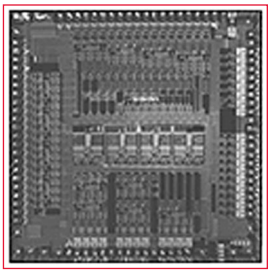
BROADCOM®

Connecting everything®

BCM3510

PRODUCT Brief



BCM3510 HDTV/CATV RECEIVER

BCM3510 FEATURES

- Integrated 64/256-QAM and 8-VSB receiver
  - 1–51 Mbps variable rate QAM/VSB receiver
  - Direct 36/44 MHz IF sampled architecture
  - 10-Bit A/D converter with integral AGC amplifier
  - Digital demodulator and matched filters
  - Adjacent channel filters
  - NTSC co-channel rejection filter
  - 496-tap adaptive decision-feedback equalizer
  - All-digital clock and carrier recovery
  - Integrated PLLs to minimize external components
- CATV/HDTV standards-compliant FEC decoder
  - ITU-T J.83 annex A/B/C CATV modes
  - ATSC A/53 HDTV mode
  - Integrated deinterleaver RAM for all modes
- Intelligent embedded microcontroller
- MPEG-2 transport output
  - PCMCIA and Smart Card Format—EIA 679 A,B
  - PLL Generated Output Clock
  - Glueless interface to BCM7020 video and graphics subsystem
- Low-power standby mode
- I^2C or SPI microcontroller interface
- 128-pin PQFP package
- 3.3V I/O and analog operation, 1.8V digital operation

SUMMARY OF BENEFITS

- Full equalizer architecture spans -6 to +40 msec delays.
- Automatic NTSC co-channel rejection filter provides performance superior to traditional designs.
- Full 496-tap equalizer implementation eliminates multipath effects over a wide dynamic range.
- Direct IF sampling architecture reduces system cost.
- Digital adjacent channel filters provide additional rejection for challenging environmental conditions.
- On-chip digital PLL simplifies circuit design.
- Integrated microcontroller with on-chip ROM for simplified software development, intelligent monitoring and fast-channel acquisition.
- Operates at 15 dB SNR threshold of visibility.
- Multiple AGC loops handle wide dynamic range input and rapid signal fading.
- Integrated AGC and 10-bit A/D converter for direct interface to standard DTV tuners.
- MPEG-2 transport interface requires no glue logic to interface to the BCM7020 video and graphics subsystem, smart cards and PCMCIA conditional access devices.
- Support for both QAM and VSB for cable TV ready systems at no additional cost.

QAM/VSB CATV/HDTV Receiver

