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

GB 4343.1-2024

Replacing GB 4343.1-2018

**Electromagnetic compatibility - Requirements for household
appliances, electric tools and similar apparatus - Part 1:
Emission**

家用电器、电动工具和类似器具的电磁兼容要求 第1部分：发射

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part

1.Rules for the Structure and Drafting of Standardizing Documents. This Document is Part 1 of GB(T) 4343 Electromagnetic Compatibility Requirements for Household Appliances, Electric Tools and Similar Apparatus. GB(T) 4343 consists of the following parts.

1.Emission (GB 4343.1);

2.Immunity (GB/T 4343.2). This Document replaced GB 4343.1-2018 Electromagnetic Compatibility Requirements for Household Appliances, Electric Tools and Similar Apparatus - Part

1.Emission. Compared with GB 4343.1-2018, the major technical changes of this Document are as follows besides the structural adjustments and editorial modifications.

--- Add description of products with radio transmission/reception functions in the scope (see Clause 1 of this Edition);

--- Add some terms, definitions and abbreviations (see Clause 3 of this Edition);

--- Change the test operating conditions for induction cookers and incorporate the limits of these appliances into the standard text (see

4.3.2 of this Edition; B.1 of the 2018 Edition);

--- Add requirements for the frequency range of radiation measurements to above 1 GHz (4.3.5 of this Edition);

--- Change the requirements for click analysis, including measurements under continuous disturbance, determination of observation time and application of the upper quartile method in different types of click analyzers (see 4.4, 5.1.7, 5.4.2, 5.4.3, Annex C of this Edition; 4.2, 5.1.5, 7.4.2, Annex A of the 2018 Edition);

--- Add the use principle of the simulated hand (see

5.2.1.2 of this Edition);

1 Scope

GB 4343.1 is the emission half of the Chinese EMC requirements for household appliances, electric tools and similar apparatus, and it is one of the highest volume certification standards in existence: almost every motor-driven or switched domestic product sold in China is tested against it for CCC. The apparatus it covers is a difficult emission case, because a universal motor with brushes, a triac dimmer or an induction hob generates broadband interference across the spectrum a radio receiver uses. The standard sets the limits for the disturbance voltage at the mains terminals and at the load and additional terminals, for the disturbance power measured with an absorbing clamp, for the radiated disturbance, and for the discontinuous disturbance, that is the clicks a thermostat or a switch produces, with the click rate analysis that decides how they are assessed. It then sets the measurement methods, the operating conditions of each class of appliance during measurement, which is where most of the practical difficulty lies, and the statistical treatment of results. It is aligned with CISPR 14-1. The 2024 edition replaces GB 4343.1-2018 and takes effect on 1 June 2026.

This Document specifies the requirements that apply to the emission of radio-frequency disturbances in the frequency range 9 kHz to 400 GHz from appliances, electric tools and similar apparatus as defined below, whether powered by AC or DC (including a battery). This document is applicable to the following equipment.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 6113.102-2018 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-

2.Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements (CISPR 16-1-2.2014, IDT)

GB/T 6113.103-2021 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-

3.Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbances power (CISPR 16-1-3.2016, IDT)

GB/T 6113.104-2021 Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-

4.Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements (CISPR 16-1-4.2019, IDT)

GB/T 6113.202-2018 Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-

2.Methods of measurement of disturbances and immunity - Measurement of disturbance power (CISPR 16-2-2.2010, IDT)

GB/T 6113.402-2022 Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-

2.Uncertainties, statistics and limit modelling - Measurement instrumentation uncertainty (CISPR 16-4-2.2018, IDT) NOTE. The quoted contents of

GB/T 6113.402-2022 have no technical differences with the quoted contents of CISPR 16-4-2/AMD1.2014.

GB/T 9254.1-2021 Information technology equipment, multimedia equipment and receivers -Electromagnetic compatibility - Part

3 Terms, Definitions and Abbreviated Terms

3.1 General For the purposes of this document, the terms and definitions given in IEC 60050-161, as well as the following apply. NOTE. Within this document wherever the term "equipment" is used it includes the more specific terms "appliance", "household or similar appliances", "electric tool", "toys" and "apparatus". ISO and IEC maintain terminological databases for use in standardization at the following addresses.

3.2 General terms and definitions

3.2.1 Equipment under test; EUT Equipment being evaluated according to the requirements of this document.

3.2.2 System under test EUT and auxiliary equipment which are tested together in accordance with the requirements of this document.

4 Limits of Disturbances

4.1 General Radio disturbance limits are given in the frequency range 150 kHz to 6 000 MHz, with an extension down to 9 kHz for specific types of equipment. If it is evident from the construction, electrical characteristics and intended use of the equipment that a certain measurement is not necessary, the equipment is deemed to comply with the relevant requirements without testing. The test report shall include the engineering justification to support these exclusions from testing.

4.2 Application of limits The following Table 1 gives a reference to the limits applicable to the different types of equipment under the scope of this document. The Table 1 provides only a quick reference. The requirements detailed in the referenced clauses and other relevant clauses shall be applied.

5.1.1 General The instruments and devices specified in

5.1 shall be used in accordance with the methods of measurement specified in

5.1.2 Measuring receivers Receivers with quasi-peak detectors shall be in accordance with Clause 4 of CISPR 16-1- 1.2015; receivers with average detectors shall be in accordance with Clause 6 of CISPR 16-1- 1.2015.

5.2.1 Arrangement of the EUT

5.2.1.1 EUT operated without an earth connection and not held by the hand The EUT shall be placed, with respect to the floor, in an orientation typical of intended use, unless special conditions are given in Annex A.

6 Operating Conditions

6.1 General The EUT shall be tested when operated from the intended power supply sources according to

6.3 as appropriate.

6.2 Mains operation

6.2.1 Voltage at the AC mains port During the tests, the EUT shall be operated at the rated voltage specified for the equipment. For single-phase equipment with a rated voltage range in the range between.