Wireless Voice and Data WLAN Processor

Preliminary Product Brief

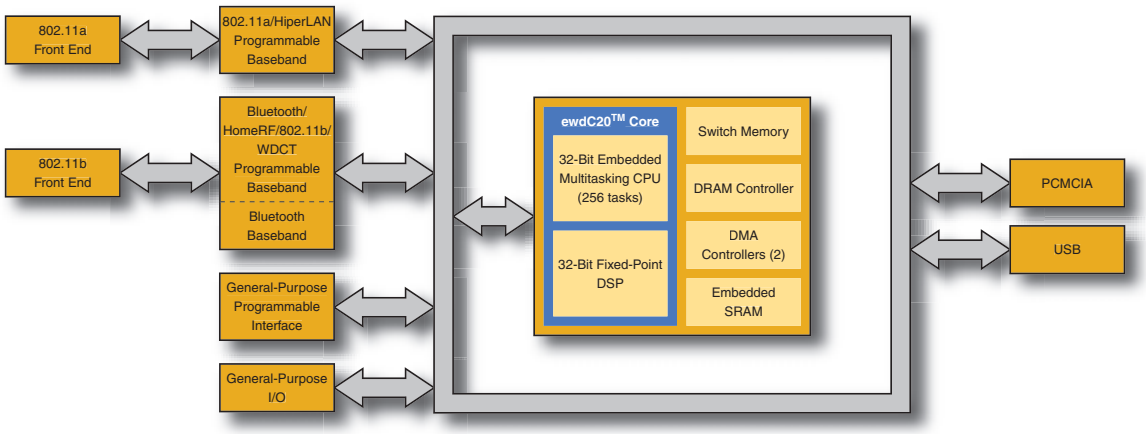
ewd™ embedded wireless devices inc

broadband wireless networking on a chip™

e9024™

VALHALLA SERIES

The e9024™ Wireless Voice and Data WLAN Processor is a highly-integrated and optimized mixed-signal Product-on-Chip™ (PoC™) solution. The e9024 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 programmble baseband, operating at 2.4 GHz, supports industry-leading wireless standards such as Bluetooth™, HomeRF, 802.11b, and WDCT. The second programmable baseband, operating at 5 GHz, supports 802.11a and HiperLAN standards. The configurable RF interface enables the e9024 processor to work with any RF solution. The e9024 processor is targeted at wireless implementations of residential and enterprise networking in WLAN PC card applications.



e9024 Wireless Voice and Data WLAN Processor Block Diagram

Features

- 2.7V to 3.3V operation
- ewdC20™ core
  - 60 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 (IrLAN1.0)
  - Serial Peripheral Interface (SPI)
  - Serial Communications Interface (SCI)
- True Response™
  - Simultaneous Flash memory read and write
- In-circuit Flash reprogrammability
- Configurable RF interface
- PCMCIA v1.0 interface support
- ISA bus compatible
- USB v1.1 interface
- Removable media interface
- NAND Flash interface
- 1 GB program space/addressing range
- 8K word DSP RAM
- 320 KB generic data/program SRAM

Features (continued)

- 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
- 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)

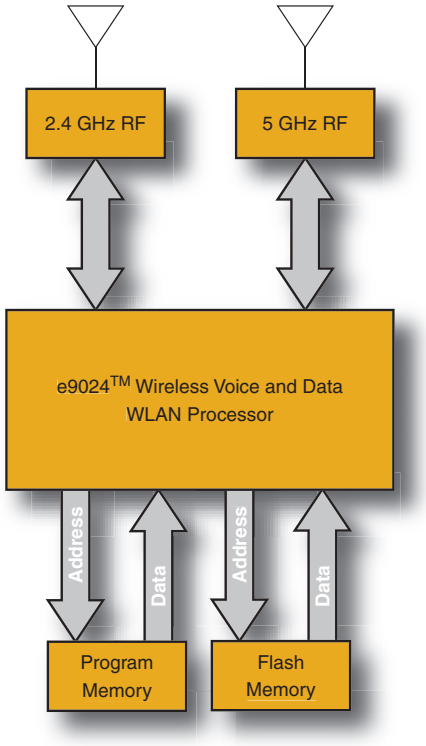
Applications

- WLAN PC cards

Package Availability

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

Application Example



WLAN PC Card

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.

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