

REVIEW ANALYSIS OF INDIAN STANDARD

(To be submitted to the Sectional Committee)

1. **Sectional Committee No. & Title:** LITD 09-Electromagnetic Compatibility Sectional Committee
2. **IS No:** IS 6873 (Part 1) : 2010
3. **Title:** Limits and methods of measurements of radio disturbance characteristics: Part 1 vehicles, boats and internal combustion engines (Third Revision)
4. **Date of review:** December 2024
5. **Review Analysis**

- i) **Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.**

Standard (No. & Title)	Whether the standard has since been revised	Major changes	Action proposed
CISPR 12 : 2007 ‘Vehicles, boats and internal combustion engines — Radio disturbance characteristics — Limits and methods of measurement for the protection of off-board receivers	Not Revised	No change	No Action required

- ii) **Status of standards referred in the IS**

Referred standards (No. & Title)	IS No. of this standards since revised	Changes that are of affecting the standard under review	Action proposed
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<p>IEC 60050-161, International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility</p>	<p>For undated references, the latest edition of the referenced document (including any amendments) applies. IEC 60050-161:1990/AMD10:2021</p>	<p>No change</p>	<p>The given referred standard is undated hence no action required</p>
<p>CISPR 16-1-1:2006, Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus</p>	<p>Revised by : CISPR 16-1-1:2019</p>	<p>This edition includes the following significant technical changes with respect to the previous edition: a) Reorganization of the document structure to remove common elements of receiver performance from Clauses 4, 5, 6, and 7 and create a new clause that applies across all of these clauses. Key common parameters include: 1) Input impedance 2) CW amplitude accuracy 3) Limitations of intermodulation effects 4) Limitation of receiver noise and internally generated spurious signals b) Rewording of Subclause B.1.1 for the purpose of correcting existing errors</p>	<p>Latest version may be referred</p>

		<p>c) Amendments to Subclause 7.5.2 to modify the definition of the test signal to be used for calibrating and verifying the required RMS-average detector response to pulses of the receiver. This section will include a note requiring that the amplitude of the pulsed signal be verified prior to the calibration, and will include several verification methods.</p> <p>d) Amendments to Subclause 6.5.2 to modify the definition of the test signal to be used for calibrating and verifying the required average detector response to pulses. The purpose of this proposed change is the alignment of the test signal type with that of the newly proposed signal used to verify the RMS-average detector, allowing the use of a pulsed RF</p>	
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		<p>signal. This section will include a note requiring that the amplitude of the pulsed signal be verified prior to the calibration and will include several verification methods.</p> <ul style="list-style-type: none">e) Implementation and use of Gaussian filtersf) Amendments to Clause 9 on discontinuous disturbance analyzers (DDAs) to allow the use of measuring receivers with built-in DDAs, to clarify which signal is used for click time parameter determination and to allow the use of FFT-based measuring instruments with internal DDAsg) Amendments to Subclauses 4.2, 5.2, 6.2 and 7.2 to remove the mention of a symmetric input for measuring receivers.h) Deletion of Subclause 4.8.1 "Screening Effectiveness".i) add a frequency accuracy	
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		<p>specification to the proposed reorganized clause mentioned in a) above.</p> <p>j) Amend Subclause 6.5.3 to adjust the allowable tolerance for the variation with repetition frequency for the linear average detector</p> <p>k) Add interpretation information to Clause K.4 based on CISPR-A-1188-INF.</p> <p>l) Indicate that the 31,6 Hz pulse repetition frequency for the RMS-Average test requirement for Bands C and D in Table 15 is optional. For the RMS-Average overload requirement in Table 13, change the minimum pulse repetition frequency to 100 Hz and the associated Peak to RMS-Average ratio to 30,6 dB.</p> <p>m) Improve the phrasing used for the tolerance statements in</p>	
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		Subclauses 4.4.1, 5.5, 6.5.2, 6.5.3, 6.5.4 and 7.5.2. n) Remove a note from Clause E1. o) Add a reference for FFT-based discontinuous disturbance analyzers	
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	The latest standard CISPR 16-1-3:2004 and the latest amendment may be taken up for adoption CISPR 16-1-3:2004+AMD1:2016+AMD 2:2020 CSV	No change	Latest version may be referred
CISPR 16-1-4:2007, Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Radiated disturbances	Revised by : CISPR 16-1-4:2019 has been adopted as IS 10052 (Part 1/Sec 4) : 2024 The latest amendment AMD2:2023 has been published to CISPR 16-1-4:2019	This edition includes the following significant technical changes with respect to the previous edition: provisions are added to address test site validation in the frequency range from 30 MHz to 1000 MHz using the reference site method, to take into account the receive antenna	Latest version may be referred

		radiation pattern in the frequency range from 1 GHz to 18 GHz, and further details on test site validation using the NSA method with broadband antennas in the frequency range from 30 MHz to 1 000 MHz.	
CISPR 16-2-3:2006, Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements	Revised by : CISPR 16-2-3:2016 The latest amendment AMD2:2023 has been published to CISPR 16-2-3:2016	This edition includes the following significant technical change with respect to the previous edition: addition of content on correction of the electric field strength to account for phase centre of log-periodic dipole array antennas.	Latest version may be referred
CISPR 25, Radio disturbance characteristics for the protection of receivers used on board vehicles, boats, and on devices – Limits and methods of measurement	The latest standard CISPR 25:2021	This edition 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	The given referred standard is undated hence no action required

		measurement uncertainty, d) overall improvement.	
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- iii) **Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard)**

Standard (No. & Title)	Provisions that could be relevant while reviewing the IS	Action proposed
NIL	NIL	NIL

- iv) **Technical comments on the standard received, if any**

Source	Clause of IS	Comment	Action proposed
NIL	NIL	NIL	NIL

- v) **Information available on technical developments that have taken place (on product/processes/practices/use or application/testing/input materials, etc)**

Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
NIL	NIL	NIL	NIL

- vi) **Issues arising out of changes in any related IS or due to formulation of new Indian Standard**

Related IS and its Title (revised or new)	Provision in the IS under review that would be impacted & the	Changes that may be necessary in the Standards under review	Action proposed

	clause no. or addition of new clause/provision		
NIL	NIL	NIL	NIL

vii) Any consequential changes to be considered in other IS

Related IS to get impacted	Requirements to be impacted
NIL	NIL

6. Any other observation: NIL

- 7. Recommendations:** This Indian standard IS 6873 (Part 1): 2010 is identical with CISPR 12: 2007 “Vehicles, boats and internal combustion engines — Radio disturbance characteristics — Limits and methods of measurement for the protection of off-board receivers” As the base CISPR Standard has not been revised and the latest amendment may be taken up for adoption, the Indian Standard IS 6873 (Part 1): 2010 may be reaffirmed.