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**Vehicles, Boats and Internal Combustion Engines –
Radio Disturbance Characteristics – Limits and Methods
of Measurement for the Protection of Off-Board
Receivers**

**车辆、船和内燃机 无线电骚扰特性
用于保护车外接收机的限值和测量方法**

(CISPR 12:2009, MOD)

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1 SCOPE

The limits in this document are designed to provide protection for broadcast receivers in the frequency range of 30 MHz to 1,000 MHz when used in the residential environment. Compliance with this document may not provide adequate protection for new types of radio transmissions or receivers used in the residential environment nearer than 10 m to the vehicle, boat or device.

Note 1: Experience has shown that compliance with this document may provide satisfactory protection for receivers of other types of transmissions when used in the residential environment, including radio transmissions in frequency ranges other than that specified.

This document applies to the emission of electromagnetic energy which may cause interference to radio reception:

The emission is from:

- a) Vehicles propelled by an internal combustion engine, electrical means, or both (see 3.1);
- b) Boats propelled by an internal combustion engine, electrical means, or both (see 3.2). Boats are to be tested in the same manner as vehicles except where they have unique characteristics as explicitly stated in this document;
- c) Devices equipped with internal combustion engines or traction batteries (see 3.3).

See Annex G for a flow chart to help determine the applicability of this document.

This document does not apply to aircrafts, household appliances, traction systems (railway, tramway, and trolley bus), or to incomplete vehicles. In the case of a dual-mode trolley bus (e.g., propelled by power from either AC/DC mains or an internal combustion engine), the internal combustion propulsion system shall be included, but the AC/DC mains portion of the vehicle propulsion system shall be excluded from this document.

Note 2: Protection of vehicle-mounted receivers are covered by GB/T 18655-2018.

The measurement of electromagnetic disturbances while the vehicle is connected to power mains for charging is not covered in this document. The user is referred to the appropriate national standards which define measurement techniques and limits for this condition.

2 NORMATIVE REFERENCES

The following referenced documents are indispensable for the application 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.

GB/T 4365-2003 Electrotechnical terminology - Electromagnetic compatibility (IEC 60050-161:1990, IDT)

GB/T 6113.101-2016 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus (CISPR 16-1-1:2010, IDT)

GB/T 6113.103-2021 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus-Ancillary equipment - Disturbances power (CISPR 16-1-3:2016, IDT)

GB/T 6113.104-2016 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4: Radio disturbance and immunity measuring apparatus-Ancillary equipment - Radiated disturbances (CISPR 16-1-4:2012, IDT)

GB/T 6113.203-2020 Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements (CISPR 16-2-3:2016, IDT)

GB/T 18655-2018 Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers (CISPR 25:1916, IDT)

3 TERMS AND DEFINITIONS

For the purpose of this document, the terms and definitions given in GB/T 4365-2003 as well as the following apply.

3.1 *Vehicle*

Machine operating on land which is intended to carry persons or goods

Note: Vehicles include, but are not limited to, passenger cars, trucks, buses, motorcycles, agricultural machinery, construction machinery, material-handling equipment, mining equipment, floor treatment machines and snowmobiles.

3.2 *Boat*

Vessel intended to be used on the surface of water, its length being no greater than 15 m

3.3 *Device*

Machine driven by an internal combustion engine which is not primarily intended to carry persons or goods

Note: Devices include, but are not limited to, chainsaws, irrigation pumps, snow blowers, air compressors, walk-behind floor treatment machines and landscaping equipment.

3.4 *Impulsive ignition noise*

Unwanted emission of electromagnetic energy, predominantly impulsive in content, arising from the ignition system within a vehicle, boat or device

3.5 *Ignition noise suppressor*

The portion of a high-voltage ignition circuit intended to limit the emission of impulsive ignition noise



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