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BCM93345 PRODUCT Brief

HIGH-PERFORMANCE DOCSIS/EuroDOCSIS CABLE MODEM

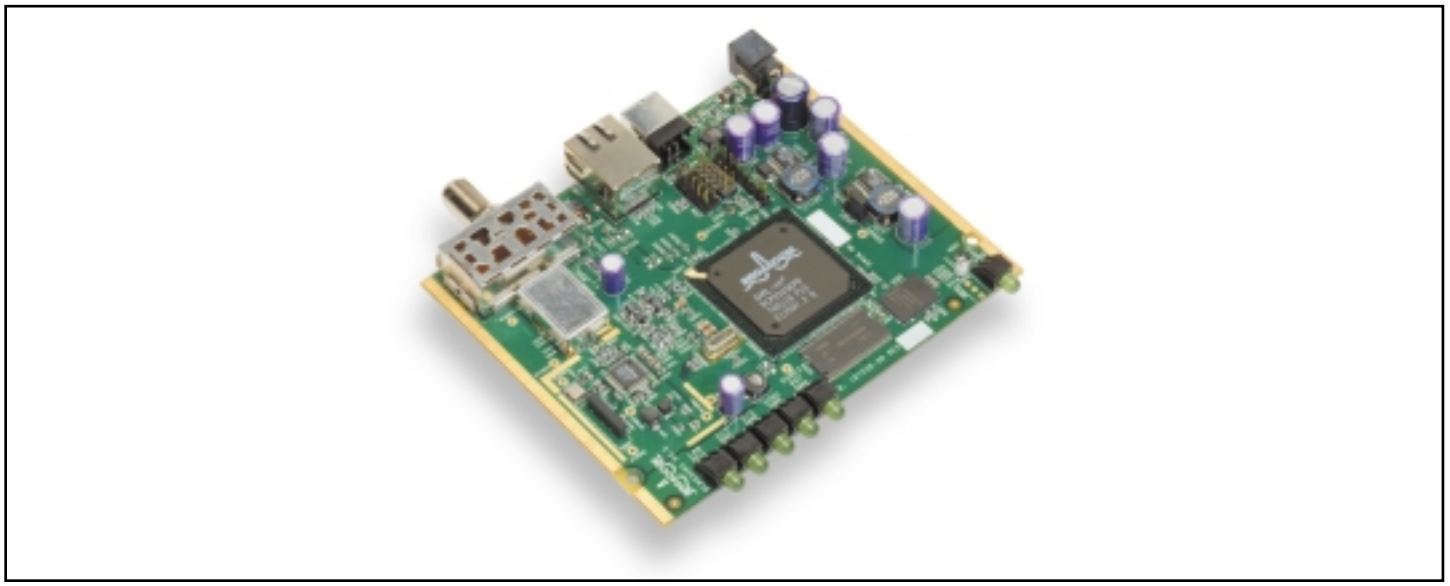
BCM93345 FEATURES

- **The BCM93345 represents the latest high-performance, lowest cost DOCSIS/EuroDOCSIS reference design.**
- **The BCM93345 uses the BCM3415 Digital Cable Tuner to provide a low-cost RF interface that supports both DOCSIS and EuroDOCSIS with minimal BOM changes.**
- **The BCM93345 switching power supply requires only a single voltage from an inexpensive wall transformer.**
- **The BCM93345 supports both 10/100 Ethernet and USB 1.1 external connections.**
- **The BCM93345 includes a complete software package, including:**
  - Certifiable DOCSIS/EuroDOCSIS code
  - Complete source code for easy modification
  - Advanced QAMLink®, RF analysis software
  - WHQL certifiable drivers for USB
- **The BCM93345 includes a complete documentation package, including:**
  - Schematics and Gerber files
  - Bill of materials (BOM)
  - Data sheets, application notes and user manual
  - Software source code
  - Applications support contact information

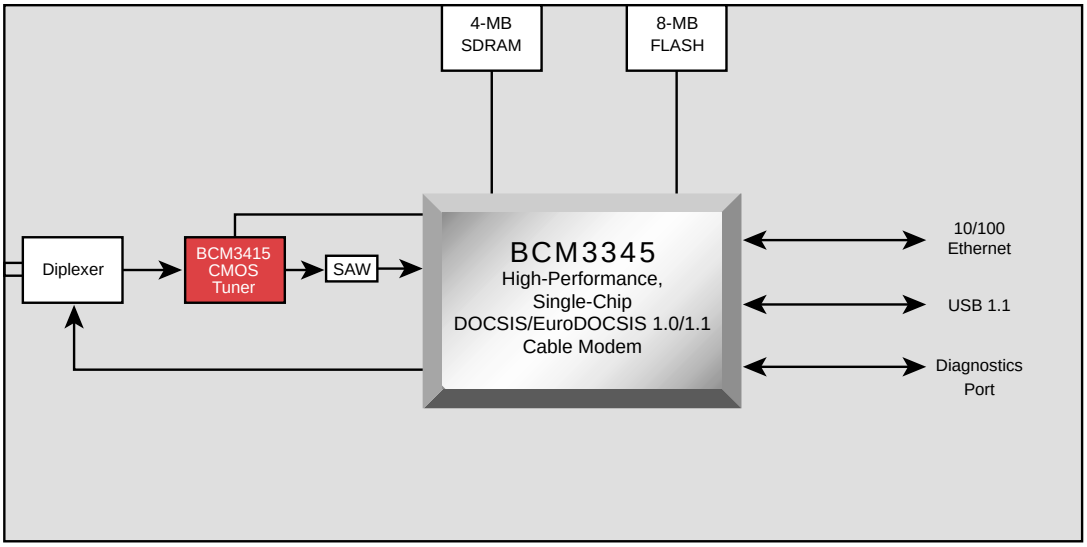
SUMMARY OF BENEFITS

- **Simplified BOM and reduced component count improves assembly and results in lowest overall system cost for DOCSIS/EuroDOCSIS 1.0/1.1 cable modem.**
- **Significantly reduces time to market with complete production-ready design.**
- **Maximum use of BCM3415 minimizes BOM changes for conversion between DOCSIS and EuroDOCSIS.**
- **Maximum compatibility with BCM3350 architecture enables quick and reliable porting from previous designs.**
- **Advanced QAMLink modulator/demodulator technology provides superior performance in noisy plant environment.**
- **Provides Propane support for both DOCSIS/EuroDOCSIS-based packet acceleration.**
- **Fully USB-1.1-compliant interface enables simple Plug and Play installations.**

BCM93345 High-Performance DOCSIS/EuroDOCSIS Cable Modem with CMOS Tuner



BCM93345 OVERVIEW



Broadcom's **BCM93345** QAMLink Cable Modem Reference Design is a complete implementation of a certifiable, low-cost DOCSIS/EuroDOCSIS cable modem. The **BCM93345** design is based on the high-performance BCM3345 QAMLink Single Chip Cable Modem and BCM3415 Digital Cable Tuner. The reference design supports both Ethernet and USB interfaces.

The **BCM93345** receives the downstream signal via a DOCSIS/EuroDOCSIS diplexer. The modulated QAM signal is then downconverted via the BCM3415 Digital Tuner. This signal is then directly sampled via the ADC of the BCM3345. The BCM3345 physical layer processing acquires the signal and demodulates the information for further processing. The data is output in a digital MPEG format for processing by the DOCSIS/EuroDOCSIS 1.0/1.1 MAC of the BCM3345. All DOCSIS/EuroDOCSIS management messages are processed by the BCM3345 hardware based on programmed variables established by the cable modem application software. User data is passed along to the Ethernet or USB ports for transmission to the Consumer Premise Equipment (CPE). User data from the CPE is likewise processed for forwarding to the CMTS based on the rules established by the MAC management messaging. After data is processed for upstream communications, it is modulated to the appropriate rate and directly converted to the required frequency. The signal then passes through the on-chip upstream amplifier and output directly to the diplexer and onto the cable plant.

A complete description of the operation of the **BCM93345** is provided through the user manual and BCM3345 Data Sheet. The **BCM93345** is supported with a complete set of hardware documentation for reproducing the reference design. The documentation package includes complete schematics, bill of materials, and Gerber files for the printed circuit board.

The **BCM93345** is delivered with certifiable DOCSIS/EuroDOCSIS 1.0/1.1 software. Additionally, the reference design software support package includes current object code, source code, and application notes.

The **BCM93345** Reference Design uses Broadcom's high-performance, single-chip cable modem. This cost-effective design rapidly gives Broadcom's customers the functionality required for a DOCSIS/EuroDOCSIS modem of production quality. Customers who leverage this design minimize both their effort and time to market.

Ordering Information:

BCM93345	DOCSIS version
BCM93345-E	EuroDOCSIS version

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