

## **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



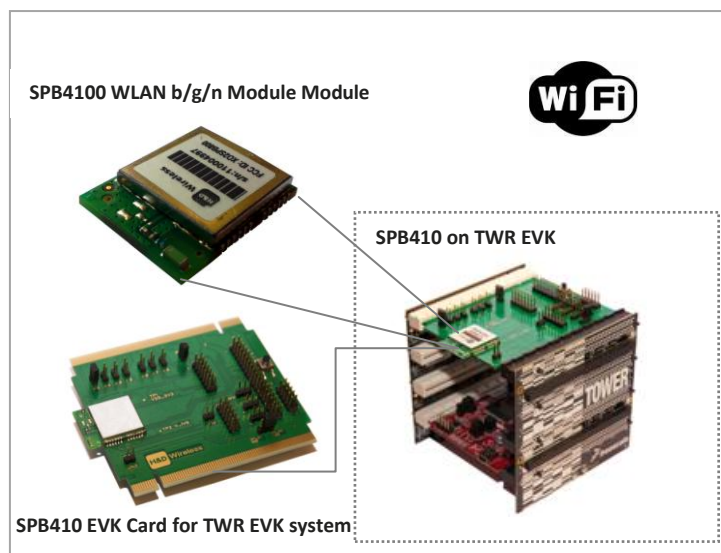
#### **Fitness & Healthcare**

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



#### **Industrial Control**

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

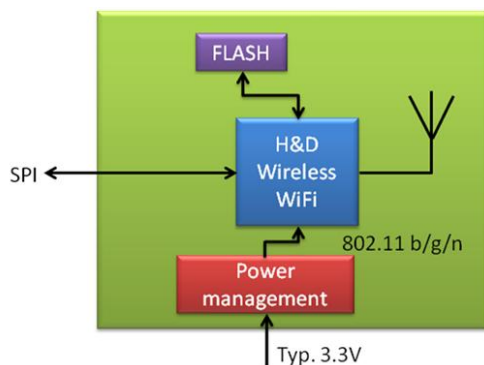


### **KEY FEATURES – SPB4100**

- ✓ 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>

**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**

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

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