

## Release Notes

### 1. Overview

This document is the release notes for the AmbiqSuite SDK v2.4.2. The Ambiq Suite SDK is a collection of software enablement for the Apollo, Apollo2, Apollo2Blue, Apollo3Blue, and the new Apollo3BluePlus MCU based EVBs. The SDK includes a hardware abstraction layer (HAL), device drivers, and example applications to speed the understanding of the operation of the MCUs. Third party software including the ARM/PacketCraft Cordio BLE Host stack and FreeRTOS v10.1.1 are distributed along with debugging tools and other support. Additional support for Ambiq products can be found at <https://support.ambiqmicro.com/hc/en-us>.

### 2. Target Hardware Supported

This release of the SDK enables support for the following targets:

- apollo1\_evb (Apollo1 APOLLO512-KBR Board Rev 1.0)
- apollo2\_blue\_evb (Apollo2-Blue EVB Rev 1.0)
- apollo2\_evb (Apollo2 AMAPH1KK-KBR EVB Rev 1.1)
- apollo3\_evb (AMA3B1KK-KBR EVB Rev 1.0 and Rev 1.7)
- apollo3p\_evb (AMA3B2EVB Rev 1.0)

### 3. Development Tools

The Ambiq Suite SDK has been tested with the following Integrated Development Environments:

- IAR Embedded Workbench 8.32.2
- Keil uVision 5.27.1
- GCC 5.4.1
- SEGGER JLink V6.60e or later

**AmbiqSuite (v2.4.2), February 2020**


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## 4. Resolved Defects

Module	Target	Description
CTIMER (am_hal_ctimer.c)	Apollo3Blue	Fixed defect in ctimer_clr() function. Fixed glitch on CTIMER output.
IOM (am_hal_iom.c) MSPI (am_hal_mspi.c)	Apollo3Blue	Added support for virtual CQ callbacks to fix update problem.
PWRCTRL (am_hal_pwrctrl.c)	Apollo3Blue Apollo3BluePlus	Updated the SIMOBUCK trim at power on to prevent brownout events with certain customer designs.
MSPI (am_hal_mspi.c)	Apollo3Blue Apollo3BluePlus	Found a problem in the configuration of XIP mixed mode.
Time Utility (am_util_time.c)	Apollo1 Apollo2 Apollo2Blue Apollo3Blue Apollo3BluePlus	Fixed error in weekday calculation.

## 5. New Features

Module	Target	Description
New MCU Support	Apollo3BluePlus	Added support for Ambiq's latest Apollo3BluePlus MCU
Device Drivers	Apollo3Blue Apollo3BluePlus	Updated the device drivers provide a more generic interface with HAL layer and support both Apollo3Blue and Apollo3BluePlus with same driver.
GPIO HAL (am_hal_gpio.c)	Apollo3Blue Apollo3BluePlus	Added advanced Interrupt registration function support.
UART HAL (am_hal_uart.c)	Apollo3Blue Apollo3BluePlus	Expose previously internal functions (FIFO related). Added a new interface function to return the set of enabled interrupts (am_hal_uart_interrupt_enable_get).

## 6. Known Issues

Module	Target	Description
hci_drv_apollo.c	Apollo3Blue Apollo3BluePlus	Enabling USE_NONBLOCKING_HCI in will increase the overall BLE power. The feature is currently disabled by default, but is otherwise functional.

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