Keysight Technologies
GENESYS Concepts

Course Overview

Course Numbers: Keysight Training Center: N3244A
Onsite Training Center: N3244B

Learn Through a Combination of Lecture and Hands-on Exercises

Course overview
Keysight Technologies, Inc. offers this three-day, hands-on course presenting simulation and synthesis methodologies for both circuits and systems. Topics include linear and nonlinear simulation in addition to synthesis.

What you will learn
– The GENESYS user interface, features, schematic capture, simulation setup and results display.
– Synthesis of filters, mixers, oscillators
– Basic design and measurement concepts where applicable

Specifications

Course type
User/ Application Training

Audience
Engineers, designers, and high-level technicians who need GENESYS for design, testing, and characterization of circuits and systems.

Prerequisites
A basic understanding of circuit and system design principles

Course length
3 days

Course format
Lecture and Lab

Delivery method
Scheduled (at Keysight training locations), or Dedicated (at a customer site) To save you time and travel, many Keysight courses can be delivered at your site. Keysight can provide the required equipment.
Detailed Course Agenda

Day 1

GENESYS basics
- Starting and using GENESYS, including conversion from older wsp to wsx. Analysis capabilities: linear, non-linear and synthesis, plus the system tool. Workspace basics — overview of how to use the workspace, directory tree and files, tune window, schematic basics with keyboard keys, global settings, parts selector, basic analysis and resulting dataset and plot.

Filter synthesis, layout and EMpower
- Overview of synthesis features and synthesis dialogs. Show filter synthesis and tune the filter. Show the layout and how it works with schematic. Show EMpower.

Libraries, parts, and models
- Overview of libraries and how they are used, including how library parts are created and how parameters are used — also including symbol creation.

Day 2

Linear analysis, sweeps, and optimization
- Quick overview of DC, AC, and S-Parameter setups and results. How to use ports and pins for SP analysis. How to set up a sweep and plot results. Overview of optimization setup and types available.

Non-linear analysis and data
- Overview of HB (Harbec) for 1- and 2-tone setups. Sweeping power and plotting with equations. More on data analysis.

Synthesis: matching, mixers and oscillators
- Introduction to synthesis, basic concepts and limitations, user interface basics. Show types and results.

Day 3

WhatIF
- Describe Frequency Planning: WhatIF. Describe the application and why existing solutions are limited. Focus on the using WhatIF.

SpectraSys basics
- Introduction to SpectraSys — basic concepts, models, and available measurements.

SpectraSys applications
- Typical applications for SpectraSys, including noise performance investigations, a feedforward amplifier and switch matrix/sub-circuits.

For the latest information on class schedules and locations, visit: www.keysight.com/find/eesof-class

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

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