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



OFFICE OF AIR AND
RADIATION

November 23, 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 [Final Draft Specification](#). This Final Draft contains changes made in response to written comments received regarding the Draft 2 specification, the Limited Topic Proposal (LTP), and to account for the continued progress made towards finalizing the Consumer Technology Association's *CTA-2037C: Determination of Television Set Power Consumption* test procedure, which is referenced by the specification.

These changes are highlighted in noteboxes throughout the specification and outlined below. **Stakeholders may submit written comments on this Final Draft by December 22, 2021.**

Overview of the Final Draft Specification

EPA received generally positive feedback regarding the approach and criteria levels proposed by the Draft 2 specification. Several stakeholders expressed support for the following aspects of the Draft 2:

- Standby-Active Mode Power requirement of 1 W,
- Average On Mode Power approach, which allows manufacturers added flexibility in programming Preset Picture Settings (PPS) so long as On Mode requirements are met on average, and
- The introduction of lower luminance thresholds for certification, which allow manufacturers to set default backlight levels however they wish while eliminating the incentive to provide overly dim settings to meet criteria.

As such, EPA maintained these proposals for this Final Draft.

In response to the Limited Topic Proposal (LTP) published in September 2021, regarding the High-Contrast-Ratio (HCR) adjustment factor, EPA received feedback requesting additional clarification for the definition of an HCR Display included in the specification. As such, the definition for an HCR Display included in this Final Draft contains the requirement that the display must be capable of controlling pixels individually, which is an integral factor in their ability to offer such high contrast ratios.

Also in response to the LTP, EPA received feedback and data regarding the proposed value of the HCR adjustment factor. EPA has retained the proposed AF_{HCR} value of 1.12 for this Final Draft specification. Testing data used to develop the value proposed in the LTP indicated that the current value of 1.12 will allow only the most efficient HCR-capable models to earn certification.

Testing data submitted in response to the LTP indicates that some of the most recently developed HCR Display models would be able to meet requirements with a smaller adjustment factor. The observed increases

in efficiency between this sample of adjacent model years support EPA's belief that there are readily available means by which manufacturers can increase efficiency and reinforces the viewpoint that by making ENERGY STAR certification obtainable for these products, there is an incentive for manufacturers to do so. Additionally, these models observed to meet requirements after some redevelopments are significantly more efficient than comparable models that have not been updated, which supports the notion that the models that have been engineered to perform well above the baseline should be recognized. EPA has maintained the 1.12 value as further restriction of the adjustment factor risks making certification unobtainable for the most efficient HCR-capable models, thus eliminating the incentive to increase efficiency.

Finally, EPA acknowledges that the *CTA-2037C: Determination of Television Set Power Consumption* test procedure referenced in the Draft 2 is now complete and available to the public for reference. Included in this Final Draft are several amendments to calculation methodologies that follow the changes made to *CTA-2037C* between the time of Draft 2's publication and finalization of the test procedure.

Feedback

Stakeholders are invited to provide any comments on the Version 9.0 Final Draft Specification no later than December 22, 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.

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 Televisions Version 9.0 Final Draft Specification](#)

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