TK944: 5G Planning

Target

Personnel who plan 5G radio networks

Personnel who optimize 5G radio networks

Duration

3 Days

Prerequisites

5G air interface, RF principles, Cellular technologies, LTE networks

Course Content

1. 5G Link Budget

1.1. Introduction to Link Budget
1.2. Inputs and calculation steps
1.3. General Parameters
1.4. Transmitting End
1.5. Isotropic Power Required
1.6. Receiving End
1.7. Service
1.8. Channel
1.9. Interference Margin
    1.9.1. Interference Margin in DL
    1.9.2. Interference Margin in UL
1.10. Additional Losses & Gains
1.11. Propagation
    1.11.1. Propagation Models
    1.11.2. Clutter
1.12. Coverage Estimation

2. 5G Radio Capacity

2.1. Air Interface Capacity dimensioning
2.2. Air Interface Capacity Evaluation
2.3. LTE & 5G Capacity Dimensioning Tool
2.4. Overview of the cloud based gNB

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2.5. Baseband dimensioning
2.6. 5G gNB-CU VNF Realization
2.7. gNB-CU VNF Deployments Aspects
2.8. 5G VNF Capacity and Connectivity Limits
2.9. Trunking Gain
2.10. VNF Dimensioning
2.11. Scaling Overview
3. 5G Initial Parameter Planning
3.1. 5G PCI Planning
3.2. Introduction to 5G Random Access
3.3. PRACH Parameters related to Msg 1
3.4. PRACH Planning Example
3.5. Additional PRACH Parameters
3.6. Introduction to 5G Neighbor Cell Planning in
3.7. NSA Scenario
3.8. LTE to 5G Neighbor Cell Planning
3.9. 5G to 5G Neighbor Cell Planning

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