



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

GB 17799.4-2022

**Electromagnetic compatibility (EMC) - Generic standards - Part
4: Emission for industrial environments**

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020

Directives for standardization - Part 1. Rules for the structure and drafting of
standardizing documents.

This document is part 4 of Electromagnetic compatibility (EMC) - Generic standards.

The following parts have been released for Electromagnetic compatibility (EMC) -
Generic standards.

-- Immunity for residential, commercial and light-industrial environments (GB/T
17799.1);

-- Immunity for industrial environments (GB/T 17799.2);

-- Emission standard for residential, commercial and light-industrial environments
(GB 17799.3);

-- Emission for industrial environments (GB 17799.4);

-- HEMP immunity for indoor equipment (GB/T 17799.5);

-- Immunity for power station and substation environments (GB/Z 17799.6).

This document replaces GB 17799.4-2012 Electromagnetic compatibility (EMC) - Generic standards - Emission standard for industrial environments. Compared with GB 17799.4-2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Add the definition of different EUT test arrangements (see Clause 4);
- b) Add the definition of which average detector is used for emission measurements at frequencies above 1 GHz and that results using a peak detector are acceptable for all measurements (see Clause 9);
- c) Add requirements on DC ports (see Annex A);
- d) Add radiated polarity specific emission limits within a FAR (see Annex B).

This document is identical to IEC 61000-6-4:2018 Electromagnetic compatibility (EMC) - Part 6-4. Generic standards - Emission standard for industrial environments.

The following minimal editorial changes are made to this document.

-- Change the standard name to Electromagnetic compatibility (EMC) - Generic standards - Part 4. Emission for industrial environments, to be consistent with the technical standard system in China;

1 Scope

This document for emission requirements applies to electrical and electronic equipment intended for use within the environment existing at industrial (see 3.1.12) locations.

This document does not apply to equipment that fall within the scope of GB 17799.3.

The environments encompassed by this document cover both indoor and outdoor locations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the version corresponding to that date is applicable to this document; for undated references,

the latest version (including all amendments) is applicable to this document.

GB 4824-2019, Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement (CISPR 11:2015, IDT)

3 Terms, definitions and abbreviations

Physical boundary of the equipment which electromagnetic fields may radiate through or impinge on.

4 Test conditions

The equipment under test (EUT) shall be tested in the operating mode producing the largest emission in the frequency band being measured, consistent with normal applications. The configuration of the test sample shall be varied to achieve maximum emission consistent with typical applications and installation practice. Pre-testing may be used to reduce test time.

5 Product documentation

The purchaser/user/installer shall be informed within the product documentation if special measures have to be taken to achieve compliance. One example, would be the need to use shielded or special cables.

6 Applicability

The application of measurements for emission(s) depends on the particular equipment, its configuration, its ports, its technology and its operating conditions.

Measurements shall be applied to the relevant ports of the equipment according to the requirements defined in Table 3 ~ Table 5. Measurements shall only be carried out where the relevant ports exist.

7 Uncertainty of measurement

Where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in GB/T 6113.402-2018 this shall be followed, and for these measurements

the determination of compliance with the limits in this document shall take into consideration the measurement instrumentation uncertainty in accordance with GB/T 6113.402-2018.

8 Compliance with this document

Where this document gives options for testing particular requirements with a choice of test methods, compliance can be shown against any of the relevant test methods, using the specific limits with the restrictions provided in the relevant tables clauses.

9 Emission requirements

The emission requirements for equipment covered by this document are given on a port by port basis and defined in Table 3 ~ Table 5. Annex A is provided for information purposes only and lists proposed limits for DC power ports.

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