Criteria for the award of Green Product Mark

Set-Top Boxes

Contents

Foreword

The work of selecting and developing criteria for the award of Green Product Mark is carried out through Global 2PfG-E Technical Committees (PTC) convened by TÜV Rheinland. Interested parties participate in the selection and development of criteria for the award of Green Product Mark through either PTC membership or stakeholder consultation mechanism.

Criteria for the award of Green Product Mark are drafted in accordance with the rules given in following standards and guides:

- ISO/IEC Directives, Part 1 and Part 2
- ISO/IEC Guide 21, Part 1 and Part 2
- ISO Guide 64
- ISO Guide 82
- ISO 14024
- US EPA Guidelines for Environmental Performance Standards and Ecolabels for Use in Federal Procurement
- ISEAL Code of Good Practice for Setting Social and Environmental Standards

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. TÜV Rheinland shall not be held responsible for identifying any or all such patent rights.

This document was developed using a multi-stakeholder approach involving experts from multiple stakeholder groups including but not limited to consumers, government, industry, labour, non-governmental organizations (NGOs), and service, support, research, academics. Although efforts were made to ensure balanced participation of all the stakeholder groups, a full and equitable balance of stakeholders was constrained by various factors, including the availability of resources and the need for English language skills.

Introduction

Product environmental labels are claims which indicate the environmental aspects of a product and provide information about a product in terms of its overall environmental character, a specified environmental aspect, or any number of aspects. Green Product Mark is a voluntary environmental labelling scheme operating in accordance with ISO 14020 *Environmental labels and declarations – General principles* and ISO 14024 *Environmental labels and declarations – Type I environmental labelling – Principles and procedures*. Green Product Mark has been developed in accordance with ISO/IEC 17067 *Conformity assessment – Fundamentals of product certification and guidelines for product certification schemes*. Certification activities under Green Product Mark scheme shall be performed in accordance with ISO/IEC 17065 *Conformity assessment – Requirements for bodies certifying products, processes and services*.

Through the communication of verifiable and accurate information on environmental aspects of products, Green Product Mark aims to encourage the demand for and supply of those products that cause less stress on the environment, thereby stimulating the potential for market-driven continuous environmental improvement.

Green Product Mark certification scheme is owned by TÜV Rheinland, a leading international technical service provider who have been developing solutions to ensure the safety, quality and economic efficiency of the interaction between man, technology and the environment.

This document is intended to convey clear and unambiguous requirements to be fulfilled for products to get awarded with Green Product Mark.

1 Scope

This document lays out prerequisites, product environmental criteria and product function characteristics that Set-Top Boxes shall comply with, in order to get awarded with Green Product Mark.

All products which demonstrate compliance with relevant prerequisites, product environmental criteria and product function characteristics set forth in this document are entitled to be awarded Green Product Mark.

2 Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- SA 8000 Social Accountability
- Responsible Business Alliance (RBA)
- amfori Business Social Compliance Initiative
- SMETA Audit
- ISO 14001 Environmental Management Systems-Requirements with Guidance for use
- ISO 14040, Environmental management -- Life cycle assessment – Principles and framework
- ISO 14044, Environmental management – Life cycle assessment – Requirements and guidelines
- ISO 14067, Carbon footprint of products – Requirements and guidelines for quantification and communication
- ISO 14021, Environmental labels and declarations–Self-declared environmental claims (Type II environmental labelling)
- Product Environmental Footprint (PEF) Guide
- Low Voltage Directive 2014/35/EU
- Directive 2011/65/EC (RoHS Directive)
- Regulation (EU) No 1907/2006 (REACH Regulation)
- Regulation (EU) No 2019/1021 on persistent organic pollutants (POP Regulation)
- Regulation (EC) No 519/2012 (POPs)
- 15 PAH according to AfPS GS 2019:01 PAK
- IEC 61249-2-21 and IPC-4101B
- With reference to proposed EU and US ban on the use of PFAS
- DIN EN 1483
- DIN EN ISO 11885
- Packaging and packaging waste Directive 94/62/EC
- MOSH and MOAH; French Arrêté du 13 avril 2022
- Battery Regulation (EU) 2023/1542
- ISO 11469, Generic identification and marking of plastics products
- Directive 2002/96/EC and 2012/19/EU (WEEE Directive)
- Voluntary Industry Agreement to improve the energy consumption of Complex Set Top Boxes within the EU
- Regulation (EU) 2023/826
- DE-UZ 160, DE-UZ 196
- ITU-T L.1410

3 Terms and Definitions

For the purpose of this document, the following terms and definitions apply.

3.1 Green Product Mark

A voluntary environmental labelling program owned by TÜV Rheinland to indicate the overall environmental preferability of a product within a particular product category based on life cycle considerations and contribute to a reduction in the environmental impacts associated with products.

3.2 Complex set-top box (CSTB)

Complex set-top box (CSTB) is a device equipped with a conditional access12 technology that uses a dynamically allocated key for decoding signals; its main functions are to receive, decode and process data from digital broadcasting streams and related services. The device can have the capability to decode and output audio and video signals and/or the capability to supply content via a home network to one or more thin-client/ remote CSTBs. The term "complex set-top box" covers the base functionality of receiving cable, satellite, IP, terrestrial or thin-client/remote signals.

3.3 Simple set-top box (SSTB)

Simple set-top box (SSTB) means a stand-alone device which, irrespectively of the interfaces used,

- has the primary function of converting standard-definition (SD) or high-definition (HD), free-to-air digital broadcast signals to analogue broadcast signals suitable for analogue television or radio;
- has no ‘conditional access’ (CA) function;
- offers no recording function based on removable media in a standard library format.

A SSTB can be equipped with the following additional functions and/or components which do not constitute a minimum specification of an SSTB:

- time-shift and recording functions using an integrated hard disk;
- conversion of HD broadcast signal reception to HD or SD video output;
- second tuner.

3.4 Pre-requisites

Preconditions that a product shall comply with to be awarded Green Product Mark, which in principle consist of two pillars: legislative/regulatory requirements that the product shall meet in order to access target market; social compliance requirements prescribed to the site where the product has been manufactured.

3.5 Product environmental criteria

Environmental requirements that the products shall meet in order to be awarded an environmental label. [SOURCE: ISO 14024: 2018, definition 3.4]

3.6 Product function characteristics

Attribute or characteristic in the performance and use of a product. [SOURCE: ISO 14024: 2018, definition 3.5]

4 Prerequisites

4.1 Social compliance

The social compliance of brand owner, manufacturer and production site shall be maintained with all statutory and regulatory requirements for the jurisdiction in which the manufacturing operations are located.

Methodology for assessing and demonstrating compliance:

The brand owner, manufacturer and the factory/third-party producer must submit audit reports and corrective action plans(CAPs).

Independent audits must be conducted by organizations accredited to ISO 17021 and carried out by SA8000, RBA or BSCI certified lead auditors.

Types of accepted audits are:

a. SA8000,

b. RBA VAP,

c. amfori BSCI,

d. SMETA, or

e. Report developed according to/reference to the GRI Sustainability Reporting Guidelines or GRI Sustainability Reporting Standards.

The documented proof/report mentioned in any of the above 5 options shall be a maximum of 12 months old at the time of application for Green Product Mark certification.

4.2 Product Safety

Compliance shall be maintained with safety requirements (generally accepted rules of engineering), essential usability requirements, and other requirements set forth in statutory regulations for the jurisdiction in which Green Product Mark certified products will be sold.

Methodology for assessing and demonstrating compliance:

The applicant shall provide the certificate of national safety approval relevant to the jurisdiction in which Green Product Mark certified products will be sold. The certificate shall not be older than 12 months.

5 Product environmental criteria

5.1 Restriction of hazardous substances

Chemical substances contained in the product shall comply with the limit values listed as follows:

Requirement	Regulation	Limit
Odour	In house-method,concerning SNV 195651 Rating scale 1~5 (TÜV Rheinland expertise)	Grade 2 (in operation)
RoHS	Directive 2011/65/EU and amendments	The product shall meet the substance restriction requirements of the European RoHS Directive, using the version which is in force at the time the product is declared to conform to this standard. All exemptions to the substances restrictions as defined by the Directive are applicable. Also, a RoHS Declaration of Conformity to Directive 2011/65/EC shall be provided by the applicant.
Substances of Very High Concern(REACH SVHC)	Regulation (EU) No 1907/2006	Refers to 0.1% in each article and each packaging material.
Phthalates: DEHP, DBP, BBP, DINP, DIDP, DNOP + SVHC Phthalates	With reference to Regulation (EC) No 1907/2006 Annex XIV, Annex XVII and Directive 2011/65/EU	Refers to 0.1% of each finished material of the article Plastics used in housings and housing parts shall not contain SVHC as constituent components.
Alkylphenols and Alkylphenolethoxylates	With reference to Regulation (EU) No 1907/2006	100 mg/kg each (NP/OP) / 100 mg/kg each(NPEO/OPEO)
Organotin Compounds	With reference to Regulation (EU) No 1907/2006	0.1%: MBT, DBT, DOT, TBT for skin contact materials
Pentachlorophenol (PCP)	Regulation (EU) No 2019/1021 on persistent organic pollutants (POP) Annex I	Pentachlorophenol shall not be used in any part
Flame retardants (PBBs, PBDEs, TRIS, TEPA, Arsenic trioxide)	With reference to Regulation (EU) No 1907/2006	1000 mg/kg (All materials except metals, glass, ceramic and wood)
Cadmium	Regulation (EU) No 1907/2006	100 mg/kg(materials not covered by RoHS)
Lead	Regulation (EU) No 1907/2006	90 mg/kg (accessible materials not covered by RoHS)

Requirement	Regulation	Limit
Perfluorinated carboxylic acids (C9-C14 PFCAs) and related substances	Regulation (EU) No 1907/2006	The concentration in the substance, the mixture, or the article is below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances. (for All plastic shell, Fluororubber, Cable, PCB board, Water and oil resistant materials shall meet requirements)
Undecafluorohexanoic acid (PFHxA), its salts and related substances	Regulation (EU) No 1907/2006	PFHxA or any of its salts equal to or below 0.025 mg/kg, the sum of concentrations of all PFHxA-related compounds equal to or below 1 mg/kg (for All plastic shell, Fluororubber, Cable, PCB board, water and oil resistant materials shall meet requirements)
Nickel release	Regulation (EU) No 1907/2006	<0.5 µg/cm²/week Conducted on metallic parts intend to come into direct and prolonged contact with skin
PAH (Polycyclic Aromatic Hydrocarbons)	15 PAH according to AfPS GS 2019:01 PAK	Requirements set by AfPS
Short chain Chlorinated Paraffins C10-C13 (SCCP)	Regulation (EU) No 2019/1021 on persistent organic pollutants (POP) Annex I	Refers to 0.1 % in each finished material of the article and each packaging (made of PVC, soft plastic and leather material)
Hexabromocycl ododecane (HBCDD)	Regulation (EC) No 519/2012(POPs)	Refers to 75 mg/kg of each finished material of the article and each packaging (made of EPS and PS foams)
Perfluoro-octanoic acid (PFOA) and Perfluorooctane Sulfonate (PFOS)	Regulation (EU) No 2019/1021 on persistent organic pollutants (POP) Annex I	< 1 µg/m2 for Textiles or other coated materials < 1000 mg/kg for Semi-finished products or articles, or the part thereof (for All plastic shell, Fluororubber, Cable, PCB board, water and oil resistant materials shall meet requirements)
Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds PFHxS	Regulation (EC) No 519/2012 (POPs)	PFHxS or any of its salts equal to or below 0.025 mg/kg, the sum of concentrations of all PFHxS-related compounds equal to or below 1 mg/kg (for All plastic shell, Fluororubber, Cable, PCB board, water and oil resistant materials shall meet requirements)

Requirement	Regulation	Limit
Halogen	IEC 61249-2-21 and IPC-4101B	Cl, Br: 1000 mg/kg (in each material) All Printed circuit board (PCB) and substrate laminates shall meet Br and Cl requirements for low halogen as defined in IEC 61249-2-21 and IPC-4101B per 1a (refer to IEC and IPC standards for actual requirements). The maximum total halogens contained in the plastic parts exceeding 25 g, resin plus reinforcement matrix should be less than 1500 ppm with maximum chlorine of 900 ppm and maximum bromine being 900 ppm. For plastic parts exceeding 25 g manufacturer shall provide a declaration which declares the materials used in the production meet the above seen requirement
Per- and polyfluoroalkyl substances (PFAS)	With reference to proposed EU and US ban on the use of PFAS	All plastic shell, Fluororubber, Cable, PCB board, Water and oil resistant materials shall meet requirements for PFAS. All certified products shall meet the requirement. 1, 25 ppb for any PFAS as measured with targeted PFAS analysis (polymeric PFASs excluded from quantification) 2, 250 ppb for the sum of PFASs measured as sum of targeted PFAS analysis, optionally with prior degradation of precursors (polymeric PFASs excluded from quantification) 3, 50 ppm for PFASs (polymeric PFASs included). If total fluorine exceeds 50 mg F/kg the manufacturer, importer or downstream user shall upon request provide to the enforcement authorities a proof for the fluorine measured as content of either PFASs or non-PFASs. For plastic parts exceeding 25 g manufacturer shall provide a declaration which declares the materials used in the production meet the above-seen requirement.
Mercury	DIN EN 1483	Mercury is not allowed for a backlight unit
Beryllium	DIN EN ISO 11885	Refers to 0.1% in each finished part of the article (all sub-products which can be separated without tools) and each packaging separately.
Antimony	DIN EN ISO 11885	Refers to 0.1% in each finished part of the article (all sub-products which can be separated without tools) and each packaging separately.

Requirement	Regulation	Limit
Packaging testing	Directive 94/62/EC and amendments	Limit: Pb+ Hg+ Cd+ Cr(VI) < 100 mg/kg
	MOSH and MOAH; French Arrêté du 13 avril 2022	The ban applies to the use of mineral oils: · For MOAH, if the printing ink contains more than 0.1 % or the mass concentration of compounds with 3 to 7 aromatic rings in the printing ink is more than 1 ppm (mg/kg); · For MOSH, the limit value in the printing ink is 0.1 %.
Battery Regulation	Regulation (EU) 2023/1542	Limit: Hg 0.005% Cd 0.002% and Pb 0.01%

Methodology for assessing and demonstrating compliance:

The applicant shall provide test reports issued by TÜV Rheinland, or by a laboratory accredited by one of ILAC MRA signatories according to ISO/IEC 17025 and holding accreditation scope that cover the standards relevant to substances listed in 5.1. Testing reports are deemed valid for a period of 12* month from date of test sample submission up to the date of review. Reports should be issued for the complete finished product.Component reports shall not be accepted. Declaration of Compliance shall be provided, covering all legal requirements of the target markets as well as the spot-checked parameters: REACH Substances of Very High Concern (SVHC) and biocides.

Additionally the applicant shall provide a written declaration from the manufacturer according to DE-UZ 160 annex P-L and a written declaration from the plastic manufacturers according to DE-UZ 160 annex P-M. For declaration the templates from DE-UZ 160 shall be used or comparable templates according to ISO/IEC Guide 22.

For restricted substances, where a substitution at the time being due to missing alternatives is not possible, or the technology cannot be achieved at this stage, an exemption maybe granted. To support this exemption the supplier has to provide technical assessment and relevant documents.

The applicant provides a certificate(s) or accredited test report, which shows compliance with the legal requirement of each respective substance. TÜV Rheinland reviews that limits are kept. Alternatively, TÜV Rheinland evaluates the values by the provided product data from the manufacturer.

* Valid period could be extended to 5 years in maximum if applicant could guarantee through appropriate means that the materials are not changed since the initial testing.

TÜV Rheinland reserves the right to accept existing reports issued by accredited laboratories.

5.2 Sustainable use of resources

5.2.1 Energy Efficiency

5.2.1.1 Power Management Requirements

The Set-top boxes shall comply with the following requirements.

- Set-top boxes shall provide standby mode.
- Set-top boxes shall be equipped with an ‘automatic power-down’ or similar function with the following characteristics:
    - the STB shall be automatically switched from active mode into standby after less than 4 hours for CSTB, 3 hours for SSTB in active mode following the last user interaction and/or a channel change with an alert message two minutes before going into standby mode.
    - the ‘automatic power-down’ function shall be set as default.
- Set-top boxes must be capable of exiting the standby mode with the aid of an integrated timer in order to download content, search for programme, system or scheduling information or to perform other maintenance tasks. Following the completion of these tasks, the device must switch back to the original standby mode within a maximum of 15 minutes.
- Set-top boxes must be designed in such a way that they can be disconnected from the mains power supply from time to time by the user. The device should function without any problems after it is reconnected to the mains power supply.
- In the case of Set-top boxes supplied by service providers that feature a "speculative recording" function (automatic recording based on user preferences), they must have a user-accessible menu option enabling the user to deactivate this function where desired.

Methodology for assessing and demonstrating compliance:

The applicant shall provide test reports issued by TÜV Rheinland, or by a laboratory accredited by one of ILAC MRA signatories according to ISO/IEC. Testing reports are deemed valid for a period of 12 months from date of test sample submission up to the date of review. Reports shall be issued for the complete finished product. Additional spot checks may be carried out by TÜV Rheinland in a risk-based approach.

5.2.1.2 Energy Consumption

The product shall comply with the following requirement.

Complex Set Top Boxes:

Requirement	Regulation	Limit
Annual energy Consumption	Voluntary Industry Agreement to improve the energy consumption of Complex Set Top Boxes within the EU	The total annual energy consumption for the relevant base and additional functionalities on complex set-top boxes must fall below the allowances defined in the “Voluntary Industry Agreement to improve the energy consumption of Complex Set Top Boxes within the EU, version 6.3 (6 Mar 2019), Tier 4” by at least 50 percent.

Standby and off mode	Regulation (EU) 2023/826	The STB shall comply with the requirements of Regulation (EU) 2023/826.

Simple set-top boxes:

Requirement	Regulation	Limit
Standby and off mode	Regulation (EU) 2023/826	The STB shall comply with the requirements of Regulation (EU) 2023/826 from 9 May 2025.

The product shall be in compliance with these limits for the individual device configuration (each network port).

* In case of a revision of the code of conduct the latest version shall be applied.

Methodology for assessing and demonstrating compliance:

The applicant shall provide test reports issued by TÜV Rheinland, or by a laboratory accredited by one of ILAC MRA signatories according to ISO/IEC. At least three samples must be tested. Testing reports are deemed valid for a period of 12 months from date of test sample submission up to the date of review. Reports shall be issued for the complete finished product. Additional spot checks may be carried out by TÜV Rheinland in a risk-based approach.

5.2.2 Recycle Design

5.2.2.1 WEEE

The final product shall compliance with following requirements:

Requirement	Regulation	Limit
WEEE	Directive 2012/19/EU and amendments	75% shall be recovered, and 55% shall be prepared for re-use and recycled;

Methodology for assessing and demonstrating compliance:

The applicant shall provide an evaluation report and TÜV Rheinland carries out a verification of the reports according to WEEE Directive 2012/19/EU and amendments.

The recovery and recycling rates of the materials used in the WEEE report shall be reasonable. TÜV Rheinland reserves the right to request the applicant to provide the supporting documents for the recovery and recycling rates of materials used in the WEEE report.

5.2.2.2 Recycled(post-consumer) Material Content

The product shall comply with the following requirement.

Requirement	Regulation	Limit
Recycled (post-consumer) plastic material Content for product	ISO 14021 or equivalent standard	≥ 50% post-consumer recycled material content of plastic parts (Enclosure and stand, excluding PCB, cable, label and electronic components) of the product.

Methodology for assessing and demonstrating compliance:

The applicant shall provide the certificate(s) or accredited test report(s) per ISO 14021 or equivalent standard for recycled material(s) from accredited third party laboratories to TÜV Rheinland for reviewing. The certificate or test report shall not be older than 12 months.

TÜV Rheinland reserves the right to accept existing reports issued by accredited laboratories.

Any external power supplies used for Set top boxes are not required to use recycled material.

In case the applicant is not able to provide the certificate or test report from accredited third party aboratories or on any risk basis from TÜV Rheinland, the applicant should provide following documents to TÜV Rheinland for reviewing. An on-site verification at manufacturing site(s) may be conducted also by TÜV Rheinland if need.

- Raw materials procurement records (such as contracts / receipts / invoices, etc.).
- Recycled products formulation specifications (ex:Stuffing RPET 100% + Softboa RPET 100%+ PV Boa RPET 100% + XXXX).
- Recycled material manufacturing process flow chart.
- Recycled source documents (Ex: GRS).
- Production of recycled products (the amount of data related products a year, or the amount of data produced during the validation of the subject matter, including the feeding amount/volume of output/loss amount).
- Recycled products production records(input/sales/monthly reports/inventory records).
- Products sales sheet.

5.2.2.3 Recycling Strategy

The applicant shall provide a recycling strategy:

- Devices must be designed so that they are easy to dismantle for recycling purposes in order to ensure that housings, hard drives and printed circuit boards can be separated as fractions from materials of other functional units and, if possible, recycled by material type.
- It must be possible for the device to be dismantled manually by a specialist company with the aid of universal tools and for this process to be carried out by a single person.
- Electrical/electronic components must be easy to remove from the housing.

- 90% of the mass of the plastics and of the metals used for the housing parts and chassis must be recyclable by type of material (this does not include the recovery of thermal energy by incineration).

Methodology for assessing and demonstrating compliance:

The applicant shall provide information according to their recycling strategy concerning the tested product. Additionally the applicant shall provide a declaration concerning recyclability of housing parts/chassis. The applicant shall provide a description of disassembly (e.g. as part of the recycling strategy).

The applicant shall provide a description of disassembly (e.g. as part of the recycling strategy).

5.2.2.4 Material Selection

The following shall apply to plastic parts (except for cables) with a mass greater than 25 grams as well as to key caps, provided that their total mass exceeds 25 grams:

Requirement	Regulation	Limit
Types of plastic	DE-UZ 160	• Only the plastic types ABS, PC, HIPS, PE and PP are approved for the individual plastic parts. Furthermore, the use of plastic composites of PC and ABS is permissible, provided that these consist of post-consumer recycled materials. • The plastic housings must be recyclable by material.
Marking	DE-UZ 160	• Plastic parts with a mass greater than 25 grams each and an even surface area of more than 200 mm² shall be permanently marked in accordance with ISO 11469 with due regard to ISO 1043, Parts 1 to 4. • Transparent plastic parts the function of which requires transparency (e.g. visible plastic films in displays) shall be exempt from marking according to ISO 11469.
Coatings	DE-UZ 160	• Galvanic coatings and other metallic coatings of plastic housing parts shall not be permitted.

Methodology for assessing and demonstrating compliance:

The applicant shall provide a declaration according to the above-mentioned requirements.

Marking will be tested on the product.

5.2.2.5 Take Back

The applicant shall meet the following requirements concerning product take back.

Requirement	Regulation	Limit
Take Back	DE-UZ 160	• The applicant undertakes to take back ecolabelled and own-manufactured products after use in order to channel them with preference to reuse or to material recycling. • Non-recyclable device parts shall be disposed of in an environmentally sound manner. • The devices shall be taken back free of charge - either personally or by shipment - at applicant's facility or at a return facility named by the applicant. • The product documentation of the device shall provide detailed information on the return options.

Methodology for assessing and demonstrating compliance:

The applicant shall declare compliance with the requirements and provide information concerning product take back (e.g. as part of the recycling strategy, name of the take-back system or extended producer responsibility schemes (EPRs) used in each country).

5.3 Product Climate Resilience

The producer shall quantify/assess the life cycle carbon emissions of products using life cycle assessment techniques, i.e. by describing the inputs and their associated emissions attributed to the delivery of a specified amount of the product functional unit.

Total life cycle carbon footprint and carbon footprint of the product’s life cycle stages(at a minimum, raw material, manufacturing, use, distribution, and end-of-life).

Methodology for assessing and demonstrating compliance:

The applicant shall provide a report of Product Carbon Footprint (PCF) using ISO 14067, or Life Cycle Assessment using ISO 14040 & ISO 14044 or ITU-T L.1410. The report shall be issued by, or verified/critical reviewed by TÜV Rheinland.

TÜV Rheinland encourages applicants to disclose their carbon footprint reports and to continuously plan the carbon reduction path of their products. If possible, it is advisable to re-evaluate the carbon reduction of the product during the annual renewal of the Green Product Mark certificate.

6 Product Lifetime Extension

6.1 Durability, Repair and Reuse

The applicant shall meet the following requirements concerning Software Updates.

- It must be possible to update the software on the set-top boxes via the device menu.
- The applicant undertakes to make functional and security-related software updates for at least four years from the time that production ceases.
- The product documents shall provide information on how to implement software updates.

The applicant shall meet the following requirements concerning Repair and Spare Parts Availability.

- The applicant undertakes to make sure that the provision of spare parts for the repair of the devices and the repair of the required infrastructure is guaranteed for at least 3 years following the termination of production and that the customer is informed about this guaranteed availability of spare parts.
- 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.

Methodology for assessing and demonstrating compliance:

The applicant shall declare compliance with the requirements.

6.2 Longevity

The product shall comply with the following requirement.

Requirement	Regulation	Limit
Longevity	-	Electrolytic capacitors in their particular application for temperature and ripple current, the lifetime shall achieve more than 55000 hours (approx. 6 years).

Methodology for assessing and demonstrating compliance:

The applicant shall provide an evaluation report and TÜV Rheinland carries out a verification of the reports.

If the product is designed with a lifetime less than 6 years, then the above calculations lifetime shall meet the manufacturer's claim at least.

6.3 User Guide Information

The Set-top boxes shall come with short guide and operating instructions included at least the following user information.

Requirement	Regulation	Limit
Short Guide and Operating Instructions	-	• Total annual energy consumption (TEC) in kilowatt hours (kWh/year) in accordance with Paragraph 5.2.1.2 for CSTB, as well as the power consumption in the different operating modes. • The energy consumption of standby mode and active mode in accordance with EU Regulation 107/2009 for SSTB. • Information must be provided to explain how to switch the device to the energy-saving modes. • Information that the device also consumes electricity in standby mode, even if in some cases the display has been deactivated. • Information that lengthening the preset time for the automatic switch-off function (APD) or deactivating the APD function altogether can lead to an increase in energy consumption. • Information that reducing energy consumption is directly linked to lower operating costs and that energy consumption can be reduced to zero if the device is completely disconnected from the mains socket outlet; additional information to confirm that completely disconnecting the device from the mains socket outlet will not lead to any deterioration in the performance of the device for the user. • Instructions that enable the user to deactivate the "speculative recording function" – if available. • Information on the possibilities for adapting the device to technical changes in accordance with Paragraph 6.1. • Information on repairability in accordance with Paragraph 6.1. • Information on the possibility of returning used devices to the applicant for the purposes of repair or recycling in accordance with Paragraph 5.2.2.5. • Information on environmentally-friendly disposal at the end of the device's service life. • Instructions for battery removal (if any). • Instructions for mass storage module removal (if any).

Methodology for assessing and demonstrating compliance:

The applicant shall provide the operating instructions and short guide demonstrating that the information listed above is available.

The short guide shall be enclosed with the device on paper. It is not required that all the set of operating instructions is also provided on paper, but they can also be on electronic or other data storage format, and the access method for user shall be provided.