Release Notes for AT32F415 Firmware Library

V2.1.6-2024/12/13

1. Updated core DSP library.

2. Updated CAN driver.

3. Updated SDIO protocol layer driver, and addd emmc_card demo.

4. Updated USB driver.

5. Updated I2C eeprom demo and added multi-page write logic.

6. Optimized PWR driver and demo.

7. Updated some notes.

V2.1.5-2024/08/08

1. Updated USB driver.

2. Adjusted bus clock frequency in sdio demo.

3. Updated the "i2c_flag_clear" and "i2c_init" functions.

4. Updated msc iap demo and improved compatibility.

5. Updated initialization configuration process in I^{2}C DMA related demos.

6. Fixed AC6 compilation problems of some demos.

7. Updated some notes.

V2.1.4-2024/02/01

1. Updated slib demo.

V2.1.3-2024/01/26

1. Updated usbd_core_type 4-byte alignment.

2. Updated USB hid report descriptor.

3. Updated sram size related contents in demo project.

4. Added comparator output parameter definition.

5. Updated some notes.

V2.1.2-2024/01/05

1. Updated counter counting mode in input_capture demo of timer.

2. Fixed HID low-speed identification problem in USB demo.

3. Updated systick initialization function in systick interrupt demo.

4. Added winusb demo.

5. Updated the demo method on how to call the xx_interrupt_flag_get function in all demos.

V2.1.1-2023/10/26

1. Updated USB driver.

2. Updated some notes and readme.

V2.1.0-2023/08/04

1. Added AT32IDE project to demos under utilities.

2. Added CRC polynomial support.

3. Updated USB driver and demo, improved data alignment and code process

4. Improved redirecting compatibility while using printf in IAR9.

5. Added macro definitions regarding Flash size and Flash demo.

6. Updated some notes.

V2.0.9-2023/02/16

1. Fixed AC6 compilation problems in freertos demo under *utilities*.

2. Added LEXT_VALUE macro definition in *at32f415_conf.h*.

3. Modified the location of crm_reset in system_clock_config function to avoid any error during system clock switch.

4. Adjusted the USB set address timing and modified USB host enumeration timeout processing flow.

5. Updated some notes.

V2.0.8-2022/11/18

1. Deleted the version and date entries from the header of each file.

2. Added *Release Notes_Drivers* to record the updates of drivers separately, which is located under *libraries\drivers.*

3. Updated I^{2}C interrupts and changed DMA demo to non-blocking.

4. Fixed the problem of USB cdc_msc composite failure in linux environment.

5. Updated USB virtual msc iap demo for linux environment.

6. Updated USB audio related contents for better compatibility.

7. Updated IAR_Programmer.exe.

8. Added interrupt enable determination to the flag bit detection for the interrupt function of USART interrupt demo.

9. Added repeat_conversion_loop_transfer demo to ADC to allow DMA to obtain ADC data in a circular way.

V2.0.7-2022/08/16

1. Updated the I^{2}C eeprom demo with additional 16-bit address support.

2. Added USB host CDC demo.

3. Added IAR V9.3 project demo under template.

4. Fixed the problem of printf's failure to output in gcc environment.

5. Startup file supports configuration wizard.

V2.0.6-2022/06/21

1. Added a demo on how to enable Flash access protection.

2. Added IO toggle demo.

3. Updated some demos, their drive processes, and some notes.

V2.0.5-2022/05/20

1. Modified descriptors of the USB virtual msc iap demo.

2. Added USB composite_vcp_msc demo.

3. Modified SD card related demo and updated card initialization identification process.

4. Modified baud rate division configuration in some CAN demos.

5. Updated some demos, their drive processes, and some notes.

V2.0.4-2022/04/02

1. Added wdt_standby demo.

2. Introduced DSP-related source code, and added cmsis_dsp demo.

3. Updated some demos, their drive processes, and some notes.

V2.0.3-2022/02/11

1. Added the virtual_comport demo in USB.

2. Updated the USB msc iap demo to ensure its full compatibility with different systems.

3. Updated some demos, their drive processes, and some notes.

V2.0.2-2021/12/31

1. Revised wrong parameter definitions in the interrupt priority group

2. Integrated the serial port initialization and redirection functions of printf into xx_board.c, and removed related contents in demo

3. Updated some demo to support AC6 and –O3 compilation

4. Added composite_audio_hid demo in the USB, and optimized reporting and synchronization mechanism

V2.0.1-2021/12/17

1. Revised flag clear functions of peripherals in order to avoid improper bit operations

2. Updated pwc_wakeup_pin_enable function interface

3. Revised the 4-byte alignment problem of USB device array

4. Updated the virtual space of virtual_msc_iap demo to 100 MB

5. Revised bulk transfer complete problem of the serial port in the composite_vcp_keyboard demo

6. Update transmit functions related to keyboard in USB demo

7. Updated timer frequency configuration process for triggering ADC conversions in ADC demo

V2.0.0-2021/11/26

1. Initial release of AT32F415 firmware library