MQX™ RTOS Release Notes for Kinetis SDK v1.1.0 FRDM-KL27Z Freescale Freedom Development Platform

1 Overview

These are Release Notes for the MQX™ RTOS for Kinetis SDK 1.1.0 FRDM-KL27Z Freescale Freedom development platform using the MKL27Z64VLH4 microcontroller. Freescale MKL27Z64VLH4 belongs to the Kinetis L series processor family of the 32-bit microcontrollers. The software is based on Freescale Kinetis SDK (KSDK) version 1.1. It includes the full set of RTOS services and a standard set of peripheral drivers.

Contents

1.1 Development tools

The Freescale Freedom FRDM-KL27Z development platform release was tested with the following development tools:

- IAR Embedded Workbench® for ARM® Version 7.20.2
  - Support available for Kinetis ARM Cortex®-M0+ devices
  - See build projects in the iar subdirectories

- ARM-MDK for ARM Keil® µVision® Version 5.13
  - Support available for Kinetis ARM Cortex-M0+ devices
  - See build projects in mdk subdirectories

- Kinetis Design Studio IDE 2.0
  - Support available for Kinetis ARM Cortex CPUs
  - See build projects in KDS IDE subdirectories

- Atollic TrueSTUDIO for ARM Pro 5.2.0
  - Support available for Kinetis ARM Cortex CPUs
  - See build projects in atl subdirectories

- GCC ARM Embedded tool chain 4.8.3
  - 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 FRDM-KL27Z MQX RTOS package was tested with this hardware configuration:

- FRDM-KL27Z Rev. A with a MKL27Z64VLH4 processor.

2 Features

2.1 Key features

This package provides support for the Freescale Freedom FRDM-KL27Z development platform with a MKL27Z64VLH4 processor and a standard set of features and example applications.

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

- BSP Timer: SysTick.

- Default console: LPUART0 (CDC virtual COM).

The package supports these features:

- PSP support for the MKL27Z64VLH4 Microcontroller.

- BSP for the Freescale Freedom FRDM-KL27Z development platform with a MKL27Z64VLH4 processor.

- MQX RTOS STDLIB

- nShell

- KSDK support for the MKL27Z64VLH4 Microcontroller.

2.2 Limitations

This release does not support these features:

- CodeWarrior v10

2.3 Example applications

This package contains applications demonstrating the MQX RTOS kernel and peripherals on the Freescale Freedom FRDM-KL27Z development platform. The applications can be found at the following locations:

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

2.4 Release contents

This section provides an overview of the release content.

Deliverable	Location
Specific content for the evaluation boards	<install_dir>rtos/mqx/...
MQX RTOS PSP source code for Kinetis	.../mqx/source/psp/cortex_m/
MQX RTOS PSP build projects	.../mqx/build/<compiler>/mqx_frdmkl27z/
MQX RTOS example applications	.../mqx/examples/
MQX RTOS STDLIB Source Code	<install_dir>rtos/mqx/mqx_stdlib
MQX RTOS STDLIB build projects	.../mqx_stdlib /build/<compiler>/mqx_stdlib_frdmkl27z/
MQX RTOS STDLIB Source Code	.../mqx_stdlib /source/
KSDK MQX RTOS Source Code	<install_dir>/lib/ksdk_mqx_lib/…
KSDK build projects	.../ksdk_mqx_lib /<compiler>/KL27Z644/
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_frdmkl27z/
PC Host Tools	<install_dir>/tools/
Documentation	<install_dir>/doc/

3 Installation Instructions

3.1 Installation guide

Run the installer and select "Kinetis SDK+MQX" to install the MQX RTOS to the folder <SDK_install_dir>/rtos/mqx/.

3.1.1 Build procedure

For build procedures, see the *Getting Started with Freescale MQX™ RTOS for Kinetis SDK (KSDK)* (Document MQXKSDKGSUG).

3.1.2 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 Revision history

This table summarizes revisions to this document.

Revision History		
Revision number	**Date**	**Substantive changes**
0	2/2015	Initial release

Document Number: MQXKSDK110KL27RN
Rev. 0
2/2015