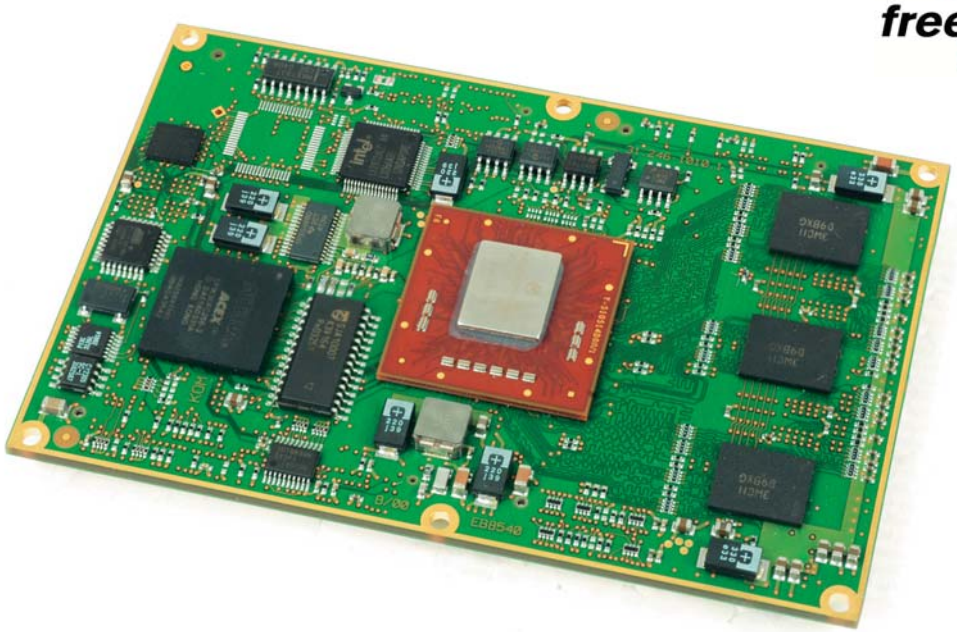
EB8540
MPC8540 PowerPC

freescale™ Enabled



E²BRAIN *the intelligent module*

Outstanding Performance
The MPC8540 with up to 800 MHz delivers leading edge performance at extraordinary low power consumption

Comprehensive Feature Set
As a complete Computer-On-Module, the EB8540 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 faster time to market, the EB8540 E²Brain Computer-On-Module is designed to provide the highest level of performance and integration available today.

Outstanding Performance

The highly performant Freescale MPC8540 PowerPC processor integrates the enhanced e500 core (PowerPC Book E compliant) with 256 kB L2 cache. Together with superfast DDR-SDRAM (330 MHz) and Dual GigaBit Ethernet, the EB8540 provides an unprecedented level of computing performance, memory and I/O bandwith, nevertheless perfectly balancing MIPS, watts and cost.

Comprehensive Feature Set

Utilizing one of the highest integrated processors available, the EB8540 provides an unparalleled combination of interfaces and features for demanding embedded computing tasks. Dual Gigabit Ethernet and a Fast Ethernet interface, 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 MPC8540/8541 @ 660/800 MHz
Internal processor core e500 (Book E compliant) with 256 kB L2 cache
1850 Dhrystone (2.1) MIPS at 800 MHz; (1527 at 660 MHz)

Memory

Up to 256 MB DDR-SDRAM (330 MHz)
Up to 32 MB soldered Flash
64 kBit EEPROM for user settings

Additional onboard devices

Real time clock w. backup by goldcap capacitor, Watchdog, LM75 temperature sensor, SJA1000 CAN controller

System interface

PCI Master/Agent 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

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

Software support

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

Power consumption

typ. 12W at 3,3V (800 MHz, 16 MB Flash, 256 MB DDR-SDRAM)

Common

Mechanical Conformance:	E²Brain Module Specification Rev. 0.0
Dimension:	115 mm x 75 mm (E²Brain card size)
Temperature Ranges:	0 °C to + 70 °C (standard) –40 °C to +85 °C (extended)
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.
EB8540	E²Brain PowerPC module with Freescale MPC8540 @ 800MHz, 256MB DDR-SDRAM, 16MB Flash, 4 serial ports, CAN interface	27803
EB8540	E²Brain PowerPC module with Freescale MPC8540 @ 660MHz, 128MB DDR-SDRAM, 8MB Flash, 2 serial ports	27804
EB8540-E2	E²Brain PowerPC module with Freescale MPC8540 @ 660MHz, 128MB DDR-SDRAM, 8MB Flash, 2 serial ports	27805
KIT-EB8540	EB8540 documentation on CD-R [1]	27808
VXW-BSP-EB8540	VxWorks Board Support Package for Tornado V2.2	27806
LIN-BSP-EB8540	Linux Board Support Package	27807
EB8540-EVALKIT	Evaluation kit for EB8540, contains EB8540 (256MB SDRAM, 16MB Flash), evaluation carrier board, power supply, cabling, pre-installed Linux BSP, CD-ROM with documentation and Linux software	27809
	1) KIT-EB8540 downloadable from the Internet free of charge	

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