Deep dive into 5G RF Technology

5G New Radio RF Planning course

This course provides technical insights into radio network planning principles for 5G deployments in both the mid-band and mm-wave spectrum and dives directly into the 5G RF design and planning process and calculations with a focus on system coverage and capacity objective with practical examples from planning tools

In order for the attendant to better understand the content of this topic and to gain a further insight into the 5G RAN design, it is recommended to have prior attended the training provided by 5GWorldPro:

- **5G New Radio Advanced Training**

Who would benefit:

This training is aimed for RF Engineers, Technical consultants, technical manager with a technical RF background.

Training description with *5G Modules :*

1) 5G Link Budget & Propagation models

1. 5G bands &5G edge throughput in countries
2. 5G Link budget and comparison with 4G
3. 5G Propagation models
4. Site Radius calculation with example

2) 5G planning parameters and 5G Planning process

1. Propagation model parameters in 5G and comparison with 4G
2. 5G Network planning process
3. 5G Ray tracing model and 3D Digital Map
4. 4G/5G planning difference and comparison Coverage 5G 8T8R and 5G 64T64

3) 5G RF Planning (Beamforming, PRACH, PCI, Neighbor)

1. 5G Massive Mimo Beam planning
2. 5G Downtilt planning
3. 5G PRACH Planning
4. 5G Neighbor cell Planning
5. 5G PCI Planning

4) 5G Capacity planning and Dimensioning

1. 5G Capacity and Shannon Law
2. 5G NR Throughput Calculation
3. 5G Capacity Limiting factors
4. 5G Dimensioning
5. 3D Monte Carlo Simulation

5) 5G Planning Tools and related new 5G practical features

1. 5G NR network parameters in planning tool
2. ENDC Use Case with Planning tool
3. 3D beamforming in Planning tool
4. Dynamic Spectrum Sharing in Planning tool