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Measurement procedures of magnetic field levels generated by electronic and electrical equipment in the automotive environment with respect to human exposure

Part 1: Low frequency magnetic fields

National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Part 1: Low frequency magnetic fields**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT PROCEDURES OF MAGNETIC FIELD LEVELS
GENERATED BY ELECTRONIC AND ELECTRICAL EQUIPMENT IN THE
AUTOMOTIVE ENVIRONMENT WITH RESPECT TO HUMAN EXPOSURE –****Part 1: Low frequency magnetic fields**

FOREWORD

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- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62764-1, which is a Technical Specification, has been prepared by IEC technical committee 106: Methods for the assessment of electric, magnetic and electromagnetic fields associated with human exposure.

The text of this Technical Specification is based on the following documents:

Draft TS	Report on voting
106/477/DTS	106/493/RVDTS

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

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

A list of all parts in the IEC 62764 series, published under the general title *Measurement procedures of magnetic field levels generated by electronic and electrical equipment in the automotive environment with respect to human exposure*, can be found on the IEC website.

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- withdrawn,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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document specifies a methodology for determining the exposure to multiple magnetic field sources for passenger cars and light commercial vehicles including standardized operating conditions and measurement volumes and/or surfaces.

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MEASUREMENT PROCEDURES OF MAGNETIC FIELD LEVELS GENERATED BY ELECTRONIC AND ELECTRICAL EQUIPMENT IN THE AUTOMOTIVE ENVIRONMENT WITH RESPECT TO HUMAN EXPOSURE –

Part 1: Low frequency magnetic fields

1 Scope

This part of IEC 62764 applies to the assessment of human exposure to low frequency magnetic fields generated by automotive vehicles. For plug-in vehicles, this includes the electric vehicle supply equipment (EVSE) and associated cables provided by the car manufacturer.

The scope of this document establishes the measurement procedure for the evaluation of magnetic field levels in the automotive environment, for passenger cars and commercial vehicles of categories M1 and N1 as defined in ECE/TRANS/WP.29/78/Rev.3 [1]¹, with respect to human exposure. It provides standardized operating conditions and defines recommended measurements to assess compliance to the applicable exposure requirements.

This document covers the frequency range 1 Hz to 400 kHz and is applicable to any type of engine and/or internal energy source.

It is not the scope of this document to define procedures for wireless power transfer (WPT). Human exposure due to WPT is covered by IEC 61980-1 [2].

Abnormal operation of the vehicle or equipment under test is not taken into consideration.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61786-1:2013, *Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings – Part 1: Requirements for measuring instruments*

IEC 62311:2019, *Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

¹ Numbers in square brackets refer to the Bibliography.