

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



OFFICE OF
AIR AND RADIATION

May 13, 2016

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

The U.S. Environmental Protection Agency (EPA) is pleased to provide you with the final Version 5.0 ENERGY STAR Set-top Box specification, Test Method, and Service Provider Partner Commitments. EPA would like to acknowledge the many ENERGY STAR stakeholders who have invested time and effort over the past several months to ensure the successful completion of this specification. The Version 5.0 requirements will take effect on January 1, 2017.

This specification sets aggressive new energy efficiency requirements for the full suite of cable, satellite, internet protocol (IP), and over-the-top STBs. Products that meet this specification will offer more than 30 percent or 21 kWh in savings per year beyond conventional products. The Version 5.0 specification also establishes efficiency levels for Thin Clients that will be met through implementation of Deep Sleep or other innovative means by January 1, 2018. Implementation of Deep Sleep in Thin Clients is a large step forward for STB efficiency that EPA believes will pave the way toward implementation of low power sleep modes in nearly all STBs in the near future. *If all STBs sold in the United States were ENERGY STAR certified, the cost savings would grow to more than \$580 million each year and more than 8 billion pounds of annual greenhouse gas emissions would be prevented, equivalent to the emissions from over 790,000 vehicles.*

Through this Version 5.0 and the associated Service Provider Partner Commitments, EPA is incentivizing further energy savings through both the design of STBs that offer scheduled sleep and installation of multi room configurations that deliver content with fewer STBs. Scheduling a low-power sleep mode when STBs are unlikely to be used (for example, for 4 hours in the middle of the night), would result in additional consumer savings of up to \$430 million per year. Eliminating secondary STBs in cases where the end-user has a TV that can directly communicate with the main STB through protocols such as RVU and VidiPath, allowing the TV to provide STB functionality, will result in additional consumer savings of up to \$79 million per year.

Stakeholders were supportive of the majority of the criteria in the final draft specification. Commenters did request modest changes to select adders and clarifications specific to sleep modes. In response, EPA has made a small set of changes to the Version 5.0 specification including reinstating several adder allowances following stakeholder discussion and EPA review of the technology that indicated their appropriateness, as well as clarifications that should help users with scheduling low-power modes. More specifically, EPA reinstated the Multi-input Multi-output (MIMO) Wi-Fi allowance, amended the specification to make HEVP independent of UHD, and clarified that the DOCSIS 3.0 adder may be applied to DOCSIS 3.1 boxes until the energy needs of DOCSIS 3.1 can be assessed and accommodated, once these boxes are available. In recognition of stakeholder comment that end-users may increase the auto-power down timing to a new length of 12 hours (from 4 hours), EPA has removed the requirement to provide the option to delay auto-power for 12 hours.

The enclosed comment-response document contains a summary of feedback on the final draft specification and an explanation of the program's response in each case. Stakeholder comments, previous

drafts of the specification, and related materials are available on EPA's ENERGY STAR Web site at www.energystar.gov/RevisedSpecs under "Set-top Boxes & Cable Boxes".

Timeline and Next Steps:

EPA shares Partners' desire for a smooth transition from one ENERGY STAR specification to the next, so that consumers can expect ENERGY STAR labeled products to fully meet the latest requirements upon their effective date. With this in mind, EPA has established the following timeline:

Non-Thin Clients:

- Effective May 13, 2016, manufacturers may elect to have their Certification Body (CB) certify their eligible products to the Version 5.0 requirements.
- As of October 1, 2016, CBs will be instructed to stop certifying new product submittals to Version 4.1. Note, however, that existing certifications will remain valid for purposes of ENERGY STAR qualification until December 31, 2016.
- Any Non-Thin Client Set-top Box products manufactured as of January 1, 2017, must meet Version 5.0 requirements to bear the ENERGY STAR mark. All certifications of products to the Version 4.1 specification will be invalid for purposes of ENERGY STAR qualification and CBs will only submit product models certified to Version 5.0 to EPA.

Thin Clients:

- Effective May 13, 2016, manufacturers may elect to have their CB certify their eligible products to the Version 5.0 requirements.
- As of August 15, 2017, CBs will be instructed to stop certifying new product submittals to Version 4.1. Note, however, that existing certifications will remain valid for purposes of ENERGY STAR qualification until December 31, 2017.
- Any Thin Client Set-top Box products manufactured as of January 1, 2018, must meet Version 5.0 requirements to bear the ENERGY STAR mark. All certifications of products to the Version 4.1 specification will be invalid for purposes of ENERGY STAR qualification and CBs will only submit product models certified to Version 5.0 to EPA.

ENERGY STAR partnership as a manufacturer is limited to organizations that own and/or license a brand name under which they sell eligible products in the United States and/or Canada. Partnership is not available to original equipment manufacturers (OEMs) that do not sell directly to consumers or end users. OEMs may certify products on behalf of the ENERGY STAR brand owners/licensees; however the brand owner must be the ENERGY STAR partner associated directly with the certified product models, since only partners are authorized to use the ENERGY STAR certification mark.

EPA thanks stakeholders who provided feedback during the specification revision process and looks forward to working with you as you qualify and provide customers with energy-efficient STBs. If you have any questions or concerns about the specification or partnership process, please feel free to contact me at (202) 343-9120 or kaplan.katharine@epa.gov. If you have questions about the test method, please contact Jeremy Dommum at (202) 586-9870 or jeremy.dommu@ee.doe.gov.

Thank you for your continued support of ENERGY STAR.

Best Regards,

A handwritten signature in cursive script that reads "Katharine Kaplan".

Katharine Kaplan
Manager, ENERGY STAR Product Development and Program Administration

Enclosures:

Final Version 5.0 Program Requirements

Final Draft Version 5.0 Comment-response Document

Final Version 5.0 Test Reporting Template