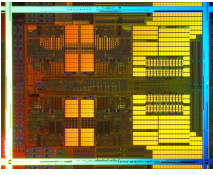


21 November 2008

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AMD 45nm CPU die  
PC Perspective

## [AMD Phenom II Breaks 5GHz](#)

### *To give Intel's Core i7 a run for its money*

It looks like Intel's highly anticipated Core i7 processor, the Nehalem-based consumer CPU that is currently touted as the world's fastest central processing unit, will soon get a run for its money, as Intel's archrival, Sunnyvale-based AMD, will release its second generation desktop processors, the [Shanghai](#)-based Phenom II. According to recent details, the new AMD processing unit will actually be capable of not only competing with Intel's high-end socket 775-ready processors, but also with the much improved Core i7 lineup. Apparently, the Phenom II X4 processors will be capable of reaching a clock speed of 4GHz on air cooling, while with a more extreme cooling solution, which uses dry ice, the new AMD processor will be capable of breaking the 5GHz mark.

The news comes after Advanced Micro Devices demonstrated, on Thursday, one of its upcoming 45nm processors, codenamed [Deneb](#), for reviewers in Austin, Texas. According to reports from [PC&nbsp;Perspective](#) and [Legit Reviews](#), the demoed processor managed to break the 5GHz core speed. In an update to the initial story, PC Perspective notes that, "The Phenom II reached WELL over 5.x GHz (read: REALLY over) at 1.9v on liquid nitrogen (boiling point -321F/-196C at 1 atm). Testing looks to have been done on a Gigabyte 790GX motherboard that is currently available."

The obvious reason for which AMD demoed its upcoming Deneb processor and its overclocking ability is to create the necessary hype around a product that will have to compete with Intel's highest performance desktop processor to date. Although no specific numbers have been made available for publishing, it is clear that AMD's new Phenom II processors will provide a much-needed improvement to the company's first-generation Phenom processors. Speaking of which, the fellows over at Legit Reviews claim to have seen the overclocked processor running on a desktop during gameplay and, according to them, "all of the systems were running Crysis, which doesn't put a heavy load across all four cores, but it does show that it [the system] was stable enough to run a big name title."

Impressive as it might sound, the fact that AMD's first 45nm-based consumer processors can reach and go over the 5GHz clock speed threshold, using an extreme cooling solution, will most likely appeal to computer and overclocking enthusiasts, rather than to everyday users, who will only require a processor that can provide the level of performance required to handle some of the latest 3D applications.

Also, Intel's Core i7 has already been taken to the 5.7 GHz+ mark using a Liquid Nitrogen Cooling solution, so it is clear that both AMD and Intel have developed processors that can overclock to impressive clock speeds. It will be interesting to see a head-to-head competition between the two processors, that is, when AMD releases the [Phenom II in January 2009](#).