

September 15, 2006

**JEITA Comments on the ENERGY STAR Computer Specification Revision  
Progress Update Proposed Levels for Final Specification**

JEITA International Energy Star Committee

The computer manufacturer members of JEITA have studied the “Final Specification” and have the following comments.

**I. Desktops and Notebooks**

*Dataset Contents and Exclusions*

Comment: The exclusion of 230 VAC measurement data from the calculation of the proposed levels

† The proposed Standby, Sleep Mode, and Idle State power levels are calculated from data that used 100 VAC or 115 VAC as the test condition.

What is the policy for calculating levels with a 230 VAC test condition?

Moreover, how do you plan to coordinate this computer specification revision with Europe, where 230 VAC is the standard voltage? We would appreciate an explanation of these points.

Comment: Margins on power levels

† Sufficient margins should be added to levels calculated statistically from measured power consumption values.

Variance is found in the power consumptions of individual CPUs and other semiconductor components. Furthermore, depending on the semiconductor-component production process, it is possible that some semiconductor components are shipped bordering on the maximum value of the power specification given on data sheets when the production yield is poor.

It is very probable, then, that power consumptions may increase due to circumstances beyond the control of PC vendors. We anticipate it being extremely difficult to ensure

products meet the criteria on volume production lines without seeing a margin in these measured levels because the power consumption is in a region of large efficiency errors (fluctuations) — in the region of 10% or less of the power supply rating in Off and Sleep modes, and in the region of 25% or less of external power or 20% or less of internal power in Idle states.

Therefore, sufficient margins should be given with the requirements when determining power levels for desktops and notebooks. Without these margins either there will be absolutely no products that PC vendors can judge as Energy Star compliant or else products that are qualified will expose vendors to extremely high risks including litigation.

#### *Approach to the Internal Power Supply Requirement*

Comment: Percentage of desktop computers using internal power supplies with 80% or greater efficiency

† The update states: “Of the total 141 desktop data points in EPA’s dataset, 55 (or 39% of) units included power supplies with 80% or greater efficiency.” It is possible, however, to envision PC vendors installing internal power supplies with the same model number on a large number of computers differing only in system configuration. Consequently, the percentage of desktops equipped with internal power supplies with 80% or greater efficiency should be determined from the dataset of unique models (55). Furthermore, the collected data list should give the manufacturer and model number of the internal power supplies.

† The update states: “EPA also understands that 80% efficient power supplies will be available in large, consistent supply from multiple manufacturers when this specification goes into effect.” JEITA continues to hold a different opinion than the EPA on this matter and, as before, opposes efficiency requirements for internal power supplies in Tier 1 for the reasons given in our comments to Draft 3.

For clarification, below are our comments to Draft 3 on this point.

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3) Energy Efficiency and Power Management Criteria

(1) Power Supply Efficiency Requirements

Computer Using an Internal Power Supply.

- When a computer manufacturer develops an internal power supply, it endeavors to use the power supply in many different computer models to reduce its development costs. Manufacturers are able to do this because CB reports are valid for three years. Accordingly, the EPA should give due consideration to this three-year period.
- Introducing efficiency requirements for internal power supplies in Tier 1 of the Eligibility Criteria will mean that, currently, there will be many internal power supplies that fail to meet the requirements. Addressing this issue is complicated by the following problem areas:

(1) Costs will increase dramatically.

(2) Developing internal power supplies that meet these criteria in just one year will require tremendous amounts of labor, requirement acquisition efforts, and development costs.

The EPA should determine the start of the application period after giving due consideration to the circumstances of computer manufacturers.

- JEITA would like to see this problem addressed in either of the following ways:
  - (1) The criteria on internal power supplies become effective in Tier 2, January 1, 2009.
  - (2) If internal power supplies are subject to eligibility criteria starting in Tier 1, we would like the EPA to reconsider the comments on Draft 1 given in “Industry\_Power\_Supply\_Slides.pdf” presented at the February 15, 2006 Computer Stakeholder Meeting in Washington, D.C.

JEITA continues to support the following proposal given in the document above:

Tier 1:

70% minimum efficiency at 20% of rated output

75% minimum efficiency at 50% of rated output

75% minimum efficiency at 100% of rated output

There is no prospect of reaching the 80% target even now more than six months after Draft 1; therefore, this target should be examined in the detailed study period for Tier 2.

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*Desktop and Notebook Low Power Levels*

Comment: Calculation conditions for Standby (Off Mode) and Sleep Mode power levels  
 Since differences in system configurations (CPUs, graphics chips, etc.) have negligible effect on low power levels, the number of models targeted for level calculations must certainly be smaller than used here. Consequently, the EPA should once more confirm with the PC vendors who submitted data the models and power consumption values that are targeted when the objective is to determine low power levels.

*Desktop and Notebook Idle State Levels*

Comment: Computer Idle State power levels should be determined with due regard to functional and performance diversity as well as the number of units shipped to market

† A diverse range of functions and performance levels exist among desktops and notebooks. Under the current proposed levels, many models exist that would not qualify by January 2009 even with the best efforts of PC vendors.

† Some typical models, taken from the EPA’s collected notebook data, that would not qualify are models with Intel’s Celeron M CPU and models equipped with built-in TV tuners.

System Configuration		No. of Models Meeting Idle State Levels	Total No. of Models Surveyed (Record Number from Excel chart)
CPU	TV tuner		
Ultra-Low Voltage	-	5	Total = 5 (27, 47, 48, 68, 98)
Celeron M	Yes	0	Total = 2 (64, 77)
	No	0	Total = 11 (37, 42, 46, 59, 61, 62, 63, 102, 103, 71, 75)
Others	Yes	0	Total = 12 (30, 32, 34, 67, 76, 78, 79, 80, 81, 82, 83, 84)
	No	21	Total = 59
All		26	Total = 89

(1) The Idle State power consumption of Celeron M type CPUs is higher than that of Pentium M CPUs. As a result, not one of the models in the collected dataset can meet the proposed levels. And there is no prospect of meeting these proposed levels by January 2009 even with the best efforts of PC vendors.

It follows, then, that the EPA should create a level category for CPU types lacking a function that lowers the CPU core voltage to reduce the Idle State power consumption.

(2) Display quality (smooth video playback) is a paramount concern for models equipped with TV tuners. These models, then, are not able to make full use of the power-saving functions of the CPU, graphics chip, and other devices. This trend will not change in the foreseeable future because high-definition-quality video playback is becoming commonplace. As a result, not one of the models in the collected dataset can meet the proposed levels. And there is no prospect of meeting these proposed levels by January 2009 even with the best efforts of PC vendors.

Thus, the EPA should create a level category for models equipped with internal TV tuners.

(3) Five of the 26 notebooks in the collected dataset that meet the proposed levels are models with ultra-low-voltage type CPUs. Ultra-low-voltage models are specially designed from the outset to be energy efficient. It is only natural that they easily meet the proposed levels; however, only a small number of these models are shipped to market.

It follows, then, that the EPA should exclude ultra-low-voltage models if it plans to determine Idle State power levels without consideration of the number of units shipped to market.

Comment: Japanese market characteristics should be accounted for when determining Idle State power levels

Many models on the Japanese market use Celeron M type CPUs or feature built-in TV tuners. As stated above, there is no prospect of these models meeting the current proposed levels by January 2009 even with the best efforts of PC vendors.

Consequently, if the EPA intends to define Energy Star as an international standard, we would like the EPA to consider classifications that fully account for the characteristics of the Japanese market.