

Course Name: VoIP in Wireless Applications

Course Overview:

Voice-over-IP (VoIP) is being utilized over many types of networks. As wireless technologies and networks become commonplace for user and device connectivity, VoIP quality will be impacted. This course provides insight into the nature of VoIP over wireless networks, throughput monitoring, site surveying, and securing VoIP services. Students will learn how to ensure the highest Quality of Service (QoS) and how to maintain and troubleshoot VoIP services on wireless networks.

Course Length: 1 day

Who should attend?

- Field Service Technicians
- Field Engineers
- Managers/ Field Supervisors
- Design Engineers
- Electricians
- Managers or Supervisors

You will learn:

- VoIP protocols, signaling, voice streaming, and CODEC's
- VoWiFi and other types of wireless networks with VoIP
- Packet loss and signal degradation
- Security
- Site Surveying
- Effective troubleshooting and maintenance
- Network assessment and optimization

Prerequisites: None

Course Fees:

- 1 day course at a TESSCO Location: \$475 per person
- 1 day course at your location: \$3,000 for up to 10 attendees

Customizable Course: Yes (2-day and equipment specific versions are available)

Course Content:

Overview of VoIP Services

- Data Plane Protocols
 - IP, UDP, and RTP
 - CODEC Selection



- Control Plane Protocols
 - H323
 - SIP

Network Overview

- Equipment
- Wireless Networks
 - WiFi, Access Points, and Directional/Omnidirectional Antennas
 - Gain, connectors, and cabling
 - Free Space Optics (FSO)
- Addressing

Network Performance

- Packet Loss
- Signal Levels
- Signal to Noise Ratio (SNR)
- Connectors
- FCC Regulations
- Site Surveys
- Latency and one-way delay
- Throughput
- Jitter

Security

- Encryption
- Station mobility
- 802.11i
- Performance impact

Troubleshooting and Maintenance

- Site Surveying
- Packet Capturing
- Packet Analysis
- Performance Assessment
- Test Equipment