

Dual-band Wi-Fi 6 plus Bluetooth® Combo SDIO Module

SX-SDMAX-2530S

Low Power Wireless LAN Module Powered by NXP's IW611



Overview

The SX-SDMAX is a Wi-Fi 6 (IEEE 802.11a/b/g/n/ac/ax) plus Bluetooth® v5.3 that supports SDIO as its host interface. Powered by NXP's highly integrated IW611 chipset, the Wi-Fi 6 module delivers higher throughput, better network efficiency, lower latency, and improved range over previous-generation Wi-Fi standards. The module supports SDIO as its host interface, which is a popular choice for many battery-operated device applications, as it provides the perfect balance between performance and power consumption. In addition, by supporting a wide temperature range, it is a wireless LAN module that is ideal for wireless compatibility with a wide range of products, from industrial equipment to small devices.

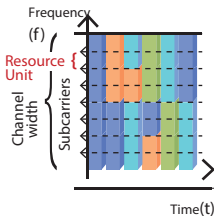
Efficient, Faster, & Lower Latency with Wi-Fi 6

The latest Wi-Fi 6 technology introduces features such as OFDMA, 1024QAM, and Target Wake Time (TWT) bringing higher throughput, better network efficiency, lower latency, and improved range over previous-generation Wi-Fi standards.

The SX-SDMAX with its SDIO host interface combines all the benefits of Wi-Fi 6 while optimizing power consumption to deliver unmatched Wi-Fi performance with improved battery life, making it an ideal solution for many battery-operated embedded devices.

Wi-Fi 6 Features

1 Efficiency **MU-MIMO** **OFDMA**
Improved efficiency and stability in dense networks. Wi-Fi 6 delivers data reliably with low latency even in congested radio wave environments.



2 Power Saving **TWT** **Multiple BSS**
Wi-Fi 6 has introduced new features like Target Wake Time which allows devices to negotiate when and how frequently they will wake up to send or receive data. This Wi-Fi 6/6E feature increases device sleep time and greatly improves battery life. It also incorporates a mechanism for avoiding collisions between packets and for efficiently avoiding radio wave interference for efficient communication.



SX-SDMAX Features

- PHY data rate up to 600Mbps (at 5GHz/80MHz/MSC11)
- Single stream, 1x1
- Powered by NXP's IW611 chipset
- Host interface: Wireless LAN SDIO3.0 compatible, Bluetooth® UART
- 80MHz band mode (5GHz)
- High density modulation mode (1024 QAM)
- Bluetooth® v5.3 Class1 compatible
- RoHS compliant
- Modular certifications(Planned) : Japan, USA, Canada, Europe, UK

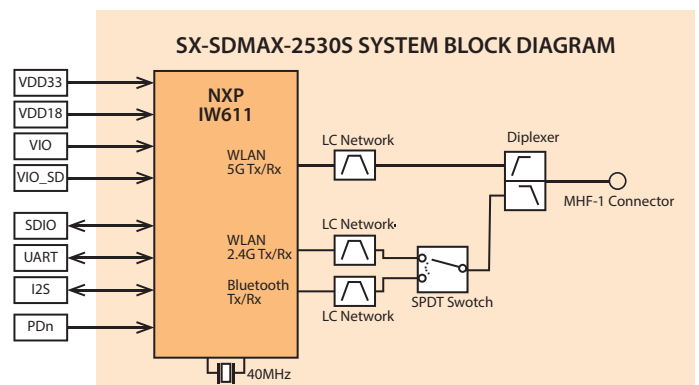
Applications

Ideal for many battery operated medical devices, mobile printers, Hand held POS and terminals, barcode scanners, IoT Applications etc.

Specifications

Product Name	SX-SDMAX-2530S				
Chipset	NXP IW611				
Host Interface	WLAN : SDIO3.0 Bluetooth® : UART				
Wi-Fi Standard	IEEE 802.11a/b/g/n/ac/ax (1x1)				
Bluetooth®	Bluetooth® v5.3 (BR/EDR/LE Compliant)				
Antenna Connector	MHF Connector :1				
Operating Voltage	Main Power Supply : 3.3V + 1.8V IO Power Supply : 1.8V or 3.3V				
Current Consumption (Peak Value)	Voltage	VDD18		VDD33	
		Tx	Rx	Tx	Rx
	Wi-Fi:2.4GHz	190mA	130mA	200mA	10mA
	Wi-Fi:5GHz	260mA	150mA	240mA	10mA
Bluetooth®	150mA	80mA	20mA	10mA	
Operating Environment	Temperature : -40 ~ 85°C Humidity : 95% RH or less (Without Condensation)				
Storage Environment	Temperature : -40 ~ 85°C Humidity : 95% RH or less (Without Condensation)				
Size	17.0×18.0×2.65mm				
Weight	1.7g				
Package Type	44-pins Land Grid Array (Direct Solder)				

Block Diagram



Dual-band Wi-Fi 6 plus Bluetooth® Combo SDIO Module

SX-SDMAX-2530S

Product Lineup



SX-SDMAX-2530S
(44pins Direct Solder Pads)

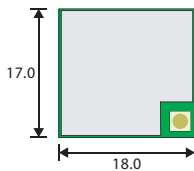


SX-SDCAX-2530
(Micro SD Card Type)

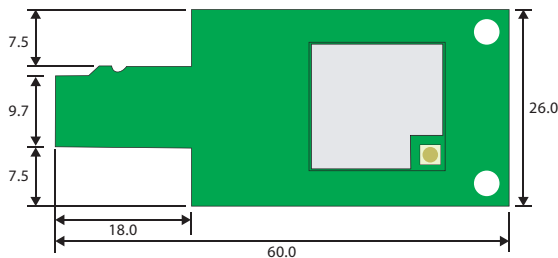
Model	Form Factor	MoQ	Packaging
SX-SDMAX-2530S	Surface Mount	500	Reel
SX-SDMAX-2530S-SP	Surface Mount	1	Reel
SX-SDCAX-2530	Micro SD Card	1	Individual Box ※ Antenna Included

Mechanical Drawing

SX-SDMAX-2530S



SX-SDCAX-2530



Wireless Driver ※1

【WLAN】

- Linux
 - Station, Access Point Mode
 - WPA™/WPA2™/WPA3™ Authentication
 - IEEE 802.1X(TLS, TTLS, PEAP, LEAP, FAST)
 - WPS2.0 Support※2
 - Wi-Fi Direct® Support※2

【Bluetooth®】

- In order to support the Bluetooth® v5.3 standard, it is necessary to combine a stack and profile that support the Bluetooth® v5.3 standard.
Please contact our sales representative for compatible Bluetooth® stacks and profiles.

※1 : Please contact our sales representative for details of compatible drivers.
※2 : When using, it is necessary to obtain Wi-Fi Alliance certification separately.

Evaluation

Although the NXP i.MX BSP will already include Wi-Fi drivers for SX-SDMAX to enable plug-n-play evaluation, Silex also provides a separate evaluation Linux OS image which not only includes Silex's optimized driver but also board data files, and other Linux test tools ideal for evaluation.

What you will need?

- SX-SDCAX-2530
- NXP i.MX8M Evaluation Kit (MCIMX8M-EVKB)



0UIF SVTFGVMPMT0MVEFE04MIFY0BHF

-
-
-
- sVf ana

本製品のご評価をご要望の場合:

- 1 **【SX-SDCAX-2530】をご購入**
アンテナ1本同梱
- 2 **評価ライセンス契約の締結**
弊社営業担当までご相談ください
- 3 **silex Webサイトよりダウンロード**
各種ドキュメント、Linux OS イメージ(silexリファレンスドライバ含む)
- 4 **お客様で評価に必要な機材をご用意**
NXP i.MX8M Evaluation Kit
- 5 **評価開始**
ドキュメントに評価準備内容や評価方法を記載

【SX-SDMAX 製品紹介ページ】

<https://www.silex.jp/products/wireless-module/sxsdmax.html>

- NXPは、NXP Semiconductors, の登録商標または商標です。
- その他記載された社名及び製品名は各社の登録商標または商標です。

- Bluetoothは、米国Bluetooth SIG, Inc. の商標または登録商標です。
- 改良のため、予告なく仕様を変更することがあります。記載の仕様は2023年3月現在のものです。



silex サイレックス・テクノロジー株式会社
technology **www.silex.jp**

東京オフィス 〒105-0014 東京都港区芝 1-10-13(芝日景有楽ビル3F) Tel. 03-3455-2131 Fax. 03-3455-5343
けいはんな本社 〒619-0237 京都府精華町光台 2-3-1 Tel. 0774-98-3781 Fax. 0774-98-3767

お問い合わせ