HSPA Fundamentals

1 Hr. 7 min.

LEARNING OBJECTIVE:

Upon completing the course, the participant will be able to:

- Understand the need of UMTS evolution
- Understand the HSPA Principles
- Dig deep into the Air Interface and understand the Channel concept

COURSE OBJECTIVE:

This course addresses the fundamentals of existing technologies and changes that were introduced in UMTS or 3G networks. The students will gain in depth knowledge about HSPA concept , Air interface protocols and procedures. This course is video lectures based training with full efforts to improve and retain learning.

WHO SHOULD ATTEND:

This course is designed to provide a general overview for strategic or technical managers, consultants, communications professionals, network professionals and others who plan to work in GSM/ 3G/ HSPA wireless networks.

TARGET AUDIENCE:

RF Engineers, 3G Planners and optimizer, Drive Test Engineers.

INSTRUCTIONAL METHODS:

Lectures in Classroom, Virtual Classroom trainings, discussion, Questions & Answers. All participants will also receive comprehensive course materials.

COURSE OUTLINE:

1. Overview

1.1 Overview and objectives

1.2 HSPA Fundamentals

1.3 3GPP releases

1.4 HSPA Overview

1.5 HSDPA : High Speed Downlink Packet Access

1.6 HSDPA Principles

1.7 Fast Hybrid Automatic Repeat Request

1.8 Dynamic Power Allocation

1.9 Adaptive Modulation and coding

465 W George Bush Highway, #200, Richardson, Texas 75080
Telephone: (972)-633-5100, Fax:(972)-633-5106
Toll Free: 1-877-RF-MCPS
www.mcpsinc.com

HSPA Fundamentals

1 Hr. 7 min.

1.9 Turbo Coding
1.10 Power Control and Link Adaptation

2. Basics

2.1 Scheduling
2.2 Shared Channel Transmission
2.3 Multi-code transmission
2.4 HSUPA : High speed Uplink Packet Access
2.5 HSUPA Principles
2.6 Shorter Transmission Time Interval (TTI)
2.7 NodeB Controlled Scheduling
2.8 H_ARQ
2.9 Comparison between Release 99 and Release 6
2.10 Fast Power Control

3. Intermediate

3.1 Channel and Layers
3.2 Channels
3.3 HSDPA Channels
3.4 High speed – Downlink Shared channel
3.5 HSDPA Physical channels
3.6 HS-SCCH
3.7 HS-PDSCH
3.8 HS-DPCCH
3.9 Associated DCH (DL & UL)
3.10 Fractional DPCH : F-DPCH

4. Advanced

4.1 HSUPA Protocol Architecture
4.2 HSPA Channels
4.3 Enhanced Dedicated Channel (E-DCH)
4.4 E – DCH Transport Channel Processing
4.5 E- DPDCH
4.6 E – DPCCH
4.7 E – DCH Absolute Grant DL Channel (E - AGCH)
4.8 E-DCH Relative Grant channel (E- RGCH)
4.9 E-DCH HARQ Indicator DL Channel (E – HICH)
4.10 Evolution Path

Evaluation and feedback of the participants

Maximum number of participants:	15
Duration:	1 Hr. 7 min.

465 W George Bush Highway, #200, Richardson, Texas 75080
Telephone: (972)-633-5100, Fax:(972)-633-5106
Toll Free: 1-877-RF-MCPS
www.mcpsinc.com