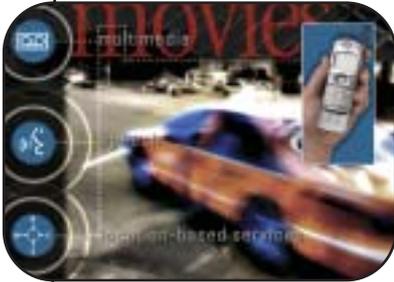


## TCS3500 chipset solution for EDGE smartphones and PDAs



### TCS3500 solution features:

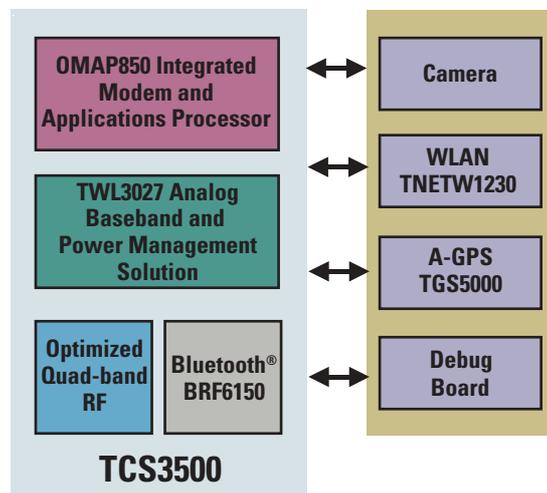
- Offers three times the data throughput of current GSM/GPRS devices
- Based on proven GSM/GPRS technology, Class 12 capable and EDGE Protocol Stack
- High-level mobile OS support, including Symbian OS™, Linux®, Microsoft® Windows Mobile™, Palm OS® and Nokia Series 60 terminal software platform
- Support for multiple third-party Java platforms
- Software compatible with other OMAP processors and applications from OMAP Developer Network
- WLAN (802.11 a/g) capable
- Support for Bluetooth® specification v1.2 through industry's smallest single-chip Bluetooth solution
- A-GPS module operates in standalone, MS-assisted or MS-based modes
- Camera module that supports up to 2.0 megapixels
- Keyboard and color LCD modules
- Enhanced frame buffer and OCP-T1 interfaces speed data rates
- DDR support
- Complete pre-FTA certified reference design

## P R O D U C T B U L L E T I N

### Overview

Based on TI's proven OMAP™ platform and GSM/GPRS technology, the TCS3500 is a third-generation chipset solution and reference design that allows customers the ability to quickly and cost-effectively design flexible Enhanced Data Rates for GSM Evolution (EDGE)-based smartphones, feature-phones and PDAs. With integrated support for leading mobile operating systems, and up to three times the data rate throughput of current GSM/GPRS devices, the TCS3500 chipset delivers the performance required to enable high-quality EDGE-enabled applications such as multimedia, gaming, camera functionality and video. The TCS3500 chipset is based on enhancements made to TI's widely adopted TCS2600 GSM/GPRS chipset solution and reference design, giving customers a migration path to higher performance, low power EDGE-based applications with extended battery life. This proven migration path and hardware/software compatibility increases reusability while reducing time-to-market.

### TCS3500 chipset solution block diagram



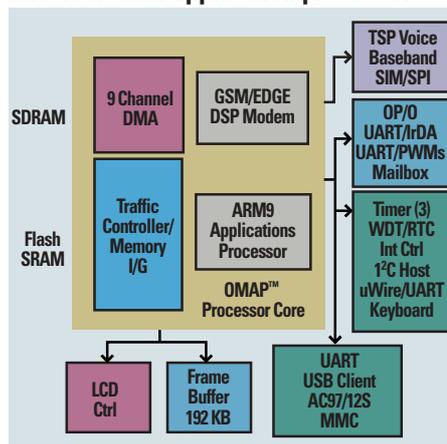
## OMAP850 processor offers enhanced EDGE support

The TCS3500 chipset solution and reference design is anchored by the OMAP850 applications processor integrated with a complete EDGE modem and protocol stack. To ensure a simplified migration path for manufacturers and application developers, the OMAP850 leverages the software environment and operating system support of all OMAP processors, enabling developers and cell phone designers to completely re-use and build upon existing software. The OMAP850 is the industry's most flexible EDGE-capable processor, allowing scalability of a single platform to address all hand-set segments targeting high-revenue data services—from mid-range feature phones, through high-end smartphones, up to multimedia rich wireless PDAs.

OMAP850 features include:

- OMAP750-based with added EDGE capability
- Leading high-level operating systems ported to the platform
- Enhanced support for camera sensors
- Enhanced frame-buffer interface data-rate
- DDR support addition
- Industry-leading, hardware-based security; M-Commerce, DRM, anti-virus

### OMAP850 integrated digital baseband and dedicated application processor



## OMAP Software Support

The comprehensive OMAP software infrastructure takes into account all the requirements of the wireless industry. TI's OMAP software support provides:

- OS ports and Board Support Packages (BSP) for Symbian OS (including Nokia Series 60), Microsoft Windows Mobile, Linux, and Palm OS.
  - Industry-standard software development tools support each OS, including: Metrowerks' CodeWarrior for Symbian OS; ARM Ltd RealView; Microsoft's Platform Builder, Embedded Visual C++, and Pocket PC and Smartphone Adaptation Kits; Palm OS Emulator, Palm OS Simulator, and Metrowerks CodeWarrior for Palm OS; and Montavista's complete suite of tools for Linux.
  - Reference device driver library for each OS, including GSM/GPRS/EDGE integration between the OS and the modem protocol stack.

Security Software Library

- Leading third-party security applications like Certicom, SafeNet, NTRU, Lockstream, AuthenTec, Snapshield and others

OMAP Developer Network

- Leading third-party applications for differentiable audio, video, 3-D gaming, Java and speech applications.

## *Fast time-to-market with the TCS3500 reference design*

### **TCS3500 reference design elements:**

- OMAP850 integrated applications processor and EDGE digital baseband
- TWL3027 integrated analog baseband, power management and audio codec
- Optimized quad-band RF
- BRF6150 single-chip Bluetooth® solution
- Complete GSM/GPRS/EDGE protocol stack (L1/L2/L3)
- TNETW1230 daughter card option for low power 802.11 a/g access
- TGS5000 A-GPS daughter card option
- Interface modules for camera, keyboard and color LCD
- TI Board Support Packages for Symbian OS, Windows Mobile, and Linux

The TCS3500 solution and reference design also includes a single-chip TWL3027 analog baseband that integrates power management and audio codec, as well as a fully optimized RF solution. The reference design also incorporates TI's BRF6150, the industry's smallest single-chip Bluetooth device that further reduces solution size and cost. Optional modules for incorporating functionality for camera, assisted GPS and high speed WLAN access bring added capabilities to the complete EDGE handset reference design.

The complete TCS3500 solution includes a pre-FTA certified reference design that cuts development time significantly, giving manufacturers the flexibility to focus on differentiation and applications development.

TI offers full breadth of components for implementing EDGE:

- Pre-FTA certified reference design
- Complete, optimized BOM
- Board design and layout
- EDGE protocol stack class12 capable
- Operating system integrated with protocol stack
- Full array of development tools
- Access to TI reference design competence center
- Access to TI solution delivery organization

## *For more information*

To learn more about the TCS3500 chipset solution and TI's other leading wireless products, visit [www.ti.com/wireless/edge](http://www.ti.com/wireless/edge)

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