Making Wi-Fi Connectivity easy on Microcontroller platforms

H&D Wireless

Product Brief SPB4100 Wireless LAN Module
802.11b/g/n   Preliminary

INTRODUCTION

The SPB4100 is a complete Wireless LAN Module with ultra low power consumption, optimized for embedded devices. The SPB4100 Wi-Fi solution is supported on Freescale Tower Microcontroller platform and is optimal for developers that want to build wireless internet connected devices for the Energy, Smart Home, CleanTech, Healthcare and Industry automation market!

With the SPB4100 developers are targeting wireless sensors for industrial and home control, AMR for smart and green energy control, remote device management such as location tracking and the growing segment of equipment healthcare and fitness devices that require Internet connection.

The SPB4100 Module format, with its complete functionality, means quicker design cycles, lower risk and simplified manufacturing, all in a very small package (25x20 mm). Lack of external components simplifies assembly test and reduces yield loss. The SPB4100 Module delivers a complete and fully tested and trimmed implementation of 802.11b/g/n functionality. The SPB4100 solution is tested, calibrated and certified resulting in lowest possible production and system cost.

Typical applications for SPB4100 includes:

Energy Control
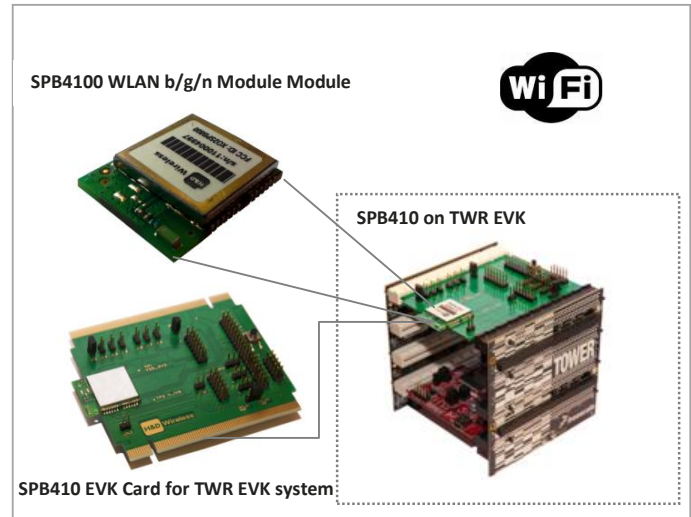- Automatic Meter Reading
- Sensor networks
- Smart Homes

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

SPB4100 WLAN b/g/n Module Module

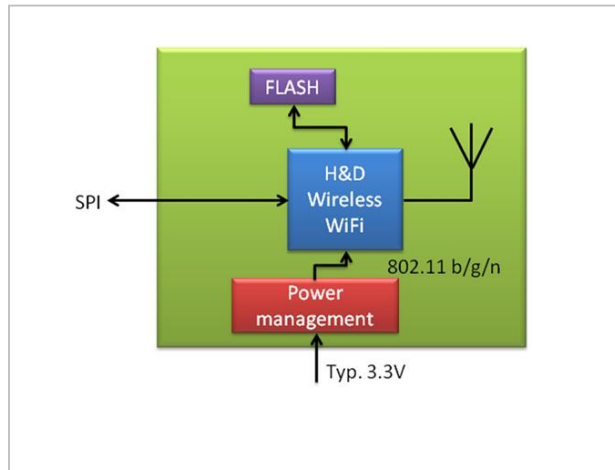SPB410 on TWR EVK

SPB410 EVK Card for TWR EVK system

KEY FEATURES – SPB4100

- ✓ Complete 802.11b/g/n Wi-Fi system solution
- ✓ Lowest power consumption Surface Mounted solution in the market for embedded applications
- ✓ Supports SPI serial interface.
- ✓ Is delivered fully tested and calibrated
- ✓ FCC approved – fully shielded
- ✓ MAC addressed set
- ✓ Bias/trimmed
- ✓ SW drivers supported on Freescale Tower platform
- ✓ Support for both external antenna or internal chip antenna by the use of a switching antenna connector.
- ✓ Low Cost
- ✓ Quick Time to Market
- ✓ No RF trimming needed
- ✓ RoHS Compliant
- ✓ SMT pads enables fully automated assembly process with standard pick-and-place equipment.

H&D Wireless will propel your Application !

http://www.hd-wireless.se

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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.

Web site:
www.hd-wireless.se

SPB4100 Block diagram

Software & Evaluation

SPB4100 – Full Software driver from H&D Wireless supported on Tower platform (Freescale).

Picture: SPB4100 EVK – order #:SPB410
Supported on FSL TWR EVK

Partners

H&D Wireless, official Qualcomm Atheros Authorized Design & Module Partner

Specifications

Wireless Network Standard Support	802.11b, 802.11g, 802.11n (1-stream)
Frequency Band	2.412-2.484 GHz
Data rates supported	802.11b at 1, 2, 5.5 and 11 Mbps 802.11g at 6, 9, 12, 18, 24, 36, 48,and 54 Mbps 802.11n at 6.5, 13.0, 19.5, 26.0, 39.0, 52.0, 58.5, 65.0, 72.2 Mbps
Low Energy	Power saving modes as low as 5uA Fast wake-up times as low as 2.2mS
Hardware interfaces	SPI
Hardware Encryption	✓ WEP ✓ WPA/WPA2 (AES & TKIP) ✓ WAPI ✓ SPI Communication I/F
Hardware dimensions	25x20x3,5mm
Supply Voltage	3-4,7V
Operating Temperature, degrees C	-30° - + 85°

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

Order Information

Part Number#	Description	Image
SPB410	SB4100 EVK card supported on FSL TWR	
SPB4100-B	802.11b/g/n Module. SPI I/F. Surface mounting, Chip antenna	
SPB4100-D	802.11b/g/n Module. SPI I/F. Surface mounting. UFL connector	
SPB4100-W	SPB4100 with wide range supply voltage, 2.7-5.5V	

For additional information please contact sales@hd-wireless.se

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