



# QorIQ and QorIQ Qonverge Multicore SoCs and PowerQUICC Processors

Designed for Performance.  
Built to Connect.



# Processor Selector Guide

## QorIQ

Part Number	Speed (MHz)	Power Architecture	Typical Power*	L2 Cache	L3 Cache	Ethernet	Data Path	PCIe	USB	sRIO	GPIO	Memory	Other	Package
<b>Value-performance Processors</b>														
P1010	533–1000	1	1.6 W	256 KB	–	3 x 10/100/1000 with IEEE® 1588	Software	2	1	–	32	16/32-bit DDR3/3L	TDM, 2 x FlexCAN, Trust Architecture, 2 x SATA	425-pin PBGA
P1014	533–800	1	1.13 W	256 KB	–	2 x 10/100/1000 with IEEE 1588	Software	2	1	–	32	16-bit DDR3/3L	TDM, 2 x SATA	425-pin PBGA
P1011	533–800	1	1.56 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	2	–	16	32-bit DDR2/3	TDM	689-pin PBGA
P1015	400–667	1	1.4 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	2	–	16	32-bit DDR3	TDM	561-pin PBGA
P1020	533–800	2	1.89 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	2	–	16	32-bit DDR2/3	TDM	689-pin PBGA
P1024	400–533	2	1.6 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	2	–	16	32-bit DDR3	TDM	561-pin PBGA
P1012	533–800	1	1.6 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	1	–	16	32-bit DDR2/3	QUICC Engine	689-pin PBGA
P1016	400–667	1	1.53 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	1	–	16	32-bit DDR3	QUICC Engine	561-pin PBGA
P1021	533–800	2	2.4 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	1	–	16	32-bit DDR2/3	QUICC Engine	689-pin PBGA
P1025	400–533	2	1.69 W	256 KB	–	3 x 10/100/1000 with IEEE 1588	Software	2	1	–	16	32-bit DDR2/3	QUICC Engine	561-pin PBGA
P1013	667–1067	1	3 W	256 KB	–	2 x 10/100/1000 with IEEE 1588	Software	3	1	–	87	32/64-bit DDR2/3	LCD Controller, 2 x SATA, Advanced Power Management	689-pin PBGA
P1022	667–1067	2	2.5 W	256 KB	–	2 x 10/100/1000 with IEEE 1588	Software	3	1	–	87	32/64-bit DDR2/3	LCD Controller, 2 x SATA, Advanced Power Management	689-pin PBGA
P1017	400–800	1	2 W	256 KB	–	2 x 10/100/1000 with IEEE 1588	Hardware	3	1	–	16	32-bit DDR3/3L	–	457-pin PBGA
P1023	400–500	2	2 W	256 KB	–	2 x 10/100/1000 with IEEE 1588	Hardware	3	1	–	16	32-bit DDR3/3L	–	457-pin PBGA
T1013	1000–1400	1	3 W	256 KB / Core	256 KB	4 x 10/100/1000 with IEEE 1588 + 1 x 10 GbE	Hardware	3 Gen 2.0	2 x USB 2.0 w Phy	–	16	32-bit DDR3L/4	Trust Architecture, 1 x SATA	525-pin LCFC
T1023	1000–1400	2	3 W	256 KB/ Core	256 KB	4 x 10/100/1000 with IEEE 1588 + 1 x 10 GbE	Hardware	3 Gen 2.0	2 x USB 2.0 w Phy	–	16	32-bit DDR3L/4	Trust Architecture, 1 x SATA	525-pin LCFC
T1014	1000–1400	1	3 W	256 KB/ Core	256 KB	4 x 10/100/1000 with IEEE 1588 + 1 x 10 GbE	Hardware	3 Gen 2.0	2 x USB 2.0 w Phy	–	16	32/64-bit DDR3L/4	Trust Architecture, 1 x SATA, QUICC Engine	780-pin PBGA
T1024	1000–1400	2	3 W	256 KB/ Core	256 KB	4 x 10/100/1000 with IEEE 1588 + 1 x 10 GbE	Hardware	3 Gen 2.0	2 x USB 2.0 w Phy	–	16	32/64-bit DDR3L/4	Trust Architecture, 1 x SATA, QUICC Engine	780-pin PBGA
T1020	1200–1500	2	6 W	256 KB/ Core	256 KB	8-Port GbE Switch + 4 x 1 GbE with IEEE 1588	Hardware	4 Gen 2.0	2	–	24	1 x 32/64-bit DDR3L/4	Trust Architecture, 2 x SATA, QUICC Engine	780-pin PBGA
T1022	1200–1500	2	5 W	256 KB/ Core	256 KB	5 x 10/100/1000 with IEEE 1588	Hardware	4 Gen 2.0	2	–	24	1 x 32/64-bit DDR3L/4	Trust Architecture, 2 x SATA, QUICC Engine	780-pin PBGA

## QorIQ (cont.)

Part Number	Speed (MHz)	Power Architecture	Typical Power*	L2 Cache	L3 Cache	Ethernet	Data Path	PCIe	USB	sRIO	GPIO	Memory	Other	Package
T1040	1200–1500	4	7 W	256 KB/ Core	256 KB	8-Port GbE Switch + 4 x 1 GbE with IEEE 1588	Hardware	4 Gen 2.0	2	–	24	1 x 32/64-bit DDR3L/4	Trust Architecture, 2 x SATA, QUICC Engine	780-pin PBGA
T1042	1200–1500	4	6 W	256 KB/ Core	256 KB	5 x 10/100/1000 with IEEE 1588	Hardware	4 Gen 2.0	2	–	24	32/64-bit DDR3L/4	Trust Architecture, 2 x SATA, QUICC Engine	780-pin PBGA
LS1021A	800–1000	Dual ARM® Cortex®-A7	2.7 W	512 KB	–	3 x 1GbE with IEEE 1588v2	Hardware (Security) + Software	2 x Gen 2.0	1 x USB 3.0, 1 x USB 2.0	–	109	32-bit DDR3L/4	4-Lane, multi-protocol 6 GHz SerDes, SATA3, 4 x CAN	525-pin LCFC
LS1020A	800–1000	Dual Cortex-A7	2.7 W	512 KB	–	3 x 1GbE with IEEE 1588v2	Hardware (Security) + Software	2 x Gen 2.0	1 x USB 3.0, 1 x USB 2.0	–	109	32-bit DDR3L/4	4-Lane, multi-protocol 6 GHz SerDes, SATA3	525-pin LCFC
LS1022A	600	Dual Cortex-A7	2.2 W	512 KB	–	2 x 1GbE with IEEE 1588v2	Hardware (Security) + Software	1 x Gen 2.0	1 x USB 2.0	–	109	16-bit DDR3L	1-lane 5 GHz SerDes, 4 x CAN	525-pin LCFC
LS1024A	650–1200	Dual Cortex-A9	3 W	256 KB	64 KB	3 x 1GbE	Hardware	2 x Gen 2.0	1 x USB 3.0, 1 x USB 2.0	–	64	16/32-bit DDR3	SATA, SEC, Deep Packet inspection, DECT	625-pin FCPBGA
LS102MA	450–650	Dual ARM 1136J	1.8 W	–	128 KB	2 x 1GbE	Software	2 x Gen 1.0	1 x USB2.0	–	31	16/32-bit DDR2	MSP: Media Stream Processor, Crypto Acceleration	448-pin FCPBGA
LS1023A	1000–1600	Dual Cortex-A53	5 W	1 MB	–	5 x 1 GbE + 1 1/10 GbE	Hardware (Security) + Software	3 x Gen 2.0	3 x USB 3.0	–	32	32-bit DDR3L/4	4-Lane, multi-protocol 10 GHz SerDes, SATA3, QUICC Engine	621-pin FCPBGA
LS1043A	1000–1600	Quad Cortex-A53	6 W	1 MB	–	5 x 1 GbE + 1 1/10 GbE	Hardware (Security) + Software	3 x Gen 2.0	3 x USB 3.0	–	32	32-bit DDR3L/4	4-Lane, multi-protocol 10 GHz SerDes, SATA3, QUICC Engine	621-pin FCPBGA

Part Number	Speed (MHz)	Power Architecture Cores	Typical Power*	L2 Cache	L3 Cache	Ethernet	Data Path	PCIe	USB	sRIO	GPIO	Memory	Other	Package
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### Mid-performance Processors

P2010	800–1200	1	4.9 W	512 KB	–	3 x 10/100/1000 with IEEE 1588v2	Software	3 Gen 1.0	1	2	16	32/64-bit DDR2/DDR3	–	689-pin PBGA
P2020	800–1200	2	4.7 W	512 KB	–	3 x 10/100/1000 with IEEE 1588v2	Software	3 Gen 1.0	1	2	16	32/64-bit DDR2/DDR3	–	689-pin PBGA
P2040	800–1200	4	8.7 W	–	1 MB	5 x 10/100/1000 with IEEE 1588v2	Hardware	3 Gen 2.0	2	2	32	1 x 32/64-bit DDR3/3L	Trust Architecture, 2 x SATA	780-pin PBGA
P2041	1200–1500	4	8.7 W	128 KB/ Core	1 MB	5 x 10/100/1000 + 1 x 10 GbE with IEEE 1588v2	Hardware	3 Gen 2.0	2	2	32	1 x 32/64-bit DDR3/3L	Trust Architecture, 2 x SATA	780-pin PBGA
P3041	1200–1500	4	13.1 W	128 KB/ Core	1 MB	5 x 10/100/1000 + 1 x 10 GbE with IEEE 1588v2	Hardware	4 Gen 2.0	2	2	32	1 x 32/64-bit DDR3/3L	Trust Architecture, 2 x SATA	1295-pin PBGA
T2080	1200–1800	8 (Virtual)	–	2 MB	512 KB	4 x 10/100/1000 x 10 G + 4 x 1 GbE or 8 x 1 GbE with IEEE 1588v2	Hardware	4 Gen 2.0/3.0	2	2	32	1 x 32/64-bit DDR3/3L	Trust Architecture, 2 x SATA, DCE, PME	896-pin PBGA
T2081	1533–1800	8 (Virtual)	–	2 MB	512 KB	2 x 10 GbE + 5 x 1 GbE or 6 x 1 GbE with IEEE 1588v2	Hardware	4 Gen 2.0/3.0	2	–	32	1 x 32/64-bit DDR3/3L	Trust Architecture, DCE, PME	780-pin PBGA
LS2040A	2000	4	-	2 MB	1 MB	5 x 1/10 GbE + 4 x 1 GbE	DPPA2	4 Gen 3.0	2 x USB 3.0	1	101	2 x 64 bit DDR4	TrustZone®, DCE, PME, SEC, WRIOP	1292-pin FC-PBGA
LS2045A	2000	4	-	2 MB	1 MB	8 x 1/10 GbE + 8 x 1 GbE	DPPA2	4 Gen 3.0	2 x USB 3.0	1	101	2 x 64 bit DDR4 + 1 x 32 bit DDR4	TrustZone, DCE, PME, SEC, WRIOP, AIOP, Layer 2 Switch	1292-pin FC-PBGA
LS2080A	2000	8	-	4 MB	1 MB	5 x 1/10 GbE + 4 x 1 GbE	DPPA2	4 Gen 3.0	2 x USB 3.0	1	101	2 x 64 bit DDR4	TrustZone, DCE, PME, SEC, WRIOP	1292-pin FC-PBGA
LS2085A	2000	8	-	4 MB	1 MB	8 x 1/10 GbE + 8 x 1 GbE	DPPA2	4 Gen 3.0	2 x USB 3.0	1	101	2 x 64 bit DDR4 + 1 x 32 bit DDR4	TrustZone, DCE, PME, SEC, WRIOP, AIOP, Layer 2 Switch	1292-pin FC-PBGA

## QorIQ (cont.)

Part Number	Speed (MHz)	Power Architecture Cores	Typical Power*	L2 Cache	L3 Cache	Ethernet	Data Path	PCIe	USB	sRIO	GPIO	Memory	Other	Package
<b>High-performance Processors</b>														
P4040	1200–1500	4	13 W	128 KB/ Core	2 MB	8 x 1 GbE + 2 x 10 GbE with IEEE 1588v2	HW Accelerators	3 Gen 2.0	2	2	32	2 x 64-bit DDR2/DDR3	Trust Architecture, PME, Hardware Assisted Hypervisor	1295-pin PBGA
P4080	1200–1500	8	16 W	128 KB/ Core	2 MB	8 x 1 GbE + 2 x 10 GbE with IEEE 1588v2	HW Accelerators	3 Gen 2.0	2	2	32	2 x 64-bit DDR2/DDR3	Trust Architecture, PME, Hardware Assisted Hypervisor	1295-pin PBGA
P4081	1000–1200	8	14 W	128 KB/ Core	2 MB	8 x 1 GbE + 1 x 10 GbE with IEEE 1588v2	HW Accelerators	3 Gen 2.0	2	2	32	2 x 64-bit DDR2/DDR3	Trust Architecture, PME, Hardware Assisted Hypervisor	1295-pin PBGA
P5010	1600–2000	1	14 W	512 KB/ Core	1 MB	5 x 10/100/1000 + 1 x 10 G with IEEE 1588v2	HW Accelerators	4 Gen 2.0	2	2	32	1 x 32/64-bit DDR3/3L	Trust Architecture, encryption, Aurora interface, hardware assisted hypervisor and supports SMP or AMP	1295-pin PBGA
P5020	1600–2000	2	16 W	512 KB/ Core	2 MB	5 x 10/100/1000 + 1 x 10 G with IEEE 1588v2	HW Accelerators	4 Gen 2.0	2	2	32	2 x 32/64-bit DDR3/3L	Trust Architecture, encryption, Aurora interface, hardware assisted hypervisor and supports SMP or AMP	1295-pin PBGA
P5021	1800–2200	2	23 W	512 KB/ Core	2 MB	10 x 10/100/1000 + 2 x 10 G with IEEE 1588v2	HW Accelerators	3 Gen 2.0	2	–	32	2 x 64-bit DDR3/3L	Trust Architecture, encryption, Aurora interface, hardware assisted hypervisor and supports SMP or AMP	1295-pin PBGA
P5040	1800–2200	4	33 W	512 KB/ Core	2 MB	10 x 10/100/1000 + 2 x 10 G with IEEE 1588v2	HW Accelerators	3 Gen 2.0	2	–	32	2 x 64-bit DDR3/3L	Trust Architecture, 2 x SATA encryption, DPAA, Aurora interface, hardware assisted hypervisor and supports SMP or AMP	1295-pin PBGA
T4080	1333–1667	8 (Virtual)	20.4 W	2 MB	1MB	2 x 1/10 GbE + 11 x 1 GbE with IEEE 1588v2	HW Accelerators	3 Gen 2.0/3.0	2	2	96	2 x 64-bit DDR3/3L	4 x AltiVec SIMD engines, Trust Architecture, IFC, PME, DCB, DCE, 2 x SATA, HiGig2, Interlaken LA, SR-IOV, Hardware assisted Hypervisor	1932-pin PBGA
T4160	1500–1800	16 (Virtual)	29.6 W	4 MB	1MB	2 x 1/10 GbE + 11 x 1 GbE with IEEE 1588v2	HW Accelerators	3 Gen 2.0/3.0	2	2	96	2 x 64-bit DDR3/3L	8 x AltiVec SIMD engines, Trust Architecture, IFC, PME, DCB, DCE, 2 x SATA, HiGig2, Interlaken LA, SR-IOV, Hardware assisted Hypervisor	1932-pin PBGA
T4240	1500–1800	24 (Virtual)	35.7 W	6 MB	1.5 MB	4 x 1/10 GbE + 12 x 1 GbE with IEEE 1588v2	HW Accelerators	4 Gen 2.0/3.0	2	2	96	3 x 64-bit DDR3/3L	12 x AltiVec SIMD engines, Trust Architecture, IFC, PME, DCB, DCE, 2 x SATA, HiGig2, Interlaken LA, SR-IOV, Hardware assisted Hypervisor	1932-pin PBGA

\*Core power at max frequency

### Constant Features

- I/D cache memory: 32/32 KB, except LS102MA which has 64/64 KB
- L1SPI/eSPI
- One DUART except P1010, P1014, P204x, P3, P4040 and P4080 which have two DUART and LS1021/20/22 which have four
- I2C: P1 and P2 have two ports, P204x, P3, P4 and P5 have four ports. LS1021/20/22 has three ports
- P5xxx have 64-bit e5500 cores
- T2xxx and T4xxx have 64-bit e6500 cores
- High-Speed USB 2.0, plus LS1021/20/24 support USB 3.0 Local bus, HW encryption versions
- P1021, P1012, P1025, P1016, LS1020 and LS1021 include QUICC Engine technology (UTOPIA, 2 x 10/100 Ethernet, TDM)
- eSDHC except P1010, P1014, P1017, P1022, P2020, P2010, and LS1 families
- Encryption: E version

## QorIQ Qonverge

Part Number	Speed (MHz)	Cores	Typical Max Power	L2 Cache	100/1000/10000 Ethernet	Antenna Interface	USB	GPIO	Memory	Other	Package
BSC9131	800–1000	One e500 One SC3850	4 W	256 KB 512 KB	2 x 1 GB with IEEE® 1588v2	3 x JESD207 Parallel Port 3 x MaxPHY Serial Port	1	96	1 x 16/32-bit DDR3/3L	Trust Architecture, Integrated Flash Memory Controller, MAPLE-B Baseband Accelerators, TDM, DMA Controller, PWM	520-pin FC-PBGA
BSC9132	1000–1200	Two e500 Two SC3850	8.9 W	512 KB (shared) 512 KB/core	2 x 1 GB with IEEE 1588v2	4 x JESD207 Parallel Port, 2 x CPRI	1	96	2 x 32-bit DDR3/3L	Trust Architecture, Integrated Flash Memory Controller, MAPLE-B Baseband Accelerators, PCIe, TDM, DMA Controller	780-pin FC-PBGA
B4420	1400–1600 1200	Two e6500 (4 Virtual) Two SC3900 FVP	–	2 MB (shared) 2 MB (shared)	4 x 1 GB/2.5 GB with IEEE 1588v2	4 x CPRI	1	44	64-bit DDR3/3L	Trust Architecture, Integrated Flash Memory Controller, MAPLE-B Baseband Accelerators, DPAA, PCIe, Aurora interface	1020-pin FC-PBGA
B4860	1600–1800 1200	Four e6500 (8 Virtual) Six SC3900 FVP	–	2 MB (shared) 6 MB (shared)	6 x 1 GB/2.5 GB + 2 x 10 GB/2.5 GB/1 GB with IEEE 1588v2	8 x CPRI	1	44	2 x 64-bit DDR3/3L	Trust Architecture, Integrated Flash Memory Controller, MAPLE-B Baseband Accelerators, PCIe, DPAA, sRIO, Aurora interface	1020-pin FC-PBGA

### Constant Features

- Enhanced secure digital host controller
- Enhanced serial peripheral interface(s)
- Programmable interrupt controller (PIC) compliant with OpenPIC standard
- I<sup>2</sup>C
- DUART

## PowerQUICC II Pro

Part Number	Speed (MHz)	Typical Power	10/100/1000 Ethernet	10/100 Ethernet	E1/T1	E3/T3	UTOPIA	HDLC	GPIO	PCI	USB	Memory	Other	Package
MPC8306	133–333	1.15 W	–	3	2	–	–	128	56	–	2.0	16-bit DDR2	4 x CAN, TDM, eSDHC	369-pin MAPBGA
MPC8306S	133–333	1.15 W	–	3	2	–	–	128	56	–	2.0	16-bit DDR2	TDM	369-pin MAPBGA
MPC8309	266–417	1.56 W	–	3	2	–	–	128	64	1 x 32-bit	2.0	16/32-bit DDR2	4 x CAN, TDM, eSDHC, USB 2.0	489-pin MAPBGA
MPC8308	266–400	1.23 W	2	–	–	–	–	–	24	–	2.0	16/32-bit DDR2	1 x PCI Express <sup>®</sup> , eSDHC, USB 2.0	473-pin MAPBGA
MPC8313	266–400	0.82 W	2	–	–	–	–	–	32	1 x 32-bit	2.0	16/32-bit DDR 1/2	–	516-pin PBGA
MPC8314	266–400	1.11 W	2	–	–	–	–	–	32	1 x 32-bit	2.0	16/32-bit DDR 1/2	2 x PCI Express, TDM	620-pin PBGA
MPC8315	266–400	1.11 W	2	–	–	–	–	–	32	1 x 32-bit	2.0	16/32-bit DDR 1/2	2 x SATA, 2 x PCI Express, TDM	620-pin PBGA
MPC8321/23	266–333	1 W	–	3	4	4	1	64	128	1 x 32-bit	2.0 Full/Low	32-bit DDR 1/2	TDM	516-pin PGBA
MPC8343	266–400	2.0 W	2	–	–	–	–	–	39	1 x 32-bit	2.0	32-bit DDR 1/2	–	620-pin PBGA
MPC8347	266–667	2.0 W	2	–	–	–	–	–	52	1 x 32-bit	2.0	32/64-bit DDR 1/2	–	620-pin PBGA, 672-pin TBGA
MPC8349	400–667	2.0 W	2	–	–	–	–	–	64	1 x 64-bit or 2 x 32-bit	2 x 2.0	32/64-bit DDR 1/2	–	672-pin TBGA
MPC8358	266–400	3.0 W	2	6	8	2	1	128	212	1 x 32-bit	2.0 Full/Low	1 x 64-bit or 2 x 32-bit DDR 1/2	TDM	740-pin TBGA, 668-pin PBGA
MPC8360	400–667	5.0 W	2	8	4	1	2	256	212	1 x 32-bit	2.0 Full/Low	1 x 64-bit or 2 x 32-bit DDR 1/2	TDM	740-pin TBGA
MPC8377	400–800	4.0 W	2	–	–	–	–	–	52	1 x 32-bit	2 x 2.0	32/64-bit DDR 1/2	2 x SATA, 2 x PCI Express	689-pin PBGA

## PowerQUICC II Pro (cont.)

Part Number	Speed (MHz)	Typical Power	10/100/1000 Ethernet	10/100 Ethernet	E1/T1	E3/T3	UTOPIA	HDLC	GPIO	PCI	USB	Memory	Other	Package
MPC8378	400–800	4.0 W	2	–	–	–	–	–	52	1 x 32-bit	2.0	32/64-bit DDR 1/2	2 x PCI Express	689-pin PBGA
MPC8379	400–800	4.0 W	2	–	–	–	–	–	52	1 x 32-bit	2.0	32/64-bit DDR 1/2	4 x SATA	689-pin PBGA

### Constant Features

- I/D cache memory: 16/16 KB on MPC830x, MPC831x and MPC832x. 32/32 KB on all others

- Floating-point unit: Double precision (No FPU in MPC8323/21)
- SPI: One on all except MPC832x and MPC8358/60 which have two
- I<sup>2</sup>C: Two on all except MPC8314, MPC8315 and MPC832x which have one

- DUART: One on all except MPC8306, MPC8306/S and MPC8309 which have two
- Local bus: Y
- Hardware encryption: E version on all except MPC8308, MPC8306, MPC8306/S and MPC8309

## PowerQUICC III

Part Number	Speed (MHz)	Typical Power	L2 Cache	10/100/1000 Ethernet	10/100 Ethernet	E1/T1	E3/T3	UTOPIA	HDLC	GPIO	PCI	USB	Memory	Other	Package
MPC8533	667–1067	2.6 W	256 KB	2	–	–	–	–	–	16	1 x PCI, 3 x PCIe	–	DDR1/2	–	783-pin FCPBGA
MPC8535	600–1250	3.0 W	512 KB	2	–	–	–	–	–	16	1 x PCI, 2 x PCIe	2 x 2.0 Full/Low	DDR2/3	1 x SATA	783-pin FCPBGA
MPC8536	600–1500	3.0 W	512 KB	2	–	–	–	–	–	16	1 x PCI, 3 x PCIe	3 x 2.0 Full/Low	DDR2/3	2 x SATA	783-pin FCPBGA
MPC8540	667–1000	4.8 W	256 KB	2	3	–	–	–	–	–	1 x PCI/PCI-X	–	DDR1	1 x sRIO	783-pin FCPBGA
MPC8541	533–1000	4.4 W	256 KB	2	2	–	–	2	–	32	2 x PCI	–	DDR1	–	783-pin FCPBGA
MPC8543	800–1000	6.1 W	256 KB	2	–	–	–	–	–	–	1 x PCI, 1 x PCIe	–	DDR1/2	1 x sRIO	783-pin FCPBGA
MPC8544	667–1067	2.6 W	256 KB	2	–	–	–	–	–	16	1 x PCI, 3 x PCIe	–	DDR1/2	–	783-pin FCPBGA
MPC8545	800–1200	6.1 W	512 KB	2	–	–	–	–	–	–	2 x PCI, 1 x PCIe	–	DDR1/2	–	783-pin FCPBGA
MPC8547	1000–1333	6.5 W	512 KB	4	–	–	–	–	–	–	1 x PCI/PCI-X, 1 x PCIe	–	DDR1/2	–	783-pin FCPBGA
MPC8548	1000–1500	6.5 W	512 KB	4	–	–	–	–	–	–	2 x PCI/PCI-X, 1 x PCIe	–	DDR1/2	1 x sRIO	783-pin FCPBGA
MPC8555	667–1000	4.9 W	256 KB	2	2	2	–	2	64	32	2 x PCI	1.1 Full/Low	DDR1	–	783-pin FCPBGA
MPC8560	667–1000	5.1 W	256 KB	2	3	8	2	2	256	32	1 x PCI/PCI-X	–	DDR1	1 x sRIO	783-pin FCPBGA
MPC8567	800–1200	8.7 W	512 KB	3	8	8	2	2	256	188	1 x PCI, 1 x PCIe	–	DDR1/2	1 x sRIO	1023-pin FCBPGA
MPC8568	800–1333	8.7 W	512 KB	5	10	8	2	2	256	188	1 x PCI, 1 x PCIe	–	DDR1/2	1 x sRIO	1023-pin FCBPGA
MPC8569	800–1333	3.5 W	512 KB	4	8	16	16	1	256	183	1 x PCIe	2.0 Full/Low	DDR2/3	2 x sRIO	783-pin FCPBGA
MPC8572	2 x 1067–1500	12 W	1 MB	4	1	–	–	–	–	8	3 x PCIe	–	DDR2/3	1 x sRIO	1023-pin FCBPGA

### Constant Features

- I/D cache memory: 32/32 KB
- Floating-point unit: Double precision on all devices except MPC8540/41/55/60

- SPI: One on MPC8535/36/41/55/60, two on MPC8567/68/69
- I<sup>2</sup>C: Two on all except MPC8540/41/55/60 which have one
- Encryption: E version, except MPC8540/60

## HOST

Part Number	Speed (MHz)	Typical Core Power	Cores	L2 Cache	10/100/1000 Ethernet	PCIe	sRIO	Memory	Package
MPC8641	1000–1500	20.3 W	One Power Architecture Core	1 MB	4	2	1	2 x DDR2	1023-pin FCPBGA
MPC8641D	1000–1500	32.1 W	Two Power Architecture Core	1 MB/core	4	2	1	2 x DDR2	1023-pin FCPBGA
MPC8640	1000–1250	13.1 W	One Power Architecture Core	1 MB	4	2	1	2 x DDR2	1023-pin FCPBGA
MPC8640D	1000–1250	21.7 W	Two Power Architecture Core	1 MB/core	4	2	1	2 x DDR2	1023-pin FCPBGA

### Constant Features

- I/D cache memory: 32/32 KB
- SPI (MPC8610 only)
- DUART
- iPC
- GPIO: 32
- Local bus
- AltiVec technology
- MPC8610 contains LCD controller and SSI audio

## TOOLS

Family	Products Supported	Part Number	S/R	Description
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### Development Systems

MPC85xx	MPC8536E	MPC8536DS	\$3,395	PowerQUICC III MPC8536E Development System
	MPC8544	MPC8544DS	\$3,395	PowerQUICC III MPC8544 Development System
	MPC8569E	MPC8569E-MDS-PB	\$2,995	PowerQUICC III MPC8569E Modular Development System
	MPC8572	MPC8572DS	\$3,995	MPC8572 Development System
MPC86xx	MPC8641D, MPC8640D (Dual Core)	MCEVALHPCN-8641D	\$3,999	ATX Performance Platform
QorIQ P2 and P1 Families	P2020/P2010	P2020DS-PC	\$3,845	QorIQ P2020/P2010 Development System
	P1021/P1012	P1021-MDS-PB	\$3,000	QorIQ P1021 Modular Development System
	P1022/P1013	P1022DS-PB	\$3,395	QorIQ P1022 Development System
QorIQ P3, P4 and P5 Families	P3041	P3041DS-PC	\$3,995	QorIQ P3041 Development System
	P4080/P4081/P4040	P4080DS-PC	\$4,000	QorIQ P4080 Development System
	P4080/P4081/P4040	P4080COME-DS-PB	\$2,245	QorIQ P4080 Development System (COM Express Board on Carrier Card)
	P5040/P5021	P5040DS-PB	\$3,995	QorIQ P5040 Development System
	P3041, P4, P5	SGMII-PEX-RISER	\$650	SGMII Riser Card for QorIQ P4/P3/P5
P2041, P3041, P4, P5	XAUI-RISER-B	\$1300	XAUI Riser Card for QorIQ P4/P3/P5/P204x	
QorIQ T1, T2 and T4 Families	T4240/T4160/T4080	T4240QDS-PB	\$3,995	QorIQ T4 Family Development System
QorIQ Qonverge	B4860	B4860QDS	\$3,900	QorIQ Qonverge B4860 Development System
	BSC9132	BSC9132QDS	\$2,900	QorIQ Qonverge BSC9132 Development System

### Peripheral Cards

MPC83xx and MPC85xx	MPC83xx/MPC85xx	PQ-MDS-PIBE	\$2,499	MPC83xx/MPC85xx Platform I/O Board
MPC83xx	MPC8309	TWR-MPC8309	\$199	Tower-Based Main Processor Module (TWR-MPC8309 Provides All Features of MPC8306)
	MPC8308	MPC8308-RDB	\$299	PowerQUICC II Pro Reference Platform
	MPC8308	MPC8308-NSG	\$349	Network Smart Gateway Reference Design Kit
	MPC8313	MPC8313E-RDBC	\$299	PowerQUICC II Pro Reference Platform
	MPC8315/14	MPC8315E-RDBA	\$515	Cost-Effective Reference Design Board

## TOOLS (cont.)

Family	Products Supported	Part Number	S/R	Description
<b>Reference Platforms</b>				
QorIQ Families	P1020/P1011	P1020RDB-PD	\$545	QorIQ P1020/P1011 Reference Design Board
	P1010/P1014	P1010RDB-PB	\$545	Low-Cost mITX Reference Design
	P1021/P1011	P1021RDB-PC	\$725	QorIQ P1021 Reference Design Board
	P1023/P1017	P1023RDB-PA	\$999	QorIQ P1023 Reference Design Board
	P1024/P1015	P1024RDB-PA	\$499	QorIQ P1024 Reference Design Board
	P1025/P1016	P1025RDB-PA	\$499	QorIQ P1025 Reference Design Board
	P1025/P1016	TWR-P1025	\$224	Tower System for Rapid Prototyping
	P1025/P1016	TWR-P1025-KIT	\$299	Tower System Kit, Includes TWR-P1025, TWR-ELEV and TWR-IND-IO Modules
	P2020/P2010	P2020RDB-PCA	\$675	QorIQ P2020 Reference Platform
	P2040/P2041	P2041RDB-PC	\$995	QorIQ P2040/P2041 Reference Platform
	P5020, P5010	P5020-RDB	\$2,995	QorIQ P5020 Reference Design Board
	P5040/P5021	P5040-RDB	\$2,995	QorIQ P5040 Reference Design Board
	T2080/T2081	T2080RDB-PA	\$1,499	QorIQ T2080 Reference Design Board
	T4240/T4160/T4080	T4240RDB-PB	\$1,445	QorIQ T4 Family Reference Design Board
	LS1024A	LS1024A-RDB	\$2,000	Reference Design Board
	LS102MA	LS102MA-RDB	\$2,000	Reference Design Board
	LS1021/22/20	TWR-LS1021A-PB	\$269	Main Tower Processor Module
	LS2085A	LS2085ARDB-PA	\$1,500	Reference Design Board
	T1040/T1020	T1040RDB-PBA	\$1250	QorIQ T1040 Reference Design Board
	T1023	T1023RDB-PD	\$995	QorIQ T1023 Reference Design Board
T1024	T1024RDB-PC	\$1,250	QorIQ T1024 Reference Design Board	
T1025	T1023WLAN	\$995	QorIQ T1024 Reference Design Board	
QorIQ Qonverge	BSC9131	BSC9131RDB	\$955	QorIQ T1023 Wireless LAN Reference Design

## SOFTWARE SOLUTIONS

	Suite Level	Part Number	S/R	Description
CodeWarrior for Networked Applications	LS Tower	CWA-LS-TOWER-NL	\$499	CodeWarrior Development Suite for Networked Applications, LS Tower Level, Node-locked License, includes 1 year of Technical Support & Maintenance
	Developer	CWA-LS-DVLP-R-NL	\$2999	CodeWarrior Development Suite for Networked Applications, Developer Level, Node-locked License, includes 1 year of Technical Support & Maintenance
		CWA-LS-DVLP-R-FL	\$2999	CodeWarrior Development Suite for Networked Applications, Developer Level, Floating License, includes 1 year of Technical Support & Maintenance
		CWA-ARCHIVAL-NL	\$17,999	CodeWarrior Development Suite for Networked Applications, Developer Level, Node-locked, Archival license.
	Specialist	CWA-LS-SPLST-NL	\$4999	CodeWarrior Development Suite for Networked Applications, Specialist Level, Node-locked License, includes 1 year of Technical Support & Maintenance
		CWA-LS-SPLST-FL	\$4999	CodeWarrior Development Suite for Networked Applications, Specialist Level, Floating License, includes 1 year of Technical Support & Maintenance
	Architect	CWA-LS-ARCHT-NL	\$9999	CodeWarrior Development Suite for Networked Applications, Architect Level, Node-locked License, includes 1 year of Technical Support & Maintenance
		CWA-LS-ARCHT-FL	\$9999	CodeWarrior Development Suite for Networked Applications, Architect Level, Floating License, includes 1 year of Technical Support & Maintenance



## HARDWARE TARGET INTERFACE—CODEWARRIOR TAP (Order Base Unit and Tip)

Part Number	S/R	Description
CWH-CTP-BASE-HE	\$436	CodeWarrior TAP High Performance Probe Base unit, supports Ethernet and USB (order tip separately)
CWH-CTP-CTX10-YE	\$59	QorIQ LS Processor (Cortex 10 pin) Probe Tips for CodeWarrior TAP
CWH-CTP-COP-YE	\$59	Power Architecture Processor ( COP ) Probe Tips for CodeWarrior TAP
CWH-CTP-STC-YE	\$59	StarCore DSP Probe Tips for CodeWarrior TAP
CWH-CTP-VSPA-YE	\$59	CodeWarrior TAP removable probe tip for VSPA - Standard ARM 20 pin connector







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