



AD6400 DECT CHIPSET

The AD6400 integrates baseband interface and radio capabilities in a cost-saving solution for DECT base stations and residential/business terminals.

INNOVATIVE SOLUTION CUTS COSTS, STREAMLINES PRODUCT DEVELOPMENT

Analog Devices' AD6400 is a flexible chipset solution designed to speed and simplify production of Digital Enhanced Cordless Telecommunications equipment.

The chipset's unique, highly programmable architecture enables it to be used in diverse DECT applications — including residential cordless terminals...wireless PBX base stations...and wireless local loop (WLL) residential units and base stations.

This compact 3-chip configuration is optimized to help you reduce product cycle times, meet stringent ETSI standards and incorporate features that set your DECT products apart from the competition's.

Tight integration of baseband and radio functionality cuts your production costs by reducing overall system size, eliminating expensive interfaces and facilitating rapid design-in.



FEATURES

- Comprehensive system solution — 3-chip set includes complete DECT baseband and radio circuitry
- Streamlines DECT product development — provides all DECT-specific IC functionality, letting you focus on your own core competencies
- Cuts manufacturing costs — optimized for fast, easy design-in; highly integrated design minimizes system size, eliminates costly interfaces
- Applications flexibility — can be used in residential cordless, wireless PBX, large-scale WLL deployments
- Ready programmability — unique DSP-based approach future-proofs your design and development investment; lets you easily incorporate unique features for marketplace differentiation
- High-sensitivity radio — with dual-IF superhet design
- Low power consumption — battery operation to 3.1 V
- Standards compliance — fully meets ETSI specifications
- Extensive development support — development software; development platform with radio reference design and baseband board

FLEXIBLE, COST-SAVING IC SOLUTION

The AD6400 consists of:

- A radio section comprising the AD6401 RF transceiver and the AD6402 IF transceiver
- A full-function baseband interface, the AD6403

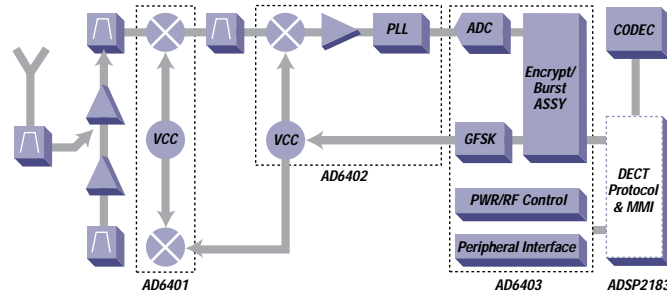
This system-level solution features a unique, highly integrated architecture that reduces the cost and complexity of producing state-of-the-art DECT equipment. All DECT standards-specific functions are built in, allowing you to focus on your own value-added features and services.

The chipset is optimized for use with a programmable fixed-point digital signal processor (DSP), such as the ADSP2183 for RAM-based development work, or with a ROM-based ADSP217X for production volumes. These devices provide 27 MIPS of processing power, enabling all DECT software to be run without the need for an external controller. This DSP-based approach allows various levels of the DECT protocol stack to be implemented depending on your specific application. And it makes for faster, simpler chipset design-in.

Tight integration of key functions within and among all three AD6400 devices helps reduce overall system size. More important, it minimizes the need for the additional package pins, input/output structures, board space, external components, and other costly interface hardware that less closely integrated designs demand.

The bottom line: Enhanced competitive differentiation. Lower manufacturing costs. Accelerated development cycles. And shorter time-to-market.

AD6400 DECT Chipset



FULL-FEATURED BASEBAND INTERFACE

The AD6403 chip is designed to facilitate receive and transmit functions in an ETSI-compliant DECT terminal.

It provides all the circuitry necessary for interfacing an Analog Devices ADSP2171 digital signal processor to a DECT radio.

COMPLETE, HIGH-SENSITIVITY RADIO

The AD6401/AD6402 radio section features a dual-IF superhet design for enhanced stability and sensitivity.

Unlike other dual-IF designs, this innovative chipset integrates all signal functions in a user-transparent manner. So you derive all the benefits of dual-IF, but without the added cost or complexity.

The radio operates from a low-power (3.1 V-4.6 V) battery supply.

DEVELOPMENT SOFTWARE AND SUPPORT

Analog Devices provides a full range of services to streamline your design and development efforts.

The AD6400 chipset is supported with a baseband development board and demonstration software. A complete set of GAP-compliant software modules can be configured for the most demanding DECT applications.

Analog Devices offers a detailed radio reference design using the AD6401/AD6402, as well as evaluation boards for performance measurements.

Complete details on implementation, bill-of-materials, estimated materials cost and measurement data are also available upon request.

ANALOG DEVICES IN COMMUNICATIONS

Analog Devices is committed to supplying the communications industry with the highest-performance solutions at the lowest possible cost. We meet the needs of today's broadband wired and wireless markets with leadership capabilities in analog, digital and mixed-signal processing, RF signal processing, data conversion, interfaces and total system design.

TIGHTLY INTEGRATED BASEBAND AND RADIO SECTIONS

The AD6400 DECT chipset comprises:

- AD6403 Baseband Interface

The AD6403 includes all the TDMA, burst mode, and radio management functions required to interface to the AD6401/AD6402 DECT RF chipset. The AD6403 facilitates the receive and transmit operations in a DECT terminal. To reduce component count, it provides the interface to handset peripherals such as the audio codec, LCD, keypad, ringer, EEPROM and RF system blocks.

- AD6401/AD6402 Transceivers

The AD6401 RF transceiver and the AD6402 IF transceiver combine to deliver an RF solution fully compliant with the DECT standard. This high-performance radio section integrates key functions, including all VCOs and low-dropout voltage regulators. The AD6401 consists of a mixer, VCO, VCO buffer, transmit mixer, PA driver amplifier and low-dropout voltage regulator. The AD6402 consists of a mixer, integrated IF bandpass filter, logarithmic IF amplifier, receive and transmit VCOs, PLL demodulator and low-dropout voltage regulator.