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PEOPLE'S REPUBLIC OF CHINA**

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**Electromagnetic compatibility - Generic standards - Part 2:
Immunity standard for industrial environments**

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Foreword

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

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

This document is Part 2 of "Electromagnetic compatibility - Generic standards". The following parts have been published.

- Electromagnetic compatibility - Generic Standards - Immunity for residential, commercial and light-industrial environments (GB/T 17799.1);
- Electromagnetic compatibility - Generic standards - Immunity for industrial environments (GB/T 17799.2);
- Electromagnetic compatibility - Generic Standards - Emission Standard for residential, commercial and light-industrial environments (GB 17799.3);
- Electromagnetic compatibility - Generic Standards - Emission Standard for industrial environments (GB 17799.4);
- Electromagnetic compatibility - Generic standards - HEMP immunity for indoor device (GB/T 17799.5);

- Electromagnetic compatibility - Generic standards - Immunity for power station and substation environments (GB/Z 17799.6);

- Electromagnetic compatibility - Generic standards - Part 7. Immunity requirements for device intended to perform functions in a safety-related system (functional safety) in industrial locations (GB/T 17799.7).

This document replaces GB/T 17799.2-2003 "Electromagnetic compatibility - Generic standards - Immunity for industrial environments". Compared with GB/T 17799.2-2003, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Modify the environmental description in the scope (see Chapter 1 of this Edition; Chapter 1 of Edition 2003);

b) Modify normative references (see Chapter 2 of this Edition; Chapter 2 of Edition 2003);

c) Modify the terms and definitions such as "port" and "signal/control port". Add the terms and definitions such as "long distance line", "DC distribution network", "industrial location", "electromagnetic environment" and "public mains network" (see Chapter 3 of this Edition; Chapter 3 of Edition 2003);

d) Add measurement uncertainty requirements (see Chapter 8 of this Edition);

e) Modify the frequency range of the RF electromagnetic field radiated immunity test (see Chapter 9 of this Edition; Table 1 of Edition 2003);

f) Modify the test levels and notes for surge (impact) immunity test (see Chapter 9 of this Edition; Tables 2~4 of Edition 2003);

g) Modify the repetition frequency of the electrical fast transient burst immunity test (see Chapter 9 of this Edition; Tables 2~4 of Edition 2003);

h) Add the IEC 61000-4-34 basic standard. Changed the requirements for voltage sag and voltage interruption immunity tests (see Chapter 9 of this Edition; Table

4 of Edition 2003);

i) Delete the immunity test requirements for the functional earth port (see Chapter 8

of Edition 2003);

j) Add an informative appendix on the guidelines for product standardization

technical committees (see Annex A of this Edition);

k) Add Bibliography (see Bibliography of this Edition).

This document is modified by adopting IEC 61000-6-2:2016 "Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments".

The technical differences between this document and IEC 61000-6-2:2016 and their reasons are as follows.

- Add the requirement that "For tests where there are multiple test methods to choose from, the original test method shall be used for retesting" (see Chapter 9);

- Delete the parameters related to 60 Hz in Tables 1 and 4, including the 60 Hz frequency point and notes of 1.1 power frequency magnetic field in Table 1, and the requirements and footnote e of 4.2 voltage sag and 4.3 voltage interruption duration of 12 cycles, 30 cycles and 300 cycles in Table 4, to apply to China's national conditions (see Chapter 9);

- Add footnote g to "Line-to-ground" in 2.2 Surge (impact) in Table 2 to clarify the requirement to use "all lines-to-ground" for symmetrical interconnection lines (see Chapter 9);

- As IEC 61000-4-31 has been published, the footnote a of Table A.1 in Annex A, "This basic standard is currently under development", has been deleted. The test level of broadband disturbance is noted as "to be determined" (see Annex A). The footnote 1 of IEC 61000-4-31 in the reference, "under consideration", has been deleted (see Bibliography).

The following editorial changes were made to this document.

- To be consistent with the Chinese standard system, the name of the standard was changed to "Electromagnetic compatibility - Generic standards - Part 2: Immunity standard for industrial environments";

- Corrected the editorial error in IEC 61000-6-2:2016, and changed the second "Table 4" in footnote d of Table 3 to "this table";
- Added "No." to the table header corresponding to each test number column in Tables 1 to 4.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights.

This document was proposed by and shall be under the jurisdiction of National Technical Committee on Electromagnetic Compatibility of Standardization Administration of China (SAC/TC 246).

The drafting organizations of this document. China Electric Power Research Institute Co., Ltd., China Electronics Technology Standardization Institute, Fifth Electronics Research Institute of the Ministry of Industry and Information Technology, Shanghai Electric Science Research Institute (Group) Co., Ltd., and Shanghai Institute of Metrology and Testing Technology.

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This document was first published in 2003. This is the first revision.

1 Scope

The electromagnetic compatibility (EMC) immunity requirements of this document apply to the following electrical and electronic device used in industrial locations, covering the frequency range of 0 Hz~400 GHz. No testing is required at frequencies where no immunity requirements are specified.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.