

<b>STN</b>	<b>Vozidlá, lode a zariadenia s vlastnými spalovacími motormi alebo trakčnými batériami Charakteristiky rádiového rušenia Medze a metódy merania na ochranu prijímačov mimo paluby</b>	<b>STN EN IEC 55012</b>  33 4212
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Vehicles, boats and devices with internal combustion engines or traction batteries - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/25

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 55012**

September 2025

ICS 27.020; 33.100.10

Supersedes EN 55012:2007; EN 55012:2007/A1:2009

English Version

**Vehicles, boats and devices with internal combustion engines or  
traction batteries - Radio disturbance characteristics - Limits and  
methods of measurement for the protection of off-board  
receivers  
(CISPR 12:2025)**

Véhicules, bateaux et engins à moteurs à combustion  
interne ou batteries de traction - Caractéristiques de  
perturbation radioélectrique - Limites et méthodes de  
mesure pour la protection des récepteurs extérieurs  
(CISPR 12:2025)

Fahrzeuge, Boote und Geräte mit Verbrennungsmotoren  
oder Antriebsbatterien - Funkstöreigenschaften -  
Grenzwerte und Messverfahren zum Schutz von außerhalb  
befindlichen Empfängern  
(CISPR 12:2025)

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**EN IEC 55012:2025 (E)****European foreword**

The text of document CIS/D/507/FDIS, future edition 7 of CISPR 12, prepared by SC CISPR/D "Electromagnetic disturbances related to electric/electronic equipment on vehicles and internal combustion engine powered devices" of IEC/TC CISPR "International special committee on radio interference" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 55012:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-09-30 level by publication of an identical national standard or by endorsement
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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

CISPR 14-1	NOTE Approved as EN IEC 55014-1
CISPR 25:2021	NOTE Approved as EN IEC 55025:2022 (not modified)
IEC 61851-21-1:2017	NOTE Approved as EN 61851-21-1:2017 (not modified)
IEC 61000-6-3:2020	NOTE Approved as EN IEC 61000-6-3:2021 (not modified)
IEC 61000-6-4:2018	NOTE Approved as EN IEC 61000-6-4:2019 (not modified)
IEC 61000-6-8:2020	NOTE Approved as EN IEC 61000-6-8:2020 (not modified)
IEC 62196-1:2022	NOTE Approved as EN IEC 62196-1:2022 (not modified)
IEC 61980-1:2020	NOTE Approved as EN IEC 61980-1:2021 (not modified)
IEC 63281-1:2023	NOTE Approved as EN IEC 63281-1:2023 (not modified)
CISPR 16-2-3:2016	NOTE Approved as EN 55016-2-3:2017 (not modified)

CISPR 11	NOTE Approved as EN IEC 55011
CISPR 16-4-2:2011	NOTE Approved as EN 55016-4-2:2011 (not modified)
CISPR 12:2007	NOTE Approved as EN 55012:2007 (not modified)

**EN IEC 55012:2025 (E)****Annex ZA**  
(normative)**Normative references to international publications  
with their corresponding European publications**

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61851-1	2017	Electric vehicle conductive charging system - Part 1: General requirements	EN IEC 61851-1	2019
CISPR 16-1-1	2019	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN IEC 55016-1-1	2019
CISPR 16-1-2	2014	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements	EN 55016-1-2	2014
+ A1	2017		+ A1	2018
CISPR 16-1-3	2004	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbance power	EN 55016-1-3	2006
+ A1	2016		+ A1	2016
+ A2	2020		+ A2	2020
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	EN IEC 55016-1-4	2019
+ A1	2020		+ A1	2020
+ A2	2023		+ A2	2023
CISPR 16-1-6	2014	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-6: Radio disturbance and immunity measuring apparatus - EMC antenna calibration	EN 55016-1-6	2015
+ A1	2017		+ A1	2017

**EN IEC 55012:2025 (E)**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
+ A2	2022		+ A2	2022
CISPR 16-2-1	2014	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements	EN 55016-2-1	2014
+ A1	2017		+ A1	2017
ANSI C63.5	2017	American National Standard for Electromagnetic Compatibility - Radiated Emission Measurements in Electromagnetic Interference (EMI) Control - Calibration and Qualification of Antennas (9 kHz to 40 GHz)	-	-
+ Corrigendum 1	2018		-	-



CISPR 12

Edition 7.0 2025-07

# INTERNATIONAL STANDARD

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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**Vehicles, boats and devices with internal combustion engines or traction  
batteries – Radio disturbance characteristics – Limits and methods of  
measurement for the protection of off-board receivers**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

**Vehicles, boats and devices with internal combustion engines or traction batteries - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers**

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International Standard CISPR 12 has been prepared by CISPR subcommittee D: Electromagnetic disturbances related to electric/electronic equipment on vehicles and internal combustion engine powered devices.

This seventh edition cancels and replaces the sixth edition published in 2007 and its Amendment 1 (2009). This edition constitutes a technical revision.

## CISPR 12:2025 © IEC 2025

This edition includes the following significant technical changes with respect to the previous edition:

- a) test setups and requirements for electric vehicles and hybrid electric vehicles in charging mode were added,
- b) antenna positions relative to the vehicle were defined,
- c) some statements dealing with series surveillance and type approval were deleted,
- d) annexes for measurement instrumentation uncertainty were added,
- e) the vehicles, boats and devices subject to this document are separated into three groups with corresponding limits applied accordingly,
- f) an annex describing networks to be used for the charging mode was added,
- g) an annex describing justification for the limits of an electric vehicle was added, and
- h) general improvements were made.

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

Draft	Report on voting
CIS/D/507/FDIS	CIS/D/509/RVD

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 [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 [www.iec.ch/publications](http://www.iec.ch/publications).

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- reconfirmed,
- withdrawn, or
- revised.

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## INTRODUCTION

There is a specific need for standards to define acceptable radio frequency performances of all electrical and electronic products. CISPR 12 has been developed to serve the vehicles, boats, devices with internal combustion engines and related industries with test methods and limits that provide satisfactory protection for radio reception.

CISPR 12 has been used for many years as a regulatory requirement in numerous countries, to provide protection for radio receivers at a 10 m distance. It has been effective in protecting the radio environment outside the vehicle.



## CISPR 12:2025 © IEC 2025

## 1 Scope

The limits in this document are designed to provide protection in the frequency range of 30 MHz to 1 000 MHz for off-board receivers. Compliance with this document does not guarantee adequate protection for receivers nearer than 10 m to the vehicle, boat or device.

This document applies to the emission of electromagnetic energy that can cause interference to radio reception and which is emitted from:

- 1) vehicles propelled by an internal combustion engine (ICE), electrical means or both (see 3.1.34);
- 2) boats propelled by an ICE, electrical means or both (see 3.1.4). Boats are tested in the same manner as vehicles except where they have unique characteristics as explicitly stated in this document;
- 3) devices equipped with ICE (see 3.1.9). In the case of hybrid devices (e.g. equipped with both ICE and traction batteries), only the ICE mode is included in this document;
- 4) inboard and outboard boat engines and motors [i.e. equipped with ICE, electric motor (EM), or both], when marketed independently.

See Annex D for a flow chart and a list of examples to help determine the applicability of CISPR 12.

This document does not apply to aircraft, household appliances, medical devices, traction systems (railway engine or locomotive, streetcar or tram and electric trolley bus), vehicle, boat and device off-board chargers or to incomplete vehicles, boats and devices. In the case of a dual-mode trolley bus (e.g. propelled by power from either AC/DC mains or an ICE), the ICE propulsion system is included, but the EM propulsion portion of the vehicle is excluded from this document. In addition, domestic helper robots, such as household cleaning robots, hotel service robots and personal safety robots are also excluded from the scope of this document.

NOTE 1 Other than inboard or outboard boat engines and motors that are marketed independently, this document does not apply to components or incomplete products, such as an ICE, an incomplete vehicle or boat that has not yet been fitted with an ICE or EM, or spare parts. This document only applies to the final product, which is equipped with all applicable parts and components to be able to function as intended.

NOTE 2 Appliances without ICE for typical housekeeping and service functions in the household and similar environment are covered by the requirements of CISPR 14-1[1].

NOTE 3 Protection of receivers used on board the same vehicle as the disturbance source(s) are covered by CISPR 25[2].

This document does not prescribe measurement methods or limits for conducted disturbances, for the charging mode of operation, where the (electric or hybrid) vehicle or boat is connected to power mains, either directly (i.e. plug-in vehicle or boat) or indirectly (i.e. wireless power charging). The user is referred to appropriate IEC and CISPR standards, which define measurement techniques and limits for this condition.

NOTE 4 See IEC 61851-21-1[3] for road vehicles and IEC 61000-6-3[4], IEC 61000-6-4[5] and IEC 61000-6-8[6] for other types of vehicles or boats.

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

Equipment that is covered by other CISPR product and product family emission standards are excluded from the scope of this document, except where they include ICE(s). In the latter case, the equipment complies with this document in all modes of operation where the ICE(s) is(are) active.

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NOTE 5 The other CISPR product or product family emission standard can also apply to the equipment for those modes of operation where the ICE(s) is (are) not active. In case the ICE(s) is (are) always in operation, the other CISPR product or product family emission standard can still apply, for verifying the emissions from the other components and circuitry of the equipment.

Annex B and Annex C contain methods to evaluate the disturbance characteristics of high voltage ignition systems.

Annex H contains a justification for the limits for an electric vehicle.

Annex I 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.

IEC 61851-1:2017, *Electric vehicle conductive charging system - Part 1: General requirements*

CISPR 16-1-1:2019, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus*

CISPR 16-1-2:2014, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measurement apparatus - Coupling devices for conducted disturbance measurements*  
CISPR 16-1-2:2014/AMD1:2017

CISPR 16-1-3:2004, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbance power*  
CISPR 16-1-3:2004/AMD1:2016  
CISPR 16-1-3:2004/AMD2:2020

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*  
CISPR 16-1-4:2019/AMD1:2020  
CISPR 16-1-4:2019/AMD2:2023

CISPR 16-1-6:2014, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-6: Radio disturbance and immunity measuring apparatus - EMC antenna calibration*  
CISPR 16-1-6:2014/AMD1:2017  
CISPR 16-1-6:2014/AMD2:2022

CISPR 16-2-1:2014, *Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements*  
CISPR 16-2-1:2014/AMD1:2017

ANSI C63.5:2017, *American National Standard for Electromagnetic Compatibility - Radiated Emission Measurements in Electromagnetic Interference (EMI) Control - Calibration and Qualification of Antennas (9 kHz to 40 GHz)*  
Corrigendum 1:2018

**koniec náhl'adu – text ďalej pokračuje v platenej verzii STN**