

# **BLUE ANGEL**

**The German Ecolabel**



**Television Sets**

**DE-UZ 145**

**Basic Award Criteria**

**Edition July 2012**

**Version 6**

## The Environmental Label is supported by the following four institutions:



The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.



The German Environmental Agency with its specialist department for "Ecodesign, Eco-Labeling and Environmentally friendly Procurement" acts as office of the Environmental Label Jury and develops the technical criteria of the Basic Criteria for Award of the Blue Angel.



The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, the media, churches, young people and the German federal states.



The RAL gGmbH is the awarding body for the Environmental Label. It organises the process for developing the relevant award criteria in independent expert hearings – which involve all relevant interest groups.

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**This document is a translation of a German original. In case of dispute, the original document should be taken as authoritative.**

# **1 Introduction**

## **1.1 Preface**

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the German Environmental Agency and considering the results of the expert hearings conducted by RAL gGmbH, the Environmental Label Jury has set up these Basic Criteria for the Award of the Environmental Label. RAL gGmbH has been tasked with awarding the Environmental Label.

Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the Environmental Label may be granted to all products, provided that they comply with the requirements as specified hereinafter.

The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets this requirement.

## **1.2 Background**

The market for television sets has changed a lot in recent years. Today, it is dominated by large flat-screen TV sets. In the course of this change the average power consumption of some TV sets of about 80 watts has almost doubled. Moreover, with an average of 1.5 appliances per German household the equipment level is very high and the daily time of use of the appliances has further gone up. As a result of these developments, the energy consumption accompanying television consumption has continuously increased. In addition to this, the cycles of buying a new TV set are getting shorter and shorter due to new functions and improved image presentation. Today, consumers buy a new TV, on the average, every 5 to 7 years. As a result, the resource consumption of the appliances has gone up as well.

As a consequence, minimum legal eco-design requirements and criteria for the European eco-label have been developed.

As a national-level instrument the Blue Angel eco-label shall not only limit the increased energy consumption of the appliances but also establish minimum requirements for pollutant contents and the longevity of appliances in order to keep the accompanying environmental impact as low as possible.

## **1.3 Objectives of the Environmental Label**

Climate protection, reduction of energy consumption as well as avoidance of pollutants and waste are key objectives of environmental protection.

The Blue Angel eco-label for television sets may be awarded to products with the following environmental properties:

- low energy consumption
- long life cycle,
- low pollutant load.

Therefore, following benefits for the environment and health are stated in the explanatory box:



## 1.4 Minimum Legal Requirements

The present Basic Criteria have been developed on the basis of the following legal regulations and the minimum requirements for television sets stipulated therein:

- Elektro- und Elektronikgesetz (ElektroG) (Electrical and Electronic Equipment Act) (EC Directives 2002/96/EC and 2011/65/EU - transposed into German law) governing the collection, treatment and disposal as well as the maximum allowable pollutant contents.
- Regulation (EC) 642/2009<sup>1</sup>: establishes ecodesign requirements for televisions.
- Regulation (EU) 1062/2010<sup>2</sup>: establishes energy labelling requirements for televisions.

## 1.5 Definitions

- **Television**<sup>2</sup> means a television set or a television monitor;
- **Television Set**<sup>2</sup> means a product designed primarily for the display and reception of audiovisual signals which is placed on the market under one model or system designation, and which consists of:
  - ♦ a display,
  - ♦ one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or video-cassette recorder (VCR), either in a single unit combined with the display, or in one or more separate units.
- **Television monitor**<sup>2</sup> means a product designed to display on an integrated screen a video signal from a variety of sources, including television broadcast signals, which optionally controls and reproduces audio signals from an external source device, which is linked through standardised video signal paths including cinch (component, composite), SCART, HDMI, and future wireless standards (but excluding non-standardised video signal paths like DVI and SDI), but cannot receive and process broadcast signals.
- **On Mode**<sup>2</sup> means the condition where the television is connected to the mains power source and produces sound and picture.
- **Home Mode**<sup>2</sup> means the television setting which is recommended by the manufacturer for normal home use.
- **Off Mode**<sup>2</sup> means a condition in which the equipment is connected to the mains power source and is not providing any function; it also includes:
  - ♦ conditions providing only an indication of off-mode condition;

<sup>1</sup> „COMMISSION REGULATION (EC) No 642/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions.“

<sup>2</sup> Source of Definitions: COMMISSION DELEGATED REGULATION (EU) No 1062/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of televisions

- ♦ conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2004/108/EC<sup>3</sup> of the European Parliament and of the Council.
- **Passive Standby**<sup>2</sup> (called „standby mode“ in Regulation (EU) 1062/2010) means a condition where the equipment is connected to the mains power source, depends on energy input from the mains power source to function properly and offers the following functions only, which may persist for an indefinite time:
  - ♦ reactivation function or reactivation function and only an indication of enabled reactivation function; and/or
  - ♦ information or status display.
- **Active Standby (low)**<sup>4</sup>: The appliance can – in addition to passive standby - be switched into another mode with an external signal. This mode corresponds to „Network Standby“, as defined in the Eco-design Preparatory Study Lot 26<sup>5</sup>.
- **Active Standby (high)**<sup>4</sup>: In addition to passive and active standby (low) the appliance is exchanging/receiving data with/from an external source.
- **Quick Start (or Fast Start)**: The mode from where the equipment can be put into On mode within a few seconds (maximum 5 seconds) by an internal sensor or a timer. To technologically achieve this, receiver and microprocessors continue to operate and only the display is deactivated. The power consumption of the appliance with the Quick Start function enabled is usually much higher than in standby modes.
- **Reactivation function**<sup>2</sup> means a function facilitating the activation of other modes, including on-mode, by remote switch including remote control, internal sensor, timer to a condition providing additional functions, including on-mode.
- **Network**<sup>6</sup> means an infrastructure of equipment with a certain topology of links, an architecture including their physical components, organizational principles, communication procedures and formats (protocols).
- **Network port**<sup>6</sup> means a (physical) interface at the product for setting up a network connection through which the product can be reactivated.
- **Forced menu**<sup>2</sup> means a set of television settings, pre-defined by the manufacturer, of which the user of the television must select a particular setting upon initial start-up of the television.
- **Peak luminance ratio**<sup>2</sup> means the ratio of the peak luminance of the home-mode condition or of the on-mode condition of the television as set by the manufacturer, as applicable, and the peak luminance of the brightest on-mode condition.
- **Automatic Brightness Control**<sup>2</sup> measures the ambient light intensity to allow an automatic adjustment of TV settings to it. This function is described in Annex II to Regulation (EU) 1062/2010.

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<sup>3</sup> published in the Official Journal of the European Union, OJ L 390 of 31 December 2004, p. 24

<sup>4</sup> Source of Definitions: DIN IEC 62087: 2009: Methods of measurement for the power consumption of audio, video and related equipment (IEC 62087: 2008); German version EN 62087:2009

<sup>5</sup> EuP Preparatory Studies Lot 26: Networked Standby Losses, European Commission (DG ENER), Website: <http://www.ecostandby.org/documents.php>

<sup>6</sup> Definition based on: Working Document of Commission Regulation amending Regulation (EC) 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment

- **Backlight Control:** The ability not to influence the liquid crystals but background lighting in order to be able to reduce the power consumption of the television set by darkening or blackening the dark parts of the image.

## 2 Scope

These Basic Criteria apply to television sets (television sets and television monitors as defined under para. 1.5).

## 3 Requirements

### 3.1 Energy Consumption

#### 3.1.1 On Mode

The appliance shall have one of the following energy efficiency classes according to Regulation (EU) 1062/2010<sup>7</sup>:

- energy efficiency class A for appliances with a visible screen diagonal of up to and including 127 cm (or 50 inches)
- energy efficiency class A+ for appliances with a visible screen diagonal of more than 127 cm (or 50 inches)

At the same time, the power consumption in active mode shall not exceed 100 W.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement, indicate the visible screen diagonal and energy efficiency class and submit the product fiche (data sheet) according to Regulation (EU) 1062/2010 Annex III as Annex 2 to the Contract.*

#### 3.1.2 Off Mode and Passive Standby

It shall be possible to put the appliance into an Off or passive standby mode. The power consumption of the television set shall not exceed 0.3 watts in these conditions.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirements and submit a measurement protocol pursuant to Regulation (EU) 1062/2010, Annex VII, relating to the measured power consumptions according to paras. 3.1.1 and 3.1.2 (Annex 3). If the television set has a forced menu the power consumption shall be measured in the so-called "home mode". The measurement protocol shall be prepared by a DIN EN ISO/IEC 17025 accredited testing laboratory. Measurement protocols prepared by the applicant will be accepted as equivalent if the latter uses a testing laboratory that has been accredited for these measurements by an independent body as SMT laboratory (supervised manufacturer testing laboratory).*

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<sup>7</sup> COMMISSION DELEGATED REGULATION (EU) No 1062/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of televisions,  
<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2010:314:SOM:DE:HTML>

### **3.1.3 Wireless Network Connections**

If the television can be connected to a wireless network the user shall be able to individually enable all wireless connections upon initial setup. In addition, the appliance shall provide the option of individually enabling or disabling all wireless network connections using the installation menu.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement and submit the relevant pages of the product documentation providing an explanation of the setting options.*

### **3.1.4 On/Off Control**

The appliance shall have a clearly visible On/Off control to put the television into Off or passive standby mode (cf. para. 3.1.2). The functionality of the control/switch shall be explained in the product documentation.

#### **Compliance Verification**

*The applicant shall verify compliance with the requirement by means a photo of the appliance or submit the energy consumption labelling according to Regulation (EU) 1062/2010, Annex V, confirming the existence of an easily accessible On/Off switch (Annex 4). In addition, the applicant shall submit the relevant pages of the product documentation describing the functionalities of the switch.*

### **3.1.5 Quick Start (or Fast Start)**

If the appliance supports the Quick Start (or Fast Start) feature:

- The quick start feature shall be disabled by default.
- After enabling the Quick Start feature the appliance shall automatically switch back to passive standby or Off mode 4 hours (default setting) after the last user activity at the latest.
- When enabling the Quick Start feature a clear written warning shall appear to inform the user that this feature will increase the appliance's power consumption (e.g. warning appears on the menu when activating the Quick Start feature).
- The Quick Start feature and the warning of additional power consumption shall be explained in the product documentation.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement and submit the relevant pages of the product documentation as well as a screen photo documenting the warning (Annex 5).*

### **3.1.6 Manual Brightness Control**

The appliance shall allow the user to manually control the backlight intensity.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement and submit the relevant pages of the product documentation.*



### 3.1.7 Automatic Brightness Control

The television shall have a light sensor that automatically adjusts the picture brightness. The automatic brightness control shall be enabled by default. In active mode at an ambient light level of 0 Lux the power consumption shall be at least 20 percent lower than in active mode at an ambient light level of 300 Lux.

With automatic brightness control enabled, the minimum brightness should preferably be manually adjustable.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement for automatic brightness control and submit a measurement protocol on the power consumption measured according to IEC 62087 at ambient light levels of 0 Lux and 300 Lux as well as their ratio to each other (Annex 6).*

*The measurement protocol shall be prepared by a DIN EN ISO/IEC 17025 accredited testing laboratory. Measurement protocols prepared by the applicant will be accepted as equivalent if the latter uses a testing laboratory that has been accredited for these measurements by an independent body as SMT laboratory (supervised manufacturer testing laboratory). In addition, the applicant shall state whether or not the requirement for manual brightness control is met.*

### 3.2 Pollutants

The television set shall not contain any mercury.

The television display shall not contain any lead.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement.*

### 3.3 Material Requirements for Plastics used in Housings and Housing Parts

The plastics shall not contain as constituent parts any substances classified as:

- a) carcinogenic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008<sup>8</sup>
- b) mutagenic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008

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<sup>8</sup> Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, Annex VI Harmonized classification and labelling for certain hazardous substances, Part 3: Harmonized classification and labelling – Tables, Table 3.2, – List of harmonized classification and labelling of dangerous substances from Annex I to Directive 67/548/EEC, (short: GHS Regulation). [http://www.reach-info.de/ghs\\_verordnung.htm](http://www.reach-info.de/ghs_verordnung.htm), as amended.

The GHS Regulation (Global Harmonization System), that has come into force on January 20, 2009, replaces the old Directives 67/548/EEC and 1999/45/EC. According to the said regulation, substances are classified, labelled and packed until December 1, 2010 according to Directive 67/548/EEC (Dangerous Substances Directive) while mixtures are classified, labelled and packed until June 1, 2015 according to Directive 1999/45/EC (Dangerous Preparations Directive). Notwithstanding this, the classification, labelling and packaging of substances and preparations may be performed according to the provisions of the GHS Regulation already before December 1, 2010 or June 1, 2015, respectively. In such case, the provisions of Dangerous Substances Directive or Dangerous Preparations Directive shall not be applicable.

- c) reprotoxic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008
- d) of very high concern for other reasons according to the criteria of Annex XIII to the REACH Regulation, in so far as they have been included into the List (so-called "Candidate List, as amended at the time of application<sup>9</sup>) set up in accordance with REACH, Article 59, paragraph 1.

Halogenated polymers shall not be permitted. Neither may halogenated organic compounds be added as flame retardants. Moreover, no flame retardants may be added which are classified pursuant to Table 3.1 or 3.2 in Annex VI to Regulation (EC) 1272/2008 as very toxic to aquatic organisms with long-term adverse effect and labelled with Hazard Statement H410 or Risk Statement R50/53.

The following shall be exempt from this rule:

- process-related, technically unavoidable impurities;
- fluoroorganic additives (as, for example, anti-dripping agents) used to improve the physical properties of plastics, provided that they do not exceed 0.5 weight percent ;
- plastic parts less than 25 grams in mass.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirements and submit a written declaration from the plastic manufacturers or ensure the submission of such declaration to RAL gGmbH. Such declaration shall confirm that the banned substances have not been added to the plastics and give the chemical designation of the flame retardants used, including CAS No. and classifications (Hazard Statements) (Annex 7).*

#### **3.4 Longevity**

The applicant undertakes to make sure that the provision of spare parts for appliance repair is guaranteed during production period and for at least 5 years from the time that production ceases.

Spare parts are those parts which, typically, may break down within the scope of the ordinary use of a product - whereas those parts which normally exceed the life of the product are not to be considered as spare parts. The product documentation shall include information on the above requirements.

#### **Compliance Verification**

*The applicant shall declare compliance with the requirement and submit the relevant pages of the product documentation.*

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<sup>9</sup> The Candidate List as amended at the time of application (first-time application) shall be applicable. Link to the Candidate List of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):  
[http://echa.europa.eu/consultations/authorisation/svhc/svhc\\_cons\\_en.asp](http://echa.europa.eu/consultations/authorisation/svhc/svhc_cons_en.asp)

### 3.5 Recyclable Design

The appliance shall be so designed and as to allow an easy and quick disassembly for the purpose of separating resource-containing components and materials. This means that

- corresponding connections must be separable by the use of universal tools and connections must be easily accessible,
- plastics should consist of only one polymer or plastic parts greater than 25 g in mass must be marked according to ISO 11469 to allow for a sorting of plastics by type and
- disassembly instructions must be made available to end-of-life recyclers or treatment facilities in order to recover as many valuable resources as possible.

#### **Compliance Verification**

*The applicant shall name the plastics used in parts greater than 25 g in mass and submit a list of the plastics used according to Annex 8 to the Contract as well as the corresponding disassembly instructions for end-of-life recyclers or treatment facilities (Annex 9).*

### 3.6 Consumer Information

Easy-to-read user information shall be supplied with the television set when purchased, including at least the following:

- power consumption of the appliance in the various operating modes, at least in Off mode, passive standby and On mode.
- power consumption in active standby (low) for networked television sets.
- Instructions for an energy-saving use of the appliance, including at least the following:
  - ♦ explanation of the various operating modes pursuant to paras. 3.1.1 On Mode and 3.1.2 Off Mode and Passive Standby) as well as information on the television settings that help reduce power consumption,
  - ♦ according to para. 3.1.4 (On/Off Control ) note that the use of the Off switch avoids standby losses,
  - ♦ according to para. 3.1.5 Quick Start (or Fast Start) - provided that the appliance supports this feature - a warning that the Quick Start function causes increased power consumption; power consumption (watts) in Quick Start mode,
  - ♦ Information on energy saving by using manual and automatic brightness control pursuant to paras. 3.1.6 (Manual Brightness Control) and 3.1.7 (Automatic Brightness Control),
  - ♦ Note that integrated functions, such as a receiver for digital signals (e.g. DVB-T) or hard disk recorders may help reduce power consumption, if, as a result, an external device would be redundant.
  - ♦ In addition, the above information shall be published on a freely accessible web page that must be easily accessible from the manufacturer's homepage.

#### **Compliance Verification**

*The applicant shall verify compliance with the requirement by submission of a copy of the product documentation enclosed with the product when purchased (Annex 10). Moreover, the applicant shall submit a printout of the web page providing the required information (Annex 11).*

## **4 Applicants and Parties Involved**

Manufacturers or distributors of final products according to Paragraph 2 shall be eligible for application.

Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel Environmental Label,
- the federal state being home to the applicant's production site,
- Umweltbundesamt (German Environmental Agency) which after the signing of the contract receives all data and documents submitted in applications for the Blue Angel in order to be able to further develop the Basic Award Criteria.

## **5 Use of the Environmental Label**

The use of the Environmental Label by the applicant is governed by a contract on the use of the Environmental Label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the Environmental Label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until December 31, 2019. They shall be extended by periods of one year each, unless terminated in writing by March 31, 2019 or March 31 of the respective year of extension.

After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant (manufacturer) shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organisations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant (manufacturer/distributor)
- Brand/trade name, product description
- Distributor (label user), i.e. the above-mentioned marketing organisations.

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