

Course Name: Agilent N9330B - Cable and Antenna Line Testing Certification

Course Overview:

This course covers the theory and practical Return Loss and Distance-to-Fault testing used in installation, maintenance and operation of antenna systems utilizing the Agilent N9330B test set. The class will include extensive hands-on exercises including testing cables, connectors and antennas along with interpreting and troubleshooting results.

Certification testing is available for students attending this class.

Course Length: 2 days

Who should attend?

- Field Service Technicians
- Switch Technicians
- Design Engineers
- Managers/Field Supervisors
- Field Engineers
- Installers

You will learn:

- Understand the basics of antennas, cables and connectors
- Set up, operate and interpret results on the Agilent N9330B test set
- Efficiently install and test cables, connectors and antennas
- Troubleshoot common problems affecting RF transmission
- Reading and interpreting Line Sweeping traces and results using the Agilent N9330B
- Measuring effective and center frequencies of antennas
- Saving and storing test results on the Agilent N9330B test set

Prerequisites: None

Customizable Course: Yes

Course Content:

Introduction to RF Signals and RF Network Fundamentals

- The radio – terminating equipment
- Connectivity – coax, waveguide, connectors
- The 3 core elements – amplitude, frequency & phase
- Wave propagation – reflected waves & standing waves



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Introduction to Antennas

- Why antennas work – gain, beamwidth & bandwidth
- Antenna network components
- Terminations
- Testing Standards

Transmission Line Basics

- Coax characteristics – Impedance, capacitive reactance & inductive reactance
- Types – size, frequency & loss
- Connectors – coax, waveguide, installation & testing
- Cable - crushed cable, damaged cable & other problems

Basics of Line Sweeping

- What are you testing
- N9330B cable & antenna test equipment
- TDR v/s FDR
- Standard reporting

Antenna Test Equipment

- Phase Stable Cables
- Equipment set-up
- Initial calibration
- Environmental considerations

Supporting Documentation

- Standard reporting
- Saving results
- Printing results

Test Interpretation

- Testing Standards – sweep characteristics, limits & markers
- Return Loss, Distance-to-Fault, VSWR, Cable Loss
- Post analysis tools
- Saving and printing plots

Practical Applications & Certification Labs

- Testing antennas, connectors and coax
- Certification testing – individual performance testing & certification written test

