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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17626.31-2021

Electromagnetic compatibility - Testing and measurement techniques - Part 31: AC mains ports broadband conducted disturbance immunity test

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Table of Contents

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 of Standardization Documents"

drafted:

This document is part 31 of GB/T 17626 "Electromagnetic Compatibility Test and Measurement Technology": GB/T 17626 has issued the following

part:

--- GB/T 17626:1-2006 Electromagnetic Compatibility Test and Measurement Technology Immunity Test General;

---GB/T 17626:2-2018 Electromagnetic Compatibility Test and Measurement Technology Electrostatic Discharge Immunity Test;

---GB/T 17626:3-2016 Electromagnetic compatibility test and measurement technology radio frequency electromagnetic field radiation immunity test;

---GB/T 17626:4-2018 Electromagnetic Compatibility Test and Measurement Technology Electrical Fast Transient Burst Immunity Test;

---GB/T 17626:5-2019 Electromagnetic Compatibility Test and Measurement Technology Surge (Shock) 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 Test and Measurement Technology Power Supply System and Connected Equipment Harmonics and Interharmonics Measurement

Guidelines for quantities and measuring instruments;

---GB/T 17626:8-2006 Electromagnetic Compatibility Test and Measurement Technology

Power Frequency Magnetic Field Immunity Test;

---GB/T 17626:9-2011 Electromagnetic Compatibility Test and Measurement Technology Pulse Magnetic Field Immunity Test;

---GB/T 17626:10-2017 Electromagnetic Compatibility Test and Measurement Technology Damped Oscillation Magnetic Field Immunity Test;

---GB/T 17626:11-2008 Electromagnetic compatibility test and measurement technology Voltage dips, short-term interruptions and resistance to voltage changes

disturbance test;

---GB/T 17626:12-2013 Electromagnetic Compatibility Test and Measurement Technology Ringing Wave Immunity Test;

---GB/T 17626:13-2006 Electromagnetic compatibility test and measurement technology AC power port harmonics, interharmonics and power grid information

No: of low frequency immunity test;

---GB/T 17626:14-2005 Electromagnetic Compatibility Test and Measurement Technology Voltage Fluctuation Immunity Test;

---GB/T 17626:15-2011 Electromagnetic Compatibility Test and Measurement Technology Scintillation Meter Function and Design Specification;

---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 Test and Measurement Technology DC Power Input Port Ripple Immunity Test;

---GB/T 17626:18-2016 Electromagnetic compatibility test and measurement technology damped oscillatory wave immunity test;

---GB/T 17626:20-2014 Electromagnetic Compatibility Test and Measurement Technology Transverse Electromagnetic Wave (TEM) Waveguide Emission and Immunity

degree test;

---GB/T 17626:21-2014 Electromagnetic compatibility test and measurement technology mixing chamber test method;

---GB/T 17626:22-2017 Electromagnetic Compatibility Test and Measurement Technology Radiated Emission and Immunity in Anechoic Chamber

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 Test and Measurement Technology Three-phase Voltage Unbalance Immunity Test;

---GB/T 17626:28-2006 Electromagnetic Compatibility Test and Measurement Technology Power Frequency Frequency Variation Immunity Test;

---GB/T 17626:29-2006 Electromagnetic compatibility test and measurement technology DC power input port voltage dip, short-term

Immunity tests for interruptions and voltage changes;

---GB/T 17626:30-2012 Electromagnetic Compatibility Test and Measurement Technology Power Quality Measurement Method;

Noise immunity test;

---GB/T 17626:34-2012 Electromagnetic Compatibility Test and Measurement Technology Equipment whose main power supply current is greater than 16A per phase

Voltage dips, short interruptions and voltage variation immunity tests:

This document is equivalent to IEC 61000-4-31:2016 "Electromagnetic Compatibility (EMC) Part 4-31: Test and Measurement Techniques for AC

Source Port Broadband Conducted Disturbance Immunity Test:

The following editorial changes have been made to this document:

--- Coordinate with existing standards and change the standard name to "Electromagnetic Compatibility Test and Measurement Technology Part 31: AC Power Port Wide

Immunity test with conducted disturbance";

---3:3 and 3:10 deleted the note about French;

--- In Figure 12, the arrow marked ">=0:5m" distance is modified to point to the real object;

--- Correct the English abbreviation "T1" of "adjustable attenuator" in Figure 3 to "A1", which is consistent with the description in the text;

--- Correct the symbol u(y) of the composite standard uncertainty in Table A:1 to uc(y);

--- A note has been added to Table B:1 to describe the symbol for the degree of recommendation in Table B:1:

Please note that some content of this document may be patented: 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 any harm 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 been cited:

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

General standards in the fields of industry, electrical engineering and energy, transportation, social undertakings and health, consumer product quality and safety, etc:, are divided into

Overview, environment, limits, test and measurement techniques, installation and mitigation guidelines, general standards in six categories: my country has launched a series of publications for

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 test and measurement technology in the field of electromagnetic compatibility:

It is a basic standard in the field of electromagnetic compatibility, which aims to describe the immunity test of electromagnetic compatibility phenomena such as conducted disturbance and radiated disturbance: It is planned to consist of 39 parts:

constitute:

---Immunity test general: The purpose is to provide usability guidance on test and measurement techniques in electromagnetic compatibility standards, and to provide guidance on the selection of

Select relevant trials to provide general advice: (GB/T 17626:1-2006)

--- Electrostatic discharge immunity test: The aim is to establish a common and reproducible benchmark for assessing electrical and electronic equipment subjected to static

performance during electrical discharge: (GB/T 17626:2-2018)

--- Radio frequency electromagnetic field radiation immunity test: The purpose is to establish the immunity of electrical and electronic equipment when they are radiated by