Momentum for Advanced Design System Users

Course Overview

Course Numbers:
Agilent Training Center: N3208A
Onsite Training: N3208B

Learn through a combination of lecture and hands-on exercises

Agilent Technologies

Course Overview

Agilent Technologies offers a medium paced detailed review of the 2.5D electromagnetic Momentum simulator. A number of designs are used to illustrate how the various simulation techniques may be effectively employed in a real world situation.

What you will learn

- Momentum overview
- Momentum applications
- Using Momentum RF for RFIC design
- Using Momentum results in ADS
- Visualizing currents
- Solving coplanar waveguide circuits
- Patch antennas and radiation patterns
- S-parameter results
- Substrate definition
- Multi-layered coupling
- Filter design with Momentum
- Optimization

Specifications

Course type:
User Training

Audience
Technical staff who work in an RF or microwave design environment and want an in-depth understanding of designing circuits with Agilent EEsof EDA's Advanced Design System Momentum simulator.

Prerequisites
Familiarity with basic RF/microwave concepts and the ADS design environment. Recommended course: N3211A Advanced Design System Fundamentals

Course Length
1 day

Course Format
The course combines lecture presentations with instructor guided hands-on sessions.

Delivery Method
Scheduled at Agilent locations, or

Dedicated at a customer site.

To save you time and travel, many Agilent EEsof EDA courses can be delivered at your site. Agilent EEsof EDA will provide the required equipment.

Detailed Course Agenda

Lab 1: Basics

A short review of ADS Momentum basics, including deciding which circuits should be designed using Momentum or Momentum RF.

Lab 2: Getting Results Quickly

Learn how a layout is generated from a circuit schematic and then passed into the Momentum tool. After reviewing the Momentum control settings, the layout is simulated and the resulting s-parameters are reviewed in the data-display.

Lab 3: Using Momentum RF to Analyze an RFIC launch

Learn to compare simulation speed, meshing and results in Momentum and Momentum RF.

Lab 4: Antenna Design with Momentum

Learn how a patch antenna is created and analyzed that utilizes a multi-layer substrate and via. Then review s-parameter response and far-field radiation patterns.

Lab 5: Momentum Techniques

Understand how a 3dB splitter design is employed to demonstrate how to use port definitions effectively, and the most efficient method to mesh a curved surface. Learn how to work with embedded components and combine Momentum results with non-layout components.

Lab 6: Advanced Topics

Practice techniques required for defining and analyzing a Coplanar Waveguide filter with airbridges and vias; then analyze the circuit.

Lab 7: Filter Design and Optimization

Learn how a filter is designed and analyzed with the ADS circuit simulator. The filter layout is then sent to Momentum. Momentum simulations account for parasitics, which result in a center frequency shift. The Momentum Optimizer is then used to recenter the design.

For the latest information on class schedules and locations, visit our website:
www.agilent.com/find/education

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