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Via email only: stbs@energystar.gov

United States Environmental Protection Agency
Attention: Katharine Kaplan
Manager, Energy Star Product Development and Program Administration
Office of Air and Radiation
Washington, D.C. 20460

Re: April 18, 2016 Final Draft ENERGY STAR Version 5 specification for set-top boxes (STBs)

Dear Ms. Kaplan:

Approaching the final steps of the Version 5 development cycle, EPA has released its Final Draft specification and requested stakeholder comments with a deadline less than two weeks later. In keeping with this brief time frame, AT&T's comments that follow are brief as well focusing on our most immediate concerns.

MIMO High Power Allowances

We note that EPA has removed both of the High Power MIMO adders from the Final Draft "due in part to difficulty in testing" and to "also provide an incentive for manufacturers to power-scale with distance to the client." AT&T has serious concerns about this development, particularly coming as it does at the very end of this process. EPA explains that, "In order to ensure that the STB is transmitting in high power mode, the Test Method would have to require large distances or other potentially complicated testing scenarios. To avoid these potential issues, EPA has proposed that MIMO Base power levels and additional streams should be calculated at the Low Power SNE Adder Levels for all STBs." AT&T strongly disagrees with this proposed change, a change that not surprisingly was not proposed by any stakeholder.

When EPA introduced these MIMO adders in Draft 2, AT&T applauded EPA's efforts to continue harmonizing Version 5 with the STB Voluntary Agreement Tier 2 definitions and procedures, noting that this encourages Signatories to actively consider becoming ENERGY STAR partners as well. By removing the High Power MIMO adders, EPA reduces the similarity with Tier 2 and thereby undermines this goal. Furthermore, it was already the case that the proposed MIMO adders were aggressive by upwards of 0.5W, with EPA stating in the Draft 2 specification:

"EPA acknowledges that the SNE allowances in watts were based on Idle Mode power consumption; however, tests of current network equipment reveal less

than 0.5 W difference in power between Idle and On Mode (medium data rate) for most models. Furthermore, while the SNE VA is intended to reflect the performance achievable by all models, the ENERGY STAR is a leadership mark. Therefore, STB models meeting ENERGY STAR can be expected to feature innovative designs that incorporate cutting edge components that inherently perform better than those in SNE models meeting SNE VA requirements, and should be able to meet these requirements even while transmitting or receiving video streams.”

Finally, the inability to ensure a device is operating in a high power state during testing should not have precipitated this decision to remove the High Power MIMO adders in the Final Draft. There exist other allowances that aren't necessarily exercised in the test procedure, after all. One very relevant example is the “MIMO Wi-Fi Additional Streams Beyond 2x2”, which by the way was called “MIMO Wi-Fi Low Power Additional Streams Beyond 2x2” in Draft 2. The current test procedure doesn't ensure that these additional streams are enabled, but the allowance remains (appropriately) available nonetheless.

AT&T respectfully suggests that EPA reinstate both of the High Power MIMO adders in its Final Version 5 specification for STBs.

12 hour Auto Power Down Required Setting

With the hope of enabling further energy savings for STBs in commercial establishments, EPA has proposed a new requirement: “In addition to disabling APD, users shall have the option to increase the APD timing to 12 hours.” However, this requirement will have the opposite effect in the AT&T network.

As a great percentage of STBs in commercial environments are not manned (for example, in many MDU and hotel installations), customer dissatisfaction would result and a costly technician visit might be required if commercial STBs were allowed to shut down automatically. As a result, all STBs in commercial establishments already have the APD functionality remotely disabled by AT&T.

Thus, if this proposed requirement remains, only AT&T residential service subscribers would be given the opportunity to select a 12 hour APD timing: an outcome that will assuredly result in greater energy usage versus the current status where 4 hours is the longest available setting. Furthermore, this requirement would likely knock all AT&T STBs out of qualification when Version 5 becomes effective only 8 months hence, as it is highly unlikely that the company could complete the necessary user interface design changes and software updates in time to achieve compliance.

“Mesh” Functionality

During the Draft 1 phase of the Version 5 development, stakeholders were informally asked about “mesh” network functionality, in which WiFi enabled STBs on the local network extend WiFi coverage through the home both for video and for broadband data. In informal conversations at that time, AT&T shared that it had no opinion about mesh functionality. Since then, however, it has been brought to my attention that mesh functionality in STBs is a feature that is growing rapidly in interest across the industry.

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The impacts of mesh functionality on the ENERGY STAR STB specification are potentially wide ranging. Stakeholders developing this capability are working out how and when a STB enters/exits mesh mode, which might affect APD functionality and the duty cycles used to calculate TEC. Also, there may be a need to associate Access Point and Router functionality with Thin Clients. Test procedure clarifications may be in order.

AT&T suggests that EPA and stakeholders may wish to hold an interim (e.g. "V5.1") development round focused on mesh. To accommodate product development cycles, this interim development round might be initiated prior to year end and become effective on the same date (Jan 1, 2018) proposed by EPA for the updated Thin Client base level to become effective.

Thank you for this opportunity to provide you with feedback.

Sincerely,

/s/ Jeffrey H. Dygert
Jeffrey H. Dygert