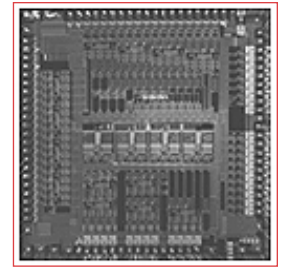




BCM93137 PRODUCT Brief



BCM93137 UPSTREAM BURST MODULATOR/DEMODULATOR

BCM93137 FEATURES

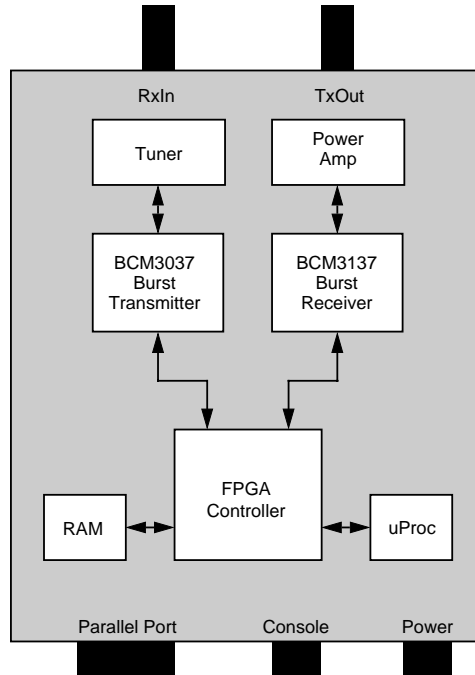
- The Broadcom BCM93137 Upstream Cable Burst Modulator/Demodulator Evaluation System provides:
- DOCSIS/EuroDOCSIS, IEEE802.14, DAVIC and DVB-compliant Upstream Evaluation System
- Programmable Modulation Formats (QPSK and 16-QAM)
- Variable Symbol Rates from 160 Kbaud to 4.096 Mbaud for QPSK or 2.56 Mbaud for 16-QAM
- Frequency Agile from 5 to 42 MHz
- 50 dB Dynamic Range for transmitter and receiver
- Full Reed-Solomon Encoder/Decoder with Programmable 23-Bit Derandomizer
- Multiple Operation Modes: Continuous, DOCSIS/EuroDOCSIS, Random-Arrival and Time Division Multiplexer (TDM)
- Microcontroller for Stand-alone Operation
- Includes easy-to-use QAMLink™ Evaluation Software

SUMMARY OF BENEFITS

- The BCM93137 represents a complete evaluation system for a cable upstream physical layer solution including:
 - BCM3037: DOCSIS/EuroDOCSIS compliant QPSK/16QAM Burst Modulator
 - BCM3137 DOCSIS/EuroDOCSIS compliant QPSK/16-QAM Burst Demodulator.
- Dramatically reduces time to market by providing a complete reference design for an DOCSIS/EuroDOCSIS compliant cable upstream implementation, including QAMLink software.
- Implements pre-equalization for improved performance in heavily impaired cable channels.
- Ideal for digital cable set-top boxes, modems and telephony implementations, as well as wireless MMDS, LMDS and digital radio applications.
- Self-contained subscriber and headend system with seamless interface between subscriber and headend components (BCM3037 and BCM3137, respectively).

DOCSIS/EuroDOCSIS Upstream QPSK/16-QAM Burst Modulator/Demodulator Evaluation System





The **BCM93137** is a complete cable network transceiver for frequency agile, time-division multiple access (TDMA) systems. It is an ideal platform for evaluating the BCM3137 Universal Burst QPSK/16-QAM Receiver and the BCM3037 Universal Burst Modulator chips from Broadcom. The **BCM93137** has numerous modes of operation including constant carrier, random arrival TDMA, continuous arrival TDMA, and random multiple burst types like those defined in the DOCSIS/EuroDOCSIS standard. Burst data can be generated internally, programmed into RAM, or supplied via an external test connector. A comprehensive software package is included to control and monitor the performance of the transceiver.

The Receiver Module operates in a 5-42 MHz range with IF sampling. It also has an adjustable final IF frequency, and IQ baseband input. The receiver is capable of operating in multiple modes: constant carrier, single burst type with external receive now, single burst type with random arrival and full DOCSIS/EuroDOCSIS burst types.

The Transmitter is the BCM3037 Universal QPSK/16-QAM Burst Modulator capable of operating in all DOCSIS/EuroDOCSIS modes with integrated 10-bit DAC and pre-equalization. The Transmitter can operate in both continuous and burst modes.

The Xilinx FPGA Controller (XC4062) has a 64K x 16-Bit RAM for pattern storage and/or data capture. It also implements basic DOCSIS/EuroDOCSIS MAC functions, data generation and verification. Access to the controller is via a printer port or RS-232 to PC host.

The **BCM93137** represents the industry's first complete DOCSIS/EuroDOCSIS-based silicon solution for the cable upstream channel and is based on Broadcom's field-proven QAMLink™ technology. It comes complete with schematics, gerber file, Bill of Materials (BOM), datasheets, software source code and application support.

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