

LTE Radio Network Planning

Due to the system properties of LTE, the efficient basic planning process plays an important role for network quality and possible data rates. In addition, the constant coverage extension of the network and changing usage patterns require continuous optimisation and is an additional permanent challenge.

This course offers an introduction to the basics of radio network planning and its system and hardware dependencies. Additionally, possibilities for network optimisation are presented. Subjects such as planning and optimisation of coverage, capacity, and network IDs are explained.

After the course the participants will know about and understand the background of radio network planning. The participant will be able to make sound decisions for the possible usage of software tools. This course teaches knowledge and techniques which are relevant for planning and are independent of particular planning tools.

Target Group / Requirements

This course addresses employees in the area of radio-network planning and optimisation who have sound basic knowledge of GSM and/or UMTS.

Course Content

LTE – System Properties

- E-UTRAN Architecture
- OFDM, Frame Structure, Synchronization and Reference Signals in LTE
- Frequency Bands and Bandwidth options
- Channel Structure in LTE
- Frequency Re-Use and Inter-cell Interference Mitigation
- L2 Measurements as Input for MIMO and Frequency Selective Scheduling (CQI, RI, PMI)
- Link Adaption in LTE (Modulation and Coding Scheme)
- Overview: LTE specific Input Parameter

Hardware Properties

- UE (UE Categories, Power Classes,...)
- eNB (Signal Path, ...)

Coverage Planning

- Sensitivity
- Propagation Models
- Link Budget in LTE

Capacity Planning

- Traffic Model
- Traffic Simulation
- Capacity Restrictions in LTE
- Backhaul Planning in LTE

Course Duration:

2 days

Course Number:

NW1248

Requirements:

Basic Planning Knowledge

Drive Tests and -optimization

- Measurements in LTE
- Self-Organizing and –Optimizing Networks

Antenna Considerations

- Usage of MIMO in LTE (Spatial Multiplexing and Diversity techniques in UL and DL)

Identifier Planning

- Physical Cell Identifier
- Tracking Area

Mobility – Neighborhood Planning

- Intrafrequency, Interfrequency and InterRAT-Mobility in LTE
- Neighborhood Planning in LTE

Certification

Certificates are given to all participants at the end of the course about the successful completion.

Course Registration:

Please contact us via

- phone: +49 89 1894354-405
- email: training@tfk-technologies.de or
- via our website <https://skilleap.com/courses>

You will receive a confirmation of your registration. We can also advice you concerning the best combination of course contents.

For clients with special requirements the optimal training concept can be customized. Modules from our training portfolio can be combined to meet your company-specific needs.