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

GB/T 33014.1-2016

**Road vehicles -- Component test methods for
electrical/electronic disturbances from narrowband radiated
electromagnetic energy -- Part 1: General**

道路车辆 电气电子部件对窄带辐射电磁能的抗扰性试验方法 第1部分：一般规定
(English Translation)

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Foreword

GB/T 33014 "Road vehicles - Component test methods for electrical/electronic disturbances from narrowband radiated electromagnetic energy" consists of 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.Stripline;
- Part 7.Direct radio frequency (RF) power injection;
- Part 8.Magnetic field immunity;
- Part 9.Portable transmitter simulation;
- Part 10.Conduction immunity method for extended audio range;
- Part 11.Reverberation chamber.

This Part is Part 1 of GB/T33014.

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

This Part uses the re-drafting method to modify and adopt ISO 11452-1:2005 "Road

vehicles - Component test methods for electrical disturbances from narrowband radiated electromagnetic energy - Part 1.General principles and terminology" and ISO 11452-1 AMD 1.2008.

The technical differences between this Part and ISO 11452-1.2005 are as follows.

- PREPARE Clause 1 according to the provisions of GB/T 1.1-2009;
- ADD "Normative references" according to the provisions of GB/T1.1-2009, which includes a number of standards used in the text;
- Because the original international standard of this series standard has been increased to 11 parts, but the other part cannot be synchronously converted to Part 1 ~ Part 5, so it is hard to describe in Table 1.Thus, in this Part, it deletes Part 7 in Table 1 of the original international standard, and retains only Part 1 ~ Part 5 that are synchronously converted;
- The definition of the terms in the original international standard are deleted and the national standard is referenced, to avoid duplication of definitions;
- The contents of Clause 3 of the original international standard are included in 4.1, the contents of the original 4.1 are included in 4.2, and Clause 3 and Clause 4 of the original international standard are merged together to maintain structural correspondence with the original international standard;
- An amendment of the original international standard is added in 2008, which has made a great adjustment to Annex A "Function performance status classification (FPSC)"; considering that internationally the understanding and requirements of function performance status classification (FPSC) tend to adopt the new version, so in this Part, the Amendment 2008 is applied to Annex A.
- Because the principle of function performance status classification (FPSC) is described both in A.1 and A.2 of Annex A of the original international standard (2008 edition), and the content and heading are not fully matched, in this Part, the contents of the upper and lower paragraphs are arranged and the principle of function performance status classification (FPSC) is integrated into A.2, so that

the content and heading of the upper and lower paragraphs are fully matched, to facilitate the understanding and use of the standard.

The following editorial changes have been made in this Part.

- DELETE the foreword, introduction and bibliography of the original international standard.

This Part is proposed by Ministry of Industry and Information Technology of the People's Republic of China.

This Part is 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 1.General

1 Scope

This Part of GB/T 33014 specifies the basic conditions, test instrumentations and test procedures of the immunity test for electrical/electronic components (ESA) to continuous electrical disturbances from narrowband radiated electromagnetic energy.

This Part applies to electrical/electronic components for M, N, O, L vehicles (regardless

of the vehicle power system, e.g. spark-ignition engine, diesel engine, electric motor).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the dated edition cited applies. For undated references, the latest edition of the referenced document (including all amendments) applies.

GB/T 29259 Road vehicle - Electromagnetic compatibility terminology

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in GB/T 29259 apply.

4 Test conditions

A single standard test might not reveal all the information about the DUT. It is thus necessary for users of this series of standards to anticipate the appropriate test conditions, select applicable parts of GB/T 33014 and define function performance indicators of DUT.

The characteristics of the DUT determine the type and frequency of modulation to be used.

5 Test instrumentation

It shall establish uniform measurement conditions at radio frequencies, which requires specific grounding practices as follows.

In the frequency range limited by the bandwidth of both the amplifier and the antenna (transducer) in use, the amplifier harmonic content (up to the fifth harmonic) shall be at least 12 dB lower than the carrier wave (at least 6 dB lower at frequencies above 1 GHz), unless otherwise specified for a particular test method or in the test plan.