K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option
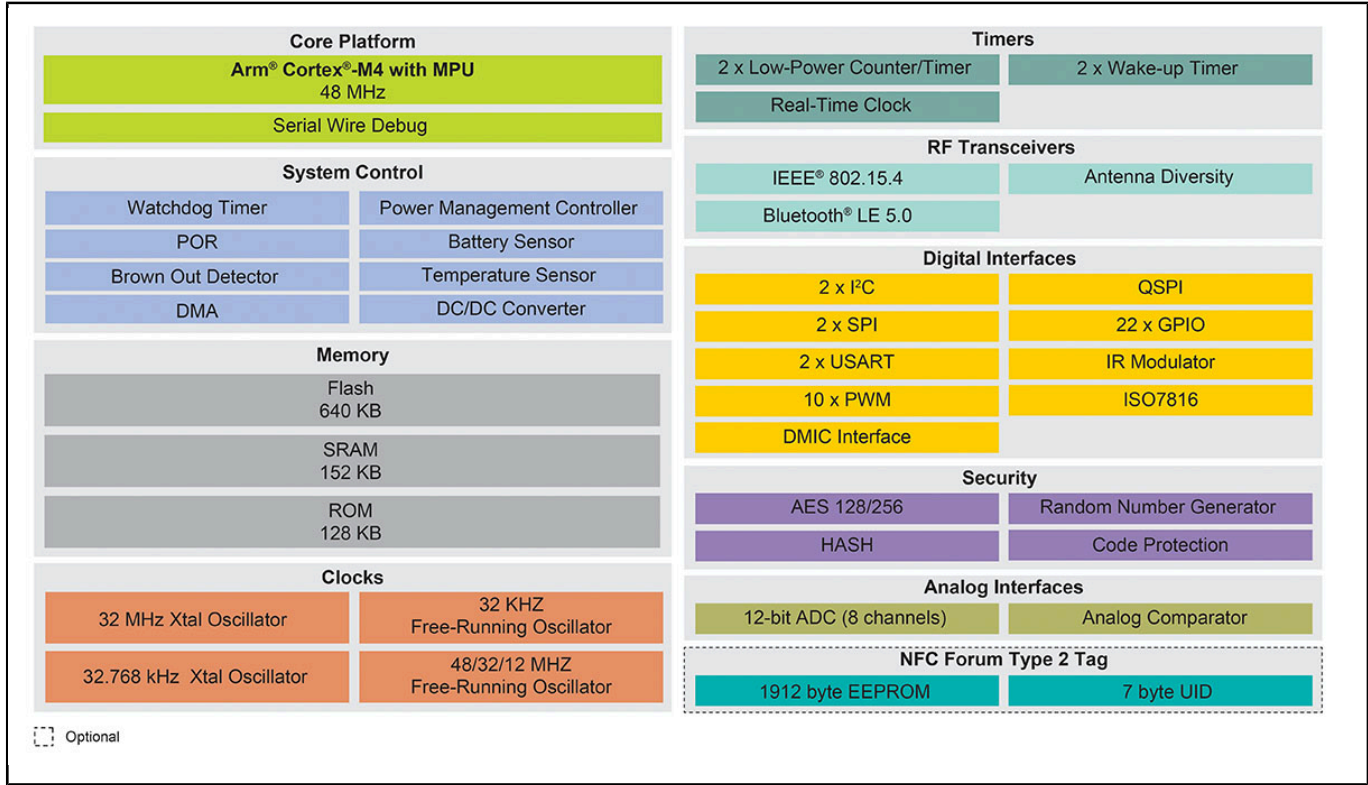
K32W061_41

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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® and Thread™ as well as Bluetooth® 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® Cortex®-M4 MCU and with 640 KB on-board flash and 152 KB SRAM, has enough room and flexibility for complex applications and over-the-air (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

Arm® Cortex®-M4 with MPU 48 MHz
Serial Wire Debug

System Control

Watchdog Timer	Power Management Controller
POR	Battery Sensor
Brown Out Detector	Temperature Sensor
DMA	DC/DC Converter

Memory

Flash 640 KB
SRAM 152 KB
ROM 128 KB

Clocks

32 MHz Xtal Oscillator	32 KHZ Free-Running Oscillator
32.768 kHz Xtal Oscillator	48/32/12 MHZ Free-Running Oscillator

Timers

2 x Low-Power Counter/Timer	2 x Wake-up Timer
Real-Time Clock	

RF Transceivers

IEEE® 802.15.4	Antenna Diversity
Bluetooth® LE 5.0	

Digital Interfaces

2 x I²C	QSPI
2 x SPI	22 x GPIO
2 x USART	IR Modulator
10 x PWM	ISO7816
DMIC Interface	

Security

AES 128/256	Random Number Generator
HASH	Code Protection

Analog Interfaces

12-bit ADC (8 channels)	Analog Comparator

NFC Forum Type 2 Tag

1912 byte EEPROM	7 byte UID

[ ] Optional

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.