



AMD unveils line of energy-aware chips

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Advanced Micro Devices has begun to market a line of energy-efficient desktop processors based on models the chipmaker already sells.

Current AMD desktop chips can consume a maximum 89 watts or more; the energy-efficient desktop chips will consume a maximum 35 to 65 watts.

Chips rarely hit their maximum output in watts, but, typically, a chip with a higher thermal ceiling will consume more energy in ordinary circumstances than a one with a lower thermal rating. In notebooks, this is crucial because it directly impacts battery performance.

More important for desktops, a chip with a lower thermal ceiling can also be smaller and lighter because the manufacturer can reduce the size of heat sinks, fans and other components to eliminate excess heat generated by the processor.

The energy-efficient chips are actually the same as the standard Athlon 64 (for standard desktops), Sempron (the budget model) and Athlon X2 (dual-core) processors AMD already sells. AMD, however, will test them at the factory and those that consume electricity below a certain threshold will be sold as energy-efficient models. Making chips is in a lot of ways like making cookies: they all come from the same dough, but each one is slightly different.

Consequently, the energy-efficient chips will cost slightly more than the standard variety. The energy-efficient dual-core Athlon X2 4800+ desktop chip sells for \$671 in quantities of 1,000. The same chip with standard power consumption sells for \$645. The efficient version of the 4600+ will sell for \$601--\$43 more than the \$558 standard version of the chip. Both the standard and energy-efficient versions of the Athlon X2 come with the company's Cool n' Quiet technology, originally devised for notebooks to curb power consumption by slowing the processor down when workloads slow.

Taking advantage of the above-average performance capabilities of a batch of chips by selling them at a higher price is standard practice in the industry.

The chips will start shipping to computer makers this month and will appear in computers later this year.

