ARM® Cortex®-M4

32-bit Microcontroller

NUC472/NUC442 CMSIS BSP
Revision History

For additional information or questions, please contact: Nuvoton Technology Corporation.

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Revision 3.04.000 (Released 2024-10-15)

1. Update drivers and sample code to support Keil Compiler 6.
2. Fix compilation warnings that appear in older versions of the Keil IDE.
3. Update the QSPI_QuadMode_Flash sample code to fix the QE bit issue.

Revision 3.03.005 (Released 2024-04-19)

4. Fixed CAN driver configuration Rx message error.
5. Update USBD keyboard sample to support LED status.
6. UART driver adds LIN functionality and sample code.
7. Modify VendorName of Nu_DFU.inf.

Revision 3.03.004 (Released 2023-03-06)

1. Add sample code SYS_PowerDown_MinCurrent.

Revision 3.03.003 (Released 2022-01-03)

1. Add time-out check to drivers and samples to prevent from infinite loop.
2. Enable I2C pin schmitt trigger.
3. Minor bug fix.

Revision 3.03.002 (Released 2020-10-06)

1. Added Apache-2.0 license declaration into driver source code..
2. Minor bug fix.

Revision 3.03.001 (Released 2019-11-11)

1. Added ISP related samples.
2. Minor bug fix.

Revision 3.03.000 (Released 2018-08-30)

1. Added Eclipse project support.
2. Minor bug fix.

Revision 3.02.001 (Released 2017-03-10)

1. Updated CMSIS to v4.5.0.
2. Updated CLK_Idle() to clear CLK_PWRCON_PWR_DOWN_EN_Msk flag before entering idle mode.
3. Updated bit time calculation method in CAN driver to get more accurate results.
4. Updated USBD_ENABLE_PHY() macro to avoid a short period of SE1 state on USB bus after PHY enabled.
5. Fixed smartcard driver and library behaviors that do not comply with EMV2000 spec.
6. Fixed GPIO port E multi-function pin definition errors.
7. Fixed CLK_CLKSEL0_USBHSEL_PLL and CLK_CLKSEL0_USBHSEL_PLL2 definition errors.
8. Added definitions for ICAP, EADC, and WDT clock source selection.
9. Removed PDMA timeout related API/MACRO calls.
10. Replaced CLK_APBCLK1_PWM1CH23CKEN*, CLK_APBCLK1_PWM1CH45CKEN* definitions with CLK_APBCLK1_PWM1CH2345CKEN*.

Revision 3.02.000 (Released 2015-12-04)

1. Updated TDES_Open() to force using three keys in TDES encryption and decryption and provided the same key1 and key3 if only two keys are used in TDES.
2. Removed FMC DID related functions and macros.
3. Removed FMC_SetBootSource(), FMC_DisableAPUpdate(), FMC_DisableConfigUpdate(), FMC_DisableLDUpdate(), FMC_EnableAPUpdate(), FMC_EnableConfigUpdate() and FMC_EnableLDUpdate() functions because there exist functionally identical macros.
4. Removed TIMER_CAPTURE_FALLING_THEN_RISING_EDGE and TIMER_CAPTURE_RISING_THEN_FALLING_EDGE definition, and added TIMER_CAPTURE_FALLING_AND_RISING_EDGE definition.
5. Added CRC and EPWM driver support.
6. Added RTC_Spare_Access, USBH_UAC_HID, USBH_AUDIO_CLASS, USBD_Mass_Storage_DataFlash, EMAC_uIP_httpd, EMAC_uIP_telnetd, USBH_HID_Multi, USBH_HID_KEYBOARD, USBD_Audio_Microphone, CRC_CCITT, CRC_CRC8, ECAP, EPWM_Brake, EPWM_DeadZone, EADC_PWM_Trigger, EADC_SimultaneousMode, and TIMER_Wakeup sample codes.
7. Upgraded FatFs from R0.09b to R0.11a.
8. Upgraded FreeRTOS from v7.4.0 to v8.2.1.
9. Added uip-0.9 suppot.
10. Minor bug fix.

Revision 3.01.001 (Released 2014-10-09)

1. Removed NVIC_EnableIRQ() function call in I2S_Open() and SD_Open().
2. Removed PI definition and add GPI definition.
3. Removed uCOS-II and uCOS-III samples.
4. Renamed CAN_NOTMAL_MODE to CAN_NORMAL_MODE.
5. Renamed UBSD_*() macros to USBD_*().
6. Renamed USBH registers and related bit name.
7. Renamed PD13MFP_SC3_SS0 to PD13MFP_SPI1_SS0.
8. Replaced the USBH_ProcessHubEvents() and usb_hub_events() return type from void to int.
9. Updated original USBH HID library with Nuvoton HID library with less footprint.
10. Updated bit filed definition of register VREFCTL.
11. Enable branch buffer starting from version E MCU.
12. Added RTX support.
13. Added EADC driver.
14. Added Cortex-M4 BitBand and MPU sample codes.
15. Added ADC_PDMA, EADC_ADINT_Trigger, EADC_Compare, EADC_STADC_Trigger, EADC_SWTRG_Trigger, EADC_Timer_Trigger, I2S_NAU8822_PDMA, ISP_Updater, USBD_Bulk, USBD_HID_Mouse_Vendor, USBD_HID_MouseKeyboard, USBD_HID_Transfer, USBD_VCOM_SerialEmulator, USBD_VENDOR_LBK, USBH_VENDOR_LBK samples.

Revision 3.01.000 (Released 2014-05-23)

1. Rename registers and bit fields.
2. Added Analog comparator (ACMP) driver.
3. Added I2S, ACMP,and USBD sample codes.
4. Minor bug fix.

Revision 3.00.001 (Released 2014-04-25)

1. Improved PWM driver performance.
2. Renamed EPWM register PWM0/2/4 to PWM_CH0/2/4.
3. Updated IAR project files to support Nu-Link IAR driver v6287 or above.
4. Removed learning board directory NUC472-LB/.

5. Added wave player and hard fault sample.
6. Minor bug fix.

Revision 3.00.000 (Released 2014-03-05)

1. Moved Smartcard library one directory level up to Library\SmartcardLib\.
2. Added OTG dual role sample code and Learning Board G-sensor sample code.
3. Added FreeRTOS LwIP IAR project file.
4. Renamed RTC_GetDatAndTime() to RTC_GetDateAndTime().
5. Changed Major number from 1 to 3.
6. Minor bug fix.

Revision 1.00.000 (Released 2014-01-14)

1. Added CAN, SD, SC, SCUART driver and samples.
2. Added smartcard 7816-3 library.
3. Added NUC472 Tiny Board sample.
4. Renamed I2C_GetClockBusFreq() to I2C_GetBusClockFreq().
5. Renamed I2C_SetClockBusFreq() to I2C_SetBusClockFreq().
6. Renamed I2C_SetSlaveMask() to I2C_SetSlaveAddrMask().
7. Minor bug fix.

Revision 0.10.000 (Released 2013-12-04)

1. Added I^2S and PDMA drivers.
2. Added Learning Board and Standard Driver samples.
3. Added FreeRTOS LwIP sample.

Revision 0.09.000 (Released 2013-11-11)

1. Added CAP, EBI, I^2C, PWM, SPI, USBD, and USBH drivers and samples.
2. Added uCOS-II and uCOS-III samples.
3. Added FreeRTOS source code and sample.

Revision 0.08.000 (Released 2013-10-25)

1. Preliminary release.

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