



April 13, 2012

Ms. Katherine Kaplan  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., N.W.  
Washington, DC 20460

**Re: ENERGY STAR® Version 4.0 Set-Top Box Specification**

Dear Ms. Kaplan:

Thank you for this opportunity to comment on the issues raised regarding the ENERGY STAR® Version 4.0 Set-Top Box (“STB”) specification (“STB Specification”) in the *Review Announcement*.<sup>1</sup> Motorola shares EPA’s “concern that the multi-room allowance may be insufficient for products to qualify.”<sup>2</sup> As Motorola recently explained to the Department of Energy, “new energy conservation models are rapidly evolving to accommodate the growing number of devices that are being used in home networks to access video.”<sup>3</sup> The EPA has an opportunity to ensure that ENERGY STAR supports this type of innovation. Consistent with that goal, Motorola provides below specific comments and suggestions relating to the STB Specification.

1) Multi-Stream – Cable/Satellite (Page 8)

One step that EPA can take that would accommodate more multi-room approaches would be to adopt a more flexible stance with respect to use of the multi-stream additional functionality allowance. In particular, Motorola recommends that the multi-stream allowance should *not* be restricted to only one additional tuner per STB. Instead, the allowance should be applicable for each *additional* tuner the STB supports. For example, if the STB supports 6 tuners, the multi-stream allowance should be applied 5 times, because there are 5 additional tuners. This change would be consistent with the overall goals of ENERGY STAR because it would encourage the incorporation of multiple tuners into a single device and thereby facilitate the reduction of energy consumption in client STBs, as well as the overall home system.

2) Multi-Stream – Cable/Satellite Allowance (Page 8; Table 4)

The allowance for Multi-stream – Cable/Satellite has been reduced from 16 kWh/year (Version 3.0) to 8 kWh/year (Version 4.0). This 50 percent reduction in the power allowance is larger than the reductions that were applied to any of the other additional functionalities. For example, the allowance for Multi-stream – Terrestrial/IP was reduced by only 25 percent, from 8 kWh/yr to 6 kWh/yr. Motorola recommends that EPA modify the base allowance for Multi-

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<sup>1</sup> See Letter from Katharine Kaplan, EPA Team Lead, ENERGY STAR Product Development (March 20, 2012) (“*Review Announcement*”).

<sup>2</sup> *Id.* at 1.

<sup>3</sup> Comments of Motorola Mobility, Inc., Docket No. EERE-2011-BT-NOA-0067, at 3 (March 15, 2012).

Stream – Cable/Satellite to bring it in line with the reductions applied to other functionalities. In this case, a 25 percent reduction – from 16 kWh/yr to 12 kWh/yr – is much more appropriate. This would be particularly important if the EPA maintains its position that the multi-stream allowance should only apply once per device, regardless of the number of streams supported by the device.<sup>4</sup>

3) Transcoding under Advanced Video Processing (Pages 1, 8; Table 4)

The Advanced Video Processing additional functionality is defined to include transcoder capability. However, transcoding consumes more power than either encoding or decoding. Transcoding is a critical component for many gateways or multi-room devices, and ensuring a sufficient allowance for transcoding capabilities is crucial to facilitating the deployment of such devices and realizing the energy savings that would result from widespread adoption of whole-home approaches. Therefore, Motorola recommends increasing the allowance for Advanced Video Processing by an additional 10 kWh/year.

4) Base Allowance for IP STB (Page 7; Table 3)

Motorola believes the percentage reduction of the base allowance from Version 3 to Version 4 for IP STB is excessive. Instead, the power allowance reduction should be in line with other devices, approximately a 25 percent reduction.

5) Additional functionality allowance for Cable DTA (Page 7)

Low-cost, low-energy Cable DTAs perform many of the same functions as devices in the Cable Set-top box product type, including conditional access. Motorola recommends that the specification be amended so that the Advanced Video Processing additional functionality listed in Table 4 may be applied to Cable DTAs. For example, Cable DTAs that include advanced coding functionality such as MPEG 4 decoding should be able to qualify for the Advanced Video Processing additional functionality allowance of 8 kWh/year.

6) Deep Sleep Mode (Page 5)

In November 2011, the cable industry announced an energy initiative to improve the energy efficiency of cable set-top boxes.<sup>5</sup> NCTA recently noted that, as part of this effort, set-top boxes with “deep sleep” capabilities will be deployed for field testing in 2014.<sup>6</sup> In light of

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<sup>4</sup> Alternatively, the 8 kWh/year allowance may be acceptable if the EPA adopts the approach, described above, in which the allowance would be applicable to each additional tuner the STB supports.

<sup>5</sup> Press Release, National Cable & Telecommunications Association, *U.S. Cable Industry Launches New Energy Efficiency Initiative* (Nov. 18, 2011), available at <http://www.ncta.com/ReleaseType/MediaRelease/US-Cable-Industry-Launches-New-Energy-Efficiency-Initiative.aspx>.

<sup>6</sup> Comments of National Cable & Telecommunications Association, Docket No. EERE-2011-BT-NOA-0067, at 3 (Mar. 15, 2012).

Ms. Katherine Kaplan

April 13, 2012

Page 3

these developments, Motorola recommends the retention of the Deep Sleep Mode as an optional requirement (i.e., *not* mandatory) for version 4.1.

7) Test Method (Page 9)

The *Review Announcement* discusses the efforts by the Consumer Electronics Association (“CEA”) and the Department of Energy (“DOE”) to adopt new standard testing procedures for STBs.<sup>7</sup> Motorola believes in a unified approach for testing standards and therefore recommends the adoption of an industry standard.

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Motorola is strongly committed to the ENERGY STAR program, and look forward to further discussions with the EPA about the STB Specification. Please contact me if you have any questions regarding this matter.

Sincerely,

/s/ Jason E. Friedrich

Jason E. Friedrich

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<sup>7</sup> *Review Announcement* at 1.