MCUXSDKRDMW320R0RN

MCUXpresso SDK Release Notes for RDMW320-R0

Rev. 2 — 13 January 2023   **Release notes**

1   Overview

The MCUXpresso Software Development Kit (SDK) is a collection of software enablement for microcontrollers that includes peripheral drivers, high-level stacks including FatFs, lwIP, mbed TLS cryptography libraries, other middleware packages and integrated RTOS support for FreeRTOS^{TM} OS. In addition to the base enablement, the MCUXpresso SDK is augmented with demo applications, driver example projects, and API documentation to help the customers quickly leverage the support of the MCUXpresso SDK.

For more details about MCUXpresso SDK, see [MCUXpresso-SDK: Software Development Kit](#).

2   MCUXpresso SDK

As part of the MCUXpresso software and tools, MCUXpresso SDK is the evolution of Kinetis SDK, includes support for both LPC and i.MX System-on-Chips (SoC). The same drivers, APIs, and middleware are still available with support for Kinetis, LPC, and i.MX silicon.

Note: *In order to maintain compatibility with legacy Freescale code, the filenames and the source code in MCUXpresso SDK containing the legacy Freescale prefix **FSL** has been left as is. The **FSL** prefix has been redefined as the NXP Foundation Software Library. It is suggested to keep the downloaded SDK archive in the root directory of your drive to avoid any unexpected build issues caused by deep path of files.*

3   Development tools

The MCUXpresso SDK was compiled and tested with these development tools:

- IAR Embedded Workbench for Arm version 8.50.9
- Makefiles support with GCC revision 10-2020-q4-major GCC10 from Arm Embedded

4   Supported development systems

This release supports boards and devices listed in [Table 1](#). The boards and devices in bold were tested in this release.

Table 1. Supported MCU devices and development boards

Development boards	MCU devices
AB-88MW3XX_V3.0 with RD-88 MW320-QFN-1B-2A V1.0 module	88MW320_A0_NAPC
RD-88MW322-QFN-1B-2A-V1	88MW322-A0-NXUC

5   Release contents

[Table 2](#) provides an overview of the MCUXpresso SDK release package contents and locations.

Rev. 2 — 13 January 2023

Table 2. Release contents

Deliverable	Location
Boards	`<install_dir>/boards`
CMSIS Arm Cortex®-M header files, DSP library source	`<install_dir>/CMSIS`
Demo applications	`<install_dir>/boards/<board_name>/demo_apps`
Documentation	`<install_dir>/docs`
Driver examples	`<install_dir>/boards/<board_name>/driver_examples`
Driver, SoC header files, extension header files and feature header files, utilities	`<install_dir>/devices/<device_name>`
lwIP demo applications	`<install_dir>/boards/<board_name>/lwip_examples`
lwIP stack	`<install_dir>/middleware/lwip`
mbed TLS	`<install_dir>/middleware/mbedtls`
mbed TLS examples	`<install_dir>/boards/<board_name>/mbedtls_examples`
NXP Wi-Fi driver	`<install_dir>/middleware/wifi`
NXP Wi-Fi examples	`<install_dir>/boards/<board_name>/wifi_examples`
Peripheral Drivers	`<install_dir>/devices/<device_name>/drivers`
RTOS examples	`<install_dir>/boards/<board_name>/rtos_examples`
RTOS Kernel Code	`<install_dir>/rtos`
SDMMC driver	`<install_dir>/middleware/sdmmc`
SDMMC examples	`<install_dir>/boards/<board_name>/sdmmc_examples`
Tools	`<install_dir>/tools`
Utilities such as debug console	`<install_dir>/devices/<device_name>/utilities`
USB stack	`<install_dir>/middleware/usb`
USB examples	`<install_dir>/boards/<board_name>/usb_examples`

6 MCUXpresso SDK release package

The MCUXpresso SDK release package content is aligned with the silicon subfamily it supports. This includes the boards, CMSIS, devices, documentation, middleware, and RTOS support.

MCUXSDKRDMW320R0RN

Release notes

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Rev. 2 — 13 January 2023

3 / 7

6.1 Device support

The device folder contains the whole software enablement available for the specific System-on-Chip (SoC) subfamily. This folder includes clock-specific implementation, device register header files, device register feature header files, CMSIS derived device SVD, and the system configuration source files. Included with the standard SoC support are folders containing peripheral drivers, toolchain support, and a standard debug console.

The device-specific header files provide a direct access to the microcontroller peripheral registers. The device header file provides an overall SoC memory mapped register definition. The folder also includes the feature header file for each peripheral on the microcontroller.

The toolchain folder contains the startup code and linker files for each supported toolchain. The startup code is a CMSIS compliant startup code that efficiently transfers the code execution to the main() function.

6.1.1 Board support

The boards folder provides the board-specific demo applications, driver examples, RTOS, and middleware examples.

6.1.2 Demo applications and other examples

The demo applications demonstrate the usage of the peripheral drivers to achieve a system level solution. Each demo application contains a *readme* file that describes the operation of the demo and required setup steps.

The driver examples demonstrate the capabilities of the peripheral drivers. Each example implements a common use case to help demonstrate the driver functionality.

6.2 Middleware

6.2.1 NXP Wi-Fi driver

The MCUXpresso SDK is integrated with NXP Wi-Fi driver and networking utilities.

6.2.2 TCP/IP stack

The lwIP TCP/IP stack is pre-integrated with MCUXpresso SDK and runs on top of the MCUXpresso SDK Ethernet driver with *Ethernet-capable devices/boards*.

6.2.3 Security libraries

The MCUXpresso SDK is pre-integrated with mbedTLS library. The integration demonstrates hardware acceleration of various cryptography algorithms.

6.2.4 RTOS

The MCUXpresso SDK is integrated with FreeRTOS OS.

6.2.5 USB Host, Device Stack

For more information, see *MCUXpresso SDK USB Stack User Guide* (document MCUXSDKUSBSUG).

USB support is applicable only to RD-88MW322-R0.

7 Known issues

7.1 Maximum file path length in Windows 7® operating system

The Windows 7 operating system imposes a 260-character maximum length for file paths. When installing the MCUXpresso SDK, place it in a directory close to the root to prevent file paths from exceeding the maximum character length specified by the Windows operating system. The recommended location is the *C:\nxp* folder.

8 Revision history

Rev.	Date	Description
0	14 March 2022	Initial release
1	18 October 2022	Updated for MCUXpresso SDK for MW320 2.9.10 release: • Updated Table 2 • Added Section 6.2.5
2	13 January 2023	Updated for MCUXpresso SDK for MW320 2.9.11 release: • Updated Table 1 • Updated Section 6.2.5

MCUXSDKRDMW320R0RN

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Release notes

Rev. 2 — 13 January 2023

5 / 7

9 Legal information

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MCUXSDKRDMW320R0RN

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Release notes

Rev. 2 — 13 January 2023

6 / 7

Contents