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BCM3210B PRODUCT Brief



DOCSIS/EuroDOCSIS CABLE MODEM TERMINATION SYSTEM (MAC)

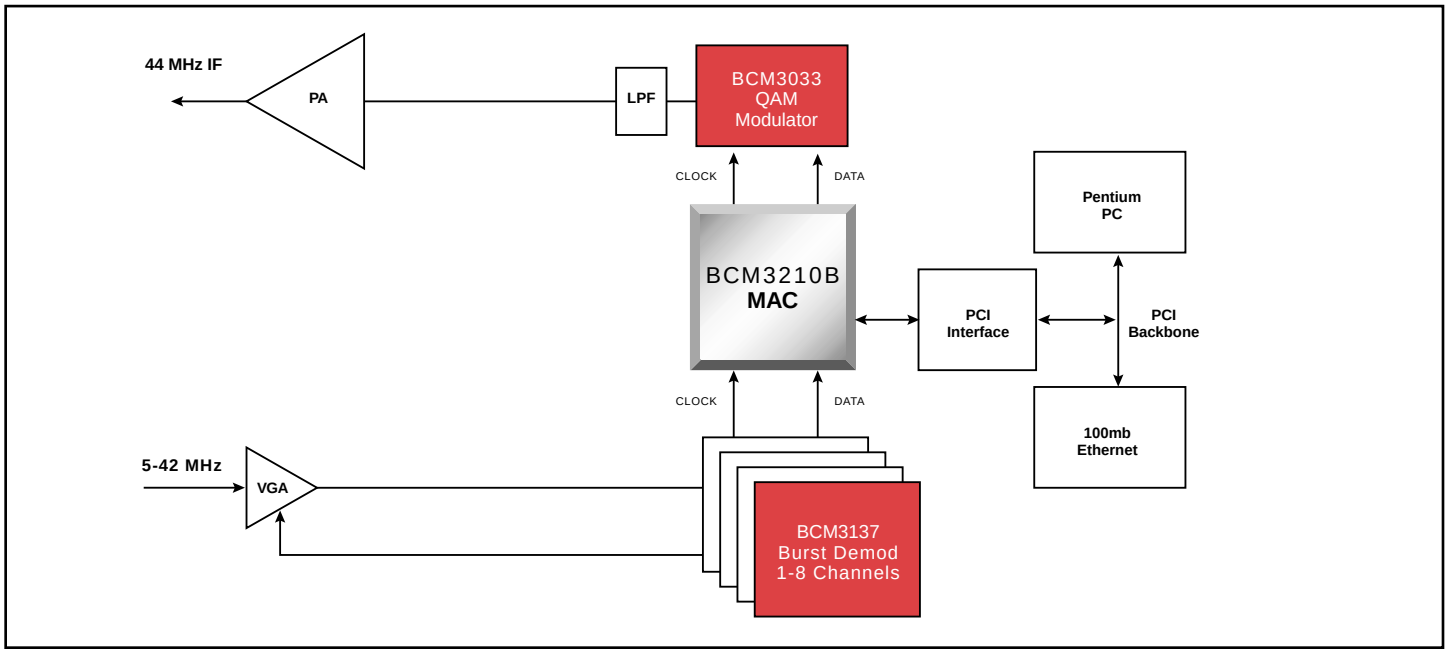
BCM3210B FEATURES

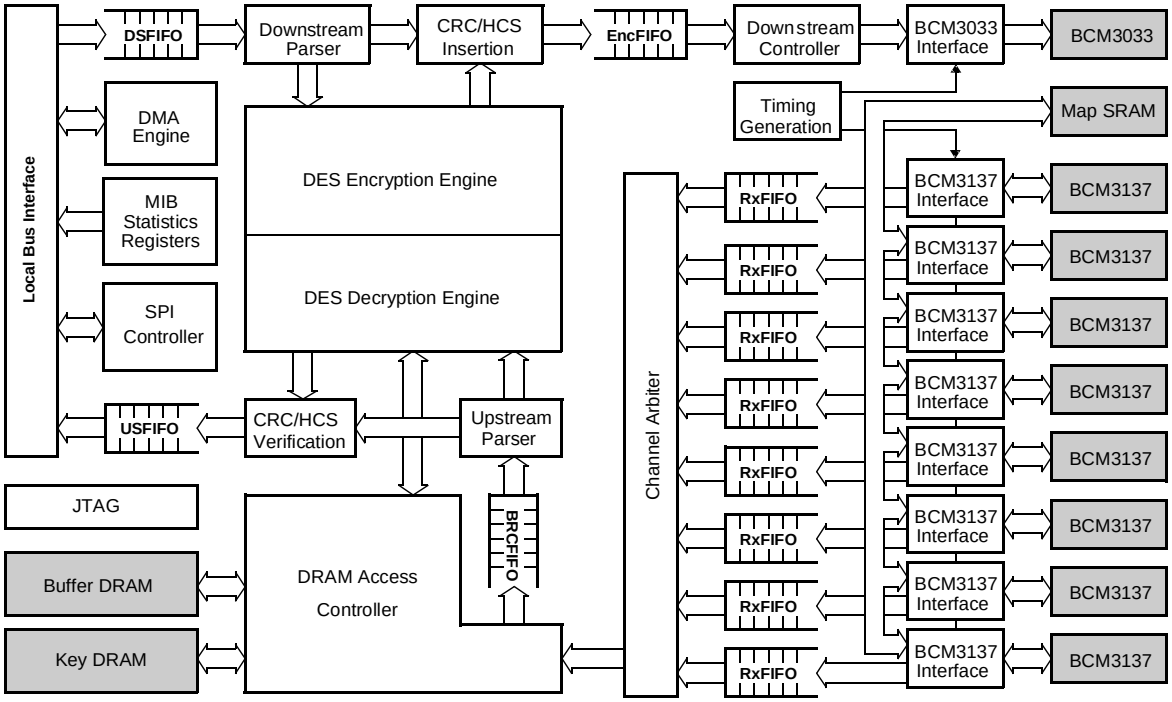
- **Full DOCSIS/EuroDOCSIS 1.0 and 1.1 CMTS MAC including baseline privacy**
- **Supports 64/256 QAM (annex A and B) downstream and QPSK/16 QAM upstream at DOCSIS/EuroDOCSIS data rates**
- **Supports one downstream and up to eight upstream channels simultaneously**
- **Direct interface to**
  - BCM3033 and BCM3034 QAM modulators
  - BCM3137 and BCM3138 burst QPSK/QAM demodulators
- **DMA support for two downstream queues and one 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/EuroDOCSIS 1.0 and 1.1 compliant CMTS silicon solution for headend 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/EuroDOCSIS based CMTS, including:**
  - 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 decryptionwith support for 16 SIDs and 56-bit DES encryption keys.**

DOCSIS/EuroDOCSIS-Based Cable Modem Headend Block Diagram





The Broadcom **BCM3210B** is designed to control upstream and downstream communications channels. It is intended for use in conjunction with the physical layer devices BCM3033/BCM3034 (QAM modulators) and BCM3137/BCM3138 (burst demodulators)—by providing the headend control mechanisms for both the upstream and downstream traffic.

The **BCM3210B** supports the DOCSIS/EuroDOCSIS 1.0 and 1.1 standards, 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/EuroDOCSIS 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/BCM3034 and BCM3137/BCM3138

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

Ordering Information:
BCM3210BKTB

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