



Environmental Engineering (EE); Energy Efficiency measurement methodology and metrics for heterogeneous servers

Document Preview

[ETSI ES 204 083 V1.0.0 \(2025-02\)](https://standards.iteh.ai/catalog/standards/etsi/4e7ae291-d14b-49c3-a363-b65e9b9f0696/etsi-es-204-083-v1-0-0-2025-02)

<https://standards.iteh.ai/catalog/standards/etsi/4e7ae291-d14b-49c3-a363-b65e9b9f0696/etsi-es-204-083-v1-0-0-2025-02>

Reference

DES/EE-EEPS46

Keywords

energy efficiency, power, server, sustainability

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from the
[ETSI Search & Browse Standards](#) application.

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on [ETSI deliver](#) repository.

Users should be aware that the present document may be revised or have its status changed,
this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to
the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our
[Coordinated Vulnerability Disclosure \(CVD\)](#) program.

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2025.
All rights reserved.

Contents

Intellectual Property Rights	6
Foreword.....	6
Modal verbs terminology.....	6
Introduction	7
1 Scope	8
2 References	8
2.1 Normative references	8
2.2 Informative references.....	8
3 Definition of terms, symbols and abbreviations.....	9
3.1 Terms.....	9
3.2 Symbols.....	11
3.3 Abbreviations	11
4 Heterogeneous server product categories and representative product configurations.....	12
4.1 General	12
4.2 Applications and metric applicability.....	12
4.3 Product categories	13
4.3.1 General requirements.....	13
4.3.2 Form-factors	13
4.3.3 Categories	13
4.4 Product family configuration.....	13
4.4.1 General.....	13
4.4.2 "High-end" performance configuration	14
4.4.3 "Low-end" performance configuration	14
5 Metrics.....	15
5.1 Worklets	15
5.2 Formulae.....	15
5.2.1 General.....	15
5.2.2 Weightings	16
6 Test setup.....	16
6.1 General	16
6.2 Environmental conditions.....	16
6.2.1 Ambient Temperature	16
6.2.2 Relative Humidity.....	16
6.3 Temperature sensor	16
6.4 Input power	17
6.5 Power requirements.....	17
6.6 Energy consumption analyser.....	17
6.7 Test tool.....	18
6.8 Controller system	18
7 Equipment Under Test.....	18
7.1 Configuration	18
7.2 Test procedure	20
8 Measurement	21
8.1 Measurement for active state.....	21
8.2 Re-verification and audits	21
8.3 Measurement for power supply	22
8.3.1 Measurement for internal power supply	22
8.3.2 Measurement for test board power supply.....	22
8.3.2.1 General	22
8.3.2.2 Test loads	22
8.3.2.3 Test leads and wiring	22

8.3.2.4 Warm up time.....22

8.3.2.5 Power measurements.....23

9 Measurement report.....23

History24

iTeh Standards

(<https://standards.iteh.ai>)

Document Preview

[ETSI ES 204 083 V1.0.0 \(2025-02\)](#)

<https://standards.iteh.ai/catalog/standards/etsi/4e7ae291-d14b-49c3-a363-b65e9b9f0696/etsi-es-204-083-v1-0-0-2025-02>