

# Ansoft's Serenade

The capabilities in Serenade v8.5 have been developed for demanding RFIC, MMIC and wireless circuit and system designs. The latest version of the high-frequency circuit and system design software from Ansoft Corporation (Pittsburgh, PA) adds powerful new features and enhancements to the Serenade desktop and its circuit and system simulation engines, Harmonica and Symphony.

Features such as compiled user defined models (UDMs) and Matlab co-simulation provide engineers with customizable models necessary for advanced device simulation found in today's telecommunication systems. These enhancements represent a significant increase in the flexibility of both the linear/nonlinear circuit and system design suites.

Additionally, Harmonica now addresses the needs of the RFIC and wireless community with the implementation of the Berkeley Short-channel IGFET Model (BSIM3v3.2) for modeling Si and SiGe devices such as the MOS and LDMOS FETs.

Designers who wish to validate the modeling of distributed topologies or investigate unwanted coupling will appreciate the tighter integration to the 2.5D planar solver, Ensemble. The enhanced structure transfer allows layout data including trace metals, substrate, port and frequency information to be ported to Ensemble for immediate simulation.

New layout capabilities enhance features such as parameterized footprints and support of an arbitrary number of layers. Additionally, many new models, state-dependent devices, integrated HP-EEsof Series IV translator, vector network analyzer support, optimization features as well as an enhanced user interface have been added.

Physical layout generation and export in Serenade 8.5 has been enhanced to support an arbitrary number of layers, a parameterized footprint editor, layout generation of sub-circuits in addition to top-level schematics, direct export to 2.5D EM planar solver (Ensemble) for both entire circuits and sub-circuits.