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

GB/T 2423.45-2012

**Environmental testing - Part 2: Test methods - Test Z/ABDM:
Climatic sequence
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	6
2 Normative references...	6
3 Definitions...	7
4 Test apparatus...	7
5 Severities...	8
6 Pre-conditioning...	8
7 Initial measurements...	8
8 Testing...	8
9 Recovery...	12
10 Final measurements...	12
11 Information to be given in the relevant specification...	12
Appendix A (informative) Guidance for specification writers...	18
Appendix B (informative) Guidance for the conduct of the test...	19
Appendix NA (Informative) Parts of GB/T 2423...	20

Foreword

This part is Part 45 of GB/T 2423. The parts of GB/T 2423 are shown in Informative Appendix NA.

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

This part replaces GB/T 2423.45-1997 Environmental testing for electric and electronic products - Part 2. Test methods - Test Z/ABDM. Climatic sequence. Compared to GB/T 2423.45-1997, the main changes are as follows.

-- The degree of consistency differs (the 1997 version is an identical version, while this version is a modified version);

-- The first paragraph of Chapter 1 has been edited.

-- Regarding normative references, the specific adjustments are as follows.

lambda GB/T 4797 has replaced IEC 60721-2;

lambda GB/T 4798 has replaced IEC 60721-3;

- In Chapter 2, Chinese national standards that are identical to international standards have been cited;
- In Chapter 4, the content "When using a dedicated test chamber in which... in the sequence are successively established" has been changed to "When using a single test chamber in which... in the sequence are met";
- In Chapter 5, the statement "The severity is defined by... the air pressure and the duration of exposure, if the optional "low air pressure" step is required (Chapter

4 in IEC 68-2-3), and finally, the number of damp heat cycles according to 8.2.5

- of this standard." has been changed to "The severity is defined by... the air pressure and the duration of exposure [if the optional "low air pressure" step is required (Chapter 4 in GB/T 2423.21-2008)], and finally, the number of damp heat cycles according to 8.2.5 of this part";
- The "test Aa" and "test Ba" in this part have been changed to "test Ab" and "test Bb";
 - In Chapter 7, "be submitted to" has been changed to "carry out";
 - In 8.2.5, all "dimensional and functional inspection" has been changed to "dimensional and functional check";
 - The content "(including 8.2.1 and 8.2.4)" has been removed from 8.3.1 and "(including 8.2.1 and 8.2.3)" from 8.4.1;
 - In Figure 1, Figure 2, and Figure 3, "non-mandatory" has been changed to "optional";
 - The column "IEC standards" in Figure 3 has been changed to "GB/T standards";
 - In Figure 4, "1 h 30" has been changed to "1.5 h";
 - In Appendix A.1, the statement "... at the final stage" has been changed to "... at the end";
 - In Appendix B.3, "a dedicated test chamber" has been changed to "a single test chamber";

-- The informative appendix "Parts of GB/T 2423" has been added (see Appendix NA).

This part is modified in relation to IEC 60068-2-61.1991 Environmental testing - Part

2 Test methods - Test Z/ABDM. Climatic sequence by using the redrafting method.

The technical differences between this part and IEC 60068-2-61.1991, and the reasons therefor, are as follows.

-- Regarding normative references, this part has been adjusted to reflect technical differences in order to adapt to Chinese technical conditions. The specific adjustments are as follows.

lambda GB/T 2423.1-2008, which is identical to IEC 60068-2-1.2007, has replaced IEC 60068-2-1.1990;

lambda GB/T 2423.2-2008, which is identical to IEC 60068-2-2.2007, has replaced IEC 60068-2-2.1974 and the first supplement IEC 60068-2-2A.1976;

lambda GB/T 2423.4-2008, which is identical to IEC 60068-2-30.2005, has replaced IEC 60068-2-30.1980;

lambda GB/T 2424.2-2005, which is identical to IEC 60068-3-4.2001, has replaced IEC 60068-2-28.1980;

lambda GB/T 4797 has replaced IEC 60721-2;

lambda GB/T 4798 has replaced IEC 60721-3;

Environmental testing - Part 2. Test methods - Test

Z/ABDM. Climatic sequence

1 Scope

This part of GB/T 2423 provides standard composite test methods for determining the suitability of a specimen when subjected to environmental conditions consisting of a sequence of temperature, humidity and, where required, low air pressure environmental stresses.

The order of application of the stresses AND the conditions for the change from one

step to the next have been chosen to accelerate and amplify degradation mechanisms of the same type as those observed under natural climatic conditions.

NOTE: Environmental conditions occurring in nature are classified in GB/T 4797 and GB/T 4798.

This part may be applied to other electrotechnical products when the degradation mechanisms are the same and the specified requirements for testing can be satisfied. In other cases, it may form a basis for the writing of a similar test.

In this test, specimens are exposed to environmental tests in a standard order and categorized according to the basic code defined in Appendix A of GB/T 2421.1-2008 except that the third group of digits is used as an indication of the number of cycles in Step 5 of the damp heat cyclic Test Db (see Chapter 5 in GB/T 2423.4-2008). In the climatic categories -/-/56, 40/-/-, etc., in this part, the dashes may be replaced by any of the standard values appropriate to the space, as in the following examples. 55/100/56, 25/085/56, 40/085/21. Where any modification is necessary, the relevant specification shall provide the necessary information for each step in the selected method (see Chapter 8).

This test is frequently specified to follow other tests involving mechanical stress, for example, tests for robustness of terminations, solderability, shock and vibration, as a means of determining whether the sealing of the specimen has been damaged.

2 Normative references

The following documents are essential for the application of this document. For any dated reference, only the version corresponding to that date applies to this document; for any undated reference, the latest version (including all amendments) applies to this document.

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