

# **ARM® Cortex®-M23 32-bit Microcontroller**

## **NuMicro® Family M2351 Series BSP Revision History**

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**Revision 3.00.005 (Released 2021-01-18)**


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1. Fixed ECAP error coding of clear INT flag.
2. Added new sample USBH\_HID\_Mouse\_Keyboard, USBH\_VENDOR\_LBK, QSPI\_Slave3Wire, SPI\_HalfDuplex and USBD\_VENDOR\_LBK.
3. Modified the size of slave data buffer is configurable of I2C\_GCMode, I2C\_Loopback and I2C\_Slave sample code.
4. Created mbedTLS library in ThirdParty and adapt the library in Crypto sample code.
5. Fixed UART\_Write function to wait Tx full bug.
6. Created mbedTLS ECDSA sample code and add performance log for all mbedTLS sample code.
7. Fixed SPI TFT fail on lower SPI clock issue.
8. Extended the firmware size limitation for calculating SHA value from SD card of SecureOTADemo sample code.
9. Fixed USPI\_SET\_SS\_HIGH macro and USBH driver issue.
10. Modified FMC\_OTP sample code.
11. Fixed USBH\_SecureISP send data issue and some typo.
12. Fixed build FwInfo.bin was failed of SecureBootDemo sample code.
13. Added Apache-2.0 license declaration in driver source.
14. Added GPIO\_SingleCycleIO sample code.

**Revision 3.00.004 (Released 2019-10-01)**


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1. Added ISP Sample codes to bsp\SampleCode\ISP folder.
2. Added Mass Storage sample code to support SDCard.
3. Added Third Party TEE and Cloud client: QinglianCloud
4. Modify I2C error handling example code to I2C\_Master, I2CSlave, I2C\_GCMode\_Master, and I2C\_GCMode\_Slave.
5. Modify SHA256 function to SHAHash to support more SHA functions in CRYPTO\_SHA256\_Flash sample code.

**Revision 3.00.003 (Released 2019-08-05)**


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1. Fixed build errors of XOM on SecureBootDemo and SecureISPDemo sample codes.
2. Fixed retarget.c macro option bug with Arm compiler 6.x.
3. Upgraded emWin library to V5.48K.1.
4. Upgraded FwSign.exe to v1.3.
5. Updated BSP to be more easy to use with TrustZone. Add more debug information in hardfault handler.
6. Added emWin documents to ThridParty/emWin/Doc/.
7. Added USBH\_SecureISP to transmit vendor command to SecureISP USB mode in SecureISPDemo.
8. Added KEIL RTX RTOS Sample Code.
9. Added TRNG\_Verify sample code for RNG verification with NIST SP800-22.
10. Added I2C\_PDMA\_TRx to replace I2C\_Master\_PDMA and I2C\_Slave\_PDMA.
11. Added USBD\_Mass\_Storage\_Flash sample code.
12. Added SecureFlashDemo sample code for M2353 embedded secure flash.

**Revision 3.00.002 (Released 2018-11-05)**


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1. Fixed XOM region description and Semihost for Keil MDK v5.26.
2. Fixed build error in Linux build environment.
3. Update emWin quick start guide.

4. Update board quick start guide for Nuvoton edition free Keil MDK.
5. Added TRNG and SHA256 of flash data sample code.

**Revision 3.00.001** (Released 2018-06-29)

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1. Initial Release.

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