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# GB

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## NATIONAL STANDARD

### OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 2423.2-2008 / IEC 60068-2-2:2007

Replacing GB/T 2423.2-2001

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## Environmental testing for electric and electronic products - Part 2: Test methods - Tests B: Dry heat

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## Foreword

GB/T 2423.2 is part 2 of GB/T 2423; the rest parts of GB/T 2423 are shown in Annex NA.

This Part is identical to IEC 60068-2-2:2007 *Environmental Testing - Part 2-1: Tests - Test B: Dry heat* (English version).

Compared with IEC 60068-2-2: 2007, main changes of this Part are as follows:

- Change the name of this Part to be *Environmental testing for electric and electronic products - Part 2: Test methods - Tests B: Dry heat*;
- Change “this Standard” to be “this Part”;
- Delete the foreword of IEC 60068-2-2: 2007;
- Delete the introduction of IEC 60068-2-2: 2007; transferred the contents into Annex NB;
- Add informative annex “Constituent parts of GB/T 2423” (see Annex NA);
- Add informative annex “Test A: cold and test B: the relations between classification and small letter of high temperature” (see annex NB);
- Delete “for non-heat dissipation test specimen” in section 1 of clause 1;
- Add the reference GB/T 2423.22 in normative reference of clause 2;
- Change the “non heat-dissipating specimen” as “test of non heat-dissipating specimen” in article 4.3;
- Change the “absolute humidity” as “humidity” in 6.8.2.
- For clarity, above revisions have been added with footnotes in relevant positions.

This Part replaces GB/T 2423.2-2001 *Environmental testing for electric and electronic and electronic products - Part 2: Test methods - Tests B: Dry heat*. Comparison with previous edition, main changes are as follows:

- Delete test Ba: Cold test of jump in temperature of non heat-dissipating specimen;
- Delete test Bc: Dry heat test of jump in temperature of dissipating specimen;
- Delete the annex A, B, C, D, E and F;
- Add test Bc: Cold test of temperature jump of heat-dissipating specimen - test specimen should be charged with electricity during testing.

Annex NA and NB of this Part are informative.

This Part was proposed and under the jurisdiction of National Technical Committee (SAC/TC 8) on Environmental Conditions of Electric and Electronic Products and Environmental Test of Standardization Administration of China.

The responsible drafting organization is Guangzhou Electric Apparatus Research Institute.

The chief drafting staff of this Part: Zhang Zhiyong.

The historical editions replaced by this Part are:

— GB/T 2423.2-1981, GB/T 2423.2-1989, GB/T 2423.2-2001.

# Environmental testing for electric and electronic products - Part 2: Test methods - Tests B: Dry heat

## 1 Scope

This Part of GB/T 2423 deals with dry heat tests applicable both to heat-dissipating and non heat dissipating specimens. Tests Bb and Bd do not deviate essentially from earlier issues.<sup>1)</sup>

The object of the dry heat test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at high temperature.

These dry heat tests do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use GB/T 2423.22.

The dry heat tests are subdivided as follows:

- Dry heat test for non heat-dissipating specimens:
  - Test Bb, with gradual change of temperature.
- Dry heat tests for heat-dissipating specimens:
  - Test Bd, with gradual change of temperature;
  - Test Be, with gradual change of temperature, specimen powered throughout.

The procedures given in this Part are normally intended for specimens that achieve temperature stability during the performance of the test procedure.

## 2 Normative References

The articles contained in the following documents have become part of this Part of GB/T 2423 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 2421 Environmental testing for electric and electronic products - Part 1: General and guidance (GB/T 2421-1999, idt IEC 60068-1:1988)

GB/T 2422 Environmental testing for electric and electronic products Terms and

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<sup>1)</sup> There is "For non heat-dissipating specimens" in IEC 60068-2-2: 2007.

## Annex NA

### (Informative)

#### Constituent parts of GB/T 2423

In addition to this part, the rest parts of GB/T 2423 are as follows:

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

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

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

GB/T 2423.5-1995 Environmental testing for electric and electronic products Part 2: Test methods Test Ea and guidance: Shock (IEC 60068-2-27: 1987, IDT)

GB/T 2423.6-1995 Environmental testing for electric and electronic products—Part 2: Test methods - Test Eb and guidance: Bump (IEC 60068-2-29: 1987, IDT)

GB/T 2423.7-1995 Environmental testing for electric and electronic products Part 2: Test methods Test Ec and guidance: Drop and topple Primarily for equipment-type specimens (IEC 60068-2-31: 1982, IDT)

GB/T 2423.8-1995 Environmental testing for electric and electronic products Part 2: Test methods Test Ed: Free fall (IEC 60068-2-6: 1995, IDT)

GB/T 2423.15-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test Ga and guidance: Acceleration steady (IEC 60068-2-7: 1986, IDT)

GB/T 2423.16-2008 Environmental testing - Part 2: Test methods - Test J and guidance: Mold growth (IEC 60068-2-10: 2005, IDT)

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

GB/T 2423.18-2000 Environmental testing - Part 2: Test methods - Test Kb: Salt mist, cyclic (sodium chloride solution) (IEC 60068-5-52: 1996, IDT)

GB/T 2423.21-2008 Environmental testing - Part 2: Test methods - Test M: Low air pressure (IEC 60068-2-13: 1983, IDT)

GB/T 2423.22-2008 Environmental testing - Part 2: Test methods - Test M: Low air pressure (IEC 60068-2-13: 1983, IDT)

GB/T 2423.23-1995 Environmental testing for electric and electronic products Test Q: sealing

GB/T 2423.24-1995 Environmental testing for electric and electronic products - Part 2: Test methods Test Sa: Simulated solar radiation at ground level (IEC 60068-2-5: 1975, IDT)

GB/T 2423.25-2008 Environmental testing - Part 2: Tests methods - Test Z/AM: Combined cold/low air pressure tests (IEC 60068-2-40: 1976, IDT)

GB/T 2423.26-2008 Environmental testing - Part 2: Tests methods - Test Z/BM: Combined dry heat/low air pressure tests (IEC 60068-2-41: 1976, IDT)

GB/T 2423.27-2005 Environmental testing for electric and electronic products - Part 2: Test Methods Test Z/AMD: Combined sequential cold, low air pressure and damp heat test (IEC 60068-2-39: 1976, IDT)

GB/T 2423.28-2005 Environmental testing for electric and electronic products - Part 2: Test methods Test T: Soldering (IEC 60068-2-20: 1979, IDT)

GB/T 2423.30-1999 Environmental testing for electric and electronic products - Part 2: Test methods - Test XA and guidance: Immersion in cleaning solvents (IEC 60068-2-45: 1993, IDT)

GB/T 2423.31-1985 Basic environmental testing procedures for electric and electronic products - Test: inclinations and motions

GB/T 2423.32-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test Ta: Solderability test by the wetting balance method (IEC 60068-2-54: 2006, IDT)

GB/T 2423.33-2005 Environmental testing for electronic products – Part 2: Test method - Test Kca: High concentration sulfur dioxide

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

GB/T 2423.35-2005 Environmental testing for electric and electronic products - Part 2: Test Methods Test Z/AFc: Combined cold/vibration (sinusoidal) tests for both heat-dissipating and non-heat-dissipating specimens (IEC 60068-2-50: 1983, IDT)

GB/T 2423.36-2005 Environmental testing for electric and electronic products Part 2: Test Methods Test Z/BFc: Combined dry heat/vibration (vibration) (sinusoidal) tests for both heat-dissipating and non-heat-dissipating specimens (IEC 60068-2-51: 1983, IDT)

GB/T 2423.37-2006 Environmental testing for electric and electronic products - Part 2: Test methods - Test L: Dust and sand (IEC 60068-2-68: 1994, IDT)

GB/T 2423.38-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test R: Water test method and guidance (IEC 60068-2-18: 2000, IDT)

GB/T 2423.39-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test Ee: Bounce (IEC 60068-2-55: 1987, IDT)

GB/T 2423.40-1997 Environmental testing for electric and electronic products - Part 2: Test methods Test Cx: Damp heat, steady state (unsaturated pressurized vapour) (IEC 60068-2-66: 1994, IDT)

GB/T 2423.41-1994 Basic environmental testing procedures for electric and electronic products Wind pressure

GB/T 2423.42-1995 Environmental testing for electric and electronic products Combined low temperature/low air pressure / vibration (sinusoidal) test

GB/T 2423.43-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Mounting of specimens for vibration impact and similar dynamic tests (IEC 60068-2-47: 2005, IDT)

GB/T 2423.45-1997 Environmental testing for electric and electronic products - Part 2: Test methods Test Z/ABDM: Climatic sequence (IEC 60068-2-61: 1991, IDT)

GB/T 2423.47-1997 Environmental testing for electric and electronic products - Part 2: Test methods Test Fg: Vibration, acoustically induced

GB/T 2423.48-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test Ff: Vibration - Time-history method (IEC 60068-2-57: 1999, IDT)

GB/T 2423.49-1997 Environmental testing for electric and electronic products - Part 2: Test methods Test Fe: Vibration - sine-beat method (IEC 60068-2-59: 1990, IDT)

GB/T 2423.50-1999 Environmental testing for electric and electronic products - Part 2: Tests - Test Cy: Damp heat, steady state, accelerated test primarily intended for components (IEC 60068-2-67: 1996, IDT)

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

GB/T 2423.52-2003 Environmental testing for electric and electronic products - Part 2: Test methods Test 77: Body strength and impact shock (IEC 60068-2-27: 1999, IDT)



GB/T 2423.53-2005 Environmental testing for electric and electronic products - Part 2: Test methods Test Xb: Abrasion of markings and letterings caused by rubbing of fingers and hands (IEC 60068-2-70: 1995, IDT)

GB/T 2423.54-2005 Environmental testing for electric and electronic products - Part 2: Test methods Test Xc: Fluid contamination (IEC 60068-2-74: 1999, IDT)

GB/T 2423.55-2006 Environmental testing for electric and electronic products - Part 2: Test methods - Test Eh: hammer tests (IEC 60068-2-75: 1997, IDT)

GB/T 2423.56-2006 Environmental testing for electric and electronic products - Part 2: Test methods - Test Fh: Vibration, broad-band random(digital control) and guidance (IEC 60068-2-64: 1993, IDT)

GB/T 2423.57-2008 Environmental testing for electric and electronic products - Part 2: Tests - Test Ei: Shock - Shock response spectrum synthesis (IEC 60068-2-81: 2003, IDT)

GB/T 2423.58-2008 Environmental testing for electric and electronic products - Part 2: Tests - Test Fi: Vibration - Mixed Mode (IEC 60068-2-80: 2005, IDT)

GB/T 2423.101-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test: inclinations and swings

GB/T 2423.102-2008 Environmental testing for electric and electronic products - Part 2: Test methods - Test: combined temperature (cold and heat) / low air pressure / vibration (sinusoidal)

**Annex NB**  
**(Informative)**  
**Relationship of suffixes between tests A: cold and tests B: dry heat**

The relationship of suffixes between Tests A: Cold, and Tests B: Dry heat, is shown in the following table NB.1:

**Table NB.1 Relationship of suffixes between tests A: cold and tests B: dry heat**

Suffix letter	Tests A: Cold			Tests B: Dry heat		
	Specimen type	Temperature change	Air velocity	Specimen type	Temperature change	Air velocity
a	Withdrawn			Withdrawn		
b	Non heat	Gradual	High preferred	Non heat	Gradual	High preferred
c	Withdrawn			Withdrawn		
d	Heat dissipating	Gradual	Low preferred	Heat	Gradual	Low preferred
e	Heat dissipating powered throughout	Gradual	Low preferred	Heat, powered throughout	Gradual	Low preferred

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