MCUXpresso SDK Release Notes Supporting lpc845breakout

Change Logs

NXP Semiconductors

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1 Driver Change Log

CLOCK

The current CLOCK driver version is 2.3.3.

- 2.3.3
  - Improvements
    - Added lost comments for some enumerations.
- 2.3.2
  - Improvements
    - Used "offsetof" macro to get the offset of the structure element from the beginning of the structure.
  - Bug Fixes
    - Fixed violations of MISRA C-2012 rule 11.1, rule 11.3.
- 2.3.1
  - Bug Fixes
    - Fixed MISRA C-2012 rule 10.1,rule 10.4,rule 10.8.
    - Fixed IAR warning Pa082 for the clock driver.
- 2.3.0
  - New feature:
    - Moved SDK_DelayAtLeastUs function from clock driver to common driver.
- 2.2.0
  - Replace the delay function
- 2.1.0
  - New feature
    - Adding new API CLOCK_DelayAtLeastUs() to implemente a delay fucntion which allow users set delay in unit of microsecond.
- 2.0.3
  - New Features
    - Added an API to get uart clock frequency.
    - Added an API to set fractional multiplier value.
- 2.0.2
  - some minor fixes.
- 2.0.0
  - initial version.

POWER

The current POWER driver version is 2.1.0.

- 2.1.0
  - New features
    - Added BOD control APIs.

- 2.0.4
  - Bug Fixes
    - Fixed the typo "Enbale", correcting it as "Enable".
- 2.0.3
  - Bug Fixes
    - Fixed doxygen warnings(remove wrong character in annotation).
- 2.0.2
  - New Features
    - Added the Enable/DisableDeepSleepIRQ() to enable/disable pin wake up.
- 2.0.1
  - Improvements
    - Updated power drive to support PMU.
- 2.0.0
  - initial version.

RESET

The current RESET driver version is 2.0.1.

- 2.0.1
  - Update component full_name to "Reset Driver".
- 2.0.0
  - initial version.

COMMON

The current COMMON driver version is 2.3.1.

- 2.3.1
  - Bug Fixes
    - Fixed MAKE_VERSION overflow on 16-bit platforms.
- 2.3.0
  - Improvements
    - Split the driver to common part and CPU architecture related part.
- 2.2.10
  - Bug Fixes
    - Fixed the ATOMIC macros build error in cpp files.
- 2.2.9
  - Bug Fixes
    - Fixed MISRA C-2012 issue, 5.6, 5.8, 8.4, 8.5, 8.6, 10.1, 10.4, 17.7, 21.3.
    - Fixed SDK_Malloc issue that not allocate memory with required size.
- 2.2.8
  - Improvements
    - Included stddef.h header file for MDK tool chain.

  - New Features:
    - Added atomic modification macros.
- 2.2.7
  - Other Change
    - Added MECC status group definition.
- 2.2.6
  - Other Change
    - Added more status group definition.
  - Bug Fixes
    - Undef __VECTOR_TABLE to avoid duplicate definition in cmsis_clang.h
- 2.2.5
  - Bug Fixes
    - Fixed MISRA C-2012 rule-15.5.
- 2.2.4
  - Bug Fixes
    - Fixed MISRA C-2012 rule-10.4.
- 2.2.3
  - New Features
    - Provided better accuracy of SDK_DelayAtLeastUs with DWT, use macro SDK_DELAY_USE_DWT to enable this feature.
    - Modified the Cortex-M7 delay count divisor based on latest tests on RT series boards, this setting lets result be closer to actual delay time.
- 2.2.2
  - New Features
    - Added include RTE_Components.h for CMSIS pack RTE.
- 2.2.1
  - Bug Fixes
    - Fixed violation of MISRA C-2012 Rule 3.1, 10.1, 10.3, 10.4, 11.6, 11.9.
- 2.2.0
  - New Features
    - Moved SDK_DelayAtLeastUs function from clock driver to common driver.
- 2.1.4
  - New Features
    - Added OTFAD into status group.
- 2.1.3
  - Bug Fixes
    - MISRA C-2012 issue fixed.
      - Fixed the rule: rule-10.3.
- 2.1.2
  - Improvements
    - Add SUPPRESS_FALL_THROUGH_WARNING() macro for the usage of suppressing fallthrough warning.
- 2.1.1
  - Bug Fixes
    - Deleted and optimized repeated macro.

- 2.1.0
  - New Features
    - Added IRQ operation for XCC toolchain.
    - Added group IDs for newly supported drivers.
- 2.0.2
  - Bug Fixes
    - MISRA C-2012 issue fixed.
      - Fixed the rule: rule-10.4.
- 2.0.1
  - Improvements
    - Removed the implementation of LPC8XX Enable/DisableDeepSleepIRQ() function.
    - Added new feature macro switch "FSL_FEATURE_HAS_NO_NONCACHEABLE_SECTION" for specific SoCs which have no noncacheable sections, that helps avoid an unnecessary complex in link file and the startup file.
    - Updated the align(x) to **attribute**(aligned(x)) to support MDK v6 armclang compiler.
- 2.0.0
  - Initial version.

SPI

The current SPI driver version is 2.0.4.

- 2.0.4
  - Bug Fixes
    - Fixed the issue that when transfer finish callback is invoked TX data is not sent to bus yet.
- 2.0.3
  - Improvements
    - Added timeout mechanism when waiting certain states in transfer driver.
    - Fixed MISRA 10.4 issue.
- 2.0.2
  - Bug Fixes
    - Fixed Coverity issue of incrementing null pointer in SPI_MasterTransferNonBlocking.
    - Fixed MISRA issues.
      - Fixed rules 10.1, 10.3, 10.4, 10.6, 14.4.
  - New Features
    - Added enumeration for dataWidth.
- 2.0.1
  - Bug Fixes
    - Added wait mechanism in SPI_MasterTransferBlocking() API, which checks if master SPI becomes IDLE when the EOT bit is set before returning. This confirms that all data will be sent out by SPI master.
    - Fixed the bug that the EOT bit couldn't be set when only one frame was sent in polling mode and interrupt transfer mode.
  - New Features

    - Added macro gate "FSL_SDK_ENABLE_SPI_DRIVER_TRANSACTIONAL_APIS" to enable/disable the transactional APIs, which helps reduce the code size when no nonblocking transfer is used. Enabled default configuration.
    - Added a control macro to enable/disable the RESET and CLOCK code in current driver.
- 2.0.0
  - Initial version.

USART

The current USART driver version is 2.4.0.

- 2.4.0
  - Improvements
    - Use separate data for TX and RX in usart_transfer_t.
  - Bug Fixes
    - Fixed bug that when ring buffer is used, if some data is received in ring buffer first before calling USART_TransferReceiveNonBlocking, the received data count returned by USART_TransferGetReceiveCount is wrong.
- 2.3.0
  - New Features
    - Modified usart_config_t, USART_Init and USART_GetDefaultConfig APIs so that the hardware flow control can be enabled during module initialization.
- 2.2.0
  - Improvements
    - Added timeout mechanism when waiting for certain states in transfer driver.
    - Fixed MISRA 10.4 issues.
- 2.1.1
  - Bug Fixes
    - Fixed the bug that in USART_SetBaudRate best_diff rather than diff should be used to compare with calculated baudrate.
    - Eliminated IAR pa082 warnings from USART_TransferGetRxRingBufferLength and USART_TransferHandleIRQ.
    - Fixed MISRA issues.
  - Improvements
    - Rounded up the calculated sbr value in USART_SetBaudRate to achieve more acurate baudrate setting.
    - Modified USART_ReadBlocking so that if more than one receiver errors occur, all status flags will be cleared and the most severe error status will be returned.
- 2.1.0
  - New Features
    - Added new APIs to allow users to configure the USART continuous SCLK feature in synchronous mode transfer.
- 2.0.1
  - Bug Fixes

    - Fixed the repeated reading issue of the STAT register while dealing with the IRQ routine.
  - New Features
    - Added macro gate "FSL_SDK_ENABLE_USART_DRIVER_TRANSACTIONAL_APIS" to enable/disable the transactional APIs, which helps reduce the code size when no nonblocking transfer is used. Enabled default configuration.
    - Added a control macro to enable/disable the RESET and CLOCK code in current driver.
    - Added macro switch gate "FSL_SDK_USART_DRIVER_ENABLE_BAUDRATE_AUTO_GENERATE" to enable/disable the baud rate to generate automatically. Disabling this feature will help reduce the code size to a certain degree. Default configuration enables auto generating of baud rate.
    - Added the check of baud rate while initializing the USART. If the baud rate calculated is not precise, the software assertion will be triggered.
    - Added a new API to allow users to enable the CTS, which determines whether CTS is used for flow control.
- 2.0.0
  - Initial version.

SWM

The current SWM driver version is 2.0.2.

- 2.0.2
  - Bug Fixes
    - MISRA C-2012 issue fixed: rule 14.3.
- 2.0.1
  - Bug Fixes
    - MISRA C-2012 issue fixed: rule 10.1, 10.3, and 10.4.
- 2.0.0
  - Initial version.
  - The API SWM_SetFixedMovablePinSelect() is targeted at the device that has PINASSIGNFIXED0 register, such as LPC804.

SYSCON

The current SYSCON driver version is 2.0.1.

- 2.0.1
  - Bug Fixes
    - Fixed issue for MISRA-2012 check.
      - Fixed rule 10.4.
- 2.0.0
  - Initial version.

2 Middleware Change Log

FreeMASTER Communication Driver

Current version is 3.0.4. Visit https://www.nxp.com/freemaster for more information. Reach out for a support at https://community.nxp.com/community/freemaster.

- 3.0.0
  - Initial version of FreeMASTER driver reworked from a standalone package to MCUXpresso SDK middleware.
  - This driver version supports new version V4 of FreeMASTER serial communication protocol.
  - Supports UART, LPUART, USART, MINIUSART, FlexCAN, USB-CDC and JTAG/BDM communication.
  - Initial version was tested with the following boards: evkmimxrt1060, frdmk64f, frdmke15z, frdmkl28z, lpcxpresso54628 lpcxpresso55s69, lpcxpresso845max and twrk64f120m.
  - Use with FreeMASTER PC Host tool version 2.5 or later.
- 3.0.1
  - FreeMASTER driver extended to support wide range of Kinetis, LPC and i.MX-RT platforms.
  - Low-level communication drivers also available for few non-SDK NXP platforms like S12Z, S32x and more.
  - Use with FreeMASTER PC Host tool version 3.0 or later.
- 3.0.2
  - FreeMASTER driver support of DSC56F800EX and S12 platforms extended.
  - Removed dependency on C99 compiler features.
  - Use with FreeMASTER PC Host tool version 3.0.2 or later.
- 3.0.3
  - General update for SDK 2.9.0
  - fmstr_any demo added to selected platforms - use with MCUXpresso SDK and FreeMASTER peripheral configuration tool.
  - New example.pmp project file embedded into application flash storage.
  - USB-CDC implementation fixed, new JTAG EOnCE communication interface added to DSC 56F800E family.
  - Use with FreeMASTER PC Host tool version 3.0.3 or later. Version 3.1.x is recommended.
- 3.0.4
  - Fixed component dependency logic of FreeMASTER driver.
  - Use with FreeMASTER PC Host tool version 3.1.x
- 3.0.5
  - General update for SDK 2.11 and 2.12
  - New TCP and UDP support with lwIP stack
  - New communication over Segger RTT interface
  - Add fmstr_net and fmstr_wifi examples for selected i.MX-RT platforms
  - Add fmstr_rtt example for selected platforms
  - Fixed negative recorder threshold trigger processing

SAFETY_IEC60730B for KSDK

Current version is 1.1.0

- 1.1.0
  - Initial version.

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