

SIEMENS EDA

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

Software Version v3.4.3  
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## Release 3.4.3

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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

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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)	<code>ac_cic_dec_full</code>	<code>ac_cic_dec_full.h</code>
CIC Interpolator (Full Precision)	<code>ac_cic_intr_full</code>	<code>ac_cic_intr_full.h</code>
FIR Filter – Constant Coefficients	<code>ac_fir_const_coeffs</code>	<code>ac_fir_const_coeffs.h</code>
FIR Filter – Loadable Coefficients	<code>ac_fir_load_coeffs</code>	<code>ac_fir_load_coeffs.h</code>
FIR Filter – Programmable Coefficients	<code>ac_fir_prog_coeffs</code>	<code>ac_fir_prog_coeffs.h</code>
FIR Filter – Register Sharing	<code>ac_fir_reg_share</code>	<code>ac_fir_reg_share.h</code>
Integrate and Dump	<code>ac_intg_dump</code>	<code>ac_intg_dump.h</code>
1-D Moving Average Filter	<code>ac_mv_avg</code>	<code>ac_mv_avg.h</code>
Polyphase Decimation Filter	<code>ac_poly_dec</code>	<code>ac_poly_dec.h</code>
Polyphase Interpolation Filter	<code>ac_poly_intr</code>	<code>ac_poly_intr.h</code>

## FFT Blocks

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

## Supported Compilers

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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.