## Cypress Bluetooth Module Portfolio

<table>
<thead>
<tr>
<th>Cost</th>
<th>Size</th>
<th>External Antenna</th>
<th>XR¹</th>
<th>XT²/XR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYBLE-416045-02</td>
<td>EZ-BLE Creator BT 5.0</td>
<td>CYW20719/21</td>
<td>1MB Flash, 2Mbps BLE, 16 GPIOs, 14 x 18.5 x 2.00 mm SMT</td>
<td></td>
</tr>
<tr>
<td>CYBLE-4130xx-02</td>
<td>EZ-BT WICED BT 5.0 Dual Mode</td>
<td>CYW20719/21</td>
<td>1MB Flash, 2Mbps BLE,</td>
<td></td>
</tr>
<tr>
<td>CYBLE-2330xx-02</td>
<td>EZ-BT WICED BT 5.0 Dual Mode</td>
<td>CYW20706</td>
<td>512KB SFlash, LMA¹, XR, Ext. Antenna via RF Pad or u.FL</td>
<td></td>
</tr>
<tr>
<td>CYBLE-3320xx-02</td>
<td>EZ-BT WICED BT 5.0 Dual Mode</td>
<td>CYW20819</td>
<td>256KB Flash, 22 GPIOs, 2Mbps BLE, 11 x 11 x 1.70 mm SMT</td>
<td></td>
</tr>
<tr>
<td>CYBLE-2130xx-00</td>
<td>EZ-BLE Creator BT 4.1/4.2</td>
<td>CYW20737</td>
<td>128KB/0KB SFlash, 16/18 GPIOs, 14 x 19 x 2.25 mm SMT</td>
<td></td>
</tr>
<tr>
<td>CYBLE-2120xx-00</td>
<td>EZ-BLE WICED BT 4.1</td>
<td>CYW20737</td>
<td>128KB/0KB SFlash, 16/18 GPIOs, 14 x 19 x 2.25 mm SMT</td>
<td></td>
</tr>
</tbody>
</table>

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

**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
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\(^2\)C/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

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® 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
\(^8\) Successive approximation register
\(^9\) 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-x120xx-xx
Cost-Optimized Bluetooth Low-Energy (BLE) Modules

Applications

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

Features

- Quality and Certification
  - Bluetooth SIG QDID¹ (CYBLE-012011-00/CYBLE-212019-00), FCC, CE, KC², MIC³, and ISED⁴
- 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, shield⁵
  - 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

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? 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-012012-10 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
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**

- 32.768-kHz Crystal
- 24-MHz Crystal
- Power Amplifier
- PCB Antenna
- SWD\(^6\)/GPIO
- SPI/PC/UART/CapSense/ADC/PWM/GPIO

### 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
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

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

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. Ministry of 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-pin 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

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\(^4\) (AN96841)
  - PSoC Creator
  - PSoC Programmer
  - CySmart\(^6\) Windows Host Emulation Tool
  - CySmart iOS and Android Apps

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\(^1\) 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
### 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 QDID¹, FCC, CE, MIC², and ISED³
- **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

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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/IAS audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

Availability
Sampling: Now
Production: Now

Collateral
Datasheets
CYBT-343026-01 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-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/PS audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

Availability
Sampling: Now
Production: Now

Collateral
Datasheets
CYBT-333032-01 Datasheet
CYBT-333047-01 Datasheet
Evaluation Kit User Guide
CYBT-343047-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-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®, FCC, CE, MIC®, and ISED
- 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 -30°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

Datasheets
CYBT-343151-02 Datasheet
Evaluation Kit User Guide
CYBT-343026-EVAL Evaluation Board
WICED Studio
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 QDID1, FCC, CE, MIC2, and ISED3
- 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

Collateral
Datasheets
CYBT-353027-02 Datasheet
Evaluation Kit User Guide
CYBT-353027-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-4230xx-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/I\(^2\)S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

**Availability**
Sampling: Now
Production: Now

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

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**Collateral**
- **Datasheets**
  - CYBT-4230xx-02 Datasheet
- **Evaluation Kit User Guide**
  - CYBT-423028-EVAL Board
  - WICED Studio
**EZ-BT WICED Module CYBT-4130xx-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 QID\(^1\), 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/I\(^2\)S audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

### Availability
- **Sampling:** Now
- **Production:** Now

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

### Collateral
- **Datasheets**
  - CYBT-4130xx-02 Datasheet
- **Evaluation Kit User Guide**
  - CYBT-413034-EVAL Board
  - WICED Studio
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 2020)

Availability
- Sampling: Now
- Production: Q2 2020

Collateral
Datasheets
- CYBT-213043-02 Datasheet
- CYBT-213043-MESH Kit
- 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-4830xx-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/PS audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware

**Availability**

- **Sampling:** Now
- **Production:** Now

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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-343052-02
Long Range Low Power Bluetooth 5.0 WICED Modules

**Applications**
Remoter, Keyboard, 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**
  - 13.31 mm x 22.4 mm x 1.95 mm, 42-pad SMT with 24 GPIOs
- **Bluetooth Smart Ready with Bluetooth 5.0**
  - BR: -91.5-dBm Rx sensitivity, +1-dBm Tx output power
  - BLE: -94.5-dBm Rx Sensitivity, +12-dBm Tx output power
- **Bluetooth SIG Mesh Supported**
- **Highly Integrated Solution**
  - One crystal, 512KB flash, PCB antenna
  - 1x Microphone interface
  - Programmable key-scan matrix interface, up to 8 x 20 key scanning matrix
  - 6x 16-bit PWMs
  - Simultaneous multiple Master and Slave
  - Secure over-the-air (OTA) firmware upgrade

**Availability**
- **Sampling**: Now
- **Production**: Q2 2020

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\(^1\) 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-243053-02
Ultra-Low-Power Cost-Optimized Long Range 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
  - -94.5-dBm Rx sensitivity, 10.5-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/PS audio interface with wideband speech support
  - Secure over-the-air (OTA) firmware upgrade
  - Preprogrammed with EZ-Serial firmware (Q4 2020)

Availability
Sampling: Now
Production: Q2 2020

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

Collateral
Datasheets
CYBT-243053-02 Datasheet
CYBT-243053-EVAL Evaluation Board
WICED Studio
# EZ-BLE/EZ-BT Module Product Selector Guide

## EZ-BLE Module Part Numbering Decoder

<table>
<thead>
<tr>
<th>CY</th>
<th>BT</th>
<th>X</th>
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- **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