

## K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option

## K32W061\_41

Last Updated: Dec 16, 2024

The K32W061/41 portfolio is designed to power the next generation of ultra-low-current multiprotocol wireless IoT devices with support for IEEE 802.15.4 mesh network protocols Zigbee<sup>®</sup> and Thread<sup>™</sup> as well as Bluetooth<sup>®</sup> Low Energy 5.0. This portfolio also supports Matter, the unified IP-based application layer to work across ecosystems being developed by the Connectivity Standards Alliance, targeted for release by end of 2021.

These wireless MCUs include multiple low-power modes and ultra-low radio Tx and Rx power consumption which enables IoT products powered by K32W061/41 to have extended battery life. With high Rx sensitivity and configurable Tx output power, the K32W061/41 MCUs offer reliable and robust connectivity performance.

The K32W061/41 portfolio is powered by an Arm<sup>®</sup> Cortex<sup>®</sup>-M4 MCU and with 640 KB on-board flash and 152 KB SRAM, has enough room and flexibility for complex applications and over-theair (OTA) upgrade capability without external memory. These devices also include a rich set of MCU digital and analog peripherals and multiple serial communication interfaces for embedded connected applications and a quad serial flash memory controller, SPIFI, that can be used to extend non-volatile memory.

## K32W061/41 Block Diagram Block Diagram

Core Platform		Timers	
Arm <sup>®</sup> Cortex <sup>®</sup> -M4 with MPU 48 MHz		2 x Low-Power Counter/Timer	2 x Wake-up Timer
Serial Wire Debug		Real-Time Clock	
		RF Transceivers	
System Control		IEEE <sup>®</sup> 802.15.4	Antenna Diversity
Watchdog Timer	Power Management Controller	Bluetooth <sup>®</sup> LE 5.0	
POR	Battery Sensor	Digital Interfaces	
Brown Out Detector	Temperature Sensor	2 x I <sup>2</sup> C	QSPI
DMA	DC/DC Converter	2 x SPI	22 x GPIO
Memory		2 x USART	IR Modulator
Flash			
640 KB		10 x PWM	ISO7816
SRAM 152 KB ROM 128 KB		DMIC Interface	
		Security	
		AES 128/256	Random Number Generator
		HASH	Code Protection
Clocks		Analog Interfaces	
32 MHz Xtal Oscillator	32 KHZ Free-Running Oscillator	12-bit ADC (8 channels)	Analog Comparator
32.768 kHz Xtal Oscillator	48/32/12 MHZ Free-Running Oscillator	NFC Forum Type 2 Tag	
		1912 byte EEPROM	7 byte UID
tional			

View additional information for K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®, Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option.

Note: The information on this document is subject to change without notice.

## www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.