

## Product Brief H&D Wireless, Accelerate<sup>®</sup>SPB209A WLAN/BT/NFC

Wi-Fi combination support: 802.11a/b/g/n/ac, BT4.2, NFC

### INTRODUCTION

SPB209A is a complete WLAN, Bluetooth Dual-mode and NFC 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, Bluetooth and NFC. 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, BT4.2 and NFC functionality. The SPB209A solution is calibrated and FCC, CE certified resulting in lowest possible customer production and system cost.



Wireless HD video streaming

### 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.*

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#### SPB209A EVB

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

#### SPB209A



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

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

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 and NFC
- ✓ Internal co-existence arbitration
- ✓ FCC and CE approved reference design
- ✓ Highest level of integration
- ✓ Interfaces SDIO 3.0, HS UART, I2C, PCM
- ✓ Environmental -40 to +85°C
- ✓ 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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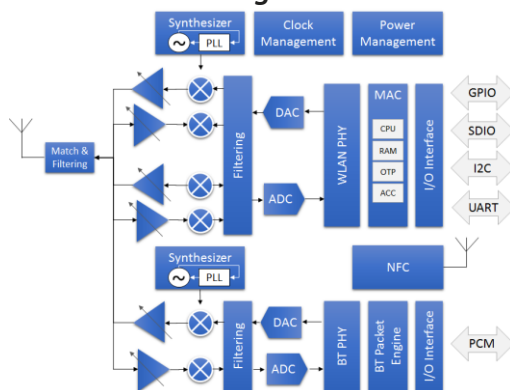
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## SPB209A Block diagram



## 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:**



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

H&D Wireless Linux driver distribution is license free: <http://linux.hd-wireless.se/>

## Evaluation Package

The SPB209A design vehicle is called SPB209 EVB. Supported on Linux based platforms.

## Distribution:



## Specification

Wireless Network Standard Support	IEEE 802.11a/b/g/n/ac, BT4.2, NFC
Frequency Band	Dual, 2.4/5 GHz
Data rates	IEEE 802.11n/ac: 433 Mbps (80 MHz CH) 200 Mbps (40 MHz CH) 86 Mbps (20 MHz CH) IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps IEEE 802.11b: 11, 5.5, 2, 1 Mbps Bluetooth; BR, EDR, LE
Hardware interfaces	SDIO 3.0, UART, I2C, 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	✓ WEP-64 ✓ WEP-128 ✓ WPA-PSK ✓ WPA2-PSK
NFC	Functions: R/W, Card Emulation and P2P Protocol standards: ISO 14443A/B, ISO15693, ISO18092, NFCIP-2, NFC Forum, EMV
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: 8 dBm
Power consumption	2.5GHz HT20: Wi-Fi IEEE 802.11 b TX 290mA RX: 51mA Wi-Fi IEEE 802.11 g/n/ac: TX 258mA / RX 66mA 5GHz HT80: Wi-Fi IEEE 802.11 ac MCS9: TX 349mA / RX 121mA BT RX 17mA / BT TX (+4dBm) 22mA
Supply Voltage	3.0-3.6V
Operating Temp.	-40 to + 85°C (industrial)

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## Order information

Part No.	Description	Image
SPB209A – LRNCQ-2	Wi-Fi Module 802.11a/b/g/n/ac, BT, NFC component in 41-pin outline. (more options available, see data sheet)	
SPB209 EVB	EVB for SPB209A	

For additional information please contact [sales@hd-wireless.se](mailto:sales@hd-wireless.se)  
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