RF and Microwave Measurement Fundamentals

Course Overview

Course Numbers
Agilent Training Center: H7215A-101
Onsite Training: H7215B-101

Learn the fundamentals of microwave measurements

Course Overview

This class studies the principles of microwaves on transmission lines and power measurements, the proper use and care of cable and connectors, signal sources, mixers, and modulation techniques; and the use of signal types in test applications. Understand amplitude, frequency/phase and digital modulation, vector network measurements, and spectrum analyzer measurements through extensive hands-on interaction.

What you will learn

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

Specifications

Course Type
User/Application Training

Audience
Engineers and technicians who start working with RF & microwave test instruments and want to review the fundamentals.

Prerequisites
A general understanding of electronic and measurement principles.

Course Length
4 days

Course Format
Course content is 60% lecture and 40% demonstration and labs

Delivery Method
Scheduled at Agilent locations, or *Dedicated* at a customer site

To save you time and travel, many Agilent courses can be delivered at your site. Agilent can provide required equipment, or you can save money by furnishing your own.

Detailed Course Agenda

Day One

- Introduction to Transmission Lines
- Cable and Connector Care
- Microwave Power Measurements
- Demonstration: Impedance Matching and Power Measurements

Day Two

- Amplitude Modulation
- Frequency/Phase Modulation
- Digital Modulation
- Demonstration: Modulation Basics

Day Three

- Vector Network Analysis
- Linearity
- Demonstration: Vector Network Analysis

Day Four

- Spectrum Analysis
- Noise and Noise Figure
- Phase Noise Fundamentals
- Demonstration: Spectrum Analysis Measurements

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Revised: 09/14/06

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Printed in USA, September 22, 2006
5988-4483EN

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