Wireless Module

*Bluetooth® low energy* Module Overview

Feb 27, 2019 Version 1.9
TAIYO YUDEN Bluetooth® low energy Module Line-Up

nRF52 Bluetooth® low energy Module

nRF52840 Module

nRF52832 Module

nRF52810 Module

EYSKBN Series

EYSHCN Series

EYSHJN Series

EYSHSN Series

EYSLCN Series

EYSLSN Series

High-end

Embedded antenna
Int. 32kHz X’tal
Int. LC for DC/DC
10.0 x 15.4 x 2.0mm

Big

Embedded antenna
Ext. 32kHz X’tal
Ext. LC for DC/DC
9.6 x 12.9 x 2.0mm

Small

Embedded antenna
Ext. 32kHz X’tal
Ext. LC for DC/DC
5.1 x 11.3 x 1.3mm

Ultra-small

Embedded antenna
Ext. 32kHz X’tal
Ext. LC for DC/DC
3.25 x 8.55 x 0.85mm

EYSKBN ZWBN
RAM 256kB
SoftDevice S140

EYSHCN ZWW
RAM 64kB
SoftDevice S132

EYSLCN ZWW
RAM 24kB
SoftDevice S112

EYSHJN ZWZ
RAM 64kB
SoftDevice S132

EYSHSN ZWZ
RAM 64kB
SoftDevice S132

EYSLSN ZWW
RAM 24kB
SoftDevice S112

nRF52 Bluetooth® low energy Module

nRF52840 Module

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nRF52 Bluetooth® low energy Module

nRF52840 Module

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EYSKBN Series

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EYSHSN ZWZ
RAM 64kB
SoftDevice S132

EYSLSN ZWW
RAM 24kB
SoftDevice S112
TAIYO YUDEN Bluetooth® low energy Module Line-Up

nRF51x22 Bluetooth® low energy Module

Big
9.6 x 12.9 x 2.0 mm

Embedded antenna
Int. 32kHz X’tal
Int. LC for DC/DC

EYSGCN Series

Basic

Application
Embedded

EYSGCN ZXX
RAM 16kB
SoftDevice S110

EYSGCN ZWY
RAM 32kB
SoftDevice S120

EYSGCN AWY-WX
TY’s App
UART Control

Small
5.1 x 11.3 x 1.3 mm

Embedded antenna
Ext. 32kHz X’tal
Ext. LC for DC/DC

EYSGJN Series

Basic

Application
Embedded

EYSGJN ZXX
RAM 32kB
ANT + BLE
SoftDevice S310

EYSGJN ZXX
RAM 16kB
SoftDevice S110

EYAGJN ZWY
RAM 32kB
SoftDevice S120

EYSGJN AWY-WX
TY’s App
UART Control

TAIYO YUDEN
**Latest Documents for Bluetooth® low energy Module**

<table>
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<tr>
<th>Module Code</th>
<th>Link to Documents</th>
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<tr>
<td>EYSKBNZWB</td>
<td><a href="http://www.yuden.co.jp/or/product/category/module/EYSKBNZWB.html">http://www.yuden.co.jp/or/product/category/module/EYSKBNZWB.html</a></td>
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<td>EYSHHSNZWZ</td>
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<td><a href="http://www.yuden.co.jp/or/product/category/module/EYSLSNZWW.html">http://www.yuden.co.jp/or/product/category/module/EYSLSNZWW.html</a></td>
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<td>EYSLCNZW</td>
<td><a href="http://www.yuden.co.jp/or/product/category/module/EYSLCNZW.html">http://www.yuden.co.jp/or/product/category/module/EYSLCNZW.html</a></td>
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<tr>
<td>EYS GCNZX</td>
<td><a href="http://www.yuden.co.jp/or/product/category/module/EYSGCNZXX.html">http://www.yuden.co.jp/or/product/category/module/EYSGCNZXX.html</a></td>
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<td>EYS GJNZX</td>
<td>[<a href="http://www.yuden.co.jp/or/product/category/module/EYS">http://www.yuden.co.jp/or/product/category/module/EYS</a> GJNZX.html](<a href="http://www.yuden.co.jp/or/product/category/module/EYS">http://www.yuden.co.jp/or/product/category/module/EYS</a> GJNZX.html)</td>
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</table>

- The documents for the evaluation board and evaluation kit are also available on the above page.
- The Japanese documents are available on the following page.  
  [http://www.yuden.co.jp/jp/product/category/module/lineup.html#Bluetooth](http://www.yuden.co.jp/jp/product/category/module/lineup.html#Bluetooth)
Bluetooth® 5.0 low energy Module: EYSKBNZWB

Features
- Frequency: 2402 to 2480 MHz with +8dBm Output power
- Single power supply: 1.7 – 5.5V
- Single Mode Bluetooth 5.0 / 802.15.4 (e.g. Thread, Zigbee)
- Bluetooth 5 data rate support: 2M / 1M / 500k / 125kbps
- Chip: nRF52840 (Nordic)
- Integrated System/Sleep Clock, 2 x LC for DC/DC
- Integrated high performance PCB antenna
- ARM® Cortex M4F 32bit processor and 1MB Flash & 256kB RAM
- ARM® TrustZone® Cryptocell 310 cryptographic accelerator
- Interface: USB, NFC-A, SPI, UART, I2C, I2S, PDM and 12bit ADC
- Outline: 10.0 x 15.4 x 2.0 mm
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

Applications
- Advanced wearables
  - Connected watches
  - Advanced personal fitness devices
  - Wearables with wireless payment
  - Connected health
  - Virtual/Augmented reality applications
- Internet of Things
  - Smart home sensors and controllers
  - Industrial IoT sensors and controllers
  - Interactive entertainment devices
- Internet of Things

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TAIYO YUDEN
Bluetooth® low energy Module Sample, Evaluation Board / Kit

**EYSKBNZWB (Module)**
- **Module samples**
  - Tray
  - Tape

**EBSKBNZWB (EV-B)**
- **Evaluation board**

**EKSKBNZWB (EV-K)**
- **Evaluation kit**
  - SEGGER J-Link LITE Attached

**TAIYO YUDEN**
**Features**

- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7 – 3.6V
- Single Mode Bluetooth low energy (ANT\(^\text{TM}\) Available)
- Chip: nRF52832 (Nordic) with Bluetooth low energy 2Mbps mode
- Integrated System Clock
- ARM Cortex M4F 32bit processor
- 512kB Flash and 64kB RAM
- Interface: SPI, UART, I2C, I2S, PDM and 12bit ADC
- Support NFC-A Type-2 for Touch-to-Pair
- Integrated high performance PCB antenna
- Outline: 3.25 x 8.55 x 0.85mm MAX
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

**Applications**

- Smart wristband
- Smart glasses
- Remote control ring
- Smart pen
- Heart rate monitor
- Pressure monitor
- Blood glucose meter
- Thermometer
- Mobile accessories

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**Block Diagram**

- Filter
- RF+BB
- ARM Cortex M4F
- X’tal (32MHz)
- I/O
- VCC
- DEC4
- DCC
- SWD (2)
- GPIO (15)
- GND

External 32.768kHz

X’tal connectable

**Outline**

Unit: mm

Top View

Bottom View
<table>
<thead>
<tr>
<th>Module samples</th>
<th>Evaluation board</th>
<th>Evaluation kit</th>
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<tbody>
<tr>
<td>EYSHSNZWZ (Module)</td>
<td>EBSHSNZWZ (EV-B)</td>
<td>EKSHPNSZ (EV-K)</td>
</tr>
</tbody>
</table>

- **Module samples**
  - Tray
  - Tape

- **Evaluation board**

- **Evaluation kit**
  - SEGGER J-Link LITE Attached
**Features**
- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7 – 3.6V
- Single Mode Bluetooth low energy Slave/Master (ANT™ Available)
- Chip: nRF52832 (Nordic) with Bluetooth low energy 2Mbps mode
- Integrated System/Sleep Clock, LC for DC/DC
- Integrated high performance ceramic chip antenna
- ARM Cortex M4F 32bit processor
- 512kB Flash and 64kB RAM
- Interface: SPI, UART, I2C, I2S, PDM and 12bit ADC
- Support NFC-A Type-2 for Touch-to-Pair
- Outline: 9.6 x 12.9 x 2.0 mm with 1mm pad pitch
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

**Applications**
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

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Bluetooth® low energy Module Sample, Evaluation Board / Kit

**EYSHCNZWZ (Module)**

- Module samples
  - Tray
  - Tape

**EBSHCHNZWZ (EV-B)**

- Evaluation board

**EKSHCNZWZ (EV-K)**

- Evaluation kit
  - SEGGER J-Link LITE Attached

TAIYO YUDEN
**Features**

- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7–3.6V
- Single Mode Bluetooth low energy Slave/Master (ANT™ Available)
- Chip: **nRF52832** (Nordic) with Bluetooth low energy **2Mbps** mode
- Integrated System Clock
- ARM Cortex M4F 32bit processor
- 512kB Flash and 64kB RAM
- Interface: SPI, UART, I2C, I2S, PDM and 12bit ADC
- Support **NFC-A Type-2** for Touch-to-Pair
- Integrated high performance pattern antenna
- Outline: 5.1 x 11.3 x 1.3mm MAX
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

**Applications**

- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

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### Bluetooth® low energy Module Sample, Evaluation Board / Kit

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<td>SEGGER J-Link LITE Attached</td>
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</table>

**ESHJNZWZ** (Module)  
**EBSHJNZWZ** (EV-B)  
**EKSJNZWZ** (EV-K)
**Features**
- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7–3.6V
- Single Mode Bluetooth low energy (ANT™ Available)
- Bluetooth 5.0 low energy 2Mbps mode
- Chip: nRF52810 (Nordic)
- Integrated System Clock
- ARM Cortex M4 32bit processor
- 192kB Flash and 24kB RAM
- Interface: SPI, UART, I2C, PDM and 12bit ADC
- Integrated high performance PCB antenna
- Outline: 3.25 x 8.55 x 1.00mm MAX
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

**Applications**
- Smart wristband
- Smart glasses
- Remote control ring
- Smart pen
- Heart rate monitor
- Pressure monitor
- Blood glucose meter
- Thermometer
- Mobile accessories

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### Bluetooth® low energy Module Sample, Evaluation Board / Kit

<table>
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<tr>
<th><strong>EYSLSNZWW</strong> (Module)</th>
<th><strong>EBSLSNZWW</strong> (EV-B)</th>
<th><strong>EKSLSNZWW</strong> (EV-K)</th>
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<td>Tray</td>
<td></td>
<td>SEGGER J-Link LITE Attached</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tape</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TAIYO YUDEN**
**Features**

- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7 – 3.6V
- Single Mode Bluetooth low energy Slave/Master (ANT™ Available)
- Chip: nRF52810 (Nordic) with Bluetooth low energy 2Mbps mode
- Integrated System/Sleep Clock, LC for DC/DC
- Integrated high performance ceramic chip antenna
- ARM Cortex M4 32bit processor
- 192kB Flash and 24kB RAM
- Interface: SPI, UART, I2C, PDM and 12bit ADC
- Outline: 9.6 x 12.9 x 2.0 mm with 1mm pad pitch
- Operating Temperature range: -40 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

**Applications**

- Beacon
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

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## Bluetooth® low energy Module Sample, Evaluation Board / Kit

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<tr>
<th>EYSLCNZWW (Module)</th>
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<th>EKSLCNZWW (EV-K)</th>
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</tr>
<tr>
<td>Tray and Tape</td>
<td>SEGGER J-Link LITE Attached</td>
<td></td>
</tr>
</tbody>
</table>

(Note: Images of module samples, evaluation boards, and evaluation kits are shown.)
Features
• Frequency: 2402 to 2480 MHz
• Output power: +4dBm typ.
• Single power supply: 1.8 – 3.6V
• Single Mode Bluetooth low energy Slave
• Chip: nRF51822 Rev.3 (Nordic)
• Integrated System/Sleep Clock
• Integrated high performance ceramic chip antenna
• ARM Cortex M0 32bit processor
• 256kB Flash and 16kB RAM
• Interface: SPI, UART, I2C and 8/9/10bit ADC
• Operating Temperature range: -40 to 85 deg-C
• Bluetooth and Japan, FCC, IC qualified
• ETSI EN 300 328 v2.1.1 Conducted Test Report Available
• RoHS compliant / Complete Lead Free

Applications
• Cycle computer
• Heart rate monitor
• Blood pressure monitor
• Blood glucose meter
• Weighing machine
• Thermometer
• Mobile accessories
• Sports and fitness sensors
• Remote controllers / Toys

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TAIYO YUDEN
Bluetooth® low energy Module: EYSGCNZWY

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth low energy Slave / Master
- Chip: nRF51822 Rev.3 (Nordic)
- Integrated System/Sleep Clock
- Integrated high performance ceramic chip antenna
- ARM Cortex M0 32bit processor
- 256kB Flash and 32kB RAM
- Interface: SPI, UART, I2C and 8/9/10bit ADC
- Outline: 9.6 x 12.9 x 2.0 mm with 1mm pad pitch
- Operating Temperature range: -25 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

Applications
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

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### Bluetooth® low energy Module Sample, Evaluation Board / Kit

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<tr>
<th>EYSGCNZXX, EYSGCNZWY (Module)</th>
<th>EBSGCNZWY (EV-B)</th>
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<td>Tape</td>
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</table>

- **EYSGCNZXX, EYSGCNZWY (Module)**
  - Module samples
  - [Image of module samples]

- **EBSGCNZWY (EV-B)**
  - Evaluation board
  - [Image of evaluation board]

- **EKSGCNZWY (EV-K)**
  - Evaluation kit
  - [Image of evaluation kit attached with SEGGER J-Link LITE]
Bluetooth® low energy Module  EYSGJNZXX

Features
• Frequency: 2402 to 2480 MHz
• Output power: +4dBm typ.
• Single power supply: 1.8 – 3.6V
• Single Mode Bluetooth low energy Slave
• Chip: nRF51822 Rev.3 (Nordic)
• Integrated System Clock
• ARM Cortex M0 32bit processor
• 256kB Flash and 16kB RAM
• Interface: SPI, UART, I2C and 8/9/10bit ADC
• Integrated high performance pattern antenna
• Outline: 5.1 x 11.3 x 1.3mm MAX
• Operating Temperature range: -40 to 85 deg-C
• Bluetooth and Japan, FCC, IC qualified
• ETSI EN 300 328 v2.1.1 Conducted Test Report Available
• RoHS compliant / Complete Lead Free

Outline

Applications
• Cycle computer
• Heart rate monitor
• Blood pressure monitor
• Blood glucose meter
• Weighing machine
• Thermometer
• Mobile accessories
• Sports and fitness sensors
• Remote controllers / Toys

Block Diagram

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Bluetooth® low energy Module  EYSGJNZWY

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth low energy Slave / Master
- Chip: nRF51822 Rev3 (Nordic)
- Integrated System Clock
- ARM Cortex M0 32bit processor
- 256kB Flash and 32kB RAM
- Interface: SPI, UART, I2C and 8/9/10bit ADC
- Integrated high performance pattern antenna
- Outline: 5.1 x 11.3 x 1.3mm MAX
- Operating Temperature range: -25 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
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Outline
Unit: mm

Applications
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

Block Diagram

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ANT + Bluetooth® low energy Module  EYAGJNZXX

Features

• Frequency: 2402 to 2480 MHz
• Output power: +4dBm typ.
• Single power supply: 1.8 – 3.6V
• ANT + Single Mode Bluetooth low energy Slave
• Chip: nRF51422 Rev 3 (Nordic)
• Integrated System Clock
• ARM Cortex M0 32bit processor
• 256kB Flash and 32kB RAM
• Interface: SPI, UART, I2C and 8/9/10bit ADC
• Integrated high performance pattern antenna
• Outline: 5.1 x 11.3 x 1.3mm MAX
• Operating Temperature range: -25 to 85 deg-C
• Bluetooth and Japan, FCC, IC qualified
• ETSI EN 300 328 v2.1.1 Conducted Test Report Available
• RoHS compliant / Complete Lead Free

Outline

Applications

• Cycle computer
• Heart rate monitor
• Blood pressure monitor
• Blood glucose meter
• Weighing machine
• Thermometer
• Mobile accessories
• Sports and fitness sensors
• Remote controllers / Toys

Block Diagram

All specifications are subject to change without notice.
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

<table>
<thead>
<tr>
<th>Module samples</th>
<th>Evaluation board</th>
<th>Evaluation kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EYSGJNZXX, EYSGJNZWY, EYAGJNZXX (Module)</td>
<td>EBSGJNZWY, EBAGJNZXX (EV-B)</td>
<td>EKSGJNZWY, EKAGJNZXX (EV-K)</td>
</tr>
<tr>
<td>Tray</td>
<td>or</td>
<td>SEGGER J-Link LITE Attached</td>
</tr>
<tr>
<td>Tape</td>
<td></td>
<td>Attached</td>
</tr>
</tbody>
</table>
Application Layer image for **Basic Module**

**Bluetooth® low energy Device**

- Switch
- Sensors
- Clock
- LED
- Data

**nRF51822, 422 module**

- Temperature Sensor
- Power Regulator
- 32MHz X’tal
- 32kHz X’tal (EYSGCN)

**Application (Profiles)**

- Generic Attribute Server
- Generic Attribute Client
- SM
- ATT
- L2CAP
- LL
- PHY
- DTM

**Antenna**

**EYSGCN, EYSGJN, EYAGJN Basic Module**

**Nordic SDK**

- Alert Notification
- Blood Pressure
- Cycling Speed and Cadence
- Glucose
- HID Mouse
- Heart Rate
- Phone Alert Status
- Proximity
- Running Speed and Cadence
- Time

Basic module will be written under GATT.

**Softdevice**

- GAP: Generic Access Profile
- SM: Security Manager
- ATT: Attribute Protocol
- L2CAP: Logical Link Control and Adaptation Protocol
- LL: Link Layer
- PHY: Physical Layer
- DTM: Direct Test Mode
Bluetooth® low energy Module: EYSGCNAWY-WX

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth low energy Slave / Master
- Chip: nRF51822 (Nordic)
- Integrated System/Sleep Clock
- Integrated high performance ceramic chip antenna
- ARM Cortex M0 32bit processor
- Application Embedded by Taiyo Yuden
  - (TY’s App : Generic Data transfer, Battery Service)
- Interface: UART
- Outline: 9.6 x 12.9 x 2.0 mm with 1mm pad pitch
- Operating Temperature range: -25 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

Applications
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

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### Bluetooth low energy Module Sample, Evaluation Board

<table>
<thead>
<tr>
<th>EYSGCNAWY-WX (Module)</th>
<th>EBSGCNAWY-WX (EV-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module samples</strong></td>
<td><strong>Evaluation board</strong></td>
</tr>
<tr>
<td><img src="image1" alt="Module samples" /></td>
<td><img src="image2" alt="Evaluation board" /></td>
</tr>
<tr>
<td><img src="image3" alt="EYSGCNAWY-WX Module" /></td>
<td><img src="image4" alt="EBSGCNAWY-WX EV-B" /></td>
</tr>
<tr>
<td><img src="image5" alt="Tray" /> or <img src="image6" alt="Tape" /></td>
<td><img src="image7" alt="Box" /></td>
</tr>
</tbody>
</table>

---

*TAIYO YUDEN*
Bluetooth® low energy Module  EYSJGJNAWY-WX

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth low energy Slave / Master
- Chip: nRF51822  Rev3 (Nordic)
- Integrated System Clock
- ARM Cortex M0 32bit processor
- Application Embedded by Taiyo Yuden
  (TY’s App : Generic Data transfer, Battery Service)
- Interface: UART
- Integrated high performance pattern antenna
- Outline: 5.1 x 11.3 x 1.3mm MAX
- Operating Temperature range: -25 to 85 deg-C
- Bluetooth and Japan, FCC, IC qualified
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

Applications
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

All specifications are subject to change without notice.
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Bluetooth low energy Module Sample, Evaluation Board

<table>
<thead>
<tr>
<th>EYSGJNAWY-WX (Module)</th>
<th>EBSGJNAWY-WX (EV-B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module samples</td>
<td>Evaluation board</td>
</tr>
</tbody>
</table>

- Tray
- Tape

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Application Layer image for Application Embedded Module

EYSGCN, EYSGJN
Application Embedded Module

Bluetooth® low energy Device

nRF51822 module

Application

Generic Attribute Server
Generic Attribute Client
SM
ATT
L2CAP
LL
PHY
DTM

Power Regulator
32MHz X’tal
32kHz X’tal (EYSGCN)

Antenna

Connection option

-WX module for Module – Module
Module – Smart phone

Softdevice

GAP: Generic Access Profile
SM: Security Manager
ATT: Attribute Protocol
L2CAP: Logical Link Control and Adaptation Protocol
LL: Link Layer
PHY: Physical Layer
DTM: Direct Test Mode
# Bluetooth® low energy standard module

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
<th>Size (LxWxH)</th>
<th>Specification</th>
<th>ANT™ Support</th>
<th>I/F</th>
<th>RAM</th>
<th>Certification</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Performance Basic (Software Support : Nordic)</td>
<td>EYSKBNZWB</td>
<td>10.0x15.4x2.0mm</td>
<td>Bluetooth V5.0 BLE Single Slave/Master</td>
<td>✔</td>
<td>USB※3 UART SPI I2C I2S※4 PDM</td>
<td>256kB</td>
<td>Japan FCC IC (CE)※2</td>
<td>-40~+85 deg-C</td>
</tr>
<tr>
<td></td>
<td>EYSHSNZWZ</td>
<td>3.25x8.55x0.85mm</td>
<td>Bluetooth V5.0 BLE Single Slave/Master</td>
<td>✔</td>
<td></td>
<td>64kB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EYSLSNZWW</td>
<td>3.25x8.55x1.00mm</td>
<td>Bluetooth V5.0 BLE Single Slave/Master</td>
<td>✔</td>
<td></td>
<td>24kB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EYSHCNZWZ</td>
<td>9.6x12.9x2.0mm</td>
<td>Bluetooth V5.0 BLE Single Slave/Master</td>
<td>✔</td>
<td></td>
<td>64kB</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EYSLCNZWZ</td>
<td>5.1x11.3x1.3mm</td>
<td>Bluetooth V5.0 BLE Single Slave/Master</td>
<td>✔</td>
<td></td>
<td>24kB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic (Software Support : Nordic)</td>
<td>EYSGCNZXX</td>
<td>9.6x12.9x2.0mm</td>
<td>Bluetooth V4.2※1 BLE Single Slave/Master</td>
<td>✔</td>
<td>UART SPI I2C</td>
<td>16kB</td>
<td>(EYSGCNZXX, EYSGJNZXX)</td>
<td>-40~+85 deg-C</td>
</tr>
<tr>
<td></td>
<td>EYSGCNZWY</td>
<td>5.1x11.3x1.3mm</td>
<td>Bluetooth V4.2※1 BLE Single Slave/Master</td>
<td>✔</td>
<td>UART SPI I2C</td>
<td>16kB</td>
<td>(EYSGCNZXX, EYSGJNZXX)</td>
<td>-40~+85 deg-C</td>
</tr>
<tr>
<td>Application Embedded – Module (Software Support : TAIYO YUDEN)</td>
<td>EYSGCNAWY-WX</td>
<td>9.6x12.9x2.0mm</td>
<td>Bluetooth V4.1 BLE Single Slave/Master</td>
<td>✔</td>
<td>UART</td>
<td>N/A</td>
<td>(other than the above)</td>
<td>-25~+85 deg-C</td>
</tr>
<tr>
<td></td>
<td>EYGJNAWY-WX</td>
<td>5.1x11.3x1.3mm</td>
<td>Bluetooth V4.1 BLE Single Slave/Master</td>
<td>✔</td>
<td>UART</td>
<td>N/A</td>
<td>(other than the above)</td>
<td>-25~+85 deg-C</td>
</tr>
</tbody>
</table>

※1 Supported by S130 SoftDevice, ※2 ETSI EN 300 328 v2.1.1 conducted test report available
※3 Supported by EYSKBNZWB only, ※4 Supported by EYSKBNZWB and EYShxNZWZ

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