

ACX100: TI New 802.11b MAC/Baseband Integrated Chip

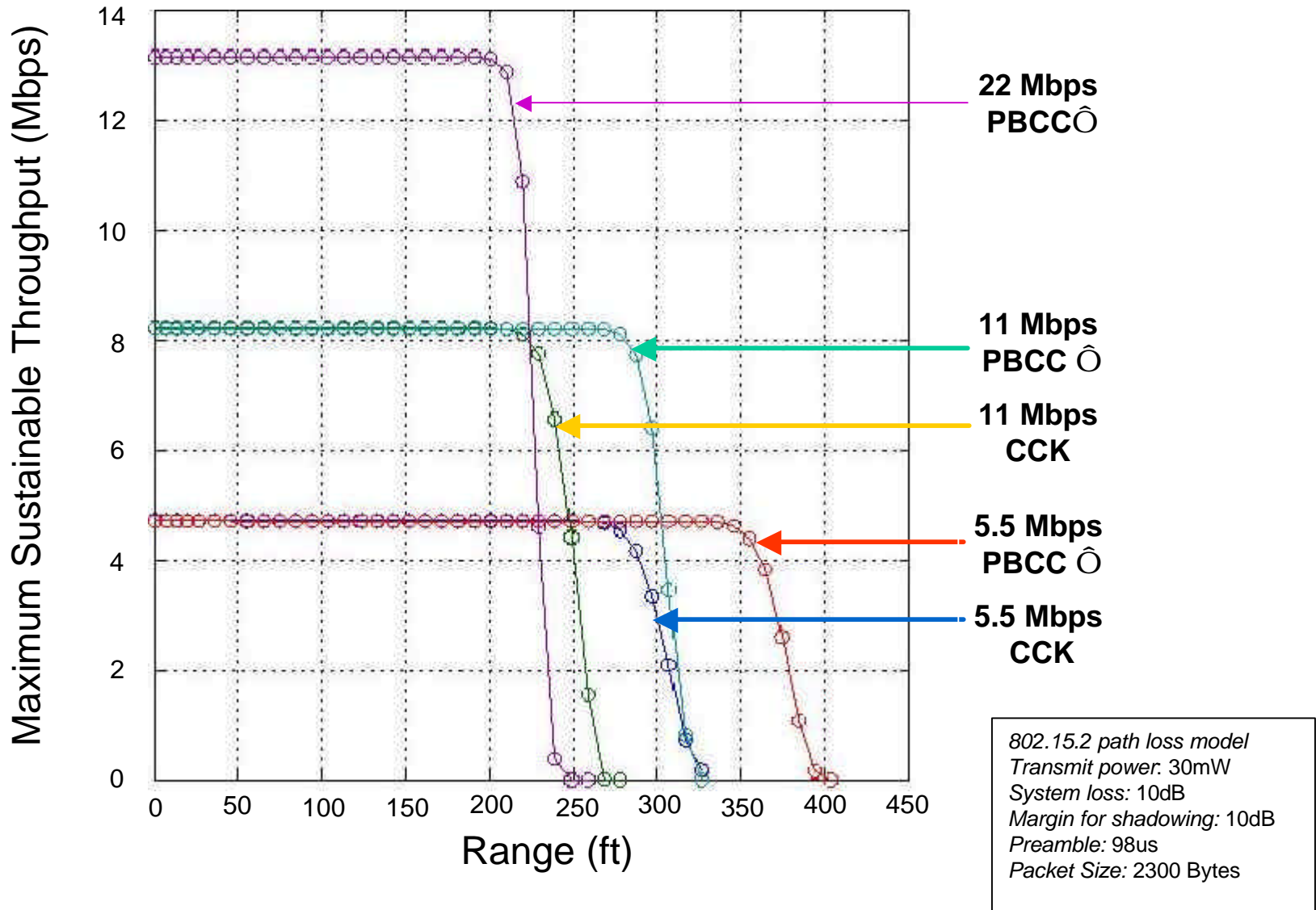


Broadband Communications Group

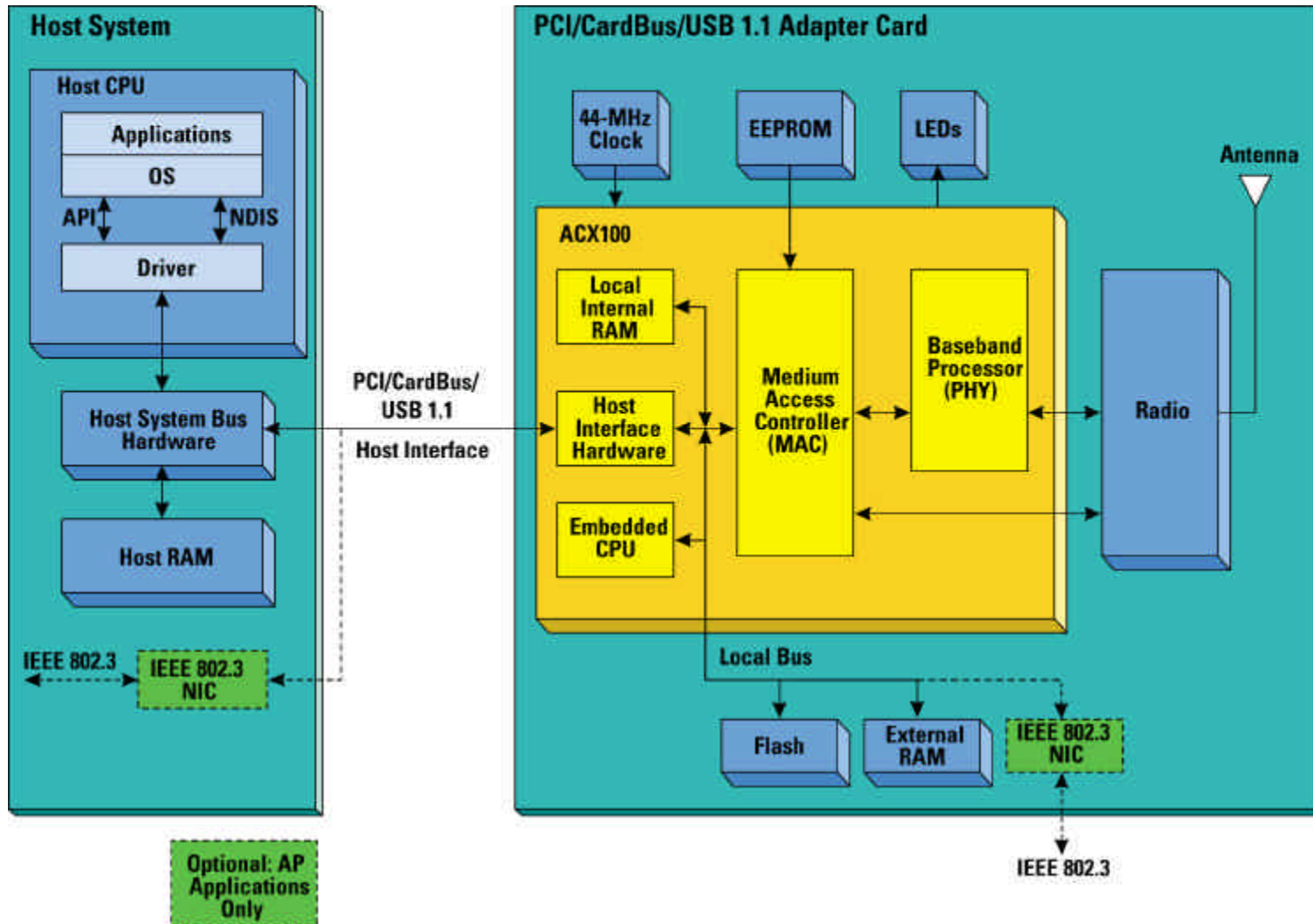
ACX100 Technology Advantages

- ◆ **IEEE 802.11b standard compliant MAC/baseband integrated chip**
- ◆ **Utilizes CCK and TI's PBCC⁺ modulation**
 - PBCC⁺ is an existing part of the 802.11b specification
 - Provides a 3dB coding gain over standard CCK
- ◆ **Provides an additional 30% reach improvement versus competitive CCK-only solutions**
 - Translates into a 70% area improvement
 - Critical for the home user market as it enables broadband coverage with a single access point
- ◆ **Differentiating high-rate option**
 - Supports a 22Mbps data rate as a differentiating option that customers can activate without changes to the system and at no additional cost
 - Expected to be approved by the FCC

ACX100 Rate-Reach Chart



ACX100 Architecture



ACX100 Features

- **Single-chip spread spectrum processor**
- **Data rates: 1, 2, 5.5, 11 and optional 22Mbps**
- **Supports all IEEE 802.11b modulations**
- **Supports infrastructure and ad-hoc networks**
- **Supports WEP-RC4™ encryption at all data rates**
- **Supports 40 (64), 128 and 256-bit encryption keys**
- **Supports IEEE 802.11 power save modes**
- **On-chip PCI/CardBus/USB interfaces**

- **Supports multiple RF/IF modem topologies**
- **On-chip ADCs for I and Q receive inputs**
- **On-chip DACs for I and Q transmit outputs**
- **Analog and digital AGC outputs**
- **Multipath delay spread tolerance > 250 ns**
- **Temperature range: -40 to 85°C**
- **Voltage supply: 1.8V**
- **3.3-V tolerant I/Os**
- **Implements antenna diversity**
- **Performs clear channel assessment (CCA)**
- **208PQFP (PDV) or 257BGA (GHK)**

ACX100 Reference Designs



PC Card



Mini PCI



USB Dongle

ACX100 - Reference Design Features

- ◆ **Wi-Fi [®] certification expected**
- ◆ **UL/FCC certification expected**
- ◆ **Windows [®] 95 OSR 2.x, Windows [®] 98 GOLD, Windows [®] 98SE, Windows [®] ME, Windows [®] 2000, Windows NT [®] 4.0 drivers for PC card and mini-PCI reference designs**
- ◆ **Win98SE, WinME, Win2k drivers for USB reference design**
- ◆ **WinXP drivers by 4Q01**
- ◆ **Complete hardware development kit (schematics, layout, gerbers, BOM, manufacturing test, performance report, Wi-Fi [®] certification)**
- ◆ **Complete WHQL software suite (NDIS 4&5 drivers, client utilities, site survey tools, customization tools)**

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