CISPR 36

Edition 1.1 2023-05
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE
COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

Electric and hybrid electric road vehicles – Radio disturbance characteristics – Limits and methods of measurement for the protection of off-board receivers below 30 MHz

Véhicules routiers électriques et hybrides électriques – Caractéristiques de perturbations radioélectriques – Limites et méthodes de mesure pour la protection des récepteurs extérieurs en dessous de 30 MHz

CISPR 36:2020-07+AMD1:2023-05 CSV(en-fr)

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INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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FOREWORD

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CISPR 36 edition 1.1 contains the first edition (2020-07) [documents CISPR/D/462/CDV and CISPR/D/464A/RVC] and its amendment 1 (2023-05) [documents CIS/D/483/FDIS and CIS/D/490A/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard CISPR 36 has been prepared by CISPR subcommittee D: Electromagnetic disturbances related to electric/electronic equipment on vehicles and internal combustion engine powered devices.

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

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under 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- withdrawn,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.

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INTRODUCTION

There is a specific need for documents to define acceptable low frequency performance of all electrical/electronic products. CISPR 36 has been developed to serve the electric and hybrid electric road vehicle and related industries with test methods and limits that provide satisfactory protection for radio reception.

~~Compliance with this document is sometimes insufficient for the protection of receivers used in the residential environment nearer than 10 m to the vehicle. It also sometimes does not provide sufficient protection for new types of radio transmissions.~~

ELECTRIC AND HYBRID ELECTRIC ROAD VEHICLES – RADIO DISTURBANCE CHARACTERISTICS – LIMITS AND METHODS OF MEASUREMENT FOR THE PROTECTION OF OFF-BOARD RECEIVERS BELOW 30 MHz

1 Scope

This document defines limits for 3 m measurement distance and methods of measurement that are designed to provide protection for off-board receivers (at 10 m distance) in the frequency range of 150 kHz to 30 MHz when used in the residential environment.

NOTE Protection of receivers used on board the same vehicle as the disturbance source(s) is covered by CISPR 25.

This document applies to the emission of electromagnetic energy which might cause interference to radio reception and which is emitted from electric and hybrid electric vehicles (see 3.2 and 3.3) propelled by an ~~internal traction battery (see 3.2 and 3.3)~~ electric motor supplied with electric energy by internal rechargeable energy storage system (with voltages above 60 V) when operated on the road.

~~This document applies to vehicles that have a traction battery voltage between 100 V and 1 000 V.~~

Electric vehicles to which CISPR 14-1 applies are not in the scope of this document.

This document applies only to road vehicles where an electric propulsion is used for sustained speed of more than 6 km/h.

Vehicles where the electric motor is only used to start up the internal combustion engine (e.g. "micro hybrid") and vehicles where the electric motor is used for additional propulsion only during acceleration (e.g. "48 V mild hybrid vehicles") are not in the scope of this document.

The radiated emission requirements in this document are not intended to be applicable to the intentional transmissions from a radio transmitter as defined by the ITU-R, including their spurious emissions.

Annex C lists work being considered for future revisions.

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.

CISPR 16-1-1:2015, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 16-1-4:2019, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Antennas and test sites for radiated disturbance measurements*