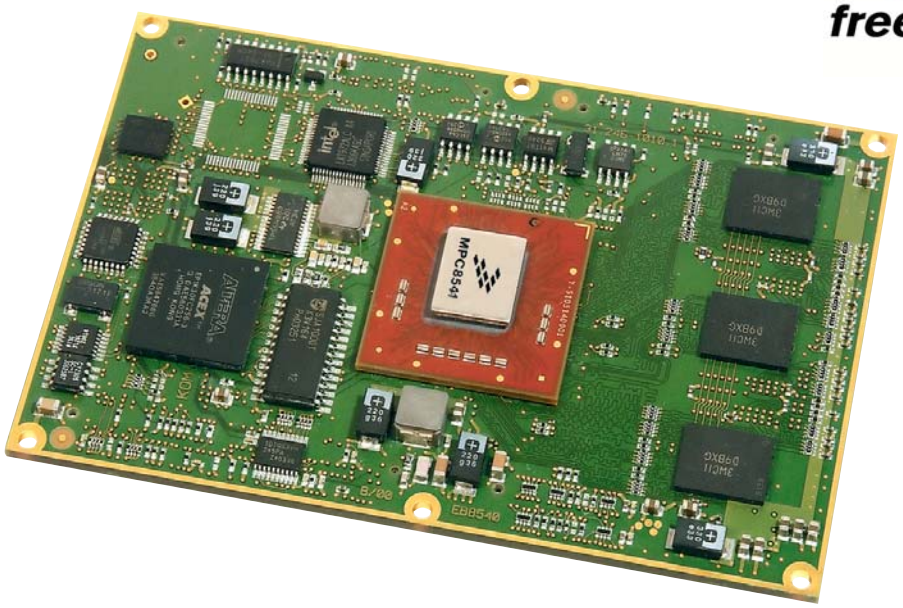
EB8541
MPC8541 PowerPC

freescale™ Enabled



E²BRAIN *the intelligent module*

Outstanding Performance
The EB8541 delivers highest performance and data throughput with integrated security features.

Comprehensive Feature Set
As a complete Computer-On-Module, the EB8541 comprises a comprehensive and well-balanced set of board interfaces and features.

Open standard
Take advantage of the open E²Brain standard assuring compatibility, upgradability and easy deployment.

Product Overview

Addressing the needs for higher compute density, lower system cost and increasing demands in data security, the EB8541 E²Brain Computer-On-Module is designed to provide the highest level of performance and integration available today.

Outstanding Performance

The highly performant Freescale MPC8541 PowerPC processor integrates the enhanced e500 core (PowerPC Book E compliant) with 256 kB L2 cache. Together with DDR-SDRAM, Dual GigaBit Ethernet, two Fast Ethernet interfaces and a built-in security engine for encryption/decryption tasks, the EB8541 provides an unprecedented level of computing performance, memory and I/O bandwith.

Comprehensive Feature Set

The EB8541 provides an unparalleled combination of interfaces and features for demanding embedded computing tasks. Dual Gigabit Ethernet and two Fast Ethernet interfaces, six serial ports, I²C, PCI, LPC, CompactFlash and CAN together with a real time clock and watchdog leave nothing to be desired.

Open Standard

The E²Brain Computer-On-Module family based on an open standard offers a bunch of advantages like scalability and upgradability, paving the way for shorter time-to market for all kind of embedded computing appliances.

Processor

Integrated PowerPC microprocessor Freescale MPC8541 @ 660 MHz (800 optional)
Internal processor core e500 (Book E compliant) with 256 kB L2 cache
1520 Dhrystone (2.1) MIPS at 660 MHz

Memory

Up to 256 MB DDR-SDRAM
Up to 64 MB soldered Flash
64 kBit EEPROM for user settings

Additional onboard devices

Real time clock w. backup by auxiliary power, watchdog, temperature sensor, SJA1000 CAN controller

System interface

PCI Master interface, 32 Bit address/data, 33MHz, LPC (Low Pin Count) interface (no DMA) for I/O extensions, I†C, JTAG/BDM interface, 2 Terminal ports (Rx/Tx only), Utility port (LEDs, Reset, Abort), CompactFlash (IDE) interface

I/O interface

2x GigaBit Ethernet (GMII interface)
2x Fast Ethernet Interface 10/100Base-Tx with autosensing
2/4 high-speed serial ports (16550 compatible)
CAN (L2) interface with SJA100 controller (optional)

Software support

Operating system independent boot loader with network support
VxWorks board support package
Linux board support packages

Power consumption

typ. 9W at 3,3V (660 MHz, 16 MB Flash, 256 MB DDR-SDRAM)

Common

Mechanical Conformance:	E²Brain Module Specification Rev. 0.2
Dimension:	115 mm x 75 mm (E²Brain card size)
Temperature Ranges:	0 °C to + 70 °C (standard)
	–40 °C to +85 °C (extended, with appropriate cooling)
Operation Humidity Range:	93% RH at 40 °C, non-condensing
	(acc. to IEC 60068-2-78)
Weight:	75 g
MTBF:	222,673 (acc. MIL-HDBK-217F)

Ordering Information

Product	Description	Order No.
EB8541	E²Brain PowerPC module with Freescale MPC8541 @ 660MHz, 256MB DDR-SDRAM, 16MB Flash, 4 serial ports, CAN interface	29273
EB8541	E²Brain PowerPC module with Freescale MPC8541 @ 660MHz, 128MB DDR-SDRAM, 8MB Flash, 2 serial ports	29274
KIT-EB8540	EB8540/8541 documentation on CD-R [1]	27808
VXW-BSP-EB8541	VxWorks Board Support Package for WindRiver Workbench	29963
LIN-BSP-EB8541	Linux Board Support Package, distribution independent package with cross toolchain and root file system	30186
EB8541-EVALKIT	Evaluation kit for EB8541, contains EB8541 (256MB SDRAM, 16MB Flash), evaluation carrier board, power supply, cabling, pre-installed Linux BSP, CD-ROM with documentation and Linux software	30187
	1) KIT-EB8540 downloadable from the Internet free of charge	

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Publication Version 11/2005
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