



UBWA – Ubiquiti Broadband Wireless Admin

The Ubiquiti Broadband Wireless Admin course is a two-day, in-class training course that teaches the most important concepts in Outdoor Wireless Networking, with special emphasis on how to design, build, manage, and troubleshoot WISP networks. Course materials & lab activities teach with airOS-8 using airMAX AC equipment.

Course Outline

RF Theory

Frequency vs. Propagation

Unlicensed Bands

OFDM Spectral Masks

Licensed Frequencies

Decibels in RF Systems

Free Space Path Loss

EIRP

Line of Sight & Fresnel Zones

Link Power Budgets

Fade Margin

Radio Operation

Standard RF Circuit

Carrier Signals

Radio Sensitivity

Radio Selectivity

Signal, Noise & Interference
Chains, Data Rates & MIMO
Thermal Noise
Channel Flexing
airPrism Technology
Modulation, EVM & Data Rates
Antenna Theory
What is Gain?
Isotropic Radiators
Antenna Function
Gain, Efficiency & VSWR
Gain, Surface Area & Directivity
Polar Plots
MIMO, Polarization & XPD
Types of Antennas
Antenna Alignment
Downtilt, Lobes & Nulls
Ubiquiti Service Providers
TDMA & airMAX Protocol
802.11, CSMA/CA & Indoor
Problem of Hidden Node
airMAX-AC, airOS-6 & -8
Traffic Shaping & Burst
Scalability vs. Performance
Security & VLANs
airFiber Technology & Protocols
airOS Tools & Redundancy
Bridged vs. Routed ISP