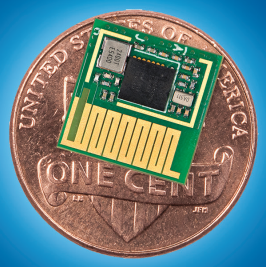
CYPRESS

EZ-BLE™ PSoC® Modules

The World Most Integrated, Fully Certified, Programmable Bluetooth® Smart Modules

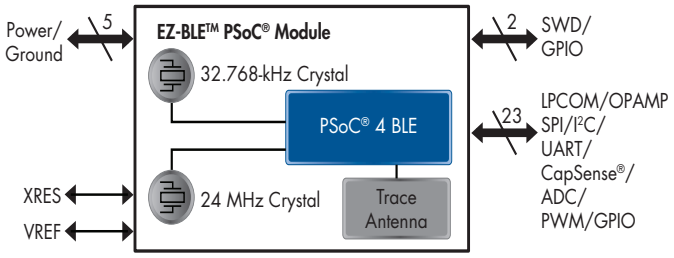


PRODUCT OVERVIEW

INTRODUCTION

EZ-BLE PSoC Modules are the world's most integrated, fully certified, programmable, Bluetooth Smart or Bluetooth Low Energy (BLE) modules designed for ease-of-use and reducing time-to-market. They contain Cypress's PSoC 4 BLE chip, two crystals, antenna, shield and passive components. EZ-BLE PSoC Modules provide a simple and low cost way to add a microcontroller, CapSense® touch controller and Bluetooth Smart connectivity to any system. EZ-BLE PSoC Modules integrate programmable analog and programmable digital blocks to enable sensor-based designs for IoT products.

EZ-BLE PSoC MODULE BLOCK DIAGRAM (CYBLE-014008-00)



PSoC CREATOR – FULLY INTEGRATED DESIGN ENVIRONMENT (IDE)

EZ-BLE PSoC Modules come with an easy-to-use IDE, PSoC Creator, to configure, develop and program a Bluetooth Smart application. PSoC Creator also provides an option to use third party IDEs such as Keil MDK, IAR or Eclipse after the initial hardware design. Cypress also provides the CySmart test and debug tool, used to emulate a host device for peer testing. CySmart is available as a Windows application, iOS app and Android app.

EZ-BLE PROC MODULE ADVANTAGES

- Footprint as small as 11 mm X 11 mm X 1.8 mm and SMT-ready to support space-constrained applications.
- Fully certified (QDID, FCC, IC, CE, MIC/TELEC and KC) to get Bluetooth Smart products to market faster and save on certification costs.
- Fully integrated (PSoC 4 BLE, crystals, chip antenna, shield and passive components).
- GUI-based configuration of BLE protocol stack and profiles to reduce design cycle time.
- Integrated CapSense touch controller to support touch-based buttons/sliders/touchpads/proximity.
- Integrated programmable analog and programmable digital for ease of sensor-based IoT system design and customizable logic design respectively
- Flexible ultra-low power modes to enable longer battery life.

FEATURES

FOOTPRINT AS SMALL AS 11 MM X 11 MM X 1.8 MM

FULLY CERTIFIED
- Bluetooth 4.1/4.2 qualified with QDID
- Fully certified for international RF regulations - FCC, IC, MIC/TELEC, CE and KC

PSoC® CREATOR™ INTEGRATED DEVELOPMENT ENVIRONMENT

48-MHZ ARM® CORTEX®-M0 MICROCONTROLLER
- 32-bit processor (0.9 DMIPS/MHz)
- 128-KB flash/16-KB SRAM OR 256-KB flash/32-KB SRAM

BLUETOOTH 4.1/4.2 COMPLIANT
- -87 to -95-dBm Rx Sensitivity
- -18-dBm to +3-dBm or +9.5-dBm
- Range up to 400 meters
- Supports Special Interest Group (SIG)
- adopted profiles and services

INTELLIGENT ANALOG & PROGRAMMABLE DIGITAL
- 4 x opamps and 1x low power comparator which can operate in Deep-Sleep mode
- 4 x UDBs[1]

INTEGRATED CAPACITIVE SENSING TECHNOLOGY
- Touch buttons/sliders/touchpads/proximity
- SmartSense™ Auto-Tuning

MULTIPLE INTERFACE OPTIONS
- 2 x SCB[2]configurable configurable as UART/I²C/SPI
- I²S for audio
- 25 GPIOs

ADDITIONAL ON-BOARD RESOURCES
- 1 x 12-bit, 1 Msps SAR ADC
- 4 x Timer/Counter/PWMs

24 MHZ AND 32.768 KHZ CRYSTALS

SMT-READY WITH 32 PADS

SUPPORT FOR EXTENDED INDUSTRIAL TEMPERATURE RANGE (-40°C TO +105°C)

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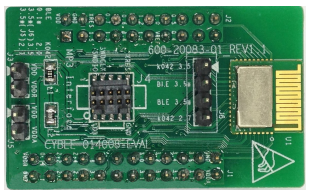
EZ-BLE PSoC MODULE APPLICATIONS

EZ-BLE PSoC Modules are a perfect fit for a variety of medical and industrial applications, PC accessories, toys, remote controls, gaming controllers, beacons and any other application which needs simple, Bluetooth Smart-based wireless connectivity.

EZ-BLE PSoC MODULE KITS

Cypress offers the following kits to get started with the EZ-BLE PSoC Modules.

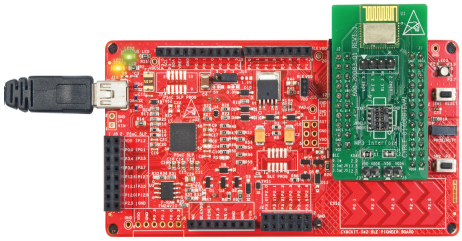


EZ-BLE PSoC Evaluation Board (CYBLE-014008-EVAL)

Bluetooth Low Energy Pioneer Kit (CY8CKIT-042-BLE)

PSoC MiniProg3 Program and Debug Kit (CY8CKIT-002)

The EZ-BLE PSoC Evaluation Boards enable evaluation and development of applications with the EZ-BLE PSoC Modules. The EZ-BLE PSoC Evaluation Boards can be used with the Bluetooth Low Energy Pioneer Kit (CY8CKIT-042-BLE) or the PSoC MiniProg3 Program and Debug Kit (CY8CKIT-002) as shown below.



EZ-BLE PSoC Evaluation Board (CYBLE-014008-EVAL) with BLE Pioneer Kit (CY8CKIT-042-BLE)

EZ-BLE PSoC Evaluation Board (CYBLE-014008-EVAL) with PSoC MiniProg3 Program and Debug Kit (CY8CKIT-002)

ORDERING INFORMATION

Part Number	Flash (KB)	SRAM (KB)	BT Spec	CapSense	SCB[2]	TCPWM[3]	UDB[1]	AFE[4]	PA[5]/ LNA[6]	12-bit SAR ADC	Operating Voltage (V)	Operating Temperature	Package
CYBLE-014008-00	128	16	4.1	Yes	2	4	4	Yes	No	1 Msps	1.9 to 5.5	-40°C to +85°C	32-SMT
CYBLE-214009-00	256	32	4.1	Yes	2	4	4	Yes	No	1 Msps	1.9 to 5.5	-40°C to +85°C	32-SMT
CYBLE-214015-01	256	32	4.2	Yes	2	4	4	Yes	No	1 Msps	1.9 to 5.5	-40°C to +85°C	32-SMT
CYBLE-224110-00	256	32	4.1	Yes	2	4	4	Yes	Yes	1 Msps	1.9 to 5.5	-40°C to +105°C	32-SMT
CYBLE-224116-01	256	32	4.2	Yes	2	4	4	Yes	Yes	1 Msps	1.9 to 5.5	-40°C to +105°C	32-SMT

1. Universal Digital Block. A PSoC Programmable Digital Block that contains: two programmable logic devices (PLDs), one programmable data path with an arithmetic logic unit (ALU), one status register and one control register. 2. Serial communication blocks (configurable to I²C, SPI or UART). 3. Configurable timer, counter, pulse-width modulator. 4. An analog signal-conditioning circuit that uses opamps, filters and comparators to interface to an analog-to-digital converter (ADC). 5. Power Amplifier. 6. Low Noise Amplifier.

To download the datasheet, buy kits and for latest information on EZ-BLE PSoC Module visit www.cypress.com/ez-blemodule

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