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

中华人民共和国国家标准

GB/T 28046.4-2011

**Road vehicles—Environmental conditions and testing
for electrical and electronic equipment—**

Part 4: Climatic loads

道路车辆 电气及电子设备的环境条件和试验

第 4 部分：气候负荷

(ISO 16750-4: 2006, MOD)

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China**

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Foreword

GB/T 28046 *Road vehicles—Environmental conditions and testing for electrical and electronic equipment* consists of five parts:

- Part 1: General;
- Part 2: Electrical loads;
- Part 3: Mechanical loads;
- Part 4: Climatic loads;
- Part 5: Chemical loads.

This is Part 4 of GB/T 28046.

This Part is drafted by rules given in GB/T 1.1-2009.

This Part is formulated according to redraft method and revision of ISO 16750-4: 2006 *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 4: Climatic loads*.

Technical differences and reasons between this Part and ISO 16750-4: 2006 are as follows:

- In order to maintain mutual corresponding and coordinating of serial standards, replaced the -40°C in 5.1.1.1.2.2 by T_{\min} (apparent error, revision of ISO 16750-4 has changed as T_{\min});
- Deleted the description on Clause 8 in original standard on account of no guiding significance.
- The Subclause 5.6 of table 4 in original standard is incomprehensible, this Part has been changed according to revision of ISO 16750-4.

This Standard is proposed by National Development and Reform Commission (NDRC)

This Standard is under the jurisdiction of National Technical Committee (SAC/TC 114) on

Road Vehicles of Standardization Administration of China.

The responsible drafting organizations are Chinese Automotive Technology & Research Centre, Changsha Auto Electric Parts Research Centre, Shanghai Quality Supervision and Inspection Center, Commercial Vehicle technical Center, Dong Feng Motor Co., Ltd, Shenzhen Hangsheng Electronics Co., Ltd, Shanghai Kostal-Huayang Automotive Electric Co., Ltd, Zhengzhou Yuebo Automotive Electric Co., Ltd, Suzhou Taisite Electronic Science And Technology Co., Ltd and China IPPR International Engineering Corporation.

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Road vehicles—Environmental conditions and testing for electrical and electronic equipment—

Part 4: Climatic loads

1 Scope

This part describes the potential environmental stresses and specifies tests and requirements recommended for the specific mounting location on/in the road vehicle.

This part applies to electrical and electronic systems/components for road vehicles.

2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 2423.1 Environmental testing - Part 2: Test methods - Tests A: Cold (GB/T 2423.1-2008, IEC 60068-2-1:2007, IDT)

GB/T 2423.2 Environmental testing - Part 2: Test methods - Tests B: Dry heat (GB/T 2423.2-2008, IEC 60068-2-2:2007, IDT)

GB/T 2423.3 Environmental testing for electric and electronic products - Part 2: Testing method test Cab: Damp heat Steady state (GB/T 2423.3-2006, IEC 60068-2-78:2001, IDT)

GB/T 2423.4 Environmental testing for electric and electronic products - Part 2: Test method - Test Db: Damp heat, cyclic (12h+12h cycle) (GB/T 2423.4-2008, IEC 60068-2-30:2005, IDT)

GB/T 2423.17 Environmental testing for electric and electronic products - Part 2: Test method - Test Ka: Salt mist (GB/T 2423.17-2008, IEC 60068-2-11:1981, IDT)

GB/T 2423.18 Environmental testing - Part 2: Test methods - Test Kb: Salt mist, cyclic

(sodium chloride solution) (GB/T 2423.18-2000, IEC 60068-2-52:1996, IDT)

GB/T 2423.22 Environmental testing for electric and electronic products--Part 2: Test methods Test N: Change of temperature (GB/T 2423.22-2002, IEC 60068-2-14:1984, IDT)

GB/T 2423.34 Environmental testing for electric and electronic products--Part 2: Test methods--Test Z/AD: Composite temperature/humidity cyclic test (GB/T 2423.34-2005, IEC 60068-2-38:1974, IDT)

GB/T 2423.51 Environmental testing for electric and electronic products-Part2:Test methods-Test Ke: Flowing mixed gas corrosion test (GB/T 2423.51-2000, IEC 60068-2-60:1995, IDT)

GB/T 28046.1 Road vehicles—Environmental conditions and testing for electrical and electronic equipment—Part 1: General (GB/T 28046.1-2011, ISO 16750-1:2006, MOD)

GB/T 28046.2 Road vehicles—Environmental conditions and testing for electrical and electronic equipment—Part 2: Electrical loads (GB/T 28046.2-2011, ISO 16750-2:2006, MOD)

ISO 20653 Road vehicles -- Degrees of protection (IP code) -- Protection of electrical equipment against foreign objects, water and access

3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB/T 28046.1 apply.

4 Operating temperature ranges

Table 1 defines operating temperature ranges. The applicable temperature ranges shall be chosen from Table 1 and shall be given in the specification of the device under test (DUT).

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