

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



OFFICE OF
AIR AND RADIATION

April 18, 2016

Dear ENERGY STAR[®] Set-top Box Partner or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) is pleased to share the attached Final Draft Version 5.0 ENERGY STAR Set-top Box (STB) specification and Final Draft test method. EPA would like to thank the many stakeholders who have contributed feedback that has informed this product specification process. The Agency plans to finalize this specification in early May, with an effective date of January 1, 2017. A brief summary of changes reflected in these drafts is included below.

In response to the Draft 2 specification and the associated dataset, EPA received comments on Thin Client and Over the Top (OTT) base levels and the effective date. EPA also received several comments on Scheduled Sleep, Deep Sleep, and Auto Power Down (APD). In response to this feedback, EPA has updated select components of the specification as noted below and discussed these updates in noteboxes in the specification. EPA has also clarified some points of confusion, in preparation for final release.

Key updates included in the Final Draft specification:

- **Sleep Mode:** Stakeholder comments noted a consumer expectation of quick wake times, including a lower likelihood of end users disabling energy savings features such as APD. EPA has shortened the Sleep to On wake time requirement to 15 seconds or less, to better align with current consumer expectations. EPA notes that the majority of currently certified products wake within 15 seconds.
- **Scheduled Sleep:** Stakeholders requested greater differentiation between Scheduled Sleep and Deep Sleep. EPA added a requirement that power draw in Scheduled Sleep be less than or equal to 15% of On Mode Power or 3 W, whichever is greater, based on Deep Sleep requirements in Version 3. EPA has also clarified that Scheduled Sleep allows wake times longer than the Sleep Mode requirements.
- **Service Provider Partner Commitments:** EPA received comments on the potential energy savings benefits of Server STBs supporting DLNA Protocols, including RVU and VidiPath, which allows a direct connection to supported TVs. EPA is providing a 50% fleet incentive to deployments that use this technology to verifiably eliminate a Thin Client at a customer site. EPA also notes that the Multi Room configuration with Thin Clients has become significantly more prevalent in the market, so EPA is proposing to

reduce the Purchase Incentive for Thin Clients to 25%.

- **Thin Client Base Level:** EPA received comments on the 7 kWh TEC for Thin Clients, some in support and some against. After conducting industry outreach, EPA has concluded that the TEC of 7 kWh remains a valuable industry goal for Thin Clients, as other Consumer Electronics categories have achieved the necessary low power sleep states, used for purposes of calculating TEC limits. EPA also notes that DLNA-supporting TVs, a technology that performs similar functions to a Thin Client, have current products on the market that are able to utilize low power sleep.
- **Client Only Incentive:** A stakeholder recommended that the Client Only Incentive in the STB specification adds complexity and additional testing, but is used only by 2 stakeholders, and is likely to become obsolete as Displayless Video Gateways (DVGs) gain in popularity. EPA notes that this recommendation to eliminate the incentive was made by the stakeholder responsible for the majority of products claiming the Client Only Incentive, therefore EPA has eliminated this incentive.
- **Thin Client Transition:** Recognizing the technical complexity of achieving Deep Sleep, EPA is allowing for a longer transition time to the Version 5.0 requirements for Thin Client products alone, such that Thin Clients must meet the Version 5.0 eligibility requirements no later than January 1, 2018. Cable, CableDTA, Satellite, MVPD IP, and OTT IP must meet the requirements on January 1, 2017.

The Department of Energy (DOE) has also updated the Final Draft test method as follows:

- **Special Function Configuration in Testing:** DOE has added a requirement to the test method that requires that STBs are tested at the least efficient state available from setup prompts. This will test an STB without APD, Deep Sleep, or Scheduled Sleep if a user is prompted to disable these functions during product setup or on mode operation.
- **Client Only Incentive and Deep Sleep Tests:** DOE has removed the client only incentive test to harmonize with the specification. Further, DOE has removed the user-enabled Deep Sleep test because the Sleep Mode power draw allows manufacturers to capture Deep Sleep power, if the STB transitions to this state during testing. Therefore, a separate test that requires the STB to be placed into Deep Sleep manually is not required.

Please e-mail any final feedback on the Final Draft Version 5.0 specification to STBs@energystar.gov by **April 29, 2016**. All comments received will be posted to the ENERGY STAR Product Development website, unless the submitter specifically requests otherwise.

To track EPA's progress in revising the specification for STBs, visit the ENERGY STAR Product Development web site at www.energystar.gov/RevisedSpecs. Please direct any specific questions to Katharine Kaplan, EPA, at kaplan.katharine@epa.gov or Matt Malinowski, ICF International, at matt.malinowski@icfi.com. For questions on the test method, please contact Jeremy Dommu, DOE, at Jeremy.Dommu@EE.Doe.Gov.

Thank you for your continued support of ENERGY STAR.

Kind regards,

A handwritten signature in cursive script that reads "Katharine Kaplan". The signature is written in black ink and is positioned below the "Kind regards," text.

Katharine Kaplan
Manager, ENERGY STAR Product Development and Program Administration