

MQX™ RTOS Release Notes for Kinetis SDK 1.2.0 FRDM-KV10Z Freescale Freedom Development Platform

1 Overview

These are the Release Notes for the Freescale MQX™ RTOS for Kinetis SDK 1.2.0 FRDM-KV10Z Freescale Freedom development platform using the MKV10Z32VLF7 microcontroller. Freescale CPU KV10Z32VLF7 belong to the Kinetis K series processor family of the 32-bit microcontrollers. The software is based on Freescale Kinetis SDK (KSDK) version 1.2.0. It includes the full set of RTOS services and a standard set of peripheral drivers.

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1.1 Development tools

The FRDM-KV10Z Freescale Freedom development platform release was tested with these development tools:

- IAR Embedded Workbench for ARM[®] version 7.40.2
 - Support available for Kinetis ARM[®] Cortex[®]-M0 devices
 - See build projects in the `iar` subdirectories
- ARM[®] Keil[®] development tool v5.14
 - Support available for Kinetis ARM Cortex-M0 devices
 - See build projects in `mdk` subdirectories
- Kinetis Design Studio IDE v3.0
 - Support available for Kinetis ARM Cortex CPUs
 - See build projects in `kds` subdirectories
- Atollic[®] TrueSTUDIO[®] for ARM v5.3.0
 - Support available for Kinetis ARM Cortex CPUs
 - See build projects in `atl` subdirectories
- ARM GCC 4.8 (GCC ARM Embedded 4.8-2014-q3-update)
 - Support available for Kinetis ARM Cortex CPUs
 - See build projects in `armgcc` subdirectories

1.2 System requirements

The system requirements are defined by the development tool requirements. There are no special host system requirements for the Freescale Kinetis SDK distribution itself.

The minimum PC configuration is determined by the development tools.

The recommended PC configuration is 2 GHz processor, 2 GB RAM, and 2 GB free disk space.

1.3 Target requirements

The Freescale MQX RTOS package for Kinetis SDK 1.2.0 was tested with this hardware configuration:

- FRDM-KV10 Rev. A Freescale Freedom Development platform with a KV10Z32VLF7 processor

2 Features

2.1 Key features

This package provides support for the FRDM-KV10 Freescale Freedom development platform with a MKV10Z32VLF7 processor. Moreover, the package has a standard set of features and example applications.

This section describes the major changes and new features implemented in this release.

- MQX RTOS Timer: SysTick
- Default console: UART0 (CDC virtual COM) for the FRDM-KV10Z Freescale Freedom development platform

The package supports these features:

- MQX RTOS support for the FRDM-KV10Z Freescale Freedom development platform with an MKV10Z32VLF7 microcontroller
- MQX RTOS STDLIB
- nShell
- MFS file system (Library only)
- KSDK support for the MKV10Z32VLF7 microcontroller

2.2 Example applications

This package contains applications demonstrating the MQX RTOS kernel and peripherals on the FRDM-KV10Z Freescale Freedom development platform. The applications can be found in these locations:

- `<install_dir>/rtos/mqx/mqx/examples`: standard set of examples for kernel features and basic peripheral drivers.

2.3 Release contents

This section provides an overview of the release content.

Table 2-1 Release contents

Deliverable	Location
Specific content for the evaluation boards	<install_dir>/rtos/mqx/...
MQX source code for Kinetis	.../mqx/source/
MQX build projects	.../mqx/build/<compiler>/ mqx_frdmkv10z/...
MQX example applications	.../mqx/examples/...
MQX RTOS STDLIB Source Code	<install_dir>/rtos/mqx_stdlib/...
MQX RTOS STDLIB build projects	../ mqx_stdlib /build/<compiler>/ mqx_stdlib_frdmkv10z
MQX RTOS STDLIB Source Code	../ mqx_stdlib /source
KSDK MQX Source Code	<install_dir>/lib/ ksdk_mqx_lib
KSDK build projects	.../ ksdk_mqx_lib /<compiler>/ KV10Z7
KSDK source	<install_dir>/platform
Shell Library Source Code	<install_dir>/rtos/mqx/nshell/...
Shell source code	.../nshell/source
Shell build projects	.../nshell/build/<compiler>/nshell_frdmkv10z

3 Installation Instructions

3.1 Installation guide

Run the installer for the Freescale MQX RTOS package for the Kinetis SDK 1.2.0 FRDM-KV10Z platforms and install it in the folder `<SDK_install_dir>/rtos/mqx/`.

3.1.1 Build procedure

For build procedures, see the *Getting Started with Kinetis SDK (KSDK) for the FRDM-KV10Z Freescale Freedom Development Platform (KSDK12KV10GSUG)*.

3.1.2 Jumper settings

These are the jumper settings for FRDM-KV10 standalone operation:

- J25 default shot pin 2-3

3.1.3 Board-specific build targets

- Internal Flash (Debug and Release): These targets enable building applications suitable for booting the system from the internal Flash memory. After reset, the code is executed from the internal Flash.

4 Patch Description

Patch Name	Description
Keil.Kinetis_KVxx_DFP.1.4.0-RC2.pack	Patch MKV10Z32xxx7 for Keil μ Vision 5.14

5 Applying Patches

Install the MKV10Z32xxx7 to apply a patch for Keil μ Vision 5.14. These patches can be obtained from www.keil.com/dd2/pack/.

6 Known issues

- Because the RAM size of this platform is very small, this package just supports mqx_hello and lite examples on IAR and Keil.

7 Revision history

This table summarizes revisions to this document.

Revision History		
Revision number	Date	Substantive changes
0	07/2015	Initial release

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