October 22, 2010

Ms. Katharine Kaplan
U.S. Environmental Protection Agency
ENERGY STAR for Set-Top Boxes
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

Re: ENERGY STAR Program Requirements for Set-Top Boxes.

Dear Ms. Kaplan,

Thank you for this opportunity to comment on the *ENERGY STAR Program Requirements Product Specification for Set-top Boxes Draft 2 Version 3.0* ("Draft Specification"). Motorola strongly supports the ENERGY STAR program, and looks forward to continuing to provide assistance to this important initiative.

1. Transcoding (line 32)

   Motorola suggests that a separate allowance be provided for transcoding. The EPA states in the Draft Specification that transcoding is included in the advanced video processing allowance. Transcoding is a complicated sub-system within the set-top box, and is crucial to supporting multiple clients in multi-room environments in a bandwidth-efficient way. Allocating an additional allowance for transcoding would better support the specialized nature of the transcoding function in the set-top box. The transcoding sub-system can consume upwards of 3 watts or 27 kWh/yr. Therefore, Motorola suggests an additional allowance at that level.

2. Deep Sleep State (line 93)

   Motorola suggests that the definition of Deep Sleep Mode in the Draft Specification be altered to remove the "lack of network access" requirement. Motorola does not believe that disconnecting network access will result in significant power savings to achieve the EPA's Deep Sleep Mode goals. Rather, Motorola urges the EPA to give manufacturers flexibility to pursue other approaches to implementing Deep Sleep Mode. In addition, Motorola suggests that the EPA provide clarification on the type of switch/button on the set-top box or remote control that can be used for Deep Sleep Mode implementation without the "lack of network access" requirement.

3. STB Base Type (line 267)

   Motorola suggests creating a new base allowance for gateway set-top boxes which can support video, digital voice, and data services. Gateways are an emerging technology that can, for example, combine the functionality of an Embedded Media Adapter (eMTA)

with a wireless cable modem, and a digital voice adapter. The multi-function gateway set-top box is fundamentally different from a typical video set-top box or the multi-room DVR configuration included in the Draft Specification. In light of these differences, Motorola does not believe that having an additional allowance is adequate to cover the gateway set-top box. Rather, Motorola suggests creating a new base allowance for gateway set-top boxes.

4. Multi-room (lines 304, 310)

   Motorola suggests replacing the reference to "Thin Client" in the definition with "non-DVR STB." Under a Multi-room configuration, Multi-room STBs perform the same functions whether they are delivering content to a Thin-client STB or non-DVR STB.

5. Multi-Stream (lines 289, 290)

   In the comment response from ENERGY STAR for the Draft 1 version 3.0 Matrix, the EPA states that the ENERGY STAR configuration for testing requires that two tuners be active, regardless of the total number of tuners available in the device. However, there are many cases where more than two tuners would be required. This would be particularly true for multi-room configurations. For example, in one simple scenario, a DVR set-top that supports one client device will need to have three tuners running: one tuner for the live-stream output to the TV, one tuner for the live-stream to the client, and one tuner for the live-stream for the DVR recording. In light of this and many other use cases, Motorola suggests that each additional tuner be given an allowance of 16 kWh/yr.

6. Auto-Power Down (APD) Definition (lines 184, 185)

   Motorola suggests that the EPA provide more clarification on the responsibilities of the manufacturer and the service provider in the definition for APD. The updated APD definition in the Draft Specification requires the default setting to persist until an "end-user" manually disables or modifies the setting. However, in the case of leased STBs, once the STBs are shipped from manufacturers to service providers, the final default APD setting will be managed by the service providers prior to deployment. In short, STB manufacturers have no control of the APD setting after the STBs are shipped.

7. The Home Network Interface Allowance (lines 49,50)

   The definition in the Draft Specification now limits the networking interface technologies that can be used to Wi-Fi, MoCA, and HPNA. Motorola urges the EPA to provide for more flexibility with respect to interfaces. For example, the EPA could adopt a general definition for Home Network Interface that lists specific technologies only as examples, such as: "The capability to interface with external devices over a network *(e.g.,* IEEE 802.11 (WiFi), MoCA, HPNA, *etc.).*" In this way, the EPA can accommodate other

advanced home networking interfaces that are available today or may be introduced in the future.

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

Sincerely,

/s/ Jason E. Friedrich
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