

COMMENTS OF ROVI CORPORATION

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

I. INTRODUCTION AND SUMMARY

Rovi appreciates the consideration of the EPA in incorporating comments to date into the revisions of the Draft ENERGY STAR TV specifications, and continues to support the efforts of the EPA in reducing total Download Acquisition Mode ("DAM") power consumption. To that end, we respectfully submit a final set of considerations for refinement of the existing draft final of the specification. We hope that these final suggestions achieve the overall EPA goals, while continuing to allow manufacturers to utilize their past investments in On-Screen Guide technologies. We also look to clarify testing procedures to the benefit of both EPA and manufacturers.

II. DOWNLOAD ACQUISITION MODE ("DAM") FEATURE

We request that Download Acquisition Mode ("DAM") be recognized as a proper feature of ENERGY STAR televisions, on par with other features and treated in the same fashion as other features. To this end, we believe that the ENERGY STAR specifications should

not require DAM to be disabled upon shipment of a TV. Manufacturers have spent a considerable amount of time developing on-screen guides, which rely on DAM, and any requirements to disable DAM would undermine their efforts to include on-screen guides in their products. Rovi also believes that the requirement to disable DAM is unduly prejudicial against our on-screen guide business, as well as disincentivizing TV OEMs to utilize the data delivery services in which we have invested.

Though Rovi strongly believes that DAM should not be required to be disabled upon shipment, Rovi believes that a manufacturer should have the option to disable DAM by default. In cases where a manufacturer chooses to ship televisions with DAM disabled by default, it would be reasonable and consistent to not require DAM to be tested for ENERGY STAR compliance. Again, this precedent exists for other existing ENERGY STAR modes, such as On Mode power consumption, where TVs will be tested in the configuration in which they are shipped and features which are not enabled by default will not be tested. We feel that DAM is equivalent to these modes, and should be treated that way by the ENERGY STAR specification.

III. POWER ALLOCATION

Rovi would like to recognize the EPA's efforts to date to set reasonable DAM levels. We believe that the requirement of 80 Watt-hours in DAM for the ENERGY STAR 4.0 specification is reasonable, and we appreciate that our call for an approach which significantly improves power consumption while recognizing achievable goals has been

recognized. In furtherance of this approach, we would request that the ENERGY STAR 5.0 specification set DAM power requirements not to exceed 40 Watt-hours. The current requirement in the 5.0 specification of 20 Watt-hours represents a 75% reduction in power as ENERGY STAR moves from the 4.0 specification to the 5.0 specification. We feel that this represents a precipitous and unprecedented reduction in power consumption. While there has been one anonymous TV OEM that has stated their ability to meet this 20 Watt-hour requirement, we feel that this sample size is too small to be reliable, and it is impossible to evaluate whether or not their approach is reasonable or broadly applicable. The TV OEMs with which Rovi is affiliated have not been able to duplicate the results to date, and do not have an expectation that they can do so in the time frame proposed for the 5.0 specification. We would advocate a 50% power reduction from the 4.0 specification to the 5.0 specification, establishing the DAM power requirement in the 5.0 specification to no more than 40 Watt-hours. Hopefully the EPA recognizes this as a very significant power reduction between versions of specifications, while still being a reasonable goal for TV OEMs.

IV. TESTING REQUIREMENTS AND PROCEDURES

To start with, Rovi would like to refer to our previous comments on testing DAM mode, in which we attempt to clarify the complexities and uncertain nature of testing DAM due to fluxuations in data size, communication errors and other attributes which are difficult to model in test environments. To this end, we appreciate the EPA's perspective that any DAM tests will not reliably represent 100% of real world cases. We agree that test

environments should represent the overwhelming majority of real world scenarios, without attempting to cover unanticipated corner cases that will occur infrequently.

With regard to testing procedures, we feel that it is necessary to point out that Rovi will not be the only user of DAM power and time and that other services, such as emergency alerts and other data services, may also require DAM. This, in combination with other factors that have been previously discussed, lead us to make the following recommendations for DAM testing:

- DAM testing should begin 48 hours after initial setup of a TV. It should be noted that TVs may utilize more power for initial configuration and data acquisition in the first 48 hours of operation. This is a one-time occurrence and does not represent the power consumption in DAM mode over the life of the TV.
- A video stream including the data transmitted in DAM will be provided for the testing of DAM. This test stream must contain data to be received in DAM which must meet or exceed DAM power consumption for nearly all households, assuming no errors in transmission. Note that no assumption is made about how long the test data must be, which allows for different kinds of services to be aggregated into the same television or developed in the future, if desired by the manufacturer.
- DAM should be tested over a period of 24 hours using an approved power-meter to measure the power consumption in Watt-hours.
- The amount of power consumption, using the test method described in the immediately preceding bullet, must be less than the equation $(80 + (23 * \text{Sleep}))$

Mode Power Consumption)) Watt-hours. This allows testing to allow for the fact that TVs may be DAM for a short period of time and in Sleep Mode for the remainder of the time.

V. CONCLUSION

Rovi continues to support the EPA's proposal for DAM power consumption requirements in Versions 4.0 and 5.0 ENERGY STAR TV specifications. Rovi is committed to creating products that meet the shared goals of being energy efficient, and providing increased functionality to consumers. As recommended above, we believe that DAM should be treated in the same light as other ENERGY STAR features, we seek the moderate and reasonable approach of reducing power consumption requirements by only 50% between revisions of the specification, and we hope to see refinements and clarifications to the testing procedures of DAM.

Respectfully submitted,

ROVI CORPORATION

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