iBwave TRAINING COURSE SYLLABUS

5G New Radio in iBwave Design

Note: Course syllabus is subject to change

LEARNING OBJECTIVES

Upon completion of the course, you will be able to:

- ✔ Describe the main features and characteristics of 5G NR networks.
- ✔ Configure systems and small cells for 5G NR networks.
- ✔ Build, analyze and optimize 5G NR designs to achieve required coverage inside buildings.
- ✔ Configure and generate reports required for deeper analysis or proof of compliance.

PREFACE

- ✔ Course introduction

5G NEW RADIO FUNDAMENTALS

- ✔ Overview of 5G Requirements
- ✔ 5G Building Blocks
  - › Millimeter Wave (mmWave)
  - › Sub-6-GHz
  - › Flexible Frame Structure
  - › Massive MIMO
  - › Beamforming
  - › Bandwidth Parts and Network Slicing
- ✔ Overview of 5G NR Deployment
  - › Non-Standalone Option
  - › Standalone Option
  - › Next Generation RAN (NG-RAN)
  - › 5G NR Core Network

5G NEW RADIO TECHNOLOGY

- ✔ Frequency of operation
- ✔ Key Features
  - › New Radio (NR) Numerology
  - › Bandwidth Partitioning
  - › NR Slot formats
- ✔ 5G NR Signals
  - › Reference Signals
  - › Synchronization Signals
  - › Coreset
- ✔ Beamforming in 5G NR
  - › Basics of Antennas and Radio Wave Propagation
  - › Basic Concepts and Techniques for Beamforming
  - › Beamforming Types (Analog, Digital, Hybrid)
  - › Antenna Phased Array (Multi Beam Antennas)
  - › Beamforming in 5G NR Standard

CREATING 5G NR PROJECTS USING iBWAVE DESIGN

- ✔ Setting up 5G NR Wireless Services and Technologies
- ✔ Designing with 5G NR Signal Sources
- ✔ Running 5G NR Predictions
- ✔ Generating 5G NR Reports

DESIGN FROM SCRATCH WORKSHOP