Technical Data

MPC8260AEC/D
Rev. 0.9 8/2003

MPC826xA (HiP4) Family
Hardware Specifications

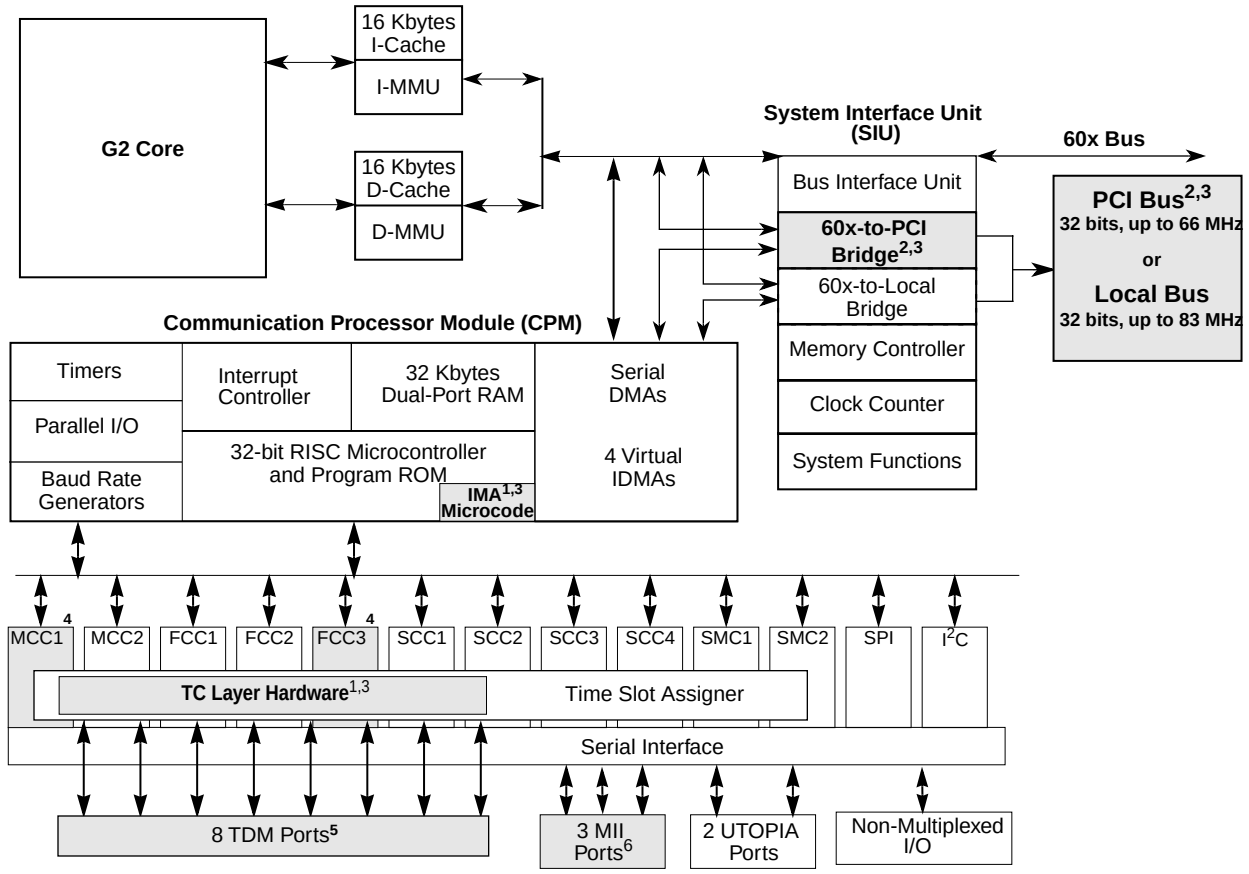
This document contains detailed information on power considerations, DC/AC electrical characteristics, and AC timing specifications for .25µm (HiP4) devices in the PowerQUICC II™ MPC8260 communications processor family. These devices include the MPC8260, the MPC8255, the MPC8264, the MPC8265, and the MPC8266. Throughout this document, these devices are collectively referred to as the MPC826xA.

The following topics are addressed:

NOTE: Document Revision History

Changes to this document are summarized in Table 22 on page 45.

Figure 1 shows the block diagram for the MPC826, the HiP4 superset device. Shaded portions indicate functionality that is not available on all devices; refer to the notes.



Notes:
1 MPC8264
2 MPC8265
3 MPC8266
4 Not on MPC8255
5 4 TDM ports on the MPC8255
6 2 MII ports on the MPC8255

Figure 1. MPC8266 Block Diagram

1.1 Features

The major features of the MPC826xA family are as follows:

- Dual-issue integer core
  - — A core version of the EC603e microprocessor
  - — System core microprocessor supporting frequencies of 150–300 MHz
  - — Separate 16-Kbyte data and instruction caches:
    - – Four-way set associative
    - – Physically addressed
    - – LRU replacement algorithm
  - — PowerPC architecture-compliant memory management unit (MMU)
  - — Common on-chip processor (COP) test interface

  - — High-performance (6.6–7.65 SPEC95 benchmark at 300 MHz; 1.68 MIPs/MHz without inlining and 1.90 Dhrystones MIPS/MHz with
  - — Supports bus snooping for data cache coherency
  - — Floating-point unit (FPU)
- Separate power supply for internal logic and for I/O
- Separate PLLs for G2 core and for the CPM
  - — G2 core and CPM can run at different frequencies for power/performance optimization
  - — Internal core/bus clock multiplier that provides 1.5:1, 2:1, 2.5:1, 3:1, 3.5:1, 4:1, 5:1, 6:1 ratios
  - — Internal CPM/bus clock multiplier that provides 2:1, 2.5:1, 3:1, 3.5:1, 4:1, 5:1, 6:1 ratios
- 64-bit data and 32-bit address 60x bus
  - — Bus supports multiple master designs
  - — Supports single- and four-beat burst transfers
  - — 64-, 32-, 16-, and 8-bit port sizes controlled by on-chip memory controller
  - — Supports data parity or ECC and address parity
- 32-bit data and 18-bit address local bus
  - — Single-master bus, supports external slaves
  - — Eight-beat burst transfers
  - — 32-, 16-, and 8-bit port sizes controlled by on-chip memory controller
- 60x-to-PCI bridge (MPC8265 and MPC8266 only)
  - — Programmable host bridge and agent
  - — 32-bit data bus, 66 MHz, 3.3 V
  - — Synchronous and asynchronous 60x and PCI clock modes
  - — All internal address space available to external PCI host
  - — DMA for memory block transfers
  - — PCI-to-60x address remapping
- System interface unit (SIU)
  - — Clock synthesizer
  - — Reset controller
  - — Real-time clock (RTC) register
  - — Periodic interrupt timer
  - — Hardware bus monitor and software watchdog timer
  - — IEEE 1149.1 JTAG test access port
- Twelve-bank memory controller
  - — Glueless interface to SRAM, page mode SDRAM, DRAM, EPROM, Flash and other user-definable peripherals
  - — Byte write enables and selectable parity generation
  - — 32-bit address decodes with programmable bank size
  - — Three user programmable machines, general-purpose chip-select machine, and page-mode pipeline SDRAM machine
  - — Byte selects for 64 bus width (60x) and byte selects for 32 bus width (local)

  - Dedicated interface logic for SDRAM
- CPU core can be disabled and the device can be used in slave mode to an external core
- Communications processor module (CPM)
  - Embedded 32-bit communications processor (CP) uses a RISC architecture for flexible support for communications protocols
  - Interfaces to G2 core through on-chip 32-Kbyte dual-port RAM and DMA controller
  - Serial DMA channels for receive and transmit on all serial channels
  - Parallel I/O registers with open-drain and interrupt capability
  - Virtual DMA functionality executing memory-to-memory and memory-to-I/O transfers
  - Three fast communications controllers supporting the following protocols (only FCC1 and FCC2 on the MPC8255):
    - 10/100-Mbit Ethernet/IEEE 802.3 CDMA/CS interface through media independent interface (MII)
    - ATM—Full-duplex SAR protocols at 155 Mbps, through UTOPIA interface, AAL5, AAL1, AAL0 protocols, TM 4.0 CBR, VBR, UBR, ABR traffic types, up to 16 K external connections
    - Transparent
    - HDLC—Up to T3 rates (clear channel)
  - Two multichannel controllers (MCCs) (only MCC2 on the MPC8255)
    - Each MCC handles 128 serial, full-duplex, 64-Kbps data channels.Each MCC can be split into four subgroups of 32 channels each.
    - Almost any combination of subgroups can be multiplexed to single or multiple TDM interfaces up to four TDM interfaces per MCC
  - Four serial communications controllers (SCCs) identical to those on the MPC860, supporting the digital portions of the following protocols:
    - Ethernet/IEEE 802.3 CDMA/CS
    - HDLC/SDLC and HDLC bus
    - Universal asynchronous receiver transmitter (UART)
    - Synchronous UART
    - Binary synchronous (BISYNC) communications
    - Transparent
  - Two serial management controllers (SMCs), identical to those of the MPC860
    - Provide management for BRI devices as general circuit interface (GCI) controllers in time-division-multiplexed (TDM) channels
    - Transparent
    - UART (low-speed operation)
  - One serial peripheral interface identical to the MPC860 SPI
  - One inter-integrated circuit (I^2C) controller (identical to the MPC860 I^2C controller)
    - Microwire compatible
    - Multiple-master, single-master, and slave modes
  - Up to eight TDM interfaces (four on the MPC8255)

- Supports two groups of four TDM channels for a total of eight TDMs
- 2,048 bytes of SI RAM
- Bit or byte resolution
- Independent transmit and receive routing, frame synchronization
- Supports T1, CEPT, T1/E1, T3/E3, pulse code modulation highway, ISDN basic rate, ISDN primary rate, Motorola interchip digital link (IDL), general circuit interface (GCI), and user-defined TDM serial interfaces

— Eight independent baud rate generators and 20 input clock pins for supplying clocks to FCCs, SCCs, SMCs, and serial channels

— Four independent 16-bit timers that can be interconnected as two 32-bit timers

Additional features of the MPC826xA family are as follows:

- CPM
  - — 32-Kbyte dual-port RAM
  - — Additional MCC host commands
  - — Eight transfer transmission convergence (TC) layers between the TDMs and FCC2 to support inverse multiplexing for ATM capabilities (IMA) (MPC8264 and MPC8266 only)
- CPM multiplexing
  - — FCC2 can also be connected to the TC layer.
- TC layer (MPC8264 and MPC8266 only)
  - — Each of the 8 TDM channels is routed in hardware to a TC layer block
    - Protocol-specific overhead bits may be discarded or routed to other controllers by the SI
    - Performing ATM TC layer functions (according to ITU-T I.432)
    - Transmit (Tx) updates
      - Cell HEC generation
      - Payload scrambling using self synchronizing scrambler (programmable by the user)
      - Coset generation (programmable by the user)
      - Cell rate by inserting idle/unassigned cells
    - Receive (Rx) updates
      - Cell delineation using bit by bit HEC checking and programmable ALPHA and DELTA parameters for the delineation state machine
      - Payload descrambling using self synchronizing scrambler (programmable by the user)
      - Coset removing (programmable by the user)
      - Filtering idle/unassigned cells (programmable by the user)
      - Performing HEC error detection and single bit error correction (programmable by user)
      - Generating loss of cell delineation status/interrupt (LOC/LCD)
  - — Operates with FCC2 (UTOPIA 8)
  - — Provides serial loop back mode
  - — Cell echo mode is provided
  - — Supports both FCC transmit modes
    - External rate mode—Idle cells are generated by the FCC (microcode) to control data rate.

  - Internal rate mode (sub-rate)—FCC transfers only the data cells using the required data rate. The TC layer generates idle/unassigned cells to maintain the line bit rate.
- — Supports TC-layer and PMD-WIRE interface (according to the ATM-Forum af-phy-0063.000)
- — Cell counters for performance monitoring
  - 16-bit counters count
    - HEC error cells
    - HEC single bit error and corrected cells
    - Idle/unassigned cells filtered
    - Idle/unassigned cells transmitted
    - Transmitted ATM cells
    - Received ATM cells
  - Maskable interrupt is sent to the host when a counter expires
- — Overrun (Rx cell FIFO) and underrun (Tx cell FIFO) condition produces maskable interrupt
- — May be operated at E1 and DS-1 rates. In addition, xDSL applications at bit rates up to 10 Mbps are supported

- PCI bridge (MPC8265 and MPC8266 only)
  - — PCI Specification Revision 2.2 compliant and supports frequencies up to 66 MHz
  - — On-chip arbitration
  - — Support for PCI to 60x memory and 60x memory to PCI streaming
  - — PCI Host Bridge or Peripheral capabilities
  - — Includes 4 DMA channels for the following transfers:
    - PCI-to-60x to 60x-to-PCI
    - 60x-to-PCI to PCI-to-60x
    - PCI-to-60x to PCI-to-60x
    - 60x-to-PCI to 60x-to-PCI
  - — Includes all of the configuration registers (which are automatically loaded from the EPROM and used to configure the MPC8265) required by the PCI standard as well as message and doorbell registers
  - — Supports the I_2O standard
  - — Hot-Swap friendly (supports the Hot Swap Specification as defined by PICMG 2.1 R1.0 August 3, 1998)
  - — Support for 66 MHz, 3.3 V specification
  - — 60x-PCI bus core logic which uses a buffer pool to allocate buffers for each port
  - — Makes use of the local bus signals, so there is no need for additional pins

1.2 Electrical and Thermal Characteristics

This section provides AC and DC electrical specifications and thermal characteristics for the MPC826xA.

1.2.1 DC Electrical Characteristics

This section describes the DC electrical characteristics for the MPC826xA. Table 1 shows the maximum electrical ratings.

Table 1. Absolute Maximum Ratings[1]

Rating	Symbol	Value	Unit
Core supply voltage[2]	VDD	-0.3 – 2.5	V
PLL supply voltage[2]	VCCSYN	-0.3 – 2.5	V
I/O supply voltage[3]	VDDH	-0.3 – 4.0	V
Input voltage[4]	VIN	GND(-0.3) – 3.6	V
Junction temperature	T_j	120	˚C
Storage temperature range	T_{STG}	(-55) – (+150)	˚C

1 Absolute maximum ratings are stress ratings only; functional operation (see Table 2) at the maximums is not guaranteed. Stress beyond those listed may affect device reliability or cause permanent damage.
2 **Caution:** VDD/VCCSYN must not exceed VDDH by more than 0.4 V at any time, including during power-on reset.
3 **Caution:** VDDH can exceed VDD/VCCSYN by 3.3 V during power on reset by no more than 100 mSec. VDDH should not exceed VDD/VCCSYN by more than 2.5 V during normal operation.
4 **Caution:** VIN must not exceed VDDH by more than 2.5 V at any time, including during power-on reset.

Table 2 lists recommended operational voltage conditions.

Table 2. Recommended Operating Conditions[1]

Rating	Symbol	Value			Unit
Core supply voltage	VDD	1.7 – 1.9[2]	1.7–2.1[3]	1.9 –2.2[4]	V
PLL supply voltage	VCCSYN	1.7 – 1.9[2]	1.7–2.1[3]	1.9–2.2[4]	V
I/O supply voltage	VDDH	3.135 – 3.465			V
Input voltage	VIN	GND (-0.3) – 3.465			V
Junction temperature (maximum)	T_j	105[5]			˚C
Ambient temperature	T_A	0–70[5]			˚C

1 **Caution:** These are the recommended and tested operating conditions. Proper device operating outside of these conditions is not guaranteed.
2 CPU frequency less than or equal to 200 MHz.
3 CPU frequency greater than 200 MHz but less than 233 MHz.
4 CPU frequency greater than or equal to 233 MHz.
5 Note that for extended temperature parts the range is $(-40)_{T_A}$ – 105_{T_j}.

NOTE: Core, PLL, and I/O Supply Voltages

VDDH, VCCSYN, and VDD must track each other and both must vary in the same direction—in the positive direction (+5% and +0.1 Vdc) or in the negative direction (-5% and -0.1 Vdc).

This device contains circuitry protecting against damage due to high static voltage or electrical fields; however, it is advised that normal precautions be taken to avoid application of any voltages higher than

maximum-rated voltages to this high-impedance circuit. Reliability of operation is enhanced if unused inputs are tied to an appropriate logic voltage level (either GND or V_{CC}).

Figure 2 shows the undershoot and overshoot voltage of the 60x and local bus memory interface of the MPC8280. Note that in PCI mode the I/O interface is different.

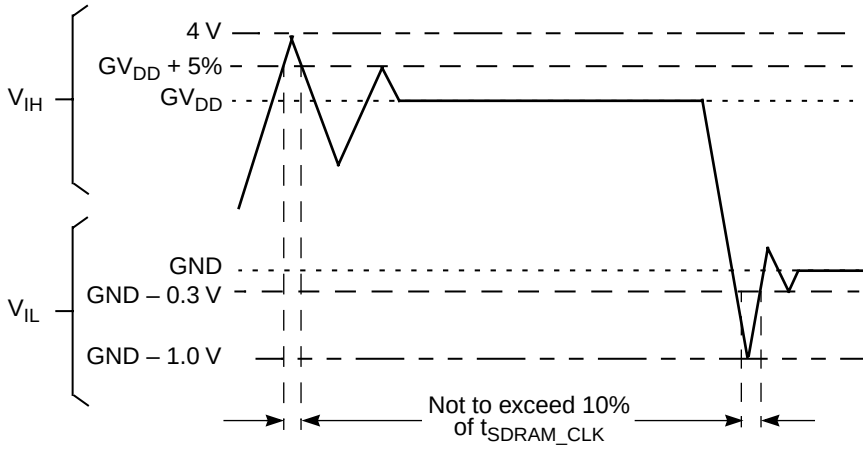


Figure 2. Overshoot/Undershoot Voltage

Table 3 shows DC electrical characteristics.

Table 3. DC Electrical Characteristics[1]

Characteristic	Symbol	Min	Max	Unit
Input high voltage, all inputs except CLKIN	V_{IH}	2.0	3.465	V
Input low voltage	V_{IL}	GND	0.8	V
CLKIN input high voltage	V_{IHC}	2.4	3.465	V
CLKIN input low voltage	V_{ILC}	GND	0.4	V
Input leakage current, V_{IN} = VDDH[2]	I_{IN}	—	10	µA
Hi-Z (off state) leakage current, V_{IN} = VDDH[2]	I_{OZ}	—	10	µA
Signal low input current, V_{IL} = 0.8 V	I_L	—	1	µA
Signal high input current, V_{IH} = 2.0 V	I_H	—	1	µA
Output high voltage, I_{OH} = –2 mA except XFC, UTOPIA mode, and open drain pins In UTOPIA mode: I_{OH} = -8.0mA PA[0-31] PB[4-31] PC[0-31] PD[4-31]	V_{OH}	2.4	—	V
In UTOPIA mode: I_{OL} = 8.0mA PA[0-31] PB[4-31] PC[0-31] PD[4-31]	V_{OL}	—	0.5	V

Table 3. DC Electrical Characteristics[1] (Continued)

Characteristic	Symbol	Min	Max	Unit
I_{OL} = 7.0mA BR BG ABB/IRQ2 TS A[0-31] TT[0-4] TBST TSIZE[0–3] AACK ARTRY DBG DBB/IRQ3 D[0-63] DP(0)/RSRV/EXT_BR2 DP(1)/IRQ1/EXT_BG2 DP(2)/TLBISYNC/IRQ2/EXT_DBG2 DP(3)/IRQ3/EXT_BR3/CKSTP_OUT DP(4)/IRQ4/EXT_BG3/CORE_SREST DP(5)/TBEN/IRQ5/EXT_DBG3 DP(6)/CSE(0)/IRQ6 DP(7)/CSE(1)/IRQ7 PSDVAL TA TEA GBL/IRQ1 CI/BADDR29/IRQ2 WT/BADDR30/IRQ3 L2_HIT/IRQ4 CPU_BG/BADDR31/IRQ5 CPU_DBG CPU_BR IRQ0/NMI_OUT IRQ7/INT_OUT/APE PORESET HRESET SRESET RSTCONF QREQ	V_{OL}	—	0.4	V

Table 3. DC Electrical Characteristics[1] (Continued)

Characteristic	Symbol	Min	Max	Unit
I_{OL} = 5.3mA CS[0-9] CS(10)/BCTL1 CS(11)/AP(0) BADDR[27–28] ALE BCTL0 PWE(0:7)/PSDDQM(0:7)/PBS(0:7) PSDA10/PGPL0 PSDWE/PGPL1 POE/PSDRAS/PGPL2 PSDCAS/PGPL3 PGTA/PUPMWAIT/PGPL4/PPBS PSDAMUX/PGPL5 LWE[0–3]LSDDQM[0–3]/LBS[0–3]/PCI_CFG[0–3[3] LSDA10/LGPL0/PCI_MODCKH0[3] LSDWE/LGPL1/PCI_MODCKH1[3] LOE/LSDRAS/LGPL2/PCI_MODCKH2[3] LSDCAS/LGPL3/PCI_MODCKH3[3] LGTA/LUPMWAIT/LGPL4/LPBS LSDAMUX/LGPL5/PCI_MODCK[3] LWR MODCK1/AP(1)/TC(0)/BNKSEL(0) MODCK2/AP(2)/TC(1)/BNKSEL(1) MODCK3/AP(3)/TC(2)/BNKSEL(2)	V_{OL}	—	0.4	V
I_{OL} = 3.2mA L_A14/PAR[3] L_A15/FRAME[3]/SMI L_A16/TRDY[3] L_A17/IRDY[3]/CKSTP_OUT L_A18/STOP[3] L_A19/DEVSEL[3] L_A20/IDSEL[3] L_A21/PERR[3] L_A22/SERR[3] L_A23/REQ0[3] L_A24/REQ1[3]/HSEJSW[3] L_A25/GNT0[3] L_A26/GNT1[3]/HSLED[3] L_A27/GNT2[3]/HSENUM[3] L_A28/RST[3]/CORE_SRESET L_A29/INTA[3] L_A30/REQ2[3] L_A31 LCL_D(0-31)/AD(0-31)[3] LCL_DP(0-3)/C/BE(0-3)[3] PA[0–31] PB[4–31] PC[0–31] PD[4–31] TDO				

[1] The default configuration of the CPM pins (PA[0–31], PB[4–31], PC[0–31], PD[4–31]) is input. To prevent excessive DC current, it is recommended to either pull unused pins to GND or VDDH, or to configure them as outputs.

[2] The leakage current is measured for nominal VDD, VCCSYN, and VDD.

[3] MPC8265 and MPC8266 only.

1.2.2 Thermal Characteristics

Table 4 describes thermal characteristics.

Table 4. Thermal Characteristics for 480 TBGA Package

Characteristics	Symbol	Value	Unit	Air Flow
Junction to ambient	θ_{JA}	13[1]	°C/W	NC[2]
		10[1]		1 m/s
		11[3]		NC
		8[3]		1 m/s
Junction to board[4]	θ_{JB}	4	°C/W	—
Junction to case[5]	θ_{JC}	1.1	°C/W	—

1 Assumes a single layer board with no thermal vias
2 Natural convection
3 Assumes a four layer board
4 Thermal resistance between the die and the printed circuit board per JEDEC JESD51-8. Board temperature is measured on the top surface of the board near the package.
5 Thermal resistance between the die and the case top surface as measured by the cold plate method (MIL SPEC-883 Method 1012.1).

1.2.3 Power Considerations

The average chip-junction temperature, T_J, in °C can be obtained from the following:

$$T_J = T_A + (P_D \times \theta_{JA}) \quad (1)$$

where

T_A = ambient temperature °C

θ_{JA} = package thermal resistance, junction to ambient, °C/W

$P_D = P_{INT} + P_{I/O}$

$P_{INT} = I_{DD} \times V_{DD}$ Watts (chip internal power)

$P_{I/O}$ = power dissipation on input and output pins (determined by user)

For most applications $P_{I/O} < 0.3 \times P_{INT}$. If $P_{I/O}$ is neglected, an approximate relationship between P_D and T_J is the following:

$$P_D = K/(T_J + 273° C) \quad (2)$$

Solving equations (1) and (2) for K gives:

$$K = P_D \times (T_A + 273° C) + \theta_{JA} \times P_D^2 \quad (3)$$

where K is a constant pertaining to the particular part. K can be determined from equation (3) by measuring P_D (at equilibrium) for a known T_A. Using this value of K, the values of P_D and T_J can be obtained by solving equations (1) and (2) iteratively for any value of T_A.

1.2.3.1 Layout Practices

Each V_{CC} pin should be provided with a low-impedance path to the board's power supply. Each ground pin should likewise be provided with a low-impedance path to ground. The power supply pins drive distinct groups of logic on chip. The V_{CC} power supply should be bypassed to ground using at least four 0.1 µF by-pass capacitors located as close as possible to the four sides of the package. The capacitor leads and associated printed circuit traces connecting to chip V_{CC} and ground should be kept to less than half an inch per capacitor lead. A four-layer board is recommended, employing two inner layers as V_{CC} and GND planes.

All output pins on the MPC826xA have fast rise and fall times. Printed circuit (PC) trace interconnection length should be minimized in order to minimize overdamped conditions and reflections caused by these fast output switching times. This recommendation particularly applies to the address and data buses. Maximum PC trace lengths of six inches are recommended. Capacitance calculations should consider all device loads as well as parasitic capacitances due to the PC traces. Attention to proper PCB layout and bypassing becomes especially critical in systems with higher capacitive loads because these loads create higher transient currents in the V_{CC} and GND circuits. Pull up all unused inputs or signals that will be inputs during reset. Special care should be taken to minimize the noise levels on the PLL supply pins.

Table 5 provides preliminary, estimated power dissipation for various configurations. Note that suitable thermal management is required for conditions above P_D = 3W (when the ambient temperature is 70˚ C or greater) to ensure the junction temperature does not exceed the maximum specified value. Also note that the I/O power should be included when determining whether to use a heat sink.

Table 5. Estimated Power Dissipation for Various Configurations[1]

Bus (MHz)	CPM Multiplier	Core CPU Multiplier	CPM (MHz)	CPU (MHz)	P_{INT}(W)[2]			
					Vddl 1.8 Volts		Vddl 2.0 Volts	
					Nominal	Maximum	Nominal	Maximum
66.66	2	3	133	200	1.2	2	1.8	2.3
66.66	2.5	3	166	200	1.3	2.1	1.9	2.3
66.66	3	4	200	266	—	—	2.3	2.9
66.66	3	4.5	200	300	—	—	2.4	3.1
83.33	2	3	166	250	—	—	2.2	2.8
83.33	2	3	166	250	—	—	2.2	2.8
83.33	2.5	3.5	208	291	—	—	2.4	3.1

[1] Test temperature = room temperature (25˚ C)
[2] $P_{INT} = I_{DD} \times V_{DD}$ Watts

1.2.4 AC Electrical Characteristics

The following sections include illustrations and tables of clock diagrams, signals, and CPM outputs and inputs for the 66 MHz MPC826xA device. Note that AC timings are based on a 50-p*f* load. Typical output buffer impedances are shown in Table 6.

Table 6. Output Buffer Impedances[1]

Output Buffers	Typical Impedance (Ω)
60x bus	40
Local bus	40
Memory controller	40
Parallel I/O	46
PCI	25

[1] These are typical values at 65° C. The impedance may vary by ±25% with process and temperature.

Table 7 lists CPM output characteristics.

Table 7. AC Characteristics for CPM Outputs[1]

Spec Number		Characteristic	Max Delay (ns)		Min Delay (ns)	
Max	Min		66 MHz	83 MHz	66 MHz	83 MHz
sp36a	sp37a	FCC outputs—internal clock (NMSI)	6	5.5	1	1
sp36b	sp37b	FCC outputs—external clock (NMSI)	14	12	2	1
sp40	sp41	TDM outputs/SI	25	16	5	4
sp38a	sp39a	SCC/SMC/SPI/I2C outputs—internal clock (NMSI)	19	16	1	0.5
sp38b	sp39b	Ex_SCC/SMC/SPI/I2C outputs—external clock (NMSI)	19	16	2	1
sp42	sp43	TIMER/IDMA outputs	14	11	1	0.5
sp42a	sp43a	PIO outputs	14	11	0.5	0.5

[1] Output specifications are measured from the 50% level of the rising edge of CLKIN to the 50% level of the signal. Timings are measured at the pin.

Table 8 lists CPM input characteristics.

Table 8. AC Characteristics for CPM Inputs[1]

Spec Number		Characteristic	Setup (ns)		Hold (ns)	
Max	Min		66 MHz	83 MHz	66 MHz	83 MHz
sp16a	sp17a	FCC inputs—internal clock (NMSI)	10	8	0	0
sp16b	sp17b	FCC inputs—external clock (NMSI)	3	2.5	3	2
sp20	sp21	TDM inputs/SI	15	12	12	10
sp18a	sp19a	SCC/SMC/SPI/I2C inputs—internal clock (NMSI)	20	16	0	0
sp18b	sp19b	SCC/SMC/SPI/I2C inputs—external clock (NMSI)	5	4	5	4
sp22	sp23	PIO/TIMER/IDMA inputs	10	8	3	3

[1] Input specifications are measured from the 50% level of the signal to the 50% level of the rising edge of CLKIN. Timings are measured at the pin.

Note that although the specifications generally reference the rising edge of the clock, the following AC timing diagrams also apply when the falling edge is the active edge.

Figure 3 shows the FCC external clock.

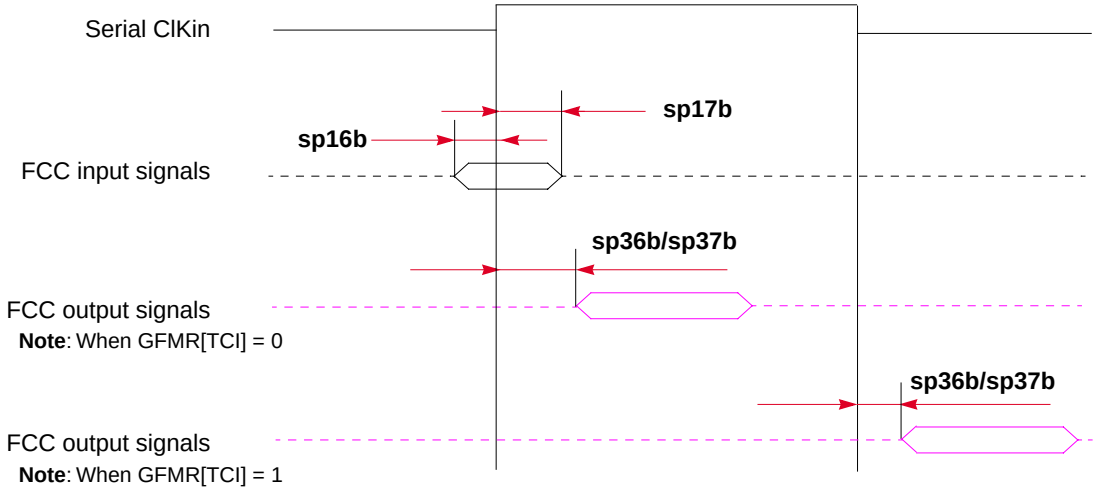


Figure 3. FCC External Clock Diagram

Figure 4 shows the FCC internal clock.

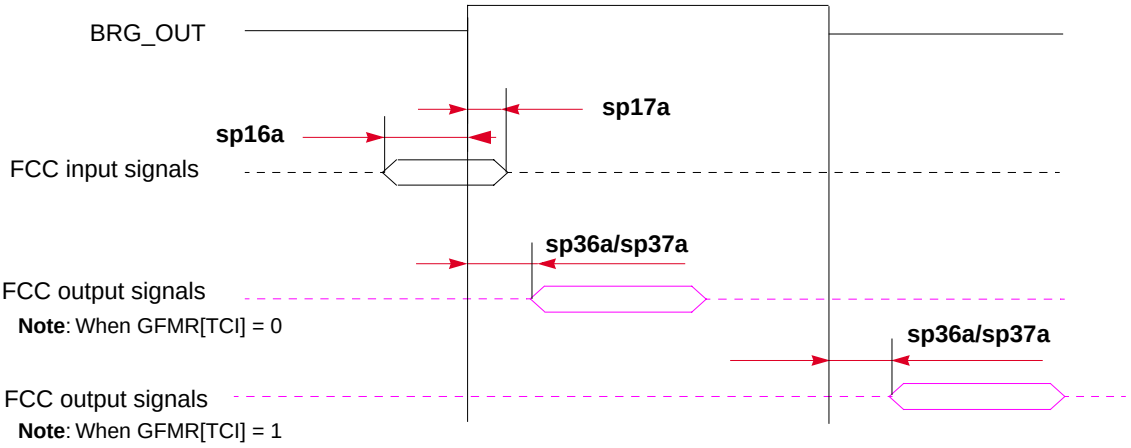
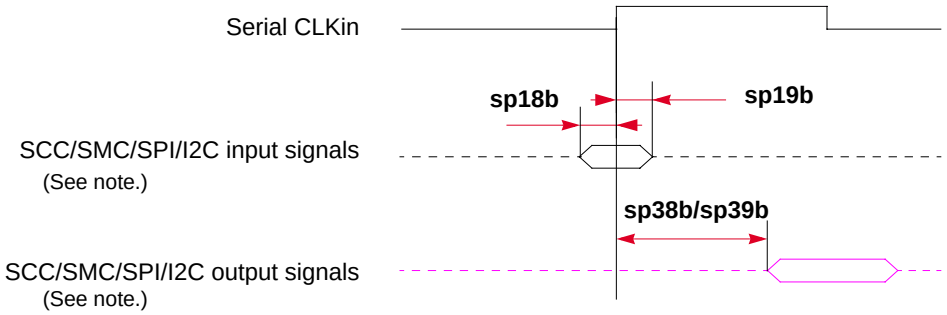


Figure 4. FCC Internal Clock Diagram

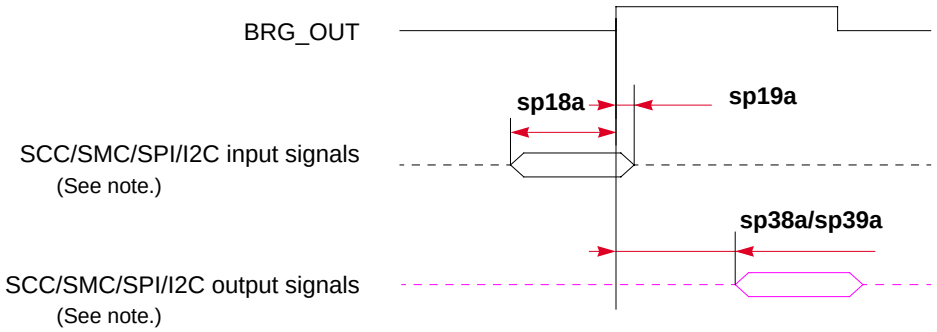
Figure 5 shows the SCC/SMC/SPI/I^{2}C external clock.



Note: There are four possible timing conditions for SCC and SPI:
1. Input sampled on the rising edge and output driven on the rising edge (shown).
2. Input sampled on the rising edge and output driven on the falling edge.
3. Input sampled on the falling edge and output driven on the falling edge.
4. Input sampled on the falling edge and output driven on the rising edge.

Figure 5. SCC/SMC/SPI/I^{2}C External Clock Diagram

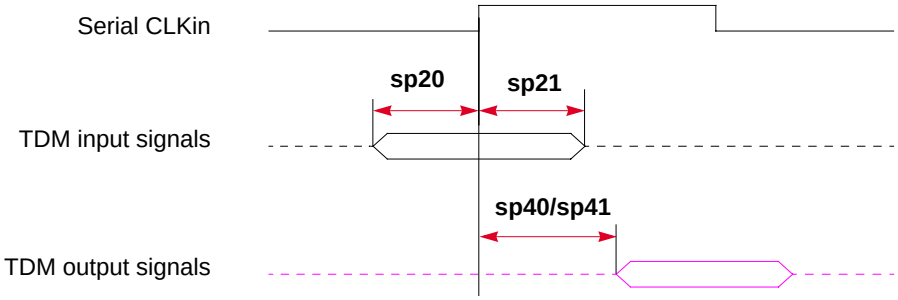
Figure 6 shows the SCC/SMC/SPI/I^{2}C internal clock.



Note: There are four possible timing conditions for SCC and SPI:
1. Input sampled on the rising edge and output driven on the rising edge (shown).
2. Input sampled on the rising edge and output driven on the falling edge.
3. Input sampled on the falling edge and output driven on the falling edge.
4. Input sampled on the falling edge and output driven on the rising edge.

Figure 6. SCC/SMC/SPI/I^{2}C Internal Clock Diagram

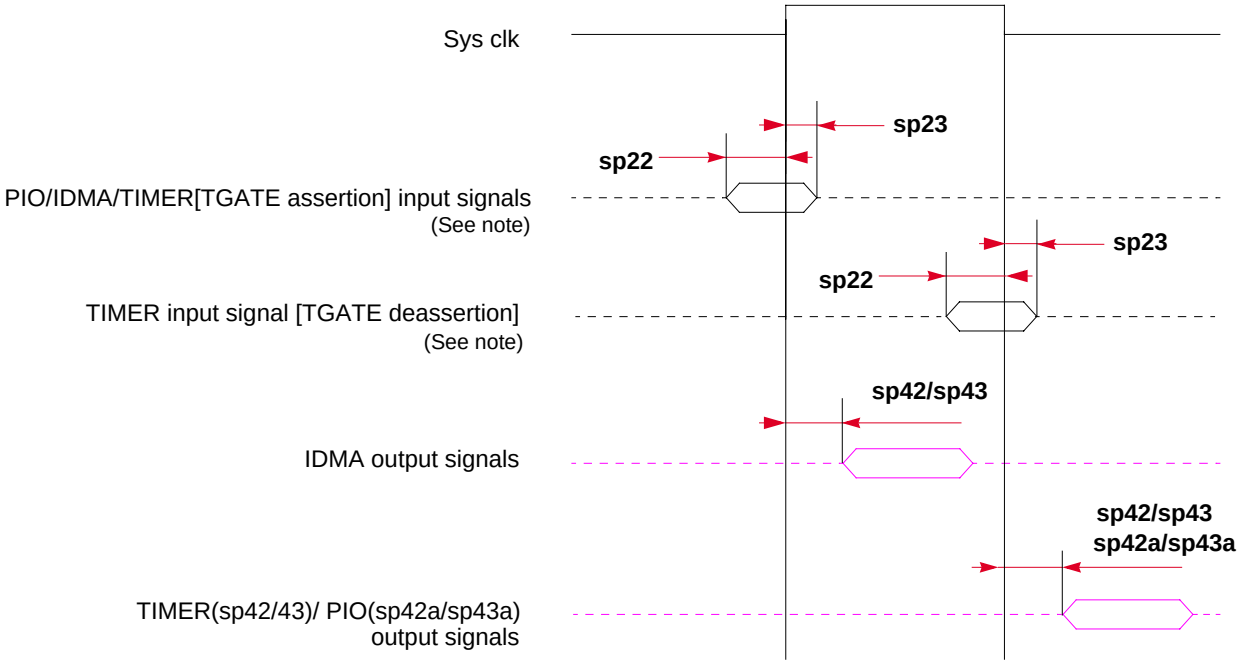
Figure 7 shows TDM input and output signals.



Note: There are four possible TDM timing conditions:
1. Input sampled on the rising edge and output driven on the rising edge (shown).
2. Input sampled on the rising edge and output driven on the falling edge.
3. Input sampled on the falling edge and output driven on the falling edge.
4. Input sampled on the falling edge and output driven on the rising edge.

Figure 7. TDM Signal Diagram

Figure 8 shows PIO, timer, and DMA signals.



Note: TGATE is asserted on the rising edge of the clock; it is deasserted on the falling edge.

Figure 8. PIO, Timer, and DMA Signal Diagram

Table 10 lists SIU input characteristics.

Table 9. AC Characteristics for SIU Inputs[1]

Spec Number		Characteristic	Setup (ns)		Hold (ns)	
Max	Min		66 MHz	83 MHz	66 MHz	83 MHz
sp11	sp10	$\overline{\text{AACK}}/\overline{\text{ARTRY}}/\overline{\text{TA}}/\overline{\text{TS}}/\overline{\text{TEA}}/\overline{\text{DBG}}/\overline{\text{BG}}/\overline{\text{BR}}$	6	5	0.5	0.5
sp12	sp10	Data bus in normal mode	5	4	0.5	0.5
sp13	sp10	Data bus in ECC and PARITY modes	8	6	0.5	0.5
sp14	sp10	DP pins	7	6	0.5	0.5
sp15	sp10	All other pins	5	4	0.5	0.5

[1] Input specifications are measured from the 50% level of the signal to the 50% level of the rising edge of CLKIN. Timings are measured at the pin.

Table 10 lists SIU output characteristics.

Table 10. AC Characteristics for SIU Outputs[1]

Spec Number		Characteristic	Max Delay (ns)		Min Delay (ns)	
Max	Min		66 MHz	83 MHz	66 MHz	83 MHz
sp31	sp30	$\overline{\text{PSDVAL}}/\overline{\text{TEA}}/\overline{\text{TA}}$	7	6	0.5	0.5
sp32	sp30	ADD/ADD_atr./BADDR/CI/GBL/WT	8	6.5	0.5	0.5
sp33a	sp30	Data bus	6.5	6.5	0.5	0.5
sp33b	sp30	DP	8	7	0.5	0.5
sp34	sp30	Memory controller signals/ALE	6	5	0.5	0.5
sp35	sp30	All other signals	6	5.5	0.5	0.5

[1] Output specifications are measured from the 50% level of the rising edge of CLKIN to the 50% level of the signal. Timings are measured at the pin.

NOTE

Activating data pipelining (setting BR*x*[DR] in the memory controller) improves the AC timing. When data pipelining is activated, sp12 can be used for data bus setup even when ECC or PARITY are used. Also, sp33a can be used as the AC specification for DP signals.

Figure 9 shows the interaction of several bus signals.

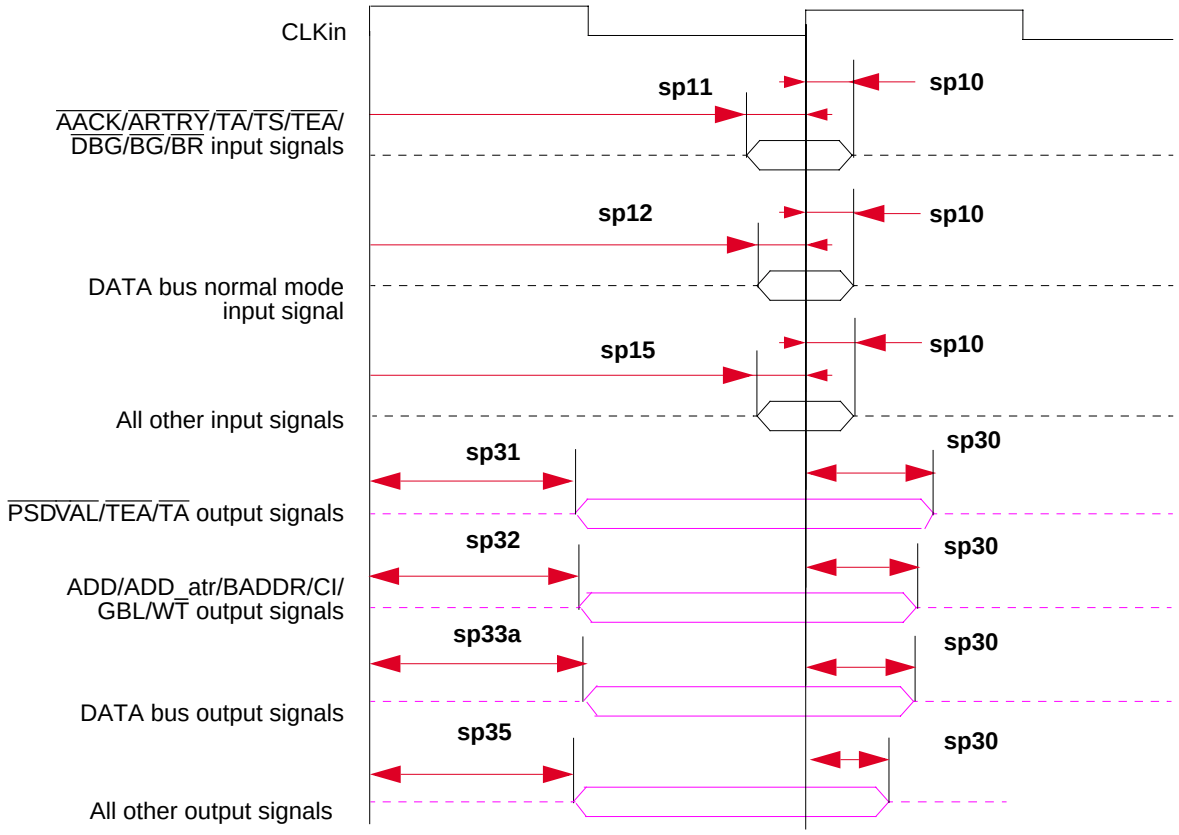


Figure 9. Bus Signals

Figure 10 shows signal behavior for all parity modes (including ECC, RMW parity, and standard parity).

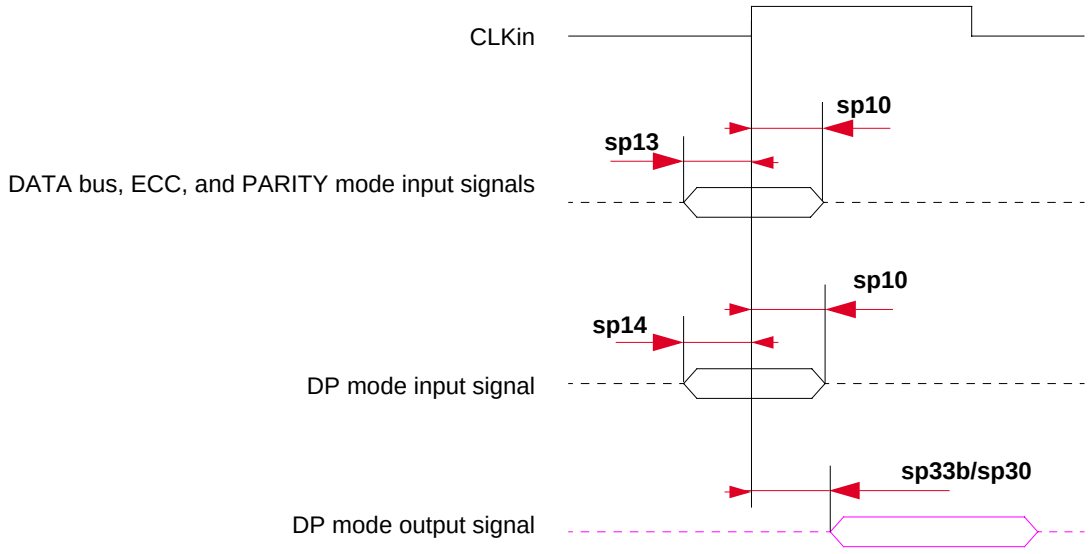


Figure 10. Parity Mode Diagram

Figure 11 shows signal behavior in MEMC mode.

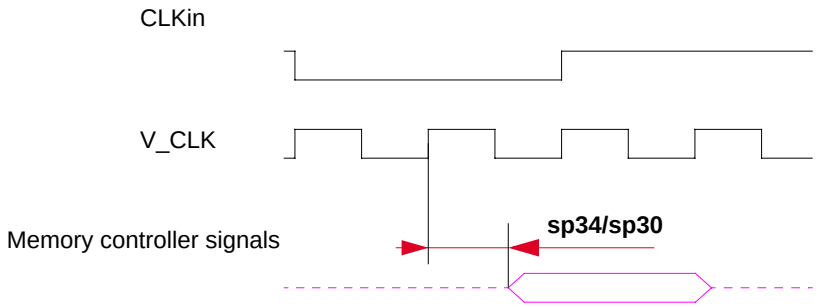


Figure 11. MEMC Mode Diagram

NOTE

Generally, all MPC826xA bus and system output signals are driven from the rising edge of the input clock (CLKin). Memory controller signals, however, trigger on four points within a CLKin cycle. Each cycle is divided by four internal ticks: T1, T2, T3, and T4. T1 always occurs at the rising edge, and T3 at the falling edge, of CLKin. However, the spacing of T2 and T4 depends on the PLL clock ratio selected, as shown in Table 11.

Table 11. Tick Spacing for Memory Controller Signals

PLL Clock Ratio	Tick Spacing (T1 Occurs at the Rising Edge of CLKin)		
	T2	T3	T4
1:2, 1:3, 1:4, 1:5, 1:6	1/4 CLKin	1/2 CLKin	3/4 CLKin
1:2.5	3/10 CLKin	1/2 CLKin	8/10 CLKin
1:3.5	4/14 CLKin	1/2 CLKin	11/14 CLKin

Figure 12 is a graphical representation of Table 11.

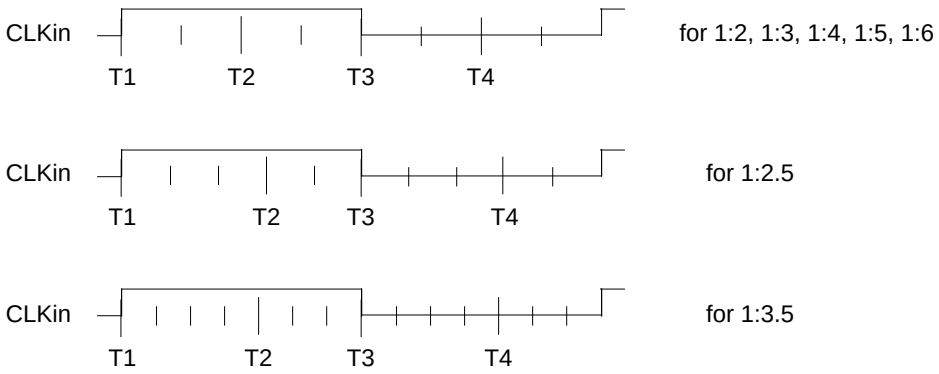


Figure 12. Internal Tick Spacing for Memory Controller Signals

NOTE

The UPM machine outputs change on the internal tick determined by the memory controller programming; the AC specifications are relative to the internal tick. Note that SDRAM and GPCM machine outputs change on CLKin's rising edge.

1.3 Clock Configuration Modes

To configure the main PLL multiplication factor and the core, CPM, and 60x bus frequencies, the MODCK[1–3] pins are sampled while $\overline{\text{HRESET}}$ is asserted. Table 12 lists the eight basic configuration modes. Table 13 lists the other modes that are available by using the configuration pin ($\overline{\text{RSTCONF}}$) and driving four bits from hardware configuration word on the data bus.

Note that the MPC8265 and the MPC8266 have two additional clocking modes—PCI agent and PCI host. Refer to Section 1.3.2, "PCI Mode" on page 23 for information.

NOTE

Clock configurations change only after $\overline{\text{POR}}$ is asserted.

1.3.1 Local Bus Mode

Table 12 describes default clock modes for the MPC826xA.

Table 12. Clock Default Modes

MODCK[1–3]	Input Clock Frequency	CPM Multiplication Factor	CPM Frequency	Core Multiplication Factor	Core Frequency
000	33 MHz	3	100 MHz	4	133 MHz
001	33 MHz	3	100 MHz	5	166 MHz
010	33 MHz	4	133 MHz	4	133 MHz
011	33 MHz	4	133 MHz	5	166 MHz
100	66 MHz	2	133 MHz	2.5	166 MHz
101	66 MHz	2	133 MHz	3	200 MHz
110	66 MHz	2.5	166 MHz	2.5	166 MHz
111	66 MHz	2.5	166 MHz	3	200 MHz

Table 13 describes all possible clock configurations when using the hard reset configuration sequence. Note that basic modes are shown in boldface type. The frequencies listed are for the purpose of illustration only. Users must select a mode and input bus frequency so that the resulting configuration does not exceed the frequency rating of the user's device.

Table 13. Clock Configuration Modes[1]

MODCK_H–MODCK[1–3]	Input Clock Frequency[2,3]	CPM Multiplication Factor[2]	CPM Frequency[2]	Core Multiplication Factor[2]	Core Frequency[2]
0001_000	33 MHz	2	66 MHz	4	133 MHz
0001_001	33 MHz	2	66 MHz	5	166 MHz
0001_010	33 MHz	2	66 MHz	6	200 MHz
0001_011	33 MHz	2	66 MHz	7	233 MHz
0001_100	33 MHz	2	66 MHz	8	266 MHz
0001_101	**33 MHz**	**3**	**100 MHz**	4	**133 MHz**
0001_110	**33 MHz**	**3**	**100 MHz**	5	**166 MHz**
0001_111	33 MHz	3	100 MHz	6	200 MHz
0010_000	33 MHz	3	100 MHz	7	233 MHz
0010_001	33 MHz	3	100 MHz	8	266 MHz
0010_010	**33 MHz**	**4**	**133 MHz**	**4**	**133 MHz**
0010_011	**33 MHz**	**4**	**133 MHz**	**5**	**166 MHz**
0010_100	33 MHz	4	133 MHz	6	200 MHz
0010_101	33 MHz	4	133 MHz	7	233 MHz
0010_110	33 MHz	4	133 MHz	8	266 MHz
0010_111	33 MHz	5	166 MHz	4	133 MHz
0011_000	33 MHz	5	166 MHz	5	166 MHz
0011_001	33 MHz	5	166 MHz	6	200 MHz
0011_010	33 MHz	5	166 MHz	7	233 MHz
0011_011	33 MHz	5	166 MHz	8	266 MHz
0011_100	33 MHz	6	200 MHz	4	133 MHz
0011_101	33 MHz	6	200 MHz	5	166 MHz
0011_110	33 MHz	6	200 MHz	6	200 MHz
0011_111	33 MHz	6	200 MHz	7	233 MHz
0100_000	33 MHz	6	200 MHz	8	266 MHz

Table 13. Clock Configuration Modes[1] (Continued)

MODCK_H–MODCK[1–3]	Input Clock Frequency[2,3]	CPM Multiplication Factor[2]	CPM Frequency[2]	Core Multiplication Factor[2]	Core Frequency[2]
0100_001	Reserved				
0100_010					
0100_011					
0100_100					
0100_101					
0100_110					
0100_111	Reserved				
0101_000					
0101_001					
0101_010					
0101_011					
0101_100					
0101_101	66 MHz	2	133 MHz	2	133 MHz
0101_110	**66 MHz**	**2**	**133 MHz**	**2.5**	**166 MHz**
0101_111	**66 MHz**	**2**	**133 MHz**	**3**	**200 MHz**
0110_000	66 MHz	2	133 MHz	3.5	233 MHz
0110_001	66 MHz	2	133 MHz	4	266 MHz
0110_010	66 MHz	2	133 MHz	4.5	300 MHz
0110_011	66 MHz	2.5	166 MHz	2	133 MHz
0110_100	**66 MHz**	**2.5**	**166 MHz**	**2.5**	**166 MHz**
0110_101	**66 MHz**	**2.5**	**166 MHz**	**3**	**200 MHz**
0110_110	66 MHz	2.5	166 MHz	3.5	233 MHz
0110_111	66 MHz	2.5	166 MHz	4	266 MHz
0111_000	66 MHz	2.5	166 MHz	4.5	300 MHz
0111_001	66 MHz	3	200 MHz	2	133 MHz
0111_010	66 MHz	3	200 MHz	2.5	166 MHz
0111_011	66 MHz	3	200 MHz	3	200 MHz
0111_100	66 MHz	3	200 MHz	3.5	233 MHz
0111_101	66 MHz	3	200 MHz	4	266 MHz
0111_110	66 MHz	3	200 MHz	4.5	300 MHz

Table 13. Clock Configuration Modes[1] (Continued)

MODCK_H–MODCK[1–3]	Input Clock Frequency[2,3]	CPM Multiplication Factor[2]	CPM Frequency[2]	Core Multiplication Factor[2]	Core Frequency[2]
0111_111	66 MHz	3.5	233 MHz	2	133 MHz
1000_000	66 MHz	3.5	233 MHz	2.5	166 MHz
1000_001	66 MHz	3.5	233 MHz	3	200 MHz
1000_010	66 MHz	3.5	233 MHz	3.5	233 MHz
1000_011	66 MHz	3.5	233 MHz	4	266 MHz
1000_100	66 MHz	3.5	233 MHz	4.5	300 MHz

1 Because of speed dependencies, not all of the possible configurations in Table 13 are applicable.
2 The user should choose the input clock frequency and the multiplication factors such that the frequency of the CPU is equal to or greater than150 MHz and the CPM ranges between 66–233 MHz.
3 Input clock frequency is given only for the purpose of reference. User should set MODCK_H–MODCK_L so that the resulting configuration does not exceed the frequency rating of the user's part.

1.3.2 PCI Mode

The MPC8265 and the MPC8266 have three clocking modes: local, PCI host, and PCI agent. The clocking mode is set according to three input pins—PCI_MODE, PCI_CFG[0], PCI_MODCK—as shown in Table 14.

Table 14. MPC8265 and MPC8266 Clocking Modes

Pins			Clocking Mode	PCI Clock Frequency Range (MHZ)
$\overline{\text{PCI\_MODE}}$	PCI_CFG[0]	PCI_MODCK		
1	—	—	Local bus	—
0	0	0	PCI host	50–66
0	0	1		25–50
0	1	0	PCI agent	50–66
0	1	1		25–50

In addition, note the following:

NOTE: PCI_MODCK

In PCI mode only, PCI_MODCK comes from the LGPL5 pin and MODCK_H[0–3] comes from {LGPL0, LGPL1, LGPL2, LGPL3}.

NOTE: Tval (Output Hold)

The minimum Tval = 2 when PCI_MODCK = 1, and the minimum Tval = 1 when PCI_MODCK = 0. Therefore, designers should use clock configurations that fit this condition to achieve PCI-compliant AC timing.

NOTE

Clock configurations change only after $\overline{\text{POR}}$ is asserted.

1.3.2.1 PCI Host Mode

The frequencies listed in Table 15 and Table 16 are for the purpose of illustration only. Users must select a mode and input bus frequency so that the resulting configuration does not exceed the frequency rating of the user's device.

Table 15. Clock Default Configurations in PCI Host Mode (MODCK_HI = 0000)

MODCK[1–3][1]	Input Clock Frequency (Bus)	CPM Multiplication Factor	CPM Frequency	Core Multiplication Factor	Core Frequency	PCI Division Factor[2]	PCI Frequency[2]
000	66 MHz	2	133 MHz	2.5	166 MHz	2/4	66/33 MHz
001	66 MHz	2	133 MHz	3	200 MHz	2/4	66/33 MHz
010	66 MHz	2.5	166 MHz	3	200 MHz	3/6	55/28 MHz
011	66 MHz	2.5	166 MHz	3.5	233 MHz	3/6	55/28 MHz
100	66 MHz	2.5	166 MHz	4	266 MHz	3/6	55/28 MHz
101	66 MHz	3	200 MHz	3	200 MHz	3/6	66/33 MHz
110	66 MHz	3	200 MHz	3.5	233 MHz	3/6	66/33 MHz
111	66 MHz	3	200 MHz	4	266 MHz	3/6	66/33 MHz

1 Assumes MODCK_HI = 0000.
2 The frequency depends on the value of PCI_MODCK. If PCI_MODCK is high (logic '1'), the PCI frequency is divided by 2 (33 instead of 66 MHz, etc.) Refer to Table 14.

Table 16 describes all possible clock configurations when using the MPC8265 or the MPC8266's internal PCI bridge in host mode.

Table 16. Clock Configuration Modes in PCI Host Mode

MODCK_H – MODCK[1–3]	Input Clock Frequency[1] (Bus)	CPM Multiplication Factor	CPM Frequency	Core Multiplication Factor	Core Frequency	PCI Division Factor[2]	PCI Frequency[2]
0001_000	**33 MHz**	**3**	**100 MHz**	5	**166 MHz**	**3/6**	**33/16 MHz**
0001_001	33 MHz	3	100 MHz	6	200 MHz	3/6	33/16 MHz
0001_010	33 MHz	3	100 MHz	7	233 MHz	3/6	33/16 MHz
0001_011	33 MHz	3	100 MHz	8	266 MHz	3/6	33/16 MHz
0010_000	**33 MHz**	**4**	**133 MHz**	**5**	**166 MHz**	**4/8**	**33/16 MHz**
0010_001	33 MHz	4	133 MHz	6	200 MHz	4/8	33/16 MHz
0010_010	33 MHz	4	133 MHz	7	233 MHz	4/8	33/16 MHz
0010_011	33 MHz	4	133 MHz	8	266 MHz	4/8	33/16 MHz
0011_000[3]	33 MHz	5	166 MHz	5	166 MHz	5	**33 MHz**
0011_001[3]	33 MHz	5	166 MHz	6	200 MHz	5	33 MHz
0011_010[3]	33 MHz	5	166 MHz	7	233 MHz	5	33 MHz
0011_011[3]	33 MHz	5	166 MHz	8	266 MHz	5	33 MHz

Table 16. Clock Configuration Modes in PCI Host Mode (Continued)

MODCK_H – MODCK[1–3]	Input Clock Frequency[1] (Bus)	CPM Multiplication Factor	CPM Frequency	Core Multiplication Factor	Core Frequency	PCI Division Factor[2]	PCI Frequency[2]
0100_000[3]	33 MHz	6	200 MHz	5	166 MHz	6	33 MHz
0100_001[3]	33 MHz	6	200 MHz	6	200 MHz	6	33 MHz
0100_010[3]	33 MHz	6	200 MHz	7	233 MHz	6	33 MHz
0100_011[3]	33 MHz	6	200 MHz	8	266 MHz	6	33 MHz
0101_000	**66 MHz**	**2**	**133 MHz**	**2.5**	**166 MHz**	**2/4**	**66/33 MHz**
0101_001	**66 MHz**	**2**	**133 MHz**	**3**	**200 MHz**	**2/4**	**66/33 MHz**
0101_010	66 MHz	2	133 MHz	3.5	233 MHz	2/4	66/33 MHz
0101_011	66 MHz	2	133 MHz	4	266 MHz	2/4	66/33 MHz
0101_100	66 MHz	2	133 MHz	4.5	300 MHz	2/4	66/33 MHz
0110_000	**66 MHz**	**2.5**	**166 MHz**	**2.5**	**166 MHz**	**3/6**	**55/28 MHz**
0110_001	**66 MHz**	**2.5**	**166 MHz**	**3**	**200 MHz**	**3/6**	**55/28 MHz**
0110_010	66 MHz	2.5	166 MHz	3.5	233 MHz	3/6	55/28 MHz
0110_011	66 MHz	2.5	166 MHz	4	266 MHz	3/6	55/28 MHz
0110_100	66 MHz	2.5	166 MHz	4.5	300 MHz	3/6	55/28 MHz
0111_000	66 MHz	3	200 MHz	2.5	166 MHz	3/6	66/33 MHz
0111_001	66 MHz	3	200 MHz	3	200 MHz	3/6	66/33 MHz
0111_010	66 MHz	3	200 MHz	3.5	233 MHz	3/6	66/33 MHz
0111_011	66 MHz	3	200 MHz	4	266 MHz	3/6	66/33 MHz
0111_100	66 MHz	3	200 MHz	4.5	300 MHz	3/6	66/33 MHz
1000_000	66 MHz	3	200 MHz	2.5	166 MHz	4/8	**50/25 MHz**
1000_001	66 MHz	3	200 MHz	3	200 MHz	4/8	50/25 MHz
1000_010	66 MHz	3	200 MHz	3.5	233 MHz	4/8	50/25 MHz
1000_011	66 MHz	3	200 MHz	4	266 MHz	4/8	50/25 MHz
1000_100	66 MHz	3	200 MHz	4.5	300 MHz	4/8	50/25 MHz
1001_000	66 MHz	3.5	233 MHz	2.5	166 MHz	4/8	58/29 MHz
1001_001	66 MHz	3.5	233 MHz	3	200 MHz	4/8	58/29 MHz
1001_010	66 MHz	3.5	233 MHz	3.5	233 MHz	4/8	58/29 MHz
1001_011	66 MHz	3.5	233 MHz	4	266 MHz	4/8	58/29 MHz

Table 16. Clock Configuration Modes in PCI Host Mode (Continued)

MODCK_H – MODCK[1–3]	Input Clock Frequency[1] (Bus)	CPM Multiplication Factor	CPM Frequency	Core Multiplication Factor	Core Frequency	PCI Division Factor[2]	PCI Frequency[2]
1001_100	66 MHz	3.5	233 MHz	4.5	300 MHz	4/8	58/29 MHz
1010_000	100 MHz	2	200 MHz	2	200 MHz	3/6	66/33 MHz
1010_001	100 MHz	2	200 MHz	2.5	250 MHz	3/6	66/33 MHz
1010_010	100 MHz	2	200 MHz	3	300 MHz	3/6	66/33 MHz
1010_011	100 MHz	2	200 MHz	3.5	350 MHz	3/6	66/33 MHz
1010_100	100 MHz	2	200 MHz	4	400 MHz	3/6	66/33 MHz
1011_000	100 MHz	2.5	250 MHz	2	200 MHz	4/8	62/31 MHz
1011_001	100 MHz	2.5	250 MHz	2.5	250 MHz	4/8	62/31MHz
1011_010	100 MHz	2.5	250 MHz	3	300 MHz	4/8	62/31 MHz
1011_011	100 MHz	2.5	250 MHz	3.5	350 MHz	4/8	62/31 MHz
1011_100	100 MHz	2.5	250 MHz	4	400 MHz	4/8	62/31 MHz

[1] Input clock frequency is given only for the purpose of reference. User should set MODCK_H–MODCK_L so that the resulting configuration does not exceed the frequency rating of the user's part.

[2] The frequency depends on the value of PCI_MODCK. If PCI_MODCK is high (logic '1'), the PCI frequency is divided by 2 (33 instead of 66 MHz, etc.). Refer to Table 14.

[3] In this mode, PCI_MODCK must be "0".

1.3.2.2 PCI Agent Mode

The frequencies listed in Table 17 and Table 18 are for the purpose of illustration only. Users must select a mode and input bus frequency so that the resulting configuration does not exceed the frequency rating of the user's device.

Table 17. Clock Default Configurations in PCI Agent Mode (MODCK_HI = 0000)

MODCK[1–3][1]	Input Clock Frequency (PCI)[2]	CPM Multiplication Factor[2]	CPM Frequency	Core Multiplication Factor	Core Frequency[3]	Bus Division Factor	60x Bus Frequency[4]
000	66/33 MHz	2/4	133 MHz	2.5	166 MHz	2	66 MHz
001	66/33 MHz	2/4	133 MHz	3	200 MHz	2	66 MHz
010	66/33 MHz	3/6	200 MHz	3	200 MHz	3	66 MHz
011	66/33 MHz	3/6	200 MHz	4	266 MHz	3	66 MHz
100	66/33 MHz	3/6	200 MHz	3	240 MHz	2.5	80 MHz
101	66/33 MHz	3/6	200 MHz	3.5	280 MHz	2.5	80 MHz
110	66/33 MHz	4/8	266 MHz	3.5	300 MHz	3	88 MHz
111	66/33 MHz	4/8	266 MHz	3	300 MHz	2.5	100 MHz

1 Assumes MODCK_HI = 0000.
2 The frequency depends on the value of PCI_MODCK. If PCI_MODCK is high (logic '1'), the PCI frequency is divided by 2 (33 instead of 66 MHz, etc.) and the CPM multiplication factor is multiplied by 2. Refer to Table 14.
3 Core frequency = (60x bus frequency)(core multiplication factor)
4 Bus frequency = CPM frequency / bus division factor

Table 18 describes all possible clock configurations when using the MPC8265 or the MPC8266's internal PCI bridge in agent mode.

Table 18. Clock Configuration Modes in PCI Agent Mode

MODCK_H – MODCK[1–3]	Input Clock Frequency (PCI)[1,2]	CPM Multiplication Factor[1]	CPM Frequency	Core Multiplication Factor	Core Frequency[3]	Bus Division Factor	60x Bus Frequency[4]
0001_001	66/33 MHz	2/4	133 MHz	5	166 MHz	4	33 MHz
0001_010	66/33 MHz	2/4	133 MHz	6	200 MHz	4	33 MHz
0001_011	66/33 MHz	2/4	133 MHz	7	233 MHz	4	33 MHz
0001_100	66/33 MHz	2/4	133 MHz	8	266 MHz	4	33 MHz
0010_001	50/25 MHz	3/6	**150 MHz**	3	180 MHz	**2.5**	**60 MHz**
0010_010	50/25 MHz	3/6	**150 MHz**	3.5	210 MHz	**2.5**	**60 MHz**
0010_011	50/25 MHz	3/6	**150 MHz**	4	240 MHz	**2.5**	**60 MHz**
0010_100	50/25 MHz	3/6	**150 MHz**	4.5	270 MHz	**2.5**	**60 MHz**
0011_000	**66/33 MHz**	2/4	**133 MHz**	2.5	**110MHz**	**3**	**44 MHz**
0011_001	66/33 MHz	2/4	**133 MHz**	3	132 MHz	3	**44 MHz**

Table 18. Clock Configuration Modes in PCI Agent Mode (Continued)

MODCK_H – MODCK[1–3]	Input Clock Frequency (PCI)[1,2]	CPM Multiplication Factor[1]	CPM Frequency	Core Multiplication Factor	Core Frequency[3]	Bus Division Factor	60x Bus Frequency[4]
0011_010	66/33 MHz	2/4	**133 MHz**	3.5	154 MHz	3	**44 MHz**
0011_011	66/33 MHz	2/4	**133 MHz**	4	176MHz	3	**44 MHz**
0011_100	66/33 MHz	2/4	**133 MHz**	4.5	198 MHz	3	**44 MHz**
0100_000	**66/33 MHz**	**3/6**	**200 MHz**	2.5	**166 MHz**	**3**	**66 MHz**
0100_001	66/33 MHz	3/6	**200 MHz**	3	200 MHz	**3**	**66 MHz**
0100_010	66/33 MHz	3/6	**200 MHz**	3.5	233 MHz	**3**	**66 MHz**
0100_011	66/33 MHz	3/6	**200 MHz**	4	266 MHz	**3**	**66 MHz**
0100_100	66/33 MHz	3/6	**200 MHz**	4.5	300 MHz	**3**	**66 MHz**
0101_000[5]	33 MHz	5	166 MHz	2.5	**166 MHz**	2.5	**66 MHz**
0101_001[5]	33 MHz	5	166 MHz	3	200 MHz	2.5	**66 MHz**
0101_010[5]	33 MHz	5	166 MHz	3.5	233 MHz	2.5	66 MHz
0101_011[5]	33 MHz	5	166 MHz	4	266 MHz	2.5	66 MHz
0101_100[5]	33 MHz	5	166 MHz	4.5	300 MHz	2.5	66 MHz
0110_000	50/25 MHz	4/8	200 MHz	2.5	166 MHz	3	66 MHz
0110_001	50/25 MHz	4/8	200 MHz	3	200 MHz	3	66 MHz
0110_010	50/25 MHz	4/8	200 MHz	3.5	233 MHz	3	66 MHz
0110_011	50/25 MHz	4/8	200 MHz	4	266 MHz	3	66 MHz
0110_100	50/25 MHz	4/8	200 MHz	4.5	300 MHz	3	66 MHz
0111_000	66/33 MHz	3/6	200 MHz	2	200 MHz	2	100 MHz
0111_001	66/33 MHz	3/6	200 MHz	2.5	250 MHz	2	100 MHz
0111_010	66/33 MHz	3/6	200 MHz	3	300 MHz	2	100 MHz
0111_011	66/33 MHz	3/6	200 MHz	3.5	350 MHz	2	100 MHz
1000_000	66/33 MHz	3/6	200 MHz	2	160 MHz	2.5	80 MHz
1000_001	66/33 MHz	3/6	200 MHz	2.5	200 MHz	2.5	80 MHz
1000_010	66/33 MHz	3/6	200 MHz	3	240 MHz	2.5	80 MHz
1000_011	66/33 MHz	3/6	200 MHz	3.5	280 MHz	2.5	80 MHz
1000_100	66/33 MHz	3/6	200 MHz	4	320 MHz	2.5	80 MHz
1000_101	66/33 MHz	3/6	200 MHz	4.5	360 MHz	2.5	80 MHz

Table 18. Clock Configuration Modes in PCI Agent Mode (Continued)

MODCK_H – MODCK[1–3]	Input Clock Frequency (PCI)[1,2]	CPM Multiplication Factor[1]	CPM Frequency	Core Multiplication Factor	Core Frequency[3]	Bus Division Factor	60x Bus Frequency[4]
1001_000	66/33 MHz	4/8	266 MHz	2.5	166 MHz	4	66 MHz
1001_001	66/33 MHz	4/8	266 MHz	3	200 MHz	4	66 MHz
1001_010	66/33 MHz	4/8	266 MHz	3.5	233 MHz	4	66 MHz
1001_011	66/33 MHz	4/8	266 MHz	4	266 MHz	4	66 MHz
1001_100	66/33 MHz	4/8	266 MHz	4.5	300 MHz	4	66 MHz
1010_000	66/33 MHz	4/8	266 MHz	2.5	222 MHz	3	88 MHz
1010_001	66/33 MHz	4/8	266 MHz	3	266 MHz	3	88 MHz
1010_010	66/33 MHz	4/8	266 MHz	3.5	300 MHz	3	88 MHz
1010_011	66/33 MHz	4/8	266 MHz	4	350 MHz	3	88 MHz
1010_100	66/33 MHz	4/8	266 MHz	4.5	400 MHz	3	88 MHz
1011_000	66/33 MHz	4/8	266 MHz	2	212MHz	2.5	106 MHz
1011_001	66/33 MHz	4/8	266 MHz	2.5	265 MHz	2.5	106 MHz
1011_010	66/33 MHz	4/8	266 MHz	3	318 MHz	2.5	106 MHz
1011_011	66/33 MHz	4/8	266 MHz	3.5	371 MHz	2.5	106 MHz
1011_100	66/33 MHz	4/8	266 MHz	4	424 MHz	2.5	106 MHz

1 The frequency depends on the value of PCI_MODCK. If PCI_MODCK is high (logic ‘1’), the PCI frequency is divided by 2 (33 instead of 66 MHz, etc.) and the CPM multiplication factor is multiplied by 2. Refer to Table 14.

2 Input clock frequency is given only for the purpose of reference. User should set MODCK_H–MODCK_L so that the resulting configuration does not exceed the frequency rating of the user’s part.

3 Core frequency = (60x bus frequency)(core multiplication factor)

4 Bus frequency = CPM frequency / bus division factor

5 In this mode, PCI_MODCK must be “1”.

1.4 Pinout

This section provides the pin assignments and pinout list for the MPC826xA.

1.4.1 Pin Assignments

Figure 13 shows the pinout of the MPC826xA’s 480 TBGA package as viewed from the top surface.

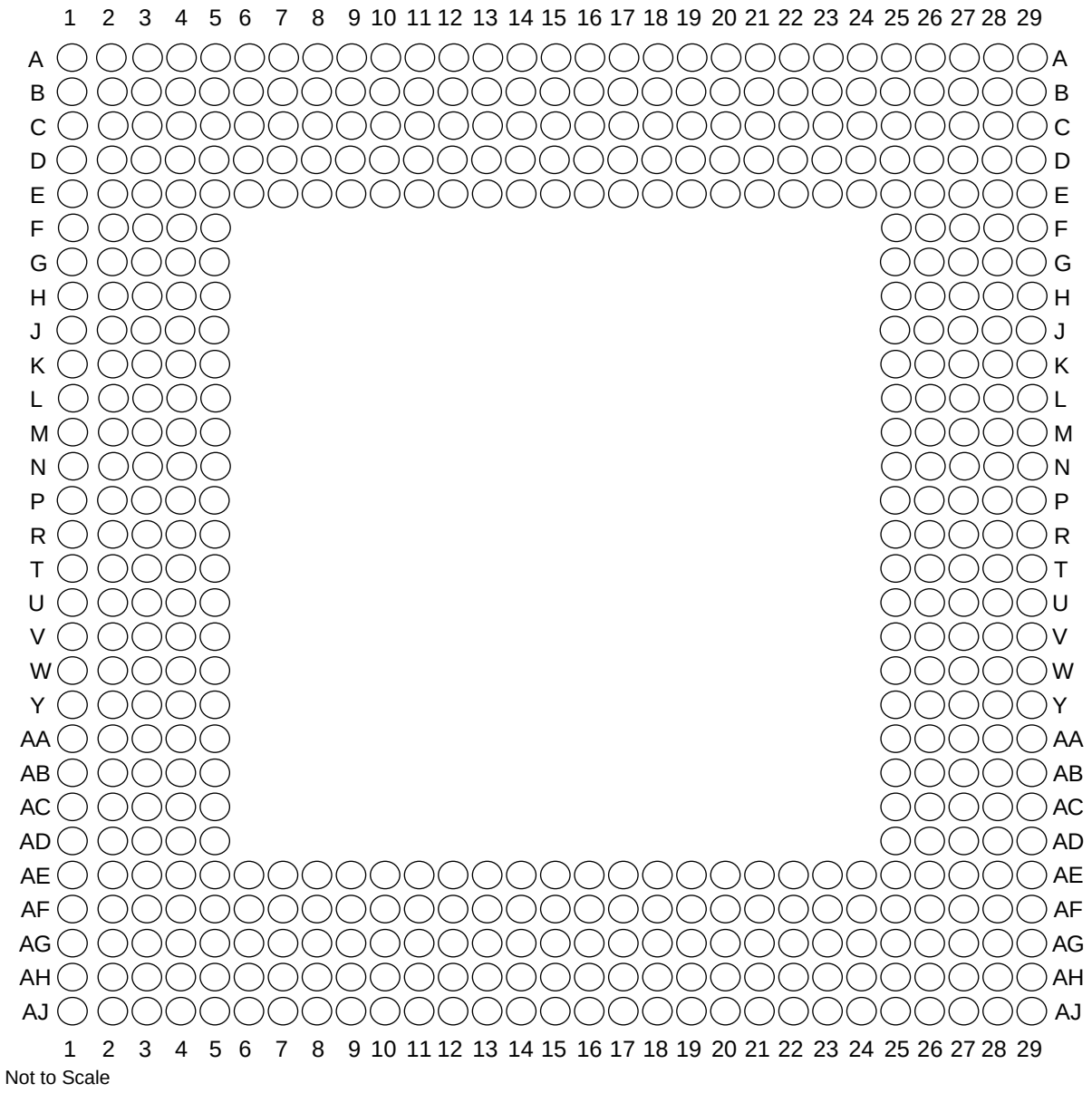


Figure 13. Pinout of the 480 TBGA Package as Viewed from the Top Surface

Figure 14 shows the side profile of the TBGA package to indicate the direction of the top surface view.

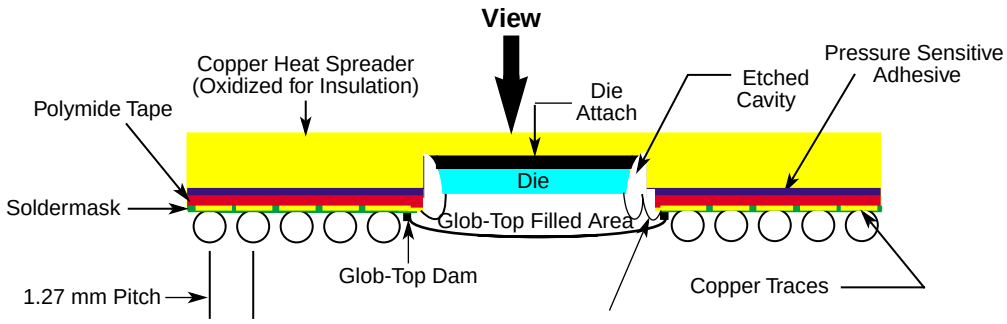


Figure 14. Side View of the TBGA Package

Table 19 shows the pinout list of the MPC826xA. Table 20 defines conventions and acronyms used in Table 19.

Table 19. Pinout List

Pin Name	Ball
$\overline{BR}$	W5
$\overline{BG}$	F4
$\overline{ABB}/\overline{IRQ2}$	E2
$\overline{TS}$	E3
A0	G1
A1	H5
A2	H2
A3	H1
A4	J5
A5	J4
A6	J3
A7	J2
A8	J1
A9	K4
A10	K3
A11	K2
A12	K1
A13	L5
A14	L4
A15	L3
A16	L2
A17	L1
A18	M5
A19	N5
A20	N4
A21	N3
A22	N2
A23	N1
A24	P4
A25	P3
A26	P2
A27	P1
A28	R1

Table 19. Pinout List (Continued)

Pin Name	Ball
A29	R3
A30	R5
A31	R4
TT0	F1
TT1	G4
TT2	G3
TT3	G2
TT4	F2
$\overline{\text{TBST}}$	D3
TSIZ0	C1
TSIZ1	E4
TSIZ2	D2
TSIZ3	F5
$\overline{\text{AACK}}$	F3
$\overline{\text{ARTRY}}$	E1
$\overline{\text{DBG}}$	V1
$\overline{\text{DBB}}$/$\overline{\text{IRQ3}}$	V2
D0	B20
D1	A18
D2	A16
D3	A13
D4	E12
D5	D9
D6	A6
D7	B5
D8	A20
D9	E17
D10	B15
D11	B13
D12	A11
D13	E9
D14	B7
D15	B4
D16	D19
D17	D17

Table 19. Pinout List (Continued)

Pin Name	Ball
D18	D15
D19	C13
D20	B11
D21	A8
D22	A5
D23	C5
D24	C19
D25	C17
D26	C15
D27	D13
D28	C11
D29	B8
D30	A4
D31	E6
D32	E18
D33	B17
D34	A15
D35	A12
D36	D11
D37	C8
D38	E7
D39	A3
D40	D18
D41	A17
D42	A14
D43	B12
D44	A10
D45	D8
D46	B6
D47	C4
D48	C18
D49	E16
D50	B14
D51	C12
D52	B10

Table 19. Pinout List (Continued)

Pin Name	Ball
D53	A7
D54	C6
D55	D5
D56	B18
D57	B16
D58	E14
D59	D12
D60	C10
D61	E8
D62	D6
D63	C2
DP0/RSRV/EXT_BR2	B22
IRQ1/DP1/EXT_BG2	A22
IRQ2/DP2/TLBISYNC/EXT_DBG2	E21
IRQ3/DP3/CKSTP_OUT/EXT_BR3	D21
IRQ4/DP4/CORE_SRESET/EXT_BG3	C21
IRQ5/DP5/TBEN/EXT_DBG3	B21
IRQ6/DP6/CSE0	A21
IRQ7/DP7/CSE1	E20
PSDVAL	V3
TA	C22
TEA	V5
GBL/IRQ1	W1
CI/BADDR29/IRQ2	U2
WT/BADDR30/IRQ3	U3
L2_HIT/IRQ4	Y4
CPU_BG/BADDR31/IRQ5	U4
CPU_DBG	R2
CPU_BR	Y3
CS0	F25
CS1	C29
CS2	E27
CS3	E28
CS4	F26
CS5	F27

Table 19. Pinout List (Continued)

Pin Name	Ball
$\overline{\text{CS6}}$	F28
$\overline{\text{CS7}}$	G25
$\overline{\text{CS8}}$	D29
$\overline{\text{CS9}}$	E29
$\overline{\text{CS10}}$/$\overline{\text{BCTL1}}$	F29
$\overline{\text{CS11}}$/AP0	G28
BADDR27	T5
BADDR28	U1
ALE	T2
$\overline{\text{BCTL0}}$	A27
$\overline{\text{PWE0}}$/$\overline{\text{PSDDQM0}}$/$\overline{\text{PBS0}}$	C25
$\overline{\text{PWE1}}$/$\overline{\text{PSDDQM1}}$/$\overline{\text{PBS1}}$	E24
$\overline{\text{PWE2}}$/$\overline{\text{PSDDQM2}}$/$\overline{\text{PBS2}}$	D24
$\overline{\text{PWE3}}$/$\overline{\text{PSDDQM3}}$/$\overline{\text{PBS3}}$	C24
$\overline{\text{PWE4}}$/$\overline{\text{PSDDQM4}}$/$\overline{\text{PBS4}}$	B26
$\overline{\text{PWE5}}$/$\overline{\text{PSDDQM5}}$/$\overline{\text{PBS5}}$	A26
$\overline{\text{PWE6}}$/$\overline{\text{PSDDQM6}}$/$\overline{\text{PBS6}}$	B25
$\overline{\text{PWE7}}$/$\overline{\text{PSDDQM7}}$/$\overline{\text{PBS7}}$	A25
PSDA10/PGPL0	E23
$\overline{\text{PSDWE}}$/PGPL1	B24
$\overline{\text{POE}}$/$\overline{\text{PSDRAS}}$/PGPL2	A24
$\overline{\text{PSDCAS}}$/PGPL3	B23
$\overline{\text{PGTA}}$/PUPMWAIT/PGPL4/$\overline{\text{PPBS}}$	A23
PSDAMUX/PGPL5	D22
$\overline{\text{LWE0}}$/$\overline{\text{LSDDQM0}}$/$\overline{\text{LBS0}}$/PCI_CFG0[1]	H28
$\overline{\text{LWE1}}$/$\overline{\text{LSDDQM1}}$/$\overline{\text{LBS1}}$/PCI_CFG1[1]	H27
$\overline{\text{LWE2}}$/$\overline{\text{LSDDQM2}}$/$\overline{\text{LBS2}}$/PCI_CFG2[1]	H26
$\overline{\text{LWE3}}$/$\overline{\text{LSDDQM3}}$/$\overline{\text{LBS3}}$/PCI_CFG3[1]	G29
LSDA10/LGPL0/PCI_MODCKH0[1]	D27
$\overline{\text{LSDWE}}$/LGPL1/PCI_MODCKH1[1]	C28
$\overline{\text{LOE}}$/$\overline{\text{LSDRAS}}$/LGPL2/PCI_MODCKH2[1]	E26
$\overline{\text{LSDCAS}}$/LGPL3/PCI_MODCKH3[1]	D25
$\overline{\text{LGTA}}$/LUPMWAIT/LGPL4/$\overline{\text{LPBS}}$	C26
LGPL5/LSDAMUX/PCI_MODCK[1]	B27
$\overline{\text{LWR}}$	D28

Table 19. Pinout List (Continued)

Pin Name	Ball
L_A14/PAR[1]	N27
L_A15/$\overline{\text{FRAME}}$[1]/$\overline{\text{SMI}}$	T29
L_A16/$\overline{\text{TRDY}}$[1]	R27
L_A17/$\overline{\text{IRDY}}$[1]/$\overline{\text{CKSTP\_OUT}}$	R26
L_A18/$\overline{\text{STOP}}$[1]	R29
L_A19/$\overline{\text{DEVSEL}}$[1]	R28
L_A20/IDSEL[1]	W29
L_A21/$\overline{\text{PERR}}$[1]	P28
L_A22/$\overline{\text{SERR}}$[1]	N26
L_A23/$\overline{\text{REQ0}}$[1]	AA27
L_A24/$\overline{\text{REQ1}}$[1]/HSEJSW[1]	P29
L_A25/$\overline{\text{GNT0}}$[1]	AA26
L_A26/$\overline{\text{GNT1}}$[1]/HSLED[1]	N25
L_A27/$\overline{\text{GNT2}}$[1]/$\overline{\text{HSENUM}}$[1]	AA25
L_A28/$\overline{\text{RST}}$[1]/$\overline{\text{CORE\_SRESET}}$	AB29
L_A29/$\overline{\text{INTA}}$[1]	AB28
L_A30/$\overline{\text{REQ2}}$[1]	P25
L_A31/DLLOUT[1]	AB27
LCL_D0/AD0[1]	H29
LCL_D1/AD1[1]	J29
LCL_D2/AD2[1]	J28
LCL_D3/AD3[1]	J27
LCL_D4/AD4[1]	J26
LCL_D5/AD5[1]	J25
LCL_D6/AD6[1]	K25
LCL_D7/AD7[1]	L29
LCL_D8/AD8[1]	L27
LCL_D9/AD9[1]	L26
LCL_D10/AD10[1]	L25
LCL_D11/AD11[1]	M29
LCL_D12/AD12[1]	M28
LCL_D13/AD13[1]	M27
LCL_D14/AD14[1]	M26
LCL_D15/AD15[1]	N29
LCL_D16/AD16[1]	T25

Table 19. Pinout List (Continued)

Pin Name	Ball
LCL_D17/AD17[1]	U27
LCL_D18/AD18[1]	U26
LCL_D19/AD19[1]	U25
LCL_D20/AD20[1]	V29
LCL_D21/AD21[1]	V28
LCL_D22/AD22[1]	V27
LCL_D23/AD23[1]	V26
LCL_D24/AD24[1]	W27
LCL_D25/AD25[1]	W26
LCL_D26/AD26[1]	W25
LCL_D27/AD27[1]	Y29
LCL_D28/AD28[1]	Y28
LCL_D29/AD29[1]	Y25
LCL_D30/AD30[1]	AA29
LCL_D31/AD31[1]	AA28
LCL_DP0/C0[1]/$\overline{\text{BE0}}$[1]	L28
LCL_DP1/C1[1]/$\overline{\text{BE1}}$[1]	N28
LCL_DP2/C2[1]/$\overline{\text{BE2}}$[1]	T28
LCL_DP3/C3[1]/$\overline{\text{BE3}}$[1]	W28
$\overline{\text{IRQ0}}$/$\overline{\text{NMI\_OUT}}$	T1
$\overline{\text{IRQ7}}$/$\overline{\text{INT\_OUT}}$/$\overline{\text{APE}}$	D1
$\overline{\text{TRST}}$	AH3
TCK	AG5
TMS	AJ3
TDI	AE6
TDO	AF5
$\overline{\text{TRIS}}$	AB4
$\overline{\text{PORESET}}$	AG6
$\overline{\text{HRESET}}$	AH5
$\overline{\text{SRESET}}$	AF6
$\overline{\text{QREQ}}$	AA3
$\overline{\text{RSTCONF}}$	AJ4
MODCK1/AP1/TC0/BNKSEL0	W2
MODCK2/AP2/TC1/BNKSEL1	W3
MODCK3/AP3/TC2/BNKSEL2	W4

Table 19. Pinout List (Continued)

Pin Name	Ball
XFC	AB2
CLKIN1	AH4
PA0/$\overline{\text{RESTART1}}$/DREQ3/FCC2_UTM_TXADDR2	AC29[2]
PA1/$\overline{\text{REJECT1}}$/FCC2_UTM_TXADDR1/$\overline{\text{DONE3}}$	AC25[2]
PA2/CLK20/FCC2_UTM_TXADDR0/$\overline{\text{DACK3}}$	AE28[2]
PA3/CLK19/FCC2_UTM_RXADDR0/$\overline{\text{DACK4}}$/L1RXD1A2	AG29[2]
PA4/$\overline{\text{REJECT2}}$/FCC2_UTM_RXADDR1/$\overline{\text{DONE4}}$	AG28[2]
PA5/$\overline{\text{RESTART2}}$/DREQ4/FCC2_UTM_RXADDR2	AG26[2]
PA6/L1RSYNCA1	AE24[2]
PA7/SMSYN2/L1TSYNCA1/L1GNTA1	AH25[2]
PA8/SMRXD2/L1RXD0A1/L1RXDA1	AF23[2]
PA9/SMTXD2/L1TXD0A1	AH23[2]
PA10/FCC1_UT8_RXD0/FCC1_UT16_RXD8/MSNUM5	AE22[2]
PA11/FCC1_UT8_RXD1/FCC1_UT16_RXD9/MSNUM4	AH22[2]
PA12/FCC1_UT8_RXD2/FCC1_UT16_RXD10/MSNUM3	AJ21[2]
PA13/FCC1_UT8_RXD3/FCC1_UT16_RXD11/MSNUM2	AH20[2]
PA14/FCC1_UT8_RXD4/FCC1_UT16_RXD12/FCC1_RXD3	AG19[2]
PA15/FCC1_UT8_RXD5/FCC1_UT16_RXD13/FCC1_RXD2	AF18[2]
PA16/FCC1_UT8_RXD6/FCC1_UT16_RXD14/FCC1_RXD1	AF17[2]
PA17/FCC1_UT8_RXD7/FCC1_UT16_RXD15/FCC1_RXD0/FCC1_RXD	AE16[2]
PA18/FCC1_UT8_TXD7/FCC1_UT16_TXD15/FCC1_TXD0/FCC1_TXD	AJ16[2]
PA19/FCC1_UT8_TXD6/FCC1_UT16_TXD14/FCC1_TXD1	AG15[2]
PA20/FCC1_UT8_TXD5/FCC1_UT16_TXD13/FCC1_TXD2	AJ13[2]
PA21/FCC1_UT8_TXD4/FCC1_UT16_TXD12/FCC1_TXD3	AE13[2]
PA22/FCC1_UT8_TXD3/FCC1_UT16_TXD11	AF12[2]
PA23/FCC1_UT8_TXD2/FCC1_UT16_TXD10	AG11[2]
PA24/FCC1_UT8_TXD1/FCC1_UT16_TXD9/MSNUM1	AH9[2]
PA25/FCC1_UT8_TXD0/FCC1_UT16_TXD8/MSNUM0	AJ8[2]
PA26/FCC1_UTM_RXCLAV/FCC1_UTS_RXCLAV/FCC1_MII_RX_ER	AH7[2]
PA27/FCC1_UT_RXSOC/FCC1_MII_RX_DV	AF7[2]
PA28/$\overline{\text{FCC1\_UTM\_RXENB}}$/$\overline{\text{FCC1\_UTS\_RXENB}}$/FCC1_MII_TX_EN	AD5[2]
PA29/FCC1_UT_TXSOC/FCC1_MII_TX_ER	AF1[2]
PA30/FCC1_UTM_TXCLAV/FCC1_UTS_TXCLAV/FCC1_MII_CRS/ $\overline{\text{FCC1\_RTS}}$	AD3[2]
PA31/$\overline{\text{FCC1\_UTM\_TXENB}}$/$\overline{\text{FCC1\_UTS\_TXENB}}$/FCC1_MII_COL	AB5[2]
PB4/FCC3_TXD3/FCC2_UT8_RXD0/L1RSYNCA2/$\overline{\text{FCC3\_RTS}}$	AD28[2]

Table 19. Pinout List (Continued)

Pin Name	Ball
PB5/FCC3_TXD2/FCC2_UT8_RXD1/L1TSYNCA2/L1GNTA2	AD26[2]
PB6/FCC3_TXD1/FCC2_UT8_RXD2/L1RXDA2/L1RXD0A2	AD25[2]
PB7/FCC3_TXD0/FCC3_TXD/FCC2_UT8_RXD3/L1TXDA2/L1TXD0A2	AE26[2]
PB8/FCC2_UT8_TXD3/FCC3_RXD0/FCC3_RXD/TXD3/L1RSYNCD1	AH27[2]
PB9/FCC2_UT8_TXD2/FCC3_RXD1/L1TXD2A2/L1TSYNCD1/L1GNTD1	AG24[2]
PB10/FCC2_UT8_TXD1/FCC3_RXD2/L1RXDD1	AH24[2]
PB11/FCC3_RXD3/FCC2_UT8_TXD0/L1TXDD1	AJ24[2]
PB12/FCC3_MII_CRS/L1CLKOB1/L1RSYNCC1/TXD2	AG22[2]
PB13/FCC3_MII_COL/$\overline{\text{L1RQB1}}$/L1TSYNCC1/L1GNTC1/L1TXD1A2	AH21[2]
PB14/FCC3_MII_TX_EN/RXD3/L1RXDC1	AG20[2]
PB15/FCC3_MII_TX_ER/RXD2/L1TXDC1	AF19[2]
PB16/FCC3_MII_RX_ER/L1CLKOA1/CLK18	AJ18[2]
PB17/FCC3_MII_RX_DV/L1RQA1/CLK17	AJ17[2]
PB18/FCC2_UT8_RXD4/FCC2_RXD3/L1CLKOD2/L1RXD2A2	AE14[2]
PB19/FCC2_UT8_RXD5/FCC2_RXD2/L1RQD2/L1RXD3A2	AF13[2]
PB20/FCC2_UT8_RXD6/FCC2_RXD1/L1RSYNCD2/L1TXD1A1	AG12[2]
PB21/FCC2_UT8_RXD7/FCC2_RXD0/FCC2_RXD/L1TSYNCD2/L1GNTD2/ L1TXD2A1	AH11[2]
PB22/FCC2_UT8_TXD7/FCC2_TXD0/FCC2_TXD/L1RXD1A1/L1RXDD2	AH16[2]
PB23/FCC2_UT8_TXD6/FCC2_TXD1/L1RXD2A1/L1TXDD2	AE15[2]
PB24/FCC2_UT8_TXD5/FCC2_TXD2/L1RXD3A1/L1RSYNCC2	AJ9[2]
PB25/FCC2_UT8_TXD4/FCC2_TXD3/L1TSYNCC2/L1GNTC2/L1TXD3A1	AE9[2]
PB26/FCC2_MII_CRS/FCC2_UT8_TXD1/L1RXDC2	AJ7[2]
PB27/FCC2_MII_COL/FCC2_UT8_TXD0/L1TXDC2	AH6[2]
PB28/FCC2_MII_RX_ER/$\overline{\text{FCC2\_RTS}}$/L1TSYNCB2/L1GNTB2/TXD1	AE3[2]
PB29/FCC2_UTM_RXCLAV/FCC2_UTS_RXCLAV/L1RSYNCB2/ FCC2_MII_TX_EN	AE2[2]
PB30/FCC2_MII_RX_DV/FCC2_UT_TXSOC/L1RXDB2	AC5[2]
PB31/FCC2_MII_TX_ER/FCC2_UT_RXSOC/L1TXDB2	AC4[2]
PC0/DREQ1/BRGO7/$\overline{\text{SMSYN2}}$/L1CLKOA2	AB26[2]
PC1/DREQ2/BRGO6/$\overline{\text{L1RQA2}}$	AD29[2]
PC2/$\overline{\text{FCC3\_CD}}$/FCC2_UT8_TXD3/$\overline{\text{DONE2}}$	AE29[2]
PC3/$\overline{\text{FCC3\_CTS}}$/FCC2_UT8_TXD2/$\overline{\text{DACK2}}$/$\overline{\text{CTS4}}$	AE27[2]
PC4/$\overline{\text{FCC2\_UTM\_RXENB}}$/$\overline{\text{FCC2\_UTS\_RXENB}}$/SI2_L1ST4/$\overline{\text{FCC2\_CD}}$	AF27[2]
PC5/FCC2_UTM_TXCLAV/FCC2_UTS_TXCLAV/SI2_L1ST3/$\overline{\text{FCC2\_CTS}}$	AF24[2]
PC6/$\overline{\text{FCC1\_CD}}$/L1CLKOC1/FCC1_UTM_RXADDR2/FCC1_UTS_RXADDR/ FCC1_UTM_RXCLAV1	AJ26[2]

Table 19. Pinout List (Continued)

Pin Name	Ball
PC7/FCC1_CTS/L1RQC1/FCC1_UTM_TXADDR2/FCC1_UTS_TXADDR2/ FCC1_UTM_TXCLAV1	AJ25[2]
PC8/CD4/RENA4/FCC1_UT16_TXD0/SI2_L1ST2/CTS3	AF22[2]
PC9/CTS4/CLSN4/FCC1_UT16_TXD1/SI2_L1ST1/L1TSYNCA2/L1GNTA2	AE21[2]
PC10/CD3/RENA3/FCC1_UT16_TXD2/SI1_L1ST4/FCC2_UT8_RXD3	AF20[2]
PC11/CTS3/CLSN3/L1CLKOD1/L1TXD3A2/FCC2_UT8_RXD2	AE19[2]
PC12/CD2/RENA2/SI1_L1ST3/FCC1_UTM_RXADDR1/ FCC1_UTS_RXADDR1	AE18[2]
PC13/CTS2/CLSN2/L1RQD1/FCC1_UTM_TXADDR1/ FCC1_UTS_TXADDR1	AH18[2]
PC14/CD1/RENA1/FCC1_UTM_RXADDR0/FCC1_UTS_RXADDR0	AH17[2]
PC15/CTS1/CLSN1/SMTXD2/FCC1_UTM_TXADDR0/ FCC1_UTS_TXADDR0	AG16[2]
PC16/CLK16/TIN4	AF15[2]
PC17/CLK15/TIN3/BRGO8	AJ15[2]
PC18/CLK14/TGATE2	AH14[2]
PC19/CLK13/BRGO7/SPICLK	AG13[2]
PC20/CLK12/TGATE1	AH12[2]
PC21/CLK11/BRGO6	AJ11[2]
PC22/CLK10/DONE1	AG10[2]
PC23/CLK9/BRGO5/DACK1	AE10[2]
PC24/FCC2_UT8_TXD3/CLK8/TOUT4	AF9[2]
PC25/FCC2_UT8_TXD2/CLK7/BRGO4	AE8[2]
PC26/CLK6/TOUT3/TMCLK	AJ6[2]
PC27/FCC3_TXD/FCC3_TXD0/CLK5/BRGO3	AG2[2]
PC28/CLK4/TIN1/TOUT2/CTS2/CLSN2	AF3[2]
PC29/CLK3/TIN2/BRGO2/CTS1/CLSN1	AF2[2]
PC30/FCC2_UT8_TXD3/CLK2/TOUT1	AE1[2]
PC31/CLK1/BRGO1	AD1[2]
PD4/BRGO8/L1TSYNCD1/L1GNTD1/FCC3_RTS/SMRXD2	AC28[2]
PD5/FCC1_UT16_TXD3/DONE1	AD27[2]
PD6/FCC1_UT16_TXD4/DACK1	AF29[2]
PD7/SMSYN1/FCC1_UTM_TXADDR3/FCC1_UTS_TXADDR3/ FCC2_UTM_TXADDR4/FCC1_TXCLAV2	AF28[2]
PD8/SMRXD1/FCC2_UT_TXPRTY/BRGO5	AG25[2]
PD9/SMTXD1/FCC2_UT_RXPRTY/BRGO3	AH26[2]
PD10/L1CLKOB2/FCC2_UT8_RXD1/L1RSYNCB1/BRGO4	AJ27[2]

Table 19. Pinout List (Continued)

Pin Name	Ball
PD11/L1RQB2/FCC2_UT8_RXD0/L1TSYNCB1/L1GNTB1	AJ23[2]
PD12/SI1_L1ST2/L1RXDB1	AG23[2]
PD13/SI1_L1ST1/L1TXDB1	AJ22[2]
PD14/FCC1_UT16_RXD0/L1CLKOC2/I2CSCL	AE20[2]
PD15/FCC1_UT16_RXD1/L1RQC2/I2CSDA	AJ20[2]
PD16/FCC1_UT_TXPRTY/L1TSYNCC1/L1GNTC1/SPIMISO	AG18[2]
PD17/FCC1_UT_RXPRTY/BRGO2/SPIMOSI	AG17[2]
PD18/FCC1_UTM_RXADDR4/FCC1_UTS_RXADDR4/ FCC1_UTM_RXCLAV3/FCC2_UTM_RXADDR3/SPICLK	AF16[2]
PD19/FCC1_UTM_TXADDR4/FCC1_UTS_TXADDR4/ FCC1_UTM_TXCLAV3/FCC2_UTM_TXADDR3/SPISEL/BRGO1	AH15[2]
PD20/RTS4/TENA4/FCC1_UT16_RXD2/L1RSYNCA2	AJ14[2]
PD21/TXD4/FCC1_UT16_RXD3/L1RXD0A2/L1RXDA2	AH13[2]
PD22/RXD4/FCC1_UT16_TXD5/L1TXD0A2/L1TXDA2	AJ12[2]
PD23/RTS3/TENA3/FCC1_UT16_RXD4/L1RSYNCD1	AE12[2]
PD24/TXD3/FCC1_UT16_RXD5/L1RXDD1	AF10[2]
PD25/RXD3/FCC1_UT16_TXD6/L1TXDD1	AG9[2]
PD26/RTS2/TENA2/FCC1_UT16_RXD6/L1RSYNCC1	AH8[2]
PD27/TXD2/FCC1_UT16_RXD7/L1RXDC1	AG7[2]
PD28/RXD2/FCC1_UT16_TXD7/L1TXDC1	AE4[2]
PD29/RTS1/TENA1/FCC1_UTM_RXADDR3/FCC1_UTS_RXADDR3/ FCC1_UTM_RXCLAV2/FCC2_UTM_RXADDR4	AG1[2]
PD30/FCC2_UTM_TXENB/FCC2_UTS_TXENB/TXD1	AD4[2]
PD31/RXD1	AD2[2]
VCCSYN	AB3
VCCSYN1	B9
GNDSYN	AB1
CLKIN2[1,3]	AE11
SPARE4[4]	U5
PCI_MODE[1,5]	AF25
SPARE6[4]	V4
THERMAL0[6]	AA1
THERMAL1[6]	AG4

Table 19. Pinout List (Continued)

Pin Name	Ball
I/O power	AG21, AG14, AG8, AJ1, AJ2, AH1, AH2, AG3, AF4, AE5, AC27, Y27, T27, P27, K26, G27, AE25, AF26, AG27, AH28, AH29, AJ28, AJ29, C7, C14, C16, C20, C23, E10, A28, A29, B28, B29, C27, D26, E25, H3, M4, T3, AA4, A1, A2, B1, B2, C3, D4, E5
Core Power	U28, U29, K28, K29, A9, A19, B19, M1, M2, Y1, Y2, AC1, AC2, AH19, AJ19, AH10, AJ10, AJ5
Ground	AA5, AF21, AF14, AF8, AE7, AF11, AE17, AE23, AC26, AB25, Y26, V25, T26, R25, P26, M25, K27, H25, G26, D7, D10, D14, D16, D20, D23, C9, E11, E13, E15, E19, E22, B3, G5, H4, K5, M3, P5, T4, Y5, AA2, AC3

1 MPC8265 and MPC8266 only.
2 The default configuration of the CPM pins (PA[0–31], PB[4–31], PC[0–31], PD[4–31]) is input. To prevent excessive DC current, it is recommended to either pull unused pins to GND or VDDH, or to configure them as outputs.
3 On PCI devices (MPC8265 and MPC8266) this pin should be used as CLKIN2. On non-PCI devices (MPC8260A and MPC8264) this is a spare pin that must be pulled down or left floating.
4 Must be pulled down or left floating.
5 On PCI devices (MPC8265 and MPC8266) this pin should be asserted if the PCI function is desired or pulled up or left floating if PCI is not desired. On non-PCI devices (MPC8260A and MPC8264) this is a spare pin that must be pulled up or left floating.
6 For information on how to use this pin, refer to *MPC8260 PowerQUICC II Thermal Resistor Guide* available at www.motorola.com/semiconductors.

Symbols used in Table 19 are described in Table 20.

Table 20. Symbol Legend

Symbol	Meaning
$\overline{\text{OVERBAR}}$	Signals with overbars, such as $\overline{\text{TA}}$, are active low.
UTM	Indicates that a signal is part of the UTOPIA master interface.
UTS	Indicates that a signal is part of the UTOPIA slave interface.
UT8	Indicates that a signal is part of the 8-bit UTOPIA interface.
UT16	Indicates that a signal is part of the 16-bit UTOPIA interface.
MII	Indicates that a signal is part of the media independent interface.

1.5 Package Description

The following sections provide the package parameters and mechanical dimensions for the MPC826xA.

1.5.1 Package Parameters

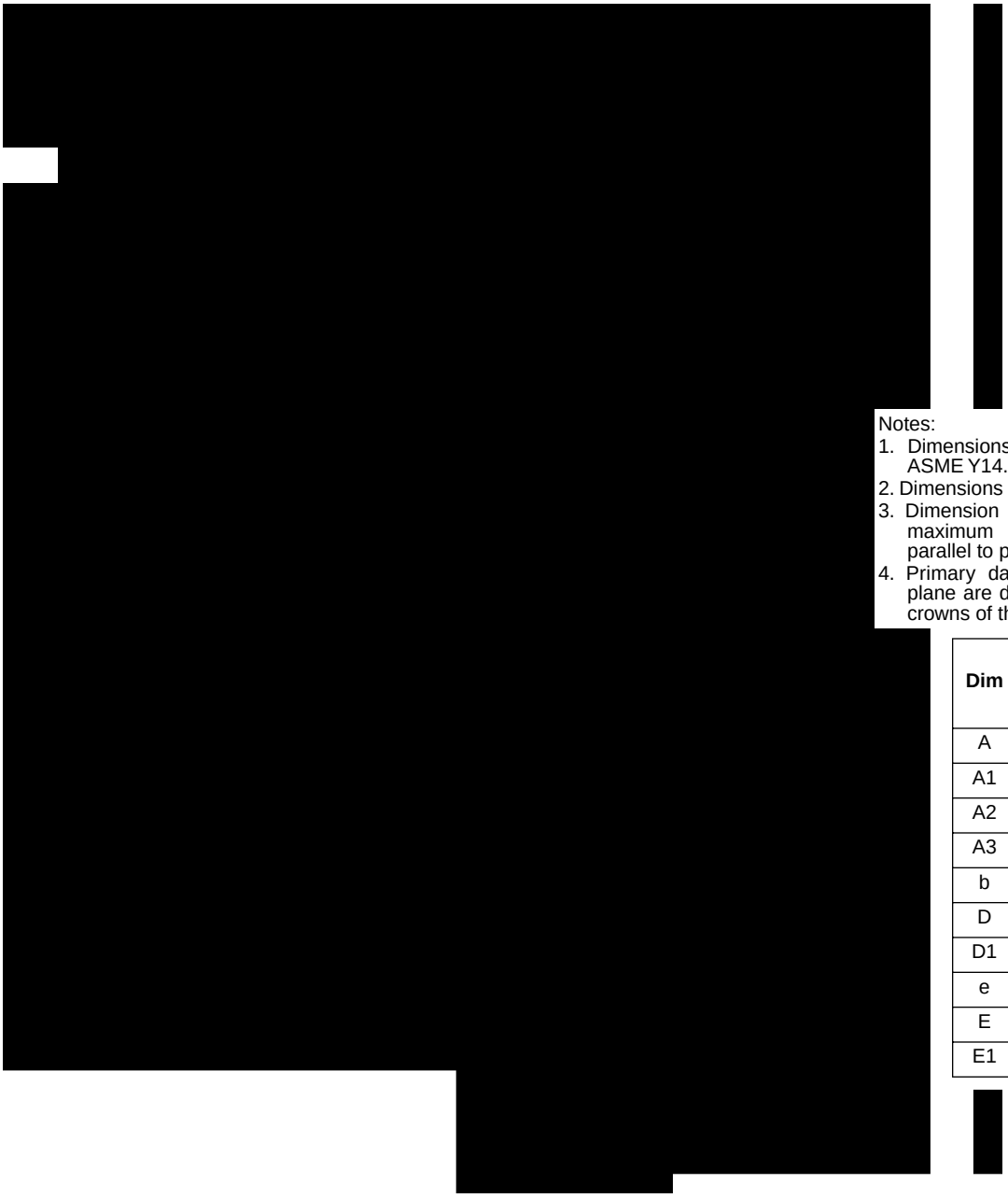
Package parameters are provided in Table 21. The package type is a 37.5 x 37.5 mm, 480-lead TBGA.

Table 21. Package Parameters

Parameter	Value
Package Outline	37.5 x 37.5 mm
Interconnects	480 (29 x 29 ball array)
Pitch	1.27 mm
Nominal unmounted package height	1.55 mm

1.5.2 Mechanical Dimensions

Figure 15 provides the mechanical dimensions and bottom surface nomenclature of the 480 TBGA package.



Notes:
1. Dimensions and Tolerancing per ASME Y14.5M-1994.
2. Dimensions in millimeters.
3. Dimension b is measured at the maximum solder ball diameter, parallel to primary data A.
4. Primary data A and the seating plane are defined by the spherical crowns of the solder balls.

Dim	Millimeters	
	Min	Max
A	1.45	1.65
A1	0.60	0.70
A2	0.85	0.95
A3	0.25	—
b	0.65	0.85
D	37.50 BSC	
D1	35.56 REF	
e	1.27 BSC	
E	37.50 BSC	
E1	35.56 REF	

Figure 15. Mechanical Dimensions and Bottom Surface Nomenclature

1.6 Ordering Information

Figure 16 provides an example of the Motorola part numbering nomenclature for the MPC826xA. In addition to the processor frequency, the part numbering scheme also consists of a part modifier that indicates any enhancement(s) in the part from the original production design. Each part number also contains a revision code that refers to the die mask revision number and is specified in the part numbering scheme for identification purposes only. For more information, contact your local Motorola sales office.

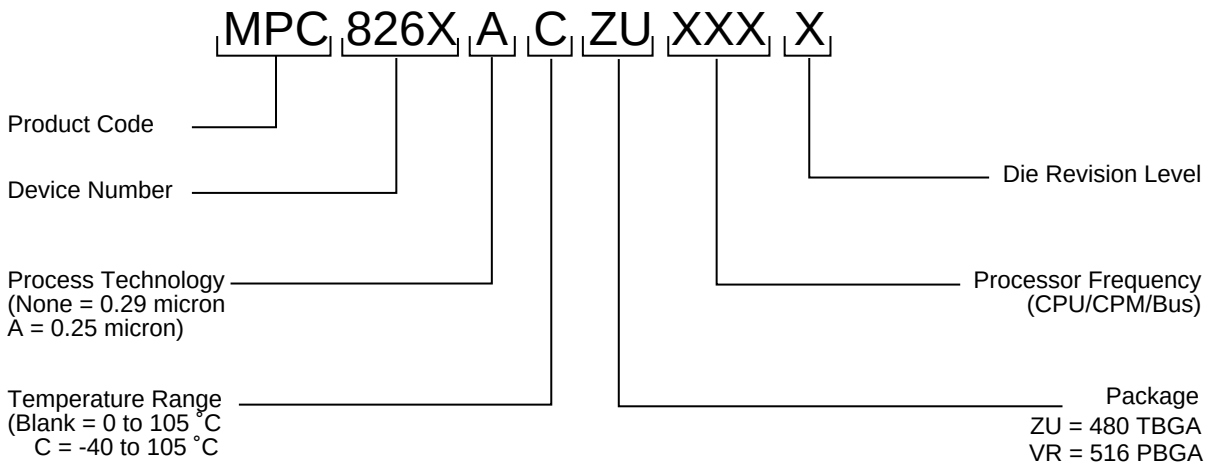


Figure 16. Motorola Part Number Key

1.7 Document Revision History

Table 22 lists significant changes in each revision of this document.

Table 22. Document Revision History

Revision	Date	Substantive Changes
0	—	Initial version
0.1	8/2001	• Table 8: Change to sp20/sp21.
0.2	11/2001	• Revision of Table 5, “Power Dissipation” • Modifications to Figure 9, Table 2,Table 10, Table 11, and Table 17 • Modification to pinout diagram, Figure 13 • Additional revisions to text and figures throughout
0.3	11/2001	• Table 1: note 3 • Section 1.2.1: Removal of “Warning” recommending use of bootstrap diodes. They are not needed. • Table 9: Change to sp12. • Table 10: Change to sp32. • Note 2 for Table 15 and Table 16 • Addition of note at beginning of Section 1.3.2 • Note 1 for Table 17 and Table 18 • Table 19: Additions to B27, C28, D25, D27, E26, G29, H26–28, N25, P29, AF25, AA25, AB27
0.4	2/2002	• Note 2 for Table 2 (changes in italics): “...greater than *or equal to 266* MHz, *200* MHz CPM...” • Table 18: Core and bus frequency values for the following ranges of MODCK_HMODCK: 0011_000 to 0011_100 and 1011_000 to 1011_1000 • Table 19: Notes added to pins at AE11, AF25, U5, and V4.

Table 22. Document Revision History (Continued)

Revision	Date	Substantive Changes
0.5	3/2002	• Table 19: Modified notes to pins AE11 and AF25. • Table 19: Addition of note to pins AA1 and AG4 (Therm0 and Therm1).
0.6	3/2002	• Table 19: Modified notes to pins AE11 and AF25.
0.7	5/2002	• Section 1.1, “Features”: minimum supported core frequency of 150 MHz • Section 1.1, “Features”: updated performance values (under “Dual-issue integer core”) • Table 2: Note 2 (changes in italics): “...*less* than or equal to *233* MHz, *166* MHz CPM...” • Table 2: Addition of note 3.
0.8	1/2003	• Table 2: Modification to supply voltage ranges reflected in notes 2, 3, and 4. • Table 4: Addition of θ_{JB} and θ_{JC}. • Table 7, Figure 8: Addition of sp42a/sp43a. • Figure 3, Figure 4: Addition of note for FCC output. • Figure 5, Figure 6, Figure 7: Addition of notes. • Table 13, Table 16, and Table 18: Removal of PLL bypass mode from clock tables.
0.9	8/2003	• Note**:** In revision 0.3, sp30 (Table 10) was changed. This change was not previously recorded in this “Document Revision History” Table. • Removal of “HiP4 PowerQUICC II Documentation” table. These supplemental specifications have been replaced by revision 1 of the *MPC8260 PowerQUICC II™ Family Reference Manual*. • Figure 1 and Section 1.1, “Features”: Addition of MPC8255 notes • Addition of Figure 2 • Addition of VCCSYN to “Note: Core, PLL, and I/O Supply Voltages” following Table 2 • Addition of note 1 to Table 3 • Table 4: Changes to θ_{JA} and θ_{JB} and θ_{JC}. • Addition of notes or modifications to Figure 6, Figure 7, and Figure 8 • Table 9: Change of sp10. • Addition of Table 14. • Addition of note 2 to Table 19 • Table 19: Addition of FCC2 Rx and Tx [3,4] to CPM pins PD7, PD18, PD19, and PD29. Also, the addition of SPICLK to PC19. They are documented correctly in the parallel I/O ports chapter in the *MPC8260 PowerQUICC II™ Family Reference Manual* but had previously been omitted from Table 19.

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MPC8260AEC/D

MPC8264 : PowerQUICC II" Integrated Communications Processor

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The PowerQUICC II" integrated communications processor family delivers excellent integration of processing power for networking and communications peripherals, providing customers with an innovative, total system solution for building high-end communications systems. Freescale Semiconductor's PowerQUICC II processor family is the next generation of the leading PowerQUICC" line of integrated communications processors, providing higher performance in all areas of device operation, including greater flexibility, extended capabilities, and higher integration.

Freescale's leading PowerQUICC architecture integrates two processing blocks. One block is a high-performance embedded G2 core and the second block is the Communications Processor Module (CPM). The CPM of the PowerQUICC II processor can support up to three fast serial communications controllers (FCCs), two multichannel controllers (MCCs), four serial communications controllers (SCCs), two serial management controllers (SMCs), one serial peripheral interface (SPI) and one I2C interface. The combination of the G2 core and the CPM, along with the versatility and performance of the PowerQUICC II processor family, provides customers with enormous potential in developing networking and communications products while significantly reducing time-to-market development stages.

Product Picture
Block Diagram

MPC8264 Features

Product Highlights

- 300 MHz high-speed embedded G2 core
- Powerful memory controller and system functions
- Enhanced 32-bit RISC communications processor module
- Up to three multiport 10/100 Mbps ethernet MAC
- Up to two UTOPIA ports (155 Mbps ATM)
- Up to 256 HDLC channels (each channel 64 Kbps, full duplex)
- Up to four 10 Mbps ethernet MAC
- Transmission convergence sub-layer and inverse multiplexing for ATM capabilities
- Strong 3rd-party tools support from Freescale's Smart Networks alliance members

Typical Applications

- Remote Access Concentrators
- Regional Office Routers
- Cellular Infrastructure equipment
- Telecom Switching Equipment
- Ethernet Switches
- T1/E1-to-T3/E3 Bridges
- xDSL Systems

Technical Specifications

- Embedded G2 core available from 133 - 300 MHz
    - 190 MIPS at 100 MHz (Dhrystone 2.1)
    - 505 MIPS at 266 MHz (Dhrystone 2.1)
    - 570 MIPS at 300 MHz (Dhrystone 2.1)
    - High-performance, superscalar microprocessor
    - Disable CPU mode
    - Supports the Freescale external L2 cache chip (MPC2605)
    - Improved low-power core
    - 16 Kbyte data and 16 Kbyte instruction cache
    - Memory Management Unit
    - Floating Point Unit
    - Common On-chip Processor (COP)
- System Interface Unit (SIU)
    - Memory controller, including two dedicated SDRAM machines
    - Hardware bus monitor and software watchdog timer
    - IEEE 1149.1 JTAG test access port
- High-Performance CPM with operating frequency up to 133, 166, or 200 MHz

- G2 core and CPM may run at different frequencies
- Parallel I/0 registers
- On-board 32 KBytes of dual-port RAM
- Two multi-channel controllers (MCCs), each supporting 128 full-duplex, 64 Kbps, HDLC lines
- Virtual DMA functionality
- Three FCCs supporting:
- Up to 155 Mbps ATM SAR (maximum of two) (AAL0, AAL1, AAL2,AAL5)
- 10/100 Mbps Ethernet (up to three) (IEEE 802.3X with Flow Control)
- 45 Mbps HDLC / Transparent (up to three)
- Two UTOPIA Level II master/slave ports with multi-PHY support.
- Three MII interfaces
- Eight TDM interfaces (T1/E1), two TDM ports can be interfaced with T3/E3
- Transmission Convergence Layer capabilities
- Integrated Inverse Multiplexing for ATM (IMA) functionality

- 1.8V or 2.0V internal and 3.3V I/O
- 300 MHz power consumption: 2.5 W
- 480 TBGA package (37.5 x 37.5 mm)
- IMA/TC layer functionality

MPC8260 Derivatives

	8250	**8255**	**8260**	**8264**	**8265**	**8266**
Serial Communications Controllers (SCCs)	4	4	4	4	4	4
Fast Communication Controllers (FCCs)	3	2	3	3	3	3
I-Cache (Kbyte)	16	16	16	16	16	16
D-Cache (Kbyte)	16	16	16	16	16	16
Ethernet (10T)	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4
Ethernet (10/100)	Up to 3	Up to 2	Up to 3	Up to 3	Up to 3	Up to 3
UTOPIA II Ports	0	2	2	2	2	2
Multi-Channel HDLC	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
PCI Interface	Yes	--	--	--	Yes	Yes
IMA Functionality	--	--	--	Yes	--	Yes

PowerQUICC II Masks and Versions

Process	Family	Revision	Qualification	Mask	PVR	IMMR_[16-31][1]	Rev_Num[2]
0.29 µm (HiP3)	MPC8260	A.1	XC	0K26N	0x00810101	0x0011	0x0001
		B.3	XC	3K23A	0x00810101	0x0023	0x003B
		C.2	XC	6K23A, 7K23A	0x00810101	0x0024	0x007B
0.25 µm (HiP4)		A.0	XC	2K25A	0x80811014	0x0060	0x000D
		B.1	MC	4K25A	0x80811014	0x0062	0x002D
		C.0	MC	5K25A	0x80811014	0x0064	0x002D
0.13 µm (HiP7)	MPC8280	0.0	—	0K49M	0x80822011	0x0A00	0x0070
		0.1	MC	1K49M	0x80822013	0x0A01	0x0070
		A.0	MC	2K49M	0x80822014	0x0A10	0x0071
	MPC8272	0.0	PC	0K50M	0x80822013	0x0C00[3] 0x0D00[4]	0x00E0
		A.0	MC	1K50M	0x80822014	0x0C10[3] 0x0D10[4]	0x00E1

Notes:
1. The IMMR[16-31] indicates the mask number.
2. The Rev_Num located at offset 0x8AF0 in DPRAM indicates the CPM microcode revision number.
3 . Encryption Enabled.
4 . Encryption Disabled.

Masks and versions table last updated on 14OCT2004.

Return to Top

Sample Availability	CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	CPM Operation Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I/O Operating Voltage (Max) (V)
Y	505.4, 570	266, 300	166, 200, 208	2, 2.2, 2.3, 2.5	2.8, 2.9, 3.2	2	3.3

Ambient Operating Temperature (Min) (oC)	Junction Operating Temperature (Max) (oC)	Integrated Memory Controller	L1 Cache Instructional (Max) (Byte)	L1 Cache Data (Max) (Byte)	Internal Dual-Port RAM (Byte)	DMA Controller Channels	Bus Interface
-40, 0	105	EDO, EPROM, FLASH, SDRAM, SRAM	16000	16000	32000	30	60x, Local

Serial Interface Type	Timers Channels	Other Peripherals	Network Application Function	Package Description
I2C, MII, SPI, TDM, UTOPIA	4	DMA Controller	Integrated Control/Data Plane	TBGA 480 37*37*1.7P1.27

Return to Top

MPC8264 Parametrics

Documentation

Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
AN2754 UPDATED	CPM Architecture and Downloading RAM Microcodes on the PowerQUICC II Family	FREESCALE	zip	210	1	1/06/2005	-
AN2059	CPM Hints	FREESCALE	pdf	206	0.1	12/05/2003	
AN2070	MPC8260 PowerQUICC II Data Error Protection Implementation	FREESCALE	pdf	195	0	6/15/2000	-
AN2271	MPC8260 PowerQUICC II Thermal Resistor Guide	FREESCALE	pdf	225	0.0	3/19/2002	
AN2290	MPC8260 PowerQUICC II Design Checklist	FREESCALE	pdf	447	1.1	1/27/2004	
AN2291	Differences among PowerQUICC II Devices and Revisions	FREESCALE	pdf	366	1.4	9/30/2003	
AN2335	MPC8260 Dual-Bus Architecture and Performance Considerations	FREESCALE	pdf	235	0	10/15/2002	
AN2347	Using an MPC8260 and an MPC7410 with Shared Memory	FREESCALE	pdf	677	0	10/01/2002	
AN2349	MPC8260 Reset and Configuration Word	FREESCALE	pdf	263	1	11/15/2004	
AN2491	Simplified Mnemonics for PowerPC Instructions	FREESCALE	pdf	743	0	9/30/2003	
AN2547	Detecting a CPM Overload on the PowerQUICC II	FREESCALE	pdf	254	0	6/30/2003	
AN2547SW	Software Detecting CPM Overload (accompanies AN2547)	FREESCALE	zip	288	0	6/30/2003	-
AN2569	Example Software for PowerQUICC II: IMA Initialization Using Internal or External TC Layer Implementation	FREESCALE	pdf	724	0.1	2/13/2004	
AN2569SW	Example software to accompany application note AN2569	FREESCALE	zip	461	0.1	2/13/2004	-
AN2579	Porting Linux® to the MPC8260ADS	FREESCALE	pdf	323	0.1	1/06/2004	
AN2585	MPC82xx PowerQUICC II Reset: Sources, Effects, and Comments	FREESCALE	pdf	258	0.1	2/26/2004	

AN2586	MPC8260 PowerQUICC II Family Power Distribution Trends	FREESCALE	pdf	524	0	1/13/2004	
AN2587	Software Migration from the NPe495H/L to PowerQUICC II	FREESCALE	pdf	644	0.1	1/28/2004	
AN2638	Effects of Clock Jitter on the MPC8260 (HiP3 and HiP4)	FREESCALE	pdf	474	0	12/12/2003	
AN2810	PowerQUICC UPM Configuration Application Note	FREESCALE	zip	597	0	11/22/2004	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260AEC	MPC8260A HiP4 Family Hardware Specifications	FREESCALE	pdf	662	0.9	8/15/2003	

Errata - Click here for important errata information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260CE	MPC8260 PowerQUICC II Family Device Errata	FREESCALE	pdf	691	4.6	11/16/2004	

Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260FACT	MPC8260 PowerQUICC II Integrated Comm Proc Fam	FREESCALE	pdf	94	10	11/05/2004	
MPC8260MFACT	MPC8260 PowerQUICC II Microcode	FREESCALE	pdf	212	1	3/27/2002	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
TBGAPRESPKG	TBGA Packaging Customer Tutorial	FREESCALE	pdf	1784	0	8/05/2003	-

Product Brief

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260TS	MPC8260 PowerQUICC II Technical Summary	FREESCALE	pdf	254	2.2	11/12/2001	

Product Change Notices

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PCN8499	POWERQUICC (.25UM) HIP4 SPEC CHANGES	FREESCALE	htm	11	0	1/30/2003	-
PCN8663	NEW TRAY FOR 37.5 X 37.5 TBGA PACKAGE	FREESCALE	htm	38	0	3/28/2003	-
PCN9081	37.5 X 37.5 MM TBGA TRAY	FREESCALE	htm	12	0	8/06/2003	-

Product Numbering Scheme

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
82XXPNS	MPC82xx HiP3/HiP4 Part Numbering Scheme	FREESCALE	jpg	134	2	9/30/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
G2CORERM	G2 Core Reference Manual	FREESCALE	pdf	6720	1	6/27/2003	
MPC60XBUSRM	The Bus Interface for 32-Bit Microprocessors that Implement the PowerPC Architecture	FREESCALE	pdf	3203	0.1	1/14/2004	
MPC8260ESS7UMAD_D	Enhanced SS7 Microcode Specification	FREESCALE	pdf	325	0.1	12/05/2002	-
MPC8260UM	MPC8260 PowerQUICC II Family Reference Manual	FREESCALE	pdf	16672	1	5/29/2003	
MPC8260UMAD	MPC8260 PowerQUICC II Users Manual Errata	FREESCALE	pdf	313	1.2	4/30/2004	
MPCFPE32B	Programming Environments Manual for 32-Bit Implementations of the PowerPC Architecture	FREESCALE	pdf	7549	2	12/21/2001	

MPCFPE32BAD	Errata to MPCFPE32B, Programming Environments Manual for 32-Bit Implementations of the Power PC Architecture, Rev. 2	FREESCALE	pdf	40	0	10/11/2002

Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
SG1007	Network and Communications Processors Selector Guide	FREESCALE	pdf	189	0	1/01/2005	
SG2000CR	Application Selector Guide Index and Cross-Reference.	FREESCALE	pdf	139	5	7/01/2004	
SG2112	LAN to WAN Bridge Router	FREESCALE	pdf	128	1	1/01/2004	
SG2113	OSI Layer 2 and Layer 3 Router	FREESCALE	pdf	125	1	1/01/2005	
SG2127	Multiservice Digital Subscriber Line Access Multiplexer (DSLAM)	FREESCALE	pdf	117	3	6/17/2003	
SG2128	ATM Internetworking Multiplexer	FREESCALE	pdf	124	1	1/01/2005	

White Paper

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC826XSDRAMWP	Timing Considerations when Interfacing the PowerQUICC II to SDRAM	FREESCALE	pdf	288	0.1	3/09/2004	

Return to Top

MPC8264 Design Tools

Hardware Tools

Analyzers

Logic

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
TLA715/TLA721	TLA700 Logic Analyzers The TLA700 Logic Analyzers have the performance to capture and display the fastest signals and gives you instant insight into the digital and analog behavior of your system so you can quickly find those elusive signal integrity problems	TEKTRONIX	-	-	-	-

Board Testers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
SCANPLUS	ScanPlus	CORELIS	-	-	-	-
4000-994020-001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWH-PTP-JTAG-HX	PowerTAP Pro JTAG Hardware Only	METROWERKS	-	-	-	
CWH-WTP-JTAG-YX	WireTAP JTAG Hardware Only	METROWERKS	-	-	-	-
BDI1000/BDI2000	BDI1000/BDI2000 Abatron develops and produces high-quality, high-speed BDM and JTAG Debug Tools (BDI Family) for software development environments from leading vendors.	ABATRON	-	-	-	-
10200A	NetICE-R option 2/2M	CORELIS	-	-	-	-

4000-994020--001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-
IC30000	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	ISYS	-	-	-	-
WBDM8XX	Wiggler for 5xx/8xx BDM The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the BDM port of the target system.	MACRAIGOR	-	-	-	-
WNPJ-COP	Wiggler for COP The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the COP port of the target system.	MACRAIGOR	-	-	-	-
GUARDIAN-SE	Guardian-SE JTAG debug tools for PowerPC development	TOOLSMITHS	-	-	-	-
VISIONICE	visionICE II	WINDRIV	-	-	-	-
VISIONPROBE	visionPROBE II	WINDRIV	-	-	-	-
WPICE	WIND®POWER ICE	WINDRIV	-	-	-	-

Evaluation/Development Boards and Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADS_ECOM	MPC8260ADS Daughter Card for Telephony Applications (E1)	FREESCALE	-	-	-	
MPC8260ADS_TCOM	MPC8260ADS Daughter Card for Telephony Applications (T1)	FREESCALE	-	-	-	
PQ2FADS_ZU	MPC82xx Family Application Development System	FREESCALE	-	-	-	

STK8260	STK8260 Starterkit STK82xx with TQ Minimodule, MPC8260 / 300 MHz, 32 MB Flash, 64 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 32 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
STK8265	STK8265 Starterkit STK82xx with TQ Minimodule, MPC8265 / 300 MHz, 32 MB Flash, 0 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 16 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
SBCPQII	SBCPowerQUICCII	WINDRIV	-	-	-	-

Models

BSDL

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260BSDL3	PowerQUICC II BSDL (HiP3) (05/06/2002)	FREESCALE	zip	9	1	-
MPC8260BSDL4	PowerQUICC II BSDL (HiP4) (03/15/2004)	FREESCALE	zip	10	1.1	-

Bus Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8264BFM01	MPC8264 SWIFT Model - Solaris: HiP4A, Bus Function Model (03/27/2002)	FREESCALE	tar	46760	1	-

Full Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8264FFM01	MPC8264 SWIFT Model - Solaris: HiP4A, Full Function Model (03/27/2002)	FREESCALE	tar	50388	1	-
EP100	PowerPC Bus Slave	EUREKA	-	-	-	-
EP201	PowerPC Bus Master	EUREKA	-	-	-	-
EP300	PowerPC Bus Arbiter	EUREKA	-	-	-	-
EP433	PowerPC-PCI Bridge	EUREKA	-	-	-	-
ES100	PowerPC System Controller	EUREKA	-	-	-	-

IBIS

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXIBIS	PowerQUICC II Family IBIS Models This package contains the IBIS models for the PowerQUICC II family of communications processors. HiP3 and HiP4 processes. Local and PCI bus configurations. 480 TBGA and 516 PBGA packages. (10/30/2003)	FREESCALE	zip	81	2.7	-

Timing Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PQIIGPCMTIME	GPCM Timing Generator (05/29/2003)	FREESCALE	exe	176	1	-

Software

Application Software

Calculators

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260CALC1	Power Consumption Calculator for all PowerQUICC II Processors (04/28/2004)	FREESCALE	zip	491	2.1	-
MPC8260CALC2	CPM Performance Calculator for all PowerQUICC II and PowerQUICC III Processors (09/07/2004)	FREESCALE	zip	664	3.1.3	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260COD08	Fast Ethernet on the FCC of the PowerQUICC II (10/13/2003)	FREESCALE	zip	140	2	-
MPC8260COD09	Multichannel Communication Controller of the PowerQUICC II (09/04/2002)	FREESCALE	zip	176	0	-
MPC8260COD11	Example Software for the PowerQUICC II Family: FEC Frames Using PHYless MII (08/02/2002)	FREESCALE	zip	614	0	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MC05	RAM Microcode Patches for PowerQUICC II Family Device Errata (09/28/2004)	FREESCALE	zip	330	4.2.3	-
MPC8260MC11	PowerQUICC II AAL2 Microcode (for all revs) (11/19/2004)	FREESCALE	zip	616	4.0	-
MPC8264MC01	Inverse-Multiplexing for ATM (IMA) Microcode (for all revs) (02/03/2004)	FREESCALE	zip	283	1.2	-

DG02010101	MultiRing MultiRing is a utility that separates frames of different protocols into different buffer descriptor rings (rather than a single ring). The utility supports predefined protocols such as TCP, ICMP. The user can specify additional protocols.	DOGAV	-	-	-	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
FREE	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	METROWERKS	-	-	-	-
ARA-MOT-82XX-FREE	Arabella MPC82XX Free Reference Design This free Linux BSP provides a complete Linux distribution and application ready to be used on the PQ2FADS-ZU/VR and MPC8260/8266ADS Boards. Source code and Linux tools are provided to immediately get started working with a Linux syste	ARABELLA	-	-	-	-
ARC-MOT-MQXBSP	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	ARC	-	-	-	-
EP BSP	EP BSP Embedded Planet Board Support Packages provide complete software drivers for MPC 8xx and 82xx processors for Linux, VxWorks and INTEGRITY. Embedded Planet can also develop customer specific software for many operating systems.	EMDPLAN	-	-	-	-
EP8280M VDK 10	EP82xxM VxWorks BSP VxWorks Board Support Packages contain prebuilt RAM and ROM kernel images and documentation that describes installing and running the BSP. See online matrix for supported peripherals.	EMDPLAN	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8264DRV01	MPC8264 PowerQUICC II API (drivers, examples, and documentation) Includes support for IMA, AAL5, Internal TC layer and the external TCOM board for Multiple T1s (03/07/2003)	FREESCALE	zip	14125	1.3	-
PCS	PlanetCore PlanetCore provides a complete set of firmware device drivers for 8xx and 82xx Motorola processors. These drivers include an application / RTOS boot loader, flash burner and diagnostics. customer specific drivers can also be developed.	EMDPLAN	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARA-MOT-82XX	Arabella Linux for Motorola 82xx Processors Arabella Linux for Motorola 82xx processors is a full, commercial Linux distribution for the 82xx family of processors. It includes support for many of the on chip peripherals including Security, ATM, PCI, USB, PCMCIA, I2C and others.	ARABELLA	-	-	-	-
ARC-MOT-MFS	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	ARC	-	-	-	-
ARC-MOT-MQX	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	ARC	-	-	-	-
ARC-MOT-OSCHANGER	ARC-OS Changer Provides developers the freedom to migrate from either pSOSystem or VxWorks to MQX RTOS while reusing an existing code base	ARC	-	-	-	-
CMX-RTX	CMX-RTX	CMX	-	-	-	-
CMX00300	CMX TCP/IP CMX TCP/IP is a full-featured and fast TCP/IP stack that allows designers to offer networking connectivity for their embedded applications. CMX TCP/IP offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-

CMX00300A	TCP/IP DHCP Client The CMX TCP/IP DHCP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300B	TCP/IP DHCP Server The CMX TCP/IP DHCP Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300C	TCP/IP FTP C/S The CMX TCP/IP FTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the File Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300D	TCP/IP IMAP4 The CMX TCP/IP IMAP4 Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality for the Internet Message Access Protocol Version 4 standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300E	TCP/IP NAT The CMX TCP/IP NAT Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to add Network Address Translation function to a network application. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300F	TCP/IP POP3 The CMX TCP/IP POP3 Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Post Office Protocol Client standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300G	TCP/IP PPP The CMX TCP/IP PPP Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol serial or modem connectivity standard. Source code example provided for fast start up.	CMX	-	-	-	-

CMX00300H	TCP/IP PPPoE The CMX TCP/IP PPPoE Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol over Ethernet standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300I	TCP/IP SMTP The CMX TCP/IP SMTP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Mail Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300J	TCP/IP SNMP The CMX TCP/IP SNMP V1 and V2c Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Network Management Protocol standard. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300K	TCP/IP Telnet The CMX TCP/IP Telnet Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Telnet Server standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300L	TCP/IP TFTP The CMX TCP/IP TFTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Trivial File Transfer Protocol Client/Server standard. Source code example for fast start up.	CMX	-	-	-	-
CMX00300M	TCP/IP Web Client The CMX TCP/IP Web Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Client/Server standard. Source code example provided.	CMX	-	-	-	-
CMX00300N	TCP/IP Web Server The CMX TCP/IP Web Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Server standard. Source code example provided for fast start up.	CMX	-	-	-	-

CMX00630	CMX-FFS CMX-FFS is a very small, standard Flash File System that allows designers to offer file system functionality for their embedded applications. CMX-FFS offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00631	CMX-FFS-NAND CMX-FFS-NAND is an Add-On Option for CMX- FFS that allows designers to include a NAND driver for their embedded FFS applications. CMX-FFS-NAND offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00632	CMX-FFS-FAT CMX-FFS-FAT is a fast file system for embedded developers who wish to add devices to their products that require FAT12/16/32 compliant media. CMX-FFS-FAT offers a low license fee, full source code, no royalties, and free tech support.	CMX	-	-	-	-
CMX00633	CMX-FFS-THIN CMX-FFS-THIN is a file system for embedded device developers with limited resource products that require a FAT12/16/32 compliant media. CMX-FFS-THIN offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
DPP.82XXX.KRN	OSE Real-Time Operating System	ENEA	-	-	-	-
THREADX	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	EXPRESSLOG	-	-	-	-
PX382-1	AMX PPC32 AMX is a full featured RTOS for the PowerPC family. AMX has been tested on the EST SBC8260, Embedded Planet RPX Lite MPC823 and Motorola Ultra 603, MBX860, MPC860 ADS, MPC860 FADS, Lite5200EVB and MPC8560 ADS.	KADAK	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-HTTP	HTTP Web Server The HTTP (Hyper text Transfer Protocol) consists of source code and development tools for building an embedded HTTP server. This is a HTTP 1.0/1.1 compliant Web server with CGI-style user exit support and optional file system support.	ARC	-	-	-	-
ARC-MOT-HTTPPRO	HTTP PRO HTTP 1.0/1.1 compliant Web server w/ CGI-style user exit sppt, opt'al file system sppt, PageBuilder Web-to-C compiler addit'al compression features, Internat'al language sppt, server-side mapping, HTTP streaming & digest authentication.	ARC	-	-	-	-
ARC-MOT-IPSHIELD	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	ARC	-	-	-	-
ARC-MOT-NETWORKPROTOCOLS	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al prototocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	ARC	-	-	-	-
ARC-MOT-POP3	POP3 Enables client embedded devices to receive e-mail from any POP3 server	ARC	-	-	-	-
ARC-MOT-RTCS	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	ARC	-	-	-	-

ARC-MOT-SMTP	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	ARC	-	-	-	-
RSTP	AvniRSTP Avnisoft's AvniRSTP is a completely portable ANSI C compliant implementation of the IEEE 802.1w RSTP Algorithm and Protocol. It includes the AvniPORT platform abstraction layer to simplify integration with target platforms.	AVNISOFT	-	-	-	-
TARGETTCP	TCP/IP Stack TargetTCP, is a fast, reliable, re-entrant, full-featured TCP/IP protocol stack designed specifically for high-performance embedded networking. The code has a small footprint and is well suited to memory constrained environments.	BLUNK	-	-	-	-
CMX TCP/IP	CMX TCP/IP	CMX	-	-	-	-
IPLITE	IPLITE IPLITE is a dual-mode IPv4/v6 host stack, optimized for minimum footprint and maximum performance, with a number of PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
IPNET	IPNET IPNET is a full-featured dual-mode IPv4/v6 router stack with built-in IPSec, Virtual Routing, QoS, VLAN Tagging, as well as PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
PN713-1	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	KADAK	-	-	-	-
INFOLINK-STACKNAME	INFOLink Protocol Software Family	LINK	-	-	-	-

MOC_SSL_CLIENT	Mocana Embedded SSL/TLS Client MOCANA SSL/TLS CLIENT: Supports Freescale chipsets out of the box. Small (50KB), fast (2-3x faster than OpenSSL), trusted. Supports all major cryptos. Royalty free, source code license. FREE EVAL: http://www.mocana.com/evaluate.html	MOCANA	-	-	-	-
PSQ40XXXX	RTXC Quadnet Networking Protocols Full protocol suite: TCP, UDP, SLIP, ICMP, and ARP with Berkeley Sockets API. Plus DHCP, BOOTP, DNS, IGMP v2, RIP v2, NAT, HTTP, SMTP, POP3, TFTP, FTP, Telnet, SNMP v1,2,3, PPP and more. New security protocols: SSL, IPsec, IKE.	QUADROS	-	-	-	-

Software Tools

Code Translation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PA68K-PPC	PortAsm/68K for PowerPC	MICROAPL	-	-	-	-
PA86-PPC	PortAsm/86 for PowerPC	MICROAPL	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-COMPILER	MetaWare C/C++ Compiler Tool Suite Optimized compiler for Motorola processors	ARC	-	-	-	-
COMPILER	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	GREENHILLS	-	-	-	-
DIAB	Diab C/C++ Compiler	WINDRIV	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-DEBUGGER	MetaWare SeeCode Debugger C/C++ Debugger	ARC	-	-	-	-
LA-7729	TRACE32-ICD TRACE32-ICD for PowerQUICC II is a high performance JTAG debugger for C ,C++ and JAVA. A USB 2.x, LPT or ethernet interface is available for connection to any PC or workstation. A flash programming utility is included.	LAUBACH	-	-	-	-

IDE (Integrated Development Environment)

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWS-PPC-CMWFL-CX	CodeWarrior Development Studio for PPC ISA Comms Edition Metrowerks CodeWarrior Development Studio, PowerPC ISA Edition for Communication Processors is a complete integrated development environment for PowerPC ISA hardware bring-up through embedded applications.	METROWERKS	-	-	-	-
CWS-PPC-LINWH-CX	CodeWarrior™ Development Studio, Embedded Linux Edition for PowerPC Architectures	METROWERKS	-	-	-	
CWS-PPC-LLAPP-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Application Edition	METROWERKS	-	-	-	
CWS-PPC-LLPLT-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Platform Edition	METROWERKS	-	-	-	
IC-SW-OPR	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	ISYS	-	-	-	-
WIND RIVER WORKBENCH	Wind River Workbench Wind River Workbench is an open, standards-based device software development environment for Linux applications providing a deep tools capability in each phase of the development process.	WINDRIV	-	-	-	-
WPIDE	WIND®POWER IDE	WINDRIV	-	-	-	-

Initialization/Boot Code Generation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXCPMMUXIBCG	Parallel Ports Configuration Tool (Pin Mux Tool) (03/18/2004)	FREESCALE	zip	895	4.0.1	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MWCTESTHWICPKG	CodeTEST Software Analysis Tools, HWIC License package	METROWERKS	-	-	-	-
MWCTESTHWICVX	CodeTEST RTOS Support CD for Vx Works	METROWERKS	-	-	-	-

Return to Top

Applications

Networking

SOHO

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway

Access

- ATM Interworking Multiplexer
- Media Gateway with IP and ATM Interworking
- Remote Access Server
- Wireless Basestation Transceiver

Edge

- ATM Switch Line Card

Core

- SONET Multiplexer

Applications

LAN-to-WAN Bridge Router
OSI Layer 2 and Layer 3 Router
Regional Office Router
Wireless Gateway
ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver
ATM Switch Line Card
SONET Multiplexer

Wireless

Wireless Infrastructure Applications

Wireless Basestation Transceiver

Wireless Basestation Transceiver

Return to Top

Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/ Qualification Tier	Status	Budgetary Price QTY 1000+ ($US)	Info	Order
KMPC8264ACZUMIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8264AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8264AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8264ACZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	Buy from Distributor
MPC8264ACZUMIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8264AZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor

MPC8264AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8264AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor

NOTE:

- Not all orderable parts are offered through our online sampling program. For further assistance in selecting a similar part from within the program, please submit a Request for a sample order advice.
- Refer to Samples FAQ for more information.
- Looking for an obsolete part? Check our distributors' inventory

Return to Top

Related Products

- MC33702 : MICROPROCESSOR POWER SUPPLY (3.0 A)
  The 34702 is a monolithic IC providing an efficient means of obtaining power for the Freescale Semiconductor PowerQUICC TM I and II ...
- MPC9850 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9850 is a PLL based clock generator specifically designed for Freescale Microprocessor And Microcontroller applications including the PowerQUICC III. ...
- MPC9855 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9855 is a PLL based clock generator specifically designed for Freescale Microprocessor and Microcontroller applications including the PowerPC and ...

Return to Top

Related Links

- Industrial Control
- Networking
- Wireless

Return to Top

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MPC8255 : PowerQUICC II" Integrated Communications Processor

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The PowerQUICC II" integrated communications processor family delivers excellent integration of processing power for networking and communications peripherals, providing customers with an innovative, total system solution for building high-end communications systems. Freescale Semiconductor's PowerQUICC II processor family is the next generation of the leading PowerQUICC" line of integrated communications processors, providing higher performance in all areas of device operation, including greater flexibility, extended capabilities, and higher integration.

Freescale's leading PowerQUICC architecture integrates two processing blocks. One block is a high-performance embedded G2 core and the second block is the Communications Processor Module (CPM). The CPM of the MPC8255 processor can support up to two fast serial communications controllers (FCCs), one multichannel controller (MCC), four serial communications controllers (SCCs), two serial management controllers (SMCs), one serial peripheral interface (SPI) and one I2C interface. The combination of the G2 core and the CPM, along with the versatility and performance of the PowerQUICC II processor family, provides customers with enormous potential in developing networking and communications products while significantly reducing time-to-market development stages.

Block Diagram

MPC8255 Features

Product Highlights

- 300 MHz high-speed embedded G2 core

- Powerful memory controller and system functions
- Enhanced 32-bit RISC communications processor module
- Up to two multiport 10/100 Mbps ethernet MAC
- Up to two UTOPIA II ATM interfaces
- Up to 128 HDLC channels (each channel 64 Kbps, full duplex)
- Up to four 10 Mbps ethernet MAC
- Strong 3rd-party tools support from Freescale's Smart Networks alliance members

Typical Applications

- Remote Access Concentrators
- Regional Office Routers
- Cellular Infrastructure equipment
- Telecom Switching Equipment
- Ethernet Switches
- T1/E1-to-T3/E3 Bridges
- xDSL Systems

Technical Specifications

- Embedded G2 core at 300 MHz
    - 570 MIPS at 300 MHz (Dhrystone 2.1)
    - High-performance, superscalar microprocessor
    - Disable CPU mode
    - Supports the Freescale external L2 cache chip (MPC2605)
    - Improved low-power core
    - 16 Kbyte data and 16 Kbyte instruction cache
    - Memory Management Unit
    - Floating Point Unit
    - Common On-chip Processor (COP)
- System Interface Unit (SIU)
    - Memory controller, including two dedicated SDRAM machines
    - PCI up to 66 MHz
    - Hardware bus monitor and software watchdog timer
    - IEEE 1149.1 JTAG test access port
- High-Performance CPM with operating frequency of 133 MHz
    - Parallel I/0 registers
    - On-board 32 Kbytes of dual-port RAM
    - One multichannel controller (MCC), each supporting 128 full-duplex, 64 Kbps, HDLC lines

    - Virtual DMA functionality
    - Two FCCs supporting 10/100 Mbps Ethernet (up to two) (IEEE 802.3X with Flow Control)
    - Three MII interfaces
    - Four TDM interfaces (T1/E1) supporting four T1 lines or one T3 line
- Two bus architectures: one 64-bit 60x bus and one 32-bit PCI or local bus
    - Integrated PCI interface
- 1.8V or 2.0V internal and 3.3V I/O
- 300 MHz power consumption: ~3 W
- 480 TBGA package (37.5 x 37.5 mm)

MPC8260 Derivatives

	8250	**8255**	**8260**	**8264**	**8265**	**8266**
Serial Communications Controllers (SCCs)	4	4	4	4	4	4
Fast Communication Controllers (FCCs)	3	2	3	3	3	3
I-Cache (Kbyte)	16	16	16	16	16	16
D-Cache (Kbyte)	16	16	16	16	16	16
Ethernet (10T)	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4
Ethernet (10/100)	Up to 3	Up to 2	Up to 3	Up to 3	Up to 3	Up to 3
UTOPIA II Ports	0	2	2	2	2	2
Multi-Channel HDLC	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
PCI Interface	Yes	--	--	--	Yes	Yes
IMA Functionality	--	--	--	Yes	--	Yes

PowerQUICC II Masks and Versions

Process	**Family**	**Revision**	**Qualification**	**Mask**	**PVR**	**IMMR_[16-31][1]**	**Rev_Num[2]**
0.29 µm (HiP3)	MPC8260	A.1	XC	0K26N	0x00810101	0x0011	0x0001
		B.3	XC	3K23A	0x00810101	0x0023	0x003B
		C.2	XC	6K23A, 7K23A	0x00810101	0x0024	0x007B
0.25		A.0	XC	2K25A	0x80811014	0x0060	0x000D

µm (HiP4)		B.1	MC	4K25A	0x80811014	0x0062	0x002D
		C.0	MC	5K25A	0x80811014	0x0064	0x002D
0.13 µm (HiP7)	MPC8280	0.0	—	0K49M	0x80822011	0x0A00	0x0070
		0.1	MC	1K49M	0x80822013	0x0A01	0x0070
		A.0	MC	2K49M	0x80822014	0x0A10	0x0071
	MPC8272	0.0	PC	0K50M	0x80822013	0x0C00 **3** 0x0D00 **4**	0x00E0
		A.0	MC	1K50M	0x80822014	0xC010 **3** 0xD010 **4**	0x00E1

Notes:
1. The IMMR[16-31] indicates the mask number.
2. The Rev_Num located at offset 0x8AF0 in DPRAM indicates the CPM microcode revision number.
3 . Encryption Enabled.
4 . Encryption Disabled.

Masks and versions table last updated on 14OCT2004.

Return to Top

Sample Availability	CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	CPM Operation Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I/O Operating Voltage (Max) (V)
Y	380, 505.4, 570	200, 266, 300	133, 166, 200	1.5, 2, 2.2, 2.5, 3.3	1.9, 2.8, 3.2, 3.6	1.8, 2	3.3

Ambient Operating Temperature (Min)	Junction Operating Temperature (Max)	Integrated Memory Controller	L1 Cache Instructional (Max)	L1 Cache Data (Max)	Internal Dual-Port RAM	DMA Controller Channels	Bus Interface

(oC)	(oC)		(Byte)	(Byte)	(Byte)		
-40, 0	105	EDO, EPROM, FLASH, SDRAM, SRAM	16000	16000	32000	26	60x, Local

Serial Interface Type	Timers Channels	Other Peripherals	Network Application Function	Package Description
I2C, MII, SPI, TDM, UTOPIA	4	DMA Controller	Integrated Control/Data Plane	TBGA 480 37*37*1.7P1.27

Return to Top

MPC8255 Parametrics

MPC8255 Documentation

Documentation

Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
AN2754 UPDATED	CPM Architecture and Downloading RAM Microcodes on the PowerQUICC II Family	FREESCALE	zip	210	1	1/06/2005	-
AN2059	CPM Hints	FREESCALE	pdf	206	0.1	12/05/2003	
AN2070	MPC8260 PowerQUICC II Data Error Protection Implementation	FREESCALE	pdf	195	0	6/15/2000	-
AN2075	Using the MPC8260ADS Board with the MPC8255 Processor	FREESCALE	pdf	252	0.1	11/12/2001	

AN2271	MPC8260 PowerQUICC II Thermal Resistor Guide	FREESCALE	pdf	225	0.0	3/19/2002	
AN2290	MPC8260 PowerQUICC II Design Checklist	FREESCALE	pdf	447	1.1	1/27/2004	
AN2291	Differences among PowerQUICC II Devices and Revisions	FREESCALE	pdf	366	1.4	9/30/2003	
AN2335	MPC8260 Dual-Bus Architecture and Performance Considerations	FREESCALE	pdf	235	0	10/15/2002	
AN2347	Using an MPC8260 and an MPC7410 with Shared Memory	FREESCALE	pdf	677	0	10/01/2002	
AN2349	MPC8260 Reset and Configuration Word	FREESCALE	pdf	263	1	11/15/2004	
AN2491	Simplified Mnemonics for PowerPC Instructions	FREESCALE	pdf	743	0	9/30/2003	
AN2547	Detecting a CPM Overload on the PowerQUICC II	FREESCALE	pdf	254	0	6/30/2003	
AN2547SW	Software Detecting CPM Overload (accompanies AN2547)	FREESCALE	zip	288	0	6/30/2003	-
AN2585	MPC82xx PowerQUICC II Reset: Sources, Effects, and Comments	FREESCALE	pdf	258	0.1	2/26/2004	
AN2586	MPC8260 PowerQUICC II Family Power Distribution Trends	FREESCALE	pdf	524	0	1/13/2004	
AN2587	Software Migration from the NPe495H/L to PowerQUICC II	FREESCALE	pdf	644	0.1	1/28/2004	
AN2638	Effects of Clock Jitter on the MPC8260 (HiP3 and HiP4)	FREESCALE	pdf	474	0	12/12/2003	
AN2810	PowerQUICC UPM Configuration Application Note	FREESCALE	zip	597	0	11/22/2004	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260AEC	MPC8260A HiP4 Family Hardware Specifications	FREESCALE	pdf	662	0.9	8/15/2003	
MPC8260EC	MPC8260 HiP3 Hardware Specifications	FREESCALE	pdf	741	1.2	8/15/2003	

Errata - **Click here for important errata information**

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260CE	MPC8260 PowerQUICC II Family Device Errata	FREESCALE	pdf	691	4.6	11/16/2004	

Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260FACT	MPC8260 PowerQUICC II Integrated Comm Proc Fam	FREESCALE	pdf	94	10	11/05/2004	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
TBGAPRESPKG	TBGA Packaging Customer Tutorial	FREESCALE	pdf	1784	0	8/05/2003	-

Product Brief

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8255TS	MPC8255 PowerQUICC II Technical Summary	FREESCALE	pdf	250	2.2	11/12/2001	

Product Change Notices

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PCN8499	POWERQUICC (.25UM) HIP4 SPEC CHANGES	FREESCALE	htm	11	0	1/30/2003	-
PCN8663	NEW TRAY FOR 37.5 X 37.5 TBGA PACKAGE	FREESCALE	htm	38	0	3/28/2003	-
PCN9081	37.5 X 37.5 MM TBGA TRAY	FREESCALE	htm	12	0	8/06/2003	-
PCN9321	POWERQUICC II HIP 4 TRANSITION	FREESCALE	htm	8	0	10/29/2003	-

Product Numbering Scheme

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
82XXPNS	MPC82xx HiP3/HiP4 Part Numbering Scheme	FREESCALE	jpg	134	2	9/30/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
G2CORERM	G2 Core Reference Manual	FREESCALE	pdf	6720	1	6/27/2003	
MPC60XBUSRM	The Bus Interface for 32-Bit Microprocessors that Implement the PowerPC Architecture	FREESCALE	pdf	3203	0.1	1/14/2004	
MPC8260ESS7UMAD_D	Enhanced SS7 Microcode Specification	FREESCALE	pdf	325	0.1	12/05/2002	-
MPC8260UM	MPC8260 PowerQUICC II Family Reference Manual	FREESCALE	pdf	16672	1	5/29/2003	
MPC8260UMAD	MPC8260 PowerQUICC II Users Manual Errata	FREESCALE	pdf	313	1.2	4/30/2004	
MPCFPE32B	Programming Environments Manual for 32-Bit Implementations of the PowerPC Architecture	FREESCALE	pdf	7549	2	12/21/2001	
MPCFPE32BAD	Errata to MPCFPE32B, Programming Environments Manual for 32-Bit Implementations of the Power PC Architecture, Rev. 2	FREESCALE	pdf	40	0	10/11/2002	

Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
SG2000CR	Application Selector Guide Index and Cross-Reference.	FREESCALE	pdf	139	5	7/01/2004	
SG2112	LAN to WAN Bridge Router	FREESCALE	pdf	128	1	1/01/2004	
SG2113	OSI Layer 2 and Layer 3 Router	FREESCALE	pdf	125	1	1/01/2005	
SG2127	Multiservice Digital Subscriber Line Access Multiplexer (DSLAM)	FREESCALE	pdf	117	3	6/17/2003	
SG2128	ATM Internetworking Multiplexer	FREESCALE	pdf	124	1	1/01/2005	

White Paper

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC826XSDRAMWP	Timing Considerations when Interfacing the PowerQUICC II to SDRAM	FREESCALE	pdf	288	0.1	3/09/2004	

Return to Top

MPC8255 Design Tools

Hardware Tools

Analyzers

Logic

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
TLA715/TLA721	TLA700 Logic Analyzers The TLA700 Logic Analyzers have the performance to capture and display the fastest signals and gives you instant insight into the digital and analog behavior of your system so you can quickly find those elusive signal integrity problems	TEKTRONIX	-	-	-	-

Board Testers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
SCANPLUS	ScanPlus	CORELIS	-	-	-	-
4000-994020-001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWH-PTP-JTAG-HX	PowerTAP Pro JTAG Hardware Only	METROWERKS	-	-	-	
CWH-WTP-JTAG-YX	WireTAP JTAG Hardware Only	METROWERKS	-	-	-	-
BDI1000/BDI2000	BDI1000/BDI2000 Abatron develops and produces high-quality, high-speed BDM and JTAG Debug Tools (BDI Family) for software development environments from leading vendors.	ABATRON	-	-	-	-
10200A	NetICE-R option 2/2M	CORELIS	-	-	-	-
4000-994020--001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-
IC30000	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	ISYS	-	-	-	-
IC40000	iC4000 ActiveEmulator The iC4000 Base unit provides an "iCARD" interface slot so it supports all the same devices as the iC3000, plus can be set up as the Base Unit for the iC2000 emulator modules so it supports all the same devices as the iC2000.	ISYS	-	-	-	-
WBDM8XX	Wiggler for 5xx/8xx BDM The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the BDM port of the target system.	MACRAIGOR	-	-	-	-
WNPJ-COP	Wiggler for COP The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the COP port of the target system.	MACRAIGOR	-	-	-	-
GUARDIAN-SE	Guardian-SE JTAG debug tools for PowerPC development	TOOLSMITHS	-	-	-	-

VISIONICE	visionICE II	WINDRIV	-	-	-	-
VISIONPROBE	visionPROBE II	WINDRIV	-	-	-	-
WPICE	WIND®POWER ICE	WINDRIV	-	-	-	-

Evaluation/Development Boards and Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADS_ECOM	MPC8260ADS Daughter Card for Telephony Applications (E1)	FREESCALE	-	-	-	
MPC8260ADS_TCOM	MPC8260ADS Daughter Card for Telephony Applications (T1)	FREESCALE	-	-	-	
PQ2FADS_ZU	MPC82xx Family Application Development System	FREESCALE	-	-	-	
EP8260-H2-13	EP8260 EP8260 is small form factor single board computer using the 8255, 8260, 8264. Processor and Local SDRAM provided. Direct access to the 82xx processor allows OEMs to create solutions quickly. Linux, VxWorks and INTEGRITY are available.	EMDPLAN	-	-	-	-
STK8260	STK8260 Starterkit STK82xx with TQ Minimodule, MPC8260 / 300 MHz, 32 MB Flash, 64 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 32 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
STK8265	STK8265 Starterkit STK82xx with TQ Minimodule, MPC8265 / 300 MHz, 32 MB Flash, 0 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 16 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
SBCPQII	SBCPowerQUICCII	WINDRIV	-	-	-	-

Models

Full Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
EP100	PowerPC Bus Slave	EUREKA	-	-	-	-
EP201	PowerPC Bus Master	EUREKA	-	-	-	-
EP300	PowerPC Bus Arbiter	EUREKA	-	-	-	-
EP433	PowerPC-PCI Bridge	EUREKA	-	-	-	-
ES100	PowerPC System Controller	EUREKA	-	-	-	-

IBIS

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXIBIS	PowerQUICC II Family IBIS Models This package contains the IBIS models for the PowerQUICC II family of communications processors. HiP3 and HiP4 processes. Local and PCI bus configurations. 480 TBGA and 516 PBGA packages. (10/30/2003)	FREESCALE	zip	81	2.7	-

Timing Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PQIIGPCMTIME	GPCM Timing Generator (05/29/2003)	FREESCALE	exe	176	1	-

Software

Application Software

Calculators

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260CALC1	Power Consumption Calculator for all PowerQUICC II Processors (04/28/2004)	FREESCALE	zip	491	2.1	-
MPC8260CALC2	CPM Performance Calculator for all PowerQUICC II and PowerQUICC III Processors (09/07/2004)	FREESCALE	zip	664	3.1.3	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260COD08	Fast Ethernet on the FCC of the PowerQUICC II (10/13/2003)	FREESCALE	zip	140	2	-
MPC8260COD09	Multichannel Communication Controller of the PowerQUICC II (09/04/2002)	FREESCALE	zip	176	0	-
MPC8260COD11	Example Software for the PowerQUICC II Family: FEC Frames Using PHYless MII (08/02/2002)	FREESCALE	zip	614	0	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MC05	RAM Microcode Patches for PowerQUICC II Family Device Errata (09/28/2004)	FREESCALE	zip	330	4.2.3	-
MPC8260MC11	PowerQUICC II AAL2 Microcode (for all revs) (11/19/2004)	FREESCALE	zip	616	4.0	-
DG02010101	MultiRing MultiRing is a utility that separates frames of different protocols into different buffer descriptor rings (rather than a single ring). The utility supports predefined protocols such as TCP, ICMP. The user can specify additional protocols.	DOGAV	-	-	-	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
FREE	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	METROWERKS	-	-	-	-
ARA-MOT-82XX-FREE	Arabella MPC82XX Free Reference Design This free Linux BSP provides a complete Linux distribution and application ready to be used on the PQ2FADS-ZU/VR and MPC8260/8266ADS Boards. Source code and Linux tools are provided to immediately get started working with a Linux syste	ARABELLA	-	-	-	-
ARC-MOT-MQXBSP	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	ARC	-	-	-	-
EP BSP	EP BSP Embedded Planet Board Support Packages provide complete software drivers for MPC 8xx and 82xx processors for Linux, VxWorks and INTEGRITY. Embedded Planet can also develop customer specific software for many operating systems.	EMDPLAN	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PCS	PlanetCore PlanetCore provides a complete set of firmware device drivers for 8xx and 82xx Motorola processors. These drivers include an application / RTOS boot loader, flash burner and diagnostics. customer specific drivers can also be developed.	EMDPLAN	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARA-MOT-82XX	Arabella Linux for Motorola 82xx Processors Arabella Linux for Motorola 82xx processors is a full, commercial Linux distribution for the 82xx family of processors. It includes support for many of the on chip peripherals including Security, ATM, PCI, USB, PCMCIA, I2C and others.	ARABELLA	-	-	-	-
ARC-MOT-MFS	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	ARC	-	-	-	-
ARC-MOT-MQX	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	ARC	-	-	-	-
ARC-MOT-OSCHANGER	ARC-OS Changer Provides developers the freedom to migrate from either pSOSystem or VxWorks to MQX RTOS while reusing an existing code base	ARC	-	-	-	-
CMX-RTX	CMX-RTX	CMX	-	-	-	-
CMX00300	CMX TCP/IP CMX TCP/IP is a full-featured and fast TCP/IP stack that allows designers to offer networking connectivity for their embedded applications. CMX TCP/IP offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00300A	TCP/IP DHCP Client The CMX TCP/IP DHCP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300B	TCP/IP DHCP Server The CMX TCP/IP DHCP Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300C	TCP/IP FTP C/S The CMX TCP/IP FTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the File Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300D	TCP/IP IMAP4 The CMX TCP/IP IMAP4 Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality for the Internet Message Access Protocol Version 4 standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300E	TCP/IP NAT The CMX TCP/IP NAT Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to add Network Address Translation function to a network application. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300F	TCP/IP POP3 The CMX TCP/IP POP3 Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Post Office Protocol Client standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300G	TCP/IP PPP The CMX TCP/IP PPP Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol serial or modem connectivity standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00300H	TCP/IP PPPoE The CMX TCP/IP PPPoE Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol over Ethernet standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300I	TCP/IP SMTP The CMX TCP/IP SMTP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Mail Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300J	TCP/IP SNMP The CMX TCP/IP SNMP V1 and V2c Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Network Management Protocol standard. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300K	TCP/IP Telnet The CMX TCP/IP Telnet Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Telnet Server standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300L	TCP/IP TFTP The CMX TCP/IP TFTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Trivial File Transfer Protocol Client/Server standard. Source code example for fast start up.	CMX	-	-	-	-
CMX00300M	TCP/IP Web Client The CMX TCP/IP Web Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Client/Server standard. Source code example provided.	CMX	-	-	-	-
CMX00300N	TCP/IP Web Server The CMX TCP/IP Web Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Server standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00630	CMX-FFS CMX-FFS is a very small, standard Flash File System that allows designers to offer file system functionality for their embedded applications. CMX-FFS offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00631	CMX-FFS-NAND CMX-FFS-NAND is an Add-On Option for CMX- FFS that allows designers to include a NAND driver for their embedded FFS applications. CMX-FFS-NAND offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-

CMX00632	CMX-FFS-FAT CMX-FFS-FAT is a fast file system for embedded developers who wish to add devices to their products that require FAT12/16/32 compliant media. CMX-FFS-FAT offers a low license fee, full source code, no royalties, and free tech support.	CMX	-	-	-	-
CMX00633	CMX-FFS-THIN CMX-FFS-THIN is a file system for embedded device developers with limited resource products that require a FAT12/16/32 compliant media. CMX-FFS-THIN offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
DPP.82XXX.KRN	OSE Real-Time Operating System	ENEA	-	-	-	-
THREADX	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	EXPRESSLOG	-	-	-	-
PX382-1	AMX PPC32 AMX is a full featured RTOS for the PowerPC family. AMX has been tested on the EST SBC8260, Embedded Planet RPX Lite MPC823 and Motorola Ultra 603, MBX860, MPC860 ADS, MPC860 FADS, Lite5200EVB and MPC8560 ADS.	KADAK	-	-	-	-
TDK1	Critical Process Monitoring Technology Development Kit Based on CPM functionality provided with the QNX Momentics development suite, the kit lets you quickly construct custom failure recovery scenarios and design your system to reconnect instantly and transparently to minimize downtime.	QNX	-	-	-	-
TDK2	Extended Networking Technology Development Kit Reduce development time with a suite of advanced networking protocols, pre- integrated and tested with the QNX Neutrino RTOS. This TDK provides a royalty-free solution to get you up and running quickly with the newest networking protocols.	QNX	-	-	-	-
TDK3	Flash File System and Embedding Technology Development Kit Deploy resilient flash file systems using your choice of NOR, NAND and ETFS. The TDK provides access to these formats and offers a suite of BSPs, drivers and other components to accelerate the integration of flash into your embedded system	QNX	-	-	-	-

TDK4	MOST (Media-Oriented Systems Transport) Technology Development Kit Enhance the performance and reliability of your in-vehicle multimedia applications using this TDK. With the kit, you can quickly develop customized NetServices, audio, and IP networking features for deployment over the high-speed MOST bus.	QNX	-	-	-	-
TDK5	Multimedia Technology Development Kit Add high-performance multimedia features to embedded devices using a convenient multimedia framework, with reusable media handling components to build customized media playback and recording applications using standard components.	QNX	-	-	-	-
TDK6	Symmetric Multiprocessing Technology Development Kit Leverage greater scalability, system density and performance using symmetric multiprocessing (SMP) in compute-intensive systems, such as network elements, encryption/decryption, transportation, high- end medical imaging, and storage.	QNX	-	-	-	-
TDK7	3D Graphics Technology Development Kit Create sophisticated 3D displays with minimal impact on CPU performance. The TDK lets you implement rich visual content presentation for small screen formats and optimize the available screen real estate with advanced features.	QNX	-	-	-	-
TDK8	WEB BROWSER TECHNOLOGY DEVELOPMENT KIT Design advanced web browsing and mobile internet applications for small footprint devices. Ideal for high performance embedded devices in environments with limited memory and CPU resources.	QNX	-	-	-	-
V6.3	QNX Neutrino Realtime Operating System A true microkernel OS, the QNX Neutrino RTOS offers advanced memory protection, distributed processing, symmetric multiprocessing, POSIX APIs, a dynamically upgradable architecture, and industry- leading realtime performance.	QNX	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
NUCLEUS NET	Nucleus NET Nucleus NET, Accelerated Technology's TCP/IP protocol stack, is the foundation for the rest of our networking products. Nucleus NET includes all of the essential protocols necessary to connect your product to the Internet.	ACCTECH	-	-	-	-
NUCLEUS WEBSERV	Nucleus WebServ An embedded web (HTTP) server that enables your device to be remotely monitored, configured and more using the ubiquitous web browser interface. Serve up static web pages or dynamically create them in response to web browsers requests.	ACCTECH	-	-	-	-
ARC-MOT-HTTP	HTTP Web Server The HTTP (Hyper text Transfer Protocol) consists of source code and development tools for building an embedded HTTP server. This is a HTTP 1.0/1.1 compliant Web server with CGI-style user exit support and optional file system support.	ARC	-	-	-	-
ARC-MOT-HTTPPRO	HTTP PRO HTTP 1.0/1.1 compliant Web server w/ CGI-style user exit sppt, opt'al file system sppt, PageBuilder Web-to-C compiler addit'al compression features, Internat'al language sppt, server-side mapping, HTTP streaming & digest authentication.	ARC	-	-	-	-
ARC-MOT-IPSHIELD	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	ARC	-	-	-	-
ARC-MOT-NETWORKPROTOCOLS	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al prototocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	ARC	-	-	-	-

ARC-MOT-POP3	POP3 Enables client embedded devices to receive e-mail from any POP3 server	ARC	-	-	-	-
ARC-MOT-RTCS	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	ARC	-	-	-	-
ARC-MOT-SMTP	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	ARC	-	-	-	-
RSTP	AvniRSTP Avnisoft's AvniRSTP is a completely portable ANSI C compliant implementation of the IEEE 802.1w RSTP Algorithm and Protocol. It includes the AvniPORT platform abstraction layer to simplify integration with target platforms.	AVNISOFT	-	-	-	-
TARGETTCP	TCP/IP Stack TargetTCP, is a fast, reliable, re-entrant, full-featured TCP/IP protocol stack designed specifically for high-performance embedded networking. The code has a small footprint and is well suited to memory constrained environments.	BLUNK	-	-	-	-
CMX TCP/IP	CMX TCP/IP	CMX	-	-	-	-
IPLITE	IPLITE IPLITE is a dual-mode IPv4/v6 host stack, optimized for minimum footprint and maximum performance, with a number of PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
IPNET	IPNET IPNET is a full-featured dual-mode IPv4/v6 router stack with built-in IPSec, Virtual Routing, QoS, VLAN Tagging, as well as PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-

PN713-1	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	KADAK	-	-	-	-
INFOLINK-STACKNAME	INFOLink Protocol Software Family	LINK	-	-	-	-
MOC_SSL_CLIENT	Mocana Embedded SSL/TLS Client MOCANA SSL/TLS CLIENT: Supports Freescale chipsets out of the box. Small (50KB), fast (2-3x faster than OpenSSL), trusted. Supports all major cryptos. Royalty free, source code license. FREE EVAL: http://www.mocana.com/evaluate.html	MOCANA	-	-	-	-
PSQ40XXXX	RTXC Quadnet Networking Protocols Full protocol suite: TCP, UDP, SLIP, ICMP, and ARP with Berkeley Sockets API. Plus DHCP, BOOTP, DNS, IGMP v2, RIP v2, NAT, HTTP, SMTP, POP3, TFTP, FTP, Telnet, SNMP v1,2,3, PPP and more. New security protocols: SSL, IPsec, IKE.	QUADROS	-	-	-	-

Software Tools

Code Translation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PA68K-PPC	PortAsm/68K for PowerPC	MICROAPL	-	-	-	-
PA86-PPC	PortAsm/86 for PowerPC	MICROAPL	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
GNUTOOL	Gnu Tool set	ANAMIC	-	-	-	-
ARC-MOT-COMPILER	MetaWare C/C++ Compiler Tool Suite Optimized compiler for Motorola processors	ARC	-	-	-	-
COMPILER	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	GREENHILLS	-	-	-	-
DIAB	Diab C/C++ Compiler	WINDRIV	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-DEBUGGER	MetaWare SeeCode Debugger C/C++ Debugger	ARC	-	-	-	-
LA-7729	TRACE32-ICD TRACE32-ICD for PowerQUICC II is a high performance JTAG debugger for C ,C++ and JAVA. A USB 2.x, LPT or ethernet interface is available for connection to any PC or workstation. A flash programming utility is included.	LAUBACH	-	-	-	-

IDE (Integrated Development Environment)

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWS-PPC-CMWFL-CX	CodeWarrior Development Studio for PPC ISA Comms Edition Metrowerks CodeWarrior Development Studio, PowerPC ISA Edition for Communication Processors is a complete integrated development environment for PowerPC ISA hardware bring-up through embedded applications.	METROWERKS	-	-	-	-
CWS-PPC-LINWH-CX	CodeWarrior™ Development Studio, Embedded Linux Edition for PowerPC Architectures	METROWERKS	-	-	-	
CWS-PPC-LLAPP-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Application Edition	METROWERKS	-	-	-	
CWS-PPC-LLPLT-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Platform Edition	METROWERKS	-	-	-	

IC-SW-OPR	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	ISYS	-	-	-	-
V6.3	QNX Momentics Development Suite Accelerate your entire development cycle, from board bring-up to remote diagnostics. Comprehensive, yet tightly integrated, QNX Momentics provides all the tools you need to build and optimize applications for the QNX Neutrino RTOS.	QNX	-	-	-	-
WIND RIVER WORKBENCH	Wind River Workbench Wind River Workbench is an open, standards-based device software development environment for Linux applications providing a deep tools capability in each phase of the development process.	WINDRIV	-	-	-	-
WPIDE	WIND®POWER IDE	WINDRIV	-	-	-	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MWCTESTHWICPKG	CodeTEST Software Analysis Tools, HWIC License package	METROWERKS	-	-	-	-

Return to Top

Applications

Networking

SOHO

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway

Access

ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver

Edge

ATM Switch Line Card

Core

SONET Multiplexer

Applications

LAN-to-WAN Bridge Router
OSI Layer 2 and Layer 3 Router
Regional Office Router
Wireless Gateway
ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver
ATM Switch Line Card
SONET Multiplexer

Wireless

Wireless Infrastructure Applications

Wireless Basestation Transceiver
Wireless Basestation Transceiver

Return to Top

Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/ Qualification Tier	Status	Budgetary Price QTY 1000+ ($US)	Info	Order
KMPC8255ACZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8255AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor

KXPC8255CZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KXPC8255ZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8255ACZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor
MPC8255AZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8255AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8255ACZUIFBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8255ACZUMHBA	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	-
XPC8255AZUIFBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8255AZUMHBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8255CZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8255ZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor

NOTE:

- Not all orderable parts are offered through our online sampling program. For further assistance in selecting a similar part from within the program, please submit a Request for a sample order advice.
- Refer to Samples FAQ for more information.
- Looking for an obsolete part? Check our distributors' inventory

Return to Top

Related Products

- MC33702 : MICROPROCESSOR POWER SUPPLY (3.0 A)
  The 34702 is a monolithic IC providing an efficient means of obtaining power for the Freescale Semiconductor PowerQUICC TM I and II ...

Return to Top

Related Links

- Industrial Control
- Networking
- Wireless

Return to Top

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MPC8265 : PowerQUICC II" Integrated Communications Processor

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The PowerQUICC II" integrated communications processor family delivers excellent integration of processing power for networking and communications peripherals, providing customers with an innovative, total system solution for building high-end communications systems. Freescale Semiconductor's PowerQUICC II processor family is the next generation of the leading PowerQUICC" line of integrated communications processors, providing higher performance in all areas of device operation, including greater flexibility, extended capabilities, and higher integration.

Freescale's leading PowerQUICC architecture integrates two processing blocks. One block is a high-performance embedded G2 core and the second block is the Communications Processor Module (CPM). The CPM of the PowerQUICC II processor can support up to three fast serial communications controllers (FCCs), two multichannel controllers (MCCs), four serial communications controllers (SCCs), two serial management controllers (SMCs), one serial peripheral interface (SPI) and one I2C interface. The combination of the G2 core and the CPM, along with the versatility and performance of the PowerQUICC II processor family, provides customers with enormous potential in developing networking and communications products while significantly reducing time-to-market development stages.

Product Picture
Block Diagram

MPC8265 Features

Product Highlights

- 300 MHz high-speed embedded G2 core
- Powerful memory controller and system functions
- Enhanced 32-bit RISC communications processor module
- Up to three multiport 10/100 Mbps ethernet MAC
- Up to two UTOPIA ports (155 Mbps ATM)
- Up to 256 HDLC channels (each channel 64 Kbps, full duplex)
- Up to four 10 Mbps ethernet MAC
- Transmission convergence sub-layer and inverse multiplexing for ATM capabilities
- Integrated PCI interface
- Strong 3rd-party tools support from Freescale's Smart Networks alliance members

Typical Applications

- Remote Access Concentrators
- Regional Office Routers
- Cellular Infrastructure equipment
- Telecom Switching Equipment
- Ethernet Switches
- T1/E1-to-T3/E3 Bridges
- xDSL Systems

Technical Specifications

- Embedded G2 core available from 133 - 300 MHz
  - 190 MIPS at 100 MHz (Dhrystone 2.1)
  - 505 MIPS at 266 MHz (Dhrystone 2.1)
  - 570 MIPS at 300 MHz (Dhrystone 2.1)
  - High-performance, superscalar microprocessor
  - Disable CPU mode
  - Supports the Freescale external L2 cache chip (MPC2605)
  - Improved low-power core
  - 16 Kbyte data and 16 Kbyte instruction cache
  - Memory Management Unit
  - Floating Point Unit
  - Common On-chip Processor (COP)
- System Interface Unit (SIU)
  - Memory controller, including two dedicated SDRAM machines
  - PCI up to 66 MHz
  - Hardware bus monitor and software watchdog timer

    - IEEE 1149.1 JTAG test access port
- High-Performance CPM with operating frequency up to 133, 166, or 200 MHz
    - G2 core and CPM may run at different frequencies
    - Parallel I/0 registers
    - On-board 32 KBytes of dual-port RAM
    - Two multi-channel controllers (MCCs), each supporting 128 full-duplex, 64 Kbps, HDLC lines
    - Virtual DMA functionality
    - Three FCCs supporting:
    - Up to 155 Mbps ATM SAR (maximum of two) (AAL0, AAL1, AAL2,AAL5)
    - 10/100 Mbps Ethernet (up to three) (IEEE 802.3X with Flow Control)
    - 45 Mbps HDLC / Transparent (up to three)
    - Two UTOPIA Level II master/slave ports with multi-PHY support.
    - Three MII interfaces
    - Eight TDM interfaces (T1/E1), two TDM ports can be interfaced with T3/E3
    - Transmission Convergence Layer capabilities
    - Integrated Inverse Multiplexing for ATM (IMA) functionality
- Two bus architectures: one 64-bit 60x bus and one 32-bit PCI or local bus
    - Integrated PCI interface
- 1.8V or 2.0V internal and 3.3V I/O
- 300 MHz power consumption: 2.5 W
- 480 TBGA package (37.5 x 37.5 mm)
- Integrated PCI capability

MPC8260 Derivatives

	8250	**8255**	**8260**	**8264**	**8265**	**8266**
Serial Communications Controllers (SCCs)	4	4	4	4	4	4
Fast Communication Controllers (FCCs)	3	2	3	3	3	3
I-Cache (Kbyte)	16	16	16	16	16	16
D-Cache (Kbyte)	16	16	16	16	16	16
Ethernet (10T)	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4
Ethernet (10/100)	Up to 3	Up to 2	Up to 3	Up to 3	Up to 3	Up to 3
UTOPIA II Ports	0	2	2	2	2	2

Multi-Channel HDLC	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
PCI Interface	Yes	--	--	--	Yes	Yes
IMA Functionality	--	--	--	Yes	--	Yes

PowerQUICC II Masks and Versions

Process	Family	Revision	Qualification	Mask	PVR	IMMR_[16-31][1]	Rev_Num[2]
0.29 µm (HiP3)	MPC8260	A.1	XC	0K26N	0x00810101	0x0011	0x0001
		B.3	XC	3K23A	0x00810101	0x0023	0x003B
		C.2	XC	6K23A, 7K23A	0x00810101	0x0024	0x007B
0.25 µm (HiP4)		A.0	XC	2K25A	0x80811014	0x0060	0x000D
		B.1	MC	4K25A	0x80811014	0x0062	0x002D
		C.0	MC	5K25A	0x80811014	0x0064	0x002D
0.13 µm (HiP7)	MPC8280	0.0	—	0K49M	0x80822011	0x0A00	0x0070
		0.1	MC	1K49M	0x80822013	0x0A01	0x0070
		A.0	MC	2K49M	0x80822014	0x0A10	0x0071
	MPC8272	0.0	PC	0K50M	0x80822013	0x0C00 **3** 0x0D00 **4**	0x00E0
		A.0	MC	1K50M	0x80822014	0x0C10 **3** 0x0D10 **4**	0x00E1

Notes:
1. The IMMR[16-31] indicates the mask number.
2. The Rev_Num located at offset 0x8AF0 in DPRAM indicates the CPM microcode revision number.
3 . Encryption Enabled.
4 . Encryption Disabled.

Masks and versions table last updated on 14OCT2004.

Return to Top

Sample Availability	CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	CPM Operation Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I/O Operating Voltage (Max) (V)
Y	505.4, 570	266, 300	166, 200, 208	2.3, 2.5, 3	2.9, 3, 3.2	2	3.3

Ambient Operating Temperature (Min) (oC)	Junction Operating Temperature (Max) (oC)	Integrated Memory Controller	L1 Cache Instructional (Max) (Byte)	L1 Cache Data (Max) (Byte)	Internal Dual-Port RAM (Byte)	DMA Controller Channels	Bus Interface
-40, 0	105	EDO, EPROM, FLASH, SDRAM, SRAM	16000	16000	32000	30	60x, Local, PCI 2.2

Serial Interface Type	Timers Channels	Other Peripherals	Network Application Function	Package Description
I2C, MII, SPI, TDM, UTOPIA	4	DMA Controller	Integrated Control/Data Plane	TBGA 480 37*37*1.7P1.27

Return to Top

MPC8265 Parametrics

Documentation

Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
AN2754 UPDATED	CPM Architecture and Downloading RAM Microcodes on the PowerQUICC II Family	FREESCALE	zip	210	1	1/06/2005	-
AN2059	CPM Hints	FREESCALE	pdf	206	0.1	12/05/2003	
AN2070	MPC8260 PowerQUICC II Data Error Protection Implementation	FREESCALE	pdf	195	0	6/15/2000	-
AN2271	MPC8260 PowerQUICC II Thermal Resistor Guide	FREESCALE	pdf	225	0.0	3/19/2002	
AN2285	Data Movement between Big and Little Endian Devices	FREESCALE	pdf	269	0	5/21/2002	
AN2290	MPC8260 PowerQUICC II Design Checklist	FREESCALE	pdf	447	1.1	1/27/2004	
AN2291	Differences among PowerQUICC II Devices and Revisions	FREESCALE	pdf	366	1.4	9/30/2003	
AN2335	MPC8260 Dual-Bus Architecture and Performance Considerations	FREESCALE	pdf	235	0	10/15/2002	
AN2347	Using an MPC8260 and an MPC7410 with Shared Memory	FREESCALE	pdf	677	0	10/01/2002	
AN2349	MPC8260 Reset and Configuration Word	FREESCALE	pdf	263	1	11/15/2004	
AN2431	PowerQUICC II PCI Example Software	FREESCALE	pdf	375	0	12/20/2002	
AN2431SW	PowerQUICC II PCI Example Software	FREESCALE	zip	726	0	12/20/2002	
AN2491	Simplified Mnemonics for PowerPC Instructions	FREESCALE	pdf	743	0	9/30/2003	
AN2547	Detecting a CPM Overload on the PowerQUICC II	FREESCALE	pdf	254	0	6/30/2003	
AN2547SW	Software Detecting CPM Overload (accompanies AN2547)	FREESCALE	zip	288	0	6/30/2003	-
AN2579	Porting Linux® to the MPC8260ADS	FREESCALE	pdf	323	0.1	1/06/2004	
AN2585	MPC82xx PowerQUICC II Reset: Sources, Effects, and Comments	FREESCALE	pdf	258	0.1	2/26/2004	

AN2586	MPC8260 PowerQUICC II Family Power Distribution Trends	FREESCALE	pdf	524	0	1/13/2004	
AN2587	Software Migration from the NPe495H/L to PowerQUICC II	FREESCALE	pdf	644	0.1	1/28/2004	
AN2638	Effects of Clock Jitter on the MPC8260 (HiP3 and HiP4)	FREESCALE	pdf	474	0	12/12/2003	
AN2810	PowerQUICC UPM Configuration Application Note	FREESCALE	zip	597	0	11/22/2004	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260AEC	MPC8260A HiP4 Family Hardware Specifications	FREESCALE	pdf	662	0.9	8/15/2003	

Errata - Click here for important errata information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260CE	MPC8260 PowerQUICC II Family Device Errata	FREESCALE	pdf	691	4.6	11/16/2004	

Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260FACT	MPC8260 PowerQUICC II Integrated Comm Proc Fam	FREESCALE	pdf	94	10	11/05/2004	
MPC8260MFACT	MPC8260 PowerQUICC II Microcode	FREESCALE	pdf	212	1	3/27/2002	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
TBGAPRESPKG	TBGA Packaging Customer Tutorial	FREESCALE	pdf	1784	0	8/05/2003	-

Product Brief

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260TS	MPC8260 PowerQUICC II Technical Summary	FREESCALE	pdf	254	2.2	11/12/2001	

Product Change Notices

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PCN8499	POWERQUICC (.25UM) HIP4 SPEC CHANGES	FREESCALE	htm	11	0	1/30/2003	-
PCN8663	NEW TRAY FOR 37.5 X 37.5 TBGA PACKAGE	FREESCALE	htm	38	0	3/28/2003	-
PCN9081	37.5 X 37.5 MM TBGA TRAY	FREESCALE	htm	12	0	8/06/2003	-
PCN9322	PQII HIP4 TRANSITION PCI DEVICE	FREESCALE	htm	9	0	10/29/2003	-

Product Numbering Scheme

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
82XXPNS	MPC82xx HiP3/HiP4 Part Numbering Scheme	FREESCALE	jpg	134	2	9/30/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
G2CORERM	G2 Core Reference Manual	FREESCALE	pdf	6720	1	6/27/2003	
MPC60XBUSRM	The Bus Interface for 32-Bit Microprocessors that Implement the PowerPC Architecture	FREESCALE	pdf	3203	0.1	1/14/2004	
MPC8260ESS7UMAD_D	Enhanced SS7 Microcode Specification	FREESCALE	pdf	325	0.1	12/05/2002	-
MPC8260UM	MPC8260 PowerQUICC II Family Reference Manual	FREESCALE	pdf	16672	1	5/29/2003	
MPC8260UMAD	MPC8260 PowerQUICC II Users Manual Errata	FREESCALE	pdf	313	1.2	4/30/2004	
MPCFPE32B	Programming Environments Manual for 32-Bit Implementations of the PowerPC Architecture	FREESCALE	pdf	7549	2	12/21/2001	

MPCFPE32BAD	Errata to MPCFPE32B, Programming Environments Manual for 32-Bit Implementations of the Power PC Architecture, Rev. 2	FREESCALE	pdf	40	0	10/11/2002

Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
SG1007	Network and Communications Processors Selector Guide	FREESCALE	pdf	189	0	1/01/2005	
SG2000CR	Application Selector Guide Index and Cross-Reference.	FREESCALE	pdf	139	5	7/01/2004	
SG2112	LAN to WAN Bridge Router	FREESCALE	pdf	128	1	1/01/2004	
SG2113	OSI Layer 2 and Layer 3 Router	FREESCALE	pdf	125	1	1/01/2005	
SG2127	Multiservice Digital Subscriber Line Access Multiplexer (DSLAM)	FREESCALE	pdf	117	3	6/17/2003	
SG2128	ATM Internetworking Multiplexer	FREESCALE	pdf	124	1	1/01/2005	

White Paper

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC826XSDRAMWP	Timing Considerations when Interfacing the PowerQUICC II to SDRAM	FREESCALE	pdf	288	0.1	3/09/2004	

Return to Top

MPC8265 Design Tools

Hardware Tools

Analyzers

Logic

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
TLA715/TLA721	TLA700 Logic Analyzers The TLA700 Logic Analyzers have the performance to capture and display the fastest signals and gives you instant insight into the digital and analog behavior of your system so you can quickly find those elusive signal integrity problems	TEKTRONIX	-	-	-	-

Board Testers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
SCANPLUS	ScanPlus	CORELIS	-	-	-	-
4000-994020-001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWH-PTP-JTAG-HX	PowerTAP Pro JTAG Hardware Only	METROWERKS	-	-	-	
CWH-WTP-JTAG-YX	WireTAP JTAG Hardware Only	METROWERKS	-	-	-	-
BDI1000/BDI2000	BDI1000/BDI2000 Abatron develops and produces high-quality, high-speed BDM and JTAG Debug Tools (BDI Family) for software development environments from leading vendors.	ABATRON	-	-	-	-
10200A	NetICE-R option 2/2M	CORELIS	-	-	-	-

4000-994020--001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-
IC30000	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	ISYS	-	-	-	-
WBDM8XX	Wiggler for 5xx/8xx BDM The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the BDM port of the target system.	MACRAIGOR	-	-	-	-
WNPJ-COP	Wiggler for COP The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the COP port of the target system.	MACRAIGOR	-	-	-	-
GUARDIAN-SE	Guardian-SE JTAG debug tools for PowerPC development	TOOLSMITHS	-	-	-	-
VISIONICE	visionICE II	WINDRIV	-	-	-	-
VISIONPROBE	visionPROBE II	WINDRIV	-	-	-	-
WPICE	WIND®POWER ICE	WINDRIV	-	-	-	-

Evaluation/Development Boards and Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADS_ECOM	MPC8260ADS Daughter Card for Telephony Applications (E1)	FREESCALE	-	-	-	
MPC8260ADS_TCOM	MPC8260ADS Daughter Card for Telephony Applications (T1)	FREESCALE	-	-	-	
MPC8266ADS_PCIAI	MPC8266 Application Development System (Add-In Card)	FREESCALE	-	-	-	
PQ2FADS_ZU	MPC82xx Family Application Development System	FREESCALE	-	-	-	

EP8280M-H-10	EP82xxM EP82xxM is a PMC/stand alone single board computer using the 8280/70/66/65/50. PMC PCI, two 10/100 Ethernet, RS232 provided. Direct access to the 82xx IO allows OEMs to create solutions quickly. Linux, VxWorks and INTEGRITY are available.	EMDPLAN	-	-	-	-
STK8260	STK8260 Starterkit STK82xx with TQ Minimodule, MPC8260 / 300 MHz, 32 MB Flash, 64 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 32 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
STK8265	STK8265 Starterkit STK82xx with TQ Minimodule, MPC8265 / 300 MHz, 32 MB Flash, 0 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 16 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
SBCPQII	SBCPowerQUICCII	WINDRIV	-	-	-	-

Models

BSDL

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260BSDL3	PowerQUICC II BSDL (HiP3) (05/06/2002)	FREESCALE	zip	9	1	-
MPC8260BSDL4	PowerQUICC II BSDL (HiP4) (03/15/2004)	FREESCALE	zip	10	1.1	-

Bus Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8265BFM01	MPC8265 SWIFT Model - Solaris: HiP4A, Bus Function Model (03/27/2002)	FREESCALE	tar	46760	1	-

Full Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8265FFM01	MPC8265 SWIFT Model - Solaris: HiP4A, Full Function Model (03/27/2002)	FREESCALE	tar	50388	1	-
EP100	PowerPC Bus Slave	EUREKA	-	-	-	-
EP201	PowerPC Bus Master	EUREKA	-	-	-	-
EP300	PowerPC Bus Arbiter	EUREKA	-	-	-	-
EP433	PowerPC-PCI Bridge	EUREKA	-	-	-	-
ES100	PowerPC System Controller	EUREKA	-	-	-	-

IBIS

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXIBIS	PowerQUICC II Family IBIS Models This package contains the IBIS models for the PowerQUICC II family of communications processors. HiP3 and HiP4 processes. Local and PCI bus configurations. 480 TBGA and 516 PBGA packages. (10/30/2003)	FREESCALE	zip	81	2.7	-

Timing Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PQIIGPCMTIME	GPCM Timing Generator (05/29/2003)	FREESCALE	exe	176	1	-

Software

Application Software

Calculators

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260CALC1	Power Consumption Calculator for all PowerQUICC II Processors (04/28/2004)	FREESCALE	zip	491	2.1	-
MPC8260CALC2	CPM Performance Calculator for all PowerQUICC II and PowerQUICC III Processors (09/07/2004)	FREESCALE	zip	664	3.1.3	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260COD08	Fast Ethernet on the FCC of the PowerQUICC II (10/13/2003)	FREESCALE	zip	140	2	-
MPC8260COD09	Multichannel Communication Controller of the PowerQUICC II (09/04/2002)	FREESCALE	zip	176	0	-
MPC8260COD11	Example Software for the PowerQUICC II Family: FEC Frames Using PHYless MII (08/02/2002)	FREESCALE	zip	614	0	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MC05	RAM Microcode Patches for PowerQUICC II Family Device Errata (09/28/2004)	FREESCALE	zip	330	4.2.3	-
MPC8260MC11	PowerQUICC II AAL2 Microcode (for all revs) (11/19/2004)	FREESCALE	zip	616	4.0	-
DG02010101	MultiRing MultiRing is a utility that separates frames of different protocols into different buffer descriptor rings (rather than a single ring). The utility supports predefined protocols such as TCP, ICMP. The user can specify additional protocols.	DOGAV	-	-	-	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
FREE	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	METROWERKS	-	-	-	-
ARA-MOT-82XX-FREE	Arabella MPC82XX Free Reference Design This free Linux BSP provides a complete Linux distribution and application ready to be used on the PQ2FADS-ZU/VR and MPC8260/8266ADS Boards. Source code and Linux tools are provided to immediately get started working with a Linux syste	ARABELLA	-	-	-	-
ARC-MOT-MQXBSP	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	ARC	-	-	-	-
EP BSP	EP BSP Embedded Planet Board Support Packages provide complete software drivers for MPC 8xx and 82xx processors for Linux, VxWorks and INTEGRITY. Embedded Planet can also develop customer specific software for many operating systems.	EMDPLAN	-	-	-	-
EP8280M VDK 10	EP82xxM VxWorks BSP VxWorks Board Support Packages contain prebuilt RAM and ROM kernel images and documentation that describes installing and running the BSP. See online matrix for supported peripherals.	EMDPLAN	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8266DRV01	PowerQUICC II PCI Driver For use with the MPC8266 Application Development System and Metrowerks CodeWarrior	FREESCALE	zip	3492	0	-
PCS	PlanetCore PlanetCore provides a complete set of firmware device drivers for 8xx and 82xx Motorola processors. These drivers include an application / RTOS boot loader, flash burner and diagnostics. customer specific drivers can also be developed.	EMDPLAN	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARA-MOT-82XX	Arabella Linux for Motorola 82xx Processors Arabella Linux for Motorola 82xx processors is a full, commercial Linux distribution for the 82xx family of processors. It includes support for many of the on chip peripherals including Security, ATM, PCI, USB, PCMCIA, I2C and others.	ARABELLA	-	-	-	-
ARC-MOT-MFS	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	ARC	-	-	-	-
ARC-MOT-MQX	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	ARC	-	-	-	-
ARC-MOT-OSCHANGER	ARC-OS Changer Provides developers the freedom to migrate from either pSOSystem or VxWorks to MQX RTOS while reusing an existing code base	ARC	-	-	-	-
CMX-RTX	CMX-RTX	CMX	-	-	-	-
CMX00300	CMX TCP/IP CMX TCP/IP is a full-featured and fast TCP/IP stack that allows designers to offer networking connectivity for their embedded applications. CMX TCP/IP offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-

CMX00300A	TCP/IP DHCP Client The CMX TCP/IP DHCP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300B	TCP/IP DHCP Server The CMX TCP/IP DHCP Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300C	TCP/IP FTP C/S The CMX TCP/IP FTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the File Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300D	TCP/IP IMAP4 The CMX TCP/IP IMAP4 Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality for the Internet Message Access Protocol Version 4 standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300E	TCP/IP NAT The CMX TCP/IP NAT Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to add Network Address Translation function to a network application. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300F	TCP/IP POP3 The CMX TCP/IP POP3 Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Post Office Protocol Client standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300G	TCP/IP PPP The CMX TCP/IP PPP Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol serial or modem connectivity standard. Source code example provided for fast start up.	CMX	-	-	-	-

CMX00300H	TCP/IP PPPoE The CMX TCP/IP PPPoE Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol over Ethernet standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300I	TCP/IP SMTP The CMX TCP/IP SMTP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Mail Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300J	TCP/IP SNMP The CMX TCP/IP SNMP V1 and V2c Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Network Management Protocol standard. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300K	TCP/IP Telnet The CMX TCP/IP Telnet Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Telnet Server standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300L	TCP/IP TFTP The CMX TCP/IP TFTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Trivial File Transfer Protocol Client/Server standard. Source code example for fast start up.	CMX	-	-	-	-
CMX00300M	TCP/IP Web Client The CMX TCP/IP Web Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Client/Server standard. Source code example provided.	CMX	-	-	-	-
CMX00300N	TCP/IP Web Server The CMX TCP/IP Web Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Server standard. Source code example provided for fast start up.	CMX	-	-	-	-

CMX00630	CMX-FFS CMX-FFS is a very small, standard Flash File System that allows designers to offer file system functionality for their embedded applications. CMX-FFS offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00631	CMX-FFS-NAND CMX-FFS-NAND is an Add-On Option for CMX- FFS that allows designers to include a NAND driver for their embedded FFS applications. CMX-FFS-NAND offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00632	CMX-FFS-FAT CMX-FFS-FAT is a fast file system for embedded developers who wish to add devices to their products that require FAT12/16/32 compliant media. CMX-FFS-FAT offers a low license fee, full source code, no royalties, and free tech support.	CMX	-	-	-	-
CMX00633	CMX-FFS-THIN CMX-FFS-THIN is a file system for embedded device developers with limited resource products that require a FAT12/16/32 compliant media. CMX-FFS-THIN offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
DPP.82XXX.KRN	OSE Real-Time Operating System	ENEA	-	-	-	-
THREADX	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	EXPRESSLOG	-	-	-	-
PX382-1	AMX PPC32 AMX is a full featured RTOS for the PowerPC family. AMX has been tested on the EST SBC8260, Embedded Planet RPX Lite MPC823 and Motorola Ultra 603, MBX860, MPC860 ADS, MPC860 FADS, Lite5200EVB and MPC8560 ADS.	KADAK	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-HTTP	HTTP Web Server The HTTP (Hyper text Transfer Protocol) consists of source code and development tools for building an embedded HTTP server. This is a HTTP 1.0/1.1 compliant Web server with CGI-style user exit support and optional file system support.	ARC	-	-	-	-
ARC-MOT-HTTPPRO	HTTP PRO HTTP 1.0/1.1 compliant Web server w/ CGI-style user exit sppt, opt'al file system sppt, PageBuilder Web-to-C compiler addit'al compression features, Internat'al language sppt, server-side mapping, HTTP streaming & digest authentication.	ARC	-	-	-	-
ARC-MOT-IPSHIELD	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	ARC	-	-	-	-
ARC-MOT-NETWORKPROTOCOLS	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al prototocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	ARC	-	-	-	-
ARC-MOT-POP3	POP3 Enables client embedded devices to receive e-mail from any POP3 server	ARC	-	-	-	-
ARC-MOT-RTCS	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	ARC	-	-	-	-

ARC-MOT-SMTP	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	ARC	-	-	-	-
RSTP	AvniRSTP Avnisoft's AvniRSTP is a completely portable ANSI C compliant implementation of the IEEE 802.1w RSTP Algorithm and Protocol. It includes the AvniPORT platform abstraction layer to simplify integration with target platforms.	AVNISOFT	-	-	-	-
TARGETTCP	TCP/IP Stack TargetTCP, is a fast, reliable, re-entrant, full-featured TCP/IP protocol stack designed specifically for high-performance embedded networking. The code has a small footprint and is well suited to memory constrained environments.	BLUNK	-	-	-	-
CMX TCP/IP	CMX TCP/IP	CMX	-	-	-	-
IPLITE	IPLITE IPLITE is a dual-mode IPv4/v6 host stack, optimized for minimum footprint and maximum performance, with a number of PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
IPNET	IPNET IPNET is a full-featured dual-mode IPv4/v6 router stack with built-in IPSec, Virtual Routing, QoS, VLAN Tagging, as well as PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
PN713-1	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	KADAK	-	-	-	-
INFOLINK-STACKNAME	INFOLink Protocol Software Family	LINK	-	-	-	-

MOC_SSL_CLIENT	Mocana Embedded SSL/TLS Client MOCANA SSL/TLS CLIENT: Supports Freescale chipsets out of the box. Small (50KB), fast (2-3x faster than OpenSSL), trusted. Supports all major cryptos. Royalty free, source code license. FREE EVAL: http://www.mocana.com/evaluate.html	MOCANA	-	-	-	-
PSQ40XXXX	RTXC Quadnet Networking Protocols Full protocol suite: TCP, UDP, SLIP, ICMP, and ARP with Berkeley Sockets API. Plus DHCP, BOOTP, DNS, IGMP v2, RIP v2, NAT, HTTP, SMTP, POP3, TFTP, FTP, Telnet, SNMP v1,2,3, PPP and more. New security protocols: SSL, IPsec, IKE.	QUADROS	-	-	-	-

Software Tools

Code Translation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PA68K-PPC	PortAsm/68K for PowerPC	MICROAPL	-	-	-	-
PA86-PPC	PortAsm/86 for PowerPC	MICROAPL	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-COMPILER	MetaWare C/C++ Compiler Tool Suite Optimized compiler for Motorola processors	ARC	-	-	-	-
COMPILER	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	GREENHILLS	-	-	-	-
DIAB	Diab C/C++ Compiler	WINDRIV	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-DEBUGGER	MetaWare SeeCode Debugger C/C++ Debugger	ARC	-	-	-	-
LA-7729	TRACE32-ICD TRACE32-ICD for PowerQUICC II is a high performance JTAG debugger for C ,C++ and JAVA. A USB 2.x, LPT or ethernet interface is available for connection to any PC or workstation. A flash programming utility is included.	LAUBACH	-	-	-	-

IDE (Integrated Development Environment)

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWS-PPC-CMWFL-CX	CodeWarrior Development Studio for PPC ISA Comms Edition Metrowerks CodeWarrior Development Studio, PowerPC ISA Edition for Communication Processors is a complete integrated development environment for PowerPC ISA hardware bring-up through embedded applications.	METROWERKS	-	-	-	-
CWS-PPC-LINWH-CX	CodeWarrior™ Development Studio, Embedded Linux Edition for PowerPC Architectures	METROWERKS	-	-	-	
CWS-PPC-LLAPP-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Application Edition	METROWERKS	-	-	-	
CWS-PPC-LLPLT-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Platform Edition	METROWERKS	-	-	-	
IC-SW-OPR	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	ISYS	-	-	-	-
WIND RIVER WORKBENCH	Wind River Workbench Wind River Workbench is an open, standards-based device software development environment for Linux applications providing a deep tools capability in each phase of the development process.	WINDRIV	-	-	-	-
WPIDE	WIND®POWER IDE	WINDRIV	-	-	-	-

Initialization/Boot Code Generation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXCPMMUXIBCG	Parallel Ports Configuration Tool (Pin Mux Tool) (03/18/2004)	FREESCALE	zip	895	4.0.1	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MWCTESTHWICPKG	CodeTEST Software Analysis Tools, HWIC License package	METROWERKS	-	-	-	-

Return to Top

Applications

Networking

SOHO

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway

Access

- ATM Interworking Multiplexer
- Media Gateway with IP and ATM Interworking
- Remote Access Server
- Wireless Basestation Transceiver

Edge

- ATM Switch Line Card

Core

- SONET Multiplexer

Applications

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router

Regional Office Router
Wireless Gateway
ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver
ATM Switch Line Card
SONET Multiplexer

Wireless

Wireless Infrastructure Applications

Wireless Basestation Transceiver

Wireless Basestation Transceiver

Return to Top

Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/ Qualification Tier	Status	Budgetary Price QTY 1000+ ($US)	Info	Order
KMPC8265ACZUMIBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8265AZUPIBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8265AZUPJDC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8265ACZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	Buy from Distributor
MPC8265ACZUMHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8265ACZUMIBB	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	Buy from Distributor

MPC8265ACZUMIBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8265AZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	Buy from Distributor
MPC8265AZUMHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8265AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	Buy from Distributor
MPC8265AZUPIBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8265AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	Buy from Distributor
MPC8265AZUPJDC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor
XPC8265ACZUMIBA	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	-
XPC8265AZUMHBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8265AZUMIBA	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	-

NOTE:

- Not all orderable parts are offered through our online sampling program. For further assistance in selecting a similar part from within the program, please submit a Request for a sample order advice.
- Refer to Samples FAQ for more information.
- Looking for an obsolete part? Check our distributors' inventory

Return to Top

Related Products

- MC33702 : MICROPROCESSOR POWER SUPPLY (3.0 A)
  The 34702 is a monolithic IC providing an efficient means of obtaining power for the Freescale Semiconductor PowerQUICC TM I and II ...
- MPC9850 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9850 is a PLL based clock generator specifically designed for Freescale Microprocessor And Microcontroller applications including the PowerQUICC III. ...
- MPC9855 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9855 is a PLL based clock generator specifically designed for Freescale Microprocessor and Microcontroller applications including the PowerPC and ...

Return to Top

Related Links

- Industrial Control
- Networking
- Wireless

Return to Top

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MPC8266 : PowerQUICC II" Integrated Communications Processor

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The PowerQUICC II" integrated communications processor family delivers excellent integration of processing power for networking and communications peripherals, providing customers with an innovative, total system solution for building high-end communications systems. Freescale Semiconductor's PowerQUICC II processor family is the next generation of the leading PowerQUICC" line of integrated communications processors, providing higher performance in all areas of device operation, including greater flexibility, extended capabilities, and higher integration.

Freescale's leading PowerQUICC architecture integrates two processing blocks. One block is a high-performance embedded G2 core and the second block is the Communications Processor Module (CPM). The CPM of the PowerQUICC II processor can support up to three fast serial communications controllers (FCCs), two multichannel controllers (MCCs), four serial communications controllers (SCCs), two serial management controllers (SMCs), one serial peripheral interface (SPI) and one I2C interface. The combination of the G2 core and the CPM, along with the versatility and performance of the PowerQUICC II processor family, provides customers with enormous potential in developing networking and communications products while significantly reducing time-to-market development stages.

Product Picture
Block Diagram

MPC8266 Features

Product Highlights

- 300 MHz high-speed embedded G2 core
- Powerful memory controller and system functions
- Enhanced 32-bit RISC communications processor module
- Up to three multiport 10/100 Mbps ethernet MAC
- Up to two UTOPIA ports (155 Mbps ATM)
- Up to 256 HDLC channels (each channel 64 Kbps, full duplex)
- Up to four 10 Mbps ethernet MAC
- Transmission convergence sub-layer and inverse multiplexing for ATM capabilities
- Integrated PCI interface
- Strong 3rd-party tools support from Freescale's Smart Networks alliance members

Typical Applications

- Remote Access Concentrators
- Regional Office Routers
- Cellular Infrastructure equipment
- Telecom Switching Equipment
- Ethernet Switches
- T1/E1-to-T3/E3 Bridges
- xDSL Systems

Technical Specifications

- Embedded G2 core available from 133 - 300 MHz
  - 190 MIPS at 100 MHz (Dhrystone 2.1)
  - 505 MIPS at 266 MHz (Dhrystone 2.1)
  - 570 MIPS at 300 MHz (Dhrystone 2.1)
  - High-performance, superscalar microprocessor
  - Disable CPU mode
  - Supports the Freescale external L2 cache chip (MPC2605)
  - Improved low-power core
  - 16 Kbyte data and 16 Kbyte instruction cache
  - Memory Management Unit
  - Floating Point Unit

    - Common On-chip Processor (COP)
- System Interface Unit (SIU)
    - Memory controller, including two dedicated SDRAM machines
    - PCI up to 66 MHz
    - Hardware bus monitor and software watchdog timer
    - IEEE 1149.1 JTAG test access port
- High-Performance CPM with operating frequency up to 133, 166, or 200 MHz
    - G2 core and CPM may run at different frequencies
    - Parallel I/0 registers
    - On-board 32 KBytes of dual-port RAM
    - Two multi-channel controllers (MCCs), each supporting 128 full-duplex, 64 Kbps, HDLC lines
    - Virtual DMA functionality
    - Three FCCs supporting:
    - Up to 155 Mbps ATM SAR (maximum of two) (AAL0, AAL1, AAL2,AAL5)
    - 10/100 Mbps Ethernet (up to three) (IEEE 802.3X with Flow Control)
    - 45 Mbps HDLC / Transparent (up to three)
    - Two UTOPIA Level II master/slave ports with multi-PHY support.
    - Three MII interfaces
    - Eight TDM interfaces (T1/E1), two TDM ports can be interfaced with T3/E3
    - Transmission Convergence Layer capabilities
    - Integrated Inverse Multiplexing for ATM (IMA) functionality
- Two bus architectures: one 64-bit 60x bus and one 32-bit PCI or local bus
    - Integrated PCI interface
- 1.8V or 2.0V internal and 3.3V I/O
- 300 MHz power consumption: 2.5 W
- 480 TBGA package (37.5 x 37.5 mm)
- IMA/TC layer functionality
- Integrated PCI capability

MPC8260 Derivatives

	8250	8255	8260	8264	8265	8266

Serial Communications Controllers (SCCs)	4	4	4	4	4	4
Fast Communication Controllers (FCCs)	3	2	3	3	3	3
I-Cache (Kbyte)	16	16	16	16	16	16
D-Cache (Kbyte)	16	16	16	16	16	16
Ethernet (10T)	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4
Ethernet (10/100)	Up to 3	Up to 2	Up to 3	Up to 3	Up to 3	Up to 3
UTOPIA II Ports	0	2	2	2	2	2
Multi-Channel HDLC	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
PCI Interface	Yes	--	--	--	Yes	Yes
IMA Functionality	--	--	--	Yes	--	Yes

PowerQUICC II Masks and Versions

Process	Family	Revision	Qualification	Mask	PVR	IMMR_[16-31][1]	Rev_Num[2]
0.29 µm (HiP3)	MPC8260	A.1	XC	0K26N	0x00810101	0x0011	0x0001
		B.3	XC	3K23A	0x00810101	0x0023	0x003B
		C.2	XC	6K23A, 7K23A	0x00810101	0x0024	0x007B
0.25 µm (HiP4)		A.0	XC	2K25A	0x80811014	0x0060	0x000D
		B.1	MC	4K25A	0x80811014	0x0062	0x002D
		C.0	MC	5K25A	0x80811014	0x0064	0x002D
0.13 µm (HiP7)	MPC8280	0.0	—	0K49M	0x80822011	0x0A00	0x0070
		0.1	MC	1K49M	0x80822013	0x0A01	0x0070
		A.0	MC	2K49M	0x80822014	0x0A10	0x0071
	MPC8272	0.0	PC	0K50M	0x80822013	0x0C00[3] 0x0D00[4]	0x00E0

		A.0	MC	1K50M	0x80822014	0x0C10 **3** 0x0D10 **4**	0x00E1

Notes:
1. The IMMR[16-31] indicates the mask number.
2. The Rev_Num located at offset 0x8AF0 in DPRAM indicates the CPM microcode revision number.
3 . Encryption Enabled.
4 . Encryption Disabled.

Masks and versions table last updated on 14OCT2004.

Return to Top

CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	CPM Operation Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I/O Operating Voltage (Max) (V)	Ambient Operating Temperature (Min) (oC)
570	300	208	2.3	2.9	1.9, 2	3.3	0

Junction Operating Temperature (Max) (oC)	Integrated Memory Controller	L1 Cache Instructional (Max) (Byte)	L1 Cache Data (Max) (Byte)	Internal Dual-Port RAM (Byte)	DMA Controller Channels	Bus Interface	Serial Interface Type
85, 105	EDO, EPROM, FLASH, SDRAM, SRAM	16000	16000	32000	30	60x, Local, PCI 2.2	I2C, MII, SPI, TDM, UTOPIA

Timers

Channels	Other Peripherals	Network Application Function	Package Description
4	DMA Controller	Integrated Control/Data Plane	TBGA 480 37*37*1.7P1.27

Return to Top

MPC8266 Parametrics

MPC8266 Documentation

Documentation

Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
AN2754 UPDATED	CPM Architecture and Downloading RAM Microcodes on the PowerQUICC II Family	FREESCALE	zip	210	1	1/06/2005	-
AN2059	CPM Hints	FREESCALE	pdf	206	0.1	12/05/2003	
AN2070	MPC8260 PowerQUICC II Data Error Protection Implementation	FREESCALE	pdf	195	0	6/15/2000	-
AN2271	MPC8260 PowerQUICC II Thermal Resistor Guide	FREESCALE	pdf	225	0.0	3/19/2002	
AN2285	Data Movement between Big and Little Endian Devices	FREESCALE	pdf	269	0	5/21/2002	
AN2290	MPC8260 PowerQUICC II Design Checklist	FREESCALE	pdf	447	1.1	1/27/2004	
AN2291	Differences among PowerQUICC II Devices and Revisions	FREESCALE	pdf	366	1.4	9/30/2003	
AN2335	MPC8260 Dual-Bus Architecture and Performance Considerations	FREESCALE	pdf	235	0	10/15/2002	
AN2347	Using an MPC8260 and an MPC7410 with Shared Memory	FREESCALE	pdf	677	0	10/01/2002	
AN2349	MPC8260 Reset and Configuration Word	FREESCALE	pdf	263	1	11/15/2004	

AN2431	PowerQUICC II PCI Example Software	FREESCALE	pdf	375	0	12/20/2002	
AN2431SW	PowerQUICC II PCI Example Software	FREESCALE	zip	726	0	12/20/2002	
AN2491	Simplified Mnemonics for PowerPC Instructions	FREESCALE	pdf	743	0	9/30/2003	
AN2547	Detecting a CPM Overload on the PowerQUICC II	FREESCALE	pdf	254	0	6/30/2003	
AN2547SW	Software Detecting CPM Overload (accompanies AN2547)	FREESCALE	zip	288	0	6/30/2003	-
AN2569	Example Software for PowerQUICC II: IMA Initialization Using Internal or External TC Layer Implementation	FREESCALE	pdf	724	0.1	2/13/2004	
AN2569SW	Example software to accompany application note AN2569	FREESCALE	zip	461	0.1	2/13/2004	-
AN2579	Porting Linux® to the MPC8260ADS	FREESCALE	pdf	323	0.1	1/06/2004	
AN2585	MPC82xx PowerQUICC II Reset: Sources, Effects, and Comments	FREESCALE	pdf	258	0.1	2/26/2004	
AN2586	MPC8260 PowerQUICC II Family Power Distribution Trends	FREESCALE	pdf	524	0	1/13/2004	
AN2587	Software Migration from the NPe495H/L to PowerQUICC II	FREESCALE	pdf	644	0.1	1/28/2004	
AN2638	Effects of Clock Jitter on the MPC8260 (HiP3 and HiP4)	FREESCALE	pdf	474	0	12/12/2003	
AN2810	PowerQUICC UPM Configuration Application Note	FREESCALE	zip	597	0	11/22/2004	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260AEC	MPC8260A HiP4 Family Hardware Specifications	FREESCALE	pdf	662	0.9	8/15/2003	

Errata - **Click here for important errata information**

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260CE	MPC8260 PowerQUICC II Family Device Errata	FREESCALE	pdf	691	4.6	11/16/2004	

Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260FACT	MPC8260 PowerQUICC II Integrated Comm Proc Fam	FREESCALE	pdf	94	10	11/05/2004	
MPC8260MFACT	MPC8260 PowerQUICC II Microcode	FREESCALE	pdf	212	1	3/27/2002	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
TBGAPRESPKG	TBGA Packaging Customer Tutorial	FREESCALE	pdf	1784	0	8/05/2003	-

Product Brief

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260TS	MPC8260 PowerQUICC II Technical Summary	FREESCALE	pdf	254	2.2	11/12/2001	

Product Change Notices

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PCN8499	POWERQUICC (.25UM) HIP4 SPEC CHANGES	FREESCALE	htm	11	0	1/30/2003	-
PCN8663	NEW TRAY FOR 37.5 X 37.5 TBGA PACKAGE	FREESCALE	htm	38	0	3/28/2003	-
PCN9081	37.5 X 37.5 MM TBGA TRAY	FREESCALE	htm	12	0	8/06/2003	-
PCN9322	PQII HIP4 TRANSITION PCI DEVICE	FREESCALE	htm	9	0	10/29/2003	-

Product Numbering Scheme

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
82XXPNS	MPC82xx HiP3/HiP4 Part Numbering Scheme	FREESCALE	jpg	134	2	9/30/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
G2CORERM	G2 Core Reference Manual	FREESCALE	pdf	6720	1	6/27/2003	
MPC60XBUSRM	The Bus Interface for 32-Bit Microprocessors that Implement the PowerPC Architecture	FREESCALE	pdf	3203	0.1	1/14/2004	
MPC8260ESS7UMAD_D	Enhanced SS7 Microcode Specification	FREESCALE	pdf	325	0.1	12/05/2002	-
MPC8260UM	MPC8260 PowerQUICC II Family Reference Manual	FREESCALE	pdf	16672	1	5/29/2003	
MPC8260UMAD	MPC8260 PowerQUICC II Users Manual Errata	FREESCALE	pdf	313	1.2	4/30/2004	
MPCFPE32B	Programming Environments Manual for 32-Bit Implementations of the PowerPC Architecture	FREESCALE	pdf	7549	2	12/21/2001	

MPCFPE32BAD	Errata to MPCFPE32B, Programming Environments Manual for 32-Bit Implementations of the Power PC Architecture, Rev. 2	FREESCALE	pdf	40	0	10/11/2002	

Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
SG1007	Network and Communications Processors Selector Guide	FREESCALE	pdf	189	0	1/01/2005	
SG2000CR	Application Selector Guide Index and Cross-Reference.	FREESCALE	pdf	139	5	7/01/2004	
SG2112	LAN to WAN Bridge Router	FREESCALE	pdf	128	1	1/01/2004	
SG2113	OSI Layer 2 and Layer 3 Router	FREESCALE	pdf	125	1	1/01/2005	
SG2127	Multiservice Digital Subscriber Line Access Multiplexer (DSLAM)	FREESCALE	pdf	117	3	6/17/2003	
SG2128	ATM Internetworking Multiplexer	FREESCALE	pdf	124	1	1/01/2005	

White Paper

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC826XSDRAMWP	Timing Considerations when Interfacing the PowerQUICC II to SDRAM	FREESCALE	pdf	288	0.1	3/09/2004	

Return to Top

MPC8266 Design Tools

Hardware Tools

Analyzers

Logic

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
TLA715/TLA721	TLA700 Logic Analyzers The TLA700 Logic Analyzers have the performance to capture and display the fastest signals and gives you instant insight into the digital and analog behavior of your system so you can quickly find those elusive signal integrity problems	TEKTRONIX	-	-	-	-

Board Testers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
SCANPLUS	ScanPlus	CORELIS	-	-	-	-
4000-994020-001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWH-PTP-JTAG-HX	PowerTAP Pro JTAG Hardware Only	METROWERKS	-	-	-	
CWH-WTP-JTAG-YX	WireTAP JTAG Hardware Only	METROWERKS	-	-	-	-
BDI1000/BDI2000	BDI1000/BDI2000 Abatron develops and produces high-quality, high-speed BDM and JTAG Debug Tools (BDI Family) for software development environments from leading vendors.	ABATRON	-	-	-	-
10200A	NetICE-R option 2/2M	CORELIS	-	-	-	-
4000-994020--001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-
IC30000	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	ISYS	-	-	-	-
WBDM8XX	Wiggler for 5xx/8xx BDM The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the BDM port of the target system.	MACRAIGOR	-	-	-	-

WNPJ-COP	Wiggler for COP The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the COP port of the target system.	MACRAIGOR	-	-	-	-
GUARDIAN-SE	Guardian-SE JTAG debug tools for PowerPC development	TOOLSMITHS	-	-	-	-
VISIONICE	visionICE II	WINDRIV	-	-	-	-
VISIONPROBE	visionPROBE II	WINDRIV	-	-	-	-
WPICE	WIND®POWER ICE	WINDRIV	-	-	-	-

Evaluation/Development Boards and Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADS_ECOM	MPC8260ADS Daughter Card for Telephony Applications (E1)	FREESCALE	-	-	-	
MPC8260ADS_TCOM	MPC8260ADS Daughter Card for Telephony Applications (T1)	FREESCALE	-	-	-	
MPC8266ADS_PCIAI	MPC8266 Application Development System (Add-In Card)	FREESCALE	-	-	-	
PQ2FADS_ZU	MPC82xx Family Application Development System	FREESCALE	-	-	-	
EP8280M-H-10	EP82xxM EP82xxM is a PMC/stand alone single board computer using the 8280/70/66/65/50. PMC PCI, two 10/100 Ethernet, RS232 provided. Direct access to the 82xx IO allows OEMs to create solutions quickly. Linux, VxWorks and INTEGRITY are available.	EMDPLAN	-	-	-	-
STK8260	STK8260 Starterkit STK82xx with TQ Minimodule, MPC8260 / 300 MHz, 32 MB Flash, 64 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 32 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-

STK8265	STK8265 Starterkit STK82xx with TQ Minimodule, MPC8265 / 300 MHz, 32 MB Flash, 0 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 16 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
SBCPQII	SBCPowerQUICCII	WINDRIV	-	-	-	-

Models

BSDL

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260BSDL3	PowerQUICC II BSDL (HiP3) (05/06/2002)	FREESCALE	zip	9	1	-
MPC8260BSDL4	PowerQUICC II BSDL (HiP4) (03/15/2004)	FREESCALE	zip	10	1.1	-

Bus Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8266BFM01	MPC8266 SWIFT Model - Solaris: HiP4A, Bus Function Model (02/28/2002)	FREESCALE	tar	46760	1	-

Full Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8266FFM01	MPC8266 SWIFT Model - Solaris: HiP4A, Full Function Model (02/28/2002)	FREESCALE	tar	50388	1	-
EP100	PowerPC Bus Slave	EUREKA	-	-	-	-
EP201	PowerPC Bus Master	EUREKA	-	-	-	-
EP300	PowerPC Bus Arbiter	EUREKA	-	-	-	-
EP433	PowerPC-PCI Bridge	EUREKA	-	-	-	-
ES100	PowerPC System Controller	EUREKA	-	-	-	-

IBIS

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXIBIS	PowerQUICC II Family IBIS Models This package contains the IBIS models for the PowerQUICC II family of communications processors. HiP3 and HiP4 processes. Local and PCI bus configurations. 480 TBGA and 516 PBGA packages. (10/30/2003)	FREESCALE	zip	81	2.7	-

Timing Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PQIIGPCMTIME	GPCM Timing Generator (05/29/2003)	FREESCALE	exe	176	1	-

Software

Application Software

Calculators

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260CALC1	Power Consumption Calculator for all PowerQUICC II Processors (04/28/2004)	FREESCALE	zip	491	2.1	-
MPC8260CALC2	CPM Performance Calculator for all PowerQUICC II and PowerQUICC III Processors (09/07/2004)	FREESCALE	zip	664	3.1.3	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260COD08	Fast Ethernet on the FCC of the PowerQUICC II (10/13/2003)	FREESCALE	zip	140	2	-
MPC8260COD09	Multichannel Communication Controller of the PowerQUICC II (09/04/2002)	FREESCALE	zip	176	0	-
MPC8260COD11	Example Software for the PowerQUICC II Family: FEC Frames Using PHYless MII (08/02/2002)	FREESCALE	zip	614	0	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MC05	RAM Microcode Patches for PowerQUICC II Family Device Errata (09/28/2004)	FREESCALE	zip	330	4.2.3	-
MPC8260MC11	PowerQUICC II AAL2 Microcode (for all revs) (11/19/2004)	FREESCALE	zip	616	4.0	-
MPC8264MC01	Inverse-Multiplexing for ATM (IMA) Microcode (for all revs) (02/03/2004)	FREESCALE	zip	283	1.2	-

DG02010101	MultiRing MultiRing is a utility that separates frames of different protocols into different buffer descriptor rings (rather than a single ring). The utility supports predefined protocols such as TCP, ICMP. The user can specify additional protocols.	DOGAV	-	-	-	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
FREE	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	METROWERKS	-	-	-	-
ARA-MOT-82XX-FREE	Arabella MPC82XX Free Reference Design This free Linux BSP provides a complete Linux distribution and application ready to be used on the PQ2FADS-ZU/VR and MPC8260/8266ADS Boards. Source code and Linux tools are provided to immediately get started working with a Linux syste	ARABELLA	-	-	-	-
ARC-MOT-MQXBSP	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	ARC	-	-	-	-
EP BSP	EP BSP Embedded Planet Board Support Packages provide complete software drivers for MPC 8xx and 82xx processors for Linux, VxWorks and INTEGRITY. Embedded Planet can also develop customer specific software for many operating systems.	EMDPLAN	-	-	-	-

EP8280M VDK 10	EP82xxM VxWorks BSP VxWorks Board Support Packages contain prebuilt RAM and ROM kernel images and documentation that describes installing and running the BSP. See online matrix for supported peripherals.	EMDPLAN	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8264DRV01	MPC8264 PowerQUICC II API (drivers, examples, and documentation) Includes support for IMA, AAL5, Internal TC layer and the external TCOM board for Multiple T1s (03/07/2003)	FREESCALE	zip	14125	1.3	-
MPC8266DRV01	PowerQUICC II PCI Driver For use with the MPC8266 Application Development System and Metrowerks CodeWarrior	FREESCALE	zip	3492	0	-
PCS	PlanetCore PlanetCore provides a complete set of firmware device drivers for 8xx and 82xx Motorola processors. These drivers include an application / RTOS boot loader, flash burner and diagnostics. customer specific drivers can also be developed.	EMDPLAN	-	-	-	-

Libraries

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PN311-1	KwikPeg GUI KADAK's KwikPeg Graphical User Interface (GUI) is derived from PEG, a professional, high-quality graphic system created by Swell Software, Inc. to enable you, the embedded system developer, to easily add graphics to your products.	KADAK	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARA-MOT-82XX	Arabella Linux for Motorola 82xx Processors Arabella Linux for Motorola 82xx processors is a full, commercial Linux distribution for the 82xx family of processors. It includes support for many of the on chip peripherals including Security, ATM, PCI, USB, PCMCIA, I2C and others.	ARABELLA	-	-	-	-
ARC-MOT-MFS	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	ARC	-	-	-	-
ARC-MOT-MQX	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	ARC	-	-	-	-
ARC-MOT-OSCHANGER	ARC-OS Changer Provides developers the freedom to migrate from either pSOSystem or VxWorks to MQX RTOS while reusing an existing code base	ARC	-	-	-	-
CMX-RTX	CMX-RTX	CMX	-	-	-	-
CMX00300	CMX TCP/IP CMX TCP/IP is a full-featured and fast TCP/IP stack that allows designers to offer networking connectivity for their embedded applications. CMX TCP/IP offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00300A	TCP/IP DHCP Client The CMX TCP/IP DHCP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300B	TCP/IP DHCP Server The CMX TCP/IP DHCP Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300C	TCP/IP FTP C/S The CMX TCP/IP FTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the File Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300D	TCP/IP IMAP4 The CMX TCP/IP IMAP4 Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality for the Internet Message Access Protocol Version 4 standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300E	TCP/IP NAT The CMX TCP/IP NAT Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to add Network Address Translation function to a network application. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300F	TCP/IP POP3 The CMX TCP/IP POP3 Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Post Office Protocol Client standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300G	TCP/IP PPP The CMX TCP/IP PPP Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol serial or modem connectivity standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00300H	TCP/IP PPPoE The CMX TCP/IP PPPoE Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol over Ethernet standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300I	TCP/IP SMTP The CMX TCP/IP SMTP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Mail Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300J	TCP/IP SNMP The CMX TCP/IP SNMP V1 and V2c Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Network Management Protocol standard. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300K	TCP/IP Telnet The CMX TCP/IP Telnet Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Telnet Server standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300L	TCP/IP TFTP The CMX TCP/IP TFTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Trivial File Transfer Protocol Client/Server standard. Source code example for fast start up.	CMX	-	-	-	-
CMX00300M	TCP/IP Web Client The CMX TCP/IP Web Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Client/Server standard. Source code example provided.	CMX	-	-	-	-
CMX00300N	TCP/IP Web Server The CMX TCP/IP Web Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Server standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00630	CMX-FFS CMX-FFS is a very small, standard Flash File System that allows designers to offer file system functionality for their embedded applications. CMX-FFS offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00631	CMX-FFS-NAND CMX-FFS-NAND is an Add-On Option for CMX- FFS that allows designers to include a NAND driver for their embedded FFS applications. CMX-FFS-NAND offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-

CMX00632	CMX-FFS-FAT CMX-FFS-FAT is a fast file system for embedded developers who wish to add devices to their products that require FAT12/16/32 compliant media. CMX-FFS-FAT offers a low license fee, full source code, no royalties, and free tech support.	CMX	-	-	-	-
CMX00633	CMX-FFS-THIN CMX-FFS-THIN is a file system for embedded device developers with limited resource products that require a FAT12/16/32 compliant media. CMX-FFS-THIN offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
DPP.82XXX.KRN	OSE Real-Time Operating System	ENEA	-	-	-	-
THREADX	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	EXPRESSLOG	-	-	-	-
PX382-1	AMX PPC32 AMX is a full featured RTOS for the PowerPC family. AMX has been tested on the EST SBC8260, Embedded Planet RPX Lite MPC823 and Motorola Ultra 603, MBX860, MPC860 ADS, MPC860 FADS, Lite5200EVB and MPC8560 ADS.	KADAK	-	-	-	-
TDK1	Critical Process Monitoring Technology Development Kit Based on CPM functionality provided with the QNX Momentics development suite, the kit lets you quickly construct custom failure recovery scenarios and design your system to reconnect instantly and transparently to minimize downtime.	QNX	-	-	-	-

TDK2	Extended Networking Technology Development Kit Reduce development time with a suite of advanced networking protocols, pre-integrated and tested with the QNX Neutrino RTOS. This TDK provides a royalty-free solution to get you up and running quickly with the newest networking protocols.	QNX	-	-	-	-
TDK3	Flash File System and Embedding Technology Development Kit Deploy resilient flash file systems using your choice of NOR, NAND and ETFS. The TDK provides access to these formats and offers a suite of BSPs, drivers and other components to accelerate the integration of flash into your embedded system	QNX	-	-	-	-
TDK4	MOST (Media-Oriented Systems Transport) Technology Development Kit Enhance the performance and reliability of your in-vehicle multimedia applications using this TDK. With the kit, you can quickly develop customized NetServices, audio, and IP networking features for deployment over the high-speed MOST bus.	QNX	-	-	-	-
TDK5	Multimedia Technology Development Kit Add high-performance multimedia features to embedded devices using a convenient multimedia framework, with reusable media handling components to build customized media playback and recording applications using standard components.	QNX	-	-	-	-
TDK6	Symmetric Multiprocessing Technology Development Kit Leverage greater scalability, system density and performance using symmetric multiprocessing (SMP) in compute-intensive systems, such as network elements, encryption/decryption, transportation, high-end medical imaging, and storage.	QNX	-	-	-	-

TDK7	3D Graphics Technology Development Kit Create sophisticated 3D displays with minimal impact on CPU performance. The TDK lets you implement rich visual content presentation for small screen formats and optimize the available screen real estate with advanced features.	QNX	-	-	-	-
TDK8	WEB BROWSER TECHNOLOGY DEVELOPMENT KIT Design advanced web browsing and mobile internet applications for small footprint devices. Ideal for high performance embedded devices in environments with limited memory and CPU resources.	QNX	-	-	-	-
V6.3	QNX Neutrino Realtime Operating System A true microkernel OS, the QNX Neutrino RTOS offers advanced memory protection, distributed processing, symmetric multiprocessing, POSIX APIs, a dynamically upgradable architecture, and industry- leading realtime performance.	QNX	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-HTTP	HTTP Web Server The HTTP (Hyper text Transfer Protocol) consists of source code and development tools for building an embedded HTTP server. This is a HTTP 1.0/1.1 compliant Web server with CGI-style user exit support and optional file system support.	ARC	-	-	-	-

ARC-MOT-HTTPPRO	HTTP PRO HTTP 1.0/1.1 compliant Web server w/ CGI- style user exit sppt, opt'al file system sppt, PageBuilder Web-to-C compiler addit'al compression features, Internat'al language sppt, server-side mapping, HTTP streaming & digest authentication.	ARC	-	-	-	-
ARC-MOT-IPSHIELD	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	ARC	-	-	-	-
ARC-MOT-NETWORKPROTOCOLS	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al prototocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	ARC	-	-	-	-
ARC-MOT-POP3	POP3 Enables client embedded devices to receive e-mail from any POP3 server	ARC	-	-	-	-
ARC-MOT-RTCS	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	ARC	-	-	-	-

ARC-MOT-SMTP	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	ARC	-	-	-	-
RSTP	AvniRSTP Avnisoft's AvniRSTP is a completely portable ANSI C compliant implementation of the IEEE 802.1w RSTP Algorithm and Protocol. It includes the AvniPORT platform abstraction layer to simplify integration with target platforms.	AVNISOFT	-	-	-	-
TARGETTCP	TCP/IP Stack TargetTCP, is a fast, reliable, re-entrant, full-featured TCP/IP protocol stack designed specifically for high-performance embedded networking. The code has a small footprint and is well suited to memory constrained environments.	BLUNK	-	-	-	-
CMX TCP/IP	CMX TCP/IP	CMX	-	-	-	-
IPLITE	IPLITE IPLITE is a dual-mode IPv4/v6 host stack, optimized for minimum footprint and maximum performance, with a number of PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
IPNET	IPNET IPNET is a full-featured dual-mode IPv4/v6 router stack with built-in IPSec, Virtual Routing, QoS, VLAN Tagging, as well as PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-

PN713-1	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	KADAK	-	-	-	-
INFOLINK-STACKNAME	INFOLink Protocol Software Family	LINK	-	-	-	-
MOC_SSL_CLIENT	Mocana Embedded SSL/TLS Client MOCANA SSL/TLS CLIENT: Supports Freescale chipsets out of the box. Small (50KB), fast (2-3x faster than OpenSSL), trusted. Supports all major cryptos. Royalty free, source code license. FREE EVAL: http://www.mocana.com/evaluate.html	MOCANA	-	-	-	-
PSQ40XXXX	RTXC Quadnet Networking Protocols Full protocol suite: TCP, UDP, SLIP, ICMP, and ARP with Berkeley Sockets API. Plus DHCP, BOOTP, DNS, IGMP v2, RIP v2, NAT, HTTP, SMTP, POP3, TFTP, FTP, Telnet, SNMP v1,2,3, PPP and more. New security protocols: SSL, IPsec, IKE.	QUADROS	-	-	-	-

Software Tools

Code Translation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PA68K-PPC	PortAsm/68K for PowerPC	MICROAPL	-	-	-	-
PA86-PPC	PortAsm/86 for PowerPC	MICROAPL	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-COMPILER	MetaWare C/C++ Compiler Tool Suite Optimized compiler for Motorola processors	ARC	-	-	-	-
COMPILER	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	GREENHILLS	-	-	-	-
DIAB	Diab C/C++ Compiler	WINDRIV	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-DEBUGGER	MetaWare SeeCode Debugger C/C++ Debugger	ARC	-	-	-	-
LA-7729	TRACE32-ICD TRACE32-ICD for PowerQUICC II is a high performance JTAG debugger for C ,C++ and JAVA. A USB 2.x, LPT or ethernet interface is available for connection to any PC or workstation. A flash programming utility is included.	LAUBACH	-	-	-	-

IDE (Integrated Development Environment)

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWS-PPC-CMWFL-CX	CodeWarrior Development Studio for PPC ISA Comms Edition Metrowerks CodeWarrior Development Studio, PowerPC ISA Edition for Communication Processors is a complete integrated development environment for PowerPC ISA hardware bring-up through embedded applications.	METROWERKS	-	-	-	-
CWS-PPC-LINWH-CX	CodeWarrior™ Development Studio, Embedded Linux Edition for PowerPC Architectures	METROWERKS	-	-	-	
CWS-PPC-LLAPP-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Application Edition	METROWERKS	-	-	-	
IC-SW-OPR	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	ISYS	-	-	-	-
V6.3	QNX Momentics Development Suite Accelerate your entire development cycle, from board bring-up to remote diagnostics. Comprehensive, yet tightly integrated, QNX Momentics provides all the tools you need to build and optimize applications for the QNX Neutrino RTOS.	QNX	-	-	-	-
WIND RIVER WORKBENCH	Wind River Workbench Wind River Workbench is an open, standards-based device software development environment for Linux applications providing a deep tools capability in each phase of the development process.	WINDRIV	-	-	-	-
WPIDE	WIND®POWER IDE	WINDRIV	-	-	-	-

Initialization/Boot Code Generation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXCPMMUXIBCG	Parallel Ports Configuration Tool (Pin Mux Tool) (03/18/2004)	FREESCALE	zip	895	4.0.1	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MWCTESTHWICPKG	CodeTEST Software Analysis Tools, HWIC License package	METROWERKS	-	-	-	-

Return to Top

Applications

Networking

SOHO

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway

Access

- ATM Interworking Multiplexer
- Media Gateway with IP and ATM Interworking
- Remote Access Server
- Wireless Basestation Transceiver

Edge

- ATM Switch Line Card

Core

SONET Multiplexer

Applications

LAN-to-WAN Bridge Router
OSI Layer 2 and Layer 3 Router
Regional Office Router
Wireless Gateway
ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver
ATM Switch Line Card
SONET Multiplexer

Wireless

Wireless Infrastructure Applications

Wireless Basestation Transceiver

Wireless Basestation Transceiver

Return to Top

Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/ Qualification Tier	Status	Budgetary Price QTY 1000+ ($US)	Info	Order
KMPC8266AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	Buy from Distributor
KMPC8266AZUPJDC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8266AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	Buy from Distributor

NOTE:

- Not all orderable parts are offered through our online sampling program. For further assistance in selecting a similar part from within the program, please submit a Request for a sample order advice.
- Refer to Samples FAQ for more information.
- Looking for an obsolete part? Check our distributors' inventory

Return to Top

Related Products

- MC33702 : MICROPROCESSOR POWER SUPPLY (3.0 A)
  The 34702 is a monolithic IC providing an efficient means of obtaining power for the Freescale Semiconductor PowerQUICC TM I and II ...
- MPC9850 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9850 is a PLL based clock generator specifically designed for Freescale Microprocessor And Microcontroller applications including the PowerQUICC III. ...
- MPC9855 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9855 is a PLL based clock generator specifically designed for Freescale Microprocessor and Microcontroller applications including the PowerPC and ...

Return to Top

Related Links

- Industrial Control
- Networking
- Wireless

Return to Top

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MPC8260 : PowerQUICC II" Integrated Communications Processor

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The MPC8260 PowerQUICC II™ is an advanced integrated communications processor designed for the telecommunications and networking markets.

The MPC8260 now offers floating point support.

The MPC8260 PowerQUICC II can best be described as the next generation MPC860 PowerQUICC, providing higher performance in all areas of device operation, including greater flexibility, extended capabilities, and higher integration.

Like the MPC860, the MPC8260 integrates two main components, the embedded G2 core and the Communications Processor Module (CPM). This dual-processor architecture consumes less power than traditional architectures because the CPM offloads peripheral tasks from the embedded G2 core. The CPM simultaneously supports three fast serial communications controllers (FCCs), two multichannel controllers (MCCs), four serial communications controllers (SCCs), two serial management controllers (SMCs), one serial peripheral interface (SPI) and one I^2C interface. The combination of the G2 core and the CPM, along with the versatility and performance of the MPC8260, provides customers with enormous potential in developing networking and communications products while significantly reducing time-to-market development stages.

Product Picture
Block Diagram

MPC8260 Features

System core microprocessor supporting frequencies of 133-300 MHz

- 190 MIPS at 100 MHz (Dhrystone 2.1)
- 505 MIPS at 266 MHz (Dhrystone 2.1)
- 570 MIPS at 300 MHz (Dhrystone 2.1)
- High-performance, superscalar microprocessor
- Disable CPU mode
- Supports the Freescale external L2 cache chip (MPC2605)
- Improved low-power core
- 16 Kbyte data and 16 Kbyte instruction cache, four-way set associative
- Memory Management Unit
- Floating point unit enabled
- Common on-chip processor (COP)
- System Integration Unit (SIU)
    - Memory Controller, including two dedicated SDRAM machines
    - PCI up to 66 MHz (available in subsequent versions)
    - Hardware bus monitor and software watchdog timer
    - IEEE 1149.1 JTAG test access port
- High-Performance Communications Processor Module (CPM) with operating frequency up to 133, 166, or 200 MHz
    - G2 core and CPM may run at different frequencies
    - Parallel I/0 Registers
    - On-board 32 KBytes of dual-port RAM
    - Two multi-channel controllers (MCCs) each supporting 128 full-duplex, 64 Kbps, HDLC lines
    - Virtual DMA Functionality
- Three FCCs supporting:
    - Up to 155 Mbps ATM SAR (maximum of two) (AAL0, AAL1, AAL2, AAL5)
    - 10/100 Mbps Ethernet (up to three) (IEEE 802.3X with Flow Control)
    - 45 Mbps HDLC/Transparent (up to three)
- Two bus architectures: one 64-bit 60x bus and one 32-bit PCI or local bus
- Two UTOPIA level-2 master/slave ports, both with multi-PHY support.
- Three MII Interfaces
- Eight TDM interfaces (T1/E1), two TDM ports can be glueless to T3/E3
- 1.8V or 2.0V internal and 3.3V I/O
- 300 MHz power consumption: 2.5 W
- 480 TBGA package (37.5 mm x 37.5 mm)

MPC8260 Derivatives

	8250	8255	8260	8264	8265	8266
Serial Communications Controllers (SCCs)	4	4	4	4	4	4
Fast Communication Controllers (FCCs)	3	2	3	3	3	3
I-Cache (Kbyte)	16	16	16	16	16	16
D-Cache (Kbyte)	16	16	16	16	16	16
Ethernet (10T)	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4	Up to 4
Ethernet (10/100)	Up to 3	Up to 2	Up to 3	Up to 3	Up to 3	Up to 3
UTOPIA II Ports	0	2	2	2	2	2
Multi-Channel HDLC	Up to 128	Up to 128	Up to 256	Up to 256	Up to 256	Up to 256
PCI Interface	Yes	--	--	--	Yes	Yes
IMA Functionality	--	--	--	Yes	--	Yes

PowerQUICC II Masks and Versions

Process	Family	Revision	Qualification	Mask	PVR	IMMR_[16-31][1]	Rev_Num[2]
0.29 µm (HiP3)	MPC8260	A.1	XC	0K26N	0x00810101	0x0011	0x0001
		B.3	XC	3K23A	0x00810101	0x0023	0x003B
		C.2	XC	6K23A, 7K23A	0x00810101	0x0024	0x007B
0.25 µm (HiP4)		A.0	XC	2K25A	0x80811014	0x0060	0x000D
		B.1	MC	4K25A	0x80811014	0x0062	0x002D
		C.0	MC	5K25A	0x80811014	0x0064	0x002D
0.13 µm (HiP7)	MPC8280	0.0	—	0K49M	0x80822011	0x0A00	0x0070
		0.1	MC	1K49M	0x80822013	0x0A01	0x0070
		A.0	MC	2K49M	0x80822014	0x0A10	0x0071
	MPC8272	0.0	PC	0K50M	0x80822013	0x0C00[3] 0x0D00[4]	0x00E0

		A.0	MC	1K50M	0x80822014	0x0C10 **3** 0x0D10 **4**	0x00E1

Notes:
1. The IMMR[16-31] indicates the mask number.
2. The Rev_Num located at offset 0x8AF0 in DPRAM indicates the CPM microcode revision number.
3 . Encryption Enabled.
4 . Encryption Disabled.

Masks and versions table last updated on 14OCT2004.

Return to Top

Sample Availability	CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	CPM Operation Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I/O Operating Voltage (Max) (V)
Y	294.5, 315.4, 380, 442.7, 505.4, 570	155, 166, 200, 233, 266, 300	133, 166, 200, 208	1.7, 2.2, 2.3, 2.5, 3, 3.3, 3.48, 3.5	2.2, 2.8, 3, 3.2, 3.3, 3.6, 3.8, 3.83	1.8, 1.9, 2	3.3

Ambient Operating Temperature (Min) (oC)	Junction Operating Temperature (Max) (oC)	Integrated Memory Controller	L1 Cache Instructional (Max) (Byte)	L1 Cache Data (Max) (Byte)	Internal Dual-Port RAM (Byte)	DMA Controller Channels	Bus Interface
-40, 0	105	EDO, EPROM, FLASH, SDRAM, SRAM	16000	16000	32000	30	60x, Local

Serial Interface Type	Timers Channels	Other Peripherals	Network Application Function	Package Description
I2C, MII, SPI, TDM, UTOPIA	4	DMA Controller	Integrated Control/Data Plane	TBGA 480 37*37*1.7P1.27

Return to Top

MPC8260 Parametrics

MPC8260 Documentation

Documentation

Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
AN2754 UPDATED	CPM Architecture and Downloading RAM Microcodes on the PowerQUICC II Family	FREESCALE	zip	210	1	1/06/2005	-
AN2059	CPM Hints	FREESCALE	pdf	206	0.1	12/05/2003	
AN2070	MPC8260 PowerQUICC II Data Error Protection Implementation	FREESCALE	pdf	195	0	6/15/2000	-
AN2129	Instruction and Data Cache Locking on the G2 Processor Core	FREESCALE	pdf	323	0	4/26/1999	
AN2130	MPC8260 ADS Revision Changes From ENG Board To PILOT Revision Board	FREESCALE	pdf	181	0	10/19/1999	-
AN2131	MPC8260 ADS - Revising Code Designed for the ENG Board to Also Run on the PILOT Board	FREESCALE	pdf	215	1	12/08/1999	-
AN2162	Comparing the MSC8101 and MPC8260	FREESCALE	pdf	680	0	12/19/2001	
AN2165	MPC8260 SDRAM Support	FREESCALE	pdf	310	0.2	9/18/2003	

AN2176	MPC8260 GPCM Timing Diagram	FREESCALE	pdf	406	1	8/01/2001	
AN2177	MPC8260 IDMA Timing Diagram	FREESCALE	pdf	341	1	8/01/2001	
AN2178	MPC8260 SDRAM Timing Diagram	FREESCALE	pdf	346	1	8/01/2001	-
AN2179	MPC8260 UPM Timing Diagram	FREESCALE	pdf	283	1	8/01/2001	
AN2246	MPC8260 60x Bus Timing Diagram	FREESCALE	pdf	288	1	8/01/2001	-
AN2271	MPC8260 PowerQUICC II Thermal Resistor Guide	FREESCALE	pdf	225	0.0	3/19/2002	
AN2290	MPC8260 PowerQUICC II Design Checklist	FREESCALE	pdf	447	1.1	1/27/2004	
AN2291	Differences among PowerQUICC II Devices and Revisions	FREESCALE	pdf	366	1.4	9/30/2003	
AN2335	MPC8260 Dual-Bus Architecture and Performance Considerations	FREESCALE	pdf	235	0	10/15/2002	
AN2347	Using an MPC8260 and an MPC7410 with Shared Memory	FREESCALE	pdf	677	0	10/01/2002	
AN2349	MPC8260 Reset and Configuration Word	FREESCALE	pdf	263	1	11/15/2004	
AN2430	MPC8260 PowerQUICC II IDMA Functionality	FREESCALE	pdf	353	2	12/20/2002	
AN2430SW	MPC8260 PowerQUICC II IDMA Functionality Software	FREESCALE	zip	183	2	1/09/2003	
AN2450	Initializing Flash Memory for the MPC8260ADS	FREESCALE	pdf	306	0	2/14/2003	
AN2491	Simplified Mnemonics for PowerPC Instructions	FREESCALE	pdf	743	0	9/30/2003	
AN2547	Detecting a CPM Overload on the PowerQUICC II	FREESCALE	pdf	254	0	6/30/2003	
AN2547SW	Software Detecting CPM Overload (accompanies AN2547)	FREESCALE	zip	288	0	6/30/2003	-
AN2579	Porting Linux® to the MPC8260ADS	FREESCALE	pdf	323	0.1	1/06/2004	
AN2585	MPC82xx PowerQUICC II Reset: Sources, Effects, and Comments	FREESCALE	pdf	258	0.1	2/26/2004	
AN2586	MPC8260 PowerQUICC II Family Power Distribution Trends	FREESCALE	pdf	524	0	1/13/2004	

AN2587	Software Migration from the NPe495H/L to PowerQUICC II	FREESCALE	pdf	644	0.1	1/28/2004	
AN2638	Effects of Clock Jitter on the MPC8260 (HiP3 and HiP4)	FREESCALE	pdf	474	0	12/12/2003	
AN2810	PowerQUICC UPM Configuration Application Note	FREESCALE	zip	597	0	11/22/2004	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260AEC	MPC8260A HiP4 Family Hardware Specifications	FREESCALE	pdf	662	0.9	8/15/2003	
MPC8260EC	MPC8260 HiP3 Hardware Specifications	FREESCALE	pdf	741	1.2	8/15/2003	

Errata - Click here for important errata information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260CE	MPC8260 PowerQUICC II Family Device Errata	FREESCALE	pdf	691	4.6	11/16/2004	

Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260FACT	MPC8260 PowerQUICC II Integrated Comm Proc Fam	FREESCALE	pdf	94	10	11/05/2004	
MPC8260MFACT	MPC8260 PowerQUICC II Microcode	FREESCALE	pdf	212	1	3/27/2002	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260MECH1	MPC8260 Package Mechanical Specifications-Part 1	FREESCALE	pdf	138	0	8/06/2001	-
MPC8260MECH2	MPC8260 Package Mechanical Specifications-Part II	FREESCALE	pdf	95	0	8/06/2001	-
MPC8260PINOUT	MPC8260 Pinout	FREESCALE	txt	9	0.8	9/02/2002	-
MPC8260THERM	MPC8260 Thermal Management of Motorola's PowerQUICC II	FREESCALE	pdf	124	0	7/31/1998	-
PBGAPRES	PBGA Packaging Customer Tutorial	FREESCALE	pdf	1923	1	8/05/2003	-
TBGAPRESPKG	TBGA Packaging Customer Tutorial	FREESCALE	pdf	1784	0	8/05/2003	-

Product Brief

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MPC8260TS	MPC8260 PowerQUICC II Technical Summary	FREESCALE	pdf	254	2.2	11/12/2001	

Product Change Notices

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PCN8499	POWERQUICC (.25UM) HIP4 SPEC CHANGES	FREESCALE	htm	11	0	1/30/2003	-
PCN8663	NEW TRAY FOR 37.5 X 37.5 TBGA PACKAGE	FREESCALE	htm	38	0	3/28/2003	-
PCN9081	37.5 X 37.5 MM TBGA TRAY	FREESCALE	htm	12	0	8/06/2003	-
PCN9321	POWERQUICC II HIP 4 TRANSITION	FREESCALE	htm	8	0	10/29/2003	-

Product Numbering Scheme

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
82XXPNS	MPC82xx HiP3/HiP4 Part Numbering Scheme	FREESCALE	jpg	134	2	9/30/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
G2CORERM	G2 Core Reference Manual	FREESCALE	pdf	6720	1	6/27/2003	
MPC60XBUSRM	The Bus Interface for 32-Bit Microprocessors that Implement the PowerPC Architecture	FREESCALE	pdf	3203	0.1	1/14/2004	
MPC8260ESS7UMAD_D	Enhanced SS7 Microcode Specification	FREESCALE	pdf	325	0.1	12/05/2002	-
MPC8260UM	MPC8260 PowerQUICC II Family Reference Manual	FREESCALE	pdf	16672	1	5/29/2003	
MPC8260UMAD	MPC8260 PowerQUICC II Users Manual Errata	FREESCALE	pdf	313	1.2	4/30/2004	
MPCFPE32B	Programming Environments Manual for 32-Bit Implementations of the PowerPC Architecture	FREESCALE	pdf	7549	2	12/21/2001	
MPCFPE32BAD	Errata to MPCFPE32B, Programming Environments Manual for 32-Bit Implementations of the Power PC Architecture, Rev. 2	FREESCALE	pdf	40	0	10/11/2002	

Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
SG1007	Network and Communications Processors Selector Guide	FREESCALE	pdf	189	0	1/01/2005	
SG2000CR	Application Selector Guide Index and Cross-Reference.	FREESCALE	pdf	139	5	7/01/2004	
SG2101	Regional Office Router	FREESCALE	pdf	123	4	1/01/2005	
SG2112	LAN to WAN Bridge Router	FREESCALE	pdf	128	1	1/01/2004	
SG2113	OSI Layer 2 and Layer 3 Router	FREESCALE	pdf	125	1	1/01/2005	

SG2118	Remote Access Server	FREESCALE	pdf	135	1	1/01/2005	
SG2120	Universal Access Gateway	FREESCALE	pdf	126	2	1/01/2005	
SG2121	Wireless Base Transceiver Station: Baseband Processing	FREESCALE	pdf	147	1	1/01/2005	
SG2126_D	MEDIA GATEWAY WITH IP AND ATM INTERWORKING	FREESCALE	pdf	221	2	1/01/2005	
SG2127	Multiservice Digital Subscriber Line Access Multiplexer (DSLAM)	FREESCALE	pdf	117	3	6/17/2003	
SG2128	ATM Internetworking Multiplexer	FREESCALE	pdf	124	1	1/01/2005	

Training Reference Material

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
PQII_TRAIN	MPC8260 PowerQUICC II" Training Materials	FREESCALE	html	4	1	4/01/1999	-

White Paper

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
MCM69C233WP	MPC8260 PowerQUICC II to CAM Interfacing - MCM69C233	FREESCALE	pdf	303	2	1/16/2003	-
MCM69C433WP	MPC8260 PowerQUICC II to CAM Interfacing - MCM69C433	FREESCALE	pdf	303	2	1/16/2003	-
MPC826XSDRAMWP	Timing Considerations when Interfacing the PowerQUICC II to SDRAM	FREESCALE	pdf	288	0.1	3/09/2004	

Return to Top

MPC8260 Reference Designs

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
RDMPC8260RTR	MPC8260 SOHO/ROBO Router Reference Design	FREESCALE	-	-	-	-
RDSPT8101	Smart Packet Telephony Reference Design	FREESCALE	-	-	-	-

Return to Top

MPC8260 Design Tools

Hardware Tools

Analyzers

Logic

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
TLA715/TLA721	TLA700 Logic Analyzers The TLA700 Logic Analyzers have the performance to capture and display the fastest signals and gives you instant insight into the digital and analog behavior of your system so you can quickly find those elusive signal integrity problems	TEKTRONIX	-	-	-	-

Board Testers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
SCANPLUS	ScanPlus	CORELIS	-	-	-	-
4000-994020-001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWH-PTP-JTAG-HX	PowerTAP Pro JTAG Hardware Only	METROWERKS	-	-	-	
CWH-WTP-JTAG-YX	WireTAP JTAG Hardware Only	METROWERKS	-	-	-	-
BDI1000/BDI2000	BDI1000/BDI2000 Abatron develops and produces high-quality, high-speed BDM and JTAG Debug Tools (BDI Family) for software development environments from leading vendors.	ABATRON	-	-	-	-
10200A	NetICE-R option 2/2M	CORELIS	-	-	-	-
4000-994020--001	µMaster 4031 Functional Test and Debug Solutions for boards carrying Motorola™ and IBM® PowerPC™ processors with COP debug port (740, 750, 750DD2, 750DD3, 755, 603e, 8240, 8250A, 8255A, 8260A, 8264A, 8265A, 8266A, 7400, 7410, etc.)	INTLTEST	-	-	-	-
IC30000	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	ISYS	-	-	-	-
WBDM8XX	Wiggler for 5xx/8xx BDM The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the BDM port of the target system.	MACRAIGOR	-	-	-	-
WNPJ-COP	Wiggler for COP The Wiggler is a low-cost, parallel port interface used for debugging embedded systems. One side of the Wiggler interfaces to the parallel port of a Windows host PC and the other side connects to the COP port of the target system.	MACRAIGOR	-	-	-	-
GUARDIAN-SE	Guardian-SE JTAG debug tools for PowerPC development	TOOLSMITHS	-	-	-	-
VISIONICE	visionICE II	WINDRIV	-	-	-	-
VISIONPROBE	visionPROBE II	WINDRIV	-	-	-	-
WPICE	WIND®POWER ICE	WINDRIV	-	-	-	-

Evaluation/Development Boards and Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADS_ECOM	MPC8260ADS Daughter Card for Telephony Applications (E1)	FREESCALE	-	-	-	
MPC8260ADS_TCOM	MPC8260ADS Daughter Card for Telephony Applications (T1)	FREESCALE	-	-	-	
PQ2FADS_ZU	MPC82xx Family Application Development System	FREESCALE	-	-	-	
EP8260-H2-13	EP8260 EP8260 is small form factor single board computer using the 8255, 8260, 8264. Processor and Local SDRAM provided. Direct access to the 82xx processor allows OEMs to create solutions quickly. Linux, VxWorks and INTEGRITY are available.	EMDPLAN	-	-	-	-
STK8260	STK8260 Starterkit STK82xx with TQ Minimodule, MPC8260 / 300 MHz, 32 MB Flash, 64 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 32 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
STK8265	STK8265 Starterkit STK82xx with TQ Minimodule, MPC8265 / 300 MHz, 32 MB Flash, 0 MB SDRAM (local Bus), 128 MB SDRAM (60x Bus), no L2-Cache, 16 kB EEPROM, 2* RS232 Interface, DC/DC Converter, 60x bus mode, 240 Pin Board to Board Connector	TQCOMPONEN	-	-	-	-
SBCPQII	SBCPowerQUICCII	WINDRIV	-	-	-	-

Models

BSDL

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260BSDL3	PowerQUICC II BSDL (HiP3) (05/06/2002)	FREESCALE	zip	9	1	-
MPC8260BSDL4	PowerQUICC II BSDL (HiP4) (03/15/2004)	FREESCALE	zip	10	1.1	-

Bus Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260BFM00	MPC8260 SWIFT Models Read Me Please use with all MPC8260 SWIFT models for both Solaris and NT. (10/26/2001)	FREESCALE	pdf	12	0	-
MPC8260BFM01	MPC8260 SWIFT Model - Solaris: Rev. B.0 Bus Function Model (10/26/2001)	FREESCALE	tar	43977	0	-
MPC8260BFM02	MPC8260 SWIFT Model - Solaris: Rev. C.2 Bus Function Model (06/19/2002)	FREESCALE	tar	43675	V01.001	-
MPC8260BFM03	MPC8260 SWIFT Model - Solaris: HiP4 A.0 Bus Function Model (05/28/2002)	FREESCALE	tar	46768	V01.001	-
MPC8260BFM04	MPC8260 SWIFT Model - Windows NT: Rev. B.0 Bus Function Model (10/26/2001)	FREESCALE	tar	25020	0	-
MPC8260BFM05	MPC8260 SWIFT Model - Windows NT: Rev. C.2 Bus Function Model (10/26/2001)	FREESCALE	tar	25060	0	-
MPC8260BFM06	MPC8260 SWIFT Model - Windows NT: HiP4 A.0 Bus Function Model (10/26/2001)	FREESCALE	tar	27050	0	-

Full Functional Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260FFM00	MPC8260 SWIFT Models Read Me Please use with all MPC8260 SWIFT models for both Solaris and NT. (10/26/2001)	FREESCALE	pdf	12	0	-
MPC8260FFM01	MPC8260 SWIFT Model - Solaris: Rev. B.0 Full Function Model (10/26/2001)	FREESCALE	tar	47650	0	-
MPC8260FFM02	MPC8260 SWIFT Model - Solaris: Rev. C.2 Full Function Model (06/19/2002)	FREESCALE	tar	47384	V01.001	-
MPC8260FFM03	MPC8260 SWIFT Model - Solaris: HiP4 A.0 Full Function Model (05/28/2002)	FREESCALE	tar	50387	V01.001	-

MPC8260FFM04	MPC8260 SWIFT Model - Windows NT: Rev. B.0 Full Function Model (10/26/2001)	FREESCALE	tar	27560	0	-
MPC8260FFM05	MPC8260 SWIFT Model - Windows NT: Rev. C.2 Full Function Model (10/26/2001)	FREESCALE	tar	27480	0	-
MPC8260FFM06	MPC8260 SWIFT Model - Windows NT: HiP4 A.0 Full Function Model (10/26/2001)	FREESCALE	tar	29490	0	-
EP100	PowerPC Bus Slave	EUREKA	-	-	-	-
EP201	PowerPC Bus Master	EUREKA	-	-	-	-
EP300	PowerPC Bus Arbiter	EUREKA	-	-	-	-
EP433	PowerPC-PCI Bridge	EUREKA	-	-	-	-
ES100	PowerPC System Controller	EUREKA	-	-	-	-

IBIS

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXIBIS	PowerQUICC II Family IBIS Models This package contains the IBIS models for the PowerQUICC II family of communications processors. HiP3 and HiP4 processes. Local and PCI bus configurations. 480 TBGA and 516 PBGA packages. (10/30/2003)	FREESCALE	zip	81	2.7	-

Timing Models

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260TIME1	TimingDesigner File Set for MPC8260 (HiP3 & HiP4) (06/27/2002)	FREESCALE	zip	679	1.0	-
PQIIGPCMTIME	GPCM Timing Generator (05/29/2003)	FREESCALE	exe	176	1	-

Schematics

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MSVADSSCH1	MPC8260-MSVADS Reference Design Schematics OrCAD Capture 7.1+ (05/16/2001)	FREESCALE	zip	620	-	-

Software

Application Software

Calculators

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260CALC1	Power Consumption Calculator for all PowerQUICC II Processors (04/28/2004)	FREESCALE	zip	491	2.1	-
MPC8260CALC2	CPM Performance Calculator for all PowerQUICC II and PowerQUICC III Processors (09/07/2004)	FREESCALE	zip	664	3.1.3	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260ADSCOD01	FCC ATM Example (Works with ENG and PILOT revs of MPC8260ADS) (11/22/99)	FREESCALE	zip	1004	-	-
MPC8260ADSCOD03	INIT Example (works with ENG and PILOT revs of MPC8260ADS) (01/25/00)	FREESCALE	zip	1062	-	-
MPC8260ADSCOD04	Example HDLC for FCC1 (for both ENG and PILOT revs of MPC8260ADS) (11/24/99)	FREESCALE	zip	147	-	-
MPC8260ADSCOD05	Ethernet Example (Runs on both ENG and PILOT revs of MPC8260ADS) (11/22/1999)	FREESCALE	zip	274	-	-
MPC8260ADSCOD06	Example HDLC for SCC1 (Runs on both ENG and PILOT revs of MPC8260ADS) (11/24/1999)	FREESCALE	zip	178	-	-

MPC8260ADSCOD07	Example Transparent for SCC1 (Runs on both ENG and PILOT revs of MPC8260ADS) (11/24/1999)	FREESCALE	zip	310	-	-
MPC8260COD01	IDMA Functionality - Description and Software Example (09/15/00)	FREESCALE	zip	167	-	-
MPC8260COD02	MPC8260 I2C Software Example (11/16/99)	FREESCALE	zip	132	-	-
MPC8260COD04	MPC8260 Example Transparent Mode Software for FCC1 (11/24/1999)	FREESCALE	zip	163	-	-
MPC8260COD05	Software Example Inter-Operating Multiple TDMs and SCCs (12/01/1999)	FREESCALE	zip	130	-	-
MPC8260COD06	Memory Controller Init. Script for 8260-TCOM DS3 Interfaces (04/05/1999)	FREESCALE	ini	2	-	-
MPC8260COD07	Memory Controller Init. Script for MPC8260-TCOM T1 Interfaces (04/05/1999)	FREESCALE	ini	1	-	-
MPC8260COD08	Fast Ethernet on the FCC of the PowerQUICC II (10/13/2003)	FREESCALE	zip	140	2	-
MPC8260COD09	Multichannel Communication Controller of the PowerQUICC II (09/04/2002)	FREESCALE	zip	176	0	-
MPC8260COD10	Benchmarking MPC826X Programs Includes Dhrystone MIPS test (11/16/99)	FREESCALE	zip	50	-	-
MPC8260COD11	Example Software for the PowerQUICC II Family: FEC Frames Using PHYless MII (08/02/2002)	FREESCALE	zip	614	0	-
MPC8260VADSCOD1	Example Software (Modular) for the MPC8260: Available Bit Rate (12/07/2001)	FREESCALE	zip	442	-	-
MPC8260VADSCOD2	Example Software (Modular) for the MPC8260: Unspecified Bit Rate (12/07/2001)	FREESCALE	zip	690	-	-
MPC8260VADSCOD3	Example Software (Modular) for the MPC8260: Variable Bit Rate (12/07/2001)	FREESCALE	zip	371	-	-
MPC8260VADSCOD4	Example Software for the MPC8260: Performance Monitoring of ATM VP/VC (12/07/2001)	FREESCALE	zip	568	-	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260MC05	RAM Microcode Patches for PowerQUICC II Family Device Errata (09/28/2004)	FREESCALE	zip	330	4.2.3	-
MPC8260MC10	PowerQUICC II SS7 Microcode (for all revs) (07/20/2004)	FREESCALE	zip	604	0.4	-
MPC8260MC11	PowerQUICC II AAL2 Microcode (for all revs) (11/19/2004)	FREESCALE	zip	616	4.0	-
DG02010101	MultiRing MultiRing is a utility that separates frames of different protocols into different buffer descriptor rings (rather than a single ring). The utility supports predefined protocols such as TCP, ICMP. The user can specify additional protocols.	DOGAV	-	-	-	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
FREE	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	METROWERKS	-	-	-	-
ARC-MOT-MQXBSP	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	ARC	-	-	-	-
EP 8260 VDK 1.3	EP 8260 VxWorks BSP VxWorks Board Support Packages contain prebuilt RAM and ROM kernel images and documentation that describes installing and running the BSP. See online matrix for supported peripherals.	EMDPLAN	-	-	-	-

EP BSP	EP BSP Embedded Planet Board Support Packages provide complete software drivers for MPC 8xx and 82xx processors for Linux, VxWorks and INTEGRITY. Embedded Planet can also develop customer specific software for many operating systems.	EMDPLAN	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC8260API	PowerQUICC II API (Drivers and Examples) Includes support for PCI, AAL2, AAL5, MSP, and more (10/03/2002)	FREESCALE	zip	15785	4.0.2	-
MPC8260DRV1	Parallel I/O Port Drivers API written in C (10/08/99)	FREESCALE	zip	47	-	-
MPC8260DRV3	MPC8260 SS7 Driver Code Example Using the SS7 Microcode Release, Rev. A.1 (06/01/2001)	FREESCALE	zip	135	-	-
MPC8260DRV4	MPC8260 SS7 Driver Code Example Using the SS7 Microcode Release, Rev. B.3 (06/01/2001)	FREESCALE	zip	133	-	-
PCS	PlanetCore PlanetCore provides a complete set of firmware device drivers for 8xx and 82xx Motorola processors. These drivers include an application / RTOS boot loader, flash burner and diagnostics. customer specific drivers can also be developed.	EMDPLAN	-	-	-	-

Libraries

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PN311-1	KwikPeg GUI KADAK's KwikPeg Graphical User Interface (GUI) is derived from PEG, a professional, high-quality graphic system created by Swell Software, Inc. to enable you, the embedded system developer, to easily add graphics to your products.	KADAK	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARA-MOT-82XX	Arabella Linux for Motorola 82xx Processors Arabella Linux for Motorola 82xx processors is a full, commercial Linux distribution for the 82xx family of processors. It includes support for many of the on chip peripherals including Security, ATM, PCI, USB, PCMCIA, I2C and others.	ARABELLA	-	-	-	-
ARC-MOT-MFS	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	ARC	-	-	-	-
ARC-MOT-MQX	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	ARC	-	-	-	-
ARC-MOT-OSCHANGER	ARC-OS Changer Provides developers the freedom to migrate from either pSOSystem or VxWorks to MQX RTOS while reusing an existing code base	ARC	-	-	-	-
CMX00300	CMX TCP/IP CMX TCP/IP is a full-featured and fast TCP/IP stack that allows designers to offer networking connectivity for their embedded applications. CMX TCP/IP offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00300A	TCP/IP DHCP Client The CMX TCP/IP DHCP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300B	TCP/IP DHCP Server The CMX TCP/IP DHCP Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Dynamic Host Configuration Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300C	TCP/IP FTP C/S The CMX TCP/IP FTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the File Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300D	TCP/IP IMAP4 The CMX TCP/IP IMAP4 Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality for the Internet Message Access Protocol Version 4 standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300E	TCP/IP NAT The CMX TCP/IP NAT Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to add Network Address Translation function to a network application. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300F	TCP/IP POP3 The CMX TCP/IP POP3 Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Post Office Protocol Client standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300G	TCP/IP PPP The CMX TCP/IP PPP Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol serial or modem connectivity standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00300H	TCP/IP PPPoE The CMX TCP/IP PPPoE Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Point to Point Protocol over Ethernet standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300I	TCP/IP SMTP The CMX TCP/IP SMTP Client Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Mail Transfer Protocol standard. A source code example is provided for fast design start up.	CMX	-	-	-	-

CMX00300J	TCP/IP SNMP The CMX TCP/IP SNMP V1 and V2c Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Simple Network Management Protocol standard. Source code example provided for fast design start up.	CMX	-	-	-	-
CMX00300K	TCP/IP Telnet The CMX TCP/IP Telnet Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Telnet Server standard. A source code example is provided for fast design start up.	CMX	-	-	-	-
CMX00300L	TCP/IP TFTP The CMX TCP/IP TFTP Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Trivial File Transfer Protocol Client/Server standard. Source code example for fast start up.	CMX	-	-	-	-
CMX00300M	TCP/IP Web Client The CMX TCP/IP Web Client/Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Client/Server standard. Source code example provided.	CMX	-	-	-	-
CMX00300N	TCP/IP Web Server The CMX TCP/IP Web Server Add-On Option provides CMX TCP/IP (see CMX00300, CMX00305, or CMX00310) with functionality to support the Hyper Text Transfer Protocol (HTTP) Web Server standard. Source code example provided for fast start up.	CMX	-	-	-	-
CMX00630	CMX-FFS CMX-FFS is a very small, standard Flash File System that allows designers to offer file system functionality for their embedded applications. CMX-FFS offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
CMX00631	CMX-FFS-NAND CMX-FFS-NAND is an Add-On Option for CMX- FFS that allows designers to include a NAND driver for their embedded FFS applications. CMX-FFS-NAND offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-

CMX00632	CMX-FFS-FAT CMX-FFS-FAT is a fast file system for embedded developers who wish to add devices to their products that require FAT12/16/32 compliant media. CMX-FFS-FAT offers a low license fee, full source code, no royalties, and free tech support.	CMX	-	-	-	-
CMX00633	CMX-FFS-THIN CMX-FFS-THIN is a file system for embedded device developers with limited resource products that require a FAT12/16/32 compliant media. CMX-FFS-THIN offers a low licensing fee, full source code, no royalties, and free technical support.	CMX	-	-	-	-
DPP.82XXX.KRN	OSE Real-Time Operating System	ENEA	-	-	-	-
THREADX	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	EXPRESSLOG	-	-	-	-
CHRONOS	RTOS	INTNICHE	-	-	-	-
JAL100	Jaluna-1	JALUNA	-	-	-	-
JAL200	Jaluna-2	JALUNA	-	-	-	-
PX382-1	AMX PPC32 AMX is a full featured RTOS for the PowerPC family. AMX has been tested on the EST SBC8260, Embedded Planet RPX Lite MPC823 and Motorola Ultra 603, MBX860, MPC860 ADS, MPC860 FADS, Lite5200EVB and MPC8560 ADS.	KADAK	-	-	-	-
TDK1	Critical Process Monitoring Technology Development Kit Based on CPM functionality provided with the QNX Momentics development suite, the kit lets you quickly construct custom failure recovery scenarios and design your system to reconnect instantly and transparently to minimize downtime.	QNX	-	-	-	-
TDK2	Extended Networking Technology Development Kit Reduce development time with a suite of advanced networking protocols, pre- integrated and tested with the QNX Neutrino RTOS. This TDK provides a royalty-free solution to get you up and running quickly with the newest networking protocols.	QNX	-	-	-	-

TDK3	Flash File System and Embedding Technology Development Kit Deploy resilient flash file systems using your choice of NOR, NAND and ETFS. The TDK provides access to these formats and offers a suite of BSPs, drivers and other components to accelerate the integration of flash into your embedded system	QNX	-	-	-	-
TDK4	MOST (Media-Oriented Systems Transport) Technology Development Kit Enhance the performance and reliability of your in-vehicle multimedia applications using this TDK. With the kit, you can quickly develop customized NetServices, audio, and IP networking features for deployment over the high-speed MOST bus.	QNX	-	-	-	-
TDK5	Multimedia Technology Development Kit Add high-performance multimedia features to embedded devices using a convenient multimedia framework, with reusable media handling components to build customized media playback and recording applications using standard components.	QNX	-	-	-	-
TDK6	Symmetric Multiprocessing Technology Development Kit Leverage greater scalability, system density and performance using symmetric multiprocessing (SMP) in compute-intensive systems, such as network elements, encryption/decryption, transportation, high- end medical imaging, and storage.	QNX	-	-	-	-
TDK7	3D Graphics Technology Development Kit Create sophisticated 3D displays with minimal impact on CPU performance. The TDK lets you implement rich visual content presentation for small screen formats and optimize the available screen real estate with advanced features.	QNX	-	-	-	-
TDK8	WEB BROWSER TECHNOLOGY DEVELOPMENT KIT Design advanced web browsing and mobile internet applications for small footprint devices. Ideal for high performance embedded devices in environments with limited memory and CPU resources.	QNX	-	-	-	-
V6.3	QNX Neutrino Realtime Operating System A true microkernel OS, the QNX Neutrino RTOS offers advanced memory protection, distributed processing, symmetric multiprocessing, POSIX APIs, a dynamically upgradable architecture, and industry- leading realtime performance.	QNX	-	-	-	-

PSD10XXXX	RTXC Quadros RTOS Innovative RTXC Quadros RTOS has two major modules (Single Stack kernel and Multi- Stack kernel) that are used in combination to uniquely support DSPs, microcontrollers and multiprocessing environments with a common API.	QUADROS	-	-	-	-
VXWORKS 5.X	VxWorks VxWorks, the run-time component of TORNADOII for VxWorks, is the most widely adopted real-time operating system (RTOS) in the embedded industry, with a reputation for performance, flexibility, compatibility and scalability.	WINDRIV	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
NUCLEUS NET	Nucleus NET Nucleus NET, Accelerated Technology's TCP/IP protocol stack, is the foundation for the rest of our networking products. Nucleus NET includes all of the essential protocols necessary to connect your product to the Internet.	ACCTECH	-	-	-	-
NUCLEUS WEBSERV	Nucleus WebServ An embedded web (HTTP) server that enables your device to be remotely monitored, configured and more using the ubiquitous web browser interface. Serve up static web pages or dynamically create them in response to web browsers requests.	ACCTECH	-	-	-	-
ARC-MOT-HTTP	HTTP Web Server The HTTP (Hyper text Transfer Protocol) consists of source code and development tools for building an embedded HTTP server. This is a HTTP 1.0/1.1 compliant Web server with CGI-style user exit support and optional file system support.	ARC	-	-	-	-
ARC-MOT-HTTPPRO	HTTP PRO HTTP 1.0/1.1 compliant Web server w/ CGI-style user exit sppt, opt'al file system sppt, PageBuilder Web-to-C compiler addit'al compression features, Internat'al language sppt, server-side mapping, HTTP streaming & digest authentication.	ARC	-	-	-	-

ARC-MOT-IPSHIELD	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	ARC	-	-	-	-
ARC-MOT-NETWORKPROTOCOLS	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al prototocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	ARC	-	-	-	-
ARC-MOT-POP3	POP3 Enables client embedded devices to receive e-mail from any POP3 server	ARC	-	-	-	-
ARC-MOT-RTCS	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	ARC	-	-	-	-
ARC-MOT-SMTP	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	ARC	-	-	-	-
RSTP	AvniRSTP Avnisoft's AvniRSTP is a completely portable ANSI C compliant implementation of the IEEE 802.1w RSTP Algorithm and Protocol. It includes the AvniPORT platform abstraction layer to simplify integration with target platforms.	AVNISOFT	-	-	-	-
TARGETTCP	TCP/IP Stack TargetTCP, is a fast, reliable, re-entrant, full-featured TCP/IP protocol stack designed specifically for high-performance embedded networking. The code has a small footprint and is well suited to memory constrained environments.	BLUNK	-	-	-	-

IPLITE	IPLITE IPLITE is a dual-mode IPv4/v6 host stack, optimized for minimum footprint and maximum performance, with a number of PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
IPNET	IPNET IPNET is a full-featured dual-mode IPv4/v6 router stack with built-in IPSec, Virtual Routing, QoS, VLAN Tagging, as well as PowerQUICC II/III optimizations. Available for leading RTOSs like INTEGRITY, Linux, OSE, VxWorks, etc.	INTERPEAK	-	-	-	-
INTERNICHE NAT ROUTER	NAT Firewall	INTNICHE	-	-	-	-
INTERNICHE PPP OPTIONS	PPP, PPPoE, Multi-Link PPP	INTNICHE	-	-	-	-
NICHESTACK	TCP/IP v4	INTNICHE	-	-	-	-
NICHESTACK SSL LIBRARY	Secure Sockets Layer	INTNICHE	-	-	-	-
WEBPORT HTTP SERVER	Embedded web server	INTNICHE	-	-	-	-
PN713-1	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	KADAK	-	-	-	-
INFOLINK-STACKNAME	INFOLink Protocol Software Family	LINK	-	-	-	-
MOC_SSL_CLIENT	Mocana Embedded SSL/TLS Client MOCANA SSL/TLS CLIENT: Supports Freescale chipsets out of the box. Small (50KB), fast (2-3x faster than OpenSSL), trusted. Supports all major cryptos. Royalty free, source code license. FREE EVAL: http://www.mocana.com/evaluate.html	MOCANA	-	-	-	-
PSQ40XXXX	RTXC Quadnet Networking Protocols Full protocol suite: TCP, UDP, SLIP, ICMP, and ARP with Berkeley Sockets API. Plus DHCP, BOOTP, DNS, IGMP v2, RIP v2, NAT, HTTP, SMTP, POP3, TFTP, FTP, Telnet, SNMP v1,2,3, PPP and more. New security protocols: SSL, IPsec, IKE.	QUADROS	-	-	-	-

Software Tools

Code Translation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
PA68K-PPC	PortAsm/68K for PowerPC	MICROAPL	-	-	-	-
PA86-PPC	PortAsm/86 for PowerPC	MICROAPL	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-COMPILER	MetaWare C/C++ Compiler Tool Suite Optimized compiler for Motorola processors	ARC	-	-	-	-
COMPILER	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	GREENHILLS	-	-	-	-
DIAB	Diab C/C++ Compiler	WINDRIV	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
ARC-MOT-DEBUGGER	MetaWare SeeCode Debugger C/C++ Debugger	ARC	-	-	-	-
LA-7729	TRACE32-ICD TRACE32-ICD for PowerQUICC II is a high performance JTAG debugger for C ,C++ and JAVA. A USB 2.x, LPT or ethernet interface is available for connection to any PC or workstation. A flash programming utility is included.	LAUBACH	-	-	-	-

IDE (Integrated Development Environment)

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
CWS-PPC-CMWFL-CX	CodeWarrior Development Studio for PPC ISA Comms Edition Metrowerks CodeWarrior Development Studio, PowerPC ISA Edition for Communication Processors is a complete integrated development environment for PowerPC ISA hardware bring-up through embedded applications.	METROWERKS	-	-	-	-
CWS-PPC-LINWH-CX	CodeWarrior™ Development Studio, Embedded Linux Edition for PowerPC Architectures	METROWERKS	-	-	-	
CWS-PPC-LLAPP-CX	CodeWarrior™ Development Studio for PowerPC ISA, Linux Application Edition	METROWERKS	-	-	-	
IC-SW-OPR	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	ISYS	-	-	-	-
V6.3	QNX Momentics Development Suite Accelerate your entire development cycle, from board bring-up to remote diagnostics. Comprehensive, yet tightly integrated, QNX Momentics provides all the tools you need to build and optimize applications for the QNX Neutrino RTOS.	QNX	-	-	-	-
WIND RIVER WORKBENCH	Wind River Workbench Wind River Workbench is an open, standards-based device software development environment for Linux applications providing a deep tools capability in each phase of the development process.	WINDRIV	-	-	-	-
WPIDE	WIND®POWER IDE	WINDRIV	-	-	-	-

Initialization/Boot Code Generation

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MPC82XXCPMMUXIBCG	Parallel Ports Configuration Tool (Pin Mux Tool) (03/18/2004)	FREESCALE	zip	895	4.0.1	-
MPC82XXLBCUPMIBCG	UPM Tool for PowerQUICC II Processors (12/11/2003)	FREESCALE	zip	137	2.2.1	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
MWCTESTHWICPKG	CodeTEST Software Analysis Tools, HWIC License package	METROWERKS	-	-	-	-
MWCTESTHWICVX	CodeTEST RTOS Support CD for Vx Works	METROWERKS	-	-	-	-

Return to Top

Applications

Networking

SOHO

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway

Access

- 2.5G/3G Wireless BSC Network Interface
- ATM Interworking Multiplexer
- Media Gateway with IP and ATM Interworking
- Remote Access Server
- Wireless Basestation Transceiver
- Enterprise Media Gateway

Edge

- ATM Switch Line Card

Core

- SONET Multiplexer

Applications

- LAN-to-WAN Bridge Router
- OSI Layer 2 and Layer 3 Router
- Regional Office Router
- Wireless Gateway
- 2.5G/3G Wireless BSC Network Interface

ATM Interworking Multiplexer
Media Gateway with IP and ATM Interworking
Remote Access Server
Wireless Basestation Transceiver
Enterprise Media Gateway
ATM Switch Line Card
SONET Multiplexer

Wireless

Wireless Infrastructure Applications

Wireless Basestation Transceiver

Wireless Basestation Transceiver

Return to Top

Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/ Qualification Tier	Status	Budgetary Price QTY 1000+ ($US)	Info	Order
KMPC8260ACZUMIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8260AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KMPC8260AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KXPC8260CZUIHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
KXPC8260ZUIHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8260ACZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8260ACZUMIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor

MPC8260AZUMHBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
MPC8260AZUPIBB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor
MPC8260AZUPJDB	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Order Sample Buy from Distributor
MPC8260SW-EAAL2	-	No	No	-	Available	-	more	-
MPC8260SW-ESS7	-	No	No	-	Available	-	more	-
MPC8260SW-FDS	-	No	No	-	Available	-	more	-
MPC8260SW-MSP	-	No	No	-	Available	-	more	-
XPC8260ACZUKHBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8260ACZUMHBA	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	-
XPC8260ACZUMIBA	TBGA 480 37*37*1.7P1.27	No	No	-	No Longer Manufactured	-	more	-
XPC8260AZUKHBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8260AZUMHBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8260AZUMIBA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8260AZUPJDA	TBGA 480 37*37*1.7P1.27	No	No	-	Not Recommended for New Design	-	more	-
XPC8260CZUHFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor

XPC8260CZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8260CZUIHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8260ZUHFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8260ZUIFBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor
XPC8260ZUIHBC	TBGA 480 37*37*1.7P1.27	No	No	-	Available	-	more	Buy from Distributor

NOTE:

- Not all orderable parts are offered through our online sampling program. For further assistance in selecting a similar part from within the program, please submit a Request for a sample order advice.
- Refer to Samples FAQ for more information.
- Looking for an obsolete part? Check our distributors' inventory

Return to Top

Related Products

- MC33702 : MICROPROCESSOR POWER SUPPLY (3.0 A)
  The 34702 is a monolithic IC providing an efficient means of obtaining power for the Freescale Semiconductor PowerQUICC TM I and II ...
- MC92460 : Multichannel HDLC Controller Peripheral
  The MC92460 is a 40-channel, high-level data link controller (HDLC) with an aggregate throughput of up to 2 Gbps across ...
- MPC9850 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9850 is a PLL based clock generator specifically designed for Freescale Microprocessor And Microcontroller applications including the PowerQUICC III. ...
- MPC9855 : Clock Generator for PowerPC and PowerQUICC Applications
  The MPC9855 is a PLL based clock generator specifically designed for Freescale Microprocessor and Microcontroller applications including the PowerPC and ...

Return to Top

Related Links

- Industrial Control
- Networking

Wireless

Return to Top

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