

Agilent EEsof EDA SystemVue 2008

Configuration and Ordering Guide



SystemVue is a focused EDA environment for electronic system-level (ESL) design that allows system architects and algorithm developers to innovate the physical layer (PHY) of next-generation wireless and aerospace/defense communications systems. SystemVue also provides unique value to RF, DSP, and FPGA/ASIC implementers who rely on signal processing to deliver the full value of their hardware platforms.

SystemVue replaces general-purpose digital, analog, and math environments by offering a dedicated platform for ESL design and signal processing realization. SystemVue “speaks RF,” cuts PHY development and verification time in half, and connects to your mainstream EDA flow.

- Innovative, easy use model avoids inefficiencies of general-purpose tools
- Enhanced simulation is faster, and accounts for more real-world RF effects
- Open, polymorphic modeling environment
- Access to deep Agilent application knowledge of wireless standards and communications PHY models, to create and validate system architectures and algorithms quickly.



Agilent Technologies

SystemVue Environment

W1461BP SystemVue
Communications Architect

Special Limited-Time Introductory Offer

To existing owners of
SystemView by Eagleware/Elanix

*You may qualify to receive the new
SystemVue 2008 as a support upgrade
to your existing software. Inquire
today about your eligibility!*

[http://www.agilent.com/find/
eesof-systemvue](http://www.agilent.com/find/eesof-systemvue)

The W1461 SystemVue Communications Architect is the core environment, with essential simulators and libraries. It includes many capabilities that are not found in other ESL tools, or are only available as added-cost options. Optional capabilities are also available.

Core Environment

- Easy to use, multi-threaded, advanced Windows application
- Polymorphic design entry works the way you want to work (GUI blocks, language-based math, VHDL, or C++)
- Graphs & file I/O – streamlines simulation setup & plotting
- Live Report & documentation support

Custom Model Development Interface

- Build customer user defined models in C/C++
- Create bit-accurate fixed point simulation models using industry standard SystemC, fixed point class.
- Debug models using standard familiar MS Visual Studio interface

Native math language and debugger

- Native support for hundreds of communications-oriented math functions and syntax, with Interactive debugger
- Both Text and GUI interfaces for easy model creation, simulation, and verification
- Familiar command-line interface

High Performance Data Flow simulation engine

- Supports complex RF envelope carriers, and timed synchronous dataflow
- Advanced Scheduler with native multi-rate allows complex topologies
- Multi-threaded for faster simulation on multi-core CPUs
- Support for external HDL and MatLab[®] co-simulation

Model Physical Layer effects with versatile block sets (included free)

- RF, DSP, Comms, Logic, and Channel
- Handle analog effects such as phase noise, S-parameters, zero IF DC offsets, frequency-dependence, and more

Instrument and Development Board connectivity

- Command line interface with TCP/IP IO links to instruments, files
- Integration hooks for popular 3rd party development boards
- SystemVue can also install directly inside many Agilent test instruments

Digital Filter Synthesis

- FIR, IIR, and analog communications filter types
- View time & frequency domains, interact graphically
- Instantiate filters directly from system blocks with a mouse click!

SystemVue Libraries

Libraries (included free with the SystemVue environment)

SystemVue is a fully functional ESL environment that includes blocks that are only available as added-cost options in other environments. As a courtesy, these free and included blocks are listed below, for easy comparison with SystemView (from Eagleware-Elanix, now Agilent) and other ESL tools.

Math	Develop, debug, and simulate math as native blocks.
DSP	Signal-processing and pre-compiled algorithmic blocks.
Comms	Communications, modulation/demodulation, filters, and more.
RF	RF/Analog blocks with distortion-true characteristics, for modulated carriers with complex envelopes, phase noise, channel effects, and other impairments.
Logic	Logic blocks of Boolean operations, and more.
Instruments	TCP/IP connectivity. Read/write waveforms from baseband and modulated RF equipment for digital/RF co-design, and co-verification.

Add-on Libraries (optional)

Two optional block libraries are also available (W1903, W1904). They enable exploration of a wider range of communications systems with greater awareness of implementation effects. They can be added to any SystemVue environment.

W1903EP/ET Fixed-point Library

Library of bit-true, cycle-accurate, finite-precision blocks that account for underflow and overflow. Allows architecture performance versus word-length and resource usage to be assessed and optimized before commitment to an implementation target. Provides block-level histograms and additional analytical insights for all signal processing architectures (uP, DSP, FPGA, ASIC).

W1904EP/ET Adaptive Equalization Library

Library of adaptive equalization blocks that allow system designers to work with already-corrected channel performance. Also serve as algorithmic references for user-developed models and hardware implementations for easy comparison.

SystemVue Design Kits and Application Personalities

Application personalities and design kits can be added to SystemVue to accomplish deeper analysis and/or implementation tasks, for both RF system architectures and digital hardware design. They can be added to any SystemVue environment.

W1717EP/ET Hardware Design Kit

Generates fully synthesizable, hierarchical RTL-level VHDL that is cycle-accurate, target-neutral, and hand-crafted to outperform routine coding of most typical applications. Offers a great head-start for rapid prototyping, as well as applications that need an advanced starting point for optimization (such as software-defined radio). This module is also allows generation of user-contributed HDLs of custom IP. Re-target quickly & easily. Also a fine companion to the SystemVue Digital Filter tool. (Requires W1903).

W1719EP/ET RF System Design Kit

Brings high fidelity Analog/RF effects for RF system architecture work, without the burden of large RAM usage and CPU-days of analog/Spice overhead. Design RF-true systems with confidence, in minutes, not days.

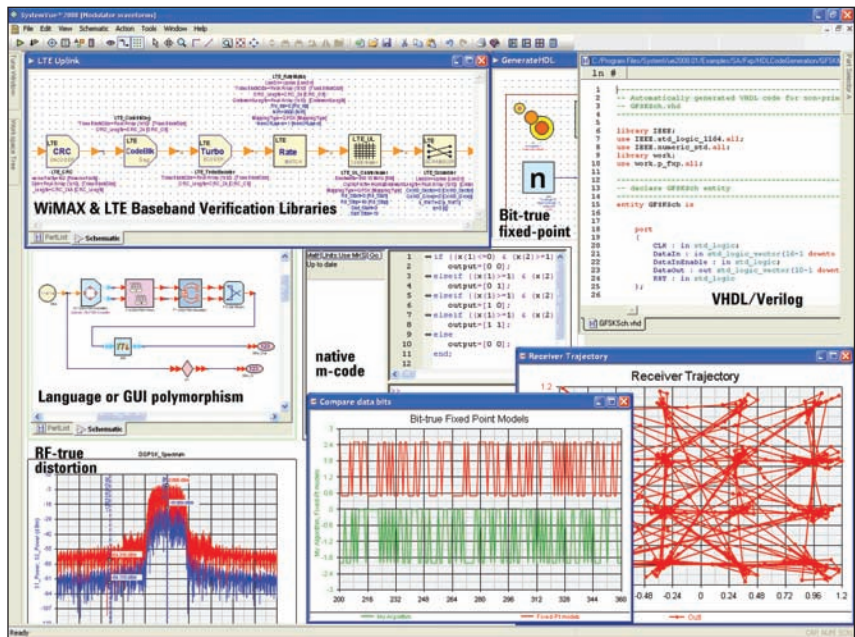


Figure 1. SystemVue provides a unified ESL design front-end for high-performance communication system architectures. It overcomes limitations of general-purpose hardware EDA and math/programming tools, and is fast, easy, and affordable.

SystemVue Baseband Exploration and Verification Libraries

SystemVue’s standards-based baseband PHY libraries help you quickly create and verify algorithms and high-performance system architectures with confidence, so that they will work in the real world. SystemVue helps put PHY ideas on the air in record time.

SystemVue Baseband Verification Libraries

Baseband Verification libraries provide compiled sources, receivers, function blocks, and reference designs that adhere to the physical layer of modern emerging standards. They are used to create, examine, and receive PHY waveforms and test vectors at various locations in a system diagram in order to exercise system architectures and algorithms, down to the block level. With native TCP/IP connectivity, they also support co-design with test equipment and hardware development boards for both baseband and modulated-carrier signals.

W1910EP/ET
LTE Baseband Verification Library

Exercise your algorithms and system designs with pre-compiled functional blocks for source, coding, and receiver. Gain confidence in compliance & interoperability with the 3GPP LTE specifications.

W1911EP/ET
WiMAX™ Baseband Verification Library

Exercise your algorithms and system designs with pre-compiled functional blocks for source, coding, and receiver. Gain confidence in compliance & interoperability with WiMAX specifications.

SystemVue Baseband Exploration Libraries

Exploration libraries build on top of Verification libraries. They provide an open platform for innovative PHY designs that includes working, native source code for PHY blocks (math format), plus documentation on the standard itself. This gives system architects and algorithm developers a head-start on innovative implementations of new platforms, as well as an open gold-standard for comparison. Exploration Libraries are polymorphic, incorporating compiled models for simulation speed, as well as open to user-supplied IP, for easy comparison. For designers working at the cutting edge of emerging standards, they are also a tremendous learning tool and productivity aid.

Note: Special licensing and support considerations apply. Please contact your Agilent field sales representative for more information.

W1912ET
LTE Baseband Exploration Library

Exercise your algorithms and system designs with pre-compiled functional blocks for source, coding, and receiver. Gain confidence in compliance & interoperability with LTE specifications.

W1913ET
WiMAX Baseband Exploration Library

Exercise your algorithms and system designs with pre-compiled functional blocks for source, coding, and receiver. Gain confidence in compliance & interoperability with WiMAX specifications.

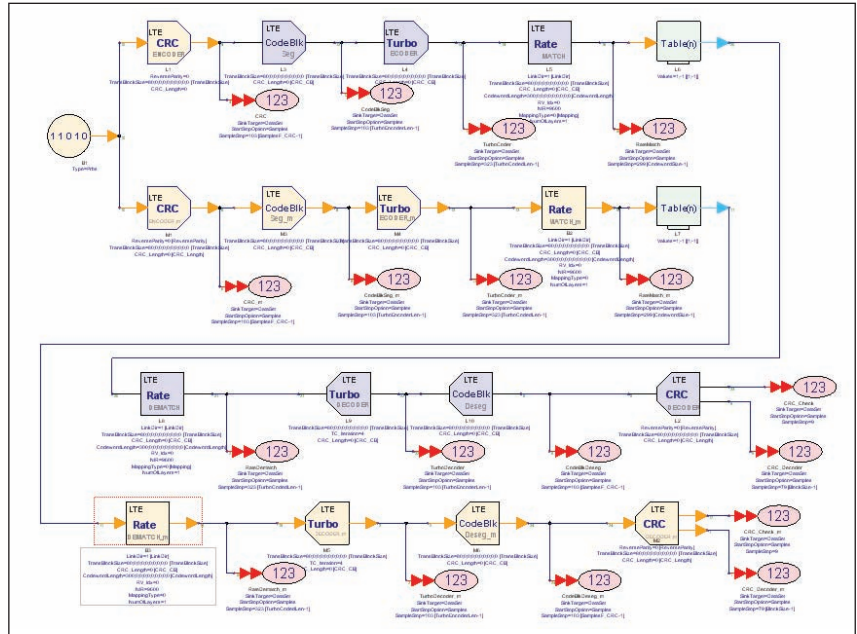


Figure 2. A W1912 LTE reference design for both UpLink and DownLink, with full TX coding and RX decoding chains. Blocks are implemented in both math language (source-code accessible) and compiled simulator C-code to facilitate algorithmic and signal verification of your own PHY blocks.

Getting the most value from your Agilent SystemVue Software

Technical support
(Purchased for all software modules tied to one environment)

Agilent has a worldwide network of trained professionals to make you effective sooner, help you overcome obstacles, and keep you at full design effectiveness. Annual software maintenance is highly recommended in today's dynamic technology environment. Maintenance is quoted for all the software secured to a specific serial number (such as a USB key), as a unit.

- **Updates.** Annual software maintenance keeps your software "ever green" with the latest enhancements, defect fixes, operating systems, hardware, and applications. (2-3 releases per year)
- **Assistance.** Provides worldwide access to the Agilent Technical Support network through email, telephone, and the Knowledge Center.
- **Upgrade Path.** Software that is current on its maintenance can be easily enhanced, upgraded to floating license, re-hosted.

SystemVue Bundles and Licensing

SystemVue may be purchased as the W1461BP SystemVue Core environment plus a series of individual modules, or in any of the available bundles. Explore SystemVue configurations online at <http://agilent.com/find/eesof-systemvue>.

Model/ Module	W1461BP Comms Architect	W1462BP FPGA Architect	W1464BP RF System Architect	W1465BP System Architect
W1461BP SystemVue Communications Architect (core environment)				
Environment	•	•	•	•
Math language, debug	•	•	•	•
Data Flow Simulator	•	•	•	•
RF blocks	•	•	•	•
Comms blocks	•	•	•	•
DSP blocks	•	•	•	•
Logic blocks	•	•	•	•
Instrument TCPIP	•	•	•	•
Optional SystemVue Libraries and Application Personalities				
W1903 Fixed-point Library		•		•
W1904 Adaptive EQ Library				•
W1717 Hardware Design Kit ²		•		•
W1719 RF System Design Kit			•	•
W1910 LTE Baseband Verification Library				
W1911 WiMAX Baseband Verification Library				
W1912 LTE Baseband Exploration Library				
W1913 WiMAX Baseband Exploration Library				
SystemVue Premium Services				
N3217A/B "OFDM Technology" applications Training Class				

Notes:

1. The model numbers above reflect perpetual nodelocked licenses (BP, EP suffix). Time-based (BT, ET suffix) and Floating license configurations are also available. Contact your local Agilent EDA representative for configurations and pricing.
2. The W1717 Hardware Design Kit requires the W1903 Fixed-Point Library.
3. When adding a module to an existing SystemVue configuration, you must provide the Serial Number of the system (your USB key, or other identifying number) at the time of your purchase.

Try SystemVue today!

<http://www.agilent.com/find/eesof-systemvue-evaluation>

For more information about SystemVue:

<http://www.agilent.com/find/eesof-systemvue>

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MATLAB is a U.S. registered trademark of The Math Works, Inc.

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