

AMD Phenom X4 9950 (140W) specifications

General information

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|---------------------------------|---|
| Type | CPU / Microprocessor |
| Market segment | Desktop |
| Family | AMD Phenom X4 |
| Model number ? | 9950 |
| CPU part numbers | HD995ZFAJ4BGH is an OEM/tray microprocessor <ul style="list-style-type: none">HD995ZFAGHBOX is a boxed microprocessor with fan and heatsink |
| Stepping codes | JAAAB AA JAAFBB AA JAAHBB AA |
| Frequency ? | 2600 MHz |
| Bus speed ? | One 2000 MHz 16-bit HyperTransport link (4 GT/s) |
| Clock multiplier ? | 13 |
| Package | 940-pin organic micro-PGA |
| Sockets | Socket AM2 Socket AM2+ |
| Introduction date | Jul 1, 2008 |
| Price at introduction | \$235 |

Architecture / Microarchitecture

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| Microarchitecture | K10 |
| Platform | Cartwheel (mainstream platform with AMD 780G chipset) Spider (performance platform with AMD 790FX/790GX chipsets) |
| Processor core ? | Agena |
| Core stepping ? | DR-B3 |
| CPUID | 100F23 |
| Manufacturing process | 0.065 micron silicon-on-insulator (SOI) technology 450 million transistors |
| Die | 285mm ² |
| Data width | 64 bit |
| The number of CPU cores | 4 |
| The number of threads | 4 |
| Floating Point Unit | Integrated |
| Level 1 cache size ? | 4 x 64 KB 2-way set associative instruction caches 4 x 64 KB 2-way set associative data caches |
| Level 2 cache size ? | 4 x 512 KB 16-way set associative caches |
| Level 3 cache size | 2 MB 32-way set associative shared cache |
| Multiprocessing | Uniprocessor |
| Extensions and Technologies | <ul style="list-style-type: none">MMX instructionsExtensions to MMX3DNow! technologyExtensions to 3DNow!SSE / Streaming SIMD ExtensionsSSE2 / Streaming SIMD Extensions 2SSE3 / Streaming SIMD Extensions 3SSE4a ?AMD64 / AMD 64-bit technology ?EVP / Enhanced Virus Protection ?AMD-V / AMD Virtualization technology |
| Low power features | <ul style="list-style-type: none">Cool'n'Quiet 2.0CoolCore technology ?Independent Dynamic Core Technology ?Dual Dynamic Power Management ?Core C1 and C1E statesPackage S1, S3, S4 and S5 states |

Integrated peripherals / components

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|---------------------|------|
| Integrated graphics | None |
|---------------------|------|

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| Memory controller | The number of controllers: 1 Memory channels: 2 Channel width (bits): 72 Supported memory: DDR2-1066 DIMMs per channel: up to 2 Maximum memory bandwidth (GB/s): 17.1 |
|-------------------|--|

Other peripherals HyperTransport 3.0 technology

Electrical / Thermal parameters

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|---|-----------------|
| V core ? | 1.25V - 1.3V |
| V NorthBridge | 1.3V |
| Maximum operating temperature ? | 55°C - 64°C |
| Thermal Design Power ? | 140 Watt |

Notes on AMD Phenom X4 9950 (140W)

- The processor has unlocked multiplier
- On socket AM2+ platforms in the minimum performance state the processor runs at 1300 MHz / 1.05 Volt core voltage, and has TDP 69.8 Watt
- On socket AM2 platforms in the minimum performance state the processor runs at 1300 MHz / 1.25 - 1.3 Volt core voltage, and has TDP 102.6 Watt