

Wi-Fi /Bluetooth/WiMax - Training Schedule

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Schedule

Day 1

FN:

9.30 to 10.30 a.m

Wi-Fi Overview

- WLAN introduction and applications
- BSS, IBSS, ESS, DS, BSSID, SSID
- IEEE 802.11 set of standards
- Spectrum of operation
- AP and STA hardware structure
- Virtual AP

10.30 to 11.30 a.m

Physical Layer

- RF fundamentals: path loss and fading
- Transmit, receive power: dB calculations
- RSSI, data rate relationship
- DSSS & OFDM PHY: Fundamentals and data rate support

12.00 noon to 1 p.m

MAC layer - MAC Basics

- DCF Protocol in WLAN
- CSMA/CA, BEB
- RTS/CTS
- Inter frame spacing

AN:

2.00 to 3.00 p.m

MAC layer (contd.) - WLAN framing and management

- MAC frames and fields, MAC header

- Data, Control and Management frames
- Network entry
- Active and passive scanning
- Timing and power management
- Power save (TIM, PS-POLL)

3.30 to 5.30 p.m

Wi-Fi Security

- Introduction to WLAN Security
- WEP - Encapsulation & Decapsulation (RC4)
- WPA - TKIP; WPA2 - CCMP mode of operation (AES)
- 802.1x Authentication and Key management
- EAP and RADIUS, EAP-TLS, EAP- SIM etc.,
- Wireless Intrusion Detection Systems (IDS)
- Introduction to WPS

Day 2

FN:

9.15 to 10.00 a.m

QoS

- EDCF & Access Category
- HCF & TS
- Block-ACK, DLS
- APSD

10.00 to 11.15 a.m

802.11n overview

- Physical layer enhancements (MIMO)
- MAC layer - Aggregation and Block Ack
- Other 11n enhancements

11.30 a.m to 1 p.m

802.11 extensions

- 802.11p, 802.11r, 802.11s
- 802.11t, 802.11u, 802.11v, 802.11w etc.,

AN:

2.00 to 3.30 p.m

Bluetooth overview

- Introduction
- Network types
- Protocol stack
- Physical, MAC layers
- Security
- Applications

4.00 to 5.30 p.m

WiMax overview

- Introduction to WiMax
- Flavors of 802.16 standard
- WiMax Network Architecture
- 802.16e Physical layer (OFDMA concepts)
- WiMax MAC layer Operations
- Introduction to Mobility and Handover

Q&A