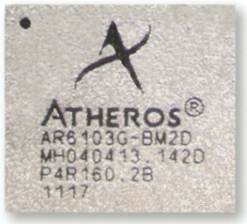
When it **Absolutely Must** Connect

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 acelerated 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

PN: 141-00207-100
REV C. 20120918

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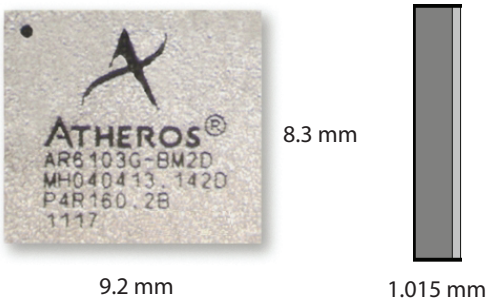
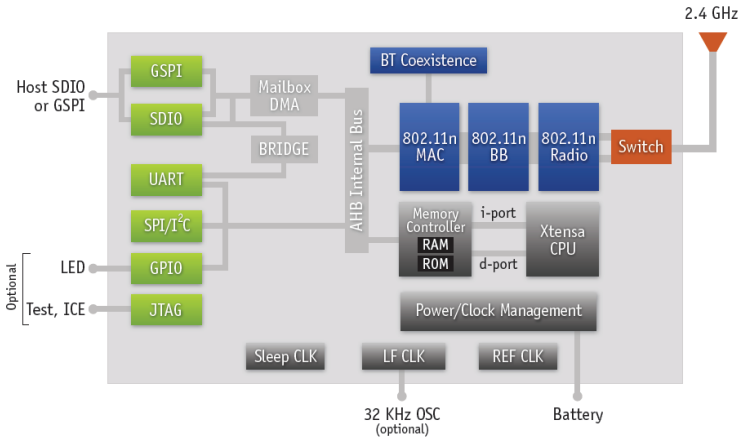
SX-SDPGN
802.11b/g/n System in Package (SiP)

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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