

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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**मसौदा भारतीय मानक
वाहन, नावों और आंतरिक दहन इंजन –
रेडियो व्यवधान लक्षण-
ऑन-बोर्ड रिसीवर्स की सुरक्षा के लिए
मापन पद्धतियाँ एवं सीमाएँ**

Draft Indian Standard

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

ICS 33.100.10; 33.100.20

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NATIONAL FOREWORD

(Formal clauses will be added later)

This Draft Indian Standard which is identical with CISPR 25:2021 ‘Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers’ issued by the International Electrotechnical Commission (IEC) *will be* adopted by the Bureau of Indian Standards on the recommendation of the Electromagnetic Compatibility Sectional Committee (LITD 09) and approval of the Electronics and Information Technology Division Council.

IS 15040: 2020 was originally published in 2001 and was identical with CISPR 25: 1995. It was subsequently revised in 2010 and 2020. The first revision was based on CISPR 25: 2008 and second revision was based on CISPR 25: 2016. The superseding of the above mentioned Indian Standard has been undertaken to align it with the latest version of CISPR 25:2021 for ease of reference and on publication of this draft standard, IS 15040: 2020 stands withdrawn.

This CISPR 25: 2021 includes the following significant technical changes with respect to the previous edition:

- a) inclusion of new frequency bands,
- b) deletion of the annex on TEM cells,
- c) inclusion of annexes on measurement uncertainty,
- d) overall improvement.

The text of IEC Standard *will be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appears referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

<i>International standards</i>	<i>Corresponding Indian standards</i>	<i>Degree of Equivalence</i>
IEC 61851-1:2017, Electric vehicle conductive charging system – Part 1: General requirements	IS 17017 (Part 1) : 2018 Electric Vehicle Conductive Charging System Part 1 General Requirements	Identical
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	IS 10052 (Part 1/Sec 1) : 2021 Radio Disturbance and Immunity Measuring Apparatus and Methods Specification Part 1 Radio Disturbance and Immunity Measuring Apparatus Section 1 Measuring apparatus (Third Revision)	Identical

The technical committee has reviewed the provisions of the following International Standard referred in this adopted draft standard and has decided that it is acceptable for use in conjunction with this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

<i>International Standards</i>	<i>Title</i>
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 CISPR 16-1-2:2014/AMD1:2017
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
ISO 7637-3:2016	Road vehicles – Electrical disturbances from conduction and coupling – Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines
ISO 11452-4:2020	Road vehicles – Component test methods for electrical disturbances from narrowband radiated electromagnetic energy – Part 4: Harness excitation methods

SAE ARP 958.1
Rev D:2003-02

Electromagnetic Interference Measurement Antennas;
Standard Calibration Method

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values (*Second Revision*)'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

SCOPE OF CISPR 25:2021

This document contains limits and procedures for the measurement of radio disturbances in the frequency range of 150 kHz to 5 925 MHz. This document applies to vehicles, boats, internal combustion engines, trailers, devices and any electronic/electrical component intended for use in vehicles, boats, trailers and devices. Refer to International Telecommunications Union (ITU) publications for details of frequency allocations. The limits are intended to provide protection for on-board receivers installed (per the manufacturer's guidelines) in a vehicle from disturbances produced by components/modules in the same vehicle.

The receiver types to be protected are, for example, broadcast receivers (sound and television), land mobile radio, radio telephone, amateur, citizens' radio, Satellite Navigation (GPS etc.), WiFi, V2X, and Bluetooth.

This document does not include protection of electronic control systems from radio frequency (RF) emissions or from transient or pulse-type voltage fluctuations. These subjects are included in ISO publications.

The limits in this document are recommended and subject to modification as agreed between the customer (e.g. vehicle manufacturer) and the supplier (e.g. component manufacturer). This document is also intended to be applied by vehicle manufacturers and suppliers which are to be added and connected to the vehicle harness or to an on-board power connector after delivery of the vehicle.

This document defines test methods for use by vehicle manufacturers and suppliers, to assist in the design of vehicles and components and ensure controlled levels of on-board radio frequency emissions.

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

NOTE 1 This exclusion is limited to those intended transmitter emissions, which leave the EUT as radiated emissions and are coupled onto the wire line in the measurement setup. For conducted transmissions on frequencies intentionally produced by the radio part of an EUT, this exclusion does not apply.

NOTE 2 It is usual for customers and suppliers to use radio regulation standards to manage the effect of spurious emissions from a radio transmitter unless limits of spurious emission are agreed in the test plan.

Note: - The Technical content of this document has not been enclosed as these are identical with the corresponding IEC/CISPR Standard. For details please refer to CISPR 25:2021 or kindly contact.

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