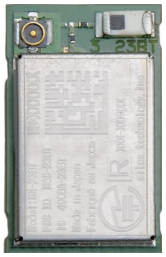
When it **Absolutely Must** Connect

SX-23BT
Microcontroller Module Supporting Bluetooth® 5.0 Low Energy for IoT Endpoint Devices



Provides Quick to Market, Secure Wireless Connectivity with Low Upfront Development Cost

Product Overview

The SX-32BT is a Bluetooth® 5.0 Low Energy compatible microcomputer module based a 32-bit RX microcomputer, the "RX23W", from Renesas Electronics. It is a fully certified module for North America, Europe and Japan regions with a PCB antenna already designed in. Furthermore, it adopts a 0.7mm pitch LGA package which is ideal for OEM's for efficient manufacturing and can help lower the total BOM cost of their product. It leverages the development environment and software of Renesas's RX23W chip and can be access from the Renesas website. Renesas provides the development environment, sample code and numerous evaluation and support tools to aid your development.

High data credibility is required in environments such as hospitals, factories and offices. However, cybersecurity threats become more considerable day by day for IoT devices such as healthcare devices, sensors, and remote controls in the environments. As a solution to the threats, SX-23BT carries the hardware-based fast encryption processing function that provides robust key management.

Hardware Features

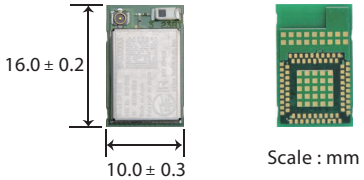
- Renesas RX23W
  - ROM 512KB / RAM 64KB
  - E2 Flash 8KB
  - Trusted Secure IP Lite (AES/TRNG)
- Bluetooth®5.0 Low Energy's Full Functions
- AES-CCM (128-bit) Embedded Encryption for Bluetooth
- 0.7mm-pitch LGA package
- Chip Antenna / External Antenna option (u.fl Connector)
- Key Interfaces:
  - USB2.0 Full-Speed x 1
  - CAN x 1
  - SD Host I/F x 1
- Modular Certifications
  - TELEC (Japan)
  - FCC (US)
  - ISED (Canada)
  - CE (Europe)

  ** Contact Silex for other countries*
- Industrial Temperature (-40℃ ~ 85℃)

Product Specifications

Part Number	SX-23BT
MCU	Renesas RX23W
Memory	512KB ROM / 64KB RAM (Embedded MCU)
Bluetooth®	Bluetooth® 5.0 Low Energy Class2 compliant
Antenna Terminal	Chip Antenna x 1 MHF4 Connector x 1
Interfaces	USB2.0 FS(Host/OTG) x 1 CAN(ISO11898-1 compliant) x 1 SD Host (Memory/IO) x 1
Operational Voltage	DC 3.3V
Dimensions	16mm x 10mm x 2.7mm
Package	Surface Mount Type (76 Signal + 43 Exposed Ground)

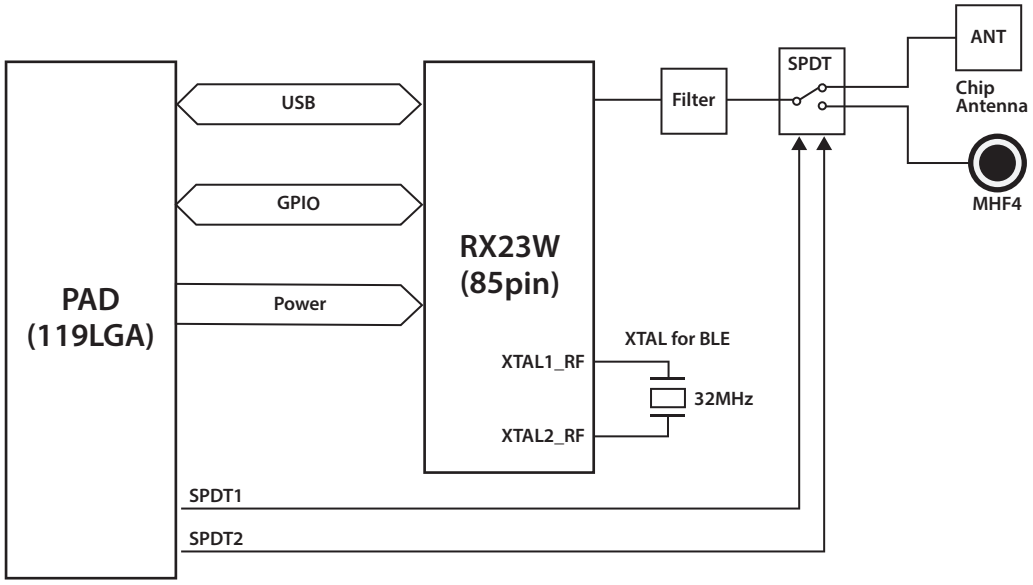
Mechanical Dimensions:



Bluetooh® 5.0 Low Energy Microcontroller Module for IoT Endpoint Devices

SX-23BT

Block Diagram



Software & Development Environment

The following Renesas's engineering tools are available for product development with SX-23BT:

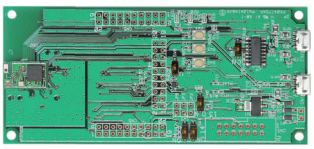
- Development environment for RX23W, evaluation tools, various software (Bluetooth driver/profiles, drivers for interfaces, sample code) and more.

** See Renesas Electronics' website for more details of RX23W microcontroller.*

SX-23BT Evaluation Kit : SX-23BT-EVK

Silex offers SX-23BT's evaluation board for basic tests and prototype development.

The evaluation board is equipped with FINE interface connector as well as mounting holes for pin headers that enable access to MCU pin signals. You can easily prototype IoT devices with the evaluation board by attaching parts such as sensors to it.



SX-23BT-EVK (Prototype)

Product Lineup

Part #	Type	MoQ	Packaging
SX-23BT	MP	1,000 pcs	Reel
SX-23BT-SP	Sample Pack	10 pcs	Cut Tape
SX-23BT-EVK	Evaluation Kit	1 unit	Individual Box

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