



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

GB/T 18910.101-2021

**Liquid crystal display devices - Part 10-1: Environmental,
endurance and mechanical test methods - Mechanical**

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Foreword

GB/T 18910 "Liquid Crystal Display Devices" has or plans to publish the following parts.

---Part 1-1.General Specification;

---Part 1-2.Terms and symbols;

---Part 2.Sub-specification of liquid crystal display modules;

---Part 2-1.Blank detail specifications for passive matrix monochrome liquid crystal display modules;

---Part 2-2.Blank detailed specifications for color matrix liquid crystal display modules;

---Part 3.Sub-specification of LCD screens;

---Part 3-1.Detailed specifications for LCD blanks;

---Part 4.Basic ratings and characteristics of liquid crystal display modules and screens;

---Part 4-1.Basic ratings and characteristics of color matrix liquid crystal display modules;

---Part 5.Environmental, durability and mechanical test methods;

- Part 6-1.Photoelectric parameters of liquid crystal display device test methods;
- Part 6-2.Liquid crystal display module test method reflective type;
- Part 6-3.Liquid crystal display module test method active liquid crystal display module motion artifacts;
- Part 6-4.Liquid crystal display device test method liquid crystal display module with dynamic backlight;
- Part 10-1.Environmental, durability and mechanical test methods machinery;
- Part 10-2.Environment, durability and mechanical test methods environment and durability;
- Part 20-1.Visual inspection of monochrome LCD screen;
- Part 20-2.Visual inspection of monochromatic matrix liquid crystal display module;
- Part 20-3.Visual inspection of active matrix color liquid crystal display modules.

This part is part 10-1 of GB/T 18910.

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

The translation method used in this part is equivalent to the adoption of IEC 61747-10-1:2013 "Liquid Crystal Display Device Part 10-1.Environment, Durability and Mechanical test method Machinery".

Chinese documents that have consistent correspondence with the normatively cited international documents in this section are shown in Appendix NA.

This section has made the following editorial changes.

- Delete (860mbar~1060mbar) in Chapter 4;
- Added an informative appendix NA, which gives a consistent correspondence with the international documents cited in this part of my country document.

1 Scope

This part of GB/T 18910 specifies the test methods for liquid crystal display devices, while taking into account the provisions of IEC 60068 as much as possible

Mechanical test method.

Note. The device includes screens and modules.

The purpose of this section is to evaluate the mechanical properties of liquid crystal display

devices, to determine a unified preferred test method and preferred values of stress levels.

If this part is inconsistent with the relevant specifications, the latter shall prevail.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

IEC 60068 (all parts) Environmental testing (Environmental testing)

IEC 60068-2-6 Environmental Test Part 2-6. Test Method Test Fc. Vibration (Sine)
(Environmental

testing-Part 2-6. Tests-Test Fc. Vibration (sinusoidal))

IEC 60068-2-7 Basic Environmental Test Procedure Part 2. Test Method Test Ga and Guide.
Steady State Acceleration (Envi-

ronmental testing-Part 2-7. Tests-Test Ga and guidance. Acceleration, steady state)

IEC 60068-2-20 Environmental testing Part 2-20. Test method Test T. Solderability and
resistance to soldering heat with lead devices

Test methods (Environmental testing-Part 2-20. Tests-Test T. Test methods for solderability and
resistance to soldering heat of devices with leads)

IEC 60068-2-21 Environmental Test Part 2-21. Test Method Test U. Strength of Leading
Ends and Overall Mounting Parts (Envi-

ronmental testing-Part

2-21. Tests-Test U. Robustness of terminations and integral mounting devices)

IEC 60068-2-27 Environmental Testing Part 2-27. Test Method Test Ea and Guideline.
Impact (Environmental tes-

ting-Part 2-27. Tests-Test Ea and guidance. Shock)

IEC 60747 (all parts) Semiconductor devices (Semiconductor devices)

IEC 60748 (all parts) Semiconductor device integrated circuits
(Semiconductor devices-Integrated circuits)

IEC 60749-14 Mechanical and climatic test methods for semiconductor devices Part
14. Terminal strength (lead integrity) (Semi-

conductor devices-Mechanical and climatic test methods-Part

14. Robustness of terminations (lead

integrity))

IEC 61747-1-2 Liquid crystal display device Part 1-2. General terms and text symbols
(Liquid crystal display de-

vices-Part 1-2 Generic Terminology and letters symbols)

3 Terms, definitions and text symbols

Terms defined by IEC 60068 (all parts), IEC 60747 (all parts), IEC 60748 (all parts), IEC
61747-1-2,