

Agilent GENESYS

Configuration and Ordering Guide

Genesys is an integrated EDA environment for independent RF & microwave circuit and subsystem designers

- **Innovative**
- **Easy-to-use**
- **Affordable**

Agilent Genesys is a compact, integrated EDA environment that reduces board turns, and extends circuit and system performance. It has the lowest cost of ownership among major RF EDA platforms. Genesys is used by self-supporting individuals, by workgroups doing planar RF designs, and by large enterprises looking to augment their established design flows with specific point tools. Genesys provides an important alternative to today's larger, IC-oriented EDA systems by offering a wide variety of essential technology in a compact, easy-to-use format.

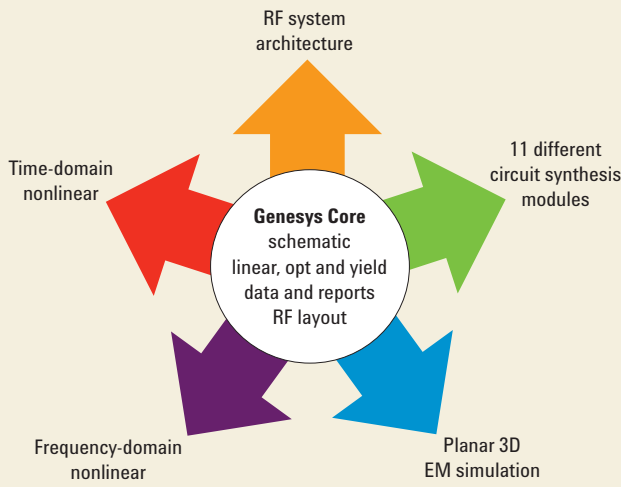
Complete Genesys configurations start about \$4k (US List), with additional bundles near \$10k (US List). Genesys can also be scaled easily, using over 20 individual simulation and synthesis modules, priced between \$1k and \$10k (US List).

Genesys is available in 6 major languages worldwide, making it an ideal choice for technologists competing globally, but with a minimum of start-up capital. Explore Genesys online at: <http://www.agilent.com/find/eesof-genesys>

Genesys Core Environment

The Genesys Core environment is itself a full-featured physical design environment, including frequency-domain linear simulation and RF-aware layout. At \$4k (US List, nodelocked), Genesys is powerful enough to be the basis for workgroups to standardize their RF design flow, yet affordable enough to be on every RF desktop. (Price includes the first 12 months of support and upgrades.)

Model	Module	Description
<input type="checkbox"/> W1410L	Genesys Core	<p>Design environment</p> <ul style="list-style-type: none"> • Integrated, easy-to-use environment, available in six major languages worldwide • Advanced VB scripting, design hierarchy, user-libraries • "Export to ADS" function for live interaction with Agilent ADS <p>Fast linear simulation</p> <ul style="list-style-type: none"> • Full array of accurate physical models, including automatic discontinuities • Interactive tune mode, parameter sweeps • Optimization, Monte Carlo, yield, and yield optimization <p>Data manipulation and documentation</p> <ul style="list-style-type: none"> • Rectangular, polar, Y/Z Smith, histograms, markers • Stop re-simulating! Persistent datasets store and compare data from different simulation runs, EM, measurements. • <i>LiveReport</i> for interactive documentation and project control <p>RF-aware layout and translators</p> <ul style="list-style-type: none"> • Artwork preserves connectivity from schematic environment • Full library of pad/package footprints for custom libraries • Create masks and drill files, input/export common graphics formats • Perform EM simulations and EM-circuit co-simulations from unified layout <p>SMT and system parts Libraries</p> <ul style="list-style-type: none"> • Over 30,000 linear, nonlinear, and system parts already in libraries • Need the latest parts? Genesys is the easiest RF EDA software to make your own.



Agilent Genesys begins with a "Core" set of capability for linear design for about \$3995 (US), surrounded by optional modules that enable 5 different domains of higher capability.

Genesys Synthesis

Genesys Synthesis creates high-performance circuits, accelerates routine design tasks, and enables fast make-or-buy decisions on common components. These modules can be added to any Genesys environment or suite, and only require W1410L Genesys Core.

Model	Module	Description
<input type="checkbox"/> W1501L	Filter synthesis	Classical lumped filter synthesis for RF applications. This module is the single highest-selling synthesis module from the Eagleware company.
<input type="checkbox"/> W1502L	M/filter synthesis	Distributed filter synthesis for microwave applications, including prep for EM analysis. Good for high-performance microwave, as well make-vs.-buy at RF.
<input type="checkbox"/> W1503L	S/filter synthesis	Includes W1501 and W1502, and adds interactive transforms, terminations and more for high-performance custom lumped and distributed filter design.
<input type="checkbox"/> W1504L	A/filter synthesis	Active analog filter types for IF, video, and baseband frequencies. Also useful for power control and AGC circuits.
<input type="checkbox"/> W1505L	Equalize synthesis	Creates networks that compensate for real group delay responses of circuits in your workspace. Remember: phase linearity across a bandwidth affects EVM.
<input type="checkbox"/> W1506L	Match synthesis	Lumped and distributed complex impedance-matching with frequency dependence. Achieve wider bandwidth matching with fewer components and less effort.
<input type="checkbox"/> W1507L	Oscillator synthesis	Explore 19 RF oscillator topologies from classical L-C, TLine, SAW, crystal, cavity, and coaxial hybrid. Great companion to W1602L Harbec or W1604L Cayenne.
<input type="checkbox"/> W1508L	Advanced transmission line synthesis	Convert an entire ideal electrical design to a physical implementation as microstrip and stripline transmission lines, on your choice of substrate.
<input type="checkbox"/> W1509L	PLL synthesis	Explore PLL architectures and synthesize loop filters. This separate module was recently updated to allow ADS-style licensing.
<input type="checkbox"/> W1510L	Signal control synthesis	Synthesize a variety of lumped and distributed couplers, splitters, baluns, and attenuator circuits that control RF signal flow.
<input type="checkbox"/> W1511L	Mixer synthesis	Explore a range of performance trade-offs between 11 RF mixer topologies, from diode rings to Gilbert Cells. Great companion to W1602L Harbec.

Genesys Simulation

Genesys Simulation products can be added to any Genesys environment or suite, and only require W1410L Genesys Core. With Momentum GX, Genesys enables intuitive, first-pass accuracy at a very affordable price.

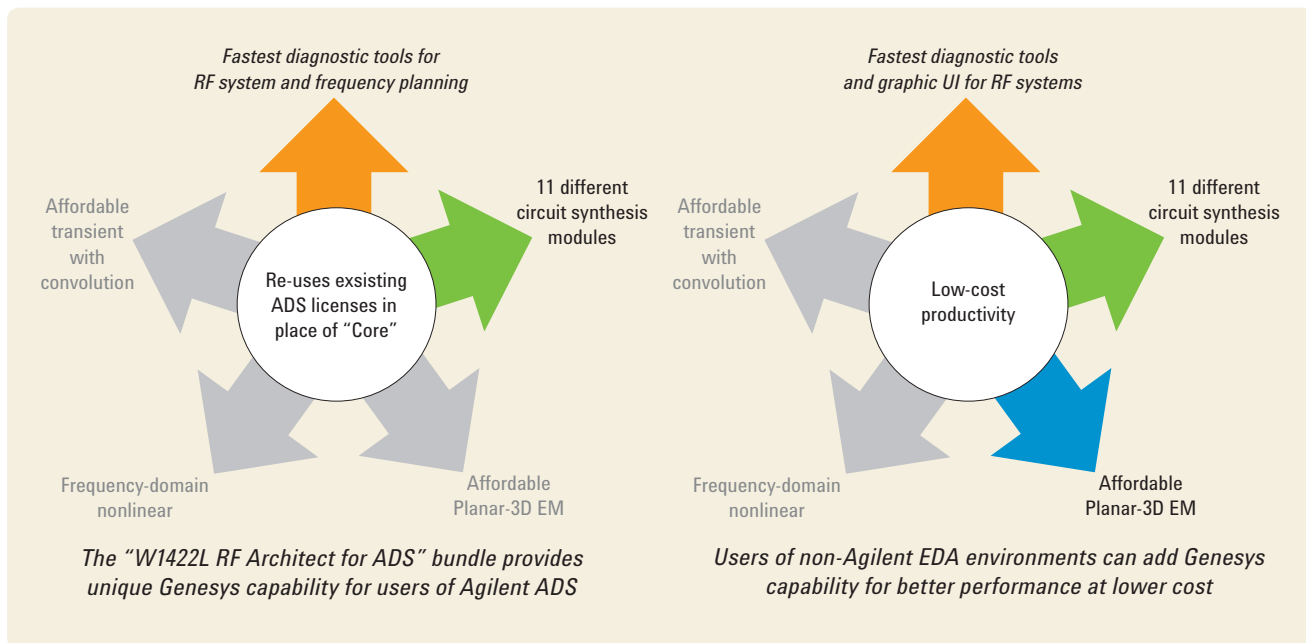
	Model	Module	Description
<input type="checkbox"/>	W1601L	Spectrasys	Interactive RF System Architecture tool – diagnoses analog impairments ignored by spreadsheets, with superior ease of use. Also integrated with circuit synthesis, circuit simulation, optimization, statistics, and EM simulation.
<input type="checkbox"/>	W1602L	Harbec	Harmonic Balance nonlinear frequency-domain circuit simulation — calculates harmonics, IP3, compression, efficiency, conversion gain, noise effects, large-signal oscillators, phase noise, and more. An absolutely essential tool for active RF design.
<input type="checkbox"/>	W1603L	Empower	Integrated 3D-planar EM simulator based on Method-of-Lines — works well on smaller modeling problems that are easily gridded with a rectangular mesh. Lower performance, capacity, and versatility than W1610L Momentum GX.
<input type="checkbox"/>	W1604L	Cayenne	Spice simulation for RF circuits — works from the same schematic and RF physical models as Harbec, and includes convolution to account for accurate EM and frequency-domain effects in transient simulations.
<input type="checkbox"/>	W1605L	WhatIF	Unique, graphical Frequency-Planning tool — quickly accounts for spurs across a wide tuned bandwidth, using realistic mixers. It is useful for multi-band downconverters, high- and low-side LO's. It is a natural companion to Spectrasys.
<input type="checkbox"/>	W1610L	Momentum GX	High-performance integrated 3D-planar EM simulator based on Method-of-Moments. Momentum GX solves a much wider variety of larger problems, faster, using far less RAM for a given

Genesys accessory products

Genesys accessory products increase your design effectiveness in specific application areas. You can also use these products to match previous Eagleware enterprise configurations, or to complete the W1418L Genesys Integrated suite.

	Model	Module	Description
<input type="checkbox"/>	W1606L	Advanced modeling kit	Verilog-A modeling allows you to add robust, custom nonlinear models to Genesys Harbec and Cayenne. Custom nonlinear models are fast and transportable, and extend Genesys for new applications. (Requires W1602 or W1604)
<input type="checkbox"/>	W1701L	Testlink	Captures measured data directly into your Genesys workspace from > 140 oscilloscopes, vector/spectrum analyzers, network analyzers, impedance analyzers, semiconductor analyzers, and power meters from >14 manufacturers
<input type="checkbox"/>	W1709L	Sonnet link	Enables (co)simulations with planar EM simulators from Sonnet Software from directly within Genesys. (Requires W1603L, or a suite with W1603L)

Adds capability to design flows based on ADS and non-Agilent environments



Getting the most value from your Agilent Genesys software

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.

Training is optional, but many groups find that teamwork and organizational effectiveness are improved when designers contribute at a similar high level of skill.

Model	Module	Description
<input type="checkbox"/> Purchased for each module	Technical support and software upgrades	<ul style="list-style-type: none"> Annual software maintenance keeps your software "ever green" with the latest enhancements, defect fixes, operating systems, hardware, and applications. Software that is current on its maintenance can be easily enhanced, upgraded to floating license, re-hosted, or transitioned to Agilent ADS. Software maintenance also provides access to the Agilent Technical Support network worldwide through email, telephone, and the "Knowledge Center". Historically, there are about two to three software releases of Genesys per year.
<input type="checkbox"/> N3244A/B	Genesys Concepts training class	3-day hands-on Genesys training class, updated for the current release. Can be delivered at Agilent training site (N3244A), or at your site (N3244B).

Genesys Bundles and Licensing

Genesys may be purchased as the W1410L Genesys Core environment plus a series of individual modules, or in any of the convenient bundles (*below*). Explore Genesys configurations online at <http://eesof.tm.agilent.com/products/genesys>.

When adding a module to an existing Genesys configuration, you must provide the serial number of the system (your USB key, or other identifying number) at the time of your purchase. Any new modules become licensed together with existing capability on that serial number as a new, custom suite. The licenses remain locked together as a unit, for licensing and maintenance purposes.

Model	Module	W1410L Genesys Core	W1411L Genesys Designer Pro	W1426L Genesys Nonlinear Pro GX	W1417L Genesys Comms Pro	W1428L Genesys Integrated GX	W1430L Genesys Virtual VNA	W1421 Genesys Synthesis for ADS	W1422 RF Architect for ADS
W1410L	Genesys Core: <i>schematic, data, linear, layout, libraries</i>	✓	✓	✓	✓	✓	✓ ³	1	1
Synthesis									
W1501L	Filter		2			2		2	2
W1502L	M/filter		2			2		2	2
W1503L	S/filter²		✓			✓		✓	✓
W1504L	A/filter		✓			✓		✓	✓
W1505L	Equalize		✓			✓		✓	✓
W1506L	Match		✓			✓	✓	✓	✓
W1507L	Oscillator		✓			✓		✓	✓
W1508L	Advanced TLine		✓			✓	✓	✓	✓
W1509L	PLL		✓			✓		✓	✓
W1510L	Signal control		✓			✓		✓	✓
W1511L	Mixer		✓			✓		✓	✓
Simulation									
W1601L	Spectrasys				✓	✓			✓
W1602L	Harbec			✓		✓			
W1603L	Empower								
W1604L	Cayenne					✓			
W1605L	WhatIF				✓	✓			✓
W1610L	Momentum GX⁴			✓		✓			
Accessories⁵									
W1606L	Adv modeling kit								
W1701L	Testlink						✓		
W1709L	Sonnet link								
N3244A/B	Training class								

1. The W1421 and W1422 are special configurations which add Genesys capabilities to existing Agilent ADS installations. For reduced license duplication and cost, they take advantage of ADS licenses to run Genesys Core. They therefore require ADS, and will not run standalone.

2. The W1503L is actually a bundle that includes W1501L and W1502L, plus additional synthesis capability not otherwise available.

3. The W1430L is an ideal companion to Agilent Vector Network Analyzers, and therefore is only available in nodelocked configurations.

4. Owners of Empower (W1603L) or bundles that contain the W1603L, may upgrade/add Momentum (W1610L) at a reduced price.

5. The Eagleware-Elanix company formerly distributed the Modelithics CLR Library as the W1607L. This accessory module is now sold and supported directly by the [Modelithics](#) company.

Try Genesys today!

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

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Eagleware-Elanix, the originator of Genesys, was acquired by Agilent Technologies in 2005. Agilent EEs of EDA continues to build on and enhance the Genesys platform.

For more information about Agilent EEs of EDA, visit:

www.agilent.com/find/eesof

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