



Kinetis® KW41Z-2.4 GHz Dual Mode: Bluetooth® Low Energy and 802.15.4 Wireless Radio Microcontroller (MCU) based on Arm® Cortex®-M0+ Core

KW41Z

Last Updated: Mar 5, 2025

Note: K32W061/41 is preferred for any new Zigbee®, Thread and Bluetooth® LE 5.0 design. No new software releases planned

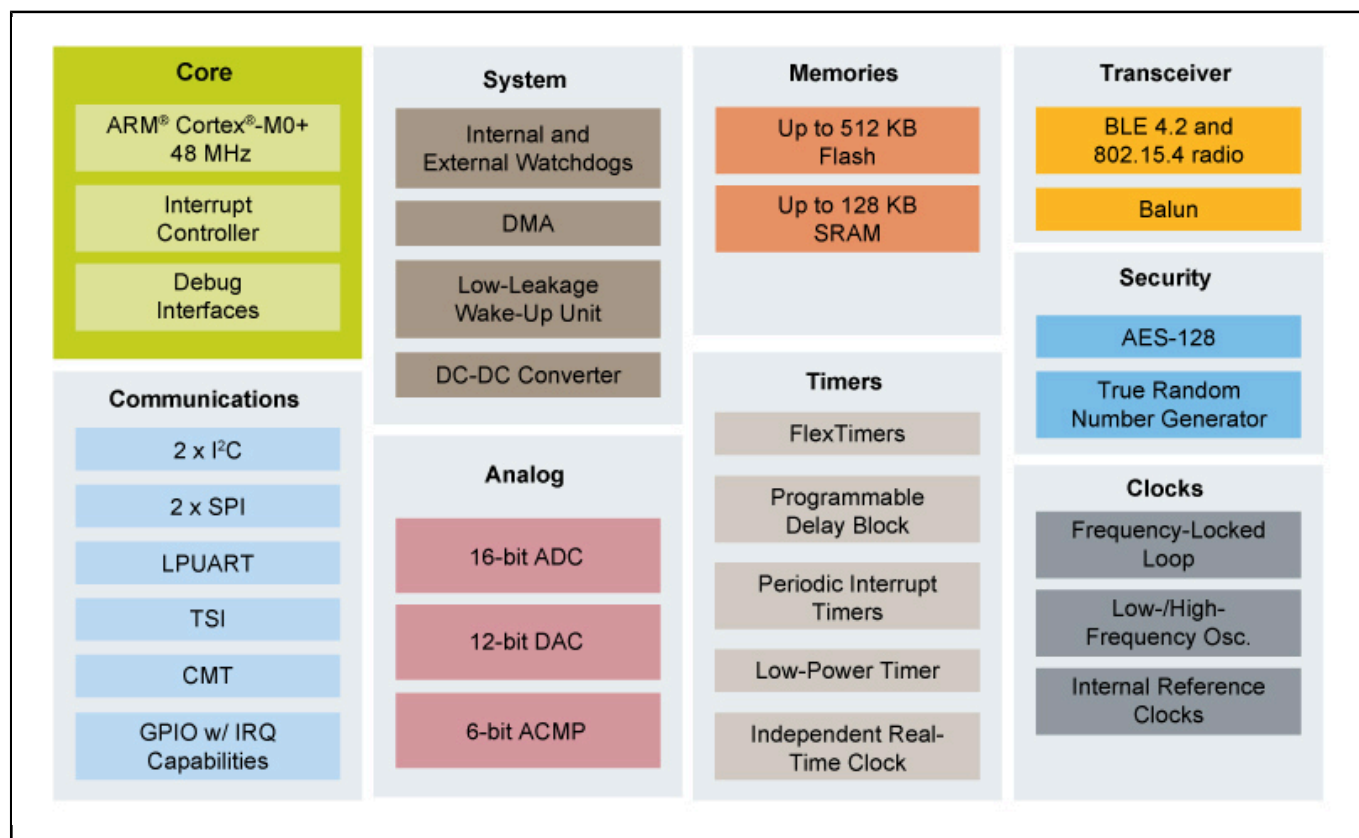
The KW41Z is an ultra-low-power, highly-integrated single-chip device that enables Bluetooth® Low Energy v4.2 and IEEE® 802.15.4 RF connectivity for portable, extremely low-power embedded systems. Applications include portable healthcare devices, wearable sports and fitness devices, AV remote controls, computer keyboards and mice, gaming controllers, access control security systems, smart energy, and home area networks.

The KW41Z MCU integrates a 2.4 GHz transceiver supporting FSK/GFSK and O-QPSK modulations, an Arm® Cortex®-M0+ CPU, up to 512 KB Flash and up to 128 KB SRAM, 802.15.4 packet processor, hardware security and peripherals optimized to meet the requirements of the target applications.

The KW41Z is an ideal solution for true single-chip designs that require concurrent communication on both a Bluetooth Low Energy network and an 802.15.4 based network such as Thread and Zigbee. This multi-mode capability enables direct communication using Bluetooth Low Energy via a mobile device and participating in a mesh network for local and remote control/monitoring.

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Kinetis® W Series KW40Z MCUs Block Diagram Block Diagram



View additional information for [Kinetis® KW41Z-2.4 GHz Dual Mode: Bluetooth® Low Energy and 802.15.4 Wireless Radio Microcontroller \(MCU\) based on Arm® Cortex®-M0+ Core](#).

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