



Course Number H7216B Opt. 202, Dedicated CDMA: Mobile Station Measurements

Course Overview

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This course provides technicians with a fundamental understanding of CDMA technology and provides a hands-on classroom environment to learn about the block diagram of a mobile and how to measure and find faults. This experience enhances the productivity of technicians in the production environment who do testing, rework, and support. By taking knowledge of the CDMA system together with measurement theory, the student will have the tools and knowledge necessary to be faster and more effective in working with mobile phones.

What you will learn

- CDMA network, cells, and sectors
- Soft, softer and hard hand-offs
- Pilot and synch channels
- Traffic channels
- Vocoders and error correction
- Walsh and long codes
- Camp and call set-up
- 8924C CDMA test set operation
- Transmitter measurement
- Receiver measurement

Upon completion of this course, you will:

- Understand how a mobile operates in a network
- Recognize the impact of faults on a network
- Make measurements on mobiles and interpret results
- Learn operation of the Agilent 8924C CDMA mobile test set for both analog and digital testing
- Be able to isolate faults on mobiles down to module level

Specifications

Course Type

Application/Product training

Audience

Technicians working in a production environment

Prerequisites

Students will have to have completed the RF Measurement Basics (H7216B opt. 101) course or equivalent.

Course Length

2 days

Course Format

This course is divided into instructor-led lessons and hands-on labs. These reinforce the theory and its application to mobile fault finding.

Delivery Method

“Dedicated”— at customer site using customer’s equipment

Detailed Course Agenda

AMPS Basics

Digital Basics

What is the reason behind the move to digital systems? Understanding these issues enables us to introduce the fundamental shifts from directly modulated analog signals to digitally encoded data transmission.

CDMA Basics

This lesson looks at three areas of CDMA: Network, Air Interface, and Signal Path.



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The CDMA Network:

- Network components
- Cells and sectors
- PN offset
- Hand-off techniques
- Power changes

The Air Interface explores:

- CDMA implementation
- Walsh and long codes
- Frames and data formatting
- Paging and call organization

The Signal Path from the microphone to the antenna is explained:

- Vocoder
- Channel coder
- Interleaving
- Modulation
- Transmission

CDMA Measurements

Making real measurements and applying all the theory learned in the previous lessons will enable students to quickly find faults in the mobile.

This will reduce the amount of time spent looking for problems and improve productivity. This is achieved by teaching the student about:

- Detailed mobile block diagrams
- Functional testing
- How to make measurements
- What is being measured
- What measurements tell us
- How to isolate problems

The use of labs along with the theory will allow the student to apply all that has been learned and to fully understand the measurements, how to make them, and most importantly, what they reveal about the mobile itself.

Ordering Information

To order the *CDMA: Mobile Station Measurements* course (H7216B opt. 202), call:

US (800) 593-6632

Canada (800) 561-3276

The Agilent Technologies Customer Registration Center can provide you with price and enrollment information about scheduled courses or a dedicated course which can be customized to meet your specific needs.

You may also register or request additional information online at:
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