RF and Microwave Measurements Fundamentals - Lecture/Lab

Technical Data

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Course Overview

Learn the principles of microwaves, including transmission lines and power measurements; various types of signal sources, mixers, and modulation techniques; and the use of various signal types in test applications. The course introduces network principles and discusses vector and scalar network measurement techniques and considerations for their use, including advantages and disadvantages.

Course Features

- Learn how to interpret specification in data sheets
- Understand practical microwave measurements
- Understand the importance of proper impedance matching in high-frequency microwave circuits
- Learn how and why SWR, power, and noise measurements are made
- Understand noise and its effect on microwave circuits

Specifications

Course Length
4 days

Audience
Technicians and junior engineers entering the microwave field of employment or trained in digital electronics.

Delivery Method
Classroom, Dedicated

Format
Lab-lecture with student hands-on lab sessions.

Prerequisites
- Basic understanding of fundamental electronic principles
- An understanding of general analog measurement principles would be beneficial

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 an on-site delivery at your location.

Regularly Scheduled Classes
Plan training months in advance.

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.

Course Number: 50740B (scheduled)

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Course Agenda

Day 1

- Introduction to transmission lines
- Microwave power measurements
- Demonstration: impedence matching and power measurements

Day 2

- Amplitude modulation
- Angle modulation
- Workbook exercise: modulation
- Demonstration: modulation basics
- Introduction to networks
- Vector network analysis

Day 3

- Vector network analysis (continued)
- Scalar network analysis
- Demonstration: vector and scalar network analysis
- Linearity
- Spectrum analysis

Day 4

- Spectrum analysis (continued)
- Noise and noise figure
- Demonstration: spectrum analysis and noise and noise figure

Ordering Information

To order RF and Microwave Measurements Fundamentals - Lecture/Lab (HP 50740B) in the U.S. call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price and enrollment information about scheduled courses or on-site courses which can be tailored to meet your specific needs.

Outside the U.S., call your nearest HP Customer Education Center or local HP sales office.

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