

Wireless Module *Bluetooth[®] low energy* Module Overview

May 28, 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

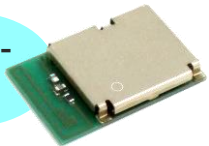
High-
end

EYSKBN ZWB

RAM 256kB
SoftDevice
S140

High-
end

High-
end



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

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

Small



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

nRF52810 Module

EYSLCN ZWW

RAM 24kB
SoftDevice
S112

Big

EYSLSN ZWW

RAM 24kB
SoftDevice
S112

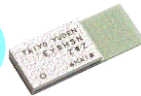
Ultra-
small*2

Big



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

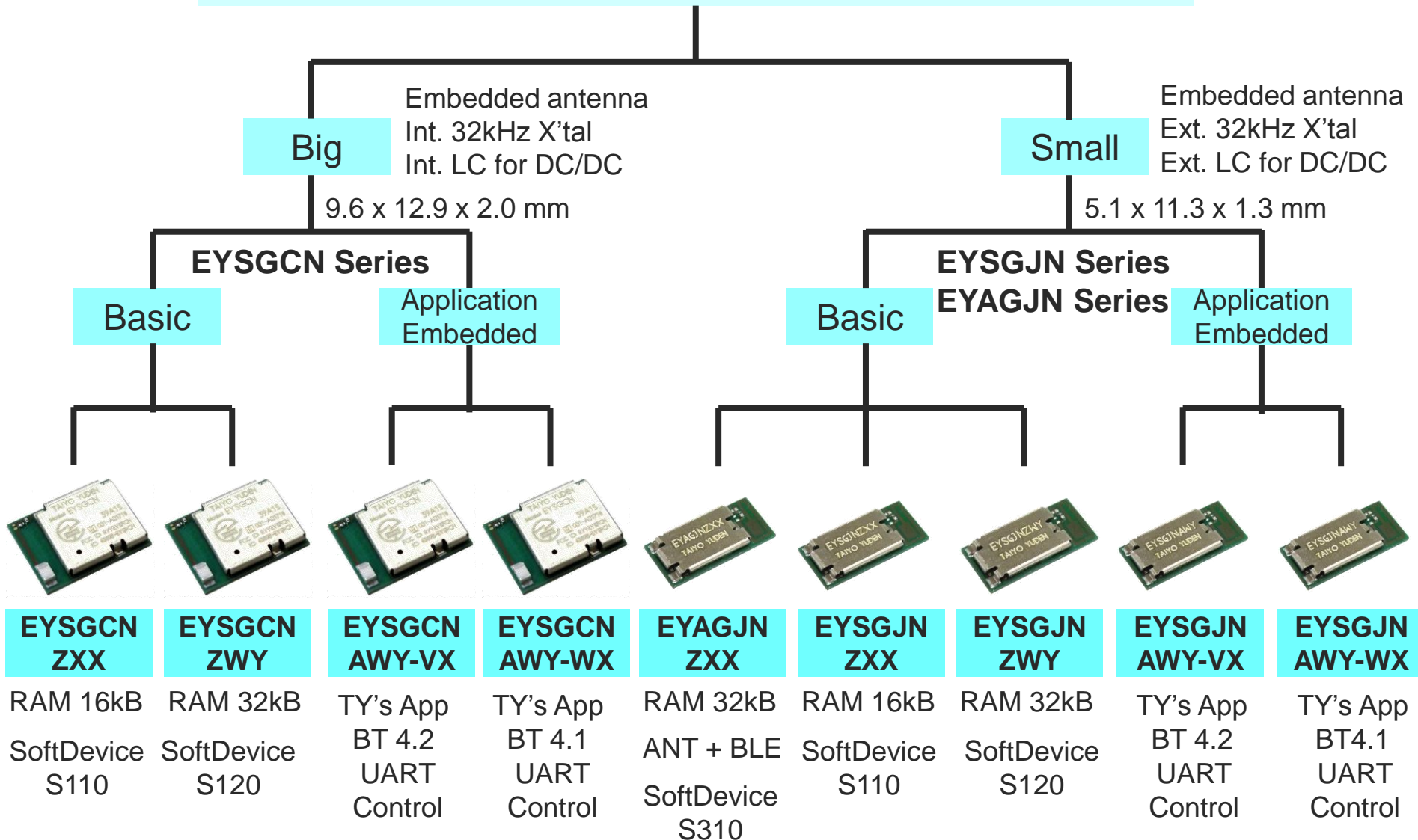
Ultra-
small



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

TAIYO YUDEN Bluetooth® low energy Module Line-Up

nRF51x22 Bluetooth® low energy Module



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
EYSLSNZWW	http://www.yuden.co.jp/or/product/category/module/EYSLSNZWW.html
EYSLCNZWW	http://www.yuden.co.jp/or/product/category/module/EYSLCNZWW.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>

Bluetooth® 5.0 low energy Module: **EYSKBNZWB**

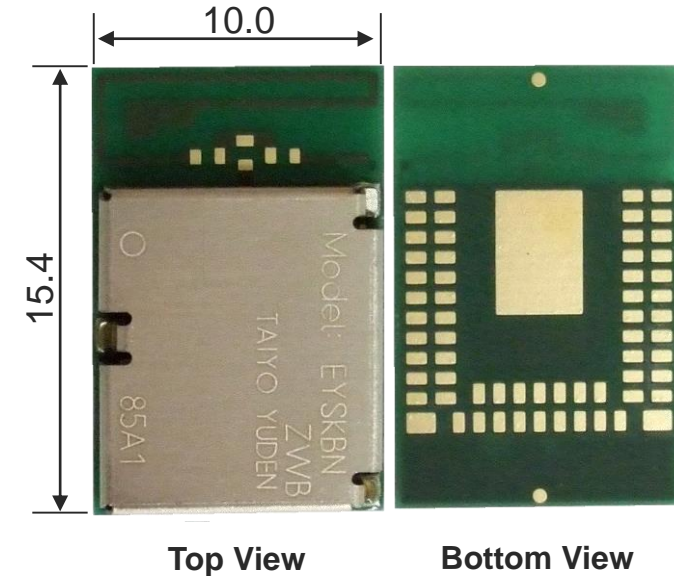
Features

- 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

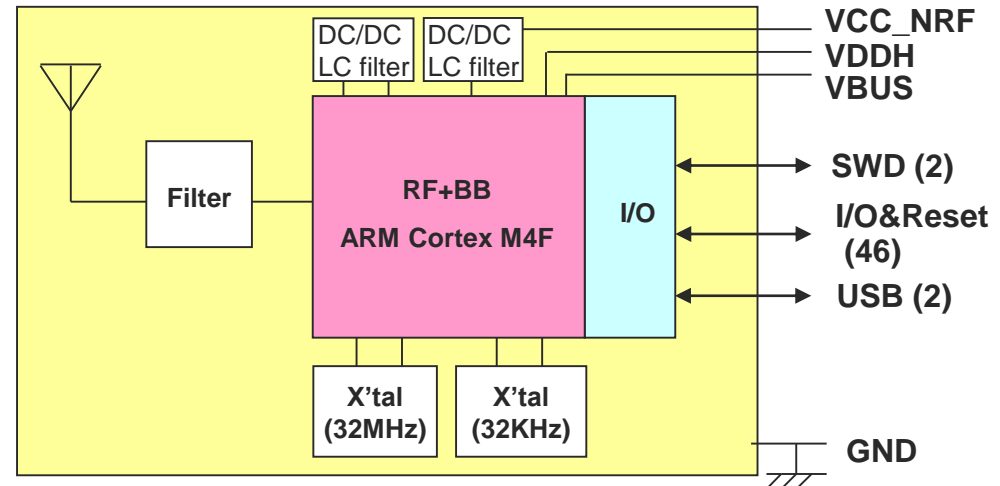
Applications

- 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

Outline



Block Diagram



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TAIYO YUDEN

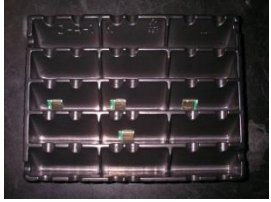
Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSKBNZWB (Module)

Module samples



or



Tray

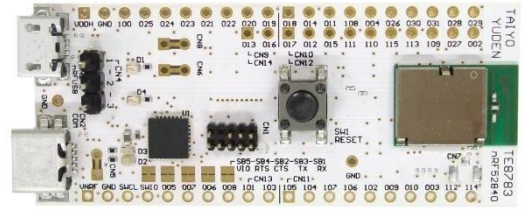


Tape



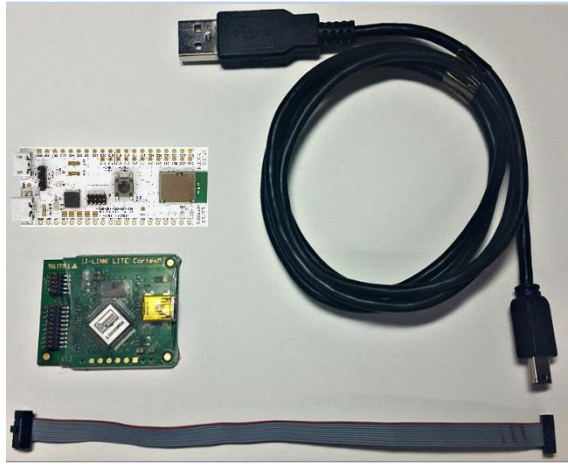
EBSKBNZWB (EV-B)

Evaluation board



EKSKBNZWB (EV-K)

Evaluation kit

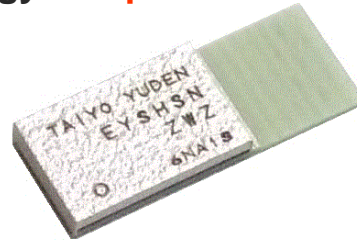


SEGGER
J-Link LITE
Attached

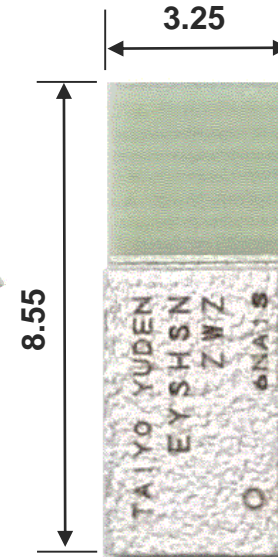
2Mbps Bluetooth® 5.0 low energy Module: EYSHSNZWZ

Features

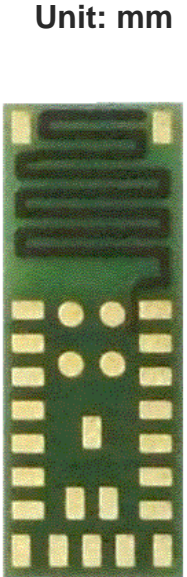
- Frequency: 2402 to 2480 MHz with +4dBm Output power
- Single power supply: 1.7– 3.6V
- Single Mode Bluetooth low energy (ANT™ Available)
- Chip: **nRF52832** (Nordic) with Bluetooth low energy **2Mbps** mode
- Integrated System Clock
- ARM Cortex M4F** 32bit processor
- 512kB Flash and 64kB RAM**
- 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 0.85**mm 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



Top View



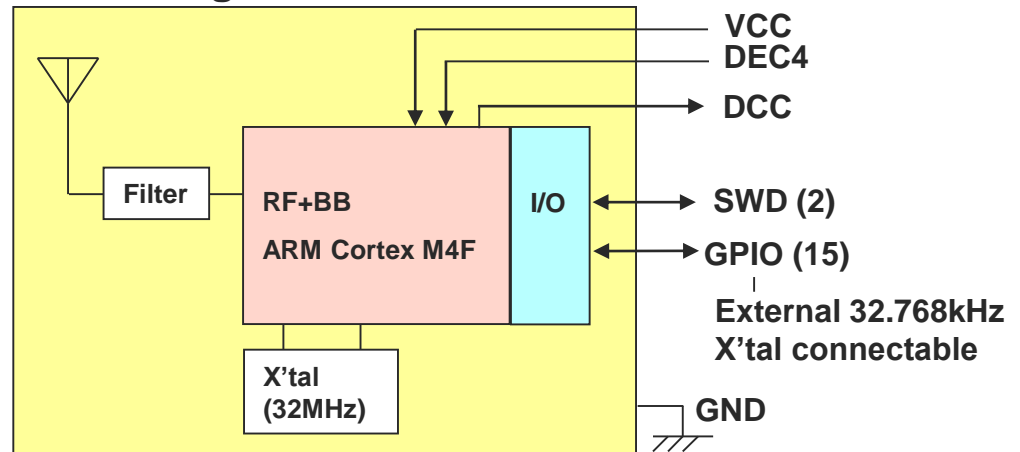
Bottom View

Unit: mm

Applications

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

Block Diagram



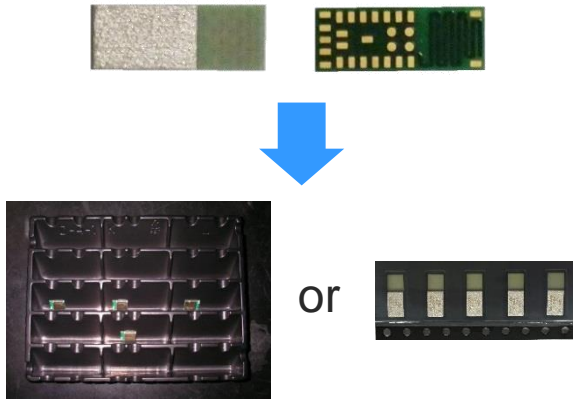
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSHSNZWZ (Module)

Module samples



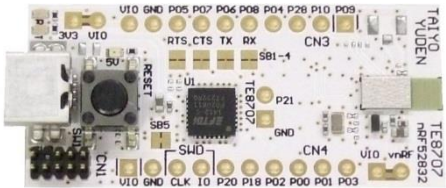
Tray

Tape



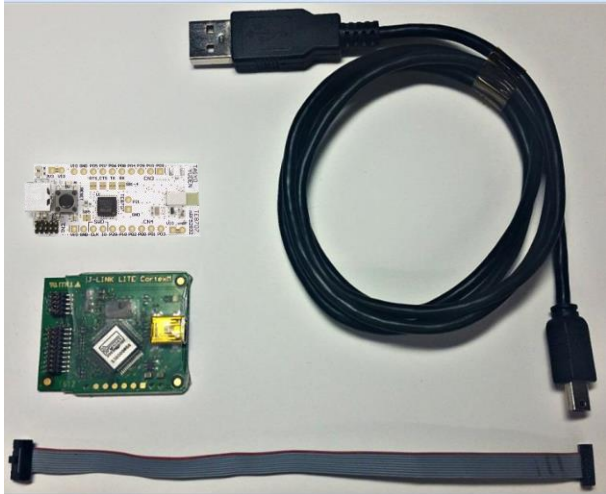
EBSHSNZWZ (EV-B)

Evaluation board



EKSHSNZWZ (EV-K)

Evaluation kit



2Mbps Bluetooth® 5.0 low energy Module: EYSHCNZWZ

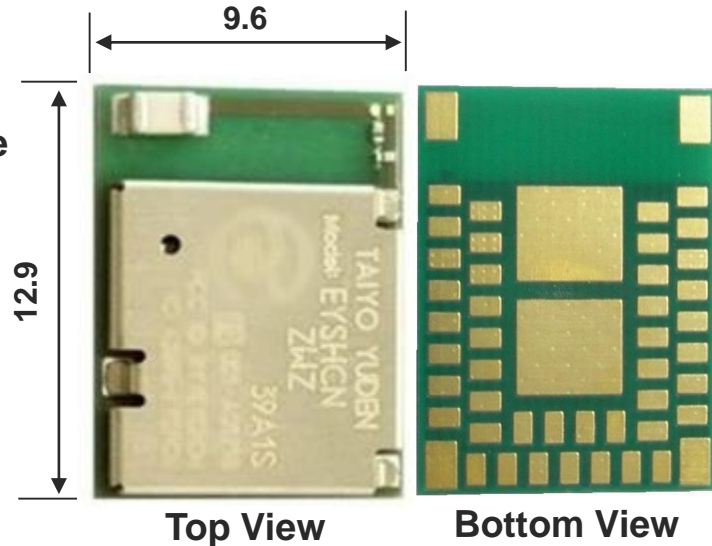
Features

- 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
- ETSI EN 300 328 v2.1.1 Conducted Test Report Available
- RoHS compliant / Complete Lead Free

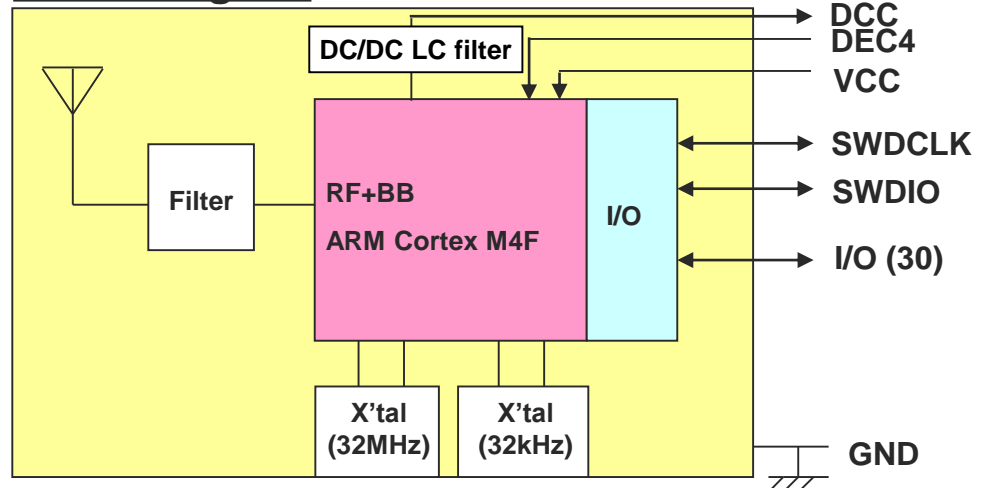
Applications

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

Outline



Block Diagram



All specifications are subject to change without notice.

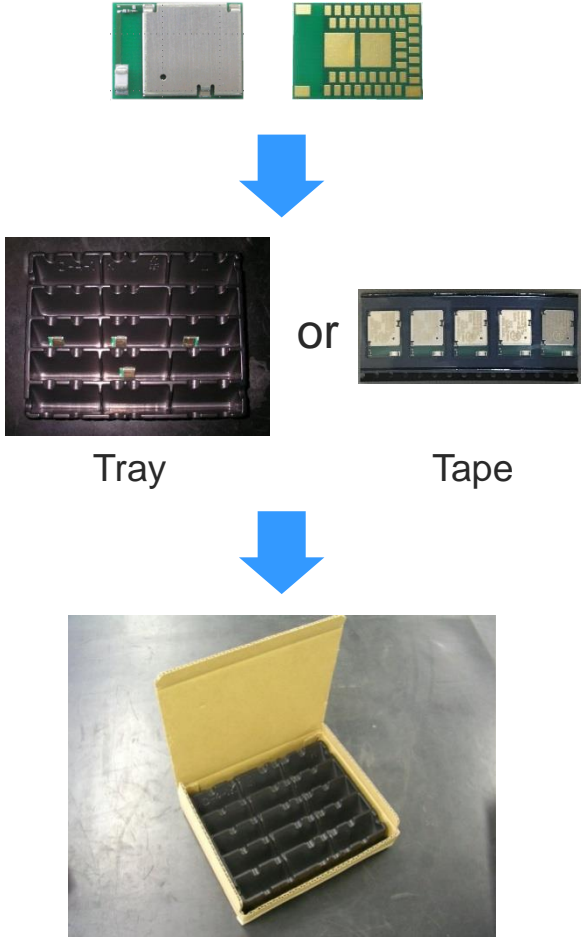
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

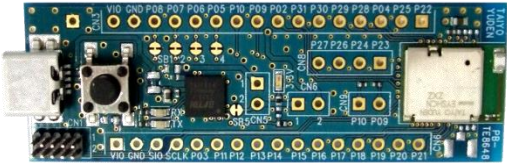
EYSHCNZWZ (Module)

Module samples



EBSHCNZWZ (EV-B)

Evaluation board



EKSHCNZWZ (EV-K)

Evaluation kit



2Mbps Bluetooth® 5.0 low energy Module: EYSHJNZWZ

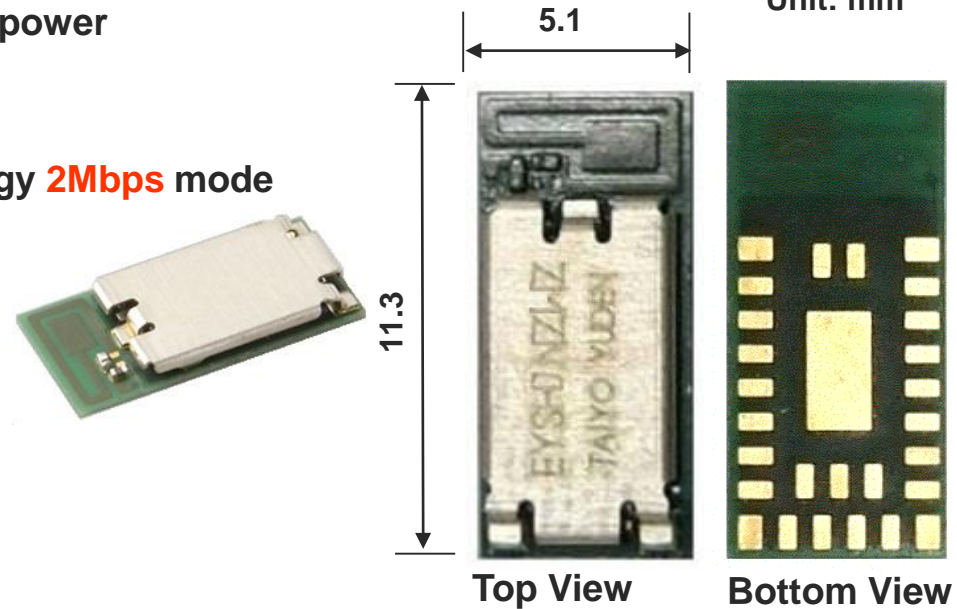
Features

- 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 1.3**mm 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

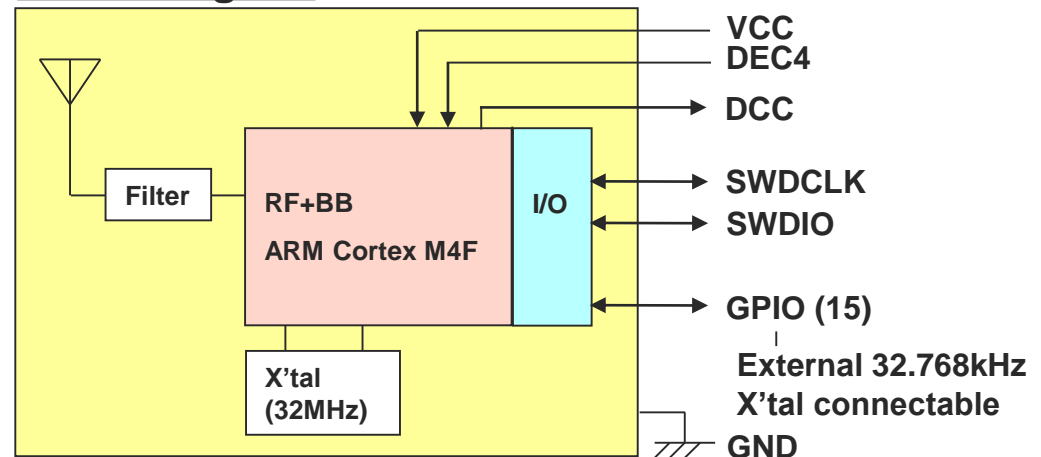
Applications

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

Outline



Block Diagram



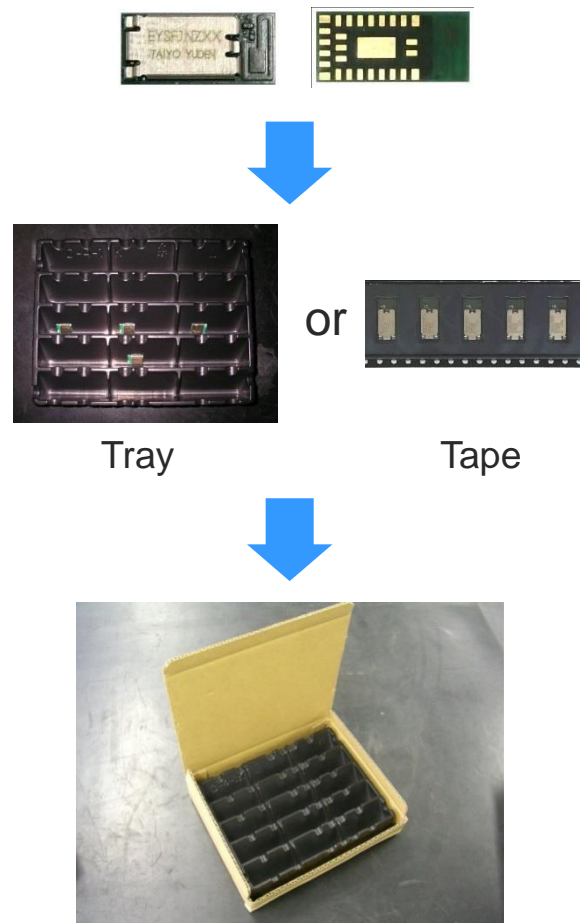
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

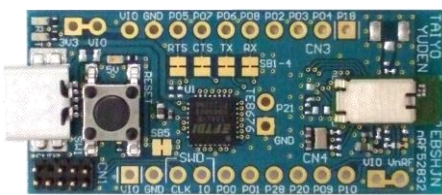
EYSHJNZWZ (Module)

Module samples



EBSHJNZWZ (EV-B)

Evaluation board



EKSHJNZWZ (EV-K)

Evaluation kit



2Mbps Bluetooth® 5.0 low energy Module: EYLSLNZWW

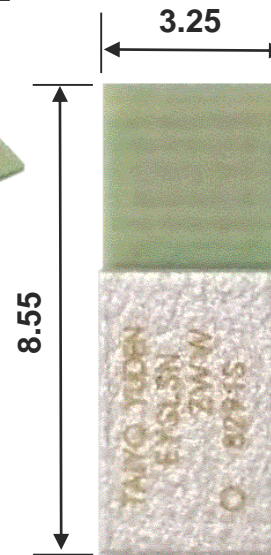
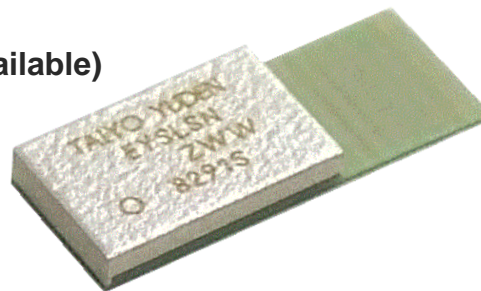
Features

- 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

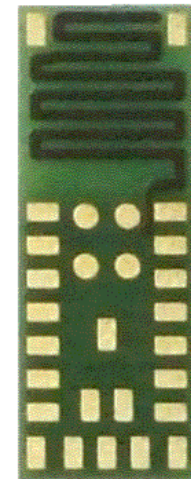
- Smart wristband
- Smart glasses
- Remote control ring
- Smart pen
- Heart rate monitor
- pressure monitor
- Blood glucose meter
- Thermometer
- Mobile accessories

Outline



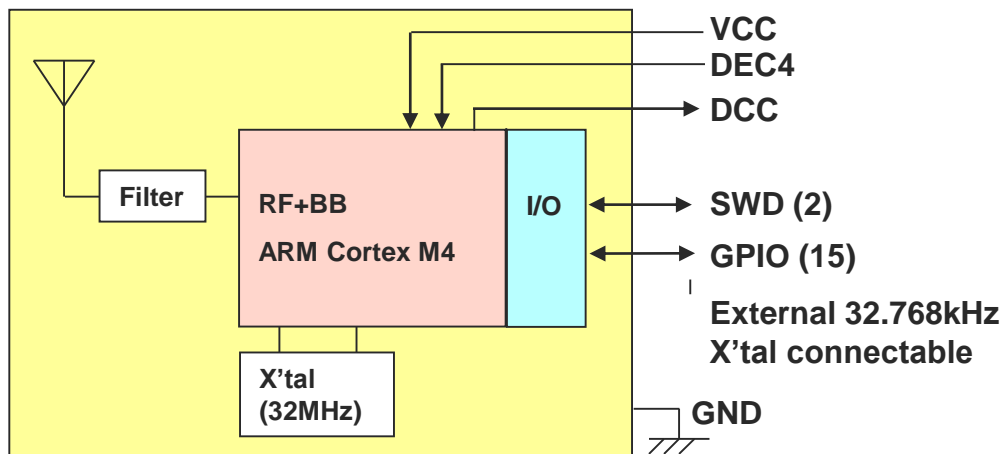
Top View

Unit: mm



Bottom View

Block Diagram



All specifications are subject to change without notice.

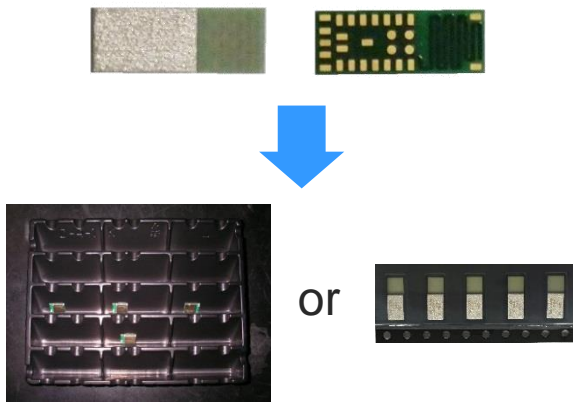
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSLSNZWW (Module)

Module samples



Tray

Tape



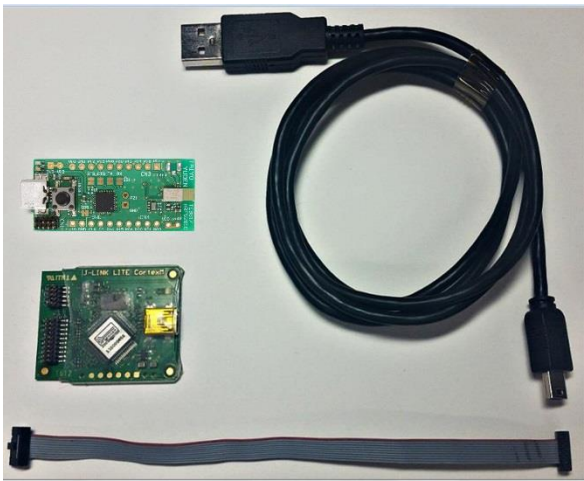
EBSLSNZWW (EV-B)

Evaluation board



EKSLSNZWW (EV-K)

Evaluation kit



**SEGGER
J-Link LITE
Attached**

2Mbps Bluetooth® 5.0 low energy Module: EYSLCNZWW

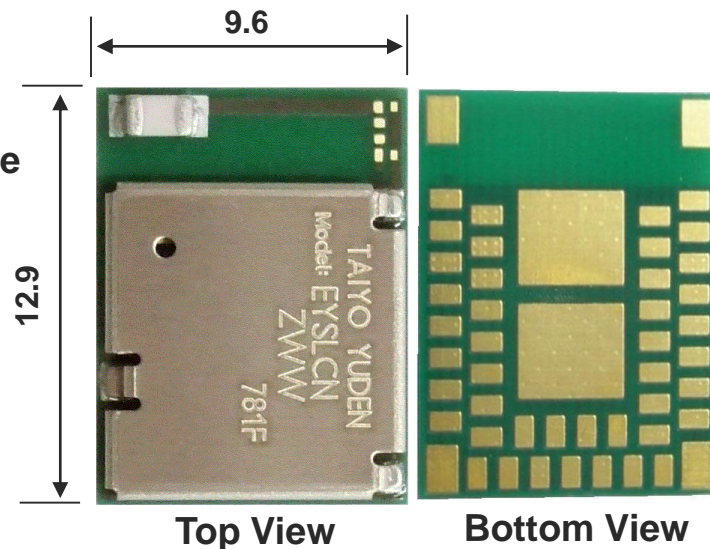
Features

- 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

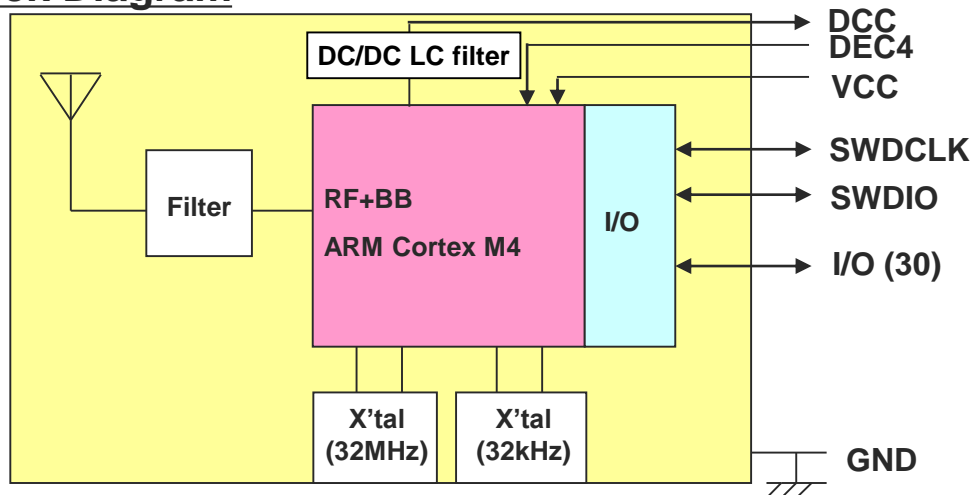
Applications

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

Outline



Block Diagram



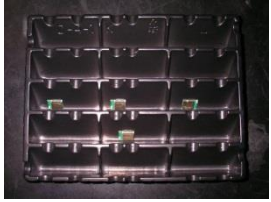
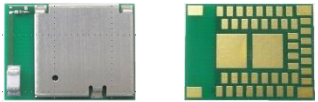
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSLCNZWW (Module)

Module samples



or



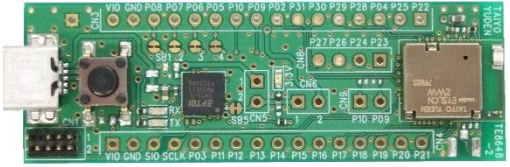
Tray

Tape



EBSLCNZWW (EV-B)

Evaluation board



EKSLCNZWW (EV-K)

Evaluation kit



SEGGER
J-Link LITE
Attached



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
- 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

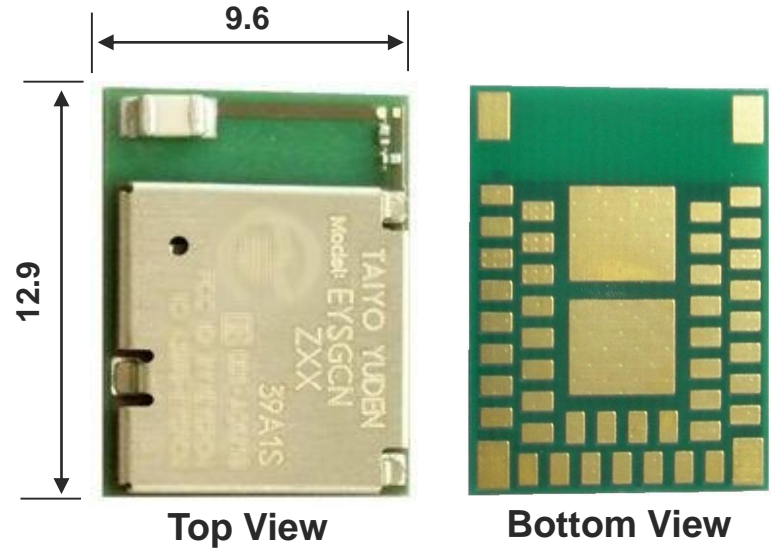
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

All specifications are subject to change without notice.

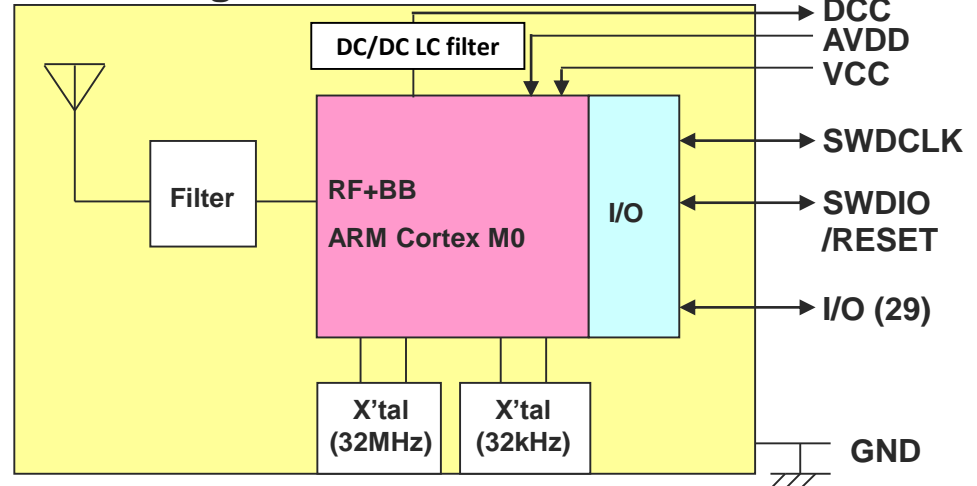
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Outline

Unit: mm



Block Diagram



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

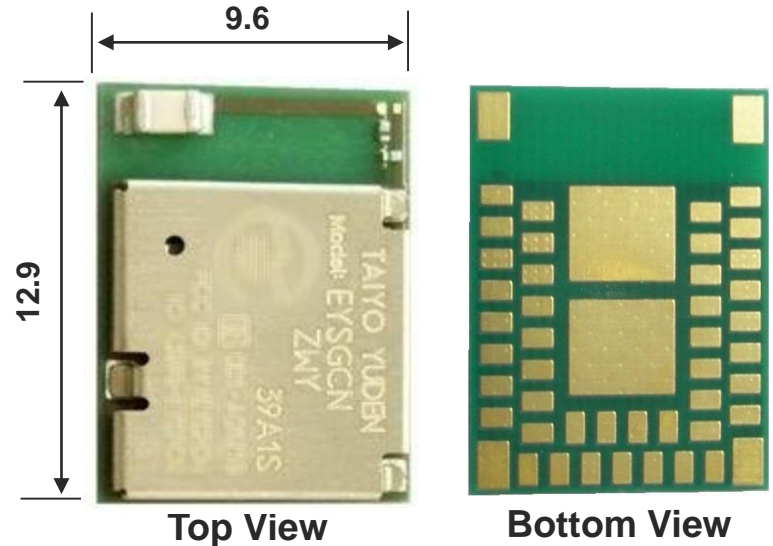
- Cycle computer
- Heart rate monitor
- Blood pressure monitor
- Blood glucose meter
- Weighing machine
- Thermometer
- Mobile accessories
- Sports and fitness sensors
- Remote controllers / Toys

All specifications are subject to change without notice.

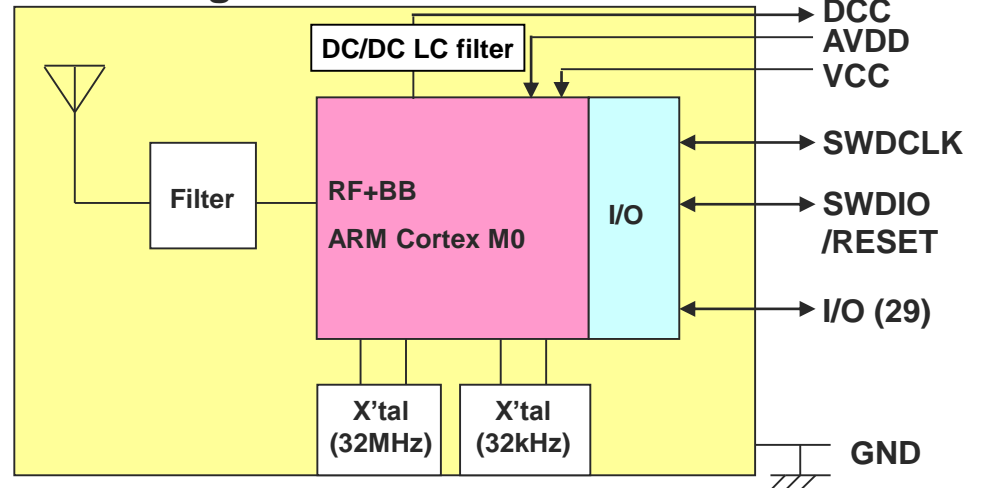
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Outline

Unit: mm



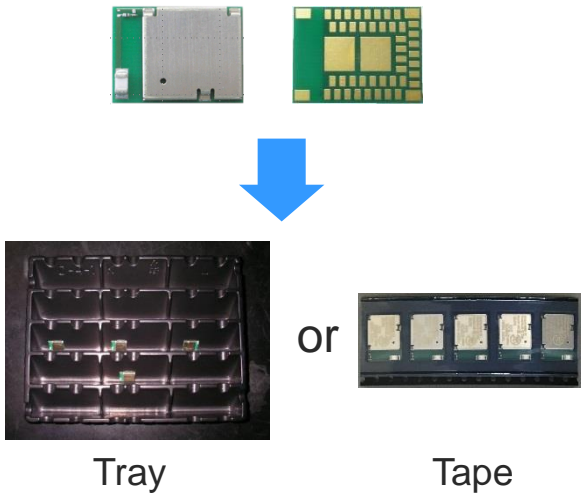
Block Diagram



Bluetooth® low energy Module Sample, Evaluation Board / Kit

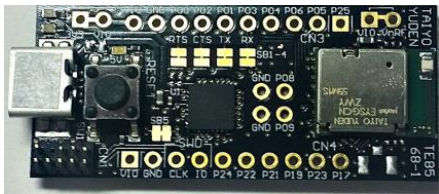
EYSGCNZXX, EYSGCNZWY (Module)

Module samples



EBSGCMZWY (EV-B)

Evaluation board



EKSGCMZWY (EV-K)

Evaluation kit

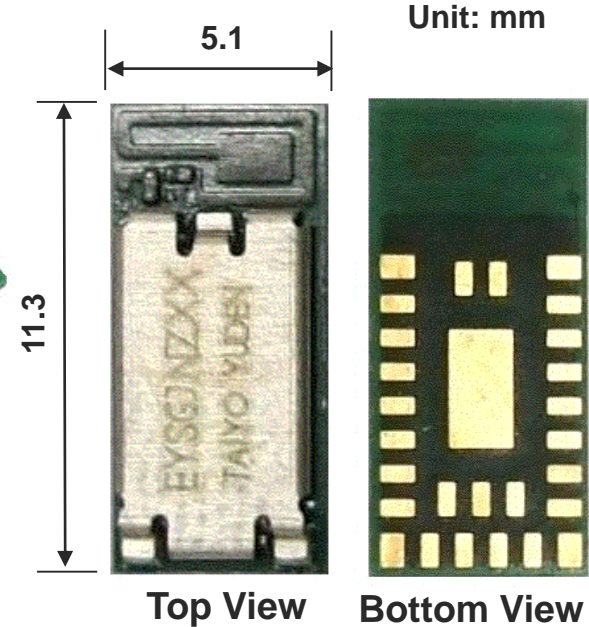
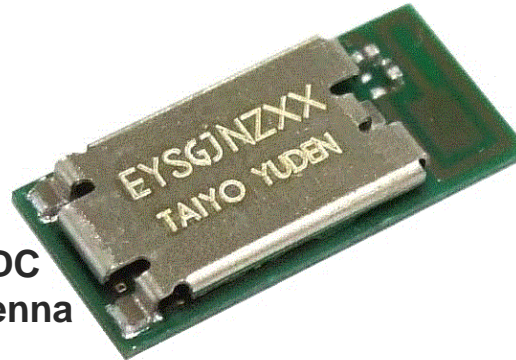


Bluetooth® low energy Module **EYSGJNZXX**

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

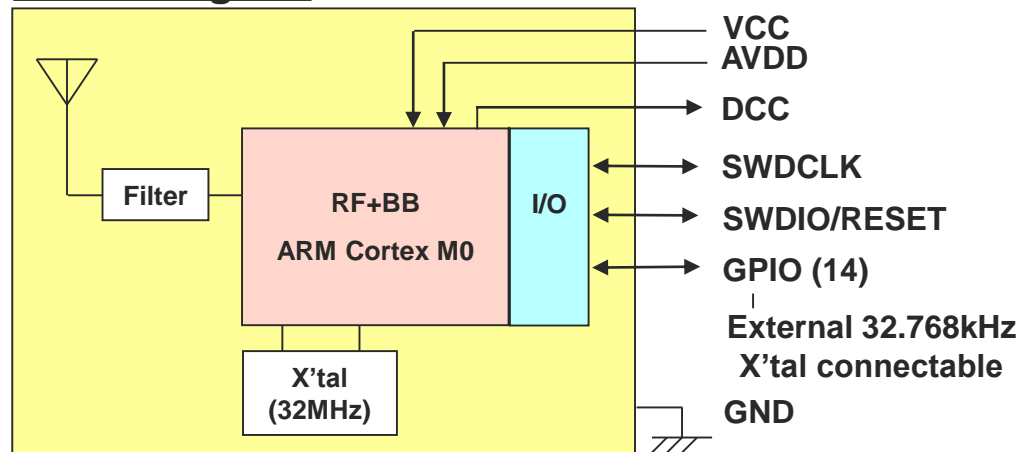
Outline



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



All specifications are subject to change without notice.

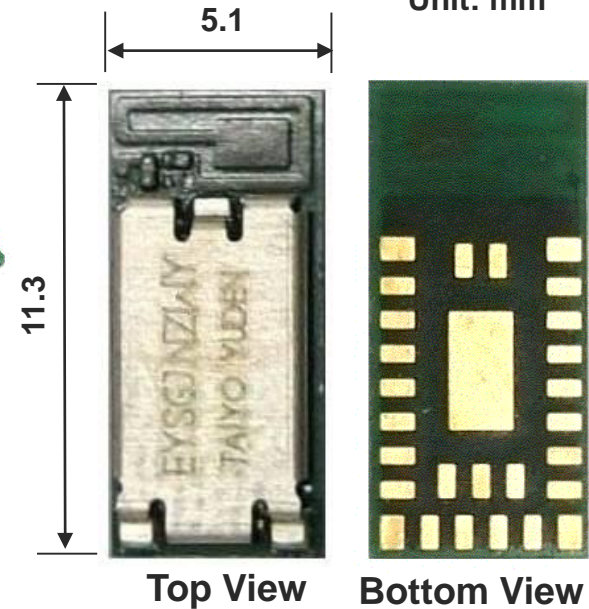
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Bluetooth® low energy Module **EYSGJNZWY**

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

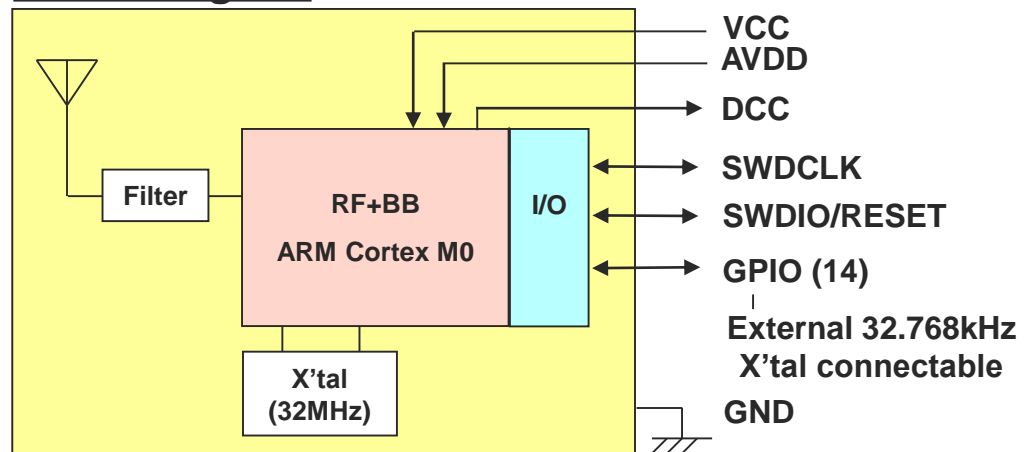
Outline



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



All specifications are subject to change without notice.

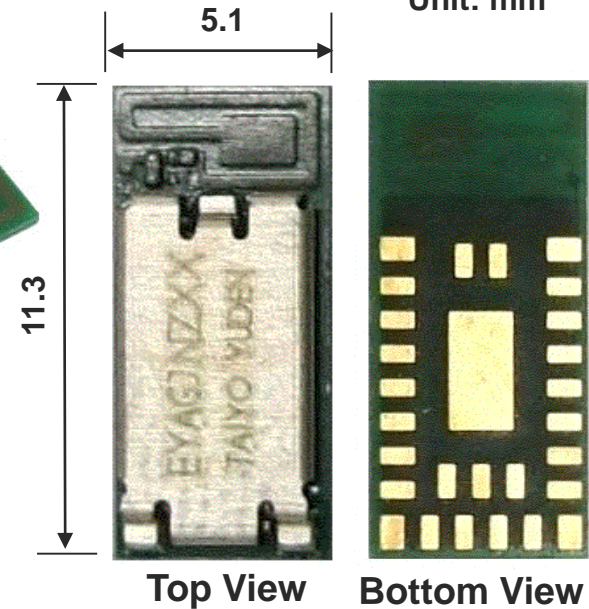
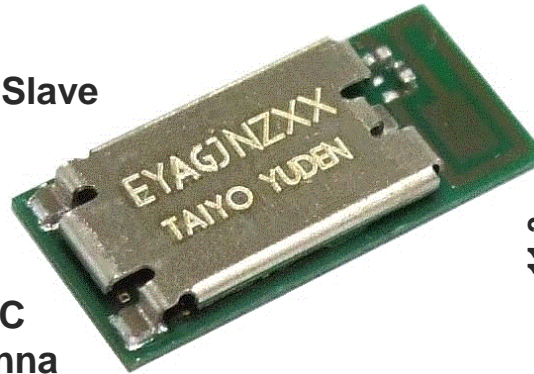
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ANT + Bluetooth® low energy Module **EYAGJNZXX**

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

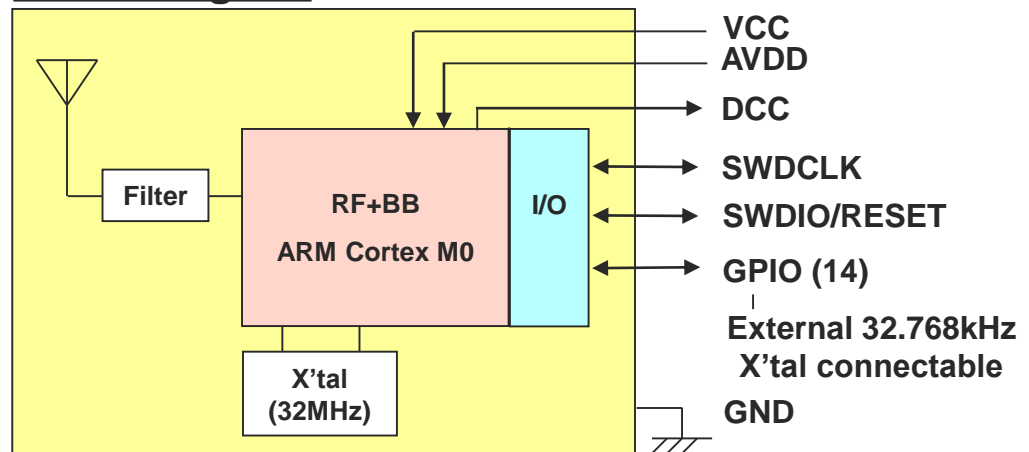
Outline



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



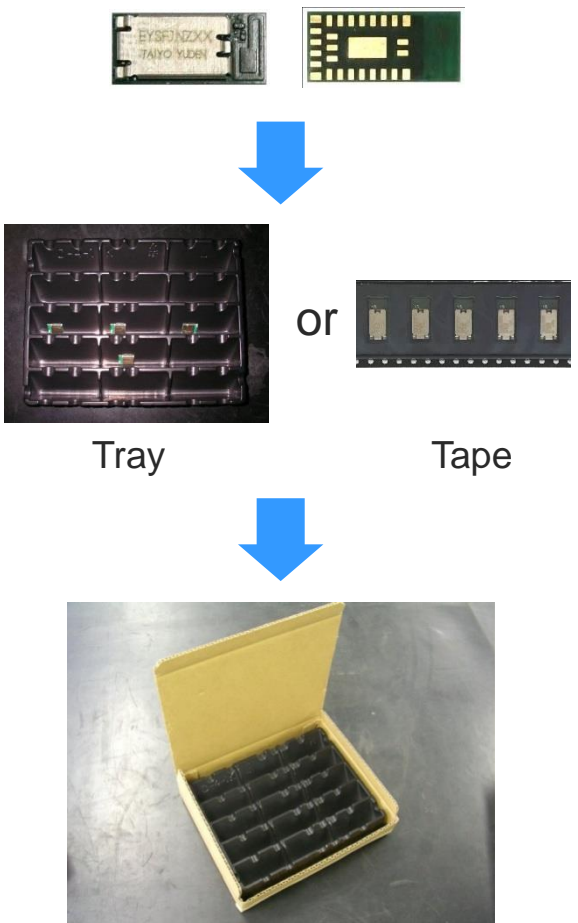
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSGJNZXX, EYSGJNZWY, EYAGJNZXX (Module)

Module samples



EBSGJNZWY, EBAGJNZXX (EV-B)

Evaluation board

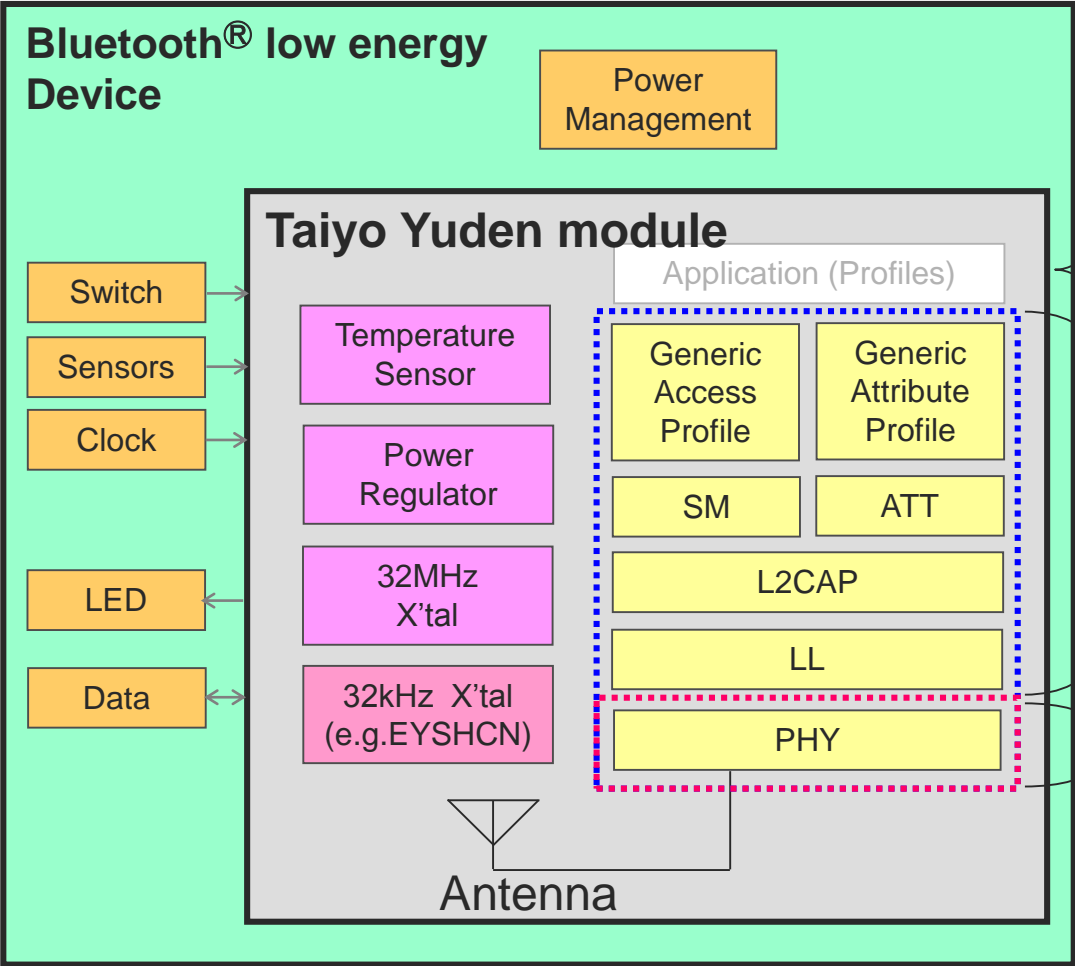


EKSGJNZWY, EKAGJNZXX (EV-K)

Evaluation kit



Application Layer image for Basic Module



- Alert Notification **Nordic SDK**
- 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

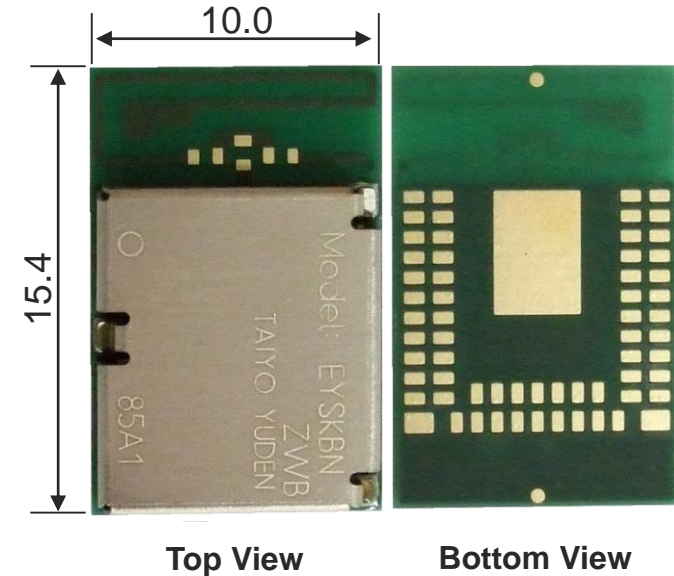
- Frequency: 2402 to 2480 MHz with **+8dBm** Output power
- Single power supply: 1.7 – 5.5V
- Single Mode **Bluetooth 5.0 (Master / Slave)**
- Bluetooth 5 data rate support: 2M / 1M / 125kbps**
- Chip: **nRF52840** (Nordic)
- Integrated System/Sleep Clock, 2 x LC for DC/DC
- Integrated high performance 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

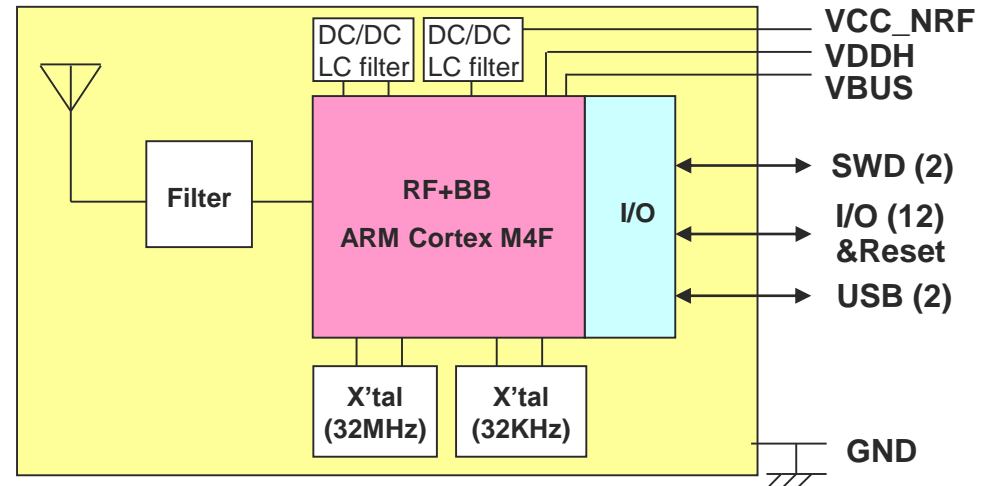
- Advanced wearables
 - Connected watches
 - Advanced personal fitness devices
 - Wearables with wireless payment
 - Connected health
 - Virtual/Augmented reality applications
- Internet of Things
 - Smart home sensors and controllers
 - Industrial IoT sensors and controllers
- Interactive entertainment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

Outline

Unit: mm



Block Diagram



All specifications are subject to change without notice.

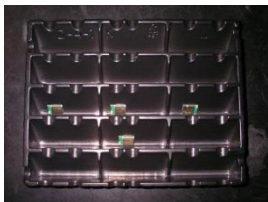
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Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSKBNUWB-WX (Module)

■ Module samples



Tray

or

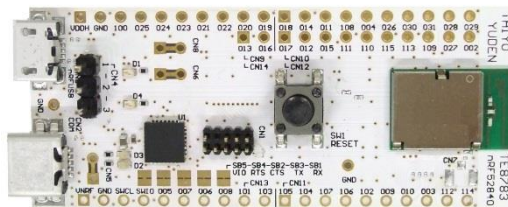


Tape



EBSKBNUWB-WX (EV-B)

■ Evaluation board



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

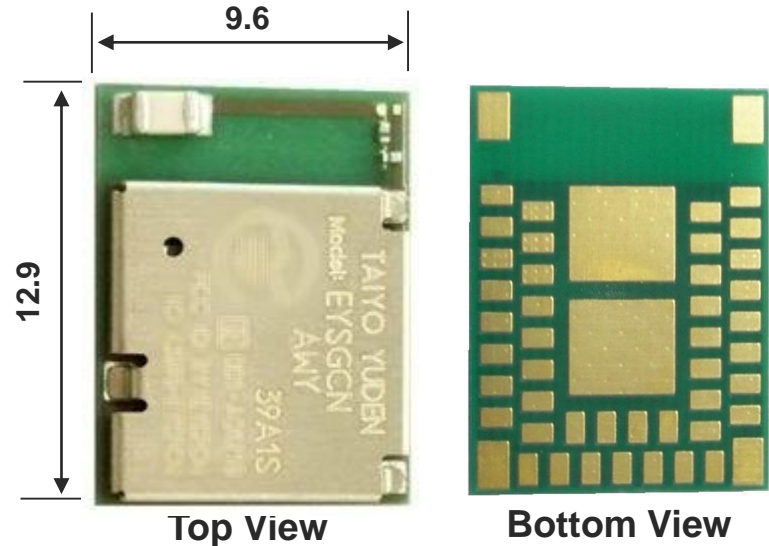
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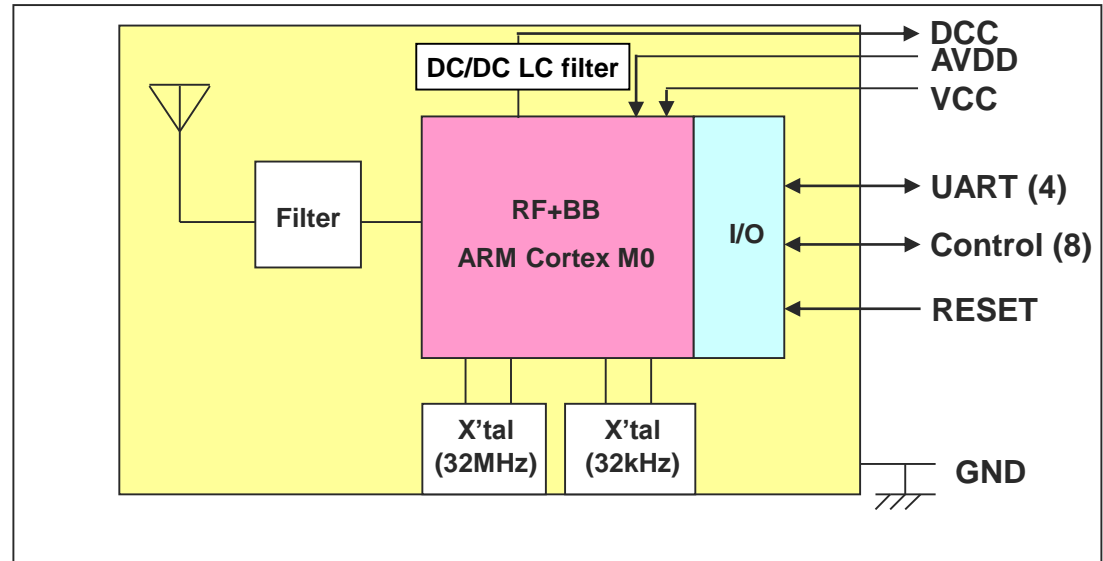
TAIYO YUDEN

Outline

Unit: mm



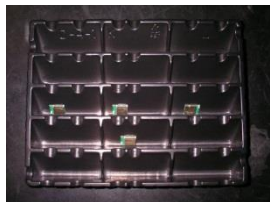
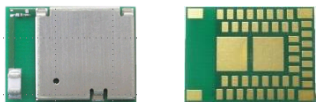
Block Diagram



Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSGCNAWY-VX (Module)

Module samples



Tray

or

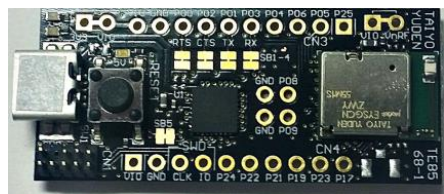


Tape



EBSGCNAWY-VX (EV-B)

Evaluation board



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

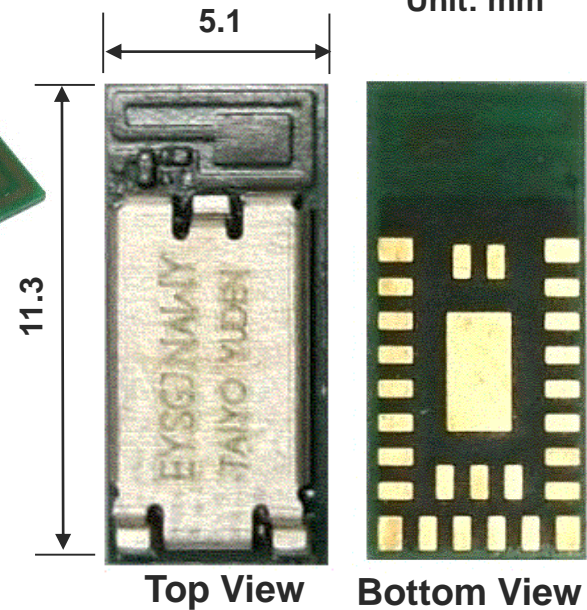
Features

- 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 1.3**mm 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

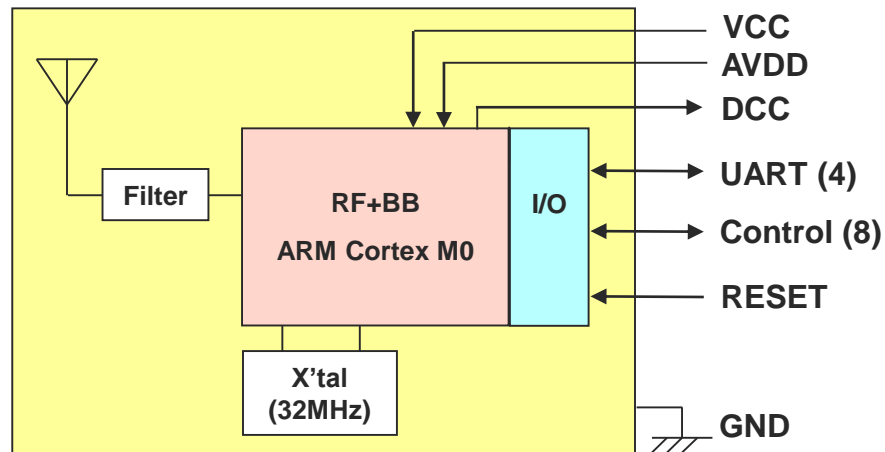
Applications

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

Outline



Block Diagram

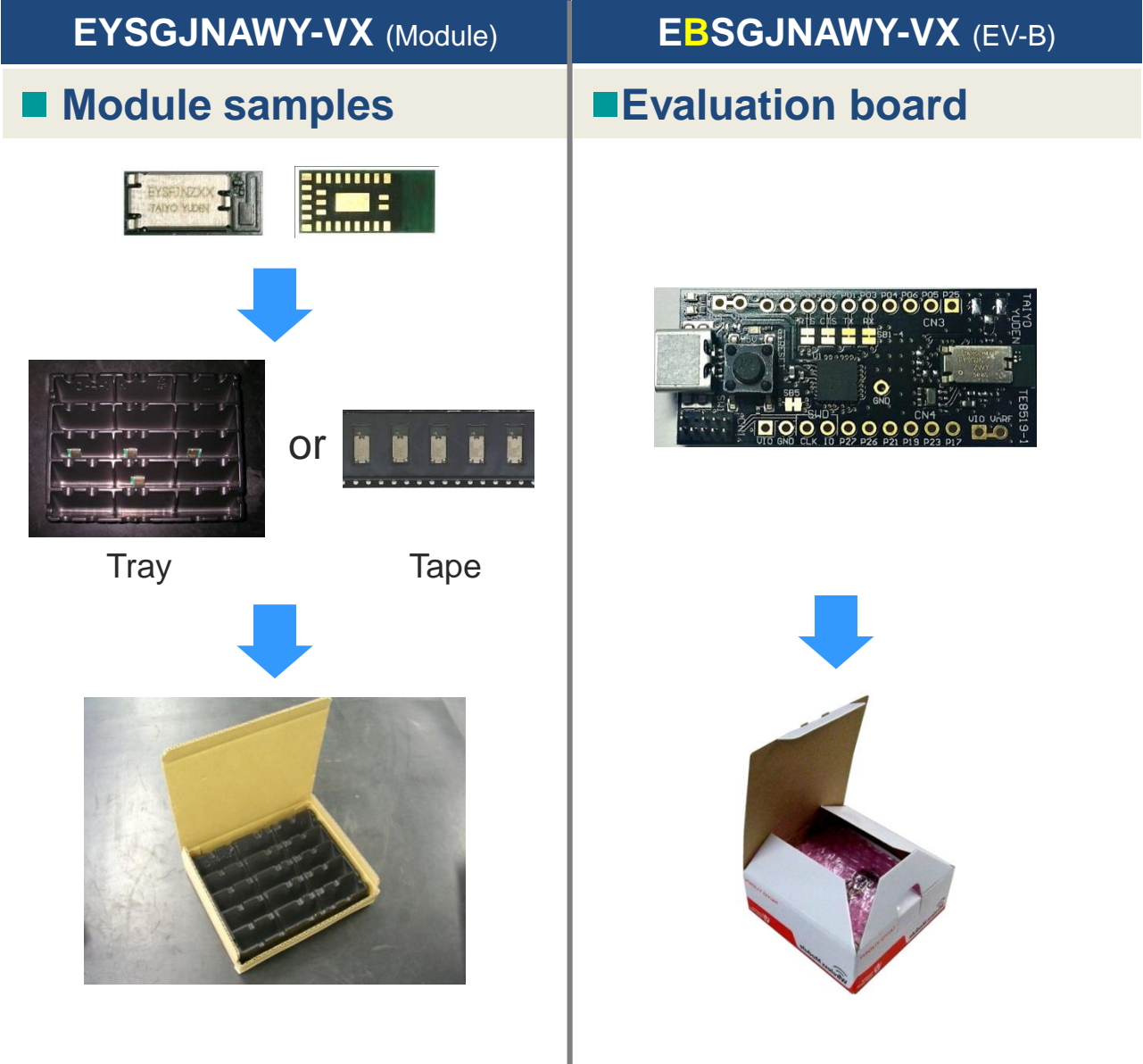


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Bluetooth® low energy Module Sample, Evaluation Board / Kit



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

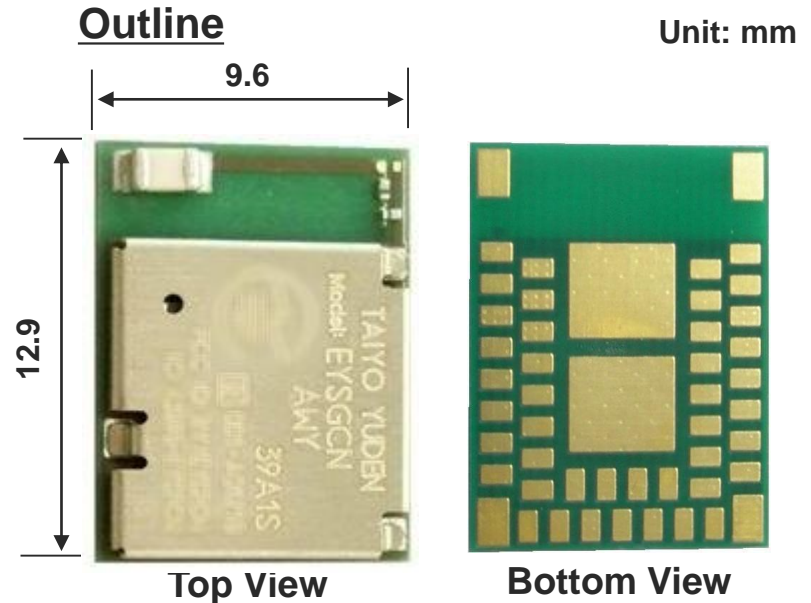
Applications

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

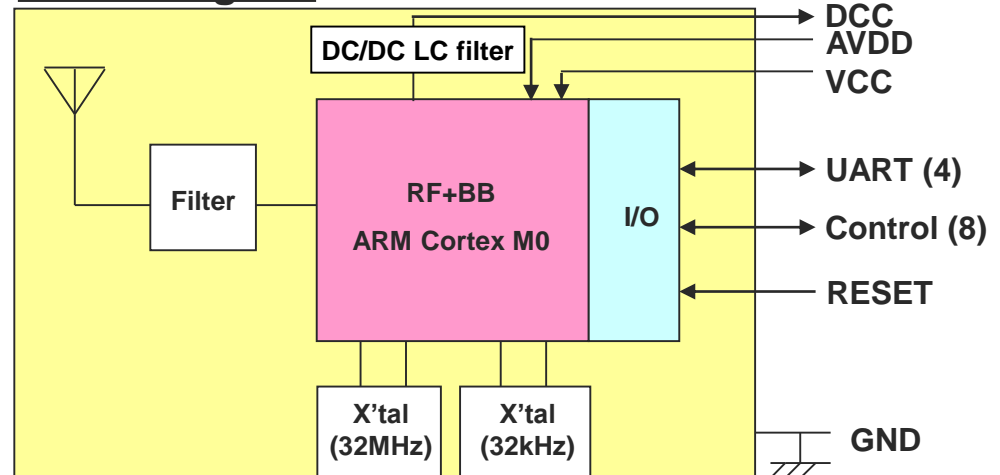
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TAIYO YUDEN



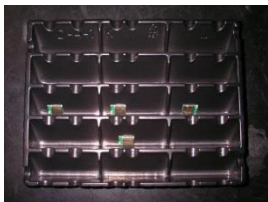
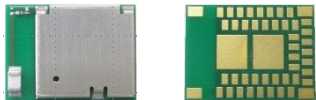
Block Diagram



Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSGCNAWY-WX (Module)

Module samples



Tray

or

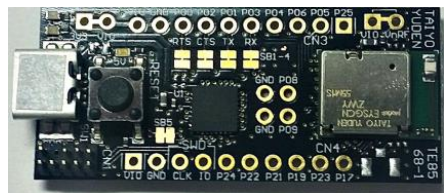


Tape



EBSGCNAWY-WX (EV-B)

Evaluation board

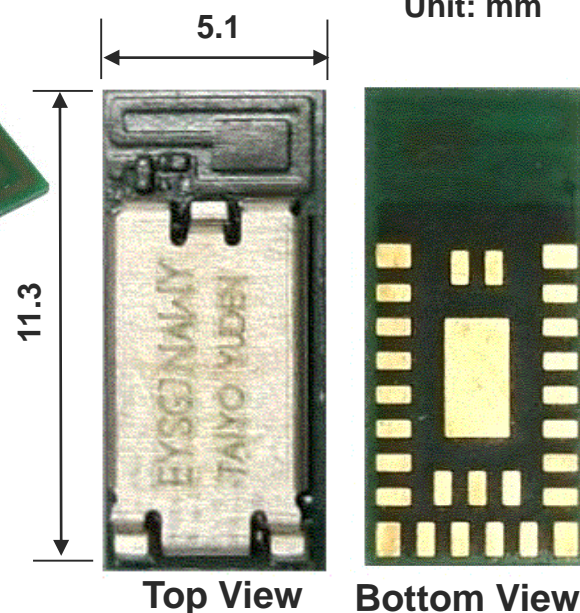
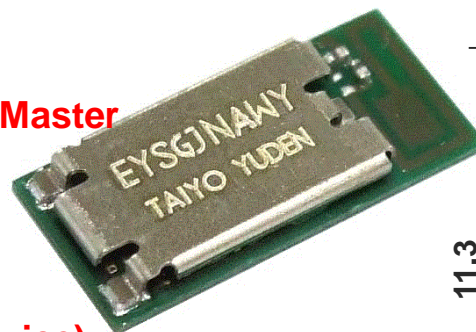


Bluetooth® low energy Module **EYSGJNAWY-WX**

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)**
- Interface: UART
- Integrated high performance pattern antenna
- Outline: **5.1 x 11.3 x 1.3**mm 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

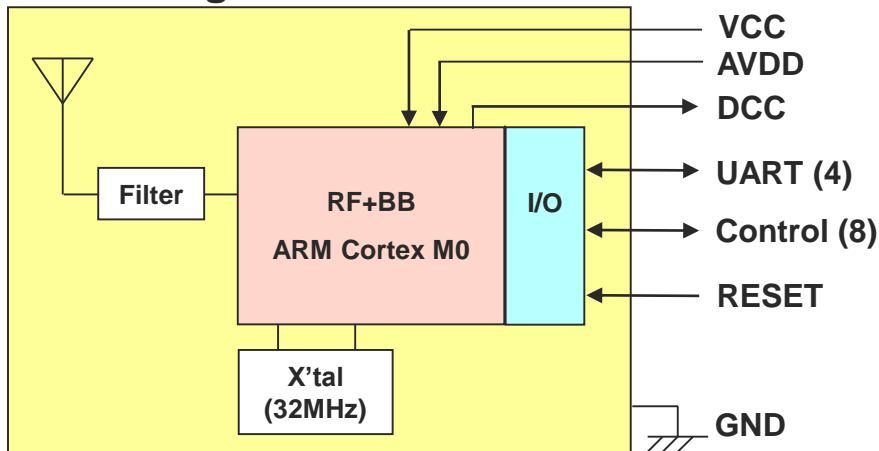
Outline



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.

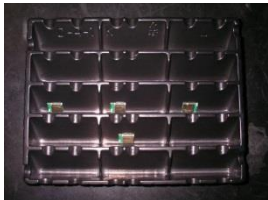
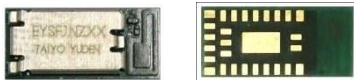
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TAIYO YUDEN

Bluetooth® low energy Module Sample, Evaluation Board / Kit

EYSGJNAWY-WX (Module)

Module samples



Tray

or

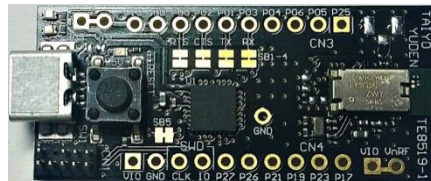


Tape

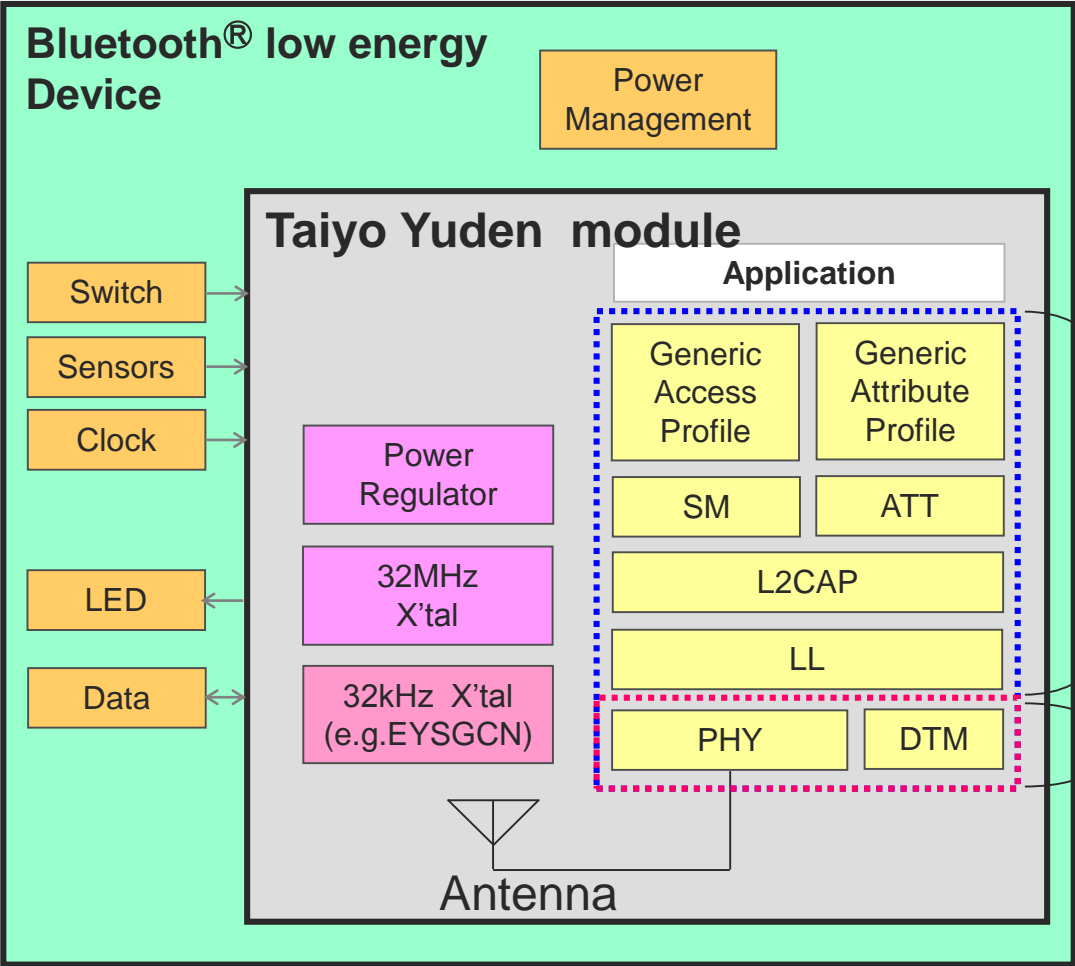


EBSGJNAWY-WX (EV-B)

Evaluation board



Application Layer image for Application Embedded Module



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

Bluetooth® low energy standard module

Type	Part No.	Size (LxWxH)	Specification	ANT™ Support	I/F	RAM (kB)	Certification	Temperature
High Performance Basic (Software Support : Nordic)	EYSKBNZWB	10.0x15.4x2.0mm	Bluetooth V5.0	✓	USB※3 UART SPI I2C I2S※4 PDM	256	Japan FCC IC (CE)※2	-40~+85 deg-C
	EYSHSNZWZ	3.25x8.55X0.85mm		✓		64		
	EYSLSNZWW	3.25x8.55X1.00mm		✓		24		
	EYSHCNZWZ	9.6x12.9X2.0mm		✓		64		
	EYSLCNZWW					24		
	EYSHJNZWZ	5.1x11.3X1.3mm		✓		64		
Basic (Software Support : Nordic)	EYSGCNZXX	9.6x12.9x2.0mm	Bluetooth V4.2※1		UART SPI I2C	16	Japan FCC IC (CE)※2	-40~+85 deg-C (EYSKBNUWB-WX, EYSGCNZXX, EYSGJNZXX)
	EYSGCNZWY					32		
	EYSGJNZXX	5.1x11.3x1.3mm				16		
	EYSGJNZWY					32		
	EYAGJNZXX			✓		32		
Application Embedded – Module (Software Support : TAIYO YUDEN)	EYSKBNUWB-WX	10.0x15.4x2.0mm	Bluetooth V5.0		UART, SPI USB	N/A	-25~+85 deg-C (other than the above)	
	EYSGCNAWY-VX	9.6x12.9x2.0mm	Bluetooth V4.2		UART			
	EYSGJNAWY-VX	5.1x11.3x1.3mm						

※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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