

Töötajale toimiva elektromagnetvälja määramine ja riskihinnang ringhäälingujaamas

Determination of workers' exposure to electromagnetic fields and assessment of risk at a broadcast site

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50496:2008 sisaldab Euroopa standardi EN 50496:2008 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 05.12.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 07.11.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 50496:2008 consists of the English text of the European standard EN 50496:2008.

This standard is ratified with the order of Estonian Centre for Standardisation dated 05.12.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 07.11.2008.

The standard is available from Estonian standardisation organisation.

ICS 17.240

Võtmesõnad:

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

**Determination of workers' exposure to electromagnetic fields
and assessment of risk at a broadcast site**

Détermination de l'exposition
des travailleurs
aux champs électromagnétiques
et évaluation des risques
sur un site de radiodiffusion

Ermittlung der Exposition
von Arbeitnehmern gegenüber
elektromagnetischen Feldern
und Bewertung des Risikos
am Standort eines Rundfunksenders

This European Standard was approved by CENELEC on 2008-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

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

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 50496 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
-

Contents

1	Scope	4
2	Normative references	4
3	Terms and definitions	5
4	Assessment methods	6
4.1	Worker exposure assessment	6
4.2	Use of public exposure assessment	6
4.3	Assessment after technical modification	7
5	Collection of technical data	7
6	Determination of exposure levels by calculation or measurement	7
6.1	Methodologies	7
6.2	Additional considerations	8
6.3	Determination process	10
7	Zoning of exposure work place	11
8	Checking of operating procedures in the different exposure work places	12
8.1	Work place access conditions	12
8.2	Signage and delimitation	12
8.3	Specific documentation	13
8.4	Personal protective equipment	13
8.5	Safety instructions	13
8.6	Maintenance work	13
8.7	Inspections	14
8.8	Active implantable medical devices	14
9	Information and training	14
9.1	Information for workers	14
9.2	Training of workers	15
10	Assessment report	15
	Annex A (normative) Summation formulae	16
	Annex B (informative) Marking	19
	Bibliography	20
	Figures	
	Figure 1 - Work place assessment process	11
	Figure B.1 - Presence of electromagnetic field sources	19

1 Scope

The object of this standard is to provide methods for assessing compliance with the requirements of the Directive 2004/40/EC [8] at a site operating one or more broadcast transmitters.

This standard covers the frequency range up to 40 GHz.

NOTE The Council and European Parliament Directive 2004/40/EC will be transposed into national legislation in all the EU member countries. It is recommended that users of this standard consult the national legislation related to this transposition in order to identify the national regulations and requirements. These national regulations and requirements may have additional requirements that are not covered by this standard.

2 Normative references

The following referenced documents are indispensable for the application 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.

- [1] EN 50413, Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz - 300 GHz)
- [2] EN 50420, Basic standard for the evaluation of human exposure to electromagnetic fields from a stand alone broadcast transmitter (30 MHz - 40 GHz)
- [3] EN 50475, Basic standard for the calculation and the measurement of human exposure to electromagnetic fields from broadcasting service transmitters in the HF bands (3 MHz - 30 MHz)
- [4] EN 50499, Procedure for the assessment of the exposure of workers to electromagnetic fields
- [5] EN 62226-2-1, Exposure to electric or magnetic fields in the low and intermediate frequency range - Methods for calculating the current density and internal electric field induced in the human body - Part 2-1: Exposure to magnetic fields - 2D models (IEC 62226-2-1)
- [6] IEEE C95.3, Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields
- [7] Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) (Official Journal L 199 of 30 July 1999)
- [8] Directive 2004/40/EC of the Parliament and of the Council on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (Electromagnetic fields) – Official Journal of 30 April 2004
- [9] International Commission on Non-Ionizing Radiation Protection, Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz), Health Physics Vol. 74, No 4, pp 494-522, 1998