ASF: Release ASF-3.13

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
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 toxmlmega/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://cmsg1prd.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://cmsg1prd.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
- SAM4C 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 ASF3.13 (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, rstdc, rtt, slcdc, spi, supc, tc, tmr, twi, uart, usart, wdt; added services support for clock, ioport, serial, sleep manager, flash, etc, twi; added component support for serial, flash, eeprom, at30ts75 and c42364a_slcdc; added third party support for CMSIS, freertos and fatfs, 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_mon, 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: Atmega256RFR2 Xplained Pro, ZigBit ATmegaRF2, ZigBit ATRF233 XMEGA, ZigBit ATRF212B XMEGA, USB stick with ZigBit ATRF233 XMEGA, USB stick with ZigBit ATRF212B XMEGA, SAM4L Xplained Pro with ZigBit ATmegaRF2, 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, iopart, CMSIS, stdio, PIO, Flash, interrupt
- Added XMEGA C3 Xplained demos: LED, switchs, QTough, OLED, USB, SD card
- Added megaRF drivers: interrupt, adc
- Added SAM4L drivers: GPIO for event and interrupt, Watchdog, USB Host HID class, HMATRIX, CRCU, 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 SAM4SD32 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-2467**: SLEEP driver implementation for MegaRF in ASF.
  added files
  \common\services\sleepmgr\example\sleepmgr_example_megarf.c
  \common\services\sleepmgr\example\atmega256rfr2_atmega256rfr2_xplained_pro
  \common\services\sleepmgr\example\atmega128rfa1_stk600-rc128x_rfx
  \common\services\sleepmgr\unit_tests\unit_tests.c
  \common\services\sleepmgr\unit_tests\atmega256rfr2_atmega256rfr2_xplained_pro
  \common\services\sleepmgr\unit_tests\atmega128rfa1_stk600-rc128x_rfx
  modified files
  \mega\drivers\sleep\sleep.h
  \mega\drivers\sleep\sleep_megarf.h

- **Issue #ASFP-4009**: UHI CDC - VCOM device enumeration improvement.
  File modified:
  \common\services\usb\class\cdc\host\uhi_cdc.c

- **Issue #ASFP-4038**: XOSC32K Runtime Failure Detector Example for the SAM D20.
  Added a new runtime XOSC32K failure detector for the SAM D20 devices, showing how to seamlessly
detect and switch the reference clock to the internal DFLL when the external crystal fails (or is not
present).
  Directories Added:
  sam0\applications\xosc32k_failure_detector

- **Issue #ASFP-4084**: Support SAMD20E1F.
  Add support for SAMD20E1F device
  Files changed:
  common\utils\parts.h
  sam0\utils\cmsis\samd20\include\samd20e1f.h
  sam0\utils\cmsis\samd20\include\pio\pio_samd20e1f.h
  sam0\utils\linker_scripts\samd20\gcc\samd20e1f_flash.ld
  sam0\utils\linker_scripts\samd20\gcc\samd20e1f_sram.ld
  sam0\utils\linker_scripts\samd20\iar\samd20e1f_flash.icf
  sam0\utils\linker_scripts\samd20\iar\samd20e1f_sram.icf

- **Issue #ASFP-4130**: SERCOM drivers should have functionality for signalling that an instance is locked.
  Add functionality to SERCOM drivers to flag an instance as being locked, to better support resource
sharing.
  Files changed:
  sam0\drivers\sercom\i2c\i2c_common.h
  sam0\drivers\sercom\i2c\i2c_master.h
  sam0\drivers\sercom\i2c\i2c_slave.h
  sam0\drivers\sercom\spi\spi.c
  sam0\drivers\sercom\spi\spi.h
  sam0\drivers\sercom\uart\uart.h

- **Issue #ASFP-4131**: The SERCOM USART pad mux documentation is difficult to understand.
SAM D20: Updated SERCOM USART pad muxing documentation to use signal names to be easier to understand.
Files changed:
sam0/drivers/sercom/usart/usart.h

- **Issue #ASFP-4132**: SAM D20 common USART wrapper causes build failures.
SAM D20: Common USART API multiple instance fixup.
Files changed:
common/services/serial/sam0_usart/usart_serial.h

**Notable bugs fixed**

- **Issue #ASFP-3901**: XOSC32K should not use automatic gain control by default.
Files changed:
All conf_clocks.h for SAM D20 in the ASF three
sam0/drivers/system/clock/clock.h

- **Issue #ASFP-3912**: User board project for SAM3N does not list SAM3N0* devices in it.
Files modified:
common/utils/parts.h
sam/util/cmsis/sam3n/include/sam3n.h
Files added:
sam/util/cmsis/sam3n/include/pio/pio_sam3n00a.h
sam/util/cmsis/sam3n/include/pio/pio_sam3n00b.h
sam/util/cmsis/sam3n/include/pio/pio_sam3n0a.h
sam/util/cmsis/sam3n/include/pio/pio_sam3n0b.h
sam/util/cmsis/sam3n/include/sam3n00a.h
sam/util/cmsis/sam3n/include/sam3n00b.h
sam/util/cmsis/sam3n/include/sam3n0a.h
sam/util/cmsis/sam3n/include/sam3n0b.h
sam/util/cmsis/sam3n/include/sam3n0c.h
sam/util/linker_scripts/sam3n/sam3n0/gcc/flash.ld
sam/util/linker_scripts/sam3n/sam3n0/gcc/sram.ld
sam/util/linker_scripts/sam3n/sam3n0/iar/flash.icf
sam/util/linker_scripts/sam3n/sam3n0/iar/sram.icf
sam/util/linker_scripts/sam3n/sam3n00/gcc/flash.ld
sam/util/linker_scripts/sam3n/sam3n00/gcc/sram.ld
sam/util/linker_scripts/sam3n/sam3n00/iar/flash.icf
sam/util/linker_scripts/sam3n/sam3n00/iar/sram.icf

- **Issue #ASFP-3945**: RE200B PIR sensor motion detection example - SAM4S- WPIR-RD -> not working in Atmel Studio 6.1.
Files modified:
sam/components/pir_sensor/re200b/re200b.c
sam/drivers/acc/acc.c
sam/drivers/acc_example/acc_example.c
sam/drivers/acc_example/acc_example_sam4e.c

- **Issue #ASFP-3982**: USB Device HID Generic Example - SAM3U-EK example not working in high speed.
• **Issue #ASFP-3995:** In UHC driver, conf_size should be uint16_t instead of uint8_t.
  Fix UHC bug, conf_size should be uint16_t instead of uint8_t.
  File Modified:
  common/services/usb/uhc/uhc.c

• **Issue #ASFP-4001:** AT86RF212B TAL Power Table needs to be Updated based on the Latest released Datasheet on Web.
  Power Table of AT86RF212B Updated based on Latest Datasheet.
  RPC feature Enabled in Performance Analyzer for RFR2 supported boards
  Addition of RFR2-RCB-Xpro Board Support for Performance Analyzer
  Files Added/Changed :
  common/boards/board.h
  mega/boards/atmega256rfr2_rcb_xpro/atmega256rfr2_rcb_xpro.h
  mega/boards/atmega256rfr2_rcb_xpro/board_config/conf_board.h
  mega/boards/atmega256rfr2_rcb_xpro/init.c
  mega/boards/atmega256rfr2_rcb_xpro/led.h
  mega/boards/atmega256rfr2_rcb_xpro/helper.c
  mega/boards/atmega256rfr2_rcb_xpro/helper.h
  mega/boards/atmega256rfr2_rcb_xpro/led.h
  thirdparty/wireless/addons/sio2host/usb_ftdi/sio2host.c
  Project Folder : thirdparty/wireless/avr2025_mac/apps/tal/performance_analyzer/
  atmega256rfr2_rcb_xpro
  thirdparty/wireless/avr2025_mac/apps/tal/performance_analyzer/inc/app_per_mode.h
  thirdparty/wireless/avr2025_mac/apps/tal/performance_analyzer/src/per_mode_initiator.c
  thirdparty/wireless/avr2025_mac/apps/tal/performance_analyzer/src/perf_api_serial_handler.c
  thirdparty/wireless/avr2025_mac/source/pal/common_sw_timer/module_config/
  conf_common_sw_timer.h
  thirdparty/wireless/avr2025_mac/source/tal/at86rf212/inc/tal_pib.h
  thirdparty/wireless/avr2025_mac/source/tal/at86rf212/inc/tal_pib.c
  thirdparty/wireless/avr2025_mac/source/tal/at86rf212b/inc/tal_pib.h
  thirdparty/wireless/avr2025_mac/source/tal/at86rf212b/inc/tal_pib.c
  thirdparty/wireless/avr2025_mac/source/tal/atmega256rfr2_inc/tal_init.c
  thirdparty/wireless/avr2025_mac/source/tal/inc/tal_helper.h
  thirdparty/wireless/avr2025_mac/source/tal/inc/tal_helper.c

• **Issue #ASFP-4004:** & sam4sHSMCI_MR_PDCMODE doesn't handle unaligned transfers.
  Fix a bug in SAM HSMCI driver: HSMCI_MR_PDCMODE doesn't handle unaligned transfers.
  Modified file:
  sam/drivers/hsmci/hsmci.c

• **Issue #ASFP-4005:** Heap collision is not checked in syscalls for SAM.
  Files modified:
  sam/applications/starter_kit_bootloader_demo/main/sam4n16c_sam4n_xplained_pro/linker_scripts/
  gcc_flash.ld
  sam/utils/linker_scripts/sam3n/sam3n1/gcc.flash.ld
  sam/utils/linker_scripts/sam3n/sam3n1/gcc/sram.ld
• **Issue #ASFP-4010**: UHI CDC - data TX/RX process fix.
  File modified:
  `\common\services\usb\class\cdc\host\uhi_cdc.c`

• **Issue #ASFP-4011**: 4L - in USBC host, in some cases uhd_ep_abort_pipe() must not reset data toggle.
  Files modified:
  `sam\drivers\uotghs_host.c`
  `sam\drivers\usbc_host.c`
  `avr32\drivers\usbc_host.c`

• **Issue #ASFP-4012**: SAM4S-XPLD - QTouch Lib warnings.
Remove the QTouch lib compile warnings for SAM series.
Modified files:
thirdparty/qtouch/generic/include/touch_api.h
thirdparty/qtouch/generic/sam/qtouch/common/BitBangSPI_Master.h
thirdparty/qtouch/generic/sam/qtouch/examples/qtouch_example.c
thirdparty/qtouch/qdebug/QDebug.c
thirdparty/qtouch/qdebug/QDebug.h
thirdparty/qtouch/qdebug/QDebugTransport.h
sam/applications/sam4s_xplained_qtouch_demo/qtouch_demo.c

• Issue #ASFP-4015: NVIC Example For SAM3U-EK doesn't work.
Remove the NVIC example of SAM3N and SAM3U EK.
Add more delay in the ISR to avoid quit too quickly.
Files modified:
sam/utils/cmsis/cm3_nvic_example/main.c
sam/utils/cmsis/cm4_nvic_example/main.c
Folder removed:
sam/utils/cmsis/cm3_nvic_example/sam3n4c_sam3n_ek
sam/utils/cmsis/cm3_nvic_example/sam3u4e_sam3u_ek

• Issue #ASFP-4019: Quick Start Guide for SYSTEM CLOCK - Basic does not set wait states.
SAM D20: Fixed small typo in the system_clock drivers quick start code documentation.
Files changed
sam0/drivers/system/clock/quick_start_clock/qs_clock_source.h

• Issue #ASFP-4030: usart.c compilation for SAM3SxA devices.
File modified:
sam/drivers/usart/usart.c

• Issue #ASFP-4052: SAMD20 GCLK channel disable can lock up for enabled channels with failed generators.
Fixed an issue where system_gclk_chan_disable() for SAM D20 devices can cause deadlocks on
clock channels when the associated generator is not running.
Files changed:
sam0/drivers/system/clock/gclk.c

• Issue #ASFP-4053: spi_setPeripheralChipSelectValue() function parameter in SAM SPI driver is very confusing.
Files modified:
sam/drivers/spi/example/spi_example.c
sam/drivers/spi/dmac_slave_example/spi_dmac_slave_example.c
sam/drivers/spi/pdc_example/spi_pdc_example.c
sam/drivers/spi/spi.c
sam/drivers/spi/spi.h
common/services/freertos/sam/unit_tests/freertos_spi_master/spi_unit_tests.c
thirdparty/freertos/demo/peripheral_control/demo-tasks/SPI-FLASH-task.c

• Issue #ASFP-4055: ASF changes required to support Wireless Project Wizard : thirdparty/wireless, project
generator etc. .
Addition of UserBoard Support for SAM4L*8* Devices in Atmel Studio
Files changed: "asf\common\boards\user_board\asf.xml","asf\common\applications\user_application\user_board\asf.xml"

- **Issue #ASFP-4088**: SAM4C - Unit tests failure on SAM4C-EK.
  Fixed Flash and AES unit tests failed on SAM4C-EK.
  Modified files:
  - sam/drivers/aes/unit_tests/unit_tests.c
  - sam/services/flash_efc/unit_tests/unit_tests.c

- **Issue #ASFP-4089**: CAN driver does not deal with Write-Only CAN_MCR register.
  Files modified:
  - sam/drivers/can/can.h
  - sam/drivers/can/can.c

- **Issue #ASFP-4108**: lwIP DHCP timer is run at 1000x the intended rate.
  Modify dhcp_coarse_tmr value.
  Modified files:
  - sam/applications/sam4e_ek_demo/network/ethernet_sam.c
  - thirdparty/lwip/example/network/ethernet_sam.c

- **Issue #ASFP-4122**: SAMD20 - ADC driver does not compile for SAMD20G18.
  Fix ADC driver about pin mapping for SAMD20G/E series.
  Modified file:
  - sam0/drivers\adc\adc.c

- **Issue #ASFP-4124**: New Studio project or User board project for SAM4LS2B shows compiler error.
  Updated files:
  - sam\utils\cmsis\sam4l\source\templates\iar\startup_sam4l.c
  - sam\utils\cmsis\sam4l\source\templates\gcc\startup_sam4l.c

- **Issue #ASFP-4129**: SAMD20 clock driver enables DFLL in closed loop before its reference.
  Make the SAM D20 clock driver enable the DFLL after its reference has been enabled.
  Files changed:
  - sam0/drivers/system\clock\clock.c

- **Issue #ASFP-4135**: The USART_CALLBACK_BUFFER_TRANSMITTED callback does not wait for empty buffer before it is executed.
  SAM D20: Usart buffer transmitted will only be triggered when the whole buffer is transmitted.
  Files changed:
  - sam0/drivers/sercom/usart/usart_interrupt.c

- **Issue #ASFP-4137**: SAM D20 DAC driver configuration writes to incorrect registers.
  The SAM D20 DAC driver writes configuration bits to the wrong control registers, causing invalid operations to occur.
  Files Changed:
  - sam0/drivers/dac/dac.c

- **Issue #ASFP-4138**: SAM D20 ADC driver is broken for internal input sources.
  SAM D20: ADC driver pin muxing code updated to support different number of available ADC pins.
Files changed:
  sam0/drivers/adc/adc.c

- **Issue #ASFP-4159**: SAMD20: When the EEPROM emulator code for buffer writes/reads are given an offset of multiples of the chip page size it fails.
  Files changed
  sam0/services/eeprom/emulator/eeprom.c

- **Issue #ASFP-4161**: SAM D20: Rewrite misleading comment in the beginning of system_clock_init().
  Files changed:
  sam0/drivers/system/clock/clock.c

- **Issue #ASFP-4164**: SAM D20: Issue with set_config function in nvm driver.
  SAM D20: The set_config function in the nvm driver is writing the CTRLB register content wrong.
  Files changed:
  sam0/drivers/nvm/nvm.c

- **Issue #ASFP-4185**: Add Support For Atmega2564rfr2 AVR2025 in wireless.
  Addition of Atmega2564RFR2 Device Support for Wireless Projects in ASF,
  Files Modified:
  common/utils/parts.h

- **Issue #ASFP-4186**: ASF Project Generator Support For 64rfr2,128rfr2,256rfr2,644rfr2,1284rfr2,2564rfr2.
  Added support for ATmega64/128/256/644/1284/2564RFR2 and v6.21.1 of IAR Embedded
  Workbench for AVR.
  Files changed:
  common/utils/parts.h
  thirdparty/wireless/avr2025_mac/source/pal/mega/drivers/flash/flash.h
  xmega/drivers/tc45/tc45.h

- **Issue #ASFP-4229**: SAMD20: The last index in a page is wrong when using the eeprom_emulator_write_buffer() function.
  Files changed:
  sam0/services/eeprom/emulator/eeprom.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 NVM driver 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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