
Communications Design Suite for Board-Level Design

Technical Data

Course Overview

During the five-day course, the student uses the Communications Design Suite in instructor-guided, hands-on lab exercises. These labs and associated lectures combine board-level design theory with linear and nonlinear simulations of typical RF/microwave systems, subsystems, and circuits. The student will learn to generate complete board-level descriptions using block/schematic entry within the Project Design Environment. Emphasis is placed on conceptual understanding of all operational modes. Performance optimization, yield analysis, and yield optimization are covered.

Course Features

Upon successful completion of this course, the student will be able to use EEs of's Communications Design Suite for:

- Modulated signal sources
- Pseudo-random data sources and baseband data processing
- System component-specific budget analysis
- Mixer spurious analysis
- Estimation of error probability (BER)
- Schematic entry
- Using test benches and test labs
- Manipulating simulation results
- Harmonic-balance analysis

- Standard and user-defined linear and nonlinear circuit and system measurements
- DC measurements including DC I-V curves and dynamic loadline
- Interactive tuning
- Power amplifier design and analysis
- Oscillator design and analysis
- Mixer circuit-level analysis and intermodulation distortion measurements
- Performance optimization
- Parametric subnetworks
- Swept parameter analysis
- Discrete time analysis tools for RF envelope, baseband, and DSP analysis
- PCB layout
- SMT, RF IC, and RF element libraries
- Design for manufacturing, including yield analysis and optimization

Specifications

Course Length

5 days

Audience

Engineers, technicians, and managers involved in the design and use of board-level RF/microwave systems and subsystems.

Prerequisites

Familiarity with basic board-level RF/microwave system and circuit concepts and terminology.

Delivery Method

Classroom, Dedicated

**HP Education Services:
Your Key to Higher
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Classroom Training Benefits

Experienced HP Instructors

Learn from an experienced HP instructor who is an expert in using and applying instrument systems to meet your measurement needs.

Available at HP Classrooms or Your Site

Take advantage of HP's learning facilities, equipment, and interactive learning environment by attending class at an HP facility. Or, save travel expenses and time by organizing a dedicated class at your location.

Extensive Hands-on Practice

HP classroom training is characterized by extensive hands-on experience and interactive class discussion. HP classroom training pays off immediately because it is geared to real-world solutions.

Comprehensive Student Materials

Copies of course materials are provided for future reference on the job.

Regularly Scheduled Classes

Plan training months in advance.

**Course Number: E4605A+24D (scheduled)
E4605A+24A (dedicated)**

Communications Design Suite for Board-Level Design (E4605A+24D)

Course Agenda

Day 1

- The Project Design Environment
- Introduction to Linear Circuit Simulation

Day 2

- DC Bias Analysis & Harmonic Balance Analysis
- Oscillator Analysis

Day 3

- Continuous and Discrete Optimization; Yield Analysis
- System Elements (2-port RF/IF)

Day 4

- System Test Benches
- Functional Elements - Applications

Day 5

- Advance Signal Analysis
- Traces and Paths

Ordering Information

To order Communications Design Suite for Board-Level Design (E4605A+24D) course in the U.S. call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price, scheduling, and enrollment information about dedicated class (E4605A+24A) class delivery.

Outside the U.S., contact your nearest local HP sales office.

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