MCUXDQS_ZH

MCUXpresso 配置工具安装指南

Rev. 17.0 — 17 September 2026 User guide

Document information

Information	Content
Keywords	MCUXpresso 配置工具
Abstract	MCUXpresso 配置工具集是一套评估和配置工具，能够在从首次评估至软件开发的各阶段为用 户提供帮助。

1 简介

MCUXpresso Config Tools 是一套评估和配置工具，可帮助您从初始评估到生产软件开发。使用 **MCUXpresso Config Tools**，您可以配置 NXP Cortex-M 处理器并生成 SDK 驱动程序的初始化代码。MCUXpresso Config Tools 适用于一般用途，旨在帮助硬件设计师、软件工程师、嵌入式工程师和现场应用工程师（FAE）。

该工具免费分发。可以从 https://www.nxp.com/ 下载适用于 Windows、Linux 或 Mac 的安装程序。

要编译生成的代码，需要 MCUXpresso SDK。您可以从 MCUXpresso SDK Builder 或 MCUXpresso SDK GitHub 下载 SDK。SDK 包含许多示例项目，可以帮助您入门。

使用安装文件夹中的链接启动工具。作为工具中的第一步，您必须创建一个配置。本文档中描述了以下用例：

- 从 **SDK** 示例或现有项目开始 - 对于新用户来说，从 NXP 评估板的示例项目开始很有用，或者对于已经拥有包含工具生成源代码的工具链项目的用户也很有用。支持的工具链包括 Keil µVision、IAR Embedded Workbench、CodeWarrior、Arm GCC 和 MCUXpresso for Visual Studio Code/SDK West。
- 从新配置开始 - 对于自定义板或尚未包含任何工具配置的现有工具链项目，从新配置开始很有用。

2 创建新配置

启动工具后，您可以从 开始开发 向导创建新配置或打开现有配置。您也可以通过从 菜单栏 选择 文件 **>** 新建 来创建新配置，或通过选择 文件 **>** 打开 来打开现有配置。

创建新配置有以下几种选项：

- 基于 SDK 示例创建新的配置和项目
- 基于现有工具链项目创建新配置
- 为 Zephyr RTOS 创建新配置
- 为处理器、板或套件创建新的独立配置

如果您开始为 NXP 板或套件进行开发，我们建议您从基于 MCUXpresso SDK 示例创建配置开始，或为板或套件创建新的独立配置。此类配置包含特定于板的设置。如果您选择处理器的新独立配置，配置将为空。使用独立配置可创建未连接到任何工具链项目的配置。

创建新配置后，您可以继续从 MEX 文件导入现有配置。如果您已经有可用的配置或想要重用以前的配置，这很有用。要从 MEX 文件导入现有配置，请从 菜单栏 选择 文件 **>** 导入... **>** 导入配置（***.mex**）。

2.1 克隆 SDK 示例

您可以通过克隆适用于 IAR Embedded Workbench、Keil µVision、CodeWarrior Development Studio 和/或 GCC ARM Embedded（命令行）的 SDK 示例项目来创建配置。生成的项目包含构建项目所需的所有源文件和库，并且可以轻松自定义、共享或置于版本控制系统下。

注意： 基于 SDK 示例的项目创建（克隆）在 MCUXpresso Config Tools 的未来版本中将不再受支持。相反，请使用 MCUXpresso SDK 命令行工具和 west 构建系统。有关详细文档，请参阅 MCUXpresso SDK Command Line Development 文档。

SDK 示例克隆支持 MCUXpresso SDK 2.2 及更高版本。

注意： 要能够克隆 SDK 示例或创建"hello_world"项目，您必须首先下载 SDK 包。有关 NXP Semiconductors 提供的 SDK 包的更多信息，请参阅 MCUXpresso Software Development Kit。

注意： 如果服务器不可用且设备数据未缓存，则创建项目失败。

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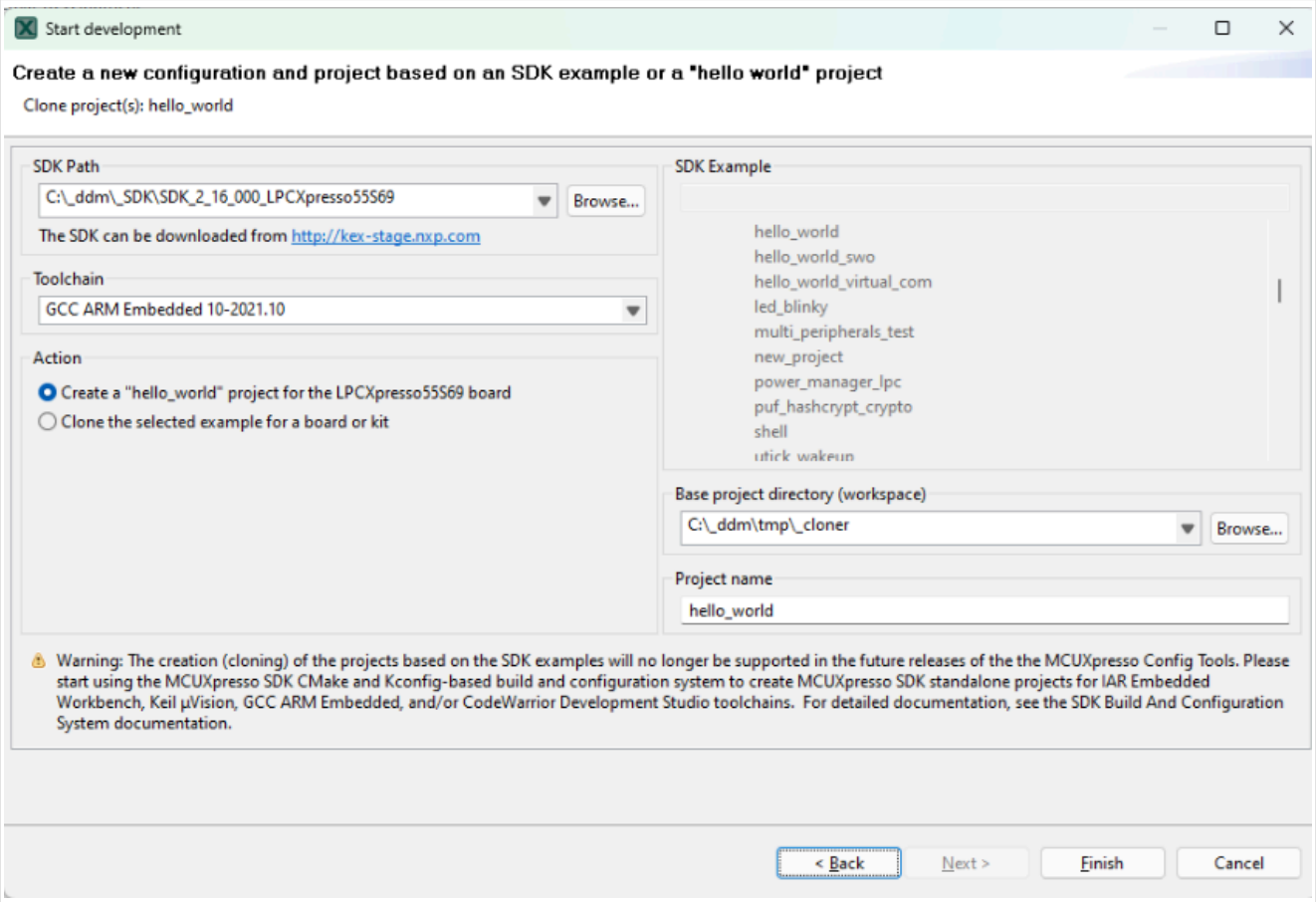

Figure 1. 克隆 **SDK**

要克隆 SDK 示例，请执行以下操作：

1. 在 开始开发 向导中，选择 基于 **SDK** 示例或"hello world"项目创建新配置。或者，在 菜单栏 中，选择 文件 > 新建。
2. 点击 下一步。
3. 指定本地保存的 SDK 包的路径。
4. 选择要为其创建项目的工具链。
5. 选择要克隆的 SDK 示例。
6. 指定保存项目的基本项目目录。
7. 指定项目名称。
8. 点击 完成。

您还可以创建一个基本的、最小自定义的"hello_world"项目，而无需从包中选择 SDK 示例。要创建"hello_world"项目，请执行以下操作：

1. 在 开始开发 向导中，选择 基于 **SDK** 示例或"hello world"项目创建新配置。或者，在 菜单栏 中，选择 文件 > 新建。
2. 点击 下一步。
3. 指定本地保存的 SDK 包的路径。
4. 选择要为其创建项目的工具链。
5. 选择 创建"hello_world"。
6. 指定保存项目的基本项目目录。

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7. 指定项目名称。
8. 点击 完成。

Config Tools 概览窗口显示配置的详细信息和支持的工具。现在，通过点击其图标选择一个工具。

2.2 创建新的工具链配置

您可以为现有工具链项目创建配置。完成后，与项目关联的配置文件将直接更新。

MCUXpresso Config Tools 目前支持以下工具链：

- MCUXpresso for VS Code/SDK West
- IAR Embedded Workbench
- Keil MDK uVision
- Arm GCC
- CodeWarrior with SDK

注意： 为了 Config Tools 的正常功能，要求工具链项目源自从 MCUXpresso SDK Builder 下载的 SDK 包，或已使用 Config Tools 的克隆功能创建，或已使用 MCUXpresso for VS Code 和 MCUXpresso SDK GitHub 创建。

要基于现有 IDE/工具链项目创建配置，请执行以下操作：

1. 在 开始开发 向导中，选择 基于现有 **IDE/**工具链项目创建新配置。或者，在 菜单栏 中，选择 文件 > 新建。
2. 点击 浏览。
3. 选择项目文件并通过点击 确定 确认。
4. 点击 完成。

2.2.1 在 MCUXpresso for VS Code 中创建新的工具链配置

MCUXpresso Config Tools 与 MCUXpresso for Visual Studio Code 扩展集成，提供无缝的开发体验。

MCUXpresso for VS Code 支持以下功能：

- 使用 MCUXpresso Installer 安装 MCUXpresso Config Tools。
- 在 MCUXpresso Config Tools 中打开并加载所选 MCUXpresso for VS Code 项目的配置。
- 在 MCUXpresso for VS Code 项目中应用在 MCUXpresso Config Tools 中生成的更改。

有关详细指南，请参阅 MCUXpresso for VS Code 文档中的 Working with MCUXpresso Config Tools。

2.3 创建新的独立配置

您可以创建不属于任何工具链项目的新配置。

您稍后可以通过将配置（MEX）文件保存在工具链项目文件夹中来将此配置包含在项目中。

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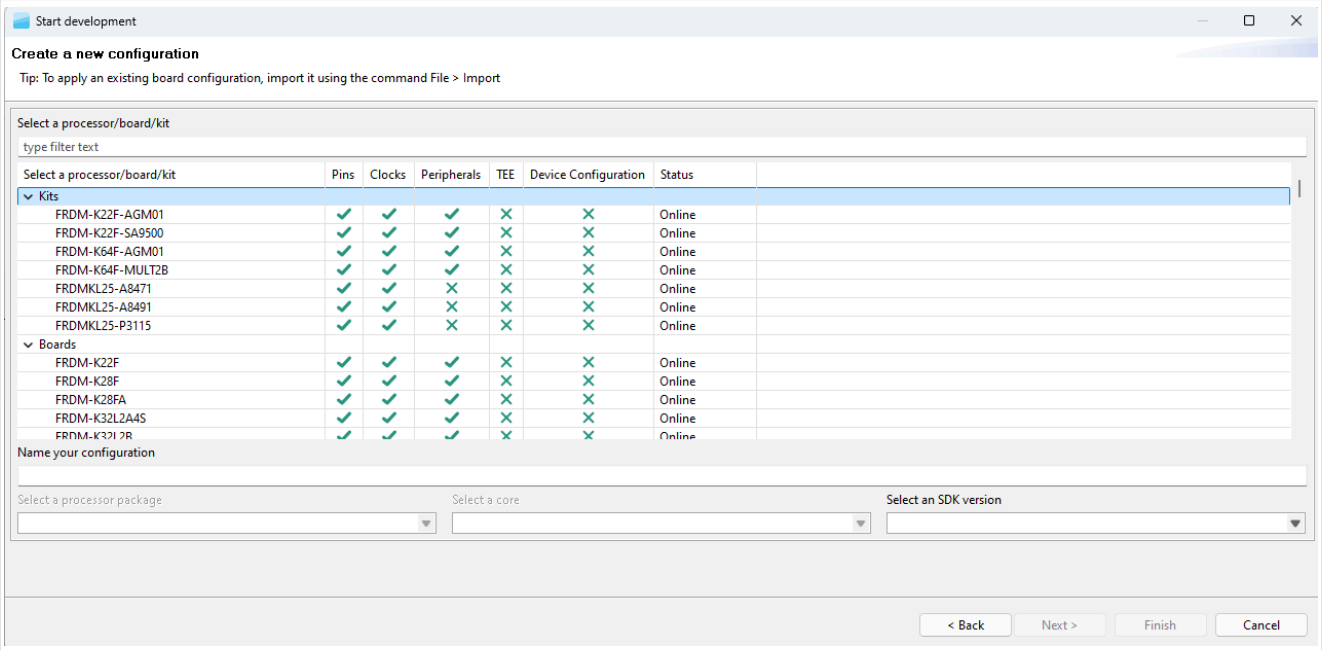

Figure 2. 创建新配置

要创建独立配置，请执行以下操作：

1. 在 开始开发 向导中选择 为处理器、板或套件创建新的独立配置。或者，在 菜单栏 中，选择 文件 > 新建。
2. 点击 下一步。
3. 从列表中选择处理器、板或套件。
   注意： 如果您在离线工作，您只会看到本地保存的选项。有关更多信息，请参阅 *User Guide for MCUXpresso Config Tools (Desktop)* 的 **Working offline** 部分（文档 GSMCUXCTUG）
4. 为您的配置命名。您可以选择处理器封装、内核和 SDK 版本。
5. 点击 完成。

3 选择工具

工具栏的右侧包含工具选择按钮。使用这些按钮在工具之间切换。

Table 1. 工具

名称	描述
Pins Tool 引脚工具	使您能够配置设备的引脚。引脚工具使您能够创建、检查、更改和修改设备引脚配置和复用的任何方面。
Clocks Tool 时钟工具	使您能够配置系统时钟（内核、系统、总线和外设时钟）的初始化，并生成带有时钟初始化函数和配置结构的 C 代码。
Peripherals Tool 外设工具	使您能够配置 MCUXpresso SDK 驱动程序的初始化。
Device Configuration Tool 设备配置工具	使您能够使用引导 ROM 参考手册中指定的格式和约束生成设备配置数据（DCD）映像。
TEE (Trusted Execution Environment) Tool 可信执行环境工具	使您能够配置内存区域、总线主控器和外设的安全策略，以隔离和保护应用程序的敏感区域。

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3.1 Pins Tool

引脚工具

在 **Pins** 工具中，您可以显示和配置处理器的引脚。基本配置可以在 Pins、Peripheral **Signals** 或 **Package** 视图中完成。

更高级的设置（引脚电气特性）可以在 **Routed Pins view** 中调整。

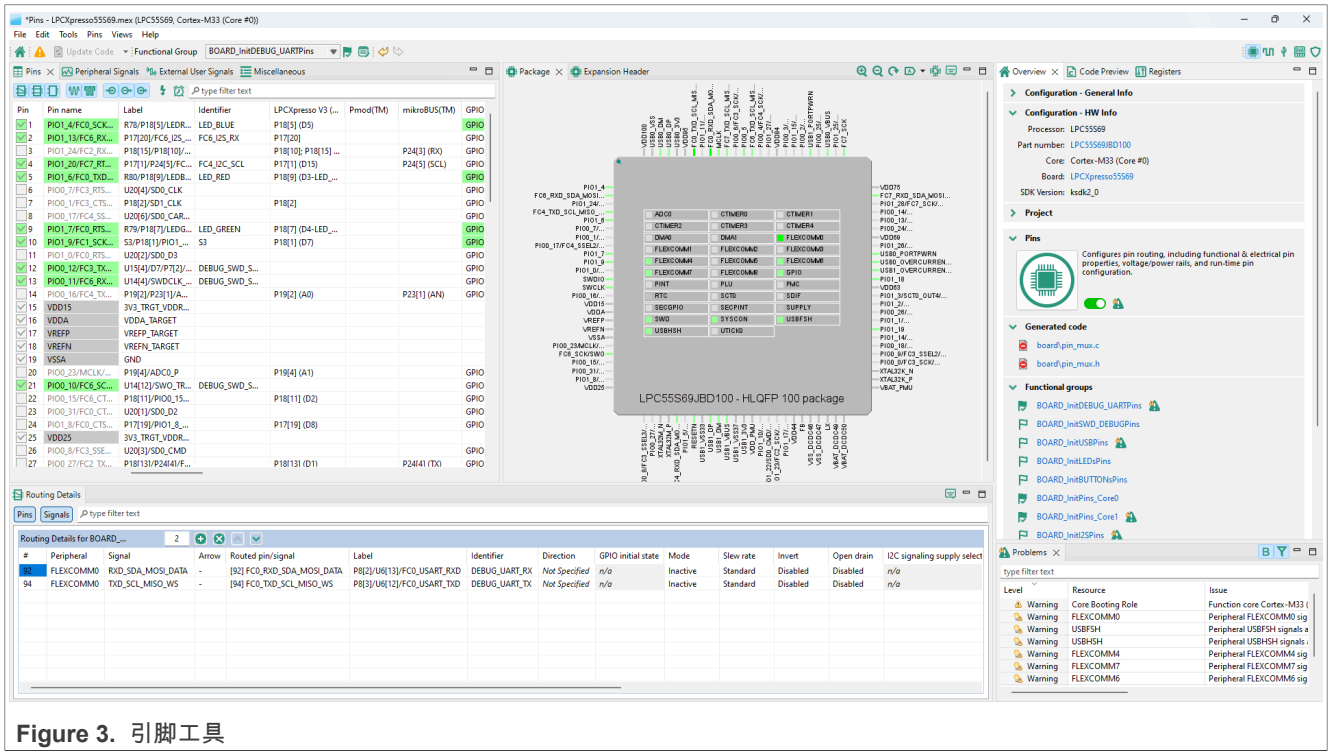

Figure 3. 引脚工具

3.2 Clocks Tool

时钟工具

在 **Clocks** 工具中，您可以显示和修改时钟源和输出。使用 **Clocks Table** 视图设置时钟源和输出，更高级的设置可以通过 **Clocks Diagram** 和 **Details** 视图进行调整。时钟环境的全局设置，如运行模式、MCG 模式和 SCG 模式，可以在 **Clocks Table**、**Clocks Diagram**、**Functional group properties** 和 **Details** 视图中修改。

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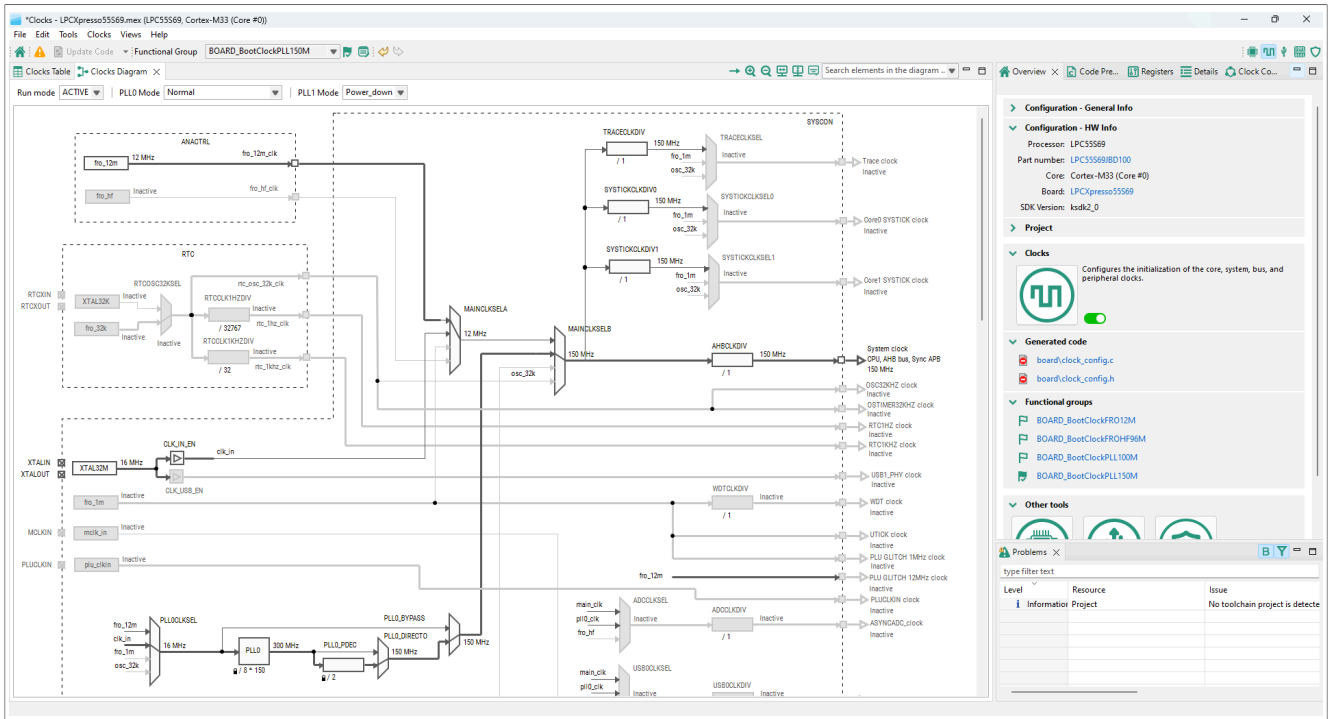

Figure 4. 时钟工具

3.3 Peripherals Tool

外设工具

在 **Peripherals** 工具中，您可以配置所选外设的初始化并为其生成代码。在 **Peripherals view** 中，选择要配置的外设并确认添加配置组件。然后您可以选择外设的模式并在设置编辑器中配置设置。

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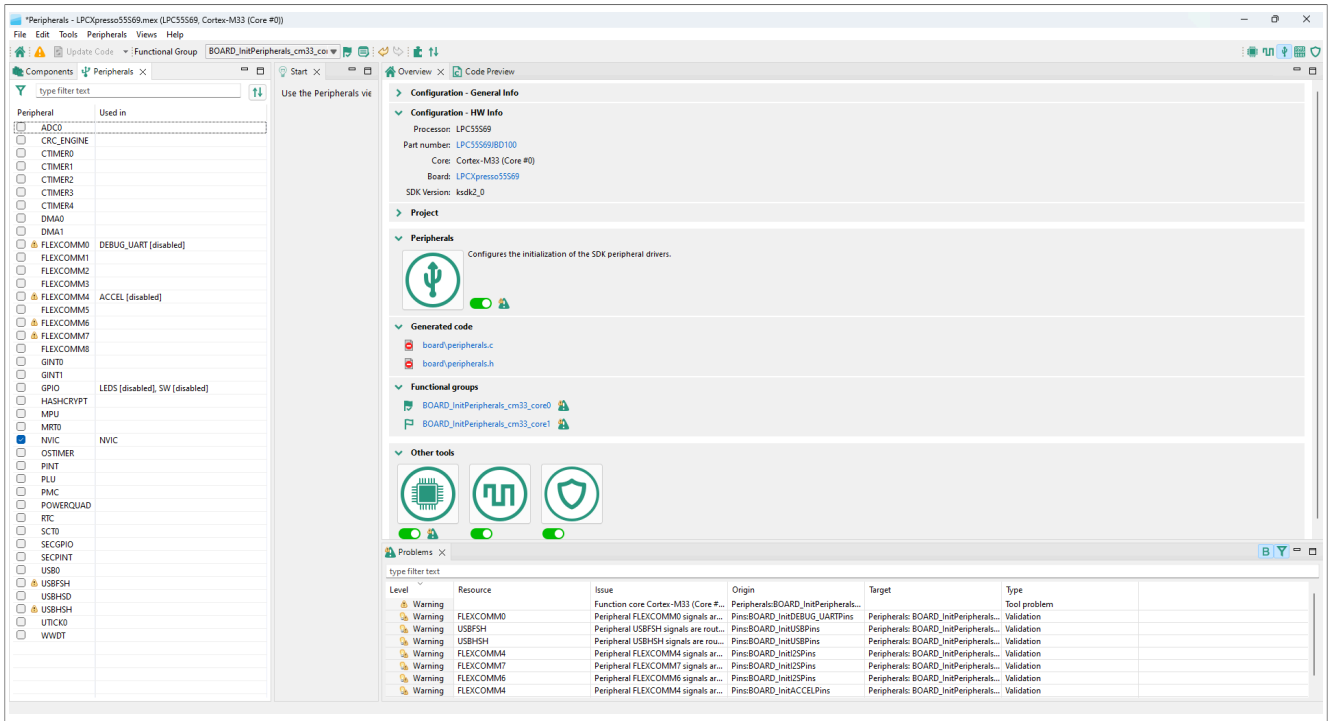

Figure 5. 外设工具

3.4 Device Configuration Tool

设备配置工具

Device Configuration 工具允许您配置硬件内存接口的初始化。使用 **Device Configuration Data (DCD)** 视图创建不同类型的命令并指定其序列，定义其地址、值、大小和轮询。

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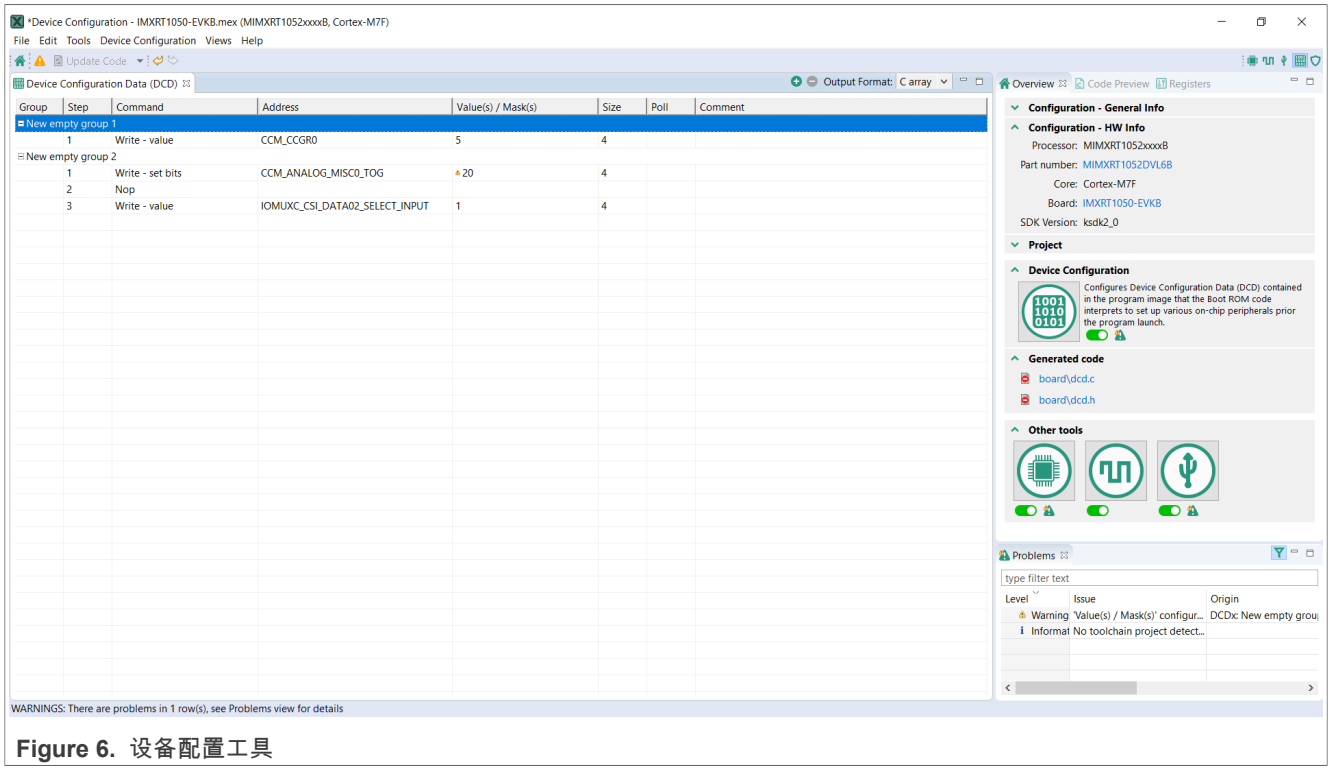

Figure 6. 设备配置工具

3.5 Trusted Execution Environment Tool

可信执行环境工具

在 **Trusted Execution Environment** 或 **TEE** 工具中，您可以配置内存区域、总线主控器和外设的安全策略，以隔离和保护应用程序的敏感区域。

您可以在 **Security Access Configuration** 及其子视图中设置应用程序不同部分的安全策略，并在 **Memory Attribution Map**、**Access Overview** 和 **Domains Overview** 视图中查看这些策略。使用 **User Memory Regions** 视图创建内存区域及其安全级别的便捷概览。

您还可以在 **Registers** 视图中查看 **TEE** 工具处理的寄存器，并在 **Code Preview** 工具中检查代码。

注意： 要使您的配置生效，请确保您已在 **Security Access Configuration** 视图的 **Miscellaneous** 子视图中启用了相关的启用安全检查选项。

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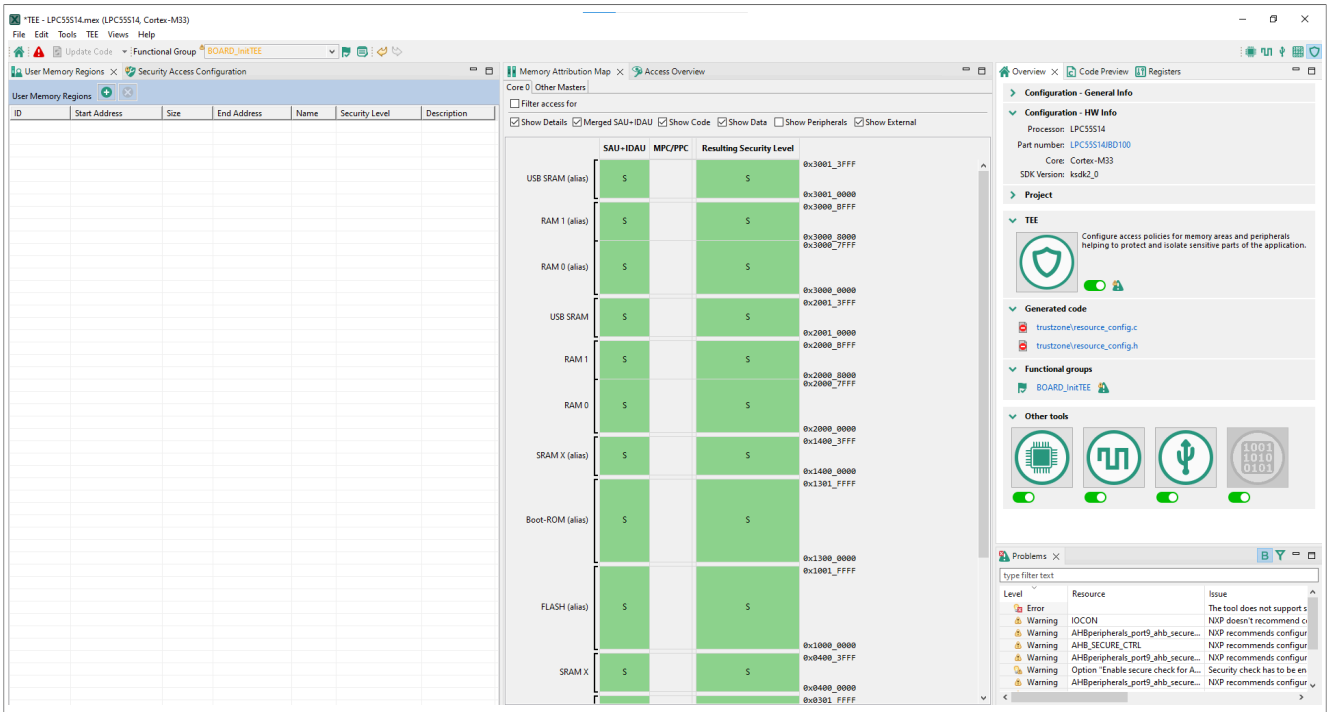

Figure 7. TEE 工具用户界面（SAU + IDAU）

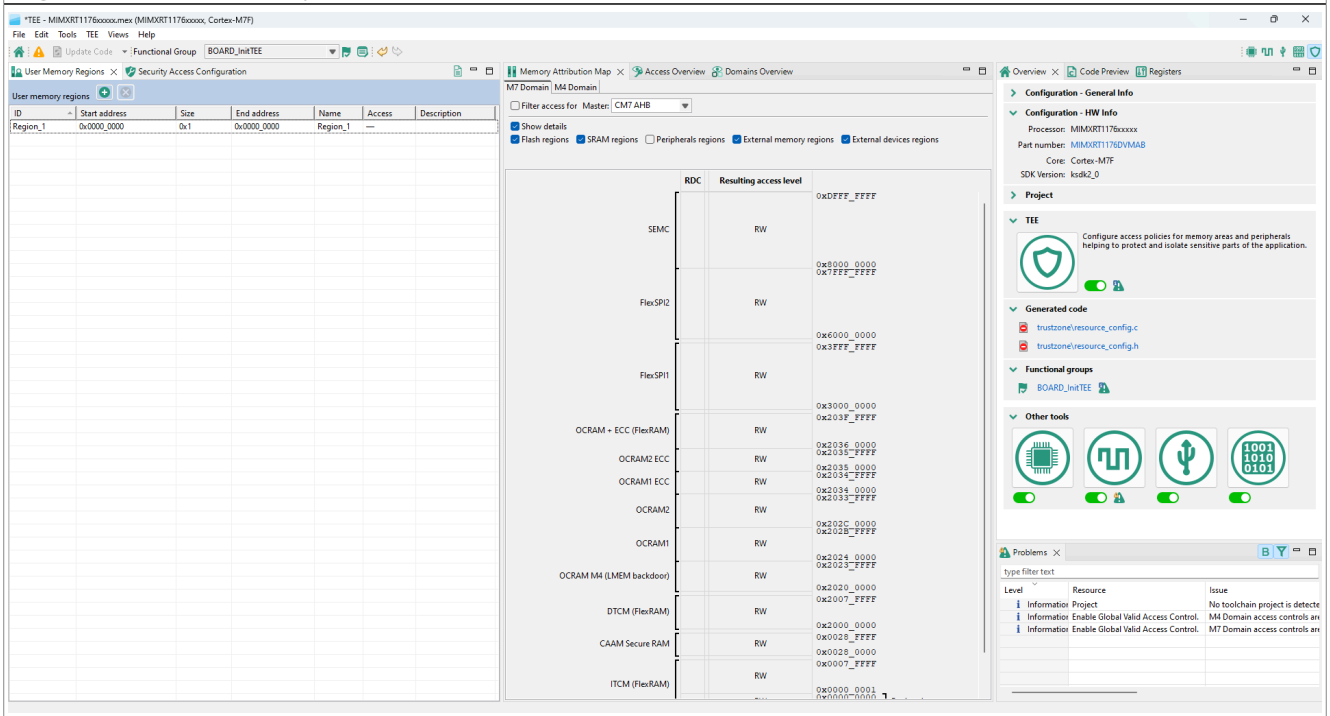

Figure 8. TEE 工具用户界面（RDC）

4 生成代码

您可以通过点击 **Update Code button** 来更新由 **MCUXpresso Config Tools** 生成的源文件。该命令打开一个对话框，其中包含将要重新生成的文件列表，并允许选择哪些工具将生成代码。

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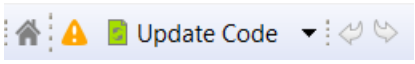

Figure 9. "更新源代码"按钮

注意： 要生成代码，必须先保存配置。本文档后面将对此进行描述。

或者，您也可以通过点击 **Code Preview** 视图中的导出按钮来导出选定的源文件。

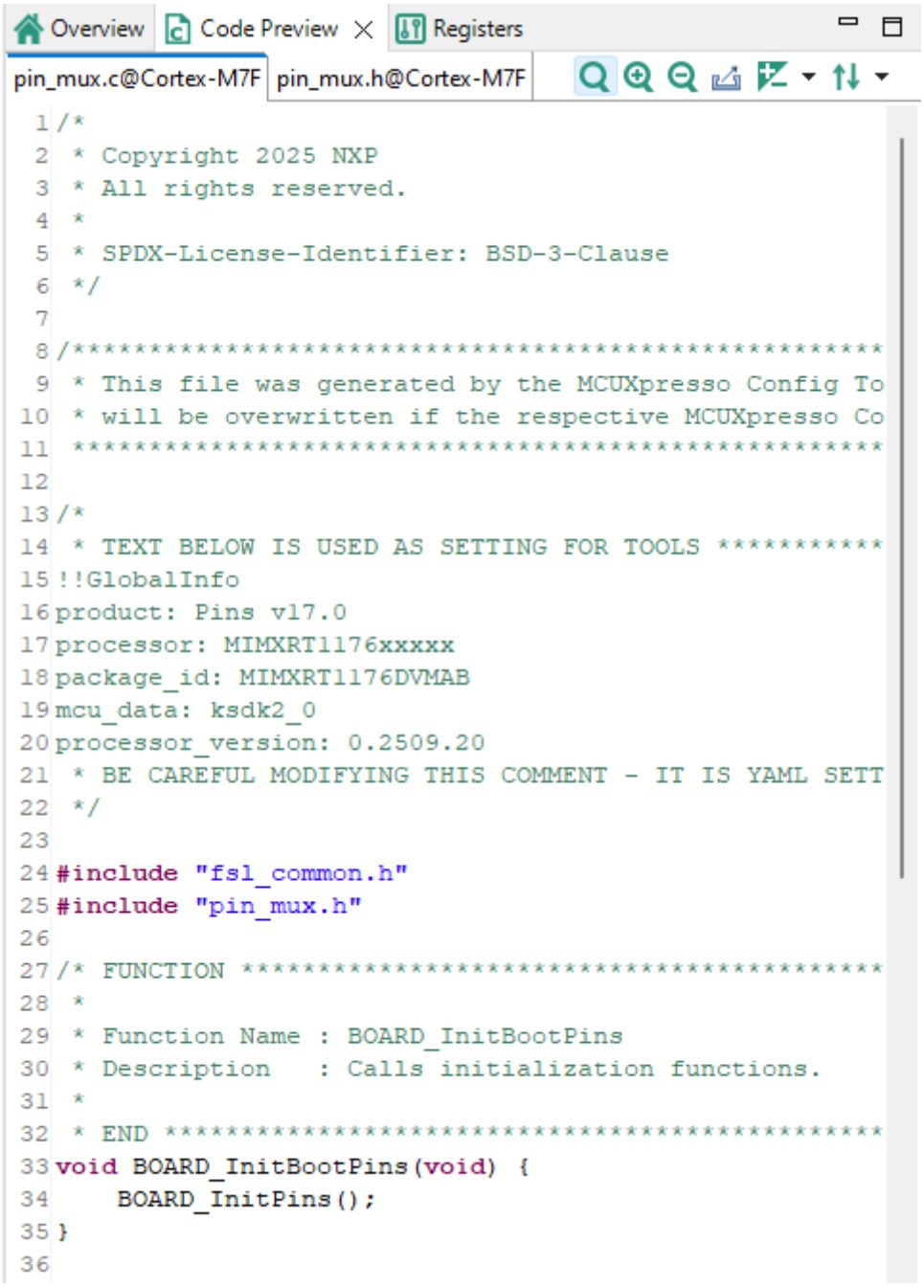

Figure 10. 代码预览

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6 修订历史

Table 2. 修订历史

文档 ID	发布日期	描述
MCUXDQS_ZH v.17.0	2026年9月17日	为 v.26.09 更新
MCUXDQS_ZH v.16.0	2026年6月24日	为 v.26.06 更新
MCUXDQS_ZH v.15.0	2026年3月25日	为 v.26.03 更新
MCUXDQS_ZH v.14.0	2025年12月16日	针对 v.25.12 更新
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MCUXDQS_ZH v.12.0	2025年6月20日	针对 v.25.06 更新
MCUXDQS_ZH v.11.0	2025年3月17日	针对 v.25.03 更新
MCUXDQS_ZH v.10.0	2025年1月15日	针对 v.24.12 更新
MCUXDQS_ZH v.9.0	2024年9月24日	针对 v.16.1 更新
MCUXDQS_ZH v.8.0	2024年7月1日	针对 v.16 更新
MCUXDQS_ZH v.7.0	2024年4月19日	针对 v.15.1 更新
MCUXDQS_ZH v.6.0	2024年1月10日	针对 v.15 更新
MCUXDQS_ZH v.5.0	2023年7月31日	针对 v.14 更新
MCUXDQS_ZH v.4.0	2023年1月2日	针对 v. 13 更新
MCUXDQS_ZH v.3.0	2022年9月20日	针对 v.12.1 更新
MCUXDQS_ZH v.2.0	2022年6月30日	针对 v.12 更新
MCUXDQS_ZH v.1.0	2021年12月22日	屏幕截图已更新

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Table 2. 修订历史*...continued*

文档 ID	发布日期	描述
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