

ICS 31.120
CCS L 53



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

GB/T 20871.12-2024

Replacing GB/T 20871.2-2007

**Organic light emitting diode(OLED) displays - Part 1-2:
Terminology and letter symbols**

有机发光二极管显示器件 第1-2部分：术语与文字符号
(English Translation)

Issued on: April 25, 2024

Implemented on: August 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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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 1-2 of GB/T 20871 Organic Light Emitting Diode Displays: GB/T 20871 has been published for the following part:

- Part 1-2: Terminology and text symbols;
- Part 6-1: Test methods for optical and optoelectronic parameters;
- Part 6-3: Image quality test methods:

This document replaces GB/T 20871.2-2007 "Organic light emitting diode displays - Part 2: Terminology and text symbols" Compared with GB/T 20871.2-2007, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added basic terms: hybrid organic light-emitting diode, inverted organic light-emitting diode, PIN organic light-emitting diode, stacked organic Light emitting diodes (see 3.2:16, 3:2:17, 3:2:30, 3:2:33);
- b) Deleted the basic terms: bottom emission display, thin film display, small molecule organic light emitting diode display, organic light emitting diode Tube display device, polymer electroluminescent display, polymer light emitting diode display, standard environmental conditions, standard test conditions, top Partial emission displays, transmissive displays (see 2.1:6, 2:1:16, 2:1:20, 2:1:29, 2:1:35, 2:1:37, 2:1:40, 2:1:41, 2:1:42, 2:1:43, 2:1:44, 2:1:45, 2:1:46, 2:1:47, 2:1:48, 2:1:49, 2:1:50, 2:1:51, 2:1:52, 2:1:53, 2:1:54, 2:1:55, 2:1:56, 2:1:57, 2:1:58, 2:1:59, 2:1:60, 2:1:61, 2:1:62, 2:1:63, 2:1:2:43, 2:1:44);
- c) Added terms related to physical properties: emission ratio (see 3.3:4);
- d) Deleted the terms related to physical properties: conductivity, correlated color temperature, electron affinity, energy level, glass transition temperature, maximum occupancy fraction sub-orbital, ionization potential, lowest unoccupied molecular orbital, material purity, melting point, mobility, polarization axis, quantum efficiency, quantum yield Amount, resistivity, sheet resistance, layer resistance, surface roughness, work function (see 2.2:2, 2:2:3, 2:2:5, 2:2:7, 2:2:11, 2:2:12, 2:2:15, 2:2:16, 2:2:17, 2:2:18, 2:2:19, 2:2:24, 2:2:25, 2:2:26, 2:2:27, 2:2:28, 2:2:29);
- e) Added terms related to structure: charge generation layer, color filter, optical coupling structure, internal coupling structure, external coupling structure, sandwich Layer (see 3.4:7, 3:4:10, 3:4:33, 3:4:27, 3:4:19, 3:4:26);
- f) Deleted the terms related to structure: anode, cathode, color filter, drain electrode, electron blocking layer, electron injection layer, encapsulation box, hole Blocking layer, hole injection layer, light-emitting layer, polarizer, protective film, delay film, seal (see:2007 edition 2:3:2, 2:3:7, 2:3:11, 2:3:16, 2:3:18, 2:3:19, 2:3:22, 2:3:27, 2:3:28, 2:3:32, 2:3:40, 2:3:43, 2:3:44, 2:3:46);
- g) Added terms related to performance and specifications: amplitude modulation, initial brightness, outcoupling efficiency (see 3.5:6, 3:5:31, 3:5:43);
- h) Deleted the terms related to performance and specifications: anti-glare [treatment], anti-glare ratio, aspect ratio, blistering, chromaticity, pulse frequency, clock frequency, Color reproduction, coupling output efficiency, diffuse reflection, dot defect, dot pitch, dot size, driving voltage, dust, fall time, external Particles, external materials, brightness, non-uniformity, brightness efficiency correction, lumen power efficiency, number of colors, number of gray levels, pixels number, operating temperature [range], viewing distance, optimal viewing distance, color gamut reproducibility, rise time, storage life, specular reflection, specular reflection rate, standard white board, storage temperature [range],

surface reflectivity, surface reflection coefficient, transmittance, closing time, opening time, start Voltage, threshold voltage, modulation, white light chromaticity (see 2.4:6, 2:4:7, 2:4:14, 2:4:15, 2:4:17, 2:4:17, 2:4:19, 2:4:21, 2:4:28, 2:4:29, 2:4:30, 2:4:31, 2:4:32, 2:4:33, 2:4:35, 2:4:38, 2:4:39, 2:4:52, 2:4:52, 2:4:57, 2:4:59, 2:4:62, 2:4:63, 2:4:64, 2:4:66, 2:4:67, 2:4:76, 2:4:79, 2:4:81, 2:4:82, 2:4:84, 2:4:85, 2:4:91, 2:4:92, 2:4:93, 2:4:94, 2:4:95, 2:4:96, 2:4:102, 2:4:103);

- i) Added terms related to the production process: thin film encapsulation (see 3.6:7);
- j) Deleted the terms related to the production process: annealing, evaporation mask, mask alignment, sublimation (see 2.5:2, 2:5:7, 2:5:8, 2:5:10);
- k) Deleted lumen efficiency from the basic term symbols and units;
- l) In the Symbols and Units table 4, the lumen efficiency is deleted, the symbol of the composite efficiency is changed to G, the symbol of the aperture ratio is supplemented to AR, and the clock is deleted frequency:

Chapter 2 "Normative References" was added, and after the addition of this chapter, the chapter numbers were postponed accordingly:

This document is equivalent to IEC 62341-1-2:2014 "Organic light emitting diode display devices Part 1-2: Terminology and text symbols":

Introduction

The new display industry is a strategic, basic and leading industry for national economic and social development: Organic light-emitting diode display devices the global market share of OLED has been steadily increasing, and the back-end technology has been improved through low-temperature polycrystalline oxide (LTPO), touch and display driver integration (TDDI), etc:

Panel technology effectively improves the refresh rate, reduces screen power consumption, and expands application space:

The organic light emitting diode display device standard is to meet the production, manufacturing, inspection and it is formulated based on the needs of import and export trade:

GB/T 20871 "Organic light emitting diode display devices" is intended to consist of the following parts:

- Part 1-1: General specification: The purpose is to specify the general requirements for organic light emitting diode display devices:
- Part 1-2: Terminology and text symbols: The purpose is to define the preferred terms, definitions and text symbols for organic light emitting diode displays:

Character number:

--- Part 2: Basic ratings and characteristics: The purpose is to specify the basic ratings and characteristics of organic light emitting diode display modules:

--- Part 3: Display screen sub-specification: The purpose is to provide the quality assessment procedures and inspection requirements required for evaluating organic light emitting diode displays:

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

--- Part 4: Display module section specification: The purpose is to specify the quality assessment procedures required for organic light emitting diode display modules, including Inspection requirements, screening sequences, sampling requirements, tests and test methods:

--- Part 4-1: Detailed specification of display module for under-screen camera: The purpose is to specify the technical specifications of display module for under-screen camera:

Terms and definitions, requirements, quality assessment procedures, and testing procedures:

--- Part 5-1: Environmental test methods: The purpose is to provide the evaluation of organic light emitting diode display modules under specified environmental conditions:

Test methods for adaptability to working and storage environments:

--- Part 5-2: Mechanical test methods: The purpose is to specify the mechanical durability and Test methods for packaging for transport:

--- Part 5-3: Test methods for afterimage and life: The purpose is to specify the afterimage of organic light emitting diode displays and display modules Standard test conditions and test methods for durability and life:

--- Part 6-1: Test methods for optical and optoelectronic parameters: The purpose is to specify the optical properties of organic light emitting diode displays and display modules:

Standard measurement conditions and standard measurement methods for scientific parameters:

--- Part 6-2: Test methods - Visual quality and bright room performance: The purpose is to specify organic light emitting diode displays and display modules Standard test conditions and test methods for visual quality and bright room performance:

--- Part 6-3: Image quality test method: The purpose is to specify the image quality of organic light emitting diode displays and display modules Standard test conditions and test methods:

Organic light emitting diode display devices Part 1-2: Terminology and text symbols