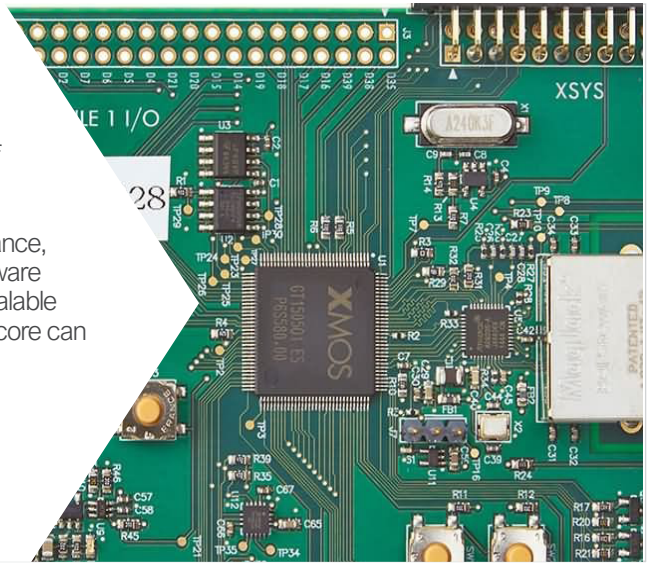


XCORE[®]-200 SERIES

The xcore-200 series is a programmable platform for embedded systems designers who want to differentiate their products with specific interfaces, features and capabilities. Fast processing, low latency and inherent flexibility ensure it's well matched against the high demands of today's IoT applications.

Unlike conventional microcontrollers, xcore-200 delivers high performance, complete timing determinism and the ability to add differentiating hardware features in a low-cost, easy-to-implement solution. The range offers scalable multicore compute, with 8 to 32 cores across the range - each logical core can execute computational code, advanced DSP, control (I/O).

The series carries three classes of device: the XU/XUF USB enabled microcontrollers, the XL/XLF general purpose microcontrollers and the XE/XEF ethernet enabled microcontrollers. All are supported by the XTC tools and software libraries available from xmos.com.



FEATURE HIGHLIGHTS

Common features across all classes of device include:

MULTICORE COMPUTE

Performance from 1000 MIPS (at 8 cores) to 4000 MIPS (at 32 cores), with a dual-issue processor pipeline to boost peak compute performance.

ON-CHIP MEMORY

Between 512kb and 1024kb on-chip SRAM (depending on the chip) can be accessed in a single cycle reducing shared memory requirements by passing data directly between tasks executing on logical cores.

COMMUNICATION

The xconnect switch acts as a high-speed network, enabling all cores to communicate with each other.

HARDWARE RESPONSE PORTS

Flexible, configurable I/O capability: 1-bit, 4-bit, 8-bit, 16-bit and 32-bit ports provide support for serialised and buffered data transfer.

EMBEDDED FLASH

Each member of the xcore-200 family has an embedded flash option for applications.

SECURE BOOT

There is also an area of one-time programmable memory with AES support to implement secure boot functionality.

XU/XUF FEATURES

Multicore compute up to 1000MIPS (8 core) and 4000MIPS (32 core performance.)

Dual processor pipeline to boost peak compute to 4000MIPS and 2000MMACS.

Up to 1024KB on-chip SRAM memory.

Integrated USB 2.0 PHY for high-speed host and device operation.

XL/XLF FEATURES

Multicore compute up to 1000MIPS (8 core) and 2000MIPS (16 core performance.)

Dual issue processor pipeline to boost peak compute to 2000MIPS and 1000MMACS.

Up to 512KB on-chip SRAM memory.

XE/XEF FEATURES

Multicore compute up to 2000MIPS (16 core) and 4000MIPS (32 core performance.)

Dual processor pipeline to boost peak compute to 4000MIPS and 2000MMACS.

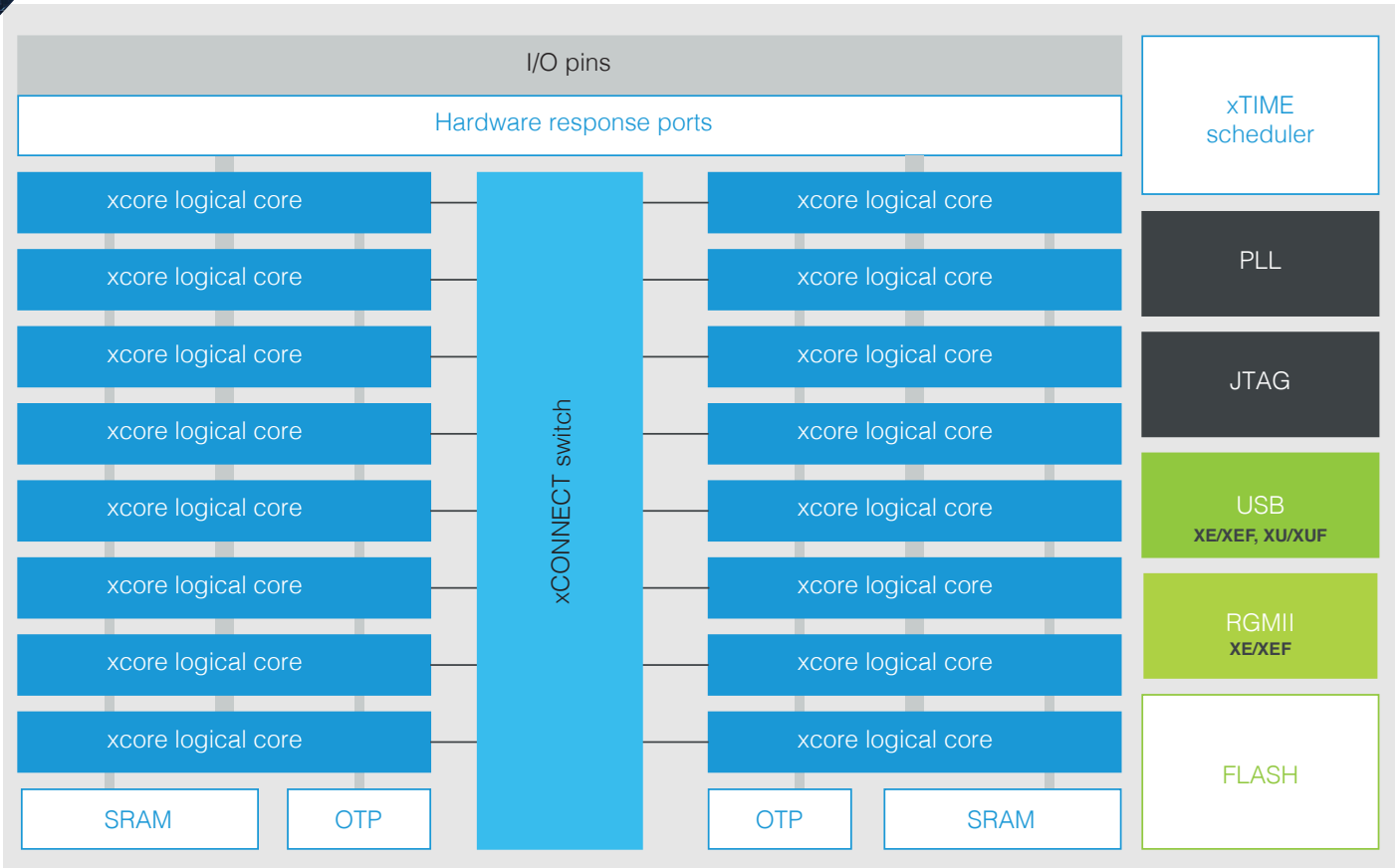
Up to 1024KB on-chip SRAM memory.

Integrated USB 2.0 PHY for high-speed host and device operation.

Integrated Gigabit Ethernet RGMII interface.

Available in a range of resource densities, packages, performance and temperature grades depending on your needs. See xmos.com for details.

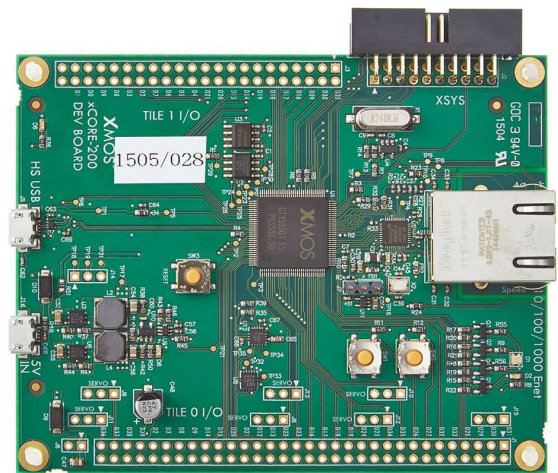
BLOCK DIAGRAM



EVALUATION KIT | XK-EVK-XE216

The xcore-200 evaluation kit features our XE216-512-TQ128 xcore-200 multicore microcontroller. This device has sixteen 32bit logical cores that deliver up to 2000MIPS completely deterministically. The combination of 100/1000 Mbps Ethernet, high speed USB and 53 high performance GPIO make the xcore-200 evaluation kit an ideal platform for functions ranging from robotics and motor control to networking and digital audio.

The xcore-200 evaluation kit also features six servo interfaces for rapid prototyping of motor and motion control projects.



APPLICATIONS



IOT



USB AUDIO



ROBOTICS



MOTION CONTROL



For further information, please visit xmos.com/xcore-200/

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