SLOVENSKI STANDARD
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Električna in elektronska gospodinjska in pisarniška oprema - Merjenje porabe električne energije v stanju omrežne pripravljenosti na robu omrežja

Electrical and electronic household and office equipment - Measurement of networked standby power consumption of edge equipment

Elektrische und elektronische Haushalts- und Bürogeräte - Messung der Leistungsaufnahme im vernetzten Bereitschaftsbetrieb von Geräten am Netzwerkrand

Appareils électriques et électroniques pour application domestique et équipement de bureau - Mesure de la consommation d'énergie en veille avec maintien de la connexion au réseau des équipements de périphérie

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35.260	Pisarniški stroji	Office machines
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Electrical and electronic household and office equipment - Measurement of networked standby power consumption of edge equipment

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European foreword

This document (EN 50643:2018) was prepared by Technical Committee CENELEC TC 100X, “Audio, video and multimedia systems and equipment and related sub-systems” in collaboration with CENELEC TC 59X, “Performance of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-12-11
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-12-11

This document has been prepared under a mandate (M/544) given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Words in bold in the text are defined in Clause 3 Terms and definitions.

Introduction

The methods defined in this European Standard are intended to define requirements for the measurement of the power consumed by the equipment having one or more wired or wireless **network port**(s) able to resume a function by way of a remotely initiated trigger or **reactivation trigger** from a **network** connection.

For the measurement of low power, reference is made to EN 50564:2011. This standard also provides a method to test **power management** and whether it is possible to deactivate wireless **network** connection(s).

1 Scope

1.1 Equipment in the scope of this standard

This European Standard specifies methods of measurement of electrical power consumption in **networked standby** and the reporting of the results for **edge equipment**.

Power consumption in standby (other than **networked standby**) is covered by EN 50564, including the input voltage range.

This European Standard also provides a method to test **power management** and whether it is possible to deactivate wireless **network** connection(s).

NOTE 1 This standard has been written in particular to support Commission Regulation (EU) No 801/2013 for the measurement of energy consumption in **networked standby**. This standard applies to electrical products with a rated input voltage of 230 V a.c. for single phase products and 400 V a.c. for three phase products.

NOTE 2 The measurement of energy consumption and performance of products during intended use are generally specified in product standards and are not covered by this standard.

NOTE 3 The term “products” in this standard includes household appliances or information technology products, consumer electronics, audio, video and multimedia systems; however the measurement methodology could be applied to other products.

Where this standard is referenced by more specific standards or procedures, these should define and name the relevant conditions to which this test procedure is applied.

1.2 Equipment not in the scope of this standard

This European Standard does not apply to the measurement of electrical power consumption in **networked standby** for **interconnecting equipment**.

NOTE Measurement of electrical power consumption in **networked standby** for interconnecting equipment is the subject of ETSI standard EN 303 423 “Environmental Engineering (EE) - Electrical and electronic household and office equipment; Measurement of networked standby power consumption for interconnecting equipment”.

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.

EN 50564:2011, *Electrical and electronic household and office equipment - Measurement of low power consumption*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50564:2011 and the following apply.

NOTE 1 Further terms and definitions from standards and regulations related to the topic of this standard can be found in the compendium of definitions compiled by Task Force 1 of the CEN/CENELEC Ecodesign Coordination Group (see Bibliography).

NOTE 2 When this standard is used to provide presumption of conformity to a European Directive or Regulation, definitions given in the Directive or Regulation prevail.

3.1.1
edge equipment
networked equipment that can be connected to a **network** and interact with that **network** or other equipment and that does not have, as its primary function, the passing of **network** traffic to provide a **network**

Note 1 to entry: Examples of **edge equipment** are given in Annex B.

3.1.2
interconnecting equipment
networked equipment that has, as its primary function, the passing of **network** traffic to provide a **network**

Note 1 to entry: Examples of **interconnecting equipment** are given in Annex B.

3.1.3
network
communication infrastructure with a topology of links, an architecture, including the physical components, organisational principles, communication procedures and formats (protocols)

[SOURCE: Commission Regulation (EU) No 801/2013]

3.1.4
network availability
capability of the equipment to resume functions after a remotely initiated trigger has been detected by a **network port**

[SOURCE: Commission Regulation (EU) No 801/2013]

3.1.5
network port
wired or wireless physical interface of the **network** connection located on the equipment through which the equipment can be remotely activated

[SOURCE: Commission Regulation (EU) No 801/2013]

Note 2 to entry: International Electrotechnical Vocabulary (IEC 60050) defines “port (of a network)” as: “a termination through which signals can enter or leave a network”.

3.1.6
networked equipment
equipment that can connect to a **network** and has one or more **network ports**

[SOURCE: Commission Regulation (EU) No 801/2013]

3.1.7
networked standby
condition in which the equipment is able to resume a function by way of a remotely initiated trigger from a **network** connection

[SOURCE: Commission Regulation (EU) No 801/2013]

3.1.8
networked television
television that can connect to a **network** and has one or more **network ports**

Note 1 to entry: Commission Regulation (EC) No 642/2009 states:

1. 'television' means a television set or a television monitor;

2. 'television set' means a product designed primarily for the display and reception of audio-visual signals which is placed on the market under one model or system designation, and which consists of:

(a) a display;

(b) one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or videocassette recorder (VCR), either in a single unit combined with the display, or in one or more separate units;

3. 'television monitor' means a product designed to display on an integrated screen a video signal from a variety of sources, including television broadcast signals, which optionally controls and reproduces audio signals from an external source device, which is linked through standardised video signal paths including cinch (component, composite), SCART, HDMI, and future wireless standards (but excluding non-standardised video signal paths like DVI and SDI), but cannot receive and process broadcast signals."

[SOURCE: Commission Regulation (EU) No 801/2013, modified, Note 1 to entry added]

3.1.9
reactivation trigger
signal that brings the EUT back to an active mode

Note 1 to entry: The reactivation may be remotely initiated

Note 2 to entry: Commission Regulation (EU) No 801/2013 states: "remotely initiated trigger means a signal that comes from outside the equipment via a **network**"

3.1.10
logical network port
network technology running over a **physical network port**

[SOURCE: Commission Regulation (EU) No 801/2013]

3.1.11
physical network port
physical (hardware) medium of a **network port** that can host two or more **network** technologies

[SOURCE: Commission Regulation (EU) No 801/2013]

Note 1 to entry: A "**physical network port**" can consist of multiple "**logical network port**s".

3.1.12
power management
automatic control mechanism that achieves the smallest input power consistent with a pre-determined level of functionality

[source: IEV 904-03-01, modified by omission of the Note to entry]

3.2 Abbreviations

For the purposes of this document, the following abbreviations apply.

CPU	Central Processing Unit
DOCSIS	Data Over Cable Service Interface Specification
EUT	Equipment Under Test
HiNA	High **Network Availability**
LAN	Local Area **Network**
MoCA	Multimedia over Coax Alliance
PLC	Power Line Communication
USB	Universal Serial Bus (IEC 62280 series)
WAN	Wide Area **Network**

4 Information required for testing purposes

4.1 Information about network port(s)

For each type of physical and associated **logical network port**, the following information shall be provided by the manufacturer:

a) The default time after which the **power management** function, or a similar function, automatically switches the equipment into **networked standby**, and if available, the procedure for:

   i. setting a time other than the default time; and/or

   ii. manually switching the equipment into **networked standby**;

NOTE 1 The word ‘manually’ in the above context refers to any user operation intervention such as pushing a button on the EuT itself, sending a message from another machine.

b) the characteristics of the **reactivation trigger** (message, signal…) that is used to reactivate the equipment when in **networked standby** and how to remotely initiate it;

c) the maximum performance specifications, e.g. the maximum speed or data rate supported by that **network port**;

d) the (maximum) power consumption of the equipment in a condition providing **networked standby** into which **power management** function, or a similar function, will switch the equipment, if only this port is used for remote activation, e.g. the declared power consumption of the equipment under defined conditions for a type of port;

e) the communication protocol used by equipment, except for **networked televisions**;

f) the radio frequency range at which each **radio** wireless **logical network port** operates;

g) the characteristics of wireless **logical network ports** other than radio wireless **logical network ports**.

NOTE 2 Annex D describes examples of product information for **networked equipment**.