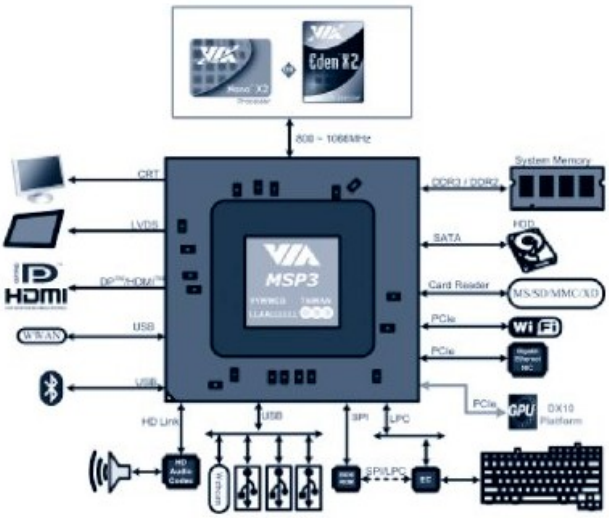
VIA Dual Core Processor

Brings Advanced dual core Performance to Energy-efficient Embedded Systems without Raising the Heat

The latest VIA dual core processors are the first dual-core processor series from VIA and will take advantage of the very latest 40 nm fabrication technology to deliver up to twice the performance of VIA Nano™ 3000 E-series processors within the same rigid thermal envelope. The VIA dual core processors improve application multitasking performance dual-core architecture—bringing a 100% increase in many of today's applications that are now multi-thread optimized.

The Nano™ X2 processors are high performance, power efficient processor line-up aimed at superb multimedia performance. The VIA Eden™ X2 processors are designed from the ground up for fanless implementation. With rock solid stability guaranteed over extended periods, fanless design is essential in always-on, mission-critical commercial and industrial applications. VIA dual core processors are also pin-to-pin compatible with previous VIA Nano™, VIA C7®, and VIA Eden™ processors, facilitating easy upgrades of existing designs.

With embedded lifecycle support, this VIA dual core processors provide system designers with an ideal performance solution for their embedded applications.



Key Features

Super Scalar, Out-of-order X86 Architecture

- X86 and x64 (64bit) capability
- Software-compatible with thousands of x86 software applications available
- Highly efficient speculative floating point algorithm

VT-x Compatible Feature Support

- Hardware Virtualization (VMX)
- VIA Virtualization (VIA VT)

Power Management

- Enhanced PowerSaver provides fastest performance state switching
- Low power consumption

Crypto

- World's fastest AES encryption using the Advanced Cryptography Engine (ACE)
- Secure Hash Algorithm: SHA-1 and SHA-256
- Random Number Generator
- Montgomery's algorithm

Thermal Monitor

- Thermal monitor 1, thermal monitor 2, and catastrophic thermal protection

Multi Processor

- Multi-processor support: dual processing (SMP)

Instruction Sets

- MMX, SSE, SSE2, SSE3, SSSE3, and SSE4.1-compatible instructions

On-die Cache

- Two large (64-KB each, 16-way) Level 1 caches per core
- 1 MB level 2 victim cache (32-way) with ECC per core (2MB total)
- Advanced L2 hardware prefetch
- Two large TLBs (196 entries each, 12-way)
- Branch target address cache with 4096k entries
- Unique and sophisticated branch prediction mechanisms

Package

- Flip-Chip Ball Grid Array (FCBGA)
- Package size: 21 mm x 21 mm

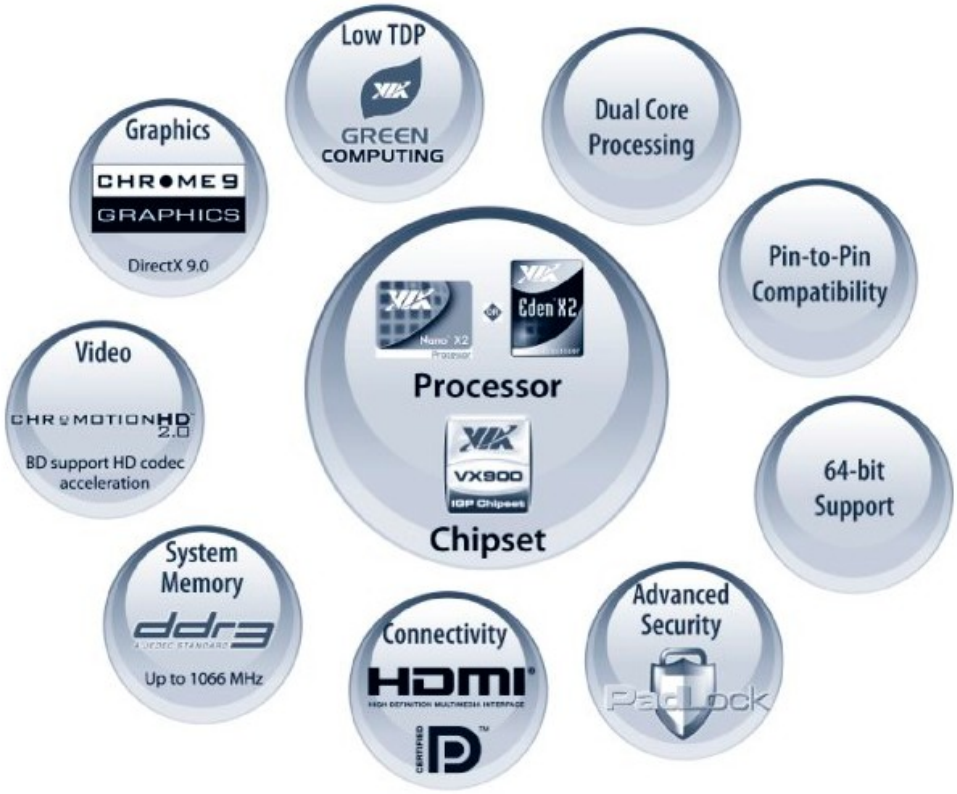
VIA embedded

VIA Dual Core Processors for Embedded Computing

Processor	Model	Speed	FSB	VRM Type	TDP
VIA Nano™ X2	L4350E	1.6+GHz	1066MHz	For 7 bit only	27.5W
	U4300E	1.2+GHz	1066MHz	For 7 bit only	13W
VIA Eden™ X2	U4200E	1.0+GHz	800MHz	For 7 bit only	9W
	U4100E	800MHz	533MHz	For 7 bit only	5~6W

The VIA dual core processor is validated with the VIA VX900 chipset, consisting of VIA Chrome9™ HD DX9 3D engine. The chipset features integrated 400 MHz engine clock, capable of playing enhanced 3D and Full HD video without an additional discrete GPU or add-in graphics card. The platform features rich I/O capabilities with LVDS, HDMI, CRT, DisplayPort and TTL display interfaces and provides flexibility via high-bandwidth interfaces such as DDR3, PCI Express, Serial ATA, and USB 2.0 connectivity. Combined with VIA digital media chipset, the VIA dual core processor delivers the best graphics performance along with its support for power efficient and fully integrated features. It is an optimized platform solution offering embedded developers and vendors a significant value-added proposition in a highly competitive embedded market place.

Complete Platform for Embedded Computing



* All product specifications are subject to change without notice. Update: February 20, 2012.