International Standard

ISO 11451-3

Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy —

Part 3: On-board transmitter simulation

Véhicules routiers — Méthodes d'essai d'un véhicule soumis à des perturbations électriques par rayonnement d'énergie électromagnétique en bande étroite —

Partie 3: Simulation des émetteurs embarqués

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

This fourth edition cancels and replaces the third edition (ISO 11451-3:2015), which has been technically revised.

The main changes are as follows:

— change of the frequency range from 1,8 MHz – 5,85 GHz to 1,8 MHz – 6 GHz;

— suppression of test methodology with commercial transmitters;

— use of modulation from ISO 11451-1;

— addition of new Annex A with description of test methodology for net power characterization procedure;

— addition in Annex C of microwave broadband dipole antenna and HF broadband sleeve antenna;

— addition of Annex D on function performance status classification (FPSC).

A list of all parts in the ISO 11451 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy —

Part 3: On-board transmitter simulation

1 Scope

This document specifies methods for testing the immunity of passenger cars and commercial vehicles to electromagnetic disturbances from on-board transmitters connected to an external antenna and portable transmitters with integral antennas, regardless of the vehicle propulsion system (e.g. spark ignition engine, diesel engine, electric motor).

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.

ISO 11451-1, *Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy — Part 1: General principles and terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11451-1 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
integral antenna
permanent fixed antenna which may be built-in, designed as an indispensable part of the portable transmitting device

3.2
peak power sensor
power sensor that allows direct measurement of the peak power of the modulated carrier signal

3.3
average power sensor
power sensor that allows direct measurement of the average power of the modulated carrier signal

4 Test conditions

The applicable frequency range of the test method is 1,8 MHz to 6 GHz.

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