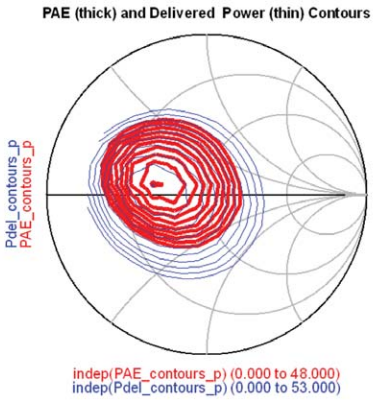
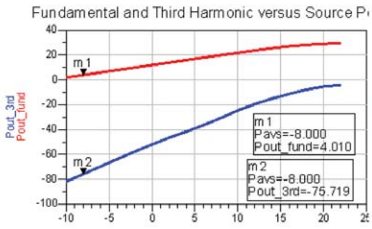
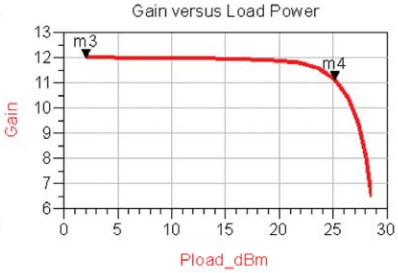
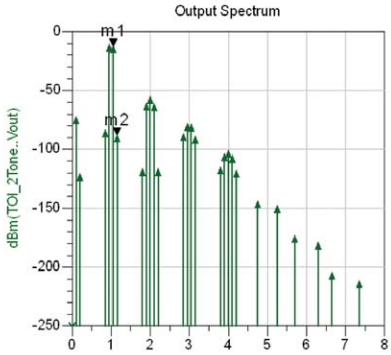
Agilent EEsof EDA
W2300 Harmonic Balance Element









Use the Harmonic Balance simulator in Advanced Design System to analyze and optimize the nonlinear behavior of circuits and RF systems, including X-parameters nonlinear models.

The W2300 Harmonic Balance Element provides steady-state non-linear simulation and optimization capabilities to the Advanced Design System (ADS), the technology and innovation leader in high-frequency mixed-signal electronic design automation (EDA). It is integrated with Advanced Design System (ADS), the only design simulation platform that enables the co-design of IC, package, and board in high-frequency and high-speed applications. ADS seamlessly integrates system, circuit, and full 3D electromagnetic simulation with Agilent's test instrumentation, resulting in repeatable, first-pass electronic design success.

Agilent Technologies

The Harmonic Balance (HB) simulator in ADS is the most powerful implementation of the harmonic balance algorithm for non-linear circuit and system simulation on the market. Its capabilities include:

- Unlimited multi-tone, frequency-domain non-linear simulation and optimization.
- Phase-noise analysis.
- Load- and source-pull analysis.
- X-parameter non-linear model simulation under steady-state excitation.
- Power amplifier design guide to synthesize, design and simulate popular amplifier topologies.
- Mixer design guide to synthesize, design and simulate popular mixer topologies.
- Oscillator design guide to synthesize, design, and simulate popular oscillator topologies.
- Analog model development kit to develop customized non-linear behavioral models.

Not all Harmonic Balance simulators equally deliver the combination of convergence, speed, accuracy, and capacity. The ADS Harmonic Balance Element incorporates ingenious automated strategies and algorithms to achieve convergence under the most difficult non-linear conditions that other Harmonic Balance simulators cannot handle.

Agilent's Harmonic Balance Element simulates X-parameter models, the latest Agilent Technologies invention that captures the full non-linear characteristics from a non-linear vector network analyzer (NVNA) measurement. The technology lets designers do accurate non-linear designs with measured X-parameters of off-the-shelf components. This capability is unique in the industry.

The simulator's speed and capacity come from the powerful alliance of advanced matrix algorithms and parallel computations on multi-core computers. This allows designers to interactively tune and optimize even the largest non-linear designs quickly.

www.agilent.com/find/eesof-ads

www.agilent.com/find/eesof

For more information on Agilent Technologies' products, applications or services, please contact your local Agilent office. The complete list is available at:
www.agilent.com/find/contactus

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

© Agilent Technologies, Inc., 2009
Published in USA, March 11, 2009
5990-3808EN

Agilent Technologies