The library is released in a pre-compiled format, together with functional example projects and documentation describing the respective tests.
1 Introduction

IEC60730B_CM4_CM7_4_4 is the actual version of the core self-test library for NXP devices with the CM4 and CM7 core. The library is certified by VDE/UL. It is dedicated for use in applications compliant with the Safety class B standard (specified by IEC 60730, IEC60335 and/or UL 60730, and UL 1998).

The library is released in a pre-compiled format, together with functional example projects and documentation describing the respective tests.

The library is created in close cooperation with the application team, who have vast experience in customer projects. The customer feedback is also taken into consideration.

2 What is new

When compared to the previous version of the library, the main changes are:

- The FS_CLK_CTIMER_LPC() function was renamed to FS_CLK_CTIMER() due to new family support.
- The following devices were added to the CM4/CM7 library: i.MX8ML.
- Function FS_CM4_CM7_FLASH_HW32_DCP was updated and moved to common/peripheral library. Improvement is focused on data synchronization between memories and DCP unit. There are no API changes. No additional action needed from user side.
- Functions FS_CM4_CM7_CPU_Special() and FS_CM4_CM7_CPU_Special8PriorityLevels() were updated - internal corner case silved. This update prevent a false positive return. There are no API changes. No additional action needed from user side.

2.1 Description

The supported devices are the following:

- MKV3x
- MKV4x
- MKV5x
- MKE1xF
- MK2xF
- MIMXRT10xx
- MIMXRT117x
- MIMXRT116x
- MIMX8MNx
- MIMX8MMx
- MIMX8MPx
- LPC540x
- LPC54S0x
- K32L3Ax

The supported/recommended IDEs are the following:

- IAR v9.40.2 and higher
- Keil μVision v5.37 (C compiler V6) and higher
- MCUXpresso IDE v11.8

The tested components are the following:

- CPU registers
- Program counter
3 Optimizations, improvements, and changes

3.1 Library

The following devices were added to the CM4/CM7 library: i.MX8ML.

- Function `FS_CM4_CM7_FLASH_HW32_DCP` was updated and moved to common/peripheral library. Improvement is focused on data synchronization between memories and DCP unit. There are no API changes. No additional action needed from user side.
- Functions `FS_CM4_CM7_CPU_Special()` and `FS_CM4_CM7_CPU_Special8PriorityLevels()` were updated - internal corner case silenced. This update prevents false positive return. There are no API changes. No additional action needed from user side.

3.2 Documentation

The documentation for the library is a part of the SDK package and is also available at www.nxp.com/iec60730.

The documentation of the IEC60730B library consists of:

- IEC60730B_Library_Release_Notes_CM4_CM7_v4_4.pdf

The example applications have their dedicated release notes and user guides.

3.3 Functional example projects

All information about the IEC60730B library is available at www.nxp.com/iec60730.

4 Revision history

Table 1 summarizes the changes to this document.

<table>
<thead>
<tr>
<th>Revision number</th>
<th>Release date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>7 December 2023</td>
<td>Initial release.</td>
</tr>
</tbody>
</table>
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Tables

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