

AMD Phenom II X4 905e specifications

General information

Type	CPU / Microprocessor
Market segment	Desktop
Family	AMD Phenom II X4
Model number ?	905e
CPU part numbers	HD905EOCK4DGI is an OEM/tray microprocessor HD905EOCGIBOX is a boxed microprocessor with fan and heatsink
Stepping codes	AACYC AC CACYC AC
Frequency ?	2500 MHz
Bus speed ?	667 MHz Memory controller One 2000 MHz 16-bit HyperTransport link (4 GT/s)
Clock multiplier ?	12.5
Package	938-pin organic micro-PGA
Sockets	Socket AM2+ Socket AM3
Fan/heatsink	CMDK8-7F52B-A1-GP
Introduction date	Jun 2, 2009
Price at introduction	\$195

Architecture / Microarchitecture

Microarchitecture	K10
Platform	Dragon
Processor core ?	Deneb
Core stepping ?	RB-C2
CPUID	100F42
Manufacturing process	0.045 micron silicon-on-insulator (SOI) technology 758 million transistors
Die	258mm²
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 exclusive caches
Level 3 cache size	Shared 6 MB 48-way set associative cache
Cache latency	3 (L1 cache)
Virtual memory	256 TB
Multiprocessing	Uniprocessor
Extensions and Technologies	MMX instructions Extensions to MMX 3DNow! technology Extensions to 3DNow! SSE / Streaming SIMD Extensions SSE2 / Streaming SIMD Extensions 2 SSE3 / Streaming SIMD Extensions 3 SSE4a ? AMD64 / AMD 64-bit technology ? EVP / Enhanced Virus Protection ? AMD-V / AMD Virtualization technology
Low power features	Cool'n'Quiet 3.0 CoolCore Technology ? Dual Dynamic Power Management ?

Core C1 and C1E states
Package S0, S1, S3, S4 and S5 states

Integrated peripherals / components

Integrated graphics	None
Memory controller	The number of controllers: 1 Memory channels: 2 Channel width (bits): 72 Supported memory: DDR2-1066, DDR3-1333 DIMMs per channel: up to 2 Maximum memory bandwidth (GB/s): 21.3
Other peripherals	HyperTransport 3 technology

Electrical / Thermal parameters

V core ?	1.025V - 1.25V
V NorthBridge	1.05V - 1.1V
Maximum operating temperature ?	55°C - 70°C
Thermal Design Power ?	65 Watt (Socket AM2+/Socket AM3) 69.2 Watt (Socket AM2)

Notes on AMD Phenom II X4 905e

On socket AM2+/AM3 platforms in the minimum performance state the processor runs at 800 MHz / 0.825 - 1.05 Volt core voltage, and has TDP 35.9 Watt

On socket AM2 platforms in the minimum performance state the processor runs at 800 MHz / 1.05 Volt core voltage, and has TDP 47.8 Watt