NXT2000

VSB/QAM Receiver

- ATSC Compliant 8/16 VSB

- SCTE DVS-031, ITU-J.83B, and MCNS DOCSIS compliant 64/256 QAM demodulation and error correction

- Superior, dynamic and static multipath performance

- Equalization Range: -4.0 μsec to 44.6 μsec

- Superior interference cancellation (adjacent, co-channel ATSC, CSO/CTB)

- High phase noise tolerance

- Fast acquisition < 50 msec

- High Performance Internal 10 Bit A/D converter with internal reference

- All Digital baud and carrier recovery, No external VCO or VCXO required

- Supports both low IF sampling and direct IF sampling at 43.75 or 44 MHz

- Parallel and Serial MPEG Data Output

- Integrated Deinterleaver RAM

- FEC error statistics are available to host

- Integrated signal quality indicator

- I^2C control interface

- 2.5/3.3 Volt power / 3.3 Volt compatible interface

- Low Power: 1.25W

- Available in a 100 Pin TQFP Package

The NXT2000 Multimode IC can be configured to work in either the 8 VSB mode for terrestrial broadcasting or in one of 64 QAM, 256 QAM or 16 VSB mode for cable TV. The 8/16 VSB is ATSC compliant, and the 64/256 QAM is ITU-J.83B/SCTE DVS-031/MCNS DOCSIS compliant. The IC includes both demodulation and forward-error-correction capabilities for all modes.

The chip's 8 VSB mode demonstrates performance significantly better than what was shown for the Grand Alliance system at the ATTC for a multitude of impairments such as static and dynamic multipath, phase noise, and acquisition time. The equalization range for the IC covers all known multipath conditions found in North America. The chip is also robust in the presence of impairments such as adjacent and co-channel NTSC interference, impulse noise, etc. The chip's cable mode (especially 256 QAM and 16 VSB) demonstrates superior performance in the presence of multipath, phase noise, impulse noise, signal ingress – all impairments known to be significant problems in the cable environment. Its performance in the presence of CTB/CSO is exceptional.

The chip includes a high performance internal A/D converter that is capable of direct IF input or near baseband analog input. The symbol rate can be programmed for different VSB/QAM modes without requiring a VCXO to drive the A/D converter. I^2C is used for control.

Delivering Digital Perfection