

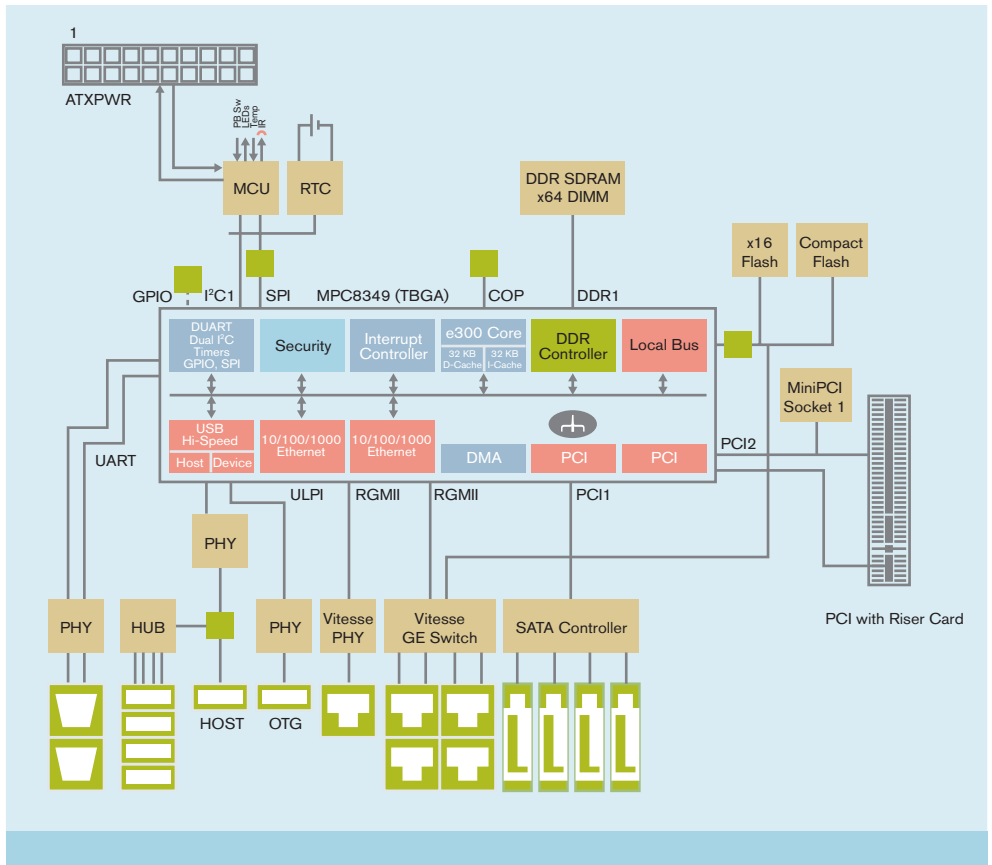
WiMAX-Enabled CPE Solution for SOHO and Small-to-Medium Gateways

Our new integrated platform enables converged wired/wireless services and next-generation content processing-based service. The WiMAX CPE solution combines Freescale's reference boards based on the MPC8349E and MPC8323E* PowerQUICC™ II Pro processors built on Power Architecture™ technology with a Wavesat's WiMAX chipset, MiniPCI design and CPE MAC software—optimized for converged wired/wireless SOHO and SMB gateway applications. The CPE solution from Freescale and Wavesat supports WiMAX Forum 802.16d-2004 certification and is intended for upgradeability to IEEE® 802.16e-2005 standard for basic mobility in accordance with the WiMAX Forum ETG profile.

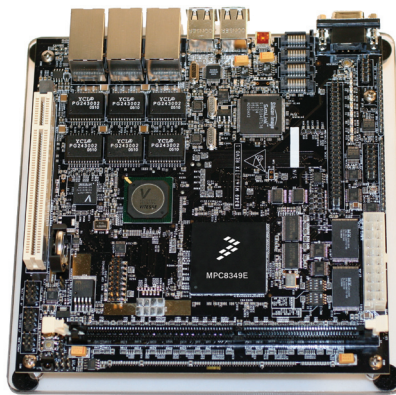
The MPC8349E mITX reference board is available in the compact mini-ITX form factor, which makes it easy to design small footprint WiMAX CPE systems. Targeting the small office/home office (SOHO) and small-medium business market, the reference board is optimized for business gateways that deliver IP-centric services. The board features the 667 MHz MPC8349E PowerQUICC II Pro processor, a robust memory subsystem, a four-port USB 2.0 interface, a 10/100/1000 Ethernet port, a five-port Gigabit Ethernet switch from Vitesse, an on-board four-port PCI serial advanced technology attachment (SATA) controller, 32-bit PCI and MiniPCI slots, a two-port RS-232C interface, a power supply and an SATA hard drive. The board ships with Linux® 2.6.x with Samba on flash. Schematics, layout files and Gerber files are available online.

*Available in Q4 2006

MPC8349E-mITX Block Diagram



MPC8349E-mITX reference Board



Wavesat Evolutive™ WiMAX DM256 Chipset

The DM256 is a cost-effective, low power consumption chipset implementing the IEEE 802.16-2004 OFDM PHY layer protocol.

The PHY has two complementary functions: to process data for transmission where the output is a baseband I/Q signal or a programmable IF signal (real or complex).

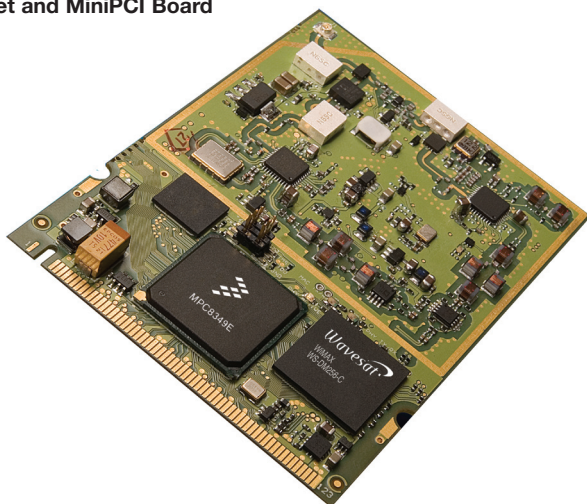
The process is reversed for the second function. For data reception, the PHY implements proprietary synchronization and channel equalization methods for OFDM.

- Can be used for basestation and CPE
- Upgradeability from WiMAX fixed to 802.16e OFDM mobility
- Supports TDD, HFDD and FDD
- Industry-leading five bits per second of Hertz spectral efficiency
- 208-pin PQFP and BGA
- Programmable bandwidths and IF frequencies

CPE MAC Software

- Complete source code is included
- Conforms to IEEE 802.16-2004

Wavesat Chipset and MiniPCI Board



- Progressive support of additional features leading to 802.16e-2005
- High level of abstraction for operating systems—allowing for easy portability
- Based on WiMAX forum-certified CPE MAC

3.5 GHz MiniPCI Reference Designs

- WiMAX-certified designs for CPE
- Adaptive modulation (BPSK, QPSK, 16 quadrature amplitude modulation (QAM) and 64 QAM)
- First MiniPCI design on the market
- Meets all six SUI non line-of-sight channel models
- 37.5 Mbps of data throughput
- Support WiMAX profile: 3.5 GHz RF card, 3.5 and 7 MHz bandwidth, TDD and HFDD

Wavesat

Wavesat is a leading fabless semiconductor company developing WiMAX chipsets, software and reference designs—enabling OEMs and ODMs to be first to market with high-performance and cost-effective WiMAX-compliant solutions.

www.wavesat.com

WiMAX Introduction

WiMAX, a broadband, last-mile, standards-based wireless technology, was conceived for data, voice and video applications over metropolitan area networks (MANs). WiMAX promises substantial bandwidth, extensive coverage, quality of service (QoS) and support for a variety of wireless applications. WiMAX can provide access to fixed, portable, nomadic and mobile users. Carriers and wireless Internet service providers (WISPs) may provide WiMAX-based service, and WiMAX is also being deployed on existing wireless mesh networks.

Freescal's Value Added Benefits

With WiMAX gaining momentum around the world, the MPC8349E-mITX WiMAX CPE reference solution is designed to enable a converged wired/wireless business gateway solution and deliver what the market needs to drive rapid deployment of broadband wireless technology in cost-effective CPE products.

Reference Platform supports:

- Multi services
- Wired/wireless WAN/LAN interface
 - WAN: GPON/ADSL/VDSL/WiMAX
 - LAN: Ethernet, Wi-Fi, UWB, IP-PBX
- Functional integration:
 - VPN router
 - GE switch
 - IP PBX
 - Storage media server (SATA, USB)
- Common management
 - Bandwidth on demand/QoS guarantees, IPSec
 - Secured tunnel for content delivery and distribution/streaming
 - Hosted application services and free location access
- Remote diagnosis, software upgrades and management
- Platform for next-generation services including content processing

Learn More:

For current information about Freescale products and documentation, please visit www.freescale.com.



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