Criteria for the Award of Green Product Mark

Consumer-Router

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 router 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*
- ISO 14040, *Environmental management -- Life cycle assessment – Principles and framework*
- ISO 14044, *Environmental management – Life cycle assessment – Requirements and guidelines*
- Product Environmental Footprint (PEF) Guide
- 2001/95/EC General Product Safety Directive
- ISO/TS 14067, Carbon footprint of products – Requirements and guidelines for quantification and communication
- PAS2050:2011, Specification for the assessment of the life cycle greenhouse gas emissions of goods and services
- ISO 14021, Environmental labels and declarations–Self-declared environmental claims (Type II environmental labelling)
- WEEE Directive 2012/19/EU
- RoHS Directive 2011/65/EU
- REACH Regulation (EU) No 1907/2006
- ISO 11469, Generic identification and marking of plastics products
- Packaging and packaging waste Directive 94/62/EC
- POP Regulation (EC) No 519/2012
- RED Directive 2014/53/EC
- (EC) No. 1275/2008, (EC) No. 801/2013, (EC) No. 278/2009
- RAL-UZ 160

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 launched 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 Router

A network device including broadband modem in order to communicate via the internet as well as surfing the internet or network. The router may have additional interfaces for WLAN, LAN, DECT, USB, analogues phones etc.

3.3 Prerequisites

Preconditions that a product shall comply with to be awarded TÜV Rheinland's Green Product Mark, which in principle are comprised 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.

3.4 Product environmental criteria

Environmental requirements that the products shall meet in order to be awarded an environmental label. [SOURCE: ISO 14024: 1999, definition 3.4]

3.5 Product function characteristics

Attribute or characteristic in the performance and use of a product. In the context of environmental labelling, fitness for purpose implies that a product satisfies health, safety and consumer performance needs. [SOURCE: ISO 14024: 1999, 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

- shall fulfil the requirements of SA 8000 (Evidence with a valid SA 8000 certificates or SA 8000 audit reports by TÜV Rheinland), or
- are a full member of Responsible Business Alliance (RBA) and can provide documented proof of third party audits reports, or
- submits a report according to the GRI standards.

The documented proof/report mentioned in any of the above 3 options shall be a maximum of 12 months old at the time of application for Green Product Mark certification as stipulated in EN ISO/IEC 17021.

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 1 year.

5 Product environmental criteria

5.1 Protection of human and environmental health: 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 and RAL-UZ 160	Refers to 0.1% in each article and each packaging material. Plastics used in housings and housing parts shall not contain SVHC as constituent components.
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.

Requirement	Regulation	Limit
NP/ OP + NPEO/ NPEO (Nonylphenol/ Octylphenol + Ethoxylates)	With reference to Regulation (EU) No 1907/2006	100 mg/kg each (AP) / 100 mg/kg each (APEO)
Organotin Compounds	With reference to Regulation (EU) No 1907/2006	0.1 mg/kg :TBT; 1 mg/kg: MBT, DBT, DOT
Pentachlorophenol (PCP)	Regulation (EU) No 1907/2006	Pentachlorophenol shall not be used in any part.
Flame retardants (PBBs, PBDEs, TRIS, TEPA, Arsenic trioxide)	With reference to Regulation (EU) No 1907/2006 and RAL-UZ 160	Not detected Conduct all materials except metals, glass, ceramic and wood.
Cadmium	Regulation (EU) No 1907/2006	100 mg/kg (accessible materials)
Lead	Reference to Regulation (EU) No 1907/2006	90 mg/kg (accessible materials)
PAH (Polycyclic Aromatic Hydrocarbons)	18 PAH according to AfPS GS 2014:01 PAK	Requirements set by AfPS

Requirement	Regulation	Limit
Halogen	NEMI Position Statement on "Low Halogen" Electronics	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
Packaging testing	Directive 94/62/EC and amendments	Pb + Hg + Cd + Cr (VI) < 100 mg/kg Use of recyclable fibre-based packaging materials: minimum percentage of overall packaging: 70% Post-consumer recycled plastic packaging: minimum percentage: 5%.
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.
Short chain Chlorinated Paraffins C10-C13 (SCCP)	Regulation (EC) No 519/2012 (POPs)	Refers to 0.1% of each finished material of the article and each packaging (made of PVC, soft plastic and leather material)
Hexabromocyclododecane (HBCDD)	Regulation (EC) No 519/2012 (POPs)	Refers to 0.01% of each finished material of the article and each packaging (made of EPS and PS foams)

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 18 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.

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

* 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.

5.2 Electromagnetic Radiation

The specific absorption rate (SAR) of devices with one or more wireless interfaces and a total transmission power of 10 mW or more shall pass the following requirement.

Requirement	Regulation	Limit
Electromagnetic Radiation	RAL-UZ 160 DIN EN 62209-2	In exposed persons the specific absorption rate (SAR value) caused by the emitted high-frequency electromagnetic radiation shall not exceed 0.60 watts per kg locally averaged over 10 grams of tissue mass.

The maximum SAR value shall be determined in accordance with DIN EN 62209-2 and the position of the test sample relative to the body phantom used for measurement purposes (“measurement phantom”) shall be chosen in accordance with paras. 6.1.4.7 „desktop device“ and, if applicable, 6.1.4.5 „Device with hinged or swivel antenna. The assessment shall be based on the maximum value resulting when there is with no distance between device and body phantom.

Methodology for assessing and demonstrating compliance:

The applicant shall provide test reports according to DIN EN 62209-2 issued by TÜV Rheinland, or by a laboratory affiliated with a body notified according to directive 2014/53/EU.

5.3 Sustainable use of resources

5.3.1 Energy Efficiency

5.3.1.1 Power consumption

The product shall comply with the maximum power consumption targets included in Broadband Equipment Code of Conduct Version 6, Tier 2018.

Requirement	Regulation	Limit
Power Consumption	RAL-UZ 160	The router shall not exceed the electric power consumption limits set out in the Broadband Equipment Code of Conduct Version 6* for Tier 2018 both in “Idle” and “On” state under the measurement conditions defined for each state.

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 have to be tested. Testing reports are deemed valid for a period of 18 month 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.

5.3.1.2 Defined Transition Time

The product shall comply with the following requirement concerning a maximum transition time.

Requirement	Regulation	Limit
Transition Time	RAL-UZ 160	The router must feature automatic fallback to Idle state that sets the device to Idle within a transition period of no more than 5 minutes after processing a payload in On mode.

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. Testing reports are deemed valid for a period of 18 month 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.

5.3.1.3 Power management requirements

The router must be designed so that unneeded functionalities can be individually switched on and off by the users or individual energy-saving settings can be made. In addition, the router's electrical power consumption during active operation must be both functionally and load dependent. The router must have automatic power management, which will reduce electrical power consumption to a minimum, in a timely and functionally appropriate manner.

Requirement	Regulation	Limit
LAN	RAL-UZ 160	• The electric power consumption of unused LAN ports, i.e. ports with no cable connected as well as ports with a non-active device connected shall be minimized automatically.
		• Router with Gigabit Ethernet ports shall detect connections to devices with Fast Ethernet ports and adapt the power consumption.

Requirement	Regulation	Limit
WLAN	RAL-UZ 160	• The user shall be allowed to permanently deactivate the WLAN module by using a switch on the housing. • The user shall be allowed to program the router so that the WLAN radio module can be switched on and off following a time schedule. • The router must reduce the WLAN transmission power of the WLAN module when there is no terminal device registered. • The user must be allowed to adjust the transmission power of the device. • The current WAN and WLAN status must be displayed on the device as well as on the user interface.
		• The user shall be allowed to enable and disable the respective unused WLAN radio frequency 2.4 GHz or 5 GHz by either programming or by means of a mechanical switch.
DECT	RAL-UZ 160	• The user shall be allowed to enable and disable a DECT interface by either programming or by means of a mechanical switch. • DECT shall be disabled on delivery.
mobile communications interface	RAL-UZ 160	• The device must have a signal strength indicator that provides information on the quality of the connection to the mobile communications network that would help the user find the most suitable location for the device in terms of radio technology.

Requirement	Regulation	Limit
Router Menu	RAL-UZ 160	• When accessing the configuration menu users must be informed that they can have decisive influence on the energy consumption of their device by adjusting the settings e.g. (timer function, transmission power reduction, individual deactivation). • The menu shall provide the user with clear and easily understandable information on the possibility to individually disable certain functionalities (especially DECT and WLAN) and, thereby, reduce electric power consumption.

Methodology for assessing and demonstrating compliance:

The applicant shall declare compliance with these requirements and mark the appropriate passage of the product documentation indicating the functions.

5.3.2 Recycle Design

5.3.2.1 **WEEE**

Requirement	Regulation	Limit
WEEE	Directive 2012/19/EU and amendments	Recycling content ≥ 80%.

Methodology for assessing and demonstrating compliance:

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

5.3.2.2 **Recycled (poster consumer) plastic material content**

Requirement	Regulation	Limit
Recycled (post-consumer) plastic material content	Verification ISO14021:1999, National Green Schemes (Eco Label, IEEE 1680:2006, etc.)	≥ 50% post-consumer recycled material content of plastic parts (Enclosure and stand, excluding PCB, cable, label and electronic components) of the product. Applicable for products tested after 31.12.2019.

Methodology for assessing and demonstrating compliance:

The applicant shall provide the declaration that states post-consumer recycled material content of plastic part (Enclosure, frame, excluding PCB, cable, label and electronic components) of the product shall not less than 50%.

5.3.2.3 Recycling strategy

The applicant has to provide a detailed recycling strategy. The router shall be designed so as to allow a low-effort separation of significant material fractions, such as plastics, ferrous metal, copper and aluminium.

Requirement	Regulation	Limit
Recyclable by material	RAL-UZ 160	• The router shall be designed so as to allow a low-effort separation of significant material fractions, such as plastics, ferrous metal, copper and aluminium. • A minimum of 90 percent of the mass of plastics and metals of housing parts/chassis must be recyclable by material (this does not mean the recovery of thermal energy by incineration).

Methodology for assessing and demonstrating compliance:

The applicant shall provide information according their recycling strategy concerning the tested product. Additionally the applicant shall provide a declaration concerning recyclability of housing parts/chassis.

5.3.2.4 Design Optimised for Recycling

The router shall be designed so as to allow specialist companies to dismantle the device into its main parts by the use of commonly available tools for the purpose of recycling. This particularly applies to the following components

- Housings with plugs/connectors
- Printed circuit board assemblies (mainboard)
- Rechargeable battery
- Large-area heat-sinks and heatpipes
- Mass storage devices.

Methodology for assessing and demonstrating compliance:

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

5.3.2.5 **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	RAL-UZ 160	• ABS, HIPS and PP are the only types of plastic that may be used for these parts. • The plastic housings must be recyclable by material.parts/chassis must be recyclable by material (this does not mean the recovery of thermal energy by incineration).
Marking	RAL-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	RAL-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 the above mentioned requirements. Marking will be tested at the product.

5.3.2.6 **Take Back**

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

Requirement	Regulation	Limit
Take Back	RAL-UZ 160	• The applicant undertakes to take back eco-labelled 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 provides information concerning product take back (e.g. as part of the recycling strategy).

5.4 Evaluation of product climate resilience

The producer shall quantify/assess the life cycle greenhouse gas 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.

Methodology for assessing and demonstrating compliance:

Option 1: The applicant shall provide a report of Product Carbon Footprint based on PAS 2050 or ISO/TS 14067. The report shall be verified by an independent third-party.

Option 2: The applicant shall provide a report of Life Cycle Assessment using ISO 14040 and ISO 14044. The report shall at least include the environmental impact category Global Warming Potential and shall be reviewed by an independent third-party.

The critical review process shall ensure that (source: ISO 14044:2006):

- the methods used to carry out the LCA are consistent with this international standard,
- the methods used to carry out the LCA are scientifically and technically valid,
- the data used are appropriate and reasonable in relation to the goal of the study,
- the interpretations reflect the limitations identified and the goal of the study, and
- the study report is transparent and consistent.

The minimum necessary score to qualify as a reviewer or a review team is six points, including at least one point for each of the three mandatory criteria (i.e. verification and audit practice, LCA methodology and practice, and knowledge of technologies or other activities relevant to the study).

Table 1: Scoring system for eligible reviewers/review teams (source: Product Environmental Footprint Guide)

Topic		Criteria	Score (points)				
			0	1	2	3	4
Mandatory criteria	Review, verification and audit practice	**Years of experience**	0 – 2	3 – 4	5 – 8	9 – 14	> 14
		Number of reviews	0 – 2	3 – 5	6– 15	16 – 30	> 30
	LCA Methodology and practice	**Years of Experience**	0 – 2	3 – 4	5 – 8	9 – 14	> 14
		Experiences of participation in LCA work	0 – 4	5– 8	9 – 15	16 – 30	> 30
	Technologies or other activities relevant to the study	**Years of experience in private sector**	0 – 2 (within the past 10 years)	3 – 5 (within the past 10 years)	6 – 10 (within the past 20 years)	11 – 20	> 20
		Years of experience in public sector	0 – 2 (within the past 10 years)	3 – 5 (within the past 10 years)	6 – 10 (within the past 20 years)	11 – 20	> 20
Other	Review, verification and audit practice	Optional scores relating to audit	▪ 2 points: Accreditation as third party reviewer for at least one EPD Scheme, ISO 14001, or other EMS. ▪ 1 point: Attended courses on environmental audits (at least 40 hours). ▪ 1 point: Chair of at least one review panel (for LCA studies or other environmental applications). ▪ 1 point: Qualified trainer in environmental audit course.				

6 Product function characteristics

6.1 Durability, Repair and Reuse

Requirement	Regulation	Limit
Warranty	RAL-UZ 160	• The applicant undertakes to offer a two-year warranty on the product, at no extra cost.
Software Updates	RAL-UZ 160	• The applicant undertakes to make functional and security-related software updates for at least four years from the time that production ceases. • The device shall come with a free function to allow the user to update the operating system. • The product documents shall provide information on how to implement software updates.
Repair and Spare Parts Availability	RAL-UZ 160	• The applicant undertakes to perform repairs or provide infrastructures for repair services for at least four years from the time that production ceases and to make sure that the availability of spare parts for device repair is guaranteed for at least four years from the time that production ceases. Spare parts shall be offered at reasonable prices by the manufacturer itself or by a third party. Spare parts are those parts which, typically, may fail or break down within the scope of the ordinary use of a product, as for example power supplies or rechargeable batteries (if any). • The product documents shall provide information on the assembly of components, spare parts supply and repair services.

Requirement	Regulation	Limit
Replaceability of Rechargeable Batteries	RAL-UZ 160	• Rechargeable batteries shall be replaceable by the user without the need for any special tools and without the risk of damage. • Rechargeable batteries must meet the current requirements of DIN EN IEC 62133 and DIN EN IEC 61951-2
Replaceability of Hard Disk Drives and Mass Storage Devices	RAL-UZ 160	• It shall be possible for the user to remove hard disk drives (HDD) and other mass storage modules (SSD, etc.) without the need for any special tools and without the risk of damage. • Instructions on how to remove the mass storage device shall be made available to the user
Data Deletion	RAL-UZ 160	• The user shall be able to completely and securely delete all personal data without the help of pay software. • The device shall provide a software function that resets the device to its factory settings.

Methodology for assessing and demonstrating compliance:

The applicant shall declare compliance with the requirements

6.2 Longevity

Requirement	Regulation	Limit
Longevity	-	• Electrolytic capacitors in their particular application for temperature and rippel current, the life time 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.

6.3 User guide information

The router shall come with a short guide and operating instructions. The short guide shall be enclosed with the device on paper.

Requirement	Regulation	Limit
Operating Instructions and Short Guide	RAL-UZ 160	• Instructions for analogously displaying the status of the operating states of the router or individual interfaces on the device (e.g. LED displays). • Instructions for digitally displaying the status of the operating states of the router or individual interfaces on the user interface. • Instructions on how to enable or disable radio modules (such as, among others, WLAN, DECT). • Instructions on how to activate the timer function and the transmission power reduction of the WLAN module in order to reduce energy consumption and radiation exposure. • Instructions for energy efficient use of the router, including instructions for automatic and manual power management as well as for an optimal positioning of the router in a room. • Instructions for battery removal (if any). • Instructions for mass storage module removal (if any).

Requirement	Regulation	Limit
Operating Instructions and Short Guide of a router equipped with one or more radio transmitters	RAL-UZ 160	Operating Instructions and Short Guide of a router equipped with one or more radio transmitters shall additionally inform the user: • that the device – due to operating conditions - emits high-frequency electromagnetic fields, • that exposure to these fields can be reduced by way of precaution if the device is installed in a central place where people usually do not spend much time, i.e. for example, in the hall, • that the WLAN transmitter can be permanently turned off using a switch on the housing and can be programmed to be turned off using the timer function, • that the display showing the quality of the wireless connection on the device (e.g. for UMTS/LTE) can help find a technically optimal location for the router.

Methodology for assessing and demonstrating compliance:

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