Embedded wireless networking using Bluetooth and 802.11: state-of-the-art and research challenges

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Abstract
The promise of untethered computing in the workplace is becoming a reality. IEEE 802.11b, the 11Mbps wireless LAN standard, has finally arrived, and early market response has been positive. As the WLAN market takes off, Bluetooth, another emerging standard for short-range wireless networking, is also gathering force. Several vendors have demonstrated Bluetooth products, including cordless headsets, PCMCIA cards, and LAN access points. Both standards are competing for the same airwaves, but are they also chasing the same market? Will Bluetooth and 802.11b complement each other, or will one technology eventually displace the other? This tutorial will explain the key design aspects of 802.11 and Bluetooth standards and illustrate how technology innovation and market forces are shaping their evolution.

Tutorial Program

2:00 – 3:00pm  Introduction, embedded applications, basic radio concepts, Bluetooth RF
3:00 – 3:45pm  Bluetooth baseband
3:45 – 4:15pm  LMP, security, scatternets
4:15 – 4:30pm  * Break *
4:30 - 5:30 pm  802.11 specifications overview, PHY & MAC layer
5:30 - 6:00 pm  Bluetooth & 802.11 comparison, Conclusion