

First edition
2003-02-15

Road vehicles — Calibration of electromagnetic field strength measuring devices —

Part 2: IEEE standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz

*Vehicules routiers — Étalonnage des appareils de mesure de l'intensité
d'un champ électromagnétique —*

*Partie 2: Méthode normalisée de l'IEEE pour l'étalonnage des capteurs
et des sondes de champ électromagnétique, à l'exclusion des
antennes, entre 9 kHz et 40 GHz*



Reference number
ISO/TR 10305-2:2003(E)

© ISO 2003

This is a preview of "ISO/TR 10305-2:2003". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2003

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a preview of "ISO/TR 10305-2:2003". [Click here to purchase the full version from the ANSI store.](#)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 10305-2 was prepared by the US Institute of Electrical and Electronics Engineers (IEEE) (as IEEE 1309-1996) and was adopted without modification by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This first edition of ISO/TR 10305-2, together with that of ISO/TR 10305-1, cancels and replaces the first edition of ISO/TR 10305, which has been technically revised.

ISO/TR 10305 consists of the following parts, under the general title *Road vehicles — Calibration of electromagnetic field strength measuring devices*:

- *Part 1: Devices for measurement of electromagnetic fields at frequencies > 0 Hz*
- *Part 2: IEEE standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz*

This is a preview of "ISO/TR 10305-2:2003". [Click here to purchase the full version from the ANSI store.](#)

Introduction

The necessity for EMC (electromagnetic compatibility) testing of road vehicles and their components has led to the publication of a number of standardized test procedures. The need, too, for a standardized method for the calibration of field strength measuring devices was seen by the responsible ISO subcommittee. As no such International Standard was at the time available from either ISO or IEC, ISO/TR 10305 was published in 1992, based on the amended 1975 edition of the US National Bureau of Standards (now the National Institute of Standards and Technology, NIST) report, NBSIR 75-804.

That document having been considered incomplete, two new calibration methods were independently developed by DIN, the German Institute for Standardization, and by IEEE, the US Institute of Electrical and Electronics Engineers. It was decided to publish the methods as the two parts of a Technical Report replacing ISO/TR 10305:1992. Part 1 is an English translation of part 26 of DIN VDE 0847 and part 2 is the adoption, without modification, of IEEE std 1309-1996. Each of the two parts should be considered as independent of the other, no effort having been made to combine them.

The user of either method is kindly requested to report on the experience to ISO/TC 22/SC 3.

In the event of IEC publishing a general calibration procedure as an International Standard, ISO/TR 10305 could be withdrawn, as there is no anticipated need for special calibration methods for use in the automotive industry.

This is a preview of "ISO/TR 10305-2:2003". Click here to purchase the full version from the ANSI store.

Road vehicles — Calibration of electromagnetic field strength measuring devices —

Part 2: IEEE standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz

1 Scope

This part of ISO/TR 10305 specifies techniques for calibrating electromagnetic field sensors and probes, excluding antennas, used in automotive testing for the measurement of magnetic fields at frequencies from 9 kHz to 40 GHz. In the automotive field, these field strength measuring devices are used for measurements specified in the various parts of ISO 11451 and ISO 11452.

The scope and field of application are further detailed in clause 1 (see page 9) of the enclosed IEEE standard.

2 Requirements

For the purposes of international standardization, the following provisions shall apply to the specific clauses and paragraphs of IEEE std 1309-1996.

Pages i to iv (reproduced here as pages 3 to 6)

This is information relevant to the IEEE publication only.

Page 68

Add the following information to Annex J.

- [1] ISO 11451 (all parts), *Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy*
- [2] ISO 11452 (all parts), *Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy*
- [3] DIN VDE 0847, *Methods of measurement for the electromagnetic compatibility — Part 26: Calibration of field measuring receivers for EMC and personal safety applications for frequencies > 0 Hz*
- [4] NBSIR 75-804, *Generation of Standard EM fields for Calibration of Power Density Meters 20 kHz to 1 000 MHz*

3 Revision of publication IEEE 1309-1996

It has been agreed with IEEE that ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*, will be consulted in the event of any revision or amendment of IEEE std 1309-1996. To this end, ANSI, the American National Standards Institute, will act as liaison between IEEE and ISO.