NXP Semiconductors
Release Notes

Document Number: AN08012019
01/2019

IEC60730B_CM0_3.0_Release_Notes

1. Introduction

IEC60730B_CM0_3.0 is the third version of the core self-test library for NXP CM0 devices. The library is certified by UL. It is dedicated for use in applications compliant with Safety class B/class 1 standard (specified by IEC 60730, UL 60730, UL 1998).

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

As before, the release is created in close cooperation with the application team, who have vast experience in customer projects. We also take the feedback from our customers into consideration.

Contents

2. What is new

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

- New devices are added: K32W0x.
- New tests for the Touch Sensing Interface (TSI) for MKE1xZ devices.
- Extended tests of digital input/output.
- Support of two more IDEs: Keil, MCUXpresso.
- Improved functional examples.

3. Description

The supported devices are:

- MKV1x.
- MKLxx.
- MKExx.
- MKE1xZ.
- MK32W0x.

The supported IDEs:

- IAR v8.0 and higher.
- Keil µVision V5.23 and higher.
- MCUXpresso IDE V10.0 and higher.

The tested components are:

- CPU registers.
- Program counter.
- Variable memory (RAM).
- Invariable memory (flash).
- Clock.
- Digital I/O.
- Analog I/O.
- Stack.
- Watchdog.
- Touch Sensing Interface (TSI).

For a complete list of functions, see the library architecture document.

Optimizations, improvements and changes:

- The library:
  - TSI tests dedicated for the MKE1xZ devices.
  - The second (asynchronous) version of clock test was removed.
  - The program counter test originally created for the CM4_CM7 library was added to the library.
  - A common file for assembler macros was created.
  - The DIO tests have a different API to shorten the size and execution time. User must specify the tested pin in the test structure that is passed to the functions.
  - Extended DIO tests were created to test short-circuit conditions (between the tested pin and the supply voltage, ground, and adjacent pin).
  - Modified API of the existing flash test functions. The address of the hardware CRC module is passed to the function as an input parameter.
- Documentation:
  - Formal updates only.
- Example projects:
  - The examples are now more unified than in the previous versions. The unification was done through device types and IDEs.
  - Post-build steps to calculate the CRC in the Keil and MCUXpresso IDEs were assembled.
  - A dual-core project (IAR only) for MK3232W0x was created.

4. Released files

Precompiled object files:

- IEC60730_Kinetis_CM0_Class_B_IAR_v3_0.a
- IEC60730_Kinetis_CM0_Class_B_KEIL_v3_0.lib
- IEC60730_Kinetis_CM0_Class_B_MCUX_v3_0.a

Source and header files:

- IEC60730_B.h
- IEC60730_B_aio.h
- IEC60730_B_clock.h
- IEC60730_B_dio.h
- IEC60730_B_dio_ext.h
- IEC60730_B_flash.h
- IEC60730_B_pc.h
- IEC60730_B_ram.h
- IEC60730_B_reg.h
- IEC60730_B_Stack.h
- IEC60730_B_wdg.h
- IEC60730_B_tsi.h
- asm_mac_common.h
- IEC60730_B_wdg.c
- IEC60730_B_pc_object.S
- linker_symbols.S

Documents:

- IEC60730_B_AIO_test_for_CM0_rev3_0
- IEC60730_B_Clock_Test_for_CM0_rev3_0
- IEC60730_B_CPU_test_for_CM0_rev3_0
- IEC60730_B_DIO_test_for_CM0_rev3_0
- IEC60730_B_Invariable_Memory_test_for_CM0_rev3_0
- IEC60730_B_Library_architecture_CM0_rev3_0
- IEC60730_B_PC_test_for_CM0_rev3_0
- IEC60730_B_Stack_test_for_CM0_rev3_0
- IEC60730_B_Variable_Memory_test_for_CM0_rev3_0
- IEC60730_B_Watchdog_test_for_CM0_rev3_0
- IEC60730_B_TSI_test_for_CM0_rev3_0

How to Reach Us:

Home Page:
nxp.com

Web Support:
nxp.com/support

Document Number: AN08012019

01/2019