LTE L13 Radio Network Functionality

LZU1089104 R2A

Description
Do you want to have full and detailed understanding of the Ericsson E-UTRAN features and functionalities? If so, the LTE L13 Radio Network Functionality course will give you all that. This course describes the Idle Mode Behaviour, how Radio Connection Supervision is carried out, Power Control calculations, settings and functions as well as Link Adaptation and scheduling behaviour. Also, the Capacity Management and Mobility functionality will definitely boost your competence and understanding of the Ericsson E-UTRAN solution.

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

1. Explain the logical architecture of E-UTRAN and introduce Radio Functionality
   1.1 Detail the logical architecture of the Ericsson E-UTRAN
   1.2 List the Radio Functionality supported in the Ericsson E-UTRAN
2. Describe the purpose and function of Idle Mode Behavior
   2.1 Explain PLMN and Cell selection and reselection
   2.2 Explain registration updating procedures
   2.3 Explain paging procedures
   2.4 Describe the organization of system information
3. Explain the purpose and function of Radio Connection Supervision
   3.1 Explain how the radio connection supervision is carried out
   3.2 Explain how in-synch and out-of-synch is determined by the radio link monitoring algorithm in the RBS
4. Describe the purpose and use of the function Power Control, Link Adaptation and Scheduling
   4.1 Explain the interaction between Power Control, Link Adaptation and Scheduling
   4.2 Explain open loop power control for initial access
   4.3 Configure the power of common channels
   4.4 Explain uplink power control for PUSCH and PUCCH
   4.5 Explain the impact of TDD
   4.6 Explain the impact of MIMO
5. Describe the purpose and function of the Capacity Management
   5.1 Describe the interaction between the Monitored System Resources (MSRs) and the different algorithms
   5.2 Explain the static and dynamic MSRs
5.3 Explain Admission Control
5.4 Explain Congestion Control
5.5 Explain the interaction with QoS

6 Explain the purpose and function of Intra-LTE Mobility, Inter-Radio Access Technologies (IRAT) Mobility and IRAT and Inter Frequency Session Continuity
6.1 Explain Intra LTE Handover
6.2 Explain Coverage Triggered Session Continuity
6.3 Describe the interworking with GRAN
6.4 Describe the interworking with UTRAN
6.5 Describe the interaction with CDMA2000
6.6 Distinguish between release with redirect and handover
6.7 Detail what type of events trigger measurement reports to be sent to the eNB
6.8 Describe the purpose of the handover evaluation algorithm and Best Cell Evaluation
6.9 Explain CS Fallback

7 Explain the purpose and function of Automated Neighbor Relations (ANR)

**Target audience**
The target audience for this course is:
Service Design Engineer, Network Design Engineer

**Prerequisites**
Successful completion of the following courses:
LTE/SAE System Overview LZU1087020
LTE L13 Air Interface LZU1089102
LTE L13 Protocols and Procedures LZU1089103
Duration and class size
The length of the course is 4 days and the maximum number of participants is 16.

Learning situation
This course is based on theoretical instructor-led lessons given in a classroom environment.

Time schedule
The time required always depends on the knowledge of the attending participants and the hours stated below can be used as estimate.

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<thead>
<tr>
<th>Day</th>
<th>Topics in the course</th>
<th>Estimated Time (hours)</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction of the course and Radio Network Solution</td>
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<tr>
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<td>Idle Mode Behavior</td>
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<td>Radio Connection Supervision</td>
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<td>Link Adaptation</td>
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<td>2</td>
<td>Power Control</td>
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<td>Scheduling</td>
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<tr>
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<td>Capacity Management</td>
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<td>Automated Neighbor Relations (ANR)</td>
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