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What is "[Embedded - Microcontrollers](#)"?

"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "[Embedded - Microcontrollers](#)"

Details

Product Status	Active
Core Processor	AVR
Core Size	8-Bit
Speed	20MHz
Connectivity	I ² C, SPI, UART/USART
Peripherals	Brown-out Detect/Reset, POR, PWM, WDT
Number of I/O	27
Program Memory Size	8KB (4K x 16)
Program Memory Type	FLASH
EEPROM Size	512 x 8
RAM Size	1K x 8
Voltage - Supply (Vcc/Vdd)	1.8V ~ 5.5V
Data Converters	A/D 8x10b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	32-TQFP
Supplier Device Package	32-TQFP (7x7)
Purchase URL	https://www.e-xfl.com/product-detail/microchip-technology/atmega88pb-au

PRODUCT BRIEF:

Logic :: Freescale

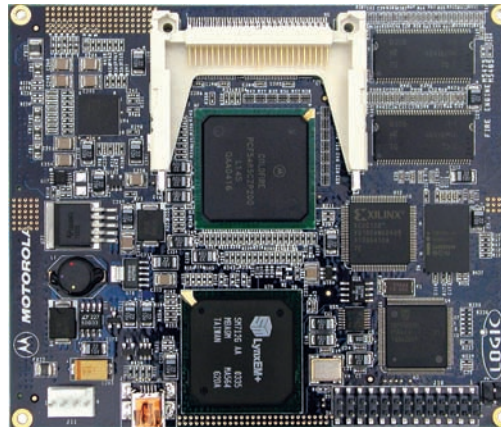
MCF548x FIRE ENGINE System on Module

The MCF548x Fire Engine is a compact, product-ready hardware and software solution that fast forwards your embedded product design.

The ColdFire MCF5484 and MCF5485 processors are ideally suited for embedded industrial applications requiring simultaneous control, connectivity, and security. The Fire Engine modules based on these processors are complete System on Modules (SOMs) offering essential features for embedded applications. Using a SOM allows engineers to design a custom baseboard that meets their specific needs and is compatible with other Logic SOMs. This compatibility makes it easy for developers to upgrade their product for greater functionality and performance—while still using their original baseboard design.

By starting with the corresponding Zoom™ LITEKIT or EVB Development Kit, developers can write application software on the same hardware that will be used in the final product.

The MCF5484 and MCF5485 ColdFire processors from Freescale Semiconductor provide a broad range of peripheral support,



MCF5485 FIRE ENGINE SYSTEM ON MODULE

making them ideal processors for industrial and embedded applications.

Designing a product around Logic's SOM allows developers to easily combine their core technologies with the high performance of the MCF5484 or MCF5485 ColdFire processor.

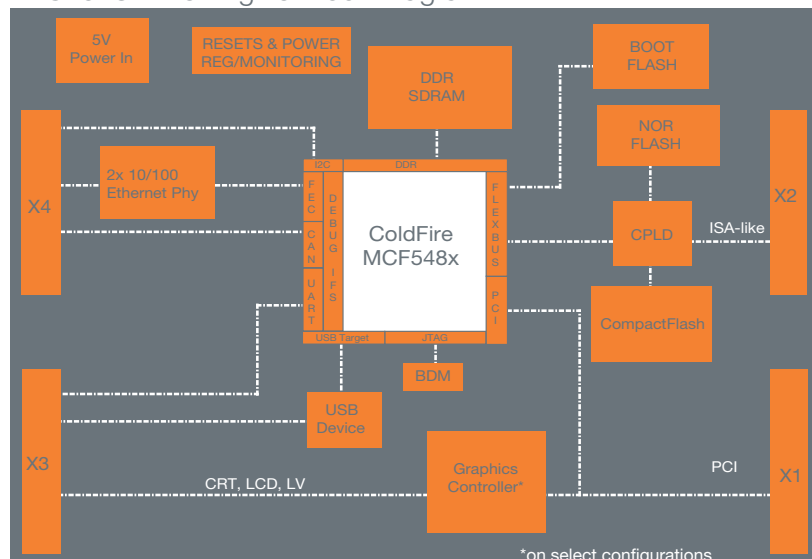
**MCF548x FIRE ENGINE ::
HIGHLIGHTS:**

- + Product-ready System on Module with the Freescale MCF5484 or MCF5485 ColdFire microprocessor running up to 200 MHz
- + SOM-ETX form factor
114 mm x 95 mm x 13.8 mm
- + Long product life-cycle
- + 0 °C to 70 °C (commercial temp)
- + RoHS compliant

**ZOOM™ COLDFIRE LITEKIT and EVB ::
FEATURES:**

- + Application baseboard
- + MCF548x Fire Engine (M5484GFEE or M5485HFEE)
- + Necessary accessories to immediately get up and running
- + Kit available from Freescale (M5484LITEKITE or M5485EVBE)
- + See Zoom™ ColdFire LITEKIT and EVB product briefs for more information

MCF548x Fire Engine Block Diagram



MCF548x Fire Engine Ordering Information

Freescal PN	Speed (MHz)	SDRAM (MB)	Boot Flash (MB)	NOR Flash (MB)	Graphics	Audio	Ethernet
M5484GFEE	up to 200	64	4	0	—	Y	Y
M5485AFEE	up to 200	64	2	0	—	Y	Y
M5485BFEE	up to 200	64	2	16	—	Y	Y
M5485HFEE	up to 200	64	2	16	Y	Y	Y

ZOOM™ ColdFire LITEKIT and EVB Ordering Information

Freescal PN	SOM Configuration	Recommended Resale
M5484LITEKITE	M5484GFEE	\$350
M5485EVB	M5485HFEE	\$850

LOGIC WEBSITE :: DESIGN RESOURCES:

- + Logic Technical Support : <http://www.logicpd.com/support/>
- + Technical Discussion Group : <http://www.logicpd.com/support/tdg/>
- + Frequently Asked Questions (FAQ) : <http://www.logicpd.com/support/faq/>
- + For more information contact Logic Sales : product.sales@logicpd.com



embedded product solutions

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Product Features

Processor

- + Freescale MCF5484 or MCF5485 ColdFire V4e microprocessor running up to 200 MHz

SDRAM Memory

- + 64 MB DDR SDRAM standard

Flash Memory

- + Boot flash: 2 or 4 MB
- + NOR flash: 0 or 16 MB

Display

- + Programmable color LCD controller
- + Built-in driver supports up to 1024x768 with 16-bit LCD interface

Network Support

- + Dual 10/100 Base-T Ethernet controller for application/debug

Hardware Encryption Engine

- + MCF5485 only

PC Card Expansion

- + CompactFlash Type I card (memory-mapped mode only) supported through the CPLD
- + Two PCI 2.2 slots

USB

- + One USB 2.0 high-speed device interface

PSC Ports

- + Four PSC UARTs
- + Configurable as UART, USART, modem, codec, or IrDA

CAN

- + Two CAN 2.0B interfaces

PWM

- + Four channels

GPIO

- + Programmable IO depending on peripheral requirements

Software

- + LogicLoader™ (bootloader/monitor)
- + Freescale dBug ROM monitor
- + Other third-party options

Mechanical

- + 95 mm wide x 114 mm long x 13.8 mm high

RoHS Compliant