

ICS 31.180
CCS L 30



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

GB/T 46821-2025

Test methods for device embedded substrate

嵌入式基板测试方法

(English Translation)

Issued on: December 31, 2025

Implemented on: April 1, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt IEC 62878-1-1:2015 "Embedded substrates - Part 1-1.General specification - Test methods".

This document has undergone the following structural adjustments compared to IEC 62878-1-1:2015.

---The section 4.2.1 General Provisions in IEC 62878-1-1:2015 has been deleted;

---4.2.1 and 4.2.2 correspond to 4.2.2 and 4.2.3 of IEC 62878-1-1:2015;

Table 3 corresponds to Table 4 of IEC 62878-1-1:2015.Tables 4 and 5 correspond to Table 5

of IEC 62878-1-1:2015. Tables 6 and 7...

Table 8 corresponds to Table 6 of IEC 62878-1-1:2015;

---4.4.1e), 4.4.3e), 4.4.4e), and 4.6.4.3 correspond to Tables 7, 9, 10, and 17 of IEC 62878-1-1:2015, respectively;

---4.6.2.1, 4.6.2.2 and 4.6.2.3 correspond to the seven entries in 4.6.2 of IEC 62878-1-1:2015.

The technical differences between this document and IEC 62878-1-1:2015, and the reasons therefor, are as follows.

---IEC 60068-2-1 (see 4.5.1) has been replaced by the normatively referenced GB/T 2423.1, and GB/T 2423.2 has been replaced by...

IEC 60068-2-2 (see 4.5.1) is adopted to adapt to my country's technical conditions and improve operability.

---IEC 60194 (see 3.1) has been replaced with the normatively referenced GB/T 2036 to adapt to my country's technical conditions and improve operability.

Actual nature;

---The abbreviation "TEG. Test Unit Group" (see 3.2) has been added for easier understanding;

---The relative humidity range has been changed from "25%~75%" to "45%~75%" (see 4.1) to align with the humidity specifications of other test method standards.

Scope is consistent;

---The pull-out strength requirement for surface mount pads has been changed to 3.45 N/mm² [see 4.4.4e] to adapt to my country's technical conditions;

---The angle of the force in the coating adhesion test has been changed from "60°" to "perpendicular to the surface" [see 4.4.5d)], to align with other test method standards.

The specified peel angle is consistent, and the 60° peel angle illustrated in Figure 7 of IEC 62878-1-1:2015 has been removed.

intention.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Test Methods for Embedded Substrates";

---The general provisions 4.2.1 and Annex A have been removed from IEC 62878-1-1:2015.

Please note that some content in this document may involve patents. The issuing

organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Printed Circuit Standardization Technical Committee (SAC/TC47).

1 Scope

This document specifies the test methods for substrates with embedded passive or active components.

This document applies to the testing of substrates with embedded passive or active components made of organic materials.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 2036 Printed Circuit Terminology GB/T 2423.1 Environmental testing of electrical and electronic products - Part 2: Test methods - Test A. Low temperature (GB/T 2423.1-2008, IEC 60068-2-1:2007, IDT) GB/T 2423.2 Environmental testing of electrical and electronic products - Part 2: Test methods - Test B. High temperature (GB/T 2423.2-2008, IEC 60068-2-2:2007, IDT) ISO 9180 Classification and Diameter of Black Leads for Wood-Cased Pencils Note. GB/T 39024-2020 Classification and diameter of black lead for wooden pencils (ISO 9180:1988, IDT) ISO 21948 Coated abrasives - Plain sheets Note. GB/T 15305.1-2005 Coated Abrasive Pads (ISO 21948:2001, IDT) IEC 61189-3:2007 Electronic materials, printed circuit boards and their assemblies - Test methods - Part 3: Test methods for printed circuit boards [Test] IEC TS62878-2-4:2015 Embedded substrates - Part 2-4.Guidelines for test unit groups [Devices embedded substrates]

3.1 Terms and Definitions

The terms and definitions defined in GB/T 2036 apply to this document.

3.2 Abbreviations

The following abbreviations apply to this document.

TEG. TestElementGroup