Cypress Roadmap:
Module Solutions

Q1 2019

Cypress Bluetooth Module Portfolio

Features →

Cost

CYBLE-416045-02
EZ-BLE Creator BT 5.0
PSoC 6 BLE
1MB Flash, 2Mbps BLE, 36 GPIOs
14 x 18.5 x 2.00 mm SMT

CYBT-413034-02
EZ-BT WICED BT 5.0 Dual Mode
CYW20719
1MB Flash, 2Mbps BLE
12 x 16.3 x 1.70 mm SMT
Mesh

CYBT-213043-02 Q319
EZ-BT WICED BT 5.0 Dual Mode
CYW20819
256KB Flash, 2Mbps BLE
12 x 16.61 x 1.70 mm SMT
Mesh

CYBT-343026-01
EZ-BT WICED BT 5.0 Dual Mode
CYW20706
512KB SFlash, 11 GPIOs, XR
12 x 15.5 x 1.95 mm SMT
Mesh · EZ-S

CYBLE-x120xx-0x
EZ-BLE Creator BT 4.1/4.2
PSoC 4 BLE
128/256KB Flash, 23 GPIOs
14 x 19 x 2.00 mm SMT
EZ-S

CYBLE-0130xx-00
EZ-BLE WICED BT 4.1
CYW20737
128KB/0KB SFlash, 16/18 GPIOs
14 x 19 x 2.25 mm SMT
EZ-S

Size

CYBT-423028-02
EZ-BT WICED BT 5.0 Dual Mode
CYW20719
1MB Flash, 2Mbps BLE
11 x 11 x 1.70 mm SMT
Mesh

CYBT-353027-02
EZ-BT WICED BT 5.0 Dual Mode
CYW20707
512KB SFlash[5], XR
9 x 9 x 1.75 mm SMT
Mesh · EZ-S

CYBLE-x140xx-0x
EZ-BLE Creator BT 4.1/4.2
PSoC 4 BLE, 128/256KB Flash,
Opamp, CMP, 4 UDBs, 25 GPIOs
11 x 11 x 1.70 mm SMT
EZ-S

CYBLE-x220xx-0x
EZ-BLE Creator BT 4.1/4.2
PSoC 4 BLE
128/256KB Flash, 16 GPIOs
10 x 10 x 1.80 mm SMT
EZ-S

External Antenna

CYBT-333032-02 Q219
EZ-BT WICED BT 5.0 Dual Mode
CYW20706
512KB SFlash, LMA[3], XR
Ext. Antenna via RF Pad
12 x 12 x 1.95 mm SMT
Mesh · EZ-S

CYBT-333047-02 Q219
EZ-BT WICED BT 5.0 Dual Mode
CYW20706
512KB SFlash, LMA, XR
Ext. Antenna via u.FL
12 x 12 x 1.95 mm SMT
Mesh · EZ-S

CYBLE-202007-01
EZ-BLE Creator BT 4.2
PSoC 4 BLE, 256 KB Flash, PA/LNA,
XR , Ext. Antenna via u.FL, 19 GPIOs
15 x 23 x 2.05 mm SMT
EZ-S

CYBLE-202013-11
EZ-BLE Creator BT 4.2
PSoC 4 BLE,
256 KB Flash, PA/LNA, NS[8], NC[9], XR,
Ext. Antenna via RF Pad, 19 GPIOs
15 x 23 x 1.55 mm SMT
EZ-S

XR[1]

CYBT-483039-02
EZ-BT WICED BT 5.0 Dual Mode
CYW20719
1MB Flash, 2Mbps BLE, PA/LNA[4] , XR
12.75 x 18.59 x 1.80 mm SMT
Mesh

CYBLE-212006-01
EZ-BLE Creator BT 4.2
PSoC 4 BLE
256 KB Flash, PA/LNA, XR
PCB Antenna, 19 GPIOs
15 x 23 x 2.00 mm SMT
EZ-S

CYBT-343052-02 Q219
EZ-BT WICED BT 5.0 Dual Mode
CYW20735
512KB SFlash, 24 GPIOs, XR,
Analog MIC interface
12 x 15.5 x 1.95 mm SMT
Mesh

XT[2]/XR

CYBT-343151-02
EZ-BT WICED BT 5.0 Dual Mode
CYW20706
512KB SFlash, 11 GPIOs, XR
12 x 15.5 x 1.95 mm SMT
Mesh · EZ-S

CYBLE-22411x-0x
EZ-BLE Creator BT 4.1/4.2
PSoC4-BLE,
256 KB Flash, PA/LNA, XR
Opamp, CMP[6], 4 UDB[7], 25 GPIOs
9.5 x 15.4 x 1.80 mm SMT
EZ-S

EZ-BLE/BT modules are pre-programmed with Cypress' EZ-Serial Firmware Platform

EZ-BLE Creator Standard Features:
CapSense, 1MSPS ADC, LCD Driver,
4 TCPWM[10], DAC, 2SCB[11]

EZ-BT/BLE WICED Standard Features:
Simultaneous Master/Slave,
ADC, PWM, UART

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[1] Extended range power
[2] Extended temperature
[3] Limited modular approval
[4] Power amplifier/Low-noise amplifier
[5] Serial flash
[6] Comparator
[7] Universal digital block
[8] No shield
[9] No certifications
[10] Timer/counter/pulse-width modulator
[11] Serial communication block

Mesh — Bluetooth SIG Mesh Qualified
EZ-S — Pre-programmed with EZ-Serial Firmware

Concept · Development · Sampling · Production
Status
Availability QQYY · QQYY

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EZ-BLE™ Creator Modules CYBLE-x220xx-0x

Space-Optimized Bluetooth Low-Energy (BLE) Modules

Applications

Connectivity, medical, industrial, PC accessories, toys, and smartphone accessories
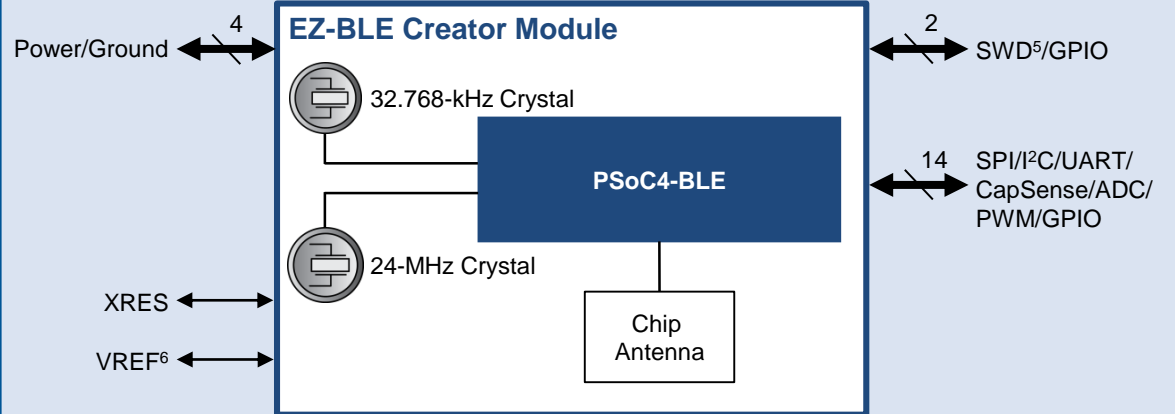
Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, KC[2], MIC[3], and ISED[4]
- **Small Footprint**
  - 10 mm x 10 mm x 1.8 mm, 21/22-pad SMT with 16 GPIOs
- **Bluetooth Smart Connectivity with BLE 4.1 and 4.2**
  - 2.4-GHz BLE radio and baseband
  - -91-dBm Rx sensitivity, +3-dBm Tx output power
- **1.3-µA Deep Sleep, 150-nA Hibernate, 60-nA Stop Power Modes**
- **Highly Integrated Solution**
  - Two crystals, chip antenna, passives, shield
  - 128KB and 256KB flash sizes
  - Preprogrammed with EZ-Serial firmware
- **CYBLE-x220xx-EVAL Evaluation Board Interface**
  - Easy interface to CY8CKIT-042-BLE Pioneer Kit
  - Enables testing of CapSense®, buttons, GPIOs, over-the-air (OTA)

Availability

Sampling (4.1/128KB, 4.1/256KB, 4.2):   Now

Production (4.1/128KB, 4.1/256KB, 4.2):   Now

EZ-BLE Creator Module Family: CYBLE-x220xx-0x

Power/Ground ← 4 → EZ-BLE Creator Module
32.768-kHz Crystal
PSoC4-BLE
24-MHz Crystal
XRES
VREF[6]
Chip Antenna
2 → SWD[5]/GPIO
14 → SPI/I2C/UART/CapSense/ADC/PWM/GPIO

Collateral

Datasheets

CYBLE-022001-00 Datasheet

CYBLE-222005-00 Datasheet

CYBLE-222014-01 (BT 4.2) Datasheet

BLE Silicon Datasheet

App Notes/Evaluation Kit User Guides

Getting Started With EZ-BLE™ Module (AN96841)

PSoC Creator

PSoC Programmer

CySmart[7] Windows Host Emulation Tool

CySmart iOS and Android Apps

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[1] Bluetooth Special Interest Group Qualification Design ID
[2] Korea certification
[3] Ministry of Internal Affairs and Communications (Japan)
[4] Innovation, Science and Economic Development Canada
[5] Serial wire debug communication protocol
[6] VREF only available on 256KB module
[7] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

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EZ-BLE Creator Modules CYBLE-x140xx-0x
BLE Modules Designed to Maximize System Integration with Integrated Analog Functionality

Applications

Sports and fitness monitors, medical devices, wearable, electronics, home automation solutions, and game controllers

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, KC[2], MIC[3], and ISED[4]
- **Small Footprint**
  - 11 mm x 11 mm x 1.8 mm, 32-SMT, 25 GPIOs
- **Bluetooth Smart Connectivity with Bluetooth 4.1 and 4.2**
- **Highly Integrated Solution**
  - Two crystals, trace antenna, passives, shield
  - 128KB and 256KB flash sizes, with over-the-air (OTA) firmware upgrades
  - Preprogrammed with EZ-Serial firmware
- **Programmable Analog Blocks**
  - Four opamps and one 12-bit, 1-Msps SAR[5] ADC
- **Programmable Digital Blocks**
  - Four universal digital blocks (UDBs): custom digital peripherals
  - Four configurable TCPWM[6] blocks: 16-bit timer, counter, or PWM
  - Two configurable serial communication blocks for I^2C/SPI/UART
- **1.3-µA Deep Sleep, 150-nA Hibernate, 60-nA Stop Power Modes**
- **CYBLE-x140xx-EVAL Kit for Fast Evaluation and Development**

Availability

Sampling (4.1/128KB, 4.1/256KB, 4.2):   Now

Production (4.1/128KB, 4.1/256KB, 4.2):   Now

EZ-BLE Creator Module Family: CYBLE-x140xx-0x

Power/Ground ← 5 → **EZ-BLE Creator Module**

32.768-kHz Crystal

PSoC4-BLE

2 → SWD[7]/GPIO

23 → Analog and Digital GPIOs

XRES ←→   24-MHz Crystal

VREF ←→   Trace Antenna

Collateral

Datasheets

CYBLE-014008-00 Datasheet

CYBLE-214009-00 Datasheet

CYBLE-214015-01 (BT 4.2) Datasheet

BLE Silicon Datasheet

App Notes/Evaluation Kit User Guides

Getting Started With EZ-BLE™ Module (AN96841)

PSoC Creator

PSoC Programmer

CySmart[8] Windows Host Emulation Tool

CySmart iOS and Android Apps

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Korea Certification
[3] Ministry of Internal Affairs and Communications (Japan)
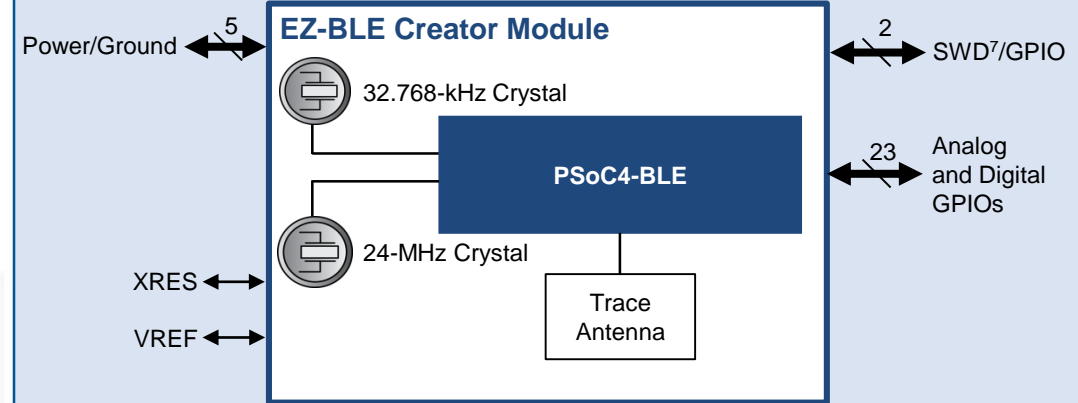[4] Innovation, Science and Economic Development Canada
[5] Successive approximation register
[6] Timer/counter/pulse-width modulator
[7] Serial wire debug communication protocol
[8] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

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EZ-BLE Creator Modules CYBLE-x120xx-xx
Cost-Optimized Bluetooth Low-Energy (BLE) Modules

Applications

Connectivity, medical, industrial, PC accessories, toys, and smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1] (CYBLE-012011-00/CYBLE-212019-00), FCC, CE, KC[2], MIC[3], and ISED[4]
- **Small Footprint**
  - 14.5 mm x 19.2 mm x 2.0 mm, 31-pad SMT with 23 GPIO
- **Bluetooth Smart Connectivity with Bluetooth 4.1 and 4.2**
  - 2.4-GHz BLE radio and baseband
  - -91-dBm Rx sensitivity, +3-dBm Tx output power
- **Power Modes**
  - 1.3-µA Deep Sleep, 150-nA Hibernate, and 60-nA Stop
- **Highly Integrated Solution**
  - Two crystals, trace antenna, passives, shield[5]
  - Preprogrammed with EZ-Serial firmware
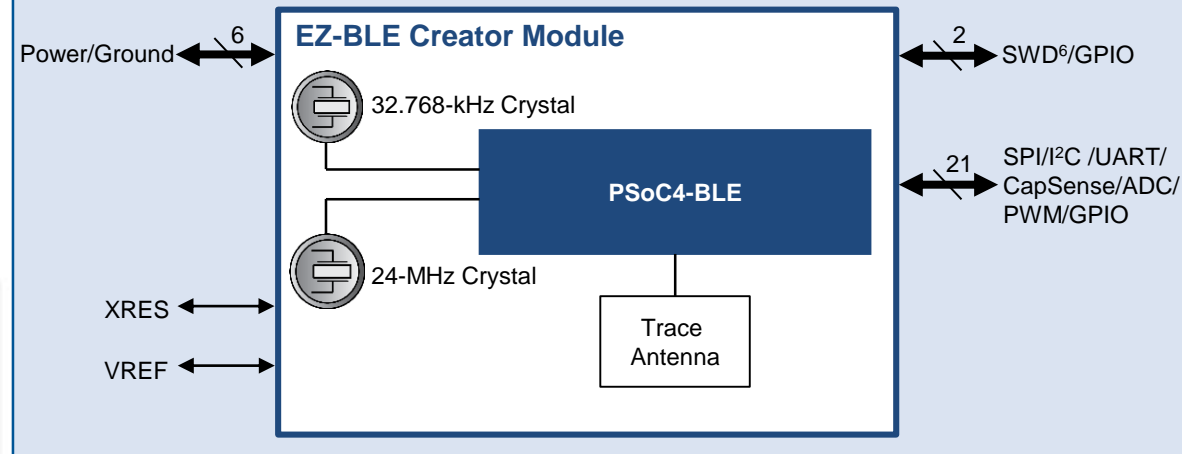- **CYBLE-x120xx-EVAL Adapter Board Interface**
  - Easy interface to CY8CKIT-042-BLE Pioneer Kit
  - Enables testing of CapSense, buttons, GPIOs, over-the-air (OTA)

Availability

Sampling (4.1/128KB, 4.1/256KB, 4.2):   Now
Production (4.1/128KB, 4.1/256KB, 4.2): Now

EZ-BLE Creator Module Family: CYBLE-x120xx-xx

EZ-BLE Creator Module

- Power/Ground — 6
- 32.768-kHz Crystal
- 24-MHz Crystal
- PSoC4-BLE
- XRES
- VREF
- Trace Antenna
- SWD[6]/GPIO — 2
- SPI/I2C /UART/ CapSense/ADC/ PWM/GPIO — 21

Collateral

Datasheets

[CYBLE-012011-00 Datasheet](#)
[CYBLE-212019-00 Datasheet](#)
[CYBLE-212020-01 (BT 4.2) Datasheet](#)
[BLE Silicon Datasheet](#)

App Notes/Evaluation Kit User Guides

Getting Started With EZ-BLE™ Module (AN96841)
[PSoC Creator](#)
[PSoC Programmer](#)
[CySmart[7] Windows Host Emulation Tool](#)
[CySmart iOS and Android Apps](#)

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Korea Certification
[3] Ministry of Internal Affairs and Communications (Japan)
[4] Innovation, Science and Economic Development Canada
[5] CYBLE-0120012-10 does not include metal shield
[6] Serial wire debug communication protocol
[7] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

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EZ-BLE Creator XR[1] Modules CYBLE-2x20xx-x1
Cost-Optimized Bluetooth Smart Ready WICED Modules Supporting External Antenna

Applications

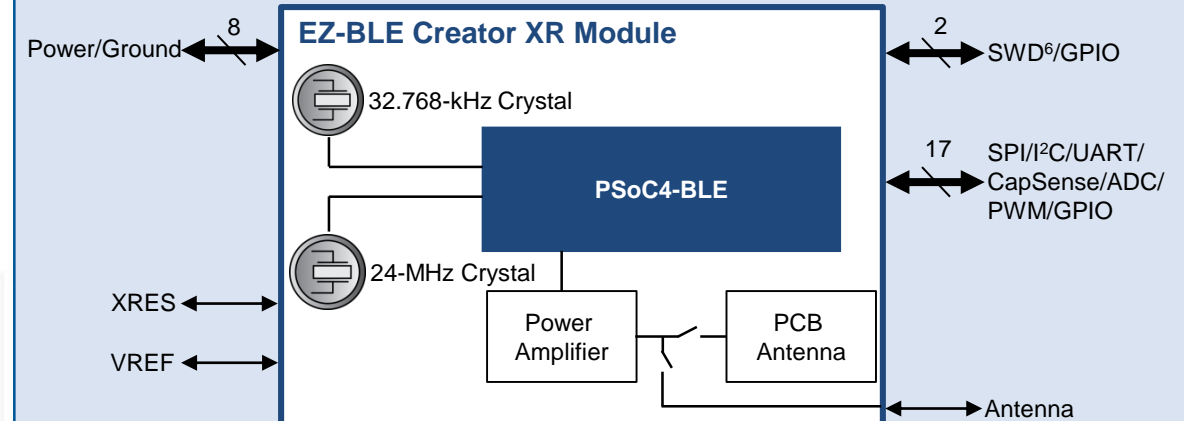BLE connectivity, lighting, industrial, and medical

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[2], FCC, CE, MIC[3], KC[4], and ISED[5]
- **Small Footprint**
  - 15.0 mm x 23.0 mm x 2.0 mm, 30-pad SMT with 19 GPIOs
- **Bluetooth Smart Connectivity with Bluetooth 4.2**
  - 2.4-GHz BLE radio and baseband
- **Industrial Temperature Range**
  - Operating temperature range from -40°C to +85°C
- **Long Range**
  - +7.5-dBm Tx output power, 400 meters line-of-sight range
  - -93-dBm Rx sensitivity
- **Highly Integrated Solution**
  - Two crystals, trace antenna (optional), power amplifier, passives
  - Preprogrammed with EZ-Serial firmware
- **CYBLE-2x20xx-EVAL Adapter Board Interface**
  - Easy interface to CY8CKIT-042-BLE Pioneer Kit
  - Enables testing of CapSense, buttons, GPIOs, over-the-air (OTA)

Availability

Sampling: Now
Production: Now

EZ-BLE Creator Module Family: CYBLE-2x20xx-x1

EZ-BLE Creator XR Module

Power/Ground — 8 —
SWD[6]/GPIO — 2 —
32.768-kHz Crystal
PSoC4-BLE
SPI/I²C/UART/ CapSense/ADC/ PWM/GPIO — 17 —
24-MHz Crystal
XRES
VREF
Power Amplifier
PCB Antenna
Antenna

Collateral

Datasheets

CYBLE-2x20xx-x1 (BT 4.2) Datasheet

BLE Silicon Datasheet

App Notes/Evaluation Kit User Guides

Getting Started With EZ-BLE™ Module (AN96841)

PSoC Creator

PSoC Programmer

CySmart[7] Windows Host Emulation Tool

CySmart iOS and Android Apps

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[1] Extended range
[2] Bluetooth Special Interest Group Qualification Design ID
[3] Ministry of Internal Affairs and Communications (Japan)
[4] Korea Certification
[5] Innovation, Science and Economic Development Canada
[6] Serial wire debug communication protocol
[7] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

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EZ-BLE Creator XT/XR1 Modules CYBLE-22411x-0x
Long-Range Bluetooth Low-Energy (BLE) Modules Supporting Extended Temperatures

Applications

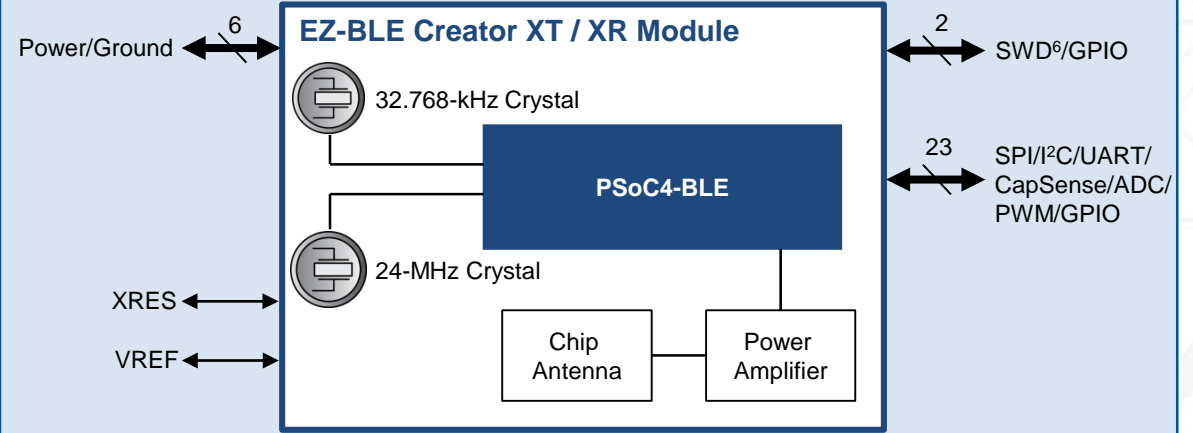Connectivity, lighting, industrial, and medical

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[2], FCC, CE, MIC[3], KC[4], and ISED[5]
- **Small Footprint**
  - 9.5 mm x 15.4 mm x 1.8 mm, 32-pad SMT with 25 GPIOs
- **Bluetooth Smart Connectivity with Bluetooth 4.1 and 4.2**
  - 2.4-GHz BLE radio and baseband
- **Extended Industrial Temperature Range**
  - Operating temperature range from -40°C to +105°C
- **Long Range**
  - +9.5-dBm Tx output power, 400 meters line-of-sight range
  - -95-dBm Rx sensitivity
- **Highly Integrated Solution**
  - Two crystals, trace antenna, power amplifier, passives, shield
  - Preprogrammed with EZ-Serial firmware
- **CYBLE-22411x-EVAL Adapter Board Interface**
  - Easy interface to CY8CKIT-042-BLE Pioneer Kit
  - Enables testing of CapSense, buttons, GPIOs, over-the-air (OTA)

Availability

Sampling (4.1/128KB, 4.2/256KB):   Now
Production (4.1/128KB, 4.2/256KB):   Now

EZ-BLE Creator Module Family: CYBLE-22411x-0x

Collateral

Datasheet
[CYBLE-224110-00 Datasheet](#)
[BLE Silicon Datasheet](#)
[CYBLE-224116-01 (BT 4.2) Datasheet](#)

App Notes/Evaluation Kit User Guides
Getting Started With EZ-BLE™ Module (AN96841)
[PSoC Creator](#)
[PSoC Programmer](#)
[CySmart[7] Windows Host Emulation Tool](#)
[CySmart iOS and Android Apps](#)

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[1] Extended temperature/extended range
[2] Bluetooth Special Interest Group Qualification Design ID
[3] Ministry of Internal Affairs and Communications (Japan)
[4] Korea Certification
[5] Innovation, Science and Economic Development Canada
[6] Serial wire debug communication protocol
[7] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

EZ-BLE Creator Modules CYBLE-416045-02

Ultra-Low-Power Bluetooth Low-Energy (BLE) Module

Applications

BLE connectivity, lighting, industrial, and medical

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 14.0 mm x 18.5 mm x 2.0 mm, 43-pad SMT with 36 GPIOs
- **Bluetooth Smart Connectivity with Bluetooth 5.0**
  - 2.4-GHz BLE radio and baseband
  - +4.0-dBm Tx output power, -95-dBm Rx sensitivity
- **Industrial Temperature Range**
  - Operating temperature range from -40°C to +85°C
- **Power Modes**
  - 5.7-mA TX (0 dBm) and 6.7-mA RX (2 Mbps) current with 3.3-V battery and internal SIMO Buck converter
  - Deep Sleep mode current with 64K SRAM retention is 7 µA with 3.3-V external supply and internal buck
  - On-chip Single-In Multiple Out (SIMO) DC-DC Buck converter, <1 µA quiescent current
- **Highly Integrated Solution**
  - One crystal, trace antenna, passives

Availability

Sampling: Now
Production: Now

EZ-BLE Creator Module Family: CYBLE-416045-02

EZ-BLE Creator Module block diagram: Power/Ground (5), PSoC6-BLE, 32-MHz Crystal, XRES, VREF, PCB Antenna, 36 SPI/I²C/UART/CapSense/ADC/SWD[4]/PWM/GPIO

Collateral

Datasheets
CYBLE-416045-02 Datasheet
BLE Silicon, PSoC 6 MCU: PSoC 63 with BLE Datasheet

App Notes/Evaluation Kit User Guides
Getting Started With EZ-BLE™ Module (AN96841)
PSoC Creator
PSoC Programmer
CySmart[6] Windows Host Emulation Tool
CySmart iOS and Android Apps

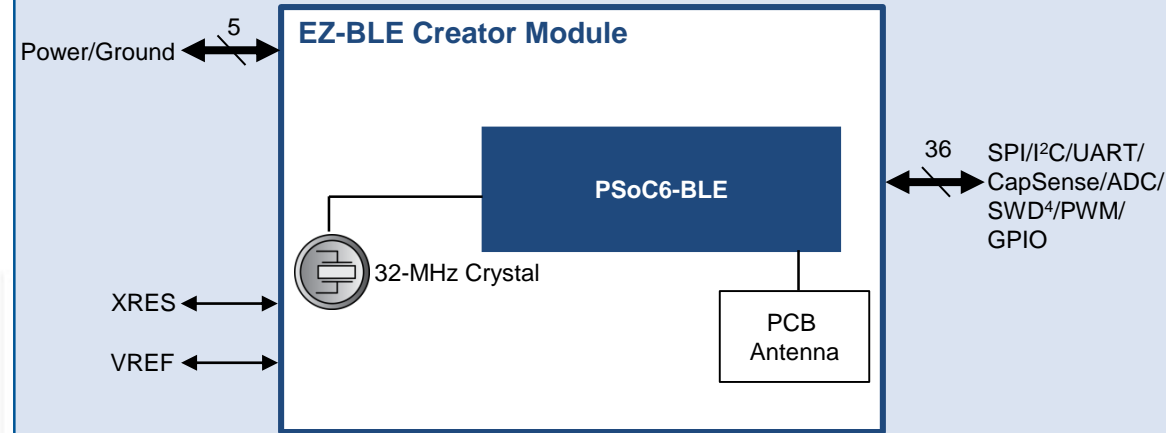[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

[4] Serial wire debug communication protocol
[5] A GUI-based software tool that installs on your PC to test and debug BLE functionality; also available in iOS and Android mobile applications

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EZ-BLE WICED Modules CYBLE-0130xx-00
Cost-Optimized Bluetooth Low-Energy (BLE) WICED Modules

Applications

Connectivity, medical, industrial, PC accessories, toys, and smartphone accessories
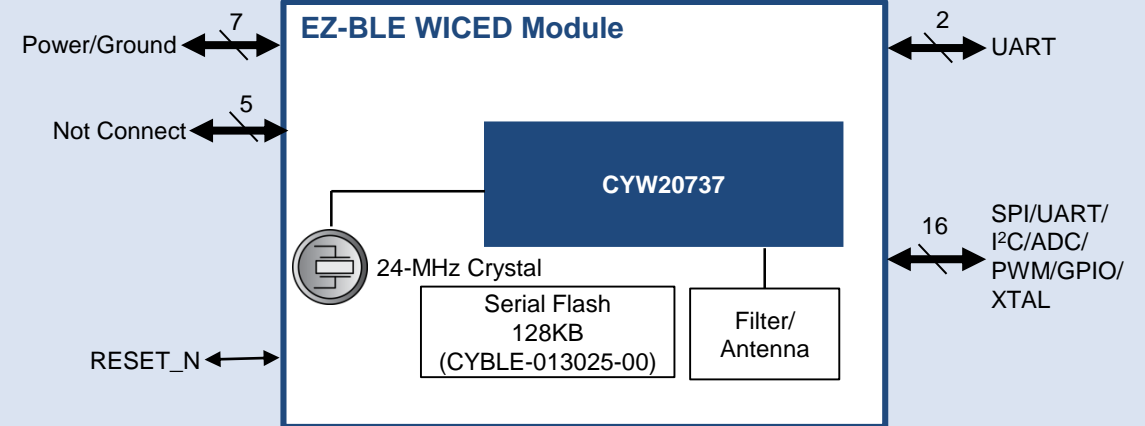
Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 14.5 mm x 19.2 mm x 2.0 mm, 31-pad SMT with 16/18 GPIO
- **Bluetooth Smart Connectivity with Bluetooth 4.1**
  - 2.4-GHz BLE radio and baseband
  - -93-dBm Rx sensitivity, +4-dBm Tx output power
- **Highly Integrated Solution**
  - One crystal, 128KB flash (CYBLE-013025-00), PCB antenna, shield
  - Simultaneous multiple Master and Slave (1M, 3S)
  - Security engine
  - Secure over-the-air (OTA) firmware upgrade (CYBLE-013025-00)
  - Preprogrammed with EZ-Serial firmware
- **CYBLE-013025-EVAL Arduino Evaluation Board**

Availability

Sampling: Now
Production: Now

EZ-BLE WICED Module Family: CYBLE-0130xx-00

EZ-BLE WICED Module — CYW20737, 24-MHz Crystal, Serial Flash 128KB (CYBLE-013025-00), Filter/Antenna. Power/Ground 7, Not Connect 5, RESET_N, UART 2, SPI/UART/I²C/ADC/PWM/GPIO/XTAL 16

Collateral

Datasheets
CYBLE-0130xx-00 Datasheet

Evaluation Kit User Guide
CYBLE-013025-EVAL Evaluation Board
WICED SMART SDK（Software)
WICED SMART SDK 2.x (Quick Start Guide)

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module CYBT-343026-01
Cost-Optimized Bluetooth Smart Ready WICED Modules

Applications

Bluetooth audio, POS, medical, industrial, PC accessories, toys, and smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12.0 mm x 15.5 mm x 1.95 mm, 24-pad SMT with 11 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -93.5-dBm Rx sensitivity, +12-dBm Tx output power
  - BLE: -96.5-dBm Rx Sensitivity, +9-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 512KB flash, PCB antenna
  - Two-wire Global Coexistence Interface (GCI)
  - PCM/I²S audio interface with wideband speech support
  - Simultaneous multiple Master and Slave
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

Availability

Sampling: Now
Production: Now

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module Family: CYBT-343026-01

EZ-BT WICED Module

Power/Ground — 4 — CYW20706 — 4 — SPI2
XRES — 4 — UART
24-MHz Crystal
Serial flash 512 KB
Filter / Antenna
11 — SPI/PUART/I²C ADC/PWM/PCM/ GPIO/GCI/XTAL

Collateral

Datasheets
CYBT-343026-01 Datasheet

Evaluation Kit User Guide
CYBT-343026-EVAL Evaluation Board
WICED Studio

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EZ-BT WICED Module CYBT-3330xx-02
Cost-Optimized Bluetooth Smart Ready WICED Modules Supporting External Antenna

Applications

Bluetooth audio, POS, medical, industrial, PC accessories, toys, and smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12.0 mm x 15.5 mm x 1.95 mm, 24-pad SMT with 11 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -93.5-dBm Rx sensitivity, +12-dBm Tx output power
  - BLE: -96.5-dBm Rx Sensitivity, +9-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 512KB flash, PCB antenna
  - Two-wire Global Coexistence Interface (GCI)
  - PCM/I²S audio interface with wideband speech support
  - Simultaneous multiple Master and Slave
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware
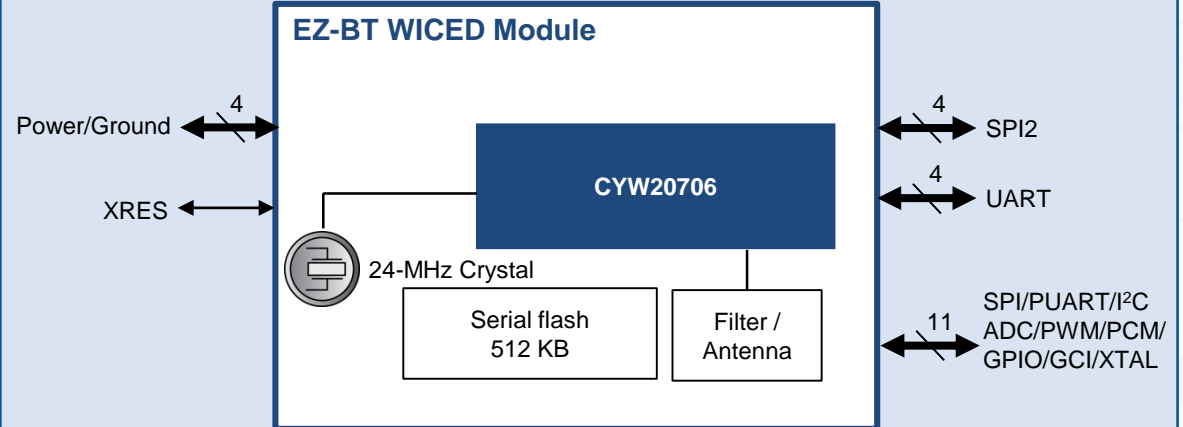
Availability

Sampling: Now
Production: Q2 2019

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module Family: CYBT-3330xx-02

EZ-BT WICED Module — block diagram showing CYW20706, 24-MHz Crystal, Serial flash 512 KB, Filter; Power/Ground (4), XRES, SPI2 (4), UART (4), SPI/PUART/I²C ADC/PWM/PCM/GPIO/GCI/XTAL (11), Antenna

Collateral

Datasheets
CYBT-333032-01 Datasheet
CYBT-333047-01 Datasheet
Evaluation Kit User Guide
CYBT-343047-EVAL Evaluation Board
WICED Studio

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EZ-BT WICED Module CYBT-343151-02

Cost-Optimized Bluetooth Smart Ready WICED Modules Supporting Extended Temperatures

Applications

Connectivity, lighting, industrial, and medical

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12.0 mm x 15.5 mm x 1.95 mm, 24-pad SMT with 11 GPIOs
  - Drop-in compatible with CYBT-343026-01
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -93.5-dBm Rx sensitivity, +12-dBm Tx output power
  - BLE: -96.5-dBm Rx Sensitivity, +9-dBm Tx output power
- **Extended Industrial Temperature Range**
  - Operating temperature range from -40°C to +105°C
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 512KB flash, PCB antenna
  - Two-wire Global Coexistence Interface (GCI)
  - PCM/I²S audio interface with wideband speech support
  - Simultaneous multiple Master and Slave
  - Secure over-the-air (OTA) firmware upgrade
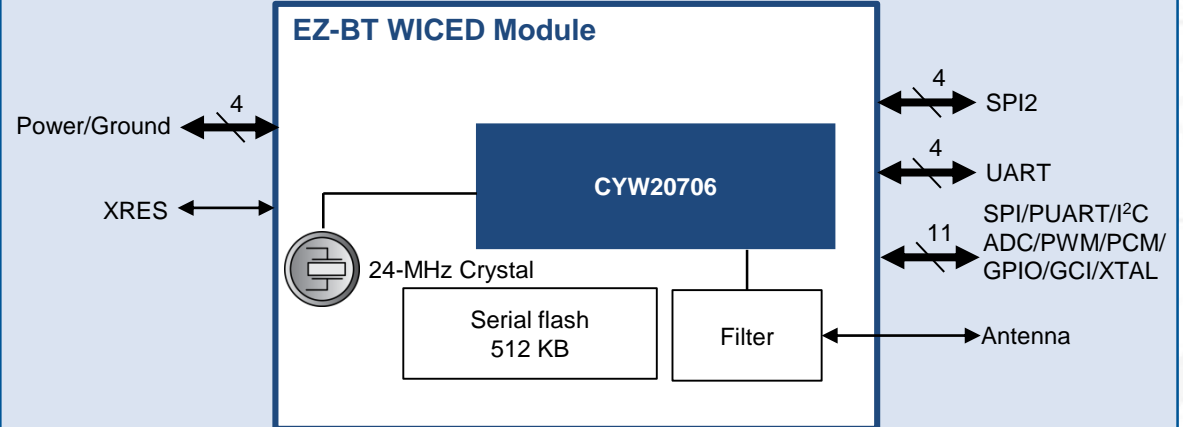 - Preprogrammed with EZ-Serial firmware

Availability

Sampling: Now
Production: Now

EZ-BT WICED Module Family: CYBT-343151-02

EZ-BT WICED Module

Power/Ground — 4 — CYW20706 — 4 — SPI2
XRES — 4 — UART
24-MHz Crystal
Serial flash 512 KB — Filter / Antenna — 11 — SPI/PUART/I²C ADC/PWM/PCM/ GPIO/GCI/XTAL

Collateral

Datasheets
CYBT-343151-02 Datasheet

Evaluation Kit User Guide
CYBT-343026-EVAL Evaluation Board
WICED Studio

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module CYBT-353027-02
Size-Optimized Bluetooth 5.0 WICED Module

Applications

Bluetooth speaker, POS, medical, industrial, PC accessories, toys, and smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 9 mm x 9 mm x 1.75 mm, 19-pad SMT with 8 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -93.5-dBm Rx sensitivity, +12-dBm Tx output power
  - BLE: -96.5-dBm Rx sensitivity, +9-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 512KB flash, chip antenna
  - Two-wire Global Coexistence Interface (GCI)
  - PCM/I²S audio interface with wideband speech support
  - Simultaneous multiple Master and Slave
  - Secure over-the-air (OTA) firmware upgrade
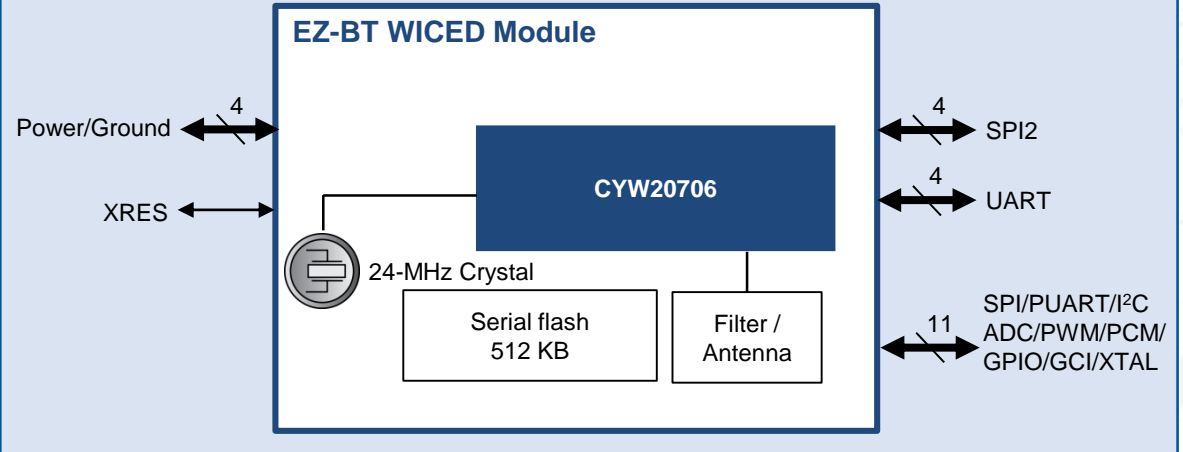 - Preprogrammed with EZ-Serial firmware

Availability

Sampling: Now
Production: Now

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module Family: CYBT-353027-02

EZ-BT WICED Module

- Power/Ground — 4
- XRES
- SPI2_CS_N
- 24-MHz Crystal
- CYW20707
- Serial flash 512 KB
- Filter / Antenna
- HCI_UART — 4
- CLK_REQ
- SPI/PUART/I²C ADC/PWM/PCM/ GPIO/GCI/XTAL — 8

Collateral

Datasheets
CYBT-353027-02 Datasheet

Evaluation Kit User Guide
CYBT-353027-EVAL Board
WICED Studio

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EZ-BT WICED Module CYBT-423028-02
Ultra-Low-Power Size-Optimized Bluetooth 5.0 WICED Module

Applications

Bluetooth audio, mesh, sensor hubs, POS, medical, industrial, toys, and PC/smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 11 mm x 11 mm x 1.70 mm, 28-pad SMT with 17 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -92.0-dBm Rx sensitivity, 0-dBm Tx output power
  - BLE: -95.5-dBm Rx sensitivity, 4-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 1MB flash, chip antenna
  - Two-wire Global Coexistence Interface (GCI)
  - Simultaneous multiple Master and Slave
  - PCM/I²S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware (Q4 2019)

Availability

Sampling: Now
Production: Now

EZ-BT WICED Module Family: CYBT-423028-02

EZ-BT WICED Module

- Power/Ground — 4 — [CYW20719]
- XRES
- 24-MHz Crystal
- XTALO_32K — Filter / Antenna
- HCI_UART — 4
- HOST_WAKE
- SPI/PUART/I²C ADC/PWM/PCM/ GPIO/GCI/XTAL — 17

Collateral

Datasheets
CYBT-423028-02 Datasheet

Evaluation Kit User Guide
CYBT-423028-EVAL Board
WICED Studio
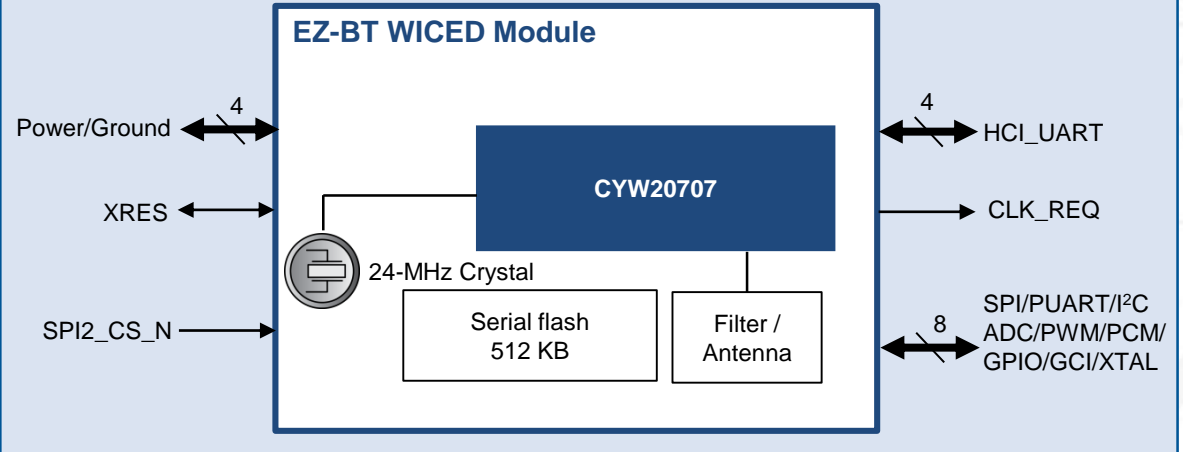

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module CYBT-413034-02
Ultra-Low-Power Cost-Optimized Bluetooth 5.0 WICED Module

Applications

Bluetooth audio, mesh, sensor hubs, POS, medical, industrial, toys, and PC/smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12 mm x 16.3 mm x 1.70 mm, 30-pad SMT with 17 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -92.0-dBm Rx sensitivity, 0-dBm Tx output power
  - BLE: -95.5-dBm Rx sensitivity, 4-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 1MB flash, PCB antenna
  - Two-wire Global Coexistence Interface (GCI)
  - Simultaneous multiple Master and Slave
  - PCM/I²S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware (Q4 2019)

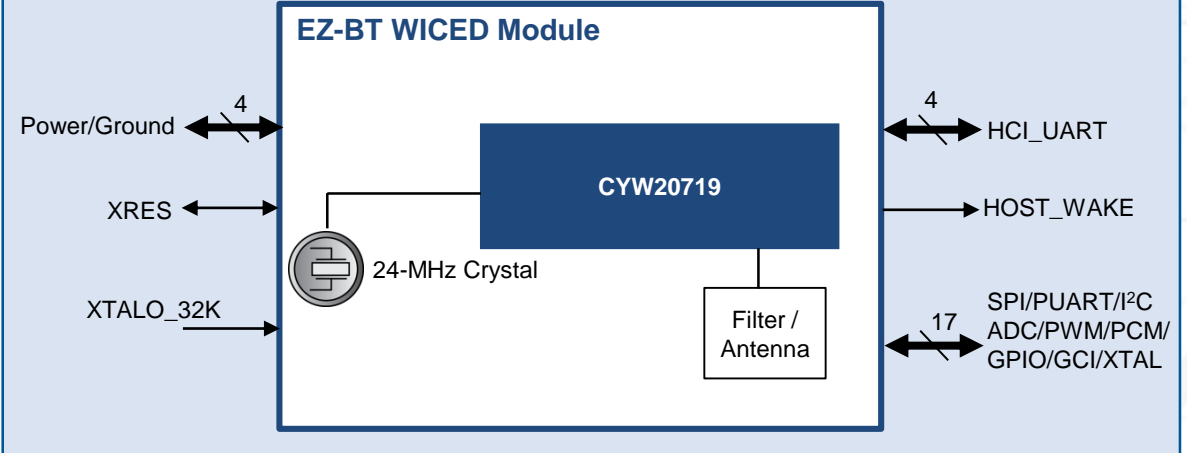### Availability

Sampling: Now
Production: Now

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module Family: CYBT-413034-02

EZ-BT WICED Module

Power/Ground — 6 — CYW20719 — 4 — HCI_UART

XRES

24-MHz Crystal — HOST_WAKE

XTALO_32K — Filter / Antenna — 17 — SPI/PUART/I²C ADC/PWM/PCM/GPIO/GCI/XTAL

Collateral

Datasheets
CYBT-413034-02 Datasheet

Evaluation Kit User Guide
CYBT-413034-EVAL Board
WICED Studio

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EZ-BT WICED Module CYBT-213043-02
Ultra-Low-Power Cost-Optimized Bluetooth 5.0 WICED Module

Applications

Bluetooth audio, mesh, sensor hubs, POS, medical, industrial, toys, and PC/smartphone accessories

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12 mm x 16.61 mm x 1.70 mm, 35-pad SMT with 22 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR/EDR: -92.0-dBm Rx sensitivity, 0-dBm Tx output power
  - BLE: -95.5-dBm Rx sensitivity, 4-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 256KB flash, PCB antenna
  - Two-wire Global Coexistence Interface (GCI)
  - Simultaneous multiple Master and Slave
  - PCM/I²S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware (Q4 2019)
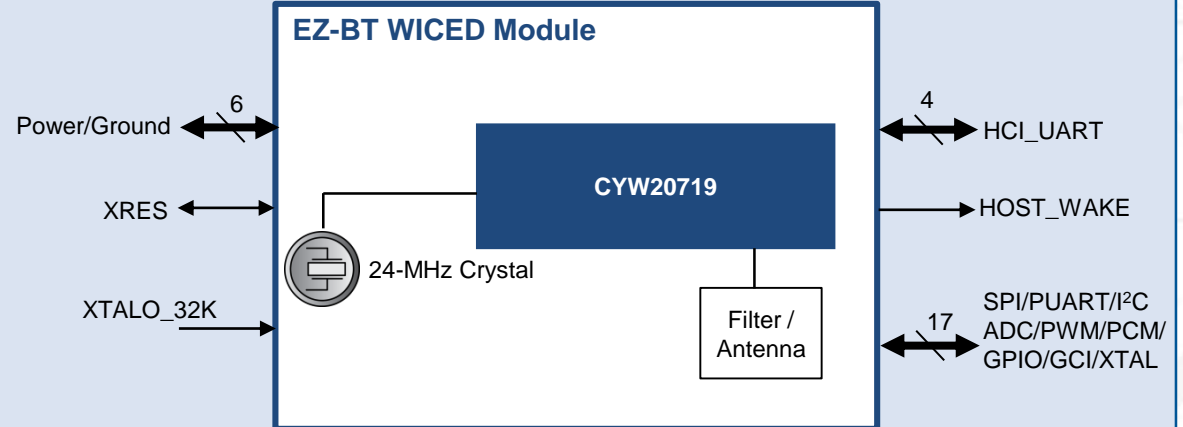
Availability

Sampling: Now
Production: Q3 2019

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BT WICED Module Family: CYBT-213034-02

EZ-BT WICED Module

Power/Ground — 4 — CYW20819 — 4 — HCI_UART
XRES — HOST_WAKE
XTALO_32K — 24-MHz Crystal — Filter / Antenna — 22 — SPI/PUART/I²C ADC/PWM/PCM/ GPIO/GCI/XTAL

Collateral

Datasheets
CYBT-213043-02 Datasheet

Evaluation Kit User Guide
CYBT-213043-MESH Kit
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EZ-BT WICED Module CYBT-483039-02
Ultra-Long Range Bluetooth 5.0 WICED Module

Applications

Bluetooth audio, mesh, sensor hubs, and industrial

Features

- **Qualification and Certification**
  - Bluetooth SIG QDID[1], FCC, CE, MIC[2], and ISED[3]
- **Small Footprint**
  - 12.75 mm x 18.59 mm x 1.8 mm, 34-pad SMT with 15 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BLE Tx output power up to 20 dBm for U.S. (FCC)
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 1MB flash, chip antenna
  - Two-wire Global Coexistence Interface (GCI)
  - Simultaneous multiple Master and Slave
  - PCM/I^{2}S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware (Q4 2019)
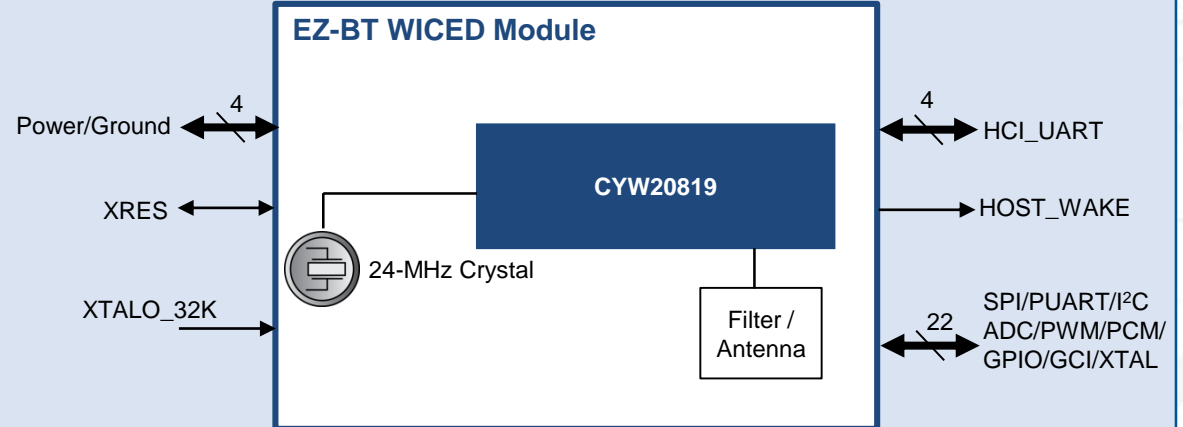
Availability

Sampling: Now
Production: Now

EZ-BT WICED Module Family: CYBT-483039-02

EZ-BT WICED Module

Power/Ground — 12 — CYW20719
XRES
24-MHz Crystal
XTALO_32K
Power Amplifier — Filter / Antenna

HCI_UART — 4
HOST_WAKE
SPI/PUART/I^{2}C ADC/PWM/PCM/ GPIO/GCI/XTAL — 15

Collateral

Datasheets
CYBT-483039-02 Datasheet
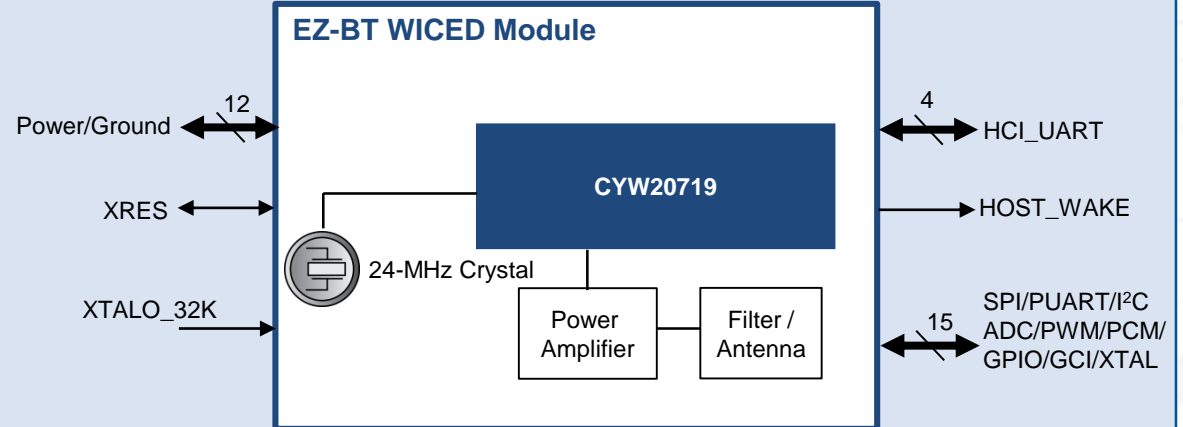
Evaluation Kit User Guide
CYBT-483039-EVAL Board
WICED Studio

[1] Bluetooth Special Interest Group Qualification Design ID
[2] Ministry of Internal Affairs and Communications (Japan)
[3] Innovation, Science and Economic Development Canada

EZ-BLE/EZ-BT Module Product Selector Guide

EZ-BLE Module Part Numbering Decoder

CY BT – X X X X XX – N X

Bluetooth Version:	0 = Bluetooth 4.1, 1 = Bluetooth 4.2, 2 = Bluetooth 5.0
Integration Type:	0 = Full Integration with Shield, 1 = No Shield
Device Identification #:	Unique sequential product number for each module
Temperature Range:	0 = Industrial, 1 = Extended Industrial
EZ-BT Module Type:	2/4 = PSoC 4 Module, 3 = WICED Module, 6 = PSoC 6 Module
Antenna Type:	0 – No Antenna, Standard Range
	1 – PCB Antenna, Standard Range
	2 – Chip Antenna, Standard Range
	3 – No Antenna, Long Range (internal PA)
	4 – PCB Antenna, Long Range (internal PA)
	5 – Chip Antenna, Long Range (internal PA)
	6 – No Antenna, Long Range (external PA/LNA)
	7 – PCB Antenna, Long Range (external PA/LNA)
	8 – Chip Antenna, Long Range (external PA/LNA)
Flash Size:	0 = 128KB, 2 = 256KB, 3 = 512KB, 4 = 1024KB
Marketing Code:	BLE = BLE Only Product, BT = Dual-Mode BT/LE Product
Company ID:	CY = Cypress

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