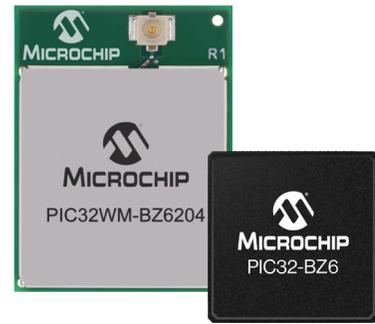# PIC32-BZ6 Family

Advanced Connectivity and Exceptional Scalability in One IC

Summary

Future-proof your next wireless design with the PIC32-BZ6 family of MCUs. These microcontrollers deliver a new standard in wireless microcontroller integration, combining advanced connectivity, robust performance and exceptional scalability in a single-chip solution.

Designed for developers building next-generation industrial, automotive and IoT devices, these MCUs support evolving wireless standards and demanding interface requirements without the need for multiple ICs or frequent redesigns.

Example Applications

- Industrial automation
- Smart building and home devices
- Automotive control and connectivity
- Wireless motor control (fans, pumps, etc.)
- Matter-enabled light switches, thermostats and more

Key Features

Highly Integrated, Multiprotocol Wireless

- Bluetooth® LE
- Supports 802.15.4-based protocols such as Thread®, Matter and proprietary
- Enables seamless wireless and wired connectivity on a single platform

High Memory and Scalability

- 2 MB Flash and 512 KB RAM for complex applications and heavy workloads
- Scalable pin and package options to fit a wide range of designs: from 132-pin to 48-pin SoCs along with regulatory pre-certified modules

Versatile Peripherals

- Touch and graphics for advanced user interfaces
- QEI for precise motor position and speed control
- CAN FD for robust automotive and industrial communication
- USB for seamless data transfer and PC integration
- Ethernet for high-speed wired connectivity

Security

- Hardware-based security engine and secure boot protect your application and IP

Simplified Development

- Proven chip-down reference designs and wireless design check services reduce design risk
- Pre-certified modules in US, Canada, EU and UK regions reduce regulatory hurdles
- Comprehensive development environment with MPLAB® and Zephyr® RTOS support

Development Tools and Resources

Tool	Description	Part Number/Link
PIC32-BZ6 Curiosity Board	Evaluate PIC32-BZ6 for your next design with this comprehensive development platform that features the PIC32WM-BZ6204UE module.	microchip.com/ev31u42a
Application and Code Examples	Jumpstart your development with code examples and demonstration applications.	MPLAB Discover Content Search Platform
MPLAB® Tools	From concept to market, MPLAB Tools simplify embedded design every step of the way.	Learn more about MPLAB Tools
Zephyr® Development Platform	Build secure, connected, future-proof devices with Zephyr. A proven RTOS ecosystem, by developers, for developers.	Learn more about Zephyr support

Product Selection Guide

Part Number	Device Type	Flash (KB)	RAM (KB)	GPIO	Operating Temperature (°C)	Antenna Type	Package Size (mm)
PIC32CX2051BZ62132	SoC	2048	512	54	125	–	10 × 10
PIC32CX2051BZ66048*	SoC	2048	512	37	125	–	7 × 7
PIC32WM-BZ6204UE	Module	2048	512	54	85	U.FL	19 × 25

*Denotes future product

MICROCHIP