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

GB/T 43789.32-2024

**Electronic paper displays - Part 3-2: Measuring method
electro-optical**

电子纸显示器件 第3-2部分：光电性能测试方法
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 3-2 of GB/T 43789 Electronic Paper Display Devices. GB/T 43789 has published the following parts.

- Part 1-1.Terminology;
- Part 3-1.Test methods for optical properties;
- Part 3-2.Test methods for photoelectric properties.

This document is equivalent to IEC 62679-3-2:2013 "Electronic paper display devices Part 3-2.Test methods for optoelectronic performance".

This document adds a chapter on "Normative Reference Documents", and the subsequent chapter numbers are postponed accordingly.

Introduction

In order to meet the production, manufacturing, inspection and export trade needs of electronic paper display devices in my country, better promote exchanges in related fields in cooperation with the technical cooperation, it is necessary to formulate a series of standards for electronic paper display devices. GB/T 43789 "Electronic paper display devices" is proposed to consist of the following parts constitute.

--- Part 1-1.Terminology. The purpose is to define the basic terminology of electronic paper display devices.

--- Part 1-2.General specification. The purpose is to determine the general specification for the inspection of electronic paper display devices.

--- Part 2: Basic ratings and characteristics. The purpose is to determine the optical performance, electro-optical characteristics and environmental characteristics of electronic paper display devices.

Ratings and characteristics for environmental testing.

--- Part 3-1.Optical performance test methods. The purpose is to determine the standard test conditions and Test Methods.

--- Part 3-2.Photoelectric performance test methods. The purpose is to determine the standard test conditions and Test Methods.

--- Part 3-3.Optical test methods for display devices with integrated lighting units. The purpose is to determine the optical properties of display devices with integrated lighting units.

Optical testing method for sub-paper display devices.

--- Part 4-2.Environmental test methods. The purpose is to determine the environmental test methods for electronic paper display devices.

--- Part 5-1.Readability of electronic paper displays under spatial frequency. The purpose is to determine the readability of electronic paper under spatial frequency.

Assessment standards.

Electronic paper display devices Part 3-2.

Photoelectric performance test methods

1 Scope

This document describes the electro-optical performance of electronic paper display devices (EPDs) for segment, passive or active matrix monochrome or color displays.

Test methods. In order to standardize the device description, a general description of acceptable related parameters is proposed. The purpose of this document is to list the procedures the specific test methods and conditions are described.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 20147-2006 CIE Standard Chromaticity Observer (CIE10527.1991, IDT) Note. GB/T 43789.31-2024 Electronic paper display devices Part 3-1.Optical performance test methods (IEC 62679-3-1:2014, IDT)

3 Abbreviations

The following abbreviations apply to this document.

DUT. Device under test

4.1 General

IEC 62679-3-1 describes appropriate lighting methods and optical performance test methods to evaluate the optoelectronic performance of electronic paper display modules.

If the electronic paper display module has an external touch screen or an external front light unit, it should be removed for testing.

If there is a protective film, there is no need to explain.

It is not the purpose of this document to describe in detail the physical aspects of the electrical and optical tests and therefore it is assumed that all testing is performed by personnel familiar with radiation in addition, it is necessary to ensure that all equipment is calibrated by technicians, and the calibration data and traceability are retained.

Record.

Unless otherwise specified, all tests shall be conducted under normal operating conditions of the finished product end user, including electronic paper displays and/or the driving signal (waveform) of the module.

Note: The electronic paper display module includes an electronic paper display screen (electro-optical material, backplane, drive circuit) and a logic circuit (see Figure 4).