

October 22, 2010

Ms. Katharine Kaplan
ENERGY STAR Set-Top Box Program
U.S. Environmental Protection Agency
1310 L Street, NW
Washington, DC

Subject: DIRECTV Comments on ENERGY STAR® Set-top Box Draft 2 Specification

Dear Katharine:

DIRECTV was pleased to participate in the Oct 6-7 ENERGY STAR Partner Meeting in Denver (www.energystar.gov/partnermeeting), both as a panel participant and as an exhibitor. It was exciting to hear the positive feedback from EPA and attendees about the energy savings potential afforded by DIRECTV's multi-room high definition DVR architecture based on the RVU Alliance (www.rvualliance.org) technology. After having reviewed the ENERGY STAR® Set-top Box Draft 2 specification released on Sep 21, as well as having participated in the Oct 4 Webinar, DIRECTV is also pleased to provide the following brief comments.

MANY DIRECTV CONCERNS HAVE BEEN ADDRESSED IN DRAFT 2

Version 3.0 Allowances. The table that follows shows the percentage decrease represented by Versions 3.0 and 4.0 compared to Version 2.0 for DIRECTV's current mix of STB products:

DIRECTV Set-top Box	Version 2 Tier 1 TEC limit	Version 3 Draft 2 TEC limit	Percentage decrease, %	Version 4 Draft 2 TEC limit	Percentage decrease, %
SD	88	70	-20%	55	-38%
SD DVR	201	131	-35%	104	-48%
HD	161	117	-27%	84	-48%
HD DVR	274	178	-35%	133	-52%
		Average:	-29%	Average:	-46%

The revised Version 3.0 allowances in Draft 2 indicate, for DIRECTV's current mix of STB products, STB energy consumption that is almost one-third lower than the current Version 2.0 Tier 1 TEC. While remaining a very challenging target for manufacturers, these allowances are an improvement over the previously proposed draft limits and give manufacturers a realistic opportunity to participate (and, in DIRECTV's case, to continue to participate) in the STB program.

Version 4.0 Allowances. The revised Version 4.0 allowances in this Draft indicate a drop that is almost one-half of the Version 2.0 Tier 1 TEC. DIRECTV agrees that it is important to set aggressive long-term goals, and currently has no specific comments on these. As the Version 4 effective date nears, however, more data will become available and an opportunity for all stakeholders to discuss these allowances with EPA is expected to be provided. To help ensure this, DIRECTV requests that a note be included stating “Version 4.0 limits have been provided throughout this specification as preliminary targets that will be reevaluated by EPA and finalized at least nine months prior to the Version 4.0 effective date”, like the one found in the current Version 2.0 specification.

Encouraging Multi-Room Architectures. As reported previously, DIRECTV has begun to deploy HD-DVRs with multi-room capability. These new multi-room architectures could simply not have been introduced at a more opportune time, being expected to slow and even reverse the trend towards households having multiple DVRs. DIRECTV has no doubts that EPA recognizes the benefits of multi-room capability, having heard it stated several times during the recent Partner Meeting! Furthermore, EPA has taken two important steps that encourage multi-room use:

- 1) The Multi-room allowance has been reduced by only 10%, from 44 in Version 2.0 to 40 in Version 3.0 Draft 2
- 2) A 1.5X annual purchase requirement multiplier, for service providers who deploy thin-clients, has been introduced

There is a third important step that EPA should take which would further encourage multi-room use. DIRECTV’s multi-room servers and thin clients incorporate MoCA home networking (www.mocalliance.org). MoCA uses sophisticated multi-frequency communications techniques to provide high performance and high reliability communications between devices on a home’s existing coaxial cabling. This impressive functionality is achieved in current products using just a couple of watts: unfortunately, it is discouraged in the Version 3.0 Draft 2 in two ways. First, the Home Network Interface additional allowance is only 10 kWh/year, half of what is actually consumed by the MoCA technology. Secondly, the allowance becomes 0 kWh/year for DIRECTV’s server products, due to the prohibition on its use with multi-room servers. To encourage DIRECTV’s most energy saving products (i.e. those that support its multi-room architecture) to be ENERGY STAR qualified, DIRECTV requests that this prohibition (found in paragraph 3.3.3.ii.h) be lifted.

VERIFICATION PROGRAM & PRODUCT SCREENING

DIRECTV strongly supports the EPA’s and DOE’s goal of preserving consumer confidence in the ENERGY STAR label. Changes to ENERGY STAR that ensure more consistent application of specifications and test procedures, both within a product category and across product categories, will undoubtedly have a positive effect on consumer confidence. One of these changes is the “Verifying Ongoing Product Qualification” Partner Commitment, which includes agreement to participate in third-party verification testing through a Certification Body and to comply with tests that EPA/DOE may conduct.

With “outlier” products a key concern, DIRECTV has recommended to EPA that product verification limits should be established that are 5% higher than the qualification limits. On June 3, 2010 DIRECTV provided test data supporting this position as follows:

“Due to the qualification test procedure requiring at least 3 units be tested, DIRECTV had 27 sets of three measurements available spanning 20 different STB models, and in each case the measurements were done on the same lab equipment and in the same time frame. For these DIRECTV found the following:

- On average, there is a 2.5% variation between the highest and lowest measured TEC in a set.*
- 11 measurements had a variation <2%, 10 had a variation between 2% and 4%, and 6 had a variation >4% with the highest being 5.1%.”*

As it turns out, DIRECTV’s concern has been addressed by DOE in its Pilot Verification Program for Selected ENERGY STAR Products. At the Denver Partner Meeting, Richard Karney P.E. of DOE presented its Verification Testing in which a Stage 1 Test (aka Screening Test) is performed on a product, and only when the product tested is “more than 5% worse than ENERGY-STAR specifications” is further action required (see http://www1.eere.energy.gov/buildings/appliance_standards/pdfs/faqfinal.pdf). Not only does this precedent eliminate DIRECTV’s “outlier” concerns, it just as importantly addresses the measurement variations that can add up through the use of different test equipment and laboratory set-ups over long stretches of time. DIRECTV requests that all third-party verification testing programs applicable to the STB product category be developed in harmony with this DOE-established model.

CONCLUSION

Thank you again for this opportunity to present comments. DIRECTV’s concerns have narrowed greatly with the release of Draft 2, with the few requests that remain captured in underlined text above. DIRECTV looks forward to supporting EPA’s efforts to bring this process to conclusion in a timely manner while addressing all of the ENERGY STAR Set-top Box Program stakeholders’ remaining issues.

Sincerely,

Steve Dulac
Director, Engineering

Cc:
Kathleen Vokes, EPA
Steve Pantano, ICF
Tom Bolioli, Terra Novum