

Hands-On

# Best Practices for Residential WiFi Installation and Troubleshooting

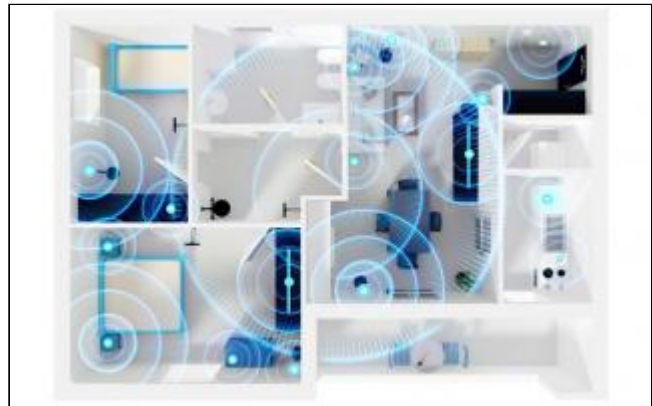


## Course Description

As WiFi technology improves and its popularity expands, the number of WiFi connected devices within the residence is increasing exponentially computers, tablets, phones, televisions, smart appliances, and so on.

The growth in wireless devices coupled with faster broadband connections to the home has contributed to an increase in end-users wireless quality of experience (QoE) expectations.

Customers want to consume wireless content on the device they want, where they want, when they want, and they want a high-quality, trouble-free experience while doing so. As a whole, this creates significant challenges for companies today including



- Residential Set-up, Configuration and Troubleshooting
- Significant increases in WiFi-related help desk Issues
- Difficulty Segmenting, Identifying, and Resolving Wireless Performance Issues
- High Numbers of Repeat Service Calls... Why? Common Fixes
- Customer Turn-Over Due to Poor Wireless QoE... Let's Fix this Problem
- Question and Answer Session
- And much more...

## Students Will Learn

- **Wireless Network Fundamentals**
- **Wireless Network Architecture**
- **Different Wireless Standards**
- **How to deploy Wireless Networks in a Residential environment**
- **How to Secure a Wireless Network**
- **How to Measure Wireless Performance and Signal Strength**
- **How to Configure Computers, Printers, TV's, Tablets, Cell Phones and other Devices to Connect to a Wireless Network**
- **Common WiFi-related challenges and problems found in the Residential Environment**
- **How to Test and Troubleshoot Residential WiFi Networks**

- **Question and Answer Session**

## Target Audience

Wireless Technicians, OSP Installer, IT Staff, IT Managers, Wireless Network Support Personnel and Anyone interested in learning more about Installing, configuring and maintaining WiFi residential networks.

## Prerequisites

Basic Telecom and Cat 5-6 Installer training would be highly recommended.

## Course Outline

### Module 1: WiFi Technology Fundamentals

- a. The Wireless Network industry
- b. Wireless terminology
- c. IEEE 802.11 family of (WiFi) standards
- d. IEEE 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac
- e. The basics of radio / wireless
- f. More WiFi jargon ...

### Module 2: Common WiFi-Related Challenges for Service Providers

- a. Coverage Area
- b. Interference
- c. Multiple Devices
- d. WiFi Extenders

- e. Installing a mesh WiFi system with multiple AP's (i.e. Ubiquiti Network UNFI product, and more)

### Module 3: Typical WiFi Problems Found in the Residential Environment

- a. Slow Internet speeds in certain rooms
- b. Slow Internet speeds everywhere
- c. Wi-Fi doesn't reach certain rooms at all
- d. A particular device can't connect to the network
- e. Connections drop at random times
- f. Wi-Fi network disappears entirely
- g. The network connects, but there's no internet access
- h. Router crashes regularly
- i. Can't remember the wireless password

### Module 4: Installation, Configuration and Troubleshooting of Residential Networks

- a. Internet
- b. Web-Enabled TVs/HDTVs
- c. Phones, Tablets, Gaming Devices, etc.
- c. Router Port-Forwarding Applications & Settings
- d. Troubleshooting

### Module 5: Question and Answer Session

## **Delivery Method**

Hands-On Instructor-Led

## **Equipment Requirements**

(This applies to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

## **Course Length**

2 Days