b/g Standard Compliant
 - 802.11d Regional Support
 - Infrastructure & Ad-hoc Mode Support
 - RTS/CTS Support
 - Fragmentation Support
 - Open/Shared Authentication
 - Rate Adaptation
 - Roaming Support
- **Power-Save Support**
 - 802.11 Station Power-save
 - Sleep Mode Support
- **Security**
 - WEP 64 bit /128 bit
 - WPA-PSK & WPA2-PSK
 - TKIP and AES Encryption Support

Hardware Features**Serial Interface**

- Serial Interface Configuration
- Hardware Flow Control
- Maximum Baud Rate of 2 Mbps

Other Features

- Save Configurations to EEPROM
- Configuration via Serial Interface or Over-the-air

Diagnostic Display

- Connection Status LED Indicators

Memory**Code Size**

- Code Size: 35KB
- Data Size: 35KB

Applications**Industrial Automation**

- For Remote Monitoring, Configuration, Control and Data Collection
- Can be used for Pressure, Temperature and Level Sensing

Medical Equipment

- Wi-Fi Enable Patient Monitoring Equipment
- Remote Monitoring of Patients

Logistics

- Wi-Fi enable tracking and navigation equipment
- POS Terminals & Ticketing Machines
- Wi-Fi Enable POS Terminals for Database Access and Data Synchronization

Implementation

- Serial2WiFi stack can be implemented on
 - Microcontroller interfaced to a Wi-Fi chip
 - Embedded inside the Wi-Fi chip.