FRDM-K64F_OS3-KSDK

Download Link	Micrium_FRDM-K64F_OS3-KSDK.zip

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FRDM-K64F Example Project

MCU			
Manufacturer	**Family**	**Part Name**	**Architecture**
Freescale	Kinetis K	MK64FN1M0VLL12	ARM_Cortex_M4

PROJECT INSTRUCTIONS

PRODUCTS AND VERSION REFERENCE

TOOLCHAIN IDEs	
IDE Name	**Version**
IAR EW for ARM	7.20.2
Keil MDK-ARM	5.11.1.0
Kinetis Design Studio	1.1.0
Kinetis SDK	1.0.0
MICRIUM	
Micrium Product	**Version**
uC/CPU	1.30.01
uC/LIB	1.38.00
uC/OS-III	3.04.03

LOADING & RUNNING THE PROJECT ON THE BOARD

> **[WARNING]:** Make sure to open the project using the mentioned IDE(s) version or later. Moreover, sometimes the tools or compiler will complain or throw errors when it tries to compile a file with a very long path; therefore, it is recommended to extract the zip file in a location, such as C:\, E:\ or any other directory that will have the shortest path to compile. In addition, the versions of uC-CPU, uC-LIB and uCOS-III provided in this example are modified versions, which comes included with Freescale Kinetis SDK

Getting Started with OpenSDAv2

1. Download and install the mbed OpenSDAv2 USB drivers found at http://mbed.org/handbook/Windows-serial-configuration. For conve nience, the "**mbedWinSerial_16466.exe**" is provided with this project.
2. Plug in a USB cable from a USB host to the OpenSDAv2 micro-B USB connector. This USB connection will provide power to the board.
3. The board comes with the mass-storage device (MSD) Flash Programmer OpenSDAv2 Application preinstalled. It will appear as a removable storage drive with a volume label of **MBED**. Moreover, the MSD Flash Programmer also includes a USB virtual serial port, which requires an **.INF** file for proper installation in windows. The necessary **.INF** file is available in the mbed OpenSDAv2 USB drivers mentioned in Step 1.
4. Once steps 1 through 3 are completed, we are ready to program the OpenSDAv2 to behave as a J-Link. the remaining steps will explain the process to enter into OpenSDAv2 Bootloader Mode in order to provide such behavior.
5. Unplug the USB cable if Attached.
6. Press and hold the Reset button(SW1).
7. Plug in a USB cable between a USB host and the OpenSDAv2 USB connector (Labeled "SDAUSB" on board).
8. Release the Reset button.
9. A removable driver should now be visible in the host file system with a volume label of **BOOTLOADER**. You are now in OpenSDAv2 bootloader mode.
10. Download the latest JLink OpenSDAv2 firmware from segger's website https://segger.com/opensda.html and drag and drop the *.bin into the volume mentioned in step 9. For convenience, the "**JLink_OpenSDA_V2.bin**" firmware is provided with this project.
11. When step 10 is completed, then your computer should recogize the OpenSDAv2 as a "JLink OB CDC"

IAR Embedded Workbench™

1. Click on **File-->Open-->Workspace...**
2. Navigate to the directory where the workspace is located:
   *$\Micrium\Examples*Freescale*FRDM-K64F\OS3-KSDK\IAR\OS3-KSDK.eww*
3. Click **Open**.
4. For Safety, clean the project by clicking on **Project-->Clean**. (If Available)
5. Compile the Project by clicking on **Project-->Make**.
6. Have the board connected via OpenSDAv2 into the board input (J26) **before** downloading the project to the board.
   a. Power will be provided by the OpenSDAv2 Micro USB port
7. Download the project to the board by clicking on **Project-->Download and Debug.**
8. Run the project by clicking **Debug-->Go**. To stop the project from running click **Debug-->Stop Debugging**.

Keil uVision5™

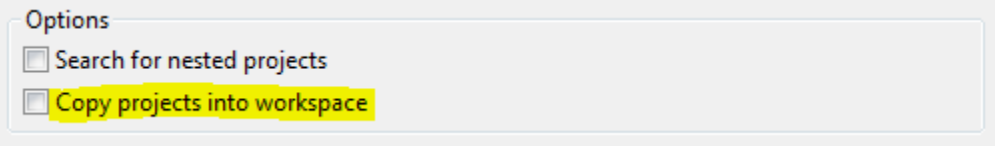
1. Click on **Project-->Open Project...**
2. Navigate to the directory where the workspace is located:
   $Micrium\Examples\Freescale\FRDM-K64F\OS3-KSDK\KeilMDK\OS3-KSDK.uvproj
3. Click **Open**.
4. For Safety, clean the project by clicking on **Project-->Clean Target**. (If Available)
5. Compile the Project by clicking on **Project-->Build Target**.
6. Have the board connected via OpenSDAv2 into the board input (J26) **before** downloading the project to the board.
   a. Power will be provided by the OpenSDAv2 Micro USB port
7. Download the project to the board by clicking on **Debug-->Start/Stop Debug Session**.
8. Run the project by clicking **Debug-->Run**. To stop the project from running click **Debug-->Start/Stop Debug Session** again.

Freescale Kinetis Design Studio™

1. Click on **File-->Import...**
2. Select **Existing Projects into Workspace**
3. Navigate to the directory where the workspace is located:

$\Micrium\Examples\Freescale\FRDM-K64F\OS3-KSDK\KDS

4. Make sure the "Copy projects into workspace" checkbox is unchecked.



5. Click **OK** then **Finish**.
6. For Safety, clean the project by clicking on **Project-->Clean Project**. (If Available)
7. Compile the project by clicking on **Project-->Build All**. Project Builds Successfully.
8. Have the board connected via OpenSDAv2 into the board input (J26) **before** downloading the project to the board.
    a. Power will be provided by the OpenSDAv2 Micro USB port
9. Download the project to the board by right-clicking inside the Project Directory and selecting **Debug As-->Debug Configurations**
    a. Select the appropriate interface inside the Debugger Tab (If Needed).
    b. The project is configure to run from GDB SEGGER J-Link Debugging .
10. Run the project by clicking **Run-->Resume**. To stop the project from running click on **Run-->Terminate**.