The K32 L2 MCU family, an expansion of the K32 L series, is designed to deliver a unique balance of core efficiency, low-power modes, memory scalability and mixed signal integration.

**OVERVIEW**

The K32 L2 MCU family’s low-leakage architecture, combined with its power-optimized peripherals and security features (such as cryptographic acceleration technology, cyclic redundancy check and a true random number generator), make it ideal for consumer, industrial and IoT applications requiring a low-priced, power efficient option with longer battery life.

This family includes a low power Arm® Cortex®-M0+ processor, ideal for applications that require a mix of reduce cost and power with a longer battery life. With options scaling from 64 KB to 512 KB Flash and from 32 kB to 128 kB SRAM, the K32 L2 family offers a wide range of memory resources to fit different application tasks within a small-form factor, low power, and highly integrated design.

The expansion of the K32 L series further demonstrates NXP’s investment in secure and power-optimized MCUs for next generation power-conscious and low-leakage applications.

**TARGET APPLICATIONS**

- Industrial and Building Automation
  - Factory Automation
  - Robotics
  - Building HVAC
  - Security and Access Control
- Consumer
  - Battery-Operated Applications
  - USB Peripherals
  - Low-Power Applications
- Smart home
  - Door Locks
  - Smart Thermostats
  - Lighting Control
  - Security Systems
To reduce development effort and speed time to market, take advantage of NXP’s comprehensive offering of development tools and MCUXpresso software which provides an open-source software development kit (SDK), an easy-to-use integrated development environment (IDE) and a comprehensive suite of system configuration tools.

**ENABLEMENT**
- Freedom Development Platforms
- Support for NXP’s MCUXpresso, IAR Embedded Workbench® and Keil IDEs
- Full integration with NXP’s MCUXpresso SDK
- Support for multiple RTOSEs including FreeRTOS™

### ORDERABLE PART NUMBERS

<table>
<thead>
<tr>
<th>Product</th>
<th>Memory</th>
<th>Security</th>
<th>Package</th>
<th>Pin count</th>
</tr>
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<tbody>
<tr>
<td>K32L2B11Vxx0A</td>
<td>64 Flash (kB) 32 SRAM (kB)</td>
<td>Crypto CRC TRNG</td>
<td>QFN, LQFP, MAPBGA</td>
<td>32, 48, 64</td>
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<tr>
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<td>LQFP</td>
<td>64, 100</td>
</tr>
<tr>
<td>K32L2A41Vxx1A</td>
<td>512 Flash (kB) 128 SRAM (kB)</td>
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<td>LQFP</td>
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### K32 L2 MCU PLATFORM

**Features**
- **Ultra Low Power**
  - Low-power Arm® Cortex®-M0+ core
  - Multiple low-power modes enabling the reduction of dynamic power consumption
  - Low-power serial peripheral interfaces supporting low-power operation modes without waking up the core
- **Memory**
  - 64 - 512 kB of flash memory to address different needs and provide scalability options
  - 32 - 128 kB of SRAM memory
  - 16 - 32 kB of ROM with integrated bootloader
- **High Mixed-Signal Integration**
  - Up to 16-bit ADC with configurable resolution, sample time and conversion speed/power and single or differential input mode operations support
  - 12-bit DAC with DMA support
  - 1.2 V high-accuracy internal voltage reference
  - High-speed comparator with internal 6-bit DAC
- **Connectivity and Communications**
  - USB 2.0 Full Speed integrated with low-voltage regulator
  - 8-channel DMA for peripheral and memory servicing with reduced CPU loading
  - Up to three I2C, up to three LPUART and up to three SPI serial interfaces with DMA support
  - FlexIO interface with capability of emulating multiple serial interfaces
- **Security**
  - Cryptographic acceleration unit supporting acceleration of DES, 3DES, AES, MD5, SHA-1 and SHA-256 algorithms
  - Hardware accelerated True Random Number Generator
- **HMI**
  - Capacitive touch sense interface supporting up to 16 external electrodes*
  - GPIO with pin interrupt support
- **Package Options**
  - Small, high pin-count package options including: BGA, LQFP and QFN
- **Comprehensive Enablement**
  - Complete development hardware, software stacks, drivers and RTOS for fast time to market and easy design

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