

INTERNATIONAL STANDARD

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**Liquid crystal display devices –
Part 5-2: Environmental, endurance and mechanical test methods – Visual
inspection of active matrix colour liquid crystal display modules**

**Dispositifs d'affichage à cristaux liquides –
Partie 5-2: Méthodes d'essais d'environnement, d'endurance et mécaniques –
Inspection visuelle des modules d'affichage à cristaux liquides couleurs à
matrice active**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIQUID CRYSTAL DISPLAY DEVICES –

**Part 5-2: Environmental, endurance
and mechanical test methods –
Visual inspection of active matrix
colour liquid crystal display modules**

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International Standard IEC 61747-5-2 has been prepared by IEC technical committee 110: Flat panel display devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
110/287/FDIS	110/306/RVD

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

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

A list of all parts of the IEC 61747 series, under the general title *Liquid crystal display devices*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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INTRODUCTION

IEC 61747-5-2 facilitates subjective visual inspection of image defects of LCD modules by the human eye. Visual inspection is performed under specified conditions and criteria, and the objective measurement method of visual image defect by instrument will be studied and standardized.

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LIQUID CRYSTAL DISPLAY DEVICES –

Part 5-2: Environmental, endurance and mechanical test methods – Visual inspection of active matrix colour liquid crystal display modules

1 Scope

This part of IEC 61747 gives the details of the quality assessment procedures and provides general rules for visual inspection of the active area of transmissive type active matrix colour liquid crystal display modules by the human eye. Furthermore, this standard includes defect definitions and the method for visual defect inspection.

NOTE 1 Mura is excluded from this standard because it was not clearly specified at the time this standard was developed.

NOTE 2 Restrictions on defect types, number, and sizes are specified in the quality contract (customer acceptance specification and incoming inspection specification) between panel and set makers.

2 Normative references

The following referenced documents are indispensable for the application 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 61747-1:2003, *Liquid crystal and solid-state display devices – Part 1: Generic specification*

IEC 61747-5:1998, *Liquid crystal and solid-state display devices – Part 5: Environmental, endurance and mechanical test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61747-1, as well as the following, apply.

3.1

visual inspection

method by human eye for checking display defects that are difficult to objectively measure and characterize with an instrument

NOTE The limitation on display defects depends on supplier and customer. Therefore a limit sample, with well defined observation and operational conditions, can be used as a reference for the defect level.

3.2

defect

defined as any observable abnormal phenomena appearing in the active display area

NOTE It includes all kinds of defects such as one / more subpixel (dot) defect, line defect, scratch, foreign material and stain with unclear boundary larger than a pixel.

Figure 1 shows a classification of defects into two categories. The first category is classified as defects with a clear boundary, and the second category is classified as defects with an