

Microwave Training

Course duration: 1 week (5 working days)

Purpose:

Fixed wireless is communication between multiple points of presence that utilizes Microwave RF to transmit high-speed data. These frequencies permit high bandwidth and low latency, which increases end user productivity. By utilizing fixed wireless, companies eliminate the need for costly and time-consuming installation of cable or local phone lines. There are many advantages for companies that use fixed wireless such as scalable bandwidth, network diversity, and quick installation.

Objective:

Master the key features of Microwave technology to define real world applications:

You will be able to:

- 1) Describe Microwave link components and Architecture classifications
- 2) Describe the protection Schemes of Microwave links.
- 3) Understanding Radio wave Propagation.
- 4) Understanding Antenna Fundamentals and alignment.

Target Audience:

ATSEP interested in Microwave technologies such that understand, create, develop an design new Microwave projects.

Prerequisites:

- Very good computer skills.
- Basics of telecommunications.

Training Syllabus:

Lecture 1: Microwave link components

1. Principle Architecture
2. Modulation
3. Building principles

Lecture 2: Protection

1. 1+1 HSB, ASB (SD, FD)
2. n+0 RLB W P (Radio link bounding with protection)
3. (2+2) XPIC with protection

Lecture 3: Improvement factors

1. ATPC (Automatic Transmit Power Control)
2. ACM (Adaptive code modulation)
3. XPIC (Cross Polarization Interference Canceller)
4. MIMO.

Lecture 4: Antennas

1. Antenna Fundamentals
2. Antenna Connections
3. Polarization
4. Antenna Gain
5. Installation & Alignment

Lecture 5: Radio Propagation

1. The Radio Wave
2. Static conditions
3. The radio paths
4. Free space loss
5. Fading

Lecture 6: Transmission protocols

1. PDH limitations
2. SDH frame construction

Course price / trainee : 750 \$