BROADCOM®
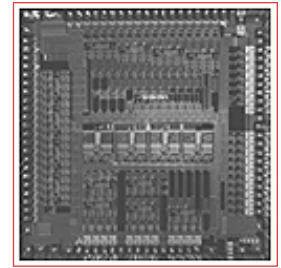
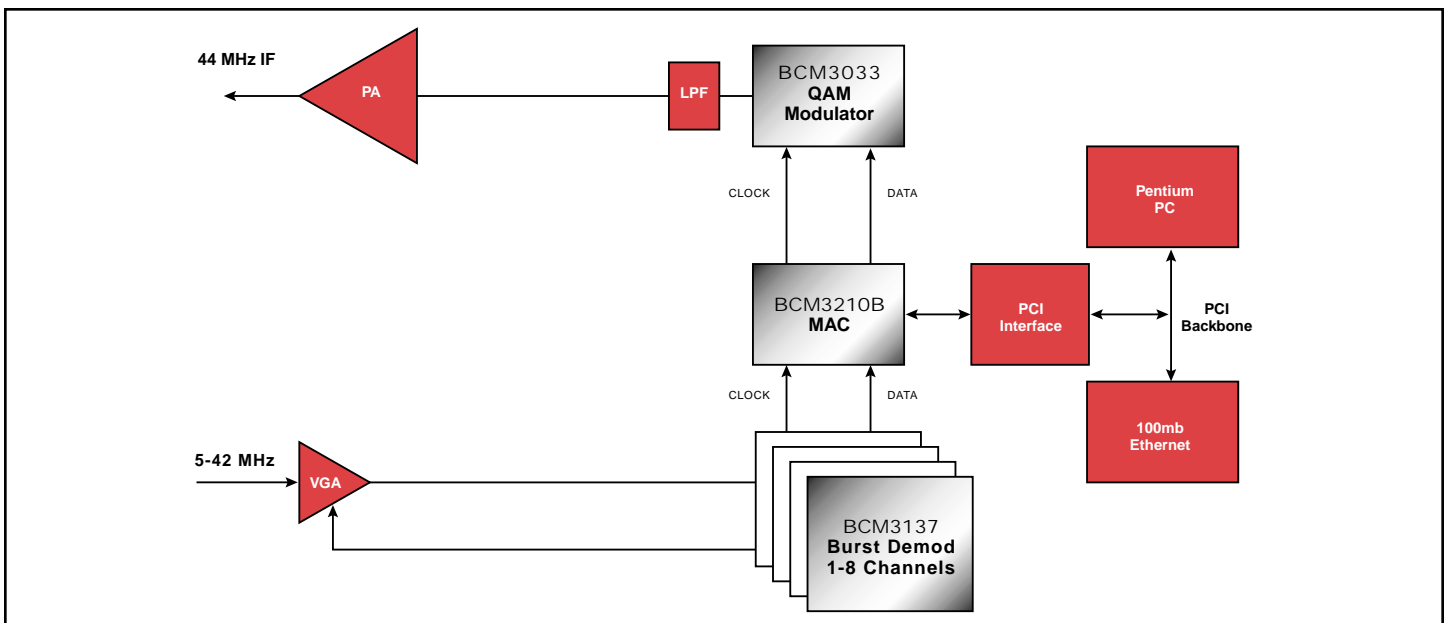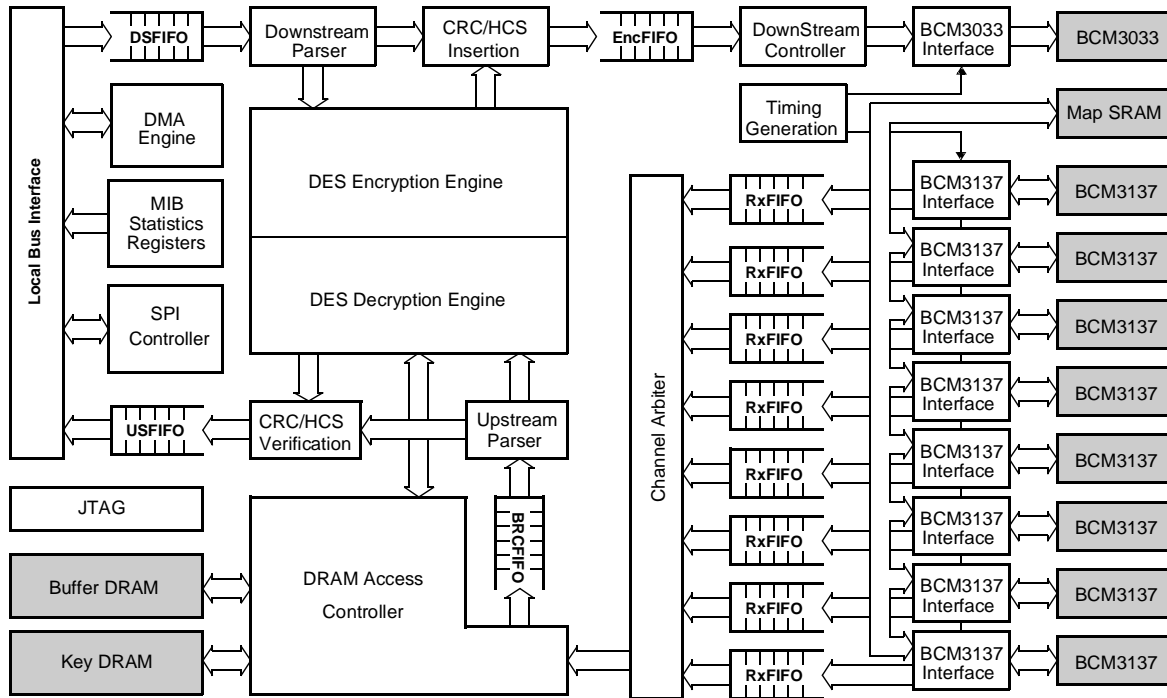# BCM3210B DOCSIS CABLE MODEM TERMINATION SYSTEM

BCM3210B FEATURES

- **Full DOCSIS 1.0 and 1.1 CMTS MAC including baseline privacy**
- **Supports 64/256 QAM (annex A and B) downstream and QPSK/16 QAM upstream at DOCSIS data rates**
- **Supports 1 downstream and up to 8 upstream channels simultaneously**
- **Direct interface to**
  - BCM3033 QAM modulator
  - BCM3137 Burst QPSK/16 QAM demodulator
- **DMA support for 2 downstream and 1 upstream queue**
- **Interfaces to generic i960 CPU or PLX9080 for bridging to a PCI bus**
- **Serial control interface master SPI compatible**
- **JTAG test interface**
- **3.3V interface**
- **352-pin BGA package**

SUMMARY OF BENEFITS

- **Provides full DOCSIS 1.0 and 1.1 compliant CMTS silicon solution for head-end line card or HFC interface**
  - Reduces overall system cost
  - Simplifies system, board and software design
  - Enables Quality of Service (QoS) features
- **Real-time hardware processing of all Media Access Control (MAC) functions for DOCSIS compliant CMTS**
  - Master timebase generation
  - Downstream SYNC message insertion
  - MAC header HCS and payload CRC-32 generation and checking
  - MPEG framing
  - Extract upstream and downstream parameters
  - Upstream channel parser and concentrator
  - On-the-fly demodulator programming
- **Baseline privacy encryption and decryption**
  - Supports for 16 SIDs and 56-bit DES encryption keys

DOCSIS-Compliant Cable Modem Head-End Block Diagram

The Broadcom® **BCM3210B** was designed to control the upstream and downstream communications channel. It was intended for use in conjunction with the physical layer devices; BCM3033 (QAM modulator) and BCM3137 (burst demodulator) by providing the head end control mechanisms for both the upstream and downstream traffic.

The **BCM3210B** supports DOCSIS 1.0 and 1.1 standard enabling the deployment of systems that are capable of supporting multiple datatypes (voice, video, data) simultaneously and on a prioritized basis. These extensions to the DOCSIS specification are supported on the subscriber side in the BCM3350 (Single Chip Cable Modem).

The **BCM3210B** also handles these tasks:

- Intermediate buffering
- Encryption/decryption
- Timing control

- Communications channel access
- System provisioning
- Support system debug

The **BCM3210B** provides a slave port enabling the external microprocessor to:

- Configure parameters
- Install encryption/decryption keys
- Access status registers in the BCM3033 and BCM3137

The **BCM3210B** can also be daisy chained with another (slave) **BCM3210B** to enable a higher ratio of upstream to downstream channels.

Ordering Information:
BCM3210BKTB   56-bit DES version

For more information please contact us at:
Phone: 949-450-8700, FAX: 949-450-8710
Email: info@broadcom.com

BROADCOM®

Visit our web site at: www.broadcom.com

BROADCOM CORPORATION
16215 Alton Parkway, P.O. Box 57013
Irvine, California 92619-7013