

BLUE ANGEL

The Environmental Label



Digital Cordless Phones

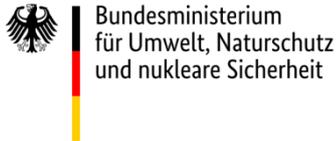
DE-UZ 131

Basic Award Criteria

Edition January 2020

Version 1

The environmental label is underpinned by the following institutions:



Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit) is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.



The Federal Environmental Agency (Umweltbundesamt) in the specialist department "Ecodesign, Eco-Labeling and Environmentally friendly Procurement" acts as the office of the Environmental Label Jury and develops the specialist criteria in the form of the Basic Award Criteria for the Blue Angel environmental labels.



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.



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.

If you require further information please contact:

RAL gGmbH

RAL ENVIRONMENT

Fränkische Straße 7

53229 Bonn

Tel.: +49 (0) 228 / 6 88 95 - 0

E-Mail: umweltzeichen@ral.de

www.blauer-engel.de

Table of contents

1	Introduction.....	4
1.1	Preface	4
1.2	Background	4
1.3	Objectives of awarding the environmental label.....	5
1.4	Definitions.....	6
1.5	Compliance with legal requirements.....	7
2	Scope	8
3	Requirements and compliance verifications.....	9
3.1	Power consumption in the different operating modes	9
3.2	User-adjustable range limitation.....	10
3.3	Automatic adaptation of transmission power	11
3.4	Cut-off of transmission signals in standby mode.....	11
3.5	Criteria for further exposure reduction	12
3.6	Display	13
3.7	Exposure / SAR value	13
3.8	Material requirements for plastics used in the housing and housing parts	14
3.9	Rechargeable batteries.....	15
3.10	Provision of spare parts and replacement devices	15
3.11	Requirements for the sales packaging	16
3.12	Operating instructions.....	16
3.13	Overview of possible future requirements	17
4	Applicants and parties involved	17
5	Use of the label.....	17
	Appendix A Measurement setup in shielded rooms for 3.2 and 3.3	19
	Appendix B Assignment of hazard categories and H Phrases.....	20

1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the Federal 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 these conditions.

1.2 Background

Digital cordless phones (DECT telephones) are still very popular and widely used today. Alongside standard stand-alone stations, the base station for these phones can also be integrated into an Internet-enabled router. The method used for connecting the base station to the public telephone network (ISDN, DSL or fibre-optic cable) and whether the telephone call is transmitted via an IP-based system or not are irrelevant for these Basic Award Criteria. Nevertheless, it is expected that IP-based transmission methods will be increasingly used.¹ In addition to enabling telephone calls, most cordless phones also offer additional functions such as the sending of messages (SMS), an alarm function, room monitoring (baby monitor), radio reception and music streaming, as well as Internet access if the systems are IP-based.

These Basic Award Criteria also apply to CAT-iq devices. The CAT-iq standard 2.0/2.1 is currently the most commonly used standard for those applications which exclusively involve the transmission of voice signals.

Digital cordless phones consist of a base station and one or more handsets that communicate wirelessly with one another by radio. The base station connects to the landline network or Internet. The rechargeable batteries in the handset are charged either by placing the handset on a special charging cradle or using the charging function integrated into the base station. Radio waves within defined frequency ranges are used to transmit data between the base station and handsets.

The environmental label for digital cordless phones places a particular focus on minimizing energy consumption and the precautionary reduction of radio radiation. In addition, the materials used must not contain any substances posing serious environmental and health concerns that could cause problems during their use or disposal.

¹ Activity report 2016/17 published by the Federal Network Agency on the theme of telecommunications: https://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Allgemeines/Bundesnetzagentur/Publicationen/Berichte/2017/TB_Telekommunikation20162017.pdf?__blob=publicationFile&v=3 (accessed 2019-10-10)

The radio signals emitted from digital cordless phones are occasionally associated with health impairments in public discussions on this subject. In this context, it should be noted that the maximum transmission power of conventional cordless phone systems (base station and handset based on the DECT standard) is lower than that of mobile phones using similar frequencies. Based on the time slot method, the average radiated power of the handset of a cordless phone based on the DECT standard is about 10 mW or 20 mW using CAT-iq technology, if two transmission channels are used. Devices using additional radio transmitters in addition to DECT or CAT-iq (e.g. WLAN and/or Bluetooth) may have a higher average transmission power. The average transmission power of a base station equals that of the handsets. It may be higher if several handsets are used with the same base station, for example, in an office or professional environment. However, mobile phones are now a larger source of high-frequency electromagnetic fields than cordless phones in many households.

Although scientific studies have not yet been able to establish a definitive link between exposure to electromagnetic fields below the recommended limits stipulated by the EU [Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz), (1999/519/EC)] and an impairment to health, existing technical options should be consistently used as a precautionary measure to reduce exposure to electromagnetic fields as much as possible. The health-related requirements were developed in cooperation with the German Federal Agency for Radiation Protection (Bundesamtes für Strahlenschutz).

A user-adjustable range limitation function as required in Paragraph 3.2 of these Basic Award Criteria allows consumers to independently reduce the maximum transmission power (in addition to the automatic adaptation of the transmission power required under Paragraph 3.3). It is important to note that a reduction in the maximum transmission power by 10 dB or more is especially recommended for one-room apartments or if the handset and base station are located in the same room as otherwise the quality of the voice transmission may deteriorate.

1.3 Objectives of awarding the environmental label

The "Blue Angel" environmental label for digital cordless phones should inform customers purchasing these types of devices that products issued with this label – in contrast to other products – provide greater preventative protection for the environment, human health and the consumer. Therefore, the environmental label can act as a decision-making aid for purchasing new devices.

It is a voluntary label that is designed to motivate manufacturers to develop efficient devices with the lowest possible energy consumption and low exposure to electromagnetic fields and which also allows them to easily inform customers about these product characteristics in a targeted way.

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

- low energy consumption
- low radiation



1.4 Definitions

- Data transmission standards
 - ♦ **DECT** stands for Digital Enhanced Cordless Telecommunication and is a radio standard for telecommunications. The frequency range for the transmission is between 1880-1900 MHz in Europe. In contrast to mobile communications, DECT is designed for the transmission of a telecommunications signal between a handset and a base station inside buildings (range of around 30-50 m) and outside of buildings (up to 300 m). The base station converts the signal for transmission over the public telephone network.
 - ♦ **CAT-iq** stands for Cordless Advanced Technology for Internet and Quality. This technology enables the grouping of several voice channels, which enables superior voice quality and better interoperability between devices made by different manufacturers. As a result of the higher bandwidth provided by CAT-iq, it can also be used to support other services requiring a higher voice quality such as podcasts or Internet radio. The CAT-iq 2.0/2.1 standard provides enhanced services for a broadband voice signal, power control, energy saving mode and voice encryption.
 - ♦ **Other transmission standards** (e.g. WLAN, Bluetooth) transmit in the 2.4 or 5 GHz frequency ranges and thus do not disrupt the frequencies used by DECT telephone transmissions.
- The **base station** acts as the bridge between the network connection (telephone or Internet connection) and the handset(s). Alongside standard stand-alone stations, the base station for these phones can also be integrated into an Internet-enabled router.
- The **handset** is the companion device for the base station. It is usually the cordless handset that connects to the base station.
- The **transmission power** is the electrical energy radiated from an antenna as electromagnetic waves. The transmitted energy is used by cordless phones to e.g. transmit information.
- **EIRP** is the equivalent isotropic radiated power. The EIRP is a theoretical unit to describe antenna properties with the aid of transmission power and antenna gain that refers to the radiation emitted by a point source with a spherical radiation pattern.
- The **ETSI** is the European Telecommunications Standards Institute.
- The **time slot method** in digital communication enables multiple phone calls to be transmitted at the same time on one transmission frequency. Every phone call is allocated a time slot in which the split signals (digital and compressed voice packets) are transmitted.

- **Decibel (dB)** is a logarithmic unit. In this document, it is used to describe both the factor for reducing the maximum transmission power (unit: dB) and also the level of the equivalent isotropic radiated power (see above) based on 1 mW of transmission power (unit: dBm).
- Transmitting channels
 - ♦ The **traffic bearer** is the signal transmitted between the handset and the base station during an active telephone call.
 - ♦ The **dummy bearer** is a signal that is regularly transmitted by the base station for a DECT/CAT-iq phone to indicate its operational readiness to the registered devices.
- **No-emission mode** on CAT-iq devices is the configuration when the radio signals from the base station and handsets (or handset) are completely switched off, i.e. including the dummy bearer signal (see above).
- The **specific absorption rate (SAR)** is a measure of the absorbed radiated power, e.g. the energy absorbed by materials (meaning human tissue in the case of telephony), due to the high frequency electromagnetic fields generated during voice and data transmissions.
- **Substances Of Very High Concern (SVHC)** in the sense of the REACH Regulation are those chemical compounds that fulfil the criteria according to Article 57 of the REACH Regulation. This means CMR substances (carcinogenic, mutagenic or reprotoxic substances, categories 1A and 1B) and PBT substances that are classified as persistent, bioaccumulative and toxic or as very persistent and very bioaccumulative (vPvB) or other substances that are similarly alarming for other reasons.
- **Constituent components** are substances added to the intermediate product or the product and remain there unchanged in order to achieve or influence certain product properties and those required as chemical cleavage products for achieving the product properties. This does not apply to residual monomers that have been reduced to a minimum. If certain impurities are considered to be particularly problematic, they are addressed in their own requirements.
- The **list of candidates** according to REACH Article 59 (1) is the "Candidate List of substances of very high concern for Authorisation".
- The **sales packaging** in the sense of these Basic Award Criteria refers to the packaging in which the device is directly packaged for customers. The packaging of multiple devices for transport purposes is considered secondary packaging and is not part of the sales packaging referred to in these Basic Award Criteria.

1.5 Compliance with legal requirements

The observance of relevant existing laws and legal requirements is a prerequisite for those products awarded with the environmental label. In particular, the following legal requirements must be observed:

- The Electrical and Electronic Equipment Act (ElektroG)² and the ordinance to limit the use of hazardous substances in electrical and electronic equipment (Material Ordinance for Electrical and Electronic Equipment - ElektroStoffV)³ to implement the EU directives⁴ into German law are observed.

² Law for the sale, return and environmental disposal of electrical and electronic equipment, last amended on 27 June 2017

³ Material Ordinance for Electrical and Electronic Equipment, last amended on 3 July 2018

⁴ Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment; AND Directive 2011/65/EC of the European Parliament and of the Council of

- The EU Directive 2013/56/EU⁵ implemented in German law in the German Battery Act (BattG)⁶ must be observed.
- The substance requirements defined by the EU Chemicals Regulation REACH (1907/2006/EC)⁷ and Regulation EC No. 1272/2008⁸ (CLP Regulation) are observed.
- Regulation (EC) No. 278/2009⁹ (External Power Supplies Regulation), provided that the device comes with an external power supply.
- Directive 2014/53/EU (RED Directive) of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC implemented in German law in the German Radio Equipment Act (FuAG).
- Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety implemented in German law in the Law for making products available on the market (Produktsicherheitsgesetz – ProdSG).

2 Scope

The Basic Award Criteria apply to digital cordless phones based on DECT, CAT-iq or a similar (harmonised digital) standard. Included within the scope of these Basic Award Criteria are devices or product sets consisting of the following components:

- Handset and charging cradle
- Handset and base station with integrated charging function
- Handset, charging cradle and base station

The devices should be primarily designed for transmitting phone calls and messages. They may, however, also provide additional functions (e.g. answering machine, organizer or data transmission via Bluetooth or WLAN).

Excluded from the scope are corded desktop phones with a built-in DECT station without handsets. Also excluded are mobile phones that fall under the scope of the DE-UZ 106 Basic Award Criteria, as well as routers that fall under the scope of the RAL UZ 160 Basic Award Criteria.

8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

⁵ Directive 2013/56/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2006/66/EC of the European Parliament and of the Council on batteries and accumulators and waste batteries and accumulators as regards the placing on the market of portable batteries and accumulators containing cadmium intended for use in cordless power tools, and of button cells with low mercury content, and repealing Commission Decision 2009/603/EC (Text with EEA relevance)

⁶ German Battery Act from 25 June 2009, BGBl. I p. 1582

⁷ Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

⁸ 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, as well as amending Regulation (EC) No. 1907/2006

⁹ Commission Regulation (EC) No. 278/2009 of 6 April 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies

3 Requirements and compliance verifications

The digital cordless phones described under Paragraph 2 can be labelled with the environmental label illustrated on the first page of these Basic Award Criteria if they comply with the following requirements.

3.1 Power consumption in the different operating modes

The electrical power consumption of the devices must not exceed the following limits:

Cordless phone (base station + handset):

- The power consumption of the base station must be < 1.0 W without the handset on the base station as well as with the charged handset on the base station (trickle charge).
- If the base station has a display, the permissible power consumption of the base station with and without the handset on the base station is increased by 0.5 W, i.e. it shall not exceed < 1.5 W.

Handset with charging cradle:

- Charged handset is placed on the charging cradle (trickle charge), average power consumption of the charging cradle < 0.6 W.
- Handset is not on the charging cradle, power consumption of the charging cradle < 0.3 W.

Handset with charging cradle (WLAN):

- Charged handset is placed on the charging cradle (trickle charge), power consumption of the charging cradle < 1.0 W.
- Handset is not on the charging cradle, power consumption of the charging cradle < 0.3 W.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 to the contract and submit a measurement report from a DIN EN ISO/IEC 17025 accredited testing laboratory (general requirements for the competence of testing and calibration laboratories) as Annex 2. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory). The devices shall be measured in the condition as delivered to the end customer (factory setting). The power consumptions shall be measured as average power consumptions over a time period of 10 minutes. The measurements are to be carried out with a mains supply voltage of $230V \pm 1\%$.

3.2 User-adjustable range limitation

Cordless phones supplied with a base station (device combination: handset + base station) or as a single handset (handset with a charging cradle, as an additional handset for a base station or for a router with a built-in base station) must have a user-adjustable range limitation function that can be used to reduce the maximum peak transmission power. It must be possible to reduce the transmission power in at least three steps, i.e. the user must be able to set a minimum of four different ranges (transmission power levels). This also applies to CAT-iq handsets. The difference in the maximum peak transmission power for the highest and the lowest level must be at least 10 dB (factor of 10). The reduction in the maximum peak transmission power must be effective on the base station and the registered handset at the same time. It must be possible

for the user to easily change the settings on the handset. If the base station not only uses the "traffic bearer" transmission channel but also another channel to send a "dummy bearer" signal, the transmission power for all signals must be reduced in accordance with the setting of the user-adjustable range limitation function. This also applies if more than one handset is registered to the base station.

The peak transmission power (equivalent radiated power) must not exceed 250 mW EIRP in any setting. It must be easy for the user to adjust the range limitation function and the current setting must be shown on the display of the handset at least when no call is currently being made.

As an exception to these requirements, the following applies to CAT-iq devices:

The base station must have the option of reducing the maximum transmission power by at least one level. The transmission power of the lowest level must not exceed 18 dBm (EIRP).

Compliance verification

The applicant shall declare compliance with this requirement in Annex 1 to the contact and submit a protocol for the conformity assessment according to ETSI EN 301406 as Annex 3, listing the measured equivalent radiated power of the base station and one handset registered to the base station in all possible settings for the range limitation function. A measurement setup as shown in Appendix A shall be used. The equivalent radiated power (EIRP) taking into account the antenna gain (which also needs to be measured) and the calculated reduction factor for the transmission power levels shall be entered in a table. The measurement diagrams shall be enclosed with the test report as an Annex.

If more than one handset can be registered to the base station or if the system supports HQAudio, e.g. in CAT-iq devices, all channels (dummy bearer and traffic bearer channels) shall be measured and documented. In the case of devices that also allow data transmission (e.g. devices with WLAN), corresponding test reports shall also be submitted for these radio technologies.

The measurements shall be carried out with the rechargeable batteries in the handset fully charged. In addition, the applicant shall provide a description of how to adjust the range and submit illustrations of the different messages appearing on the display (Annex 4). Testing laboratories commissioned by the applicant must be connected to a notified body appointed by the Federal Network Agency in accordance with Directive 2014/53/EU (RED Directive) of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (Text with EEA relevance).

3.3 Automatic adaptation of transmission power

The handsets and the base station of cordless phones must adjust their transmission power to the connection quality: If the connection is good or the components are only located a short distance from each other, the peak transmission power must be automatically reduced. The power control dynamics between maximum and minimum transmission power must have a minimum of four transmission power levels (or three transmission power steps). The difference between the highest and lowest level must be at least 10 dB (factor of 10). If the range limitation function (Paragraph 3.2) is switched on, the control dynamics may only reduce the transmission power in line with the set level. If more than one handset is registered to the base station, it is

sufficient if the base station controls the transmission power of the transmission channels; the transmission power of the dummy bearer signal may be kept at the value set in accordance with Paragraph 3.2 for the duration of an active voice or data connection. The automatic adaptation of the transmission power of handsets and the base station must be activated in the factory settings and it must be impossible for the user to deactivate it.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 to the contract and submit a test report as Annex 5 that lists the required control behaviour for one handset and one base station at the maximum and a medium user-adjustable transmission power level according to Paragraph 3.2. The control behaviour of the base station and handset shall be determined by means of an HF probe mounted on the respective device housing and using a measuring receiver or spectrum analyser. The measurement may be performed in normal indoor living environments. The distances at which the handset or base station switches to the next transmission power level shall be listed in a table. The measurements shall be taken at increasing as well as at decreasing distances and both cases shall be documented. The respective transmission power levels shall be determined using a measurement setup as illustrated in Appendix A and shall also be listed in a table. The measurements shall be carried out with the rechargeable batteries in the handset fully charged. Testing laboratories commissioned by the applicant must be connected to a notified body appointed by the Federal Network Agency in accordance with Directive 2014/53/EU¹⁰ (RED Directive).

3.4 Cut-off of transmission signals in standby mode

The telephones are configured in their factory settings so that in standby mode (no active voice or data connection) the radio signals of the base station and handsets (or handset) are completely cut off, i.e. including the dummy bearer signal. This configuration also applies to CAT-iq devices (in this case called: no-emission mode). The base station must switch off its radio signal in this operating mode regardless of the number of registered handsets. This must also be ensured in the event of "faulty operation", e.g. if one or more handsets are outside the radio range of the base station, if registered handsets are switched off by the user or they are no longer ready for use due to a low battery. Resetting the device to the factory settings must restore the configuration described above. The relevant mode must be shown on the display for the handset, i.e. the base station must send the corresponding information to the registered handsets.

Compliance verification

The applicant shall declare compliance with this requirement in Annex 1 to the contract regardless of the number of handsets registered to the base station. In addition, the applicant shall submit a test report as Annex 6 verifying the required cut off of the signals. For this purpose, a minimum of two handsets shall be registered to the base station and the radio signals shall be monitored in standby mode. If technical provisions have been put in place that preclude the registration of more than one handset to the base station, the test shall be carried out with one registered handset. CAT-iq devices shall be tested in no-emission mode. The measurement

¹⁰ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

shall cover the entire frequency band used in Germany for DECT or CAT-iq devices respectively. The sensitivity of the measurement system used shall allow the detection of transmission signals with a transmission power of -40 dBm. The measurement shall be carried out over a period of 6 hours in order to ensure that the signal has been completely cut off. The measurement shall be carried out at all possible range limitation levels pursuant to Paragraph 3.2 (including the factory settings). No handset shall be placed on a charging cradle or on the base station during the measurement. The measurements shall be carried out with the handset batteries fully charged. Testing laboratories commissioned by the applicant must be connected to a notified body appointed by the Federal Network Agency in accordance with Directive 2014/53/EU¹¹ (RED Directive).

3.5 Criteria for further exposure reduction

The handset must have at least one of the following options for further reducing the user's exposure:

- Hands-free mode or
- Use of corded headsets or
- Use of cordless headsets (maximum transmission power: 1 mW).

Compliance verification

The applicant shall declare compliance with the requirement and state the option provided in Annex 1 to the contract.

3.6 Display

The handset display must show the duration of the call after the end of the call at the latest. In addition, the handset display must show the actual range limitation before a call is set up and also the current transmission power level of the handset during the call.

Compliance verification

The applicant shall declare compliance with this requirement and submit corresponding illustrations as Annex 7.

3.7 Exposure / SAR value

The specific absorption rate (SAR) of a handset must not exceed 0.10 watts per kg.

Compliance verification

The maximum SAR value for operation near to the ear shall be determined in accordance with DIN EN 62209-1 (head) and for operation near to the body in accordance with DIN EN 62209-2 (body) taking into account reasonably foreseeable use¹² (see example illustration in the table). This means that each operating mode of the device, including the simultaneous operation of all radio interfaces, must be evaluated. Compliance with this requirement can be assumed without carrying out a test for devices which – in addition to a radio interface complying with the DECT

¹¹ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

¹² According to Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety, see Paragraph 1.5.

standard – are equipped with only one radio interface for connection to a cordless headset (maximum transmission power: 1mW).

The applicant shall declare compliance with the requirements in Annex 1 to the contract and submit the measurement report from an independent testing laboratory as Annex 8. The test report must be completed by a testing laboratory that fulfils the requirements for the competence of testing and calibration laboratories according to DIN EN ISO/IEC 17025 and is accredited for measurements according to DIN EN 62209-1 and DIN EN 62209-2. Testing laboratories commissioned by the applicant must be connected to a notified body appointed by the Federal Network Agency in accordance with the RED Directive 2014/53/EU¹³.

Examples of required SAR measurements:

Handset features	SAR Measurement (head) required	SAR Measurement (body) required
DECT only	No	No
DECT and Bluetooth (\leq 1mW)	No	No
DECT and Bluetooth ($>$ 1mW)	Yes	No
DECT + WLAN, if both IP telephony via WLAN and WLAN data transmissions during a telephone call via DECT standard is technically ruled out.	No	Yes
Other radio services	Yes	Yes

3.8 Material requirements for plastics used in the housing and housing parts

The plastics may not contain as constituent parts¹⁴ any substances classified as:

- a) Substances which are identified as particularly alarming under the European Chemicals Regulation REACH (1907/2006/EC) and which have been incorporated into the list drawn up in accordance with Article 59, Paragraph 1 of the REACH Regulation (so-called "list of candidates");¹⁵
- b) Substances that according to the CLP Regulation (EC) No. 1272/2008 have been classified in the following hazard categories or which meet the criteria for such classification:¹⁶
 - ♦ Carcinogenic in categories Carc. 1A or Carc. 1B
 - ♦ Germ cell mutagenic in categories Muta. 1A or Muta 1B
 - ♦ Reprotoxic (teratogenic) in categories Repr. 1A or Repr. 1B

¹³ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

¹⁴ Constituent components are substances added to the product as such or as part of a mixture and remain there unchanged in order to achieve or influence certain product properties. This does not apply to residual monomers that have been reduced to a minimum.

¹⁵ The version of the list of candidates at the time of application is valid. The list of candidates in its relevant version can be found under the following link: <https://echa.europa.eu/candidate-list-table>

¹⁶ The harmonized classifications and labellings of dangerous substances can be found in Annex VI, Part 3 of the CLP Regulation. Furthermore, a comprehensive classification and labelling inventory, which also includes all of the self-classifications of hazardous substances made by manufacturers, has been made available to the public on the website of the European Chemicals Agency: [ECHA classification and labelling inventory](#).

Halogenated polymers shall not be permitted. Neither may halogenated organic compounds be added as flame retardants. In addition, no flame retardants classified according to the CLP Regulation as carcinogenic in category Carc. 2 or as hazardous to water in category Aquatic Chronic 1 may be added to the product.

The hazard statements (H Phrases) that correspond to the hazard categories can be found in Appendix B.

The following shall be exempt from this rule:

- process-related, technically unavoidable impurities;
- fluoroorganic additives (e.g. anti-dripping agents) used to improve the physical properties of plastics, provided that they do not exceed a proportion of 0.5 percent by mass;
- plastic parts with a mass of less than 10 grams.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 to the contract and submit a written declaration from the plastics manufacturer or guarantee the provision of these documents to RAL gGmbH. The declaration in Annex P-M confirms that the excluded substances have not been added to the plastics and provides a chemical description of the flame-retardant materials used including the CAS number and its rating (H-Phrase).

The applicant shall state which plastics are used in the housing for parts with a mass > 10 grams and provide a list of the plastics used in the housing according to Annex P-L10.

3.9 Rechargeable batteries

It must be possible for the user to easily replace the rechargeable batteries without the aid of any special tools. Only the following may be used:

- Rechargeable batteries available commercially in standard forms or
- Rechargeable batteries made available by the manufacturer as original spare parts for at least 6 years after marketing of the product has ceased or
- Rechargeable batteries available commercially as compatible spare parts in the form of "replica rechargeable batteries" (lithium ion rechargeable batteries).

In addition, the rechargeable batteries (secondary cells) must comply with the regulations in the applicable standards (DIN EN IEC 62133, DIN EN IEC 61951-2 and DIN EN IEC 61960-3)¹⁷.

The manufacturer must provide information on the environmentally-friendly disposal of the batteries in the product documentation.

¹⁷ DIN EN IEC 62133: Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications,
DIN EN IEC 61951-2: Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary sealed cells and batteries for portable applications - Part 2: Nickel-metal hydride,
DIN EN IEC 61960-3 Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications - Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 to the contract. In addition, the applicant shall state the type of rechargeable battery used and submit the corresponding pages of the product documentation (Annex 9).

3.10 Provision of spare parts and replacement devices

The applicant undertakes to guarantee the provision of spare parts or replacement devices for at least 2 years from the time that marketing of the product ceases.

Spare parts are those parts which, typically, may break down within the scope of the ordinary use of a product. Whereas those (aesthetic) parts which normally exceed the average life of the product are not to be considered as spare parts. The requirements in Paragraph 3.10 also apply to rechargeable batteries.

Compliance verification

The applicant shall declare compliance with this requirement in Annex 1 to the contract.

3.11 Requirements for the sales packaging

Sales packaging may only be made out of paper or cardboard. This must be produced using recycled fibres accounting for at least 70 % by mass, a tolerance limit of 5% is permitted.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and, if paper or cardboard are used for the packaging, verify the source of the materials and the composition of the packaging in the form of written confirmations from the suppliers and, if necessary, by providing further verification in Annex 10.

3.12 Operating instructions

Easy-to-understand product information must be made available for download free of charge on the Internet from the time at which the device is launched on the market through to at least 6 years after marketing of the device ceases. This information can also be optionally enclosed with the product in printed form (using at least 70% ± 5% recovered paper). Alongside the most important technical data and operating instructions, this information must include the following:

- Information on an optimal location for installing the base station in order to limit exposure to electromagnetic fields as much as possible. For example, selecting a central installation location in which people are not usually present for a long period of time (hallway, central storeroom, attic). This information only needs to be provided if the digital cordless phone is operated in combination with a base station.
- Information that exposure can be reduced by limiting the range of the device.
- Information in the event that the requirements for reducing energy consumption and radiation (Paragraph 3.1 to 3.4) are only met in combination with a compatible base station or, if present, additional compatible handsets. If the modes stated in the above-mentioned paragraphs are deactivated, corresponding information must be provided on the display.

- Information and advice on energy-saving options, if available, and on environmentally responsible consumer behaviour during extended periods of absence in order to minimize the absorption of electric energy.
- Instructions on the proper disposal of the device according to the German Electrical and Electronic Equipment Act and the rechargeable batteries according to Paragraph 3.9.
- Availability of spare parts according to Paragraph 3.10.
- Detailed information on the fact that the factory settings for the device have the radio signals for the base station switched off in standby mode and that this mode can be restored at any time by resetting the device to the factory settings.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit – if available – the corresponding pages of the product documentation and a declaration that a link to the digital version of the operating instructions will be provided (Annex 11).

3.13 Overview of possible future requirements

It is recommended that the following criteria are examined for inclusion in a future revision of these Basic Award Criteria:

- The harmonisation of the Basic Award Criteria for CAT-iq devices and DECT devices.
- An assessment of any overlaps between digital cordless phones, telephone systems (DE-UZ183) and VoIP devices (DE-UZ150) and developing appropriate consequences for the relevant Basic Award Criteria for the Blue Angel.
- The inclusion of criteria relating to the social responsibility of companies, especially with respect to conflict materials and safe working conditions.
- The further development of the CAT-iq standard will be taken into account.
- Furthermore, the use of recycled plastics will be examined.

4 Applicants and parties involved

Manufacturers or distributors of 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, (Federal Environmental Agency) which after the signing of the contract receives all data and documents submitted in application 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 31/12/2023.

They shall be extended by periods of one year each, unless terminated in writing by 31/03/2023 or 31 March 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.

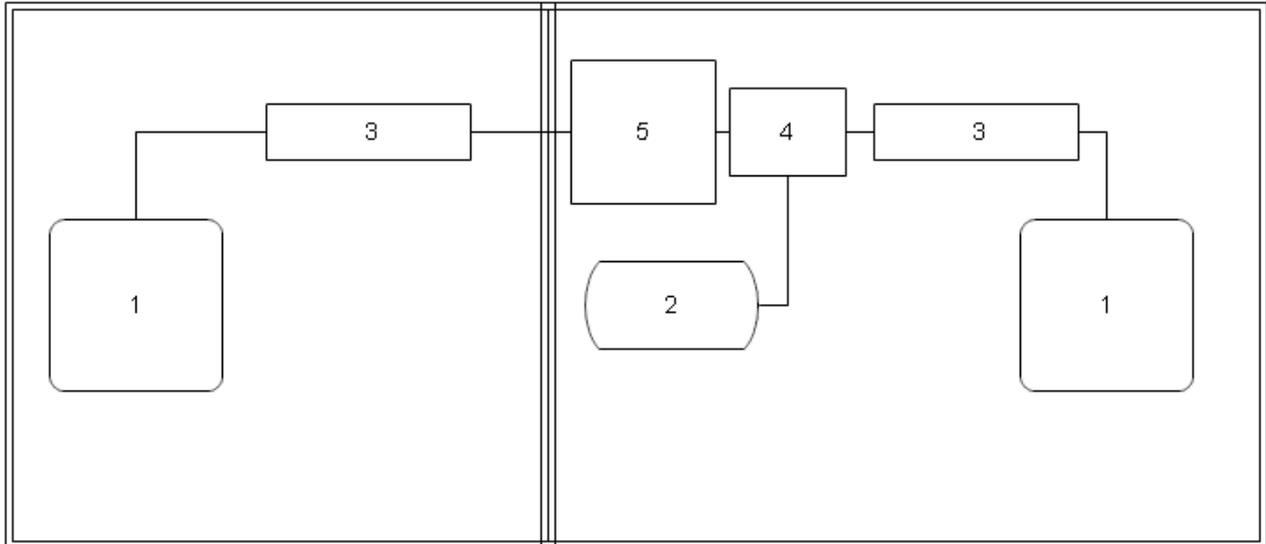
The applicant shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organizations.

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 marketing organization.

© 2020 RAL gGmbH, Bonn

Anhang A Measurement setup in shielded rooms for 3.2 and 3.3



- 1: Base station or handset
- 2: Spectrum analyser
- 3: Attenuators 10dB
- 4: Coupling element, directional coupler
- 5: Reference circuit

Anhang B Assignment of hazard categories and H Phrases

The following table assigns the hazard categories for the general exclusion of substances to the corresponding hazard statements (H Phrases).

Table 1: Hazard categories and H Phrases

CLP Regulation (EC) No. 1272/2008		
Hazard category	Hazard statements	
	H Phrases	Wording
Carcinogenic substances		
Carc. 1A Carc. 1B	H350	May cause cancer.
Carc. 1A Carc. 1B	H350i	May cause cancer if inhaled.
Carc. 2	H351	Suspected of causing cancer.
Germ cell mutagenic substances		
Muta. 1A Muta. 1B	H340	May cause genetic defects.
Reprotoxic substances		
Repr. 1A Repr. 1B	H360D	May damage the unborn child.
Repr. 1A Repr. 1B	H360F	May damage fertility.
Repr. 1A Repr. 1B	H360FD	May damage fertility. May damage the unborn child.
Repr. 1A Repr. 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Repr. 1A Repr. 1B	H360Fd	May damage fertility. Suspected of damaging the unborn child.
Environmental hazards		
Aquatic Chronic 1	H410	Very toxic to aquatic life with long-lasting effects.