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

**GB/T 17626.19-2022**

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**Electromagnetic compatibility - Testing and measurement techniques - Part 19:  
Test for immunity to conducted, differential mode disturbances and signaling in  
the frequency range 2 kHz to 150 kHz at a. c. power ports**

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### foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules for Standardization Documents" drafting.

This document is Part 19 of GB/T 17626 "Electromagnetic Compatibility Testing and Measurement Techniques". GB/T 17626 has issued the following part.

- General introduction to immunity test (GB/T 17626.1);
- Electrostatic discharge immunity test (GB/T 17626.2);
- Radio frequency electromagnetic field radiation immunity test (GB/T 17626.3);
- Electrical fast transient burst immunity test (GB/T 17626.4);
- Surge (shock) immunity test (GB/T 17626.5);
- Conducted disturbance immunity induced by radio frequency field (GB/T 17626.6);
- Guidelines for the measurement of harmonics and interharmonics of power supply systems and connected equipment and measuring instruments (GB/T 17626.7);
- Power frequency magnetic field immunity test (GB/T 17626.8);
- Pulse magnetic field immunity test (GB/T 17626.9);
- Damped oscillation magnetic field immunity test (GB/T 17626.10);

- Immunity test for voltage dips, short interruptions and voltage changes (GB/T 17626.11);
- Ring wave immunity test (GB/T 17626.12);
- Low-frequency immunity test of AC power port harmonics, inter-harmonics and grid signals (GB/T 17626.13);
- Voltage fluctuation immunity test (GB/T 17626.14);
- Scintillation instrument function and design specifications (GB/T 17626.15);
- 0Hz~150kHz Common Mode Conducted Disturbance Immunity Test (GB/T 17626.16);
- DC power input port ripple immunity test (GB/T 17626.17);
- Damped oscillatory wave immunity test (GB/T 17626.18);
- Part 19. AC power port 2kHz~150kHz differential mode conducted disturbance and communication signal immunity test (GB/T 17626.19);
- Emission and immunity test in transverse electromagnetic wave (TEM) waveguide (GB/T 17626.20);
- Mixing chamber test method (GB/T 17626.21);
- Radiated emission and immunity measurement in fully anechoic chamber (GB/T 17626.22);
- Test method for HEMP conducted disturbance protection device (GB/T 17626.24);
- Three-phase voltage unbalance immunity test (GB/T 17626.27);
- Power frequency frequency change immunity test (GB/T 17626.28);
- Immunity test for voltage dips, short interruptions and voltage changes at DC power input ports (GB/T 17626.29);
- Power quality measurement method (GB/T 17626.30);
- Part 31. AC power port broadband conducted disturbance immunity test (GB/T 17626.31);
- Voltage sag, short interruption and voltage change immunity test for equipment with main power supply current greater than 16A per phase (GB/T 17626.34).

This document is modified to adopt IEC 61000-4-19:2014 "Electromagnetic Compatibility (EMC) Part 4-19. Testing and Measurement Techniques Alternating Current

Source Port 2kHz~150kHz Differential Mode Conducted Disturbance and Communication Signal Immunity Test".

The technical differences between this document and IEC 61000-4-19:2014 and their reasons are as follows.

--- Replace IEC 61000-4-13 (see Chapter 1) with the normatively referenced GB/T 17626.13, and the normatively referenced

IEC 61000-4-16 was changed to an informative reference and included in the references (see Chapter 1, Appendix B) to adapt to my country's technical conditions and improve operability.

--- Changed the content of the compatibility level (see Chapter 4, Appendix A), IEC 61000-4-19.2014 mentions the content of the compatibility level

At the time of the content, it gave the information that these contents are still under research, and now IEC has completed the relevant research work and incorporated it into the

IEC 61000-2-2.2002 Amendment 1 (2017), Amendment 2 (2018) and IEC 61000-2-5.2017;

--- Deleted content related to grid frequency 60Hz and grid voltage 280V (see Chapter 4 of IEC 61000-4-19.2014,

5.1.3, Appendix A), because these contents are not applicable to my country's public grid system.

The following editorial changes have been made to this document.

--- In order to coordinate with existing standards, change the name of the standard to "Electromagnetic Compatibility Testing and Measurement Techniques Part 19.AC Power Terminals

2kHz~150kHz differential mode conduction disturbance and communication signal immunity test";

--- In Chapter 4, IEC 61000-2-2 and GB/T 18039.9 are replaced by the informative referenced GB/T 18039.3

IEC 61000-2-12;

---In 3.1.9, the note of load current has been added;

---Change "Coupling Network" in 6.1.2 to "CDN" to be consistent with the expression in Figure 4;

--- The editing error in IEC 61000-4-19.2014 has been modified, and the output port of the signal generator in Figure 4 and Figure 7 is half

Move the circular socket symbol to the CDN port directly connected to it; reverse the input and output ports of the meter in Figure C.3;

---Change L1,2,3-N in 8.3 to L1-N, L2-N, L3-N;

--- Add a paragraph of explanatory text at the bottom of Figure A.1 and Figure A.2;

---Move the content of the "Note" paragraph after Figure A.2 of IEC 61000-4-19.2014 to the paragraph before Figure A.1.

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

## Introduction

Electromagnetic compatibility is the ability of electrical and electronic equipment or systems to function properly in their electromagnetic environment without causing adverse effects to anything in that environment.

Ability to withstand electromagnetic disturbances. Electromagnetic compatibility is one of the important factors affecting the environment and product quality, and its standardization work has

aroused widespread attention at home and abroad. In this regard, the IEC 61000 series of publications developed by the International Electrotechnical Commission (IEC)

Common standards in the fields of industry, electrical engineering and energy, transportation, social undertakings and health, quality and safety of consumer goods, etc., divided into

There are 6 categories. generalization, environment, limit values, testing and measurement techniques, installation and mitigation guidelines, and general standards. my country has launched a series of publications

The domestic transformation work has been carried out, and the corresponding national standard system has been established.

In this standard system, GB/T 17626 "Electromagnetic Compatibility Test and Measurement Technology" is about the field of electromagnetic compatibility test and measurement technology

It is a basic standard in terms of aspects, aiming to describe the immunity test of electromagnetic compatibility phenomena such as conduction disturbance and radiation disturbance, etc., and it is proposed to be composed of 39 parts

constitute.

--- General introduction to immunity test (GB/T 17626.1). The purpose is to provide the use of relevant testing and measurement techniques in EMC standards

usability guidance and provide general advice on the selection of relevant tests.

--- Electrostatic discharge immunity test (GB/T 17626.2). The purpose is to establish a common and reproducible benchmark for evaluating electrical and

Performance of electronic equipment when subjected to electrostatic discharge.