Inimesele toimivate elektri-, magnet- ja elektromagnetväljade (0 Hz kuni 300 GHz) mõõtmis- ja arvutusviiside põhistandard

Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz - 300 GHz)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50413:2009 sisaldab Euroopa standardi EN 50413:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 50413:2009 consists of the English text of the European standard EN 50413:2008.
Standard on kinnitatud Eesti Standardikeskuse 19.01.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 19.01.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 11.12.2008.	Date of Availability of the European standard text 11.12.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 17.220.20, 33.100.01

Võtmesõnad:

EUROPEAN STANDARD

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English version

Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz - 300 GHz)

Norme de base
pour les procédures de mesures
et de calculs pour l'exposition
des personnes aux champs électriques,
magnétiques et électromagnétiques
(0 Hz - 300 GHz)

Grundnorm zu Mess- und
Berechnungsverfahren der Exposition
von Personen in elektrischen,
magnetischen und
elektromagnetischen Feldern
(0 Hz bis 300 GHz)

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 50413:2008 E

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 106X, Electromagnetic fields in the human environment. The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50413 on 2008-09-01.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2009-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-09-01

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1 Scope

This European Standard gives elements to establish methods for measurement and calculation of quantities associated with the assessment of human exposure to electric, magnetic and electromagnetic fields (EMF) in the frequency range from 0 Hz to 300 GHz. The major intention of this Basic Standard is to give the common background and information to relevant EMF standards. This Basic Standard cannot go into details extensively due to the broad frequency range and the huge amount of possible applications. Therefore it is not possible to specify detailed calculation or measurement procedures in this Basic Standard. This standard provides general procedures only for those product and workplace categories for which there do not exist any relevant assessment procedures in any existing European EMF basic standard.

If there exists an applicable European EMF standard focused on specific product or workplace categories then the assessment shall follow that standard. If an applicable European EMF standard does not exist, but an applicable assessment procedure in another European EMF standard does exist, then that assessment procedure shall be used.

This standard deals with quantities that can be measured or calculated in free space, notably electric and magnetic field strength or power density, and includes the measurement and calculation of quantities inside the body that forms the basis for protection guidelines.

In particular the standard provides information on

- definitions and terminology,
- characteristics of electric, magnetic and electromagnetic fields,
- measurement of exposure quantities,
- instrumentation requirements,
- methods of calibration,
- measurement techniques and procedures for evaluating exposure,
- calculation methods for exposure assessment.

2 Normative references

Void.

3 Definitions

For the purpose of this document, the following terms and definitions apply.

3.1
action values
magnitude of directly measurable parameters, provided in terms of electric field strength (*E*), magnetic field strength (*H*), magnetic flux density (*B*) and power density (*S*), at which one or more of the specified measures in Directive 2004/40/EC must be undertaken. Compliance with these values will ensure compliance with the relevant exposure limit values (from 2004/40/EC)

3.2
antenna
device that serves as a transducer between a guided wave for example in a coaxial cable and a free space wave, or vice versa

3.3
basic restriction
restrictions on exposure to time-varying electric, magnetic, and electromagnetic fields that are based directly on established health effects (from ICNIRP guidelines)

3.4
contact current
current flowing into the body resulting from contact with a conductive object in an electromagnetic field. This is the localised current flow into the body (usually the hand, for a light brushing contact)