![Silex technology logo]

IEEE 802.11 a/b/g/n/ac Plus Bluetooth SDIO Wi-Fi Module

SX-SDMAC2

Based on Qualcomm's QCA9379 chipset featuring 2x2 MU-MIMO

⊩ Product Overview

The Silex SX-SDMAC2 is dual-band IEEE 802.11 a/b/g/n/ac WLAN SDIO module plus Bluetooth 5.0 BR/EDR/LE combo module. It is based on Qualcomm's QCA9379 System-on-Chip. Its 2x2 wave 2 (MU-MIMO) antenna architecture makes it an ideal for applications needing high data transmission rates e.g video streaming, HD medical imaging, etc. Silex has separated the Bluetooth antenna form the Wi-Fi creating a third antenna port, allowing concurrent operation of Wi-Fi and Bluetooth further optimizing the Wi-Fi and Bluetooth performance.

⊩ Features

- Powered by QCA9379-3 Chip by Qualcomm
- Dual Band Support for both 2.4GHz / 5GHz
- 2x2 MU-MIMO Support
- PHY Data Rate up to 867 Mbps (11ac VHT80)
- Bluetooth v5.0
- Host Interface
  - WLAN : SDIO3.0
  - Bluetooth : UART
- RoHS Compliant
- Modular Certifications for North America, Europe and Japan

⊩ Wireless Driver

WLAN

Reference Platform: NXP 1.MX8M
Operating System: Linux
Feature Highlights:
- Station Mode, Access Point Mode
- WPA / WPA2 AES Encryption
- IEEE 802.1x (EAP-TLS, EAP-TTLS, EAP-PEAP)
- WPS2.0
- Wi-Fi Direct

Bluetooth
Bluetooth v5.0 BR/EDR/LE
Class1
Profiles Supported and Tested by Silex:
- Audio / Video (HSP, HFP, A2DP, AVRCP)
- Keyboard / Mouse (HID)
- Serial Port (SPP)
- File Transfer (FTP)
- Personal Area Network (PAN)
- BLE General Attribute (GATT)

⊩ Embedded Applications

Ideal for applications that require high speed and throughput. For example, medical devices (e.g: x-ray), printers and scanners (MFP), surveillance cameras, point of sale equipment (POS) etc.

⊩ Product Specifications

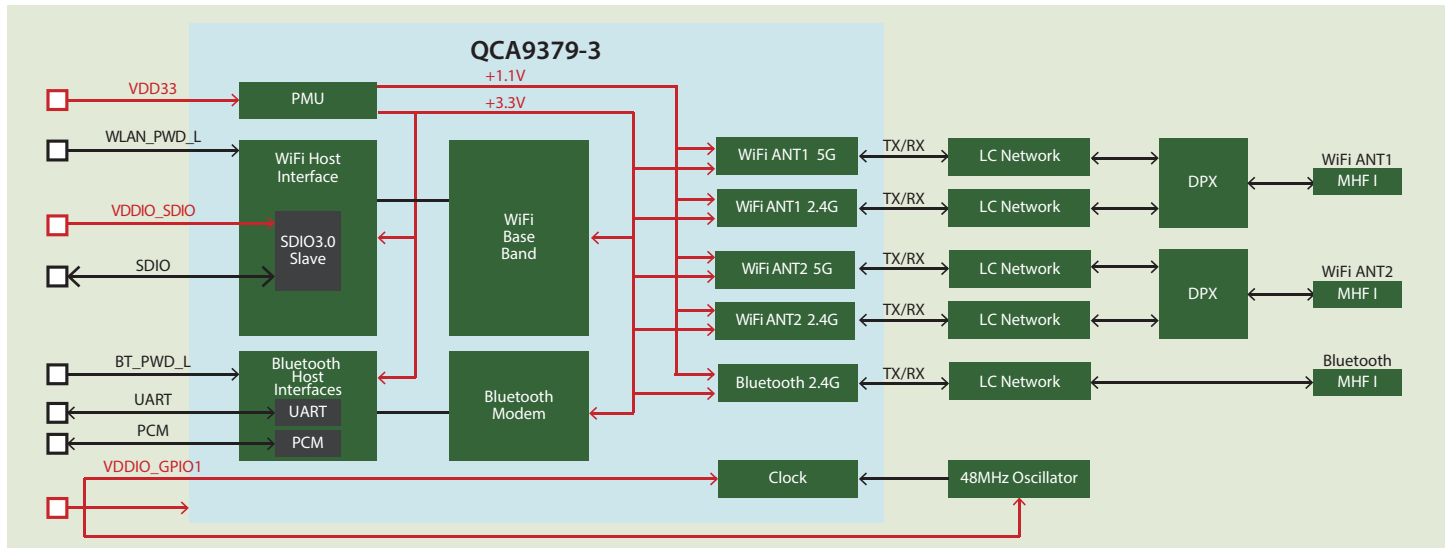|	
Product	SX-SDMAC2-2830
Chipset	QCA9379-3
Host Interface	WLAN : SDIO3.0 Bluetooth: UART
WLAN Specification	IEEE 802.11a/b/g/n/ac (2x2)
BT Specifications	Bluetooth v5.0 (BR/EDR/HS/LE Compliant)
Antenna Connector	MHF connector x 3 (WLAN : 2, BT : 1)

Operating Voltage	Main Power Supply: 3.3 V ± 5%
	SDIO Power Supply:
	  - SDIO2.0 : 1.8V ± 5% or 3.3 V ± 5%
	  - SDIO3.0: 1.8V ± 5%

Operating Environment	Temperature: -30 ~ 70 ℃ Hummidity : 15 ~ 95% RH (No Condensation)
Storage Environment	Temperature: -40 ~ 85 ℃ Hummidity : 15 ~ 95% RH (No Condensation)
Dimensions	20.5mm x 27.0mm x 3.1mm
Package Type	68 pins Direct Solder Pads
Modular Certifications	TELEC/FCC/IC/CE (Planned)

⊩ Product SKU's

Part Number	Type	MOQ	Packaging
SX-SDMAC2-2830	SMT	500 units	Reel
SX-SDMAC2-2830-SP	SMT	1 unit	Reel
SX-SDCAC2-2830	M.2 Form Factor	1 unit	Individual Box Includes 3 antennas (Unictron AA258)

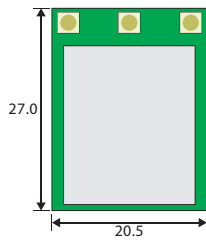# SDIO Wireless Module
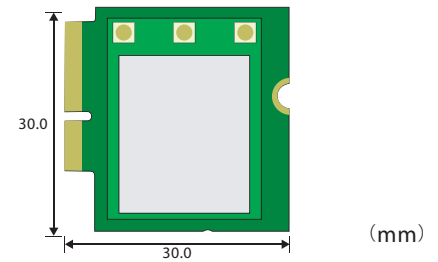# IEEE 802.11ac Plus Bluetooth Combo Module SX-SDMAC2

Block Diagram

Mechanical Specifications

SX-SDMAC2-2830

27.0
20.5

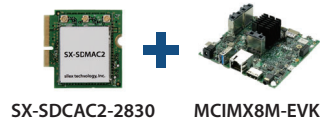**SX-SDCAC2-2830**

30.0
30.0
（mm）

Evaluation Kit

SX-SDCAC2 is a M.2 finger card (mounted with the SX-SDMAC2) designed to allow easy evaluation of the radio using the NXP i.MX8M reference platform. We provide a Linux OS evaluation image which includes Silex's reference radio driver, supplicant and tools to test the following:

- **Linux Tools**
- **WLAN management command**
  -iw
- **Throughput test**
  -iperf
- **Station / Access Point function**
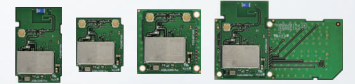 -WPA_supplicant, hostapd
- **DHCP**
  -udhcpd, udhcpc

SX-SDCAC2-2830 **MCIMX8M-EVK**

Begin evaluation by following the 3 steps below.

① Purchase the required hardware
  - SX-SDMAC2-2830 / i.MX8M EVK

② Download the OS image for evaluation
  - Available via silex website

③ Setup envirnment and begin evaluation
  - Instructions in User Guide (available on website)

Other 802.11ac Solutions

SDIO WLAN Module
SX-SDMAC / SD-SDCAC

- Single Stream, 1x1
- SDIO3.0
- Bluetooth v5.0 BR/EDR/LE
- Industrial Temperature (-40 to 85 ℃)
- Multiple Form Factors & Antenna Options

SDIO WLAN Module
SX-SDMAC-2832S+

- Single Stream, 1x1
- SDIO3.0
- Bluetooth v4.2 BR/EDR/LE
- Extended Temperature Range (-20 to 85 ℃)
- Smaller Foot Print

System on Module
SX-590

- Single Stream, 1x1
- Interfaces: UART/Ethernet/USB/I2C/GPIO/SPI/CAN
- Built in CPU to offload TCP/IP stack. Includes WLAN driver and security supplicant