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Via E-Mail
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The Consumer Technology Association (CTA)™ and the Information Technology Industry Council (ITI) appreciate the opportunity to submit comments to EPA on its Draft 1 Version 8.0 ENERGY STAR Displays specification. Together, ITI and CTA represent a wide range of companies that design, make and sell displays.

For many years, the technology sector has been a supporter of voluntary, market-oriented energy efficiency policy at the state, federal and international levels and has advanced energy efficiency as part of the industry's broader commitment to environmental sustainability. Our industry's involvement in the successful ENERGY STAR program is over 25 years old.

The comments below focus on the technology sector's concerns with Draft 1 Version 8.0. We appreciate your consideration of these comments and welcome the opportunity for further dialogue and contribution on these issues.

Proposed Standard Level

EPA analyzed the ENERGY STAR dataset of 776 unique models and is proposing energy requirements that recognize a diverse selection of models across all common sizes from 23 monitor brands. Regression analysis of monitor On Mode power indicates that for every megapixel of screen resolution, a monitor uses 1.3 W power on average. Therefore, EPA proposes lowering the 6.13 kWh per megapixel allowance in Version 7.1 to 3.99 kWh, which is roughly equivalent to 1.3 W per megapixel in On Mode. EPA proposes an area coefficient of 0.123 kWh per square inch for all size categories. Within the TEC limit, an allowance for Sleep Mode is included, roughly equivalent to dataset average Sleep Mode power demand of 0.25 W.

It is difficult to assess which models EPA used in its analysis. The dataset provided includes roughly 829 monitors. Subsequent analysis required to review the proposed levels is impossible without knowing the exact 776 models EPA analyzed. For example, focusing on the 776 most efficient monitors, a linear regression analysis for On Mode power shows that for every megapixel of screen resolution, the monitor uses 4.7 W power on average (with the intercept at zero). Note that this is just an example of a linear regression. EPA has not assessed and shared what kind of regression would be most appropriate in reflecting the accurate energy use of monitors.

Our review also indicates that EPA's proposed intercept for the area range of $226 \leq A < 385$ is too low. Assuming a linear trend, the expected range should fall between 10.01 and 15.53. In addition, EPA's earlier webinar presentation indicated an average sleep mode power of 0.28 W. However, EPA applied a rough number of 0.25 W in its analysis. We ask that EPA rely on the data provided and utilize numbers provided in the dataset, rather than rough estimates.

Overall, we request that EPA provide more explicit details of its analysis, including the models used, the type of regression applied, the justification of proposing 0.123 kWh per square inch for all sizes, and any other assumptions which lead to the proposed ENERGY STAR specification level. Only then can stakeholders provide a thorough review of EPA's analysis and proposed standard levels.

Proposed Allowances for Enhanced Performance Displays (EPDs)

EPA's reduction of EPS allowances are too drastic. We will follow up with a specific recommendation for an acceptable reduction shortly. In addition CTA and ITI recommend EPA include an allowance for curved displays.

HDR Displays

HDR displays currently on the market are already beyond 38.4% CIE. Increasing color gamut using current LCD color filter technology increases power demands while HDR processing also requires extra power. However, HDR with local dimming can reduce total display power depending on content. More data is needed to understand the overall power demand impacts of HDR technology.

In addition to the EPA's reduction of the EPS allowances being too drastic, we propose using a calculated power allowance function based on the existing color gamut targets (32.9% and 38.4% CIE) and power allowances. This would create a standard that accommodates future HDR displays with greater color gamut and helps eliminate abnormal impacts of targeting the two gamut targets irrespective of cost or energy efficiency.

Preset Picture Setting

We strongly oppose EPA's proposal to require the display alert the user that energy consumption will increase when selecting a Preset Picture Setting that does not have ABC enabled by default, or when more energy consumptive features are activated.

Demanding that all energy savings features, including ABC, persist across all preset picture modes puts the EPA squarely in the business of designing displays. Only manufacturers have the experience, expertise, and consumer feedback required to make such decisions related to the performance of their preset picture modes. If ABC is enabled by default in all preset picture modes, these modes will likely look very similar, if not identical.

Persistence of Energy Saving Feature

This requirement is completely unnecessary since consumers would receive an alert whenever the activation of any Special Function disables an energy savings feature such as ABC. EPA's proposed pop-up warnings will cause an unnecessary burden on the user experience and interface with the display. As long as the consumer is fully aware of whether or not his or her display is in the ENERGY STAR qualified mode,

then the awareness goal is already met, and no further requirements should be mandated to address this concern.

On Mode Power Measurement

We appreciate EPA’s clarification that if any device or accessory, including the host machine, draws power from the UUT, then the power drawn shall be included in the On Mode power measurement.

However, EPA has not considered displays that support bridging (per the ENERGY STAR V8.0 definition “A physical connection between two hub controllers, i.e., USB, FireWire”) because the power draw from the host machine can be significant when included in determining the UUT’s On Mode power. Consequently, this would create an undue burden for these displays to meet the specification limit. For example, displays that include a “Thunderbolt” connection enable a laptop to be charged through the display.

Sincerely,



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About CTA

CTA is the trade association representing the \$351 billion U.S. consumer technology industry, which supports more than 15 million U.S. jobs. More than 2,200 companies - 80 percent are small businesses and startups; others are among the world's best known brands - enjoy the benefits of CTA membership including policy advocacy, market research, technical education, industry promotion, standards development and the fostering of business and strategic relationships. CTA also owns and produces CES® - the world's gathering place for all who thrive on the business of consumer technologies.

About ITI

The Information Technology Industry Council (ITI) is the premier advocacy and policy organization for the world’s leading innovation companies. ITI navigates the constantly changing relationships between policymakers, companies, and non-governmental organizations to promote creative policy solutions that advance the development and deployment of technology and the spread of digitization around the world.