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

GB/T 17626.9-2025

Replacing GB/T 17626.9-2011

**Electromagnetic compatibility - Testing and measurement
techniques - Part 9: Impulse magnetic field immunity test**

电磁兼容 试验和测量技术 第9部分：脉冲磁场抗扰度试验

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms, Definitions, and Abbreviations	2
3.1 Terms and Definitions	2
3.2 Abbreviations	3
4 General Provisions	3
5.Test Level	4
6.Test equipment	4
6.1 Overview	4
6.2 Combined Wave Generator	4
6.2.1 General Rules	4
6.2.2 Characteristics of the Generator	5
6.2.3 Generator Calibration	6
6.3 Induction Coil	6
6.3.1 Magnetic Field Distribution	6
6.3.2 Characteristics of standard induction coils of 1mx1m and 1mx2.6m	7
6.4 Calibration of the test system	7
7.1 Test Equipment	8
7.2 Verification of the testing instruments	8
7.3 Pulse Magnetic Field Configuration for Desktop Equipment	8
7.4 Pulsed magnetic field configuration for floor-standing equipment	9
7.5 Pulsed magnetic field test setup for field use	10
8.Experimental Procedure	11
8.1 Overview	11
8.2 Laboratory Reference Conditions	11
8.2.1 Climatic Conditions	11
8.2.2 Electromagnetic Environment	11
8.3 Implementation of the Experiment	11
9.Evaluation of Experimental Results	11
34 References	42

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 9 of GB/T (Z)17626, "Electromagnetic Compatibility Testing and Measurement Techniques". GB/T 17626 has been published as follows: Part 2.

---GB /Z 17626.1-2024 Electromagnetic compatibility testing and measurement techniques - Part

1. General principles of immunity testing;

---GB/T 17626.2-2018 Electromagnetic compatibility testing and measurement techniques - Electrostatic discharge immunity test;

---GB/T 17626.3-2023 Electromagnetic compatibility testing and measurement techniques - Part

3. Immunity to Radiated Radio Frequency Electromagnetic Fields test;

---GB/T 17626.4-2018 Electromagnetic compatibility testing and measurement techniques - Electrical fast transient/burst immunity test;

---GB/T 17626.5-2019 Electromagnetic compatibility testing and measurement techniques - Surge (impulse) immunity test;

---GB/T 17626.6-2017 Electromagnetic compatibility testing and measurement techniques - Conducted disturbance immunity induced by radio frequency fields;

---GB/T 17626.7-2017 Electromagnetic Compatibility Testing and Measurement Techniques - Measurement of Harmonics and Interharmonics in Power Supply Systems and Connected Equipment Guidelines for Measurement and Measuring Instruments;

---GB/T 17626.8-2006 Electromagnetic compatibility testing and measurement techniques - Power frequency magnetic field immunity test;

---GB/T 17626.10-2017 Electromagnetic compatibility testing and measurement techniques - Damped oscillating magnetic field immunity test;

---GB/T 17626.11-2023 Electromagnetic compatibility testing and measurement techniques-Part

1 Scope

GB/T 17626.9 is the Chinese EMC standard for the impulse magnetic field immunity test: the test that establishes whether equipment keeps working when a nearby lightning strike

or a switching surge drives a large current through a conductor and produces a short, intense magnetic field around it. It matters most in substations, in industrial plant and in anything installed near heavy power circuits, where the field can reach hundreds of amperes per metre for a few microseconds. The document specifies the test levels, the test equipment, that is the combination wave generator and the induction coil, and the calibration of both; the test set-up for table-top equipment, for floor-standing equipment and for equipment tested in situ; the test procedure and the laboratory reference conditions; the evaluation of the test results; and the test report. An informative annex covers non-standard induction coils. It is identical to IEC 61000-4-9:2016. The 2025 edition replaces GB/T 17626.9-2011, which was based on the earlier IEC edition with a different waveform, so a product tested to the old edition has not been tested to this one.

This document specifies the immunity requirements, test methods, and recommended tests for equipment subjected to pulsed magnetic field disturbances primarily from the following locations. Level range.

---Industrial facilities;

---Railway facilities;

---Medium and high voltage substations. The applicability of this document to devices installed in different locations is determined by the phenomena described in Chapter 4. This document does not consider interference caused by capacitive and inductive coupling in cables or other parts of field facilities. Related conduction... Harassment is considered in other standards. The purpose of this document is to establish a general standard for evaluating the immunity of electrical and electronic equipment to pulsed magnetic fields. This document specifies... The test method describes a consistent approach for evaluating the immunity of a device or system to defined electromagnetic phenomena.

Note. As described in GB /Z 18509, this document is a basic EMC standard for use by product technical committees. As stated in GB /Z 18509, products... The technical committee is responsible for determining whether to adopt this immunity standard, and if so, for determining the appropriate test levels and performance criteria to evaluate its performance. Special immunity requirements for products. This document stipulates that.

---Range of test levels;

---Test equipment;

---Experimental configuration;

---Experimental procedure. The purpose of laboratory testing is to determine the effect of the device under test (EUT) on pulsed magnetic fields induced by switching and lightning effects under specified operating conditions. The reaction.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2900.77-2008 Electrical Terminology - Electrical and Electronic Measurements and Instruments - Part