

SX-SDMAX6E

Tri-Band Connectivity:

Wi-Fi 6/6E & Bluetooth® Combo Module

(2.4/5/6 GHz) | SDIO Interface

Optimized for low power and reliable performance

Wi-Fi 6E

Bluetooth®

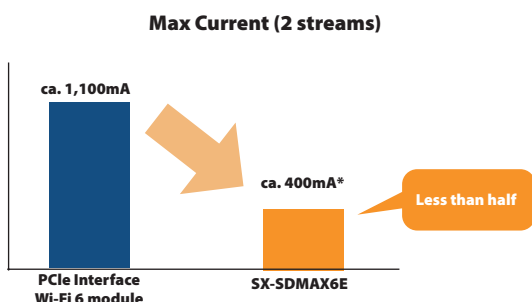


OVERVIEW

The SX-SDMAX6E is a tri-band Wi-Fi 6E + Bluetooth® v5.4 combo module engineered for medical, industrial, and mission-critical embedded applications where reliable, low-latency wireless connectivity is essential. Powered by NXP's IW623 chipset, the module delivers 2x2 high-speed performance for demanding applications such as image and video streaming, while also supporting 1x1 low-power operation to maximize battery life in portable or wearable devices.

KEY FEATURES & BENEFITS

Low-Power SDIO Interface



* This product is still in development and subject to change

- Utilizes the SDIO 3.0 host interface for efficient integration and reduced power consumption in embedded and portable systems.

- Delivers stable, high-performance connectivity, in congested Wi-Fi conditions and supports smooth roaming for mobile devices.

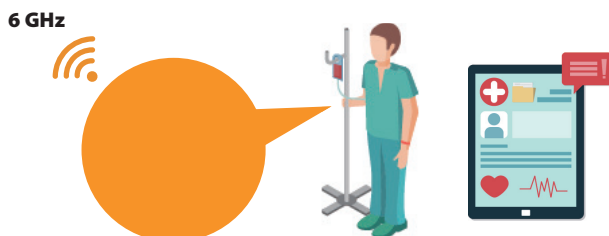
Configurable Antenna Options



- 2X2 MIMO Mode: Supports high data throughput for demanding applications such as video streaming and image transfer.

- 1x1 Mode: Optimized for low power consumption, reducing energy use to less than half that of 2x2 operation, ideal for portable battery-driven devices.

Reliable Wireless Performance



- Supports Wi-Fi 6E (6 GHz band), providing interference-free communication and increased capacity in congested environments.

- IEEE 802.11k/v/r fast roaming ensures seamless transitions between access points, maintaining stable connectivity while on the move.

Wi-Fi and Bluetooth Integration



- Combines Wi-Fi 6E and Bluetooth® 5.4 in a single combo module with a dedicated Bluetooth antenna for simultaneous communication.

- Consolidates Wi-Fi and Bluetooth functionality within a single tri-band module, optimizing PCB real estate, simplifying RF design and reducing BOM complexity.

Specifications

Product Name	SX-SDMAX6E-2530S SX-SDMAX6E-M2
Chipset	NXP IW623
Host Interface	WLAN: SDIO3.0 Bluetooth®: UART
Wi-Fi Standard	IEEE 802.11a/b/g/n/ac/ax (1x1 or 2x2)
Frequency	2.4 GHz, 5 GHz, 6 GHz
Bandwidth	(2.4 GHz): 20MHz/40MHz (5 GHz): 20MHz/40MHz/80MHz (6 GHz): 20MHz/40MHz/80MHz
Bluetooth®	Bluetooth® v5.4
Antenna Connector	SX-SDMAX6E-2530S: RF PAD SX-SDMAX6E-M2: MHF1 3 connectors
Operating Voltage	SX-SDMAX6E-2530S: Main Power Supply: 3.3V + 1.8V IO Power Supply: 3.3V or 1.8V SX-SDMAX6E-M2 Main Power Supply: 3.3V
Operating Environment	Temperature: -40~+85°C Humidity: 15~80%RH (without condensation)
Storage Conditions	Temperature: -40~+85°C Humidity: 10~85%RH (without condensation)
Dimensions	SX-SDMAX6E-2530S: 17x18x2.65mm SX-SDMAX6E-M2: TBD (in development)
Form Factor	SX-SDMAX6E-2530S: 44-pin LGA (Direct Solder) SX-SDMAX6E-M2: M.2 card type key-E

Quality & Longevity

Designed, developed and manufactured in Japan at Silex's Keihanna headquarters, the SX-SDMAX6E reflects our commitment to exceptional quality and reliability. Backed by over 20 years of industrial wireless expertise, Silex delivers products built to perform in demanding environments. We also ensure long-term supply continuity through careful component lifecycle management, supporting our customer's needs throughout their product lifecycles.



Product Lineup



SX-SDMAX6E-2530S
(Surface Mount)



SX-SDMAX6E-M2
(M.2 Connector Type)

NXP
Gold
Partner

As an NXP Semiconductors Gold Partner, Silex has collaborated closely with NXP from the early development of the IW623 chipset. This partnership allows us to deliver optimized driver software that enhances performance, stability and ease of integration.

To accelerate your evaluation process, Silex provides:

- free drivers for the reference program platform
- comprehensive support for software, hardware, wireless certification, and production

* Product evaluation kit details will be announced in 2026

Silex Global Sales & Support Locations



US Office silex technology
america, Inc.

+1-657-218-5199
www.silextechnology.com
sales@silexamerica.com

Europe Office silex technology
europe, GmbH

+49-2154-88967-0 Germany
toll free 0800-7453938 www.
silextechnology.com sales@
silexeurope.com

China silex technology
beijing, Inc.

+86-10-8497-1430
www.silex.com.cn
contact@silex.com.cn

Corporate Headquarters
silex technology, Inc.

+81-774-98-3781 www.
silex.jp support@silex.jp

