

Product Brief SPB820/HDG820, Wireless LAN Module 802.11b/g/n + TCP/IP with Pico API (preliminary)

INTRODUCTION

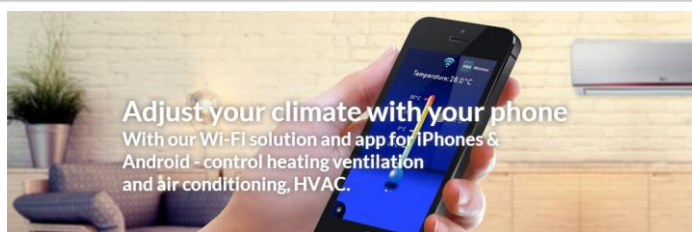
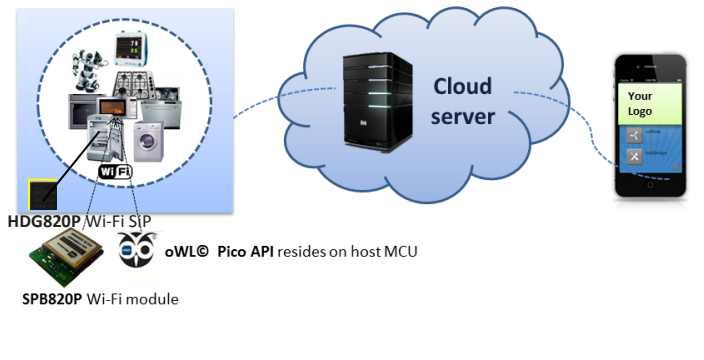
The SPB820P/HDG820PP/HDG820P solution is a complete Wi-Fi module with state of the art embedded security protocols and low power features. The SPB820P/HDG820P includes a matching low power, high performance 32-bit Microcontroller unit. The solution offers immediate wireless connectivity to the Internet or a local area network for any devices supporting UART.

The SPB820P/HDG820P solution removes the need for Wi-Fi drivers, IP-stack and security protocols on the host CPU. The SPB820P/HDG820P solution provides the fastest possible design turn around for Customers.

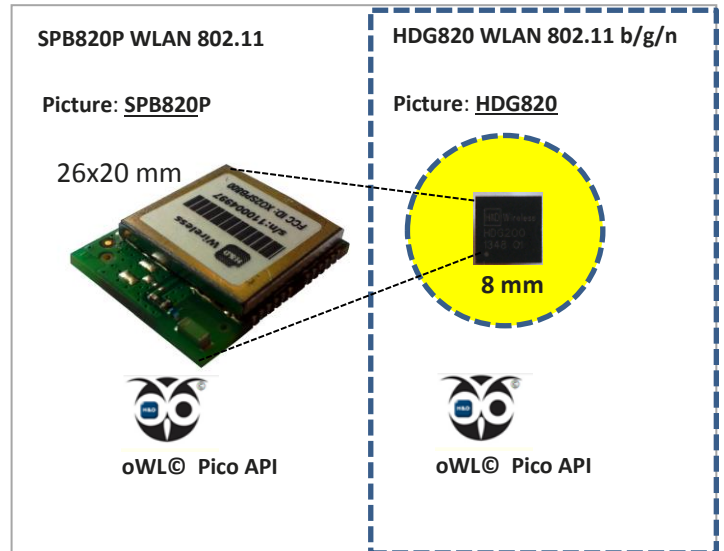
SPB820P/HDG820P Serial to Wi-Fi offers a cost effective solution for retrofitting existing or new UART applications with Wi-Fi Connectivity!

Target Market and Applications: Smart Home, M2M, CleanTech and IoT Applications. Robotics, White goods, Smart Home Appliances and Smart Grid.

User Scenario:



<http://www.hd-wireless.se>



The SPB820P/HDG820P: Wi-Fi + TCP/IP

Firmware	API, oWL Pico
Full TCP/IP Stack included	<input checked="" type="checkbox"/>
Reference designs	http://pico.hd-wireless.se Example implementations of different protocols on host incl. Web server reference designs.
Easy Wireless configuration	<input checked="" type="checkbox"/> SoftAP

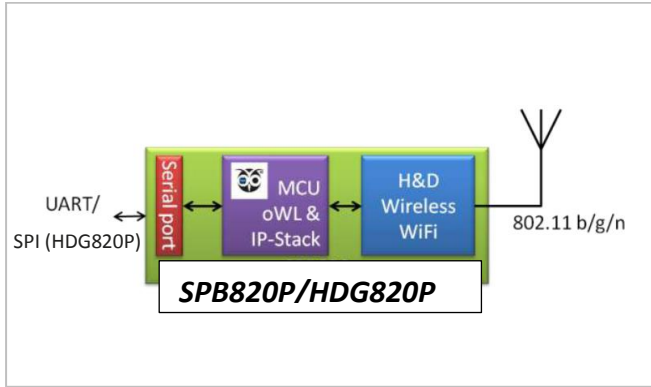
H&D Wireless AB – Leader in wireless internet access for the SmartHome We enable wireless sensor and multimedia data access to the Internet in an environmental friendly and cost effective way. The solutions are used in a wide range of applications ranging from smart energy meters for CleanTech to streaming data for Digital Media. The technology is world class Wi-Fi modules and application software.

Partner includes:

H&D Wireless: QUALCOMM Atheros Authorized Design & Module Partner



**Block Diagram SPB820P/HDG820P
WLAN Module**



Software

The SPB820P/HDG820P is easy to integrate with any 8-bit or 32-bit processor and is supplied with pre-flashed Software that support oWL pico API command interface (equivalent to AT commands). IP and security parameters can be pre-set in the unit. **The Pico API (<8kB) works with any host MCU!**

H&D Wireless provides a Software suite, SDK oWL Pico for serial to WLAN conversion. The oWL® Pico wraps a simple character based protocol over a serial port for WLAN configuration and control. Visit: <http://pico.hd-wireless.se>

Soft AP: makes it possible for a product to connect to another client without the need for an available network, i.e no Wi-Fi access point will be needed and a small local network can be setup with up to 4 clients.

Evaluation Package

H&D Wireless provides a SPB20 starter Kit – the **HDA820** – Your engine to Develop and test your application

Picture: HDA820 WLAN 802.11b/g/n



Partners

H&D Wireless AB: QUALCOMM ATHEROS Authorized Design & Module Partner



H&D Wireless AB: Wi-Fi partner includes:



Specifications

Core CPU	32-bit MCU
Wireless Network Standard Support	IEEE 802.11b/g/n
Frequency Band	2.412-2.484 GHz
Operation Modes	API driver mode - oWL-pico
Data Rates:	1, 2, 5.5, 6, 7.2, 9, 11, 12, 14.4, 18, 21.7, 24, 28.9, 36, 43.3, 48, 54, 57.8, 65 and 72.2 Mbps
Hardware interfaces	UART (SPB820P/HDH820P) SPI (HDG820)
Network protocols	TCP/IP, DHCP, UDP/IP, ICMP, HTTP
WLAN functions, QoS	Power save modes, automatic roaming, Infrastructure mode and Soft AP
Wireless Security	<ul style="list-style-type: none"> ✓ WEP-64 ✓ WEP-128 ✓ WPA-PSK ✓ WPA2-PSK
Hardware dimensions	26x20x4mm (SPB820P) 8x8x1,2mm (HDG820P)
Current consumption	Power save: 400uA Sleep: 5uA
Supply Voltage	3.0-3.6V
Operating Temperature, degrees C	-40° - + 85° (industrial)
Supported UART baud rates	Supports all standard baud rates from 9600bps to 3.6 Mbps

Order information:

Part#	Description	Image
HDG820P WLAN b/g/n	Wi-Fi SiP with Pico API. Complete system ready. Ext. antenna	
SPB820P WLAN b/g/n	Wi-Fi Module with Pico API. Complete system ready. Chip antenna or U.fl connector. FCC/CE	
HDA820	SPB820/HDG820 starter kit. EVK	

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Technical Support
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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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