Wireless Module

Bluetooth® low energy Module Overview

Jun. 5, 2019 Version 2.0
TAIYO YUDEN Bluetooth® low energy Module Line-Up

nRF52 Bluetooth® low energy Module

- **nRF52840 Module**
  - EYSKBN UWB-WX
    - TY’s Application Embedded
    - High-end
  - EYSKBN ZWB
    - RAM256kB
    - SoftDevice S140
    - High-end

- **nRF52832 Module**
  - EYSHCN ZWZ
    - RAM 64kB
    - SoftDevice S132
    - Big
  - EYSHJN ZWZ
    - RAM 64kB
    - SoftDevice S132
    - Small
  - EYSHSN ZWZ
    - RAM 64kB
    - SoftDevice S132
    - Ultra-small*1

- **nRF52810 Module**
  - EYSLCN ZWW
    - RAM 24kB
    - SoftDevice S112
    - Big
  - EYSLSN ZWW
    - RAM 24kB
    - SoftDevice S112
    - Ultra-small*2

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

**Ultra-small**
- Embedded antenna
  - Ext. 32kHz X’tal
  - Ext. LC for DC/DC
  - *1: 3.25 x 8.55 x 0.85mm
  - *2: 3.25 x 8.55 x 1.00mm

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

**Big**
- Embedded antenna
  - Int. 32kHz X’tal
  - Int. LC for DC/DC
  - 9.6 x 12.9 x 2.0mm

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Latest Documents for Bluetooth® low energy Module

EYSKBNZWB  http://www.yuden.co.jp/or/product/category/module/EYSKBNZWB.html
EYSHSNZWZ  http://www.yuden.co.jp/or/product/category/module/EYSHSNZWZ.html
EYSHCNZWZ  http://www.yuden.co.jp/or/product/category/module/EYSHCNZWZ.html
EYSHJNZWZ  http://www.yuden.co.jp/or/product/category/module/EYSHJNZWZ.html
EYSLSNZWZ  http://www.yuden.co.jp/or/product/category/module/EYSLSNZWZ.html
EYSLCNZWZ  http://www.yuden.co.jp/or/product/category/module/EYSLCNZWZ.html

EYSGCNZXX  http://www.yuden.co.jp/or/product/category/module/EYSGCNZXX.html
EYSGCNZWy  http://www.yuden.co.jp/or/product/category/module/EYSGCNZWy.html
EYSGJNZXX  http://www.yuden.co.jp/or/product/category/module/EYSGJNZXX.html
EYSGJNZWY  http://www.yuden.co.jp/or/product/category/module/EYSGJNZWY.html
EYAGJNZXX  http://www.yuden.co.jp/or/product/category/module/EYAGJNZXX.html

EYSKBNUWB-WX  http://www.yuden.co.jp/or/product/category/module/EYSKBNUWB-WX.html
EYSGCNAWY-VX  http://www.yuden.co.jp/or/product/category/module/EYSGCNAWY-VX.html
EYSGJNAWY-VX  http://www.yuden.co.jp/or/product/category/module/EYSGJNAWY-VX.html
EYSGCNAWY-WX  http://www.yuden.co.jp/or/product/category/module/EYSGCNAWY-WX.html
EYSGJNAWY-WX  http://www.yuden.co.jp/or/product/category/module/EYSGJNAWY-WX.html

- 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
### 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

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

<table>
<thead>
<tr>
<th>EYSKBNZWB (Module)</th>
<th>EBSKBNZWB (EV-B)</th>
<th>EKSKBNZWB (EV-K)</th>
</tr>
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<tbody>
<tr>
<td><strong>Module samples</strong></td>
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<td><img src="image4.png" alt="Tray" /> or <img src="image5.png" alt="Tape" /></td>
<td><img src="image6.png" alt="SEGGER J-Link LITE Attached" /></td>
<td></td>
</tr>
</tbody>
</table>
**2Mbps Bluetooth® 5.0 low energy Module: EYSHSNZWZ**

**Features**
- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7–3.6V
- Single Mode Bluetooth low energy (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 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
- Complies with standards required by RED (2014/53/EU)
- 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

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**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 (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
- Complies with standards required by RED (2014/53/EU)
- 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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Features

- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7–3.6V
- Single Mode Bluetooth low energy (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
- Complies with standards required by RED (2014/53/EU)
- 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

**EYSHJNZWZ** (Module)

- Module samples
  - Tray
  - Tape

**EBSHJNZWZ** (EV-B)

- Evaluation board

**EKSHJNZWZ** (EV-K)

- Evaluation kit
  - SEGGER J-Link LITE Attached
**2Mbps Bluetooth® 5.0 low energy Module: EYSLSNZWW**

**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

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- **EYSLSNZWW (Module)**
  - Tray
  - Tape

- **EBSLSNZWW (EV-B)**
  - SEGGER J-Link LITE Attached

- **EKSLSNZWW (EV-K)**
  - Tray
2Mbps Bluetooth® 5.0 low energy Module: EYSLCNZWW

Features
• Frequency: 2402 to 2480 MHz with +4dBm Output power
• Single power supply: 1.7 – 3.6V
• Single Mode Bluetooth low energy (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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</table>

**TAIYO YUDEN**
**Bluetooth® low energy Module: EYSGCNZXX**

**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

**Outline**
- Unit: mm
- 9.6 x 12.9 x 2.0 mm with 1mm pad pitch

**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: 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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Taiyo Yuden
**Bluetooth® low energy Module Sample, Evaluation Board / Kit**

<table>
<thead>
<tr>
<th>EYSGCNZXX, EYSGCNZWY</th>
<th>EBSGCNZWY (EV-B)</th>
<th>EKSGCNZWY (EV-K)</th>
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</tbody>
</table>

![Module samples](image1)

![Evaluation board](image2)

![Evaluation kit](image3)
**Bluetooh® 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

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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
- 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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TAIYO YUDEN
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

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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TAIYO YUDEN
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- **Tray**
- **Tape**

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TAIYO YUDEN
Taiyo Yuden Basic Module

Bluetooh® low energy Device

Taiyo Yuden module

Application (Profiles)

- Generic Access Profile
- Generic Attribute Profile
- SM
- ATT
- L2CAP
- LL
- PHY

Switch
Sensors
Clock
LED
Data

Antenna

Power Management

Nordic SDK

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

Softdevice

Taiyo Yuden module

SM: Security Manager
ATT: Attribute Protocol
L2CAP: Logical Link Control and Adaptation Protocol
LL: Link Layer
PHY: Physical Layer

Taiyo Yuden Basic Module
**Bluetooth® 5.0 low energy Module: EYSKBNUWB-WX**

**Features**
- Frequency: 2402 to 2480 MHz with +8dBm Output power
- Single power supply: 1.7 – 5.5V
- Single Mode Bluetooth 5.0 (Master / Slave)
- Bluetooth 5 data rate support: 2M / 1M / 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
- Application Embedded by Taiyo Yuden
- Interface: UART, SPI, USB and 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

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

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- **EYSKBNUWB-WX (Module)**
  - Module samples
  
- **EBSKBNUWB-WX (EV-B)**
  - Evaluation board

- Tray
- Tape

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**TAIYO YUDEN**
**Bluetooth® low energy Module: EYSGCNAWY-VX**

**Features**
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth 4.2 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
- CE 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. The Bluetooth® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by TAIYO YUDEN CO., LTD. is under license.

**Block Diagram**
**Bluetooth® low energy Module Sample, Evaluation Board / Kit**

<table>
<thead>
<tr>
<th>EYSGCNAWY-VX (Module)</th>
<th>EBSGCNAWY-VX (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>Tray</td>
<td>Tape</td>
</tr>
</tbody>
</table>

**Taiyo Yuden**
Bluetooth® low energy Module  EYSGJNAWY-VX

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth 4.2 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
- CE Conducted Test Report Available
- RoHS compliant / Complete Lead Free

Applications
- Cycle computer
- Heart rate monitor
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- 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 Sample, Evaluation Board / Kit

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<td><strong>Evaluation board</strong></td>
</tr>
</tbody>
</table>

- Tray
- Tape
- Commercial package

TAIYO YUDEN
**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 4.1 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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**Block Diagram**

**Outline**
- Top View
- Bottom View

**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

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</tr>
<tr>
<td>Module samples</td>
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</tr>
<tr>
<td>Tray</td>
<td>or</td>
</tr>
<tr>
<td>Tape</td>
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</table>

*Bluetooth® low energy Module Sample, Evaluation Board / Kit*
Bluetooth® low energy Module  EYSGJNAWY-WX

Features
- Frequency: 2402 to 2480 MHz
- Output power: +4dBm typ.
- Single power supply: 1.8 – 3.6V
- Single Mode Bluetooth 4.1 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)
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Outline

Block Diagram

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- Tray
- Tape

Bluetooth® low energy Module Sample, Evaluation Board / Kit

TAIYO YUDEN
Taiyo Yuden Application Embedded Module

Bluetoooth® low energy Device

Taiyo Yuden module

Power Regulator
32MHz X’tal
32kHz X’tal (e.g.,EYSGCN)

Antenna

Switch
Sensors
Clock
LED
Data

Power Management

Application

Generic Access Profile
Generic Attribute Profile
SM
ATT
L2CAP
LL
PHY
DTM

Connection option

-VX , -WX module for Module – Module
Module – Smart phone

Softdevice

Taiyo Yuden module

SM: Security Manager
ATT: Attribute Protocol
L2CAP: Logical Link Control and Adaptation Protocol
LL: Link Layer
PHY: Physical Layer
DTM: Direct Test Mode

Taiyo Yuden
Application Embedded Module

TAIYO YUDEN
## 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 (kB)</th>
<th>Certification</th>
<th>Temperature</th>
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<td>32</td>
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</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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