

Annex

Date 6/17/09	Document ENERGY STAR A/V V2.0 Draft 1	Project Nr.
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Member Name	Line number	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
J. Howell	113-117	1 a)		General	<p>Response to Note:</p> <p>There may need to be more specificity given to which functions of products are required to power down "without user input."</p> <p>For example: If the tuner of a DVD player with integrated tuner is used to provide a signal to a TV or display, if the channel is not changed after X number of minutes/hours is the DVD required to APD?</p>		
J. Howell	167-167			General	<p>Response to NOTE:</p> <p>Determining whether a product is "residential" or "commercial" is a function of how the product is marketed, not necessarily the features that a specific product has. Suggest requiring manufacturers to declare which category their product is. This is the method used by UL/CSA/FCC.</p>		
J. Howell	237-241	3.1 a)		General	<p>If a product, for example a DVD Player, includes a "forced menu" the first time it is energized and one of the options is whether or not to enable APD, does this meet the requirement that the product "offer APD functionality that is enabled by default?"</p>		
J. Howell	275	5		E	<p>Error in website address, should be ".lbl.", not ".llb."</p>	http://eetd.lbl.gov/controls .	

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J. Howell	310-321	Appendix A, Clause 2		E	Section numbers referenced are incorrect. Each Section number should be increased by 2.	<p>a) Power mode tests described in Section 5 should be performed on every product,</p> <p>b) Video device tests (Section 6) should be performed on any product that offers storage for recording and playback of live video,</p> <p>c) Removable media player device tests (Section 7) should be performed on any product capable of playback or recording of audio and/or video stored on removable media (e.g. Flash drive, CD, DVD, Blu-ray Disc), and</p> <p>d) Amplifier tests (Section 8) should be performed on any product that offers audio amplification.</p> <p>e) Under the guidelines, a HTIB system with an integrated DVD player/recorder and audio amplifiers would likely be subject to the low-power tests in Section 5, several of the removable media player tests in Section 7, and the amplifier tests in Section 8. In contrast, a stand-alone rack-mount audio amplifier would likely only be subject to the low-power tests in Section 5 and the amplifier tests in Section 8.</p>	

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J. Howell	339	Appendix A, Clause 4.1		G	All measurements would typically be done with a single power meter instead of the test equipment listed. Suggest replacing text in clause 4.1 with text from ENERGY STAR TV Spec.	<p>C. Approved Meter: Approved meters will include the following attributes¹:</p> <ul style="list-style-type: none"> • An available current crest factor of 3 or more at its rated range value; and • Lower bound on the current range of 10mA or less. <p>The power measurement instrument shall have a resolution of:</p> <ul style="list-style-type: none"> • 0.01 W or better for power measurements of 10 W or less; • 0.1 W or better for power measurements of greater than 10 W up to 100 W; and • 1 W or better for power measurements of greater than 100 W. <p>The following attributes in addition to those above are suggested:</p> <ul style="list-style-type: none"> • Frequency response of at least 3 kHz; and • Calibration with a standard that is traceable to the U.S. National Institute of Standards and Technology (NIST). <p>It is also desirable for measurement instruments to be able to average power accurately over any user selected time interval (this is usually done with an internal math calculation dividing accumulated energy by time within the meter, which is the most accurate approach). As an alternative, the measurement instrument would have to be capable of integrating energy over any user selected time interval with an energy resolution of less than or equal to 0.1 mWh and integrating time displayed with a resolution of 1 second or less.</p> <p>D. Accuracy: Measurements of power of 0.5 W or greater shall be made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power of less than 0.5 W shall be made with an uncertainty of less than or equal to 0.01 W at the 95% confidence level. All power figures should be in watts and rounded to the second decimal place. For loads greater than or equal to 10 W, three significant figures shall be reported.</p>	

¹ Characteristics of approved meters taken from IEC 62301 Ed 1.0: Household Electrical Appliances – Measurement of Standby Power

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J. Howell	350-355	Appendix A, Clause 4.3c)		T	<p>If the reported power consumption is the sum of the power consumption of sub-components, it should not be <u>required</u> to meter each powered component separately unless this benefits the manufacturer. Metering separately may require a manufacture to purchase an additional number of power meters.</p>	<p>c) Component-level Measurement: In the case of products that include many sub-components (e.g. a home theater system may include a receiver, powered subwoofer, and wireless speakers), all components shall be connected together in a typical end-use configuration. All components may be tested simultaneously and metered as a system. Alternatively, each sub-component may be metered separately (e.g. power consumption measured at each plug connection to mains power for each sub-component). If metered separately, power consumption data for each sub-component shall be summed to determine the total power consumption of the product.</p> <p>NOTE: If a manufacturer has a large number of SKUs that mix subcomponents, testing may be reduced by metering each sub-component separately.</p>	

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J. Howell	356 - 365	Appendix A, Clause 4.3d)		G	<p>The language in d)1) & 2) is different than IEC 62301 Ed. 1.0. and conflicts with other parts of this standard (i.e., measurement times in the test procedure are generally 2 & 5 minutes, not 10 minutes.)</p> <p>Either the language should be replaced with verbatim text from IEC 62301, or if the intent is otherwise, the entire clause should be reworded so that it does not appear that these are quotes from IEC 62301.</p>	<p>d) Measurement Methods: Average power consumption shall be determined in accordance with the requirements of IEC 62301, Ed. 1.0, “Measurement of Household Appliance Standby Power”, Section 5.3.2, using either the average power or accumulated energy approaches outlined below.</p> <p>1) Average power approach: where the instrument can record a true average power over a user selected period, the period selected shall not be less than 5 min (except if there is an operating cycle – see below).</p> <p>b) Accumulated energy approach: where the instrument can accumulate energy over a user selected period, the period selected shall not be less than 5 min (except if there is an operating cycle – see below). The integrating period shall be such that the total recorded value for energy and time is more than 200 times the resolution of the meter for energy and time. Determine the average power by dividing the accumulated energy by the time for the monitoring period.</p>	
J. Howell	373-376	Appendix A, Clause 4.4c)		G	<p>Should be allowed to use transport streams of recorded live broadcasts to automate testing.</p> <p>Add the words “or equivalentent.”</p>	<p>c) Video Sources: All video source signals shall be from live sources (i.e. broadcast TV, cable TV, radio, streaming Internet content, etc.) of the type used under typical device operation or equivalent. If the UUT does not have a tuner, a video signal input with equivalent content and resolution shall be provided. The following reference channels shall be used as inputs when video signals are required:</p>	
J. Howell	381-383	Appendix A, Clause 4.4c)3)		G	<p>Not all “broadcast video sources” are “encrypted.” (i.e., ATSC broadcast in the clear)</p> <p>Either delete “encrypted” or clarify.</p>	<p>Tuning to a broadcast video source is defined as one tuner acquiring a digital video service, where the video service is rendered on all analog audio/video outputs (e.g. RF modulated, S Video, composite and component) and on all SPDIF audio outputs (if equipped).</p>	

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J. Howell	391	Appendix A, Clause 4.4c)3)		G	If a manufacturer is testing 20 (or only 2) SD DVR devices to clause 6, they are all similar designs, and the manufacturer can demonstrate that there is no difference in power consumption when playing or recording Ref Channel A, B, or C; it should be sufficient to use reference Channel A only.	Add the following or similar after line 391: If the UUT is found to have negligible differences in power consumption when processing Reference Channel A, B, or C; the manufacturer may choose to perform and report results from Reference Channel A only, in order to expedite testing. For products with multiple tuners, setting each tuner to a different channel that meets the definition of Reference Channel A where specified in the test procedure is sufficient. Alternatively, reference Channel B or C may be used.	
J. Howell	406-408	Appendix A, Clause 4.6 1)		G	Specifying the product be tested in the "most basic configuration" may be insufficient to ensure similar products are tested on an even playing field. For example, the power consumption for a DVD Recorder can be reduced by as much as 10% in play & record modes if video out is via Video (instead of active HDMI) and RF input is cable (instead of ATSC or equivalent.) This spec. is very ambitious in scope and it would be impossible to specify configurations for all products. Where there are products with known issues, such as noted above, it may be helpful to add an additional appendix that specifies the set up for such products.	tbd	

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J. Howell	409-411	Appendix A, Clause 4.6 2)		G	Most technicians would prefer to use a resistor on the speaker outputs to avoid the noise, but speakers of the nominal rated load impedance should be allowed.	2) If the UUT includes speaker outputs, connect a resistive load across each pair of output terminals equivalent to the nominal rated load impedance. Alternatively, a speaker rated at the nominal load impedance may be used. The same resistive load or speaker must be used for all amplifier tests.	
J. Howell	434-440	Appendix A, Clause 5.1		T	<p>The APD measurement does not appear to yield any useful data and should be deleted. Depending on the qualification requirements adopted in this specification, it may be necessary to measure the amount of time it takes to Automatically Power Down, but these measurements do not appear to be necessary.</p> <p>5.1. 1)-3) measures "a typical Active mode operational state." This is too generic to be of any use and Active mode states are measured elsewhere in the test procedure.</p> <p>5.1 4)-6) measures power consumption after Automatic Power Down. By the APD definition in this draft, that state is "Sleep Mode" which is measured elsewhere.</p>		

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J. Howell	436	Appendix A, Clause 5.1 2)		G	<p>The phrase “active content from playing” is somewhat misleading.</p> <p>For example, in the case of a DVD player with a built in tuner connected to an antenna, “active content” from the tuner would normally be “playing” unless the antenna input was disconnected or “line out” or ?? was selected. Is that the intent?</p>	tbd	
J. Howell	444	Appendix A, Clause 5.2 2)		G	<p>The phrase “active content from playing” is somewhat misleading.</p> <p>For example, in the case of a DVD player with a built in tuner connected to an antenna, “active content” from the tuner would normally be “playing” unless the antenna input was disconnected or “line out” or ?? was selected. Is that the intent?</p>	tbd	
J. Howell	505	Appendix A, Clause 7		E	<p>There is a formatting error, line 505 should be a new subclause 7.2 and following sub clauses renumbered.</p>	7.2 Video Recording Test (Test time: 5+ minutes)	

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