Product 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

Product 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

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 50401:2006 sisaldab Euroopa standardi EN 50401:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 22.09.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50401:2006 consists of the English text of the European standard EN 50401:2006. This document is endorsed on 22.09.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This product standard applies to base stations as defined in Clause 3, operating in the frequency range 110 MHz to 40 GHz. The objective of the standard is to verify that such product complies with the basic restrictions directly or via compliance with reference levels related to the general public exposure to radio frequency electromagnetic fields in the frequency range 100 kHz to 40 GHz, where the general public has access and when it is put into service in its operational environment.	**Scope:** This product standard applies to base stations as defined in Clause 3, operating in the frequency range 110 MHz to 40 GHz. The objective of the standard is to verify that such product complies with the basic restrictions directly or via compliance with reference levels related to the general public exposure to radio frequency electromagnetic fields in the frequency range 100 kHz to 40 GHz, where the general public has access and when it is put into service in its operational environment.

ICS 17.220.20, 33.070.01

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50401

June 2006

ICS 17.220.20; 33.070.01

English version

Product 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

Norme produit pour démontrer la conformité des équipements fixes de transmission radio (110 MHz - 40 GHz), destinés à une utilisation dans les réseaux de communication sans fil, aux restrictions de base ou aux niveaux de référence relatives à l'exposition des personnes aux champs électromagnétiques de fréquence radio, lors de leur mise en service

Produktnorm zum Nachweis der Übereinstimmung von stationären Einrichtungen für Funkübertragungen (110 MHz bis 40 GHz), die zur Verwendung in schnurlosen Telekommunikationsnetzen vorgesehen sind, bei ihrer Inbetriebnahme mit den Basisgrenzwerten oder den Referenzwerten bezüglich der Exposition der Allgemeinbevölkerung gegenüber hochfrequenten elektromagnetischen Feldern

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

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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 50401 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

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 1999/5/EC.

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Contents

1 Scope

This product standard applies to base stations as defined in Clause 3, operating in the frequency range 110 MHz to 40 GHz. The objective of the standard is to verify that such product complies with the basic restrictions directly or via compliance with reference levels related to the general public exposure to radio frequency electromagnetic fields in the frequency range 100 kHz to 40 GHz, where the general public has access and when it is put into service in its operational environment.

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 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*

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)

3 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. It can be used either to emit or to receive a radio signal. In the present standard, if not mentioned, the term antenna is used only for emitting antenna(s)

3.2
average emitted power
the average emitted power is the time-averaged rate of energy transfer defined by:

$$P_{aep} = \frac{1}{t_2 - t_1}\int_{t_1}^{t_2} P(t)dt$$

where

$t_2 - t_1$ is the averaging time, t_{avg} defined as a function of frequency in the Council Recommendation 1999/519/EC of 12 July 1999;

$P(t)$ is the power radiated by the antenna at the maximum duty cycle of the equipment at the maximum power setting of the equipment

3.3
base station (BS)
fixed equipment for radio transmission used in cellular communication and/or wireless local area networks. Point-to-point communication and point-to-multipoint communication equipment integral to the above networks are also included. For the purpose of this standard, the term “base station” includes the radio transmitter(s) and the associated antenna(s)