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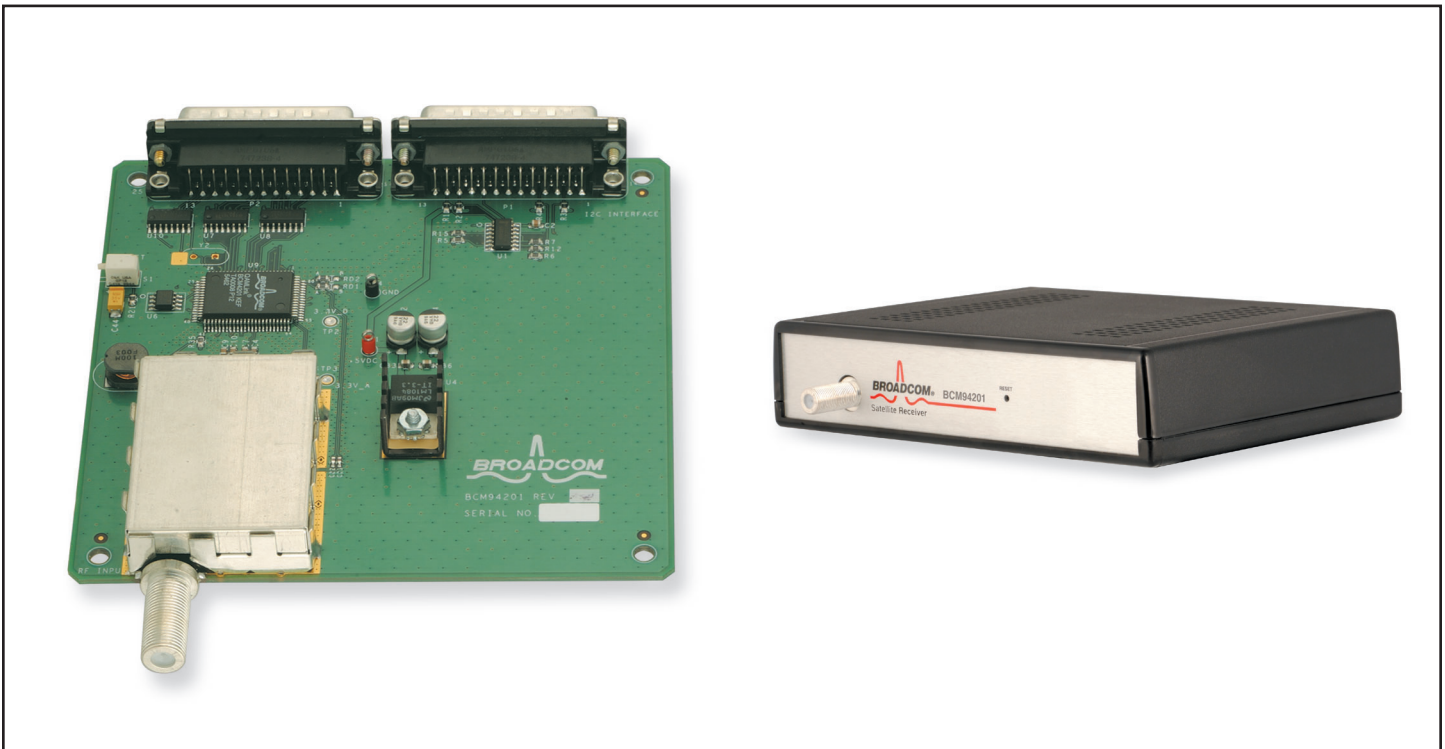# BCM94201 SATELLITE RECEIVER EVALUATION SYSTEM

## BCM94201 FEATURES

- Reference design based on the Broadcom BCM4201 universal satellite receiver
- BCM3440 CMOS satellite tuner
- Standard MPEG-2 output in DIRECTV® or DVB format
- 25-pin output connector with on-board line drivers
- I²C bus interface to PC parallel port for system control
- On-chip Bit Error Rate Tester (BERT) to simplify lab tests
- Glueless interface to external BERT
- Low-power operation
- Low Noise Block (LNB) control
- Easy to use Broadband Studio Software provided for system evaluation

## SUMMARY OF BENEFITS

- The BCM94201 demonstrates the operation of the BCM4201 satellite receiver using the BCM3440 CMOS tuner
- Fully-compliant with DIRECTV®, Digicipher™ II and DVB specifications
- Simplified design is optimized to provide the lowest cost tuner/receiver front-end combination
- Highly integrated system software enables evaluation of all operating modes and data rates
- Supports full 2–85 Mbps, BCM4201 operation
- Complete reference design documentation support package provided including Broadband Studio Software
- I²C bus interface card operates with standard IBM compatible computers
- The system provides a performance benchmark for application design and software development

### BCM94201 Satellite Receiver Evaluation System Reference Design

## BCM94201 Block Diagram
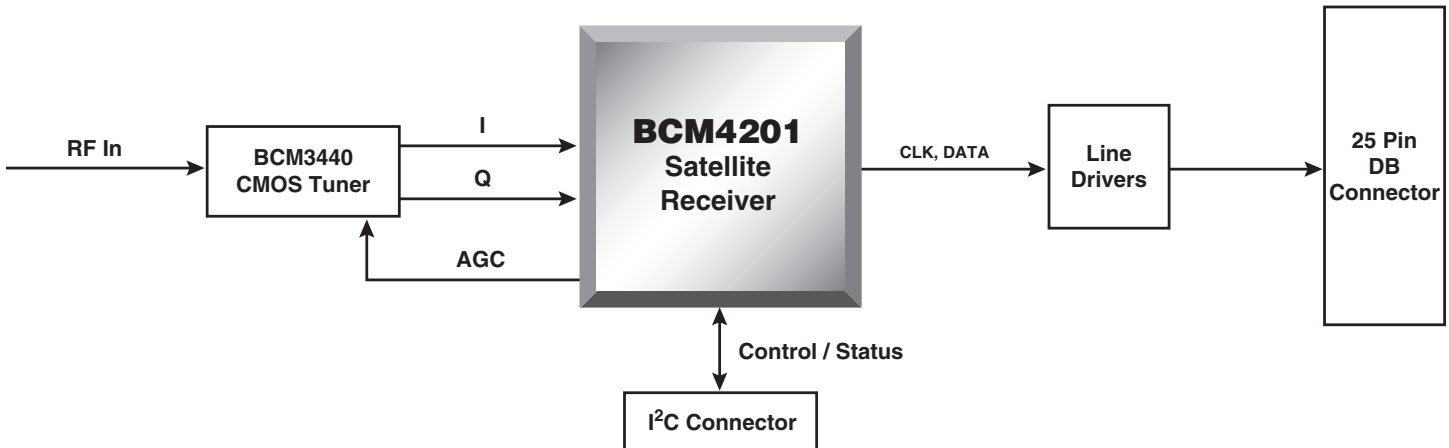


The BCM94201 Satellite Receiver Evaluation System is intended for use by hardware and software engineers as a benchmark and development tool for accelerating the BCM4201 system design cycle.

This evaluation system reference design provides the ideal platform for evaluating the BCM4201 Universal Satellite Receiver, that supports the Digicipher™ II, DIRECTV® and DVB standards. This design tool is the first system to demonstrate how lower design costs can be achieved by operating the BCM4201 in combination with the BCM3440 CMOS tuner. This compact, stand-alone system provides a complete development environment for rapid technology integration.

The BCM94201 supports variable data rates from 2-85 Mbps. Either serial or parallel output mode may be selected. On-board line drivers simplify system test and integration. LNB voltage is supplied through the tuner connector. The BCM3440 tuner interfaces with the BCM4201, minimizing the need for additional components.

The BCM94201 is delivered with Windows®-based system software that communicates with the evaluation system using I$^2$C protocol via the parallel port. The software contains several screens providing detailed performance and status information contained in the BCM4201. These screens include a constellation display, Signal-to-Noise Ratio (SNR) estimates, Viterbi and Reed-Solomon performance parameters, and Bit Error Ratio (BER) estimates that use the on-chip BERT for simplified lab test set up.

Detailed application notes and a user manual describe the software operation. Script files are provided to enable easy configuration of the BCM4201 in every mode of operation. The user manual includes schematics and a bill of materials for the reference design. PCB Gerber files are also provided.

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