

# SX-SDPGN

## 802.11b/g/n SiP for Mobile Applications



### Lowest Cost 802.11n Wireless LAN Solution

The Silex SX-SDPGN (Qualcomm Atheros AR6103) is a third-generation Wireless LAN solution, featuring 802.11n. Based on the game-changing AR6003 Wireless LAN chip, the SX-SDPGN brings 802.11n throughput, range and power efficiency to portable devices including patient monitors, printers, handheld terminals and more.

The SX-SDPGN is ideal for high volume Wireless LAN applications. The SX-SDPGN is a System-in-Package (SiP) designed to be mounted directly on the device PCBA. This design approach minimizes cost by eliminating extra materials (i.e. PCB and connectors) and labor associated with a radio module or card.

#### Benefits:

- High RBOM integration enables design flexibility and lowest cost
- Smallest foot print for space constrained devices
- Direct antenna connection eliminates the need for complicated RF tuning and calibration

#### Solution Highlights:

The SX-SDPGN incorporates all the features and performance of the award winning Qualcomm Atheros ROCm® AR6003 solution, including:

- Single-stream 802.11n for faster downloads, longer range, and lower power consumption
- The highest actual end-user throughput-over-range utilizing advanced 802.11n features including: full & half guard interval, hardware accelerated frame aggregation, space time block coding (STBC), and low density parity check (LDPC) encoding
- Highest level of on-chip integration using CMOS technology
  - Radio/MAC/Baseband
  - Patented Qualcomm Atheros Efficient Power Amplifier (EPA™) for high transmitter output power
  - Integrated power management unit
- Direct Connect™ AP Mode technology
- Qualcomm Atheros Universal Wireless Cooperation for enhanced Wireless/Bluetooth Cooperation

#### Features:

- IEEE 802.11b/g/n 2.4 GHz
- Integrated CMOS Efficient Power Amplifier (EPA™), LNA
- Adaptive radio biasing for low-power or high-performance modes
- Industry-leading receive sensitivity
- No external EEPROM required for RF calibration
- Integrated RISC processor
- Support for industry standard QoS schemes (802.11e, WMM, WMM-PS)
- Hardware accelerated security, including WAPI (China)

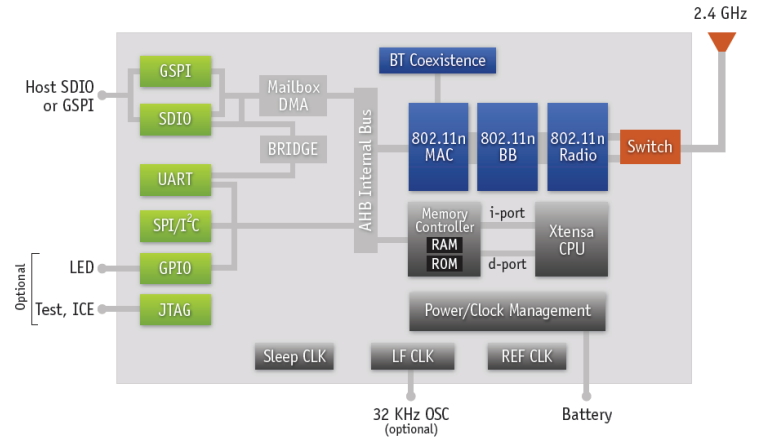
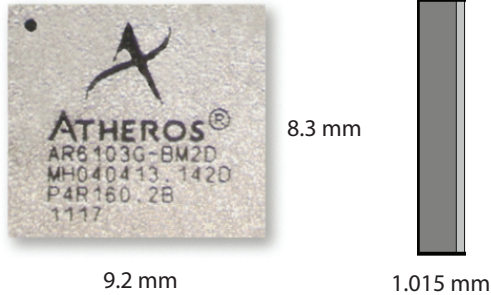
#### Target Applications:

The SX-SDPGN is ideal for any high volume portable device where there is a requirement to achieve the lowest BOM cost or smallest foot print. Implementation of a System-in-Package solution is recommended for companies that have RF hardware expertise. Software driver and supplicant development is also generally required.

#### Specifications:

Product Name	SX-SDPGN-2830
Chipset	Qualcomm Atheros AR6103
Operating Voltage	VDD 3.3V, AVDD 1.8v
Dimensions	8.3 x 9.2 x 1.015 mm
Storage Temperature	-45 to +135 degrees C
Operating Temperature	-20 to +85 degrees C

**Dimensions and Architecture**



**General Specifications**

- On-Chip Functionality: Single-chip MAC/BB/RF/PA/LNA
- Frequency Band: 2.4 GHz
- Network Standard: 802.11b, 802.11g, 802.11n (1-stream)
- Modulation Modes: CCK and OFDM with BPSK, QPSK, 16 QAM, 64 QAM
- Hardware Encryption: WEP, WPA/WPA2, (AES and TKIP), WAPI
- Quality of Service (QoS): WMM, WMM-PS, 802.11e

**Interfaces**

- Communications: SDIO 2.0
- Supported Data Rate:
  - IEEE 802.11b 1 - 11 Mbps
  - IEEE 802.11g 6 - 54 Mbps
  - IEEE 802.11n 7.2 - 72.2 Mbps
- Bluetooth Coexistence Supports 2-, 3-, and 4-wire handshaking
- Physical Specifications 8.3 mm x 9.2 mm LGA Package

**Driver Support**

**Reference Drivers:**

- Linux
- Android
- Windows Embedded Compact 7
- QNX Neutrino
- Green Hills Intergrity
- Mentor Graphics Nucleus

**Ordering Information**

- SX-SDPGN-2830: Bulk Packaged, Tape / Reel
- SX-SDPGN-2830-SP: 10 Unit Sample Pack
- SX-6K3-EVK-SB: AR6003 Single Band Evaluation Kit

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**silex global sales & support locations**



**US Office**  
silex technology america, Inc.  
US toll free 657-218-5199  
www.silextechnology.com  
sales@silexamerica.com

**Europe Office**  
silex technology europe, GmbH  
+49-2154-88967-0  
Germany toll free 0800-7453938  
www.silextechnology.com  
contact@silexeurope.com

**India Office**  
silex technology india, Pvt. Ltd.,  
+91-44-4303234  
www.silex-india.com  
support@silex-india.com

**Corporate Headquarters**  
silex technology, Inc.  
+81-774-98-3781  
www.silex.jp  
support@silex.jp

PN: 141-00207-100  
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