



AD6430 GSM RADIO TRANSCEIVER CHIPSET

COMPREHENSIVE RF CHIPSET – PLUS FULLY TESTED RADIO DESIGN

Analog Devices offers the industry's most comprehensive GSM radio chipset and fully tested reference radio design.

The AD6430 integrates the entire signal chain – including synthesizers, mixers, amplifiers, and drivers – into two devices: a radio frequency (RF) front end and intermediate frequency (IF) back end.

Coupled with one of Analog Devices' industry-leading baseband chipsets, the AD6430 completes a fully compliant "microphone to antenna" solution that speeds and simplifies handset development.

To reduce GSM radio section design time and effort, Analog Devices provides a form factor reference design board that performs to the rigorous demands of GSM systems.

With the AD6430, you can bring state-of-the-art mobile phones to market quickly and cost-effectively.

Analog Devices' industry-leading GSM chipsets and radio design let you bring state-of-the-art phones to market with a minimum of engineering effort.



FEATURES

- Helps cut handset development time
- Enables smaller, simpler designs: create single-PCB phone, with small footprint ICs that require few support components
- Minimal RF power consumption for long system standby time
- Interfaces directly to the AD20msp415 baseband chipset for complete "microphone to antenna" solution
- Simplifies radio integration: fully tested, 45 mm x 55 mm single-sided board; accompanying driver software can be adapted to your unique needs

COMPREHENSIVE RADIO STAGE CHIPSET

The AD6430 incorporates RF and IF functions in a tightly integrated chipset solution comprised of two chips: the AD6431 RF front-end and the AD6432 IF section.

The AD6431 contains the RF transmit and receive circuits and synthesizers; the AD6432 contains the IF transmit and receive circuits.

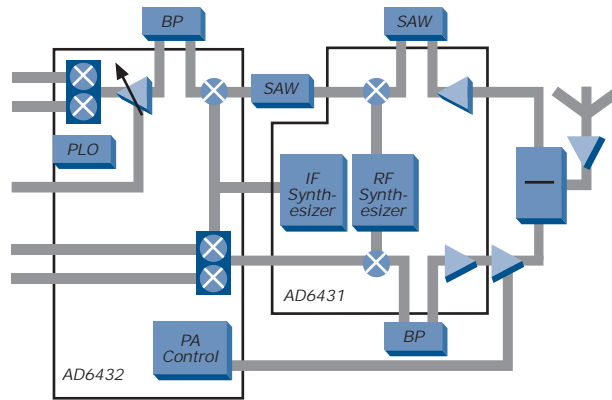
Together these two chips form a complete GSM RF transceiver that offers exceptional sensitivity and the wide dynamic range of a dual-conversion architecture.

Partitioning the RF and IF signal processing functions into separate ICs maximizes system architecture flexibility and reduces on-chip cross-talk.

Integrating support functions, including all required synthesizers, on the two chips helps reduce development cost.

Its 2.7 V operating voltage and intelligent power management features enable the AD6430 to handle RF signal processing with minimal power consumption.

Designed to complement the AD20msp415 – Analog Devices' latest GSM baseband chipset offering – the AD6430 also works with the company's Type Approved AD20msp410.



REDUCE DEVELOPMENT TIME AND EFFORT WITH COMPLETE MOBILE RADIO REFERENCE DESIGN

To facilitate the development of next-generation handsets, Analog Devices offers a complimentary Mobile Radio Reference Design. This system-level board, realistically sized at a compact 45 mm x 55 mm, is compliant with GSM specifications.

Eliminating the need for time-consuming RF board development, this reference design shows you exactly how densely to pack the chips with the optimum layout and what size your system will be. You can even redesign the board in smaller dimensions to meet your unique requirements.

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 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.

COMPLETE RADIO SECTION

Analog Devices' AD6430 GSM transceiver chipset consists of an RF front-end and an IF section.

• AD6431 RF Front-End

The RF IC contains the receiver low-noise amplifier (LNA) and down-conversion mixer, transmit up-conversion mixer and driver amplifier, and complete synthesizer for transmit and receive RF conversion, as well as the complete synthesizer for the first IF conversion local oscillator (LO). Off-chip reactive components are utilized to tune both programmable RF and first IF phase-locked oscillators. Fully programmable synthesizers allow for customization of receiver and transmitter frequency plans. The AD6431 is packaged in a 52-lead plastic, 10 mm x 10 mm TQFP.

• AD6432 IF Section

The IF IC provides the complete transmit and receive IF signal processing, including I/Q modulation and demodulation, necessary to implement a digital wireless transceiver such as a GSM handset. Together with the AD6431 RF IC, it implements all transmit and receive active functions – including synthesizers – necessary to implement a Type Approved GSM transceiver. The AD6432 is packaged in a 44-lead plastic, 10 mm x 10 mm TQFP.