Elements of a Successful Standard

Best Technology

Easy Implementation

A merger of known techniques

Pulse position modulation
Radar Systems since WW2
Morse Code telegraph

IEEE 802.11 DSSS
Direct Sequence spread spectrum well known technique. Already part of the IEEE 2Mbps standard.

Barker Code Position Modulation

A field proven mixture of technologies that work.
Solves Issues From the Field

- Low Complexity Solution
  - Different decoding techniques provides “excellent performance vs gate count!
    - 25K gate, 40K gate, 60K gate
- Lower Power Consumption
  - 300mA @ 3Volts PC-Card
- Robust Design meeting 10Mpbs threshold
  - Excellent Payback for Fallback
  - Stable approach without the need to band-aid

Surf down the right performance curve!
Leverage

- Easy migration from existing standards
  - Three channel scheme of IEEE 802.11 DSSS
  - Can interoperate with IEEE 802.11 FH
  - Scalable Collocated Access Point Capacity
    - CAPC for system flexibility
- Translation across geographies
  - Same design conforms to all international rules

Ease of Implementation

- Technology at all levels support the standard
  - Baseband IC’s (DSP and MAC) will be available on the market from Lucent Microelectronics
    - This is a separate Business Group within Lucent
- DSP technology for own implementations
  - Minimize your time-to-market with implementation assistance
- RF technology now available
Easy of Implementation

Digital Baseband

- WMAC
- THETES
- QUBIC I
- QUBIC II
- Philips Bipolar
- Siemens 1.545D
- Siemens BFP 450
- BFP 420
- CERAMIC
- STRIPLINES

IF

- VCO
- PLL
- AGC
- 352 MHz IF

IF/RF

- VCO
- PLL
- 2420
- 1630

Antenna

Submission

Summary

- PC-Card Form Factor
  - Integrated unit <300mA @3.3V
- Geographical Translation
  - FCC, ETSI, MPT (No “specials” in Japan)
- Robust Radio
  - Not only for a small cube in an office!
- Builds upon our IEEE 802.11 Standard
  - Guided by field experience
    - Holistic Approach
    - With CAPC flexibility!
- Easy technology access
Ending

- Best Technology without conditions
- Easy Implementation

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