

Welcome to [E-XFL.COM](https://www.e-xfl.com)

Embedded - Microcontrollers - Application Specific: Tailored Solutions for Precision and Performance

Embedded - Microcontrollers - Application Specific represents a category of microcontrollers designed with unique features and capabilities tailored to specific application needs. Unlike general-purpose microcontrollers, application-specific microcontrollers are optimized for particular tasks, offering enhanced performance, efficiency, and functionality to meet the demands of specialized applications.

What Are Embedded - Microcontrollers - Application Specific?

Application specific microcontrollers are engineered to

Details

Product Status	Active
Applications	Keyboard and Embedded Controller
Core Processor	MIPS32® M14K™
Program Memory Type	External Program Memory
Controller Series	-
RAM Size	192KB
Interface	I ² C, LPC, SMBus, SPI, UART
Number of I/O	108
Voltage - Supply	1.71V ~ 3.465V
Operating Temperature	0°C ~ 70°C
Mounting Type	Surface Mount
Package / Case	128-WFBGA
Supplier Device Package	128-WFBGA (7x7)
Purchase URL	https://www.e-xfl.com/product-detail/microchip-technology/mec1428-tf-c1-tr

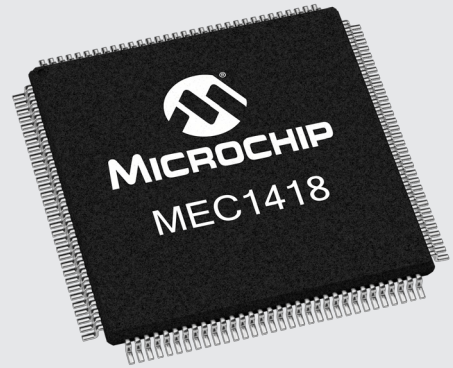
MEC14XX Family

Low-Power Embedded Controllers for Computing Applications

Modernize Your Computing Platforms

As Intel® Processors fully transition towards the more flexible and efficient eSPI host interface, computing products must progress along with it. The MEC14XX family of devices provides low-power, highly configurable embedded controllers for an effortless transition.

Microchip offers a flexible array of solutions for all mobile platforms including notebooks, tablets, SBCs and industrial controllers. All MEC14XX devices are pin compatible with each other to provide easy migration from LPC-based to eSPI-based designs.



Key Features

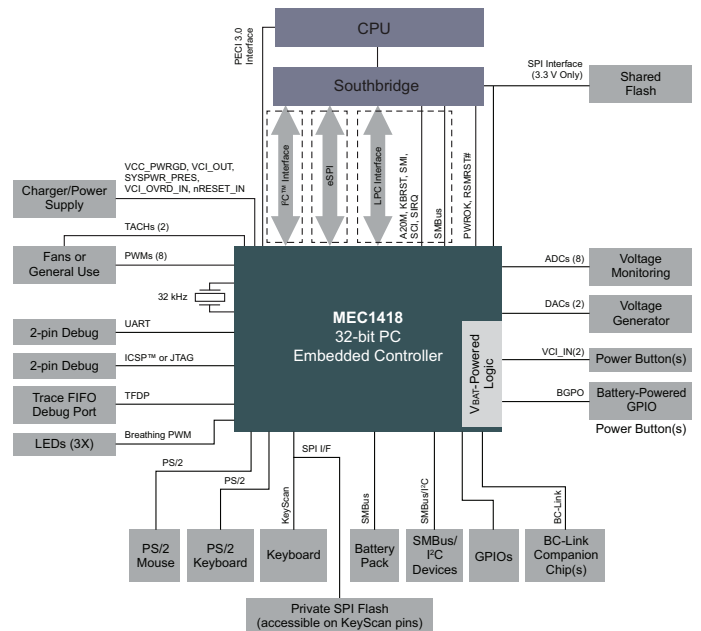
- MIPS32 M14K microcontroller core
- Fully supported by MPLAB Microchip development tools
- 192 KB of SRAM
- eSPI (MEC1418 and MEC1428), LPC, PECEI, PS2 and I²C interface
- Flexible Support of 1.8V and 3.3V I/O
- Host interface inflection from LPC to eSPI
- Secure Boot ROM with CRC 32 and AES 128
- Master and slave attached Flash available

Microchip's eSPI Advantage

- Pioneered eSPI system with industry partners
- Validated with both Intel and AMD platforms
- Fully supports all of eSPI channels



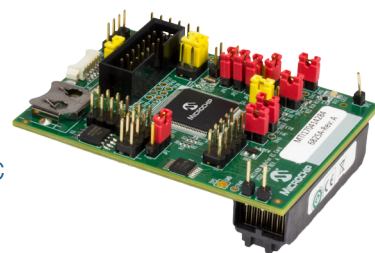
System Diagram





Development Tools

The MEC14XX family is supported by Microchip's award winning development tools including the MPLAB® XC32 Compiler and MPLAB REAL ICE™ In-Circuit Emulator, the MPLAB ICD 3 In-Circuit Debugger, and the PICkit™ 3 Programmer/Debugger. The MEC1418 and MEC1428 also have demo boards with various features that illustrate the functionality of the embedded controllers. The demo boards can be found at www.microchipdirect.com/EVB-MEC1418MECC and www.microchipdirect.com/EVB-MEC1428MECC respectively.



MEC14XX Products

Product	Host Interface	SRAM Memory	Keyboard Matrix Scan Controller	SMBus 2.0 Ports	I ² C Ports/Controllers	PS/2 Controllers	GPIOs	SPI Interfaces	SPI Flash Support	DACs	ADCs	PWMs	TACHs	UART	Operating Temperature	Package
MEC1408	LPC, I ² C	192 KB	18 x 8	6	5/3	2	106	3	3.3V	2	8	8	2	Full	0°C to 70°C	128-VTQFP 144-WFBGA
MEC1418	eSPI, LPC, I ² C	192 KB	18 x 8	6	5/3	2	106	3	3.3V	2	8	8	2	Full	0°C to 70°C -40°C to 85°C	128-VTQFP 144-WFBGA
MEC1428	eSPI, LPC, I ² C	192 KB	18 x 8	7	6/5	2	108	3	1.8V 3.3V	0	8	8	4	Full	0°C to 70°C -40°C to 85°C	128-WFBGA 128-VTQFP 144-WFBGA

The Microchip name and logo, the Microchip logo and MPLAB are registered trademarks and PICkit and REAL ICE are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries. All other trademarks mentioned herein are property of their respective companies. © 2017, Microchip Technology Incorporated. All Rights Reserved. 8/17 DS00002518A