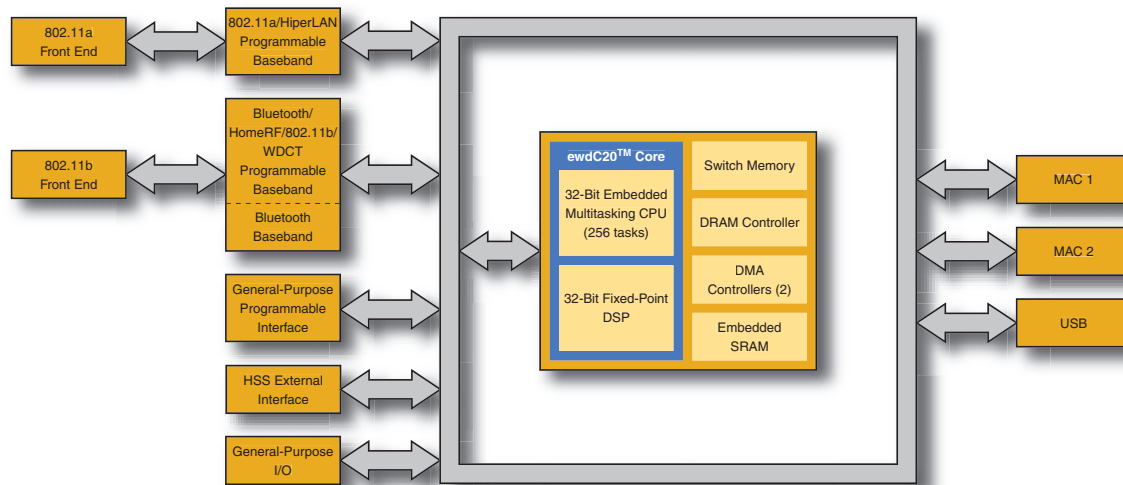


Wireless Voice and Data Gateway Processor

Preliminary Product Brief

The e8024™ Wireless Voice and Data Gateway Processor is a highly-integrated and optimized mixed-signal Product-on-Chip™ (PoC™) solution. The e8024 processor incorporates two programmable basebands, DRAM and DMA controllers, embedded SRAM, and the ewdC20™ core in a single-package solution. The ewdC20 core contains a powerful 32-bit DSP and a robust 32-bit multitasking microprocessor. The first programmable baseband, operating at 2.4 GHz, supports industry-leading wireless standards such as Bluetooth™, HomeRF, 802.11b, and WDCT. The second programmable baseband, operating in the 5 GHz band, supports 802.11a and HiperLAN standards. The configurable RF interface enables the e8024 processor to work with any RF solution. The e8024 processor is targeted at wireless implementations of Internet appliances, information appliances, and home networking. Wireless applications include computer peripherals, SOHO gateways, residential gateways, and web pads.



e8024 Wireless Voice and Data Gateway Processor Block Diagram

Features

- 2.7V to 3.3V operation
- ewdC20™ core
 - 40 MHz 32-bit microprocessor
 - 32-bit fixed-point DSP
 - eMOS™ Embedded Multitasking Operating System providing 256 virtual processors
- 2.4 GHz programmable high-bandwidth baseband controller
 - Bluetooth compatible
 - HomeRF compatible
 - 802.11b compatible
 - WDCT compatible
- 5 GHz programmable high-bandwidth baseband controller
 - 802.11a compatible
 - HiperLAN compatible
- General-purpose programmable interface
 - IrDA(IrLAN 1.0)
 - Serial Peripheral Interface (SPI)
 - Serial Communications Interface (SCI)
- True Response™
 - Simultaneous Flash memory read and write
- In-circuit Flash reprogrammability
- Two Ethernet ports
 - MAC 1, 10 Mbps
 - MAC 2, 10/100 Mbps
- Configurable RF interface
- PCMCIA v1.0 interface
- ISA bus compatible
- USB v1.1 interface
- Removable media interface
- NAND Flash interface

Features (continued)

- 1 GB program space/addressing range
- 8K word DSP RAM
- 320 KB generic data/program SRAM
- Three programmable chip selects
- Eight fixed chip selects
- 56 programmable I/Os
- 8/16/32-bit selectable external data bus
- 16/24-bit timer/counter with output compare and input capture
- DMA control for SPI, basebands, and CODEC bus
- High-speed serial (HSS) interface for analog peripherals
- 16-channel ADPCM G726 compression/decompression
- 16-channel DTMF detection
- 16-channel FSK demodulation (TIA SP-4078)
- 16-channel CAS tone detection (TIA SP-4078)
- Three 8-bit ADCs
- Real-time clock (RTC)
- In-circuit debug and programming (ICDP)
- Embedded TCP/IP protocol stack

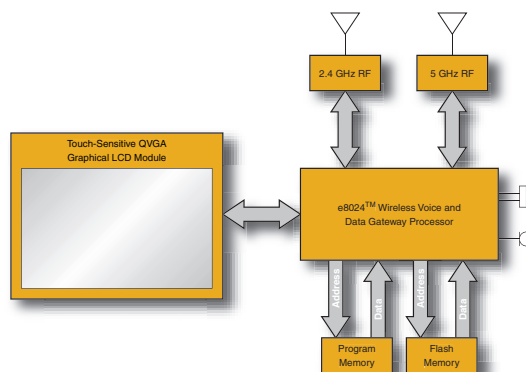
Applications

- Computer peripherals
- SOHO gateways
- Residential gateways
- Web pads

Package Availability

- 144-ball BGA (12 mm x 12 mm)

Application Example



Wireless Web Pad

TCP/IP protocol stack resides on the e8024 Wireless Processor.

5200 Franklin Drive
Pleasanton, CA 94588
Phone: 925.251.6200
Fax: 925.251.6201

Holmboes Allé 1
3rd Floor
8700 Horsens
Denmark
Phone: +45.7628.6250
Fax: +45.7628.6251

Website:
<http://www.ewdi.com>

E-mail:
information@ewdi.com

© 2001 embedded wireless devices inc. All rights reserved.

ewd, the ewd logo, ewdC20, e8024, eMOS, PoC, Product-on-Chip, and True Response are trademarks of embedded wireless devices inc.

Bluetooth is a trademark of Telefonaktiebolaget L M Ericsson, Sweden, and is licensed to embedded wireless devices inc.

WARRANTIES AND DISCLAIMERS:
THIS DOCUMENT IS PUBLISHED FOR INFORMATIONAL PURPOSES ONLY AND IS PROVIDED "AS IS" AND WITHOUT WARRANTY OF ANY KIND. ewd™ DISCLAIMS ANY AND ALL WARRANTIES WITH RESPECT TO THIS INFORMATION, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL ewd BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF, OR RELIANCE UPON, ANY INFORMATION IN THIS DOCUMENT OR ANY ERROR OR OMISSION IN SUCH INFORMATION. ewd RESERVES THE RIGHT TO UPDATE, CHANGE OR REMOVE PORTIONS OF THE INFORMATION PROVIDED HEREIN WITHOUT NOTICE.

embedded wireless devices inc

Founded in 1995, with headquarters in Pleasanton, California and a product design facility in Horsens, Denmark, embedded wireless devices inc develops and markets solutions for multi-point broadband wireless networking. By combining a highly-optimized MPU/DSP host processor and eMOS™ operating system with multiple programmable basebands, analog front end, and system memory, ewd solves the dilemma of simultaneous voice and data communications in enterprise and residential broadband wireless networking environments.

For wireless applications such as home networking, telephony, PDAs, VoIP devices, MP3 players/recorders and information appliances, ewd's total product solutions shorten product development cycles and significantly reduce the product's complexity and overall cost. Core competencies include wireless applications and protocols, multiple programmable basebands, multitasking architectures, digital signal processing, and analog and RF design.