



SoftFone®-LCR+ Complete Chipset for Multimedia TD-SCDMA Handsets

SoftFone-LCR+

TD-SCDMA/GPRS Dual-Mode

384kbps



Key Features

- Complete chipset for advanced multimedia TD-SCDMA 3G handsets
- Multimode TD-SCDMA/GPRS support
- 384 kbps data rates
- Enhanced multimedia functions: 3MP camera; USB; multiformat audio encode/decode; advanced QVGA video capture and playback; stereo audio
- Based on flexible RAM-based SoftFone architecture
- Othello® direct conversion radio chipset
- High performance Blackfin® Processor core
- ARM926EJ-S™ control processor
- Software provided by Datang Mobile
- Released 4 TDD low chip rate (LCR)

Overview

Analog Devices' SoftFone-LCR+ chipset provides a complete chipset solution for developers of advanced multimedia mobile handsets based on the 3G TD-SCDMA low chip rate (LCR) standard. The chipset supports all of the critical functions required to build a TD-SCDMA handset, including the baseband signal processing and control, analog-interface functions, power management, and radio.

Handset manufacturers can choose either the SoftFone-LCR platform for voice-centric handsets with 128 kbps capability, or the SoftFone-LCR+ platform for cutting-edge multimedia capable handsets with full 384 kbps capability. In contrast to other alternatives, all chips in the SoftFone-LCR and SoftFone-LCR+ chipsets are from a single supplier. The chipset enables dual-mode TD-SCDMA/GPRS operation and achieves full 384 kbps 3G performance, enabling faster download speeds, video streaming, video telephony, and Web browsing capabilities—critical requirements in supporting the migration to 3G wireless networks in China.

By utilizing the software-centric approach of the SoftFone architecture, terminal developers maintain maximum software flexibility. In addition, the SoftFone-LCR+ chipset features the industry's highest performance RF transceiver, Othello-W, which offers the lowest call drop rates and best sensitivity available. In addition to TD-SCDMA, complete SoftFone chipsets are available for GSM, GPRS, EDGE, and W-CDMA.



analog is everywhere.™

www.analog.com/softfone

 **ANALOG
DEVICES**



SoftFone-LCR+ Chipset Overview

Analog Devices' SoftFone-LCR+ chipset consists of four chips, including:

AD6903 LeMans-LCR+ Digital Baseband Processor:

- 260 MHz Blackfin Processor for high speed, low power DSP functions
- ARM926EJ-S control processor
- 3.0 MP camera support as well as USB, multiformat audio encode/decode, and video capture and playback
- Video algorithms: MPEG-4, H.263, and H.264 for QVGA screens
- Stereo audio codecs: MP3, AAC+, WMA
- 128 voice MIDI ringtones
- Boot from NAND capability

AD6857 Stratos-T Analog Baseband Processor:

- Voiceband codec
- Stereo audio D/A converters
- Flexible audio switching
- Direct drive for headset and speaker
- Complete power management subsystem
- High efficiency dc-to-dc converter for system power
- Auxiliary A/D and D/A channels for system control and monitoring

Othello-W AD6541/AD6547 Direct Conversion Radio Transceiver:

- Combination direct-conversion receiver and Virtual-IF transmitter
- AD6541 Transmitter
 - 1.9 GHz and 2.0 GHz operation
 - >80 dB gain control range
 - Fast-locking fractional-N synthesizer
- AD6547 Receiver
 - 2.0 GHz and 2.1 GHz operation
 - Programmable baseband channel bandwidth
 - Autocalibrated dc offset and filter cutoff
 - >80 dB gain range

Dual-mode TD-SCDMA/GPRS operation is achieved by adding:

Othello-G Direct Conversion Radio Transceiver:

- Quad-band GSM/GPRS transceiver
- Zero-IF receiver
- Enables the world's smallest GSM/GPRS radio at 1.5 cm²
- Integrated VCOs, PLL loop filter
- Integrated power management

Software for the SoftFone-LCR+ Chipset

Software for the dual-mode TD-SCDMA/GPRS chipset is available from Datang Mobile and includes GPRS protocol stack software from Sasken Communication Technologies Ltd.

About Analog Devices in Wireless Handsets

As a leading supplier of components to the GSM industry since 1990, Analog Devices has built a portfolio of solutions for mobile devices that leverages high performance analog and DSP core technology. As customer needs have evolved, ADI's wireless terminal product portfolio has advanced from DSP and analog building-block components to highly integrated chipsets and turnkey reference designs. Included in the company's vast array of technologies for wireless terminals are sophisticated digital baseband processors, advanced analog and mixed-signal data conversion, power management, lens drivers, analog interface ICs, radio frequency ICs, RF power detectors, and iMEMS[®]-based sensors. These products include a number of industry firsts, such as the Othello family—the world's first open-market, direct-conversion radio chipset; and Analog Devices' SoftFone platform, the first RAM-based digital baseband processor, which enables wireless terminal device manufacturers to easily customize user features and options in software while incorporating breakthrough advancements in power consumption, cost, and size. SoftFone chipsets are available for TSM, GPRS, EDGE, TD-SCDMA, and W-CDMA standards. Analog Devices' wireless chipsets leverage the company's high performance signal processing expertise and are designed with a unique systems understanding approach.

Analog Devices, Inc.
Worldwide Headquarters
 Analog Devices, Inc.
 One Technology Way
 P.O. Box 9106
 Norwood, MA 02062-9106
 U.S.A.
 Tel: 781.329.4700
 (800.262.5643,
 U.S.A. only)
 Fax: 781.461.3113

Analog Devices, Inc.
Europe Headquarters
 Analog Devices, Inc.
 Wilhelm-Wagenfeld-Str.6
 80807 Munich
 Germany
 Tel: 49.89.76903.0
 Fax: 49.89.76903.157

Analog Devices, Inc.
Japan Headquarters
 Analog Devices, KK
 New Pier Takeshiba
 South Tower Building
 1-16-1 Kaigan, Minato-ku,
 Tokyo, 105-6891
 Japan
 Tel: 813.5402.8200
 Fax: 813.5402.1064

Analog Devices, Inc.
Southeast Asia Headquarters
 Analog Devices
 22/F One Corporate Avenue
 222 Hu Bin Road
 Shanghai, 200021
 China
 Tel: 86.21.5150.3000
 Fax: 86.21.5150.3222

SoftFone-LCR+ Chipset Partitioning

