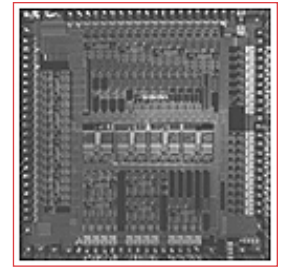




BCM4210/4100 PRODUCT Brief



BCM4210/BCM4100 — iLine10™ PRODUCT FAMILY

BCM4210 FEATURES

- iLine10™ 10Mbps Ethernet Controller for Phoneline Networks
- Meets HomePNA 2.0 Proposed Specification Requirements
 - 16 Mbps Peak Data Rates
- Meets HomePNA 1.0 Specification Requirements
- Integrated CSMA/CD Ethernet MAC with Multi-level QoS
- Integrated iLine10 Digital PHY
- PCI 2.2 Host Bus Interface
- Generic 16 Host Bus Option for Embedded Applications
- PC99 Specification Compliant
- EEPROM for MAC Address and Configuration Parameter Storage
- Optional Boot ROM Support
- High-Performance Glueless Interface to BCM4100 IAFE
- JTAG and BIST
- 3.3V Supply (5V System Requires Power Regulation)
- Win 95, Win98, Win2000 (NDIS 3.1, 4.0 and 5.0), Linux, MAC, PSOS, WinCE Driver Options
- 144-Pin TQFP

BCM4100 FEATURES

- Custom Integrated Analog Front End (IAFE) for iLine10 Controllers
- Performs all Required Analog Front End Transmit and Receive Operations (PMD Function)
- Integrated Two to Four Wire Electronic Hybrid
- Transmit and Receive Filters
- Analog to Digital and Digital to Analog Converters
- Power-Management Mode
- Minimal External Components Required
- High-Speed Digital Interface to BCM4210 MAC/PHY
- 3.3V Supply (5V System Requires Power Regulation)
- 48-Pin TQFP

iLine10 PCI Reference Design





Broadcom's InsideLine home networking platform is connecting a billion new devices and PCs to the Internet by delivering silicon solutions bringing 10 Mbps and faster high-speed networking to PCs and Internet connected devices using existing phoneline in the home and small business. Every home and small business is now pre-wired for high-speed home networking using the current installed base of home or small business phoneline. The InsideLine system architecture allows networking functions to coexist on the same wire pair as voice telephone services.

The first product based on InsideLine core technology is the iLine10 chipset family. The iLine10 chipset moves 10 Mbps Ethernet over the challenging networking wiring environments created by existing phonelines found in homes and small business. The iLine10 devices are easily designed into PCs (PCI, USB and cardbus), Modems (Cable, DSL and V.90), set-top boxes, residential gateways and consumer electronic equipment for enabling connections to the Internet or any other home networked device.

The iLine10 device set is a highly integrated chipset for 10 Mbps home networking over a single wire pair. The iLine10 chipset features a highly adaptive and integrated MAC/PHY communications engine to overcome challenging impairments created by the random topologies and varying noise conditions

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found in the home phoneline network environment. The iLine10 product is a two device set: the **BCM4210** (10 Mbps InsideLine Controller) and the **BCM4100** (Integrated Analog Front End).

The **BCM4210** Controller provides host bus interface functions along with a complete 10 Mbps InsideLine MAC and iLine10 Digital PHY. Full PC compatibility is assured via PC99 compliance. Several host interface bus options are available such as PCI 2.2 and a general purpose controller bus interface for embedded applications.

The **BCM4100** Integrated Analog Front End (IAFE) device provides the physical layer and transceiver functions required for a 10 Mbps home network node. The **BCM4100** design has been optimized for lowest total systems cost that requires very few other external components. The **BCM4100** offers a direct digital interface by sending a digital sampled data stream to and from the **BCM4210**.

Together, the **BCM4210** and **BCM4100** deliver a complete host bus to phone wire solution for networking everything electronic in the home, from PCs to digital appliances. Quality of Service (QoS) facilities provided by the **BCM4210** controller enable real time digital voice, video and audio services in addition to classic data networking functions.



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