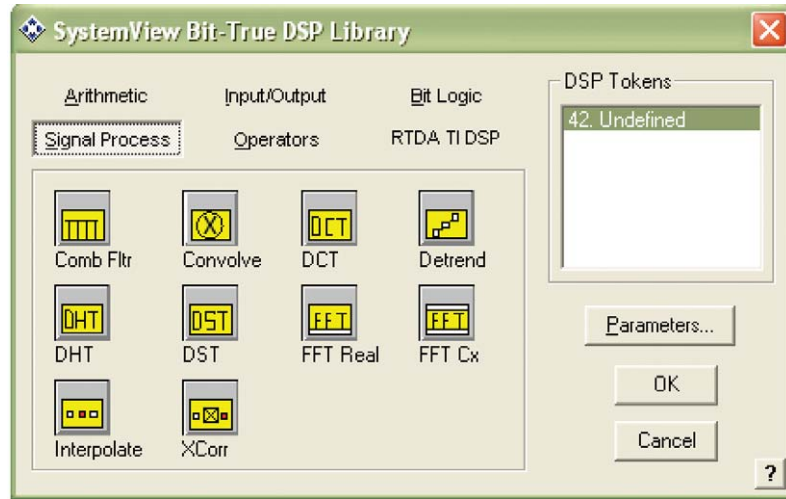


Agilent EEsof EDA SystemVue DSP Library

Features

- Bit-true system design and test
- Variable-precision support for C4x and IEEE floating-point formats
- Variable-precision support for unsigned or signed two's complement integer formats
- Fixed binary-point integer operations
- Primitive integer operations, such as shift and rotate
- Condition outputs such as underflow/overflow resulting from DSP token operation
- Various high-level functions implemented with DSP library primitive operations, such as FIR/IIR filter design, detrend, cross-correlation, and FIFO
- Various discrete transform operators including mixed-radix FFT and discrete sine/cosine/Hadamard transforms



The SystemVue DSP Library supports various bit-true arithmetic, logical, and signal processing operations for development on today's DSPs.

Overview

SystemVue is a software environment for communications, DSP, and RF analog system design. The SystemVue DSP Library supports fixed and floating-point arithmetic formats found in today's popular DSP chips. Both IEEE and C4x floating-point formats are supported by the library. The DSP Library tokens provide the ability to specify the bit length of both the exponent and the mantissa, and to inspect the resulting condition codes when simulating floating-point operations.

Variable precision and condition codes are supported for integer operations as well. A set of elementary arithmetic operations are included, such as Negate, Add, Subtract, Multiply and Divide. Integer operations include AND, OR, NOT, XOR, SHIFT, rotate and bit reversal. Fixed-point integer operations allow values to be represented in integer and fractional form.

In addition to modeling algorithms for a particular DSP, the DSP Library can also be used in the design of custom DSP devices. For example, the designer can quickly try out different tokens and optimize a design based on the results of successive SystemVue simulations.

The DSP library also provides a wide selection of high-level processing functions. These include a mixed-radix FFT, a complete FIR and IIR filter graphical design environment, and a family of block transforms including the Hadamard, and Discrete Cosine and Sine transforms. Other DSP library tokens include an interpolator, a detrend operator, a multiply and accumulate operator and a FIFO.



Library Tokens

| Arithmetic models | Bit logic models | Signal processing models | Input/output models |
|---------------------|------------------|------------------------------|---|
| Adder | Bit extract | Comb filter | Converter |
| Adder (2 Port) | Bit to symbol | Convolution | FIFO buffer |
| Constant multiply | Bitwise AND | Cross correlator | Lookup table |
| Divider | Bitwise XOR | Detrend | |
| Multiplier | Bitwise NOT | Discrete cosine transform | Operators |
| Multiplier (2 Port) | Bitwise OR | Discrete Hadamard transform | Integrator |
| Negate | Reverse | Discrete sine transform | Multiply accumulate |
| Reciprocal | Rotate | Fourier transform | Sine cosine table |
| Subtract | Shift | Interpolator | lookup |
| | Symbol to bit | Real input Fourier transform | Square root filter (located in SystemVue operator library) |

For more information about Agilent EEsof EDA, visit:
www.agilent.com/find/eesof

For more assistance with your test and measurement needs visit:
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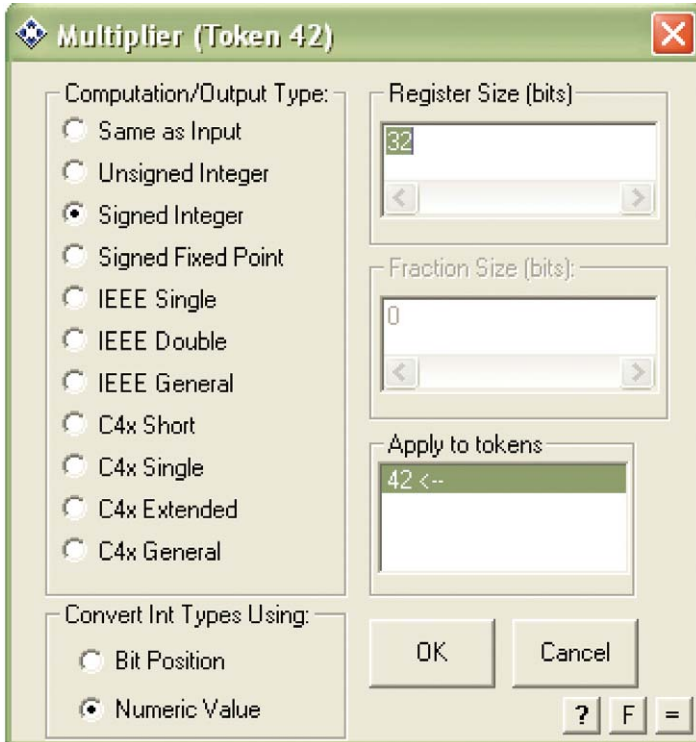
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The SystemVue DSP Library supports the IEEE and C4x fixed- and floating-point arithmetic formats found in today's DSP chips. Its tokens allow you to specify the bit length of both the exponent and the mantissa for flexible DSP implementation.

For more information on SystemVue and related products, visit: www.agilent.com/find/eesof-eagleware.

Product specifications and descriptions in this document subject to change without notice.

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