



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 50420:2006

ICS 13.280

**BASIC STANDARD FOR THE EVALUATION  
OF HUMAN EXPOSURE TO  
ELECTROMAGNETIC FIELDS FROM A  
STAND ALONE BROADCAST  
TRANSMITTER (30 MHZ - 40 GHZ)**

National Standards  
Authority of Ireland  
Glasnevin, Dublin 9  
Ireland

Tel: +353 1 807 3800  
Fax: +353 1 807 3838  
<http://www.nsai.ie>

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 50420**

June 2006

ICS 13.280

English version

**Basic standard for the evaluation of human exposure to  
electromagnetic fields from a stand alone broadcast transmitter  
(30 MHz - 40 GHz)**

Norme pour le calcul et la mesure de  
l'exposition des personnes aux  
champs électromagnétiques provenant  
des émetteurs de radiodiffusion isolés  
(30 MHz - 40 GHz)

Grundnorm für die Berechnung und  
Messung der Exposition von Personen  
gegenüber elektromagnetischen Feldern  
von einzelnen Rundfunksendern  
(30MHz bis 40 GHz)

This European Standard was approved by CENELEC on 2005-12-06. 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, 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 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 50420 on 2005-12-06.

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) 2007-01-01
  - latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2009-01-01
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## 1 Scope

This standard applies to a broadcast transmitter operating in the frequency range 30 MHz to 40 GHz when put on the market.

The objective of the standard is to specify, for such equipment operating in typical conditions, the method for assessment of compliance distances according to the basic restrictions (directly or indirectly via compliance with reference levels) related to human exposure to radio frequency electromagnetic fields.

## 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.

*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)

EN 50413<sup>1)</sup>, *Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz - 300 GHz)*

EN 50421, *Product standard to demonstrate the compliance of stand alone broadcast transmitters with the reference levels or the basic restrictions related to public human exposure to radio frequency electromagnetic fields (30 MHz - 40 GHz)*

EN 55016-4-2, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements* (CISPR 16-4-2)

EN ISO/IEC 17025:2000, *General requirements for the competence of testing and calibration laboratories* (ISO/IEC 17025:1999)

*European Commission Enterprise Directorate General Standardisation Mandate addressed to CEN, CENELEC, and ETSI in the field of electro-technology, information technology and telecommunications M/305 Brussels*

IEEE Std C95.1:1999, *IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*

*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

*ISO Guide to the expression of uncertainty in measurement*, 1995

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<sup>1)</sup> At draft stage.

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