BrightCom

Product Brief

IntelliBLUE™ BIC2000

Bluetooth Protocol Processor

May 2000

Product Overview

BIC2000 is the first chip in the IntelliBLUE™ family. Its architecture offers a versatile programmable platform for the Bluetooth baseband, protocol stack and profiles. Within the BIC2000, all the baseband and protocol functions are implemented in software, making it an ideal platform for the initial period of Bluetooth ramp-up, while platform interoperability is in formation and the flexibility to changes is of a valuable asset.

A Bluetooth Development Kit for the BIC2000 is also available, implementing the Bluetooth protocol stack including Bluetooth baseband, link manager, HCI, L2CAP and RFCOMM (all implemented on-chip, no host required). BIC2000 Development Kit is available with a variety of Bluetooth RF boards or with RF emulation board for Bluetooth applications development.

Application prototypes can be demonstrated using the BIC2000 Development Kit. Such applications include PC to PC and PC to peripherals (e.g. printers, digital cameras and the like) wireless connectivity.

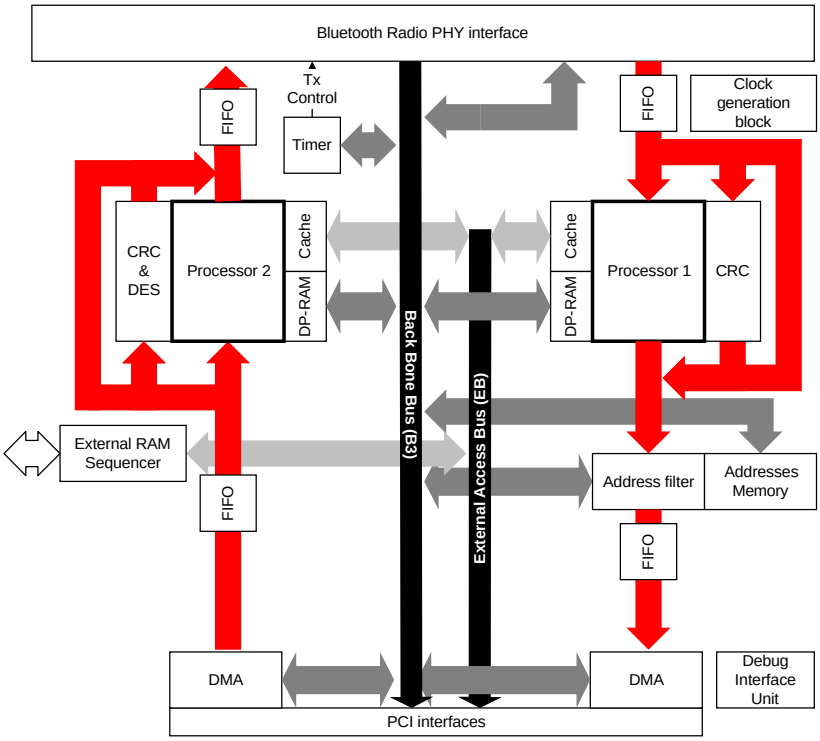
Product Main Features

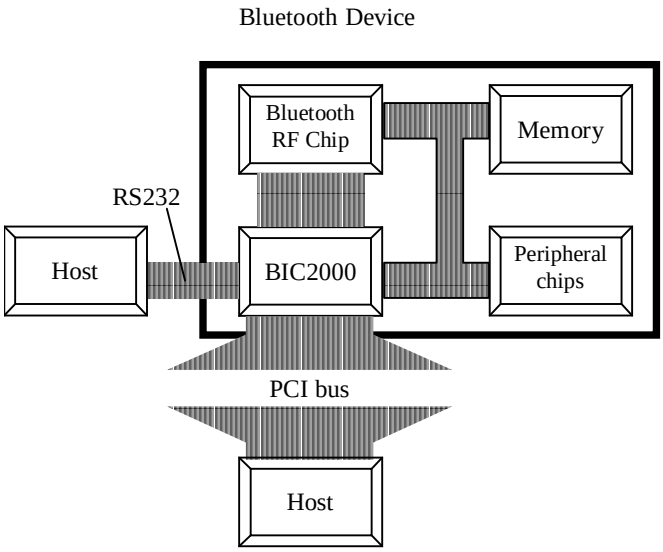
- **The BIC2000 is a single chip Bluetooth protocol Processor incorporating Bluetooth baseband and protocol stack, as well as profiles and applications.**
- **Configurable dual operation mode.**
  - Host-less operation mode enables full Bluetooth application running on chip, requiring no host processor
  - Host based operation mode requires Bluetooth layers and profile running on host
- **Supports the following Communication Interfaces:**
  - Bluetooth Programmable Radio Interface
  - Serial/RS232
  - PCI
- **On chip implementation of complete Bluetooth Protocol Stack:**
  Baseband, Link manager, HCI, L2CAP, RFCOMM, SDP
- **On chip implementation of Serial Port Profile**
- **Host based implementation of additional Bluetooth profiles available through standard HCI.**
- **API for accessing Bluetooth protocol stack.**
- **Physical Characteristics**
  - 3.3V, 5V tolerant
  - 240 pin SQFP package
- **Miscellaneous**
  - JTAG and Debug test interfaces
  - I2C/SPI control buses

Summary of Benefits

- **The first Bluetooth programmable protocol processor on a single chip, designed to achieve:**
  - Simple implementation with no requirements for host based software
  - Host independent Bluetooth connectivity solution
  - Quick time-to-market
  - An ideal Bluetooth evaluation and testing environment
- **Ideal for testing and simulation of Bluetooth products**
  - High transfer rate through the PCI interface of real time recordings of Piconet events and messages
  - Accelerate the development of new profiles through easily created test-bench scenarios
  - In depth analysis of all Bluetooth layers and messages
- **Deliver the promise of world without cables**
  - On chip implementation of cable emulation profile and application
- **No software required on host**
  - Enables adding Bluetooth connectivity for PCs with no additional proprietary windows drivers
- **Ideal for PC implementations through industry standard PCI interface**
- **Programmable Radio Interface**
  - Easy adaptation to major Bluetooth radio unit.

BIC2000 DESCRIPTION





Hardware architecture

The BIC2000 is composed of two ARC RISC processors and internal memory to support the following Bluetooth layers:

- Baseband
- Link Manager
- HCI controller
- L2CAP
- RFCOMM
- SDP

Furnishing a complete Bluetooth solution with the BIC2000 requires only a Bluetooth radio module and antenna, memory and passive peripherals. The PHY interface is programmable, making BIC2000 easily adaptable for a wide variety of available radio chips.

Connectivity can be achieved either via the serial RS232 port or via PCI bus. Both interfaces enable the deployment of Serial Cable Emulation usage model.

Software architecture

The BIC2000 implements the complete Bluetooth stack on chip, including the HCI controller, thus eliminating the need for installing and running Bluetooth software on the Host.

Host based deployment configuration enables to achieve a powerful tool for development of new profiles and applications. This is achieved due to a direct API to the HCI controller layer on the chip. In this case the HCI host layer must be implemented on the host to support the upper Bluetooth layers and profiles. This mode of operation is effective when Bluetooth drivers already exist on the host, or when additional profiles are required to run on the host.

Interoperability

BrightCom's Bluetooth protocol layers and profiles are available as embedded code running on chip or as windows based software. The software is fully interoperable with the available Motorola/DigiAnswer Bluetooth products.

For more information please contact us at:

Phone: 972-3-9039033, Fax: 972-3-9039032

E-Mail: info@brightcom.com

Visit our web site at: www.brightcom.com

BrightCom Technologies Ltd

16 Hamelacha St., Afek High-Tech Park,
Rosh-Haayin 48091, Israel