

5G Advanced: Network Energy Saving

2 Hours

DURATION

1

MODULES

9

TOPICS

COURSE OVERVIEW

This course provides a comprehensive look into the Network Energy Saving (NES) features defined in 3GPP Releases 18 and 19. We will learn how these enhancements allow base stations to significantly reduce power consumption without compromising network coverage or user experience. We will explore advanced techniques such as reducing power in Active Antenna Units (AAU), implementing "sleep" modes for cells (Cell DTX/DRX), and utilizing AI/ML for intelligent energy management. The course also covers critical new signaling mechanisms like SSB-less SCell operation and On-Demand system information that enable the network to transmit less energy when traffic is low.

PREREQUISITES

- This course is part of our corporate program and requires an NDA for access. Because of this, we can only offer this course to individuals through their companies.
- Mandatory: 5G NR Technical Overview
- Recommended: 5G SA Call Processing, 5G Air Interface

LEARNING OBJECTIVES

What You Will Learn

- Explore the Network Energy Saving (NES) features in 3GPP Release 18 and 19
- Familiarize yourself with the mechanics of SSB-less SCell, Cell DTX/DRX, and On-Demand SIB1 to reduce base station power consumption
- Understand the trade-offs between network energy efficiency and performance metrics (throughput, latency)

1 Module, 9 Topics

01

TOPICS

R18 network energy saving features:

- M-MIMO Efficiency & Spatial Adaptation
- SSB-less SCell Operation
- NES-Conditional Handover (NES-CHO)

Domain Adaptations:

- Time-Domain: Cell Discontinuous Transmission (Cell DTX) and Discontinuous Reception (Cell DRX) modes.
- Power-Domain: Dynamic adjustment of PDSCH transmission power

R19 network energy saving features:

- On-Demand Signaling
- Advanced Adaptations: SSB periodicity adaptation and Paging/PRACH adaptations
- Wake-Up Signals (WUS)
- AI/ML for network energy saving

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Hands-on exercises throughout the course
- Delivery by certified instructors and subject matter experts
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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