Draft 1 Version 3.0 Audio Video Specification Comment Response Summary Document			
This document is intended to summarize comments submitted by stakeholders in response to the Draft 1 Version 3.0 Audio Video Specification distributed on June 24, 2011 . Please note: this summary includes only those comments that EPA received permission to make public.			
Ref. No.	Topic	Comment	EPA Response
1	**Amplifiers**	The calculation of amplifier efficiency does not account for the additional features and functions found in complex audio products. The input power and the output power are compared directly without accounting for other factors that contribute to power consumption such as internal DSPs, internal networking circuits and optical disc power use.	The amplifier efficiency requirement is designed for simplicity and ease of testing. Amplifiers are binned into three categories; small, medium and large. Small amplifiers do not have an efficiency requirement, thus the additional features and functions need not be addressed. Medium amplifiers are given an adjustment of 20% of the input power of the amplifier to address the power use associated with additional features and functions. Lastly, for large amplifiers, the power use associated with additional features and functions is not large enough, relative to the total power draw of the product, to significantly affect the efficiency of the amplifier.
2		The proposed test method should reflect the real world operating conditions of professional and consumer amplifiers. The test method should be modified to ensure it accurately captures the power consumption of said products.	EPA understands that testing amplifiers at 1/8th MUP with a sine wave input does not represent many real world applications for amplifiers. However, the test procedure provides a common benchmark against which products that can be compared. It is an adequate proxy as it offers repeatability, simplicity, ease of testing. Moreover, the test procedure is designed to test efficiency and not power use to further simplify the requirement in the specification. Finally, testing at 1/8 MUP using a sine wave is consistent with IEEE safety testing guidelines.
3		The proposed test method stipulates that if a product includes speaker outputs, a resistive load should be connected across each pair of output terminals to simulate speakers. EPA should consider an alternative to using a fixed resistor to allow for accurate modeling of connecting speakers. Using an alternative approach would better incentivize the design community to choose the most efficient combination of amplifier to speakers.	Products that have built-in speakers are measured across the speaker input leads using the attached speaker as the load. This incentivizes products with built in speakers to have efficient amplifier-speaker combinations. As for products that do not have built in speakers, EPA cannot specify exactly which speakers each product should use when tested, as that would require every amplifier to have a specifically designated set of speakers. As such, for ease of testing and repeatability, a set resistive load is used.

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4	**Amplifiers**	Measuring the idle power of an amplifier with zero output is preferred to the amplifier efficiency test method currently in place.	EPA recognizes that Idle Mode power is an important metric for an audio product. The Idle Mode power limit is included in the specification to augment the amplifier efficiency requirement. The amplifier efficiency measurement provides a clear benchmark of product performance at a maximum output level.
5		The proposal to use Pink Noise as the audio source for amplifier tests would complicate the amplifier test and reduce the repeatability of testing.	After evaluating comments related to the Audio Source used for Audio Amplifier Efficiency testing, EPA has concluded that the 1kHz sine wave is the most appropriate input signal for this test due to its low testing burden and high repeatability.
6	**Product Function Adders**	The proposed specification should better take into account product functionality that supports displays. For example, additional power is needed to power electronics that must support indicator lights.	While an adder does exist to address the power consumption of a High Resolution Display, the power required for basic function and internal circuitry, such as indicator lights, would be covered under the basic On Mode, Idle Mode, and Sleep Mode power allowances.
8		For a Home Theater in a Box product with audio amplification and optical disc features, the audio amplifier contributes idle power to the overall power use of the product while the optical disc drive is being tested. EPA should address this additional power use in the On Mode Power requirements.	EPA has added an Audio Amplification adder to the On Mode Power function adders table to address the idle power of the Audio Amplification circuitry while the Optical Disc Player is being tested.
7	**Networking**	HDMI Consumer Electronics Control (CEC) is viewed as a premium and distinguishing feature in product lines. Additionally, it was designed for ease of communication between devices, not specifically for energy savings, and different manufacturers implement it in very different ways. Thus, HDMI CEC should not be required of all products implementing HDMI.	Due to lack of industry consensus and differences in implementation, EPA will not require HDMI CEC for all products implementing HDMI. EPA recognizes the power saving opportunities associated with CEC and thus encourages manufacturers to implement it in their products.

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9	**Other Environmental Benefits**	Non-use phase environmental requirements should be placed in specifications other than ENERGY STAR. Including requirements other than those for energy efficiency would confuse and dilute the brand.	EPA would like to ensure that the ENERGY STAR label is associated only with those products that meet minimum expectations for materials toxicity, recyclability, and recycled content where existing standards can be referenced. Adding this type of requirement extends a longstanding ENERGY STAR practice of addressing issues such as mercury in CFLs where existing standards can be leveraged. Certain standards, such as the RoHS Directive, have been in place for a few years, resulting in products that are becoming more environmentally preferable, both globally and within the U.S. Rather than diluting the ENERGY STAR brand, EPA believes that it is important to capture additional environmental criteria to ensure that the brand is only associated with products that deliver energy efficiency and other features that consumers and institutional purchasers seek.
10		In regard to E-waste, restrictions on content including hazardous substances are regulated under each state's law thus the regulation of this content is very complex and difficult. Additionally, there has been no study on the impacts of recycled content or recyclability on the functionality, performance, or safety of a product.	By referencing recyclability, EPA is referring to designing products to be more recyclable (e.g., designing for ease of disassembly or using materials that can be recycled) rather than developing a product take back and recycling program. Since no standards currently exist for A/V products that reference recyclability, EPA will not propose including such a requirement in Version 3.0. In future revisions to the specification, EPA will explore whether any new standards for recyclability in A/V products have been developed or if recyclability criteria from standards from other product categories could apply to A/V products.
11		The toxic contents identified in the draft as prohibited substances may not apply to AV products as this list of substances was developed for IT products. Individual electrical components of AV products may contain many of these substances but in much smaller quantities.	If the toxic materials referenced are not used in a manufacturer's A/V products, then the requirement has already been met. EPA is referencing this requirement because some of the materials are found in A/V products.
12		If compliance to RoHS is required, the requirement should be limited to the "Manufacturer's Declaration of Conformity" and omit presentation of samples and data for authentication.	EPA anticipates that a manufacturer declaration would be required to demonstrate compliance with this requirement along with the maintenance of relevant quality assurance documentation. Accordingly, A/V products that demonstrate that they currently meet the RoHS Directive would satisfy this toxicity requirement.