AD20msp415 GSM BASEBAND CHIPSET

Analog Devices' newest GSM baseband processing chipset, the AD20msp415, provides dramatic cost and performance advantages, and allows for fast production ramp-up.

REDUCE TIME-TO-MARKET WITH LOW-RISK, FAST DEVELOPMENT SOLUTION FOR GSM MOBILE PHONES

The AD20msp415 baseband processing chipset offers industry-leading advancements in cost, size, and power consumption for next-generation GSM-based handsets.

This low-risk solution is built on the same system architecture and supports the same software as the Type Approved AD20msp410 – thereby significantly shortening design and test time for new handsets and facilitating Type Approval. The AD20msp415 can cut the development and testing cycle to well below the six months typically required.

The AD20msp415 not only speeds development; it also offers functional enhancements and extensive power-saving features that let you produce smaller, lighter-weight mobile phones that outperform the competition.

FEATURES

- Cuts development time: speeds design, testing, and Type Approval
- Cost reduction: priced 40 percent less than its predecessor chipset
- Lower overall system cost: increased functionality reduces external components
- Ultra-low standby power consumption, facilitating in excess of 100 hours of handset standby time
- Compact and lightweight: consumes 30 percent less board space than the AD20msp410
- Same architecture and interfaces as Type Approved AD20msp410
- GSM Phase 2 compatible – Phase 2 protocol stack available
- Layer 1 software included: same software as Type Approved AD20msp410-Layer 1
- Optional data services software and configurable user interface software
- Flexible support options: complete Development System or form factor Reference Design

ENHANCED CHIPSET PERFORMANCE AT LOWER COST

The AD20msp415 consists of two sub-micron CMOS components – the GSM processor and voiceband/baseband codec – that perform the entire baseband signal processing in a GSM handset.

An extension of the Type Approved AD20msp410, the new chipset delivers functional enhancements that reduce the number of external components – and therefore the size and cost of the system.

Its 2.7 V low-supply voltage, combined with extensive power-down options, supports an industry-leading standby time in excess of 100 hours on a standard battery.

The AD20msp415 implements voice and data services for GSM systems and variants such as DCS1800 or PCS1900. It interfaces directly with Analog Devices' RF processing chipsets and, for in-car applications, with the company's AD20msp400-HF Handsfree chipset.

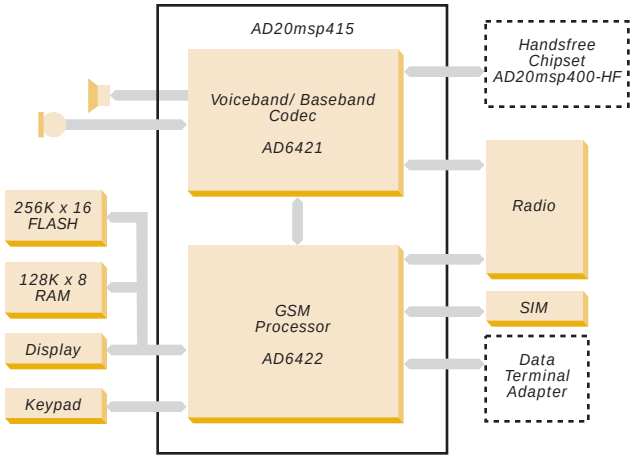
CUT TIME-TO-MARKET WITH CHIPSET-SOFTWARE COMBINATION

A complete Layer 1 software package, developed jointly by The Technology Partnership and Analog Devices, is included with the AD20msp415 chipset.

Nearly identical to the AD20msp410's Type Approved version, the AD20msp415's Layer 1 software helps speed and simplify product development and Type Approval.

Additional software options include a complete GSM Phase 2 compatible protocol stack (Layers 2 and 3), configurable software for customizing the user interface, and a package that supports GSM data services for linking handsets to the Internet and electronic mail accounts.

These updated versions of the AD20msp410's Type Approved software packages protect your current investment, while reducing development time and risk.



COMPREHENSIVE DEVELOPMENT SUPPORT TO MEET YOUR UNIQUE NEEDS

Analog Devices provides a range of development support options to address diverse engineering and design requirements.

The GSM Development System combines a universal motherboard with daughter boards for the baseband and radio section. This laboratory system comes completely assembled and tested – and ready to make calls to a network. It allows for hardware and software development and supports real-time emulation of the microcontroller in the GSM processor.

Alternatively, a form factor Reference Design of a complete mobile phone is available for developers interested in a system-level approach. Used as a model for your next-generation phone, this design requires minimum engineering effort from prototype to series production.

In addition, a Reference Design for a Data Terminal Adapter (PCMCIA card) is available from The Technology Partnership.

ANALOG DEVICES: A LEADER IN GSM

An established supplier of components and solutions to GSM handset manufacturers, Analog Devices has an incomparable track record of high-volume, low-cost manufacturing and delivery. The company's mixed-signal processors and baseband converters are used in millions of GSM handsets worldwide. Its AD20msp410 was the industry's first to achieve Type Approval for an open market chipset-software solution.

Analog Devices' GSM software partner, The Technology Partnership, is a product development and engineering company based in the United Kingdom. Formed in 1988, TTP is a leading independent developer of GSM technology worldwide.

ANALOG DEVICES IN COMMUNICATIONS

Analog Devices is committed to supplying the communications industry with the highest performance solutions at the lowest possible cost. The company draws on its leadership position in high-performance analog and digital signal processing capabilities to meet the needs of the broadband wired and wireless markets.

AD20MSP415 IS COMPRISED OF:

- GSM Processor

The AD6422 chip combines on a single device a powerful 16-bit microcontroller, the ADSP2178 digital signal processor, and a complete channel codec. The microcontroller performs all protocol stack tasks and controls all digital interfaces to memory, keyboard, display, SIM (Subscriber Identity Module), and radio section. The DSP performs the complete speech codec. Its high-performance, soft-decision Viterbi equalizer ensures optimal connections even under difficult transmission conditions. The GSM processor is packaged in a 144-lead, 20 mm x 20 mm TQFP.

- Voiceband/Baseband Codec

The AD6421 chip contains all analog components required in the baseband section. These include amplifiers, filters, and analog-to-digital and digital-to-analog converters for baseband as well as voiceband signals. It also contains auxiliary converters for Automatic Gain Control (AGC), Automatic Frequency Control (AFC), and Power Amplifier (PA) control. The voiceband/baseband codec has been enhanced to reduce power consumption, and to minimize requirements for external components. The AD6421 is packaged in a 64-lead, 10 mm x 10 mm TQFP.

- Software

Layer 1 software is supplied with the AD20msp415. Also available are an object code license for Layers 2 and 3 of the protocol stack and applications background and user interface development system.