CPB904

Fastwel
Creating the Future!

ETX Computer-On-Module
based on AMD Geode™ LX800

Fast Ethernet

+85°C
−40°C
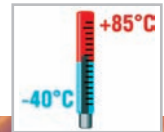
Best solutions
to fit your demands!

- **AMD Geode™ LX800 500 MHz (programmable)**
- **Soldered 256 DDR SDRAM**
- **10/100 Base-T Fast Ethernet controller**
- **LCD and CRT displays support with 2D video accelerator**
- **Soldered flash disk 64 MB**
- **Four USB 2.0 ports, three RS-232 ports**
- **EIDE: ATA-5 (UDMA66)**
- **Reserved BIOS**
- **Operating temperature: −40°C to +85°C**

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ETX Computer-On-Module based on AMD Geode™ LX800

Features

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- Soldered 256 DDR SDRAM
- 10/100 Base-T Fast Ethernet controller
- LCD and CRT displays support with 2D video accelerator
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Overview

CPB904 is a highly integrated ETX form factor Computer-On-Module with low overal power consumption and compact size of 114×95 mm.

Fastwel CPB904 gives customers benefits of access to the full universe of 32-bit x86 software and high design flexibility at extremely low thermal budget.

The board can serve various embedded applications where low power dissipation and high time-to-market are the most important factors.

CPB904 is based on x86 code compatible low power CPU AMD Geode™ LX800 and AMD Geode™ I/O companion chip (CS5536).

The AMD Geode™ LX800 processor operates at maximum power of 3.9 W (TDP) and 1.8 W typically at 500 MHz while highly integrated I/O companion chip AMD CS5536 operates at 2.4 W typically at 500 MHz.

Integrated floating point unit supports Intel® MMX and AMD 3DNow!™ Technology instruction sets.

Dynamic Memory interface supports 64-bit DDR SDRAM and soldered 256 MB memory bank.

CPB904 provides support for high resolution graphical interfaces (simultaneously) for CRT displays up to 1920×1440 and LCD panels up to 1024×768.

Peripheral devices can be connected to CPB904 through 4 high-speed USB 2.0 ports, PS/2 port, 3 COM ports, LPT interface or 17 programmable discrete I/O lines.

Additional reliability of CPB904 is provided by reserved CMOS memory and a set of system monitoring features.

Power management system is compliant with Advanced Power Management v1.1 and ACPI (Normal, Sleep and SaveToRAM modes).

The CPU module requires application specific baseboard with ETX standard defined connectors.

CPB904 operates in industrial temperature range (–40°C to +85°C).

Technical Specifications

System
- CPU AMD Geode™ LX800 processor 500 MHz with 64K L1 instruction cache, 64K L1 data cache and 128K L2 cache
- AMD Geode™ I/O companion chip CS5536
- Soldered 256 MB DDR SDRAM
- Reserved CMOS memory
- Watchdog timer
- MTBF: 200 000 hours

BIOS
- Fastwel™ Flash BIOS (General Software™ Embedded BIOS)

Graphics
- SVGA video controller with 2D video accelerator
- VGA interface for LCD panels support (TFT and DSTN) with resolution up to 1024×768, 18-bit
- Analog display support (CRT) with resolution up to 1920×1440 (85 Hz, 32-bit)

Storage
- One IDE ATA-5/ATAPI interface with support of PIO Mode 0-4, MDMA Mode 0-2, UDMA Mode 0-5 (including UltraDMA100)
- Accepts two HDD or CD-ROM type storage devices with EIDE (Parallel ATA) interface
- Built-in Fastwel™ Flash Disk (with Fastwel file storage system) 64 MB of NAND flash memory

Software Support
- Fastwel DOS™ (MS™ DOS compatible)
- Windows XP® Embedded
- QNX® 4.25, 6.3x
- Linux®
- Windows CE

I/O Interfaces & Expansion
- 10/100 Base-T Fast Ethernet port
- 16-bit ISA (PCI-to-ISA bridge)
- 32-bit PCI 2.2
- Audio ports: Audio Codec AC'97 2.1, Line-In, Line-Out, Mic-In
- Four USB 2.0 ports
- COM1 & COM2: RS-232 (full range of modem signals)
- COM3: RS-232 (only TX and RX signals)
- PS/2 ports for mouse and keyboard
- Parallel port (SPP, EPP and ECP modes) combined with FDD and 17 user programmable discrete I/O lines

Mechanical
- Dimensions: 114×95×14.0 mm (4.5"×3.7"×0.55")
- Weight: 0.1 kg

Power requirements
- 5 V ±5% DC @ 1.0 A (maximum power consumption)

Environmental Conditions
- Operating temperature: –40°C to +85°C
- Storage temperature: –50°C to +95°C
- Humidity: 0% to 80%, noncondensing
- Shock/Vibration: 50G/5G

Compliancy
- ETX 2.5 Specification

List of Deliverables
- CPB904 module
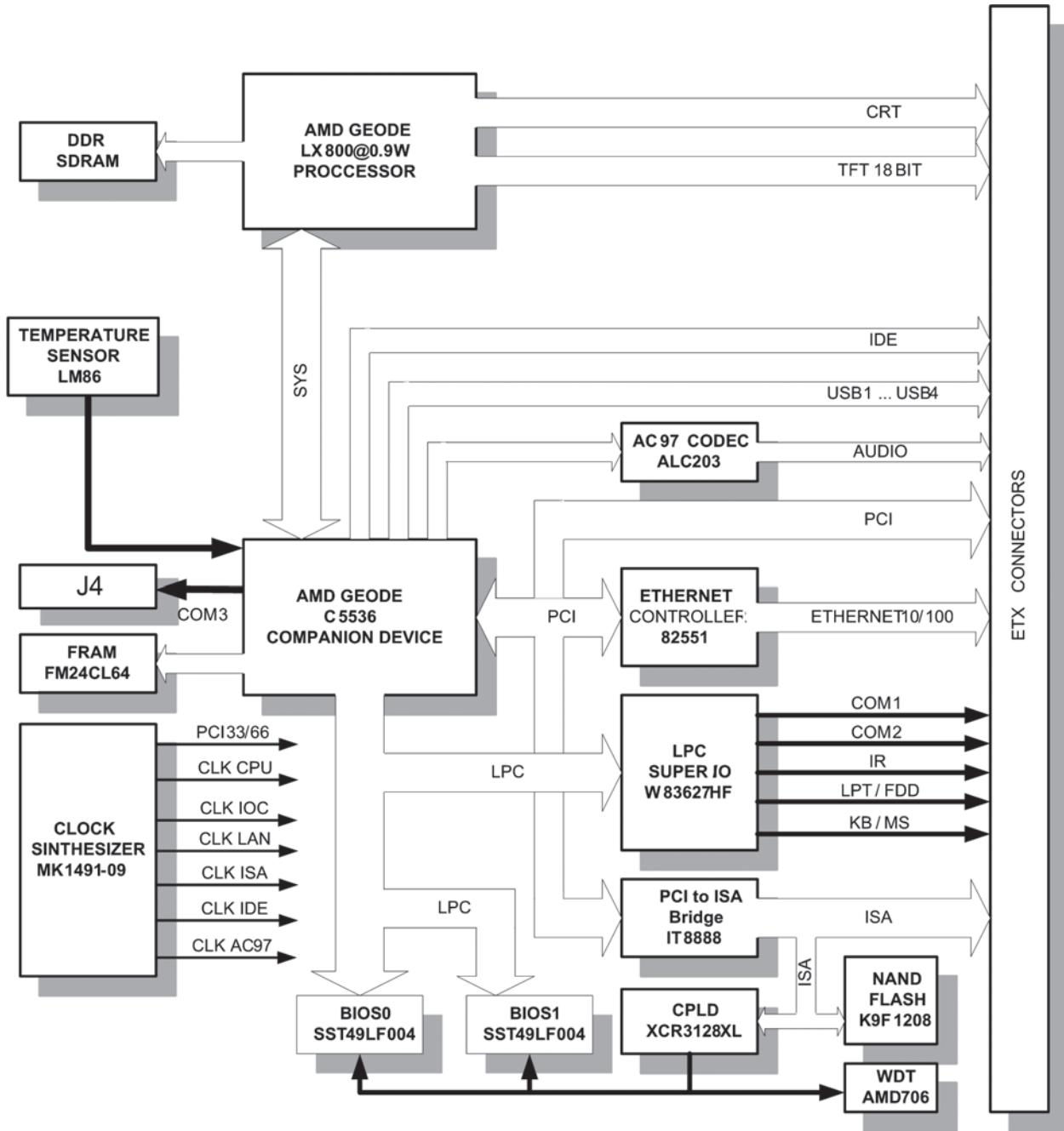- CD with documentation and service SW

Warranty
- 3 years for parts and labor

CPB904
ETX Computer-On-Module based on AMD Geode™ LX800

Board Layout

KIB1282

ATX form-factor compliant carrier board for ETX/XTX computer modules.

Interfaces

VGA, 1×FastEthernet 10/100-BaseT, 2×PCI, 1×ISA (16-bit), 4×USB2.0, IDE UltraATA, CF Type I/II socket with IDE interface, 2×COM232, LPT, FDD, PS/2, Audio line-in/out AC'97 Audio Codec, 2×MIC, IrDA, SMBUS, control&signalling interfaces and LEDs, ATX power supply.

Please read User manual for complete product description.
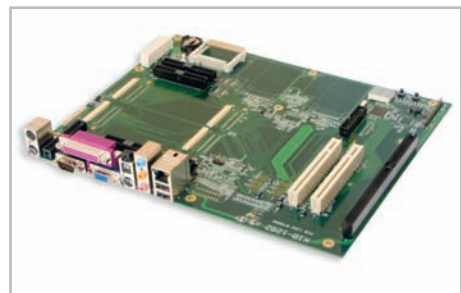
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ETX Computer-On-Module based on AMD Geode™ LX800

Ordering Information

CPB904 Configuration

CPB904 - 05 \Options

Device Type

CPB904-05   ETX, AMD Geode LX800 500 MHz, DRAM 256 MB,NAND Flash 64 MB, EIDE, LPT/ FDD, Ethernet, CRT/ LCD SVGA, AC'97, 3 x RS232, 4 x USB

Options

\xxx   Choose available options from the table

CPB904 Available Options

Coating	
\COATED	Protective Coating
Operating System Presetting	
\FDOS	Fastwel DOS
\XPE	Windows XP Embedded
\QNX	QNX 6.3x, 4.25
\LNX	Linux
\WCE	Windows CE

Other configurations and options are available upon request.

Example

CPB904-05\COATED

ETX, AMD Geode LX800 500 MHz, DRAM 256 MB,NAND Flash 64 MB, EIDE, LPT/FDD, Ethernet, CRT/ LCD SVGA, AC'97, 3 x RS232, 4 x USB

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Product specifications are subject to change without notice

Applications

Mobile

Industrial Automation

Communications

Embedded

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READY FOR

RoHS

CE

TÜV CERT
EN ISO 9001:2000
Zertifikat: 75.100.9545
TÜV Rheinland InterCert

ETX