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



OFFICE OF AIR AND
RADIATION

April 22, 2021

Dear ENERGY STAR® TV Partner or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) is pleased to share the [ENERGY STAR Version 9.0 TVs Draft 2 Specification](#), which includes revisions in response to stakeholder feedback on Draft 1. **Stakeholders are encouraged to provide feedback on this Draft 2 by June 3, 2021.** In addition, EPA will host a stakeholder webinar to present details of the Draft 2 specification and address stakeholder questions on **Tuesday, May 11, 2021 from 1:00 PM – 3:00 PM Eastern Time.** If you wish to attend this meeting, please register [here](#).

In response to Draft 1, EPA received several sets of written comments as well as verbal feedback during a webinar hosted on September 30, 2020. The Agency has made a number of adjustments to the specification as a result. These changes and EPA's rationale for them are highlighted in noteboxes throughout the specification and outlined below. Additionally, EPA's responses to stakeholder feedback are reflected in the [Draft 1 comment response document](#).

Version 9.0 Test Procedure

Since publishing the Draft 1 specification, EPA has begun to work with stakeholders in the Consumer Technology Association (CTA) R4 Working Group 13 to develop the *CTA-2037C: Determination of Television Set Power Consumption and Average Luminance* test procedure that is based on the same approach to measuring TV power and projected luminance as the additional test procedures outlined in Draft 1. As such, and as long as the working group continues to make timely progress towards the finalization of *CTA-2037C*, the Agency intends to reference it for use in this specification. This will allow ENERGY STAR to align with the industry accepted approach to measuring TV efficiency and reduce the test burden of having an additional test method.

EPA has continued to monitor the development of an updated approach to testing with an Automatic Brightness Control (ABC) feature enabled. At this time, the procedure as presented in the forthcoming *CTA-2037C* has been developed to the extent that the Agency feels it appropriate to include ABC-enabled metrics in Version 9.0. EPA believes that this will reinforce the Agency's support of a well-programmed version of the ABC feature and allow for ENERGY STAR criteria to better reflect how TVs are typically used.

EPA developed the specification levels based on a dataset of TVs tested in accordance with the Northwest Energy Efficiency Alliance (NEEA) test method being used as the starting point for developing *CTA-2037C*. EPA understands that as the *CTA-2037C* test procedure continues to be developed, some changes are likely to be made to the test method that may impact power measurements. As changes are made, the Agency will reevaluate the criteria presented in this specification to determine whether corresponding modifications to the specification levels are necessary.

Updated Dataset

The dataset used to inform Draft 1 criteria has been replaced with an updated dataset for Draft 2. The Draft 2 dataset includes 41 2020-2021 model year TVs. This assortment of TVs represents 10 manufacturers and a wide range of screen sizes, display technologies, and native resolutions of TVs available in the market today. Additionally, the data in this dataset were obtained through testing per the current iteration of the forthcoming CTA-2037C test procedure. This ensures that to the furthest extent possible, that the criteria presented in this Draft 2 reflect how TVs are expected to perform when tested for purposes of certification.

Updated Certification Criteria

With a new dataset, EPA set out to assess whether the criteria presented in Draft 1 continued to provide a fair level of stringency across TV size bins, native resolutions, and display technologies. As such, Draft 2 includes the following updates in approach towards On Mode and Standby Mode criteria:

- To provide manufacturers more flexibility in designing each Preset Picture Setting (PPS), Draft 2 has replaced the On Mode Power requirements prescribed for each PPS with an On Mode Power Requirement that averages the power across the applicable PPSs. As such, the criteria evaluate a TV's overall efficiency instead of the efficiency of individual settings.
- Draft 2 proposes that PPSs with ABC enabled by default test with ABC enabled. For PPSs with ABC enabled, EPA developed corresponding metrics that take the average dynamic luminance and power at several illuminance conditions to represent the PPS in calculating the power limit. EPA believes this will incentivize the persistence of a well-implemented ABC function across PPSs.
- To give manufacturers more freedom to program their brightness settings however they believe will deliver the best viewing experience while ensuring that ENERGY STAR is not providing an incentive to do otherwise, Draft 2 proposes the use of luminance thresholds to determine compliance with the specification. Essentially, if the dynamic luminance of a PPS is measured or calculated to be below the applicable threshold, the On Mode Power used to determine compliance will be the interpolated power value at the luminance threshold. It is important to note that manufacturers may still set their TV default settings to luminance values below the threshold and be eligible for ENERGY STAR, but compliance will be assessed assuming the product is at or above the luminance threshold.
- In order to apply comparable stringency for models with an atypical resolution (e.g., 2k) or a resolution below 4K (e.g., 720p vs. 1080p), Draft 2 proposes a universal adjustment factor equation based on screen resolution instead of separate equations for specific screen resolutions, as was proposed in Draft 1.
- EPA has updated the approach towards TVs classified to receive the High Contrast Ratio (HCR) adjustment factor. This update broadens the applicability of the adjustment factor to beyond just 4K models and includes a new definition for what is considered an HCR TV to appropriately account for current and future technologies that offer this feature to receive the adjustment factor.
- Draft 2 proposes to lower the Standby-Active, Low Mode Power requirement from 2 W to 1 W. The current dataset shows that while the industry average is higher, several manufacturers have been able to configure their TVs to remain well below 1 W in this mode.

Upcoming Webinar

The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. Stakeholder participation is key to the ENERGY STAR specification development process and is strongly encouraged. EPA plans to hold a webinar on **Tuesday, May 11, 2021 from 1:00 PM – 3:00 PM Eastern Time** to discuss the Version 9.0 Draft 2 specification. **To participate in this webinar, please register [here](#) to attend.**

Feedback

Given the current circumstances, EPA is extending the normal comment period deadline to allow stakeholders to **provide any comments on the Version 9.0 Draft 2 Specification no later than June 3, 2021**. Please send comments via e-mail to televisions@energystar.gov. All comments received will be posted to the

[Version 9.0 TVs Specification development webpage](#), unless the submitter specifically requests that his or her comments remain confidential. Stakeholder engagement is vital to the ENERGY STAR program and EPA looks forward to further work with stakeholders in the development of the TVs Version 9.0 specification.

Please contact me at (202) 564-8538 or Kwon.James@epa.gov, or Emmy Feldman at (202) 862-1145 or Emmy.Feldman@icf.com, with questions or to share feedback for this effort.

Thank you for your continued support of ENERGY STAR.

Best Regards,



James Kwon, EPA Product Manager
ENERGY STAR for Consumer Electronics

Enclosures:

[ENERGY STAR Version 9.0 TVs Draft 2 Specification](#)

[ENERGY STAR Version 9.0 TVs Draft 2 Data Package](#)

[ENERGY STAR Version 9.0 TVs Draft 1 Comment Response Document](#)

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