

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
AIR AND RADIATION

December 5, 2013

Dear Computers Manufacturer or Other Interested Party:

The Environmental Protection Agency (EPA) published the Final Version 6.0 Computers Specification on September 10, 2013 but did not include slate/tablet computing products within its scope. EPA wishes to now engage stakeholders on the expansion of that specification to include these products. This document presents a proposal on scope, definitions, and requirements.

EPA understands that the majority of slate/tablet devices consume relatively little energy, especially when compared to higher powered notebook and desktop products, and thus may be a wise energy choice for consumers if they meet consumers' other purchasing criteria. The proposal below is intended to recognize the generally high efficiency of this product category while screening out some of the lower efficiency performers.

In previous communications, EPA has indicated that it would likely focus on the battery charging performance of slate/tablet products, given that their primary use occurs while disconnected from the ac mains and that battery life concerns may already provide a strong incentive for energy efficient design. While the Department of Energy (DOE) Battery Charging Systems (BCS) Test Method applies to slates/tablets, analysis of California Energy Commission data shows minimal differentiation between products. There is very little distinction in battery charging efficiency between like products, leaving little opportunity to deliver additional savings by specifying top charging performance.

Given that the ENERGY STAR label might best serve consumers considering a computer purchase by designating slates/tablets as an energy efficient alternative to notebooks and desktops, EPA is proposing that the ENERGY STAR Computers Version 6.0 Desktop/Notebook Test Method be used. As an existing, well-vetted test procedure, it tests many devices similar to certain slates/tablets. EPA recognizes that use of this test will require additional guidance to properly test slate/tablet products.

### **EPA Proposal**

EPA suggests that the ENERGY STAR Computer specification cover additional products in the following manner:

- Create definitions for Two-in-One Computers and slates/tablets by considering form factor and performance. Use a "lower bound" to exclude phones via these definitions. Follow existing efficiency requirements for Notebooks from Version 6.0 where possible.
- Use the current ENERGY STAR Computers Version 6.0 Notebook/Desktop Test Method, possibly with minor revisions to accommodate unique aspects of slate/tablet testing.

Under this approach, the proposed definitions below would be added to a Version 6.1 Specification:

1. Two-in-One Computer: A computer which resembles a traditional Notebook Computer, but has a detachable display which can act as an independent Slate/Tablet when disconnected. The physical keyboard base must contain processing capability typically found in a Notebook Computer.

2. Slate/Tablet: A computing device designed for portability that meets all of the following criteria:
  - i. Marketed as a Tablet/Slate computing device;
  - ii. Includes an integrated display with a diagonal size greater than 6.5 inches;
  - iii. Either lacking an integrated, physical keyboard or can be used with a detachable physical keyboard (factory or after-market);
  - iv. Includes and primarily relies on touchscreen input; (with optional keyboard);
  - v. Includes and primarily relies on a wireless network connection (e.g., Wi-Fi, 3G, etc.); and
  - vi. Includes and is primarily powered by an internal battery (with connection to the mains for battery charging, not primary powering of the device).

Both Two-in-One Computers and Slates/Tablets would be included in scope and tested, potentially using a modified version of the Version 6.0 Computers Test Method. The proposed screen size restriction is intended to ensure smart phones are not included in the scope of Version 6.1.

Regarding requirements, Two-in-One Computers and Slates/Tablets which contain notebook level processing capability would follow the corresponding notebook categorization provided in Table 6 in the Version 6.0 Specification, and meet all notebook requirements. Slates/Tablets which use hardware that is not typically used in notebooks (e.g. ARM processors) would all fall under the "0" categorization in Table 6 referenced above, and meet applicable notebook requirements.

Questions for Discussion on Definition and Scope:

1. Are there any other sources that the EPA should review for variations of, or additions to, this list of definitions?
2. The above structure permits a single definition for all types of slates/tablets. Is the slate/tablet definition comprehensive enough? Are there any other categorization systems that would be more effective?
3. EPA understands that its terminology for slate/tablet may be out of sync with the market. Are there other recommended terms that can be used to reduce confusion?
4. Are there existing or planned products that would fall under the slate/tablet scope inclusion, but also under the non-PC based POS products scope exclusion?
5. Are there any suggestions for defining processing hardware differences between a traditional notebook and a slate/tablet product for requirements purposes?

Questions for Discussion on Testing:

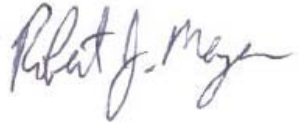
1. Are there significant technical limitations that would prevent slates/tablets from being successfully tested using the TEC metric for notebooks in the Version 6.0 ENERGY STAR specification? If so, are there any proposals for overcoming any such technical limitations?
2. What devices would not be a good fit for the existing test method? Could a small change to the test method fix this, or are substantive changes necessary?

EPA welcomes feedback on the above questions, as well as on the applicability of any alternative test methods and categorization schemas. Please note that this document is not intended to be a comprehensive review of the ENERGY STAR perspective on slates/tablets and other novel computer form factors; rather, it serves as a starting point for EPA's specification development efforts. The first approach outlined here represents what EPA believes to be a viable path forward, but EPA is open to other approaches that properly address product energy consumption, market space, and testing.

Stakeholders are encouraged to provide feedback on the specific concepts and definitions presented in this document, as well as any comments of a more general nature, to [computers@energystar.gov](mailto:computers@energystar.gov) by **January 10, 2014**. EPA will host a webinar on **December 17, 2013 from 2-4 PM Eastern** to encourage further discussion. **Please RSVP to [computers@energystar.gov](mailto:computers@energystar.gov) no later than December 13, 2013** with the subject "RSVP – Computers Version 6.1 Specification Meeting."

Communication between EPA and industry stakeholders is critical to the success of the ENERGY STAR program. Any and all creative suggestions for improvements to the basic ENERGY STAR approach outlined in this document will be considered for inclusion. Please direct questions to RJ Meyers, EPA, at [Meyers.Robert@epa.gov](mailto:Meyers.Robert@epa.gov), or 202-343-9923; or John Clinger, ICF International, at [John.Clinger@icfi.com](mailto:John.Clinger@icfi.com), or 215-967-9407.

Sincerely,

A handwritten signature in black ink that reads "Robert J. Meyers". The signature is written in a cursive style with a large initial "R" and a long, sweeping underline.

Robert Meyers  
Product Manager  
ENERGY STAR for Computers