

# IMXQSUG

## Quick Start Guide for Config Tools for i.MX

Rev. 17.0 — 17 September 2026

User guide

### Document information

| Information | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keywords    | MCUXpresso Config Tools, i.MX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Abstract    | The Config Tools for i.MX is part of MCUXpresso Config Tools, a suite of evaluation and configuration tools that help users from initial evaluation to production software development. Config Tools for i.MX is an easy-to-use way to configure the pins and DDR of the i.MX processor devices. The software, in general, enables you to create, inspect, change, and modify any aspect of the pin configuration and muxing of the device. It also allows you to configure and validate DDR settings. This document describes the basic components of the Config Tools for i.MX and lists the steps to configure and use them to configure both pins and DDR. |



# 1 Introduction

**Config Tools for i.MX** is a suite of tools intended for configuration of NXP i.MX Cortex-A and Cortex-M-based processors.

Use the **Pins** tool to customize pin routing configuration of the device, including configuration of electrical properties related to all respective pin signals, and to create source codes applicable for a device initialization either as direct initialization of register(s) or code for SDK API and/or device tree code snippet (if supported).

Use the **DDR** tool to configure and validate the double data rate RAM configuration.

Use the **Trusted Execution Environment (TEE)** tool to configure security policies of memory areas, bus masters, and peripherals, in order to isolate and safeguard sensitive areas of your application.

# 2 Start with a new configuration

Starting **Config Tools for i.MX** for the first time, you will be greeted by the **Start Development** window. You can use this window to create a new configuration or load an existing one.

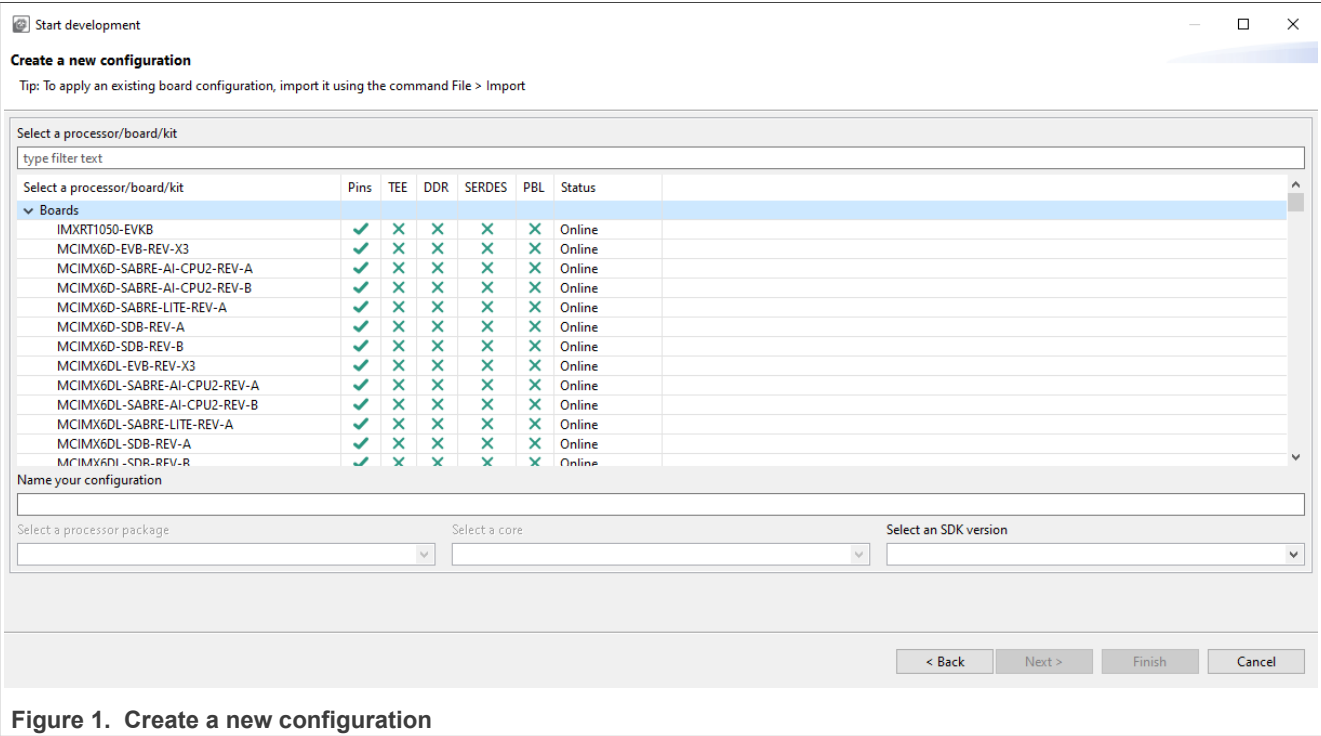


Figure 1. Create a new configuration

To create a new configuration for selected processor, board or kit at any time, do the following:

1. Start the tool or select **File > New**.
2. Select option **Create new configuration for processor, board or kit**.
3. Select **Next**.
4. Expand the tree and select any processor, board or kit configuration. You can also use the filter field to quickly find desired item.
5. Customize name of the configuration and select **Finish**.

Use **File > Save** to save existing configuration to the disk.

### 3 Import an existing configuration

You can also import an existing configuration using a built-in import wizard for getting pins and DDR configuration either from legacy project formats (IO Mux Tool Design Configuration XML or PEx for i.MX) or another already existing configuration file (MEX) or **Pins** tool-generated source files containing YAML configuration details.

To import an existing configuration:

1. Select **File > Import**.
2. Choose the import wizard, select **Next** and follow the instructions.
3. Select **Browse** and then the required input file(s).
4. Select **Finish** to import files.

New configuration is created if the import is finished successfully, then use **File > Save** to save it to the disk.

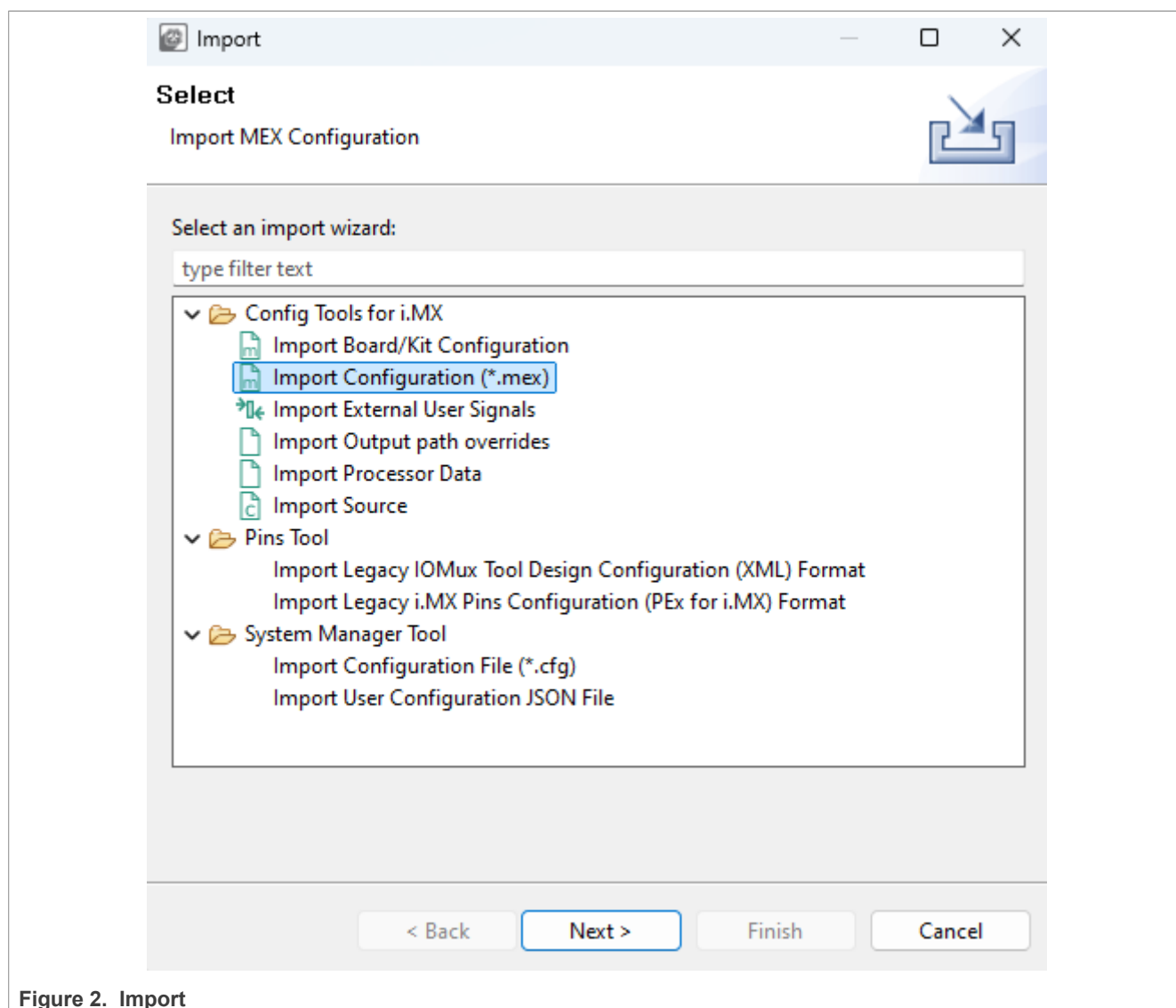


Figure 2. Import

## 4 Pins Tool

In the **Pins** tool, you can display and configure the pins of selected processor. Basic configuration can be done in the **Pins**, **Peripheral Signals**, or **Package** views.

More advanced settings (pin electrical properties and features) can be viewed and configured in the **Routed Pins** view.

Moreover, **Config Tools for i.MX** allows you to verify possible voltage level issues on HW level within given functional group for pins configuration from different power rails (if specified for given processor). Individual voltage level for supported power groups can be configured globally per current configuration in **Power Groups** view.

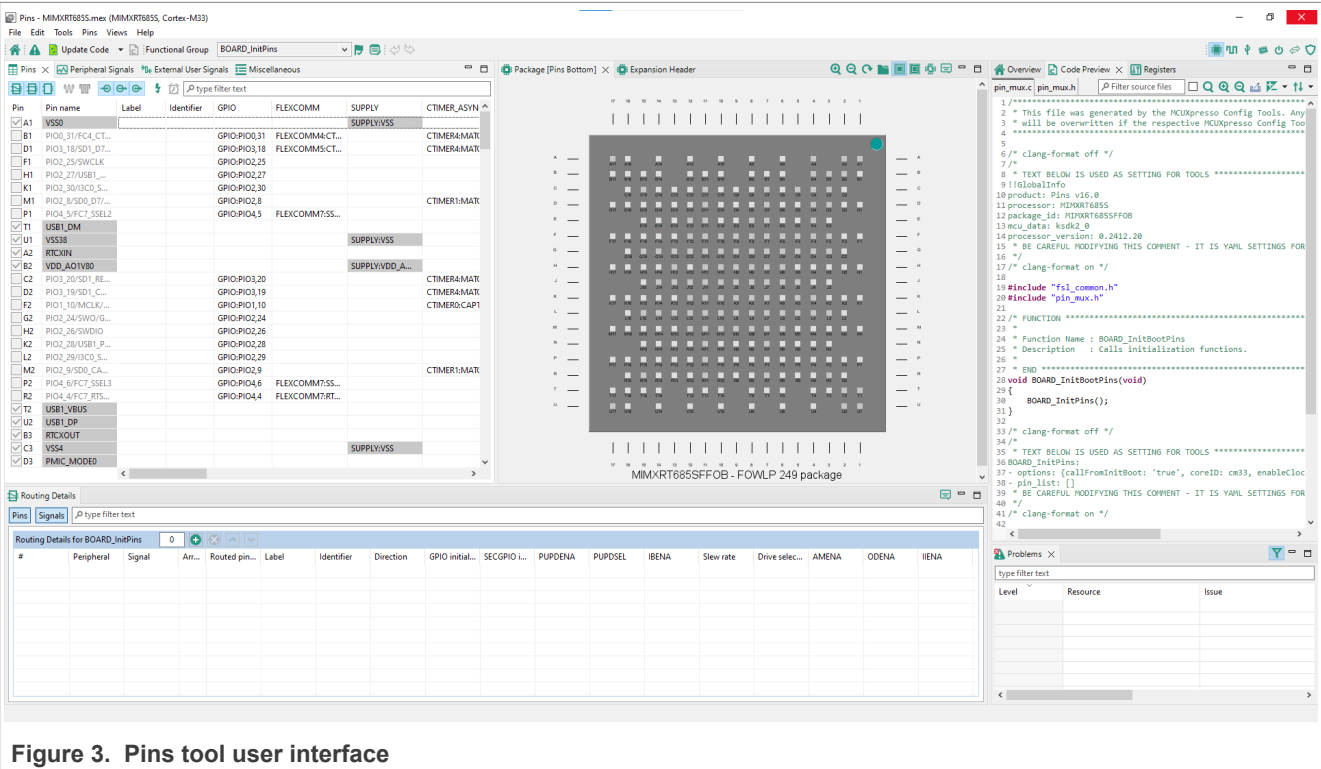


Figure 3. Pins tool user interface

## 5 DDR Tool

In the **DDR** view you can view and configure basic DDR attributes, such as memory type, frequency, number of channels and others.

In the **Validation** view, you can submit the DDR configuration to a variety of tests. After you've specified the connection type, you can choose scenarios, tests to run in these scenarios, and view the test results, logs, and summary.

## 6 Trusted Execution Environment Tool

In the **Trusted Execution Environment**, or **TEE** tool, you can configure security policies of memory areas, bus masters, and peripherals, in order to isolate and safeguard sensitive areas of your application.

You can set security policies of different parts of your application in the **Security Access Configuration** and its subviews, and review these policies in the **Memory Attribution Map**, **Access Overview** and **Domains**

**Overview** views. Use the **User Memory Regions** view to create a convenient overview of memory regions and their security levels.

You can also view registers handled by the **TEE** tool in the **Registers** view, and inspect the code in the **Code Preview** tool.

**Note:** In order for your configuration to come into effect, make sure you have enabled the relevant enable secure check option in the **Miscellaneous** subview of the **Security Access Configuration** view.

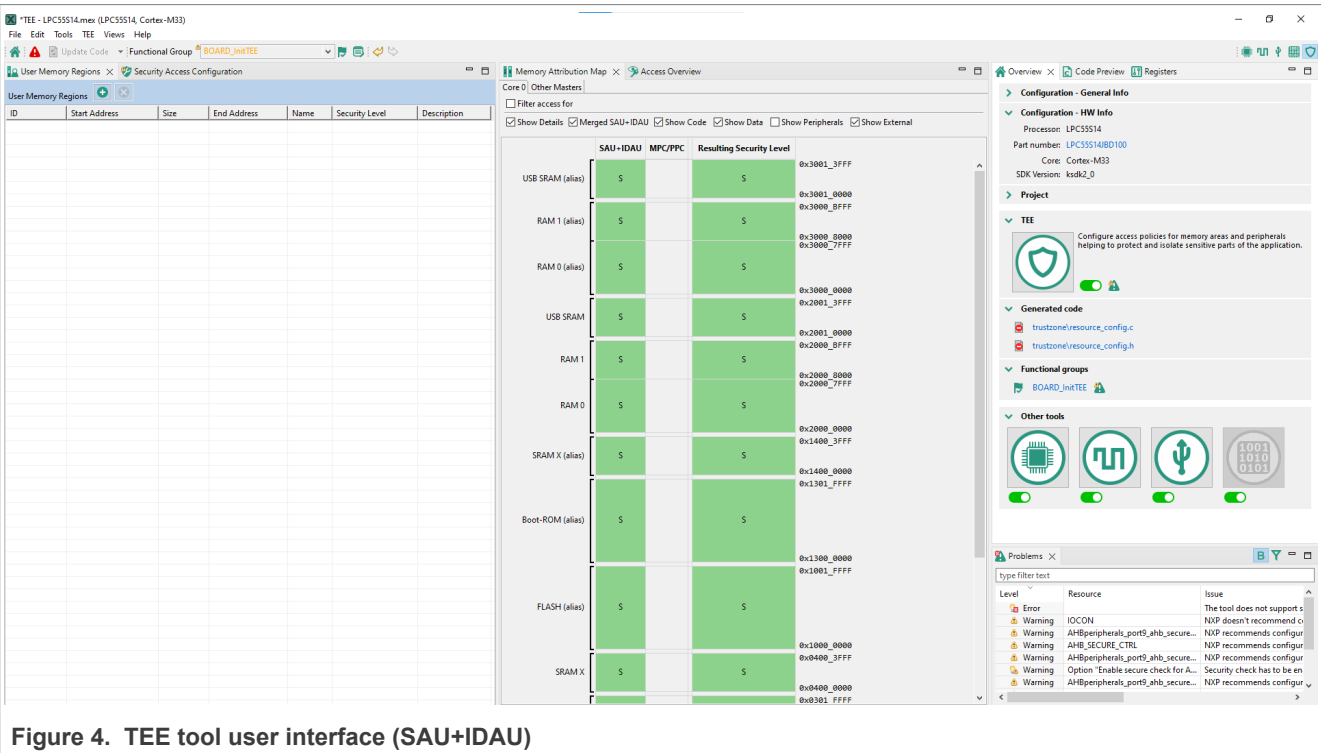


Figure 4. TEE tool user interface (SAU+IDAU)

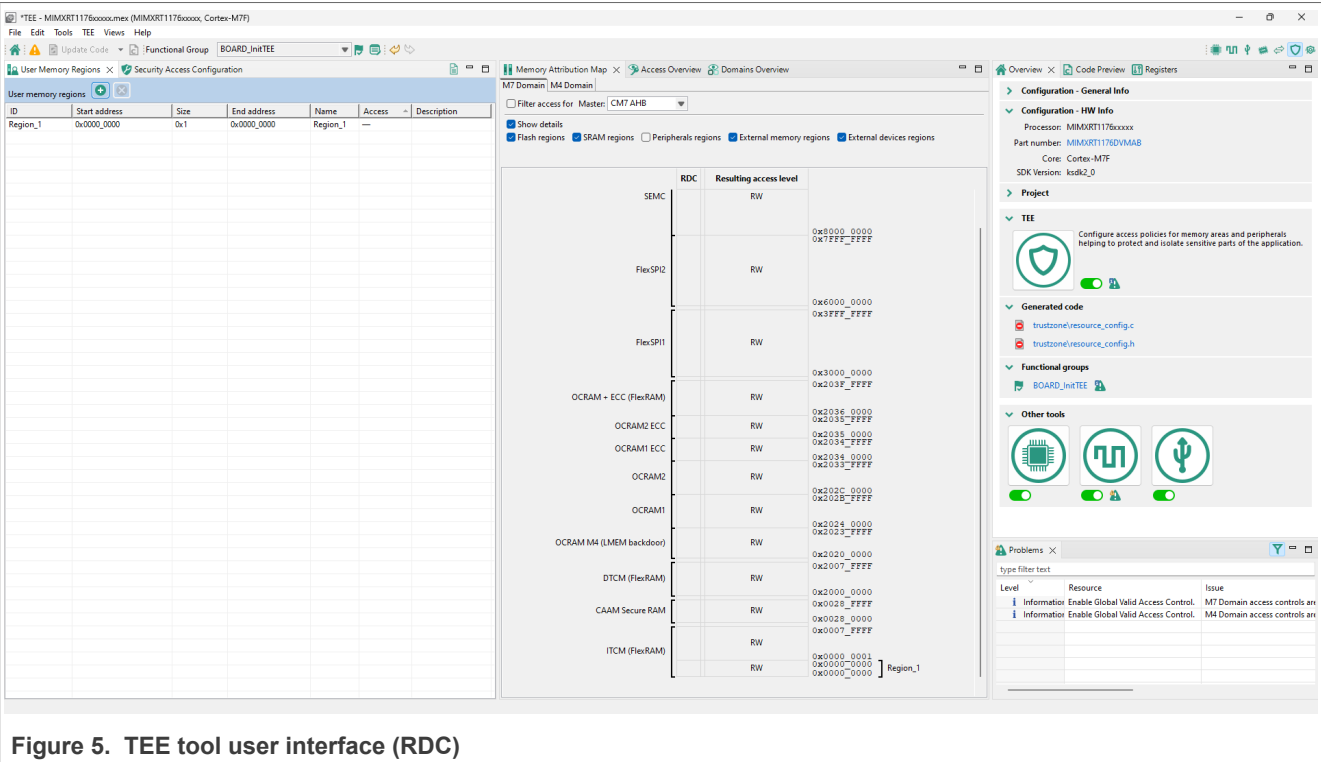


Figure 5. TEE tool user interface (RDC)

## 7 Generate code

The **Pins** tool generates the output code for current configuration automatically. You can also select **Pins > Refresh** from the **Main Menu** to update the code manually. All output code files are displayed in the **Code Preview** view. To copy the code, perform the copy/paste operation or click the **Export** icon in the right up corner of **Code Preview** view.

```

1 /*****
2  * This file was generated by the MCUXpresso Config
3  * will be overwritten if the respective MCUXpresso
4  *****/
5
6 /* clang-format off */
7 /*
8  * TEXT BELOW IS USED AS SETTING FOR TOOLS *****
9  !!GlobalInfo
10 product: Pins v14.0
11 processor: MIMXRT685S
12 package_id: MIMXRT685SFVKB
13 mcu_data: ksdk2_0
14 processor_version: 0.14.4
15 board: MIMXRT685-EVK
16 * BE CAREFUL MODIFYING THIS COMMENT - IT IS YAML
17 */
18 /* clang-format on */
19
20 #include "fsl_common.h"
21 #include "fsl_gpio.h"
22 #include "fsl_iopctl.h"
23 #include "pin_mux.h"
24
25 /* FUNCTION *****
26  *
27  * Function Name : BOARD_InitBootPins
28  * Description   : Calls initialization functions.
29  *
30  * END *****

```

Figure 6. Generate code

Alternatively, you can also export generated output in various types of output like source files, plain pins configuration data in CSV, modified registers content or as pins configuration report in HTML per specific export wizard selectable from **File > Export** from the **Main Menu**.

## 8 Note about the source code in the document

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## 9 Revision history

Table 1. Revision history

| Document ID    | Release date      | Description                            |
|----------------|-------------------|----------------------------------------|
| IMXQSUG v.17.0 | 17 September 2026 | Updated for v.26.09                    |
| IMXQSUG v.16.0 | 24 June 2026      | Updated for v.26.06                    |
| IMXQSUG v.15.0 | 25 March 2026     | Updated for v.26.03                    |
| IMXQSUG v.14.0 | 16 December 2025  | Updated for v.25.12                    |
| IMXQSUG v.13.0 | 18 September 2025 | Updated for v.25.09                    |
| IMXQSUG v.12.0 | 20 June 2025      | Updated for v.25.06                    |
| IMXQSUG v.11.0 | 17 March 2025     | Updated for v.25.03                    |
| IMXQSUG v.10.0 | 15 January 2025   | Updated for v.24.12                    |
| IMXQSUG v.9.0  | 24 September 2024 | Updated for v.16.1                     |
| IMXQSUG v.8.0  | 1 July 2024       | Updated for v.16                       |
| IMXQSUG v.7.0  | 19 April 2024     | Updated for v.15.1                     |
| IMXQSUG v.6.0  | 10 January 2024   | Updated for v.15                       |
| IMXQSUG v.5.0  | 31 July 2023      | Updated for v.14                       |
| IMXQSUG v.4.0  | 2 January 2023    | Screenshots are updated, minor updates |
| IMXQSUG v.3.0  | 20 September 2022 | Updated for v.12.1                     |
| IMXQSUG v.2.0  | 30 June 2022      | Updated for v.12                       |
| IMXQSUG v.1.0  | 22 December 2021  | Screenshots are updated.               |
| IMXQSUG v.0    | 23 June 2021      | Initial version                        |

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