

## 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.

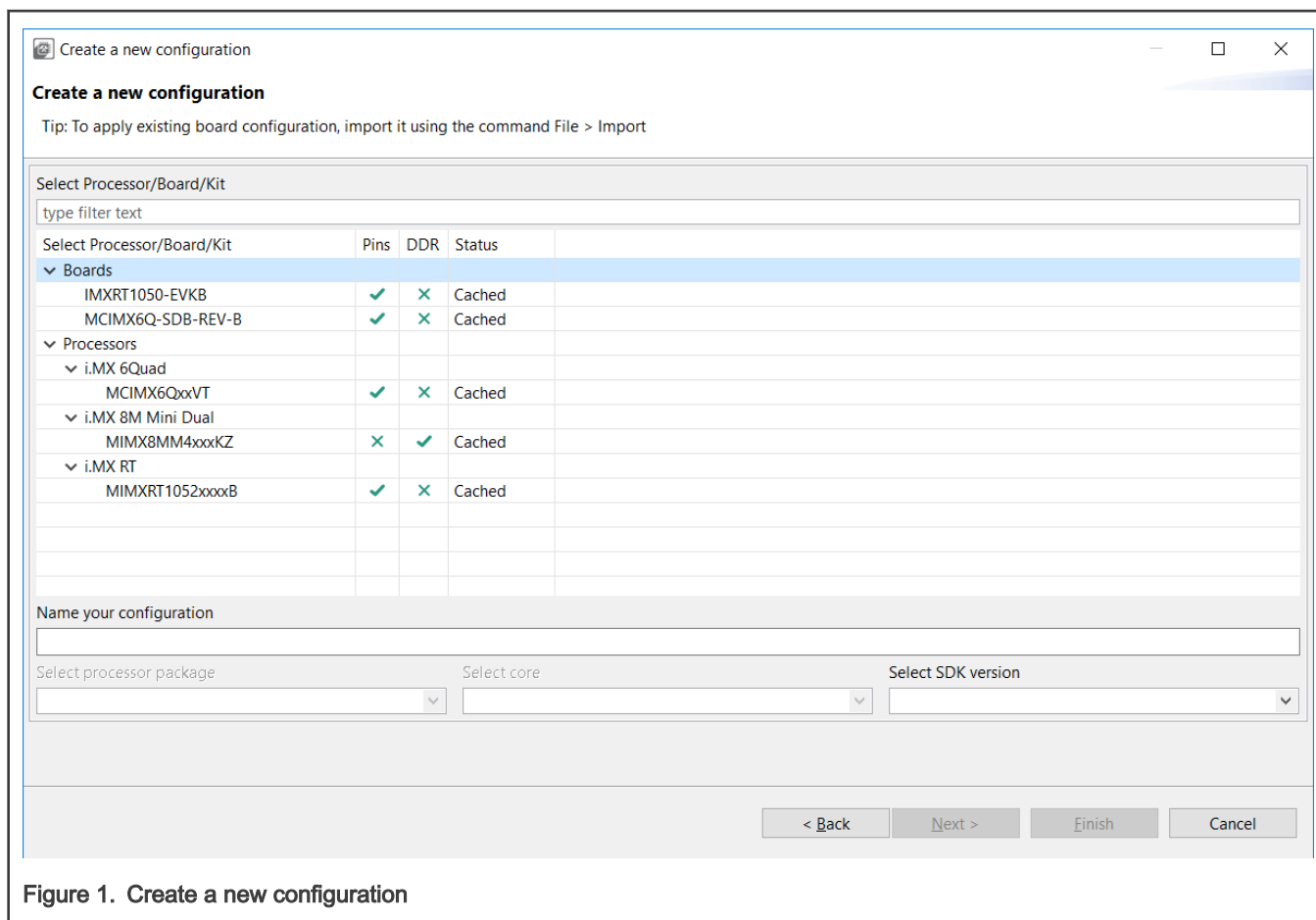
## 2 Start with a new configuration

On starting **Config Tools for i.MX** 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.

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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.

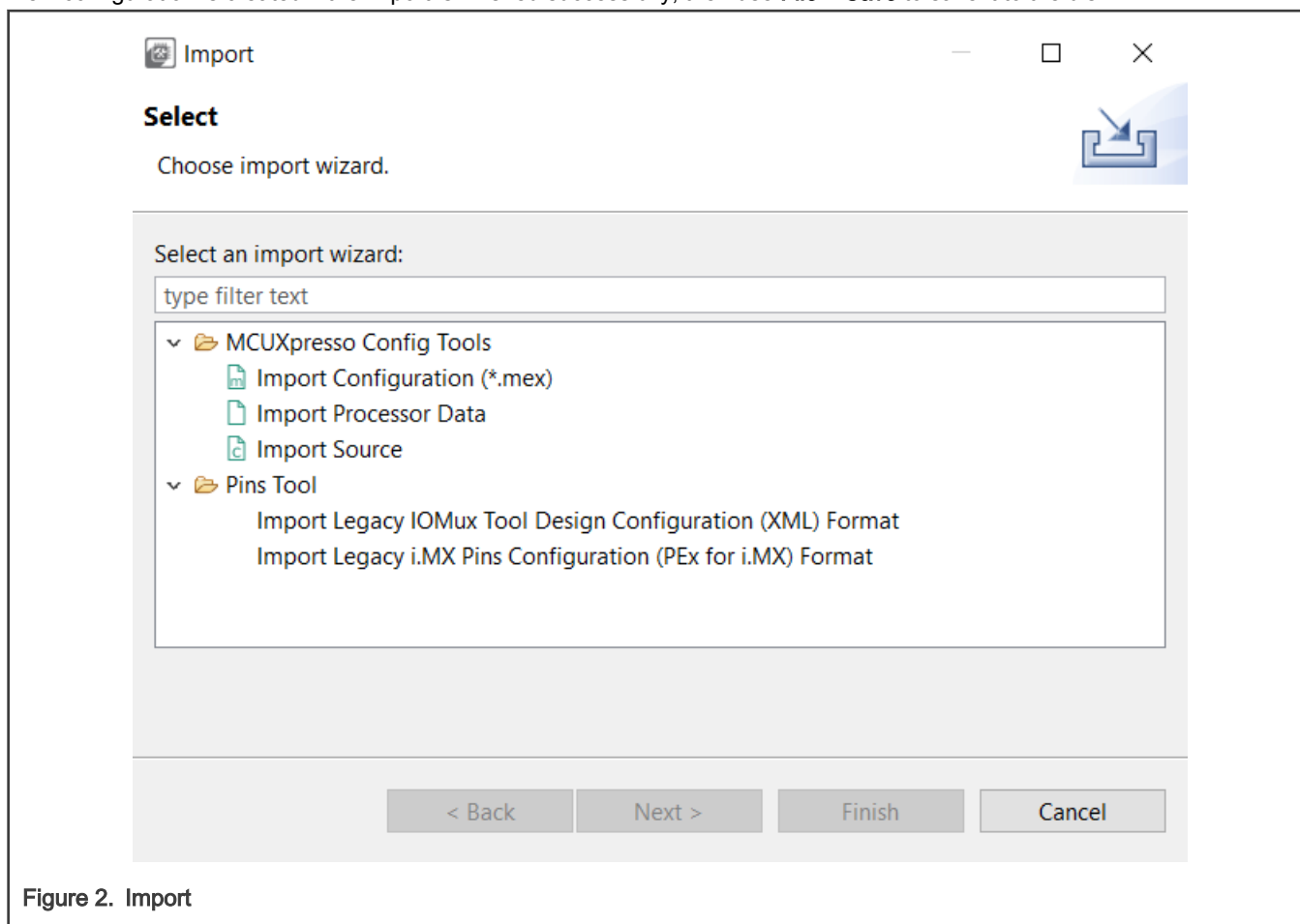
### 3 Import an existing configuration

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 an other 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.



## 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.

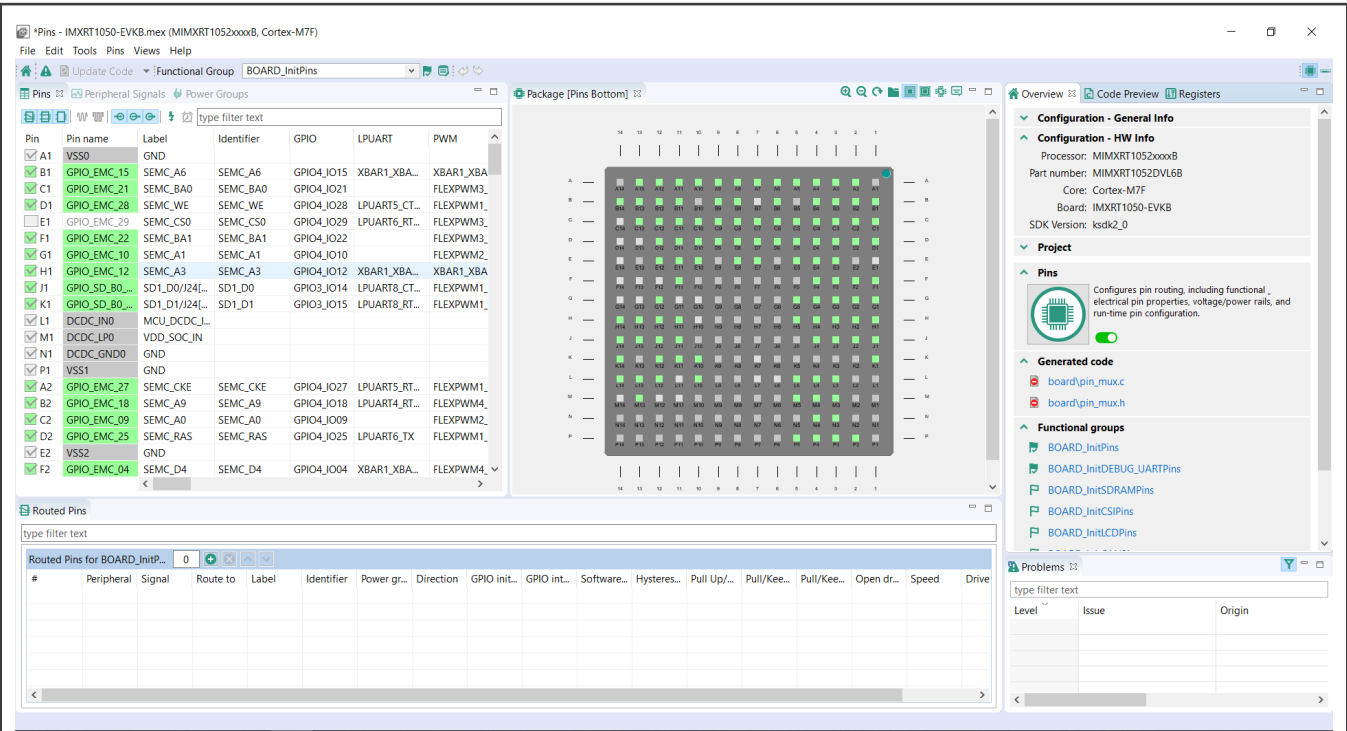


Figure 3. Pins tool user interface

# 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.

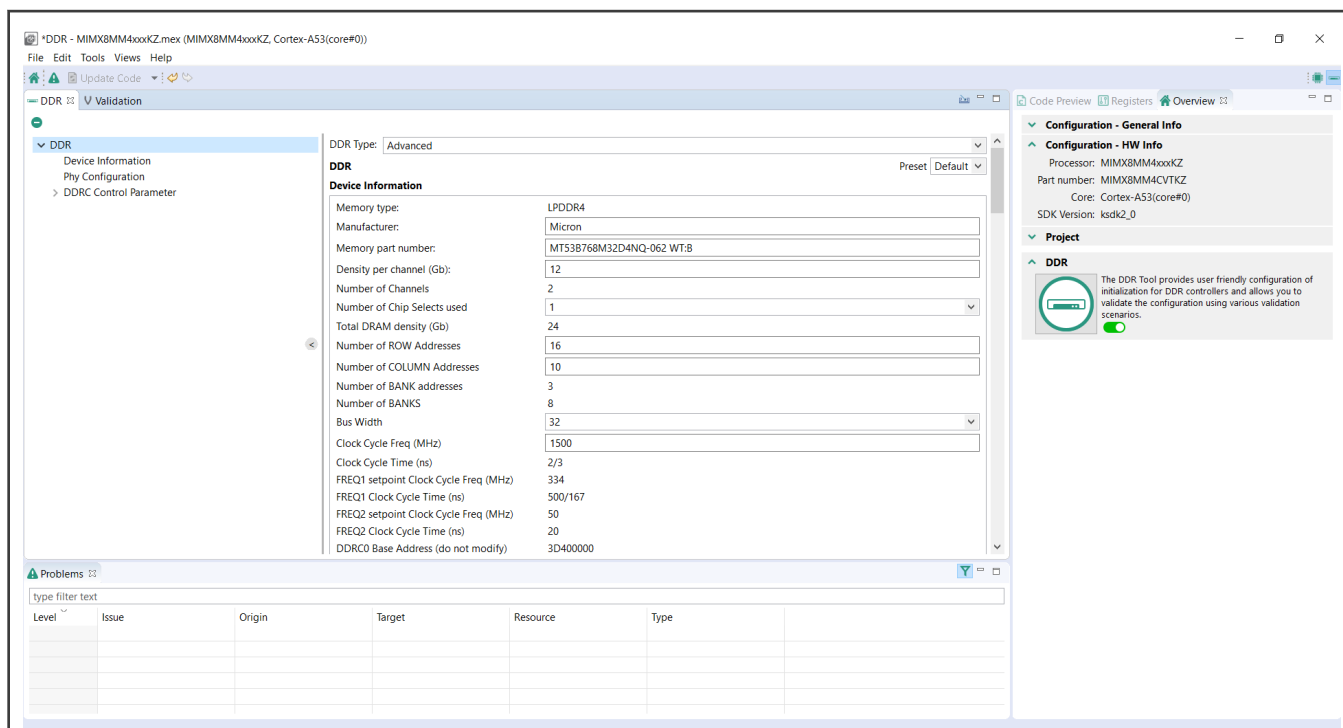


Figure 4. DDR View

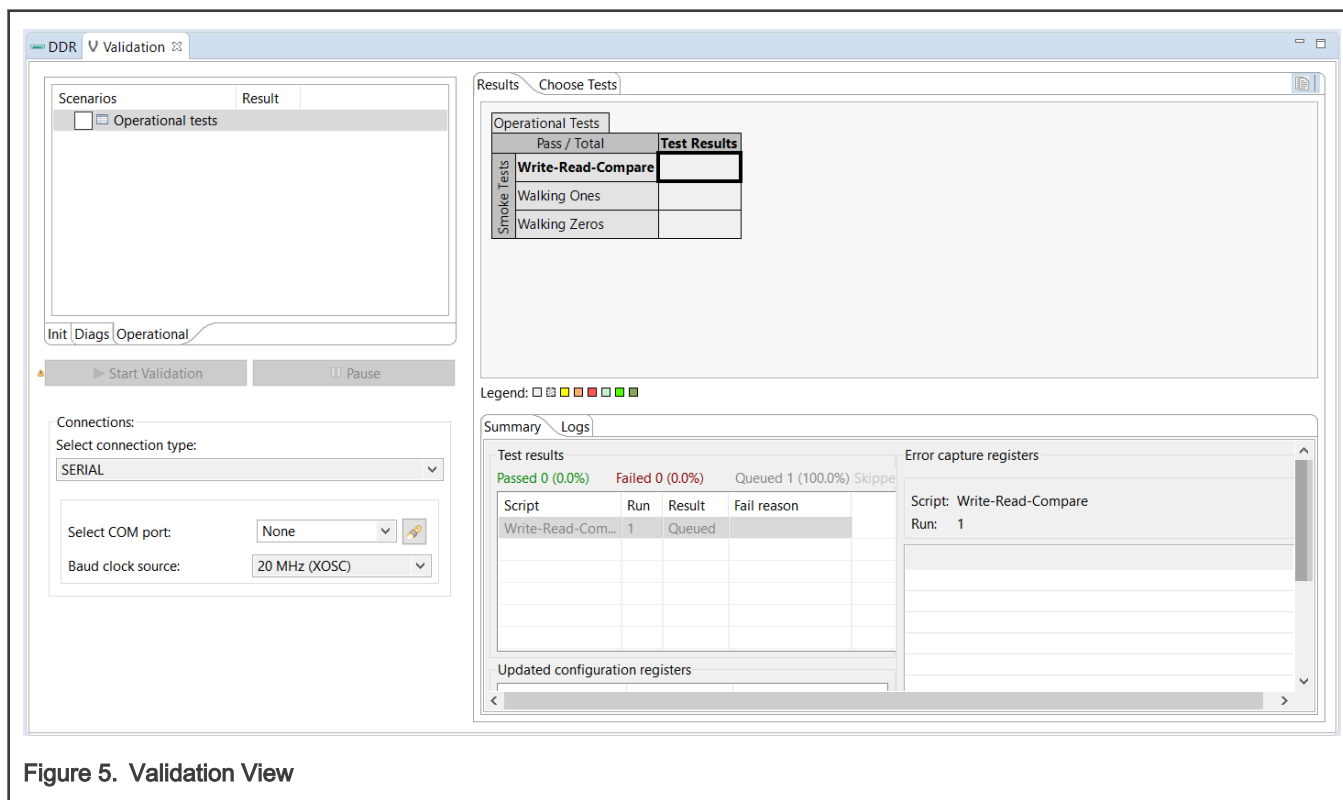
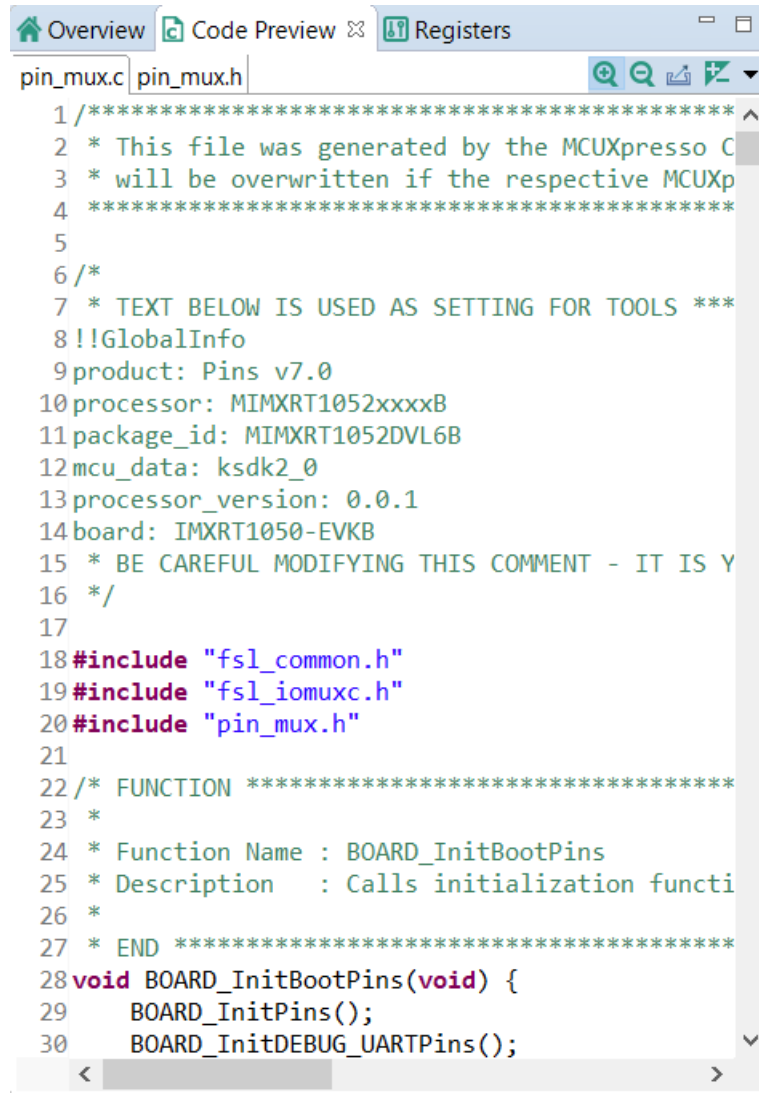


Figure 5. Validation View

## 6 Generate code

**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 C
3  * will be overwritten if the respective MCUXp
4  *****/
5
6 /*
7  * TEXT BELOW IS USED AS SETTING FOR TOOLS ***
8  !!GlobalInfo
9  product: Pins v7.0
10 processor: MIMXRT1052xxxkB
11 package_id: MIMXRT1052DVL6B
12 mcu_data: kSDK2_0
13 processor_version: 0.0.1
14 board: IMXRT1050-EVKB
15  * BE CAREFUL MODIFYING THIS COMMENT - IT IS Y
16  */
17
18 #include "fsl_common.h"
19 #include "fsl_iomuxc.h"
20 #include "pin_mux.h"
21
22 /* FUNCTION *****/
23  *
24  * Function Name : BOARD_InitBootPins
25  * Description   : Calls initialization functi
26  *
27  * END *****/
28 void BOARD_InitBootPins(void) {
29     BOARD_InitPins();
30     BOARD_InitDEBUG_UARTPins();

```

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 format per specific export wizard selectable from **File > Export** from the **Main Menu**.

## 7 Revision history

Table 1. Revision history

Revision number	Date	Substantive changes
0	23 June 2021	Initial release
1	22 December 2021	Minor updates

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