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

GB/T 18910.64-2025

**Liquid crystal display devices - Part 6-4: Test methods - Liquid
crystal displaymodules with dynamic backlight units**
(English Translation)

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Figure A.1 Brightness and time function $L(t)$

Figure A.2 Fourier transform power spectrum $P(F)$

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Figure A.4 Flicker brightness of screen samples after weighted TCSF17

Table 1 APL 5 of the incremental window pattern

Table 2 TCSF time contrast sensitivity function 12

Table A.1 Brightness values of $L'(t)$

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 6-4 of GB/T 18910 "Liquid Crystal Display Devices". GB/T 18910 has published the following parts.

- Part 1-1.General specification;
- Part 1-2.Terms and symbols;
- Part 2: Liquid crystal display module specification;
- Part 2-1.Passive matrix monochrome liquid crystal display module blank detail specification;
- Part 2-2.Blank detail specification for color matrix liquid crystal display modules;
- Part 3: Liquid crystal display sub-specification;
- Part 4: Basic ratings and characteristics of liquid crystal display modules and panels;
- Part 4-1.Basic ratings and characteristics of color matrix liquid crystal display modules;
- Part 6-1.Test methods for optoelectronic parameters of liquid crystal display devices;
- Part 6-2.Test methods for liquid crystal display modules, reflective type;
- Part 6-3.Liquid crystal display module test method Active matrix liquid crystal display module motion artifacts;
- Part 6-4.Test methods for liquid crystal display modules with dynamic backlight;
- Part 10-1.Environmental, durability and mechanical test methods Machinery;
- Part 10-2.Environmental, durability and mechanical test methods Environment and durability;

- Part 10-3.Environmental, durability and mechanical test methods for glass strength and reliability;
- Part 20-1.Visual inspection of monochrome liquid crystal displays;
- Part 20-2.Visual inspection of monochrome matrix liquid crystal display modules;
- Part 20-3.Visual inspection of active matrix color liquid crystal display modules.

This document is equivalent to IEC 61747-30-4:2016 "Liquid crystal display devices Part 30-4.Measurement methods for liquid crystal display modules" Dynamic Backlight Components.

The following minimal editorial changes were made to this document.

- Change the name of the standard to "Liquid Crystal Display Devices Part 6-4.Test Methods for Liquid Crystal Display Modules with Dynamic Backlight";
- Notes were added to 5.6.2 and 5.6.4;
- 6.1.2.4.1b), 6.1.6.4h) add serial numbers to the formulas, and adjust the serial numbers of all subsequent formulas;
- In 6.1.2.4.3, "measure each white rectangle in Figure 3b) and Figure 3d)" is changed to "measure [Figure 3a) and Figure 3b) in Figure 3a) and Figure 3b) Figure 3b) uniform calculation; Figure 3c) and Figure 3d) uniform calculation] each white rectangle ";
- "V" in Table A.1 is changed to "L'min";
- Add "x100%" to Formula A.1.

Introduction

In order to meet the production, manufacturing, inspection, and import and export trade needs of liquid crystal display device products in my country, a series of standards for liquid crystal display devices are formulated.

GB/T 18910 is intended to consist of the following parts.

- Part 1-1.General specification. The purpose is to specify the general procedures for the inspection of liquid crystal display devices and to give the electro-optical characteristics test method.

General requirements, for climatic, mechanical and durability tests.

- Part 1-2.Terms and symbols. The purpose is to define the preferred terms, definitions and text symbols for liquid crystal display devices.
- Part 2: Liquid crystal display module section specification. The purpose is to specify the

quality assessment procedures and inspection requirements required for evaluating liquid crystal display modules.

requirements, screening sequences, sampling requirements, details of tests and test methods.

--- Part 2-1.Passive matrix monochrome liquid crystal display module blank detail specification. The purpose is to specify the format and summary page requirements.

The minimum requirements and detailed specifications.

--- Part 2-2.Blank detail specification for color matrix liquid crystal display modules. The purpose is to specify the requirements for the format and summary page to and the most basic content of detailed specifications.

--- Part 3: Liquid crystal display screen specification. The purpose is to specify the quality assessment procedures and inspection requirements required for evaluating liquid crystal display screens.

requirements, screening sequences, sampling requirements, tests and test methods.

--- Part 3-1.Liquid Crystal Display (LCD) Screen Blank Detailed Specification. The purpose is to define the quality assessment system for LCD screens.

--- Part 4: Basic ratings and characteristics of liquid crystal display modules and panels. The purpose is to specify liquid crystal display panels and passive matrix monochrome Basic ratings and characteristic requirements of LCD display modules.

--- Part 4-1.Basic ratings and characteristics of color matrix liquid crystal display modules. The purpose is to specify the basic ratings and characteristics of color matrix liquid crystal display modules.

Basic ratings and characteristic requirements of the block.

--- Part 5: Environmental, durability and mechanical test methods. The purpose is to evaluate the environmental performance of liquid crystal display devices and to determine uniform the preferred test method and preferred value of stress level.

--- Part 6-1.Test methods for electro-optical parameters of liquid crystal display devices. The purpose is to specify the standard for electro-optical parameters of liquid crystal display devices.

Standard test conditions and test methods.

--- Part 6-2.Test method for liquid crystal display module reflective type. The purpose is to specify the detailed quality of reflective liquid crystal display modules Evaluation procedures, inspection requirements, screening procedures, sample requirements, and test and measurement procedure requirements.