

## Microwave Radio Communication Systems

*Barcelona (Spain)*

*10 - 14 March 2025*

UK Traininig

# PARTNER



# Microwave Radio Communication Systems

Code: IT28 From: 10 - 14 March 2025 City: Barcelona (Spain) Fees: 5100 Pound

## Introduction

This comprehensive course is designed to provide participants with a deep understanding of Microwave Radio Communication systems. Covering everything from the fundamentals to advanced topics, participants will explore the intricacies of microwave technology, equipment, protocols, and management. By the end of the course, participants will have the knowledge and skills required to effectively design, deploy, manage, and maintain microwave communication systems. The course will also provide a detailed look at the importance of radio communication, its protocols, and its application in various industries.

## Course Objectives

- Gain an in-depth understanding of Microwave Radio Communication systems and their components.
- Learn about advanced microwave communication equipment and technologies used in modern systems.
- Understand the basics of IP/Ethernet integration with microwave communication systems.
- Explore different types of radio communication, focusing on Line-of-Sight LOS communication and its various link types, frequencies, and distances.
- Grasp the role of signal transfer, types of losses, and their impact on microwave communication.
- Dive into PDH and SDH protocols, framing methods, and modulation techniques used in microwave transmission.
- Understand the procedures for alignment techniques and advanced features like Xpic protection and diversity schemes FD, SD.
- Learn about IPasolink ODU, its features, and its role in effective microwave communication.
- Master the setup and use of alarms, status messages, and LCT for effective system management.
- Explore radio link setup, provisioning, and maintenance control procedures.
- Learn about metering, inventory management, and software license setup.
- Develop proficiency in equipment utility, user account management, and security protocols.
- Familiarize yourself with PNMSj and its role in network management and maintenance.

## Course Outlines

### Day 1: Fundamentals of Microwave Radio Communication

- Introduction to Microwave Radio Communication systems.
- Basic principles and components of microwave communication.
- Overview of frequency bands, regulations, and the role of Line-of-Sight communication.

### Day 2: Microwave Equipment and Technology

- Detailed overview of microwave communication equipment.
- Advanced technologies in microwave radio communication systems.



- Concepts of IP/Ethernet integration in radio communication systems.
- Introduction to PNMSi for network monitoring and management.

### Day 3: Protocols and Modulation Techniques

- Understanding PDH and SDH protocols in microwave communication.
- Techniques for framing in microwave communication.
- Exploration of various modulation techniques used in microwave radio communication.

### Day 4: Advanced Features and Management

- Understanding Xpic protection and diversity schemes in microwave communication.
- Configuring N+N links and exploring advanced IPasolink ODU features.
- Managing alarms, status messages, and setting up LCT for effective system control.

### Day 5: Network Management and Maintenance

- Procedures for radio link setup and provisioning in microwave communication systems.
- Techniques for maintenance control and metering of microwave systems.
- Managing inventory, software licenses, and understanding PNMSj for network element connections.

### Conclusion

By the end of this course, participants will have a thorough understanding of microwave radio communication systems, their operation, and the latest techniques and protocols used in the industry. They will be proficient in microwave communication equipment setup, maintenance, and management, ensuring the ability to apply this knowledge in real-world scenarios.



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