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

GB/T 38001.63-2026

**Flexible display devices - Part 6-3: Mechanical test methods -
Impact and hardness tests**

柔性显示器件 第6-3部分：机械试验方法 撞击和硬度试验

(English Translation)

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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 Part 6-3 of GB/T 38001 "Flexible Display Devices". GB/T 38001 has already published the following parts.

---Part 1-1.Terminology and Symbols;

---Part 5-1.Optical Performance Testing Methods;

---Part 5-2.Test methods for the optical performance of non-portable curved display devices;

---Part 5-3.Visual Evaluation Methods;

---Part 6-1.Methods for testing mechanical stress;

---Part 6-2.Environmental Testing Methods;

---Part 6-3.Mechanical testing methods. impact and hardness tests.

This document is equivalent to IEC 62715-6-3:2020 "Flexible display devices - Part 6-3.Mechanical test methods - Impact and hardness test".

Test.

The following minimal editorial changes have been made to this document.

---Change the text in Figures 1, 3, 4, 5, and 6 to serial numbers and add explanatory notes for the serial numbers.

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 Technical Committee on Standardization of Electronic Display Devices (SAC/TC547).

Introduction

The flexible display device is proposed to consist of the following parts.

---Part 1-1.Terminology and Symbols. The purpose is to define the preferred terms, definitions, and symbols for flexible display devices.

---Parts 1-2.General Specifications. The purpose is to define the classification, technical requirements, inspection methods, and inspection rules for flexible display devices.

Requirements for marking, packaging, transportation and storage.

---Part 2: Ratings and Characteristics. The purpose is to specify the basic ratings and characteristics required for flexible display devices.

---Part 3-1.Detailed Specifications for Side-Bending Flexible Display Modules. The purpose is to define the terminology and definitions for side-bending flexible display modules.

Classification, technical requirements, inspection methods, inspection rules, as well as marking, packaging, transportation and storage requirements.

---Part 3-2.Detailed Specifications for Outwardly Foldable Flexible Display Modules. The purpose is to define the terminology and...

Definitions, classifications, technical requirements, inspection methods, inspection rules, and requirements for marking, packaging, transportation, and storage.

---Part 3-3.Detailed Specifications for Inwardly Folding Flexible Display Modules. The

purpose is to define the terminology and...

Definitions, classifications, technical requirements, inspection methods, inspection rules, and requirements for marking, packaging, transportation, and storage.

---Parts 3-4.Detailed Specifications for Rollable Flexible Display Modules. The purpose is to define the terminology and definitions, and technical specifications of rollable flexible display modules.

Requirements, inspection methods, inspection rules, and requirements for marking, packaging, transportation, and storage.

---Part 4-1.Detailed Specifications for Wearable Flexible Display Modules. The purpose is to define the terminology and...

Definitions, requirements, inspection rules, inspection methods, and packaging, transportation and storage requirements.

---Part 5-1.Optical Performance Test Methods. The aim is to specify the optical properties of flexible display devices under darkroom and ambient light conditions.

Standard test conditions and test methods for energy.

---Part 5-2.Test methods for the optical performance of non-portable curved display devices. The purpose is to specify the optical performance testing methods for non-portable curved display devices.

Standard test conditions and methods for optical performance under darkroom conditions.

---Part 5-3.Visual Evaluation Methodology. The purpose is to define the overall framework and operating procedures for the visual evaluation of flexible display devices.

---Part 5-4.Test methods for stretchable optical properties. The purpose is to specify the performance characteristics of stretchable flexible display devices under darkroom conditions.

Standard test conditions and methods for optical performance.

---Part 5-5.Crease Test Image Emission Method. The purpose is to specify the crease reflection method used to test flexible display devices after bending.

Methods for testing surface creases.

---Part 6-1.Mechanical Testing Methods - Deformation Test. The purpose is to specify the testing methods for evaluating the mechanical stability of flexible display modules.

Methods, especially mechanical stability against deformation, such as bending, curling, twisting and stretching.

---Part 6-2.Environmental Testing Methods. The purpose is to specify the environmental

testing methods for flexible display devices under specified conditions of use, storage, and transportation.

Environmental adaptability testing methods.

---Part 6-22.Crease and Waviness Test Methods. The purpose is to specify the test conditions for creases and waviness on folded display surfaces.

Test method.

---Part 6-3.Mechanical Testing Methods - Impact and Hardness Tests. The aim is to specify standards for the mechanical reliability of flexible display devices.

The test method is specifically designed to assess the mechanical reliability of flexible display devices under impact and hardness conditions.

---Part 6-31.Mechanical Test Methods - Bending Pendulum Test. The purpose is to specify the testing methods for flexible display devices when the screen is folded.

A pendulum test method for the mechanical strength of the bending region under bending conditions.

Flexible display devices, Part 6-3.

Mechanical testing methods. impact and hardness testing

1 Scope

This document describes standard test methods for the mechanical reliability of flexible display devices, with a particular focus on flexible display devices subjected to external forces.

Mechanical reliability in the face of impact and hardness.

This document applies to the evaluation of flexible display modules (hereinafter referred to as flexible display modules) based on liquid crystal display, electronic paper, and organic light-emitting diode display technologies.

Mechanical reliability (referred to as "display module").

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.