IEC 62341-5-2

Edition 2.0 2019-03

INTERNATIONAL STANDARD

colour inside

Organic light emitting diode (OLED) displays – Part 5-2: Mechanical endurance test methods

IEC 62341-5-2:2019-03(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 31.260

ISBN 978-2-8322-6603-8

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FOREWORD

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International Standard IEC 62341-5-2 has been prepared by IEC technical committee 110: Electronic display devices.

This second edition replaces the first edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Vibration and shock tests for large displays (for example, TVs and monitors) are added.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
110/1069/FDIS	110/1083/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 62341 series, under the general title *Organic light emitting diode (OLED) displays*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

ORGANIC LIGHT EMITTING DIODE (OLED) DISPLAYS –

Part 5-2: Mechanical endurance test methods

1 Scope

This part of IEC 62341 defines test methods for evaluating the mechanical endurance quality of organic light emitting diode (OLED) display panels and modules or their packaged form for transportation. It takes into account, wherever possible, the environmental test methods outlined in IEC 60068 (all parts). The object of this document is to establish uniform preferred test methods for judging the mechanical endurance properties of OLED display devices.

There are generally two categories of mechanical endurance tests: those relating to the product usage environment and those relating to the transportation environment in packaged form. Quasistatic strength, four-point bending and peel strength tests are introduced here for usage environment, while vibration, shock and transportation drop tests are applicable to the transportation environment. Mechanical endurance tests can be categorized into mobile applications, notebook computer or monitor applications and large size TV applications. Special considerations or limitations of test methods according to the size or application of the specimen are noted.

In case of contradiction between this document and a relevant specification, the latter will govern.

NOTE This document is established separately from IEC 61747-5-3, because the technology of organic light emitting diodes is considerably different from that of liquid crystal devices in such matters as:

– used materials and structure
– operation principles
– measuring methods

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 61747-1-1:2014, *Liquid crystal and solid-state display devices – Part 1-1: Generic – Generic specification*

IEC 61747-5-3:2009, *Liquid crystal display devices – Part 5-3: Environmental, endurance and mechanical test methods – Glass strength and reliability*

IEC 61747-10-1:2013, *Liquid crystal display devices – Part 10-1: Environmental, endurance and mechanical test methods – Mechanical*

IEC 62341-5:2009, *Organic light emitting diode (OLED) displays – Part 5: Environmental testing methods*