

COMMENTS OF MACROVISION SOLUTIONS CORPORATION

Macrovision Solutions Corporation ("Macrovision") hereby responds to the U.S. Environmental Protection Agency ("EPA") request for comments on the Draft 2 Versions 4.0 and 5.0 ENERGY STAR TV specification.

I. INTRODUCTION AND SUMMARY

Macrovision has been working to reduce DAM time requirements for products that include its On-Screen Guide functionality for several years now, in advance of ENERGY STAR specifications in this area. As detailed below, Macrovision supports the EPA's proposal to specify power usage limits for Download Acquisition Mode ("DAM") time in Versions 4.0 and 5.0 ENERGY STAR TV specifications, but we urge EPA to adopt achievable goals for DAM power consumption to avoid limiting innovation and features available to the consumer in this rapidly changing product category.

II. DOWNLOAD ACQUISITION MODE ("DAM") POWER ALLOCATION

In the area of Download Acquisition Mode, Macrovision would like to reiterate our support for the CEA proposal of 80 Watt-hours of DAM power usage per 24 hour period. We feel that the current Draft Specification sets unreasonably stringent requirements for DAM power usage, which may cause CE OEMs to delay or remove support from

ENERGY STAR from their products by forcing them to make a decision between On-Screen Guide functionality and power utilization requirements. We would like to remind the EPA that most CE OEMs do not currently measure DAM power utilization, and there is a very real risk that current semiconductor designs or printed circuit board designs may not technically allow such low DAM power utilization. We urge the commonsensical approach of setting the DAM power limits to known achievable but still efficient levels for the first time that the ENERGY STAR specification attempts to limit this form of power utilization, and as the market comes to understand the impact and roadmap of ENERGY STAR, incremental efforts can be taken to further limit DAM power without significant risk.

We feel that this approach will address immediate concerns that have been raised around gross and unnecessary power consumption, while reducing risk to ENERGY STAR, CE OEMs and developers of On-Screen Guide products.

III. TESTING REQUIREMENTS

While Macrovision cannot offer specific recommendations of how to test DAM mode power utilization, we would encourage the EPA to keep some facts in mind:

- DAM power utilization can vary based on initial startup conditions, which may last for a day or more as the device searches and downloads initial data, vs. steady-state operations which will dominate the energy usage of the device over time.

- DAM power utilization will vary with the size of the data transmitted, which will necessarily fluctuate on different days and in different geographies.
- DAM power utilization will vary with errors in communication, which will require more transmission time and power consumption.
- Total DAM power utilization may take place over long periods of time, potentially consisting of several short periods of DAM mode over a 24-hour day.

As the EPA moves forward with putting together DAM mode testing requirements, it should keep these considerations in mind to ensure that devices in the field continue to meet consumer and ENERGY STAR expectations for power consumption.

IV. USER INTERFACE REQUIREMENTS

Macrovision generally supports the notion of allowing users to disable unused or duplicative On-Screen Guide functionality that would otherwise unnecessarily consume power via DAM mode. While we would not support a prescriptive model of user interface design, we generally agree that turning off On-Screen Guide functionality should be displayed next to other settings information.

In the case that a Television is shipped with On-Screen Guide functionality disabled, we also believe that the device should be tested and qualified for ENERGY STAR in this state, regardless of DAM mode power utilization if the On-Screen Guide is enabled. This gives consumers the ability to optionally enable On-Screen Guide functionality, while completely eliminating power consumption due to On-Screen Guide functionality for

consumers that are disinterested in such functionality, or who receive such functionality from a set-top box or other devices.

V. INTERNET ENABLED TELEVISIONS

In the long run, Macrovision is hopeful that Internet Connected Televisions will become the predominant form of television in the majority of consumer homes. As the Internet becomes the preferred method for acquiring television data, the power consumption in DAM mode may be significantly reduced. At this time, we would recommend that ENERGY STAR provide incentive for such a transition and the associated power savings, but steer clear of prescriptive or normative standards for this emerging market until the relevant factors in power consumption become more clear.

VI. CONCLUSION

Macrovision supports the EPA's proposal to specify power usage limits for Download Acquisition Mode ("DAM") time in Versions 4.0 and 5.0 ENERGY STAR TV specifications. Macrovision is committed to creating products that meet the shared goals of being energy efficient, and providing increased functionality to consumers. As recommended above, as long as we set both achievable and energy-efficient goals, the DAM power limits in the ENERGY STAR specifications can incent manufacturers and consumers to significantly reduce energy consumption in the products they create, buy and operate.

Respectfully submitted,

MACROVISION SOLUTIONS CORPORATION

Adam Powers
Director, Standards and Emerging Technology

Date: July 7, 2009