

# Product Brief SPB800, Wireless LAN Module 802.11b/g , UART Interface

# INTRODUCTION

The SPB800 solution is a complete Wi-Fi module with state of the art embedded security protocols and low power features. The SPB800 includes a matching low power, high performance 32-bit Microcontroller unit. The solution offers immediate wireless connectivity to the Internet or a local area network for any devices supporting a UART and RS-232 interface.

The SPB800 solution removes the need for Wi-Fi drivers, IPstack and security protocols on the host CPU. The SPB800 solution provides the fastest possible design turn around for Customers.

SPB800 offers a cost effective solution for retrofitting existing or new UART applications with Wi-Fi Connectivity!

Typical applications include:



### Energy Control

- Automatic Meter Reading
- Sensor networks
- Smart Homes climate control

# Fitness & Healthcare

- Fitness equipment
- Wi-Fi scales
- Remote Patient monitoring

### **Industrial Control**

- Sensor for fire, smoke and gas alarms
- Pressure, temperature and level sensing
- Security systems



# The IP based Smart Home





### **KEY FEATURES**

- Fully integrated Wi-Fi HW and Wi-Fi MAC
- ✓ Fully compliant with IEEE WLAN 802.11b/g
- Allows any Microcontroller/CPU with UART interface to access the Wi-Fi network for accessing a LAN or Internet.
- ✓ Full IP-stack included
- Security and Hardware encryption accelerator up to 128 bit
- ✓ UART interface
- Data Rates: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and
   54Mbps
- ✓ Wi-Fi SDK oWL © Pico.
- Web server reference designs available for download
- ✓ High RF output TX power and RX sensitivity
- Delivered fully tested and calibrated
- FCC/CE approved
- Completely integrated RF parts including the internal antenna
- Option for external antenna connector
- Supply voltage 3.3V



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#### **Global Presence &** Distribution

- NORTH AMERICA - EUROPE - ASIA - MIDDLE EAST - AUSTRALIA - SOUTH AMERICA http://www.hdwireless.se

**Technical Support** Software drivers Wi-Fi Integration **Reference designs** Documentation

### **Turnkey Solutions**

The reference designs provided are turnkey solutions that will work first time and can be modified and used for customers own products.

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Web site: www.hd-wireless.se

# Block Diagram SPB800 WLAN Module



# Software

The SPB800 is easy to integrate with any 8-bit or 32-bit processor and is supplied with pre-flashed Software as a Serial port adapter or optionally support oWL pico command interface (equivalent to AT commands). IP and security parameters can be pre-set in the unit.

H&D Wireless provides a Software suite, SDK oWI Pico for serial to WLAN conversion. The  $oWL^{C}$  Pico wraps a simple character based protocol over a serial port for WLAN configuration and control.



### **Evaluation Package**

H&D Wireless provides an adapter solution to the SPB800 - evalution kit SPB403, fully supported on AT\_AVR\_XPLAIN Evaluation kit. A 2kB host driver, the oWL<sup>©</sup> Pico SDK is included.

### **Standards Compliance**

Country	Approval authority	Regulatory	Frequency band
USA	FCC	FCC	2.4-2.4835
Canada	IC	RSS	2.4-2.4835
EU	National	ETSI	2.4-2.4835

### Partners

H&D Wireless AB, official Atmel Wi-Fi partner



http://www.atmel.com/wifi

# **Specifications**

Core CPU32-bit MCUWireless Network Standard SupportIEEE 802.11b/gFrequency Band2.412-2.484 GHzOperation Modes✓ oWL-pico (IP stack on SPB800) ✓ Serial to WiFiModulation TechniquesQPSK, 16QAM, 64QAM DBPSK, DQPSK, CCK, OFDM with BPSKHardware interfaces✓ UART ✓ RS-232* (in EVK only)Network protocolsTCP/IP, DHCP, UDP/IP, ICMP, HTTPWLAN functions, QoSPower save modes, automatic roaming, Ad-hoc and Infrastructure modeWireless Security✓ WEP-64 ✓ WEP-128 ✓ WPA-PSK ✓ WPA2-PSKHardware dimensions34x22x5 mmCurrent consumptionTX :186mA, RX:77mA, , Power save: 7mA (2s listen interval ) Sleep: 1mASupply Voltage degrees C3.0-3.6VOperating tengerature, degrees C-20° - + 70° (commercial) -40° - + 85° (industrial) baud rates	Care CDU			
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		baud rates from 9600bps		

### **Order Information**

Part Number#	Description	Image
SPB800-B	Chip antenn	
SPB800-D	External amtenna, U.fl connector	
SPB800E	SPB800 mounted on a test board, 10 -pin socket. Supported on AT_AVR EXPLAIN	
HDA800	SPB800 Evaluation Kit: SPB800E, PC connection card, cables and Software package	Handward Antonia Handward Ant

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