



## ENERGY STAR® Program Requirements for TVs, VCRs, TV/VCRs, TV/DVDs, and TV/VCR/DVDs

### DRAFT 1 Eligibility Criteria (Version 2.0)

Below is the **DRAFT 1** product specification for ENERGY STAR qualified TVs, VCRs, TV/VCRs, TV/DVDs, and TV/VCR/DVDs (Version 2.0). A product must meet all of the identified criteria for standby mode and download acquisition mode (where applicable) to be labeled as ENERGY STAR by its manufacturer.

- 1) **Definitions:** Below is a brief description of TVs, VCRs, TV/VCRs, TV/DVDs, TV/VCR/DVDs, and other terms as relevant to ENERGY STAR.
  - A. Television (TV): A commercially available electronic product consisting of a tuner/receiver and a monitor encased in a single housing. The monitor usually relies upon a cathode-ray tube (CRT), liquid crystal display (LCD), or other display device. The TV is designed to receive and display a television signal broadcast by antenna, satellite, or cable. To qualify, the TV must be capable of being powered from either a wall outlet or a battery unit that is sold with an AC adapter. For purposes of this agreement, this definition includes analog and digital televisions in addition to televisions that require additional power to receive and process signals that contain information and/or data for electronic programming guides. This definition does not include TV/Monitor combination units (i.e., products that operate as both a TV and computer monitor consisting of a tuner/receiver and a monitor encased in a single housing with a computer input port).
  - B. Videocassette Recorder/Videocassette Player (VCR): An electronic product designed to play and/or record video tape. To qualify, the VCR must be capable of being powered from either a wall outlet or a battery unit that is sold with an AC adapter. For purposes of this agreement, this definition includes analog and digital videocassette recorders/videocassette players.
  - C. TV/VCR Combination Unit: A system in which the TV and VCR are combined into a single unit and which meets all of the following criteria: the VCR is included in the television casing; it is not possible to measure the power requirements of the two components separately without removal of the television casing; and the system is connected to the wall outlet through a single power cable. To qualify, the TV/VCR must be capable of being powered from either a wall outlet or a battery unit that is sold with an AC adapter. For purposes of this agreement, this definition includes analog and digital TV/VCRs.
  - D. TV/DVD Combination Unit: A system in which the TV and DVD are combined into a single unit and which meets all of the following criteria: the DVD is included in the television casing; it is not possible to measure the power requirements of the two components separately without removal of the television casing; and the system is connected to the wall outlet through a single power cable. To qualify, the TV/DVD must be capable of being powered from either a wall outlet or a battery unit that is sold with an AC adapter. For purposes of this agreement, this definition includes analog and digital TV/DVDs.
  - E. TV/VCR/DVD Combination Unit: A system in which the TV, VCR, and DVD are combined into a single unit and which meets all of the following criteria: the VCR and DVD are included in the television casing; it is not possible to measure the power requirements of any of the components separately without removal of the television casing; and the system is connected to the wall outlet through a single power cable. To qualify, the TV/VCR/DVD must be capable of being powered from either a wall outlet or a battery unit that is sold with an AC adapter. For purposes of this agreement, this definition includes analog and digital TV/VCR/DVDs.
  - F. Electronic Programming Guide (EPG): An interactive, onscreen menu of TV listings that downloads program information (e.g., time, date, description of TV programs, etc.) from the vertical blanking interval of a regular TV signal.

- G. **Standby Power/Mode:** Standby power use depends on the product being analyzed. At a minimum, standby power includes power used while the product is performing no function. For many products, standby power is the lowest power used while performing at least one function. Standby power use occurs during what is referred to as the standby mode of the product. Specifically, for this specification, standby power is defined as the power being used when the product is connected to a power source, produces neither sound nor picture, does not transmit nor receive program information and/or data (excluding data transmitted to change the unit's condition from "standby mode" to "active mode"), and is waiting to be switched to "on" (active/play mode) by a direct or indirect signal from the consumer, e.g., with the remote control.
- H. **Download Acquisition Mode (DAM):** The product is connected to a power source, may be producing sound and/or picture, and is downloading channel listing information according to a defined schedule for use by the electronic programming guide. The power requirement in this mode is typically greater than the power requirement in standby mode and less than that in active mode.
- I. **Active/Play ("On") Mode:** The product is connected to a power source, produces sound and/or picture, and/or records or plays a videotape or DVD. The power requirement in this mode is typically greater than the power requirement in standby mode.
- J. **Off mode:** An operating condition where no power is being used and the product has not been disconnected from an external power source. This mode is usually engaged by the consumer via a "hard off switch." This mode (and hard off switch) is usually found outside the US market.
- K. **Disconnect:** The product is disconnected from all external power sources.
- 2) **Qualifying Products:** Any TV, TV with EPG, VCR, TV/VCR, TV/DVD, or TV/VCR/DVD that is marketed to the consumer as such and meets the respective product type definition in Section 1 is eligible for the ENERGY STAR label. At present, this specification does not cover products that operate as both a TV and computer monitor.

*EPA's Comments: At present, this specification does not cover products that operate as both a TV and computer monitor given the limited number of products available for testing in the marketplace.*

- 3) **Energy-Efficiency Specifications for Qualifying Products:** Only those products listed in Section 2 that meet the following criteria may qualify as ENERGY STAR.

<b>Table 1: Energy-Efficiency Criteria for ENERGY STAR Qualified TVs, VCRs, TV/VCRs, TV/DVDs, and TV/VCR/DVDs.</b>		
<b>Product Type</b>	<b>Phase I Standby Mode (Effective: T.B.D. through 12/31/02)</b>	<b>Phase II Standby Mode (Effective: 1/1/03)</b>
TV	≤ 1 Watt	N/A (remains at ≤ 1 Watt)
VCR	≤ 2 Watts	≤ 1 Watt
TV/VCR, TV/DVD, and TV/VCR/DVD Combinations	≤ 3 Watts	≤ 1 Watt

*EPA's Comments: The proposed Phase I specifications for TVs, VCRs, and TV/VCRs are based upon a technical review and analysis of submitted, ENERGY STAR qualified product information. In keeping with ENERGY STAR's philosophy, these specifications recognize approximately the top 25% of energy performers currently qualified as ENERGY STAR. The specifications for TV/DVDs and TV/VCR/DVDs are based upon market research, product testing, and the TV/VCR specification.*

*The proposed Phase II specifications will be the final standby mode specifications barring any technological breakthroughs allowing these products to achieve significantly lower standby mode power consumption levels.*

**Table 2: Energy-Efficiency Criteria for ENERGY STAR Qualified TVs with built-in EPG.**

<b>Product Type</b>	<b>Standby Mode (Effective: T.B.D.)</b>	<b>Download Acquisition Mode (Effective: T.B.D.)</b>
TV w/ built-in EPG	≤ 1 Watt	≤ 15 Watt

In order to qualify as ENERGY STAR, a TV with built-in EPG must meet the criteria for both the Standby and Download Acquisition Modes. Products downloading one hundred percent of the time aren't eligible for ENERGY STAR qualification unless they meet the Standby Mode specification (i.e., 1 Watt) when in standby and downloading.

*EPA's Comments: Based upon feedback and data provided by industry, EPA has included two power modes in the specification for TVs with built-in EPG. Unlike set-top boxes, the operational modes in TVs with built-in EPG are consistent across products, distinguishable, and therefore easily tested for power consumption. Furthermore, EPA decided to use a dual power mode specification instead of an average standby mode specification so as to maintain a consistent program framework and standby mode definition for these products.*

*The power consumption levels for TVs with built-in EPG are based upon product testing, manufacturer feedback, and the proposed Standby Mode specification for TVs.*

- 4) **Power Measurement:** Manufacturers are required to perform tests and self-certify those product models that meet the ENERGY STAR guidelines. The power requirement shall be measured from the outlet or power supply source to the product under test. The Partner shall measure the average true power (in watts) of the product. When performing measurements to self-certify a product model, the products under test must be in the condition (e.g., configuration and settings) shipped to the customer.
- 5) **Test Criteria:** To be added.

*EPA's Comments: EPA is currently in the process of finalizing the Testing Guidelines. Upon completion, they will be inserted into this agreement. In addition to Standby Mode, the new guidelines will also include a methodology for testing the power consumption in Download Acquisition Mode of TVs with built-in EPG.*

- 6) **Effective Date:** The date that manufacturers may begin to qualify products as ENERGY STAR will be defined as the *effective date* of the agreement. Any previously executed agreement on the subject of ENERGY STAR labeled TVs, VCRs, and TV/VCRs shall be terminated effective **<date to be determined with industry>**.

A. TV, VCR, and Combination Products

1. Phase I: The first phase of this specification, Phase I, shall commence on **<date to be determined with industry>** and conclude on December 31, 2002. Upon signing this agreement, the Partner may begin to use the ENERGY STAR logo on product models, packaging, its Web site, and other product-related materials that meet the Phase I specifications.
2. Phase II: The second phase of this specification, Phase II, shall commence on January 1, 2003.

*EPA's Comments: EPA is in the process of developing new transition or "grandfathering" language to address products qualified under previous specifications that are still on the market when new specifications become effective. In response to consumer concerns, EPA is interested in limiting the number of labeled products on the market meeting old specifications. Industry suggestions on how to effectively handle the transition from one specification to another are welcome.*

B. TVs with Built-in EPGs: The ENERGY STAR TV with built-in EPG specification does not have multiple phases and shall commence on **<date to be determined with industry>**.

- 7) **Future Specification Revisions:** ENERGY STAR reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions.

*EPA's Comments: EPA will be assessing the potential for improved energy efficiency by (1) adopting an active mode specification, (2) addressing products that operate as both a TV and computer monitor, and (3) incorporating networked products.*

1. *Through market research and discussions with manufacturers, EPA is aware of currently available products that consume significantly less power in active mode compared to models with similar designs and features. EPA will determine whether these products and their manufacturers merit more recognition for their energy efficiency advancements.*

*EPA is also considering an active mode specification due to the activities of the Group for Efficient Appliances (GEA). GEA has recently developed a matrix to address the active (or "On") power state that has been accepted by industry. GEA's active power state covers analog TVs beginning in 2002. EPA believes that harmonizing the ENERGY STAR specifications will likely raise the potential for increased energy savings worldwide.*

2. *TV/Monitor combination units are an emerging product that EPA has begun to research and evaluate for energy savings potential. EPA plans to track the development of these products in the marketplace and may undertake testing and research to incorporate them into ENERGY STAR in the future.*
3. *The networked home/office is now a reality and to the extent that products covered under this specification become networked or are configured for a network, EPA encourages manufacturers to utilize power management features, including sleep and low power modes, to meet this specification and maintain full connectivity/performance. EPA will be assessing the potential for improved energy efficiency for products covered under this specification that may become or are networked.*

*As always, EPA welcomes comments or alternative proposals from industry that address these draft specifications and/or the future specifications being considered. EPA deems industry feedback crucial to the successful development of ENERGY STAR and looks forward to working with you.*