

M821xx Comcerto® 100 Series Broadband Software Solution

Product Overview

The Mindspeed® Comcerto® 100 integrated system-on-chip (SoC) dual core processor series brings high-performance packet acceleration and best-in-class application headroom to Broadband Gateway solutions. To compliment the high performance platform, Mindspeed offers a complete line of integrated Linux software development platforms for the rapid development of:

- Multi-service Residential Gateways
- Home/SMB/SME Routers
- Wireless Access Points
- Cable/DSL Routers
- Voice Gateways

The Software Development Kits are based upon the OpenWrt Linux distribution for embedded systems. Complemented by industry standard tool support, the design kits are ready for product integration enabling the OEM/ODM an exceptionally quick time-to-market execution.

There are three Linux OpenWrt SDKs available: the Basic, Standard, and Enhanced Kits. The Enhanced Design Kit includes the high performance Fast Packet Processing Module providing bridging, routing, advanced security, and QoS features enabling an exceptionally rich quality broadband media experience. The Linux OpenWrt Standard Design Kit delivers exceptional performance and a feature rich carrier class voice module for home or SMB gateways. The Linux OpenWrt Basic Design Kit offers a limited software package for general purpose processor solutions addressing the Network Access Storage, Surveillance, Infotainment, and other markets.

Mindspeed offers design support services to assist in specific feature development, complete turnkey solutions, and system level support enabling a rapid time-to-market execution.

The Comcerto 100 series complimented by the comprehensive design kit solutions, with the Fast Packet Processing and Carrier Class VoIP feature rich modules, provides a feature rich and high performance platform solution for broadband router solutions worldwide.

Features	Benefits
➤ Secure, Smart Solutions	Offers comprehensive solutions for data and voice Business Services Routers, Service Provider Provisioned Residential Gateway for data, media, and voice, and Home Media Gateway for media and storage solutions.
➤ Dual Core Optimized Software Architecture	Provides virtually all DMIPS during peak performance for application headroom on the host processor giving ample bandwidth for Service Provider CPU intensive applications and local/remote management tools.
➤ Fast Packet Processing Module	Provides Giga Class packet acceleration with Advanced Security and QoS features addressing current and future bandwidth demands.
➤ VoIP Module	Feature rich, carrier class voice with a globally deployed echo canceller for residential and SMB gateway solutions
➤ Support for Emerging LAN Technologies	802.11a/b/g/n, WiMax, MoCA, and Femtocell
➤ OpenMind Partner Ecosystem	Mindspeed offers its rich partner relationships in providing excellent turnkey service provider solutions for deployment worldwide.
➤ Linux OpenWrt Software Design Kit	Offers a comprehensive set of solutions for all developer needs with an industry standard tool kit.



Linux OpenWRT Package Highlights

(Please refer to the M821xx Software Features Description document for full details.)

Applications Control Processor (ACP) Features

Linux OpenWrt

- U-Boot
- Linux kernel (2.6.21)
- Linux file system
- Application drivers
- Hardware device drivers
- Web based configuration
- Asterisk VoIP demonstration application

IP Protocols

- IPv4/IPv6, TCP/UDP
- PPP, PPPoE
- ICMP, IGMP v1/v2
- Multicasting, 802.1d bridging
- IP forwarding

Wireless

- Atheros driver for WiFi 802.11 a/b/g (madwifi)
- Ralink driver for WiFi 802.11 a/b/g/n

Services

- FTP
- Web server
- **Security**
- SPI firewall
- NAT

Media Stream Processor (MSP) Features

Fast Packet Processing

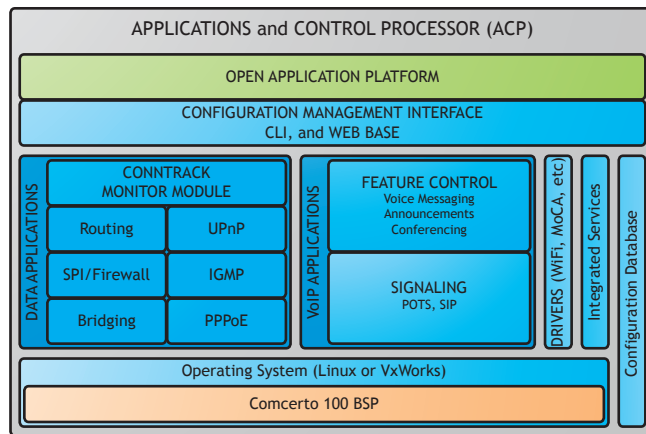
- IPv4/IPv6 Forwarding
- PPPoE, VLAN, L2 Bridging
- Unicast, Multicast IPv6
- IPsec VPN Acceleration
 - Tunnel and Transport Mode
 - Random Number Generation
 - Authentication:
 - MD5, HMAC-MD5-96, SHA-1, HMAC-SHA-1-96
 - Encryption processing:
 - Null, DES, 3DES, AES
- Advanced QoS
 - Strict priority queuing
 - CBWFQ, WRR
 - Token Bucket Rate Limiting

VoIP Media Streaming

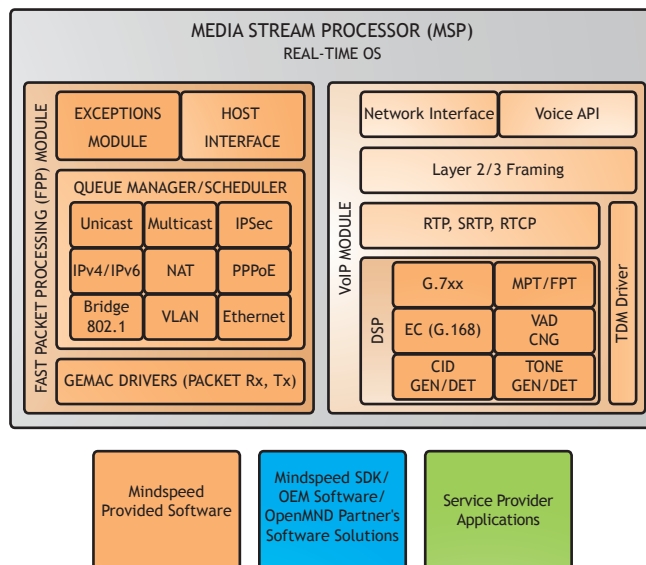
- Up to 8 VoIP complex channels
- G.711 1/II, G.729 A/B
- G.722 SB-ADPCM
- G.168-2004 echo canceller
- VAD, CNG, FEC
- RTP, RTCP-XR
- Secure RTP
- DGain range control
- Automatic gain control (AGC)
- 3-way conferencing: special VAD, (SNS), DTS
- Modem/fax pass through

Signaling

- DTMF Gen/Det, DTMF relay
- Configurable call progress tones
- Caller ID type 1 and 2



Share Memory Interface (Virtual Ethernet)



OpenMind Partners

- Wind River Linux PCD-LE®, VxWorks®
- Jungo OpenRg®
- Intoto RGS Pro®, RGS IAD®, SecureSME®

For more product information, please refer to additional Comcerto 100 product briefs under the Documentation tab at: www.mindspeed.com/web/product/category.html?id=763.

- Comcerto 100 Processor Product Brief
- Open WRT Linux BSP Design Kit Product Brief
- Gigabit Ethernet Broadband Router Reference Board Product Brief

For more product information, please visit www.mindspeed.com

www.mindspeed.com/salesoffices

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Ordering Info:

M821xx-DKT-001:

Comcerto 100 Series Design Kit
OpenWRT Linux BSP