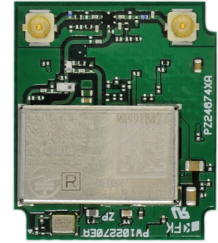


# SX-SDMAC 802.11ac Plus Bluetooth SDIO Module



## 5th Generation SDIO Wireless LAN plus Bluetooth Module

The Silex SX-SDMAC is a dual-band IEEE802.11a/b/g/n/ac WLAN plus Bluetooth 5.0 BR/EDR/LE “Smart Ready” SDIO module based on the latest Qualcomm Atheros Technology. It integrates a QCA9377 SoC with MAC, Baseband, RF, RF front end, and peripheral circuitry. SX-SDMAC operates on a +3.3V main power supply and selectable +1.8V/+3.3V IO 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 chip antenna for the surface mount (SMT) version.

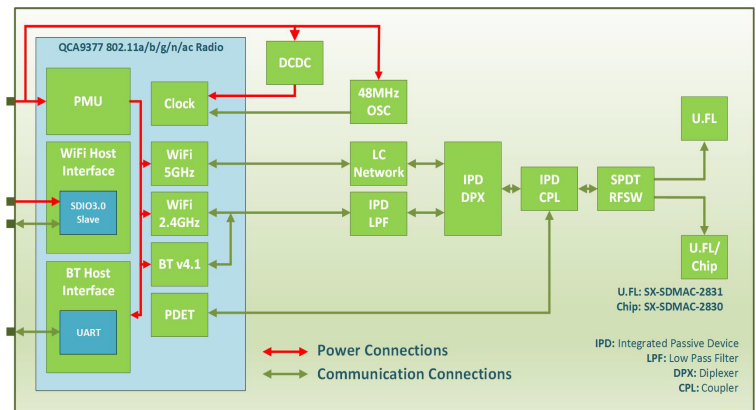
SX-SDMAC supports 802.11ac Wave 2 multi-user MIMO (MU-MIMO) client which can increase the overall WLAN system performance. SX-SDMAC provides an SDIO 3.0 interface for WLAN and a hi-speed UART interface for BT.

The SX-SDMAC is a FCC/IC/CE/MIC 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 5.0 BR/EDR/LE Smart Ready
- SDIO 3.0 WLAN host interface
- On-chip Power Management Unit (PMU)
- Link Rate upto 433 Mbps
- On-board and u.fl antenna options
- Supports enterprise security, seamless roaming and CCX
- Fine tuned calibration per module
- FCC/IC/CE/MIC modular certification
- Connector mount, surface mount, and SDIO card form factor

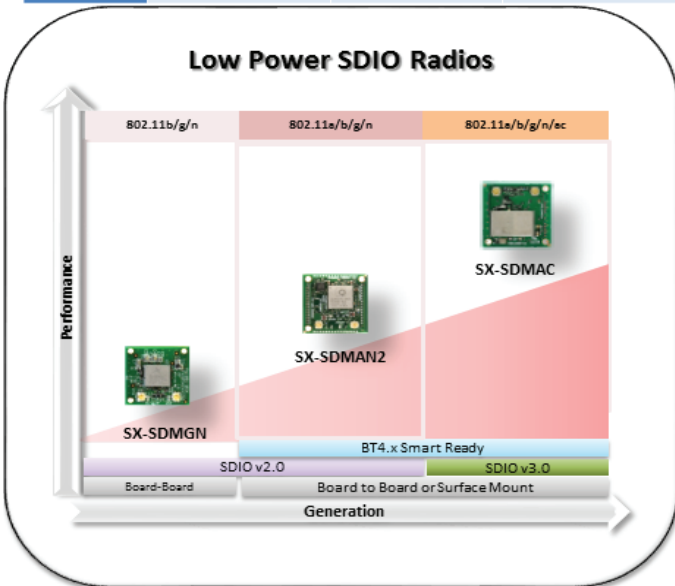
### Diagram:



### Specifications:

Product Name	SX-SDMAC-2830S R2 (On-board Antenna) SX-SDMAC-2831S R2 (U.FL Antenna) SX-SDMAC-2831C R2 (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 - 2.472 GHz 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	BT5.0 BR/EDR/LE “Smart Ready”
Operating Temperature	-40 - +85 °C
Dimensions	SX-SDMAC-2830S R2: 19.0 x 30.0 x 2.4 mm SX-SDMAC-2831S R2: 19.0 x 22.0 x 2.4 mm SX-SDMAC-2831C R2: 24.0 x 24.0 x 4.8 mm
Connector Type	SMT: Direct solder pad 60 pins B2B: 40 pins
Antenna Configuration	1x1 mode (1T1R)

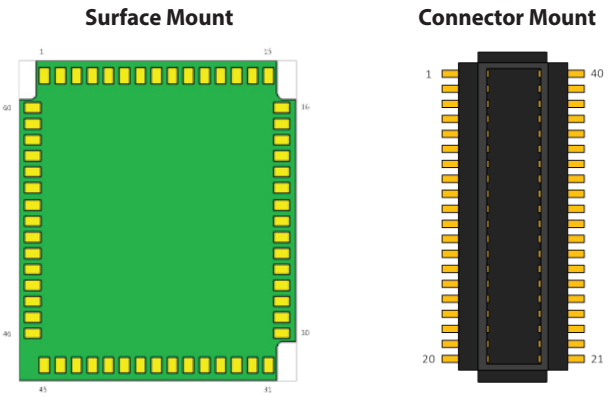
SX-SDMAC SKU's			
Name	SX-SDMAC-2830S	SX-SDMAC-2831S	SX-SDMAC-2831C
Shape			
Type	Surface Mount	Surface Mount	Connector Mount
Antenna	Onboard + U.FL x1	U.FL x2	U.FL x2



**Ordering Information**

- SX-SDMAC-2831C R2: B2B, Bulk Package (2 U.FL Connectors)
- SX-SDMAC-2831C R2 SP: B2B, Sample Pack (2 U.FL Connectors)
- SX-SDMAC-2830S R2: SMT, Bulk Package (On Board Antenna)
- SX-SDMAC-2830S R2 SP: SMT, Sample Pack (On Board Antenna)
- SX-SDMAC-2831S R2: SMT, Bulk Package (2 U.FL Connectors)
- SX-SDMAC-2831S R2 SP: SMT, Sample Pack (2 U.FL Connectors)
- SX-SDCAC-2830 R2 SP: QCA9377 Evaluation Module (Includes antennas and cables)

**Pin Numbering and Connection Options**



**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 5.0 BR/EDR/BLE 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
  - Android
  - Windows
    - WEC 7 Driver, WEC2013, Win10/10 IoT
  - FreeRTOS

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