

Arm® Cortex®-M23
32-bit Microcontroller

M251/M252/M254/M256/M258 Series
CMSIS BSP
Revision History

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Revision 3.01.001 (Released 2020-11-16)

- Supported M254/M256/M258 series.
- Peripheral header
 1. New header: lcd_reg.h, tk_reg.h.
 2. eadc_reg.h
 - Removed EADC_T.OFFSETCAL, EADC_CTL_CALEN_Msk, EADC_CTL_CALEN_Pos, EADC_OFFSETCAL_OFFSETCANCEL_Msk, EADC_OFFSETCAL_OFFSETCANCEL_Pos.
- Standard driver
 1. New driver: LCD, TK.
 2. retarget.c
 - Fixed optimization level 0 of Arm Compiler 6: Program terminated issue.
 3. EADC driver
 - Fixed EADC_ENABLE_CMP0, EADC_ENABLE_CMP1, EADC_ENABLE_CMP2, EADC_ENABLE_CMP3: Other bits overwritten.
 - Removed EADC_DISABLE_OFFSETCANCEL, EADC_ENABLE_OFFSETCANCEL.
 4. QSPI driver
 - New API: QSPI_DISABLE_TX_RX_PDMA, QSPI_TRIGGER_TX_RX_PDMA.
 5. SPI driver
 - New API: SPI_DISABLE_TX_RX_PDMA, SPI_TRIGGER_TX_RX_PDMA.
 6. SYS driver
 - Improved SYS_SetPowerLevel: Power level switch stability
 7. USCI-SPI driver
 - New API: USPI_DISABLE_TX_RX_PDMA, USPI_TRIGGER_TX_RX_PDMA.
 8. USCI-UART driver
 - New API: UART_PDMA_DISABLE, UART_PDMA_ENABLE.
- Library
 1. New library: LCDLib, TKLib.
- Sample code
 1. New sample code: EADC_BandGapCalculateAVDD, LCD_Blinking, LCD_Pixel_OnOff, LCD_Print_Text, USBD_HID_BC12, NK_M258KE_LCD_TK.
 2. Improved all GPIO sample codes: Enable GPIO clock.
 3. Fixed PDMA_BasicMode: Missing word alignment.
 4. Fixed USBD_Audio_Codec: Noise and I2C timeout.

5. Fixed USB_D_VCOM_DualPort: Only one VCOM port in Linux.
6. Removed EADC_OffsetCancel.

Revision 3.00.005 (Released 2020-6-10)

- Added Apache-2.0 license declaration.
- Standard driver
 1. retarget.c
 - Fixed SendChar: Uninitialized pointer.
 2. TIMER driver
 - New API: TIMER_SET_OPMODE.
 3. UART driver
 - New API: UART_DEGLITCH_DISABLE, UART_DEGLITCH_ENABLE, UART_PDMA_DISABLE, UART_PDMA_ENABLE.
 4. USCI-UART driver
 - New API: UART_DEGLITCH_DISABLE, UART_DEGLITCH_ENABLE.
- Sample code
 1. New sample code: GPIO_SingleCycleIO, I2C_SMBus, MPU, SYS_PowerDownMode, Sys_PowerMode, USB_D_CCID.
 2. Updated CLK_ClockDetector: HCLK clock source uses HXT instead of PLL.
 3. Fixed QSPI_DualMode_Flash, QSPI_QualMode_Flash, SPI_Flash: Miss the 256th byte written.

Revision 3.00.004 (Released 2019-12-31)

- Removed CRPTO support.
- Standard driver
 1. retarget.c
 - Fixed _write, SendChar_ToUART: '\r' issue.
 2. CRC driver
 - New API: CRC_SET_WDATA_LEN.
 3. FMC driver
 - Updated FMC_Write128: Note to run in SRAM instead of inline function.
 - Fixed FMC_WriteConfig: Return value.
 4. SYS driver
 - Replaced SYS_PLCTL_PLSEL_PL2 with SYS_PLCTL_PLSEL_PL3.
 5. TIMER_PWM driver
 - Fixed TPWM_ConfigOutputFreqAndDuty: Wrong configuration for 1 Hz.
- Sample code

1. New sample code: ISP_DFU.
2. Improved I2C_Wakeup_Slave: Wakeup robustness.
3. Improved all USBD samples: USB compatability.
4. Updated FMC_MultiWordProgram: Use FMC driver API.
5. Fixed UART_LIN, UART_SingleWire: '\r' issue.

Revision 3.00.003 (Released 2019-8-30)

- M251.h
 1. Included core_cm23.h instead of core_armv8mbl.h.
- Peripheral header
 1. Updated clk_reg.h, rtc_reg.h: Base on TRM.
- Standard driver
 1. I2C driver
 - Improved I2C_SetSlaveAddr, I2C_SetSlaveAddrMask: Add support of 10-bit slave address and error handling for new transfer.
 2. TIMER driver
 - Fixed TIMER_GetModuleClock: Correct PCLK.
 - Fixed TIMER_Open: Return value.
 3. TIMER_PWM driver
 - New API: TPWM_ClearWakeupFlag, TPWM_DisableTrigger, TPWM_DisableWakeup, TPWM_EnableTrigger, TPWM_EnableWakeup, TPWM_GetWakeupFlag, TPWM_CLEAR_TRG_DAC_STATUS, TPWM_CLEAR_TRG_PDMA_STATUS, TPWM_GET_TRG_DAC_STATUS, TPWM_GET_TRG_PDMA_STATUS.
 - Removed TPWM_OUTPUT_TOGGLE, TPWM_OUTPUT_NOTHING, TPWM_OUTPUT_LOW, TPWM_OUTPUT_HIGH, TPWM_CLKSRC_HXT, TPWM_CLKSRC_LXT, TPWM_CLKSRC_PCLK, TPWM_CLKSRC_TX, TPWM_CLKSRC_LIRC, TPWM_CLKSRC_HIRC.
 4. USCI_SPI driver
 - Fixed USPI_SET_SS_HIGH: Implementation.
- Library
 1. Smartcard library
 - New API: SCLIB_CheckCDEvent_ByVar.
- Sample code
 1. New sample code: ISP samples, QSPI_Slave3Wire, SPI_HalfDuplex
 2. Improved EADC_BandGap: Show voltage result and modify extern sample time for band-gap.
 3. Improved FMC_ExecInSRAM: Add GCC project.

4. Improved SC_ReadATR, SC_ReadSimPhoneBook: Add software card detection.
5. Improved USCI_SPI_Loopback, USCI_SPI_MasterMode, USCI_SPI_SlaveMode: Add using GPIO pin instead of SS pin.
6. Replaced I2C_Master_PDMA and I2C_PDMA, I2C_Slave_PDMA with I2C_PDMA_TRX.
7. Fixed UART_TxRx_Function: Data lost.
8. Fixed all USBD samples: Potential issue.

Revision 3.00.002 (Released 2019-2-22)

- system_M251.c
 1. Set flash access cycle to 0x03.
- Standard driver
 1. CLK driver
 - Removed CLK_SET_PCLK_DIVIDER.
- Sample code
 1. Updated all samples: Use other clock source instead of HXT.
 2. Updated SYS_TrimHIRC: Add auto trim disable.
 3. Updated USBD_Audio_Codec: Clear buffer before play / record.

Revision 3.00.001 (Released 2018-12-25)

- Initial release.

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