ASF: Release ASF-3.14

The Atmel® Software Framework (ASF, www.atmel.com/asf) is a compilation of embedded software for Atmel flash MCUs: megaAVR®, AVR XMEGA®, AVR UC3 and SAM devices. It has been designed to help develop and glue together the different components of a software design. It can easily integrate into an operating system (OS) or run as a stand-alone product.

The ASF is included in Atmel Studio® 6 (www.atmel.com/atmelstudio). A separate package is available for megaAVR, AVR XMEGA, AVR UC3 and SAM users for IAR™, Atmel AVR Studio 4 and AVR32 Studio on www.atmel.com/asf. Atmel Studio users do not need this package as the ASF is integrated in Atmel Studio.

This document describes the supported devices, supported tools, and changes since last ASF release (enhancements, bugs fixes and known issues).
Installation Instructions

Device Support

This release supports the following devices:

- AVR UC3
  - AVR UC3 A0/A1 (revision H and later)
  - AVR UC3 A3/A4 (revision E and later)
  - AVR UC3 A3xS/A4xS (revision E and later)
  - AVR UC3 B (revision F and later)
  - AVR UC3 C (revision D and later)
  - AVR UC3 D
  - AVR UC3 L
- AVR XMEGA
  - AVR XMEGA A1
  - AVR XMEGA A1U
  - AVR XMEGA A3
  - AVR XMEGA A3B
  - AVR XMEGA A3U
  - AVR XMEGA A3BU
  - AVR XMEGA A4U
  - AVR XMEGA A4
  - AVR XMEGA B
  - AVR XMEGA C
  - AVR XMEGA D3
  - AVR XMEGA D4
  - AVR XMEGA E
- megaAVR
  - ATmega1284P
  - ATmega2560
  - ATmega48/88/168/328
  - ATmega16/32
  - ATmega169/329
  - ATmega64/128
  - ATmega324/644/1284
  - ATmegaxRF
- SAM
  - SAM3N
  - SAM3S
  - SAM3U
  - SAM3X
  - SAM4E
  - SAM4L
  - SAM4L8
  - SAM4S
  - SAM D20
  - SAM4N
  - SAM4C
  - SAMG51
• SAMG53

**Supported Tools**

- Atmel Studio 6.1SP1 using GCC compiler - Visit www.atmel.com/atmelstudio :
  - Atmel ARM GNU Toolchain - 4.7.3.1029
  - Atmel AVR (32 bit) GNU Toolchain - 3.4.2.1002
  - Atmel AVR (8 bit) GNU Toolchain - 3.4.2.1002
- Atmel AVR32 Studio version 2.6
- Atmel AVR Studio 4.18 SP3
- IAR EWAVR32 version 3.30
- IAR EWAVR version 6.12
- IAR EWARM version 6.50
- WinAVR version 20100110

**Note:**

- Atmel Studio 6.0 version is not supported since ASF3.6 extension.
- IAR EWAVR32 requires updated header files for the UC3 A3 and UC3 A3xS, UC3C C revision C, UC3 L series (unzip the avr32/utils/header_files/avr32-headers.zip under /Embedded Workbench x.x/avr32/inc/). WinAVR requires updated header files (refer toxmega/utils/header_files/readme.txt).
- SAM4L support for IAR requires the add-on installer EWARM_6.40_SAM4L_addon_vx.x.zip from www.atmel.com/tools/SAM4L-EK.aspx
- SAM4E support for IAR requires the add-on installer EWARM_6.40_SAM4E_addon_vx.x.zip http://www.atmel.com/images/ATmel-42145-AT03088-Getting-Started-with-SAM4E-ewarm-add-on %20v0.1.1_Application-Note.zip
- XMEGA E support for Atmel Studio 6 requires the Atmel Studio 6 Part Pack for ATxmega32E5 installed and an updated AVR GCC toolchain (3.4.0.84 or higher). Visit www.atmel.com/atmelstudio.
- SAM4N support for IAR requires the add-on installer IAR-EWARM-SAM4N-ADDON-V1.0.zip http://www.atmel.com/images/ATmel-42169-AT03758-Getting-Started-with-SAM4N_Application-Note.zip
- SAM4C support for IAR requires the add-on installer EWARM_SAM4C_addon_V0.6.zip
- SAMG support for IAR requires the add-on installle IAR-EWARM-SAMG53N19-ADDON-V0.8.zip
- SAMG support for Atmel Studio requires the part pack to support the devices

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**Documentation**

- Atmel Studio 6 installer (includes ASF): www.atmel.com/atmelstudio
- Atmel Gallery: http://gallery.atmel.com/

**Community Information**

These forums can be used to have an open discussion about usage, development, bugs, fixes, improvements, etc.

- ASF forum on AT91® (SAM users) at http://www.at91.com.
New and Noteworthy

Release ASF3.14 (Dec 2013)

• SAMG: added support for SAMG51 and SAMG53 device series and SAMG53-XPRO support; added drivers support for adc, chipid, etc, gpbr, i2sc, matrix, mem2mem, pdc, pdm, pio, pmc, rtc, rtt, spi, supc, tc, twi, twihs, uart, usurat, wdt; added services support for clock, delay, iop, serial, sleep manager, flash_efc, twi; added third party support for CMSIS, freertos, added applications support for getting-started and low-power.
• SAM4C: added SAM4C32 device series support.
• SAM4E: added SAM4ExC device series support.
• IEEE 802.15.4 MAC GTS feature support for SAM D20.
• Note: SAMG projects require a part support package for Atmel Studio 6.1

Release ASF3.13 (Nov 2013)

• IEEE 802.15.4 MAC Support Addition for Atmega2564RFR2 Device
• SAM D20: various bug fixes for EEPROM, DFLL, ADC, DAC, SERCOM
• Note: SAM4C projects require a part support package for Atmel Studio 6.1
• Note: Removed ASF versions ASF-3.3.0, ASF-3.4.0, ASF-3.5.0 and ASF-3.5.1 in order to improve performance in Atmel Studio. DO NOT upgrade to this ASF release if you are using the removed versions and need the ASF Wizard. If you do upgrade, you will have to upgrade your project to a newer ASF version in order for the ASF Wizard to work.

Release ASF3.12 (Oct 2013)

• SAM4C: added support for new device series and SAM4C Evaluation kit; added drivers support for aes, adc, chipid, smc, etc, gpbr, icm, matrix, pdc, pio, pmc, pwm, rste, rtc, rtt, slcdc, spi, supc, tc, trng, twi, uart, usurat, wdt; added services support for clock, iop, serial, sleep manager, flash_efc, twi; added component support for serial_flash, eeprom, at30ts75 and c42964a_slcdc; added third party support for CMSIS, freertos and faifs, added applications support for getting-started and low-power.
• SAM4S: added support for SAM4S4 and SAM4S2.
• SAM D20: maintenance and improvements to API.
• Note: SAM4C projects require a part support package for Atmel Studio 6.1

Release ASF3.11 (July 2013)

• SAM4N new device and SAM4N Xplained pro kit support in ASF.
• Performance Analyzer supports the kits supported in Wireless Library 1.0 Release.
• SAM4L: Add USB device PHDC example, add TWIM PDC transfer example.

Release ASF3.10 (July 2013)

• SAM4L8 new device and SAM4L/SAM4L8 Xplained pro kit support in ASF, with all existing drivers, services, third parties from SAM4L4.
• Feature Enhancement in Performance Analyzer v2.1 firmware to support Wireless Composer-2.0
• SAM D20: maintenance and improvements to API

Release ASF3.9 (June 2013)

• Added SAM D20 Drivers (AC, ADC, BOD, DAC, Events, External Interrupts, NVM, PAC, PORT, RTC, SERCOM USART/SPI/I2C, TC and WDT).
• Added SAM D20 Services (GFX_memo, Delay, Dataflash, FreeRTOS)
• Added SAM D20 applications (DAC sound player, SPI/I2C bootloader, Led toggle and OSC8 calibration, FreeRTOS demo)

Release ASF3.8 (April 2013)

• mega128RFA1 new drivers: MAC symbol counter and TWI.
• SAM4E: USB stack, lwIP demo, new drivers (AFE, DACC,MATRIX, ACC, CHIPID, USART, PIO, AFEC ), QTouch library, low power and getting started demo, FreeRTOS demo.

Release ASF3.7 (Feb 2013)

• SAM4L new drivers: AESA, IISC, ACIFC, PEVC, USB device composite, USB host, picoUART, ABDACB, FREQM, ADCIFE, GLOC, FatFS,
• SAM4E new drivers: FPU, SPI, DMA, USB HID, TC, AT25 flash, WDT, EBI SMC, RTT, CAN, RTC, GPBR, SUPC, PDC, USART, GMAC, PWM
• megaRF, megaRF2 new drivers: USART, STDIO, clock, interrupt, TWI
• XMEGA E new drivers: XCL, EDMA, QDEC. New ADC demo for XMEGA-E5 Xplained board
• SAM4S and SAM4L Xplained Pro demo: low power and sleep modes
• Added supports Performance analyzer application for Xplained Pro Boards compatible with Wireless Analyzer in Atmel Studio. Supports MAC demo applications for Beacon, No Beacon and No Beacon Sleep Application. Supports RF4CE demo applications for Button controller, Single button controller and Terminal target. Platforms supported are: Atmega256RF2 Xplained Pro, ZigBit ATmega48F2, ZigBit ATRF233 XMEGA, ZigBit ATRF212B XMEGA, USB stick with ZigBit ATRF233 XMEGA, USB stick with ZigBit ATRF212B XMEGA, SAM4L Xplained Pro with ZigBit ATRF233 XMEGA, SAM4L Xplained Pro with ZigBit ATRF212B XMEGA, XMEGA-A3BU Xplained, RZ600

Release ASF3.6 (Internal, Jan 2013)

• Added SAM4E support: WDT, TC, EEFC, PMC, clock, ioprot, CMSIS, stdio, PIO, Flash, interrupt
• Added XMEGA C3 Xplained demos: LED, switches, QTouch, OLED, USB, SD card
• Added megaRF drivers: interrupt, adc
• Added SAM4L drivers: GPIO for event and interrupt, Watchdog, USB Host HID class, HMATRIX, CRCCU, CMSIS DSPLib examples, FreeRTOS demo, Getting Started, IISC, improved TWIM with sleep manager support.
• Added SAM4S-EK2 demo (same as SAM4S-EK)
• Added examples for XMEGA-E5 Xplained board: XCL, USART
• USB Device PHDC class is now compliant with the USB command verified tool 2.0 v1.4.9.2.

Release ASF3.5 (Nov 2012)

• Added XMEGA E (STK600) support, added new XCL driver demo
• Added XMEGA-C3 Xplained board support
• Added SAM4S32 and SAM4S-EK2 support
• SD stack for SAM, UC3, XMEGA ready, with SPI and MMC interface. With file system example.
• SAM4L: added AST, EIC, USB device HID, BPM, PDCA, TC, DACC, Flashcaldw, LCDCA, C42364
• Updated CMSIS for SAM from v2.1 to 3.0
• FatFs is now available in Atmel Studio ASF wizard
• Added USB Host vendor class
• megaRF: added GPIO and clock driver
• Added new FreeRTOS specific driver for USART, SPI and TWI for SAM4S
New features added

• **Issue #ASFP-505**: Create CPU Cycle Counter example project for AVR Studio 5 Simulator.
  Added AVR32 CPU driver example designed for simulator testing inside Atmel Studio.
  Added Folder:
  avr32/drivers/cpu/cycle_counter/simulator_example

• **Issue #ASFP-3100**: XMEGA DAC add calibration example using the internal ADC.
  Add example of XMEGA DAC calibration using the internal ADC
  Folder added:
  xmega/applications/xmega_dac_calibration/

• **Issue #ASFP-3999**: AVR2025 MAC GTS Feature support for SAMD20.
  Following Features Have been Implemented under AVR2025 Wireless MAC:
  1. GTS feature implementation.
  2. Data security error correction.
  4. RF4Control library updation.
  5. Performance Analyzer and MAC application porting to SAMD20.
  6. High data rate support for MAC.
  8. Alignment and RAM optimization for SAM platforms.

• **Issue #ASFP-4017**: SAMG53/G51 - Add SAMG53/G51 device and SAMG53-XPRO support.
  Add SAMG51, SAMG53 devices and SAMG53-XPRO support in ASF. Including drivers, services, third
  parties, applications and unit test.
  Modified files:
  common/boards/board.h
  common/services/clock/genclk.h
  common/services/clock/osc.h
  common/services/clock/pll.h
  common/services/clock/sysclk.h
  common/services/gpio/gpio.h
  common/services/iot/efc/efc.c
  common/services/iot/example1/ioport_example1.ioport_example1.c
  common/services/iot/example1/ioport_example2.c
  common/services/iot/example1/ioport_example3.c
  common/services/iot/sam/ioport_pio.h
  common/services/sleepmgr/example/sleepmgr_example_sam_rtt.c
  common/services/sleepmgr/sam/sleepmgr.h
  common/services/sleepmgr/sleepmgr.h
  common/utils/interrupt.h
  common/utils/parts.h
  sam/applications/sam_low_power/main.c
  sam/drivers/adc/adc2.c
  sam/drivers/adc/adc2.h
  sam/drivers/adc/unit_tests/sam4n16c_sam4n_xplained_pro/conf_uart_serial.h
  sam/drivers/adc/unit_tests/unit_tests.c
  sam/drivers/chipid/chipid_example/chipid_example.c
  sam/drivers/efc/efc.c
**Issue #ASFP-4086**: SAM4C - Update device header files for SAM4C in ASF.

Update latest device header files for SAM4C in ASF.

Modified files:

- sam\utils\cmsis\sam4c\include\asf.xml
- sam\utils\cmsis\sam4c\include\sam4c.h
- sam\utils\cmsis\sam4c\include\instance\instance_matrix1.h
- sam\utils\cmsis\sam4c\include\instance\instance_matrix0.h
- sam\utils\cmsis\sam4c\include\instance\instance_adc.h
- sam\utils\cmsis\sam4c\include\instance\instance_tc1.h
- sam\utils\cmsis\sam4c\include\instance\instance_tc0.h
- sam\utils\cmsis\sam4c\include\instance\instance_pioc.h
- sam\utils\cmsis\sam4c\include\instance\instance_piob.h
- sam\utils\cmsis\sam4c\include\instance\instance_pioa.h
- sam\utils\cmsis\sam4c\include\component\component_tc.h
- sam\utils\cmsis\sam4c\include\component\component_pmc.h
- sam\utils\cmsis\sam4c\include\component\component_pio.h

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- sam\utils\cmsis\sam4c\include\asf.xml
- sam\utils\cmsis\sam4c\include\sam4c.h
- sam\utils\cmsis\sam4c\include\instance\instance_matrix1.h
- sam\utils\cmsis\sam4c\include\instance\instance_matrix0.h
- sam\utils\cmsis\sam4c\include\instance\instance_adc.h
- sam\utils\cmsis\sam4c\include\instance\instance_tc1.h
- sam\utils\cmsis\sam4c\include\instance\instance_tc0.h
- sam\utils\cmsis\sam4c\include\instance\instance_pioc.h
- sam\utils\cmsis\sam4c\include\instance\instance_piob.h
- sam\utils\cmsis\sam4c\include\instance\instance_pioa.h
- sam\utils\cmsis\sam4c\include\component\component_tc.h
- sam\utils\cmsis\sam4c\include\component\component_pmc.h
- sam\utils\cmsis\sam4c\include\component\component_pio.h
• **Issue #ASFP-4190**: SAM D20 RTC driver quick starts should show clock configurations. Added information about clock settings for the SAM D20 RTC quick start guides.

• **Issue #ASFP-4258**: The lowest power setting for pins is not possible to setup on SAMD20 ASF.
SAM D20: Add pin config parameter to set pin in lowest possible power state
Files changed:
- `sam0/drivers/port/port.h`
- `sam0/drivers/port/port.c`
- `sam0/drivers/system/pinmux/pinmux.c`
- `sam0/drivers/system/pinmux/pinmux.h`

• **Issue #ASFP-4309**: SAM4C32 - Add device family support in ASF.
Add SAM4C32C/E devices support in ASF
Modified files/folders:
* common/utils/parts.h
* `sam/drivers/efc/efc.c`
* `sam/services/flash_efc/flash_efc.c`
* `sam/utils/cmsis/sam4c`
* `sam/utils/linder_scripts/sam4c/`

• **Issue #ASFP-4323**: SAMG - Update SAMG53 with PDM support.
Update SAMG53 support:
* Add PDM support.
Added folder:
`\sam\drivers\pdm`

**Notable bugs fixed**

• **Issue #ASFP-626**: Modify cpu/cycle_counter/example based on the new structure.
Renamed cpu/cycle_counter/example to comply with the new example structure. Removed a potential race condition in the example implementation.
Modified folder:
cpu/cycle_counter/example renamed to cpu/cycle_counter/example1
• **Issue #ASFP-2101**: USB host Android implementation errors.
   Fixed several edge cases and enumeration issues in the Android Accessory Host class driver of the USB stack.
   Files Changed:
   common/services/usb/class/aoa/host/example/at32uc3a0512_evk1105/ui.c
   common/services/usb/class/aoa/host/example/at32uc3a3256_evk1104/ui.c
   common/services/usb/class/aoa/host/example/conf_usb_host.h
   common/services/usb/class/aoa/host/example/ui.h
   common/services/usb/class/aoa/host/uhi_aoa.c
   common/services/usb/class/aoa/host/uhi_aoa.h

• **Issue #ASFP-2812**: Add IOPORT unit test for ATmega128RFA1 and ATmega128RFR2.
   Add unit test for IOPORT service on megaAVR devices ATmega128RFA1 and ATmega128RFR2.
   Added directories and content:
   common/services/ioport/unit_tests/
   common/services/ioport/unit_tests/atmega128rfa1_stk600-rc128x_rfx/
   common/services/ioport/unit_tests/atmega256rfr2_atmega256rfr2_xplained_pro/

• **Issue #ASFP-3823**: Quick Start Guide for ADCIFE driver is missing initialization of configuration structs.
   Added missing configuration struct instances in the ADCIFE driver quick start guide.
   Files Modified:
   sam/drivers/adcife/adcife.h

• **Issue #ASFP-3851**: ASF XMEGA USART documentation page incomplete.
   Fixed incorrect doxygen grouping
   Files changed:
   xmega/drivers/uart/usart.h

• **Issue #ASFP-3893**: Missing conf_example.h documentation from the SAM D20 examples.
   Files modified:
   sam0/drivers/tc/asf.xml
   sam0/drivers/tc/quick_start/qs_tc_basic.h
   sam0/drivers/tc/quick_start/samd20_xplained_pro/conf_quick_start.h
   sam0/drivers/tc/quick_start_callback/qs_tc_callback.h
   sam0/drivers/tc/quick_start_callback/samd20_xplained_pro/conf_quick_start_callback.h
   sam0/drivers/tc/tc.h

• **Issue #ASFP-3899**: adc_init should enable voltage reference if needed.
   SAM D20, ADC driver: adc_enable will now enable internal reference if needed.

• **Issue #ASFP-3902**: dac_init should enable voltage reference if needed.
   SAM D20, DAC driver: dac_enable will now enable internal reference if needed

• **Issue #ASFP-4056**: Add tickless FreeRTOS example for SAM D20.
   Added FreeRTOS 7.5.2 library, along with a tickless idle example for the SAM D20 series devices.
   Folders Added:
   thirdparty/freertos/demo/oled1_tickless_xpro_example
   thirdparty/freertos/freertos-7.5.2/
• **Issue #ASFP-4070:** SAM User Board based projects do not compile once PMC/Clock drivers are added. Fixed compile issue for SAM device when importing clock service module for user board applications.
  Modified files:
  common\services\clock\sam3n\osc.h
  common\services\clock\sam3s\osc.h
  common\services\clock\sam3u\osc.h
  common\services\clock\sam3x\osc.h
  common\services\clock\sam4c\osc.h
  common\services\clock\sam4e\osc.h
  common\services\clock\sam4n\osc.h
  common\services\clock\sam4s\osc.h
  (fixed typo "statup" in below files)
  sam\boards\arduino_due_x\arduino_due_x.h
  sam\boards\sam3n_ek\sam3n_ek.h
  sam\boards\sam3s_ek\sam3s_ek.h
  sam\boards\sam3s_ek2\sam3s_ek2.h
  sam\boards\sam3u_ek\sam3u_ek.h
  sam\boards\sam3x_ek\sam3x_ek.h
  sam\boards\sam4c_ek\sam4c_ek.h
  sam\boards\sam4e_ek\sam4e_ek.h
  sam\boards\sam4s_ek\sam4s_ek.h
  sam\boards\sam4s_ek2\sam4s_ek2.h
  sam\boards\sam4s_wpir_rd\sam4s_wpir_rd.h
  sam\boards\sam4s_xplained\sam4s_xplained.h
  sam\drivers\pmc\sleep.c

• **Issue #ASFP-4072:** Pin define for push button 0 is not correct in SAM4S-Xplained Pro board file in ASF.
  Files modified:
  sam\applications\sam_low_power\sam4sd32c_sam4s_xplained_pro\low_power_board.h
  sam\boards\sam4s_xplained_pro\sam4s_xplained_pro.h

• **Issue #ASFP-4115:** SAM D20 I2C Slave - Error in bus error condition check.
  Fixed incorrect status register masking when determining if a bus error condition has occurred in the SAM D20 SERCOM I2C slave driver.
  Files changed:
  sam0\drivers\sercom\i2c\i2c_common.h
  sam0\drivers\sercom\i2c\i2c_slave.c

• **Issue #ASFP-4123:** system_clock_init() function in clock.c file needs correction(For SAMD20 ASF project).
  Set CPU and APB dividers before enabling GCLK_MAIN in case of high frequency of GCLK0 (> 48MHz).
  Modified files:
  sam0\drivers\system\clock\clock.c

• **Issue #ASFP-4165:** AT45DBX service shows wrong sector size information.
  File Modified:
  common\components\memory\data_flash\at45dbx\ad45dbx.h

• **Issue #ASFP-4174:** ioport_set_port_level() API not working as expected.
ioport_set_port_level() should not treat "value" argument as a bitmask, but as a value to apply to port pins.

Changed files:
common/services/ioport/mega/ioport.h
common/services/ioport/sam/ioport_gpio.h
common/services/ioport/uc3/ioport.h
common/services/ioport/xmega/ioport.h

• **Issue #ASFP-4177:** SAM D20: "nvm_set_fuses()" does not work in NVM driver.
Files modified:
sam0/drivers/nvm/nvm.c
sam0/drivers/nvm/unit_test/unit_test.c

• **Issue #ASFP-4261:** SAM0 compiler.h uses incorrect legacy converter union entries.
Fixed incorrect 8-bit names in the compiler.h type conversion unions, corrected some typos and non-uniform Doxygen syntax.
Files Changed:
sam0/utils/compiler.h

• **Issue #ASFP-4265:** SAM4ExC - Add device support in ASF.
File changed:
common/utils/parts.h
Folders renamed:
sam/utils/linker_scripts/sam4e/sam4e16e -> sam4e16
sam/utils/linker_scripts/sam4e/sam4e8e -> sam4e8

• **Issue #ASFP-4270:** Remove DFLL RUN_IN_STANDBY clock config for SAM D20.
DFLL RUN_IN_STANDBY clock config does not work as expected, removing the config to avoid issues.
Modified files:
sam0/drivers/system/clock/clock.h
sam0/drivers/system/clock/clock_config_check.h
sam0/drivers/system/clock/clock.c
sam0/*/conf_clocks.h

• **Issue #ASFP-4286:** FreeRTOS has compatibility issues with lwIP and IAR.
FreeRTOS’s source files should use relative path to their relevant include files, instead of relying on include paths. Its port.c must be given a unique name for IAR, to not conflict with the SAM D20 PORT driver.
Updated files in these directories:
thirdparty/freertos/...
.../demo/oled1_xpro_example/samd20_xplained_pro/
.../freertos-7.0.0/
.../freertos-7.3.0/
.../freertos-7.4.2/

• **Issue #ASFP-4294:** system_interrupt_set_priority not implemented correctly.
SAM D20: system_interrupt_set_priority did overwrite the corresponding interrupt priority register, should only modify the content.
• **Issue #ASFP-4298**: PolarSSL and USB examples for UC3 must be updated for new IAR toolchain. IAR for AVR32 v4.10 cannot build PolarSSL examples due to a (superfluous) conflicting definition of time(). Also, several USB examples for AVR32 cannot be built due to a wrong macro for GPIO IRQ group being used.

  Changed files:
  - common/services/usb/class/...
  - ...composite/device/example1/at32uc3a0512_evk1100/ui.c
  - ...composite/device/example3/at32uc3b0256_evk1101/ui.c
  - ...composite/host/example1/at32uc3a0512_evk1100/ui.c
  - ...composite/host/example1/at32uc3b0256_evk1101/ui.c
  - ...hid/device/generic/example/at32uc3b0256_evk1101/ui.c
  - ...hid/device/kbd/example/at32uc3b0256_evk1101/ui.c
  - ...hid/device/mouse/example/at32uc3a0512_evk1100/ui.c
  - ...hid/device/mouse/example/at32uc3b0256_evk1101/ui.c
  - ...hid/dual/mouse/example/at32uc3a0512_evk1100/ui.c
  - ...hid/dual/mouse/example/at32uc3b0256_evk1101/ui.c
  - ...hid/host/mouse/example/at32uc3a0512_evk1100.ui.c
  - ...msc/host/example/at32uc3a0512_evk1100/ui.c
  - thirdparty/polarssl/timing.c

**Known issues**

• **Issue #ASFP-184**: AT42QT1060 driver - use of EIC hardcoded for EVK1105 only.

  AT42QT1060 component is not supported by the AT32UC3A0 and AT32UC3A1 device family.

• **Issue #ASFP-198**: PolarSSL needs to be updated to version 1.0.0 to solve build error.

  Header file "openssl.h" from polarssl version 0.14.0 has some wrong function definition that creates build error. Update to version 0.99 will solve the issue

• **Issue #ASFP-674**: common/components/memory/data_flash/at45dbx is not listed for any devices in AVR Studio 5 ASF menu.

  Some AT45DBX definitions are missing in board definition causing module errors when using it in AVR Studio 5 with those boards. Modified file : avr32/boards/uc3_a3_xplained/uc3_a3_xplained.h ,xmega/boards/xmega_a1_xplained/xmega_a1_xplained.h

• **Issue #ASFP-881**: XMEGA NVMDriver does not support XMEGA A3 rev B errata.

  XMEGA NVM driver does not support XMEGA A3 rev B errata.

• **Issue #ASFP-882**: Sensor library fails compilation if not using a board in the 'Xplained' series of boards.

  Sensor library fails compilation if not using an board in the "Xplained" series of boards.

• **Issue #ASFP-3595**: ASF includes its own SAM header files set which is not synchronized with the latest header files from Atmel Studio 6.1 toolchain.

  The Atmel Studio 6.1beta header files set for SAM devices is not backward compatible with the Atmel Studio 6.0 header files set.
ASF SAM drivers are using their own set of header files (from sam/utils/cmsis/sam*/include) and are not compatible with the Atmel Studio 6.1beta header files.
SAM drivers will be ported to the new Atmel Studio 6.1beta header files set in a later ASF release.
Contact Information

For more info about Atmel MCU visit http://www.atmel.com/products/microcontrollers/default.aspx, download application notes from the Application Notes page or contact support through the http://support.atmel.no/ site. The support site also have a Frequently Asked Questions.

ASF bug or enhancement requests can be reported in the ASF Bug Tracker at http://asf.atmel.com/bugzilla/.

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