

SX-SDMAC

802.11ac Plus Bluetooth SDIO Module



Low Cost Next Generation SDIO Wireless LAN Module

The Silex SX-SDMAC is a dual-band IEEE802.11a/b/g/n/ac WLAN plus Bluetooth 4.1+HS EDR/BLE "Smart Ready" SDIO module based on the Qualcomm Atheros System-on-Chip (SoC). It integrates a QCA9377 SoC with MAC, Baseband, RF, RF front end, and peripheral circuitry (power management unit, a 48 MHz reference clock crystal etc). SX-SDMAC operates on a single regulated 3.3V power supply.

The SX-SDMAC comes in surface mount (SMT) and board to board connector (B2B) form factors. The SX-SDMAC has a 50 ohm U.FL connector as a connection interface for an external antenna. There is also an option to use an onboard printed antenna for the surface mount (SMT) version.

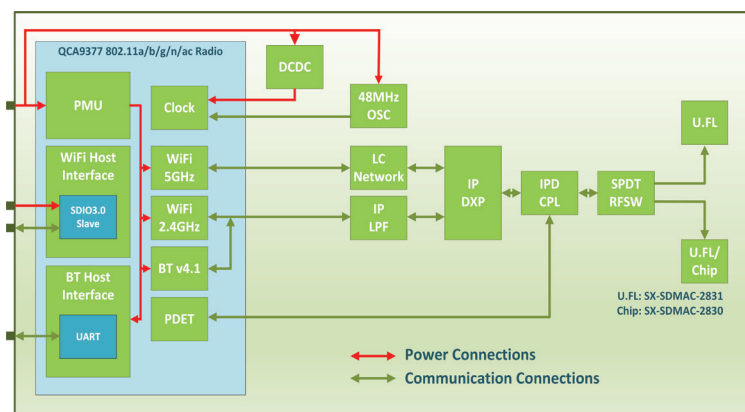
SX-SDMAC supports 802.11ac multi-user MIMO (Wave 2) feature which can increase the overall WLAN system performance. SX-SDMAC provides an SDIO 3.0 interface for WLAN and a hi-speed UART interface for BT.

The SX-SDMAC is a FCC/IC/TELEC/RED certified module. 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:

- Low Power Dual-Band 1x1 Module for Wi-Fi & BT
- Based on the QCA9377-3 Chipset
- 802.11 a/b/g/n/ac Wave 2 MU-MIMO
- Bluetooth 4.1 BR/EDR/LE Smart Ready
- SDIO 3.0 WLAN Host Interface
- On-chip Power Management Unit (PMU)
- Link Rate upto 433 Mbps
- Hardware Receive Diversity
- Supports UART as the host IF of Bluetooth
- Calibrated Tx Power per module
- FCC/IC/ETSI/TELEC modular certification
- Connector mount and surface mount versions

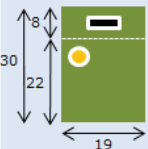

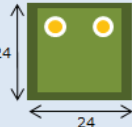
Diagram:



Specifications:

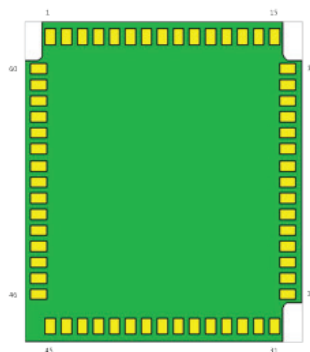
Product Name	SX-SDMAC-2831C (U.FL Antenna) SX-SDMAC-2830S (On board antenna) SX-SDMAC-2831S (U.FL Antenna)
Chipset	QCA9377-3
Host Interface	SDIO V 3.0 : WLAN High Speed UART: Bluetooth
Operating Voltage	3.30 VDC +/- 5%
Radio Specifications	802.11b/g/n: 2.412 - 2.472GHz 802.11a/n/ac: 5.180 - 5.825 GHz Bluetooth: 2.402 - 2.480 GHz
Baseband Specifications	CSMA/CA media access; DSSS, OFDM
Bluetooth Specifications	BT4.1+ HS "Smart Ready" BLE
Operating Temperature	-40 - +85 °C
Dimensions	SX-SDMAC-2831C: 24.0 x 31.0 x 5.2 mm SX-SDMAC-2830S: 19.0 x 30.0 x 2.4 mm SX-SDMAC-2831S: 19.0 x 22.0 x 2.4 mm
Connector Type	SMT: Direct solder pad 60 pins B2B: 40 pins
Antenna Configuration	1x1 mode (1T1R)

SX-SDMAC SKU's

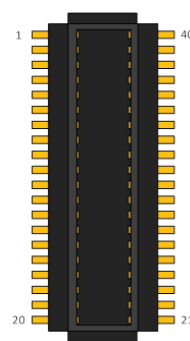
Name	SX-SDMAC-2830S	SX-SDMAC-2831S	SX-SDMAC-2831C
Shape			
Type	SMT	SMT	BtoB
Antenna	Onboard + U.FL x1	U.FL x2	U.FL x2

Pin Numbering and Connection Options

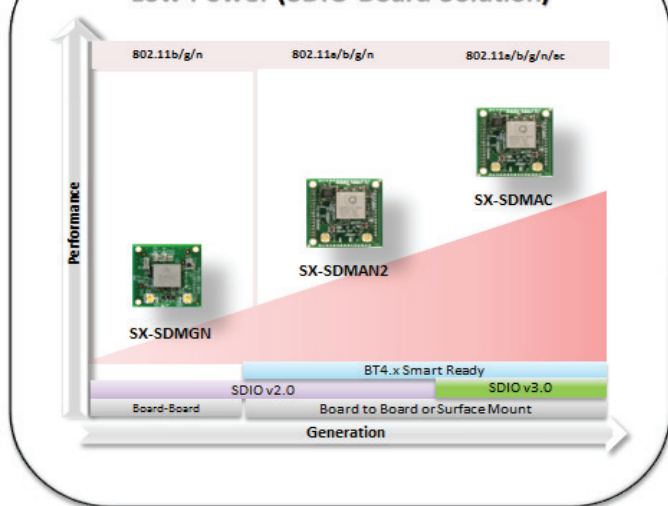
Surface Mount



Connector Mount



Low Power (SDIO Board Solution)



Ordering Information

SX-SDMAC-2831C:	B2B, Bulk Package (2 U.FL Connectors)
SX-SDMAC-2831C-SP:	B2B, Sample Pack (2 U.FL Connectors)
SX-SDMAC-2830S:	SMT, Bulk Package (On Board Antenna)
SX-SDMAC-2830S-SP:	SMT, Sample Pack (On Board Antenna)
SX-SDMAC-2831S:	SMT, Bulk Package (2 U.FL Connectors)
SX-SDMAC-2831S-SP:	SMT, Sample Pack (2 U.FL Connectors)
SX-SDCAC-2830-SP:	QCA9377 Evaluation Module (Includes antennas and cables)

General Specifications

On-Chip Functionality:	MAC/BB/PHY Processing
Hardware Encryption:	WAPI, WEP, AES-GCMP 128/256 AES-CCMP 128/256, TKIP, WAPI Full Rate
Supported Data Rates:	
IEEE 802.11b	1 – 11 Mbps
IEEE 802.11a and g	6 – 54 Mbps
IEEE 802.11n	MCS0-7 (1x1)
IEEE 802.11ac	MCS0-9 (1x1)
Bluetooth:	Bluetooth 4.1 BR/EDR/LE Smart Ready

Driver Support

Wi-Fi Reference Drivers:

- Linux
- AP Mode and STA Mode.
- WPA2/WPA, TKIP, AES Encryption, IEEE 802.1X, EAP
- IEEE 802.11e (QoS)
- WPS2.0
- Wi-Fi Direct
- Windows
- WEC 7 Driver
- Win10 Driver

Contact Silex for driver support for other OS's.

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