

# SGW101X

## BLE Modules series

### Introduction

The SGW101X series of Bluetooth 5.0/Bluetooth Low Energy (BLE) modules, powered by Nordic's nRF52840 Bluetooth® 5/BLE advanced multiprotocol System-on-Chip, provides a complete RF solution for use in IoT applications ranging from connected home, smart city infrastructure, industrial mesh networks, industrial smart light, to transport and logistics.

The SGW101X series provides a wide selection of MCU peripherals, and either an embedded PCB antenna, or a u.FL connector as an external antenna option. This highly flexible, ultra-low power multiprotocol series features robust RF performance, ultra-low energy consumption, and enables BLE connectivity for portable and extremely low power embedded systems.

Featuring a small form factor of 10.2 x 15 x 2.1mm, the advanced SGW101X series of modules is designed to reduce the engineering efforts and development costs associated with adding Bluetooth 5 to any product, thereby accelerating its time to market. It also offers best-in-class security to address the inherent security challenges that are faced in IoT.

## Features

- Complete RF solution with integrated antenna.
- Bluetooth 5 ready multi-protocol module:
  - 2Mbps
  - Long Range
  - Advertising Extension support
- Wireless System-on-Chip: Nordic nRF52840:
  - 32-bit ARM Cortex™-M4F CPU @64MHz
  - 1MB Flash program memory
  - 256kB RAM data memory.
- Wide selection of MCU Peripherals:
  - Full-speed USB (12Mbps)
  - Four SPI Master/Slave (8Mbps)
  - Two 2-wire Master/Slave (I2C compatible)
  - Two UARTs (with CTS/RTS)
  - NFC Tag-A interface
  - 20 channel CPU independent Programmable Peripheral Interconnect (PPI)
  - 5x32 bit, 3x24bit Real Timer Counters (RTC)
  - 12-bit/200K SPS ADC
- Support 128-bit AES HW encryption.
- 48 General Purpose I/O pins.
- Supply voltage: 1.7–5.5V.
- Low Energy Current consumption, 3V DCDC enabled:
  - Tx only, 0dBm: 4.8mA (typical)
  - Rx only @1Mbps: 4.6mA (typical)
  - System On mode, with full RAM retention: 2.35uA.
  - System Off mode, with full RAM retention: 1.86uA.
- Operating Temperature: –40°C to 85°C.
- BQB: DID D046088, QDID : 135014
- FCC ID: 2AS9401
- IC (Industrial Canada) ID: 25021-01
- CE : Certified
- Mechanical Dimension: 10.2mm x 15.0mm x 2.1mm.

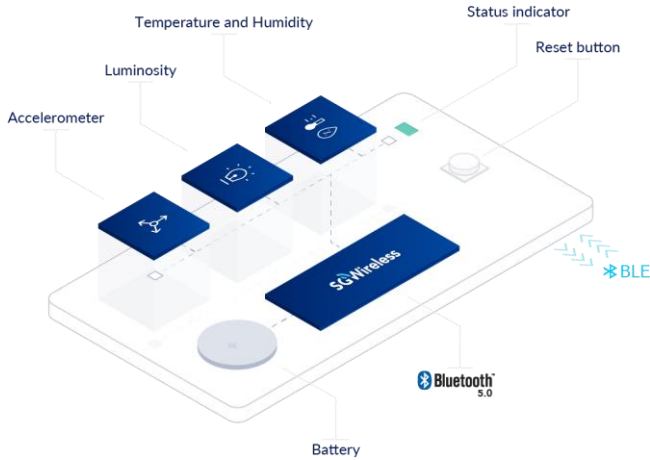


Figure 1. Typical Application - BLE sensors Tag

## Applications

### IoT

- Connected home
- Smart city infrastructure
- Industrial mesh networks
- Industrial smart lighting
- Logistics and transportation

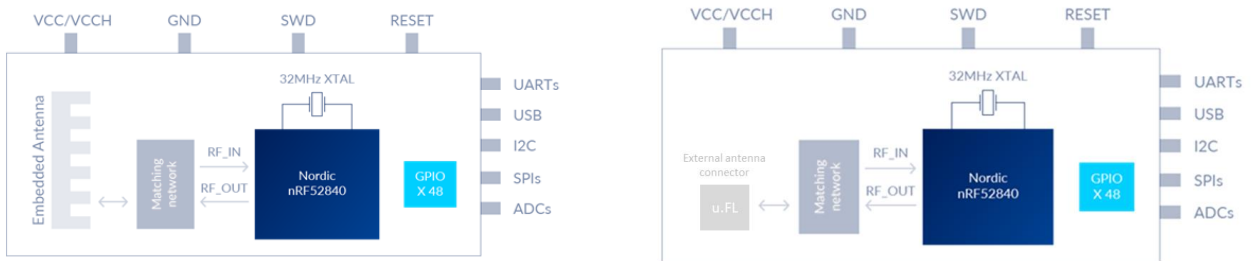


Figure 2. SGW1010, SGW1011 Module Block Diagram

## Ordering Information

Part No	Description
SGW1010	SGW1010 Bluetooth 5 module, built-in antenna
SGW1011	SGW1011 Bluetooth 5 module, u.FL connector for external antenna
SGW1010 -EVK	SGW1010 Bluetooth 5 module Evaluation Kit

## About Us

SG Wireless was launched in 2019 by Hong Kong-based Electronics Manufacturer (EMS) Season Group. SG Wireless is a full stack IoT provider and was created to assist customers in taking their IoT concepts to a finished product.

With our global manufacturing capabilities and the extensive wireless experience of our senior leadership team, we pride ourselves on being the only IoT provider offering design, development, manufacturing and everything in between.

## Contact

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