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

GB/T 38001.61-2019

**Flexible display devices -- Part 6-1: Mechanical stress test
methods**

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Foreword

The GB/T 38001 "Flexible Display Device" program is divided into the following sections.

- Part 1-1. Terminology and text symbols;
- Part 5-1. Optical performance test methods;
- Part 5-3. Visual evaluation method;
- Part 6-1. Mechanical stress test method;
- Part 6-2. Environmental test methods;

This part is part 6-1 of GB/T 38001.

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

This section uses the translation method equivalent to IEC 62715-6-1.2014 "Flexible display devices - Part 6-1. Mechanical stress test method".

This section has made the following editorial changes.

- According to the scope of application of this section, the "display device" in the text is uniformly modified to "display module".

1 Scope

This part of GB/T 38001 specifies the mechanical stress test method for evaluating flexible display modules, including the use of liquid crystal displays.

Flexible display modules for technologies such as (LCD), electronic paper (EPD), and organic light emitting diode display (OLED). This section includes as much as possible

Various mechanical stress test methods.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

SJ/T 11461.5.1-2013 OLED display - Part 5-1. Environmental test method (IEC 62341-5.2009, IDT)

3 standard atmospheric conditions

Unless the supplier and the user agree, the standard atmospheric conditions specified in 5.3 of SJ/T 11461.5.1-2013 should be used.

- a) Temperature. $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$;
- b) Relative humidity. 45%~75%;
- c) Air pressure. 86kPa~106kPa.

Since the temperature is closely related to the reliability of the image quality when the module is bent and curled, it should be marked in all kinds of test results.

Out of ambient temperature conditions.

4 image quality evaluation

The evaluation sample should be a display module because the final evaluation is based on image quality such as brightness, chromaticity, uniformity, line defects, point defects

And other parameter indicators. Bending stress may cause a drop in image display quality (see [1]~[9]), depending on the application of the flexible display

Determine the minimum bend radius allowed for the display. Therefore, the minimum bend radius will be specified on a case-by-case basis.

- 1) The numbers in square brackets are quoted from the references.

5.1 General

The flexible display module has a shape-variable characteristic compared to a non-flexible display module. Therefore, it can be subjected to more kinds of mechanical stress

Tests such as cyclic bending or dynamic bending, static bending, crimping, composite bending tests, and the like. The choice of test method needs to be based on practical application

Happening. When conducting specific tests, the detailed requirements of the relevant tests need to be given based on the specific test objectives.

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