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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MOBILE AND PORTABLE DVB-T/H RADIO ACCESS –

Part 4: Measurement methods for total radiated sensitivity in hand-held broadcast terminals

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IEC 62002-4, which is a technical report, has been prepared by technical area 1: Terminals for audio, video and data services and content, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this technical report is based on the following documents:

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100/1498/DTR	100/1525/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

This Technical Report describes a measurement method to asses the radio performance of a DVB-T/H hand-held terminal by measuring the radiated sensitivity of the terminal. It is a simplified version of the method described in 3GPP TR 25.914 [1][1], and is adopted to be suitable for a broadcast receiver supporting a wide range of reception frequencies.

1 The figure in square brackets refers to the Bibliography.

MOBILE AND PORTABLE DVB-T/H RADIO ACCESS –

Part 4: Measurement methods for total radiated sensitivity in hand-held broadcast terminals

1 Scope

This part of IEC 62002 gives a standard method to test Total Radiated Sensitivity (TRS) of a category c) terminal specified in IEC 62002-1. This is a practical measure of the radiated sensitivity as it takes into account both the terminal antenna efficiency and possible terminal generated additional noise. Moreover, it can be used directly in the link budget calculations for the network coverage predictions. The motivation for the TR has been the lack of suitable measurement methods to characterise the terminal antenna in a common and practical way. As the 3GPP TR 25.914 method is in many ways suitable for the task, it was decided to develop a simplified version of this method by taking into account the special requirements for broadcast terminals. The test method applies to terminals in terminal category c) with either internal or external antennas. The effect of the user on the antenna radiation pattern is not taken into account.

The method is based on a 3-D radiation pattern measurement. At first a full 3-D 4π sensitivity measurement is performed at three frequencies with both polarisations. From this measurement the TRS at these frequencies can be calculated. The best direction for sensitivity at the middle frequency is observed and then the Effective Isotropic Sensitivity (EIS) is measured in this direction at all specified reception channels. It is assumed that the average difference between the measured EIS and TRS is valid also for the other frequencies and thus the TRS at all specified channels can be calculated.

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.

IEC 62002-1:2008, *Mobile and portable DVB-T/H radio access – Part 1: Interface specification*

IEC 62002-2:2008, *Mobile and portable DVB-T/H radio access – Part 2: Interface conformance testing*

IEC/TR 62002-3, *Mobile and portable DVB-T/H radio access – Part 3: Measurement interface*