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

GB/T 17626.30-2023

Replacing GB/T 17626.30-2012

**Electromagnetic compatibility - Testing and measurement
techniques - Part 30: Power quality measurement methods
(English Translation)**

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Preface

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 30 of GB/T (Z) 17626 "Electromagnetic Compatibility Testing and Measurement Technology": GB/T (Z)17626 has been released the following sections are included:

---GB/T 17626.1-2006 General introduction to electromagnetic compatibility testing and measurement technology immunity testing;

---GB/T 17626.2-2018 Electromagnetic compatibility testing and measurement technology electrostatic discharge immunity test;

---GB/T 17626.3-2023 Electromagnetic compatibility testing and measurement technology Part 3: Radio frequency electromagnetic field radiation immunity test;

---GB/T 17626.4-2018 Electromagnetic compatibility test and measurement technology Electrical fast transient pulse group immunity test;

---GB/T 17626.5-2019 Electromagnetic compatibility testing and measurement technology surge (impact) immunity test;

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

---GB/T 17626.7-2017 Electromagnetic compatibility testing and measurement technology Testing of harmonics and interharmonics of power supply systems and connected equipment Guidelines for quantities and measuring instruments;

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

---GB/T 17626.9-2011 Electromagnetic compatibility testing and measurement technology pulse magnetic field immunity test;

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

---GB/T 17626.11-2023 Electromagnetic compatibility testing and measurement technology

Part 11: For each phase input current less than or equal to Immunity test for voltage sag, short interruption and voltage change of 16A equipment;

---GB/T 17626.12-2023 Electromagnetic compatibility testing and measurement technology

Part 12: Ringing wave immunity test;

---GB/T 17626.13-2006 Electromagnetic compatibility testing and measurement technology

AC power port harmonics, interharmonic waves and power grid signals Low-frequency immunity test of the signal;

---GB/T 17626.14-2005 Electromagnetic compatibility testing and measurement technology

voltage fluctuation immunity test;

---GB/T 17626.15-2011 Electromagnetic compatibility test and measurement technology

scintillator function and design specifications;

---GB/T 17626.16-2007 Electromagnetic compatibility test and measurement technology

0Hz~150kHz common mode conducted disturbance immunity test;

---GB/T 17626.17-2005 Electromagnetic compatibility testing and measurement technology

DC power input port ripple immunity test;

---GB/T 17626.18-2016 Electromagnetic compatibility testing and measurement technology

damped oscillating wave immunity test;

---GB/T 17626.19-2022 Electromagnetic compatibility testing and measurement technology

Part 19: AC power port 2kHz~ 150kHz differential mode conducted disturbance and communication signal immunity test

---GB/T 17626.20-2014 Electromagnetic compatibility test and measurement technology

Emission and immunity in transverse electromagnetic waves (TEM) waveguides degree test;

---GB/T 17626.21-2014 Electromagnetic compatibility testing and measurement technology

mixing chamber test method;

---GB/T 17626.22-2017 Electromagnetic compatibility testing and measurement technology

Radiated emissions and immunity in fully anechoic chambers Measurement;

---GB/T 17626.24-2012 Electromagnetic compatibility test and measurement technology

HEMP conducted disturbance protection device test method;

---GB/T 17626.27-2006 Electromagnetic compatibility testing and measurement technology

three-phase voltage imbalance immunity test;

---GB/T 17626.28-2006 Electromagnetic compatibility test and measurement technology

power frequency change immunity test;

---GB/T 17626.29-2006 Electromagnetic compatibility test and measurement technology

DC power input port voltage sag, short-term Immunity tests for interruptions and voltage changes;

---GB/T 17626.31-2021 Electromagnetic compatibility testing and measurement technology Part 31: Broadband conduction emissions at AC power ports Interference immunity test;

---GB/Z 17626.33-2023 Electromagnetic compatibility testing and measurement technology Part 33: High power transient parameter measurement method

---GB/T 17626.34-2012 Electromagnetic compatibility testing and measurement technology for equipment with main power supply current greater than 16A per phase Voltage dips, short interruptions and voltage changes immunity testing:

---GB/T 17626.39-2023 Electromagnetic compatibility testing and measurement technology Part 39: Close range radiated field immunity test this document replaces GB/T 17626.30-2012 "Electromagnetic compatibility test and measurement technology power quality measurement method" and is consistent with Compared with GB/T 17626.30-2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Adjust the content related to current measurement from informative appendices to standard text (see 5.13, A:6 of the:2012 edition);
- b) Added rapid voltage change (RVC) measurement methods and performance verification related content (see 5.11);
- c) Adjust the content related to negative deviation and positive deviation to Appendix D (see Appendix D, 5:12 of the:2012 version);
- d) Adjust the relevant content of Class B measurement methods to Appendix E (see Appendix E, Chapter 5 of the:2012 edition);
- e) Deleted the content related to the influence range and steady-state verification (see Chapter 5 of the:2012 edition):

This document is modified to adopt IEC 61000-4-30:2021 "Electromagnetic Compatibility (EMC) Part 4-30: Testing and Measurement Technology Power Quality Measurement methods":

The technical differences between this document and IEC 61000-4-30:2021 and their reasons are as follows:

---The original standard IEC 61000-4-30:2021 takes into account the corresponding measurement time interval requirements under different 50Hz/60Hz power grid conditions:

They are 10/12 cycles and 150/180 cycles respectively: This document only retains the requirements corresponding to 50Hz to adapt to my country's national conditions;

---IEC 61000-4-7:2002/AMD1.2008 is listed in the normative reference document of IEC

61000-4-30:2021: This document uses Replaced by GB/T 17626.7-2017 (IEC 61000-4-7:2009, IDT);

---IEC 61000-4-15:2010 is listed in the normative reference document of IEC 61000-4-30:2021, and in many places in other chapters of the text:

IEC 61000-4-15 is quoted without adding a date: In order to maintain consistency with the normative reference documents, this document is quoted in other chapters of the text:

Use IEC 61000-4-15 to add the date:2010:

The following editorial changes have been made to this document:

---In order to adapt to my country's standard system, the standard name is modified to "Electromagnetic Compatibility Testing and Measurement Technology Part 30: Electrical Energy Quality" Quantity Measurement Methods";

---Introductory words are added before category A and category S items;

--- Regarding the term "flash" (see 3.6), combined with the actual situation in my country, add a note "In the field of power quality, this term is also called 'flash':" Change";

---The first and third sentences of the fourth paragraph of 4:7 in IEC 61000-4-30:2021 are highly repetitive: This document merges them into paragraph 4:7:

Three sections:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

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

The ability to withstand electromagnetic disturbance: Electromagnetic compatibility is one of the important factors affecting the environment and product quality, and its standardization work has led to it has attracted widespread attention at home and abroad: In this regard, the IEC 61000 series of standards formulated by the International Electrotechnical Commission (IEC) are important for manufacturing and information industries:

Common standards in the fields of industry, electrical engineering and energy, transportation industry, social undertakings and health, consumer product quality and safety, etc., are divided into comprehensive There are six categories: description, environment, limits, test and measurement technology, installation and mitigation guidelines, and general standards: Our country has already launched a series of standards for this series of standards Domestic transformation work has been carried out and the