

## GSM BSS 08 GPRS/EDGE Optimization Workshop



LZU 107 3626 R2A

### Description

This course is intended for RF engineers involved in performance activities of GPRS and EGPRS radio networks. The purpose of the course is to provide optimization engineers with both theoretical and practical competence of parameter settings and optimization activities. After attending this course the participants will be able to handle various optimization activities for a GPRS/EGPRS radio network.

### Learning objectives

On completion of this course the participants will be able to:

- 1 List the main radio KPI;s measured in a GPRS/EDGE radio network**
  - 1.1 Explain how the TCP protocol might influence the performance in the radio network.
- 2 Explain the logical layout of a GPRS/EDGE network**
  - 2.1 Explain GPRS coding scheme 3 and 4
  - 2.2 Explain how EGPRS is implemented
  - 2.3 Explain PS paging procedures
  - 2.4 Explain Flexible MPDCH Configuration
  - 2.5 Explain PCCCH Capacity
  - 2.6 Explain Flexible Channel Allocation
  - 2.7 Explain Semi-Dedicated PDCH
  - 2.8 Explain Flexible Abis
  - 2.9 Explain GPRS/EDGE in OL subcell
  - 2.10 Explain Flexible Priority Handling of Packet Data Channels
  - 2.11 Explain Loss free Pre-emption
  - 2.12 Explain Increased throughput in extended range cells
  - 2.13 Explain Extended Dynamic Allocation
  - 2.14 Explain Five Downlink Time Slots
  - 2.15 Explain GPRS/EGPRS End-user Performance
  - 2.16 Explain Network assisted cell change
  - 2.17 Explain Optimized throughput at Inter BSC Cell Change
  - 2.18 Explain Optimized throughput at GSM to WCDMA Cell Change
  - 2.19 Explain Application Aware Timeslot Allocation
  - 2.20 Explain Persistent Scheduling
  - 2.21 Explain GPRS/EDGE Load Optimization
  - 2.22 Explain Active Queue Management
  - 2.23 Explain Abis Optimization
  - 2.24 Explain Abis over IP



- 2.25 Explain Extended Dynamic Allocation optimized TBF reservations
- 2.26 Explain how to preserved MS battery with extended uplink
- 2.27 Explain Pre-emptive retransmissions in downlink
- 2.28 Explain how reserved resources at downlink TBF setup retry is used
- 2.29 Explain how support for EGPRS over satellite is achieved
- 2.30 Explain the feature Edge Evolution - Reduced Latency

### **3 Explain the structure of Level One and Level Two Performance indicators**

- 3.1 Explain how the tree major KPI:s IP Throughput, IP Latency and IP Buffer Discards, are measured with STS
- 3.2 Explain the Performance Indicators measured with STS that are related to Interference
- 3.3 Explain the Performance Indicators measured with STS that are related to Capacity
- 3.4 Explain the Performance Indicators measured with STS that are related to Mobility

### **4 Explain how to optimize a GPRS/EDGE radio network**

- 4.1 Use TEMS Investigation for optimization tasks
- 4.2 Use STS for optimization tasks.

#### **Target audience**

The target audience for this course is: Network Design Engineers.

This audience are engineers actively involved in GPRS/EGPRS Radio optimization and others who would like to take a deep look into GPRS/EGPRS radio functionalities and optimization activities

#### **Prerequisites**

Successful completion of the following flow and courses:

GSM Network Fundamentals

and

GSM BSS 07 Cell Planning Principles LZU1086876-R1A

GSM BSS 08 Radio Network Features LZU1087139-R2A

GSM BSS 08 Radio Network Tuning LZU1087140-R2A

#### **Duration and class size**

The length of the course is 3 days and the maximum number of participants is 8.



**Learning situation**

This is a workshop based on interactive training sessions in a classroom environment. It includes exercises and practical GRPS/EGPRS optimization cases.