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BCM93212
PRODUCT
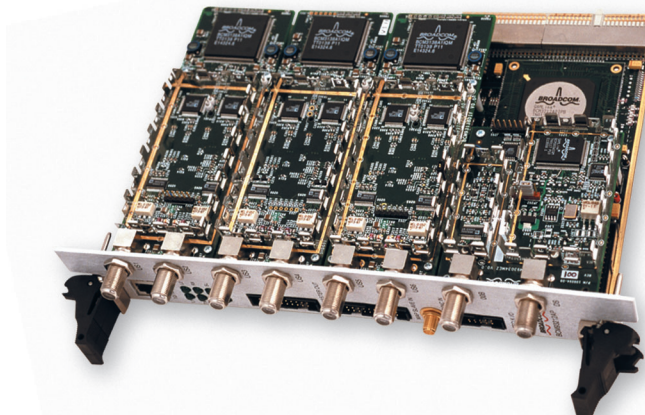Brief

DOCSIS/EuroDOCSIS 1.1 ADVANCED CABLE MODEM TERMINATION SYSTEM

BCM93212 FEATURES

● **The BCM93212 is a DOCSIS/EuroDOCSIS-1.0 and 1.1 based cable modem termination system (CMTS) reference design which incorporates:**

- 64/256/512/1024 QAM downstream modulation with FEC
- QPSK, 16, 32 and 64 QAM burst TDMA demodulation
- Digitally generated IF carrier that meets DOCSIS/EuroDOCSIS-1.1 and 1.1 spectral purity requirements without a SAW filter
- DOCSIS/EuroDOCSIS programmable downstream transmit IF carrier center frequency and channel bandwidth
- Master/Slave MAP, reference clock, timestamp synchronization, and 10/100/1000BASE-T front panel connectors
- BCM3212 MAC hardware that simplifies registration, ranging, fragmentation, concatenation, encryption, and payload header suppression
- Scheduler support for DOCSIS 1.1 best effort, polled, and unsolicited grant service flows

● **The BCM93212 basic system parameters include:**

- A BCM3212 Compact PCI V2.1 compliant base board with plug in connectors for 64/256/512/1024 QAM modulator and TDMA demodulator daughter cards
- Support for one QAM downstream channel
- Support for six programmable upstream channels that support all DOCSIS 1.0 / 1.1 and TDMA symbol rates and demodulation types.
- 10/100/1000BASE-T network side interface
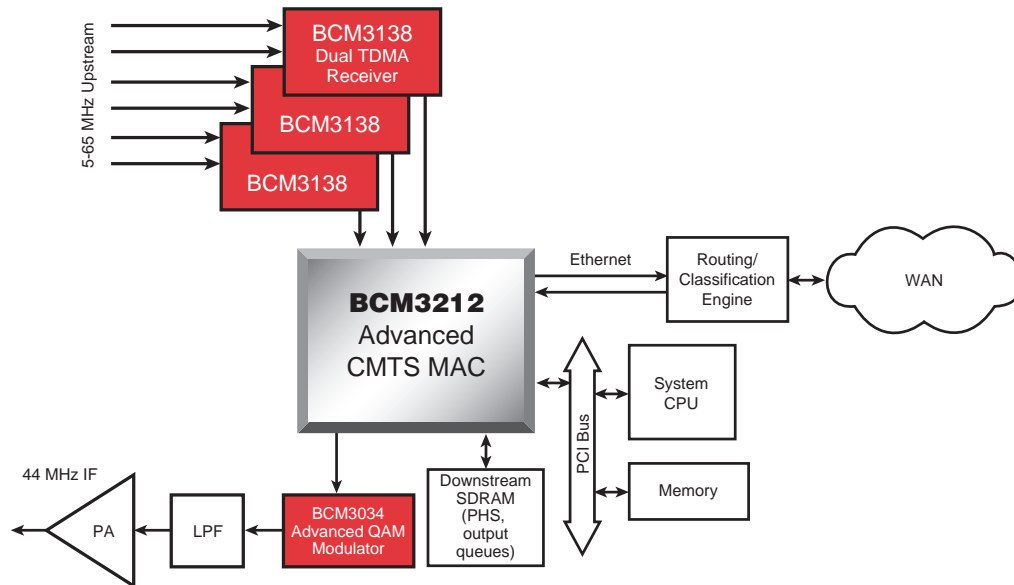- Seamless upgrade for legacy BCM93210 CMTS platforms using QNX RTOS

SUMMARY OF BENEFITS

● **Provides complimentary system to the BCM93345, BCM93350 and BCM93360 subscriber cable modem and residential gateway reference design for product development and testing.**

● **Supports DOCSIS/EuroDOCSIS 1.1 fragmentation and concatenation for Quality of Service (QoS).**

● **Provides a highly integrated 6 x 1 CMTS reference design in a compact PCI form factor.**

● **Accelerates software development by providing source code for core software functionality and low level diagnostics.**

- Reduces customers' internal development expenses.
- Leverages years of development work embodied in the Broadcom BCM93210 reference design.

● **Based on Broadcom's field-proven QAMLink technology.**

● **Reference design comes complete with:**

- Schematics and Gerber files
- Bill of Materials (BOM)
- Data sheets
- Software source code and API

BCM93212 Cable Modem Termination System (CMTS) Reference Design

The Broadcom **BCM93212** QAMLink® DOCSIS/EuroDOCSIS Cable Modem Termination System (CMTS) Reference Design represents the industry's first complete DOCSIS/EuroDOCSIS-based silicon solution with TDMA upstream and advanced PHY downstream functions for the headend cable plant. The **BCM93212** CMTS supports the DOCSIS/EuroDOCSIS 1.0 and 1.1 specification enabling QoS for the simultaneous processing of voice, video and data on a prioritized basis. The **BCM93212** CMTS includes the BCM3034 Universal Advanced PHY QAMLink® Modulator, the BCM3212 DOCSIS/EuroDOCSIS 1.1 CMTS MAC and the BCM3138 Universal TDMA Burst Demodulator and provides all the necessary functionality required to receive and transmit high rate digital data to and from a cable plant.

Functions include:

- Hardware-supported messaging (ranging, registration, channel configuration)

- Physical layer configurations (upstream baud rates, upstream channel descriptor and MAP variations, and FEC code-word size)

- Baseline privacy support

- Flexible PHY and MAC parameter settings and performance monitoring

The **BCM93212** is complemented at the subscriber end by the BCM93345, BCM93350 and the BCM93360, DOCSIS/EuroDOCSIS-based cable modem and residential gateway silicon solutions. The BCM93360 is based on the BCM3360 single-chip residential gateway, which integrates all the major functions of a cable modem into a single device. Together, the **BCM93212** and the BCM93360 provide vendors with a seamless end-to-end silicon solution for development and testing of an DOCSIS/EuroDOCSIS-based cable modem and cable modem termination system with TDMA upstream and advanced PHY downstream functions.

Ordering Information:

BCM93212 CL–DOCSIS CMTS
BCM93212-E CL–EuroDOCSIS CMTS

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