



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 33014.8-2020

**Road vehicles. Component test methods for
electrical/electronic disturbances from narrowband radiated
electromagnetic energy - Part 8: Immunity to magnetic fields**

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Foreword

GB/T 33014 "Road vehicles - Component test methods for electrical/electronic disturbances from narrowband radiated electromagnetic energy" is intended to include the following parts.

- Part 1.General;
- Part 2.Absorber-lined shielded enclosure;
- Part 3.Transverse electromagnetic (TEM) cell;
- Part 4.Bulk current injection (BCI);
- Part 5.Strip line;
- Part 7.Direct injection of radio frequency power;
- Part 8.Magnetic field immunity method;
- Part 9.Portable transmitter method;
- Part 10.Immunity to conducted disturbances in the extended audio frequency range;
- Part 11.Reverberation chamber method.

This Part is Part 8 of GB/T 33014.

This Part is drafted in accordance with the rules given in GB/T 1.1-2009.

This Part uses the redraft law to modify and adopt ISO 11452-8:2015 "Road vehicles - Component test methods for electrical disturbances from narrowband radiated electromagnetic energy - Part 8. Immunity to magnetic fields".

The technical differences between this Part and ISO 11452-8:2015 and their reasons are as follows.

- As for the normative references, this Part has made adjustments with technical differences, to adapt to the technical conditions of China. The adjustments are mainly reflected in Clause 2 "Normative references". The specific adjustments are as follows.

? Replace ISO 11452-1 with GB/T 33014.1, which modifies and adopts the international standard.

- Delete the MIL STD 461 F in 6.2.1 and modify the related content.

- ADD an explanation of the meaning of variable μ_0 in Formula (1).

- Delete the wire specification indicated by AWG in 6.2.1 and 6.4.

This Part has made the following editorial changes.

- In order to be consistent with China's technical standard system, change the standard name to "Road vehicles - Component test methods for electrical/electronic disturbances from narrowband radiated electromagnetic energy - Part 8. Immunity to magnetic fields";

- According to the requirements of GB/T 1.1-2009, standardize the writing of Clause 1;

- SUPPLEMENT the figure titles of Figure 2 and Figure 4 in the international standard;

- Delete the "CAUTION" in Clauses 5, 7 and 8 of the international standard;

- Delete the bibliography of the international standard.

This Part was proposed by Ministry of Industry and Information Technology of the PRC.

This Part shall be under the jurisdiction of National Technical Committee of Auto

Standardization (SAC/TC 114).

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Road vehicles - Component test methods for
electrical/electronic disturbances from narrowband
radiated electromagnetic energy - Part 8. Immunity to
magnetic fields

1 Scope

This Part of GB/T 33014 specifies component test methods for electrical/electronic disturbances from continuous narrowband radiated electromagnetic energy - immunity to magnetic fields.

2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 33014.1 Road vehicles - Component test methods for electrical/electronic disturbances from narrowband radiated electromagnetic energy - Part 1.General (GB/T 33014.1-2016, ISO 11452-1.2005, MOD)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB/T

4 Test conditions

The single-point frequency of the test shall be 0 Hz (DC), 16.67 Hz, 50 Hz, 60 Hz, 150 Hz and 180 Hz. The frequency step sizes (logarithmic or linear) during the frequency sweep test shall not be greater than those specified in Table 1. If the frequency step size used is different from Table 1, it shall be recorded in the test report.

5 Test location

A shielded room is not required.

Frequency band Logarithmic frequency steps Linear frequency steps

6 Test apparatus

The current monitor shall ensure that true RMS current measurement is made at 0 Hz (DC) and within the frequency range 15 Hz to 150 kHz, either by using a clamp-on probe or by measuring voltage across a shunt resistor.