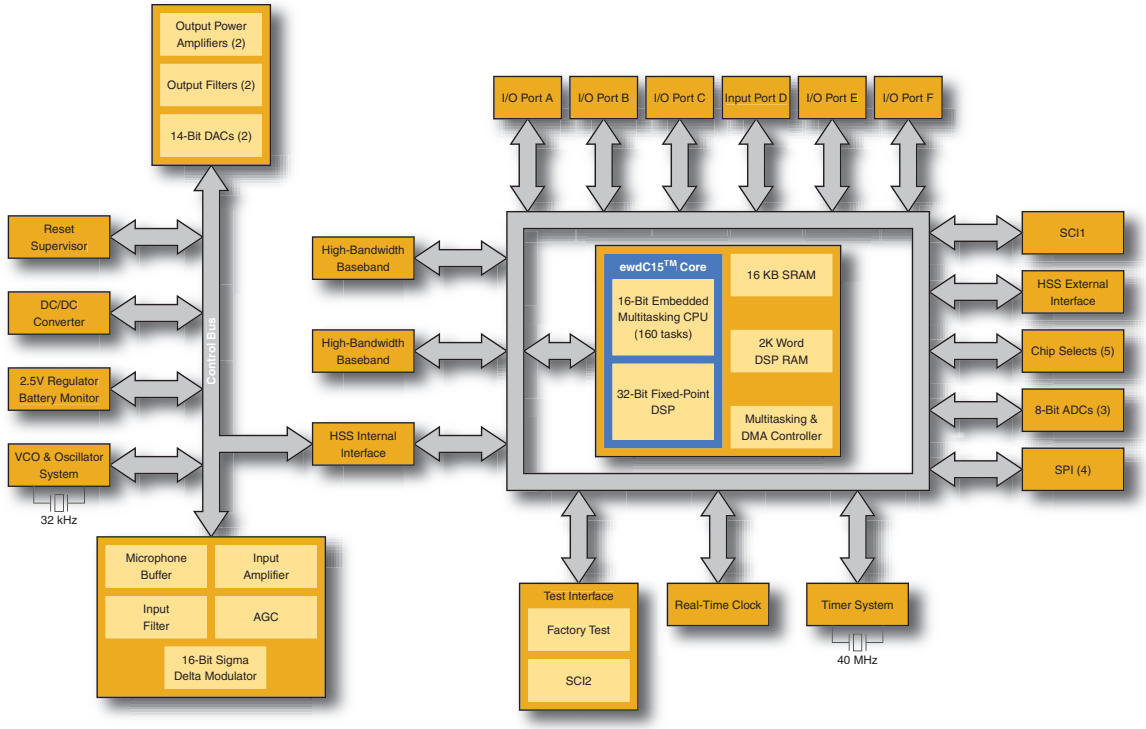
Wireless Processor
Preliminary Product Brief

ewd™ embedded wireless devices inc
broadband wireless networking on a chip™

e8715™
VALHALLA SERIES

The e8715™ Wireless Processor is a highly-integrated and optimized mixed-signal Product-on-Chip™ (PoC™) solution. The e8715 incorporates a digital core and an analog front end in a single package solution. The digital core contains a powerful DSP, robust microprocessor, configurable RF interface, and two high-bandwidth baseband controllers. The analog front end contains an audio CODEC, three analog inputs, two analog output drivers, power amplifier and a DC/DC converter. The e8715 is targeted at wireless implementations of telephony, networking and information appliances. Wireless applications include PDAs, MP3 players, web pads, cordless telephones, distributed audio systems and residential gateways.



e8715 Wireless Processor Block Diagram

Digital Features

- 2.7V to 3.3V operation
- ewdC15™ core
  - 40 MHz 16-bit microprocessor
  - 32-bit fixed-point DSP
  - eMOS™ Embedded Multitasking Operating System providing 160 simultaneous tasks
- Two GFSK high-bandwidth baseband controllers
  - DECT compatible
  - WDCT compatible
  - HomeRF compatible
- Configurable RF interface
- True Response™
  - Simultaneous Flash memory read & write
- Removable media interface
- 16 MB programming space/addressing range
- 2K word DSP RAM
- 16 KB generic data/program SRAM
- NAND Flash interface
- ISA bus compatible
- Two fixed chip selects
- Three programmable chip selects
- 39 programmable I/Os
- 8/16-bit selectable external data bus
- 16/24-bit timer/counter with output compare and input capture
- DMA control for SPI, baseband & CODEC bus

Digital Features (continued)

- Four serial peripheral interfaces (SPI)
- Two SCI (UART) interfaces
- IrDA infrared controller (IrLAN 1.0)
- High-speedserial (HSS) interface for analog peripherals
- Three 8-bit ADCs
- 37 vectored interrupts
- Real-time clock (RTC)
- In-circuit debug and programming (ICDP)

Analog Features

- Low power consumption
- Intelligent power management
  - Complete power down ability
- Step-up DC/DC converter
- Audio CODEC
  - 16-bit sigma delta ADC
  - Two 14-bit linear DACs
  - Input/output selectable
  - Stereo mode
- Three multiplexed analog inputs
  - 16-bit audio input
- Two analog output drivers
  - Variable attenuators (-45 dB max.)
  - 14-bit DAC output
  - Fixed reference voltage
- Power amplifier for speaker output
  - Balanced output
  - 50 ohm output impedance
- Differential microphone amplifier
- Oscillator system with digital-controlled VCO
  - 32.768 kHz crystal input
  - In-lock status bit
- Divide-by-N VCO reference clock
- Programmable reset circuit for digital device

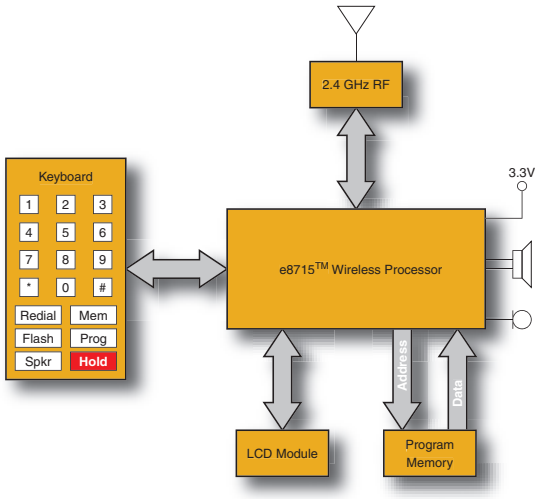
Applications

- Telecom devices
- Digital audio devices
- Information appliances
- Computer peripherals

Package Availability

- 144-lead TQFP (20 mm x 20 mm)
- 144-ball BGA (12 mm x 12 mm)

Application Example



Wireless Handset with CID Type I and II

embedded wireless devices inc

Founded in 1995, with headquarters in Pleasanton, California and a 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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