



SLOVENSKI STANDARD

SIST-TP CLC/TR 50442:2018

01-marec-2018

Nadomešča:

SIST-TP CLC/TR 50442:2005

Smernice produktnim tehničnim odborom za pripravo standardov v zvezi z izpostavljenostjo ljudi elektromagnetnim sevanjem

Guidelines for product committees on the preparation of standards related to human exposure from electromagnetic fields

Leitfaden für Produktkomitees zur Ausarbeitung von Normen in Bezug auf die Sicherheit von Personen in elektromagnetischen Feldern

Lignes directrices pour les comités de produit concernant l'établissement des normes relatives à l'exposition humaine aux champs électromagnétiques

Ta slovenski standard je istoveten z: **CLC/TR 50442:2018**

ICS:

01.120	Standardizacija. Splošna pravila	Standardization. General rules
13.280	Varstvo pred sevanjem	Radiation protection

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TECHNICAL REPORT
RAPPORT TECHNIQUE
TECHNISCHER BERICHT

CLC/TR 50442

January 2018

ICS 01.120; 13.280; 29.020

Supersedes CLC/TR 50442:2005

English Version

**Guidelines for product committees on the preparation of
standards related to human exposure from electromagnetic
fields**

Lignes directrices pour les comités de produit concernant
l'établissement des normes relatives à l'exposition humaine
aux champs électromagnétiques

Leitfaden für Produktkomitees zur Ausarbeitung von
Normen in Bezug auf die Sicherheit von Personen in
elektromagnetischen Feldern

This Technical Report was approved by CENELEC on 2018-12-25.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

Contents	2
European foreword	3
Introduction	4
1 Scope	5
2 Types of EMF product-related standards.....	5
3 Other types of standard	6
4 Structure of EMF standards and general quality principles	6
5 Titles of EMF standards	7
6 Drafting of an EMF product standard	7
7 Coordinating role of CENELEC TC 106X for EMF standards prepared by other CENELEC committees	10
Annex A (informative) Example Annexes ZZ	11

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European foreword

This document (CLC/TR 50442:2018) has been prepared by CLC/TC 106X, "Electromagnetic fields in the human environment".

This document supersedes CLC/TR 50442:2005.

This report has been accepted by ETSI and CEN as the basis for the development of electromagnetic fields (EMF) standards.

The main changes with respect to the previous edition of CLC/TR 50442 are:

- a) Update of the introduction to take into account Directive 2014/53/EU, Directive 2014/35/EU and Directive 2013/35/EU;
- b) Replacement of Clause 1 "Purpose" with new Clause 1 "Scope";
- c) Replacement of Clause 2 with new Clause 2;
- d) Replacement of Subclause 2.6 with new Clause 4;
- e) Replacement of Clause 3 with new Clause 6;
- f) Replacement of Clause 4 with new Clause 3;
- g) Added requirements of Directives 2013/35/EU and 2014/53/EU to Clause 5 and renumbered Clauses 5 to 7;
- h) Added new Clause 5 – "Titles of EMF standards";
- i) Added new Annex A with examples of Annexes ZZ.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

CLC/TR 50442:2018 (E)**Introduction**

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonization 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 [OJ L 153, 22.5.2014] is applicable from 13 June 2016.

Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits (recast) [OJ L 96, 29 March 2014] is applicable from 20 April 2016.

The European Commission has given CENELEC, the task of preparing harmonized standards for the implementation of these Directives under Mandate M/536 and M/511 to provide a presumption of conformity to their Essential Safety Requirements.

The Essential Safety Requirements of the Directives include safety in relation to human exposure to electromagnetic fields.

In addition, Directive 2013/35/EU of 26 June 2013, on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields). Official Journal, L179, of 2013-6-29, p. 1–21 is applicable from 29 June 2013. The European Commission has given CENELEC, the task of preparing standards for the implementation of this Directive under Mandate M/351.

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1 Scope

The purpose of this Technical Report is to give advice on, and explanation of, the preparation of suitable EMF standards. It also aims to ensure that relevant deliverables from all CLC TCs will accurately reflect the current policy and legislative background on EMF exposure.

2 Types of EMF product-related standards

There are two types of EMF standards that are related to the assessment of EMF emissions from products: basic standards and product standards.

Basic EMF standards define measurement and calculation methods, test instrumentation and test set-ups to be used for the evaluation of compliance with limits on human exposure to electromagnetic fields. General types or ranges of assessment criteria appropriate to specific evaluation methods or procedures may be given, but a basic standard includes neither prescribed limits nor compliance criteria. Since basic standards define the applicable measurement and calculation methods, they constitute the broad foundation on which product standards are based on.

In general, product standards do not include applicable measurement or calculation methods, test instrumentation or test set-ups but refer for that purpose to the applicable basic standard or standards. Some product standards may determine that only certain parts of a basic standard apply while other parts of that basic standard do not. All EMF product standards shall include normative references to limits on human exposure to electromagnetic fields, and compliance assessment criteria applicable to products covered by Directives 2013/35/EU and 2014/53/EU.

Both basic standards and product standards can be either product-specific or generic (covering a number of different products). Moreover, they can address 'placing-on-the-market', 'putting-into-service' or 'in-situ' (i.e. dedicated to serve a special purpose or situation).

Table 1 gives an overview of the characteristics of the different types of product-related standards. They are described more fully in Annex I.

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Table 1 — Basic vs product standards

Type	Contents	Aims
Basic	Measurement and calculation methods Instrumentation Test set-up Types and ranges of assessment criteria No limits or compliance criteria	Reference documents Called up by product standards or freestanding No conformance criteria, e.g. limits for products (Not capable of being referenced in the OJEU list)
Product	Scope describing to which products they apply Normative limits Compliance criteria Refer to basic standards for assessment methods (no repetition)	Conformance criteria for products Intended to be referenced in the OJEU list for the relevant Directive

Table 2 — Product specific vs generic standards

Type	Aim	Nature
Product-specific	Specific to a particular product, family of products or range of products	May be a basic or product standard
Generic	Can apply to a range of different products e.g. low power products or products not covered by any other product standard	May be a basic or product standard

Table 3 — Placing-on-the-market, putting-into-service and *in situ* standards

Type	Purpose	Nature
Placing-on-the-market	Assessment of a product to allow it to be placed on the market, i.e. made available for the first time to end-users Assessment of a single product, usually in isolation.	May be a basic or product standard May be product-specific or generic
Putting-into-service	Assessment of an installed product in its operating environment at the point at which it is put-into-service, taking account of other EMF sources already present. Where applicable, to give guidance on installation practices in order not to have accessible areas where the exposure limits are exceeded	May be a basic or product standard May be product-specific or generic
In- situ	Assessment of an already-installed product in its operating environment at any time.	May be a basic or product standard May be product-specific or generic

3 Other types of standard

Other EMF standards that are not directly related to product performance include those written to support the implementation of Directive 2013/35/EU (The Occupational EMF Directive). These are not harmonized and may have structures and content other than as defined for product or basic standards in Clause 2.

4 Structure of EMF standards and general quality principles

It is intended that product standards should make reference to the basic standards without repeating their detailed contents. Basic standards should not contain compliance criteria and will not be referenced in the list of harmonized standards published in the Official Journal of the European Union (OJEU). The OJEU list will include only references to product standards, i.e. standards that are capable of providing a direct presumption of conformity of products with the Essential Safety Requirements of Directives 2014/35/EU and 2014/53/EU.

The following general quality principles for standards are emphasized:

- Overall requirement: the title and scope of a standard shall indicate whether it is a basic or a product standard and if is a product standard, further determination of the purpose as defined in Clause 2 above is required.
- A standard shall lead to reproducible results: it shall be robust against usual variations in the measuring set-up or measuring devices.
- A standard shall be unambiguous: It shall not be possible to give multiple interpretations to the standard.
- All types of standards shall take uncertainty into consideration, e.g. by giving maximum allowed uncertainty. Measurement uncertainties shall be treated in line with the ISO "Guide to the expression of uncertainty in measurement" [ISO/IEC GUIDE 98-3:2008 Edition 1.0 (2008-09-30) - *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*]. According to the common practice in EMC standards, the expanded uncertainty shall be evaluated using a confidence interval of 95 %.
- The measurement method shall be as simple as possible for fulfilling the requirements of what needs to be measured. Sophisticated methods or equipment shall be avoided where possible. Methods easily applicable have the lowest chance of errors.
- Measurement methods shall be as economical and time-saving as possible for their purpose.
- The method shall be tested in practice by multiple test houses before the standard be subject to voting.
- Overall requirement: the method shall be valid for its purpose. The method shall be such that its outcome leads to a conclusion whether the EMF exposure from the apparatus falls within the specified limits.

- The standard shall acknowledge the requirements of all stakeholders including those organizations representing interests of specific societal groups, e.g. people with disabilities or those needing other particular considerations and including authorities representing public health. To this end, Partner Organizations shall be encouraged strongly to nominate experts to CENELEC WGs.

5 Titles of EMF standards

The title of any EMF standard shall reflect clearly whether it is a 'Basic standard' or a 'Product standard'. If it is a basic standard, the words 'Basic standard' shall be preceded by the word "generic" if applicable, and followed by one of either "placing-on-the-market," "putting-into-service" or "in situ" in brackets.

If it is a product standard, the words 'Product standard' shall be preceded by the word "generic" if applicable, and followed by one of either "placing-on-the-market," "putting-into-service" or "in situ" in brackets.

In addition, the title shall further contain information for users, including the frequency range

Standards other than those defined in Clause 2 shall have titles appropriate to their type and intended use.

6 Drafting of an EMF product standard

Compliance with the requirements of EMF product standards shall provide a presumption of conformity with the Essential Safety Requirements of Directives 2014/35/EU and 2014/53/EU. The standards shall provide compliance criteria (limits and test/assessment conditions) to allow this to be demonstrated unambiguously.

Scope

The scope shall include the categorization of the standard as used in the title and describe briefly but clearly

- the objective of the standard, (standards.iteh.ai)
- which products or types of products the standard applies to, [SIST-TP CLC/TR 50442:2018](https://standards.iteh.ai/catalog/standards/sist-tp-clc-tr-50442-2018)
- any limitations on its application, e.g. where other product standards apply or if its applicability is limited in any way. <https://standards.iteh.ai/catalog/standards/sist-tp-clc-tr-50442-2018>

Normative references

This clause shall start with the following statement:

"The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.";

followed by a list of all normative references which shall include all documents referred to in the normative parts of the standard and, for product standards, shall always be dated references, e.g. EN 62311:2008 and not simply EN 62311.

In general, normative references to legal texts in harmonized standards are deprecated, but an exception is made for EMF product standards with regard to the inclusion of normative limits of Council Recommendation 1999/519/EC and Directive 2013/35/EU, because this is the only place that a link is made between the standard and the relevant limits on human EMF exposure.

Terms and definitions

This clause provides definitions necessary for the understanding of EMF-related terms used in the document.

Exposure conditions

This section shall describe and define the product operating conditions, environment and special phenomena to be considered.

Where a standard applies to products used by the general public and also by workers, it shall be stated that any product meeting general public limits will automatically meet worker limits without further testing.