Software support for microcontollers featuring the ARM® Cortex®-M core

Kinetis Software Development Kit v2

The Kinetis software development kit (SDK) v2 provides comprehensive software support for Kinetis MCUs.

Kinetis SDK v2 is a collection of software enablement for NXP Kinetis microcontrollers that includes system startup, peripheral drivers, stacks, middleware, real-time operating system (RTOS) kernels, usage examples and demo applications. All software is provided free-of-charge as assembly and C source code under permissive and open-source licensing.

FEATURES

Kinetis SDK v2 consists of the following runtime software components:

▸ ARM® CMSIS-CORE startup and device header files and CMSIS-DSP standard libraries

▸ Open-source peripheral drivers that provide stateless, high-performance, easy-to-use APIs

▸ Drivers for communication peripherals that include high-level transactional APIs for high-performance data transfers and RTOS wrappers that leverage native RTOS services

▸ High-quality software: MISRA-C:2004 compliant and scanned with Coverity® static analysis tools

▸ Pre-integrated real-time operation systems (RTOS) kernels, including FreeRTOS™, Micrium® µC/OS-II® and µC/OS-III®

▸ Stacks and middleware including:

- USB device, host, and OTG stack with comprehensive USB class support and demo applications

- FatFs, a FAT file system for embedded systems

- lwIP, a lightweight TCP/IP stack

- Encryption software utilizing the MCU crytographic hardware acceleration

- mbedTLS and wolfSSL, lightweight SSL/TLS libraries

- SDMMC, a software component supporting SD and eMMC cards

- DMA Manager, a software component for managing on-chip DMA resources

▸ Software examples demonstrating the usage of peripheral drivers, RTOS wrapper drivers, middleware and RTOSes

All demo applications and driver examples are provided with projects for the following toolchains:

‣ Atollic TrueSTUDIO

‣ GNU toolchain for ARM® Cortex®-M with Cmake build system

‣ IAR Embedded Workbench

‣ Keil MDK-ARM

‣ Kinetis Design Studio

‣ SOMNIUM® DRT, NXP Edition

CUSTOMIZE YOUR SDK

You can customize the Kinetis SDK and get only what you need through the SDK Builder, which packages custom SDKs based on user selections of MCU, evaluation board, and optional software components. Simply choose your specific Kinetis MCU and evaluation boards, then quickly download a custom SDK.

Learn more about the SDK Builder at:
www.kex.nxp.com

GET STARTED

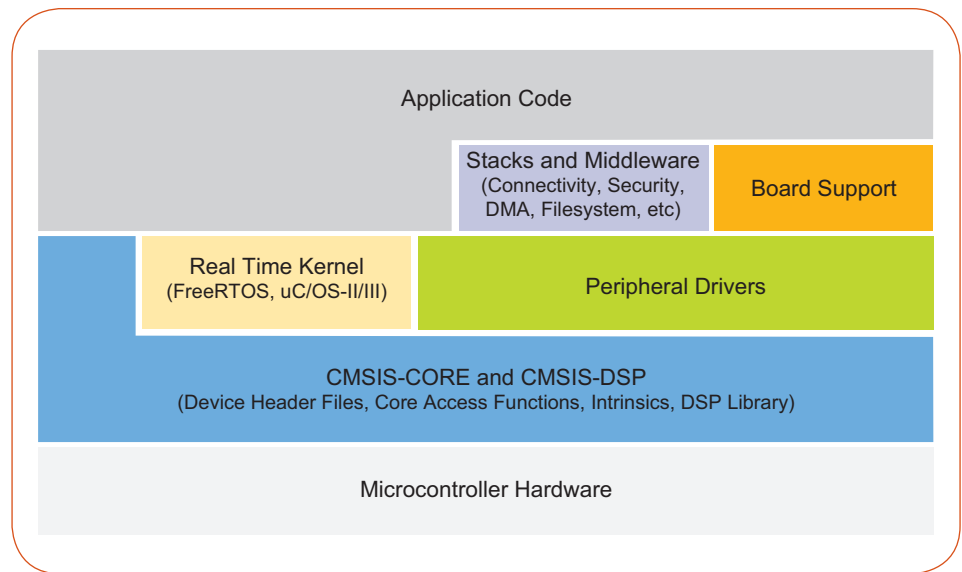**www.nxp.com/KSDK**
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KINETIS SDK BLOCK DIAGRAM

Application Code

	Stacks and Middleware (Connectivity, Security, DMA, Filesystem, etc)	Board Support

Real Time Kernel (FreeRTOS, uC/OS-II/III)	Peripheral Drivers

CMSIS-CORE and CMSIS-DSP (Device Header Files, Core Access Functions, Intrinsics, DSP Library)

Microcontroller Hardware

KINETIS SDK SUPPORTED TOOLS

atollic

ARM® KEIL®
Microcontroller Tools

IAR SYSTEMS

GNU Compiler Collection (GCC)

SOMNIUM

KINETIS
Design Studio

www.nxp.com/KSDK