



Release Notes for CrossCore Embedded Studio 2.9.1

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2 Introduction

This document describes the changes for [CrossCore Embedded Studio](#) (CCES) 2.9.1. You can find the release notes for older releases in the docs sub-directory of your CCES installation as well as an Installation Guide which will help you install this release.

3 New and Noteworthy

3.1 ADSP-2156x Support

CCES 2.9.1 provides support for the new [ADSP-2156x SHARC family DSPs](#). These newly supported parts are:

- [ADSP-21569](#)
- [ADSP-21567](#)
- [ADSP-21566](#)
- [ADSP-21565](#)
- [ADSP-21563](#)
- [ADSP-21562](#)

The support provided includes:

- CCES projects build and debug capabilities.
- [ADSP-21569 EZ-KIT](#) support.
- System services (SSL) and device drivers (DD) 3.0
- Functional and cycle accurate simulators.

Limitations of support for ADSP-2156x parts:

- The CCES SRU addin will allow DAI signals to be routed using the pin buffers that are not bonded off-chip on the ADSP-2156x SHARC family parts.
- The 400-ball CSP BGA package parts have 2 x 14 DAI pins bonded off-chip (DAIx_PIN01 through DAIx_PIN12, DAIx_PIN19, and DAIx_PIN20). The 120-lead LQFP-EP package parts have 2 x 12 DAI pins bonded off-chip (DAIx_PIN01 through DAIx_PIN10, DAIx_PIN19, and DAIx_PIN20).
- Limitations of the boot initcode provided for the ADSP-21569 EZ-KIT:
 - SPI Master booting does not work beyond a maximum SPI clock frequency of 41.6Mhz, on the EZ-KIT.
 - UART manual baud rate update does not work after re-configuring the CGU.

3.2 System Services and Device Drivers v3.0 (SSLDD 3.0)

CCES 2.9.1 provides a new version of the **System Services and Device Drivers for ADSP-2156x** (SSLDD 3.0). This new design offers improvement in different aspects like ease of use, code and data footprint, throughput etc. In addition to that, it let users define the configuration parameters of a given peripheral statically using static configuration headers which are added to the example projects once Add-in for a peripheral is added. Since there are lot of changes in SSLDD version 3.0 implementation, separate user guide is created for the same and can be found in Help -> CrossCore Embedded Studio 2.9.1 Help/ System Run-Time Documentation/System Services and Device Drivers User Guide for ADSP-2156x. Refer to "**Major Difference between SSLDD 3.0 and SSLDD 2.0**" section to better understand the differences between SSLDD 3.0 and SSLDD 2.0.

3.3 New implementations of `fir` and `biquad` functions for ADSP-214xx processors

The implementations of the vector `fir` and `biquad` functions from `filter.h` have been updated for ADSP-214xx processors. The new implementations give significantly improved performance, especially for larger numbers of samples and taps/sections. The new implementations are larger in terms of code size than previous implementations.

4 Changes That Might Impact Backwards Compatibility

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5 Known Issues

1. System Services and Device Drivers can be used with FreeRTOS but user need to take care that a given Driver or Service is not used across peripherals. Please refer to FreeRTOS v1.4.0 release notes for more information.