

# ***ACX100: TI New 802.11b MAC/Baseband Integrated Chip***

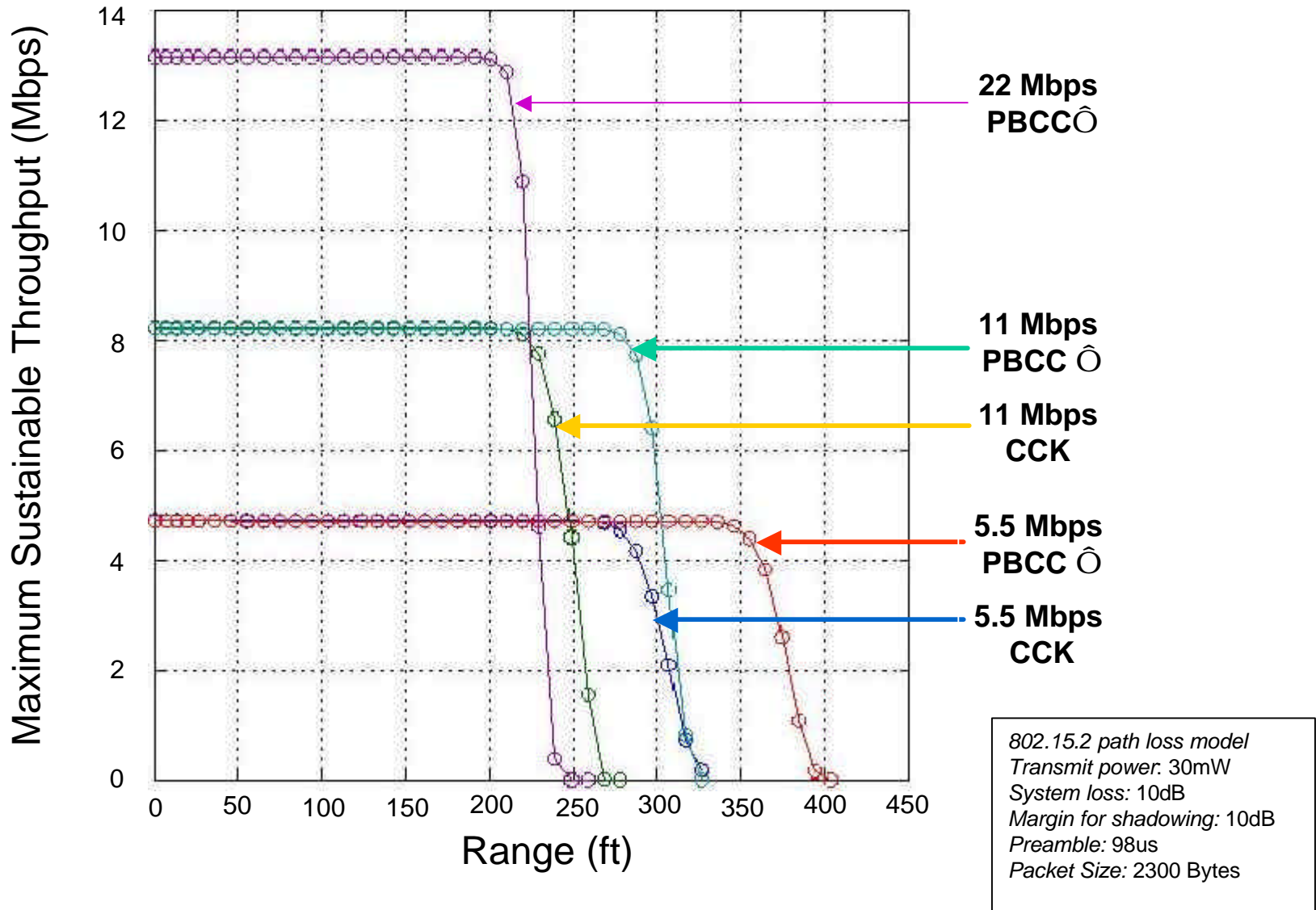


***Broadband Communications Group***

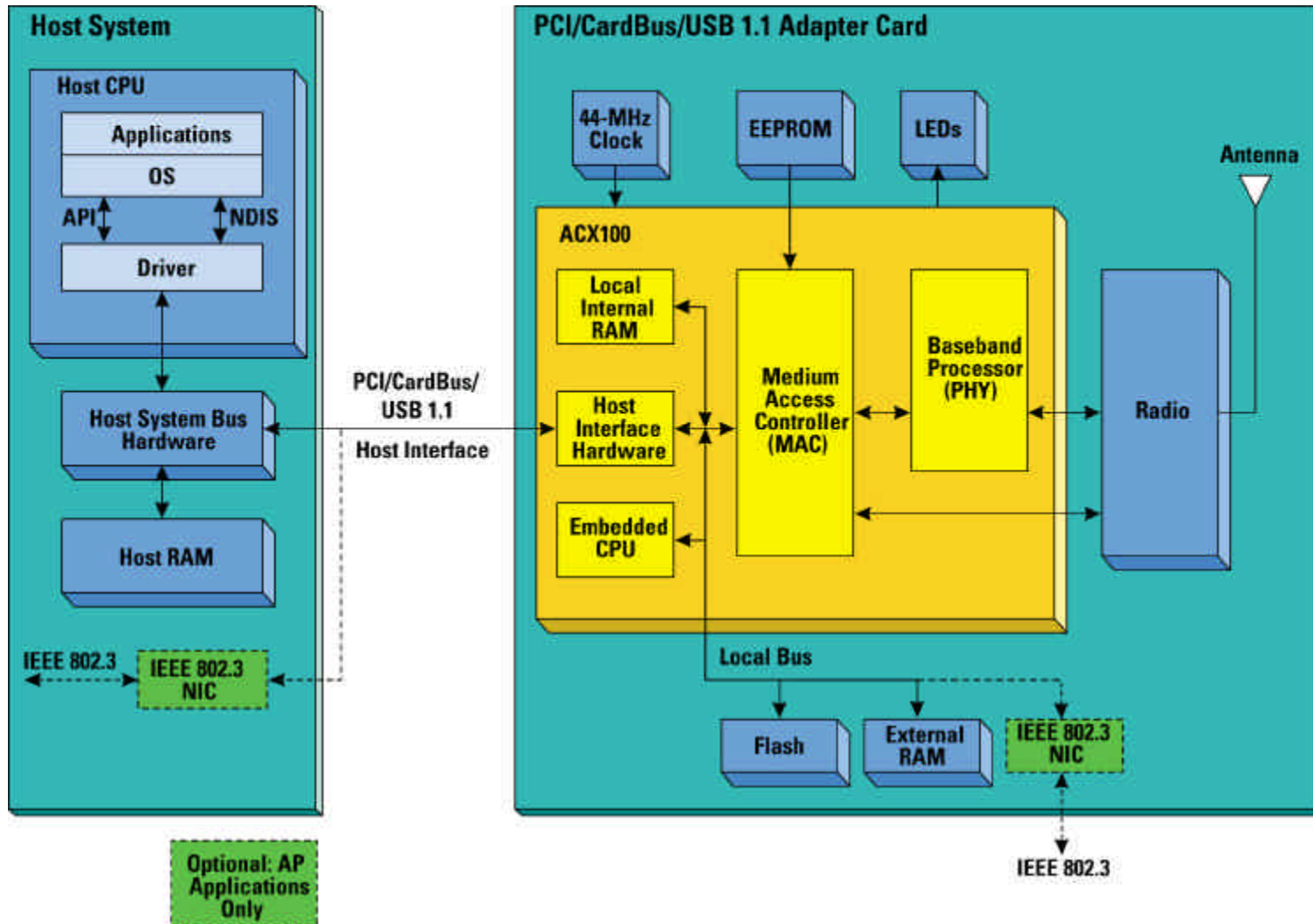
# ***ACX100 Technology Advantages***

- ◆ **IEEE 802.11b standard compliant MAC/baseband integrated chip**
- ◆ **Utilizes CCK and TI's PBCC<sup>+</sup> modulation**
  - PBCC<sup>+</sup> 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<sup>®</sup> certification expected**
- ◆ **UL/FCC certification expected**
- ◆ **Windows<sup>®</sup> 95 OSR 2.x, Windows<sup>®</sup> 98 GOLD, Windows<sup>®</sup> 98SE, Windows<sup>®</sup> ME, Windows<sup>®</sup> 2000, Windows NT<sup>®</sup> 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<sup>®</sup> certification)**
- ◆ **Complete WHQL software suite (NDIS 4&5 drivers, client utilities, site survey tools, customization tools)**

***[www.ti.com/sc/wirelessethernet](http://www.ti.com/sc/wirelessethernet)***