

SX-PCEGN 802.11 b/g/n PCI Express Card Module



Robust & Highly integrated 2 stream 11n solution

Wireless Solutions from the Experts in Embedded Wireless

The SX-PCEGN is an IEEE 802.11 b/g/n compliant 2.4GHz single band PCI Express Half-Mini Card with a 2x2 MIMO configuration. Designed for the growing demand of PCIe compliant devices that require wireless connectivity in a small form factor combined with high data throughput

Silex is one of the first companies to productize the AR9287 PCIe card solution in the industry. Unlike the other similar solutions, the design, manufacturing, and tuning processes are strictly controlled in-house at the Silex state-of-the-art ISO9001 facility in Japan.

Each card is individually tested and inspected to ensure the industry's highest quality resulting greater performance and reliability. The SX-PCEGN is designed to meet the demanding performance requirements of critical embedded applications.

Silex Advanced Services

As a Qualcomm Atheros Authorized Design Center (ADC), Silex Technology America has the experience and expertise to provide all of the services necessary to enable embedded wireless networking in virtually any type product.

We specialize in embedded wireless solutions and services.

Our products and services include:

- Wireless Cards such as Mini-PCI, PCI Express and SDIO cards
- Intelligent wireless modules with Linux OS, robust protocols, web interface and enterprise security
- Wireless System in Package (SiP) for highly integrated applications
- Custom wireless module design and manufacturing
- Driver development and porting
- Certification, Manufacturing, and Logistics

In addition, Silex Technology America can engage with customers to execute a Qualcomm Atheros NDA which allows access to Qualcomm Atheros documentation and source code.

Key Features:

- Qualcomm Atheros AR9287 highly integrated chip set
- IEEE 802.11b/g/n compliant 2.4 GHz single band
- Full MIMO performance with data rate up to 300 Mbps
- PCI Express Half-Mini Card compliant
- PCI Express Mini Card 1.1 compliant
- Driver offering includes Linux, Windows 7 and Embedded XP
- Linux supplicant available for WPA/WPA2-PSK & 802.1x EAP
- Custom Driver development available
- IEEE 802.11e QOS support

Benefits:

- Small form factor based by Industry's highest quality
- Robust proprietary Linux/Windows driver
- Wide range of wireless security options available

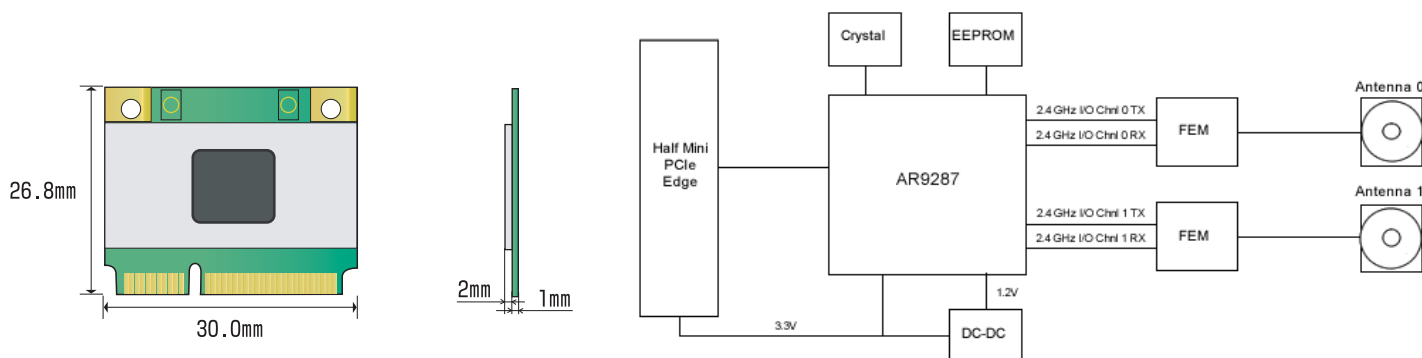
Target Applications:

Medical devices, Security Systems, Industrial, PoS, Digital Signs, Set-Top/ Net-Top Box, Embedded / Industrial / Tablet PC, Handheld devices, Thin Client devices, virtually any device supporting PCI Express interface.

Specifications:

Product Name	SX-PCEGN
Chipset	Qualcomm Atheros AR9287
Antenna Connector	U.FL Connector
Operating Voltage	3.3V +/- 10%
Power Consumption	TX: 630mA (Max), RX: 270A (Max)
Weight	3.5g
Dimensions	30.0 x 26.8 x 3.0 mm, PCB Thickness = 1.0 mm
Storage Conditions	Temperature: -20 - 85C, Humidity: 10 - 85% RH
Operating Conditions	Temperature: 0 - 60C, Humidity: 20 - 80% RH

Dimensions and Architecture



Radio Configuration & General Specifications

Center Frequency:	
802.11b/g/ng HT20	2412 – 2472 MHz (Ch. 1 - Ch.13)
802.11ng HT40	2422 - 2462 MHz (Ch. 3 - Ch.11)
Channel Spacing:	
802.11b/11g/ng HT20/HT40	5 MHz
Modulation Type:	
802.11b	DSSS (CCK, DQPSK, DBPSK)
802.11g/11ng	DSSS-OFDM (64QAM, 16QAM, QPSK, BPSK)

Standard Compliance

Device Interfaces:

- IEEE802.11b/g/n/e/h/i
- PCI Express Mini Card v1.2
(Single definitions: PCI Express v1.1)

Regulatory:

- Japan Radio Law Rule Article 2 Section 1 Number 19
- FCC Part15 (Subpart C)
- IC RSS (210, Gen)
- R&TTE (EN300 328)

Recommended Antenna:

The following antenna part has been qualified for TELEC;
 Part Number: TB18119A1S0 di-pole antenna (2.1 dBi @ 2.4 GHz)
 Vendor: Sansel Electronic

Driver Support

Silex Linux Reference Driver:

- 802.11a/b/g/n supported
- Ad hoc, Infrastructure, Access Point mode

Silex WPA Software:

- WPA Supplicant (Station) / WPA Authenticator (AP)
- Customized based on Open Source WPA supplicant / hostapd
- WPA - TKIP/AES - PSK/EAP(TLS/TTLS/PEAP/FAST)
- WPA2 - AES - PSK/EAP (TLS/TTLS/PEAP/FAST)
- IEEE 802.1X - WEP / None - EAP (TLS/TTLS/PEAP/FAST)

Windows Embedded (Windows XP/Windows 7)

Ordering Information

SX-PCEGN(P) +
 Individually Packaged, 2 Antennas & Cables, MAC & EMI Labels
 SX-PCEGN-BBNL +
 Bulk Packaged, MAC Address Label Only

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