

ENERGY STAR Version 9.0 Televisions Draft 2 Comment Responses

Topic	Stakeholder Comment Summary	EPA Response
Test Method	<p>One stakeholder noted that the test method referenced by the Draft 2 is still under development and has gone through several iterations since it was used to gather data to inform the Version 9.0 specification. They insist that EPA should wait to finalize criteria levels until the test method can be completed and new data made available.</p> <p>Several stakeholders have expressed support for the approach taken by the referenced test method and resulting criteria but one stakeholder has expressed concern over the number of dark scenes included in the test clip being used therein and recommending that EPA include a metric for the power of a full lit (white) screen as to not underestimate power usage.</p>	<p>Since early 2021, EPA has been collaborating with manufacturers and other stakeholders to develop the forthcoming CTA-2037C: Determination of Television Set Power Consumption test method as part of the Consumer Technology Association's (CTA) R4 Working Group 13. Through participation in this forum, EPA has promoted the goal of creating a test method that gathers accurate and consistent data regarding TV power consumption for reference in the forthcoming ENERGY STAR Television Version 9.0 specification.</p> <p>The dataset used to inform the Version 9.0 Draft 2 criteria was obtained testing 2020-2021 model year TVs per the preliminary test method that served as the first draft of CTA-2037C. Throughout the development of CTA-2037C, several key refinements have been made and EPA has evaluated each to determine whether they are significant enough to invalidate any of the data informing the Draft 2. At this time, EPA sees no reason to question the validity of its current dataset.</p> <p>EPA believes that the approach towards testing TVs taken by CTA-2037C will allow for the capture of representative and reliable data for use in certifying models under Version 9.0.</p>
Standby	<p>Several stakeholders support EPA's proposal to lower the Standby-Active, Low Mode Power requirement from 2W to 1W.</p> <p>One stakeholder recommended that EPA further reduce the power requirement for this mode to 0.5W based on the knowledge that there are TVs on the market today that could meet this limit.</p>	<p>EPA also knows of models that can currently meet the suggested 0.5W Standby-Active Mode Power requirement but does not believe that further constricting of the allowed power for this mode at this time will produce significant per-unit or national savings. As a majority of models in the current market consume well over 10W while in this mode, EPA believes that the 1W requirement provides a fair and achievable design goal for manufacturers looking to certify units.</p>
Including 8K TVs	<p>Two stakeholders question EPA's decision to include criteria for 8K TV models in Version 9.0 due to the limited data available for this relatively new technology. They both suggest that EPA exclude 8K TVs from the scope of Version 9.0 and plan to address them in a later revision when more data is available.</p>	<p>EPA intends to retain criteria for 8K models in the Version 9.0 specification and is confident that the data currently available for this technology is sufficient to inform the creation of a label to distinguish products far more efficient than the average.</p> <p>Current data shows that there is a clear difference between the most and least efficient models in this growing market segment so EPA believes it critical to provide consumers a way to distinguish those most likely to deliver savings through ENERGY STAR certification.</p>
Average On Mode Requirement Approach	<p>Several stakeholders claimed support for the Draft 2's proposal to allow models to meet On Mode Power requirements on average as opposed to having to meet requirements for all three preset picture settings individually.</p> <p>One stakeholder suggests to use a weighted average approach based on the prevalence of the Default SDR, Brightest SDR, and Default HDR preset picture settings in the home.</p>	<p>EPA has decided to weight the contribution of the three tested present picture settings towards On Mode Power equally based on two key assumptions based on its market research: (1) TVs are switched to their brightest setting approximately half the time and (2) HDR content will rapidly replace SDR content in coming years.</p> <p>If any stakeholder has conducted studies to better understand consumer habits regarding the changing of TV brightness settings or preset picture setting prevalence, they are invited to submit such for EPA's consideration.</p>

<p>On Mode Stringency</p>	<p>One stakeholder recommends that EPA make the On Mode Power limits more stringent, claiming that they expect models to make great gains in efficiency in the next couple years, which could make the overall ENERGY STAR pass rate relatively high for an aspirational label.</p> <p>Another stakeholder expressed concern at the apparently low pass rate for mid sized (55") TVs as presented in the Draft 2 data package.</p>	<p>EPA intends for the Version 9.0 On Mode criteria to apply a fair level of stringency across all TV sizes. While the current dataset does not contain any 55" TVs that meet the Draft 2 criteria levels, EPA is aware of several methods by which the manufacturers of these tested TVs could bring them into compliance with minor alterations. In addition, EPA has been able to interpolate from this dataset that it is highly likely that some other models in these tested models' product families already meet requirements.</p> <p>EPA acknowledges that as future model year TVs increase in efficiency, the number of models awarded an ENERGY STAR certification is likely to grow. If and when the Version 9.0 specification is no longer useful for the discernment of top-performing models, the criteria levels may be updated and published in a new specification.</p>
<p>High Contrast Ratio (HCR)</p>	<p>One stakeholder requests that EPA more clearly specify the technical characteristics that a TV must possess in order to qualify for the HCR adjustment factor so that the risk of certification bodies incorrectly designating models is reduced.</p> <p>Another stakeholder insists that EPA should closely monitor TV technology development to ensure that as more efficient technologies offering HCR features become available, the adjustment factor does not provide unnecessary allowance to less efficient technologies.</p>	<p>In Draft 2, EPA has defined an HCR Display as, "a display where pixels can be controlled on an individual basis and emit no light when displaying a pure black color." In developing this definition, EPA conducted brief market research concerning the existing technologies known to offer this individual pixel control. In each case, dozens of readily available credible, and independently written descriptions of the technology explicitly stat that they are capable of this function. EPA does not believe that certification bodies will find any difficulty in going through this same process when initially encountering a new TV technology.</p> <p>EPA continuously monitors the TV technical landscape and evaluates whether technological advancements require the revision of existing specification criteria. When technologies emerge in the marketplace that provide equivalent HCR functionality for less energy, the HCR adjustment factor may no longer be necessary. More EPA responses to comments regarding the HCR adjustment factor are in the LTP comment response document.</p>
<p>Automatic Brightness Control (ABC)</p>	<p>Several stakeholders expressed support for the incorporation of ABC-influenced power and luminance measurements into the Draft 2 specification.</p> <p>One stakeholder suggests to include the ABC-disabled On Mode Power and Dynamic Luminance datapoints into the average On Mode Power and Dynamic Luminance values calculated by averaging the four ABC-enabled datapoints for PPSs with ABC enabled by default.</p>	<p>By using only the ABC-enabled On Mode Power and Dynamic Luminance datapoints for PPSs where ABC is enabled by default, TVs are evaluated based on how they perform in their default configuration, which research indicates is representative of a majority of TVs. Additionally, the 4 ambient lighting conditions used to produce the ABC-enabled On Mode Power and Dynamic Luminance datapoints were specified to represent the range of lighting conditions likely to be found in homes.</p> <p>EPA is not incorporating the ABC-disabled datapoint into the averaging function based on the belief that the current criteria evaluates a TV based on how it is most likely to be configured while in use. The exception to this is the Brightest SDR PPS, which uses only the ABC-disabled datapoints to represent the PPS due to the view that consumers swithing into this brighter setting are likely to be looking for the brightest experience possible and are thus more likely to disable ABC.</p>

<p>On Mode Criteria</p>	<p>EPA received general support from several stakeholders regarding the Average On Mode Power criteria that allows models to fulfill requirements if meeting the 3 On Mode Power requirements on average.</p> <p>One stakeholder suggested to make weight the influence of each PPS on the average On Mode Power and average On Mode Power Limit based on the prevalence of the use of the PPS in market.</p> <p>One stakeholder expressed interest in the specifying of a requirement for the base power usage (the energy required by a TV when no light is being produced) of a TV in order to promote hardware efficiency gains.</p>	<p>The proposed Average On Mode Power criteria equally weights the influence of the Default SDR, Brightest SDR, and Default HDR PPSs based on research that indicates that both: (1) TVs are switched into a brighter setting by consumers about half the time and (2) HDR content is expected to continue to rapidly replace SDR content as streaming and broadband content converts to an HDR format. Should any stakeholder have information from field studies that would increase the accuracy of the weighting scheme, they are invited to submit such for consideration.</p> <p>EPA is not considering a base power requirement at this time as analysis of the current dataset shows that many models will need to make improvements in hardware efficiency to meet the requirements proposed in Draft 2, making a base power usage requirement unnecessary. EPA does understand the positive impact that such a criterion could have and will make note to reevaluate whether it would be appropriate in future specification revisions.</p>
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