TK411: LTE Air Interface

Duration

3.0 Days

Course Content

1. Introduction

- 1.1. OFDMA/SCFDMA
  - 1.1.1. OFDM principle
  - 1.1.2. OFDM design in LTE
  - 1.1.3. OFDMA vs SC-FDMA
  - 1.1.4. LTE Frame
  - 1.1.5. Resource Block
- 1.2. LTE Physical Layer Procedures
  - 1.2.1. RACH process
  - 1.2.2. DL Transmission
  - 1.2.3. UL transmission
  - 1.2.4. UL H-ARQ and DL-HARQ

2. LTE Radio Channels

- 2.1. LTE_Uu Protocol stuck
- 2.2. Logical Channels
- 2.3. Trasnport Channels
- 2.4. Physical Channels
- 2.5. Channel Multiplexing

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3. Radio Resource Management

- 3.1 Adaptive Modulation And Coding
- 3.2 Admission control
- 3.3Scheduling (TTI bundling)
- 3.4Power Control
- 3.5 MIMO
- 3.6DRX/DTX
- 3.7Cell Selection
- 3.8Cell Reselection
- 3.9Connected mode mobility

4. LTE Planning Principles

- 4.1Link Budget
- 4.2Cell Range
- 4.3 Capacity planning
- 4.4 PCI Planning
- 4.5 PRACH Planning
- 4.6PUCCH dimentionning
- 4.7TA, Paging planning

5. LTE Main KPI

- 5.1 Accessibility
- 5.2 Retainability
- 5.3 Usage
- 5.4 Integrity

5.5 Mobility

6. LTE Optimization

6.1 Accessibility

6.2 Retainability

6.3 Throughput

6.4 Mobility