SIEMENS EDA

Algorithmic C (AC) DSP **Release Notes**

Software Version v3.5.0
August 2023

SIEMENS

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Release 3.5.0

The following topics describes the changes that were made to the *Algorithmic C Digital Signal Processing* (*AC DSP)* library since the last release.

Enhancements

N/A

Corrected Issues

- N/A

Release 3.4.3

The following topics describes the changes that were made to the *Algorithmic C Digital Signal Processing* (*AC DSP)* library since the last release.

Enhancements

CAT-29881- Support for Microsoft Visual Studio C++ 2019

The AC Math headers have been updated to compile correctly with MS Visual Studio 2019. Note that although compilation and execution is now possible on the Windows platform, Catapult HLS is only available on Linux.

Corrected Issues

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Release 3.4.1

The following topics describes the changes that were made to the *Algorithmic C Digital Signal Processing* (*AC DSP)* library since the last release.

Enhancements

N/A

Corrected Issues

Corrected the banner text for each file.

Release 3.1.0

This release is the first open-source release of the *ac_dsp* library. This release has the following DSP blocks implemented. This release provides new functionality and bug fixes.

Filter Blocks

Filter Implementation	Class Name	Header File
CIC Decimator (Full Precision)	ac_cic_dec_full	ac_cic_dec_full.h
CIC Interpolator (Full Precision)	ac_cic_intr_full	ac_cic_intr_full.h
FIR Filter – Constant Coefficients	ac_fir_const_coeffs	ac_fir_const_coeffs.h
FIR Filter – Loadable Coefficients	ac_fir_load_coeffs	ac_fir_load_coeffs.h
FIR Filter – Programmable Coefficients	ac_fir_prog_coeffs	ac_fir_prog_coeffs.h
FIR Filter – Register Sharing	ac_fir_reg_share	ac_fir_reg_share.h
Integrate and Dump	ac_intg_dump	ac_intg_dump.h
1-D Moving Average Filter	ac_mv_avg	ac_mv_avg.h
Polyphase Decimation Filter	ac_poly_dec	ac_poly_dec.h
Polyphase Interpolation Filter	ac_poly_intr	ac_poly_intr.h

FFT Blocks

FFT Implementation	Class Name	Header File
DIF Radix-2 In-place	ac_fft_dif_r2_inpl	ac_fft_dif_r2_inpl.h
DIF Mix-Radix Single-Delay Feedback	ac_fft_dif_r2m2p2_sdf	ac_fft_dif_r2m2p2_sdf.h
DIF Radix-2^2 Single-Delay-Feedback	ac_fft_dif_r2p2_sdf	ac_fft_dif_r2p2_sdf.h
DIF Radix-2^X Block Floating Point In-place	ac_fft_dif_r2pX_bfp_inpl	ac_fft_dif_r2pX_bfp_inpl.h
DIF Radix-2^X Dynamic In-place	ac_fft_dif_r2pX_dyn_inpl	ac_fft_dif_r2pX_dyn_inpl.h
DIF Radix-2^X In-place	ac_fft_dif_r2pX_inpl	ac_fft_dif_r2pX_inpl.h
DIF Radix-2 Single-Delay-Feedback	ac_fft_dif_r2_sdf	ac_fft_dif_r2_sdf.h
DIT Radix-2 In-place	ac_fft_dit_r2_inpl	ac_fft_dit_r2_inpl.h
DIT Radix-2 Single-Delay-Feedback	ac_fft_dit_r2_sdf	ac_fft_dit_r2_sdf.h

Supported Compilers

In order to use and run the ac_dsp library, it is recommended that the user use the g++ compiler provided in GCC (Gnu Compiler Collective) version 4.4.7 or later.