Cable and Connector Care

Course Overview

Course Numbers:
Agilent Training Center: H7215A #160
Onsite Training: H7215B #160

Gain a better understanding of RF Microwave test equipment

Course Overview

This 1/2 day course presented by Agilent Technologies trains users of RF & Microwave test equipment on the proper use of cables and connectors.

Upon completion of this course the student will have fundamental knowledge about the proper use of cables and connectors, the types of connectors, basic construction of a coaxial cable, principles of connector care and the connector specifications. Students will be able to use Network Analyzers to make some measurements that will teach the importance of connector care.

What you will learn

- Measurement errors
- Fundamentals of connectors
- Commonly used connectors
- Typical connector cross-section
- Principles of connector care
- Initial preparation before a connection is made
- Connector specifications

Specifications

Course Type
User Training

Audience
All Technicians and Engineers in the RF and Microwave industry whose job involves handling cables and connectors.

Prerequisites
None

Course Length
1/2 day

Course Format
Lecture and Lab

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

Measurement Errors:
- Look at the three basic sources of measurement error: systematic, random and drift

Fundamentals of Connectors:
- Review some basic fundamentals of connector use and design.
- Understand why connectors are considered consumables.
- Good connection techniques
- Making a good connection

Commonly used connectors:
- Type N, BNC, SMA and other types of connectors
- Why are so many connectors necessary?

Typical connector cross-section:
- Outer conductor
- Centre conductor
- Slotted female centre conductor
- Pin depth

Principles of connector care:
- Handling and storage
- Electro-static discharge
- Visual inspection
- Connector damage
- Cleaning connectors
- Using torque wrench
- Mechanical inspection
- Gauging connectors

Initial preparation before a connection is made:

- Test port extension cables
- Preparation for use
- Cable requirements

Coaxial cables:

- Centre conductor
- Outer conductor
- Cable bends and its effects on measurements
- Characteristics impedance
- Frequency coverage
- Different connector grades such as metrology grade, instrument grade and production grade.

Connector specifications:

- Connector survey
- Interface specification
- Connector pin-depth specification
- Measurement uncertainty at higher frequencies
- Using adapters as connector savers
- Connecting sliding loads
- Qualify good connections
- Making repeatable connections

Hands-on Lab:

The fundamental goal of this hands-on lab will be to have the students check connection techniques/repeatability using a Vector Network Analyzer. Instructors can run the lab as a competition between the attendees as to who could make the most repeatable connections.

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

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