



3G Optimization Basics

1 Hr. 20 Min.



LEARNING OBJECTIVE:

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

- Understand the need of Optimization
- Understand the 3G optimization Flow
- Dig deep into the Coverage and capacity analysis
- Examine the Drive test reports

COURSE OBJECTIVE:

In this course we will cover the description of optimization of networks, coverage analysis, throughput analysis etc. We will also have a look at the principles and techniques that relate to the parameters available in 3G UMTS mainly cell configurations, ideal mode , connected mode parameters , key performance indicators. We will dig into various optimization solutions, analyze of radio and call drop issues, and various coverage improvement techniques. In all, this course will help you to learn various problems and solution of the issues in the UMTS network .

WHO SHOULD ATTEND:

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

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. 3G optimization Basics - part 1

- 1.1 Overview and objectives**
- 1.2 Introduction**
- 1.3 Call Flow**
- 1.4 Mobile originating Call – part 1**

- 1.5 Mobile Originating call – part 2**
- 1.6 Drive Test**
- 1.7 Drive Test Equipment**
- 1.8 Window Used in WCDMA Drive test**
- 1.9 Drive test Tools Configuration**
- 1.10 Drive test routes**





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1.11 Optimization and Overview

2. 3G Optimization Basics – Part 2

- 2.1 3G Optimization Flow
- 2.2 Network Optimization Phases
- 2.3 Single Site Verification Test
- 2.4 Flow Chart - SCFT
- 2.5 Physical audit
- 2.6 Verification in idle mode
- 2.7 Scramble Code Check
- 2.8 LAC/RAC Check
- 2.9 Near site test
- 2.10 Verification in connected mode

3. 3G Optimization Basics – Part 3

- 3.1 Originating and terminating Connection
- 3.2 Connection Test for PS Services
- 3.3 Antenna Diversity Check
- 3.4 RF Optimization - Overview
- 3.5 Process
- 3.6 Key performance indicators
- 3.7 Targets
- 3.8 Data Collection
- 3.9 Coverage analysis
- 3.10 Coverage analysis procedure

4. 3G Optimization Basics – Part 4

- 4.1 Pilot coverage strength Analysis
- 4.2 Pilot Coverage quality analysis
- 4.3 Downlink coverage analysis

- 4.4 Analyzing Comparison of uplink and downlink coverage
- 4.5 Analyzing Primary pilot cell
- 4.6 Uplink Coverage Analysis
- 4.7 Distribution of UE transmit Power
- 4.8 Pilot Pollution
- 4.9 Judgement Standards
- 4.10 Causes

5. 3G Optimization Basics – Part 5

- 5.1 Pilot Pollution Problem Analysis
- 5.2 Solutions of Pilot Pollution
- 5.3 Dropped Call analysis
- 5.4 Call Drop Cases
- 5.5 Drop due to missing neighbor
- 5.6 Drop due to DL poor Coverage
- 5.7 Session Error due to poor DL Coverage
- 5.8 Handover Analysis
- 5.9 Parameter optimization
- 5.10 Drive test

6. 3G Optimization Basics – Part 6

- 6.1 Drive Test Data Analysis
- 6.2 Adjustment Recommendation and Implementation
- 6.3 Test for special Areas
- 6.4 Optimization Report
- 6.5 Summary of Optimization solution





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**Evaluation and feedback
of the participants**

Maximum number of participants: 15

Duration: 1 Hr. 20 Min.



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