silex technology

IM-100-SB /IM-100-RB
Wi-Fi 6 System on Modules with
B-to-B Connector / USB Interface

Instant wireless enablement for serial and USB (RNDIS) interfaces
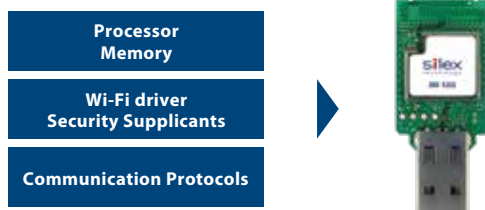
Overview

These products are variants of the IM-100, an all-in-one embedded wireless LAN module. They integrate interface boards and support Wi-Fi bridge and access point functionality.

Designed with enterprise-grade security, they enable rapid and reliable wireless integration for a wide range of devices used in healthcare, manufacturing, retail, and other industrial applications.
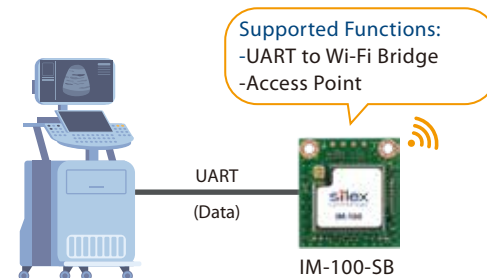
Features

■ USB (RNDIS) to Wi-Fi Bridge: IM-100-RB

This product integrates all components required for wireless connectivity, including a processor, memory, and wireless LAN driver. The connector-based form factor minimizes main-board design effort, reducing development time and overall integration costs when adding wireless functionality.

Processor Memory
Wi-Fi driver Security Supplicants
Communication Protocols

■ IM-100 Product Family

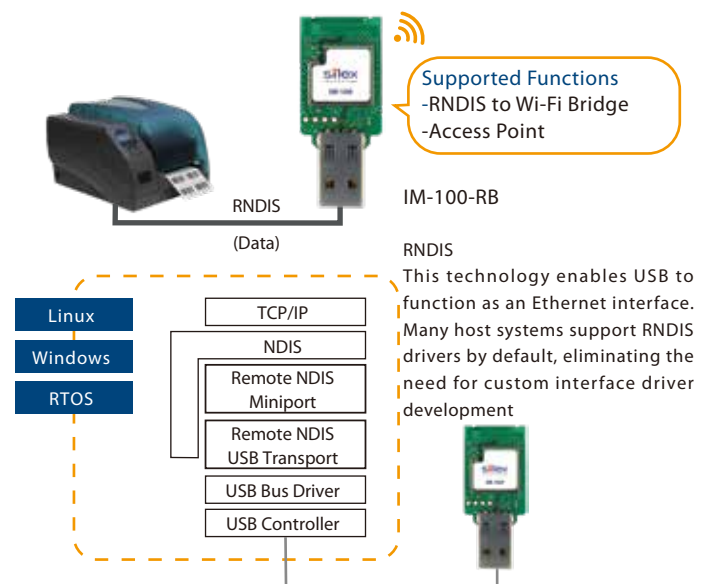| Serial to Wi-Fi	USB(RNDIS) to Wi-Fi	Serial/Wired LAN/USB (RNDIS) TO Wi-Fi	
IM-100-SB (B to B Connector)	IM-100-RB (USB Type-A)	IM-100-MHF	IM-100-PAD (Surface mount)

■ Serial to Wi-Fi Bridge: IM-100-SB

Enables serial communication over Wi-Fi by connecting to the main board via a board-to-board (B-to-B) connector.

Supported Functions:
-UART to Wi-Fi Bridge
-Access Point

UART
(Data)

IM-100-SB

■ USB (RNDIS) to Wi-Fi Bridge: IM-100-RB

Enables Wi-Fi connectivity by connecting to a USB port on the host device, making it ideal for systems without an Ethernet interface.

Supported Functions
-RNDIS to Wi-Fi Bridge
-Access Point

RNDIS
(Data)

IM-100-RB

Linux
Windows
RTOS

TCP/IP
NDIS
Remote NDIS Miniport
Remote NDIS USB Transport
USB Bus Driver
USB Controller

RNDIS

This technology enables USB to function as an Ethernet interface. Many host systems support RNDIS drivers by default, eliminating the need for custom interface driver development

IM-100-SB / IM-100-RB
Wi-Fi 6 System on Modules

Specifications

Model	IM-100-SB	IM-100-RB
Chipset	NXP RW610 (Arm® Cortex®-M33 260MHz)	
Memory	ROM: 8MB RAM: 1.2MB (built-in in IM-100)	
WLAN Module	IM-100-MHF	IM-100-PAD
WLAN Spec	IEEE 802.11a/b/g/n/ac/ax (1×1) 2.4/5GHz	
Antenna	MHF×1	Onboard antenna[1]
Interfaces	UART	USB2.0（RNDIS）
Security	WPA™/WPA2™/WPA3™ IEEE 802.11x (EAP-TLS/EAP-TTLS/EAP-PEAP/EAP-FAST[2])	
Operating Voltage	3.3V	5.0V
Operating conditions	Temperature: -40 ～85℃ Humidity: 15 ～95%RH(without condensation)	
Storage conditions	Temperature：-40 ～90℃ Humidity：10 ～95%RH(without condensation)	
Dimensions	24.0 × 26.5 × 3.5 mm	22.0 × 51.7 × 5.5 mm
Connector Type	34pin B to B Connector	USB Type-A Connector
Certifications	USA, Canada, EU, UK, Japan	

1: IM-100-RB: Please contact us if you are interested in MHF port type
2: EAP-FAST: Support planned with a future firmware update

Product lineup

IM-100-SB   **IM-100-RB**

Models	Connector Types	MOQ	Packaging
IM-100-SB	B to B Connector	100	Bulk
IM-100-RB	USB Type-A	100	Bulk
IM-100-SB-SP	B to B Connector	1	a box, incl. 1 antenna
IM-100-SB-EVB	-	1	a box, incl. 1 antenna
IM-100-RB-SP	USB Type-A	1	1 unit/box

Intelligent Modules and Edge AI Modules

https://www.silextechnology.com/connectivity-solutions?services=platform--soms

Evaluation Kit

You can quickly evaluate the products using the Evaluation Board IM-100-EVB or a Sample Pack.

IM-100-EVB   **IM-100-SB-EVB**

Some examples of functions you can test

Model	Serial to Wi-Fi Bridge	Wired LAN to Wi-Fi Bridge	USB（RNDIS） to Wi-Fi Bridge	Acess Point mode	Enterprise security
IM-100-EVB	●	●	●	●	●
IM-100-SB-EVB	●			●	●
IM-100-EB-C-SP		●		●	●
IM-100-EB-A-SP		●		●	●
IM-100-RB-SP			●	●	●

No Wi-Fi driver development necessary with Silex Firmware

Silex Wi-Fi software, proven for industrial applications, is provided with each product, enabling hassle-free Wi-Fi integration. Customization options are also available to meet your specific requirements.

IM-100-RB

Standard Functions
• USB(RNDIS) to Wi-Fi Bridge
• Access point function

IM-100-SB

Standard Functions
• Serial to Wi-Fi Bridge
• Access point function

Customization examples:
Hardware: Add an external antenna port
Software: Add new functions or commands
For more details, please contact us.

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