

**DRAFT ANNEXES**

**OF**

**COMMISSION REGULATION (EU) .../...**

**Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode, and networked standby, electric power consumption of electrical and electronic household and office equipment**

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## ANNEX I

### List of energy-using products covered by this Regulation

1. Household appliances:

Washing machines

Clothes dryers

Dish washing machines

Cooking:

Electric ovens

Electric hot plates

Microwave ovens

Toasters

Fryers

Grinders, coffee machines and equipment for opening or sealing containers or packages

Electric knives

Other appliances for cooking and other processing of food, cleaning, and maintenance of clothes

Appliances for hair cutting, hair drying, tooth brushing, shaving, massage and other body care appliances

Scales

2. Information technology equipment intended primarily for use in the domestic environment, but excluding desktop computers, integrated desktop computers and notebook computers as defined in Commission Regulation (EU) No 617/2013 <sup>(1)</sup>

3. Consumer equipment:

Radio sets

Video cameras

Video recorders

Hi-fi recorders

Audio amplifiers

Home theatre systems

Musical instruments

And other equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image other than

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<sup>1</sup> OJ L 175, 27.06.2013, p. 13.

by telecommunications, but excluding televisions as defined in Commission Regulation (EC) No 642/2009 <sup>(2)</sup>, and excluding projectors with mechanisms for exchanging the lenses with others with different focal length.

4. Toys, leisure and sports equipment:

Electric trains or car racing sets

Hand-held video game consoles

Sports equipment with electric or electronic components

Other toys, leisure and sport equipment

5. Adjustable furniture:

Height-adjustable desks

Elevation beds and chairs

And other adjustable furniture equipped with electric motors operated by wired or wireless controls

6. Local building controls used in products such as:

Shutters

Blinds

Screens

Awnings

Pergolas

Curtains

Doors

Gates

Windows

Skylights

And other similar products equipped with electric motors operated by wired or wireless controls

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<sup>2</sup> OJ L 191, 23.7.2009, p. 42.

## **ANNEX II**

### **Ecodesign requirements**

#### **1. From the date of entry into force of this Regulation:**

- (a) Power consumption in ‘off mode’:

Power consumption of equipment in any off-mode condition shall not exceed 0,50 W.

- (b) Power consumption in ‘standby mode(s)’:

The power consumption of equipment in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0,50 W.

The power consumption of equipment in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display shall not exceed 1,00 W.

- (c) Availability of off mode and/or standby mode:

Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.

- (d) Power management for all equipment other than networked equipment:

Equipment shall, unless inappropriate for the intended use, offer a power management function or a similar function. When equipment is not providing the main function, and other energy-using product(s) are not dependent on its functions, the power management function shall switch equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into:

— standby mode, or

— off mode, or

— another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.

The power management function shall be activated.

#### **2. Two years after the regulation has come into force:**

In addition to the requirements set out in point 1(b), (c) and (d), the following provisions shall apply:

- (a) Power consumption in ‘off mode’

The power consumption of equipment in any off-mode condition shall not exceed 0,30 W.

#### **3. From the date of entry into force of this Regulation:**

- (a) Possibility of deactivating wireless network connection(s)

Any networked equipment, other than HiNA equipment or equipment with HiNA functionality, that can be connected to a wireless network shall, unless inappropriate for the intended use, offer the user the possibility to deactivate the wireless network connection(s). This requirement does not apply to products which rely on a single wireless network connection for intended use and have no wired network connection.

(b) Power management for networked equipment

Equipment shall, unless inappropriate for the intended use, offer a power management function or a similar function. When equipment is not providing a main function, and other energy-using product(s) are not dependent on its functions, the power management function shall switch equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into a condition having networked standby.

In a condition providing networked standby, the power management function may switch equipment automatically into standby mode or off mode or another condition which does not exceed the applicable power consumption requirements for standby and/or off mode.

The power management function, or a similar function, shall be available for all network ports of the networked equipment.

The power management function, or a similar function, shall be activated, unless all network ports are deactivated. In that latter case the power management function, or a similar function, shall be activated if any of the network ports is activated.

The default period of time after which the power management function, or a similar function, switches the equipment automatically into a condition providing networked standby shall not exceed 20 minutes.

(c) Networked equipment that has one or more standby mode(s) shall comply with the requirements for these standby mode(s) when all wired network ports are disconnected and when all wireless network ports are deactivated.

(d) Networked equipment other than HiNA equipment shall comply with the provisions under point 1(d) when all wired network ports are disconnected and when all wireless network ports are deactivated.

(e) Power consumption in a condition providing ‘networked standby’:

The power consumption of HiNA equipment or equipment with HiNA functionality, in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function, shall not exceed 8,00 W.

The power consumption of other networked equipment in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function, shall not exceed 3,00 W.

The power consumption limits as stipulated in point (e) shall not apply to:

- (i) large format printing equipment;
- (ii) desktop thin clients;
- (iii) workstations;

- (iv) mobile workstations;
- (v) small-scale servers;
- (vi) computer servers.

4. As of 1 January 2019:

In addition to the requirements set out in point 3(a), (b), (c), (d) and (e), the following provision shall apply for networked equipment other than HiNA equipment or other than equipment with HiNA-functionality:

The power consumption of networked equipment other than HiNA equipment or other than equipment with HiNA functionality, in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function, shall not exceed 2,00 W.

The power consumption limit as stipulated above shall not apply to complex set-top boxes with DOCSIS network connection and to game consoles.

5. As of 1 January 2020:

In addition to the requirements set out in point 3(a), (b), (c), (d) and (e), the following provision shall apply for networked equipment other than HiNA equipment or other than equipment with HiNA-functionality:

The power consumption of networked equipment other than HiNA equipment or other than equipment with HiNA functionality, in a condition providing networked standby into which the equipment is switched by the power management function, or a similar function, shall not exceed 2,00 W.

The power consumption limit as stipulated above shall not apply to complex set-top boxes with DOCSIS network connection.

6. From the date of entry into force of this Regulation:

For coffee machines, the delay time after which the product switches automatically into the modes and conditions referred to in Annex II, point 1(d), shall be as follows:

- for domestic drip filter coffee machines storing the coffee in an insulated jug, a maximum of five minutes after completion of the last brewing cycle or 30 minutes after completion of a descaling or self-cleaning process,
- for domestic drip filter coffee machines storing the coffee in a non-insulated jug, a maximum of 40 minutes after completion of the last brewing cycle, or 30 minutes after completion of a descaling or self-cleaning process,
- for domestic coffee machines other than drip filter coffee machines, a maximum of 30 minutes after completion of the last brewing cycle, or a maximum of 30 minutes after activation of the heating element, or a maximum of 60 minutes after activation of the cup preheating function, or a maximum of 30 minutes after completion of a descaling or self-cleaning process, unless an alarm has been triggered requiring users' intervention to prevent possible damage or accident.

~~Until the above date the ecodesign requirements set out in Annex II.2.d shall not apply.~~

## 7. Product information requirements

~~As of 1 January 2015, t~~ The following information for all networked equipment as applicable shall be visibly displayed on manufacturers' freely accessible websites:

- (a) for each standby and/or off mode and/or the condition providing networked standby into which the equipment is switched by the power management function or similar function:
  - the power consumption data in Watt rounded to the first decimal place,
  - the period of time after which the power management function, or a similar function, switches the equipment automatically into standby and/or off mode and/or the condition providing networked standby;
- (b) the power consumption of the product in networked standby if all wired network ports are connected and all wireless network ports are activated;
- (c) guidance on how to activate and deactivate wireless network ports.

The power consumption of the product ~~in networked standby~~ as referred to in points (a) and (b), the period(s) of time as referred to in point (a), and the guidance as referred to in point (c) shall also be included in the user manual.

## 8. Measurements

The power consumption referred to in point 1(a) and (b), point 2(a), point 3(e), point 4, and point 5, the default periods of time referred in point 1(d) and point 3(b), and the delay times referred to in point 6, shall be established by a reliable, accurate and reproducible measurement procedure, which takes into account the generally recognised state of the art.

## 9. Information to be provided by manufacturers

For the purposes of conformity assessment pursuant to Article 4, the technical documentation shall contain the following elements:

- (a) for each standby and/or off mode:
  - the power consumption data in Watt rounded to the first decimal place,
  - the measurement method used,
  - a description of how the equipment mode was selected or programmed,
  - the sequence of events leading to the condition where the equipment automatically changes modes,
  - any notes regarding the operation of the equipment, e.g. information on how the user switches the equipment into a condition having networked standby,
  - if applicable, the default time after which the power management function, or similar function, has switched the equipment into the applicable low power mode or condition;

- (b) for networked equipment:
- the number and type of network ports and, with the exception of wireless network ports, where these ports are located on the equipment; in particular it shall be declared if the same physical network port accommodates two or more types of network ports,
  - whether all network ports are deactivated before delivery,
  - whether the equipment qualifies as HiNA equipment or equipment with HiNa functionality; where no information is provided, this is considered not to be the case;

and for each type of network port:

- the default time after which the power management function, or a similar function, switches the equipment into a condition providing networked standby,
- the trigger that is used to reactivate the equipment,
- the (maximum) performance specifications,
- the (maximum) power consumption of the equipment in a condition providing networked standby into which the power management function, or a similar function, will switch the equipment, if only this port is used for remote activation,
- the communication protocol used by the equipment;

If no information is provided, the equipment is considered not to be networked equipment unless it provides the functionalities of a router, network switch, wireless network access point (not being a terminal), hub, modem, VoIP telephone, video phone.

- (c) test parameters for measurements:
- ambient temperature,
  - test voltage in V and frequency in Hz,
  - total harmonic distortion of the electricity supply system,
  - information and documentation on the instrumentation, set-up and circuits used for electrical testing;
- (d) the equipment characteristics relevant for assessing conformity with the requirements ~~set out in point 1(c), or the requirements~~ set out in points 1(c) and/or 1(d) and/or 3(b), as applicable, including the time taken to automatically reach standby, ~~networked standby~~ or off mode, or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode.

In particular, if applicable, a technical justification shall be provided that the requirements set out in point 1(c), 1(d), 3(a), 3(b) ~~or the requirements set out in points 2(c) and/or 2(d) and/or 3(b)~~, are inappropriate for the intended use of equipment. The need to maintain one or more network connections or to wait for a remotely initiated trigger is not considered a technical justification for exemption from the requirements set out in 1(d) in the case of equipment that is not defined as networked equipment by the manufacturer.



(e) A description of the main function(s) of the product.

## ANNEX III

### **Product compliance verification by market surveillance authorities**

The verification tolerances defined in this Annex relate only to the verification of the measured parameters by Member State authorities and shall not be used by the manufacturer or importer as an allowed tolerance to establish the values in the technical documentation or in interpreting these values with a view to achieving compliance or to communicate better performance by any means.

#### 1. VERIFICATION PROCEDURE

When verifying the compliance of a product model with the requirements laid down in this Regulation pursuant to Article 3(2) of Directive 2009/125/EC, for the requirements referred to in this Annex, the authorities of the Member States shall apply the following procedure:

- (1) The Member State authorities shall verify one single unit of the model.
- (2) The model shall be considered to comply with the applicable requirements if:
  - (a) the values given in the technical documentation pursuant to point 2 of Annex IV to Directive 2009/125/EC (declared values), and, where applicable, the values used to calculate these values, are not more favourable for the manufacturer or importer than the results of the corresponding measurements carried out pursuant to paragraph (g) thereof; and
  - (b) the declared values meet any requirements laid down in this Regulation, and any required product information published by the manufacturer or importer does not contain values that are more favourable for the manufacturer or importer than the declared values; and
  - (c) when the Member State authorities test the unit of the model, the determined values (the values of the relevant parameters as measured in testing and the values calculated from these measurements) comply with the respective verification tolerances as given in the table below.
- (3) If the results referred to in point 2(a) or (b) are not achieved, the model shall be considered not to comply with this Regulation.
- (4) If the result referred to in point 2(c) is not achieved, the Member State authorities shall select three additional units of the same model for testing.
- (5) The model shall be considered to comply with the applicable requirements if, for these three units, the arithmetical mean of the determined values complies with the respective verification tolerances given in the table below.
- (6) If the result referred to in point 5 is not achieved, the model shall be considered not to comply with this Regulation.
- (7) The Member State authorities shall provide all relevant information to the authorities of the other Member States and to the Commission without delay after a decision being taken on the non-compliance of the model according to points 3 and 6.

The Member State authorities shall use the measurement and calculation methods set out in point 8 of Annex II and in part 2 of this Annex. The Member State authorities shall only apply the verification tolerances that are set out in the table below and shall only use the procedure described in points 1 to 7 for the requirements referred to in this Annex. No other tolerances, such as those set out in harmonised standards or in any other measurement method, shall be applied.

<b>Verification tolerances</b>		
<i>Type of requirement</i>	<i>Category</i>	<i>Tolerance</i>
Annex II, points 1(a) or point 2(a), and 1(b),	For power consumption requirements above 1,00 W	The determined value shall not exceed the declared value by more than 10 %.
	For power consumption requirements less than or equal to 1,00 W	The determined value shall not exceed the declared value by more than 0,10 W.
Annex II, points 3(e), and point 4 or point 5	n/a	The determined value shall not exceed the declared value by more than 10 %.

## 2. TEST PROCEDURE FOR NETWORKED EQUIPMENT

To test compliance with the requirements set out in points 3(e), point 4, and point 5 of Annex II, Member State authorities shall use the procedure set out in part 1 of this Annex, after having deactivated and/or disconnected, as applicable, all network ports of the unit.

If a product relies on active cable connection(s) to one or more network port(s) for the intended use, manual deactivation of these network port(s) is allowed instead of cable disconnection.

To test compliance with the other requirements set out in point 3 of Annex II, Member State authorities shall test one single unit as follows:

If the equipment has, as indicated in the technical documentation, one type of network port and if two or more ports of that type are available, one of these ports is randomly chosen and that port is connected to the appropriate network complying with the maximum specification of the port. In the event of multiple wireless network ports of the same type, the other wireless ports shall be deactivated if possible. In the event of multiple wired network ports of the same type for verifying requirements set out in Annex II, point 3, the other network ports shall be deactivated if possible. If only one network port is available, that port is connected to the appropriate network complying with the maximum specification of the port.

The unit is put in on mode. Once the unit in on mode is working properly, it is allowed to go into the condition providing networked standby and the power consumption is

measured. Then the appropriate trigger is given to the equipment through the network port and a check is made on whether the equipment is reactivated.

If the equipment has, as indicated in the technical documentation, more than one type of network port for each type of network port the following procedure is repeated. If two or more network ports of a type are available, one port is chosen randomly for each type of network port and that port is connected to the appropriate network complying with the maximum specification of the port.

If for a certain type of network port only one port is available, that port is connected to the appropriate network complying with the maximum specification of the port. Wireless ports not used shall be deactivated if possible. In the event of verification of requirements set out in Annex II, point 3, the wired network ports not used shall be deactivated if possible.

The unit is put in on mode. Once the unit in on mode is working properly, it is allowed to go into the condition providing networked standby and the power consumption is measured. Then the appropriate trigger is given to the equipment through the network port and a check is made whether the equipment is reactivated. If one physical network port is shared by two or more types of (logical) network ports this procedure is repeated for each type of logical network port, with the other logical network ports being logical-disconnected.

## **ANNEX IV**

### **Benchmarks**

The following benchmarks are identified for the purpose of Annex I, Part 3, point 2, to Directive 2009/125/EC:

Off mode: 0 W-0,2 W with hard-off switch on the primary side, depending, inter alia, on the characteristics related to electromagnetic compatibility pursuant to Directive 2004/108/EC.

Standby — reactivation function: 0,1 W.

Standby — display: simple displays and low power LEDs 0,1 W, larger displays (e.g. for clocks) require more power.

Networked standby: 3 W for HiNA equipment; 1 W or less for non-HiNA equipment.