Irish Standard
I.S. EN 50492:2008&A1:2014

Basic standard for the in-situ measurement of electromagnetic field strength related to human exposure in the vicinity of base stations

I.S. EN 50492:2008&A1:2014

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 50492:2008/A1:2014

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50492/A1

March 2014

ICS 17.220.20; 33.070.01

English version

Basic standard for the in-situ measurement of electromagnetic field strength related to human exposure in the vicinity of base stations

Norme de base pour la mesure du champ électromagnétique sur site, en relation avec l'exposition du corps humain à proximité des stations de base

Grundnorm für die Messung der elektromagnetischen Feldstärke am Aufstell- und Betriebsort von Basisstationen in Bezug auf die Sicherheit von in ihrer Nähe befindlichen Personen

This amendment A1 modifies the European Standard EN 50492:2008; it was approved by CENELEC on 2014-01-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50492:2008/A1:2014 E

Foreword

This document (EN 50492:2008/A1:2014) has been prepared by CLC/TC 106X, "Electromagnetic fields in the human environment".

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)	2015-01-06
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2017-01-06

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50492

November 2008

ICS 17.220.20; 33.070.01

English version

Basic standard for the in-situ measurement of electromagnetic field strength related to human exposure in the vicinity of base stations

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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.

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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

Ref. No. EN 50492:2008 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 50492 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

This European Standard has been prepared under Mandate M/305 given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive RTTED (1999/5/EC).

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1 Scope

This European Standard specifies in the vicinity of base station as defined in 3.2 the measurement methods, the measurement systems and the post processing that shall be used to determine in-situ the electromagnetic field for human exposure assessment in the frequency range 100 kHz to 300 GHz.

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.

EN 50383, Basic standard for the calculation and measurement of electromagnetic field strength and SAR related to human exposure from radio base stations and fixed terminal stations for wireless telecommunication systems (110 MHz - 40 GHz)

EN 50400, Basic standard to demonstrate the compliance of fixed equipment for radio transmission (110 MHz – 40 GHz) intended for use in wireless telecommunication networks with the basic restrictions or the reference levels related to general public exposure to radio frequency electromagnetic fields, when put into service

3 Terms and definitions

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

3.1
antenna
device that serves as a transducer between a guided wave (e.g. coaxial cable) and a free space wave, or vice versa. In the present standard, if not mentioned, the term antenna is used only for emitting antenna(s)

3.2
base station (BS)
fixed equipment for radio transmission intended for use in wireless telecommunications networks, such as those used in cellular communication, Wireless Local Area Networks, point-to-point communication and point-to-multipoint communication according to ITU-R Recommendation F.592-3. Point to point and point to multi point communication equipment listed in “The European table of frequency allocations and utilisations covering the frequency range 9 kHz to 275 GHz” (ERC report 25) (see example in Annex A) are considered. For the purpose of this standard, the term “base station” includes the radio station and the antenna

3.3
average (temporal) power (P_{avg})
the time-averaged rate of energy transfer defined by:

$$\bar{P}_{avg} = \frac{1}{t_2 - t_1} \int_{t_1}^{t_2} P(t)dt$$

where t_1 and t_2 are the start and stop time of the measurement. The period $t_2 - t_1$ is the exposure duration time

3.4
averaging time (t_{avg})
appropriate time over which exposure is averaged for purposes of determining compliance with the limits