

Working Document

on a possible Commission Regulation implementing Directive 2005/32/EC with regard to ecodesign requirements for standby and off-mode electric power consumption of electrical and electronic household and office equipment

Chapter 1 : Subject matter and scope

1. This Regulation establishes ecodesign requirements related to standby and off-mode electric power consumption. This Regulation applies to electrical and electronic household and office equipment as defined in Chapter 2.

2. This Regulation shall not apply to

- Fixed installations,
- Information technology equipment not satisfying the Class B Radio disturbance limits defined in EN 55022:2006, and IEC CISPR 22:2005.

Chapter 2: Definitions

For the purposes of this Regulation the following definitions shall apply:

1. "Electrical and electronic household and office equipment ", in the following abbreviated as "equipment", means any energy using product which

- is made commercially available as a single functional unit and is intended for the end-user, and
- is falling under the categories specified in Annex IA, and the list of energy-using products of Annex IB, and
- is dependent on energy input from the mains power source in order to work as intended, and
- is designed for use with a voltage rating not exceeding 230V, also when marketed for non-household or non-office use.

2. "Fixed installation" means a particular combination of several types of energy using products, and, where applicable, other devices, which are assembled, installed and intended to be used permanently at a predefined location.

3. "Standby Mode(s)" means a condition with the following characteristics: the equipment is connected to the mains power source and provides *only* the following functions, which may persist for an indefinite time:

- reactivation function, or reactivation function and a mere indication of enabled reactivation function, and/or
- information or status display,

depending on energy input from the mains power source to work as intended.

4. "Reactivation function" means a function facilitating the activation of other modes, including active mode, by remote switch including remote control, internal sensor, timer to a condition providing additional functions, including the main function.

5. "Information or status display" means a continuous function providing information or indicating the status of the equipment on a display, including clocks.

6. "Active Mode(s)" means a condition in which the equipment is connected to the mains power source and at least one of the main function(s) providing the intended service of the equipment has been activated.

7. "Off mode" means a condition in which the equipment is connected to the mains power source and is not providing any standby mode or active mode function. A mere indication of off mode condition is also considered off mode.

Other expressions used in this Regulation shall have the same meaning as in Directive 2005/32/EC.

Chapter 3: Ecodesign requirements

Equipment falling under the definitions of Chapter 2 first subparagraph, shall meet the ecodesign requirements set out in Annex II, unless product specific ecodesign implementing measures pursuant to Directive 2005/32/EC adopted after this Regulation establish different ecodesign requirements for standby mode and/or off mode.

Chapter 4: Benchmarks

The benchmarks for best-performing products and technology available on the market at time of drafting this Regulation are identified in Annex V and are of indicative nature.

Chapter 5: Verification procedure for market surveillance purposes

When performing the market surveillance checks referred to in Directive 2005/32/EC, Chapter 3 (2), Member State authorities shall apply the verification procedure set out in Annex IV.

Chapter 6: Conformity assessment

A conformity assessment shall be carried out according to Article 8(2), and Annex IV (Internal design control) or Annex V (Management system for assessing conformity) of Directive 2005/32/EC.

Chapter 7: Revision

Depending on technological progress, a review of this Regulation shall be presented to the Consultation Forum not later than 6 years after its entry into force.

Chapter 8: Entry into force

This Regulation shall enter into force on the 20th day following that of its publication in the *Official Journal of the European Union*.

Article 9

This Regulation shall be binding in its entirety and directly applicable in all Member States.

ANNEX IA

Categories of electrical and electronic household and office equipment covered by this Regulation

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
6. Toys, leisure and sports equipment
7. Monitoring and control instruments

ANNEX IB

List of energy using products which shall be taken into account for the purpose of this Regulation and which falls under the categories of Annex IA

1. Large household appliances
 - Washing machines
 - Clothes dryers
 - Dish washing machines
 - Cooking:
 - Electric stoves
 - Electric hot plates
 - Microwaves
 - Other large appliances for cooking and other processing of food
2. Small household appliances
 - Toasters
 - Fryers
 - Grinders, coffee machines and equipment for opening or sealing containers or packages
 - Electric knives
 - Appliances for hair cutting, hair drying, tooth brushing, shaving, massage and other body care appliances
 - Scales
3. IT and telecommunications equipment satisfying the Class B Radio disturbance limits defined in EN 55022:2006, and IEC CISPR 22:2005
 - Personal computing:
 - Personal computers
 - Laptop computers
 - Notebook computers
 - Notepad computers
 - Printers
 - Copying equipment
 - Electrical and electronic typewriters
 - Pocket and desk calculators
 - And other equipment for the collection, storage, processing, presentation or communication of information by electronic means
 - User terminals and systems
 - Facsimiles
 - Telex
 - Telephones

Pay telephones
Cordless telephones
Cellular telephones
Answering systems
And other products or equipment of transmitting sound, images or other information by telecommunications
4. Consumer equipment
Radio sets
Television sets
Videocameras
Video recorders
Hi-fi recorders
Audio amplifiers
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 than by telecommunications
5. Toys, leisure and sports equipment
Electric trains or car racing sets
Hand-held video game consoles and Video games

ANNEX II

Ecodesign requirements

1. Power consumption in "Off mode" and "Standby mode(s)"

a) One year after this Regulation has come into force:

Off mode:

Power consumption of equipment in any off mode condition shall not exceed 1.0W.

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 1.0W.

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 2.0W.

b) Four years after this Regulation has come into force:

Off mode:

Power consumption of equipment in any off mode condition shall not exceed 0.5W.

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 0.5W.

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 1.0W.

c) Measurements

The power consumption shall be measured as set out in Annex III.

2. Availability of Off mode and/or Standby mode

Equipment shall, unless inappropriate for the intended use, provide Off mode and/or Standby mode.

3. Power management

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

4. Information to be provided by manufacturers

The manufacturer shall declare in the technical documentation file a test report as set out in Annex V.

ANNEX III

Measurements

The power consumption shall be measured as set out in harmonized standards, which shall be drawn up under mandate from the Commission in accordance with Directive 98/34/EC.

Until the reference numbers of harmonized standards have been published in the Official Journal of the European Union, the following procedure shall be applied:

The General conditions for measurements shall be in accordance to EN 62301:2005,

Section 4. The Measurement Procedure shall be as follows:

Selection and preparation of appliance or equipment:

Tests in this standard are to be performed on a single appliance.

The appliance shall be prepared and set up in accordance with the manufacturer's instructions, except where these conflict with the requirements this measurement procedure. If no instructions are given, then factory or "default" settings shall be used, or where there are no indications for such settings, the appliance is tested as supplied.

For portable appliances with a rechargeable battery, standby mode and/or off mode is measured on the charger or docking/base station with the appliance detached.

Note: For the purposes of this test procedure, a portable appliance is one that is intended to operate on rechargeable batteries when not connected to a power source.

Average Reading Method (equivalent to IEC 62301, version 59/490/CD, Section 5.3.2, "Average Reading Method"):

Connect the appliance (equipment) to the metering equipment. Select the mode to be measured (this may require a sequence of operation and it may be necessary to wait for the equipment to automatically enter the desired mode) and monitor the power. After the product has been allowed to stabilize for at least 30 min, determine the average power over the required period by using either the average power or accumulated energy approaches outlined below.

a) Average power approach: where the instrument can record a true average power over a user selected period, the period selected shall be not less than 10 min.

b) Accumulated energy approach: where the instrument can accumulate energy over a user selected period, the period selected shall not be less than 10 min. The integrating period shall be such that the total recorded value for energy and time is more than 200 times the resolution of the meter for energy and time. Determine the average power by dividing the accumulated energy by the time for the monitoring period.

Notes:

1. To ensure consistent units, it is recommended that watt-hours and hours be used above, to give watts

2. Example 1 – if an instrument has a time resolution of say 1s, then a minimum of 200s (3.33min) is required for integration on such an instrument.

3 Example 2 – if an instrument has an energy resolution of say 0.1 mWh, then a minimum of 20mWh is required for the accumulation of energy on such an instrument (at a load of 0.1W this would take 1.2min). Note that both the time and energy resolution requirements should be satisfied by the reading, as well as the minimum recording period specified above (10min).

ANNEX IV

Verification procedure

The verification procedure for performing the market surveillance checks referred to in Directive 2005/32/EC, Article 3 (2), shall be carried out as set out in harmonized standards, which shall be drawn up under mandate from the Commission in accordance with Directive 98/34/EC.

Until the reference numbers of harmonized standards have been published in the Official Journal of the European Union, when performing the market surveillance checks referred to in Directive 2005/32/EC, Article 3 (2), Member State authorities shall apply the following verification procedure

For power consumption requirements larger than 1W:

Member State authorities shall test one single unit.

For all Standby mode and Off mode conditions of the test unit, the corresponding energy consumption values shall be established applying the procedure set out in Annex III.

The model shall be considered to comply with the provisions set out in Annex I of this Regulation if the results for Off mode and Standby mode conditions, as appropriate, are not exceeding the limit values set out in Annex I by more than 10%.

Otherwise, three more units shall be tested. The model shall be considered to comply with this Regulation if the average of the results of the latter three tests for Off mode and/or Standby mode conditions, as applicable, is not exceeding the limit values set out in Annex I by more than 10%.

For power consumption requirements smaller than, or equal to, 1W:

Member State authorities shall test one single unit.

For all Standby mode and Off mode conditions of the test unit, the corresponding energy consumption values shall be established applying the procedure set out in Annex III.

The model shall be considered to comply with the provisions set out in Annex I of this Regulation if the results for Off mode and/or Standby mode conditions, as applicable, are not exceeding the limit values set out in Annex I by more than 0.1W.

Otherwise, three more units shall be tested. The model shall be considered to comply with this Regulation if the average of the results of the latter three tests for Off mode and/or Standby mode conditions, as applicable, is not exceeding the limit values set out in Annex I by more than 0.1W.

Otherwise, the model shall be considered not to comply.

ANNEX V

Test report

The manufacturer shall declare in the technical documentation file a test report as set out in harmonized standards, which shall be drawn up under mandate from the Commission in accordance with Directive 98/34/EC.

Until the reference numbers of harmonized standards have been published in the Official Journal of the European Union, the manufacturer shall declare in the technical documentation file the test report according to IEC 62301:2005 section 6.1, 6.2, 6.4, and the measured data, for each mode as applicable:

- Average power data in Watts rounded to the second decimal place. For loads greater than or equal to 10W, three significant figures shall be reported.
- The approach used (average power or accumulated energy approach)
- Accumulated energy and period of measurement (seconds/minutes/hours)
- Description of how the appliance mode was selected or programmed
- Sequence of event to reach the mode where the equipment automatically changes modes
- Any notes regarding the operation of the equipment

ANNEX V

Benchmarks

Off mode: 0W - 0.3W 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: 0.1W

Standby – display: simple displays and low power LEDs 0.1W, larger displays (e.g. for clocks) require more power.