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

GB/Z 18039.1-2019

**Electromagnetic compatibility - Environment - Description and
classification of electromagnetic environments**

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Foreword

1 Scope

Foreword

The Electromagnetic Compatibility Environment includes the following sections.

---GB /Z 18039.2-2000 Electromagnetic compatibility environment industrial equipment power supply low frequency conducted disturbance emission level evaluation

---GB/T 18039.3-2017 Electromagnetic compatibility environment common low-voltage power supply system low-frequency conduction disturbance and signal transmission

Capacity level

---GB/T 18039.4-2017 Compatibility level of low frequency conducted disturbance in electromagnetic compatibility environment factory

---GB /Z 18039.5-2003 Electromagnetic compatibility environment public power supply system low frequency conduction disturbance and electromagnetic transmission of signal transmission

surroundings

---GB /Z 18039.6-2005 Electromagnetic compatibility environment Low frequency magnetic field in various environments

---GB /Z 18039.7-2011 Electromagnetic compatibility environment, voltage sag, short-term interruption and its measurement system

Result

---GB/T 18039.8-2012 Electromagnetic compatibility environment High altitude nuclear electromagnetic pulse (HEMP) environment describes conducted disturbance

---GB/T 18039.9-2013 Electromagnetic compatibility environment common medium voltage power supply system low frequency conduction disturbance and signal transmission

Capacity level

---GB/T 18039.10-2018 Electromagnetic compatibility environment HEMP environment describes radiated disturbance

This part is the first part of the Electromagnetic Compatibility Environment.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB /Z 18039.1-2000 "Classification of electromagnetic environment for electromagnetic compatibility environment", and GB /Z 18039.1-2000

In comparison, the main technical changes are as follows.

- Refined the scope and content of Chapter 1;
- Chapter 2 added normative references;
- Chapter 3 adds 34 terms and definitions, and 118 abbreviations;
- Added the definition of device port in 4.1, and the content of 4.4 disturbance level and CISPR limit;
- Revised the 5.1.1 fundamental harmonics, 5.1.2 grid voltage amplitude and frequency changes, 5.1.6 low frequency induced voltage requirements, and

5.2.1 description of the magnetic field, 5.2.2 electric field;

- Increase the content of 5.1.3 grid common mode voltage, 5.1.4 grid signal voltage, 5.1.7 AC grid DC voltage;
- Revised the description of 6.1.1, the description of the 6.1.4 transient, and the requirements of 6.1.3 induced continuous wave, 6.2.2 continuous oscillation radiation disturbance;
- Added 6.1.2 direct conduction continuous wave phenomenon, 6.2.1 overview, 6.2.3 modulated radiation disturbance, 6.2.4 pulse radiation disturbance content;
- Revised the requirements of the field generated by the 7.3 electrostatic discharge current;
- Added the content of Chapter 8 environment type;
- Increased the content of 9.3 high-density source processing, modified the description of the 9.4 critical state criterion;
- Added the content of the harassment level of different types of places in Chapter 10;
- Increased the compatibility level/harassment level of different types of sites in Appendix A, Appendix C Overview of historical distribution of radiation disturbances, Appendix E Harness and compatibility levels in Powerline Communications (PLT), Appendix F Distributed Generation, and Appendix G IEC 61000-2 Series

The content of the information;

- Revised Appendix B for requirements for continuous radiated disturbances, and

Appendix D for description of pulsed radiated disturbances.

This section uses the translation method equivalent to IEC /T R61000-2-5.2017

"Electromagnetic Compatibility (EMC) Part 2-5. Environmental Electromagnetics

Description and Classification of the Environment.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

---GB/T 17626.2-2018 Electromagnetic compatibility test and measurement technology

Electrostatic discharge immunity test (IEC 61000-4-2.

2008, IDT)

---GB/T 17626.3-2016 Electromagnetic compatibility test and measurement technology RF

electromagnetic field radiation immunity test (IEC

61000-4-3.2010, IDT)

---GB/T 17626.4-2018 Electromagnetic compatibility test and measurement technology

Electrical fast transient burst immunity test (IEC

61000-4-4.2012, IDT)

---GB/T 17626.5-2008 Electromagnetic compatibility test and measurement technology

Surge (impact) immunity test (IEC 61000-4-

5.2005, IDT)

---GB/T 17626.6-2017 Electromagnetic compatibility test and measurement technology

Conducted disturbance immunity of radio frequency field induction (IEC

61000-4-6.2013, IDT)

---GB/T 17626.8-2006 Electromagnetic compatibility test and measurement technology

Power frequency magnetic field immunity test (IEC 61000-4-8.

2001, IDT)

---GB/T 17626.9-2011 Electromagnetic compatibility test and measurement technology

Pulse magnetic field immunity test (IEC 61000-4-9.

2001, IDT)

---GB/T 17626.10-2017 Electromagnetic compatibility test and measurement technology

Damping oscillating magnetic field immunity test (IEC 61000-

4-10.2001, IDT)

---GB/T 17626.11-2008 Electromagnetic compatibility test and measurement technology

resistance to voltage dips, short interruptions and voltage changes

Disturbance test (IEC 61000-4-11.2004, IDT)

---GB/T 17626.12-2013 Electromagnetic compatibility test and measurement technology ringing wave immunity test (IEC 61000-4-12.

2006, IDT)

---GB/T 17626.13-2006 Electromagnetic compatibility test and measurement technology AC power port harmonics, interharmonics and grid letters

Low frequency immunity test (IEC 61000-4-13.2002, IDT)

---GB/T 17626.14-2005 Electromagnetic compatibility test and measurement technology voltage fluctuation immunity test (IEC 61000-4-

14.2002, IDT)

---GB/T 17626.16-2007 Electromagnetic compatibility test and measurement technology 0Hz~150kHz common mode conducted disturbance immunity

Test (IEC 61000-4-16.2002, IDT)

---GB/T 17626.18-2016 Electromagnetic compatibility test and measurement technology Damping oscillator wave immunity test (IEC 61000-4-

18.2011, IDT)

---GB/T 17626.27-2006 Electromagnetic compatibility test and measurement technology three-phase voltage unbalance immunity test (IEC

61000-4-27.2000, IDT)

---GB/T 17626.28-2006 Electromagnetic compatibility test and measurement technology power frequency change immunity test (IEC 61000-

4-28.2001, IDT)

---GB/T 18039.3-2017 Electromagnetic compatibility environment common low-voltage power supply system low-frequency conduction disturbance and signal transmission

Capacity level (IEC 61000-2-2.2002, IDT)

---GB/T 18039.4-2017 Compatible level of low frequency conducted disturbance in electromagnetic compatibility environment factory (IEC 61000-2-4.

2002, IDT)

---GB /Z 18039.7-2011 Electromagnetic compatibility environment, voltage sag, short-term interruption and its measurement system

Results (IEC TR61000-2-8.2002, IDT)

---GB/T 18039.9-2013 Electromagnetic compatibility environment common medium voltage