

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure**

**Détermination de l'intensité du champ de radiofréquences, de la densité de puissance et du DAS à proximité des stations de base dans le but d'évaluer l'exposition humaine**





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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## **DETERMINATION OF RF FIELD STRENGTH, POWER DENSITY AND SAR IN THE VICINITY OF BASE STATIONS FOR THE PURPOSE OF EVALUATING HUMAN EXPOSURE**

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IEC 62232 has been prepared by IEC technical committee 106: Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2022. It includes corrections of obvious errors and text improvements on the third edition in order to bring more clarity in the description of the assessment methods and avoid misinterpretations. This edition has the same technical content as the third edition.

This document contains attached files that are cited in Figure B.30, G.4.4.3 and bibliography reference [67]. These files can be downloaded from <https://www.iec.ch/tc106/supportingdocuments>.

The text of this International Standard is based on the following documents:

Draft	Report on voting
106/626/CDV	106/672/RVC

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [http://www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at <http://www.iec.ch/standardsdev/publications>.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- amended.

## INTRODUCTION

This document addresses the evaluation of RF field strength, power density and specific absorption rate (SAR) levels in the vicinity of base stations (BS), also called products or equipment under test (EUT), intentionally radiating in the radio frequency (RF) range 110 MHz to 300 GHz in accordance with the scope, see Clause 1. It does not address the evaluation of current density.

RF exposure evaluation methods to be used for product compliance, product installation compliance and in-situ RF exposure assessments are specified in this document. Exposure limits are not specified in this document. The entity conducting RF exposure assessments refers to the set of exposure limits applicable where exposure takes place. Examples of applicable exposure limits considered in this document are provided in the Bibliography, for example ICNIRP-2020 [1]<sup>1</sup>, ICNIRP-1998 [2], IEEE Std C95.1™-2019 [3] and Safety Code 6 [4].

NOTE In this document, “ICNIRP” used without “-1998 or “-2020” applies to both [1] and [2].

This document is based on IEC 62232:2017 leveraging guidelines and lessons learned from the implementation guide IEC TR 62669:2019 [5]. In particular, it specifies how to implement the actual maximum approach. It also includes corrections of obvious errors and text improvements on IEC 62232:2022 in order to bring more clarity in the description of the assessment methods and avoid misinterpretations. It has the same technical content as IEC 62232:2022.

Clause 2, Clause 3 and Clause 4 address normative references, terms and definitions, symbols, and abbreviated terms, respectively.

Clause 5 provides advice on how to use this document, including a quick-start guide.

Clause 6 describes the three main application areas of this document: RF exposure evaluation methods for product compliance, product installation compliance, and in-situ RF exposure assessments. It includes the key requirements for assessing RF exposure based on using the actual maximum approach. It also includes simplified criteria for putting BS into operation. Further details are provided in Annex C, Annex D and Annex E.

Clause 7 provides guidelines on how to select the evaluation method. Further details are provided in Annex A.

Clause 8 specifies the RF exposure evaluation methods to be used and refers to further details in Annex B, Annex C, Annex F and Annex H.

Clause 9 addresses the estimation of uncertainty and refers to Annex G and Annex H for further details.

Clause 10 describes reporting requirements for the evaluation or assessment.

Annexes and the bibliography are referenced extensively to provide useful clarifications or guidance.

Additional guidance can be found in IEC TR 62669 [5], which includes a set of case studies providing practical examples of the application of this document.

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<sup>1</sup> Numbers in square brackets refer to the Bibliography.