



## The future at a glance

January 7, 2010 marks the start: “Green” will also become obligatory for televisions.

Nowadays, consumers in retail outlets are becoming increasingly aware of what has already long since been commonplace for the developers of consumer electronics: Low consumption televisions are offered more and more, even before the deadline set by the EU.

The consumer electronics industry has reacted in advance and is prepared for the start on January 7, 2010. This is the date on which the EU’s phase plan comes into force, aimed at reducing energy consumption step by step between 2010 and 2012; a plan that also applies to television appliances. Focus does not, however, just center on energy consumption; developers must also incorporate other environmental aspects into their eco-compatible designs. So there is still more than enough development work to be completed before the eco-design requirements specified in (EC) Regulation 642/2009 are implemented.





## Overview

Summary of the eco-design requirements for television appliances as specified by (EC) Regulation 642/2009

### 1. Power consumption in On mode:

#### a) From August 20, 2010:

	full HD resolution	all other resolutions
Television set	$\leq 20 \text{ W} + A * 1,12 * 4,3224 \text{ W/dm}^2$	$\leq 20 \text{ W} + A * 4,3224 \text{ W/dm}^2$
Television monitor	$\leq 15 \text{ W} + A * 1,12 * 4,3224 \text{ W/dm}^2$	$\leq 15 \text{ W} + A * 4,3224 \text{ W/dm}^2$

A = visible screen area in  $\text{dm}^2$

#### a) From April 1, 2012:

	all resolutions
television set	$\leq 16 \text{ W} + A * 3,4579 \text{ W/dm}^2$
Television monitor	$\leq 12 \text{ W} + A * 3,4579 \text{ W/dm}^2$

A = visible screen area in  $\text{dm}^2$

### 2. Power consumption in Off / Standby mode:

- Television appliances must have a setting option for Off/Standby mode in which the power consumption values listed below may not be exceeded.
- In the case of televisions consisting of several separate units, the requirements apply both to the screen and to the separate unit(s)

#### a) From January 7, 2010:

Off mode	$\leq 1 \text{ W}$
Standby mode (only with reactivation function with and without activation display)	$\leq 1 \text{ W}$
Standby mode (with information and status display or reactivation function in conjunction with an information or status display)	$\leq 2 \text{ W}$

**b) From August 20, 2011:**

<b>Off mode</b>	$\leq 0,3 \text{ W}$
<b>Off mode on appliances with clearly visible switch set to Off and other Off modes</b>	$\leq 0,01 \text{ W}$ $\leq 0,5 \text{ W}$
<b>Standby mode</b> (only with reactivation function with and without activation display)	$\leq 0,5 \text{ W}$
<b>Standby mode</b> (with information and status display or reactivation function in conjunction with an information or status display)	$\leq 1 \text{ W}$

In addition, television sets must be equipped with an automatic switch-off function that automatically switches the appliance to Off or Standby mode 4 hours after the last user action, at the latest. A warning message must be displayed prior to automatic switching. This automatic function must be activated as a standard setting.

**3. Home mode for appliances with obligatory menu from August 20, 2010:**

Appliances with obligatory menus must offer a "Home mode" setting as a standard setting when the television is first commissioned. If a different mode is selected, a second selection dialog must be displayed to confirm the selection

**4. Peak luminance ratio from August 20, 2011:**

<b>Appliances without obligatory menu</b> Ratio of peak luminance in as-delivered mode to peak luminance at max. brightness	65 %
<b>Appliances with obligatory menu</b> Ratio of peak luminance in home mode to peak luminance at max. brightness	65 %

## Informational obligations of the manufacturer:

### 1. Documentation must contain the following information for purposes of conformity assessment:

#### a) Test parameters for measurements:

<b>Ambient temperature</b>	(specified: 23 °C ±5 °C)
<b>Test voltage in V and frequency in Hz</b>	(typical: 230 V 50 Hz)
<b>Distortion factor (V THD) of the mains supply system</b>	(< 5 % according to IEC 62087)
<b>Input connection for test signals</b>	
<b>Information on the test equipment used, and the test requirements</b>	

#### b) On mode

<b>Power consumption in Watt, rounded</b>	< 100 W to 1 decimal point > 100 W with no decimal point
<b>Characteristics of the dynamic video signal</b>	IEC 62087 Broadcast content
<b>Sequence of steps for ensuring constant power consumption</b>	
<b>Additionally, for television sets with obligatory menu: ratio of peak luminance in "Home mode" to peak luminance at max. brightness</b>	> 65 %
<b>Additionally, for television monitors: description of the characteristics of the signal receiver used</b>	

#### c) Standby and/or Off modes:

<b>Power consumption in Watt, rounded to 2 decimal points</b>	
<b>Measuring method used</b>	IEC 62087
<b>Description of the method used to select/program standby mode</b>	
<b>Sequence of steps for setting the operating state in which the television set automatically switches to operating mode.</b>	



d) Automatic switch-off:

Duration of On mode before the appliance automatically switches to Standby / Off mode or any other mode in which the limits for Off/Standby are not exceeded.

e) Hazardous substances:

If the television appliance contains mercury and/or lead: Mercury content in X.X mg and confirmation of lead presence

**2. The following information must be made available on freely accessible internet pages from August 20, 2010 onwards:**

- Power consumption in On mode
- Power consumption in Off / Standby mode
- Television sets without obligatory menu: Ratio of peak luminance in as-delivered mode to peak luminance at maximum brightness setting
- Television sets with obligatory menu: Ratio of peak luminance in home mode to peak luminance at maximum brightness setting
- If the television appliance contains mercury and/or lead:  
Mercury content in X.X mg and confirmation of lead presence

## **Make use of our precision measuring systems and benefit from our expertise**

A whole set of test procedures must be conducted to document compliance with the requirements. Added to which, numerous problems arise when measuring very small power inputs, for example during standby operation or other forms of operation that require little power consumption. The VDE Institute uses special measuring equipment for this purpose when testing compliance with eco-design requirements, together with a low distortion mains supply with a distortion factor of better than 1%, and has created special test room conditions to ensure that the measuring results are precise and reliable.

We have access to further high class test systems to test compliance with the eco-design requirements and for tests relating to the EU Energy Label.



## Make a note of the dates – Confirm conformity

Products that are subject to the implementation regulations of the EuP Directive must indicate compliance with the requirements of the relevant implementation regulation as part of the CE marking in the EC declaration of conformity.

We can perform the special measuring tasks required, and can issue a certificate of conformity for you.

### Our services

- Test of all eco-design requirements
- Energy efficiency measurements
- Standby measurements
- Eco-balance / Cycle Assessments
- Chemical product analyses (material composition, RoHs, WEEE)
- Measurement of Electro-magnetic Compatibility (EMC)
- Noise emission measurements
- Testing under environmental conditions
- Environment, energy efficiency and quality marks
- Environment management and energy audits
- Quality management audits

### Your contacts

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