

## Product Brief

### SPB209A WLAN and Bluetooth Module

High Performance Dual Band Wifi ac/a/b/g/n, Bluetooth 4.2

#### INTRODUCTION

SPB209A is a complete WLAN and Bluetooth Dual-mode module ready for onboard integration in Linux platforms. The ultra-small 14x14x2.5mm low power, high performance module enables a feature rich client solution providing up to 433Mbit/s data rate. SPB209A fully supports concurrent or independent operation of WLAN and Bluetooth. The SPB209A connects to the host through SDIO and high speed UART interfaces. The module comes in versions with or without integrated antenna and LTE filter supporting shortest time to market for multimedia, industrial and smart home products.

With the SPB209A developers are targeting a wide range of applications including

- Wireless home audio and video entertainment systems including, set-top boxes, Blu-ray/ DVD players, media servers, and gaming platforms
- Consumer electronic devices such as Portable Media devices, IP-radio, home security, wireless speakers and IP audio devices.
- Smart control and monitor of renewable energy

The SPB209A is highly integrated and its complete system functionality, means quicker design cycles, lower risk and simplified manufacturing, all in a ultra-small package. The SPB209A delivers a complete and fully tested implementation of 802.11 a/b/g/n/ac and BT4.2 functionality. The SPB209A solution is calibrated and FCC, CE certified resulting in lowest possible customer production and system cost.

#### H&D Wireless AB

*H&D Wireless AB is a Global Smart Home solution provider. Making Cloud Connectivity easy for SmartHome, M2M, IoT, Multimedia applications and sensor networks.*



#### SPB209A EVB

WLAN 802.11a/b/g/n/ac, BT4.2



#### SPB209A



**Add 11.ac Wi-Fi capability to your Linux platforms!**

Wi-Fi is a registered trademark of the Wi-Fi Alliance

#### KEY FEATURES – SPB209A

- ✓ IEEE 802.11ac compliant
- ✓ IEEE 802.11 PHY data rates of up to 433 Mbps
- ✓ Driver support for Linux
- ✓ Advanced Power management system allowing “Always On”
- ✓ Bluetooth 4.2
- ✓ Internal co-existence arbitration
- ✓ FCC and CE approved reference design
- ✓ Interfaces SDIO 3.0, HS UART, PCM
- ✓ Industrial temp range -40 to +85C°
- ✓ High RF output TX power
- ✓ Supports multiple SW features such as 802.11e/i (Security, QoS), Soft AP and Wi-Fi Direct
- ✓ Extensive DMA hardware support for data flow to reduce CPU load
- ✓ RoHS compliant

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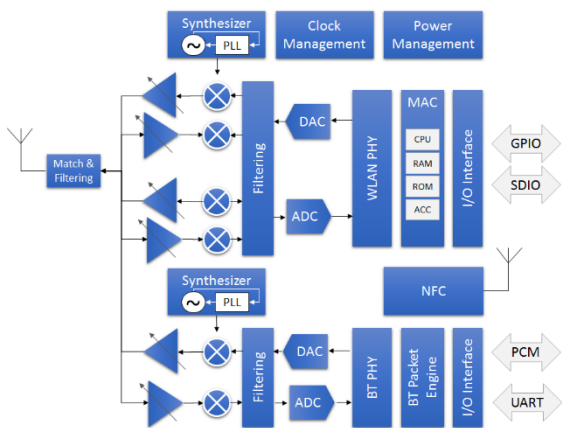
**Technical Support**  
Software drivers  
Wi-Fi Integration  
Reference designs  
Documentation

**Turnkey Solutions**  
Reference designs  
Reference design modification to customer specific needs  
Customer specific application support and development

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## SPB209A Block diagram



## Software

The SPB209A device driver implements and reuses tools and interfaces that are de-facto standard in Linux systems. Conceptually, the Linux driver could be used on any host platform that supports Linux.

**Demo images available for the following platforms:**



## Wireless HD video streaming

## Add Wi-Fi capability to your Linux platform!

H&D Wireless Linux driver distribution is license free

**support.hd-wireless.com**

### Support for Application and Turnkey Development

- Reference designs
- Reference design modification to customer specific needs
- Customer specific application support and development

## Evaluation Package

SPB209A based evaluation is supported with the HDA209 evaluation kit in SDIO board format

## Distribution

**H&D Wireless products are available through several distribution channels.**

**Contact H&D Wireless Sales representative or visit the webpage.**

Wireless Network Standard Support	IEEE 802.11a/b/g/n/ac, BT4.2
Frequency Band	Dual, 2.4/5 GHz
Data rates	802.11 a/b/g standard rates 802.11n 20/40Mhz channels 802.11ac 20/40/80Mhz channels up to 433Mbps Bluetooth BR, EDR 2Mbps
Hardware interfaces	SDIO 3.0, UART, GPIO:s – Host / PCM – BT Audio
WLAN functions, QoS	Power save modes, automatic roaming, Ad-hoc, Soft AP, Wi-Fi Direct and Infrastructure mode
Wireless Security	<ul style="list-style-type: none"> <li>✓ WEP-64</li> <li>✓ WEP-128</li> <li>✓ WPA-PSK</li> <li>✓ WPA2-PSK</li> </ul>
NFC	Functions: R/W, Card Emulation and P2P
Bluetooth	BT for stereo audio and data BLE for fast configuration and sensor data upload
HW dimensions	14 mm x 14 mm x 2.5 mm
Output power	802.11 b: 18 dBm 802.11 a/g/n/ac: 15 dBm Bluetooth: 7 dBm
Power consumption	2.5GHz HT20: Wi-Fi IEEE 802.11 b TX 295mA RX:51mA Wi-Fi IEEE 802.11 g/n/ac: TX 285mA / RX 66mA 5GHz HT80: Wi-Fi IEEE 802.11 ac MCS9: TX 330mA / RX 121mA BT BT TX (+4dBm) 22mA / RX 17mA
Supply Voltage	3.0-3.6V
Operating Temp.	-40 to + 85°C (industrial)

Design and specification are subject to change without notice.

## Specification

Product number	Description	Format
SPB209A-LRNMZ	41 pin SMD module. No antenna and no LTE filter	14x14mm
SPB209A-LRLMZ	41 pin SMD module. No antenna and with LTE filter	14x14mm
SPB209A-LBNMZ	38 pin SMD module. With antenna and no LTE filter	14x21mm
SPB209A-LBLMZ	38 pin SMD module. With antenna and LTE filter	14x21mm

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