silex technology

When it **Absolutely Must** Connect

SX-SDMAN
802.11a/b/g/n Plus Bluetooth SDIO Module

Wireless LAN Module for Mobile Devices with Enterprise Reliability

The Silex SX-SDMAN is a dual-band 802.11a/b/g/n plus Bluetooth SDIO module that is based on the SX-SDPAN (Qualcomm Atheros AR6233). The SX-SDMAN brings 802.11n throughput, range and power efficiency to portable devices including patient monitors, printers, handheld terminals and more.

The SX-SDMAN integrates an external 5 GHz Front End Module (FEM) and is pre-tuned for the most optimized dual-band WLAN performance. The radio module design approach also saves cost as the SX-SDMAN provides FCC/IC/ETSI/TELEC modular certification.
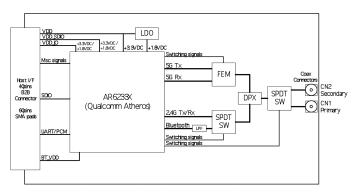
The SX-SDMAN provides superior product quality. Silex has validated that our design meets IEEE standards and each module is individually tested during the production process. This ensures that each of our products will perform to our published specification.

In order to expedite your product development process, Silex can provide both hardware and software engineering services including custom driver development, as well as turnkey product design and manufacturing.

Key Features:

- IEEE 802.11a/b/g/n conformity (2.4 GHz & 5 GHz)
- Single stream 1 x 1 SISO technology and 40 MHz bandwidth mode for 5 GHz
- Data rates of 1 - 54 Mbps for 802.11b/g, 6 - 54 Mbps for 802.11a and 6.5 - 135 Mbps for 802.11n
- Supports IEEE 802.11e, IEEE 802.11h and IEEE 802.11i
- Supports SDIO 2.0 as host IF of wireless LAN
- Optionally supports Tx/Rx software selection diversity for wireless LAN mode
- Supports Bluetooth 4.0 + LE dual mode
- Supports TDMA Wi-Fi/Bluetooth coexistence
- Supports UART and USB as the host IF of Bluetooth
- Calibrated Tx Power per module
- FCC/IC/ETSI/TELEC modular certification
- Connector mount and surface mount versions

Diagram:

LDO : Low DropOut regulator
FEM : RF Front End Module
DPX : Diplexer
LPF : Low Pass Filter
SPDT SW : Single Pole Double Throw Switch

Specifications:

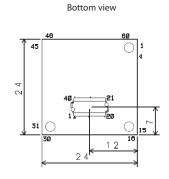| Product Name	SX-SDMAN-2830C / SX-SDMAN-2830S
Chipset	Qualcomm Atheros AR6233
Host Interface	SDIO V 2.0 (4-bit, 1-bit)
Operating Voltage	3.30 VDC +/- 5%
Radio Specifications	802.11b/g/n 2.412 - 2.484 GHz 802.11a/n 5.18 - 5.825 GHz
Baseband Specifications	CSMA/CA media access; DSSS, OFDM
Bluetooth Specifications	BT3.0+HS, BT4.0, Class 1.5
Operating Temperature	-10 to +70 degrees C
Connector Mount Dimensions	24.0 x 24.0 x 4.4 mm (W x H x D)
Surface Mount Dimensions	19.0 x 22.0 x 2.2 mm (W x H x D)

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Dimensions and Architecture

Connector Mount

Top view

Bottom view

Surface Mount

Top view

Bottom view

General Specifications

On-Chip Functionality:	Single-chip MAC/BB/RF/PA/LNA
Frequency Band:	2.4 GHz / 5 GHz
Network Standard:	802.11a, 802.11b, 802.11g, 802.11n (1-stream)
Modulation Modes:	OFDM (64QAM, 16QAM, QPSK, BPSK), DSSS (CCK, DQPSK, DBPSK), DSSS-OFDM (64QAM, 16QAM, QPSK, BPSK)
Hardware Encryption:	WEP, WPA/WPA2 (TKIP/AES-CCMP), WAPI
Quality of Service (QoS):	WMM, WMM-PS, 802.11e

Interfaces

Communications:	SDIO 2.0

Supported Data Rates:

IEEE 802.11b	1-11 Mbps
IEEE 802.11g	6-54 Mbps
IEEE 802.11a	6-54 Mbps
IEEE 802.11n HT20	6.5 - 65.0 Mbps
IEEE 802.11n HT40	13.5 - 135.0 Mbps

Bluetooth:	BDR/EDR/LE

Physical Specifications:

Connector Mount:	24.0 x 24.0 x 4.4 mm (W x H x D)
Surface Mount:	19.0 x 22.0 x 2.2 mm (W x H x D)

Driver Support

Reference Drivers:

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

Ordering Information

SX-SDMAN-2830C:	Connector Mount, Bulk Package
SX-SDMAN-2830C-SP:	Connector Mount, Sample Pack
SX-SDMAN-2830S:	Surface Mount, Bulk Package
SX-SDMAN-2830S-SP:	Surface Mount, 10 Unit Sample Pack
SX-6K3-EVK-DB:	AR6003 Dual Band Evaluation Kit (Includes SX-SDCAN-2830)

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