# TK943: 5G Parameters

## Target

Personnel who optimize 5G Radio Algorithm and Parameters

Personnel who optimize and monitor 5G Network Signaling

## Duration

3 Days

## Prerequisites

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

## Course Content

1. 5G functions and features
   - 1.1. Overview of the 5G Node B
   - 1.2. 5G New Radio
   - 1.3. Slot formats
2. Channel configuration and random access
   - 2.1. UL and DL channels
   - 2.2. Broadcast and synchronization
   - 2.3. Random access
     - 2.3.1. Initial random access
     - 2.3.2. Random access procedure
     - 2.3.3. Beam based PRACH
3. Bearer Control
   - 3.1. Transition from MCG Bearer to SCG Bearer
   - 3.2. NR PDCP & RLC Bearer Handling
   - 3.3. Configuration Management
4. Radio Admission Control
   - 4.1. Introduction
   - 4.2. Admission Control parameters
   - 4.3. Smart Admission Control
5. Power Control
   - 5.1. Power control introduction

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5.2. DL power control
5.2.1. PDCCH Power
5.2.2. PDSCH Power
5.2.3. Reference Signal Power
5.2.4. PBCH Power
5.3. UL power control
5.3.1. PUSCH Power
5.3.2. Reference signals Power
5.3.3. PUCCH Power
5.3.4. PRACH Power
5.3.5. SRS power
6. Adaptive Modulation and Coding
6.1. AMC in 5G NR
6.2. DL Adaptive Modulation and coding
6.2.1. PDSCH Link Adaptation
6.2.2. PDCCH Link Adaptation
6.3. UL Adaptive Modulation and coding
7. Multi Antenna Based Systems
7.1. Beamforming basics
7.2. Analogue beamforming
7.3. Digital beamforming
7.4. UL SU Adaptive MIMO
8. Mobility
8.1. Overview
8.2. Measurements
8.3. Events
8.4. Procedure
8.5. Neighbor Relations
9. Scheduler
9.1. Scheduler basics
9.2. UL Scheduling
9.3. DL Scheduling
9.4. PDCCH Scheduling
9.5. PUCCH Scheduling
9.6. HARQ handling

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