

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

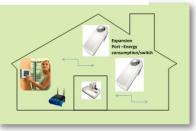
- Fitness equipment
- Wi-Fi scales
- Remote Patient monitoring

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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- wireless.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

Ì MCU UART oWL & 802.11 b/g RS-232 IP-Stack

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 $oWL^{\mbox{\tiny C}}$ 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 $^{\textcircled{G}}$ 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 CPU	32-bit MCU		
Wireless Network	IEEE 802.11b/g		
Standard Support			
Frequency Band	2.412-2.484 GHz		
Operation Modes	 ✓ oWL-pico (IP stack on SPB800) ✓ Serial to WiFi 		
Modulation	QPSK, 16QAM, 64QAM		
Techniques	DBPSK, DQPSK, CCK, OFDM		
	with BPSK		
Hardware	✓ UART		
interfaces	✓ RS-232* (in EVK only)		
Network protocols	TCP/IP, DHCP, UDP/IP, ICMP, HTTP		
WLAN functions,	Power save modes,		
QoS	automatic roaming, Ad-hoc		
	and Infrastructure mode		
Wireless Security	✓ WEP-64		
	✓ WEP-128		
	✓ WPA-PSK		
	✓ WPA2-PSK		
Hardware dimensions	34x22x5 mm		
Current	TX :186mA, RX:77mA, ,		
consumption	Power save: 7mA (2s listen		
	interval) Sleep: 1mA		
Supply Voltage	3.0-3.6V		
Operating	$-20^{\circ} - + 70^{\circ}$ (commercial)		
Temperature,	-40° - + 85° (industrial)		
degrees C			
Supported UART	✓ Supports all standard		
baud rates	baud rates from 9600bps		
	to 3.6 Mbps		

Order Information

Part	Description	Image
Number#		
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	Ref dispussion for the two sets and the set of the set

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