

Product Bulletin

Embedded OMAP™ Processor: OMAP5912

Addressing the Needs of Next-Generation Embedded Designers for Portable Data Terminal Applications



Sampling today, the dual-core OMAP5912 processor integrates a TMS320C55x™ DSP core with a TI-enhanced ARM926EJ-S on a single chip. This unique architecture offers an attractive solution to DSP and OS developers by providing the low-power, real-time signal processing capabilities of a DSP and for the command and control functionality of an ARM.

The OMAP5912 and OMAP5910 processors are optimal for designers working with devices that require robust man/machine interface, secure communication and analysis and interpretation such as portable data terminals (PDT). This technology, combined with TI's software development support, independent OMAP Technology Centers (OTCs), OMAP Developer Network, tools and software, enables customers to create products with exceptional performance in record time.

Familiar Development Environment Speeds Design Cycle

The OMAP5912 processor enables embedded developers to program using familiar development environments by supporting

leading operating systems and TI's DSP/BIOS™ real-time scalable kernel.

This open development environment makes it possible for designers to deliver innovative products to market faster, utilizing familiar tools, a standard application programming interface (API) and a seamless interface to the DSP through an optimized interprocessor communication mechanism. The built-in interprocessor communication mechanism eliminates the need for developers to program the RISC and DSP independently.

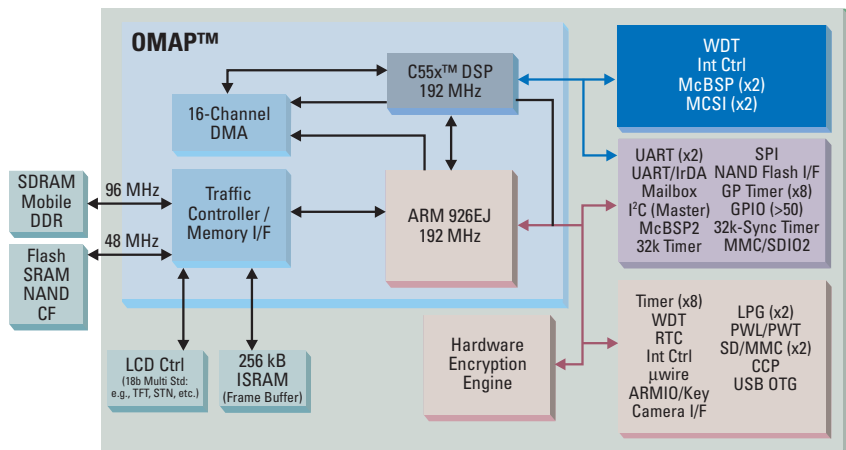
Key Features

- Extensive peripheral set supporting glueless interface to multiple radio technologies (GSM/GPRS, WLAN, BT, RF)
- Industry leading C55x™ DSP core offering portable data terminal-centric algorithms via TI DSP Third Party Network
- Industry-leading embedded hardware encryption engine
- Multibus architecture for PDT system-level optimization

Extensive Support Speeds Time-to-Market

TI's software development support, independent OTCs, OMAP Developer's Network, and third-party tools provide a user-friendly software development infrastructure. The TI DSP Third Party Network and OMAP Developer Network members offer application software and algorithms for the OMAP platform. For technical support, customers have access to fee-based independent OTCs with on-staff consultants ready to

OMAP5912 Processor Block Diagram



The OMAP5912 processor offers the low-power, real-time processing capabilities of a DSP with the command and control functionality of an ARM.

OMAP5912 Processor Meets Market Needs



Market Need	OMAP5912 Features
Connectivity	Extensive peripherals for wired and wireless connectivity
Display	On-chip frame buffer supporting multiple display variations
Mobility	Optimizes battery life with performance
Security	Hardware encryption engine enabling industry standard security applications
Real-time signal processing	Multi-processing, multi-tasking DSP
Robust man/machine interface	ARM926EJ-S core for multiple operating systems and application programs

focus on their particular design issues.

TI's OTCs consist of companies with extensive development experience on the OMAP™ platform. The OTCs have system-level expertise in operating systems, software development and hardware integration, and they work with customers to develop a custom integration package. For a complete list of OTCs, visit www.omap.com/rd/otcs

Development Tools and Software

Operating System (OS) Development Environment

Customers can start designing today for their software platform using an OS-centric code development and debug tool.

DSP Development Environment

In addition to industry leading TMS320C55x™ DSP market-centric algorithms from TI's extensive DSP Third Party Network, Code Composer Studio™ (CCStudio) IDE for the OMAP platform integrates all host and target tools in a unified environment. This simplifies DSP configuration and optimization to take full advantage of the high-performance processing capabilities of the DSP core in the OMAP5912 processor. CCStudio for OMAP processors addresses each phase of the code development cycle including design, code and build, debug, analysis and optimization.

Samples and Availability

The OMAP5912 processor is sampling today with volume production

Portable Data Terminals

- Portable medical devices
 - Portable defibrillation
 - Home medical test and analysis
 - PDT for patient / medical personal
- Asset and inventory management
 - Parcel tracking and location
 - Stock inventory and replenishment
 - Real-time data capture, analysis and interpretation
- Point of sale
 - Sales and membership processing
 - Merchandising and pricing management
 - Verification and authentication
- Enterprise PDT for
 - Commercial and business applications
 - Enhanced employee productivity devices

scheduled in fourth quarter 2004. Contact your local TI representative for further information or visit www.omap.com

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