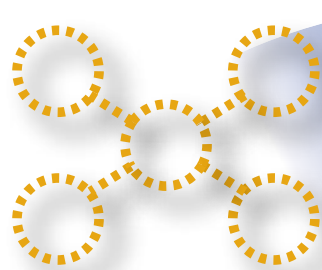


Power Architecture Products



Product Selector Guide

AMCC



Network
Convergence

AMCC

**Connecting
the Technology
that Connects
Us All**



Triple-Play
Applications



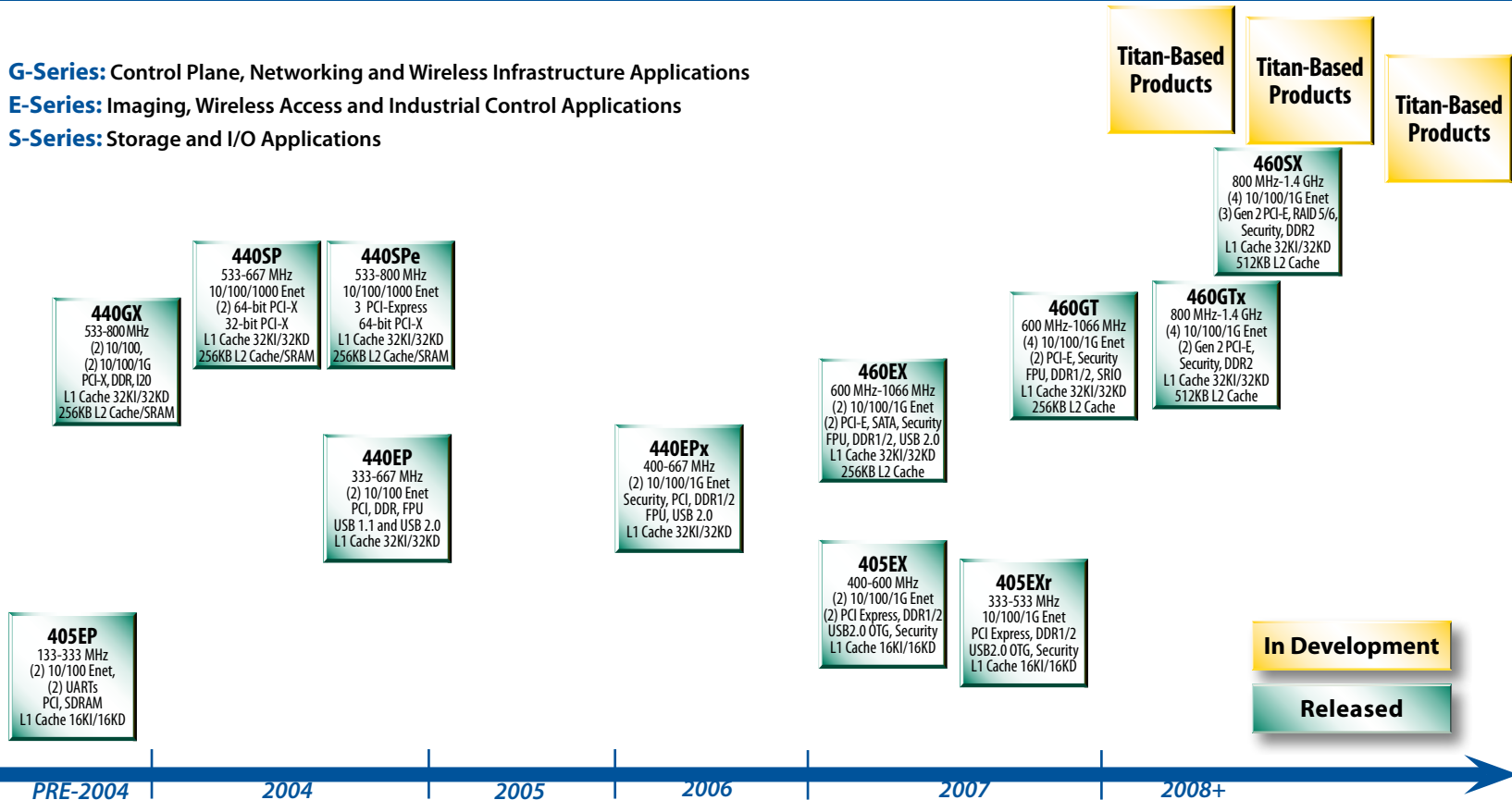
Digital Content
Storage

AMCC Power Architecture Product Roadmap

G-Series: Control Plane, Networking and Wireless Infrastructure Applications

E-Series: Imaging, Wireless Access and Industrial Control Applications

S-Series: Storage and I/O Applications



Power Architecture 405xx Family at a Glance

	405EP	405EX	405EXr	405GPr
CPU Complex	Up to 333 MHz/506 DMIPS 16KB I-cache/16KB D-cache	Up to 600 MHz/912 DMIPS 16KB I-cache/16KB D-cache	Up to 533 MHz/810 DMIPS 16KB I-cache/16KB D-cache	Up to 400 MHz/608 DMIPS 16KB I-cache/16KB D-cache
Memory and Bus Architecture	4KB SRAM SDRAM controller External Bus controller	DDR1/2 SDRAM controller External Bus Master Interface External Bus controller NAND/NOR Flash controller	DDR1/2 SDRAM controller External Bus Master Interface External Bus controller NAND/NOR Flash controller	SDRAM controller 4KB SRAM External Bus controller
System Resources	Up to 32 GP I/Os DMA controller	Interrupt controller Up to 32 GP I/Os DMA controller	Interrupt controller Up to 32 GP I/Os DMA controller	Up to 24 GP I/Os DMA controller
High Speed & Inter-Chip Connectivity	32-bit PCI controller IIC controller	2 PCI Express 1-Lane	PCI Express 1-Lane	32-bit PCI controller IIC controller
Network Connectivity	2 10/100 2 UARTs	2 10/100/1G USB2.0 On-the-Go port 2 UARTs	10/100/1G USB2.0 On-the-Go port 2 UARTs	10/100 2 UARTs
Special Functionality		Turbo Security Engine	Turbo Security Engine	
Typical Power	0.72W @ 266 MHz	1.75W @ 400 MHz	1.5W @ 400 MHz	0.72W @ 266 MHz

Power Architecture 405EP processor

Specifications

CPU Complex

- Power Architecture 405 processor core
- Up to 333 MHz/506 DMIPS
- 16KB I-cache/16KB D-cache

Memory and Bus Architecture

- On-chip 4KB SRAM with single-cycle access
- SDRAM controller
- On-chip external bus controller

System Resources

- Up to 32 general purpose I/Os
- DMA controller

High Speed & Inter-Chip Connectivity

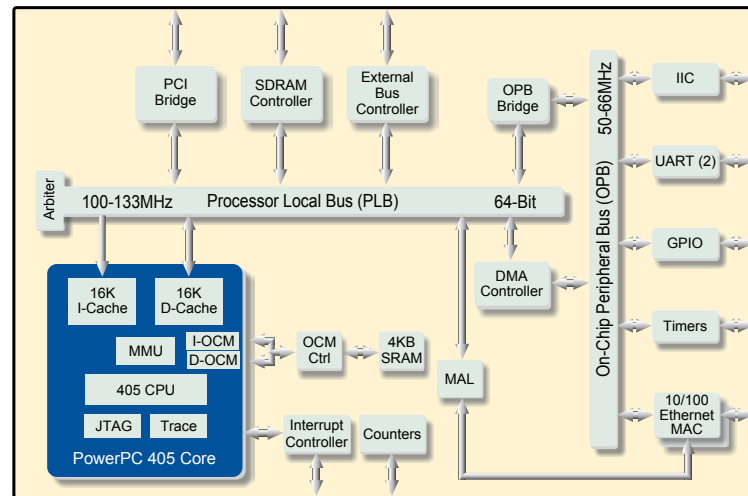
- 32-bit PCI controller, 66 MHz (PCI v2.2 compliant)
- Master and slave IIC controller

Network Connectivity

- Two on-chip Ethernet MACs
- Two UARTs

Power

- 0.72W typical power @ 266 MHz



PPC405EP-3GB200CZ

AMCC Part Name

Grade 3 Reliability

Package (EPBGA)

G = 31mm²

L = 31mm² lead free

Revision Level

B = 1.1

Processor Speed

133, 200, 266 and 333 MHz

Case Temperature Range

C = -40C to +85C

Shipping Package

z = tape/reel

blank=tray

Target Applications

- High-density designs where connectivity is at a premium, including: Wireless LAN access points, Edge routers and Broadband modems

Power Architecture 405EX processor

Specifications

CPU Complex

- Power Architecture 405 processor core
- Up to 600 MHz/912 DMIPS
- 16KB I-cache/16KB D-cache

Memory and Bus Architecture

- 32-bit DDR1/2 SDRAM controller with ECC, supports both x16 or x32, up to 2GB memory bank
- External Bus Master Interface (EBMI)
- 8/16/32-bit External Peripheral Bus Controller
- NAND Flash controller

System Resources

- Universal Interrupt Controller: 10 external interrupts
- Up to 32 general purpose I/Os
- DMA Controller with four independent channels

High Speed & Inter-Chip Connectivity

- Two PCI Express 1-Lane Interfaces, each with separate controller and SERDES, up to 2.5Gbps per lane

Network Connectivity

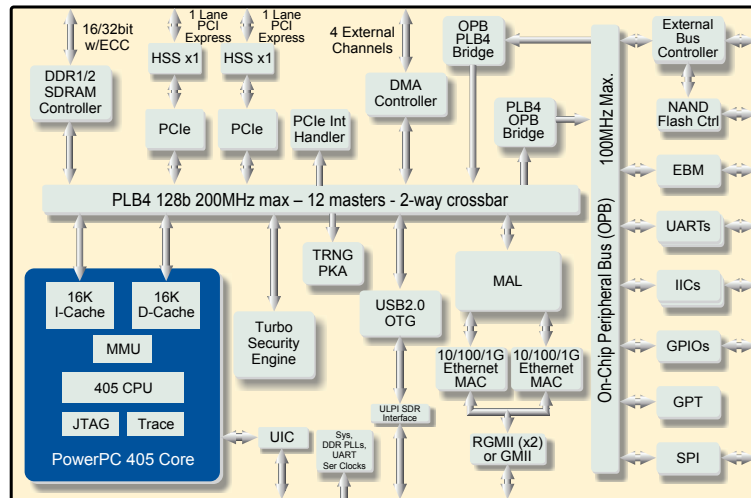
- Two 10/100/1G Ethernet MACs
- USB2.0 On-the-Go port, both host and device mode supported
- Two UARTs

Special Functionality

- Turbo Security Engine: Optional on-chip IPsec/SSL/bulk data security acceleration engine (Crypto Engine)

Power

- 1.75W est. typical power @ 400 MHz CPU
- Extended Temperature Range: 533 MHz part can operate at temperatures up to +95C provided that speed is limited to 400 MHz



PPC405EX-SSC600T

AMCC Part Name

Security

S = Security
N = No Security

Package (EPBGA)

P = 27mm²
S = 27mm² lead-free

Revision Level

C = 1.2

Case Temperature Range
T = -40C to +85C

Processor Speed
400, 533 and 600 MHz

Target Applications

- WLAN Access – 802.11n WAP applications for Enterprise and high-end SOHO
- WiMAX base stations, either fixed or mobile
- General Networking
- General Purpose processing

Power Architecture 405EXr processor

Specifications

CPU Complex

- Power Architecture 405 processor core
- Up to 533 MHz/810 DMIPS
- 16KB I-cache/16KB D-cache

Memory and Bus Architecture

- 32-bit DDR1/2 SDRAM controller with ECC, supports both x16 or x32, up to 2GB memory bank
- External Bus Master Interface (EBMI)
- 8/16/32-bit External Peripheral Bus Controller
- NAND Flash controller

System Resources

- Universal Interrupt Controller: 10 external interrupts
- Up to 32 general purpose I/Os
- DMA Controller with four independent channels

High Speed & Inter-Chip Connectivity

- One PCI Express 1-Lane Interface with controller and SERDES, up to 2.5Gbps

Network Connectivity

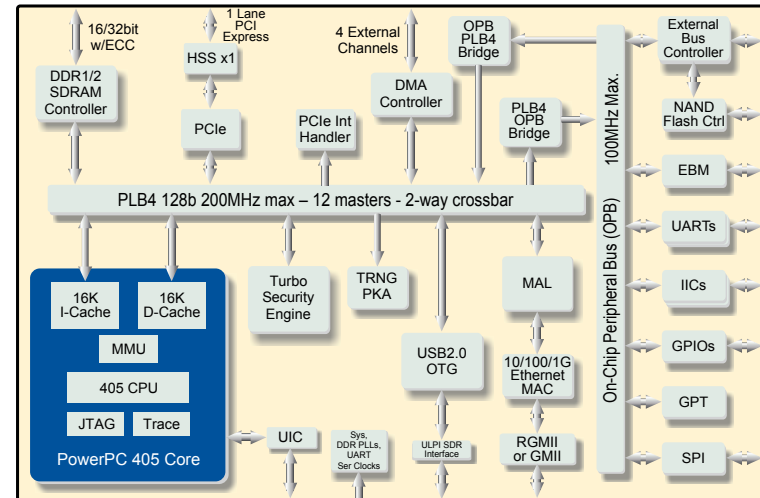
- One 10/100/1G Ethernet MAC
- USB2.0 On-the-Go port, both host and device mode supported
- Two UARTs

Special Functionality

- Turbo Security Engine: Optional on-chip IPsec/SSL/bulk data security acceleration engine (Crypto Engine)

Power

- 1.5W est. typical power @ 400 MHz CPU
- Extended Temperature Range: 533 MHz part can operate at temperatures up to +95C provided that speed is limited to 400 MHz



PPC405EXr-SSC533T

AMCC Part Name

Security

S = Security
N = No Security

Package (EPBGA)

P = 27mm²
S = 27mm² lead-free

Revision Level

C = 1.2

Case Temperature Range

T = -40C to +85C

Processor Speed

333, 400 and 533 MHz

Target Applications

- WLAN Access - 802.11n WAP applications for small or medium businesses, IP-STB's or residential gateways, and high-end SOHO
- WiMAX CPE, either fixed or mobile
- General Networking
- General Purpose processing

Power Architecture 405GPr processor

Specifications

CPU Complex

- Power Architecture 405 processor core
- Up to 400 MHz/608 DMIPS
- 16KB I-cache/16KB D-cache

Memory and Bus Architecture

- SDRAM controller
- On-chip 4KB SRAM
- External bus controller

System Resources

- Up to 24 general purpose I/Os
- DMA controller

High Speed & Inter-Chip Connectivity

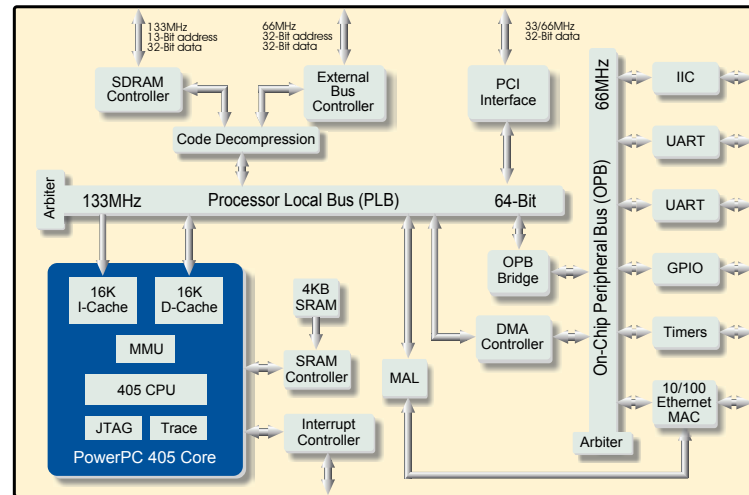
- 32-bit PCI controller, 66 MHz (PCI v2.2 compliant)
- Master and slave IIC controller

Network Connectivity

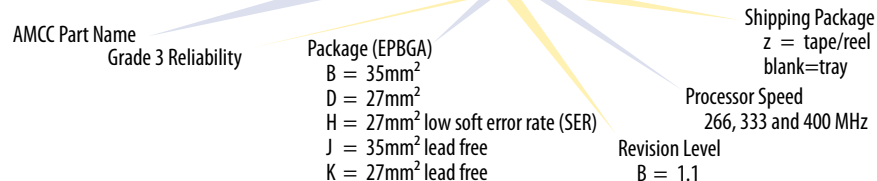
- 10/100 Ethernet MAC
- Two UARTs

Power

- 0.72W typical power @ 266 MHz
- Extended Temperature Range: 333 MHz part can operate at temperatures up to +105C provided that speed is limited to 266 MHz



PPC405GPr-3BB400Z



Target Applications

- Internet and communications
- Wide variety of embedded networking applications

Power Architecture 440xx/460xx Family at a Glance

	440EP	440EPx	440GX	440SP	440SPe	460EX	460GT	460GTx	460SX
CPU Complex	Up to 667 MHz/ 1334 DMIPS 32KB I-cache/ 32KB D-cache FPU	Up to 667 MHz/ 1334 DMIPS 32KB I-cache/ 32KB D-cache FPU	Up to 800 MHz/ 1600 DMIPS 32KB I-cache/ 32KB D-cache 256KB L2 Cache/SRAM	Up to 667 MHz/ 1334 DMIPS 32KB I-cache/ 32KB D-cache 256KB L2 Cache/SRAM	Up to 800 MHz/ 1600 DMIPS 32KB I-cache/ 32KB D-cache 256KB L2 Cache/SRAM	Up to 1066 MHz/ 2132 DMIPS 32KB I-cache/ 32KB D-cache 256KB L2 Cache FPU	Up to 1066 MHz/ 2132 DMIPS 32KB I-cache/ 32KB D-cache 256KB L2 Cache FPU	Up to 1.4 GHz/ 2800 DMIPS 32KB I-cache/ 32KB D-cache 512KB L2 Cache	Up to 1.4 GHz/ 2800 DMIPS 32KB I-cache/ 32KB D-cache 512KB L2 Cache
Memory and Bus Architecture	External Peripheral controller DDR1 SDRAM controller NAND Flash controller	External Peripheral controller DDR1/2 SDRAM controller NAND Flash controller 16k SRAM	External Peripheral controller DDR SDRAM controller	External Peripheral controller DDR1/2 SDRAM controller	External Peripheral controller DDR1/2 SDRAM controller	External Peripheral controller DDR1/2 SDRAM controller 64KB SRAM	External Peripheral controller DDR1/2 SDRAM controller 64KB SRAM	External Peripheral controller DDR2 SDRAM controller NAND Flash ctr 512KB L2 Cache can be used as SRAM	External Peripheral controller DDR2 SDRAM controller NAND Flash ctr 512KB L2 Cache can be used as SRAM
System Resources	Up to 64 GP I/Os Interrupt controller DMA controller	Up to 64 GP I/Os Interrupt controller DMA controller	Up to 32 GP I/Os Interrupt controller DMA controller	Up to 32 GP I/Os Interrupt controller 2 DMA controllers w/I2O	Up to 32 GP I/Os Interrupt controller 2 DMA controllers w/I2O DMA controller w/XOR	Up to 64 GP I/Os Interrupt controller High Speed DMA controller 4-channel DMA controller	Up to 64 GP I/Os Interrupt controller High Speed DMA controller 4-channel DMA controller	Up to 32 GP I/Os Interrupt controller High Speed DMA controller 4-channel DMA controller	Up to 32 GP I/Os Interrupt controller 3-channel HB DMA engine 4-channel DMA controller
High Speed & Inter-Chip Connectivity	PCI controller 2 IIC controller SPI	PCI controller 2 IIC controller SPI	PCI-X controller 2 IIC controller	PCI-X controller: 2 64b PCI-X, 1 32b PCI-X 2 IIC controller	PCIe x8 Lane 2 PCIe x4 Lane PCI-X 2 IIC controller	PCI controller PCIe x4 Lane PCIe x1 Lane 2 IIC controller SPI	PCI controller PCIe x4 Lane PCIe x1 Lane 2 IIC controller SPI Serial RapidIO	2 PCIe x4-lane or 1 PCIe x8-lane 2 IIC controller	1 PCIe x8 Lane and 2 PCIe x4 Lane or 2 PCIe x8 Lane 2 IIC controller
Network Connectivity	2 10/100 4 UARTs USB 1.1 Host & Device USB 2.0 Device	2 10/100/1G 4 UARTs USB 2.0 Host USB 2.0 Device	2 10/100 2 10/100/GE TCP/IP Hardware Assist 2 UARTs	10/100/GE (GMII/MII) 3 UARTs	10/100/GE (GMII/MII) 3 UARTs	2 10/100/GE TCP/IP Hardware Assist USB 2.0 OTG, USB 2.0 Host 4 UARTs	4 10/100/GE TCP/IP Hardware Assist 4 UARTs	4 10/100/GE TCP/IP Hardware Assist 2 UARTs	4 10/100/GE TCP/IP Hardware Assist 2 UARTs
Special/Optional Functionality		Turbo Security Engine Kasumi engine		RAID 5 & 6 XOR	RAID 5 & 6 XOR	RAID 5 XOR Turbo Security Engine Kasumi engine SATA II single port	Turbo Security Engine Kasumi engine	Turbo Security Engine IEEE1588 V2 clock sync	RAID 5 & 6 XOR Turbo Security Engine Storage Security Engine IEEE1588V2 clock sync
Typical Power	<3W @ 533 MHz	<4W @ 533 MHz	<4W @ 533 MHz	<6W @ 533 MHz	<7W @ 533 MHz	<6W @ 1 GHz	6W @ 1 GHz	<10W @ 1 GHz	<10W @ 1 GHz

Power Architecture 440EP processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 667 MHz/1334 DMIPS
- 32KB I-cache/D-cache with parity
- 5 Stage FPU with 2.0 MFLOPS/MHz

Memory and Bus Architecture

- External Bus Controller - 16-bit data, 30-bit address, 50-66 MHz, 6 chip selectors
- 32-bit DDR1 SDRAM controller for DDR200/266 operation
- NAND Flash controller supporting 1 to 4 banks of NAND Flash memory devices; Boot-from-NAND supported

System Resources

- Up to 64 general purpose I/Os
- Universal programmable interrupt controller
- SPI serial interface 4-channel DMA

High Speed & Inter-Chip Connectivity

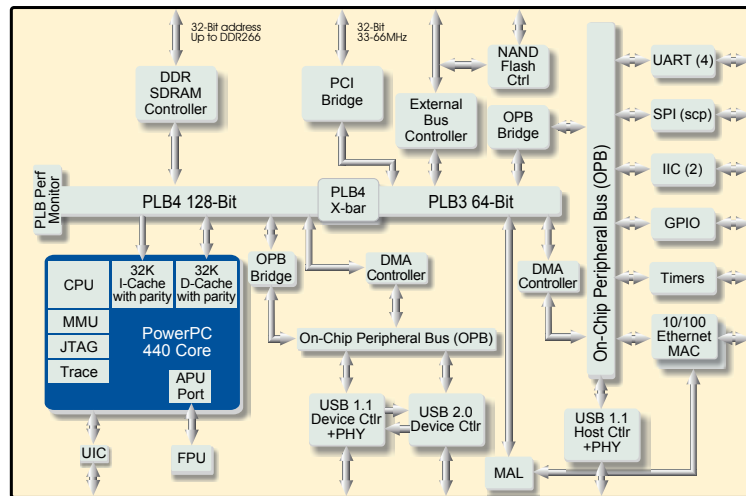
- 32-bit PCI controller, 66 MHz (PCI v2.2 compliant)
- Master and slave IIC controller
- One SPI Serial Communications Port (SCP)

Network Connectivity

- Two 10/100 Ethernet MACs
- USB 1.1 Host and Device Controllers and PHYs
- USB 2.0 Device Controller
- Four UARTs

Power

- <3W typical power @ 533 MHz



PPC440EP-3BC400CZ

AMCC Part Name

Grade 3 Reliability

Package (EPBGA)

B = 35mm²

J = 35mm² lead free

Revision Level

C = 2.1

Processor Speed

333, 400, 533 and 667 MHz

Case Temperature Range

C = -40C to +90C (333 MHz, 400 MHz)

C = -40C to +100C (533 MHz)

C = -40C to +85C (667 MHz)

Shipping Package

z = tape/reel

blank=tray

Target Applications

• Imaging

• Industrial Control

• Networking

Power Architecture 440EPx processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 667 MHz/1334 DMIPS
- 32KB I-cache/D-cache with parity
- 5 stage FPU with 2.0 MFLOPS/MHz

Memory and Bus Architecture

- 32-bit, 83 MHz On-chip Peripheral Bus
- 32/64-bit DDR1/2 SDRAM controller with ECC support
- 32/16/8-bit data, 30-bit address external bus controller supporting ROM, EPROM, SRAM, Flash and Slave peripheral I/O banks including support for NAND Flash
- 16KB On-Chip Memory (OCM)

System Resources

- Up to 64 general purpose I/Os
- Programmable interrupt controller with 10 external inputs
- DMA Controller

High Speed & Inter-Chip Connectivity

- 32-bit PCI controller, 66 MHz (PCI v2.2 compliant)
- Two IIC controllers
- One SPI Serial Communications Port (SCP)

Network Connectivity

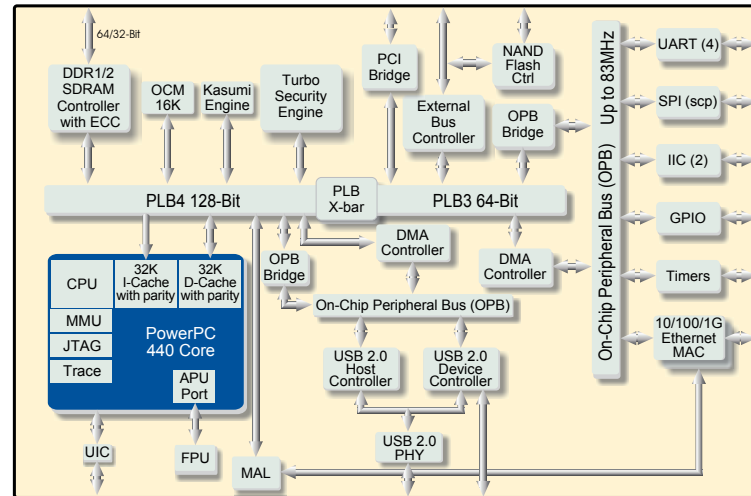
- USB 2.0 Host and Device Controllers with on-board PHY
- Two 10/100/1G Ethernet MACs
- Four UARTs

Special Functionality

- Turbo Security Engine: Optional on-chip IPsec/SSL/bulk data security acceleration engine (Crypto Engine)
- Kasumi encryption/decryption engine

Power

- <4W typical power @ 533 MHz



PPC440EPx-SUA667T

AMCC Part Name

Security

S = Security

N = No Security

Package (TE-PBGA)

T = 35mm²

U = 35mm² lead free

Revision Level

A = 1.0

Case Temperature Range

T = -40C to +100C

Processor Speed

400, 533 and 667 MHz

Target Applications

• Imaging

• Industrial Control

• Networking

Power Architecture 440GX processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 800 MHz/1600 DMIPS
- 32KB I-cache/D-cache with parity
- 256KB on-chip memory or L2 Cache

Memory and Bus Architecture

- 32-bit, 83 MHz external bus controller
- 32/64-bit DDR333 SDRAM controller with ECC

System Resources

- Up to 32 general purpose I/Os
- Universal programmable interrupt controller
- DMA controller

High Speed & Inter-Chip Connectivity

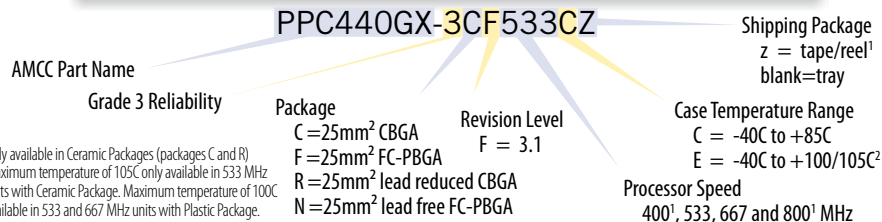
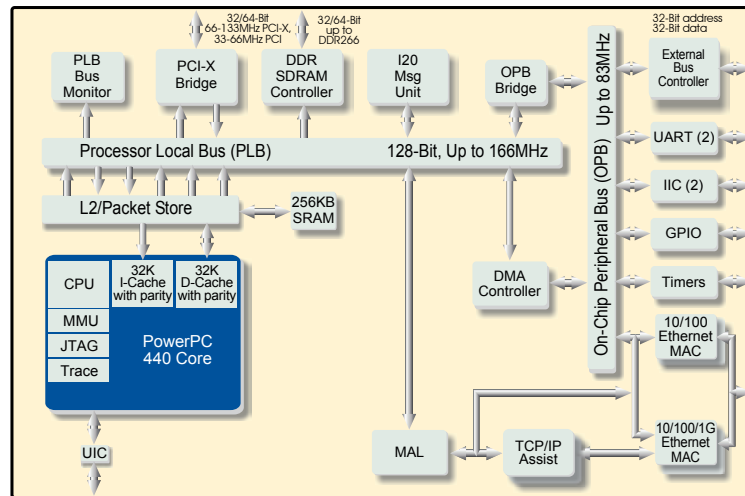
- 32/64-bit PCI-X controller, 133 MHz (PCI v2.2 compliant)
- Master and slave IIC controller

Network Connectivity

- Two 10/100/1G Ethernet MACs
- Two 10/100 Ethernet MACs
- TCP/IP hardware assist
- 2 UARTs

Power

- <4W typical power @ 533 MHz



Target Applications

- Control plane applications
- RAID controllers
- iSCSI processing
- Storage Area Networking (SAN)

Power Architecture 440SP processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 667 MHz/1334 DMIPS
- 32KB I-cache/D-cache with parity
- 256KB L2 cache, may also be used as on-chip SRAM

Memory and Bus Architecture

- High-speed Processor Local Bus (PLB) with 2-way crossbar supports 10.4 GB/s peak bandwidth
- 8-bit, 83 MHz external bus controller
- Dual-ported 32/64-bit SDRAM memory controller, interfaced to both PLB slave segments, supporting 166/333 MHz DDR1 and 333/667 MHz DDR2

System Resources

- Up to 32 general purpose I/Os
- Universal programmable interrupt controller
- Two-channel DMA included with I2O

High Speed & Inter-Chip Connectivity

- PCI-X v2.0 DDR compatible (266 MHz) bridge with two 64-bit and one 32-bit PCI-X interfaces
- Opaque PCI-X to PCI-X bridge functionality
- Master and slave IIC controller

Network Connectivity

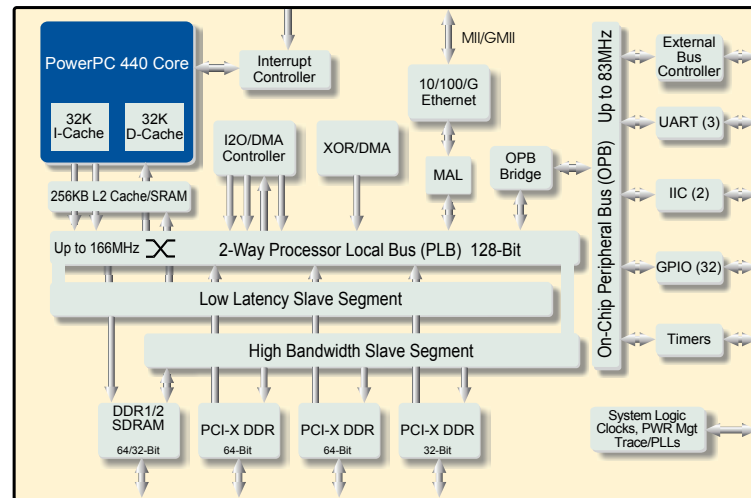
- 10/100/1G Ethernet MAC (GMII/MII)
- Three UARTs

Special Functionality

- RAID 5 and RAID 6 acceleration hardware
- RAID XOR function with one-channel DMA for parity generation and checking

Power

- <6W typical power @ 533 MHz



PPC440SP-AFC533C

AMCC Part Name

RAID 6

A = No
R = Yes

Package (FC-PBGA)

F = 29mm²
N = 29mm² lead free

Case Temperature Range

C = -40C to +100C

Processor Speed

533 and 667 MHz

Revision Level

C = 1.2

Target Applications

- RAID controllers
- Storage Area Networking (SAN) equipment
- Network Attached Storage (NAS)
- Disk/Tape Backup Storage Equipment

Power Architecture 440SPe processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 800 MHz/1600 DMIPS
- 32KB I-cache/D-cache with parity
- 256KB L2 cache, may also be used as on-chip SRAM

Memory and Bus Architecture

- 128-bit, 166 MHz, 2-way Crossbar Processor Local Bus supporting 10.4GB/sec. peak bandwidth
- Dual-ported 32/64-bit SDRAM memory controller, interfaced to both PLB slave segments, supporting 166/333 MHz DDR1 and 333/667 MHz DDR2
- 32-bit, 83 MHz external bus controller

System Resources

- Up to 32 general purpose I/Os
- Two-channel DMA included with I2O; One-channel DMA with XOR

High Speed & Inter-Chip Connectivity

- PCI-Express ports - one "x8" lane and two "x4" lane
- PCI-X interface supporting DDR Operation
- Master and slave IIC controller

Network Connectivity

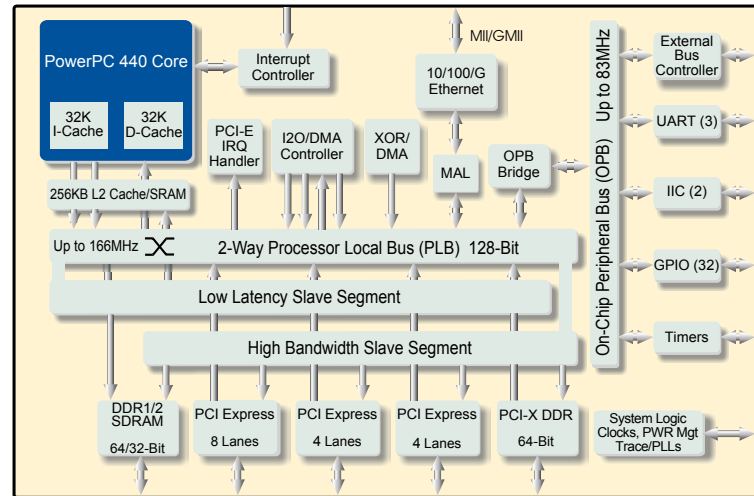
- 10/100/1G Ethernet MAC (GMII/MII)
- Three UARTs

Special Functionality

- RAID 5 and RAID 6 acceleration hardware
- RAID XOR function with one-channel DMA for parity generation and checking

Power

- <7W typical power @ 533 MHz



PPC440SPe-ANB533C

AMCC Part Name

RAID 6

A = No
R = Yes

Package (FC-PBGA)

G = 27mm²
N = 27mm² lead free

Case Temperature Range

C = 0C to +95C

Processor Speed

533, 667 and 800 MHz

Revision Level
B = 2.0

Target Applications

- RAID controllers
- Storage Area Networking (SAN) equipment
- Network Attached Storage (NAS)
- Disk/Tape Backup Storage Equipment

Power Architecture 460EX processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 1066 MHz/2132 DMIPS
- 32KB I-cache/D-cache with parity
- 256KB L2 cache with parity
- FPU (2Mflops/MHz Single and Double Precision)

Memory and Bus Architecture

- On chip Peripheral Bus - 32-bit, 100 MHz
- External Bus Controller - 32-bit data/27-bit address 100 MHz
- 32/64-bit DDR1/2 up to DDR533 with optional ECC (up to 16GB)
- 64KB of on chip SRAM (OCM)

System Resources

- Up to 64 general purpose I/Os
- Interrupt Controller with 10 external interrupts
- 4-channel DMA controller

High Speed & Inter-Chip Connectivity

- High Speed DMA controller (HSDMA) for high bandwidth applications
- PCI-Express ports - one "x4" lane and one "x1" lane
- PCI v2.3 compliant, 32-bit, 66 MHz
- 2 IIC with boot strap controller
- SPI

Network Connectivity

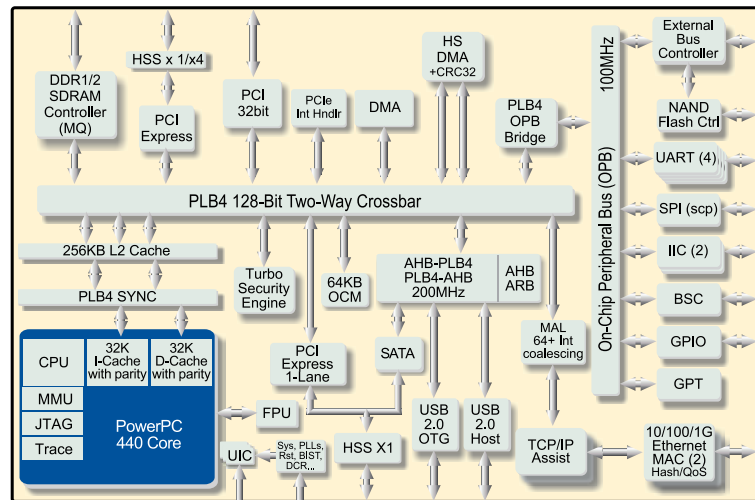
- Two 10/100/1G Ethernet MACs, both with SGMII
- TCP/IP hardware assist and QoS
- USB 2.0 OTG and Host with ULPI Interfaces
- Four UARTs

Special Functionality

- RAID 5 acceleration
- Turbo Security Engine: Optional on-chip IPsec/SSL/bulk data security acceleration engine (Crypto Engine)
- Kasumi encryption/decryption engine
- SATA II single port (mux'd with 2nd PCI-e port)

Power

- <6W typical power @ 1 GHz (est.)



PPC460EX-SUA1000T

AMCC Part Name

Security

S = Security

Package (TE-PBGA)

T = 35mm²

U = 35mm² lead-free

Case Temperature Range

T = -40C to +85C

Processor Speed

600, 800, 1000, and 1066 MHz

Revision Level

A = 1.0

Target Applications

- Multi-Function Printers
- Industrial Control
- General purpose embedded applications
- Networking

Power Architecture 460GT processor

Specifications

CPU Complex

- Power Architecture 440 processor core
- Up to 1066 MHz/2132 DMIPS
- 32KB I-cache/D-cache with parity
- 256KB L2 cache with parity
- FPU (2Mflops/MHz Single and Double Precision)

Memory and Bus Architecture

- On chip Peripheral Bus - 32-bit, 100 MHz
- External Bus Controller - 32-bit data/27-bit address 100 MHz
- 64KB of on chip SRAM (OCM)
- 32/64-bit DDR1/2 up to DDR533 with optional ECC (up to 16GB)

System Resources

- 4-channel DMA controller;
- High Speed DMA controller (HSDMA) for high bandwidth applications
- Interrupt Controller with 16 external interrupts

High Speed & Inter-Chip Connectivity

- PCI-Express ports - one "x4" lane and one "x1" lane
- PCI v2.3 compliant, 32-bit, 66 MHz
- 1 SPI, 2 IIC with boot strap controller
- Serial RapidIO port (HSS shared with 2nd PCI-e x4 port)

Network Connectivity

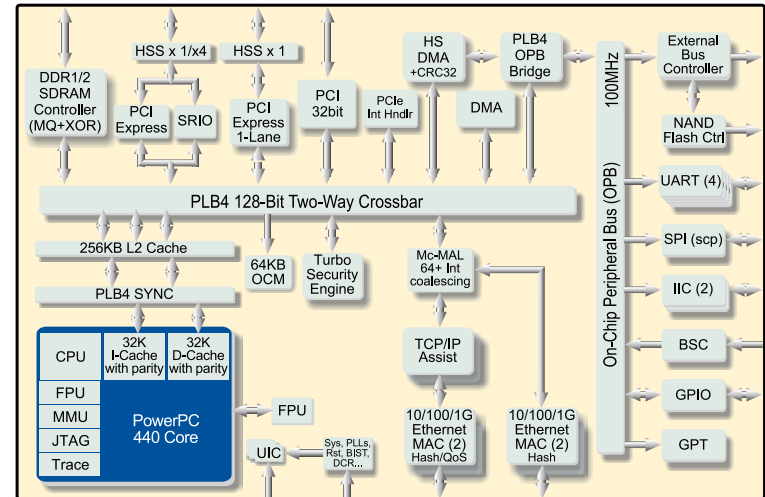
- Four 10/100/1G Ethernet MACs, three with SGMI
- TCP/IP hardware assist and QoS on two ports
- Four UART serial ports

Special Functionality

- Turbo Security Engine: Optional on-chip IPsec/SSL/bulk data security acceleration engine (Crypto Engine)
- Kasumi encryption/decryption engine

Power

- 6W typical power @ 1 GHz (est.)



PPC460GT-SUA1000T

AMCC Part Name

Security

S = Security

Package (TE-PBGA)

T = 35mm²

U = 35mm² lead-free

Case Temperature Range

T = -40C to +85C

Processor Speed

600, 800, 1000, and 1066 MHz

Revision Level

A = 1.0

Target Applications

- Wireless Infrastructure
- Control plane applications
- Wide variety of embedded networking applications

Power Architecture 460GTx processor

Specifications

CPU Complex

- Power Architecture 464 processor core
- Up to 1.4 GHz/2800 DMIPS
- 32KB I-cache/D-cache with parity
- 512KB L2 cache with parity

Memory and Bus Architecture

- 128-bit, 200 MHz, 2-way Crossbar Local Bus
 - High bandwidth & Low Latency segments
 - 12.8GB/s combined peak bandwidth
- Second HB Bus, 6.4GB/s
- DDR SDRAM Controller with ECC
 - 32/64-bit DDR2 up to DDR800
- 512KB L2 Cache may also be used as SRAM
- 32-bit, 100-MHz On-chip Peripheral Bus (OPB)
- External Bus Controller
 - Interface to Flash ROM, Boot or other devices (4 total)

System Resources

- High Bandwidth DMA engine

High Speed & Inter-Chip Connectivity

- Gen2 PCI Express (5 Gb/s per Lane)
 - (1) PCI-E 8-Lane Root/End point, ver2.0
 - or (2) x4 PCI-E, 4-Lanes Root/End point, ver2.0
- 2 IIC, 32 GPIOs, Interrupt Controller

Network Connectivity

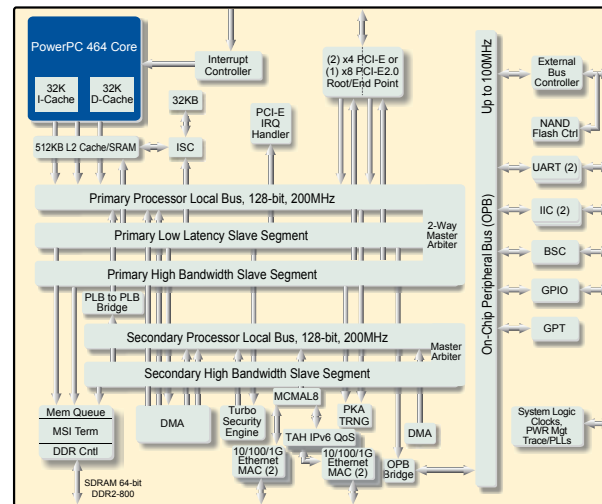
- Four 10/100/1G Ethernet ports, two with TCP/IP assist hardware and QoS
 - Jumbo frame, interrupt coalescence, CRC32, segmentation
- Two UART serial ports

Special Functionality

- IPSec/SSL Turbo Security Engine (optional)
- IEEE1588 v2 Clock Synchronization (one port)

Power

- <10W typical power @ 1 GHz (est.)



PPC460GTx-SNA1000T

AMCC Part Name

Security

S = Security

N = No Security

Package (FC-PBGA)

T = 29mm²

N = 29mm² lead-free

Case Temperature Range

T = 0C to +95C

Processor Speed

833 MHz, 1.0 GHz and 1.2 GHz

Revision Level

A = 1.0

(Part number preliminary and subject to change)

Target Applications

- Wireless Infrastructure
- Networking
- General Purpose Control Applications

Power Architecture 460SX processor

Specifications

CPU Complex

- Power Architecture 464 processor core
- Up to 1.4 GHz/2800 DMIPS
- 32KB I-cache/D-cache with parity
- 512KB L2 cache with parity

Memory and Bus Architecture

- 128-bit, 200 MHz, 2-way Crossbar Local Bus
 - High bandwidth & Low Latency segments
 - 12.8GB/s combined peak bandwidth
- Second HB Bus, 6.4GB/s, for RAID 5, RAID 6 & Security
- DDR SDRAM Controller with ECC
 - 32/64-bit DDR2 up to DDR800
 - Data Saver, for data or power saving, sustains memory refresh with battery backup
- 512KB L2 Cache may also be used as SRAM
- 32-bit, 100-MHz On-chip Peripheral Bus (OPB)
 - External Bus Controller
 - Interface to Flash ROM, Boot or other devices (4 total)

System Resources

- High bandwidth 3-channel DMA engine

High Speed & Inter-Chip Connectivity

- Gen2 PCI Express Multiport Bridge (5 Gb/s per Lane)
 - (1) PCI-E, 8-Lane Root/End point, ver2.0
 - (2) PCI-E, 4-Lanes Root/End point, ver2.0 or (1) PCI-E 8-Lane Root/End point, ver2.0
- 2 IIC, 32 GPIOs, Interrupt Controller

Network Connectivity

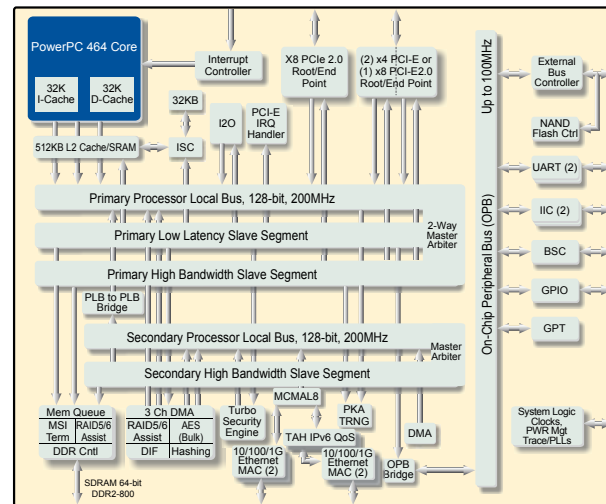
- Four 10/100/1G Ethernet Ports, two with TCP/IP assist hardware & QoS
 - Jumbo frame, interrupt coalescence, CRC 32
- Two UART serial ports

Special Functionality

- RAID 5 and RAID 6 Acceleration Hardware
- Network IPSec/SSL Turbo Security Engine
- IEEE1588 v2 Clock Synchronization (one port)

Power

- <10W typical power @ 1 GHz (est.)



PPC460SX-RNA1000T

AMCC Part Name

Case Temperature Range
T = 0C to +95C

RAID & Security

R = RAID 5/6 and Security
S = Security, No RAID

Package (FC-PBGA)

T = 29mm²

N = 29mm² lead-free

Processor Speed
833 MHz, 1.0 GHz and 1.2 GHz

Revision Level
A = 1.0

(Samples 4Q08, Production 1Q09, Part number subject to change)

Target Applications

- RAID controllers
- Storage Area Networking (SAN)
- iSCSI
- Network Attached Storage (NAS)
- Other embedded storage and networking applications

Power Architecture Processor Evaluation Boards, Evaluation Kits and Reference Design Kits

Part Number	Host OS	Product Description	Board Name	Support	Availability
EV-405EP-KIT-01	Windows / Linux	405EP Evaluation Kit, Windows & Linux Hosts, tools CDs	Taihu	taihusupport@amcc.com	Now
EV-405EX-KIT-03	Windows/Linux	405EX Evaluation Kit, Windows & Linux Hosts, tools CDs	Kilauea	kilaueasupport@amcc.com	Now
RD-405EX-KIT-01	Windows/Linux	405EX Enterprise WLAN AP Reference Design Kit	Makalu	makalusupport@amcc.com	Now
EV-405GPR-WIN-00	Windows	405GPr Evaluation Board, Windows Host	Sycamore	support@amcc.com	Now
EV-440EP-KIT-01	Windows / Linux	440EP Evaluation Kit, Windows & Linux Hosts, tools CDs	Yosemite	yosemitesupport@amcc.com	Now
EV-440EPx-KIT-01	Windows / Linux	440EPx Evaluation Kit, Windows & Linux Hosts, tools CDs	Sequoia	sequoiasupport@amcc.com	Now
EV-440GX-KIT-01	Windows/Linux	440GX Evaluation Kit, Windows & Linux Hosts, tools CDs	Taishan	taishansupport@amcc.com	Now
EV-440SP-MX-02	Windows	440SP Evaluation Board, Windows Host	Luan	support@amcc.com	Now
EV-440SPe-KIT-02	Windows/Linux	440SPe Evaluation Kit, Windows & Linux Hosts, tools CDs	Katmai	katmaisupport@amcc.com	Now
EV-460EX-KIT-02	Windows/Linux	460EX Evaluation Kit, Windows & Linux Hosts, tools CDs	Canyonlands	canyonlandssupport@amcc.com	Now
EV-460GT-KIT-02	Windows/Linux	460GT Evaluation Kit, Windows & Linux Hosts, tools CDs	Glacier	glaciersupport@amcc.com	Now
RD-460GT-AMC-01	Windows/Linux	Dual-460GT AMC Card Reference Design Kit	Arches	archessupport@amcc.com	Q3 08
EV-460SX-KIT-01	Windows/Linux	460SX Evaluation Kit, Windows & Linux Hosts, Tools CDs	Eiger	eigersupport@amcc.com	Q1 09

Embedded Operating Systems

		405EP	405EX	405EXr	405GPr	440EP	440EPx	440GP	440GX	440SP	440SPe	460EX	460GT
Accelerated Technology	Nucleus+				•								
Aonix	Java	•	•	•	•	•	•	•	•	•	•	•	•
Denx Software Engineering	Linux	•	•	•	•	•	•	•	•	•	•	•	•
Embedded Brains	RTEMS						•						
Enea	OSE Delta		•	•	•	•		•	•				
Express Logic	ThreadX		•	•	•	•		•	•	•			
Green Hills Software	Integrity		•	•	•	•	•	•	•				
KADAK Products Ltd.	AMX	•			•			•					
LinuxWorks	BlueCat Linux				•	•		•	•				
LinuxWorks	LynxOS				•	•		•	•				
LinuxWorks	LynxOS-178				•	•		•	•				
Mentor Graphics	Nucleus							•	•				
Micro Digital	Smx	•			•								
Monta Vista	Professional	•	•	•		•	•	•	•			•	•
Monta Vista	Carrier Grade								•				
MQX Embedded	MQX					•		•					
QNX Software Systems	Neutrino	•			•	•	•	•	•				
Quadros	RTXC	•			•				•				
SYSGO AG	Linux					•		•	•				
TimeSys	Linux					•		•	•	•			
Wasabi	NetBSD	•			•	•			•	•	•		
Wind River	VxWorks	•	•	•		•	•	•	•	•	•	•	•

Hardware and Software Development Tools

[illegible]



AMCC Website

- www.amcc.com

AMCC Power Architecture Products Webpage

- www.amcc.com/Embedded

AMCC Support

- support@amcc.com
- 1.800.840.6055

Power Architecture Partners

- www.amcc.com/Embedded/Partners

Power Architecture Regional Sales and Distributors

- www.amcc.com/Sales

Power Architecture Hardware/Software Downloads

- www.amcc.com/Embedded/Downloads/

Online Literature Request Form

- www.amcc.com/literature

Physical Layer Devices

AMCC's portfolio of Telecom and Datacom PHY/PMD products provide industry-leading low power, exceptional jitter performance, dense performance and high functionality in small form factors for SONET/SDH, OTN, Ethernet, Fibre Channel, PCI-Express, and Infiniband networks. In addition, AMCC offers Electronic Dispersion Compensation solutions that adjust for signal impairments associated with multi mode and single mode fiber, as well as copper, at 2.5G and 10G line rates. AMCC's Physical layer devices provide customers with savings in power, real estate and system costs.



Switch Fabric

AMCC's switch fabric roadmap covers 5Gbps to 640Gbps, and consists of its market-leading PRS switch fabric family, in its sixth generation of devices.

Framers and Mappers

AMCC's comprehensive portfolio of Telecom and Datacom Framer/Mapper products include solutions for Multi Service Provisioning Platforms, Switch/Routers, Dense Wave Division Multiplexing, Add Drop Multiplexers and Digital Cross Connects. The level of integration found in AMCC's Framer/Mapper portfolio saves customers valuable R&D resources and end system costs. As a result, AMCC provides an unprecedented low cost-per-port with a minimized time-to-revenue for its customers and their customers' customers. AMCC's Enhanced Forward Error Correction (EFEC) and Data/TDM Aggregation devices, as well as its Path Terminating Framer/Mappers, comprise multiple generations of technology and innovation gained from years of customer, standards, and systems experience.

For technical questions regarding AMCC's products, please contact our product support group at 1.800.840.6055 or email support@amcc.com.



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